◎ KOMPLETE AUDIO 6

Manual

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1   Welcome to KOMPLETE AUDIO 6!

Thank you for your purchase of KOMPLETE AUDIO 6. It is the ultimate hardware complement for a variety of home studio and DJ applications. The KOMPLETE AUDIO 6 provides the following features:

- 24-bit analog-to-digital / digital-to-analog converters
- 2 analog inputs with XLR / 1/4" jack combo sockets, 48V phantom power, and individual input gain control knobs on the interface's front panel
- 2 additional balanced inputs with 1/4" TRS jack sockets on the interface's rear panel
- 4 analog and 2 digital outputs
- 1/4" TRS jack headphone socket with button to switch between source outputs 1/2 and 3/4
- S/PDIF Digital I/O
- Up to 96 kHz sampling rate
- 15 status LED indicators for monitoring the interface's connections
- ASIO and Core Audio low-latency drivers

1.1   What is Included in the Box?

The packaging contains:

- 1 x KOMPLETE AUDIO 6 audio interface
- 1 x USB 2.0 cable
- 1 x installation disc
- A software bundle comprising KOMPLETE 7 ELEMENTS, TRAKTOR LE 2, and Cubase 5 LE
- A printed copy of this manual

1.2   Manual Conventions

This manual uses particular formatting to point out special facts and to warn you of potential issues. The icons introducing the following notes let you see what kind of information is to be expected:

> [!] Whenever this exclamation mark icon appears, you should read the corresponding note carefully and follow the instructions and hints given there if applicable.

> (☼) This lightbulb icon indicates that a note contains useful extra information. This information may often help you to solve a task more efficiently, but does not necessarily apply to the setup or operating system you are using; however, it's always worth a look.

Furthermore, the following formatting is used:

- Text appearing in (drop-down) menus (such as *Open…*, *Save as…* etc.) and paths to locations on your hard drive or other storage devices is printed in *italics*.
- Text appearing elsewhere on the screen (labels of buttons, controls, text next to check-boxes etc.) is printed in light blue. Whenever you see this formatting applied, you will find the same text appearing somewhere on the screen.
- Important names and concepts are printed in **bold**.
- References to keys on your computer's keyboard you'll find put in square brackets (e.g., "Press [Shift] + [Return]").
- ► Single instructions are introduced by this play button type arrow.
- → Results of actions are introduced by this smaller arrow.

2 Safety Considerations

Please read the following sections thoroughly, as they contain important information regarding the use of the KOMPLETE AUDIO 6.

2.1 Warning

The KOMPLETE AUDIO 6, in combination with an amplifier, headphones or speakers, can produce sounds in decibel ranges that may cause hearing damage. For protection, set all volume levels to a minimum before using KOMPLETE AUDIO 6. Gradually raise the volume controls while music is playing to set the desired listening level. If you experience any hearing problems or ringing in the ears, consult a hearing specialist immediately.

2.2 Caution

- Before connecting the KOMPLETE AUDIO 6 hardware to other electronic components, turn off the power for all devices. Before powering your system up or down, set all volume levels to minimum.
- The KOMPLETE AUDIO 6 hardware contains no user-serviceable parts. **Do not open it or attempt to disassemble or modify any internal components**. If there appears to be a hardware malfunction, immediately stop using the hardware and contact Native Instruments.
- Do not expose the KOMPLETE AUDIO 6 to rain, and do not use it near water or in damp or wet conditions. Also, never place anything on top of the unit, and be careful that no objects or liquids of any kind enter the unit.
- The KOMPLETE AUDIO 6 hardware is powered via USB. Operation can be guaranteed only when the interface is the only piece of equipment connected to a particular USB 2.0 controller, or if it is connected to a self-powered USB 2.0 hub.
- Do not place the KOMPLETE AUDIO 6 hardware in an unstable position where it might accidentally fall to the ground.
- Before moving the KOMPLETE AUDIO 6 hardware, remove all connected cables.
- Never subject the unit to extreme temperatures (e.g., direct sunlight in an enclosed vehicle or near a heat source) or high levels of vibration.
- Do not use excessive force on the buttons, knobs, switches or connectors.
- When cleaning the KOMPLETE AUDIO 6 hardware, use a soft, dry cloth. Do not use paint thinner, solvents, cleaning fluids, or chemically-impregnated wiping cloths.

2.3   Important Notes

- **Disclaimer**: Native Instruments GmbH cannot be held responsible for damage or data loss caused by improper use of, or modification to, the KOMPLETE AUDIO 6 hardware or software. It is your responsibility to back up data you do not want to lose.

- **Specifications subject to change**: The information contained in this manual is believed to be correct at the time of publication. However, Native Instruments reserves the right to make changes to the specifications of software and hardware at any time without notice or obligation to update existing units.

- **Nameplate location**: The nameplate is located on the bottom of the KOMPLETE AUDIO 6 hardware and lists the Production ID.

- **Copyright**: © Native Instruments GmbH 2010. All rights reserved. This publication may not be reproduced in whole or in part, summarized, transmitted, transcribed, stored in a retrieval system, or translated into any language, in any form or by any means without the prior written permission of Native Instruments GmbH.

- All product and company names are trademarks or registered trademarks of their respective owners.

2.4   Disposal Notice

Should this product become damaged beyond repair, or if you wish to dispose it, please observe the regulations of your area and country that relate to the disposal of electronic products.

3 Software Installation

In order for the KOMPLETE AUDIO 6 to work properly with your computer, the following two programs are automatically installed on your system during the software installation process:

- The KOMPLETE AUDIO 6 driver. This handles the communication between the audio interface and your computer.
- The Control Panel software. This allows you to adjust performance settings and control sync and pre-amp settings for Windows (in Mac OS X, the relevant settings are controlled from the system's Audio MIDI setup).

  If you are familiar with the installation procedure and the general configuration of USB-driven audio devices on your computer, you can skip this chapter and continue with registration chapter 3.3.

3.1 System Requirements

For latest system requirements, compatibility and support of the latest operating systems, please visit our product page at: http://www.native-instruments.com/KA6

3.2 Installation

3.2.1 Installing KOMPLETE AUDIO 6 on Windows 7

  Do not connect the KOMPLETE AUDIO 6 to your computer before the software installation process is finished.

To install the KOMPLETE AUDIO 6 on Windows 7:

1. Place the installation disc in your computer's CD/DVD-ROM drive.
2. Use Windows Explorer to browse the contents of the disc.
3. Double-click the installer file: "KOMPLETE AUDIO 6 Setup PC.exe."

4. In the installation welcome screen, click Next.

5. To continue, you need to first accept the license agreement. After you have read the license agreement, click on the corresponding checkbox. Then click Next.

6. The InstallAware Wizard will prompt you to begin the configuration. Click Next to proceed.

7. Once the installation has been performed successfully, click Finish.

→ All software components are now installed, and the KOMPLETE AUDIO 6 should be ready to use. Proceed with registration chapter 3.3.

3.2.2 Installing **KOMPLETE AUDIO 6** on Windows XP/Vista

> **!** Do not connect the KOMPLETE AUDIO 6 to your computer before the software installa-
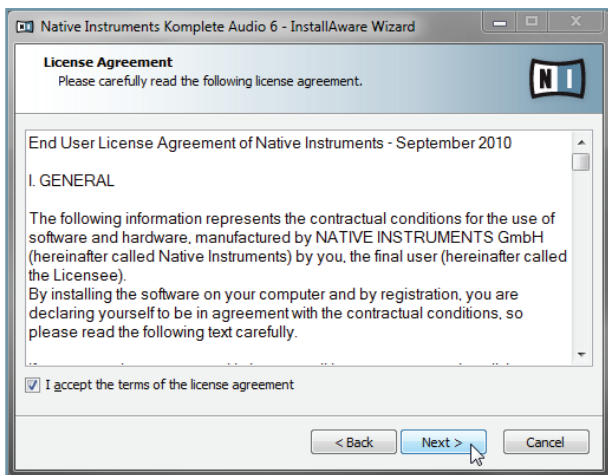> tion process is finished.

To install the KOMPLETE AUDIO 6 on Windows XP/Vista:

1. Place the installation disc in your computer's CD/DVD-ROM drive.
2. Use the Windows Explorer to browse the contents of the disc.
3. Double-click the installer file: "KOMPLETE AUDIO 6 Setup PC.exe."
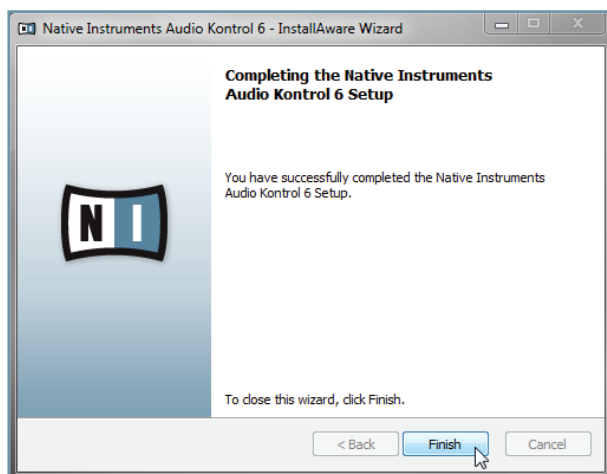4. In the installation welcome screen, click Next.

5. To continue, you first need to accept the license agreement. After you have read the license agreement, click on the corresponding checkbox. Then click Next.

6. The InstallAware Wizard will prompt you to begin the configuration. Click Next to proceed.

7. During driver installation, a Windows security warning will appear. This does not indicate a problem. To proceed with the installation, click Continue Anyway (on Windows XP) or Install (on Windows Vista).

8. Once the installation has been performed successfully, click Finish.
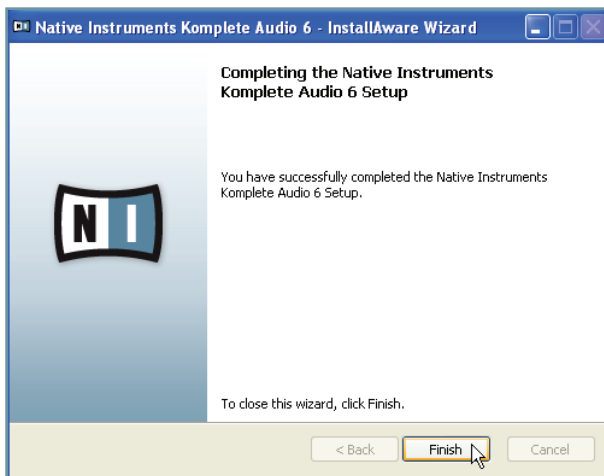
9. After the installer has finished running, connect the KOMPLETE AUDIO 6 to a USB 2.0 port on your computer using the USB cable included in the package.
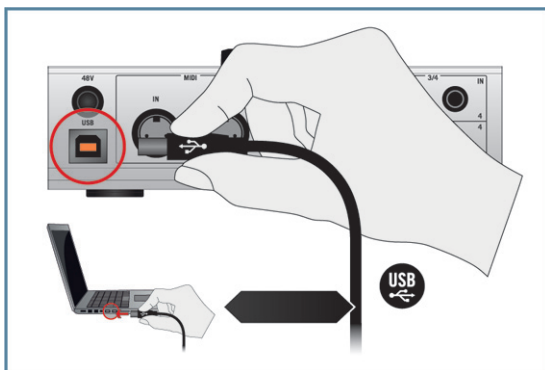
10. Windows will identify the KOMPLETE AUDIO 6 and begin the final driver installation process.

11. Choose No if Windows asks you to search the Internet for a driver.

12. Choose Automatic when Windows asks you how to install the software.

13. Click Finish to complete the installation.

14. After you have completed the driver installation procedure, the driver installer will start again. This is intended behavior. Repeat steps 11 to 14 in order to install all required driver components.

→ All software components are now installed, and the KOMPLETE AUDIO 6 should be ready to use. Proceed with registration chapter 3.3.
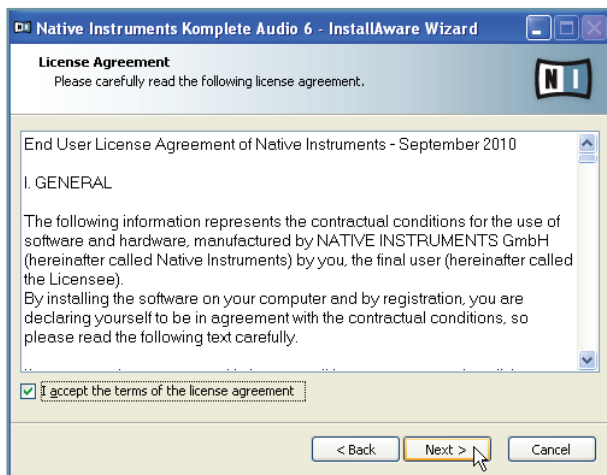
3.2.3 Installing KOMPLETE AUDIO 6 on Mac OS X

To install the KOMPLETE AUDIO 6 on Mac OS X:

1. Connect the KOMPLETE AUDIO 6 to a USB 2.0 port on your computer using the USB cable provided in the KOMPLETE AUDIO 6 package.
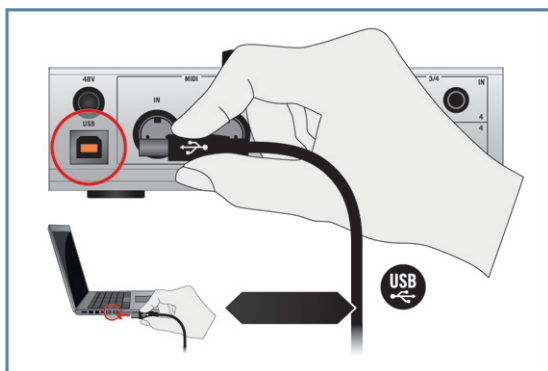
2. Place the installation disc in your computer's CD/DVD-ROM drive. Its icon will appear in the Mac OS X Finder.

3. Double-click the KOMPLETE AUDIO 6 disc icon to display the contents of the disc.

4. Double-click the installer file: "KOMPLETE AUDIO 6 Installer Mac.mpkg." The installation will start, and a welcome screen will appear.

5. Click Continue to proceed.

6. Read the Software License Agreement and click Continue to proceed.

7. If you agree to the Software License Agreement, click Agree to continue.
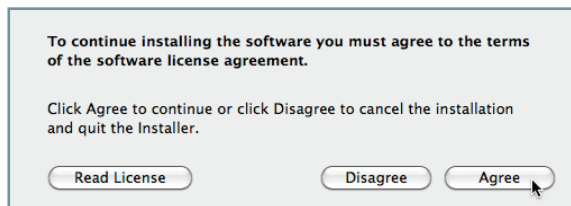
8. Select the drive you want to install the KOMPLETE AUDIO 6 driver to and click Continue.

9. Click Install to install the driver.
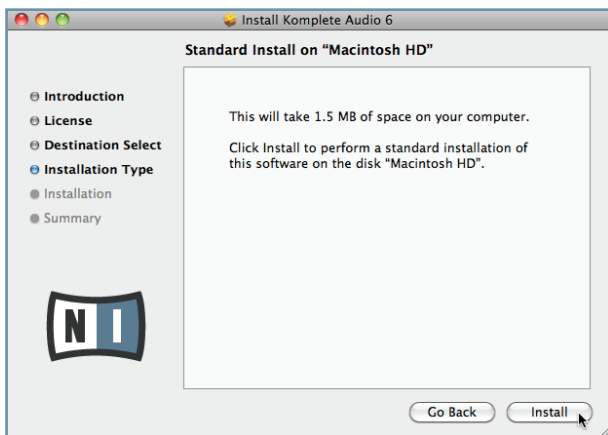
10. Mac OS X will prompt you to authenticate the installation. Enter the name and corresponding password of a user with administrator privileges and click OK. Another screen will inform you that restarting the computer will be necessary after the installer has finished. Confirm again.
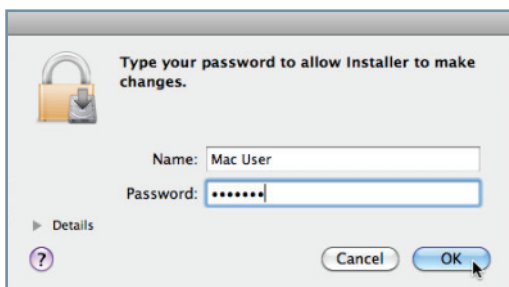
11. The next screen informs you about the progress of the installation procedure.
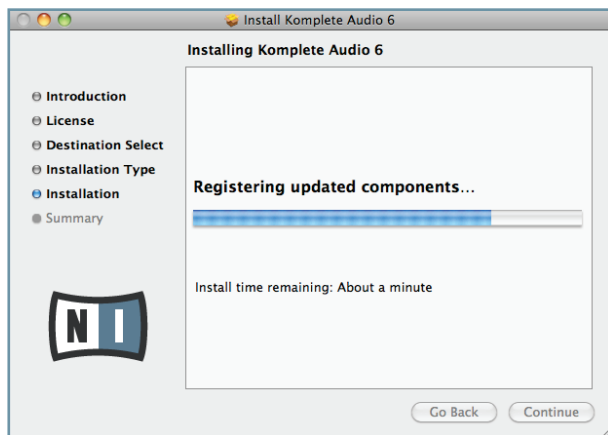
12. Once the installation has been performed successfully, you will be prompted to restart your Mac. Click Restart to restart your computer.
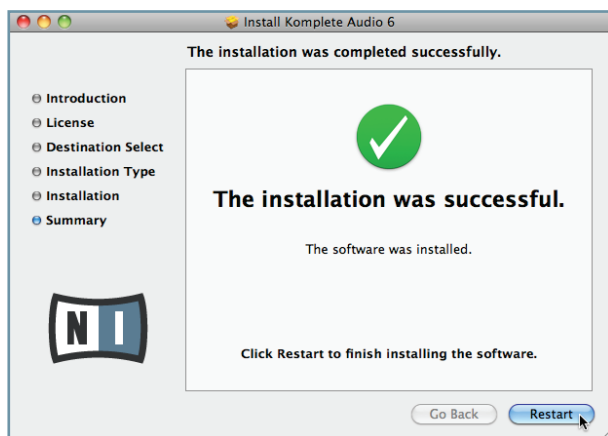
→ All software components are now installed, and the KOMPLETE AUDIO 6 is ready to use. Proceed with registration chapter 3.3.

3.3 Registration

Registering the KOMPLETE AUDIO 6 is not mandatory. Nevertheless, registration is recommended for support inquiries or in case of theft. As a registered user, you will also benefit from exclusive incentives and insider specials.

Register your hardware: if you register your KOMPLETE AUDIO 6 now, you will additionally be rewarded with a voucher for NI products, so don't sleep on it!

To register your KOMPLETE AUDIO 6 on the Native Instruments website, you will need the serial number from the product activation sticker. This is located on the bottom side of your KOMPLETE AUDIO 6.

To register your KOMPLETE AUDIO 6, visit our registration page on: http://www.native-instruments.com/registration and follow the instructions.

4 Basic Configuration

In order for the KOMPLETE AUDIO 6 to operate as your computer's default soundcard, you will need to select it within the system's audio preferences. Find the relevant instructions in chapter 4.1.

To use the KOMPLETE AUDIO 6 as your music software's default audio output, see the information given in chapter 4.2.

4.1 Selecting the KOMPLETE AUDIO 6 as Your System's Default Audio Output Device

In the following sections, you will learn how to set up the KOMPLETE AUDIO 6 as your system's default audio output device.

4.1.1 Windows XP

1. Open *Start > Control Panel > Hardware and Sound > Sound*.
2. In the Sounds and Audio Devices Properties window, select the Audio tab.
3. From the Default Device drop-down list, select one of the KOMPLETE AUDIO 6 entries.
4. Click OK to confirm your selection and close the window.

→ The KOMPLETE AUDIO 6 is now selected as the default audio output device.

4.1.2 Windows Vista, Windows 7

1. Open *Start > Control Panel > Hardware and Sound > Sound*.
2. In the Sound control panel, select the Playback tab.
3. Select the KOMPLETE AUDIO 6's pair of outputs (Ch A, Out 1|2 or Ch B, Out 3|4) that you want to set as default by clicking the corresponding entry.
4. Click Set Default.
5. Click OK to confirm your selection and close the window.

→ KOMPLETE AUDIO 6 is now selected as the default audio output device.

4.1.3 Mac OS X

1. Open the System Preferences under the gray Apple Icon menu in the top left corner of your screen.
2. Below *Hardware* (second row from top), select *Sound*.
3. In the Sound control panel, select the Output tab.
4. Select the KOMPLETE AUDIO 6 from the list of available soundcards.
5. Close the panel.

→ KOMPLETE AUDIO 6 is now selected as the default audio output device.

4.2   Using the KOMPLETE AUDIO 6 as an Audio Output Device with Music Software

Before using the KOMPLETE AUDIO 6 with music production or DJ software, you will need to set it up as the software's audio output device. Most music production and DJ programs provide direct access to the soundcard properties in the audio and MIDI setup section of their preferences dialog. Please refer to the documentation of your music production or DJ software for more information on how to configure audio and MIDI interfaces.

5   The Hardware in Detail

The KOMPLETE AUDIO 6 processes both incoming audio and the audio sent to your computer (and external equipment) in analog and digital form. It is a stand-alone device which draws power from the USB connection of your computer. Thus, an external power supply is unnecessary. The device provides:

• sound conversion (from analog to digital and vice versa)

• playback/monitoring (from an input device or computer to headphones/speakers)

• recording (from analog/digital inputs into digital data)

5.1   Front Panel

5.1 The front panel of the KOMPLETE AUDIO 6.

(1) INPUT 1 and **INPUT 2** (Line and Microphone): These inputs have a combination socket for use with XLR or 1/4" jack connectors. When connecting an XLR connector, an XLR lock latches. You can easily release the connector by pressing the release tab.

The input **GAIN** knob lowers/raises the amount of signal going into the KOMPLETE AUDIO 6. The **LINE/INST** toggle button selects either LINE mode for strong-signaled inputs (like a synthesizer or the output of an electric piano) or INST for weak-signaled inputs (such as a guitar or a bass guitar). XLR connected gear is not affected by this button.

(2) MONITOR section: The **ON** switch turns direct monitoring on/off. With direct monitoring activated, the unaffected input signal will be heard with zero latency. The **ON** switch also doubles as a monitor selector switch. When held for one second, it cycles through three monitor modes: monitor signal to outputs 1/2; monitor signal to outputs 3/4; and monitor signal to both output pairs 1/2 and 3/4. The LEDs from the MONITOR section on the device's top panel display which monitoring mode is currently active.

The **MONO** switch toggles the monitor output selection between a mono signal and a stereo signal. Switching to a mono setting aids in monitoring a mono signal, such as a guitar's mono input.

The **VOLUME** control lowers/increases the output level of the monitor signal.

(3) Headphones section: The headphone socket is for plugging in headphones with a 1/4" TRS jack.

The **VOLUME** control lowers/increases the output signal of the headphones. The toggle switch **1/2** and **3/4** allows you to determine which output is monitored by the headphones.

5.2   Rear Panel

5.2 The rear panel of the KOMPLETE AUDIO 6.

(1) Phantom power button (**48V**): The phantom power button supplies 48V to condenser micro-phones, which need this DC voltage to power their active electrical circuitry. This feature eliminates the need for direct boxes or other additional hardware when using a condenser microphone.

> [!] Be aware that phantom power can cause serious damage to ribbon microphones. Check your microphone's manual to see whether it is safe to use phantom power on it. If it isn't, make sure to disable phantom power on the interface before connecting: Switch the 48V phantom power button o1n the device's rear panel off. The 48V LED on the device's top panel stops lighting orange when phantom power is disabled.

(2) USB port: The **USB** port socket connects the KOMPLETE AUDIO 6 device to your computer laptop or workstation via USB 2.0.

(3) MIDI: The **MIDI** input (**IN**) and output (**OUT**) sockets connect to MIDI devices such as MIDI controllers and hardware synths or workstations. These connections also send and receive MIDI data to and from your computer, and can be utilized by the music software of your choice.

(4) Main outputs 1/2: The **MAIN 1/2** outs are balanced outputs. Normally, these are coupled to a mixer, mixing board, or active speakers via 1/4" jacks. However, you can also use RCA (phono) cables with suitable 1/4" jack adapters.

(5) Outputs 3/4: The **OUT 3/4** sockets are balanced outputs. They offer the option of additional outputs when setting up 4-channel applications, such as surround sound. They also make assigning certain instruments to certain outputs / output pairs or monitoring with a second pair of speakers possible. These outputs have no dedicated volume control (the output is always at 0 dB) so you will need to control the volume from within your software or the gear they are connected to.

(6) Inputs 3/4: The Input **3/4** sockets are balanced 1/4" jack sockets. They are used with synths, tapedecks, CD players, or any other devices or instruments that don't require phantom powering.

(7) Input and Output 5/6: The RCA (phono) sockets **5/6** are used for **digital** input/output, and syncing to external digital clocks. Typically, DAT tapedecks or synthesizers with digital ins/outs utilize these sockets.

5.3 Top Panel

5.3 The top panel of the KOMPLETE AUDIO 6.

- **Volume control knob** (**MAIN VOLUME 1/2**): The knob at the center of the top panel provides a master volume control for the main outputs (**MAIN 1/2**).
- **Status LEDs**: The status LEDs surrounding the Volume Control Knob allow you to quickly identify the status of all the connections going in and out of the device, especially in low lighting environments, where setup and troubleshooting can be cumbersome. See the following list for the LED's tasks in more detail:
    - **INPUT 1**, **2**, **3**, and **4**: Light green when incoming signal on the relevant channel is detected. The LEDs light red when there is too much signal present, i.e. clipping.
    - **OUTPUT 1/2** and **3/4**: Lights green when there is an outgoing audio signal.

- **MIDI**: Lights green when a MIDI connection is detected and active; flashes on incoming or outgoing MIDI data.
- **48V**: Lights orange when phantom power is activated.
- **USB**: Lights green when the USB port is connected to a computer. Flashing indicates a USB connection problem.
- **Headphones 1/2**: Lights orange when there is outgoing signal on the headphone outputs 1 and 2 (see 5.1 for headphone source settings).
- **Headphones 3/4**: Lights orange when there is outgoing signal on the headphone outputs 3 and 4 (see 5.1 for headphone source settings).
- **MONITOR 1/2**: Lights orange when direct monitoring is activated with outputs 1/2 selected (see MONITOR section of chapter 5.1 for further information on direct monitoring).
- **MONITOR 3/4**: Lights orange when direct monitoring is activated with outputs 3/4 selected (see MONITOR section of chapter 5.1 for further information on direct monitoring).
- **SPDIF SYNC**: Lights orange when External Digital Clock Sync is established; does not light when the internal clock is used (see chapters 6.1.1 and 6.2.1 for further information on synchronizing the KOMPLETE AUDIO 6's clock to external equipment).

6 Advanced Configuration

Once you have installed the KOMPLETE AUDIO 6 (3) and set it up as your system's default audio output device (4), there are more options available, such as latency optimization (see also 10.2) and audio quality settings.

On Windows

All advanced configuration settings on Windows can be accessed from the Control Panel software, which was installed on your computer during the software installation procedure in chapter 3. Proceed with subchapter 6.1.

> If you experience problems with your setup, please refer to the Audio Troubleshooting Guide, which you can access from the Information section of the Control Panel's Diagnostics page, or open it directly from the software's documentation folder.

On Mac OS X

All advanced configuration settings on Mac OS X can be accessed from the Mac OS X Audio MIDI Setup. Proceed with subchapter 6.2.

> If you experience problems with your setup, please refer to the Audio Troubleshooting Guide, which you can access directly from the software's documentation folder.

6.1 Advanced Configuration on Windows (Control Panel)

The Control Panel software allows you to change the driver's performance settings, monitor performance and detect errors. To open the Control Panel:

► Navigate to *Start > All Programs > Native Instruments > KOMPLETE AUDIO 6 Driver > Control Panel*.

> If you cannot find the Control Panel, the software is most likely not installed. In this case, please (re-)install the software as described in chapter 3.

On the left-hand side of the Control Panel, you find two tabs: Audio Settings and Diagnostics:

► Click on the tabs to open the corresponding page of the Control Panel.

Proceed to chapters 6.1.1 and 6.1.2 for more information on the Control Panel's pages.
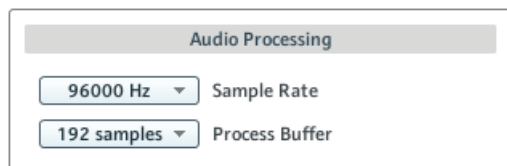
6.1.1 Audio Settings Page
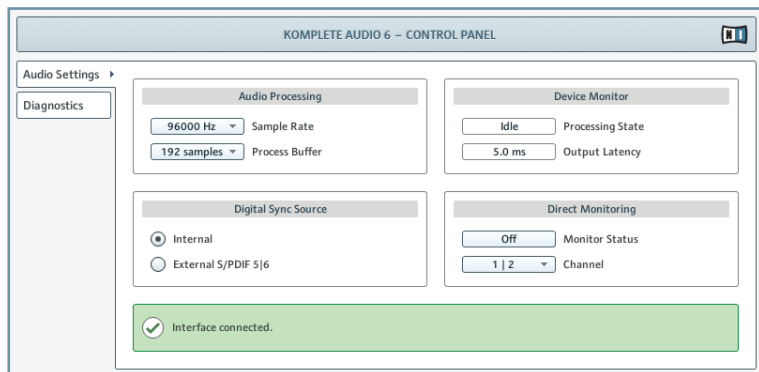
6.1 The Control Panel's Audio Settings page.

In the Audio Settings page, you can configure the audio latency and sample rate; monitor the device's status; enable clock syncing to external devices; and activate direct monitoring.

The Audio Settings page consists of four sections: Audio Processing, Device Monitor, Digital Sync Source, and Direct Monitoring. See the following subchapters for further information.

Audio Processing Section

6.2 The Audio Processing section in the Audio Settings page of the Control Panel.

The Audio Processing section sets the parameters for the analog-to-digital/digital-to-analog conversion done by your audio interface. It has two menus:

• Sample Rate: Choose a sample rate that is compatible with your music application and best suited to your computing power. A higher sample rate improves the audio quality, but also causes higher CPU load. By default, the sample rate is set to 44100 Hz (CD quality).

> The sample rate defines how many samples are played/recorded per one second of sound. A higher sample rate results in higher audio quality; however, 44100 Hz (as used for recording audio CDs) is a common setting and absolutely sufficient for most tasks. If your final destination is CD, you should use this setting or a multiple of it (88200 Hz). For a better understanding: 48000 Hz is used by DAT recorders and for DVD (films) recording. 96000 Hz and higher rates are typical for DVD, HD DVD, and Blu-ray Disc audio recording. You should be aware that a higher sample rate also causes higher CPU load.

! If you want to use multiple software clients simultaneously with the device, keep in mind they'll also have to share the same sample rate.

• Process Buffer: Lower the buffer size value for a quicker response time from your computer to audio software and MIDI controller actions.

◯ When converting audio information to digital and vice versa, the audio driver needs to store the data in buffer packages (audio buffers) which are then sent to and processed by the CPU. The higher the buffer size, the longer it takes for a signal to finally arrive at the output as audio. You might experience this as a delay between the time you hit a key on your computer or controller and when you actually hear the sound. This delay is called latency. A rule of thumb is: lower buffer size results in lower latency. However, there are more factors to latency than buffer size alone (e.g., CPU speed and RAM size). You should start off with a higher buffer size setting, and gradually decrease the value until you find the perfect balance between playability and system performance. If you experience crackling at the audio output, the chosen buffer size is very likely too low for your computer's CPU to cope with, as lower buffer size causes higher CPU load.

Device Monitor Section

Device Monitor	
Idle	Processing State
5.0 ms	Output Latency
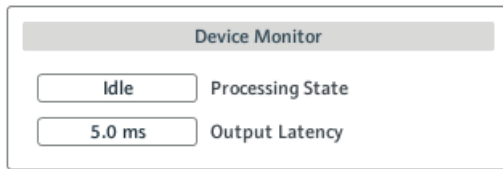
6.3 The Device Monitor section in the Audio Settings page of the Control Panel.

The Device Monitor section displays information about the audio interface's processing status and your system's output latency. It has two displays:

• Processing State: The processing state monitor provides feedback on the current status of the device. There are three possible status messages:
  • Idle: interface is connected, but no client delivers audio data.
  • Streaming: driver is working and processing audio data.
  • Panic: driver stopped streaming. Too many USB I/O errors occurred in the interface communication.
• Output Latency: Shows the amount of output latency in milliseconds.

Digital Sync Source Section
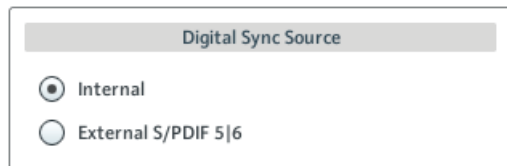
6.4 The Digital Sync Source section in the Audio Settings page of the Control Panel.

In the Digital Sync Source section, you can select whether the device uses its internal clock or gets synchronized to the clock of an external device:

• Internal (standard setting): Leave this radio button selected if you don't want the device to be synchronized to the clock of an external device.

• External S/PDIF 5|6: Select this radio button if you want the device to be synchronized to the clock of another external device via S/PDIF. When switching to this setting, the device automatically tries to establish synchronization to an external clock at the digital input/output 5 and 6 (see also chapter 5.2). If the synchronization request fails, the interface switches back to internal clock mode. If the synchronization is successful, the top panel's SPDIF SYNC lights (see chapter 5.3).

Direct Monitoring Section
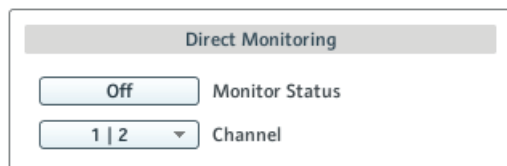
6.5 The Direct Monitoring section in the Audio Settings page of the Control Panel.

In the Direct Monitoring section, you can set the device to bypass any signal processing and send the signal from the input directly to the output of the device (at zero latency).

This function can be accessed from the MONITOR section on the device's front panel too; see chapter 5.1 for further information.

The Direct Monitoring section has a button and a drop-down menu:

• Monitor Status: Activating the direct monitoring routes the signal of the inputs 1 and 2 directly to the selected outputs (see Channel setting below) without sending them through the computer, so you can monitor the input at zero latency.

• Channel: When direct monitoring is active, select to which output channels signals from inputs 1 and 2 will be routed.
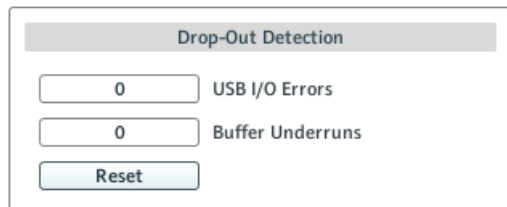
6.1.2 Diagnostics Page
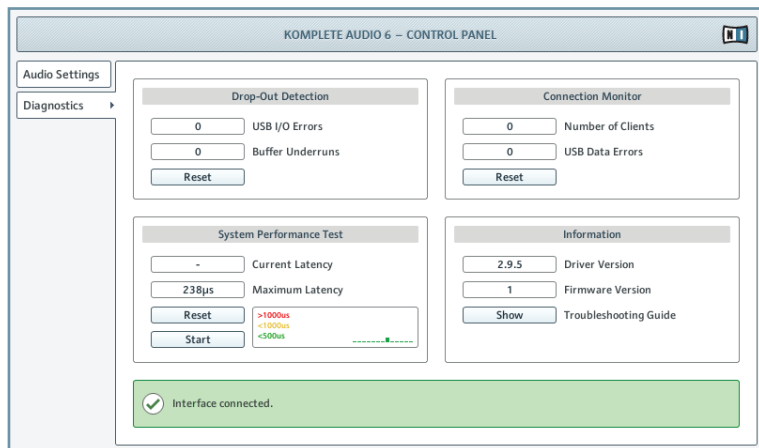
6.6 The Control Panel's Diagnostics page.

The Diagnostics page allows you to monitor performance and detect errors. The information provided in this page is more of interest to advanced users; however, in case of problems with the device, you should have a look at this page. The Diagnostics page consists of the four sections: Drop-Out Detection; Connection Monitor; System Performance Test; and Information. See the following subchapters for further information on these sections.

Drop-Out Detection Section

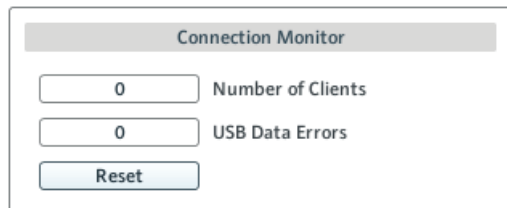6.7 The Drop-Out Detection section in the Diagnostics page of the Control Panel.

The Drop Out Detection section provides feedback on USB input/output and buffering errors. It has two displays and a button:

- USB I/O Errors: provides feedback on USB input/output errors. A high USB I/O Errors count points to your system being overloaded.

- Buffer Underruns: Buffer underruns occur when your computer isn't able to process an audio buffer in time. Reasons for underruns include too many ongoing background tasks or high CPU usage within a music program.

- Reset: A click on this button resets the error count.

Connection Monitor Section

6.8 The Connection Monitor section in the Diagnostics page of the Control Panel.

The Connection Monitor section provides feedback on connected clients and USB data errors. It has two displays and a button:

- Number of Clients: displays the number of clients connected to the interface. Multiple ASIO applications are counted separately. WDM and WASAPI increase the number by one, no matter how many WDM / WASAPI applications play audio.

- USB Data Errors: counts USB data errors. Poor quality, or long USB cables as well as ir-radiation can be the source of connection errors on the USB bus.

- Reset: A click on this button resets the error count.
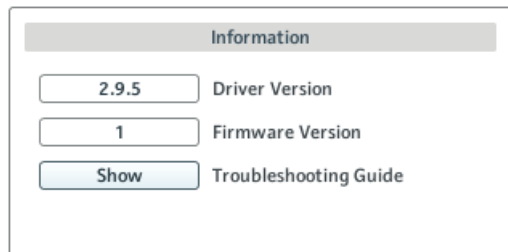
System Performance Test Section
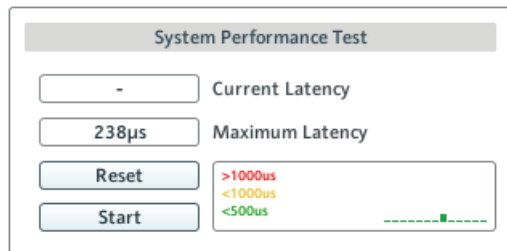
6.9 The System Performance Test section in the Diagnostics page of the Control Panel.

The System Performance Test section provides monitoring of the current DPC (Deferred Proce-dure Call) latency value of your Windows system. A Deferred Procedure Call is a Windows mechanism which allows high-priority tasks (such as the basic system tasks) to delay lower-priority tasks. This specific DPC latency is not to be confused with the overall latency, ex-plained in chapter 10.2, but it can add to it. The section has two displays and two buttons:

- Current Latency: displays the current DPC latency value.

- Maximum Latency: displays the highest DPC latency value monitored since the last time you either started or restarted monitoring.

- Reset: Press this button to reset the Maximum Latency value to zero.

- Start/Stop: Press this button to start monitoring DPC latency. Once started, the button label changes to Stop.

Information Section

6.10 The Information section in the Diagnostics page of the Control Panel.

The Information section displays information about driver and firmware, and provides access to the Audio Troubleshooting Guide. This section has two displays and a button:

- Driver Version: See the currently installed driver version here.
- Firmware Version: See the currently installed firmware version here.
- Troubleshooting Guide: Click Show to open the Audio Troubleshooting Guide.
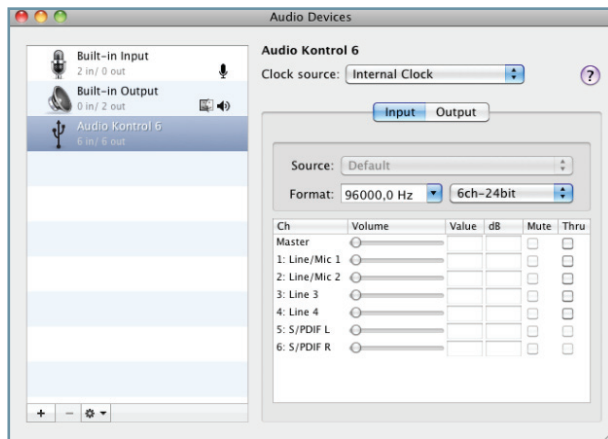
6.2 Advanced Configuration on Mac OS X (Audio MIDI Setup)

On Mac OS X, all advanced configuration settings can be accessed from the Audio MIDI Setup utility. To open the Audio MIDI Setup utility:

► Go to *Applications > Utilities > Audio and MIDI Setup*.

→ The Audio MIDI Setup utility will pop up in a window, entitled Audio Devices.

6.2.1 Input Pane

6.11 The Input pane of the Audio MIDI Setup utility in Mac OS X 10.6.

The Audio MIDI Setup's Input pane allows for selection of clock source settings, sample rate, and direct monitoring. The relevant areas/elements here are the Clock source drop-down menu, the Format drop-down menu, and the Thru checkboxes, respectively. See the following list for more detailed descriptions:

• Clock source: In the Clock source drop-down menu you can select whether the device uses its internal clock or gets synchronized to the clock of an external device. This is relevant when connecting to an external device via the digital In/Out 5/6 sockets (see also chapter 5.2). The drop-down menu holds the following entries:

  • Internal Clock (standard setting): Leave this radio button selected if you don't want the device to be synchronized to the clock of an external device.

  • External Clock (S/PDIF): Select this radio button if you want the device to be synchronized to the clock of an external device via S/PDIF. When switching to this setting, the device automatically tries to establish synchronization to an external clock at the digital inputs 5/6 (see chapter 5.2). If the synchronization request fails, the interface switches back to internal clock mode. If synchronization is possible, the top panel's SPDIF SYNC lights (see chapter 5.3).

- **Format**: Choose a sample rate that is compatible with your music application and suited to your computing power. A higher sample rate improves the audio quality, but also causes higher CPU load. By default, the sample rate is set to 44100 Hz (CD quality).

  The sample rate defines how many samples are played/recorded per one second of sound. A higher sample rate results in higher audio quality; however, 44100 Hz (as used for recording audio CDs) is a common setting and absolutely sufficient for most tasks. If your final destination is CD, you should use this setting or a multiple of it (88200 Hz). For a better understanding: 48000 Hz is used by DAT recorders and for DVD (films) recording. 96000 Hz and higher rates are typical for DVD, HD DVD, and Blu-ray Disc audio recording. You should be aware that a higher sample rate also causes higher CPU load.

- **Thru**: The Thru checkboxes enable direct monitoring. This sends the input signals directly to its output at zero latency without any internal signal processing. Tick the checkbox of the relevant channel to activate direct monitoring. This setting is also accessible from the hardware's front panel in the MONITOR section (see also chapter 5.1).

  The channels' volume settings cannot be controlled from the Audio MIDI Setup utility; use the relevant hardware controls (see chapter 5).

6.2.2 Output Pane

All relevant output settings of the KOMPLETE AUDIO 6 are controlled from the hardware (see 5). See chapter 6.2.1 for general settings and input channel settings.

7 Using the KOMPLETE AUDIO 6 (Setup Scenarios)

In this chapter, you will learn how to connect the KOMPLETE AUDIO 6 in various setup scenarios. Although we cannot cover all imaginable setups here, the examples are general enough to apply the information to most situations.

> [!] Please make sure to have installed the KOMPLETE AUDIO 6 driver as described in chapter 3 prior to connecting the KOMPLETE AUDIO 6 to your computer. The device will not work properly otherwise.

7.1 Connecting Speakers

7.1.1 Connecting Active Monitor Speakers

7.1 KOMPLETE AUDIO 6 setup with active monitors.

Make sure the KOMPLETE AUDIO 6 is connected to your computer as described during the installation chapter (chapter 3), and configured as your computer's main audio output device (see chapter 4).

To use active speakers (self-powered speakers with a built-in amplifier) with your KOMPLETE AUDIO 6:

1. Turn the Volume Control knob (MAIN VOLUME 1/2) on the top panel of the KOMPLETE AUDIO 6 to the left-end stop to set the volume to minimum.

2. Connect the main outputs (MAIN 1/2) on the rear panel of the KOMPLETE AUDIO 6 to your active speakers with stereo 1/4" cables. First, connect the L output channel with the left speaker, then the R output channel to the right speaker.
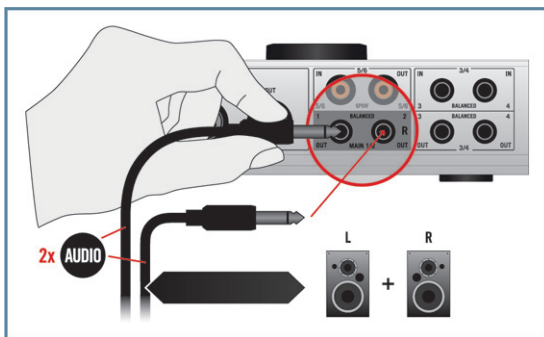
3. Once you have connected the speakers to the device, set the gain knob on your active boxes to the appropriate level (0dB) and turn them on.

4. Start the playback of an audio file on your computer.

5. Gradually turn the Volume Control knob (MAIN VOLUME 1/2) on top of the KOMPLETE AUDIO 6 to the right until you reach a good listening level.
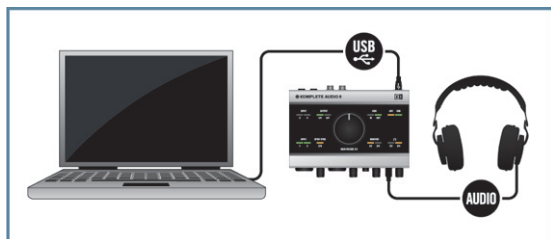
7.1.2 Using **KOMPLETE AUDIO 6** in a Setup with Passive Speakers

Make sure the KOMPLETE AUDIO 6 is connected to your computer as described during the installation chapter (chapter 3), and configured as your computer's main audio output device (see chapter 4).

Passive speakers require amplification, so there will be a mixer or stereo amplifier between the speakers and the KOMPLETE AUDIO 6. To use the KOMPLETE AUDIO 6 in a setup with passive speakers:

1. Turn your stereo amplifier / mixer off.

2. Connect the main outputs (MAIN 1/2) on the rear panel of the KOMPLETE AUDIO 6 to a pair of line inputs on your stereo amplifier / mixer with stereo 1/4" to RCA (phono) cables or suitable adapters. Connect the L output channel to the left line input channel, and the R output channel to the right line input channel of your stereo amplifier / mixer.

3. Turn your stereo amplifier / mixer on.

4. Turn the Volume Control knob (MAIN VOLUME 1/2) on the top panel of the KOMPLETE AUDIO 6 to the right-end stop to set the output to its maximum level.

5. Start the playback of an audio file on your computer.

6. Gradually raise your stereo amplifier's / mixer's volume control level until you reach a good listening level.

7.2   Connecting Headphones

7.2 KOMPLETE AUDIO 6 setup with headphones.

Make sure the KOMPLETE AUDIO 6 is connected to your computer as described during the installation chapter (chapter 3), and configured as your computer's main audio output device (see chapter 4).

To use headphones with your KOMPLETE AUDIO 6:

1. Plug the 1/4" TRS jack of your headphones into the PHONES socket on the KOM-PLETE AUDIO 6's front panel. Turn the Headphone Volume Control knob (VOLUME) of the KOMPLETE AUDIO 6 to the left-end stop to set the volume to minimum.
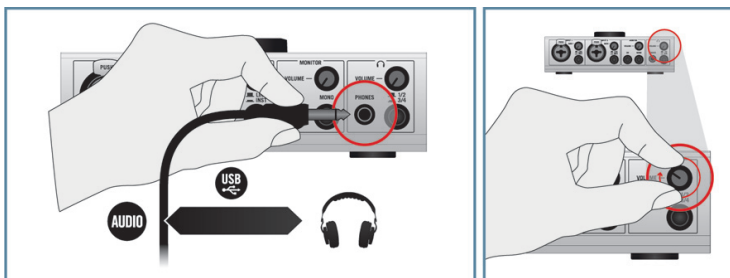

2. Start the playback of an audio file on your computer.
3. Gradually turn the Headphone Volume Control knob (VOLUME) of the KOMPLETE AUDIO 6 to the right until you reach a good listening level.

7.3   KOMPLETE AUDIO 6 in a Recording Setup

The following instructions will assist you in using the KOMPLETE AUDIO 6 in a recording situation for capturing audio to your computer, and monitoring the input and result over your speakers or headphones. In most cases, you will use a third party DAW (digital audio workstation) software or another audio recording and editing software for recording voice or instruments. For instructions on how to configure audio and MIDI routing and recording, please refer to your software's documentation.

7.3.1 Connecting a Condenser Microphone
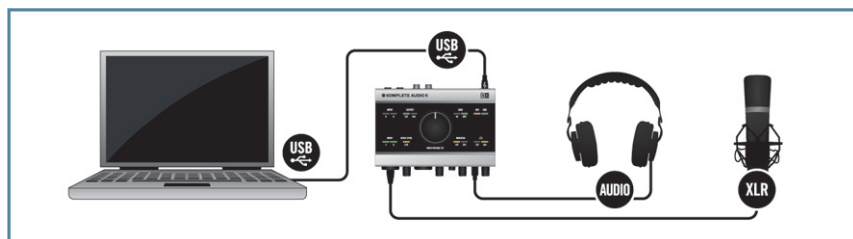
7.3 KOMPLETE AUDIO 6 setup with microphone and headphones.

Make sure to have connected the KOMPLETE AUDIO 6 to your computer as described during the installation chapter (chapter 3) of this manual.
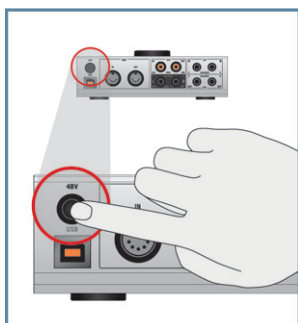
⚠️ Make sure the volume on the KOMPLETE AUDIO 6's main outs (Volume Control knob "MAIN VOLUME 1/2") is turned down before connecting a microphone to the KOMPLETE AUDIO 6. Microphones nearby speakers can cause a loud squealing tone from the speakers due to a phenomenon called the Larsen effect or audio feedback loop and can seriously damage your hearing and your equipment. The greater the distance between a microphone and speakers means this effect is less likely to occur.

To use the KOMPLETE AUDIO 6 in a recording setup with a condenser microphone:

1. Turn the Volume Control knob (MAIN VOLUME 1/2) on the top panel of the KOMPLETE AUDIO 6 to the left-end stop to set the main output volume to minimum.

2. Plug an XLR cable jack from your condenser microphone into either INPUT 1 or INPUT 2 on the front panel of your KOMPLETE AUDIO 6.
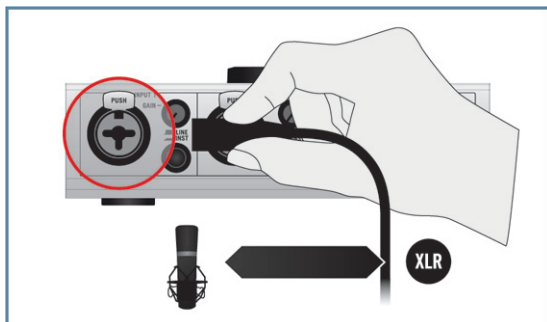
3. Switch the phantom power (48V button on the device's rear panel) on. The 48V LED on the device's top panel will light orange.

4. Plug the 1/4" TRS jack of your headphones into the PHONES socket on the KOMPLETE AUDIO 6's front panel. Turn the Volume Control knob (VOLUME) in the headphone section of the KOMPLETE AUDIO 6 to the left-end stop to set the volume to minimum.
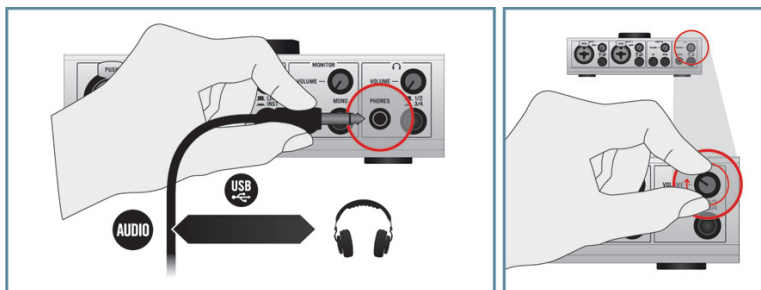

5. Open the audio preferences of your audio recording software, and select KOMPLETE AUDIO 6 as your input and output device (you may have to restart your host software for the changes to become active). Please refer to the documentation of your audio recording software for information on how to configure the audio device setup.

6. While singing / playing an instrument into the microphone, adjust the input signal by turning the relevant input channel's GAIN knob gradually to the right. Check the input LEDs (INPUT 1 and 2 on the top panel of the KOMPLETE AUDIO 6) to make sure your input signal does not clip; adjust the input level so that the LEDs light green on input. A red lighting LED indicates signal clipping.

7. Gradually turn the Volume Control knob (VOLUME) in the headphone section of the KOMPLETE AUDIO 6 to the right until you reach a good listening level.

> ⚠ For information on how to adjust the audio input for recording in your audio recording software, please refer to your software's documentation.

7.3.2 Connecting a Dynamic Microphone
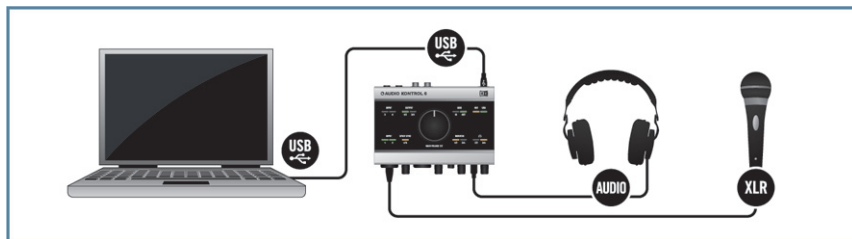
7.4 KOMPLETE AUDIO 6 setup with microphone and headphones.

Make sure to have connected the KOMPLETE AUDIO 6 to your computer as described during the installation chapter (chapter 3) of this manual.

> ⚠ Make sure the volume on the KOMPLETE AUDIO 6's main outs (Volume Control knob "MAIN VOLUME 1/2") is turned down before connecting a microphone to the KOMPLETE AUDIO 6. Microphones nearby speakers can cause a loud squealing tone from the speakers due to a phenomenon called the Larsen effect or audio feedback loop and can seriously damage your hearing and your equipment. The greater the distance between a microphone and speakers means this effect is less likely to occur.

> ⚠ Be aware that phantom power can cause serious damage to ribbon microphones. Check your microphone's manual to see whether it is safe to use phantom power on it. If it isn't, make sure to disable phantom power on the interface before connecting: Switch the 48V phantom power button on the device's rear panel off. The 48V LED on the device's top panel stops lighting orange when phantom power is disabled.

To use the KOMPLETE AUDIO 6 in a recording setup with a dynamic microphone:

1. Turn the Volume Control knob (MAIN VOLUME 1/2) on the top panel of the KOMPLETE AUDIO 6 to the left-end stop to set the volume to minimum.

2. Plug the XLR cable connection of your dynamic microphone into either INPUT 1 or INPUT 2 on the front panel of your KOMPLETE AUDIO 6.
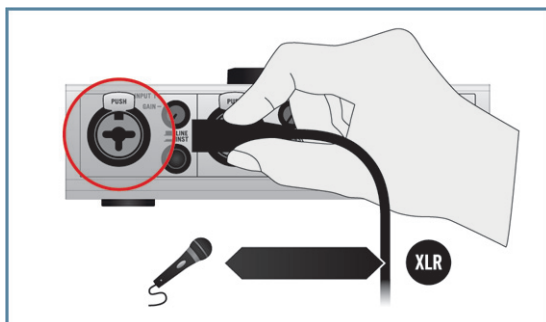
3. Plug the 1/4" TRS jack of your headphones into the PHONES socket on the KOM-PLETE AUDIO 6's front panel. Turn the Volume Control knob (VOLUME) in the headphone section of the KOMPLETE AUDIO 6 to the left-end stop to set the volume to minimum.
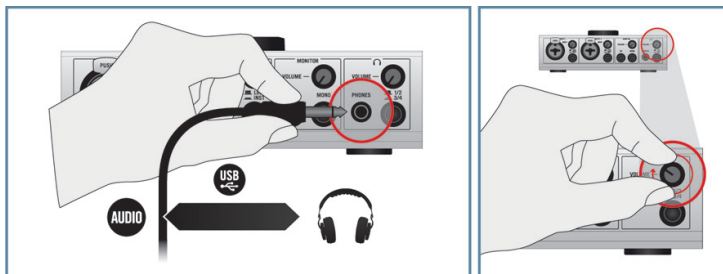

4. Open the audio preferences of your audio recording software, and select KOMPLETE AUDIO 6 as your input and output device (you may have to restart your host software for the changes to become active). Refer to the documentation of your audio recording software for information on how to configure the audio device setup.

5. While singing / playing an instrument into the microphone, adjust the input signal by turning the relevant input channel's GAIN knob gradually to the right. Check the input LEDs (INPUT 1 and 2 on the top panel of the KOMPLETE AUDIO 6) to make sure your input signal does not clip; adjust the input level so that the LEDs light green on input. A red lighting LED indicates signal clipping.

6. Gradually turn the Volume Control knob (VOLUME) in the headphone section of the KOMPLETE AUDIO 6 to the right until you reach a good listening level.

! For information on how to record in your audio recording software, please refer to your software's documentation.

7.3.3 Connecting a Guitar / Bass Guitar (with headphones)
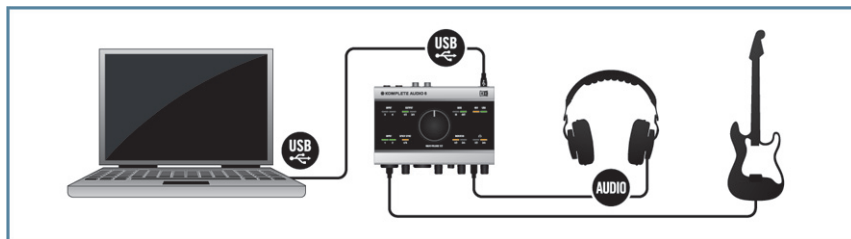
7.5 KOMPLETE AUDIO 6 setup with guitar / bass guitar and headphones.

Make sure to have connected the KOMPLETE AUDIO 6 to your computer as described during the installation chapter (chapter 3) of this manual.

To use the KOMPLETE AUDIO 6 in a recording setup with a guitar / bass guitar:

1. Turn the Volume Control knob (MAIN VOLUME 1/2) on the top panel of the KOMPLETE AUDIO 6 to the left-end stop to set the volume to minimum.
2. Plug a 1/4" instrument cable (unbalanced) from your instrument into either INPUT 1 or INPUT 2 of the KOMPLETE AUDIO 6.
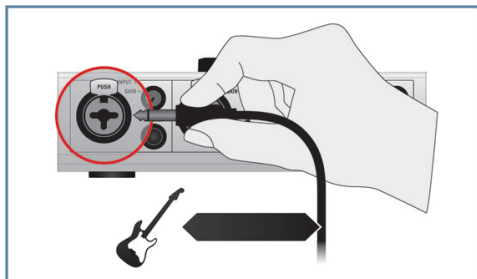
3. Make sure the LINE/INST button adjacent to the jack is set to INST (for instruments with active electronics, set this to LINE).
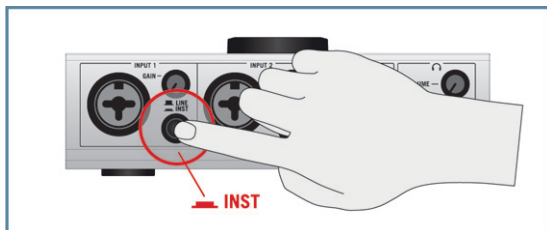
4. Plug the 1/4" TRS jack of your headphone cable into the PHONES socket on the KOMPLETE AUDIO 6's front panel. Turn the Volume Control knob (VOLUME) in the headphone section of the KOMPLETE AUDIO 6 to the left-end stop to set the volume to minimum.
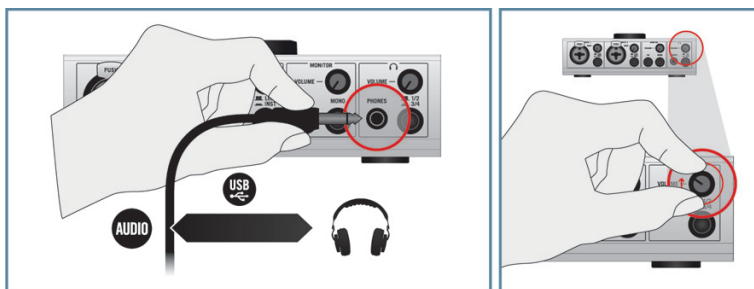
5. Open the audio preferences of your audio recording software, and select KOMPLETE AUDIO 6 as your input and output device (you may have to restart your host software for the changes to become active). Refer to the documentation of your audio recording software for information on how to configure the audio device setup.

6. Make sure that the Volume knob on your instrument is at maximum.

7. While playing your instrument, adjust the input signal by turning the relevant input channel's GAIN knob gradually to the right. Check the input LEDs (INPUT 1 and 2 LEDs on the top panel of the KOMPLETE AUDIO 6) to make sure your input signal does not clip; adjust the input level so that the LEDs lights green on input. A red lighting LED indicates signal clipping.

8. Gradually turn the Volume Control knob (VOLUME) in the headphone section of the KOMPLETE AUDIO 6 to the right until you reach a good listening level.

⚠ For information on how to adjust the audio input for recording in your audio recording software, please refer to your software's documentation.

💡 Instead of using headphones, you could also listen to the instrument sound using your monitor speakers. See the relevant chapters for information on how to connect speakers to the KOMPLETE AUDIO 6. Always make sure the volume is set to minimum when connecting the instrument, and gradually raise the volume afterwards until you reach a good listening level.

7.3.4 Connecting Line Level Equipment (Synthesizer/Computer/Tapedeck/ Mixer Line Out)
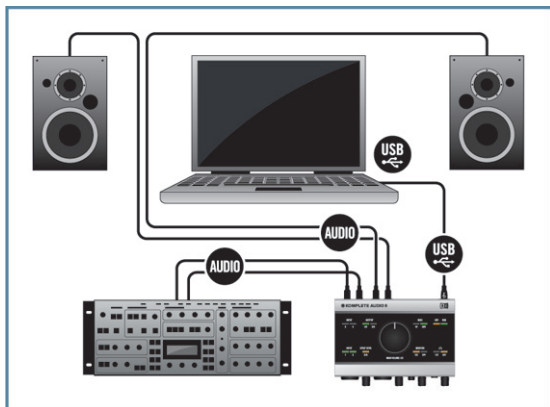

7.6 KOMPLETE AUDIO 6 setup with a synthesizer and active speakers.

Make sure the KOMPLETE AUDIO 6 is connected to your computer as described during the installation chapter (chapter 3), and configured as your computer's main audio output device (see chapter 4). See chapter 7.1 for instructions on how to connect speakers (active and passive) to your KOMPLETE AUDIO 6.

To use the KOMPLETE AUDIO 6 in a setup with typical line level equipment:

1. Turn the Volume Control knob (MAIN VOLUME 1/2) on the top panel of the KOMPLETE AUDIO 6 to the left-end stop to set the volume to minimum.

2. Plug a pair of stereo 1/4" TRS cables from the outputs of your device into the inputs 3 and 4 on the rear panel of the KOMPLETE AUDIO 6.
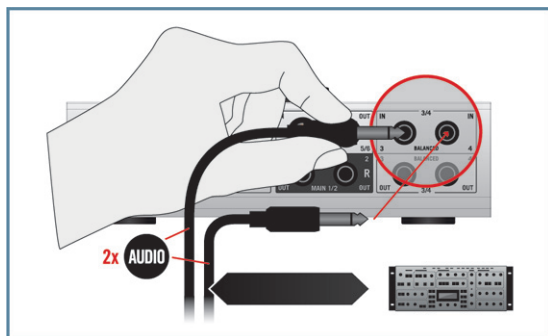
3. Open the audio preferences of your audio recording software, and select the KOM-PLETE AUDIO 6 as your input and output device (you may have to restart your host software for the changes to become active). Refer to the documentation of your audio recording software for information on how to configure the audio device setup.

4. Adjust the output signal of your connected device by using the relevant volume/gain control. Check the KOMPLETE AUDIO 6's input LEDs (INPUT 3 and 4 on the top panel) to make sure your input signal does not clip; adjust the device's output level so that the LEDs light green on input. A red lighting LED indicates signal clipping.

5. Gradually turn the Volume Control knob (MAIN VOLUME 1/2) on top of the KOMPLETE AUDIO 6 to the right until you reach a good listening level.

You can also use INPUT 1 and INPUT 2 on the front panel of the KOMPLETE AUDIO 6 to connect a line level device with a stereo output. The LINE/INST buttons adjacent to the sockets have to be set to LINE in that case and you'd use the relevant GAIN control knobs next to the sockets to adjust the left and right channels input gain.
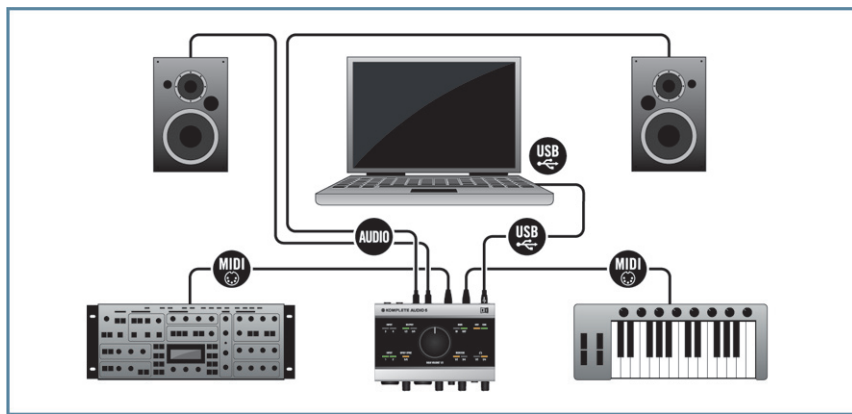
7.4 KOMPLETE AUDIO 6 with MIDI Devices

7.7 KOMPLETE AUDIO 6 in a MIDI controller / synthesizer setup.

Make sure the KOMPLETE AUDIO 6 is connected to your computer as described during the installation chapter (chapter 3), and configured as your computer's main audio output device (see chapter 4). See chapter 7.1 for instructions on how to connect speakers (active and passive) to your KOMPLETE AUDIO 6. To use the KOMPLETE AUDIO 6 in a setup with a MIDI controller:

1. Make sure to have the Volume Control knob (MAIN VOLUME 1/2) on the top panel of the KOMPLETE AUDIO 6 turned to the left-end stop so the volume is set to minimum.

2. Attach a MIDI cable. One end goes to your MIDI controller's MIDI Out port, the other end to the MIDI IN port of the KOMPLETE AUDIO 6.
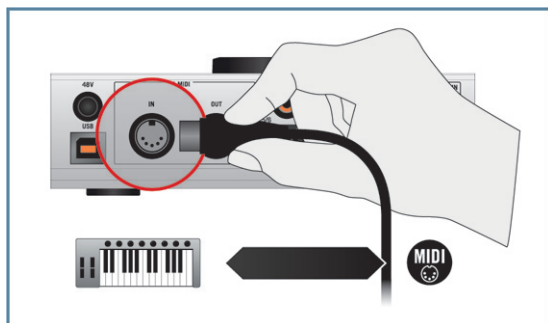
3. If you are controlling an external synth: attach a MIDI cable, one end to your Synth's MIDI IN port, the other to the MIDI OUT port of the KOMPLETE AUDIO 6.
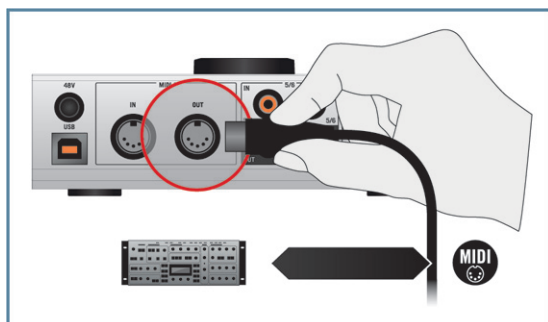
4. Open the audio and MIDI settings dialog of your digital audio workstation software and activate the MIDI input and the MIDI output channel of your KOMPLETE AUDIO 6. For information on where to find the relevant dialog and how to apply the settings, please refer to the documentation of your digital audio workstation software.

5. Gradually turn the Volume Control knob (MAIN VOLUME 1/2) on top of the KOMPLETE AUDIO 6 to the right until you reach a good listening level.

💡 To develop this setup further, you could now connect the synth's audio output to the KOMPLETE AUDIO 6 and record the synthesizer with your digital audio workstation.

7.5   Using the Digital Input and Output

About Digital I/O and S/PDIF

The RCA (phono) sockets 5/6 on the rear panel of the KOMPLETE AUDIO 6 are digital connectors employing the S/PDIF (Sony/Philips Digital Interconnect Format) transfer protocol. S/PDIF allows for carrying digital audio signals between devices without loss of quality. Typical users of the RCA (phono) sockets 5/6 would be DAT tapedecks, synthesizers and CD players with digital output.

In essence, Digital I/O transmits digital information in both directions (using two mono RCA cables). The signal transferred is digital data and gets translated to sound waveforms via S/PDIF. For this connection, a digital RCA cable should be used, although it is also possible to use standard RCA (phono) cables.

In order for the transfer to work, the devices need to be synchronized with each other, whereby one of the devices acts as a master and sends a syncing signal and the other acts as a slave and syncs to it. The KOMPLETE AUDIO 6 can be set to act as a slave, and sync to external devices in such a setup.

7.5.1   Connecting a DAT Tapedeck
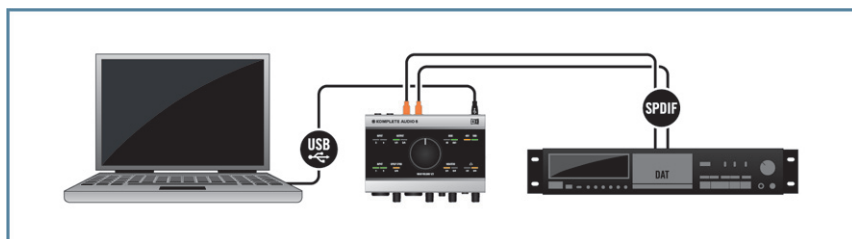
7.8 KOMPLETE AUDIO 6 connected to a DAT tapedeck.

Make sure to connect the KOMPLETE AUDIO 6 to your computer as described during the installation chapter (chapter 3) of this manual.

To use the KOMPLETE AUDIO 6 in a setup with a DAT tapedeck:

1. Connect the KOMPLETE AUDIO 6's RCA (phono) **input** jack 5/6 to the digital output of your DAT tapedeck, and the KOMPLETE AUDIO 6's RCA (phono) **output** jack 5/6 to the digital input of your DAT tapedeck.
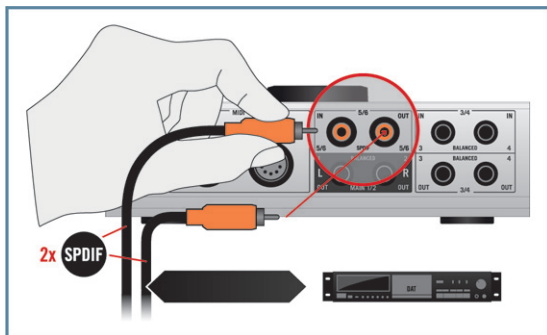
2. **For Windows users**: Open the KOMPLETE AUDIO 6's Control Panel software. In the Control Panel, go to the Audio Settings page and set the Digital Sync Source to the External S/PDIF 5|6 setting. The KOMPLETE AUDIO 6 checks for availability of external syncing sources. If the synchronization request fails, the interface switches back to internal clock mode. If synchronization is possible, the top panel's SPDIF SYNC lights (see chapter 5.3).

3. **For Mac OS X users**: Go to *Applications > Utilities > Audio and MIDI Setup* to open the Audio and MIDI Setup utility. From the Clock source drop-down menu select *External Clock (S/PDIF)*. The KOMPLETE AUDIO 6 checks for availability of external syncing sources. If the synchronization request fails, the interface switches back to internal clock mode. If synchronization is possible, the top panel's SPDIF SYNC lights (see chapter 5.3).

7.5.2 Connecting a Synthesizer via Digital I/O

Make sure to connect the KOMPLETE AUDIO 6 to your computer as described during the installation chapter (chapter 3) of this manual.

To use the KOMPLETE AUDIO 6 with a synthesizer with digital output:

1. Connect the KOMPLETE AUDIO 6's RCA (phono) **input** jack 5/6 to the digital output of your synthesizer.

2. **For Windows users**: Open the KOMPLETE AUDIO 6's Control Panel software. In the Control Panel, go to the Audio Settings page and set the Digital Sync Source to the External S/PDIF 5I6 setting. The KOMPLETE AUDIO 6 checks for availability of external syncing sources. If the synchronization request fails, the interface switches back to internal clock mode. If synchronization is possible the top panel's SPDIF SYNC lights orange (see also chapter 5.3).

3. **For Mac OS X users**: Go to *Applications > Utilities > Audio and MIDI Setup* to open the Audio and MIDI Setup utility. From the Clock source drop-down menu select *External Clock (S/PDIF)*. The KOMPLETE AUDIO 6 checks for availability of external syncing sources. If the synchronization request fails, the interface switches back to internal clock mode. If synchronization is possible the top panel's SPDIF SYNC lights orange (see also chapter 5.3).

8 Troubleshooting

The information provided in this chapter should help you to solve most of the problems you may encounter while you are using the KOMPLETE AUDIO 6.

8.1 Solving Hardware-related Problems

All Native Instruments products are extensively tested in real life situations during the development phase. However, if you encounter any problems with your hardware, please check the following points:

- Verify that you have installed the latest driver and the latest software update. Check the Native Instruments website for further information.
- Make sure the KOMPLETE AUDIO 6 interface is connected to a USB 2.0 port on your computer (see also 8.3).
- Make sure the KOMPLETE AUDIO 6 is connected directly to a USB port of the computer and not through a USB hub (see also 8.3).
- Try changing out the USB cable (see also 8.3).
- Disconnect all other USB devices from the computer (except keyboard/mouse).
- Try using another USB port on your computer (see also 8.3).

If none of these tips help, please contact our Technical Support team. The contact information is available under the following URL: http://www.native-instruments.com/contactinfo. In case the KOMPLETE AUDIO 6 needs to be returned, the Technical Support team at Native Instruments will assign you an **RA** (**Return Authorization**) number, which is required to handle your return. Packages returned without this RA number will not be correctly identified and as such might not be processed properly.

8.2 How to Check Whether the KOMPLETE AUDIO 6 Drivers are Installed Correctly

Windows

Open *Start > All Programs > Native Instruments > KOMPLETE AUDIO 6 Driver*. There you will find the helper application Control Panel. Make sure that the device is connected to the computer and open the Control Panel. If all the drop-down menus are grayed out (i.e., there are no presets in the preset drop-down list and no sample rate values to choose from) there must be something wrong with the connection. If the *KOMPLETE AUDIO 6 Driver* entry in the Native Instruments folder of the Start Menu is missing, the driver is most probably not installed.

- If the driver is not installed, you can install it as described in chapter 3.
- If the driver is not recognized, check your USB 2.0 connection as described in chapter 8.3.

- As any other USB device, the driver installs exactly for one USB port. If you connect the KOMPLETE AUDIO 6 to another port, a standard Windows dialog opens in which you can install the driver to that port. If you have previously installed the driver on your computer once, Windows will find the right drivers itself once that you start the driver installation procedure.

- If you do not know whether drivers were installed correctly, it is advisable to start the setup program of the KOMPLETE AUDIO 6 again (see chapter 3). If the setup program states that it will first uninstall the drivers, you already have installed the drivers on your computer. In this case you can connect the device to any other USB port and Windows will find the right driver when installing the KOMPLETE AUDIO 6 on another USB port.

Mac OS X

On Mac OS X, open the System Preferences; with the device connected and the driver installed, the KOMPLETE AUDIO 6 icon should be listed in the Other section.

- If the icon is missing here, the driver is probably not installed.
- If the driver is not installed, you can install it as described in chapter 3.
- If the device is not recognized, check your USB 2.0 connection as described in chapter 8.3.

8.3   USB Troubleshooting

If you experience problems caused by the USB connection between the KOMPLETE AUDIO 6 and your computer, check the following chapters first; several possible sources for USB issues are covered here.

8.3.1 USB 2.0 required

The KOMPLETE AUDIO 6 is a USB 2.0 interface and will not work at all on a USB 1.0/1.1 port. In addition, although the minimum power specified for a USB 2.0 port is 500 mA, we have seen a few cases where the USB 2.0 ports on certain computers do not meet the minimum requirements. In this case, you may see a message saying that there is not enough power available to operate your device and you may encounter crackling/popping sounds, or the device may fail to operate altogether.

8.3.2 Try another USB cable

A bad USB cable can be responsible for audio dropouts and other connectivity problems. It is recommended you change out the cable if you experience difficulties. Also, make sure to use a cable bearing the official USB logo.

8.3.3 Using a powered USB 2.0 hub

Connect the KOMPLETE AUDIO 6 to a USB 2.0 port directly on your computer. In certain situations, a powered USB hub may also work (e.g., if you are having problems connecting your KOMPLETE AUDIO 6 to an onboard USB port); in this case, try to avoid connecting other devices to the hub if possible, as each bus-powered device takes its share from the total amount of power available per bus.

8.3.4 Recommended USB-ports (MacBook Only)

For a current list of recommended ports on Mac Laptops (MacBook and MacBook Pro), please refer to our knowledge base article http://www.native-instruments.com/knowledge/questions/263.

8.3.5 Disable USB Energy Saving Mode (Windows only)

If the KOMPLETE AUDIO 6 is causing crashes or performing badly on a Windows machine, disable power management to the USB hubs first; see the Windows documentation for further instructions.

8.3.6 Update the Driver

Whenever you encounter problems, you should also check if you have the latest driver is installed. For updates, visit the product page on our website: http://www.native-instruments.com/KA6.

8.4 How to avoid Ground Loops

Ground loops are a common problem within any environment where multiple electrical devices are connected to the same power circuit. In complex setups, the cause(s) of the noise can be difficult to find. Ground loops are perceived usually as a hum or buzz in your audio signal, but this can also transmit and amplify other sounds from the devices connected to the circuit. For example, one very common problem is that you hear internal clicking sounds created by your computer.

The cause of the noise is usually the computer and its internal devices, or devices connected to the computer such as external hard drives (note that even if the power supply of your notebook computer is not connected, your setup may still be vulnerable to ground noise from an external device with its own power supply). The cause can also be any other device (such as a radio or television). The reason why this noise is present at the monitor speakers input has to do with a loop in the setup of your electrical and audio cable connections. Most likely this loop occurs through the ground of one or more of these cables. With this in mind, the following section should help to eliminate the ground loop.

Eliminating the Loop

As a first step, always connect your devices to the same power outlet (e.g., with a multi-outlet power strip). Assuming that you have connected your audio interface, the next trouble-shooting step is to disconnect all devices that you are not currently using, but not the amplifier and/or speakers. This also applies to other peripheral devices you may have connected to your computer (external data storage, CD recorders and especially radio or television cables). In case the ground loop disappeared, you can add the devices one after another to identify which device is responsible.

- You can test whether the amplifier or powered monitors create the ground loop. Monitor your audio signal from the headphones output of the KOMPLETE AUDIO 6. The amplifier / powered monitors need to be physically disconnected from the KOMPLETE AUDIO 6 for that. In case the ground loop is not audible on the headphones, you need to lift the ground on your amplifier or the powered speakers. Contact the manufacturer of your amplifier/speakers before lifting the ground to find out if ground lifting is supported on your device.

- On laptops, low quality power supplies often lead to ground loop noise. Run your laptop on its battery to see if the ground loop disappears. In case the ground loop disappears, you need to lift the ground on your laptop. Contact the manufacturer of your laptop before lifting the ground to find out if ground lifting is supported on your device.

- On desktop computers, the computer monitor (screen) might cause the ground loop. Turn your monitor off and disconnect its power supply while you hear the ground loop. In case the ground loop disappears, you need to lift the ground on your monitor. Contact the manufacturer of your monitor before lifting the ground to find out if ground lifting is supported on your device.

8.5 Physically Re-configuring the KOMPLETE AUDIO 6

Connect the KOMPLETE AUDIO 6 to another USB port on your computer. Try all USB ports on your computer until you find the one that works best.

8.6 Check your IRQs (Windows only)

IRQ stands for Interrupt Request. This is the way in which Windows allocates resources to the various devices and ports in your system. If your KOMPLETE AUDIO 6 is on a port that shares an IRQ with other devices, you may have an IRQ conflict. Please refer to the Knowledge Base on the Native Instruments website and contact support.

9   Getting Help

Native Instruments provides various sources of support and information to registered users.

9.1   Readme / Knowledge Base / Technical Support

Readme

Always read the "Readme" file found on the installation CD. It contains important information and all last minute changes that could not be included in this manual.

Knowledge Base

Access the Knowledge Base at http://www.native-instruments.com/knowledgebase. To search the Knowledge Base, log into your user account first. For information on registering a user account, see chapter 3.3.

Technical Support

You can reach the Technical Support team online via http://www.native-instruments.com > Support > Product Support. The subsequent form will ask you for all information about your hardware and software environment to better facilitate our support team. In your communication with the support team, you should offer as much information as possible; about your hardware, your operating system and the software you are running. In your description, you should mention:

• How to reproduce the problem
• What you have already done to try to fix the problem
• A description of your setup, including all hardware and software involved
• The exact model and technical specifications of your computer

9.2   Forum

Check out the NI TRAKTOR and the NI producer forum to discuss all aspects of KOMPLETE AUDIO 6 and TRAKTOR LE with other users: http://www.native-instruments.com/djforums and http://www.native-instruments.com/forum/.

9.3   Updates

Whenever you encounter problems, you should also check if you have the latest driver is installed. For updates, visit the product page on our website: http://www.native-instruments.com/KA6.

10 Appendix

10.1 Technical Specifications

Output (D/A)	
Channels	6
Sampling Rate	44.1, 48, 88.2, 96 kHz
Bit Resolution	24
Converter	Cirrus Logic

Spec	Line	Headphone
Cross Talk	-87 dBu	-87 dBu
Impedance	100 Ohms unbalanced 200 Ohms balanced	8... 600 Ohms (Load)
Maximum Output Level	9.6 dBu	9.3 dBu 4.26 V rms, 100 mW @ 100 Ohms
THD + N	0.007 %	0.012 %
SNR	101 dB (A-weighted)	95 dB (A-weighted)
Frequency Response	10 - 40 kHz±0.5 dB	10 - 40 kHz±0.5 dB

10.2 About Latency and Buffers

When converting audio information to digital and vice versa, the audio driver needs to store the data in buffer packages (audio buffers) which are then sent to and processed by the CPU of your computer. The higher the buffer size, the longer it takes for a signal to finally arrive at the output as audio. You might experience this as late response between hitting a key on a controller which controls music software on your computer, and hearing the sound at the output. Fortunately, with today's computers and low-latency sound card drivers, this delay is usually very low (e.g., three milliseconds is about the same delay caused by fingers snapping one meter away from your ears). Latency must be kept at a minimum in order to make software instruments and DJ applications playable.

How Low Can You Go?

1.5 ms of latency approaches the theoretical minimum because it will always take some time to process information in a computer. Note that ultra-low buffer size settings (as well as higher sample rates) make your computer work harder, which can affect the performance.

See 6.1.1 (Windows) and 6.2.1 (Mac OS X) for instructions on how to adjust buffer sizes and sample rates for shorter latency.

> [!] For Windows users: If you cannot get rid of audio dropouts, crackles and noises by adjusting buffer size and sample rate settings, you might also check your system for DPC latency problems (see the "System Performance Test" section of chapter 6.1.2 for more info on DPC latency) using the DPC Latency Checker program, which is found on the web at http://www.thesycon.de/eng/latency_check.shtml.

10.3 Different Types of ASIO (Windows)

It is extremely important to use the dedicated ASIO driver written for the KOMPLETE AUDIO 6 and installed during software installation (chapter 3). However, if your system also provides generic ASIO drivers, typically called ASIO DirectX Full Duplex Driver or ASIO Multimedia Driver, and you cannot get the KOMPLETE AUDIO 6 driver to work at low latencies, try them all and choose the one that provides the best performance.

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