# Table of Contents

1. Introduction  
   1.1 System requirements  
   1.2 Product safety & legal information  
   1.3 License agreement  
   1.4 Tutorial  

2. System setup  
   2.1 NetBox registration  
   2.2 Noise Monitor  
   2.3 Network connection  

3. Web portal  
   3.1 Login  
   3.2 Dashboard  
   3.3 Job  
   3.4 Location  
       3.4.1 Alarm messages  
       3.4.2 Location panel  
       3.4.3 Location setup  
       3.4.4 Alarm list  
       3.4.5 Periods & limits  
       3.4.6 Audit data  
       3.4.7 Incidents  
   3.5 Share Job or Location view  
   3.6 Download data  

4. Hints & tips  
   4.1 Navigation  
   4.2 Troubleshooting  
   4.3 Support  

Index
Introduction
1 Introduction

NoiseScout provides a comprehensive but easy-to-use 24/7 noise monitoring solution. Noise levels are recorded on-site by the XL2 Sound Level Meter and are available for remote monitoring and download. It can be operated in two different modes, Managed and Gateway.

A. Managed Mode

The selected sound levels are continuously recorded, monitored and buffered on-site by the XL2 Sound Level Meter. From there they are uploaded via the NetBox to the NoiseScout server and made available for online live visualization. In case of noise issues, automated email alerts inform the user, thus enabling you to address the noise issue before a non-compliance condition arises.

Thanks to the internal buffer of the XL2, the acquired noise data remain available even in case of a power failure or data connection failure. As soon as the connection from the NetBox to the NoiseScout server is re-established, all data are automatically synchronized without affecting the ongoing measurement.

B. Gateway Mode

The Gateway Mode is an alternative to the Managed Mode. It provides direct access to the XL2 Sound Level Meter screen and data. The internet connection allows SFTP (Secure File Transfer Protocol) and remote access to the XL2. All data files can be retrieved remotely from the remote XL2 Sound Level Meter even during an ongoing measurement. Also, the spectral data and audio files can be directly downloaded from the remote XL2.

The remote access allows full control of the XL2 Sound Level Meter. All remote measurement commands available on the XL2 are supported. For example, the current measurement data may be captured in real time into a computer application, e.g. C#, MS Excel or LabView.

You may program a customized measurement application for remote sound level monitoring, audio analysis or automated measurement tasks. This offers the freedom to start and stop the
online noise monitoring from your office or your mobile device; a useful tool for complete control.

**NOTE**  The explanations provided hereunder refer to the Managed mode only. For more information regarding Gateway mode, please refer to the corresponding *User Guide*.

© NTi Audio AG, July06, 2018
1.1 System requirements

- XL2 Sound Level Meter: firmware V3.11 or higher, and SD-card with minimum 8 GB
  Hint: The audio file recording is only supported for XL2 with firmware V3.33 or higher
- Microphone; choose from NTi Audio M2230, M2211, M2215 M4260 or M4261, with ASD cable (optional)
- USB cable from NTi Audio (with ferrite)
- NetBox (includes 10 days data credits by default)
  - Mobile Data modem, antenna + SIM card (optional - factory installation)
- Power supply 7.5 – 16 VDC, ≤ 9 W (e.g. mains power adapter, solar panel, battery)
- Internet connection
  - LAN / Ethernet (with DHCP compatible router)
  - Mobile Data communication (optional)
- Web browser capable device such as PC, Tablet or Smartphone
- NTi Audio Data Explorer software (optional)

Hint: NoiseScout is optimized to work with the Google Chrome web browser; using another browser may affect the look and significantly decrease the speed of the web site (download the latest version of Chrome here)
1.2 Product safety & legal information

Operational safety
- Those who, as a result of their physical, sensory or mental capabilities or lack of experience or knowledge, are not in a position to use the product safely must not be allowed in the vicinity of the product without supervision or instruction by a person responsible for their safety.
- Never open the housing of the NetBox, XL2 or the charger.
- Do not insert any object into the ports or openings of the NetBox, XL2 or charger.
- Exposing the device to electrostatic discharge can interrupt the data transfer between the device and the network or impair the functions of the device. Should this happen, disconnect the device from the power supply and the USB port and reconnect it or rebuild the network connection from scratch.
- Protect the device from extremely high or low temperatures, condensation or moisture.

Repair
- No parts inside the device require maintenance or cleaning.
- Should the device become wet, turn it off immediately. Ensure the device is checked for operational safety before using it again.
- Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.

Maximum modem transmission power
- Class 4 (2 W, 33 dBm) @ GSM 850 / 900
- Class 1 (1 W, 30 dBm) @ GSM 1800 / 1900
- Class 3 (0.25 W, 24 dBm) @ UMTS
- Class E2 (0.5 W, 27 dBm) @ EDGE 850 / 900
- Class E2 (0.4 W, 26 dBm) @ EDGE 1800 / 1900

FCC user information
FCC 15.21
Changes or modifications not expressly approved by the party responsible for compliance could void the user’s authority to operate the equipment.

Part 15 statement according to FCC 15.19/RSS gen issue 3 sect. 7.1.3
This device complies with Part 15 of the FCC Rules and with Industry Canada license-exempt RSS standard(s). Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Le présent appareil est conforme aux CNR d’Industrie Canada applicables aux appareils radio exempts de licence. L’exploitation est autorisée aux deux conditions suivantes : (1) l’appareil ne doit pas produire de brouillage, et (2) l’utilisateur de l’appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d’en compromettre le fonctionnement.
1.3 License agreement

Scope
This End-User License Agreement ("EULA") is a legal agreement between you (either an individual or a single entity) and NTi Audio AG ("NTi Audio"). By installing or using the NTi Audio software, content or documentation (collectively the "NTi Audio software") accompanying this EULA, you accept these terms and are consequently bound to them. If you do not agree to the terms of this EULA, do not install or use the NTi Audio software.

The NTi Audio software is licensed, not sold, to you by NTi Audio for use only under the terms of this license agreement. This EULA only gives you some rights to use the software. You may use the software only as expressly permitted in this EULA.

This EULA also applies for all upgrades or updates to the NTi Audio software (if any), supplements, internet-based services, and support services for this NTi Audio software, unless other terms accompany those items. If so, those terms will govern.

License Uses and Restrictions

A. Software Installation: Subject to the terms and conditions of this license agreement, you are granted a limited, non-exclusive license to use and run the NTi Audio software. Data transfer from an XL2 Audio & Acoustic analyzer to the NTi Audio software is only enabled if the corresponding license is installed on the analyzer.

B. No Reverse Engineering: You may not and you agree not to, or to enable others to, copy (except as expressly permitted by this license agreement or by the usage rules if they are applicable to you), publish, distribute, decompile, reverse engineer, disassemble, attempt to derive the source code of, decrypt, modify, or create derivative works of the NTi Audio software or any services provided by the NTi Audio software, or any part thereof.

C. Termination: This license is effective until terminated. Your rights under this license agreement will terminate automatically or otherwise cease to be effective without notice from NTi Audio if you fail to comply with any term(s) of this license agreement. Upon the termination of this license, you must cease all use of the NTi Audio software and destroy all copies, full or partial, of the NTi Audio software.

Services
The NTi Audio software may enable access to NTi Audio and third party services and websites (collectively and individually, "NTi Audio services"). Such NTi Audio services may not be available in all languages or in all countries. Use of these NTi Audio services requires internet access and use of certain NTi Audio services may requires an NTi Audio ID, may require you to accept additional terms and may be subject to additional fees. By using this software in connection with an NTi Audio ID or other NTi Audio account, you agree to the applicable terms of service for that account.

Disclaimer

A. NTi Audio and all our affiliates do not give any warranty, guarantee or conditions for this software, i.e. you bear the sole risk of using it. This limitation applies to anything related to this software, including breach of contract, warranty, guarantee or condition, strict liability,
negligence or other tort to the extent permitted by applicable law. It also applies if NTi Audio knew or should have known about the possibility of the damages.

B. The NTi Audio software and services are provided “as-is”, i.e. with all faults. You bear the sole risk of using it. NTi Audio gives no express warranties, guarantees or conditions. NTi Audio excludes the implied warranties of merchantability, fitness for a particular purpose and non-infringement.

C. You acknowledge that the NTi Audio software and services are not intended or suitable for use in situations or environments where the failure or time delays of, or errors or inaccuracies in the content, data or information provided by the NTi Audio software or services could lead to death, personal injury, or severe physical or environmental damage, including without limitation the operation of nuclear facilities, aircraft navigation or communication systems, air traffic control, life support or weapons systems.

D. No oral or written information or advice given by NTi Audio or an NTi Audio authorized representative shall create a warranty. Should the NTi Audio software or services prove defective, you assume the entire costs of all necessary servicing, repair or correction.

E. In no event shall NTi Audio be liable for personal injury, or any incidental, special, indirect or consequential damages whatsoever, including, without limitation, damages for loss of profits, loss of data or information, business interruption or any other commercial damages or losses, arising out of or related to your use or inability to use the NTi Audio software or services or any third party software or applications in conjunction with the NTi Audio software or services, however caused, regardless of the theory of liability (contract, tort or otherwise) and even if NTi Audio has been advised of the possibility of such damages. In no event shall NTi Audio’s total liability to you for all damages exceed the amount of ten US dollars (USD 10.00). The foregoing limitations will apply even if the above stated remedy fails of its essential purpose.

**Separate Provisions**

If any provision of this EULA shall be held to be invalid, illegal or unenforceable, the validity, legality and enforceability of the remaining provisions shall in no way be affected or impaired thereby.

**Privacy**

At all times your information will be treated in accordance with NTi Audio’s privacy policy, which is incorporated by reference into this license agreement and can be viewed at [http://www.nti-audio.com/privacy-statement](http://www.nti-audio.com/privacy-statement)

**Controlling Law**

This license agreement will be governed and construed in accordance with the laws of Liechtenstein, Europe, excluding its conflict of law principles. No amendment to or modification of this EULA will be binding unless in writing and signed by NTi Audio. The English version of this EULA shall govern, to the extent not prohibited by local law in your jurisdiction.
1.4 Tutorial

This chapter describes step-by-step how to install and operate a NoiseScout system.

a) Register your NetBox
   - Log in at http://my.nti-audio.com
   - Select 'NetBox' from the pulldown-menu 'Product Name'
   - Enter the serial number of your NetBox
   - Click on 'Register'

b) Set up the Noise Monitor (XL2 + NetBox)
   Follow the instructions given in chapter Noise Monitor

c) Connect the NetBox to the internet
   Proceed as described in chapter network connection
d) Log in to the NoiseScout web portal
Open the website www.noisescout.com and log in with your my.nti-audio.com account data.

You will then see the NetBox(es) that are registered under your account.

e) Select the operating mode
At this point, you have to choose whether to
- continue in the 'Managed' mode (→ refer to the instructions below), or
- switch to the 'Gateway' mode (→ refer to the Gateway User Guide).
f) Add a new Job

Click on Add a New Job, edit the job name and confirm.
g) Open the Job
Click on the job name to open the Job page

Hint When the page opens for the first time, the map will automatically show the NTi Audio headquarters
h) Add a Location

- Click on ![Add a New Location to this job](image) then ![Choose a Noise Monitor](image), select a registered NetBox and click on ![✓](image) to confirm.

- Use the ![zoom in/out](image) buttons to zoom out/in, and the mouse right-click to unlock, scroll & pan on the map.

- Click on the location indicator ![✈️/📍](image) and move it to its position in the map.
i) **Configure the Location**

- Click on to edit the Location settings.
- When complete click on **Save**.
k) Adjust the Periods & Limits

- Click on **Location** (or the name that you have assigned to the location)
- Scroll down and edit the Periods according to your demands, i.e. the Description (name), applicable Days and Start/Finish times
- Select a Limits Group; therein, select the Level per period, and adjust the related Time Interval as well as the Red/Amber alarm Limits
- Click on **Save Changes** to save your settings

![Periods and Limits Table]

l) Start the Noise Monitor

Switch the Noise Monitor **ON** to begin the measurement at the Location

![Noise Monitor On/Off Switch]
System setup
2 System setup

The following sketch visualizes the basic installation procedure for a NoiseScout system.

1. Register the NetBox under my.nti-audio.com
2. Set up an XL2+NetBox (= Noise Monitor)
3. Establish connection to the NoiseScout server
4. Access the Noise Monitor via the NoiseScout web portal
5. Analyze the logged data (e.g. with Data Explorer)

2.1 NetBox registration

Before putting a NetBox into operation, you have to register it under your my.nti-audio.com account.

1. Log in to your my.nti-audio.com account
2. Select 'NetBox' from the pulldown-menu 'Product Name'
3. Enter the Serial Number of your NetBox
4. Click on Register

Hint A NetBox can be registered only once, i.e. by a single user. You may however register several NetBoxes under your account.
2.2 Noise Monitor

A Noise Monitor consists of an XL2 and a NetBox, which are connected to a NoiseScout server via the internet.

- Connect the XL2 with the USB and power cables to the NetBox
- Connect the NetBox with the network hardware, i.e.
  a) LAN / Ethernet cable, or
  b) Mobile Data modem (factory installation), antenna + SIM-card (to be supplied by customer)
- Optionally connect an Input Keypad to the XL2
- Switch ON the XL2
- Connect the NetBox to a DC power supply (e.g. mains power adapter, solar panel + battery etc.)

→ Continue with network connection

Hint The LED states are described in chapter Troubleshooting
2.3 Network connection

The NetBox can be connected to the internet via LAN/Ethernet or Mobile Data (i.e. cellular network as e.g. GSM, UMTS, 3G). If one or both connections are available, the NetBox will automatically choose one based on the following priority:

i. LAN/Ethernet
ii. Mobile Data

Hints The NetBox must be registered under my.nti-audio.com before connecting it to the network. All network settings are saved on the NetBox; the XL2 serves as I/O terminal and data logger. You may abort the network connection procedure at any time by pressing the 'Esc' key of the XL2.

Network connection procedure

A) LAN/Ethernet connection

Connecting the NetBox to a LAN (Local Area Network) requires a DHCP compatible router that provides dynamic IP addresses and is connected to the internet. For this setup, no settings are required: the connection from the NetBox to the network is established automatically.

1. Prepare the hardware setup as described in chapter Noise Monitor

2. If you want to see the connection status, turn the XL2 rotary wheel to select the network status indicator and press enter

3. To quit the connection status screen, select 'Close' and press enter

B) Mobile Data connection

1. Prepare the hardware setup including SIM-card and antenna as described in chapter Noise Monitor

2. Power ON the XL2

3. Turn the XL2 rotary wheel to select the network status indicator and press enter
4. Select 'Settings' and press enter ↓
5. Select 'Mobile Data' and press enter ↓

6. Enter the user name, password, access point name (APN) and the PIN of the SIM-card, and confirm via 'ok'
7. Select 'Apply settings' and press enter ↓

8. The NetBox will automatically connect to the Mobile Data network and query the IP address

**Network status indicator**

When connected to a NetBox, the XL2 shows major NetBox status information in the top line at the position of the speaker symbol.

- ✓ Connection to NoiseScout server and internet is up
- ✗ Connected to the internet, but so far not to the NoiseScout server
- ✗ No internet connection
System setup

- NetBox failure (→ troubleshooting)

**Edit network settings**

Once a network connection has been established, the related settings will be saved in the NetBox (including the passwords). You may however amend the saved network settings at any time. To do so, select 'Settings' in the network status screen, press enter ↓ and edit the requested settings.

**Delete connection**

If required, you may also delete the saved network settings.
1. Prepare the hardware setup as described in chapter Noise Monitor
2. Switch ON the XL2
3. Turn the XL2 rotary wheel to select the network status indicator and press enter ↓
4. Select 'Settings' and press enter ↓
5. Select '-> Delete connection' and press enter ↓
6. Select 'Continue' and press enter ↓
Web portal
3  Web portal

The NoiseScout web portal provides access to your Noise Monitors, Locations and Jobs. The web portal has a responsive layout, i.e. it automatically adapts to the display of your PC, tablet or smartphone.

Use the portal to:
- assign a Noise Monitor to a Location
- set up Locations and organize them in Jobs
- monitor the sound level of a Job or Location
- share a Job or Location view with a 3rd party
- download the logged data from a Location
Job structure

As soon as you log in to the NoiseScout web portal, you get access to your personal client area, from where you may set up, organize and edit the Jobs.

Typically you first add a new Job, and therein a new Location / Noise Monitor.

- When a Noise Monitor has been assigned to a Location, it is no longer available for another Location or Job; however, a Noise Monitor may be removed from a Location, or re-added at a later time.
- The noise measurements at a Location must be started (and stopped) manually by the operator.
- As soon as the measurement at a Location is stopped, the related Noise Monitor may be removed (thus becoming available again).
- A stopped Location can be re-started at a later time.
- A Location can be deleted or archived at any time.
3.1 Login

NOTE  You must have an account at my.nti-audio.com to set up and configure a Noise Monitor under the NoiseScout web portal.

1) Open the website www.noisescout.com and click on Login.
2) Enter your e-mail address and the password of your my.nti-audio.com account
3) Click on Login

3.2 Dashboard

The main page of the NoiseScout web portal is the Dashboard. It shows your personal client area with the active and archived Jobs as well as the available Noise Monitors.

Hint  You have access to only the NetBoxes that you have registered under my.nti-audio.com.

In the Dashboard view, you may

- Create a new Job → click on Add a New Job, enter the name of the new Job and confirm via ✔
- Edit the name of an existing Job → click on ✍ and confirm via ✔
- Open a Job → click on the Job name
- Archive an active Job → click on 🔐
- Delete a Job → click on 🗑
- Edit the name of a Noise Monitor → click on the Name and confirm via ✔
- Toggle between the Managed and Gateway mode → click on the Mode, select the preferred solution and confirm via ✔
- Deregister a NetBox of a Noise Monitor → click on ✗ (NOTE  The Deregister ✗ does not appear while the NetBox is assigned to a Location)
3.3 Job

A Job can be described as a noise monitoring task that runs over a certain period of time. A Job normally contains minimum one or more Locations, whereby each Location is assigned to a Noise Monitor (please refer also to Job structure).

Examples

- Surveillance of a building site, where several Noise Monitors are installed to monitor the environmental noise at different positions
- Monitoring the traffic noise of a busy road via a single Noise Monitor
- Ensuring that the maximum allowed sound level is not exceeded during a music festival with several stages

Location

A Location is a subset of a Job, and represents a connected Noise Monitor. To add a Location, click on Add a New Location to this Job, select an available Noise Monitor and confirm via.

Active vs. archived Job

An active Job can be described as a container (or folder) for Locations. A Job may be archived or deleted at any time.
The Job view of an **active** Job shows by default
- a map with the added Locations
- the Locations that are ready to start
- active Locations that are logging
- active Locations that are stopped
- alarms
Example of active Job view

The Job view of an archived Job shows
- a map with the Locations
- Locations that are stopped
- Alarm list

Example of archived Job view
3.4 Location

The Location view typically includes the
- Location panel
- Alarm list
- Periods & limits
- Audit data and incidents
3.4.1 Alarm messages

A key feature of the NoiseScout system in the Managed Mode is the generation of alarm messages. These messages can be generated in two ways,

a) automatically: if the recorded sound level exceeds a user-defined threshold,

b) manually: by pressing a button on the XL2 Input Keypad.

a) Automated alarms

The user can configure the system behavior in case of an automated alarm.

- The alarm thresholds are defined under Periods & limits.
- The alarm handling can be adjusted in the Location setup panel:
  - record an Audio file of the moment when the alarm occurred (optional),
  - show all occurred alarms in a list (optional),
  - send an email alert to the host (optional).

b) Keypress events

The system behavior in case of a keypress event (i.e. manually triggered alarm) is defined as follows:

- Pressing any of the four keys on the XL2 Input Keypad even briefly, triggers a keypress event.
- Pressing any of the four keys again ends the event.
- If no key is pressed to end the event, the event expires in 90 seconds.
- Audio is provided from 30 seconds before the first keypress down in an event until the second keypress or the 90-second event timeout.
- Keypressed events are recorded together with the 1-second log data.
- The duration of each single keypress is marked in XL2 Data Explorer software as "Key1, Key2, Key3, or Key4" respectively.
- The audio is also shown in the XL2 Data Explorer software.
- To not put the system under too much pressure, the amount of audio per day is limited to 54 MB.
- Keypressed events are shown in the alarm list and added to alarm email notifications.
- Links to the keypressed event audio are provided in the alarm list.

3.4.2 Location panel

The Location panel displays the status of the Noise Monitor.
### Location status
- **Status OK** — a NetBox has been successfully added to the Location
- **Register a NetBox** — No NetBox is available, i.e. a new NetBox must be registered and added to the Location
- **Add a Noise Monitor** — a NetBox is available, but it has not yet been added to the Location
- **No microphone detected** — the microphone of the Noise Monitor is missing, disconnected or defective
- **No XL2 detected** — the XL2 analyzer of the Noise Monitor is missing, disconnected or defective
- **Noise monitor is offline** — the Noise Monitor is not connected to the internet or NoiseScout server
- **NoiseScout system is offline** — the NoiseScout system is currently offline

### NetBox serial number

### Monitoring status
- The **ON/OFF** switch allows to manually turn the monitoring ON or OFF (i.e. start / stop the Noise Monitor).
- **SETTLING** — the monitoring just has been started, yet the Noise Monitor is still settling
- **RUNNING** — monitoring is in progress
- **RESTARTING** — after having changed some Noise Monitor parameters (XL2 is running)
- **UPDATING SYSTEM** — while a new firmware is installed
- **SYNCHRONIZING TIME** — XL2 is synchronizing its real-time clock with the NoiseScout server
- **STOPPED** — monitoring has been stopped

Click on the switch to start (ON) or stop (OFF) the sound level measurement at the Location.

### Alarm status
- **✔** — audit level is within the limit
- **❗** — audit level has exceed the limit

### Data
- **First** — the date & time when the Location was put into operation for the very first time
- **Latest** — the date & time of the last measurement at the Location

### Live value
- **listen** — click on this link to download the audio recording of the previous 10 seconds

### Supply voltage

### Network type & status

### Ambient temperature
- Estimated ambient temperature (based on a measurement within the NetBox)
3.4.3 Location setup

Location map / position
Click on the marker in the map and move the Location to the position where the Noise Monitor has been actually installed.

The Location indicator will change to a marker and the Location is permanently assigned to the corresponding time zone.

Location setup
Click on the settings icon to edit the Location setup.

Location Name
Assign a name to the location and confirm via .

Alerts
Audio (ON) → tick the ON radio button to enable live audio listening, and that the NoiseScout server provides 10 sec. audio files (WAV format) with the highest total sound energy for the alarms

Hint The audio file recording is only supported for XL2 with firmware V3.33 or higher

Alarm List (ON) → as long as the ON radio button is ticked, new alarms will be shown in the Alarm List

Emails → tick the ON radio button to let the NoiseScout server send an e-mail, if the recorded level has exceeded the given limit(s)

Send to → edit the Email recipient(s), i.e. the e-mail address(es) of the recipient(s) who shall receive the aforementioned alarm(s)

Interval → select the minimum interval between successive emails: 5, 10, 15, 30 or 60 minutes

Detailed Data
Tick the ON radio button to upload & show the detailed data from the XL2 to the NoiseScout server

- Interval → the XL2 recording interval is fixed at 1 second
- Level 1 ... 5 → select up to five level measurements that shall be logged by the XL2

Live Level
→ select the measurement result that shall be shown numerically on top of the Location panel

Level range
→ adjust the XL2 input range according to the level expectations at the Location
Example: XL2 with M2230 microphone

- LOW: 0 – 100 dBSPL
- MID: 20 – 120 dBSPL
- HIGH: 40 – 140 dBSPL

**Hint** Environmental noise monitoring typically requires "Low" range
Live sound applications typically require "High" range

Click on **Save Changes** to return or **Cancel** to abort.

**Hint** All values in the Location setup can be changed in between measurements or during a measurement; certain changes however require that the XL2 is restarted - this is done automatically and there could be data missing during this event.

### 3.4.4 Alarm list

**Alarm list**
The alarm list shows all the level alarms and manually triggered events that have occurred since the Location was started.
- Clear / tick the checkbox **show acknowledged** to show all / only the not-acknowledged alarms
- Click on the 'thumbs down' icon or on 'acknowledge all' to acknowledge the corresponding alarm(s)

<table>
<thead>
<tr>
<th>Location</th>
<th>Period</th>
<th>Level</th>
<th>Over</th>
<th>Limit</th>
<th>When</th>
<th>Audio</th>
<th>Acknowledged?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Office</td>
<td>day</td>
<td>LAFmax’S</td>
<td>3.5 dB</td>
<td>Red Limit 70.0 dB</td>
<td>1 minute ago</td>
<td>wav 06:10:18 (max 30.0 dB) wav 06:13:55 (max 73.5 dB) wav 06:14:19 (max 86.5 dB)</td>
<td>![X]</td>
</tr>
<tr>
<td>Office</td>
<td>day</td>
<td>LAFmax’S</td>
<td>3.2 dB</td>
<td>Amber Limit 65.0 dB</td>
<td>6 minutes ago</td>
<td>wav 06:05:32 (max 35.0 dB) wav 06:07:10 (max 61.2 dB) wav 06:07:31 (max 68.2 dB)</td>
<td>![X]</td>
</tr>
<tr>
<td>Office</td>
<td>day</td>
<td>LAFmax’S</td>
<td>11.4 dB</td>
<td>Red Limit 70.0 dB</td>
<td>21 minutes ago</td>
<td>wav 06:00:00 (max 62.8 dB) wav 06:01:08 (max 81.4 dB) wav 06:00:53:54 (max 58.7 dB)</td>
<td>![X]</td>
</tr>
</tbody>
</table>

**Alarm list (example)**

**Audio**

NoiseScout can automatically provide an audio recording of alarms that occur at a Location, i.e. in case the measured noise level exceeds the preset limit. This feature has to be enabled/disabled in the Location settings.
**Hints**  The number of audio files is limited to ≤ 300 per day, while the number of alarm notifications is not limited. The audio file recording is only supported for XL2 with firmware V3.33 or higher.

**Audio recording process**
- If the Audio feature is enabled, the XL2 will permanently record the incoming audio.
- If the alarm condition is met, the system finds the three intervals with the highest total sound energy (Lₐeq) within the Time Interval and uploads a 10-second audio recording for each of these intervals to the Web Portal; a maximum number of 100 audio files may be uploaded per day (as soon as this limit has been reached, no further audio files will be created on that calendar day).
- To ensure that the SD-card does not run out of memory, the oldest parts of the audio recording are deleted.

*Example*
- Within a 15-minute time interval (alarm period), the system groups the one-second data (Lₐeq_1”) into one-minute periods.
- For each minute group, it calculates the one-minute equivalent value (Lₐeq_1’) from the one-second data.
- The system takes the top 5 one-minute periods with the highest Lₐeq_1’ levels (e.g. minute # 3, 5, 8, 9, and 13 - see graph below), and finds the maximum one-second value within each of these 5 chosen minutes.
- It applies a 10-second interval to each of these 5 points, starting 2 seconds before this maximum point until 8 seconds after it; if two of these 10-second intervals overlap (e.g. in minute # 8 and 9), the point with the lower max value is discarded (e.g. minute # 9).
- The remaining points are sorted in descending order and the top 3 of them are selected (e.g. minute # 5, 8, and 13).
- For each point, the system create the 10-second WAV files.

**Audio file characteristics**
- 10 seconds / alarm
- WAV file
- Compressed audio (ADPCM) with AGC (automated gain control)
- Sampling frequency \( fs = 12 \text{ kHz} \)

### 3.4.5 Periods & limits

This feature allows you to define individual alarm levels for customized periods and time intervals.

- Click on any cell in the **Periods** table to edit its contents, e.g.
  - Description → customized name of the period
  - Days → applicable weekdays
  - Start → start time of the period
  - Finish → end time of the period
  - Duration → automatically calculated duration of the period
  - ✗ → delete the corresponding period

- Click on any cell in a **Limits Group** table to edit its contents, e.g.
  - Level → the sound level that has to be monitored
  - Time Interval → time interval, during which the monitored level must exceed the threshold to create an alarm
  - Red limit (dB) → threshold level for a red alarm
  - Amber limit (dB) → threshold level for an amber alarm

### 3.4.6 Audit data

- The graphs show the logged sound levels of the past 24 hours / 60 minutes
- Tick / clear the LAeq, LAFmax checkboxes to show / hide the corresponding test results
- Click on a **download** link to save the corresponding data on your PC
3.4.7 Incidents

List of all incidents (e.g. loss of network connection) that occurred since the Noise Monitor had been put into operation

<table>
<thead>
<tr>
<th>Date</th>
<th>Time</th>
<th>Description</th>
<th>Additional Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>2017-07-04 05:00:00</td>
<td>XL2 measurement started</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2017-07-04 04:59:56</td>
<td>XL2 measurement stopped</td>
<td>XL2 Time adjusted</td>
<td></td>
</tr>
<tr>
<td>2017-07-03 06:32:45</td>
<td>Noise Monitor online</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2017-07-03 06:32:41</td>
<td>Noise Monitor offline</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2017-06-29 10:02:23</td>
<td>XL2 measurement started</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2017-06-29 10:02:23</td>
<td>XL2 detected</td>
<td>SN: A24-02714-02, PW: 3.31</td>
<td></td>
</tr>
</tbody>
</table>

Incidents (example)
3.5 Share Job or Location view

The operator of a NoiseScout system may grant a 3rd party read-only access to any Job or Location view.
1. Click on the Job or Location view
2. Copy the link of the web page that opens
3. Send the link to the entitled person

Hint The shared link is unique and applies only to the view, where it has been created.

3.6 Download data

If you want to get access to the logged measurement data of a running or an archived Job, you have to
1. open the Job
2. click on the Location name, from which you want to download the logged data
3. select the required time period via the calendar, and confirm via
4. download the logged data in text file format – if you intend to import the logged data also to the XL2 Data Explorer, you must download, in addition, the 'Data Explorer License file'.
Web portal

41
Hints & tips
4  Hints & tips

- **Navigation**
- **Troubleshooting**
- **Support**

4.1  Navigation

**Buttons**

- log out
- go to the [Dashboard](#) view
- go to the [Job](#) view
- go to the [Location](#) view
- collapse/expand the sidebar menu
- collapse/expand the map, Location panels
- share the current view with a 3rd party user → copy the URL of the new tab and send it to anybody who may view this page, but without granting the right to edit the page
- go to the [Dashboard](#) [Job](#) view
- view the previous/next Job or Location

**Mouse**

- Right-click map (Job or Location) to unlock/lock zoom, scroll or pan
- Right-click map (Job or Location) to center automatically on Location(s)
4.2 Troubleshooting

There is no NetBox / Noise Monitor available
Possible reasons:
- NetBox is not registered
  → visit the my.nti-audio.com website, open your account and register the NetBox
- NetBox has been registered by another person
  → close the NoiseScout web portal, and log in under the account of the NetBox owner; or
  the other person must de-register the NetBox before you can register it
- NetBox is not connected to the power supply
  → connect the NetBox to an appropriate power supply
- NetBox is not connected to the internet / NoiseScout server
  → verify the network connection of your Noise Monitor
- NetBox has been assigned to another Job
  → open the Job, to which the Noise Monitor has been assigned; you may now turn
  monitoring off, remove the NetBox and add it to the new location

The Noise Monitor does not transmit data
Possible reasons:
- The XL2 / NetBox are not properly powered
  → connect the XL2 and the NetBox to an appropriate power supply
  → switch ON the XL2
- No communication between the XL2 and the NetBox
  → Verify the USB cable connection between the XL2 and the NetBox
  → download & install the latest XL2 firmware from the my.nti-audio.com website
- The XL2 firmware version is too old
  → download & install the latest XL2 firmware from the my.nti-audio.com website
- The Location / Noise Monitor has not been started yet
  → select the Location and turn the monitoring ON

Miscellaneous
- All NetBox LEDs are OFF
  → verify the power supply
- The NetBox Data LED is not blinking
  → verify the network connection
- The XL2 display does not show the symbol
  → check the XL2 firmware version (must be v3.03 or higher); update the XL2 firmware if necessary
- The XL2 is not switching ON after connecting to the NetBox
  → you have to manually switch ON the XL2 after connecting it to the power supply
- The XL2 shows the Error: "Too many log files in NetBox directory. Please delete manually"
→ open the folder 'Projects', and then '.WebBuffer' on the SD-card of your XL2 and delete its contents.

The Audio feature is active, but no Audio files are uploaded after an Alarm → the maximum number of 100 Audio files per days may have been exceeded.

**NetBox LEDs**

The Power LED is hard-wired, while the other three LEDs are controlled by the NetBox firmware.

- **Power**
  - ON → power supply voltage OK
  - OFF → no power supply voltage, or too low

- **XL2**
  - ON → XL2 is connected via USB cable to NetBox
  - OFF → no XL2 connected to NetBox

- **Server**
  - OFF → NetBox not connected to internet / NoiseScout server
  - Blinking → NetBox is connected to internet, but not (yet) to NoiseScout server
  - ON → NetBox is successfully connected to the NoiseScout server

- **Data**
  - Blinking → NetBox is currently transferring data to the NoiseScout server

- **Special states**
  - XL2, Server & Data LEDs are blinking → Error during power up ⇒ NetBox will re-start after a short time
4.3 Support

For dedicated support, please contact your nearest NTi Audio partner.
Index

- A -
  address 46
  alarm list 36
  audio 36
    download 33, 36, 38
  audit data 38

- B -
  browser
    requirements 6
  buttons 43

- C -
  clear
    network settings 20
    password 20
  contact 46

- D -
  Dashboard 26
  data
    download 40
  Data Explorer 40

- E -
  edit
    network settings 20
    password 20

- F -
  FCC 7

- H -
  hardware
    requirements 6

- I -
  incidents 39

- J -
  Job
    active 27
    archive 26
    archived 27
    create 26
    delete 26
    edit name 26
    overview 27
    structure 24
    view 27

- L -
  LAN
    network connection 20
  LED status 44
  license agreement 8
  limits 38
  Location
    add 27
    overview 31
    panel 33
    setup 35
    view 31
  log data 38
  login 26

- M -
  Mobile Data
    network connection 20
  mouse 43

- N -
  navigation 43
  NetBox
    deregister 26
    network connection 20
    registration 18
  network
    connection 20
    connection loss 39
    settings 20
    status indicator 20
  Noise Monitor
    LED status 44
Index

Noise Monitor
setup 19

- O -
operation 7

- P -
password
  delete 20
  edit 20
  periods 38

- S -
safety 7
share view 40, 43
software
  license agreement 8
support 46
system
  overview 4
  requirements 6
  setup 18

- T -
time interval 38
troubleshooting 44
tutorial 10

- W -
web portal 24
Wi-Fi
  network connection 20