



Ultrasound Solutions



# SDT270

## USER MANUAL

Version 9 - 2022

You can download the latest version of this manual by visiting the SDT International website: [sdtultrasound.com](http://sdtultrasound.com)

- Due to typical self-discharge of NiMH batteries, it is recommended to charge the SDT270 battery at least every 3 months, even if it is not used.
- To check your SDT270 version, please refer to the chapter "**System Info**".
- Your SDT270 device proposes both text and icon interfaces. This manual describes only the icon interface. To switch between icon and text interface, consult the topic **Switch between icon and text interfaces**.

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# 1 Introduction to the SDT270

## 1.1 SDT270: User and Application driven platform

The SDT270 is a portable ultrasound device dedicated to Predictive Maintenance and Energy saving, covering a wide range of applications, meeting the needs of the Maintenance Departments.

At SDT we recognize each customer's ultrasound needs are as unique as they are. So, the SDT270 is proposed with 6 versions, and you have the possibility to build your custom Kit configured to meet your specific needs.

The SDT270 remains true to our reputation for intelligent instrument design: your device is upgradeable which means that you can add functionalities, sensors, software, and accessories as and when you need it. So, your investment in your SDT270 will be paying you back for years to come.

The SDT270 is a User oriented platform that fits on the competencies of each operator. Thus, you will be able to work out an individual program of data collection survey adapted to the skills of everyone. The operator will simply choose his personalized program after logging himself in. The SDT270 in combination with Ultranalysis Suite squares the circle of maintaining simplicity for those who need it, while providing sophistication for those who want it.

## 1.2 SDT270 main features

We at SDT are very proud of the 270. You are now the owner of an instrument that:

- Measures broadband ultrasound signals with a 100kHz bandwidth
- Realizes data acquisition with a 250kHz sampling frequency
- Uses long-duration time sampling and data streaming
- Integrates built-in thermometer and tachometer with a laser
- Includes a SQL database.
- Includes an Operator logging in.
- Insures full measurement traceability from Operator to sensor.
- Warns the Operator when an alarm is triggered
- Is IP (Internet) addressable
- Is remotely controlled and operated
- Incorporate 2 measurement channels.

## 2 SDT270 versions



Your device is upgradeable which means that you can add functionalities, sensors, software, and accessories as and when you need it. So, your investment in your SDT270 will be paying you back for years to come.

### 2.1 Find your SDT270 version

To check your SDT270 version, please refer to the chapter "[System Info](#)".

### 2.2 SDT270 versions overview

	SB	SS	SD	SU	DD	DU
<b>MEASUREMENTS</b>						
Static	✓	✓	✓	✓	✓	✓
Dynamic	▪	▪	▪	▪	✓	✓
<b>MEMORY</b>						
Generic 100 node tree	▪	✓	✓	▪	✓	▪
Unlimited user-defined tree	▪	▪	▪	✓	▪	✓
<b>SOFTWARE</b>						
DataDump application	▪	▪	✓	▪	✓	▪
Ultranalysis suite 3 (UAS3)	✓	✓	✓	✓	✓	✓
<b>AVAILABLE OPTIONS</b>						
Built-in thermometer	*	*	*	*	*	*
Built-in tachometer	*	*	*	*	*	*
Accelerometer interface	*	*	*	*	*	*

### 2.3 Sensors, accessories and transmitters overview

Applications	Airborne leak detection	Lubrication control	Machine monitoring	Steam trap & valve inspection	Electrical inspection	Tightness testing
<b>Sensors</b>						
Internal US sensor	✓	✓	✓	✓	✓	✓
Flexible sensor	✓	▪	✓	✓	✓	✓
Parabolic sensors paraDish1 and 2	✓	▪	▪	▪	✓	▪
Needle sensor RS1N/RS2N	▪	✓	✓	▪	✓	▪
Threaded sensor RS1T/RS2T	▪	✓	✓	✓	✓	▪

ICP accelerometer	▪		✓	✓	▪	▪
Built-in thermometer	▪	✓	✓	✓	▪	▪
Built-in tachometer	▪	✓	✓		▪	▪
HumT1 hygrometer	▪	▪	▪		✓	▪
<b>Accessories</b>						
Acoustic cones EDS 1 & 2	✓	▪	▪	▪	✓	✓
Mounting pad (*)	▪	✓	✓	▪	▪	▪
Flat magnetic foot (*)	▪	✓	✓	✓	✓	▪
Curved magnetic foot (*)	▪	✓	✓	✓	✓	▪
Needle (*)	▪	▪	✓	▪	▪	▪
<b>Transmitters</b>						
Bi-sonic 200 mW transmitter	▪	▪	▪	▪	▪	✓
Multi transmitter SDT8MS	▪	▪	▪	▪	▪	✓
T-Sonic 1	▪	▪	▪	▪	▪	✓
T-Sonic 9	▪	▪	▪	▪	▪	✓
	Airborne leak detection	Lubrication control	Machine monitoring	Steam trap & valve inspection	Electrical inspection	Tightness testing

(\*) The mounting pad, the flat magnetic foot and the curved magnetic foot are the accessories of the Threaded sensor RS1T and the Accelerometer.

The Needle is an accessory of the Accelerometer:

## 3 SDT270 ATEX version



*Please read carefully the safety precautions before using the SDT270 - ATEX version in a potentially explosive environment.*

### 3.1 Specific safety precautions for SDT270 ATEX version



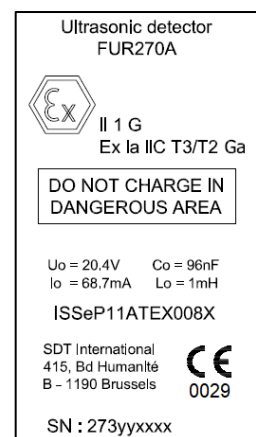
- *Make sure your SDT270A protection class is suited regarding the environment it will be used.*
- *Under no circumstances, do not attempt to service or replace SDT270 ATEX version components. In case of malfunction, contact SDT International or SDT local representative.*
- *Maintenance must always be performed outside potentially explosive environments.*
- *Battery charge must exclusively be performed outside potentially explosive environments.*
- *FUBATTR270A is the only authorized power source for SDT270 ATEX version.*
- *The max. permissible room temperature is:*
  - *-15°C to 48°C for T3.*
  - *-15°C to 60°C for T2.*
- *Do not use USB connectivity in dangerous area.*
- *Do not use SDT carrying case in dangerous area*
- *Potential danger of static electricity for the display. Avoid electrostatic charge:*
  - *Avoid friction.*
  - *No dry cleaning.*

### 3.2 ATEX marking

The SDT270 ATEX version is recognizable by its specific marking located in its back plate:

### 3.3 ATEX classification

The SDT270A ATEX version is classified  II 1 G Ex ia IIC T3/T2 Ga. The ISSEP ATEX certificate is available on demand.



### 3.4 SDT Sensors for SDT270 ATEX version

The SDT270 is working with all SDT Sensors, but only the Flexible sensor ATEX and the Needle RS1 ATEX can be used in hazardous areas.



*While working in potentially explosive environment, use only ATEX sensor tip on flexible rod, ATEX ParaDish2, ATEX RS1N needle contact sensor, or ATEX RS1T threaded contact sensor.*



## 4 Safety precautions for the laser



IEC 60825-1-07  
<1 mW, 655 nm

Laser Radiation  
Do not stare into beam  
Class 2 laser product

*The SDT270 is equipped with a class 2 laser: risk of eye injury:*



- *Never look directly to the laser beam*
- *Never point the laser beam at a person's eye*
- *Do not aim the laser at specular reflective surfaces*
- *Never view the laser using an optical instrument.*

## 5 Charging the battery

If you have just taken your SDT270 and this manual out of the box for the first time, please put your 270 on charge now.

The SDT270 uses an internal NiMH battery. The battery charger outlet will connect to a socket on the rear side of the 270.



**Battery charge of the SDT270 ATEX must exclusively be performed outside potentially explosive environments.**



**Only use the charger provided by SDT.**

The charging time will typically be 6 hours. When the Led of the charger is off, the SDT270 battery is completely charged.

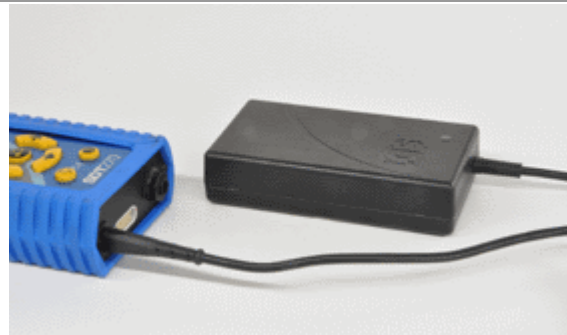
Like most batteries these days, leaving the 270 charging after the charger says it is charged does not hurt the battery – in fact it very slowly tops the charge up a little more.



**You can charge the SDT270 switched off. You can also trickle charge the SDT270 switched on, so you can be using it to load and unload data, for example, and charge it at the same time.**



SDT270 rear side

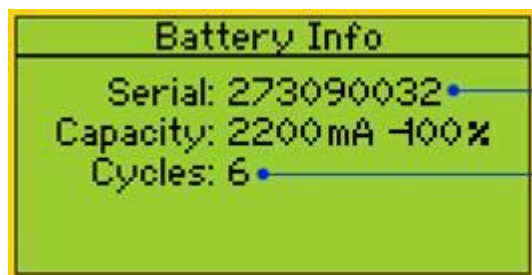


SDT270 with its battery loader

For a device that has been discharged for several days/weeks or in case of a problem encountered during charging, follow the procedure below to force a full charge cycle:

1. Connect the device to the charger;
2. Do a "RESET" by pushing the switch with a paper clip in the small hole above the audio output (see red circle in the "rear side" picture above);
3. Wait at least 4 hours for a full charge before turning the device on again. The green LED should be lit continuously.

When a charge cycle is complete, the counter available in the System Info/Battery Info menu is incremented by +1.



Serial Number

Number of cycles

\*

\* Serial number / Number of cycles

Please note that the device must be turned off to charge the battery.

- When the device is turned on, the charger supplies power directly to the device without charging the battery.

Before storing the device for a long period of time, it is recommended to fully charge the battery.

- There is no specific battery for the "real time clock", and it is powered by the battery pack.

## 5.1 SDT270 autonomy

A fully charged battery will give you about 8 hours of continuous use. This will vary of course depending upon your need to use the backlight and the power drain of certain external sensors that you might be using.




- *You can increase the autonomy by more than 20% by disabling the LAN when your device is not connected to a network. Check out [Network setting](#) chapter to find how to disable LAN function. You are able also to set an Auto Power Down and a time before switching off the backlight.*
- *You can also save battery power by setting the device's automatic shutdown in the device's settings. With this option, the equipment will turn off after the set time.*
- *In the same way, it is possible to set the delay of the screen backlight, accessing the device settings.*

## 5.2 The SDT universal charger



Charger type:	Specific for SDT170, SDT200 and SDT270 NiMH battery pack
Use:	Indoor use only; ambient temperature: min 0°C, max 45°C. Mode of operation: continuous. Environment pollution: max degree 2. Altitude during operation: max 2000 m.
Power supply:	230 VAC or 110 VAC +6 % / -10 %, 50/60 Hz, 25 VA, max branch fuse 20 A
Status indicator:	<ul style="list-style-type: none"> <li>• Green LED is continuously lit: battery is fully charged</li> <li>• Green LED flashes evenly: normal charge</li> <li>• One red flash every 5 seconds: Battery Voltage error</li> <li>• Two red flashes every 5 seconds: Over temperature error</li> <li>• Three red flashes every 5 seconds: Timeout full charge</li> <li>• Four red flashes every 5 seconds: Timeout Rapid charging</li> <li>• Five red flashes every 5 seconds: Timeout Activate charging</li> <li>• Six red flashes every 5 seconds: Communication error</li> </ul>

Input fuse:	T1.6 A (intern, not user replaceable)
Protection:	Temperature protected, limit set at 60°C / 140°F
Output voltage:	Between +4.0 and 14.5 V DC (depending on the operating mode)
Output Current:	Max 1 A
Output Power:	Max 7 W
Isolation:	Class II double isolation
Main supply transformer:	Class II, switching mode regulation
Overvoltage Category:	II
EMC:	EN 61000-4, EN 61000-3, EN 61010-1
Electrical safety (LVD):	EN 60950-1:2007 UL 60950-1, ed2(2005)
	
Weight:	300 grams / 10.6 ounces
Housing:	PPE
Protection Class:	IP40

## 6 Turn on & turn off the SDT270

### 6.1 Turn on

To turn on the SDT270, press the **Power button** on the bottom right of the keypad. The status LED shines bright blue and then seconds later you will see on the screen the message “System boot up”. If you do not see this display your battery might be flat.

### 6.2 Turn off

To turn off the SDT270, push the **Power button** on the bottom right of the keypad. You will see the following screen:



Press enter to shut down or another key to continue” on the screen. Press the **Enter button** to shut down the device.

# 7 Plug & unplug a sensor

## 7.1 Plug a sensor

The SDT270 has two measurements channels for external sensors:

- The first one is equipped with a black collar. It corresponds to the B choice on the display. The black collar LEMO is reserved for ultrasonic and Mass Flow sensors.
- The second one with a red collar. It corresponds to the R choice on the display. The Red collar LEMO connector is reserved for accelerometers.



The connections for external sensors are LEMO connectors. They are a commonly used industrial connector, considered for their reliability and their robustness. They have a sprung-loaded knurled barrel and mechanical polarization to go only in one way round

To plug a LEMO connector:

- Line up the red dot on the plug with the red mark on the connector.
- Insert the plug into the connector without any rotating movement.

When an external sensor is connected to the SDT270, it is automatically selected. However, you can switch between available sensors using the F1 button.

## 7.2 Unplug a sensor

To unplug the LEMO connector

- Move up, towards the cable, the ring located on the bottom of the plug.
- Only pull the connector without any rotation.



***Please, never pull on the cable itself.***

## 8 Keyboard functions when taking a measurement

- F1 to select a sensor.
- F2 to select a measurement type
- F3 to adjust the settings for the sensor in use.
- Disc button to save measurements.
- M button to start the measurement acquisition.
- Up and down arrows to increase and decrease amplification (used for US sensors).
- Left and right arrows to decrease and increase the audio volume of the headphones.
- Enter to access to the menus.



# 9 Taking an ultrasonic measurement

External Ultrasonic sensors must be connected to the black collar LEMO connector.

Select the desired ultrasonic sensor using F1 button, if necessary.

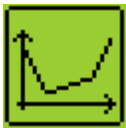
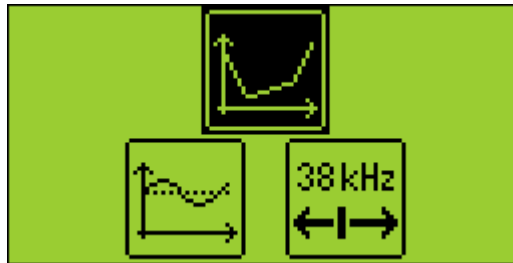
Set up amplification using Up and Down arrow buttons, till the up and down amplification adjustment indicators disappear.

Set up the headphone volume using Left and Right arrows.

## 9.1 Measurement type: static or dynamic

This feature is available on the SDT270 DD and DU versions. To check your SDT270 version, please refer to the chapter "[System Info](#)".

Press the F2 button, the following screen appears:



Choose the static icon, using direction arrows to collect a static measurement. Validate by Enter



Choose the dynamic icon, using direction arrows, to collect a dynamic measurement. Validate by Enter

## 9.2 Measurement settings

Press the F3 button to enter the measurement settings menu.

Select and then adjust the computation time using Up and Down arrow buttons.

The computation time is adjustable from 0 to 100 seconds.

The RMS, Max RMS, Peak and Crest Factor are calculated over the total computation time.

Use the F1 button to save the settings as a preferred configuration

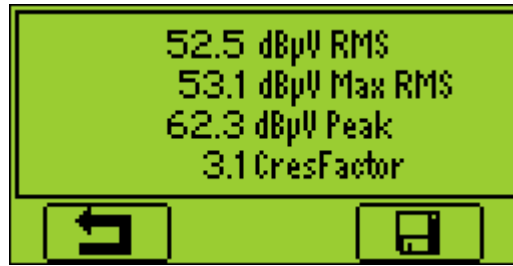
Use the F2 button to load your preferred configuration

Use the F3 button to use a one-shot configuration, without saving it.

## 9.3 Getting data

Press the M button.

At the end of the computation time, a screen detailing RMS, Max RMS, Peak and Crest factor values, is displayed:

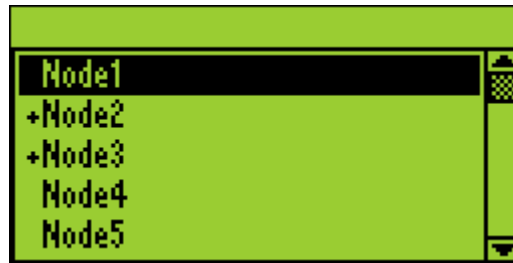


Press the F1 button to come back to the measurement screen without saving.

## 9.4 Saving Data

This feature is not available on the SDT270 SB version. To check your SDT270 version, please refer to the chapter "[System Info](#)".

At the end of the computation time, press the Store button to save the data.



Then choose the desired memory location using the Up and Down arrow buttons and confirm by pressing the Enter button.

## 9.5 Modify the mixer frequency



Press F2, select the icon then press Enter.

The mixer frequency is adjustable from 10 kHz to 128 kHz by using F1 to decrease the frequency and F3 to increase it.





# 10 Taking a vibration measurement



*This requires optional accessories and firmware key.*

The accelerometer must be connected to the red collar LEMO connector.

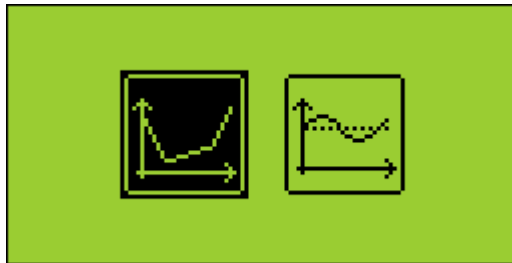
Select the accelerometer using F1 button, if necessary.

Set up the headphone volume using Left and Right arrows.

## 10.1 Measurement type: static or dynamic

This feature is available on the SDT270 DD and DU versions. To check your SDT270 version, please refer to the chapter "[System Info](#)".

Press the F2 button, the following screen appears:



Choose the static icon, using direction arrows to collect a static measurement. Validate by Enter



Choose the dynamic icon, using direction arrows, to collect a dynamic measurement. Validate by Enter

## 10.2 Measurement settings

Press the F3 button to enter the measurement settings menu.



### 10.2.1 Computation time

Select and then adjust the computation time using Up and Down arrow buttons.

The computation time is adjustable from 0 to 60 seconds.

The acceleration and velocity RMS, the acceleration Peak and Crest Factor are calculated over the total computation time.

## 10.2.2 Frequency range

Select and adjust the frequency range. The available ranges are from 10 to 1000 Hz and from 10 to 10000 Hz.

Use the F1 button to save the settings as a preferred configuration

Use the F2 button to load your preferred configuration

Use the F3 button to use a one-shot configuration, without saving it.

## 10.3 Getting data

Press the M button.

At the end of the computation time, a screen detailing acceleration and velocity RMS, acceleration Peak and Crest factor values, is displayed:

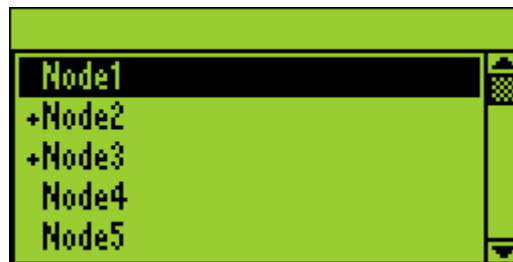


Press the F1 button to come back to the measurement screen without saving.

## 10.4 Saving Data

This feature is not available on the SDT270 SB version. To check your SDT270 version, please refer to the chapter "[System Info](#)".

At the end of the computation time, press the Store button to save the data or F1 to come back to the measurement screen without saving.



When saving, choose the desired memory location using the Up and Down arrow buttons and confirm by pressing the Enter button.

# 11 Taking a temperature measurement using the built-in thermometer



*This feature is available when the option T is activated.*

Select the built-in thermometer by highlighting the T in the upper left corner of the display with F1.

## 11.1 Laser

Press F2 to activate the laser. The message on the bottom right of the display indicates the status of the function. So, in the example shown below, the laser is off.

## 11.2 Settings

Press F3 to select:

The physical unit. The choice is Celsius, Kelvin, Rankin, Fahrenheit.

The emissivity coefficient from 0.01 to 1.

Use the F1 button to save the settings as a preferred configuration

Use the F2 button to load your preferred configuration

Use the F3 button to use a one-shot configuration, without saving it.

## 11.3 Getting and saving data

The data recording function is not available on the SDT270 SB version. To check your SDT270 version, please refer to the chapter "[System Info](#)".

Press the M button to freeze a measurement.

Press the Store button to save the data or F1 to come back to the measurement screen without saving.



When saving, choose the desired memory location using the Up and Down arrow buttons and confirm by pressing the Enter button.

# 12 Taking a rotational speed measurement using the built-in tachometer



*This feature is available when the option R is activated.*

Before using the tachometer, place a reflective tape on the element you want to measure the rotational speed. Select the built-in tachometer by highlighting the R in the upper left corner of the display with F1.

## 12.1 Laser

Press F2 to activate the laser. The message on the bottom right of the display indicates the status of the function.

## 12.2 Getting and saving data

The data recording function is not available on the SDT270 SB version. To check your SDT270 version, please refer to the chapter "[System Info](#)".

Press the M button to freeze a measurement.

Press the Store button to save the data or F1 to come back to the measurement screen without saving.



When saving, choose the desired memory location using the Up and Down arrow buttons and confirm by pressing the Enter button.

# 13 Taking a temperature, humidity and dewpoint measurement using the HumT1 sensor



*This sensor is optional.*

The HumT1 sensor must be connected to the black collar LEMO connector.

Select the HumT1 sensor using the F1 button, if necessary.

## 13.1 Settings

Press F3 to select:

The physical unit. The choice is Celsius, Kelvin, Rankin, Fahrenheit.

Use the F1 button to save the settings as a preferred configuration

Use the F2 button to load your preferred configuration

Use the F3 button to use a one-shot configuration, without saving it.

## 13.2 Getting and saving data

The data recording function is not available on the SDT270 SB version. To check your SDT270 version, please refer to the chapter "[System Info](#)".

Press the M button to freeze a measurement.

Press the Disc button to save the data or F1 to come back to the measurement screen without saving.

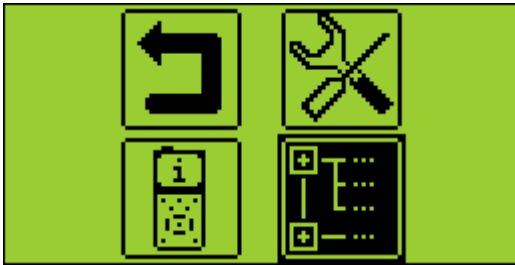


When saving, choose the desired memory location using the Up and Down arrow buttons and confirm by pressing the Enter button.

# 14 Viewing and deleting stored measurements

These features are not available on the SDT270 SB version. To check your SDT270 version, please refer to the chapter "System Info".

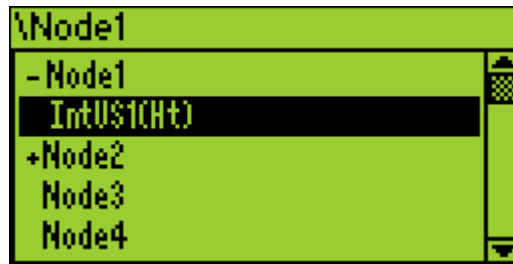
Press the Enter button and highlight the Tree icon:



*Visible icons on this screen may vary depending on the version of your device.*

Press Enter.

Select the desired node and expand it using the right arrow:



Press Enter to display the list of time stamped recorded data:



Press Enter to display the stored data or F2 to delete the record.

# 15 Planned and Conditional Survey modes



*These features are available on the SDT270 SU and DU versions. To check your SDT270 version, please refer to the chapter "System Info".*

[Planned survey mode](#)

[Conditional Survey mode](#)

## 15.1 Planned survey mode

### 15.1.1 Selecting the planned Survey mode for measurement storage

Press **Enter Key**, using **Down Arrow** highlight "**Planned Survey**":



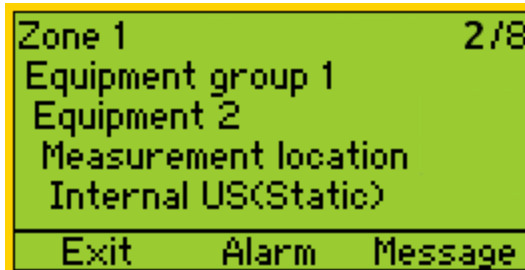
Then press **Enter Button** one more time.

A screen proposes you to select one of the uploaded surveys. Using **Up or Down Arrows**, highlight the chosen Survey and then press **Enter Key**.

### 15.1.2 Selecting the first Measurement

On a new screen, the SDT270 indicates to the operator:

- The first Measurement point with its path.
- The Sensor required for this first Measurement of the Survey.
- The Measurement order and the total of Measurements as defined with Ultranalysis Suite.



- *You can change the order of data collection by using the left and right arrows.*
- *The ✓ sign before the Sensor name indicates a Measurement is already stored.*

✓ Internal US(Static)

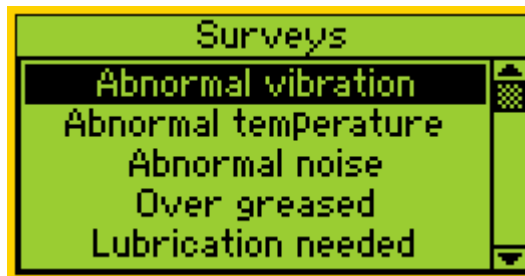
If you want to see the attached alarms or enter a message, please refer to the following chapters. If not, push the **Enter Key** and go to the chapter Setting up the SDT270.

### 15.1.3 Viewing alarms attached to the Measurement

From the selecting Measurement screen, you are able to view the alarms attached to the Measurement by pressing **F2 Button**.

### 15.1.4 Adding a message to the Measurement

From the selecting Measurement screen, you are able to add a message to the Measurement by pressing **F3 Button**. Then the following screen appears:



The predefined list of messages is:

- Abnormal vibration
- Abnormal temperature
- Abnormal noise
- Over greased
- Lubrication needed
- Electrical defect
- Fixation defect
- Belt wear
- Coupling wear
- Oil level
- Defective operation
- Leakage
- Air leak
- Steam leak
- Vacuum leak.

Use **Up or Down arrows** to highlight the appropriate message text and then press **Enter Button**.

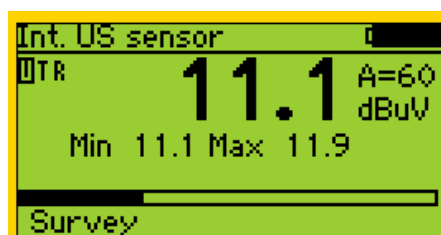


**You have the possibility to add several messages to a Measurement.**

The messages are transferred in Ultranalysis as events.

### 15.1.5 Setting up the SDT270

The following measurement screen appears, if the right sensor is connected:





### 15.1.5.1 Adjust Amplification (US sensors)

Using the **Up and Down arrows**, adjust the amplification until the up and down adjustment amplification indicators disappear. This one could be set between 0 to 90 dB.

The Status LED acts as a clipping indicator and will flash red if the amplification level is too high.

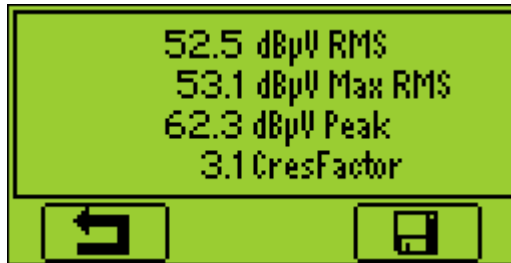
### 15.1.5.2 Adjust headphone volume (ultrasound sensors and accelerometers)

Increase or decrease the headphone volume using the Right and Left arrows until reaching a level of signal which is comfortable for you.

## 15.1.6 Getting and saving data

Press the M button:

For ultrasonic sensors and accelerometers, at the end of the computation time, a screen detailing RMS, Max RMS (for Us sensors), Peak and Crest factor values, is displayed:

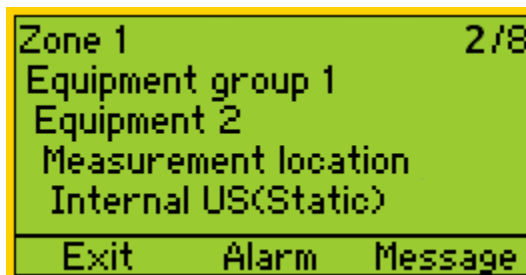


For RPM, temperature, hygrometer, and mass flow, the value is frozen.

Press the F3 button (or the Disc button) to save the data. A message on the screen confirms the measurement has been saved.

## 15.1.7 Selecting the next measurement

Press **F1 Button** to continue and return to the Measurement selection screen. The SDT270 automatically selects the following Measurement of the Survey.



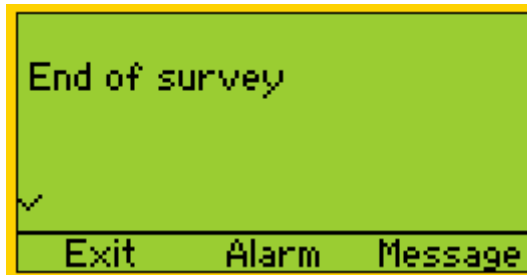
*If you forget to record Measurements for a planned Survey, they automatically be inserted in the conditional Survey*

### 15.1.8 Measurement in alarm

When you record a measurement triggering an alarm, the status LED will be lit with the color of the highest level of alarm reached: blue for the warning level, orange for danger level and red for alarm level. In the same time, a message will inform you of the alarm levels and thresholds exceeded. Please refer to Ultranalysis Operating Instructions if you need more details about alarms management.

### 15.1.9 End of survey

After recording the last measurement of the Survey, the SDT270 indicates you have completed the data collection by displaying the following screen:



Press **F1 Button** three times to return to Measurement screen of the SDT270.

## 15.2 Conditional Survey mode



*The conditional survey regroups all the measurements that had been forgotten during the planned survey data collection.*

*To refresh the list of missed measurements appearing inside the conditional survey, exit and then return to the conditional survey menu. The data previously collected will be removed.*

### 15.2.1 Selecting the conditional Survey mode for measurement storage

Press **Enter Key**, using **Down Arrow** highlight "Conditional Survey":



and then press **Enter key** one more time.

A screen proposes you to select one of the uploaded surveys. Using **Up or Down Arrows**, highlight the chosen survey and then press **Enter Key**.

### 15.2.2 Selecting the first Measurement

On a new screen, the SDT270 indicates to the operator:

- The first measurement point with its path.

- The sensor required for this first Measurement of the Survey.
- The measurement order and the total of Measurements as defined with Ultranalysis Suite.



*You can change the order of data collection by using the left and right arrows.*

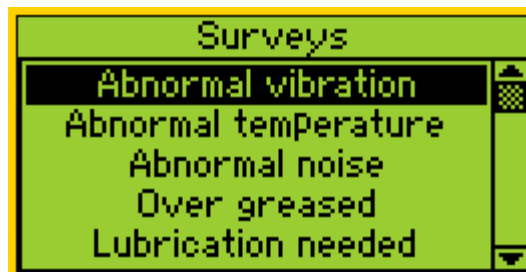
If you want to see the attached alarms or enter a message, please refer to the following chapters. If not, push the **Enter Key** and go to the chapter Setting up the SDT270.

### 15.2.3 Viewing alarms attached to the Measurement

From the selecting Measurement screen, you are able to view the alarms attached to the Measurement by pressing **F2 Key**.

### 15.2.4 Adding a message to the Measurement

From the selecting Measurement screen, you are able to add a message to the Measurement by pressing **F3 Key**. Then the following screen appears:



The predefined list of messages is:

- Abnormal vibration
- Abnormal temperature
- Abnormal noise
- Over greased
- Lubrication needed
- Electrical defect
- Fixation defect
- Belt wear
- Coupling wear
- Oil level
- Defective operation
- Leakage
- Air leak
- Steam leak
- Vacuum leak.

Use the **Up or Down arrows** to highlight the appropriate message text and then press **Enter Key**.

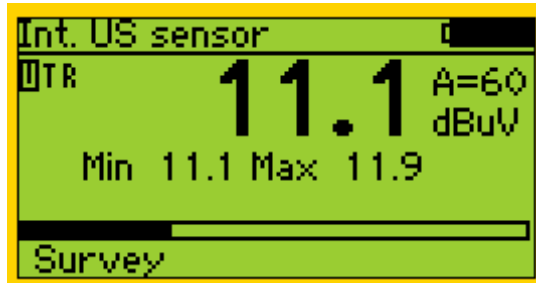


**You have the possibility to add several messages to a Measurement.**

The messages are transferred in Ultranalysis as events.

### 15.2.5 Setting up the SDT270

The following measurement screen appears, if the right sensor is connected:



#### 15.2.5.1 Adjust Amplification (US sensors)

Using the **Up and Down arrows**, adjust the amplification until the up and down adjustment amplification indicators disappear. This one could be set between 0 to 90 dB.

The Status LED acts as a clipping indicator and will flash red if the amplification level is too high.

#### 15.2.5.2 Adjust headphone volume (ultrasound sensors and accelerometers)

Increase or decrease the headphone volume using the Right and Left arrows until reaching a level of signal which is comfortable for you.

### 15.2.6 Getting and saving data

Press the M button:

For ultrasonic sensors and accelerometers, at the end of the computation time, a screen detailing RMS, Max RMS (for Us sensors), Peak and Crest factor values, is displayed:



For RPM, temperature, hygrometer, and mass flow, the value is frozen.

Press the F3 button (or the Disc button) to save the data. A message on the screen confirms the measurement has been saved.

### 15.2.7 Selecting the next measurement

Press **F1 Key** to continue and come back to the measurement selection screen. The SDT270 automatically selects the following Measurement of the Survey.



Note: Checkmark in bottom left corner indicates already collected and saved (in SDT 270 instrument) data in measurement point.

No checkmark indicates that no there is no reading collected and saved.



One checkmark indicates that there is one reading collected and saved.



Two checkmarks indicate that there are two or more readings collected and saved.



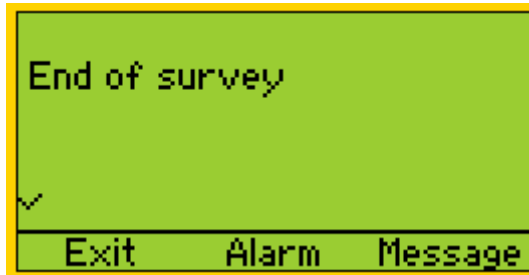
Checkmark indication applies to all measurement settings/sensors.

### 15.2.8 Measurement in alarm

When you record a measurement triggering an alarm, the status LED will be lit with the color of the highest level of alarm reached: blue for the warning level, orange for danger level and red for alarm level. In the same time, a message will inform you of the alarm levels and thresholds exceeded. Please refer to Ultranalysis Operating Instructions if you need more details about alarms management.

### 15.2.9 End of survey

After recording the last measurement of the Survey, the SDT270 indicates you have completed the data collection by displaying the following screen:



Press **F1 Key** three times to come back to Measurement screen of the SDT270.

# 16 SDT270 DataDump software



*These features are available on the SDT270 SD and DD versions. To check your SDT270 version, please refer to the chapter "[System Info](#)".*

[Install DataDump Application](#)

[Activate DataDump software](#)

[Download and erase stored data with DataDump](#)

## 16.1 Install DataDump Application

### 16.1.1 Installation from the USB key

Explore the USB key delivered with your equipment in your reader. After choosing the language, from the main page, select "**DataDump Software**" then "**Install Software**".

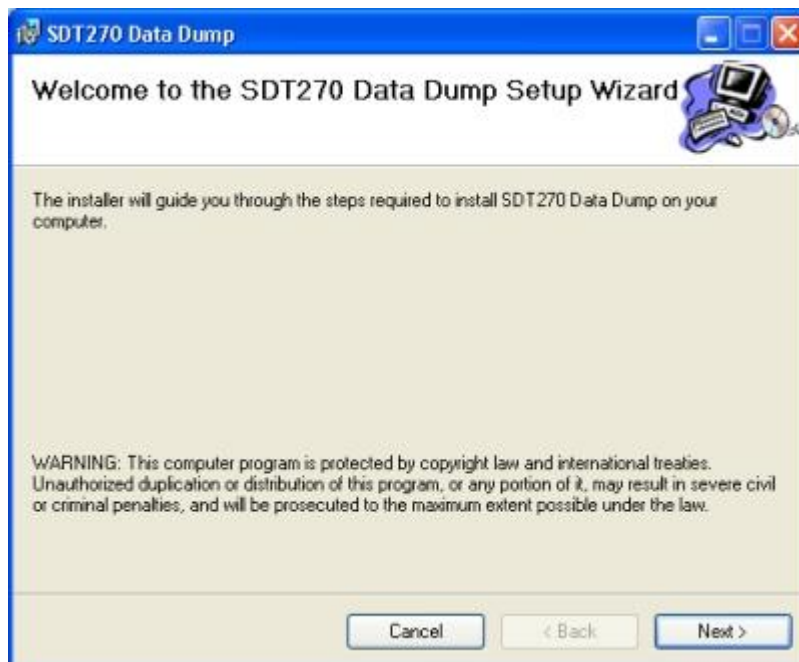
To continue the installation, please turn to the chapter "**Setup**".

### 16.1.2 Online Installation

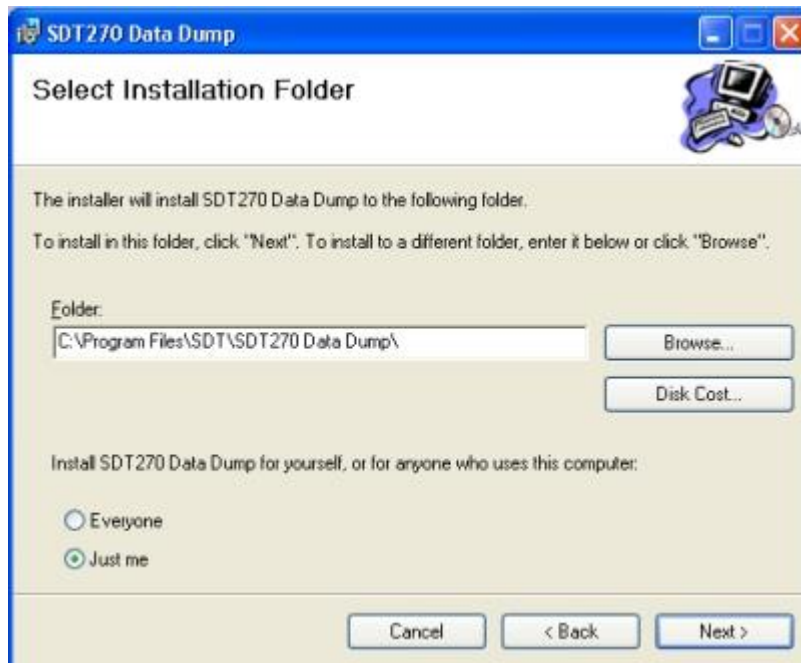
Visit SDT ftp site at the address: <https://sdtultrasound.com/support/software/>. Select the directory "**Latest version**" and double click on the file "**SetupDataDump.msi**".

### 16.1.3 Starting up the installation

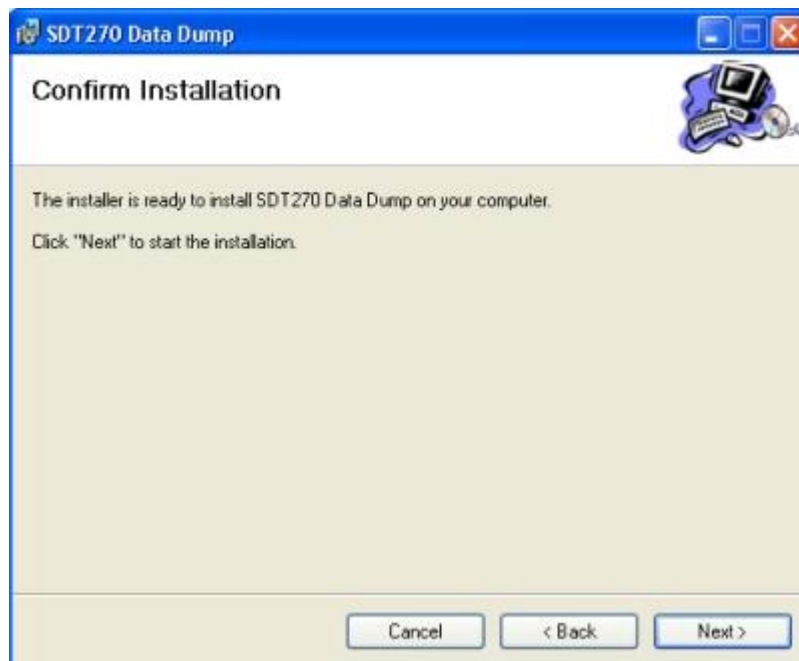
You should now see the following screen:



Click "**Next**". Then, the following screen appears:

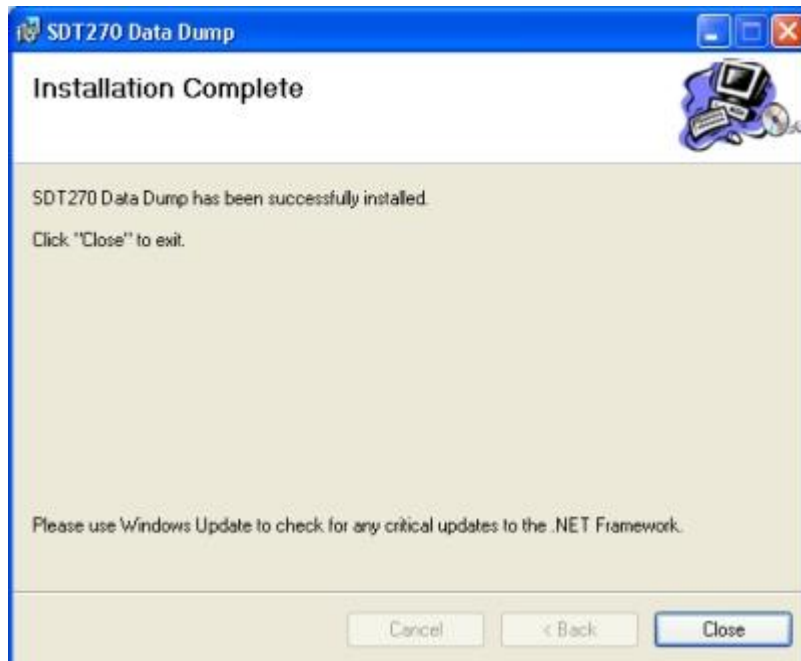


By default, the SDT270DataDump software will be installed in the folder C:\Program Files\SDT\SDT270 Data Dump. You can specify a different location at your convenience by clicking on "**Browse**". Click "**Next**". The following screen appears:



Click "**Next**".

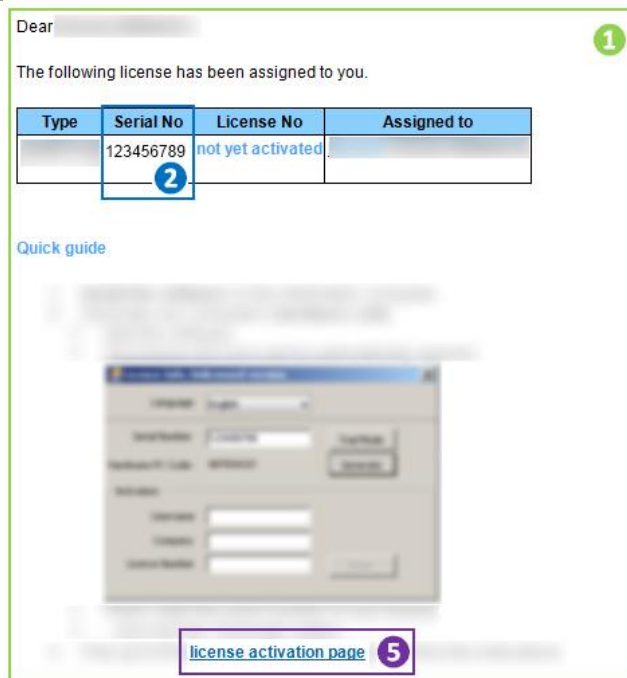




A new screen confirms the software is installed. Click "**Close**" to complete the setup.

## 16.2 Activate DataDump software

**1** Before starting the activation process, you need the email providing your serial number



Install (if necessary) and run Updater...

**2** Encode the serial number you received by email in the license window

Licence Info. Licensed to Jean-Paul SDT International

Serial Number 123456789 **2**

Hardware Code  Generate

Activation

Username

Company

Licence Number  Enter

**3** Generate your hardware code

Licence Info. Licensed to Jean-Paul SDT International

Serial Number 123456789

Hardware Code  Generate **3**

Activation

Username

Company

Licence Number  Enter

**4** Your hardware code is now generated

Licence Info. Licensed to Jean-Paul SDT International

Serial Number 123456789 Trial Mode

Hardware Code 987654321 **4** Generate

Activation

Username

Company

Licence Number  Enter

**5** From the received email, click on the link "license activation page"

**6** Encode your hardware code generated in step 4

Please verify the company & user information and tick the checkbox.

License activation	
Step 2 of 3	
Serial No	123456789
License type	update/SDT270
Hardware code	987654321 <b>6</b>
Please verify <b>8</b>	<input type="checkbox"/> Yes, the company & user information displayed below is valid! (if not, please contact your dealer)
<input type="button" value="Next step"/> <b>9</b>	

Company information	
Name	SDT international <b>7</b>
Country	Belgium
Region	North
ZIP & city	1180 Brussels
Address	Humaniteitslaan 410
Phone	+32(0)2 310 30 25
User information	
First name	Jean-Paul
Last name	Emmanuel
Language	English
Email	je@sd.com
Phone	+32(0)2 310 30 25
Mobile	

**7** Verify your details



**8** Tick the check box

**9** Click on the button "Next step"

**10** Extranet generates your license number...

Your software license has been activated. Please find your license number below.

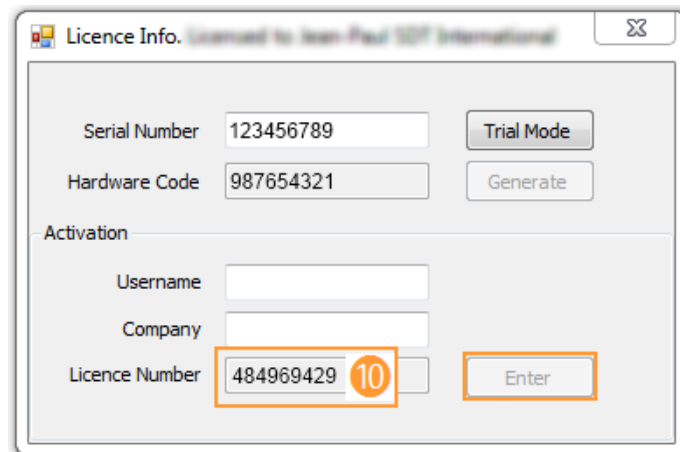
» [Activate another license](#)

License activation	
Step 3 of 3	
Serial No	123456789
License type	123456789
Hardware code	987654321
License no	484969429  

Company information	
Name	SDT international
Country	Belgium
Region	en
ZIP & city	1180 Brussels
Address	Kornhaarleiweg 415
Phone	+32(0)2 312 32 25

User information	
First name	Jean-Paul
Last name	Emmanuel
Language	English
Email	jean@sd.be
Phone	+32(0)2 312 32 25
Mobile	

Encode this license number in the license window and click on the button "Enter" to complete the activation



Licence Info. Licensed to Jean-Paul SDT International


Serial Number: 123456789

Hardware Code: 987654321

Activation

Username:

Company:

Licence Number: 484969429 

You are done!

## 16.3 Download and erase stored data with DataDump



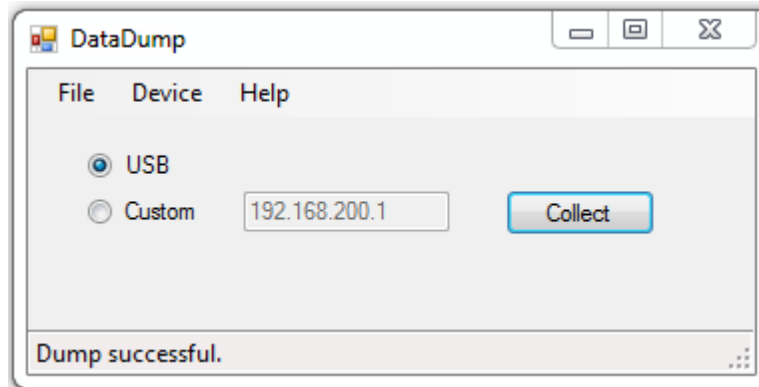
*Before continuing this section, you must have installed and activated the DataDump software.*

Your SDT270 must be switched on with the Measurement screen loaded. Then connect the SDT270 to a USB socket of your computer using the Mini-USB/USB cable provided by SDT.



Mini USB Connector

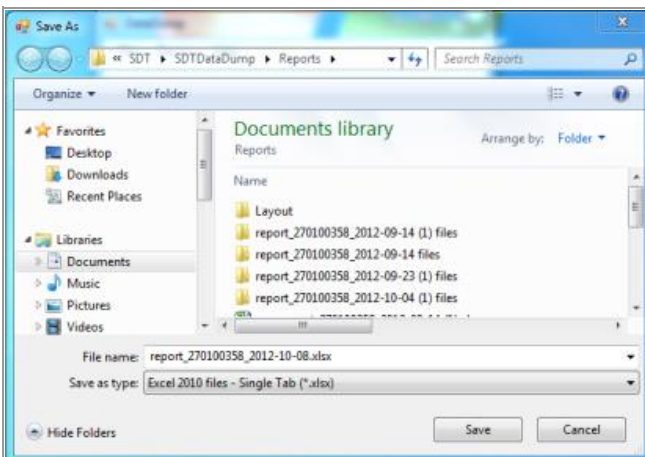
Start DataDump Application on your computer, the following screen appears:



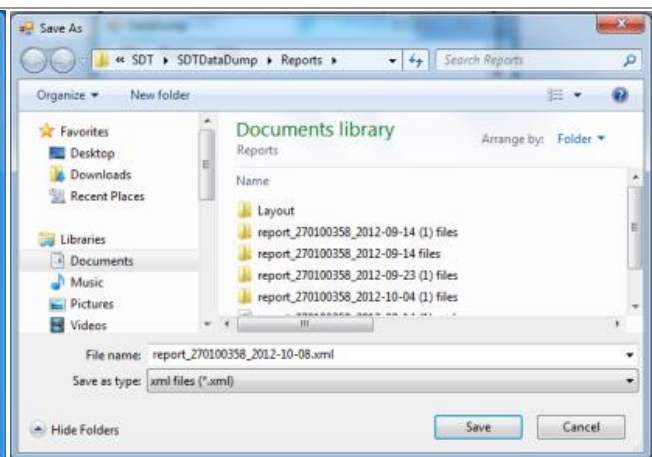
Verify the **USB radio button** is ticked then click on **Collect**.

The following screen appears.

You can choose, by clicking on "Save as type field", to save the report as an xml file (open by your web browser) or as an xls file (open by MS Excel). You can also choose the name of the report and its destination.



*The report is saved in an Excel format.*



*The report is saved in a xml format.*

Click on Save. DataDump will generate and open the report:

SDT (270100358) report generated on 2012-09-23 19:48:46						
<b>Node1</b>						
<b>IntUS1(St) (Static)</b>						
Date/Time	Sensor S/N	RMS (dB $\mu$ V)	Max RMS (dB $\mu$ V)	Peak (dB $\mu$ V)	Crest Factor	Amplification
2012-09-23 18:22:21	0	49,0	50,4	57,1	2,5	50
<b>TEMP2 (Static)</b>						
Date/Time	Sensor S/N	Temperature (C)	Emission			
2012-09-23 18:22:40	0	23,5	0,95			
<b>IntUS1(Ht) (Dynamic)</b>						
Date/Time	Sensor S/N	RMS (dB $\mu$ V)	Max RMS (dB $\mu$ V)	Peak (dB $\mu$ V)	Crest Factor	Amplification
2012-09-23 19:39:54	0	45,6	46,2	53,7	2,5	50
<b>Node2</b>						
<b>RPM270 (Static)</b>						
Date/Time	Sensor S/N	RPM (rpm)				
2012-09-23 18:23:23	0	0				
<b>Node7</b>						
<b>RS1NL100(St) (Static)</b>						
Date/Time	Sensor S/N	RMS (dB $\mu$ V)	Max RMS (dB $\mu$ V)	Peak (dB $\mu$ V)	Crest Factor	Amplification
2012-09-23 18:23:54	88100214	39,8	40,5	45,7	2,0	50

*Example of report in Excel format.*

The wave files are stored in the following path:

C:\Users\Public\Documents\SDT\SDTDataDump\Reports\report\_270xxxxx\_YYYY-MM-DD (x) files

### 16.3.1 Erasing SDT270 memory

From the main screen, select the menu Device and choose the option Delete all device Data.

# 17 Installation and activation of Updater software

## 17.1.1 Introduction

The SDT Updater application is a standalone program that installs updates and upgrades on your SDT200 or SDT270 device. If you do not have a licensed installation of UAS or DataDump, use SDT Updater application.

[Installation of Updater application](#)

[Activate Updater software](#)

## 17.2 Installation of SDT Updater application

### 17.2.1 Retrieve the installer

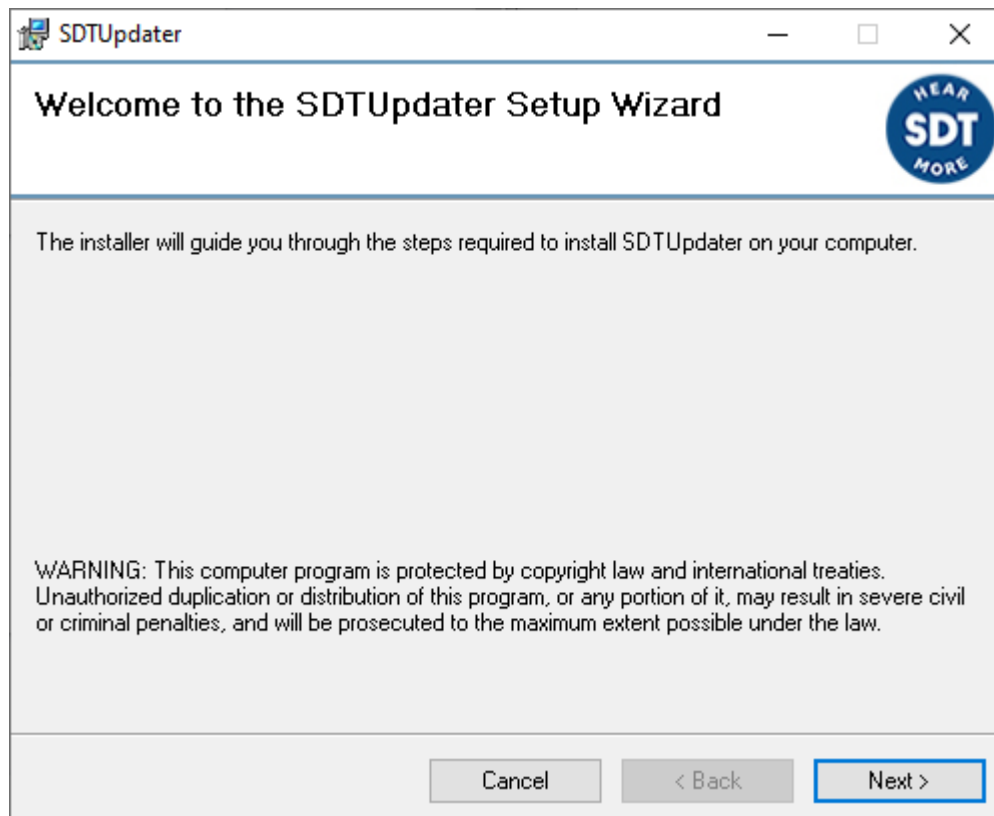
To install this software using the USB stick, run the USB stick delivered with your equipment. After choosing the SDT270 device type and the language, from the main page, select "**Other**" and then "**Install Updater Software**". To continue the installation, please turn to the chapter "**Setup**".

Or

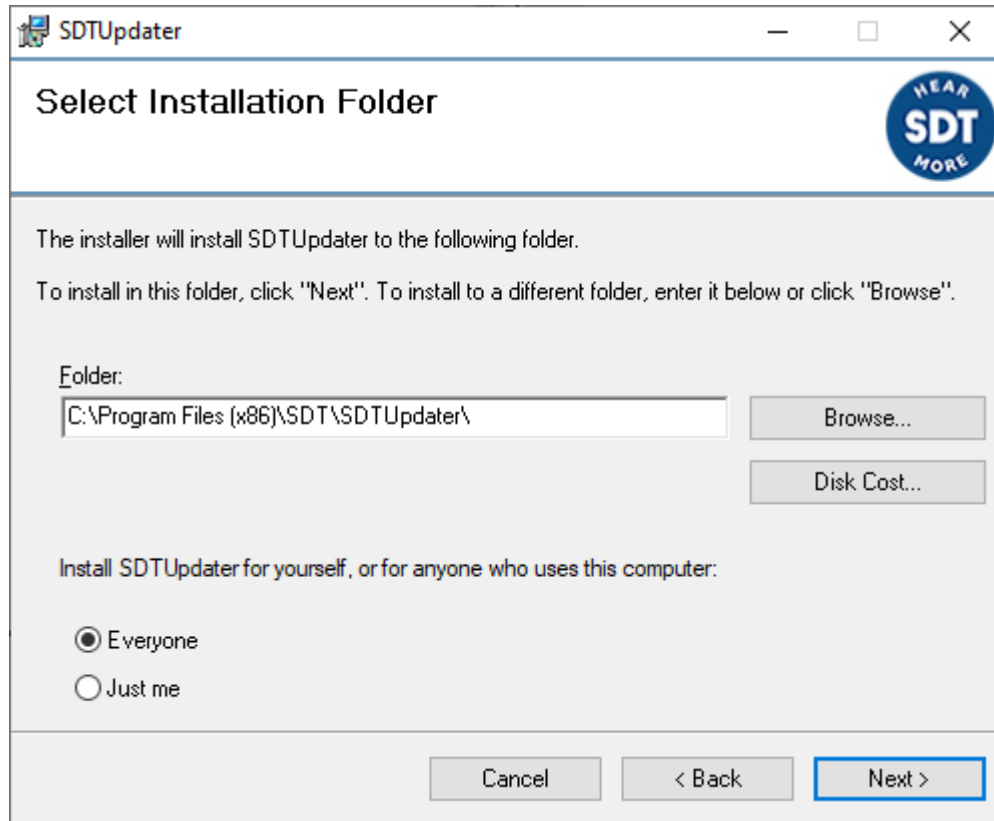
Visit SDT website, at the address at <https://sdtultrasound.com/support/software/> to download the latest version "**SDTUpdaterSetup.msi**" and then run this file.

### 17.2.2 Setup

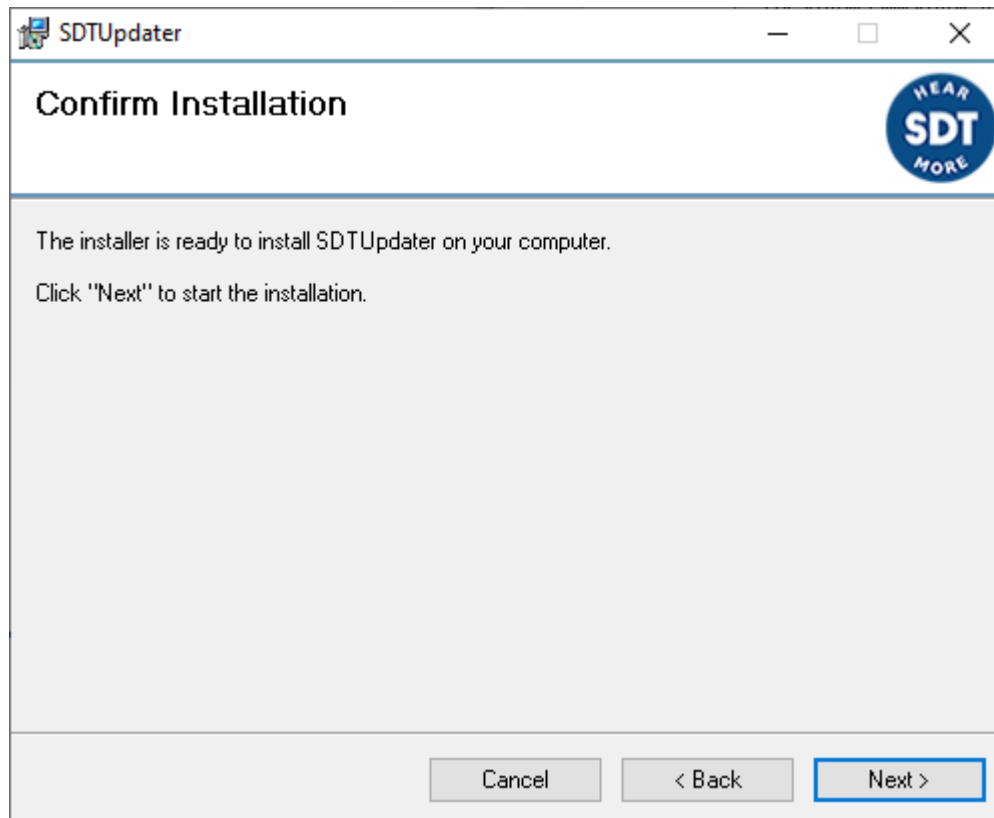
You should now see the following screen:



Click "**Next**". The following screen appears:

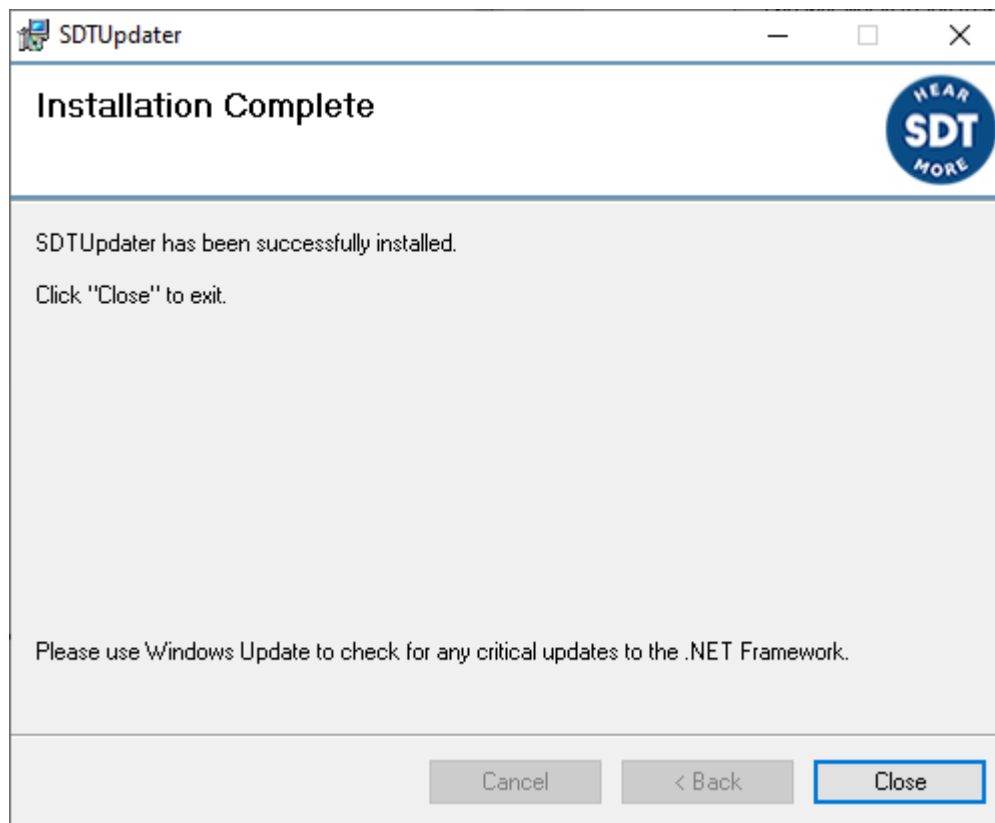



By default, the SDT270Updater software will be installed in the folder C:\Program Files(x86)\SDT\SDTUpdater. You can specify a different location at your convenience by clicking "**Browse**". Click "**Next**". The following screen appears:

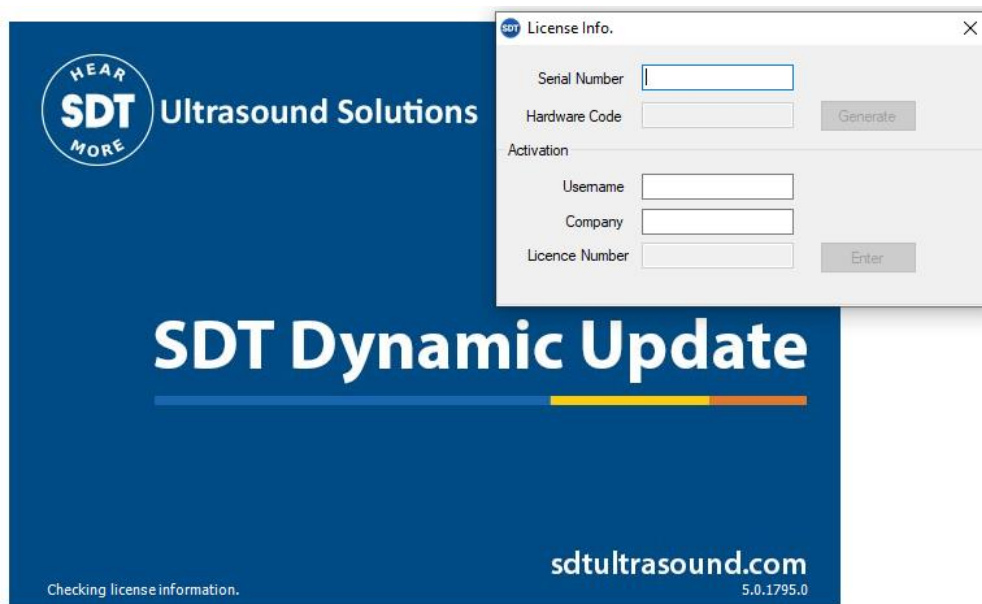


After a progress bar screen, the software is installed. Click "**Close**" to complete the setup.





Launch the application from the shortcut on your desktop (or type , SDT Updater).



The software is to be registered at the first use. You should have received the serial number corresponding to the application with your order. An automatic reply has been sent to the main contact, from [noreply@sdtultrasound.com](mailto:noreply@sdtultrasound.com). Make sure that the email address is not identified as Spam in your mailbox.

SDT Extranet :: License assigned [# 12929][S/N 410540321][SDT International]



**SDT INTERNATIONAL**

Fri 23/07/2021 12:49

To:  
Cc:

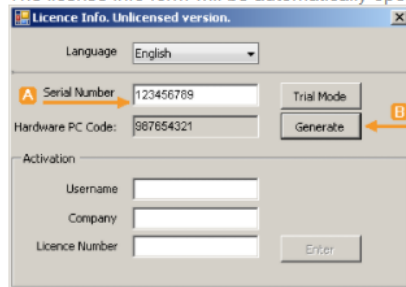
Dear

The following license has been assigned to you. [[view on site](#)]

ID	Type	Serial No	License No	Assigned to	Article code	Comment	PO no.
12929	SDTUpdate	410540321	not yet activated		FASFTWUP		

**Quick guide**



1. Install the software on the destination computer.
  - [Download installer of the latest version.](#)
2. Generate your computer's hardware code:
  - Start the software.
  - The license info form will be automatically opened:



- There, enter the serial number of your license.
  - ...and click the "Generate" button.
3. Then go to the [license activation page](#) and follow the instructions.

Following a quick guide at the send of the mail, the serial No. is used to generate a unique hardware code allowing to activate your license. Once the registration procedure completed, a summary mail is sent to you.

Your software license has been activated. Please find your license number below.  
» [Activate another license](#)

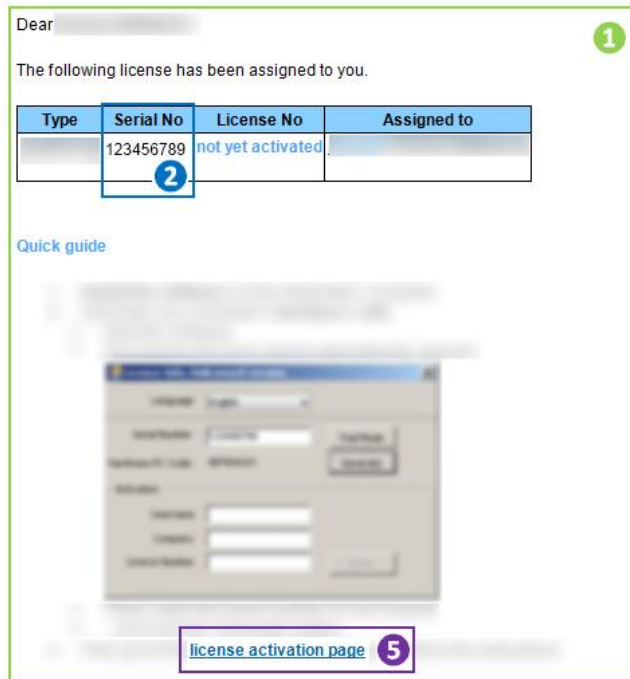
License activation	
Step 3 of 3	
Serial No	123456789
License type	410540321
Hardware code	987654321
License no	484969429  

Company information	
Name	SDT International
Country	England
Region	UK
ZIP & city	1100 Stroud
Address	Armanthorpe Road 415
Phone	+44(0) 110 32 28

User information	
First name	Ivan-Paul
Last name	Immanuelle
Language	English
Email	ip@sdtonline.com
Phone	+44(0) 110 32 28
Mobile	

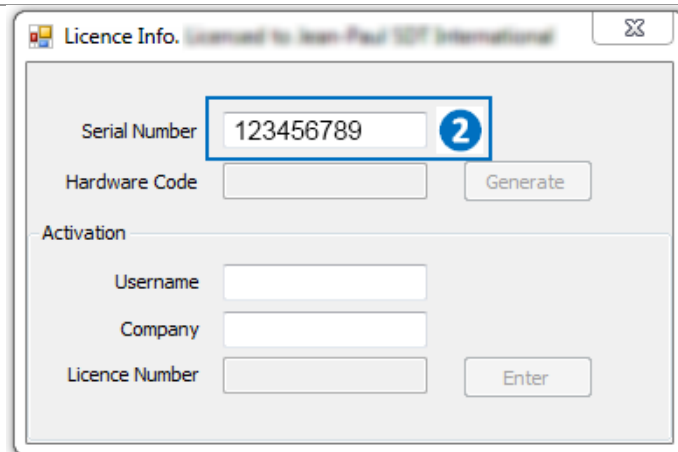
## 17.3 Activate Updater software

**1** Before starting the activation process, you need the email providing your serial number



Install (if necessary) and run Updater...

**2** Encode the serial number you received by email in the license window



**3** Generate your hardware code

**Licence Info.** Licensed to Jean-Paul SDT International

Serial Number: 123456789

Hardware Code:

**Generate** **3**

Activation

Username:

Company:

Licence Number:

**4** Your hardware code is now generated

**Licence Info.** Licensed to Jean-Paul SDT International

Serial Number: 123456789

Hardware Code: 987654321 **4**

Activation

Username:

Company:

Licence Number:

**5** From the received email, click on the link "license activation page"

**6** Encode your hardware code generated in step 4

Please verify the company & user information and tick the checkbox.

License activation	
Step 2 of 3	
Serial No	123456789
License type	Standard
Hardware code	987654321 <b>6</b> <small>used by SDT270 update application</small>
Please verify <b>8</b>	<input type="checkbox"/> Yes, the company & user information displayed below is valid! (if not, please contact your dealer)
<input type="button" value="Next step"/> <b>9</b>	

Company information	
Name	SDT International <b>7</b>
Country	Belgium
Region	NA
ZIP & city	1100 Brussels
Address	Amsterdamlaan 410
Phone	+32(0) 2742 10 20

User information	
First name	Jean-Paul
Last name	Immensens
Language	English
Email	jean@sd.com
Phone	+32(0) 2742 10 20
Mobile	


**7** Verify your details

**8** Tick the check box

**9** Click on the button "Next step"

**10** Extranet generates your license number...

Your software license has been activated. Please find your license number below.  
[» Activate another license](#)

License activation	
Step 3 of 3	
Serial No	123456789
License type	SDT270
Hardware code	987654321
License no	484969429  <b>10</b>
Company information	
Name	SDT International
Country	England
Region	York
ZIP & city	YO1 1SR, Beverley
Address	Humanbebban 415
Phone	+44(0)1482 312 31 25
User information	
First name	Jean-Paul
Last name	International
Language	English
Email	jean@sd.com
Phone	+44(0)1482 312 31 25
Mobile	

Encode this license number in the license window and click on the button "Enter" to complete the activation

**Licence Info.** Licensed to Jean-Paul SDT International ✖


Serial Number

Hardware Code

Activation

Username

Company

Licence Number   **10**

You are done!

# 18 Updating & upgrading your SDT270

[... using the SDT270 Updater software \(for SDT270 SB and SS device versions\)](#)

[... using the DataDump software \(for SDT270 SD and DD device versions\)](#)

[... using the Ultranalysis Suite software \(for SDT270 SU and DU device versions\)](#)

To check your SDT270 version, please refer to the chapter "[System Info](#)".

## 18.1 Updating & upgrading your SDT270 using the "SDT270 Updater" software (for SDT270 SB and SS device versions)



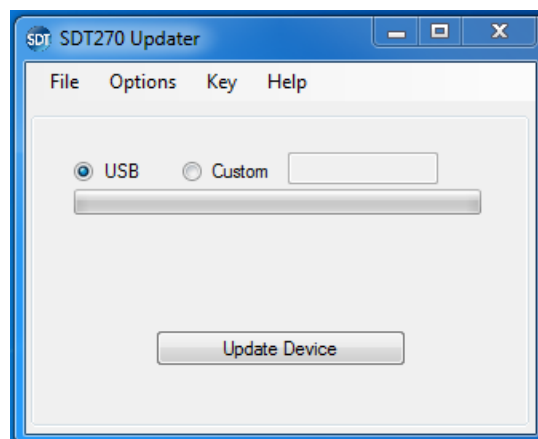
- *You need first to install first the SDT270 driver, to install Updater software, and to activate it, before performing an update or an upgrade.*
- *You need an Internet connection to complete an update or an upgrade.*
- *After the warranty period, this functionality is reserved to our customers who have a valid SoundCare Support Program.*

### 18.1.1 Updating

To get the latest version of your SDT270 Firmware, turn on your SDT270 and when the measurement screen is loaded, connect it to your computer using the USB/Mini USB cable.



Run SDTUpdater application, tick the radio button "**USB**" and then click "**Update Device**".



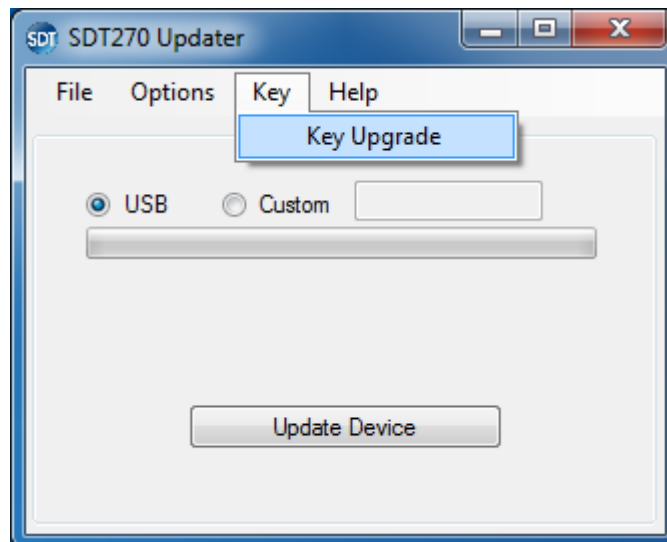
## 18.1.2 Upgrading

If you want to upgrade your SDT270 to a higher version, please contact first SDT or your local representative, which will send you by email an Upgrade Key file. The key name has a format type "ne270xxxxxx.sdt.key" where "neSDT270xxxxxx" is the serial number of the device you want to upgrade. Store this file in your computer to a specific location.

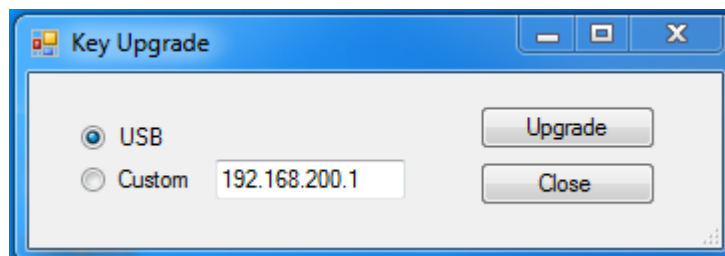
Turn on your SDT270 and when the measurement screen is loaded, connect it to your computer using the USB/Mini USB cable.



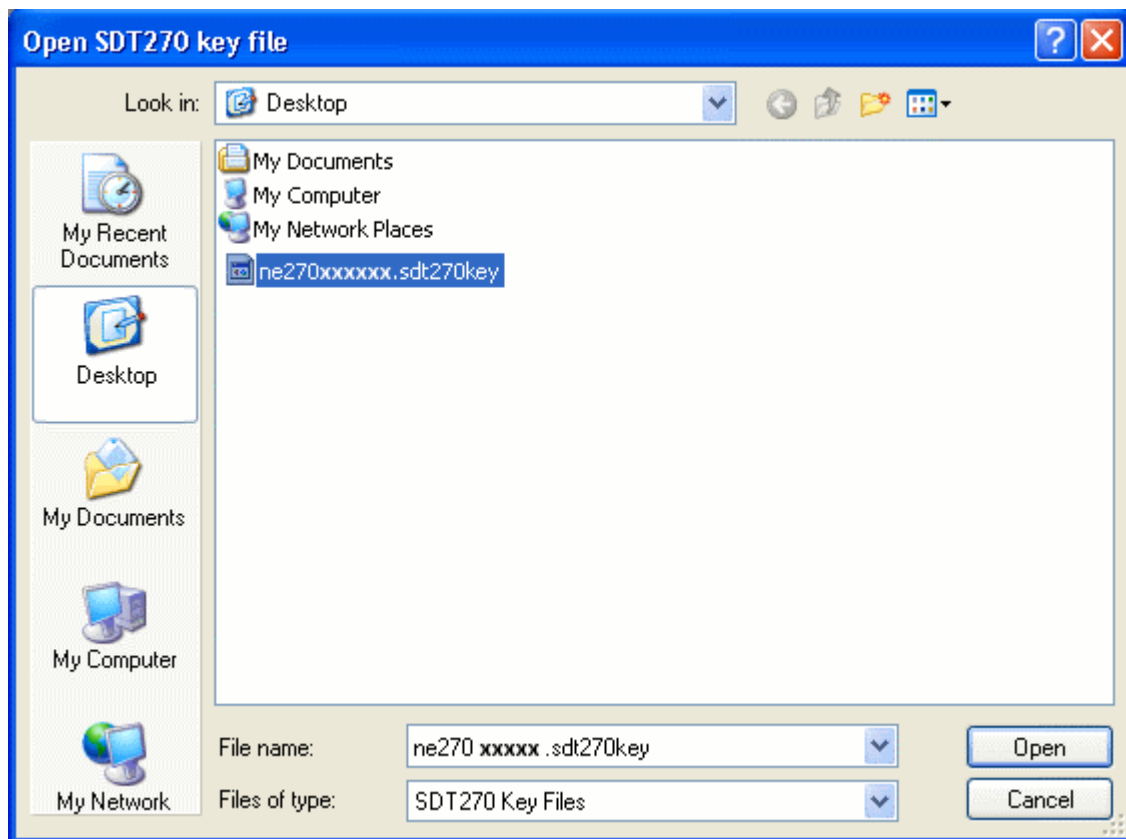
Run Updater application. Select "**Key**" and "**Key Upgrade**":



On the next screen click "**Upgrade**".



A new screen appears. Select the Key file from the location you previously stored it and click "**Open**".



*When the upgrade or update process are completed, disconnect your SDT270 from your computer and then restart it.*

## 18.2 Updating & upgrading your SDT270 using DataDump software (for SDT270 SD and DD device versions)



- *You need first to install first the SDT270 driver, to install DataDump software, and to activate it, before performing an update or an upgrade.*
- *You need an Internet connection to complete an update or an upgrade.*
- *After the warranty period, this functionality is reserved to our customers who have a valid SoundCare Support Program.*

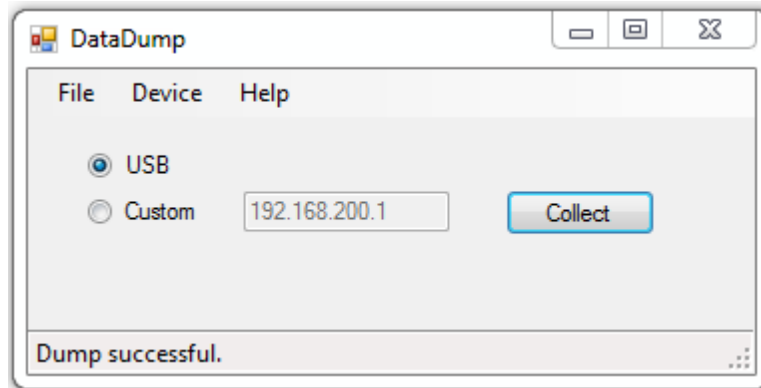
### 18.2.1 Updating

To get the latest version of your SDT270 Firmware, turn on your SDT270 and when the measurement screen is loaded, connect it to your computer using the USB/Mini USB cable.





Run DataDump, tick the radio button "**USB**", develop the menu Device and select Update Firmware'.



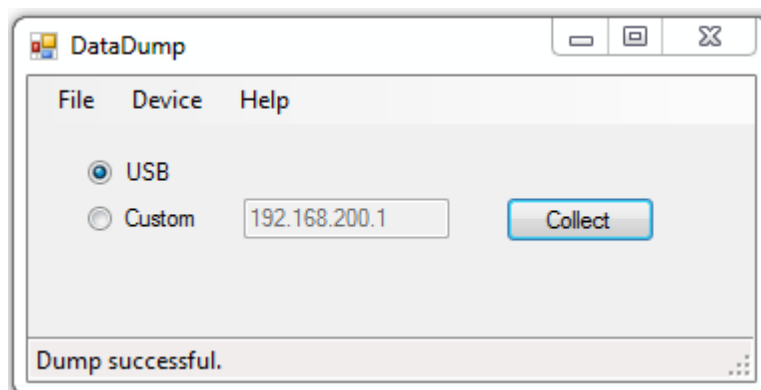
### 18.2.2 Upgrading

If you want to upgrade your SDT270 to a higher version, please contact first SDT or your local representative, which will send you by email an Upgrade Key file. The key name has a format type "ne270xxxxx.sdt.key" where "neSDT270xxxxx" is the serial number of the device you want to upgrade. Store this file in your computer to a specific location.

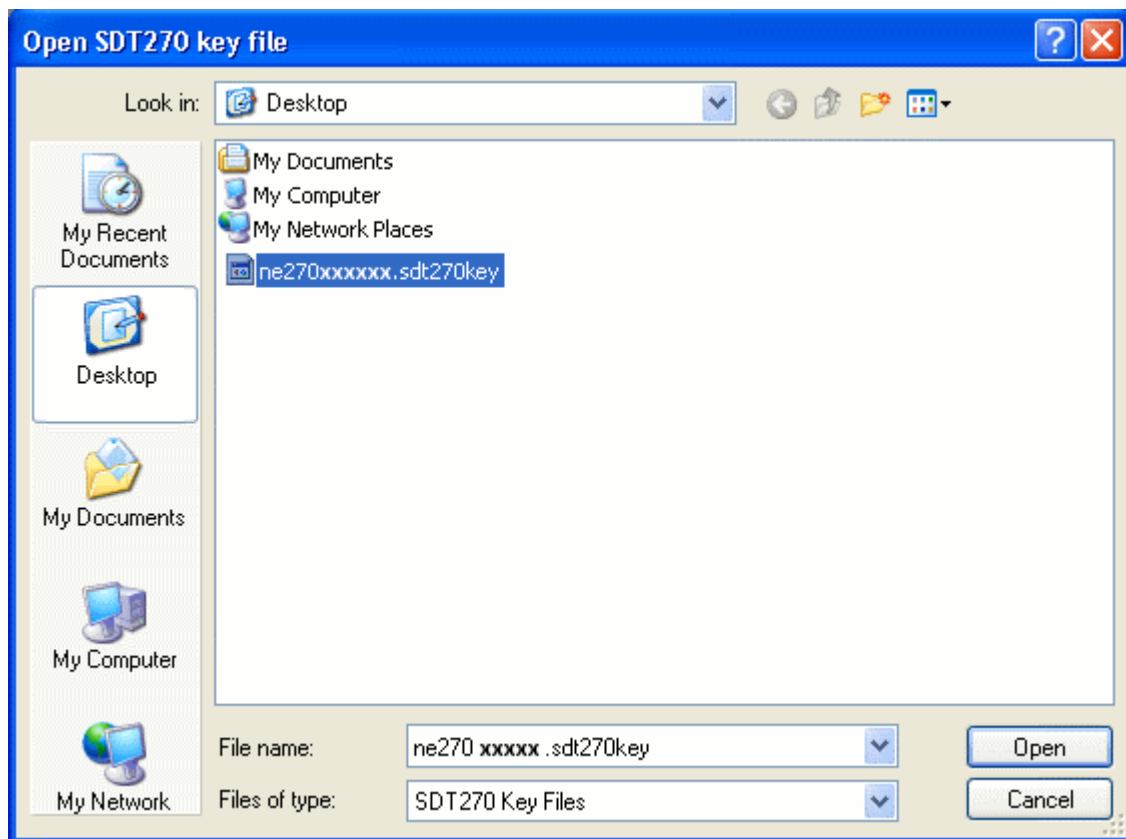
Turn on your SDT270 and when the measurement screen is loaded, connect it to your computer using the USB/Mini USB cable.



Run DataDump, tick the radio button "**USB**", develop the menu Device and select Update Key.



A new screen appears. Select the Key file from the location you previously stored it and click "**Open**".



*When the upgrade or update process are completed, disconnect your SDT270 from your computer and then restart it.*

## 18.3 Updating & upgrading your SDT270 using the "Ultranalysis Suite" software (for SDT270 SU and DU device versions)



- *You need first to install first the SDT270 driver, to install Updater software, and to activate it, before performing an update or an upgrade.*
- *You need an Internet connection to complete an update or an upgrade.*
- *After the warranty period, this functionality is reserved to our customers who have a valid Support Program.*

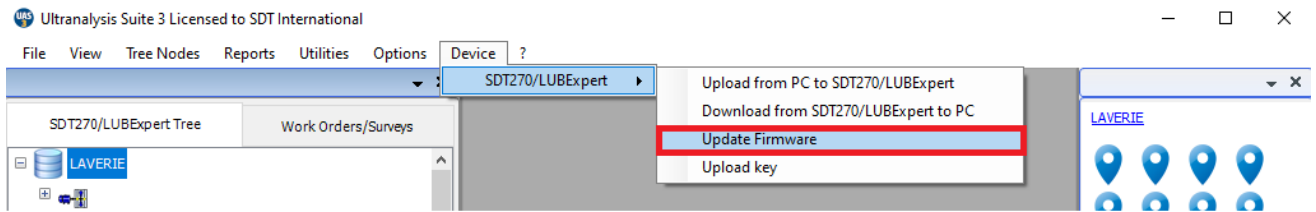
### 18.3.1 Updating

To get the latest version of your SDT270 Firmware, turn on your SDT270 and when the measurement screen is loaded, connect it to your computer using the USB/Mini USB cable.

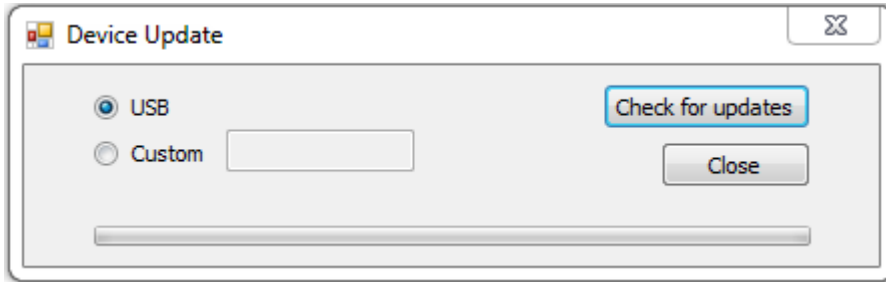


Run Ultranalysis Suite 3.

Develop the menu "Device / SDT270" and choose the option "Update firmware".



Tick the radio button USB and click on "Check for updates".



### 18.3.2 Upgrading

If you want to upgrade your SDT270 to a higher version, please contact first SDT or your local representative, which will send you by email an Upgrade Key file. The key name has a format type "ne270xxxxxx.sdt.key" where "neSDT270xxxxxx" is the serial number of the device you want to upgrade. Store this file in your computer to a specific location.

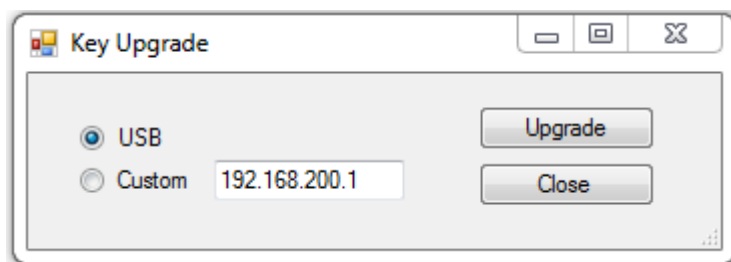
Turn on your SDT270 and when the measurement screen is loaded, connect it to your computer using the USB/Mini USB cable.



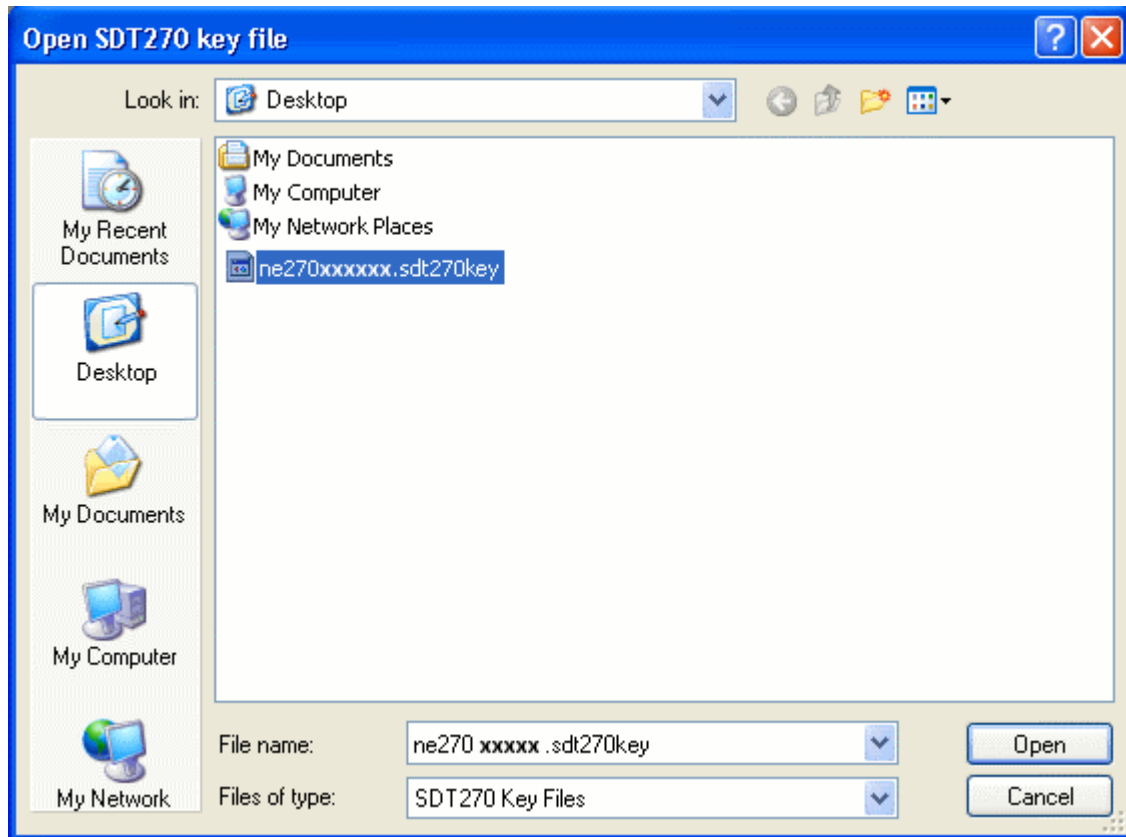
Run Ultranalysis suite.

Develop the menu "Device / SDT270" and choose the option "Update firmware".

Tick the radio button USB and click on "Check for updates".



A new screen appears. Select the Key file from the location you previously stored it and click "**Open**".



***When the upgrade or update process are completed, disconnect your SDT270 from your computer and then restart it.***

# 19 Keyboard functions when navigating inside the menus

F1 to come back to the previous menu.

Left and right arrows to select the previous or the next field.

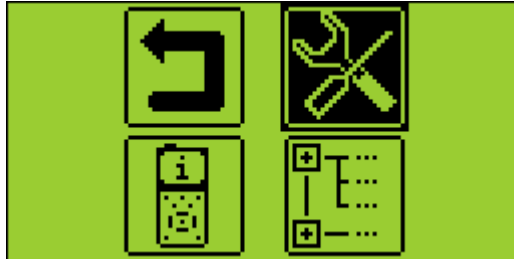
Up and down arrows to change the value of the selected field.

Enter to validate your choice and come back to the previous menu.



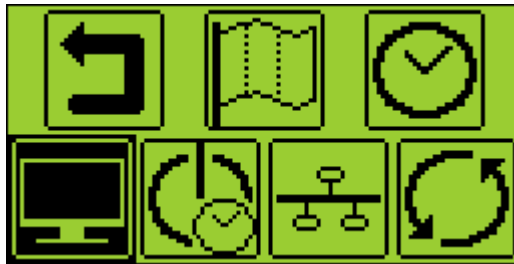
# 20 Switch between icon and text interfaces

To access the Main menu from the measurement screen, press Enter.  
Use the arrow buttons to highlight the Settings icon:

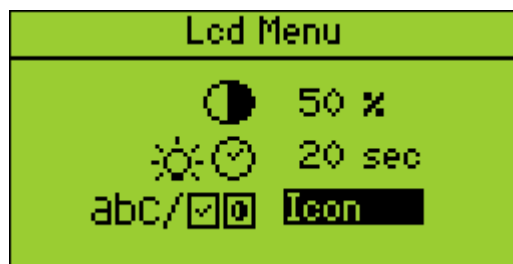


Press Enter to access the Settings menu.

Then highlight the LCD menu and press Enter:



Select the last field and switch between icon and text interfaces:



# 21 Network settings

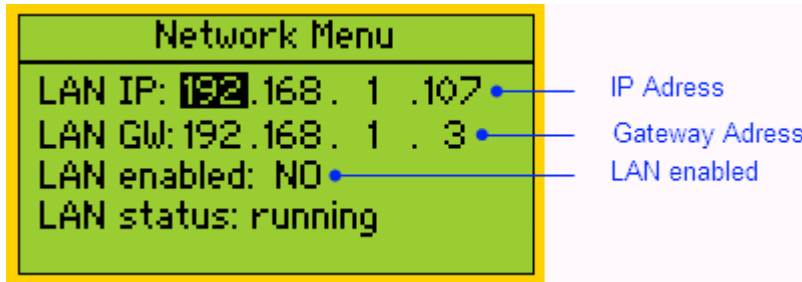
When your SDT270 is not connected to a Network, it is advised to parameter the LAN to disable.



This setting permits to increase the battery autonomy of more than 20%.

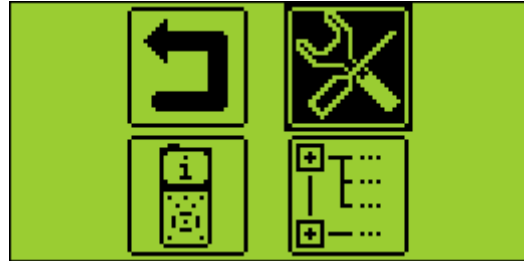
Use the Right Arrow to highlight the LAN enabled field, then using the Up Arrow set the field to NO.

Set the field to Yes when you want to connect your SDT270 to a network via the Lemo15 socket.



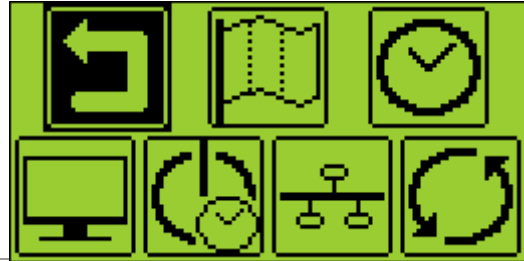
## 22 Settings

To access the Main menu from the measurement screen, press Enter. Use the arrow buttons to highlight the Settings icon:



Press Enter to access the Settings menu:

Use the arrow buttons to select the desired menu and enter to access it.



Language icon: change device interface language (English, Nederlands, Français, Deutsch, Italiano or Español).



Date and time icon: set date, time and their format



LCD icon: adjust the screen contrast and the operating time of the backlight



Auto power down icon: adjust the time before device auto power down when it is unused.



Network icon: define the IP address of your SDT270 and the default gateway.



Reset icon: force a factory reset of the SDT270 device. Note that this does not erase saved measurements.



Escape icon: to get back to the main menu.  
As an alternative, uses F1 to get back to the previous menu.

To modify the parameters of the selected setting:

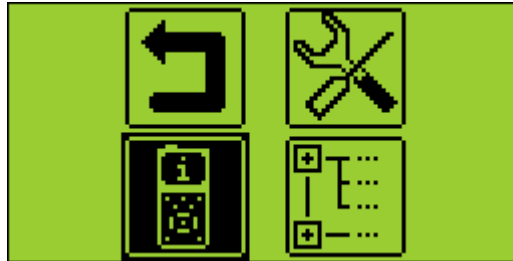
- Use the **Up and Down arrow buttons** to switch from one field to another.
- Use the **Left and Right arrow buttons** to modify the value of the selected field.
- Use the **Enter button** to save the changes and return to the previous menu.
- Use the **F1 button** to go back to the previous menu without saving the changes.



## 23 System Info

From the Measurement screen press Enter.

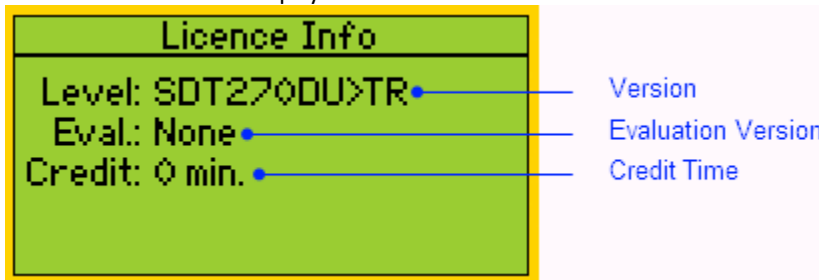
Use left arrow to highlight **Down Arrow** till highlighting the **System Info** Menu:



Press the **Enter Button** to access to it.

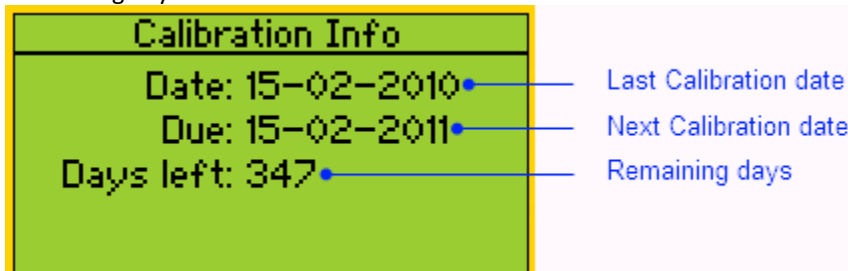
The first screen provides:

- The SDT270 Version (SB, SS, SD, SU, DD or DU) and the installed options (for example T= built-in thermometer; R = built-in tachometer; A = accelerometer interface).
- Eventually if your device is temporary upgrade to a higher Evaluation Version
- The Credit Time before the expiry of the Evaluation Version.



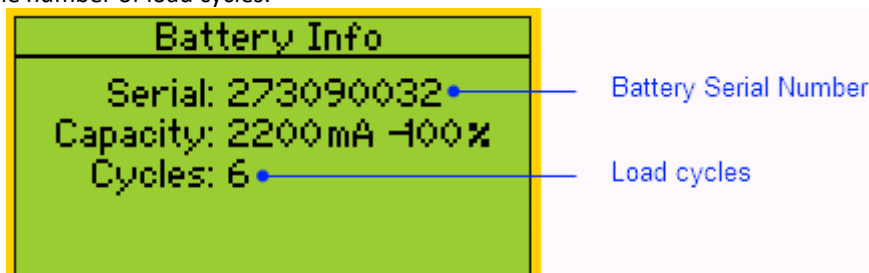
Press the **Down Arrow** to access to the next screen which indicates:

- The last Calibration date
- The recommended next Calibration date
- The remaining days before the end of valid Calibration.



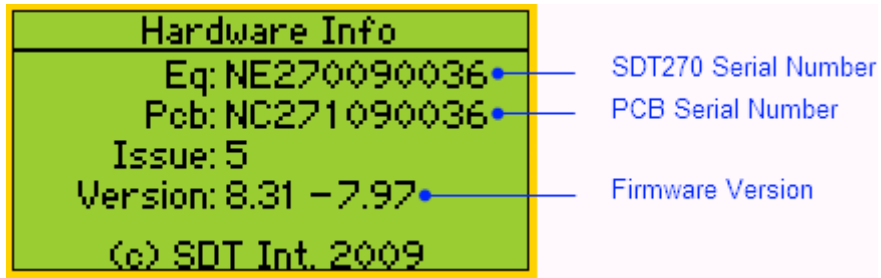
Press the **Down Arrow** to access to the third screen which provides:

- The battery Serial Number.
- The number of load cycles.



Press the **Down Arrow**, to access to the fourth screen which indicates:

- The SDT270 Serial Number.
- The PCB Serial Number.
- The SDT270 Firmware Version.



























For SDT270 DU and SDT270SU, an additional screen provides the percentage of memory used for Static and Dynamics Measurements.









Press two times F1 to return to the measurement screen.

# 24 SDT270 & SDT200 navigation icons list\*















## 24.1 Measurement screen icons

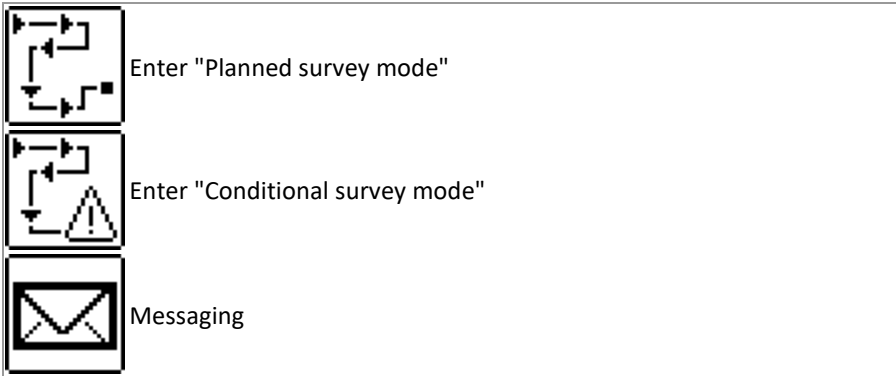
	Switch between sensors (internal and external sensors)
	Change measurement mode
	Static measurement
	Dynamic measurement
	Adjustable frequency
	Turn laser on
	Turn laser off
	Open "Sensor settings menu"
	Save the settings as a preferred configuration and go back to measurement screen
	Load your preferred configuration and go back to measurement screen (undo all changes)
	Go back to measurement screen using modified settings
<b>24.1.1.1 Ultrasonic sensor settings</b>	
	Turn laser on / off
	Acquisition time
	Frequency range
	Sampling frequency
	Trigger
<b>24.1.1.2 Infrared temperature sensor settings</b>	
	Emissivity
	Measurement unit
<b>24.1.1.3 Vibration sensor settings</b>	
	Acquisition time
	Velocity unit
	Frequency range
	Sampling frequency
	Accelerometer sensitivity
	Trigger

## 24.2 Miscellaneous function key icons

	Increase value		Decrease value
	Activate editing mode		Activate displaying mode (allows to see survey data)
	Delete		Erase a character
	Skip (go to next screen)		Ok / Continue

## 24.3 Main menu icons

	Back to measurements screen
	Open "Device settings menu"
	Back to "Main menu"
	Open "Language menu"
	Set date, time and their format
	Open the "Lcd menu"
<div style="border: 1px solid black; padding: 5px;">  Adjust screen contrast   Adjust operating time of backlight   switch between icon and text interface </div>	
	Open "Power Down Menu"
	Open "Network Menu"
	Open "Factory settings" screen to restore original settings
	Show system information
	Browse tree structure



\*Some of these icons only appear in specific device versions

# 25 Recommended calibration intervals

SDT recommends annual recalibration of SDT instruments and annual verification of sensors.

This periodicity is coherent with the observed long-term stability of SDT electronic equipment's.

However:

- For new equipment leaving the factory the initial period is extended to 15 months instead of 12 (to avoid any possible discrimination between users due to transportation time, customs clearance, etc.)
- SDT recognizes that each customer may have their own Quality Assurance Standards and internal requirements. If a customer has established a Quality Assurance Program that includes a documented procedure for measurement deviations, and if an instrument and the relevant sensor show acceptable deviations and do not show signs of physical damage, then calibration periodicity could be extended to two years.
- Third party organizations having more authority (Class, or State Administrations) may have defined their own regulations for example 6 months, or 2 years calibration interval: by evidence, local legally applicable regulations supersede SDT rules.

For these reasons, SDT Calibration Certificates do no more mention a "calibration due date", but simply the "last calibration date".

For user convenience, the date of the last calibration of an SDT200 or 270 instruments can also be found in the menu screens.

This text refers to SDT document DC.QUAL.005<sup>1</sup>.

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<sup>1</sup> This document is part of SDT's quality management system (ISO-9001 certified).

## 26 EU Directives and Standards

The SDT270 multifunction detector (standard version FUR270 and ATEX version FUR270A) has been designed and tested in accordance with the harmonized directives and standards required for placing on the European market.

The CE conformity declaration is available on the manufacturer's website at the following address:

<https://sdtultrasound.com/support/downloads/certificates/>

The product complies with the following European directives:

- 2014/30/EU; electromagnetic compatibility (EMC);
- 2011/65/EU; on the restriction of the use of certain hazardous substances in electrical and electronic equipment (RoHS);
- 2014/34/EU; on equipment and protective systems intended for use in potentially explosive atmospheres (ATEX) (applies to FUR200A/FUR270A versions and compatible sensors only).

*EC type examination certificate nr ISSeP11ATEX008X issued by ISSeP, notified body nr 0492*

*ATEX type examination certificate nr 20/BE/4608-0 according to annex IV-Module D "Quality assurance of the production process" issued by APRAGAZ, notified body nr 0029*

The equipment displays the CE mark of conformity with the regulations in force.

In order to operate according to the most recent rules, as stipulated in the selected directives, the gap analysis between the EC type examination certificate and the harmonized standards published in the Official Journal is carried out in case of publication of new standards.

Note: The owner is obliged to keep this user manual and to pass it on to future users in case of resale.

## 27 Warranty

SDT International guarantees the SDT270 unit against manufacturing faults for a period of 2 (two) years, with the exception of the battery and accessories (charger, headphones, sensors, etc.) these are guaranteed for a period of 6 (six) months. The warranty covers all material supplied and implies the free replacement of all parts that contain a manufacturing fault.

Warranty does not include shipping, handling and importation.

The warranty is void if misused, or accident damages the product, if the product is altered in any way, if an unauthorized party attempts repair, or the unit is opened without written authorization of SDT International.

In the event of a defect, contact your local SDT representative or SDT International.

## 28 Responsibility limits

Neither the company SDT International, nor any related company, will in any circumstances be liable for any damages, including, without limitation, damages for loss of business, business interruption, loss of information, defect of the SDT270 unit or its accessories, bodily harm, loss of time, financial or material loss or any other indirect or consequential loss arising out of the use, or inability to use this product, even when it has been warned of possible damages.

## 29 Destruction and recycling of waste equipment

In conformance with European Union (EU) Directives and in particular with Directive 2006/66/EU "Batteries" and Directive 2012/19/EU "WEEE – Waste Electrical and Electronic Equipment", SDT International is organizing the management of waste equipment. However local legal regulations have precedence.

Thus, SDT Customers may

- Either transfer a waste apparatus to a local company that will recycle it in accordance with applicable local laws
- Or return the waste apparatus to SDT International or to a SDT Dealer
- For an apparatus that contains a battery, SDT International will transfer the battery to a local company that will recycle it in accordance with EU "Batteries" Directive and Belgian laws.

SDT International will transfer the rest of the apparatus to a local company that will recycle it in accordance with EU "WEEE" Directive and Belgian laws.

## 30 Copyright

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The information herein is believed to be accurate to the best of our knowledge.

Due to continued research and development, specifications of this product can change without prior notice.



**Revision table:**

09	CMA 28/03/2022	Clarification battery use	CGI
08	CMA 23/07/2021	Updated version	CGI
07	HTB	Checkmarks	CGR
06	CMA	ATEX T3 Temperature correction (50->48) + renamed doc DC.R270.MAN.EN + Atex engraving update	CGR
05	FBO	New Template	
04	FBO	New Cover, header and footer New sections: 29 Destruction and recycling of waste equipment 5.2 The SDT universal charger	
03		New. section concerning calibration periodicity. Reworked table of contents	
02	BDK 2014-04-04	Removed section concerning USB driver installation Lay-out adaptations	GEL
01	JPE	Original version	
<b>Revision</b>	<b>Writer</b>	<b>Nature of modification</b>	<b>Approved</b>