# INSTRUCTION MANUAL

NorXfer software version 5.x

# nor1020

Norsonic

**Nor1020 – User Guide**

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*NB! Please be aware that it is necessary to always use the NorXfer or NorConvert programs to connect to the meter, SD card ("local connection") or accessing Norsonic measurement files on the computer, as this program has the needed functionality to interpret the file information in the correct manner!*

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# About NorXfer

The NorXfer (Transfer) program V.5.X provides modules for the transfer of measurements made with the Norsonic instruments. The data transferred can be converted to fit spreadsheets and thus easily become subject to post processing, report making and presentation. The program is seamless integrated with Norsonic programs like NorReview (Nor1026) and NorBuild (Nor1028) . The program supports –XP, -Vista, Win 7 (32/64 bit) and Win8 versions. To be able to convert data to MS-Excel format, MS-Excel must be installed on the PC.

## Version requirements for different instruments

NorXfer version 5.X supports:
Nor110 version 3.20 and higher
Nor116 version 2.20 and higher
Nor118 version 1.4.1142, 2.0.752, 3.4.6238, 4.1.640 and higher
Nor121 software version 2.3 and higher
Nor131/132 version 1.0.751, 2.1.640 and higher
Nor135 version 1.1.772 and higher
Nor139 version 3,1,644 and higher
Nor140 version 1.2.3176, 2.1.640 and higher
GRAS HW001

## A few definitions

| | |
|---|---|
| .nbf | Norsonic binary file format (used by the Nor110/116/118/131/132/135/139 and Nor140) |
| .npf | Norsonic project file format (used by the Nor121) |
| .txt | ASCII - text measurement data file (used by the Nor110/116/118/131/132/135/139 and Nor140) |
| .xls | MS-Excel format (Office 2007) |
| .xlsx | MS-Excel format (Office 2010) |

Transfer & conversion of Audiometer files
Transfer of Reverberation time profile (decay)
NorReport

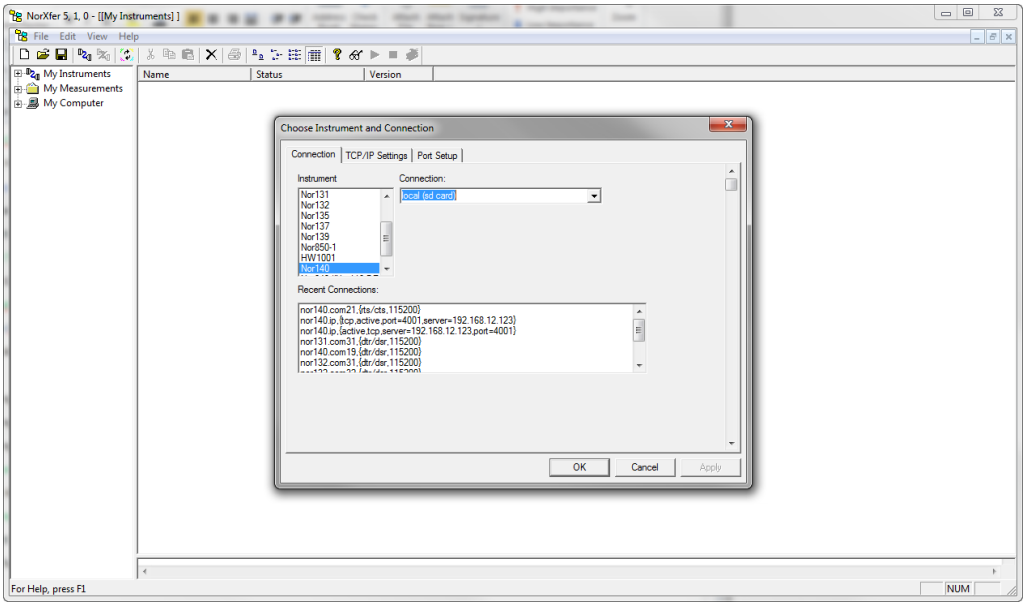
## News!

Support for Nor 139
Support for Nor131/132 STIPA and Reverberation file download and Excel report
Support for serial/ethernet  modems
NorConvert extension

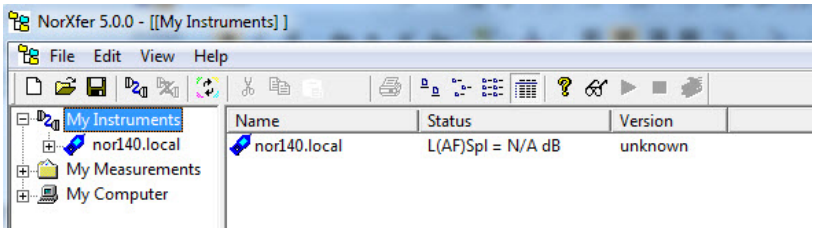
# Quick Reference Guide – transfer and convert a measurement to Excel

After a series of measurements are taken and stored, the files must be transferred to the PC and converted into a readable format by the NorXfer program. The program must be installed on the PC with an appropriate USB driver installed. Follow the installation procedure given when installing the program the first time.
Right click on “My Instruments” and select “connect”. The menu below appears. Select either “local (SD card) (Nor140) or the appropriate USB port (Nor13x and Nor140), dependent on where the data is stored

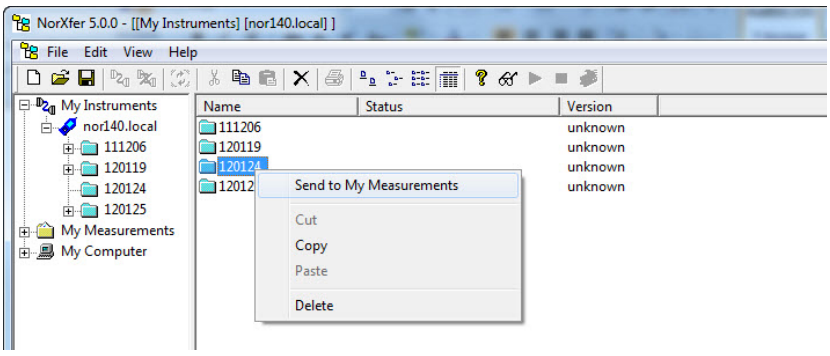
The instrument will appear as shown below. Double-click on the instrument in the right frame to expand the file folder



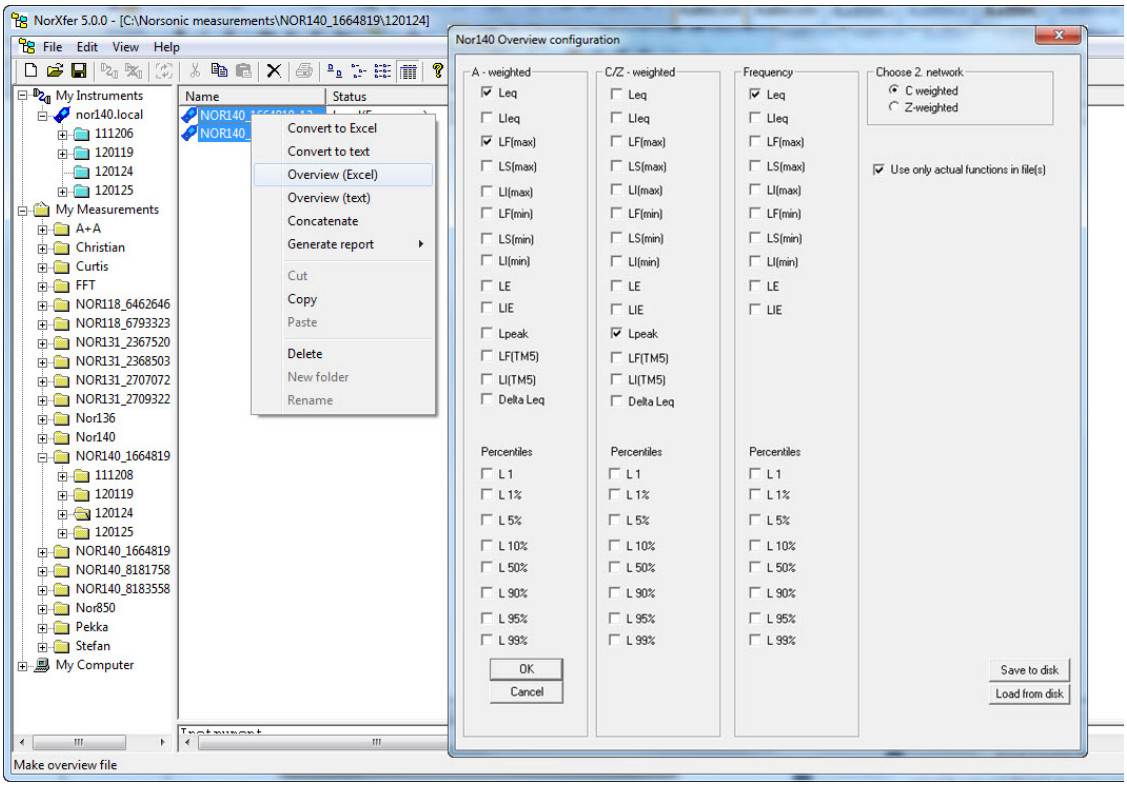

Mark the measurement files that you want to copy onto the PC. Use drag and drop to the “My measurements” folder or right click and select “send to My Measurements”
Expand “My Measurement” folder and select the right subfolder and catalogue. Select the measurement

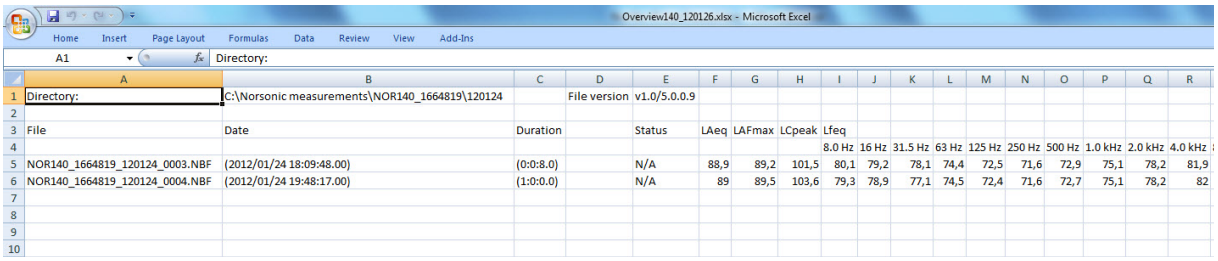



files and right click. Select “Overview (Excel)”. The Overview configuration menu appears. Check on the “Use only actual function in file(s)” checkbox and select the OK button.



An Excel file is generated that contains all the measured values. Measurements in rows, values in columns.



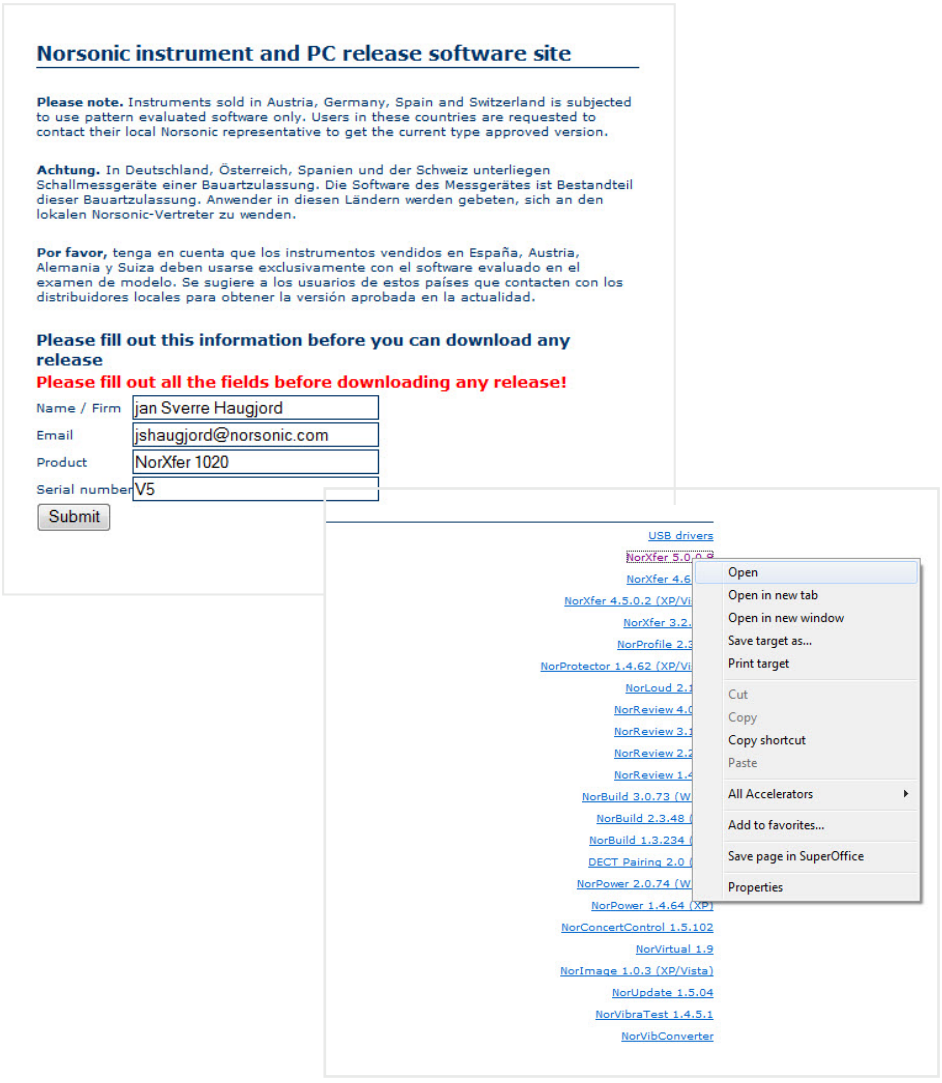

| | A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q | R |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Directory: | C:\Norsonic measurements\NOR140_1664819\120124 | | File version | v1.0/5.0.0.9 | | | | | | | | | | | | | |
| 2 | | | | | | | | | | | | | | | | | | |
| 3 | File | Date | Duration | | Status | LAeq | LAFmax | LCpeak | Lfeq | | | | | | | | | |
| 4 | | | | | | | | | 8.0 Hz | 16 Hz | 31.5 Hz | 63 Hz | 125 Hz | 250 Hz | 500 Hz | 1.0 kHz | 2.0 kHz | 4.0 kHz |
| 5 | NOR140_1664819_120124_0003.NBF | (2012/01/24 18:09:48.00) | (0:0:8.0) | | N/A | 88,9 | 89,2 | 101,5 | 80,1 | 79,2 | 78,1 | 74,4 | 72,5 | 71,6 | 72,9 | 75,1 | 78,2 | 81,9 |
| 6 | NOR140_1664819_120124_0004.NBF | (2012/01/24 19:48:17.00) | (1:0:0.0) | | N/A | 89 | 89,5 | 103,6 | 79,3 | 78,9 | 77,1 | 74,5 | 72,4 | 71,6 | 72,7 | 75,1 | 78,2 | 82 |
| 7 | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | |

# Installing the program

## NorXfer installation procedure

The NorXfer program can also be installed directly from our website www.norsonic.com/release. Before reaching the site where the programs resides, you will be prompted to enter information about company, name, email and product, so that we will be able to contact you if this should be necessary.

Right-click, choose “Open”, and follow the online instructions to install NorXfer




NorXfer normally doesn’t need any codes to run, unless opt.1 or 2 are installed.

**NOTE!** If this installation is an update of an existing version of NorXfer, the old version must be removed before you proceed with the installation itself. Observe that files stored in My Measurements are left unaffected by this.

## Installation of USB drivers

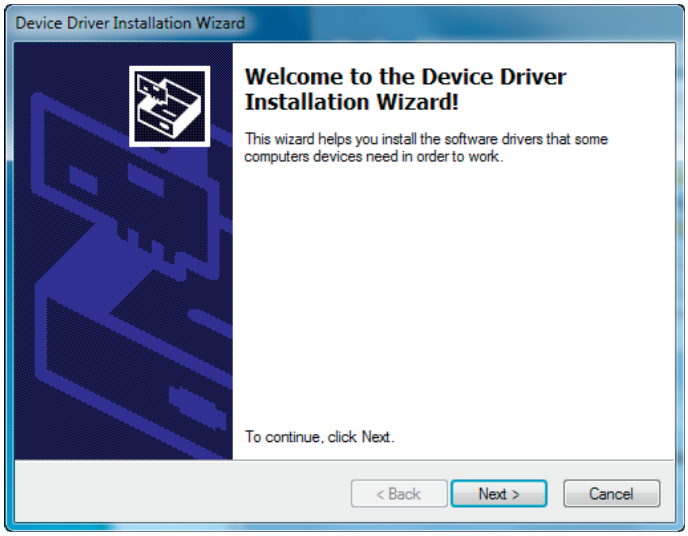
The Nor13x/Nor140 device drivers are normally distributed and installed with other Norsonic software. It may also be distributed and installed as a standalone package.

Please download drivers from:
www.norsonic.com/release.

In case of standalone distribution, please double-click the exe-file to start the installation.

The driver is Vista, win7 and Win 8.x compatible

When the driver-installation starts, the following dialog-window will appear.

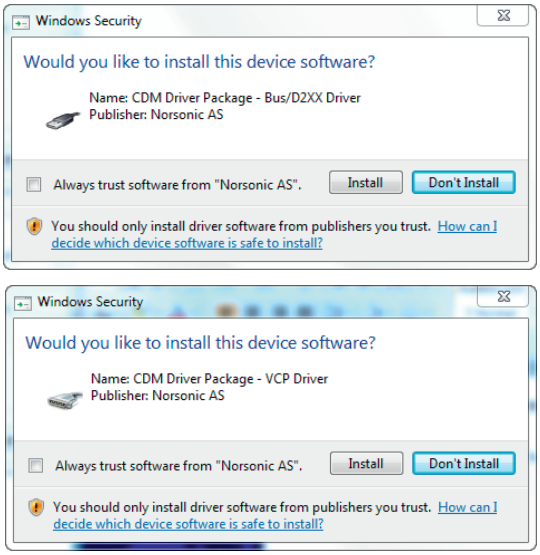



Click “Next

The next two dialog-windows may appear.

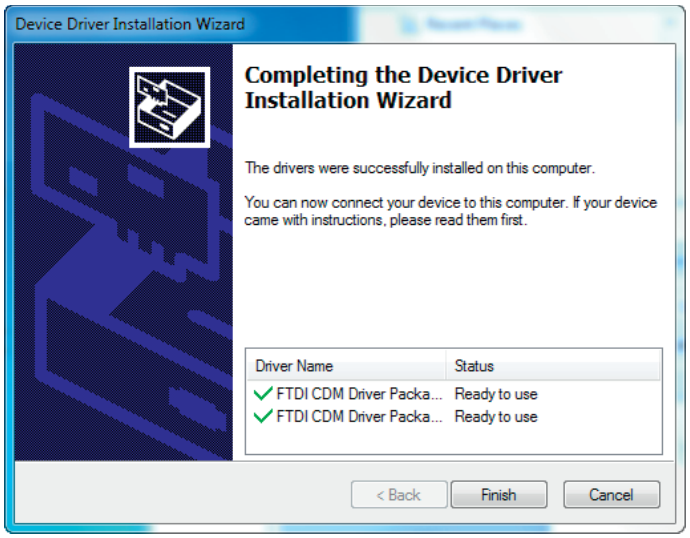
The driver consists of two parts, and there will be a dialog-window asking if you would like to install the device software for both of them.

Click “Install”.



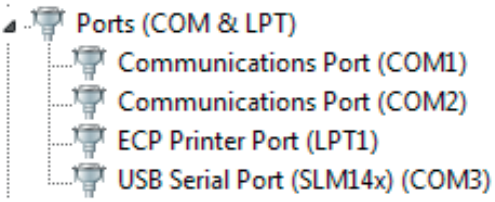
When the device driver installation is complete, the following dialog-window will appear.

Click “Finish”.



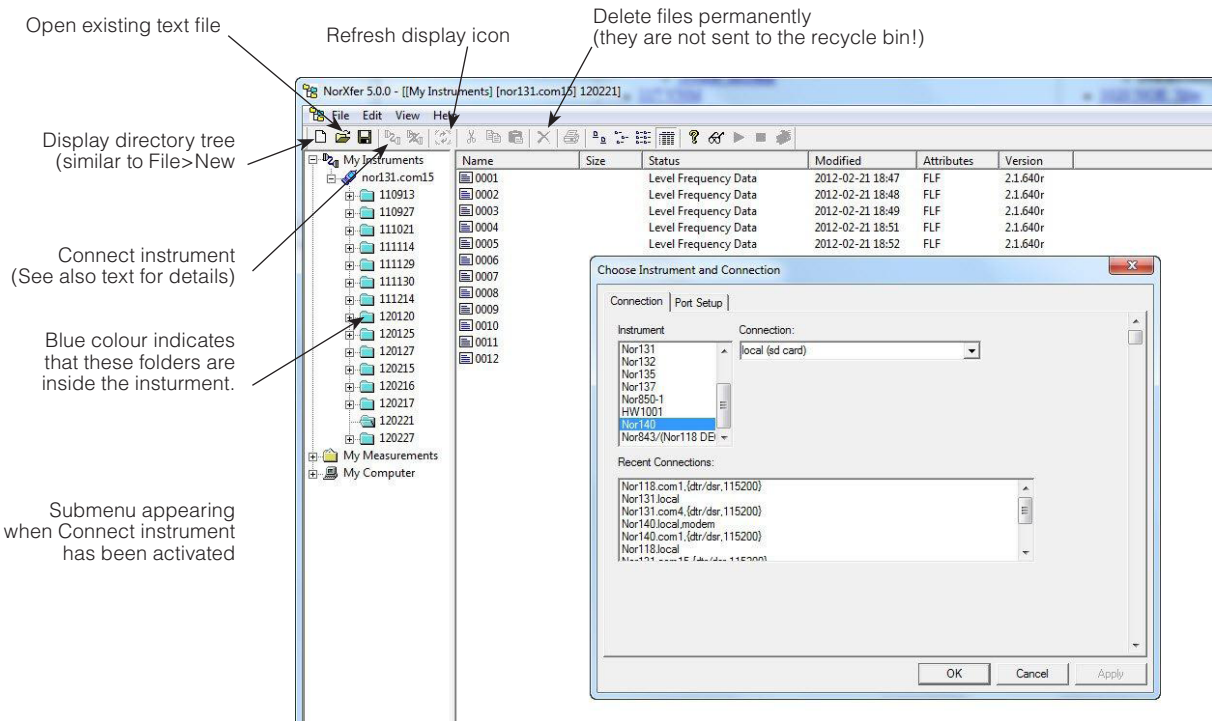

After you have plugged in the Nor13x/Nor14x for the first time, it may take some time (less than a minute) before Windows “activates” the driver.

After you have plugged in the Nor13x/Nor14x, you may check if the driver is working properly by starting Device Manager and checking the “Ports” section. Here you will also see which COM port is assigned to the attached device.



# Running NorXfer

After starting the program, the screen will look like below:




## Functions

### Refresh Screen

Select a folder and click the refresh icon to update the display of the current folder in the tree when the contents have been altered by other programs than NorXfer. This can be useful to have an updated content of folders when copying-, moving or deleting files. If making further measurements when connected, this will update the instrument folders with the newly stored files.

### Connect Instrument

Be sure to connect the instrument to the PC through an appropriate cable. Click on the Connect button to select an instrument and to start the connection. The instrument appears as if it were a detachable drive. The instrument folders are blue to indicate that the contents are still inside the instrument.
When quitting the program your latest selections will be preserved for use the next time you start the program.

### Drag&drop, Copy/paste, Ctrl-C,Ctrl-V

Files and complete folders can be transferred using the clip-board (copy and paste) or by drag and drop in the same way as with Windows Explorer. Ctrl-C and Ctrl-V is another method.

### Open Existing Text Documents

You may open files of the types *.txt, *.xls and *.xlsx by double clicking on the file icon.

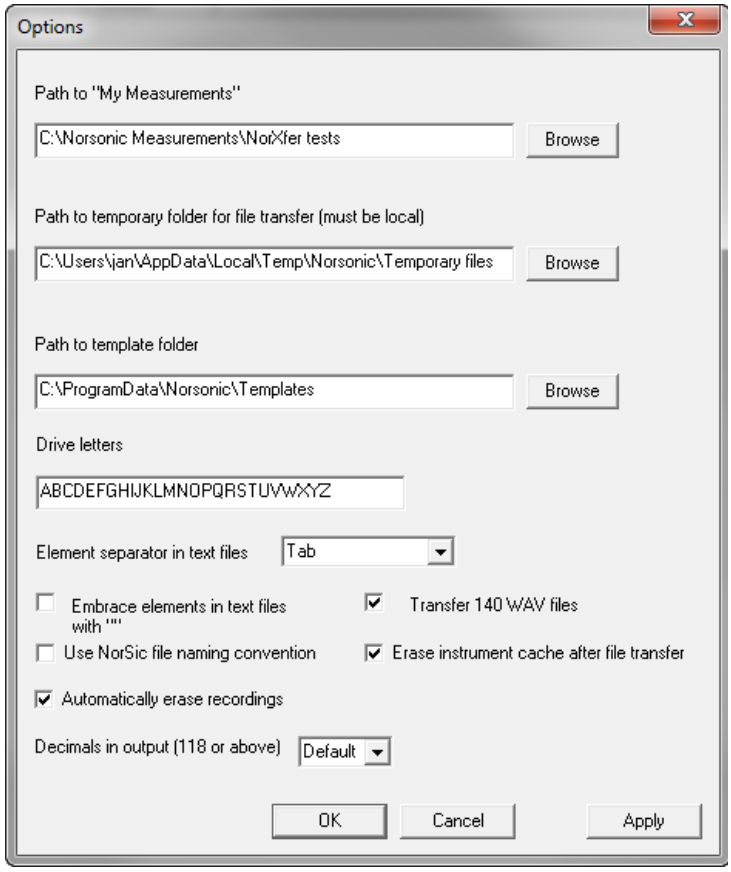
### Deleting Files

The program allows you to delete files transferred to PC as well as directly on the instrument itself. Alternatively use the instrument keyboard. See the documentation accompanying your instrument.
Selected files of the types *.txt, *.xls and *.nbf or entire directory trees are deleted permanently by clicking on the Delete icon, pressing the DEL key or <right click> and select DELETE from the menu.

The files will be sent to the recycle bin.

## Options

Under the <View> tab the user has the possibility to modify different setups.




### Path to “My Measurements”

It is possible to change the path to where the measurement files are stored when you choose “Send to my measurement”. Hint: make a suitable folder eg. Norsonic measurements directly under C: so that it is easy to find

**NB! The folder must be made in Windows Explorer.**

### Path to temporary folder for file transfer (must be local)

Used by the program for storing measurements while the transfer is ongoing. Normally no need to change.

### Path to template folder

The folder in which NorReport templates are stored. Default path for Win7 is C:\Program\ProgramData\Norsonic\Templates\GeneralAnalyzer.

### Drive letters

Indicates which drives will be searched when searched for measurement files, eg. the local Harddrive on your PC as well as your network connections.

The user can select which PC drives to show in the directory tree. Press <View > <Options> and key in a list of drives letters without separators. Several Instruments can be connected simultaneously.

### Element separator in text files

It is possible to select between tab, comma or semi-colon as a separator for the values when doing a .txt conversion of the measurement data.

### Embrace elements in text files with “”

It is possible to add a “” around text elements when doing “Convert to Text”.

### Transfer Nor140 WAV files

This is very useful if you don’t need to transfer the wav files and want to minimize the download time, or simply have limited amount of storage capacity. This is default set to ON.

### Use NorSic file naming convention

Allows easy import to the NorSic building acoustic post-processing SW.

### Erase instrument cache after file transfer

When the file transfer is initiated, the program makes a local copy on the computer (local folder). If this function is enabled, the files are deleted after completed file transfer.

### Decimals in output (Nor118 or above)

Allows one to select the number of decimals in the format of the transferred values. Default setting is with 1 decimal.

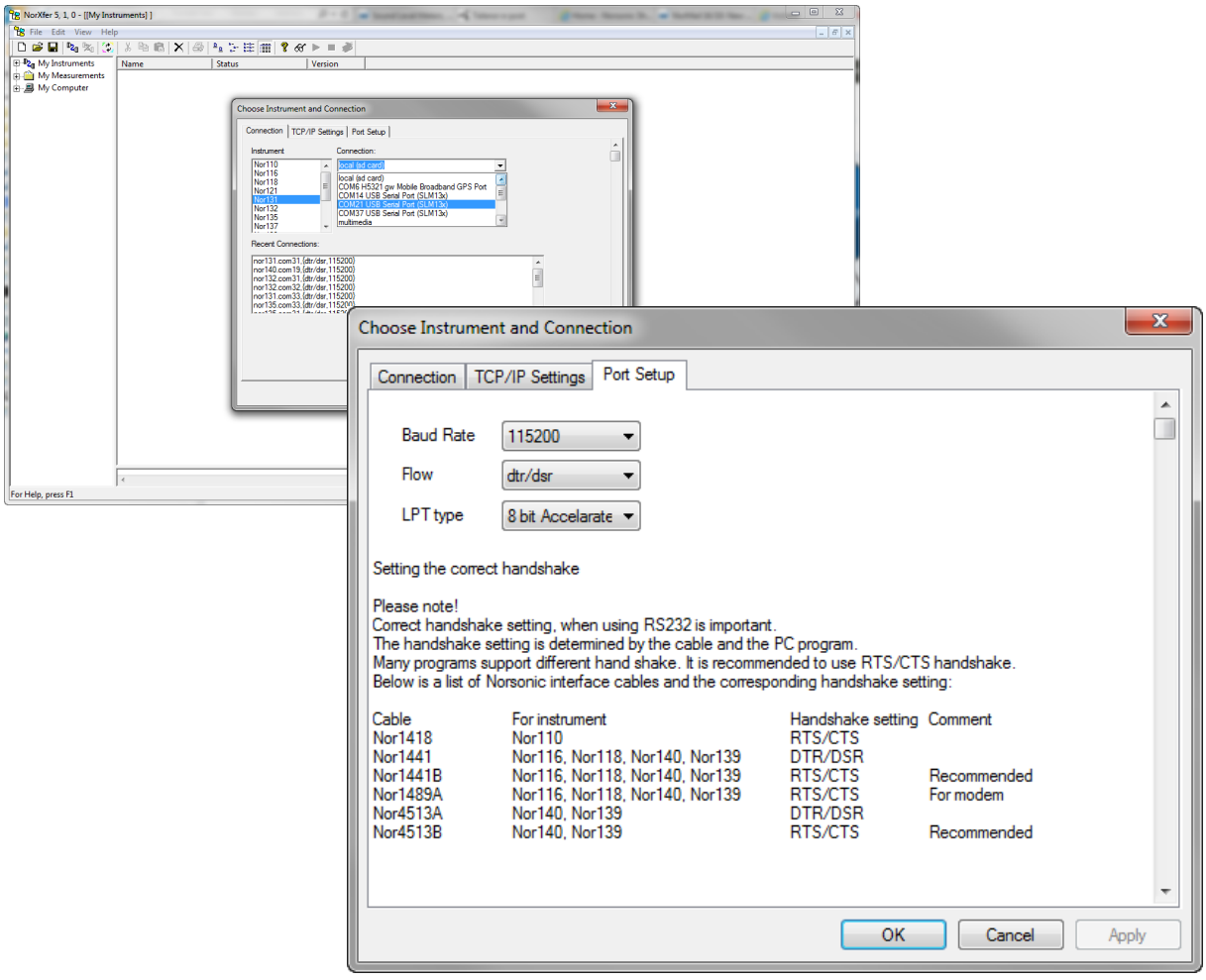
## Connecting

The Nor139 and **Nor140** has both serial (RS232) and USB interface. This must first be set up in the instrument. The cable for the RS232 connection is the Nor1441B, while the USB cable is used if USB connection is selected.

The **Nor118** has RS232 interface only. To connect to the instrument, you need either a PC with serial interface, or use an RS232-USB adapter. If you have a direct RS232 connection, you need to use a Nor1441B cable. Please note that the default setting for Baud rate is 115200, so this must also be selected in the instrument. If needed, contact your local Norsonic representative for help/acquisition of cable. The connection will always be COM1 when using the RS232 directly. Please verify the correct handshake setting!

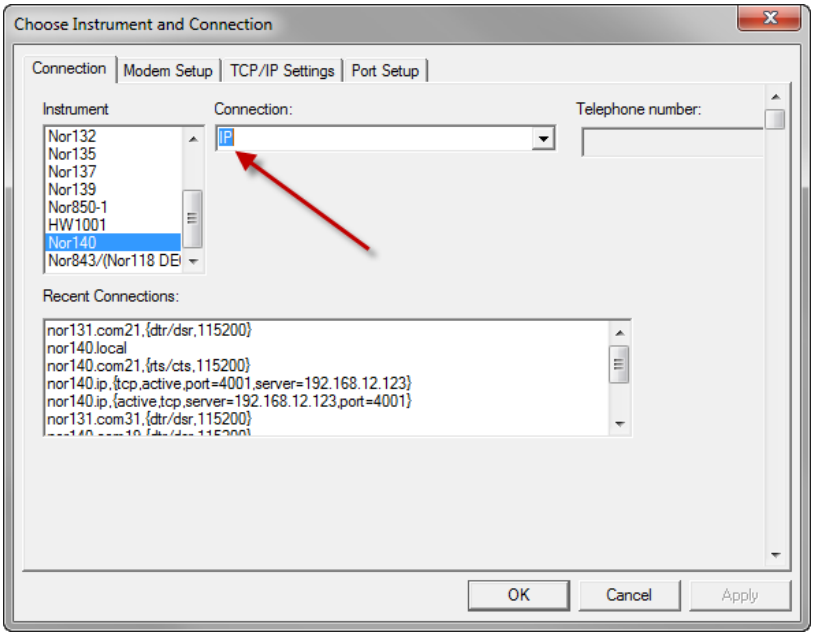
If you have a RS232-USB adapter it usually needs a driver installation to function. See the manufacturer's instructions for using the device. The connection will also then be seen as a "virtual" COM port.

PS! There are also variants of the Nor1441B cable with additional signal connections, eg. Nor4513B.
You may also use the Nor1441/4513 cable. This is an earlier version of the "B"-version of these cables. Please observe correct handshake settings!

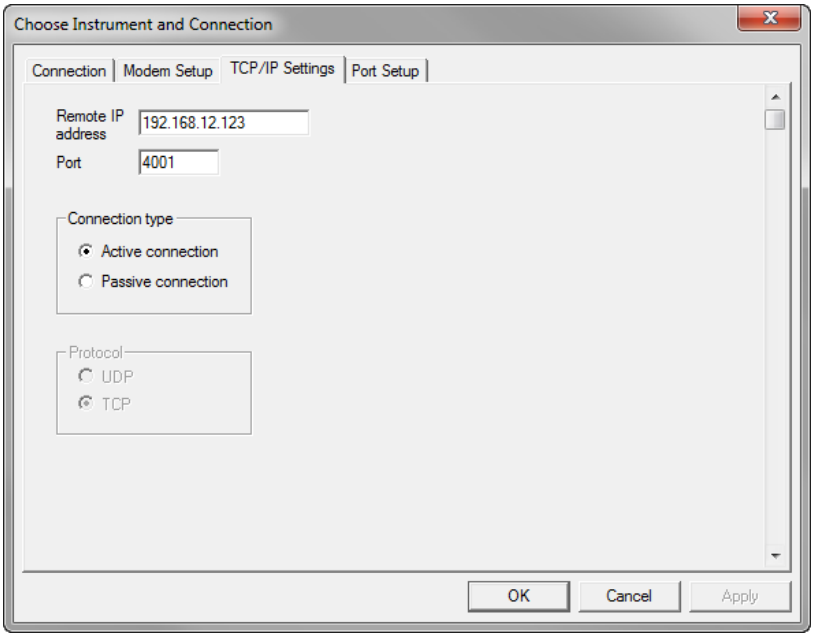


It is now possible to connect instruments with NorXfer through IP:

Need to set connection to IP.




Remote IP address: IP address or name of remote modem




Port: IP port number (set up on modem, eg.  4001 on Moxa)

Active connection: Norxfer makes the initial connection (normally use this choice)

Passive connection:  Modem connects to PC where NorXfer is running. In this case Port refers to the local IP port.

**Note! All firewalls must be set up to enable this traffic.**

Port settings are not transferred. You have to set up this in the modem

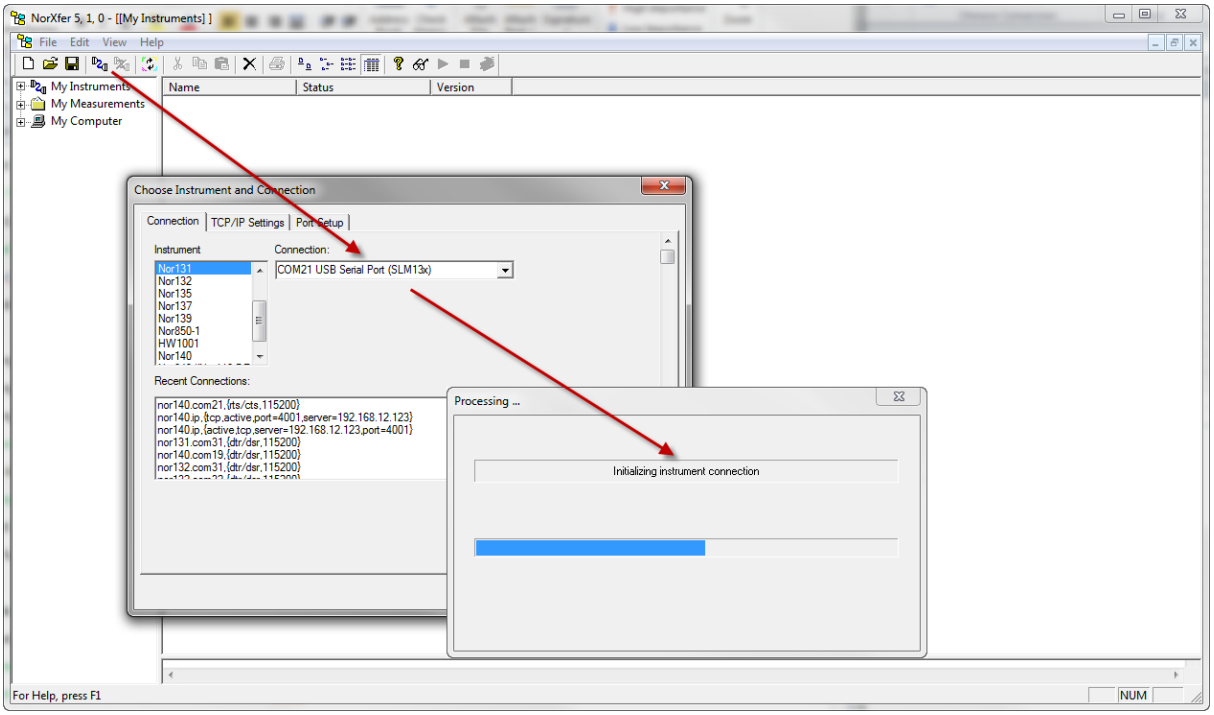
## Connection and transfer - Nor131

The Nor13x series of meters (Nor131, Nor132 and Nor135) are equipped with a USB interface only.
The instrument can be connected using the USB cable that is part of the standard delivery for this purpose. Having already installed the driver for connecting the instrument, the connection via the USB will be seen as a “virtual” COM port in the “Choose Instrument and Connection” menu. The actual assigned Com port number depends on the PC and Windows installation, but can in general be any number from COM 2 to COM 99.

In the example below, a Nor131 USB connection is used, but the principle also applies to other instrumentation.

To download & convert the data file from the Nor131 to Excel, do the following:

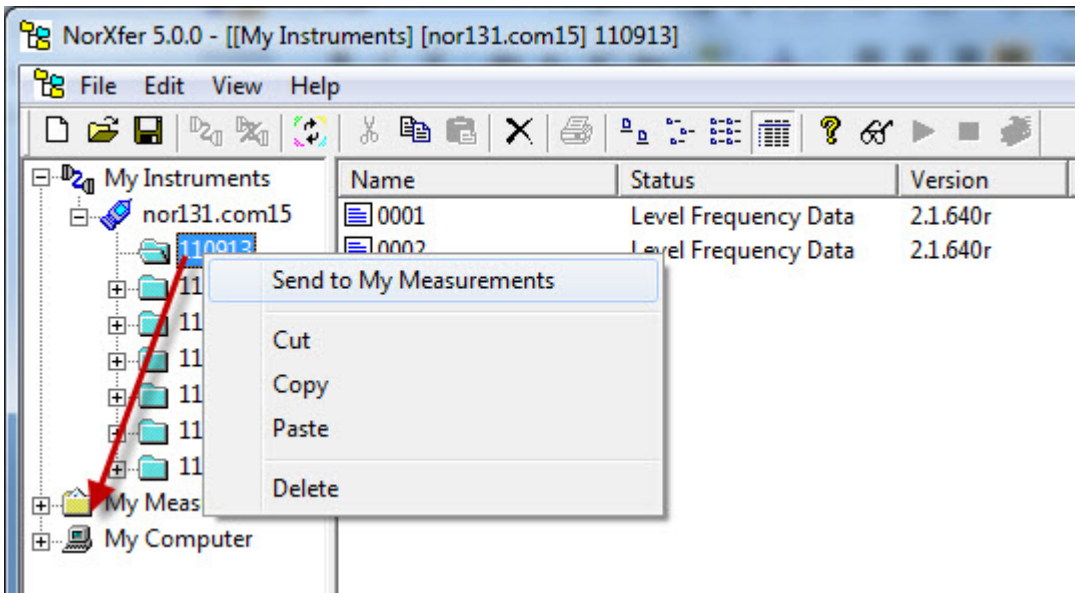
- Switch on the instrument and connect it to the laptop/PC using the Nor4525 USB cable.
- Start NorXfer, either from the Start-menu or from the shortcut on the Desktop (if you made one). A PC file/folder view similar to the well-known Windows Explorer appears.
- Find the instrument and select the Nor131 at the “Virtual” Com port in use .

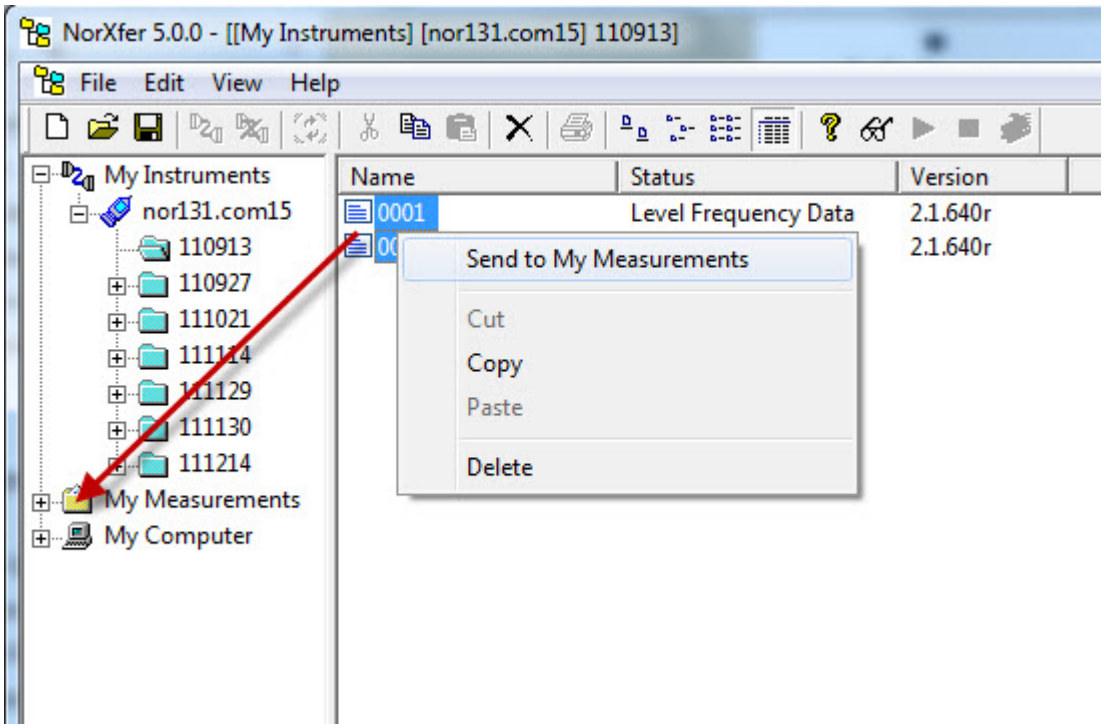



- Locate the folder with the file(s) you want to download from the meter, and select either the whole folder or one or more of the files within (standard WinExplorer functionality to select several files/folders, ie. SHIFT or CTRL keypads and ARROW up/down, or hold down left mouse key, mark files/folders and release left mouse key).
- Right-click and use the “Send To My Measurements” function to download (alternatively Copy/Paste or Ctrl-C/Ctrl-V can be used, or also “drag and drop”, functions similar as used in WinExplorer).

PS! All directories on the meter are blue, while the directories on the PC are yellow.

Folders as well as single or multiple file(s) as shown below..



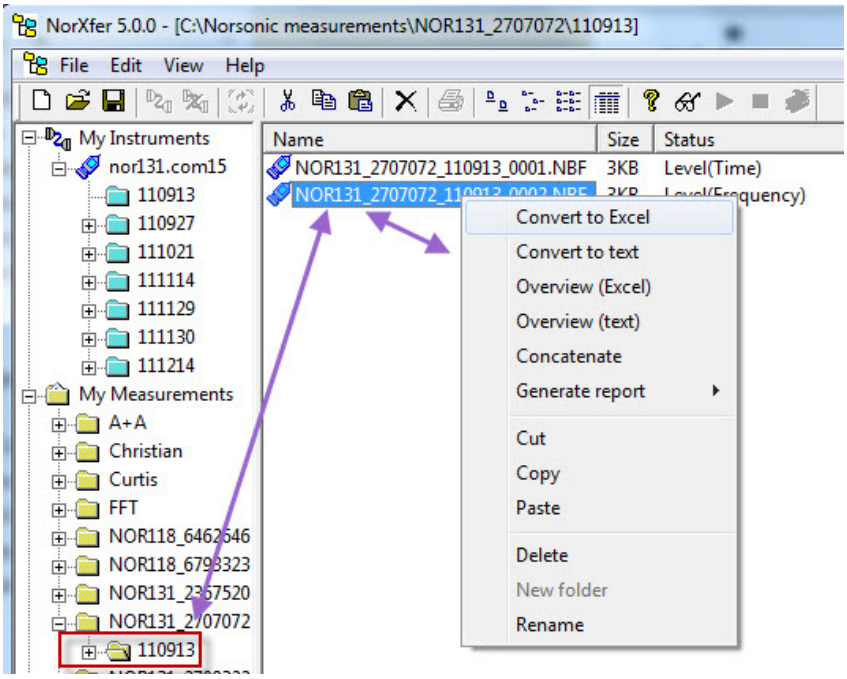




- After transfer to PC, the files can either be converted to Excel using the “Convert To Excel” or the “Overview (Excel)” functions

## Convert to Excel

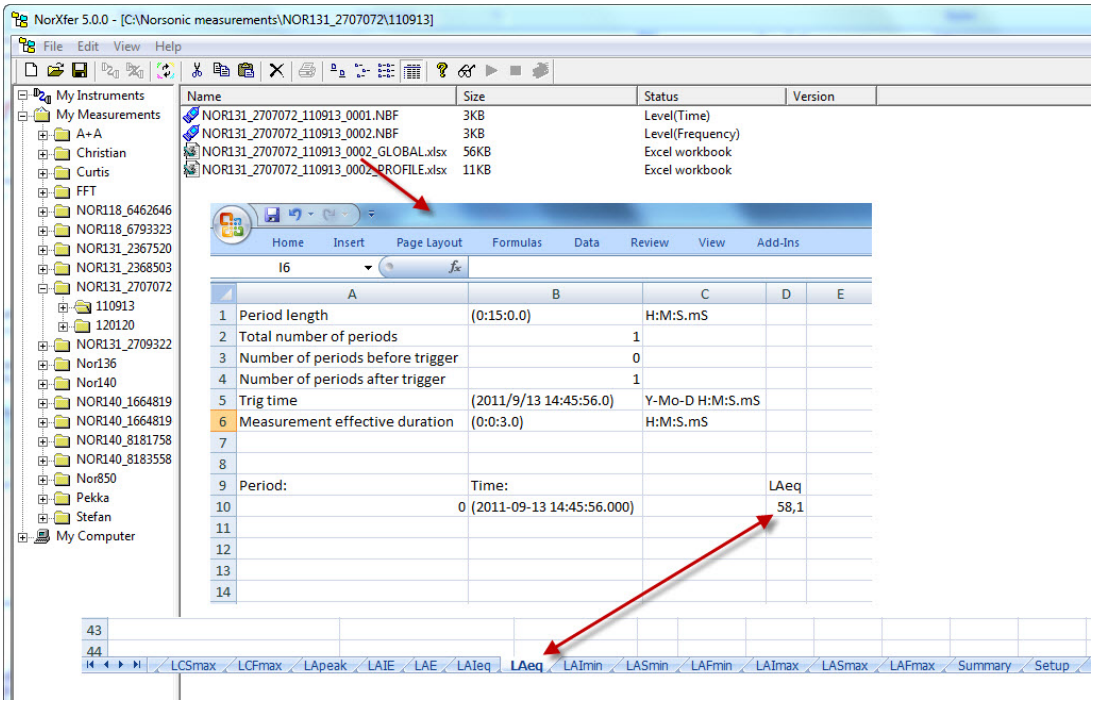
### Global

The Nor131 in its' basic form will produce "Global values", ie. values stored as a result of a finished measurement




Use "Convert to Excel" to convert these files to Excel.

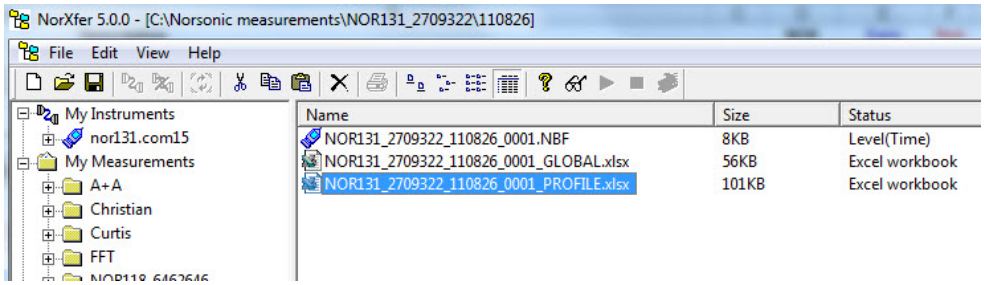
This results in 2 Excel files, ...GLOBAL.xls(x) and ...PROFILE.xls(x). The former holds the global data, ie. one value for each parameter, each in their own tab. Since the instrument has measured many parameters, there are many tabs.




**Hint**: The Summary tab contains all measured values in one sheet.

## Profile

If you have made a so called Level vs. Time measurement there are values for every period within the measurement, eg. each second. These values are stored in the XX_PROFILE.xls(x) file




Choosing the Profile file, the results are as below:

NOR140_1664819_111206_0004_PROFILE.xlsx

Home Insert Page Layout Formulas Data Review View Add-Ins

A1 Period:

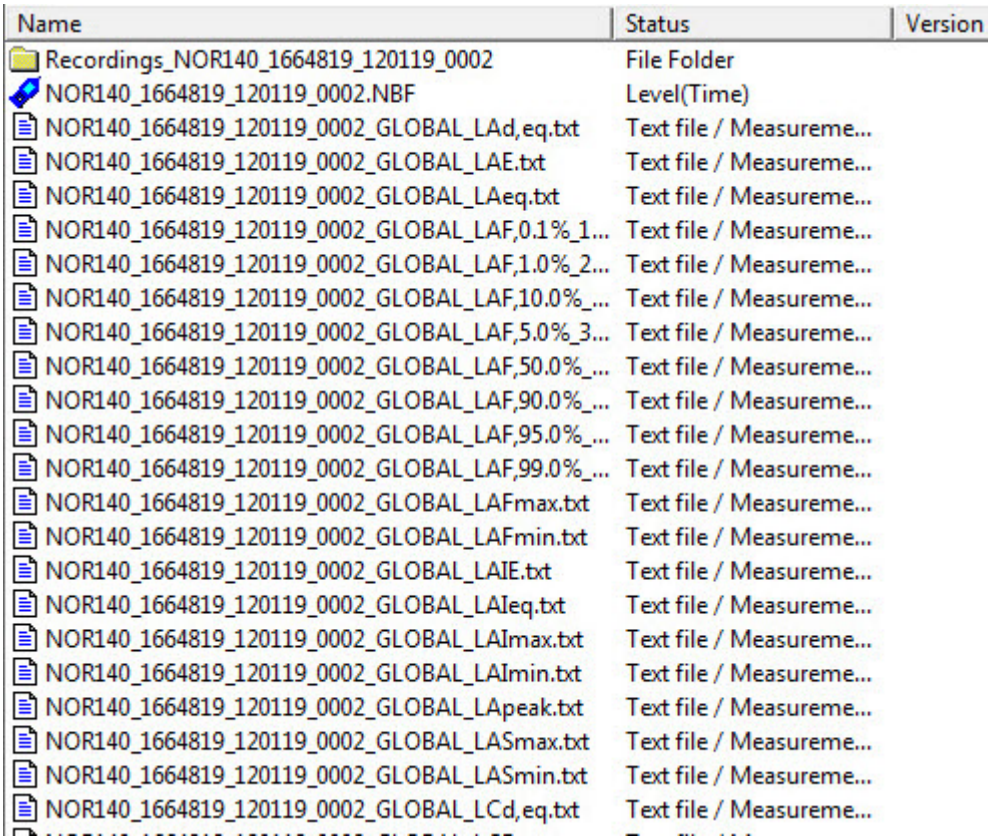
| | A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Period: | Time: | Duration: | | | LAFspl | LAeq | LAFmax | LCpeak | LfFspl | | | | | | |
| 2 | | | | | | | | | | | | | | | | |
| 3 | | | | | | | | | | 0.4 Hz | 0.5 Hz | 0.63 Hz | 0.8 Hz | 1.0 Hz | 1.25 Hz | 1.6 H |
| 4 | 0 | (2011-12-06 16:08:20.000) | | | | 48,8 | 52,2 | 59,5 | 83,9 | 55,3 | 58,6 | 62,5 | 47,2 | 53,5 | 39,5 | 42 |
| 5 | 1 | (2011-12-06 16:08:21.000) | | | | 32,8 | 52,9 | 61,4 | 82,7 | 50,5 | 59,2 | 59,4 | 48,6 | 46,7 | 34,3 | 44 |
| 6 | 2 | (2011-12-06 16:08:22.000) | | | | 28,6 | 28,8 | 32,6 | 49,9 | 49 | 59,3 | 52,5 | 40,1 | 38,5 | 41,2 | 37 |
| 7 | 3 | (2011-12-06 16:08:23.000) | | | | 28,4 | 28,6 | 29,3 | 50 | 54,9 | 58,8 | 55,1 | 43,7 | 46,5 | 31,9 | 30 |
| 8 | 4 | (2011-12-06 16:08:24.000) | | | | 28,8 | 28,6 | 29,1 | 50,3 | 55,3 | 57,9 | 55,4 | 41,1 | 48,3 | 34,9 | 29 |
| 9 | 5 | (2011-12-06 16:08:25.000) | | | | 28,4 | 28,5 | 28,9 | 50,1 | 50,8 | 56,7 | 51,2 | 46,7 | 46 | 37,8 | 42 |
| 10 | 6 | (2011-12-06 16:08:26.000) | | | | 28,6 | 28,5 | 29,1 | 48,1 | 39,7 | 54,8 | 42,5 | 44,5 | 40,9 | 33,4 | |
| 11 | 7 | (2011-12-06 16:08:27.000) | | | | 28,3 | 28,7 | 29,2 | 49,8 | 45,4 | 52,5 | 42,8 | 42,9 | 39 | 34,2 | 42 |
| 12 | 8 | (2011-12-06 16:08:28.000) | | | | 28,8 | 28,8 | 29,3 | 48,8 | 40,8 | 49,8 | 39,1 | 45,8 | 44,7 | 44,5 | 38 |
| 13 | 9 | (2011-12-06 16:08:29.000) | | | | 28,8 | 29 | 29,7 | 52,2 | 40,8 | 47,6 | 34,1 | 37,8 | 48,1 | 46,2 | 28 |
| 14 | 10 | (2011-12-06 16:08:30.000) | | | | 28,6 | 28,7 | 29,3 | 50,7 | 47,2 | 46,1 | 39,1 | 41,8 | 49,6 | 38,5 | 33 |
| 15 | 11 | (2011-12-06 16:08:31.000) | | | | 28,6 | 28,7 | 29,4 | 50,3 | 42 | 45,6 | 41,9 | 37,9 | 49,2 | 34,6 | 37 |
| 16 | 12 | (2011-12-06 16:08:32.000) | | | | 28,9 | 28,5 | 29 | 49,6 | 48 | 45,3 | 40,5 | 35,5 | 47,6 | 34,3 | 40 |
| 17 | 13 | (2011-12-06 16:08:33.000) | | | | 28,8 | 28,7 | 29,2 | 49,4 | 54,1 | 44,3 | 35,6 | 35,9 | 45,2 | 34,5 | 34 |
| 18 | 14 | (2011-12-06 16:08:34.000) | | | | 28,6 | 28,6 | 29 | 49 | 53,8 | 42,9 | 33,6 | 30,1 | 42 | 36,5 | 27 |
| 19 | 15 | (2011-12-06 16:08:35.000) | | | | 28,3 | 28,4 | 28,8 | 49,5 | 46,3 | 41,4 | 34,5 | 29,4 | 39,5 | 43,2 | 42 |
| 20 | 16 | (2011-12-06 16:08:36.000) | | | | 28,5 | 28,5 | 29,1 | 49,1 | 50,3 | 40,7 | 30,2 | 22,5 | 42,3 | 42 | 43 |
| 21 | 17 | (2011-12-06 16:08:37.000) | | | | 28,7 | 28,6 | 28,9 | 50,4 | 54,8 | 41,6 | 23,4 | 29,9 | 45,7 | 35,4 | 27 |

**The XX_PROFILE.xls(x) will still exist if you have not performed a level vs. time measurement, however it will be empty.**

Please note that the instrument must be fitted with the Level vs. Time option to be able to do Level vs. Time measurements.

## Convert to text

If Excel is not installed on the PC, it is still possible to convert the measurement files to .txt files. Please note that when doing an ordinary “Convert to Text”, there will be one .txt file for each parameter and all files, both Global and Profile, will be put into one directory:



| Name | Status | Version |
|---|---|---|
| Recordings_NOR140_1664819_120119_0002 | File Folder | |
| NOR140_1664819_120119_0002.NBF | Level(Time) | |
| NOR140_1664819_120119_0002_GLOBAL_LAd,eq.txt | Text file / Measureme... | |
| NOR140_1664819_120119_0002_GLOBAL_LAE.txt | Text file / Measureme... | |
| NOR140_1664819_120119_0002_GLOBAL_LAeq.txt | Text file / Measureme... | |
| NOR140_1664819_120119_0002_GLOBAL_LAF,0.1%_1... | Text file / Measureme... | |
| NOR140_1664819_120119_0002_GLOBAL_LAF,1.0%_2... | Text file / Measureme... | |
| NOR140_1664819_120119_0002_GLOBAL_LAF,10.0%_... | Text file / Measureme... | |
| NOR140_1664819_120119_0002_GLOBAL_LAF,5.0%_3... | Text file / Measureme... | |
| NOR140_1664819_120119_0002_GLOBAL_LAF,50.0%_... | Text file / Measureme... | |
| NOR140_1664819_120119_0002_GLOBAL_LAF,90.0%_... | Text file / Measureme... | |
| NOR140_1664819_120119_0002_GLOBAL_LAF,95.0%_... | Text file / Measureme... | |
| NOR140_1664819_120119_0002_GLOBAL_LAF,99.0%_... | Text file / Measureme... | |
| NOR140_1664819_120119_0002_GLOBAL_LAFmax.txt | Text file / Measureme... | |
| NOR140_1664819_120119_0002_GLOBAL_LAFmin.txt | Text file / Measureme... | |
| NOR140_1664819_120119_0002_GLOBAL_LAIE.txt | Text file / Measureme... | |
| NOR140_1664819_120119_0002_GLOBAL_LAIeq.txt | Text file / Measureme... | |
| NOR140_1664819_120119_0002_GLOBAL_LAImax.txt | Text file / Measureme... | |
| NOR140_1664819_120119_0002_GLOBAL_LAImin.txt | Text file / Measureme... | |
| NOR140_1664819_120119_0002_GLOBAL_LApeak.txt | Text file / Measureme... | |
| NOR140_1664819_120119_0002_GLOBAL_LASmax.txt | Text file / Measureme... | |
| NOR140_1664819_120119_0002_GLOBAL_LASmin.txt | Text file / Measureme... | |
| NOR140_1664819_120119_0002_GLOBAL_LCd,eq.txt | Text file / Measureme... | |

## Connection and transfer - Nor139 and Nor140

The files on the Nor139 and Nor140 instruments can be stored on the SD card or in the internal memory. If you have chosen internal memory, these measurements can be accessed following the download procedure as described for the Nor131 on the previous pages. However, we recommend using the SD card.

To download files from the SD card, it is recommended to make a direct connection to the SD card.

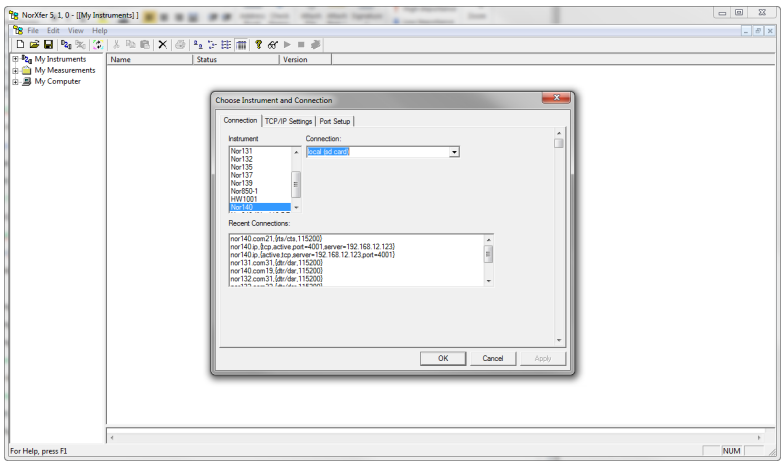
This is especially important when you store large amounts of data as Level vs. Time measurements including audio recordings can be quite large.

**Use a direct connection to the SD card <Local SD card> to ensure the fastest rate of data transfer.**

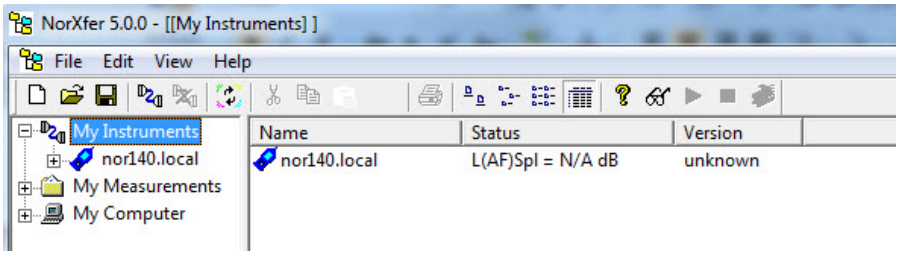
To transfer files from the 139/140 SD card directly, follow the procedure as below (example with Nor140):

After the measurement is finished, remove the card from the meter and use an external card reader plugged to a USB connector in the PC (or internal card reader in the PC if one exist). Skip the action to view the files in Windows Explorer as suggested by the pop-up window

Start NorXfer on your PC. Hit the Connect Icon (Blue cable) to open the “Choose Instrument and Connection” menu. Select <Nor140> under “Instrument” and <local> under “Connection” as shown below:

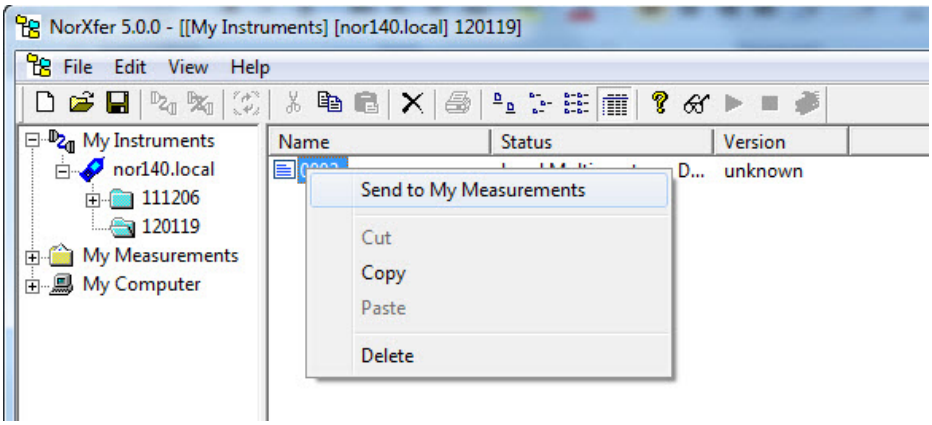


These actions result in the connection as shown:

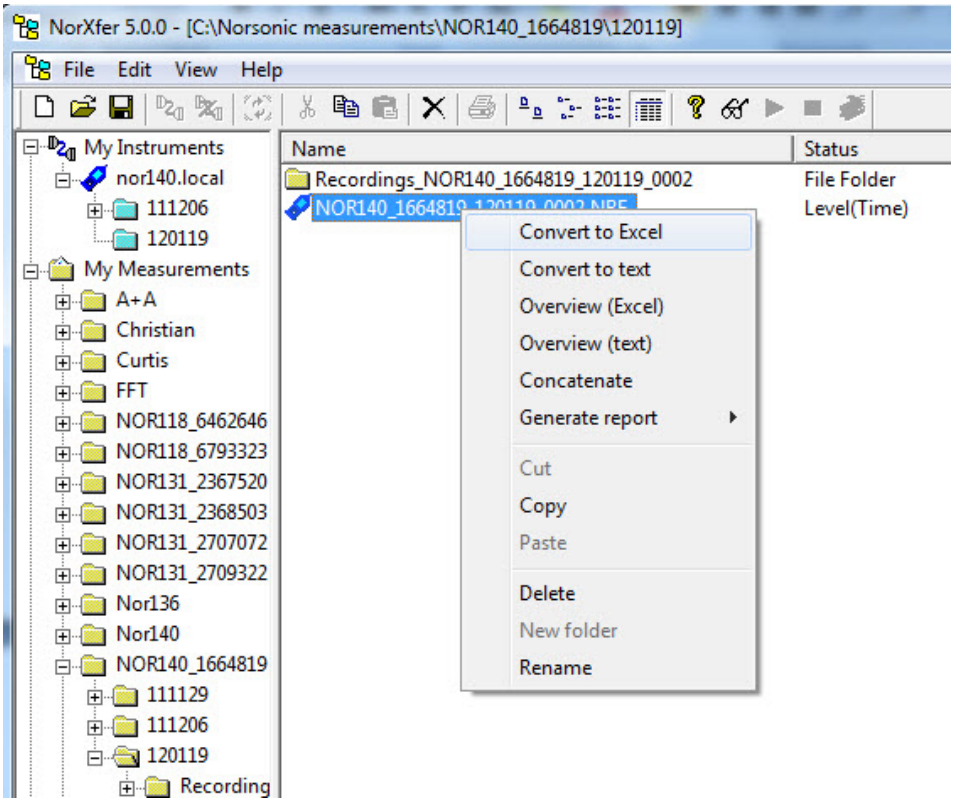



The same procedures apply as for the Nor131 for transfer – and conversion of measurement files:

Use “Send To My Measurements”, Ctrl-C/Ctrl-V, Copy/Paste or drag & drop on the file or directory:



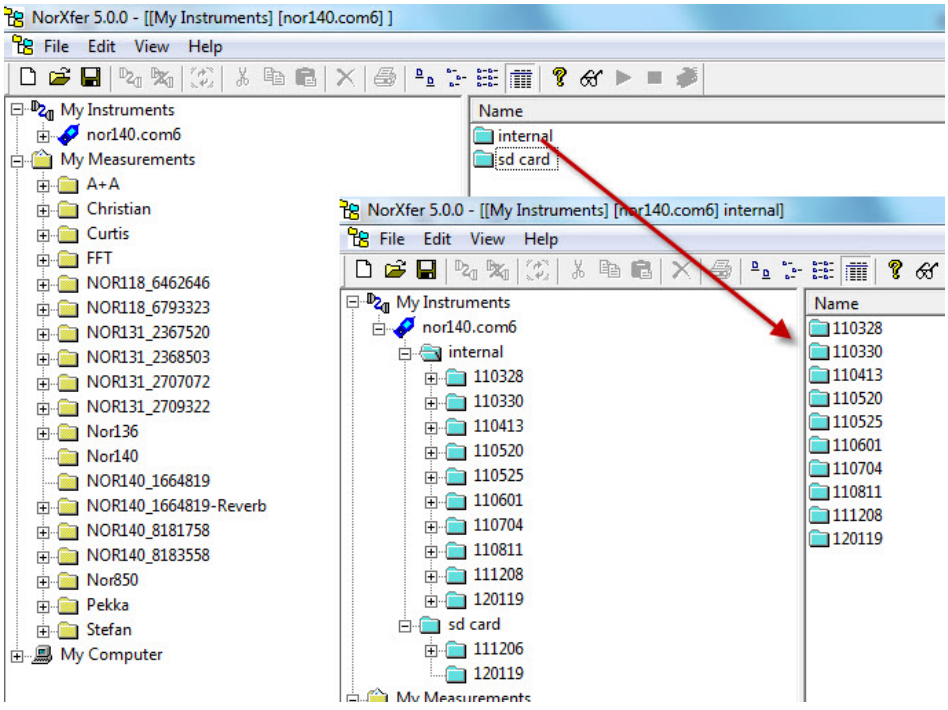
Use the appropriate Conversion routine:




This results in an Excel file as for the Nor131.

To transfer data from the Internal memory, connect using the either the USB- or RS232 interface (or with the use of a RS232-USB adapter).

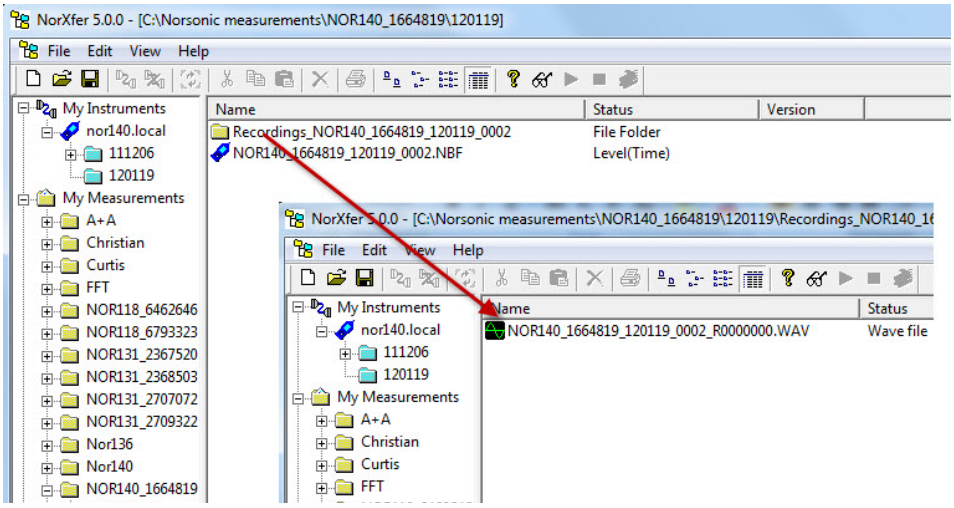
Two folders are produced, one for the internal memory and one for the SD card.



The same procedure applies as for transfer- and conversion of files when connecting to SD card directly

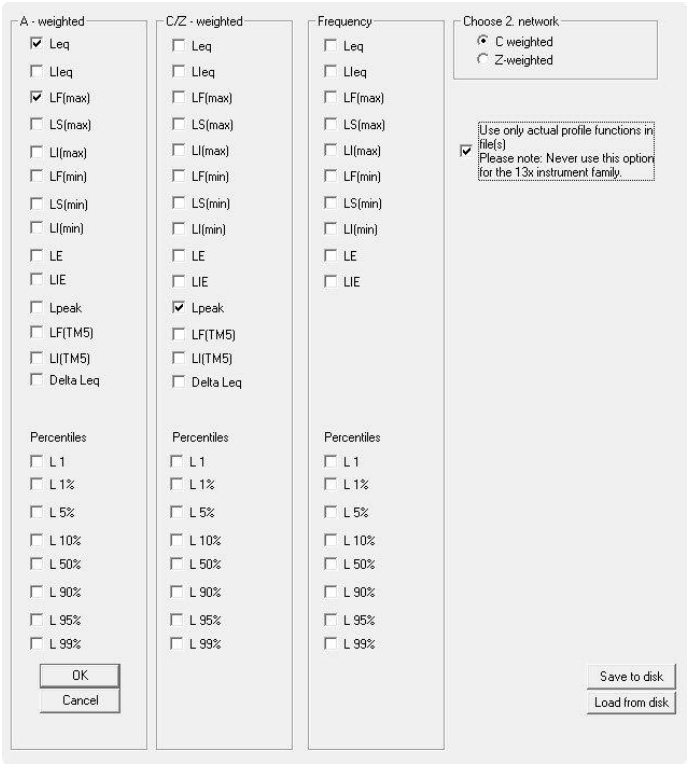
If the measurement from the Nor140 contains one or more audio recordings, these .wav files are found together with the measurement files in a folder, Recordings_Nor140_IDNUMBER_YYMMDD_FILENUMBER, as seen here:

**HINT!** To listen to audio recordings, use NorReview.




## Overview (Excel)

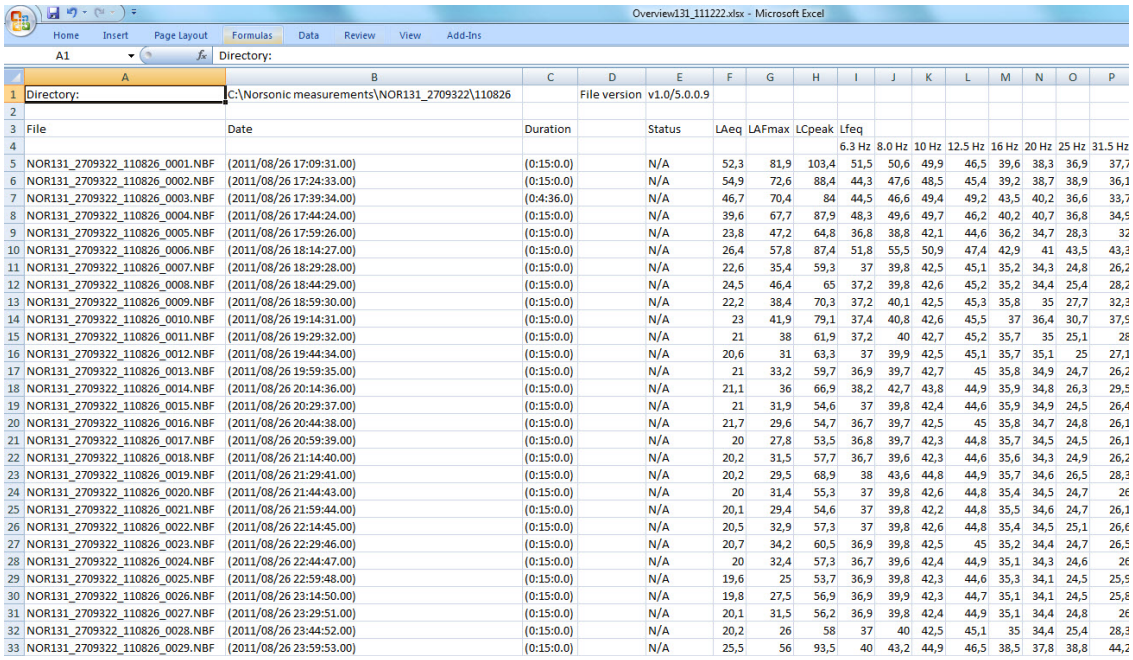
If you have done a measurement, with our without frequencies and just want the Global values, instead of using the “Convert to Excel” function, choose “Overview (Excel)”. Then all values for the same file are within one Excel sheet. This is also a useful function if you have several files to download as the files can be selected and converted together, each file occupying one line in the same spreadsheet. Different combinations of parameters can be chosen in the “Overview configuration” as seen below:




Results will then be sorted with one line per measurement for the selected parameters/functions:

**For the Nor13x-series of instruments, always have the "use only actual profile functions in file(s) "unchecked", and select functions to include in Overview by checking the appropriate box.**

**For the Nor139/Nor140, the "Overview (Excel)" conversion also applies to the measurements (Global) from the modes Reverberation, BA (Survey and ISO140), Sound power, FFT and STIPA.**



Overview131_111222.xlsx - Microsoft Excel

Home | Insert | Page Layout | Formulas | Data | Review | View | Add-Ins

A1 | Directory:

| | A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Directory: | C:\Norsonic measurements\NOR131_2709322\110826 | | File version | v1.0/5.0.0.9 | | | | | | | | | | | |
| 2 | | | | | | | | | | | | | | | | |
| 3 | File | Date | Duration | | Status | LAeq | LAFmax | LCpeak | Lfeq | | | | | | | |
| 4 | | | | | | | | | 6.3 Hz | 8.0 Hz | 10 Hz | 12.5 Hz | 16 Hz | 20 Hz | 25 Hz | 31.5 Hz |
| 5 | NOR131_2709322_110826_0001.NBF | (2011/08/26 17:09:31.00) | (0:15:0.0) | | N/A | 52,3 | 81,9 | 103,4 | 51,5 | 50,6 | 49,9 | 46,5 | 39,6 | 38,3 | 36,9 | 37,7 |
| 6 | NOR131_2709322_110826_0002.NBF | (2011/08/26 17:24:33.00) | (0:15:0.0) | | N/A | 54,9 | 72,6 | 88,4 | 44,3 | 47,6 | 48,5 | 45,4 | 39,2 | 38,7 | 38,9 | 36,1 |
| 7 | NOR131_2709322_110826_0003.NBF | (2011/08/26 17:39:34.00) | (0:4:36.0) | | N/A | 46,7 | 70,4 | 84 | 44,5 | 46,6 | 49,4 | 49,2 | 43,5 | 40,2 | 36,6 | 33,7 |
| 8 | NOR131_2709322_110826_0004.NBF | (2011/08/26 17:44:24.00) | (0:15:0.0) | | N/A | 39,6 | 67,7 | 87,9 | 48,3 | 49,6 | 49,7 | 46,2 | 40,2 | 40,7 | 36,8 | 34,9 |
| 9 | NOR131_2709322_110826_0005.NBF | (2011/08/26 17:59:26.00) | (0:15:0.0) | | N/A | 23,8 | 47,2 | 64,8 | 36,8 | 38,8 | 42,1 | 44,6 | 36,2 | 34,7 | 28,3 | 32 |
| 10 | NOR131_2709322_110826_0006.NBF | (2011/08/26 18:14:27.00) | (0:15:0.0) | | N/A | 26,4 | 57,8 | 87,4 | 51,8 | 55,5 | 50,9 | 47,4 | 42,9 | 41 | 43,5 | 43,3 |
| 11 | NOR131_2709322_110826_0007.NBF | (2011/08/26 18:29:28.00) | (0:15:0.0) | | N/A | 22,6 | 35,4 | 59,3 | 37 | 39,8 | 42,5 | 45,1 | 35,2 | 34,3 | 24,8 | 26,2 |
| 12 | NOR131_2709322_110826_0008.NBF | (2011/08/26 18:44:29.00) | (0:15:0.0) | | N/A | 24,5 | 46,4 | 65 | 37,2 | 39,8 | 42,6 | 45,2 | 35,2 | 34,4 | 25,4 | 28,2 |
| 13 | NOR131_2709322_110826_0009.NBF | (2011/08/26 18:59:30.00) | (0:15:0.0) | | N/A | 22,2 | 38,4 | 70,3 | 37,2 | 40,1 | 42,5 | 45,3 | 35,8 | 35 | 27,7 | 32,3 |
| 14 | NOR131_2709322_110826_0010.NBF | (2011/08/26 19:14:31.00) | (0:15:0.0) | | N/A | 23 | 41,9 | 79,1 | 37,4 | 40,8 | 42,6 | 45,5 | 37 | 36,4 | 30,7 | 37,9 |
| 15 | NOR131_2709322_110826_0011.NBF | (2011/08/26 19:29:32.00) | (0:15:0.0) | | N/A | 21 | 38 | 61,9 | 37,2 | 40 | 42,7 | 45,2 | 35,7 | 35 | 25,1 | 28 |
| 16 | NOR131_2709322_110826_0012.NBF | (2011/08/26 19:44:34.00) | (0:15:0.0) | | N/A | 20,6 | 31 | 63,3 | 37 | 39,9 | 42,5 | 45,1 | 35,7 | 35,1 | 25 | 27,1 |
| 17 | NOR131_2709322_110826_0013.NBF | (2011/08/26 19:59:35.00) | (0:15:0.0) | | N/A | 21 | 33,2 | 59,7 | 36,9 | 39,7 | 42,7 | 45 | 35,8 | 34,9 | 24,7 | 26,2 |
| 18 | NOR131_2709322_110826_0014.NBF | (2011/08/26 20:14:36.00) | (0:15:0.0) | | N/A | 21,1 | 36 | 66,9 | 38,2 | 42,7 | 43,8 | 44,9 | 35,9 | 34,8 | 26,3 | 29,5 |
| 19 | NOR131_2709322_110826_0015.NBF | (2011/08/26 20:29:37.00) | (0:15:0.0) | | N/A | 21 | 31,9 | 54,6 | 37 | 39,8 | 42,4 | 44,6 | 35,9 | 34,9 | 24,5 | 26,4 |
| 20 | NOR131_2709322_110826_0016.NBF | (2011/08/26 20:44:38.00) | (0:15:0.0) | | N/A | 21,7 | 29,6 | 54,7 | 36,7 | 39,7 | 42,5 | 45 | 35,8 | 34,7 | 24,8 | 26,1 |
| 21 | NOR131_2709322_110826_0017.NBF | (2011/08/26 20:59:39.00) | (0:15:0.0) | | N/A | 20 | 27,8 | 53,5 | 36,8 | 39,7 | 42,3 | 44,8 | 35,7 | 34,5 | 24,5 | 26,1 |
| 22 | NOR131_2709322_110826_0018.NBF | (2011/08/26 21:14:40.00) | (0:15:0.0) | | N/A | 20,2 | 31,5 | 57,7 | 36,7 | 39,6 | 42,3 | 44,6 | 35,6 | 34,3 | 24,9 | 26,2 |
| 23 | NOR131_2709322_110826_0019.NBF | (2011/08/26 21:29:41.00) | (0:15:0.0) | | N/A | 20,2 | 29,5 | 68,9 | 38 | 43,6 | 44,8 | 44,9 | 35,7 | 34,6 | 26,5 | 28,3 |
| 24 | NOR131_2709322_110826_0020.NBF | (2011/08/26 21:44:43.00) | (0:15:0.0) | | N/A | 20 | 31,4 | 55,3 | 37 | 39,8 | 42,6 | 44,8 | 35,4 | 34,5 | 24,7 | 26 |
| 25 | NOR131_2709322_110826_0021.NBF | (2011/08/26 21:59:44.00) | (0:15:0.0) | | N/A | 20,1 | 29,4 | 54,6 | 37 | 39,8 | 42,2 | 44,8 | 35,5 | 34,6 | 24,7 | 26,1 |
| 26 | NOR131_2709322_110826_0022.NBF | (2011/08/26 22:14:45.00) | (0:15:0.0) | | N/A | 20,5 | 32,9 | 57,3 | 37 | 39,8 | 42,6 | 44,8 | 35,4 | 34,5 | 25,1 | 26,6 |
| 27 | NOR131_2709322_110826_0023.NBF | (2011/08/26 22:29:46.00) | (0:15:0.0) | | N/A | 20,7 | 34,2 | 60,5 | 36,9 | 39,8 | 42,5 | 45 | 35,2 | 34,4 | 24,7 | 26,5 |
| 28 | NOR131_2709322_110826_0024.NBF | (2011/08/26 22:44:47.00) | (0:15:0.0) | | N/A | 20 | 32,4 | 57,3 | 36,7 | 39,6 | 42,4 | 44,9 | 35,1 | 34,3 | 24,6 | 26 |
| 29 | NOR131_2709322_110826_0025.NBF | (2011/08/26 22:59:48.00) | (0:15:0.0) | | N/A | 19,6 | 25 | 53,7 | 36,9 | 39,8 | 42,3 | 44,6 | 35,3 | 34,1 | 24,5 | 25,9 |
| 30 | NOR131_2709322_110826_0026.NBF | (2011/08/26 23:14:50.00) | (0:15:0.0) | | N/A | 19,8 | 27,5 | 56,9 | 36,9 | 39,9 | 42,3 | 44,7 | 35,1 | 34,1 | 24,5 | 25,8 |
| 31 | NOR131_2709322_110826_0027.NBF | (2011/08/26 23:29:51.00) | (0:15:0.0) | | N/A | 20,1 | 31,5 | 56,2 | 36,9 | 39,8 | 42,4 | 44,9 | 35,1 | 34,4 | 24,8 | 26 |
| 32 | NOR131_2709322_110826_0028.NBF | (2011/08/26 23:44:52.00) | (0:15:0.0) | | N/A | 20,2 | 26 | 58 | 37 | 40 | 42,5 | 45,1 | 35 | 34,4 | 25,4 | 28,3 |
| 33 | NOR131_2709322_110826_0029.NBF | (2011/08/26 23:59:53.00) | (0:15:0.0) | | N/A | 25,5 | 56 | 93,5 | 40 | 43,2 | 44,9 | 46,5 | 38,5 | 37,8 | 38,8 | 44,2 |

## Concatenate

The concatenate function is a very useful feature available for merging different files within a directory.

**A valid license of the post-processing program NorReview needs to be installed on the same computer to allow use of the Concatenate function (else this choice is greyed out in the menu).**

You are able to make a new file which combines the individual files into one. The concatenated file can be imported to NorReview or converted to Excel as usual.

There are 2 possibilities, either Profile- or Global concatenation.

If you make a Profile-concatenation, the "Profile part" of the measurements will be merged together, with the resulting Profile file with duration as the combined length of all measurements.

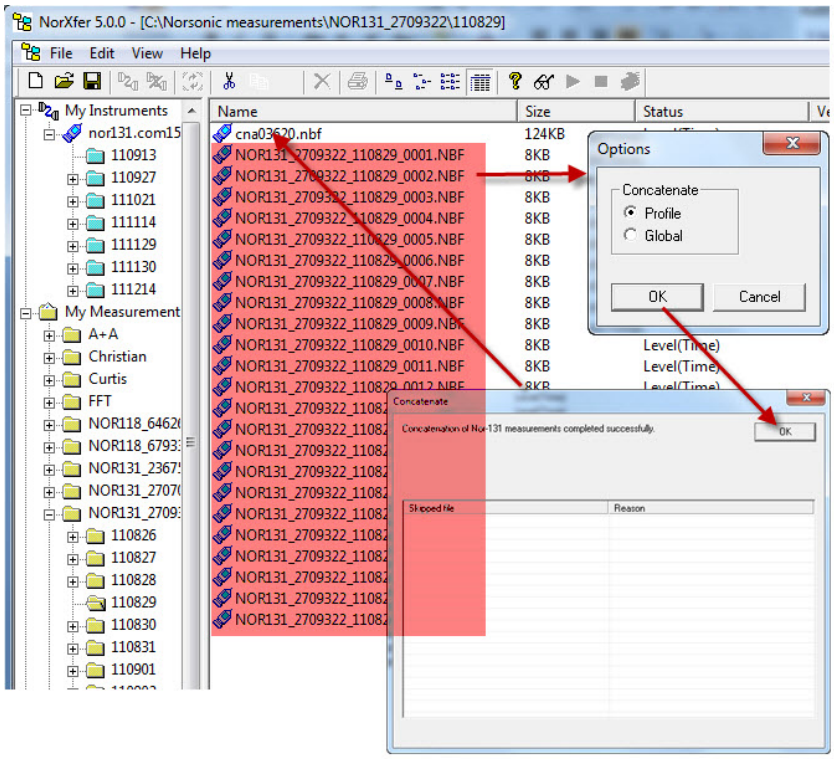
The resolution must be the same as in each file. If you try to merge files with different period length, you will get an error message

If you do not have any Level vs. Time option(s) in the instrument, you can still make a concatenated file using Global-concatenation. In this case, the resolution will be equal to the duration of each Global file.

It is also possible to convert the .cna (concatenated) files to Excel the same way as for the .nbf files directly from the instrument. You may also merge several files into one single .nbf file.

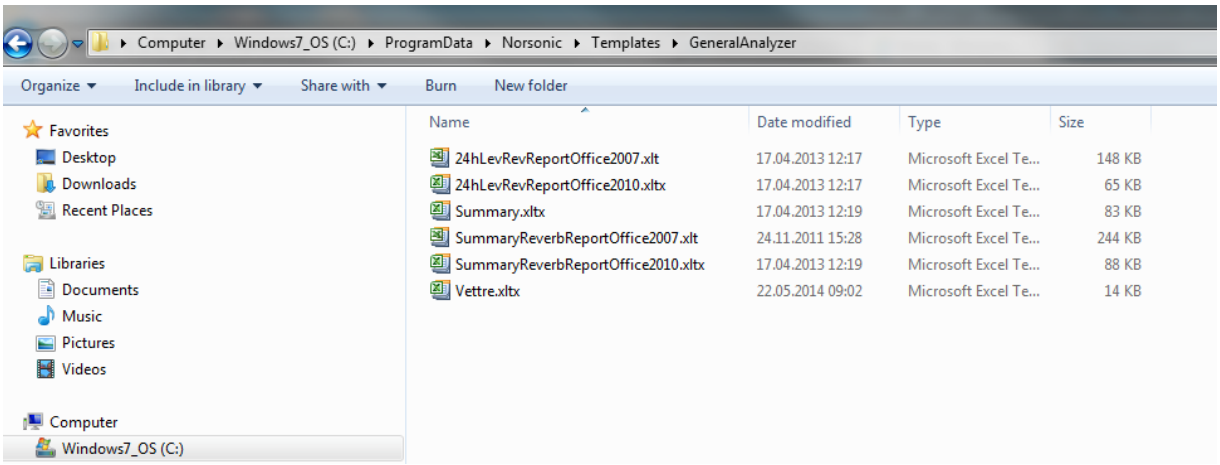
The resulting file can be Excel converted the usual way and contain all 1 second results for the entire 24 hours period. In addition to this, you will be able to convert each 1 hour results if you want to. Or, say you want files with an 8 hour period, eg. If you need to partition into -day, -evening and night periods (LDEN)

**Hint!** The Concatenate function is very useful for merging eg. half hour, 1 hour or 8 hour files into one 24 hour single file, in which case you have the Global Leq for the total time as well as the individual Leq's inbetween (24x30 min, 12x1 hour or 3x8 hours). Set the meter to log for an extended period, eg. 24 hours, but segment this into 1 hour periods by choosing 1 hour measurement period, eg. with 1 second resolution and use Synchro storage. Make the measurements, download to the PC, select all 24 files, and choose "Concatenate".

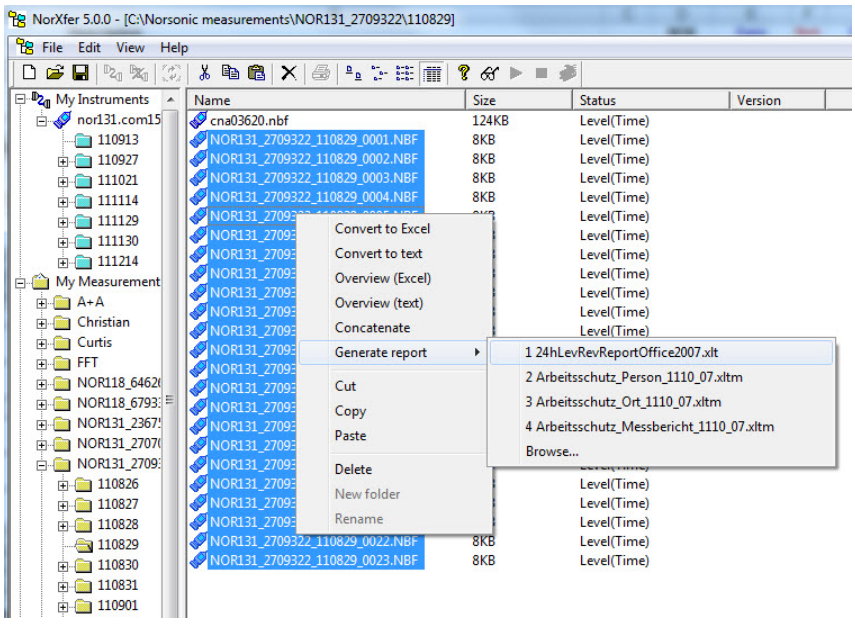


## NorReport

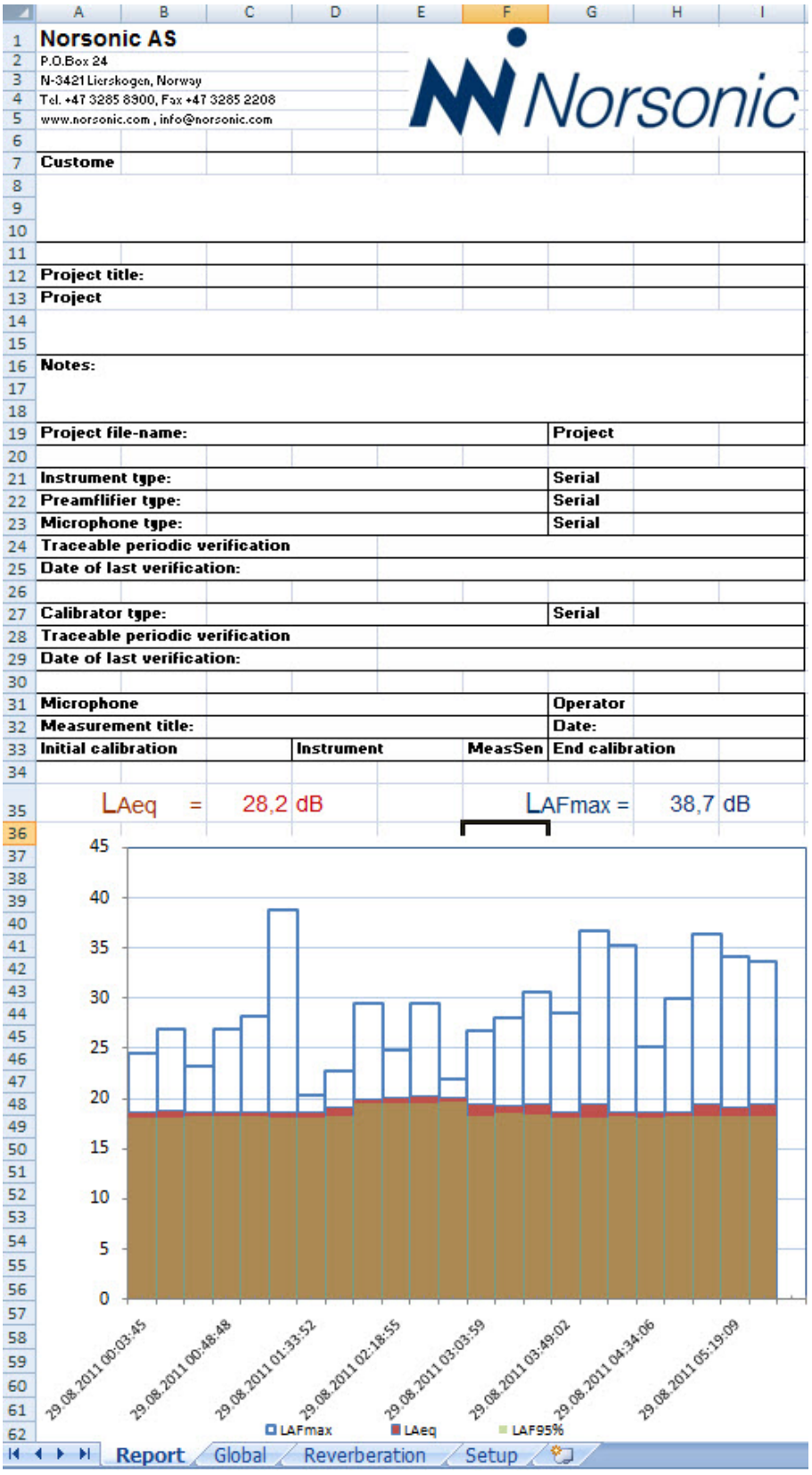
New function from NorXfer V.5 is the ability to generate Excel reports based on templates.
In general, templates for making Reports comes with both NorXfer V.6.x and NorReview V.6.x.
Standard installation for NorXfer V.6 is under C:\Program\ProgramData\Norsonic\Templates\GeneralAnalyzer:




If you eg. want a Report over a 24 hour time span (day/evening/night), having done 1 hour files with a Synchro long-time setup, you can choose the 24hLevReportOffice template:



This will result in the following Report:




It is of course also possible to make other specialized macros yourself.

How to edit existing templates or making your own template is not discussed in this manual. Refer to Excel report generator.pdf.

## Reverberation Excel report

To convert Reverberation files from the Nor140 and Nor131/Nor132, use the “Convert to Excel” function. This will produce the report of the reverberation results, T20 and T30 for all frequencies: 63Hz-8KHz in 1/1- octaves or 50Hz-10KHz in 1/3-octave bands, under the Reverberation tab in the Excel, as shown below:

| | A | B | C | D |
|---|---|---|---|---|
| 1 | Primary reverberation time - | T20 | | |
| 2 | Frequency (Hz) | T20 mean (sec) | Status | T20 stdev (sec) |
| 3 | 63 Hz | 0,84 | | |
| 4 | 125 Hz | 0,43 | | |
| 5 | 250 Hz | 0,5 | | |
| 6 | 500 Hz | 0,33 | | |
| 7 | 1 kHz | 0,18 | | |
| 8 | 2 kHz | 0,19 | | |
| 9 | 4 kHz | 0,18 | | |
| 10 | 8 kHz | 0,14 | | |
| 11 | | | | |
| 12 | T20 A | 0,32 | | |
| 13 | T20 C | 0,41 | | |
| 14 | | | | |
| 15 | T30 A | 0,37 | | |
| 16 | T30 C | 0,46 | | |
| 17 | | | | |
| 18 | Secondary reverberation time - | T30 | | |
| 19 | Frequency (Hz) | T30 mean (sec) | Status | T30 stdev (sec) |
| 20 | 63 Hz | 0,74 | ? | |
| 21 | 125 Hz | 0,45 | | |
| 22 | 250 Hz | 0,5 | | |
| 23 | 500 Hz | 0,39 | | |
| 24 | 1 kHz | 0,32 | | |
| 25 | 2 kHz | 0,33 | | |
| 26 | 4 kHz | 0,31 | | |
| 27 | 8 kHz | 0,27 | | |
| 28 | | | | |
| 29 | T20 A | 0,32 | | |
| 30 | T20 C | 0,41 | | |
| 31 | | | | |
| 32 | T30 A | 0,37 | | |
| 33 | T30 C | 0,46 | | |

**NB! For Nor131/132 you will only get the numerical values as shown.**

## Decay results

New function from NorXfer V.5

In addition to the reverberation results values T20 and T30, it is now possible to read out the complete decay result table in 5 ms steps from the Nor140 after having done a reverberation measurement with “Decay storage” set to ON. Converted values are: Lfeq, ie. all frequencies, LCeq and LAeq, see example below:

| | A | B | C | D | E | F | G | H | I | J | K |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | Lfeq | | | | | | | |
| 2 | Period: | Time: | | 63 Hz | 125 Hz | 250 Hz | 500 Hz | 1.0 kHz | 2.0 kHz | 4.0 kHz | 8.0 kHz |
| 3 | 0 | (2012-01-25 14:29:42.000) | | 80,8 | 98,6 | 94,8 | 106,2 | 95,3 | 95,4 | 106,3 | 95,4 |
| 4 | 1 | (2012-01-25 14:29:42.005) | | 86,1 | 101,5 | 93,6 | 111 | 97,2 | 94,8 | 106 | 101,4 |
| 5 | 2 | (2012-01-25 14:29:42.010) | | 89,7 | 104,6 | 94,3 | 110,8 | 102,3 | 94,2 | 103,7 | 91,6 |

## Building Acoustics Excel reports

To convert files from the Nor140 MODE 4 - Building Acoustics, either Survey- or Engineering method for either airborne of impact, use the “Convert to Excel” function. See example report below:

| Engineering | | | | | | | |
|---|---|---|---|---|---|---|---|
| 1/3-oct. | L1 | L2 | T | Lb | Dn | DnT | R' |
| 50 Hz | 69,9 | 41,3 | 0,47 | 33,2 | 21,4 | 29 | 20,9 |
| 63 Hz | 74,2 | 50,3 | 0,31 | 37,5 | 14,2 | 21,8 | 13,7 |
| 80 Hz | 73,4 | 48,4 | 0,55 | 35,8 | 17,8 | 25,4 | 17,3 |
| 100 Hz | 71,5 | 54,9 | 0,2 | 31,6 | 5 | 12,6 | 4,5 |
| 125 Hz | 77,7 | 58,2 | 0,31 | 31 | 9,9 | 17,5 | 9,4 |
| 160 Hz | 81,9 | 56,2 | 0,25 | 28,9 | 15,1 | 22,7 | 14,6 |
| 200 Hz | 81,3 | 55,4 | 0,21 | 29,9 | 14,5 | 22,1 | 14 |
| 250 Hz | 80,6 | 49,8 | 0,17 | 25,3 | 18,5 | 26,1 | 18 |
| 315 Hz | 80 | 47,9 | 0,23 | 24,1 | 21,1 | 28,7 | 20,6 |
| 400 Hz | 74,8 | 50,9 | 0,22 | 24,3 | 12,7 | 20,3 | 12,2 |
| 500 Hz | 71,2 | 49 | 0,2 | 24,1 | 10,6 | 18,2 | 10,1 |
| 630 Hz | 69,9 | 44,7 | 0,2 | 26,1 | 13,7 | 21,3 | 13,2 |
| 800 Hz | 70,1 | 44,1 | 0,16 | 24,7 | 13,5 | 21,1 | 13 |
| 1 kHz | 68,3 | 42,4 | 0,2 | 21,5 | 14,3 | 21,9 | 13,8 |
| 1.25 kHz | 71,7 | 43,2 | 0,2 | 19,5 | 16,9 | 24,5 | 16,4 |
| 1.6 kHz | 73,1 | 44,6 | 0,16 | 18 | 16 | 23,6 | 15,5 |
| 2 kHz | 69,9 | 43,6 | 0,18 | 15,7 | 14,3 | 21,9 | 13,8 |
| 2.5 kHz | 71,3 | 44,6 | 0,18 | 15,4 | 14,7 | 22,3 | 14,2 |
| 3.15 kHz | 70,5 | 44,9 | 0,23 | 14,8 | 14,6 | 22,2 | 14,1 |
| 4 kHz | 73,7 | 46,5 | 0,2 | 14,3 | 15,5 | 23,1 | 15 |
| 5 kHz | 76,4 | 49,6 | 0,19 | 14 | 15 | 22,6 | 14,5 |
| Weighted | | | | | 14 | 22 | 14 |
| C | | | | | 0 | 0 | 0 |
| C (50-3150) | | | | | 0 | 0 | 0 |
| C (50-5000) | | | | | 1 | 0 | 0 |
| C (100-5000) | | | | | 1 | 0 | 0 |
| Ctr | | | | | 0 | 0 | -1 |
| Ctr (50-3150) | | | | | 0 | 0 | -1 |
| Ctr (50-5000) | | | | | 0 | -1 | -1 |
| Ctr (100-5000) | | | | | 0 | -1 | -1 |

## FFT Excel report

The FFT values are reported in 8000 lines with a frequency resolution of 1,46 Hz up to 10KHz:

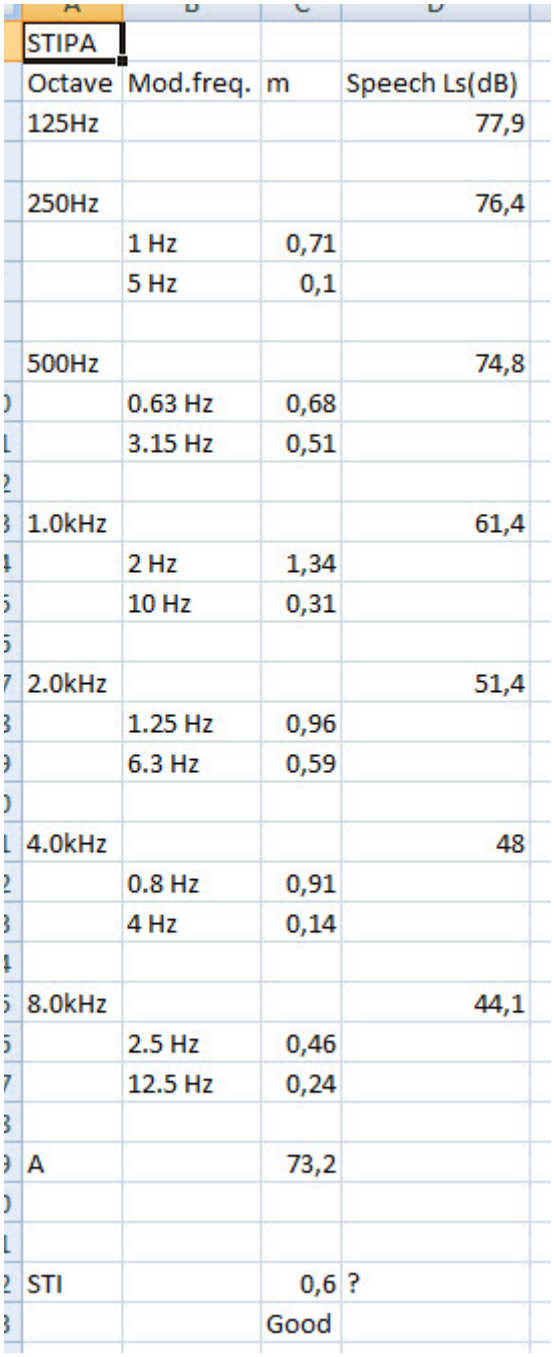
| FFT | |
|---|---|
| 0.00 Hz | - |
| 1.46 Hz | 132,8 |
| 2.93 Hz | 115,7 |
| 4.39 Hz | 114,9 |
| 5.86 Hz | 113,3 |
| 7.32 Hz | 110 |
| 8.79 Hz | 110,2 |
| 10.25 Hz | 111,5 |
| 11.72 Hz | 112,1 |
| 13.18 Hz | 112,2 |
| 14.65 Hz | 113,6 |
| 16.11 Hz | 116,2 |
| 17.58 Hz | 116,8 |
| 19.04 Hz | 119,2 |
| 20.51 Hz | 119,7 |
| 21.97 Hz | 119,6 |
| 23.44 Hz | 120,3 |
| 24.90 Hz | 119,5 |
| 26.37 Hz | 118,5 |

Alternatively as Overview report with measurements in rows and frequencies in columns:

| | A | B | C | D | E | F | G | H |
|---|---|---|---|---|---|---|---|---|
| 1 | FFT | | | | | | | |
| 2 | | | 0.00 Hz | 1.46 Hz | 2.93 Hz | 4.39 Hz | 5.86 Hz | 7.32 Hz |
| 3 | NOR140_1664819_120207_0004.NBF | (2012/2/7 10:21:50.0) | - | 132,8 | 115,7 | 114,9 | 113,3 | 110 |
| 4 | NOR140_1664819_120207_0005.NBF | (2012/2/7 10:23:16.0) | - | 101,6 | 103,2 | 104 | 107,2 | 106,7 |
| 5 | | | | | | | | |
| 6 | | | | | | | | |

## STIPA Excel report

All measured and calculated parameters from the Nor131/132 and Nor140 Stipa files are converted and presented:



| | A | B | C | D |
|---|---|---|---|---|
| | STIPA | | | |
| | Octave | Mod.freq. | m | Speech Ls(dB) |
| | 125Hz | | | 77,9 |
| | | | | |
| | 250Hz | | | 76,4 |
| | | 1 Hz | 0,71 | |
| | | 5 Hz | 0,1 | |
| | | | | |
| | 500Hz | | | 74,8 |
| ) | | 0.63 Hz | 0,68 | |
| L | | 3.15 Hz | 0,51 | |
| 2 | | | | |
| 3 | 1.0kHz | | | 61,4 |
| 4 | | 2 Hz | 1,34 | |
| 5 | | 10 Hz | 0,31 | |
| 6 | | | | |
| 7 | 2.0kHz | | | 51,4 |
| 8 | | 1.25 Hz | 0,96 | |
| 9 | | 6.3 Hz | 0,59 | |
| ) | | | | |
| L | 4.0kHz | | | 48 |
| 2 | | 0.8 Hz | 0,91 | |
| 3 | | 4 Hz | 0,14 | |
| 4 | | | | |
| 5 | 8.0kHz | | | 44,1 |
| 6 | | 2.5 Hz | 0,46 | |
| 7 | | 12.5 Hz | 0,24 | |
| 8 | | | | |
| 9 | A | | 73,2 | |
| ) | | | | |
| L | | | | |
| 2 | STI | | 0,6 | ? |
| 3 | | | Good | |

## Transferring a set of Audiometer files and generates an Excel report

Applies to Nor140 with audiometer options and GRAS HW001 instrument

System requirements: NorXfer version 4.7 or higher. GRAS HW1001 instrument or Nor140 with Audiometer option

Calibrating an audiometer results in a set of measurement files stored either in the internal memory or on the removable SD card. Using the internal memory requires that the files must be downloaded via the USB interface. This is a bit more time consuming than using the SD card. The SD card however takes a bit longer time when performing the measurement, since the SD card access time between each measurement is in the range of 200-500ms.

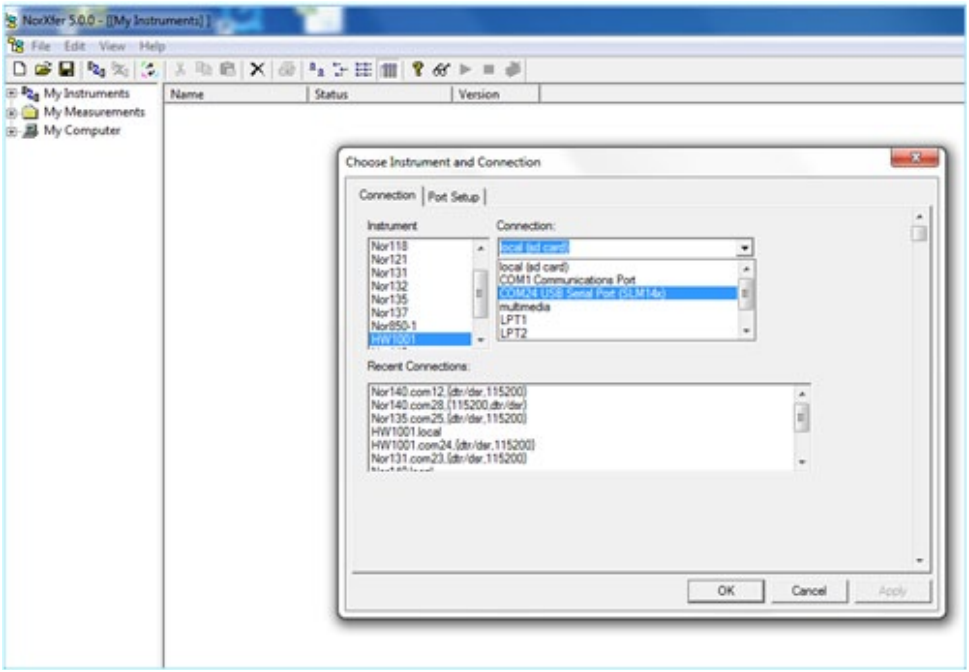
To change the between SD card and Internal memory press Setup – 1 – STORING. Move cursor down to Result: and toggle between Internal and SD-card. Leave the menu with the ENTER button.

The storing of a measurement file can either be done manually or automatically. Manually requires that you push the STORE/RECORD button to store the file. The advantage with the manual store function is that you just store the measurements you accept as good. The disadvantage is that you must push the STORE/RECORD button. In automatic mode, the instrument stores the measurement once the measurement time has elapsed. The file name is in either case automatically generated. Each day has a separate folder, named with the current date. Each file is then named with an increasing number starting from 0001A, Where A indicates that the file contains Audiometer data.

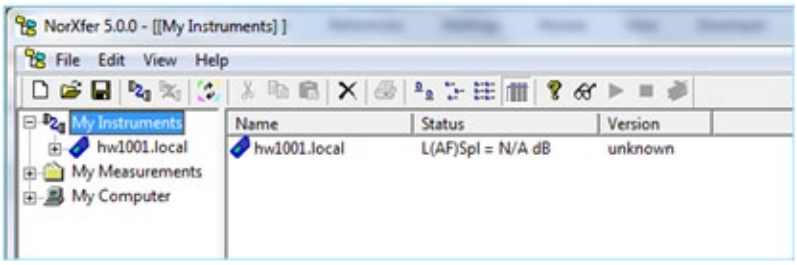
To change between Automatic and Manual storage mode, push SETUP-1-STORING. The cursor is positioned on Mode: toggle between Automatic and Manual. The system features two more storage options; Repeat and Synchro. These are not supported in this application, and will result in an error message; “Audiometer calibration parameters not set properly”.

After a series of measurements are taken and stored, the files must be transferred to the PC and converted into a readable format. This is done by the PC program NorXfer. The program must be installed on the PC with a appropriate USB driver installed. Follow the installation procedure given when installing the program the first time.

Right click on “My Instruments” and select “connect”. The menu below appears. Select either “local (SD card) or the appropriate USB port, dependent on where the data is stored.

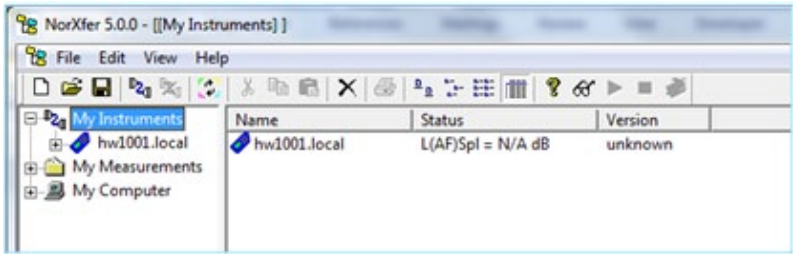


The instrument will appear as shown below. Dobell click on the instrument in the right frame to expand the file folder



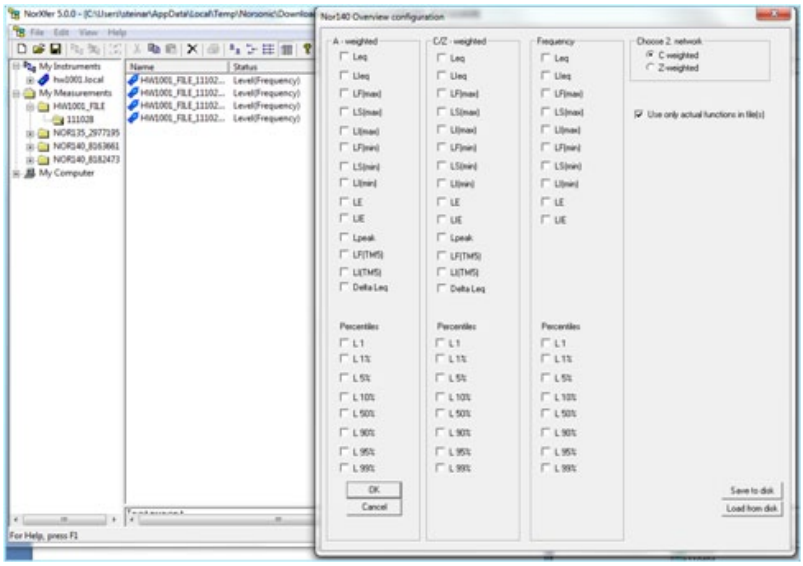

Mark the measurement files that you want to copy onto the PC. Use drag and drop to the “My measurements” catalogue or right click and select “send to My Measurements”

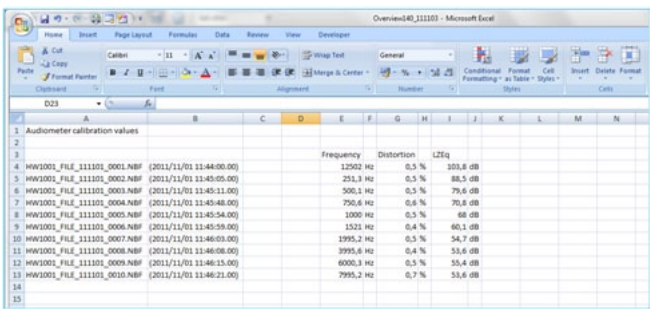
Expand “My Measurement” folder and select the right subfolder and catalogue. Select the measurement files




belonging to one audiometer calibration and right click. Select “Overview (Excel)”. The Overview configuration menu appears. Check on the “Use only actual function in file(s)” checkbox and select the OK button.

An Excel file is generated that contains all the measured values; Level, Frequency and distortion. This Excel file contains of two worksheets; Global and Audiometer. The values are found in the Audiometer worksheet.





## Transferring from Nor121

Transferring files from the Nor121 is very similar to the transfer of files from the Nor110/116/118. However, the file structure is somewhat different, since a Nor121 measurement in fact consists of several (sub)measurements like profile, reports 1~5, event etc.

Therefore each measurement in the Nor121 consists of a folder containing several files. In the NorXfer Tree view, the measurements are organised in three levels of folders.

The first level is the storage medium in the instrument, the second level is the measurement group,while the third level is the measurement title.

Each complete measurement is stored in the third level and is given the name Group_Title_Index_date-and-time-of-day-of-storage once they have been transferred to the PC. Since each measurement consist of several reports etc. these are kept together in a measurement folder which appears yellow (like folders do in Windows explorer), but with the text 121 written on it.

By giving the measurement folder a name containing the group, title, index and date/time, ambiguity is avoided (you won't meet two completely unrelated versions of measurement No. 3).

If you connect the Nor121 to a serial port (Com 1…4) of your PC, you can also select and transfer parts of a measurement, such as a single report to save transfer time. The other reports, events or recordings can be selected and transferred individually at a later time, if needed.

Just click on the yellow folder marked 121 and the individual files are revealed.

Example: Assume we have a Group named Anton, a Title Dvorak and an Index 2. Upon transfer to the PC, NorXfer will create a folder named Anton_Dvorak_2_[start time], in which [start time] is the date and time when the measurement was started. In this folder you will find all the measurements (event, profile, report No. n etc.) made and stored as Index 2 titled Dvorak under the group Anton.

To transfer files, use the methods of selecting, copying and pasting or drag and drop as described under Transferring Files from Nor110/116/118 above. Use 19200 baud.

### Memory card

Data measured with Nor121 may be stored on an external memory card. If your PC has a suitable slot or card reader, the stored information may be transferred to your PC directly from the memory card by the use of NorXfer.

To access these files, plug the card to your PC. Start NorXfer the usual way, and initiate a connection. Then select <121> for instrument and <local> for connection, and hit <enter>. A Nor121 icon followed by the text Nor121.local will appear. The internal memory structure of the device is shown as usual, and operations like file download and file conversion are exactly as usual.

### Nor121 Overview Function

You may convert the global data of several Nor121 measurements already transferred to your PC, into a single text file or Excel file.

Make sure the measurements, for which you're going to create overviews reside in the same folder on your PC, i.e. on the same level in the file/folder hierarchy. This will typically be the case when you transfer a set of measurements stored in the Nor121 under the same Group and/or Title.

Navigate down to the measurement folder level (you're there when you see the yellow folders with 121 written on them) and select the number of 121 folders required. Right-click the mouse and select the option Overview text or Overview Excel from the context sensitive menu.

Converted overview files are stored in the same folder as the files it was created from.

### Converting Nor121 Files

This utility can also be used to convert multispectrum measurements from the Nor840.

When using the Nor121:

1. In NorXfer locate the measurement directory named Group_Title_Index in the directory tree. In the file list in the right pane a file named Nor-121.NPF appears. Never delete this file! This is the header file for all the hidden data files in the measurement directory. Below Nor-121.NPF several reports are listed.

2. Select one or more reports. Right-click to get a context menu and choose the format to convert to. Then wait! This may take some time.

## Building Acoustics using Nor121 and NorXfer

The program NorXfer allows data measured in the building acoustic mode to be transferred to a PC. The results may be converted to a text file, or to MS Excel work-book. Please refer to the NorXfer manual for requirements to the PC, for the appropriate version of MS Windows programs, and to the procedure for installation. This description only describes items that are specific for the building acoustic mode of Nor121.

A building acoustic measurement consists typically of averaged values for each of the measurement positions as source and receiving room. By manual operation of the Nor121, only the averaged value is displayed. However, when a measurement is stored, the measurement result for each individual measurement is stored and the averaged value and the standard deviation are computed. NorXfer is an effective mean for transferring these data to a PC for further calculation in order to make the final report.

Note that Norsonic also supply PC programs for controlling the measurement and for making the final report based on a number of international and national standards. Please contact your local Norsonic supplier for further information on the programs NorSic and CtrlSic.

After a building acoustic measurement is finished and the result is stored, the result may be transferred to the PC in the following way:

1. Select serial port or parallel port for the communication. Make the cable connection to the appropriate PC-port. Switch on the instrument Nor121. If serial port is used, the baud-rate has to be set. If the parallel port is used, the instrument has to be set in transfer mode. The transfer mode may be selected by pressing Memory , move the cursor to the NorXfer field and press Enter. Wait until “Transfer mode...” is displayed,

2. Start the NorXfer program in the PC.

3. Click on the communication symbol. A symbol for the instrument Nor121 will be shown in the folder “My Instrument”. Click on the + symbol to expand the diagram. The main blocks of the memory system in the instrument will be shown. Click on the hdd –symbol if the values are stored on the hard disk drive. Expand the file structure until the wanted measurement file is displayed. Drag and drop the measurement file in the instrument to the folder “My measurements” (or other displayed folder)

4. Open the recently stored measurement folder in “My Measurement” marked with the 121 –symbol and the measurement file number. In addition to three apparently empty folders, three files marked with the instrument symbol are displayed:

   - Nor-121.npf
   - Sending room
   - Receiving room

   The latter two contain information for the sending and receiving room, respectively. The “nor-121.nfp” contains all the information.

5. Point on “nor-121.npf” and right-click the mouse. Select “Convert to Excel” or “Convert to text” as appropriate. The converted files will be placed in the same folder as the “nor-121.npf” file.

6. If the “nor-121.npf” file is converted to text, up to seven different text files will be generated:

   - BA_Setup.txt
   - BA_Sending room.txt
   - BA_Receiving room.txt
   - BA_BGN.txt
   - BA_Reverbation.txt
   - BA_Correction.txt
   - BA_Rating.txt

   The delimiter may be selected in “View – Options” setup.

7. If the “nor-121.npf” file is converted to Excel, a workbook with up to seven different worksheets will be generated:

   - Setup
   - Sending room
   - Receiving room
   - BGN
   - Reverberation
   - Correction
   - Rating

8. The measurement values are accompanied with text to identify the different values.

## Transfer trouble-shooting when using parallel port on Nor121

### Introduction

The transfer of data from Nor121 when using the parallel port is implemented by the use of a program module named FastLynx. Here follows some tips from the manufacturer of the module.

### Access denied message on LPT or COM port

When listening as server or connecting as client on a COM or LPT port, if you see an “Access denied” message, this usually means that another program or device driver has the indicated port open, which prevents FastLynx from opening and using it. The first thing to try is to close any running programs that might be using the port. If you had previously run a program in a DOS session that accessed the port, the DOS session may still have the port open even though the DOS program that originally used the port has exited. Close the DOS session to free up the port. If you have Windows Direct Cable Connection (DCC) configured to use the port, you will probably need to disable DCC before FastLynx can use the port. After doing the above, you need to click the appropriate LPT or COM port check box “off” and then “on” again to get FastLynx to try to open the port again.

For LPT ports, this problem can occur if you have a printer driver installed. Some printer drivers have an option to continuously poll the printer port to check on printer status. If your driver has such an option, you may be able to free up the LPT port by selecting the printer driver option to NOT poll for status. Other printer drivers have an option to allow or disable printing from DOS programs. If you don’t need to print from DOS, disabling DOS mode printing will sometimes free up the LPT port. The Lexmark 2050 series is an example of a driver that has this option. When using this driver, run the “Lexmark 2050 Series Ctrl Prog” and then select the Options tab. Then check the option at the bottom that says “Disable CJ2050 Series DOS Printing”. Other printer drivers may not have options such as these that will allow FastLynx to use the LPT port while the driver is loaded. In that case, the only recourse is to disable or uninstall the printer driver before using FastLynx on the LPT port.

### ”FastLynx NT device driver is not installed” message

If you are trying parallel transfer on Windows XP, 2000, or NT 4, and see the message that the NT device driver is not installed, perform the following steps to load it:•

- Log on as a user with Administrative privilege •
  - Start FastLynx •
  - Select the Setup/ReadMe option from the FastLynx File menu
  - Check the box related to the NT driver in the dialog box •
  - Press the OK button or hit the Enter key

### Parallel connection succeeds but then drops later

If you succeed in getting a parallel connection, but the connection drops later, try the following:

- Insure the parallel cable is screwed in snugly
- Plug any laptops into a wall socket instead of running on battery power
- Close any other active programs before making the connection
- If you have previously used Windows Direct Cable Connection (DCC), please insure that it is not listening on the LPT port! Breaking the connection does NOT stop DCC from listening on the port.
- Change the BIOS LPT port setting from ECP or EPP to SPP or Standard

If the connection is consistently reliable for a period of time when you first start using FastLynx, you may be having a problem with power management features or a screen saver. Try disabling power management for the CPU, hard disk, and monitor, and disabling the screen saver. Some printer drivers regularly “poll” the printer port looking for status information. If your printer driver is trying to use the same LPT port as FastLynx, this polling can disrupt the ability of FastLynx to maintain a reliable connection. Disable printer status polling if your driver has this option. Some drivers don’t have a way of turning this off. In that case, try disabling or uninstalling the printer driver if practical. The last thing to try is lowering the parallel port Maximum Speed value. To do this, press the “Specify Remote Connection Parameters” button and then select lower Maximum Speed values, one step at a time (the list is sorted with higher speeds at the top). This only needs to be done on one of the two computers. If none of the above helps, you may have a cable problem or a hardware problem in one of the parallel ports. We suggest using serial transfer as an alternate method.

### Serial connection succeeds but then drops later

If the connection is consistently reliable for a period of time when you first start using FastLynx, you may be having a problem with power management features or a screen saver. Try disabling power management for the CPU, hard disk, and monitor, and disabling the screen saver.

Another thing to try is to disable accelerated mode. To do this, press the “Specify Remote Connection Parameters” button in FastLynx and then uncheck the serial accelerated mode box. If this doesn’t help, try lowering the Maximum Baud Rate parameter one step at time. The last thing to try is lowering the Maximum Block Size value. These steps only need to be performed on one of the two computers.

### My application doesn’t work after I transfer it to another computer

In the old days, you could often successfully transfer a DOS application and associated data files to another computer using FastLynx. With newer Windows applications, this often does not work. Many applications rely on installation and setup programs to write settings to the Windows registry. Registry settings are not transferred by FastLynx, which can cause problems if you are trying to transfer an application. Another

problem is that many applications now install shared DLLs in directories other than the main application directory. Due to these and other problems, it is often not possible to transfer a Windows application and associated data files solely by using FastLynx. The recommended procedure when you want to transfer an application is to re-install the application on the target computer from the original media. Then transfer the application's data files using FastLynx.

### File names with certain extended characters won't transfer

On Windows 95 and 98, you may have trouble transferring rare file names created by old DOS applications that have certain extended characters in them. Windows 95/98 does file I/O using the ANSI character set, but DOS uses the OEM character set. There are some extended characters in the OEM set that do not exist in the ANSI set. Such files cannot be created by typical Windows programs, but they can be created by certain DOS applications. The symptom of this problem is that you highlight a file to transfer it, and then FastLynx says it can't find the file. The Windows 95/98 Explorer has the same problem. You can usually transfer such files by running the DOS slave on the system with the problem file. Since the slave is a DOS program, it can read the file name with the OEM characters. FastLynx will change the name of the file to a Windows compatible name during the transfer, but at least you can transfer the file. This problem does not occur using the NT version of FastLynx because the NT version processes file names using the Unicode character set - which includes all characters in the OEM and ANSI characters sets (and many others).

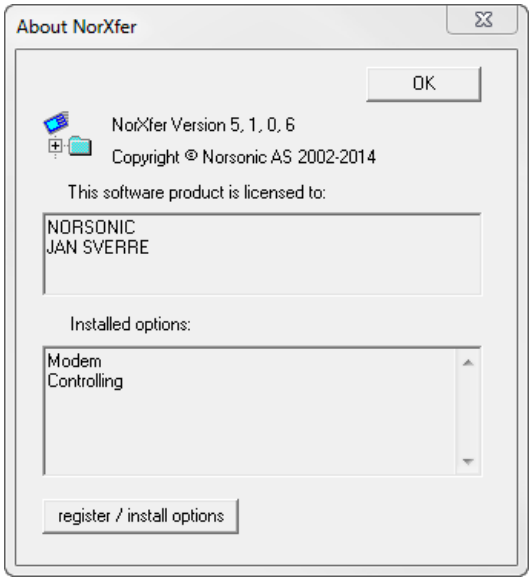
### Transferring from 110/116/118

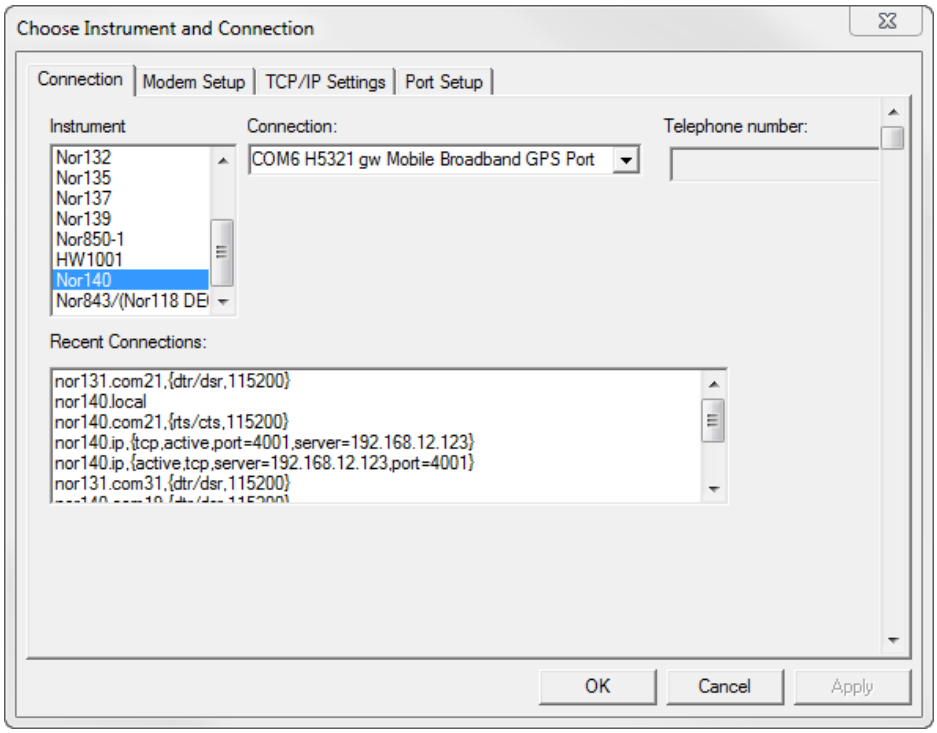
Transfer of data from the Nor110 and Nor116 follows the same principles as for the Nor118.

NB! Use a Baud rate of 9600 baud for Nor110 and Nor116

# NorXfer Option 1 & 2

It is possible to use the NorXfer with remote control and modem options. This requires codes to function. These can be purchased as additional features to the basic program. Contact your local Norsonic representative or Norsonic directly at info@norsonic.com



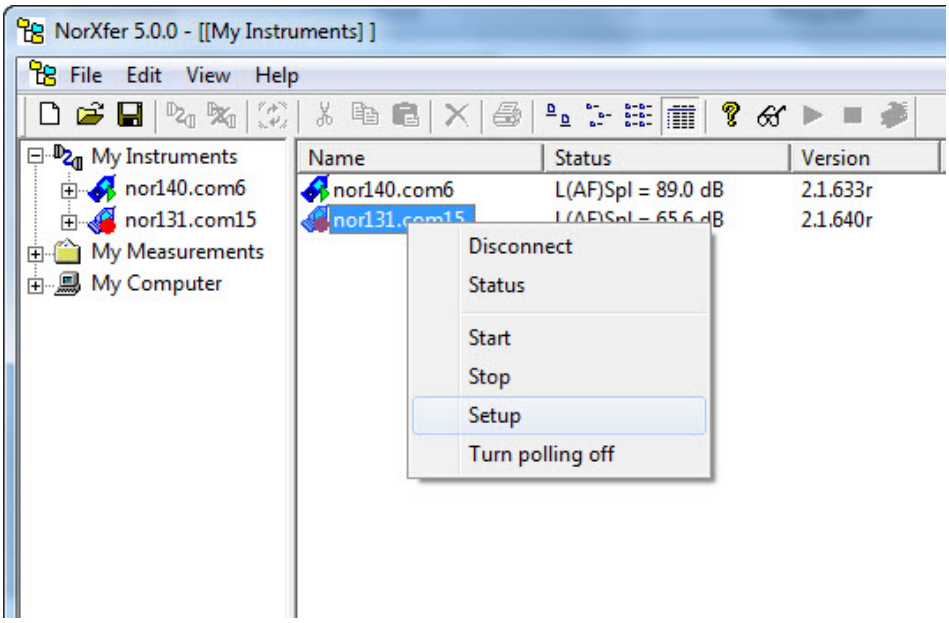




This will enable a further connection tab for modem in the ”Choose Instrument and Connection menu”:

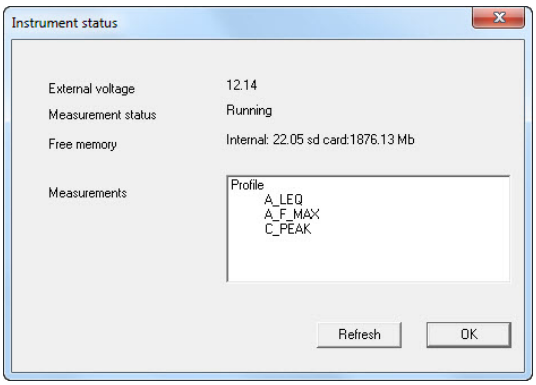
Please contact Norsonic for advice on the modem type/setup at **support@norsonic.com**

The remotecontrol option allows us to poll the status, ie. to see if a measurement is running or stopped. This is indicated with a green arrow for running and a red dot for stopped.

It is possible to connect to several instruments simultaneously. For example, below is shown a connection using one USB port (COM6) with a Nor140 and a Nor131 on another USB port (COM15)
To start or stop the measurement, turn polling off, show status or select <SETUP>, use the icons on the menu

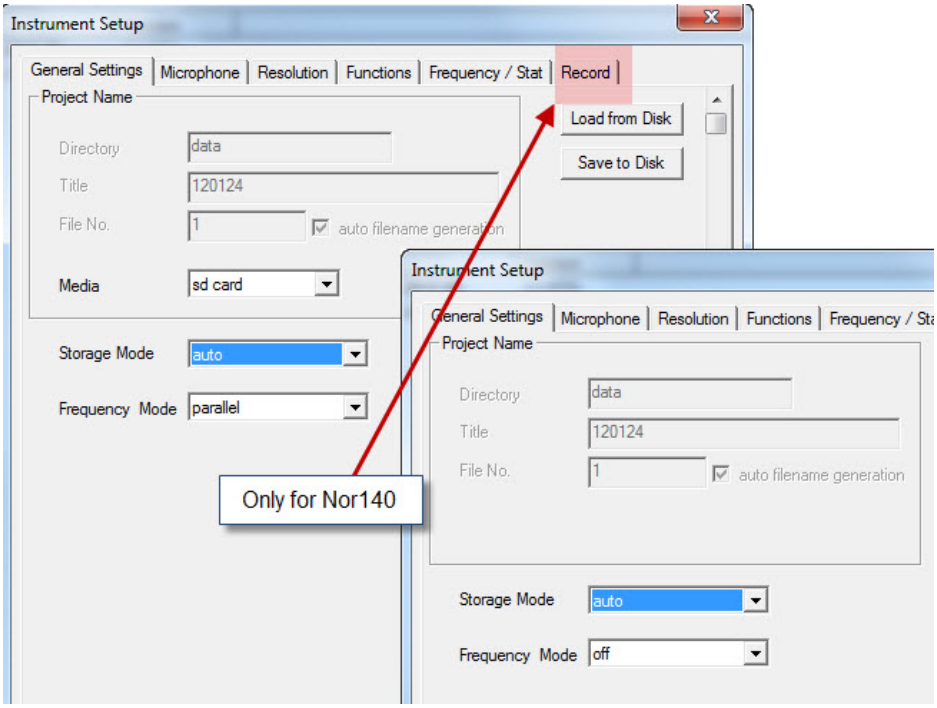



line or right-click on the instrument connected



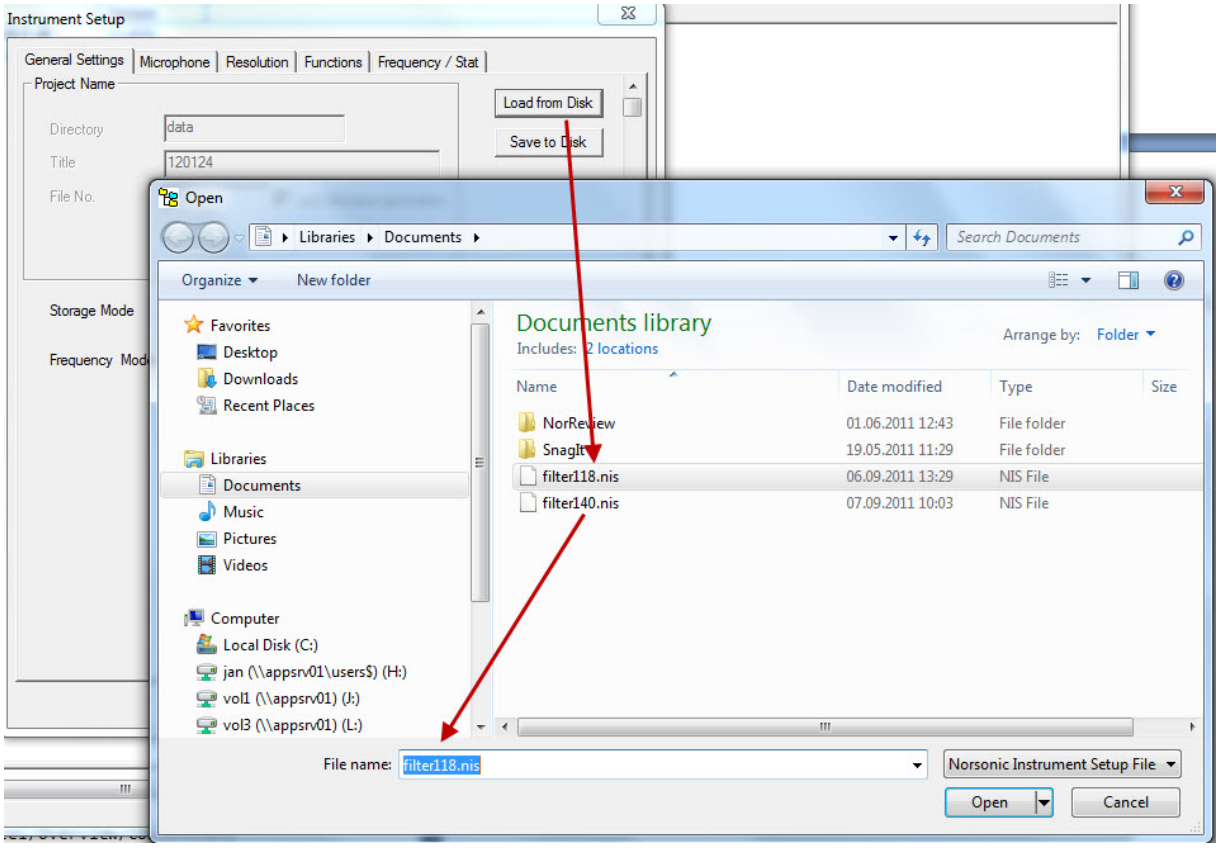
The status info includes battery voltage, memory left and which parameters are measured:

One important function is to be able to set up the instruments for the individual measurement tasks. For this purpose, select <SETUP>. Choose the appropriate settings, and hit <OK>. This will transfer the setup to the selected instrument. Since instrument functionality differs, the setup functionality reflects the instrument




connected as shown below for a Nor140, which has audio recording functionality:

Setups can be stored locally on the PC on which NorXfer is running, and conveniently recalled and applied to the instrument over the remote connection.

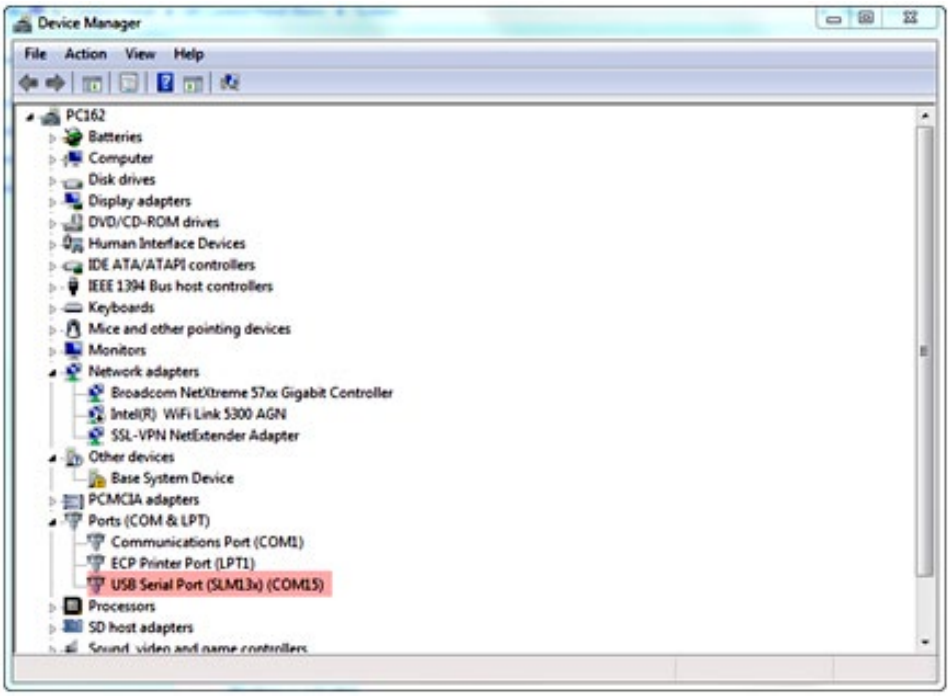


# Tips & tricks/problems solving

## Unable to connect to the instrument

This may be because NorXfer is already running the communication part to the instrument in the background. To check this and start from fresh, do the following:

Crtl-Alt-Delete
Start Task Manager (if you are running WinXp, this will already be done..)
Select 'Processes'
Delete all entries with Norxxxx.exe




If for example there are several entries of NorServer.exe, this will block for the connection attempt. This can happen if for instance if the program has been stopped before ending an existing connection

## NorXfer will not connect to instrument

During installation of program, the user must have administrative rights on the PC/laptop.Un-install previous version first, then install. Check that correct cable is used. Turn program off/on, and try again. If still not working, turn PC off/on and start over.

When connecting the SD card from the Nor140 directly using the "Local" setting in the Instrument connection menu, the drive will for example be labelled E:\, and the files from the meter are located in a folder E:\MEAS118.

If this folder already exist on the PC, the Xfer program will point to this already existing folder. ie. not find the files on the SD card (the Drive letter designated to the card in the list in "View, Options Drive Letter")

## How to find correct COM-port when using USB-interface on computer

Start, Settings, Control Panel, System, Hardware, Device Manager, Ports (Com and LPT), there it is written 'USB serial port Com XX.

This may change if you use another instrument. Use ComPort ?? For connection to PC together with NorXfer

## Not able to read from SD-card in a card reader

Check if there are more folders named Meas118 on PC (all drives setup in View Options dialog box).
If so, rename them.

## Copied the whole SD memory card to PC. How can we see the files in NorXfer?

Copy the whole memory card to ex. root directory on C: (means under C:). Under View, Options, there is written Drive letters. NorXfer starts searching (for MEAS118-directory) at the first letter. If it finds this directory, and you have selected 'Local' connection, Xfer will find your data.

## Can't find files from/or SD card

Program creates a folder MEAS118. If this folder already exist, the Xfer program will point to this folder, ie. Not find the SD card (the Drive letter designated to the card in the list in "View, Options Drive Letter")

## COM-port not available

If NorXfer reports that a COM-port is not available or is not in the selection list for COM-ports, the COM-port may be occupied by another program/process. Often the port is just allocated without being in use by this program or process. To identify this program or process could be time consuming and troublesome. Look for programs like mobile phone application programs (Nokia, Sony-Ericsson) and for TV tuner programs etc. Microsoft has developed a useful tool for identifying the program or process. This is freeware and easy to use.

Go to Microsoft TechNet site www.sysinternals.com and follow the link Process Utilities. Download the program found under Process Explorer. Download the zip file and unzip it to your local hard disc.

## PC without RS-232 port. Using an USB to RS-232 adapter

Connect a USB-adapter to PC and the other end to the 'normal' cable used for communication with the instrument. The USB-adapter will show up as COM-port no. X. Find X by right-click on My Computer on the desktop (or by using Windows Explorer, select Properties, Hardware and Device Manager. Look for Ports (LPT and COM). In the list the USB-adapter should be listed under Com port no. X.

Use Com Port no. X in NorXfer and set the same baudrate in NorXfer as on the instrument. Some USB-adapters requires that a USB-driver is installed from a CD that follows the adapter.

## Registration code not valid

C:\WINDOWS\norserv contained NorMonit parameters (username and reg. code) that somehow interfered with registration of NorXfer. When those parameters were deleted in norsrv.ini the registration code was accepted in NorXfer.

# NorConvert

NorConvert is a program for automatic download and convert to Excel of Norsonic measurements on SD card or USB connection (.nbf files) from Nor116, 118, 131, 132, 135, 137, 139 and Nor140.

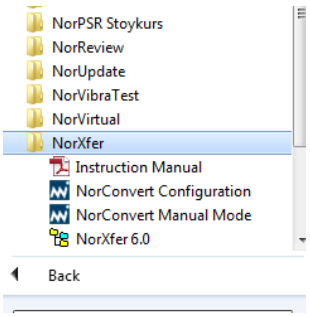
NorConvert will start automatically and transfer and convert all measurements automatically from SD cards and USB ports. In addition you may run the application in manual mode.

If existing Norsonic software that may use the USB port is running automatic transfer will be disabled to avoid conflicts.

The program is part of the NorXfer installation, but the user will not see the NorXfer User Interface running. NorXfer can be used afterwards on the downloaded files as usual, should this be needed.

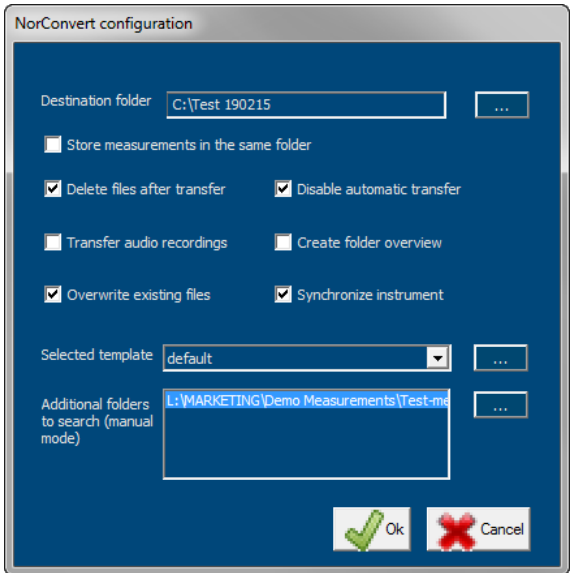
## Installation

Install NorXfer V5 as normal. There will be 2 two additional entries in the NorXfer application folder, NorConvert Configuration and NorConvert Manual mode




## NorConvert configuration

The menu shown below is used to setup the NorConvert. The dialog will be shown automatically if no configuration has been done




## Destination folder

User selectable folder containing the original binary measurement file and the Excel converted Global and Profile files. The application will initially select the NorXfer MyMeasurement folder if it exist.

## Store measurements in the same folder

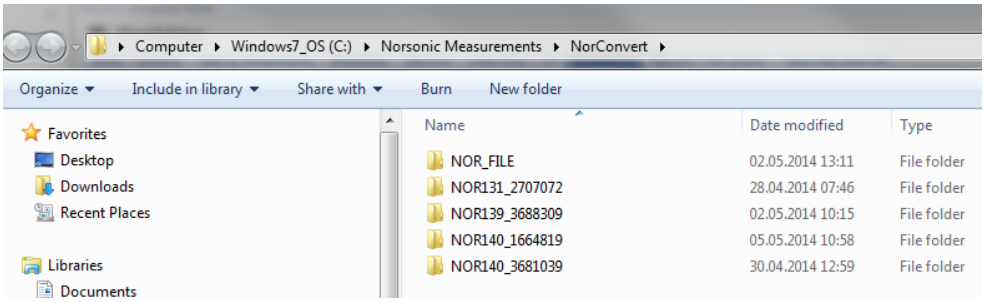
Will store all measurement files in the same folder dropping the measurement date and instrument ID folders

## Synchronize instrument

This function synchronizes the instrument real-time clock with the PC-clock

## Additional folders to search

Searches these folders for measurements in addition to mounted SD cards. You need to run the application in manual mode.




**Note!**
**Results from SD card for some older instrument versions are put in a folder called NOR_FILE.**

## Delete files after transfer

Files are deleted from the instrument automatically after transfer

## Transfer audio recordings

If needed, you may also transfer the audio recordings

## Overwrite existing files

Plainly copies and overwrites if the files already exists, otherwise files are not transferred if they already exist on the computer

## Disable automatic transfer

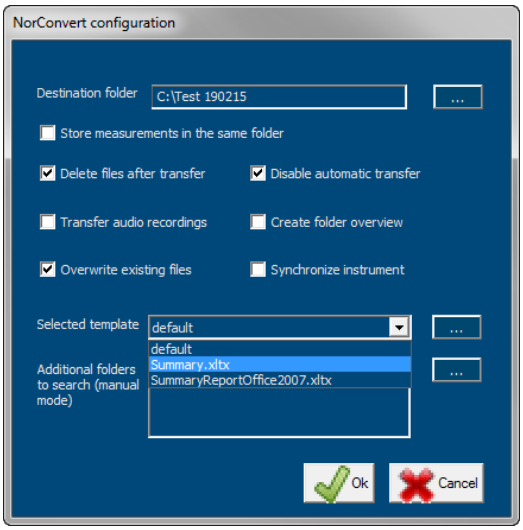
Automatic invocation when inserting a USB cable or SD card is disabled.
Select this option to start “manually”, eg. click on an icon if you have copied it onto the desktop.
If left “checked”, the transfer process is initiated as soon as an SD card with .nbf files or a USB cable hooked up to a Norsonic instrument is detected

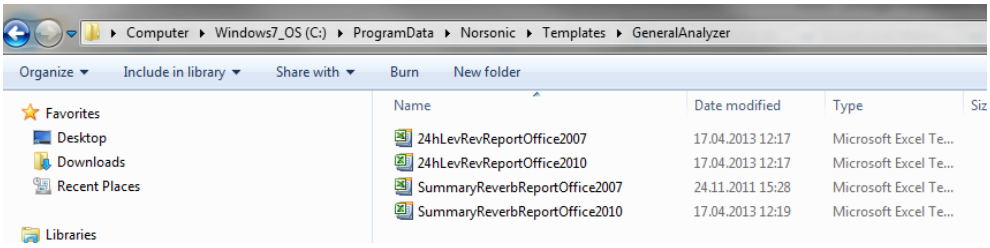
## Create folder Overview

Creates an Overview of all files of the same type as done in NorXfer

## Selected template

Use this function to select an appropriate template, chosen from the available pre-defined reports with the program or special user-defined reports. Specifying “default” will use the standard NorXfer reports.

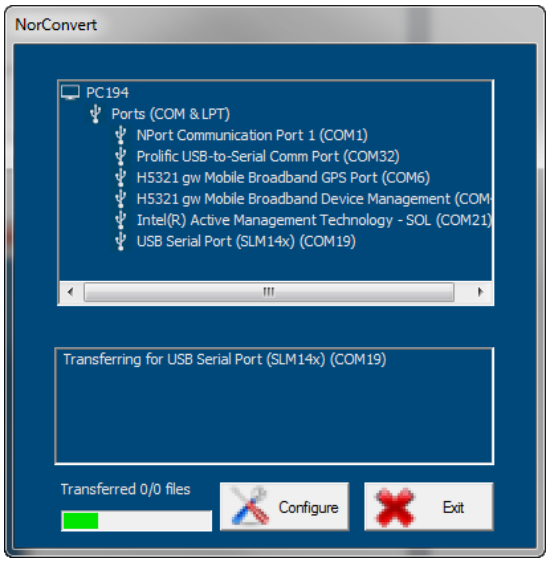


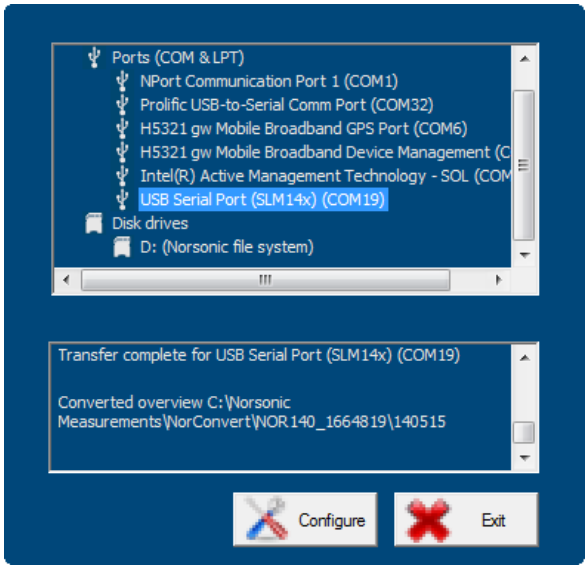




## Running the program

### Manual mode

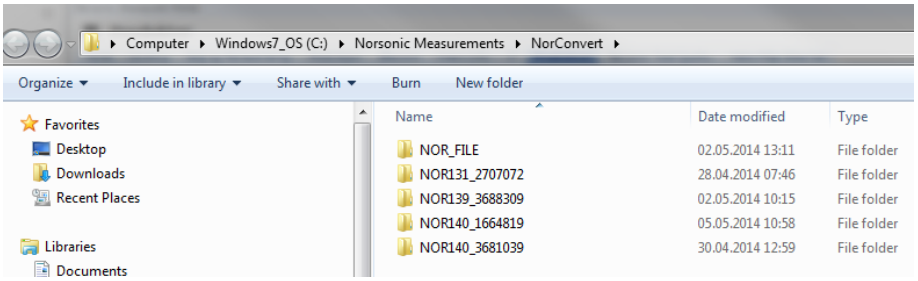
The SD card or instrument COM port is detected when either is connected.
In this mode the file transfer is initiated by right clicking the appropriate connection, eg. from the SD card as in the example shown below



The resulting .nbf file(s) along with the Excel conversions listed in separate folders for each day for each instrument Id, ie. NOR139_3688309.
All files from the internal memory and SD card are transferred.

**Notes:**
**The Nor118 must be run in "Manual Mode"**




### Automatic transfer mode

Just plug in your SD card (from the Nor140 or Nor139) or the USB cable (all mentioned Norsonic instruments), upon which an automatic download and conversion will be initiated

### Aborting transfer

Right click on the instrument in question and select "Stop transfer". The transfer for the file in transfer will be completed

### Multiple simultaneous transfers

You may transfer from multiple instruments simultaneously, but we recommend running in manual mode for this scenario.

Norsonic

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