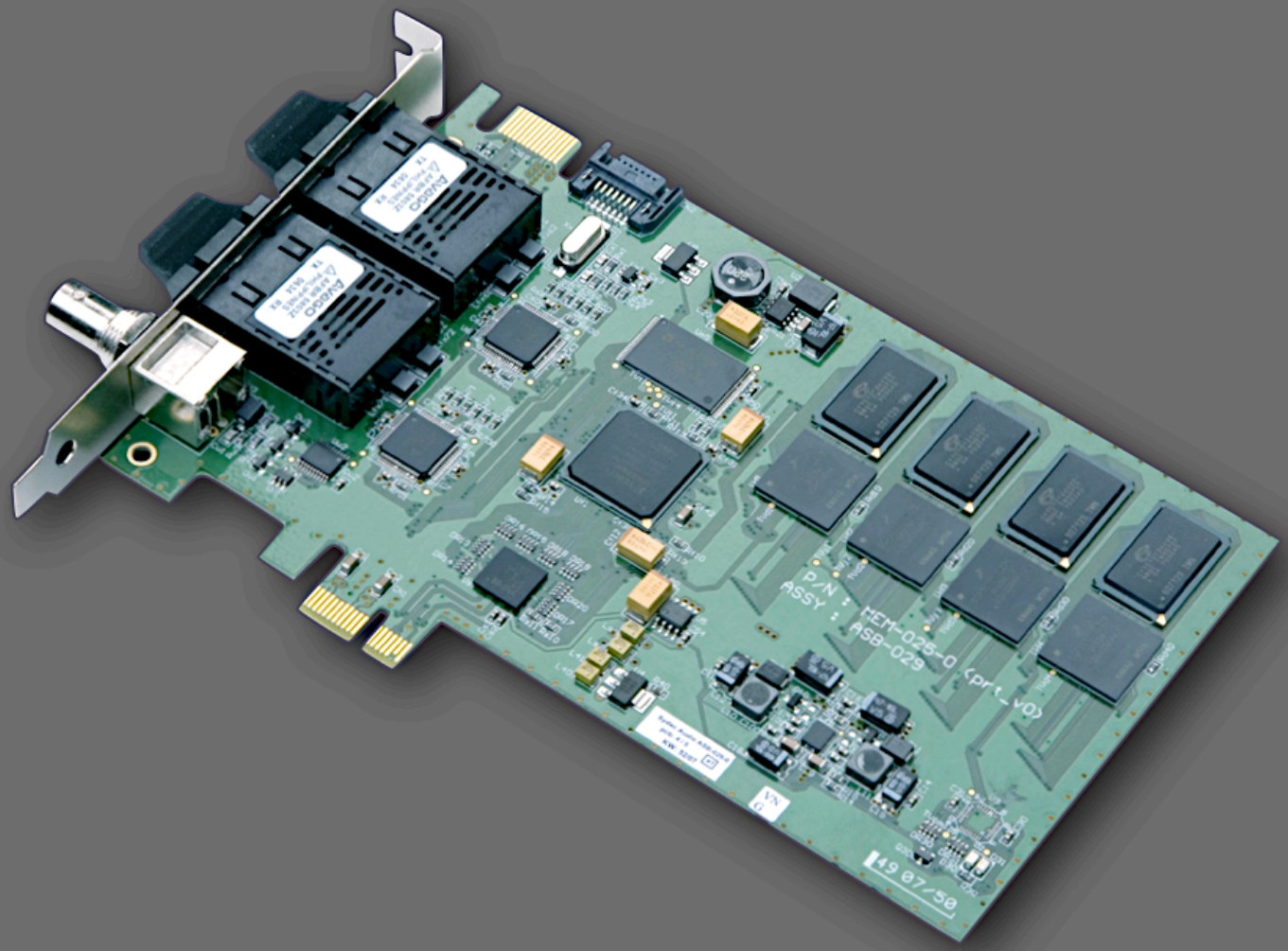
www.solid-state-logic.com



SSL MX4 PCIe Audio and DSP Card

SSL Console Magic **in the box**. For Windows PC's.

Hardware and Driver Installation Guide V6.01



SSL MX4 PCIe Card. **This is SSL.**

Solid State Logic
SOUND || VISION

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1. Introduction

Congratulations on your purchase of the MX4 audio card.

The SSL MX4 is designed to provide you with many years of reliable service and, in conjunction with the SSL XLogic Alpha-Link converter series, the pristine audio quality you expect from any SSL product.
Should you ever need assistance in setting up or using your MX4, Solid State Logic's worldwide customer support team is easy to contact via the Support section of the SSL website and is always happy to help.

Please register your SSL audio card on our website. This will ensure that you receive notifications of future software upgrades and other important information, and that your guarantee is registered. Registration will also make you eligible for technical support. The Solid State Logic home page is at: **www.solid-state-logic.com**

Solid State Logic is committed to the development and marketing of professional solutions for native PC and Mac based digital audio recording systems.

The SSL MX4 PCIe card, used in combination with our XLogic Alpha-Link audio converter products, provide a flexible, professional quality, high channel count audio solution for PC based audio recording and editing systems.

How to use this manual

The SSL product range has been designed from the ground up to be easy to use. If you are familiar with the Windows environment, installing PCIe, and PCI cards and the basics of recording and playing back digital audio, you could probably just set the system up and feel comfortable running a session within an hour.
However, the SSL Mixer offers a wealth of powerful and helpful features that you will only discover quickly by reading this manual. It is therefore advisable, at some point, to read it from cover to cover.
For example, the Mixer is fully configurable, and while a few ready-made Mixers are provided, to really harness its power, read the **"Mixer" chapter** as soon as you can. If you are new to digital audio recording, reading the manual first is highly recommended.

Please make sure you understand the **Master Clock** and **Sample Rate** concepts and that you understand the Mixer software's routing possibilities. It is also a good idea to have the system switched on while you read the manual, so that you can experiment with the features you read about.

We trust that you will soon feel confident creating and using your own mixer configurations. However, even when it has become second nature, the comprehensive Table of Contents (located at the beginning) and the search function in your PDF reader software will provide convenient ways to check specific information whenever you need it.

If possible: Please do not print this manual.



NOTE: This Manual does not contain an **Index**. Please use your **PDF Reader's build in search function** to find the sections containing specific words and topics.

Reading conventions

Menus
Where appropriate, to indicate a "path" under one of the main menus, the following format will be used:

menu: **Header|Submenu 1|Submenu 2|Submenu3|Item**.

Screenshots
The appearance of the mentioned dialogues and software on your computer screen may be different from the screenshots in this manual. This could be because your SSL hardware configuration is different, because you are using a different version of Windows, because you are using different Windows settings, or because the look of the SSL Installers can vary in an updated version.

Safety and Installation Considerations

This section contains definitions, warnings, and practical information to ensure a safe working environment. Please take time to read this section before installing or using this unit. Please do not dispose of these instructions.

General Safety
- Read these instructions.
- Keep these instructions.
- Heed all warnings.
- Follow all instructions.
- Do not use this apparatus near water.
- Do not expose this apparatus to rain or moisture.
- Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
- Do not install near any heat sources such as radiators, heat registers, stoves or other apparatus (including amplifiers) that produce heat.
- There are no user-adjustments, or user-serviceable items, on this apparatus.
- Adjustments or alterations to this apparatus may affect the performance such that safety and/or international compliance standards may no longer be met.

Caution
- To reduce the risk of electric shock, do not perform any servicing other than that contained in these Installation Instructions unless you are qualified to do so. Refer all servicing to qualified service personnel.

Installation Notes
- When installing this apparatus, place the host system into which it is to be installed on a secure level surface.
- To prevent damage from static electricity when installing this apparatus, either to the host system or to this apparatus, always take proper anti-static precautions. Always use an anti-static wristband. If in doubt, please refer to qualified service personnel.
- Take care of rough or sharp edges when accessing the inside of the host system.
- Never install or remove this apparatus whilst the host system is powered. Always remove the power cord from the host system prior to accessing this apparatus.
- If in doubt about installing this apparatus, please refer to qualified service personnel.

Disclaimer

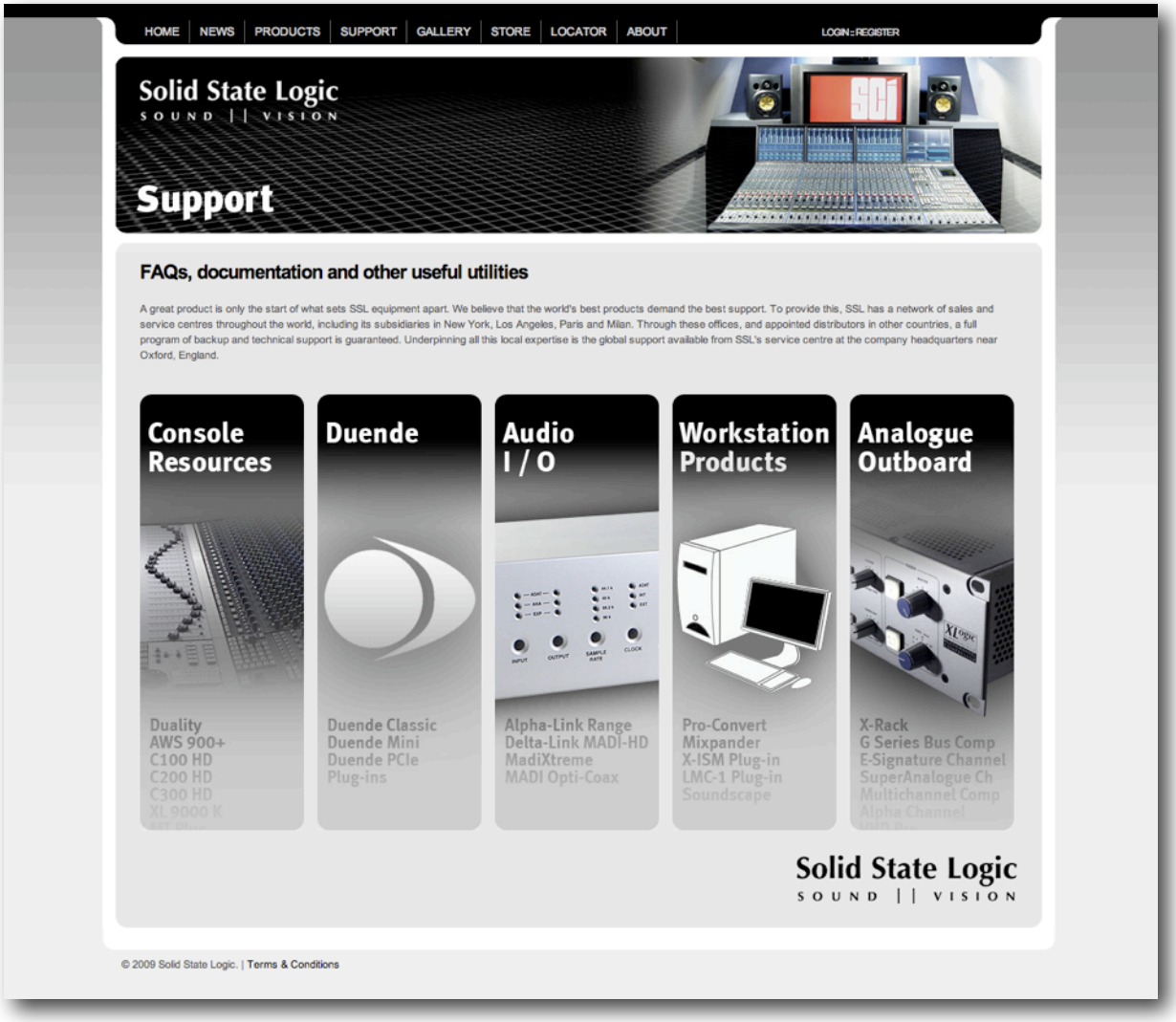
This manual has been written with great care and attention to detail. Please also read the SSL Mixer V6 and/or SSL Soundscape V6 Manual, where we have attempted to cover every operational aspect of the SSL MX4. However, the manuals are not contractual documents. Solid State Logic and/or the writer(s) of this manual cannot be held responsible for any loss or damage arising directly or indirectly from any error or omission in this manual.

Trademarks

All trademarks are the property of their respective owners and are hereby acknowledged.

Website

The URL for the Solid State Logic website is: **http://www.solid-state-logic.com**
The **SSL Support Website** is: **http://solidstatelogic.com/support**



Compatible Windows Versions and Driver Protocols

The **SSL MX4 PCIe** card and associated software are compatible with the following operating systems and driver protocols:

Platform	Operating System	Driver Protocols
PC with 32 Bit Windows	Windows XP SP2 or later	ASIO 2.x (32 Bit) ,WDM,MME,GSIF2,DWave, SSL SS V6
	Windows Vista SP1 or later	
	Windows 7 or later	
PC with 64 Bit Windows	Windows Vista SP1 or later	ASIO 32 Bit, SSL SS V6 (Support for ASIO64 and WDM 64 coming soon)
	Windows 7 or later	

Note: MX4 can run under OSX Tiger V10.4.11, OSX Leopard V10.5.4 or greater and OSX Snow Leopard V10.6.1 (32 and 64 Bit) or greater by using Madixtreme Core Audio Divers. Under MAC OS the MX4 Card works as a MadiXtreme 128. The Mixer Software and DSP Plug-Ins however, do not work with MAC OS.

The **SSL MX4** comes with Low-latency MME drivers, Soundscape V6 Streaming, WDM drivers, ASIO-2 drivers, DWave drivers and GSIF drivers for Windows XP, Vista and Windows 7 in 32 Bit. In 64 Bit ASIO 32 Bit and SSL Soundscape V6 streaming is supported.
The MX4 can be used with any PC based MIDI & Audio sequencer, recording and editing software or other audio applications.
The **SSL Soundscape Drivers** are truly multiclient, allowing you to share your SSL audio hardware between several applications that use different driver models.

MADI Converter, Console or Routing Device

As world leader in large format analogue and digital mixing consoles, it was natural for SSL to be among the companies that initiated the development of MADI (Multichannel Audio Digital Interface).
The MADI standard was finalised by the AES as AES10, first published in 1991 and revised in 1993. A PDF copy of the specification can be obtained from the AES website.

With outstanding digital audio workstation systems and innovative DSP-powered multichannel audio cards, the SSL product line has always been at the cutting edge of professional studio technology in terms of sonic performance, processing power and multiple inputs/outputs.
Featuring SSL's revolutionary PCIe-Core Audio Pipeline technology and supported by the legendary SSL Soundscape drivers, MX4 builds on this heritage as one of the first audio devices to take full advantage of the high speeds and incredible bandwidth offered by the PCIe bus on modern computers.

Hardware and Driver Installation Overview

Before proceeding with the hardware installation, please read and understand the Safety and Installation Considerations on page 2 of this manual. In addition to this, please ensure that the host computer meets the minimum system requirements listed in the Technical Specifications section before you begin.

For easy installation please follow these steps in the order indicated:

1. Make sure you have the SSL Soundscape Driver ready. The driver is available on the installation CD supplied with your MX4. However, if you have an internet connection, please download and use the most recent version, available from the SSL website.
2. Preinstall the SSL Soundscape Driver to prepare Windows Plug and Play to identify the card automatically after it has been physically installed in the computer.
3. Shut down the computer and install the MX4 hardware. Connect the Alpha-Link unit(s) (or other MADI hardware) to the MX4 via the MADI ports. At this point you can also connect the WordClock.
4. Start the computer again. In Windows XP, install the drivers when prompted by Windows Plug and Play (main driver files, then WDM/KS driver). In Windows Vista, this will happen automatically.

Multiple SSL MX4s can be installed at the same time during step 3. If several MX4s are installed in this way, the driver installation (step 4) will need to be repeated for each card. Windows XP will prompt you for that. Windows Vista will handle it automatically (assuming that you have pre-installed the driver in step 2).

All the steps above are described in greater detail on the following pages.

Preparing Windows Plug and Play (Windows XP and Vista/Win7)

In order to make driver installation as easy as possible, we recommend that you prepare the Windows Plug and Play system to recognize your SSL hardware automatically.
To do this, run the SSL Soundscape Driver Setup application (DrvSetup.exe) before physically installing the card in the computer. This application can be found on the Installation CD that came with your card but, if possible, please use the latest version that can be downloaded from our website.

The description below shows the procedure in Windows XP. In Vista the procedure is similar but more warnings are displayed. The first one appears as soon as you launch the DrvSetup application. Subsequent warnings may look different from the ones shown in XP. Always click the option that allows the procedure to continue.

- In the application window, press the **Update button** to copy the driver data to your Windows installation.



- Windows will display a security warning: click **Run...**



...followed by a warning regarding **Windows Logo testing;** click **Continue Anyway**.

- At the end of the process you will see SSL Soundscape Driver Setup – **Completed** in the title bar. Click **Done, shut down the computer** and move on to **installing the hardware**.



Hardware installation

The guidelines below are general and apply in most cases. However, since all PCs are different it is advisable to check your computer's instruction manual for specific information. For example, on some PC cases the front panel needs to be removed first in order the access the cover mounting screws.

1. Turn off all power to your computer, unplug it from the mains and disconnect all peripheral devices.
2. Remove the computer cover.
3. Position the computer so that you can easily see and access its motherboard.
4. Locate a free PCIe expansion slot and remove the corresponding expansion slot cover from the back of the computer. This may involve removing a screw, which will be used later to secure the card into place.
5. With the MADI connectors facing towards the rear panel of the computer, offer up the card to the chosen socket. Gently push the card into the slot until it fits into place – do not use excessive force but ensure that the card is fully inserted into the slot before proceeding to the next step.
6. If applicable, use the screw which held the expansion slot cover to secure the card.
7. Replace the computer cover.
8. Reconnect your peripheral devices, connect the computer to the mains, and switch it on.

Driver Installation

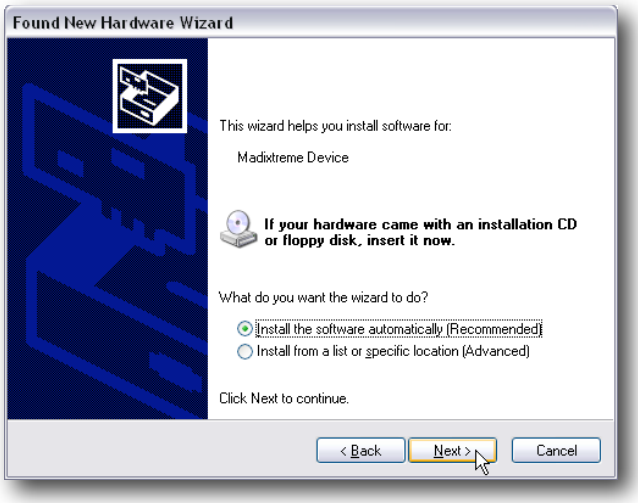
Installing the SSL Soundscape Device Driver (Windows XP)

The SSL MX4 card is 'plug and play', and is automatically detected by Windows when the computer is started.
Since the **MX4** belongs to the **SSL MadiXtreme Family** it is recognised by Windows as a **MadiXtreme Device (with DSP's).**

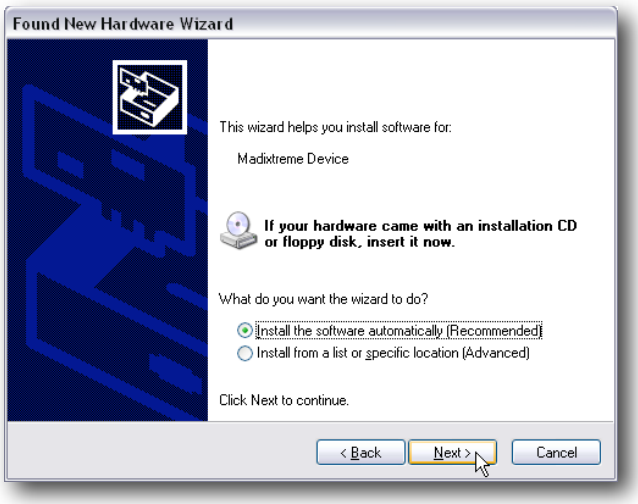
- A series of dialog boxes will be displayed. The first one allows you to choose whether to allow Windows to connect to Windows Update to search for software. Select **No, not this time,** and click **Next**:



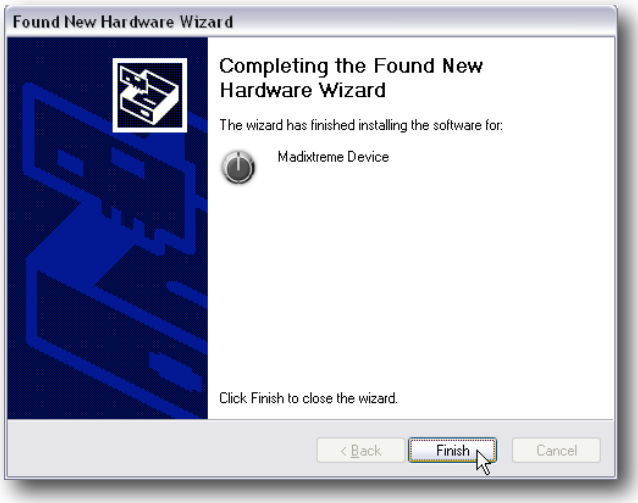
- Windows will prompt you to insert the installation CD for your hardware or let you choose an automatic or manual installation. Having pre-installed the driver as described earlier, just make sure that **Install the software automatically (Recommended)** is selected, and click **Next**.



- Further dialogues will be displayed while Windows copies the driver files. Depending on the specification of your system, this could take a few seconds or a few minutes.



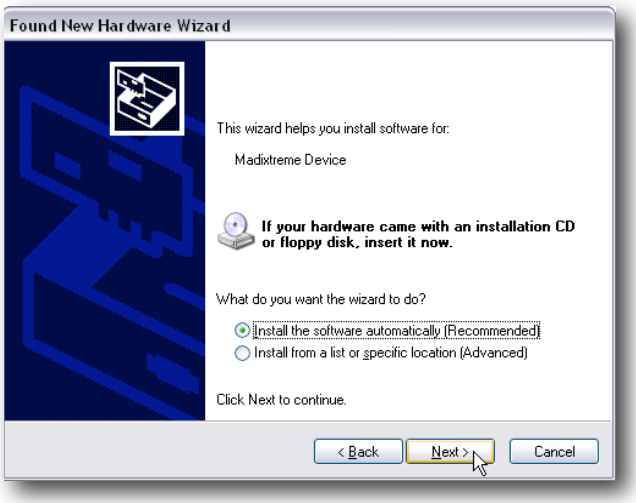
- Eventually, the dialog box to the right will confirm that the installation has been completed. Clicking **Finish** closes the Wizard.



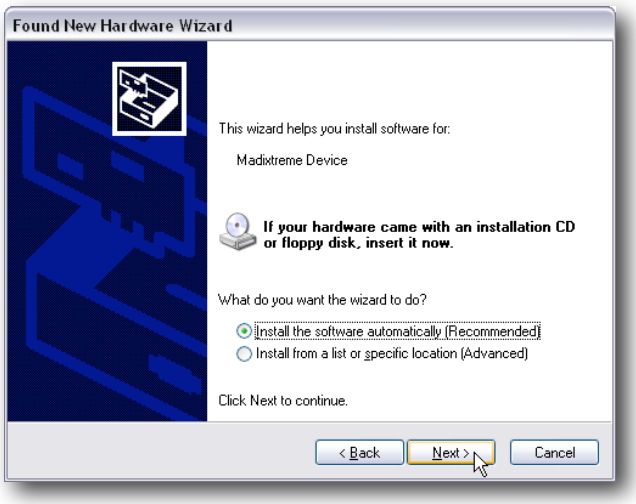
Installing the WDM/KS Driver (Windows XP)

Immediately after installing the main driver files, the Found New Hardware Wizard will start again. This time the WDM/KS driver will be installed. The series of dialogue boxes is almost identical to the one displayed for the main driver files, with the exception of a warning regarding Windows Logo testing.

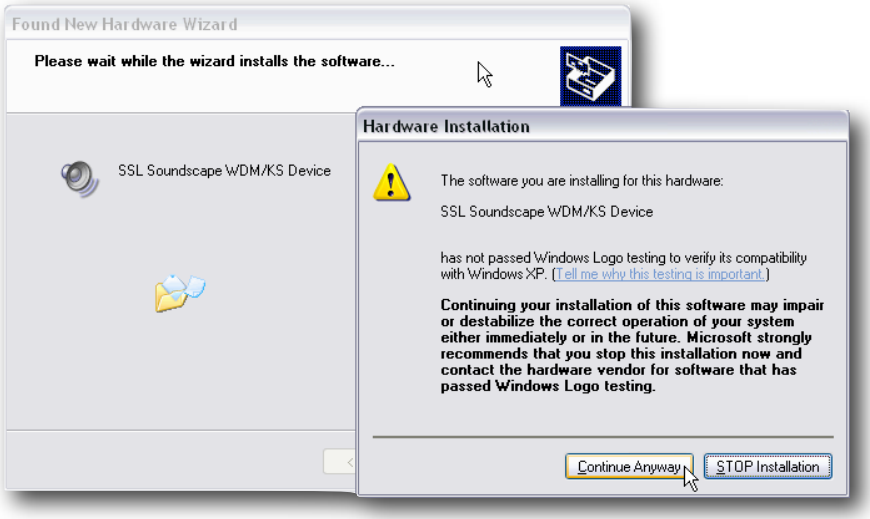
- In the first dialogue box, select **No, not this time**, and click **Next**.



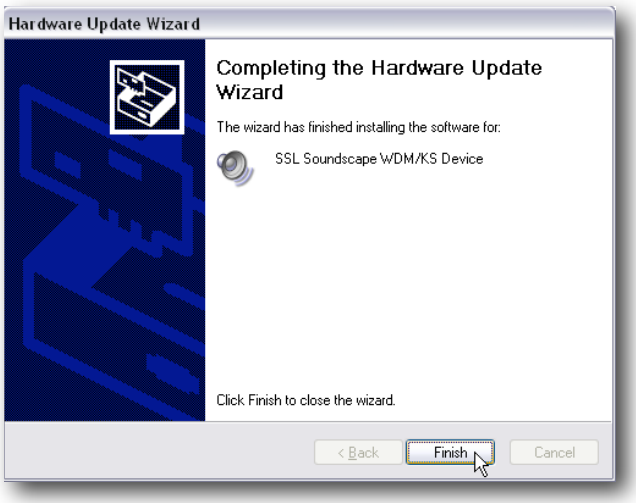
- In the second dialogue box, ensure that **Install the software automatically (Recommended)** is selected, and click **Next**.



- Further windows will be displayed while Windows copies the WDM/KS driver files. At one point, Windows will display a warning regarding **Windows Logo testing**. Click **Continue Anyway**.



- Eventually, a dialogue box confirms that the installation has been completed. Clicking **Finish** closes the Wizard.

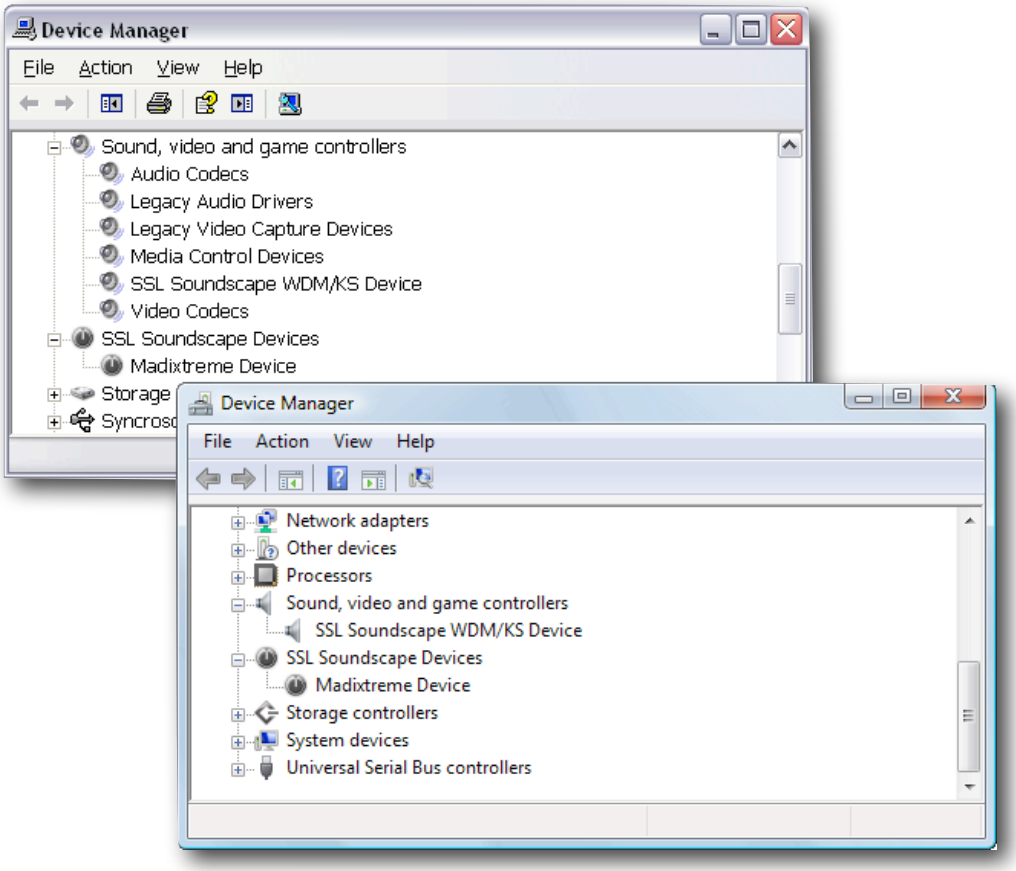


Installing the SSL Soundscape Drivers (Windows Vista and Windows 7)

If you have run the **DrvSetup.exe** application as described in the **Preparing Windows Plug and Play section,** then Windows Vista will install the drivers automatically when you restart the computer after physically installing the MX4.
This will happen in the background and you will not need to take any further action.

Checking Driver Installation in the Windows Device Manager (Windows XP and Vista)

After a successful installation, the SSL MX4 appears as **MadiXtreme Device** in the **SSL Soundscape Devices** category in the Windows Device Manager. The **SSL Soundscape WDM/KS Device** is listed under **Sound, video and game controllers**.

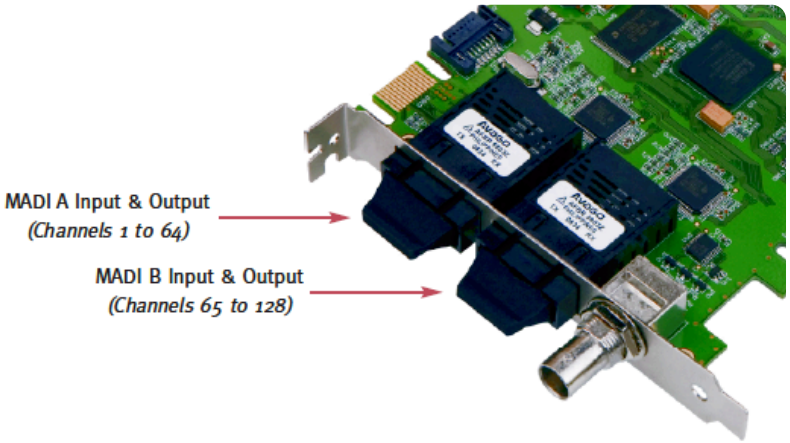


3. Hardware Configuration

Audio and Clock Connections

MADI Audio I/O

The MX4 features two MADI input connectors and two MADI output connectors.



Pull out the protective plugs from the MADI ports on the MX4 and Alpha-Link(s) to gain access to the connectors:



Use **multimode optical fibre** cables to connect MX4's MADI input and output port(s) to the XLogic Alpha-Link(s)'s MADI output and input ports respectively (or to any other MADI Device).

The MADI connectors are presented as an adjacent input/output pair (MADI head). There are no distinctive marks on the backplate of the card to identify which of the pair is the input and which is the output.
Standard MADI cables come as a pair and the SC connectors on the cables are keyed so that they can only fit one way into the MADI head.

The cable's input and output connectors will therefore always connect correctly to the corresponding connector of the MADI head.

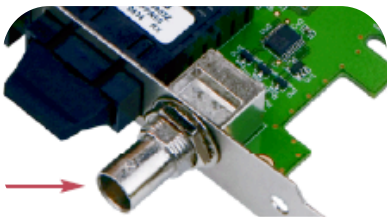
However, there are cases where you may want to use a single cable (for instance, if you only want to use the MADI output). In this case, please remember that for each MADI head, the input connector is located closest to the BNC WordClock connector. Note also that MADI B is the one closest to the BNC.

If you want to connect the MX4 to a MADI Device via **Coaxial BNC Cable**, you will need the **SSL MADI Opti-Coax Converter**.
For further Info on this inexpensive and efficient device, please have a look on our website:

http://www.solidstatelogic.com/music/Xlogic%20MADI%20Opti-Coax/index.asp

BNC Wordclock Connector

Digital audio devices that exchange audio data must be synchronised to the same clock reference. This clock reference signal can either be a 'Word-Clock' signal, transmitted and received via dedicated coaxial connectors (BNC or RCA).



MX4 BNC Wordclock connector

Clocking synchronisation can also be achieved with embedded clock signals, transmitted "inside" digital audio connections such as S/PDIF Clock, AES Clock, MADI Clock, etc.

The device that provides the clock reference signal for the whole system is called the **clock master**, and any device that locks to this signal is called a **clock slave**. The SSL MX4 can **operate either as clock master or clock slave**:

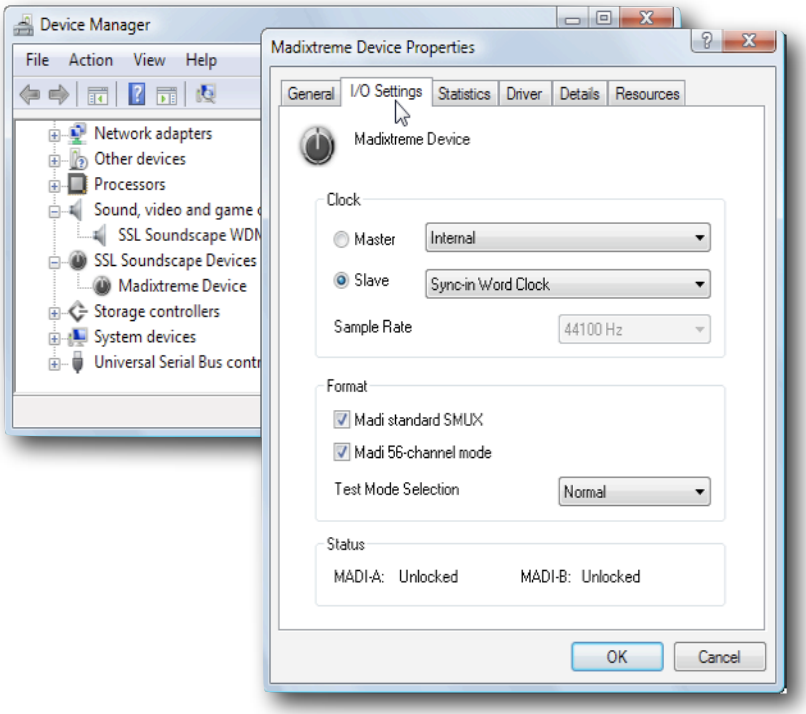
- When MX4 is used as a clock master, the **BNC WordClock** connector functions as an output, providing a reference signal for external devices
- In all other cases, the **BNC WordClock** connector functions as an input, with the MX4 locking to the incoming clock signal (or to the MADI clock)

Use a 75 Ohm WordClock cable to connect the MX4's BNC WordClock connector to the BNC WordClock input or output connector of the Alpha-Link or iBox (or other device).
If you are using two Alpha-Links with an MX4, or a combination of several MX4s and external MADI devices, please make sure that all the devices are locked to the same clock signal.
WordClock connections should always be 'point to point'. When a signal is distributed to multiple devices, a distribution amplifier must be used to guarantee reliable operation.

WARNING: Do not to turn up the monitoring level until Master Clock synchronization is established between the card and interface unit, as it is possible to get high noise levels with un-synchronised A/D and D/A Converters.

Driver Settings

Accessing Audio and Clock Settings



Using the Device Manager:

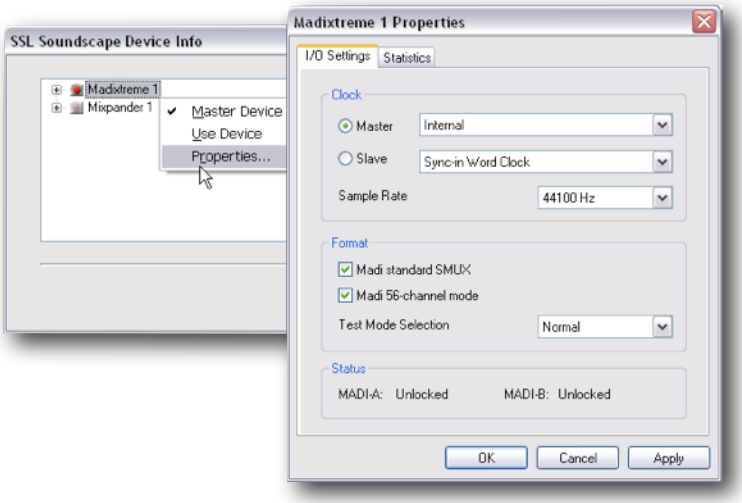
Open the Device Manager, expand SSL Soundscape Devices, double-click MX4 Device, and click the I/O Settings tab.

For Windows XP and Vista, the MX4 audio and clock settings can be accessed via the Device Manager, or by using the TRack.exe application which is included in the driver download package. You will find the explanation of all parameters in the TRack section below.

Using the TRack Applet:

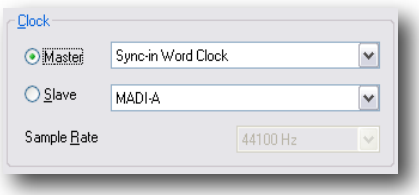
Run **TRack.exe**, which is located in the **SSL Soundscape Driver Setup Folder** and does not require any prior installation. Right-click **MadiXtreme n** (where 'n' is the number of the card, i.e., MadiXtreme 1 if you use a single MX4), and click Properties.

- The MX4 Properties window is divided into three sections. The top section (Clock) allows you to define the clock settings you require for your studio. The middle section (Format) controls the audio configuration. The bottom section (Status) shows whether the MX4 is correctly synchronised to a clock signal and whether the MADI inputs are locked to a valid incoming MADI signal.



Clock Settings

Master and Slave option boxes



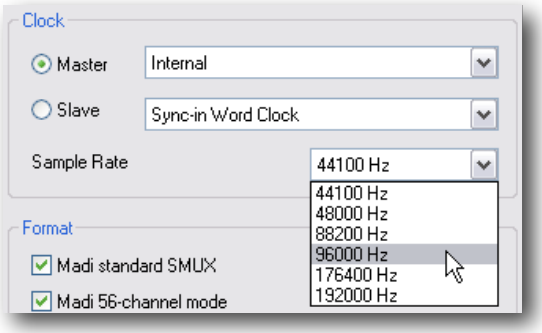
When multiple MX4s are used in the same host computer, they must all be locked to the same clock signal. One of the cards must be set as the **'master device'**, the other(s) must be set as **'slave device(s)'** by ticking the Master or Slave option box. If a single MX4 is used, only the Master setting can be selected.
Please note that setting a card to Master does NOT mean that the card is used as a 'clock master'. It simply means that it is the **'SSL Master Device'**, and that other SSL cards must receive its clock reference signal (directly or indirectly), or be clocked from the same source. The 'SSL Master Device' can itself be clocked from an external clock source.

The ability to set one SSL audio card as master device, and pre-select a clock source for each card according to its master/slave device status, means that whenever a new card is set to master, the previous master automatically switches to slave and to the corresponding pre-selected clock source. There is no need to change the settings of each card manually; it is all done automatically according to your clock pre-selections.
Also, when used as a master device and slaved to an external clock signal, MX4 checks for changes to the sample rate of that clock signal and changes its own sample rate setting accordingly. These sample rate changes are applied automatically to the Soundscape slave devices.

Clock Source Selectors
Separate selection menus are provided to select the clock source for the card when used as a SSL Master Device or as a SSL Slave Device.The selection menus provide the following options:

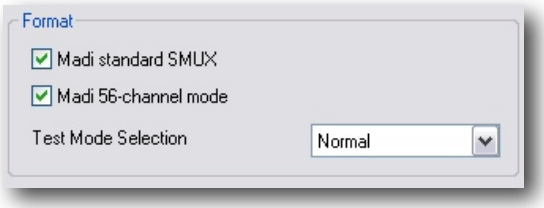
- **Internal:** If this option is selected, MX4 locks to its own on-board clock generator. It also means that the BNC connector operates as a WordClock output, suitable to provide a clock reference to the slave devices.
  The Internal setting is only available when Master is selected.
- **Sync-in Word Clock:** If this option is selected, MX4 will lock to a WordClock signal received via its BNC connector, which will operate as an input.
- **MADI-A or MADI-B:** If either of these options is selected, MX4 will lock to the MADI clock signal received via the corresponding MADI input port.

Sample Rate Selection Menu
When the card is set as a SSL Master Device and the Internal clock setting is selected, this menu allows a sample rate to be selected. The available sample rates are 44100Hz, 48000Hz, 88200Hz, 96000Hz, 176400Hz and 192000Hz.
In all other cases, the Sample Rate menu is grayed-out and cannot be used.



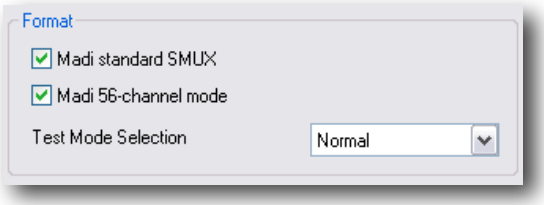
MADI Format Settings

MADI Standard SMUX
When the MADI standard SMUX box is checked and the card is operating at high sample rates (88200Hz or higher), the data for each audio channel is transmitted or received over two or four channels of the MADI interface (i.e., two at 88200 or 96000Hz. The number of available channels is divided by two or four accordingly at these sample rates.
When the MADI standard SMUX box is not checked, if operating at high sample rates (88200Hz or higher), the frame rate is multiplied by two or four and the frame size divided by two or four. The same restrictions to the number of channels apply as in SMUX mode. For MX4 these settings apply to both MADI ports – they can not be set independently. For either Port, please ensure MX4 is set to the same mode as the external device(s) connected to its MADI port(s).



MADI 56-Channel Mode
When the MADI 56-channel mode box is checked, the MADI interface can transmit or receive up to 56 audio channels (reducing to 28 channels when operating at 88200 or 96000Hz. When the MADI 56-channel mode box is not checked, the MADI interface can transmit or receive up to 64 audio channels (reducing to 32 channels when operating at 88200 or 96000Hz.

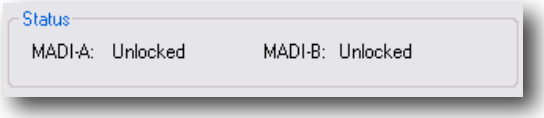
These settings apply to **both MADI ports** –
they can not be set independently.



Test Mode Selection (may not be present)
If this option is present, it should be set to Normal.

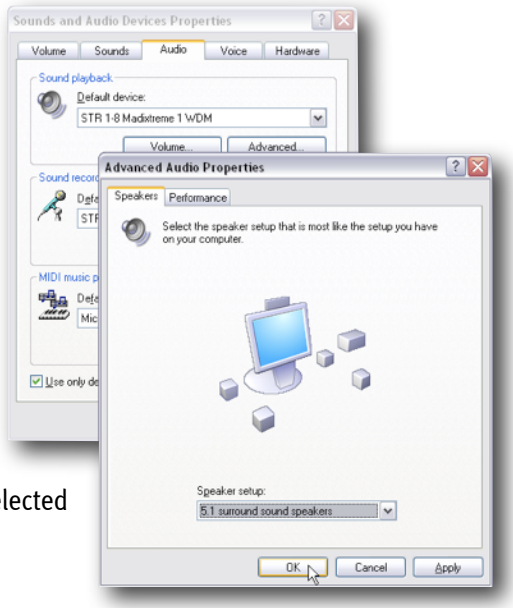
MADI Lock Status

In the Status section, the MADI-A and MADI-B input ports are shown as locked or unlocked.
A port is shown as **locked** if a valid MADI input signal is detected and clock synchronisation has been established. If a MADI input signal is detected but clock synchronisation has not been established, the displayed status **alternates** between Locked and Unlocked.
If no MADI input signal is detected, or if the MADI signal detected is not valid, the port will be shown as **unlocked**. The later case might occur if 56-channel mode is selected for the MX4 but the device connected to the port is set to 64-channel mode.



Using the WDM/KS Drivers (Windows XP)

The WDM/KS drivers are loaded during log on. These drivers can be set up in the Windows Control Panel, Sounds and Audio Devices, Audio tab.
The individual inputs and outputs are always listed as pairs.
However, multichannel audio can be used.
Note that **MadiXtreme n WDM** (where 'n' is the unit number in a multi-card system displayed in TRack and the Unit Configurator) must be selected as the default audio device for sound playback.
The speaker configuration must be selected in the Advanced Audio Properties window, which can be opened by clicking the Advanced button in the Sounds and Audio Devices Properties window:



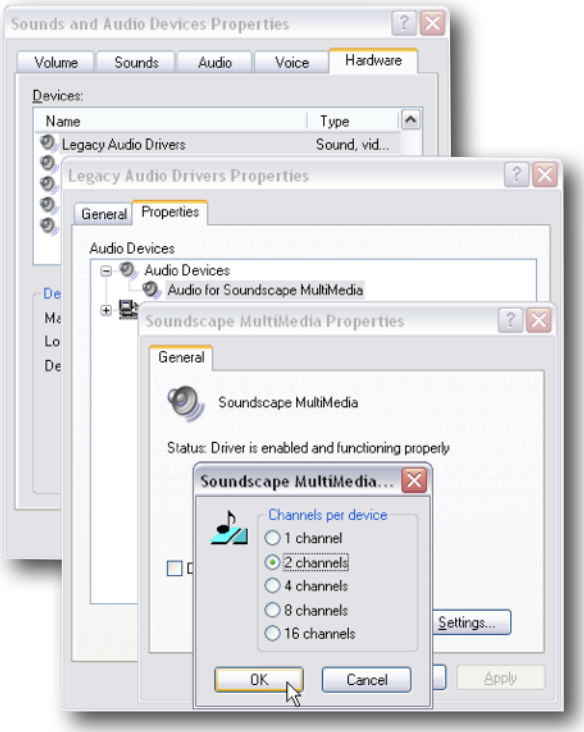
Multichannel compatible applications will output multichannel audio via the selected group of streaming channels and according to the selected speaker configuration.

Using the Multimedia (MME) Drivers (Windows XP)

The legacy MME drivers are loaded during log on and are still available for compatibility with certain applications:

The default setting is for multiple stereo input and output devices (i.e., one SSL MX4 = 64 x 2Ch devices). This setting however can be changed in the Windows Control Panel, Sounds and Audio Devices dialogue:

- Click the Hardware tab
- Select Legacy Audio Drivers
- Double-click the Properties button to open the Legacy Audio Drivers Properties window
- Click the Properties tab
- Expand Audio Devices
- Select Audio for Soundscape Multimedia
- Click the Properties button to open the Soundscape Multimedia Properties window
- Click the Settings button and use the dialogue box to enter your choice of configuration
- Close the windows using the OK buttons

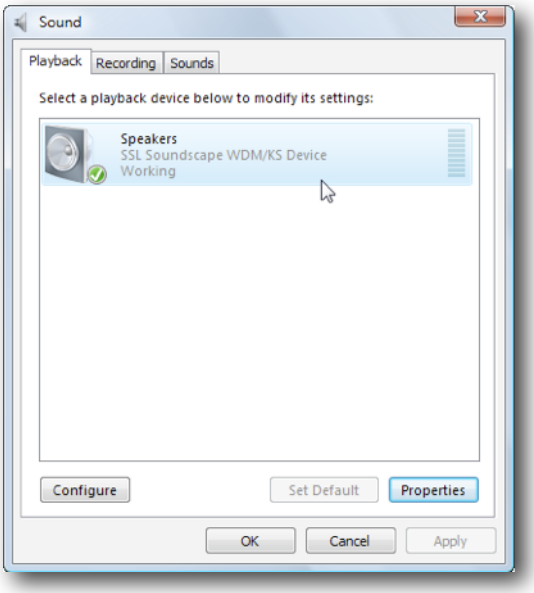


Using the WDM/KS drivers (Windows Vista)

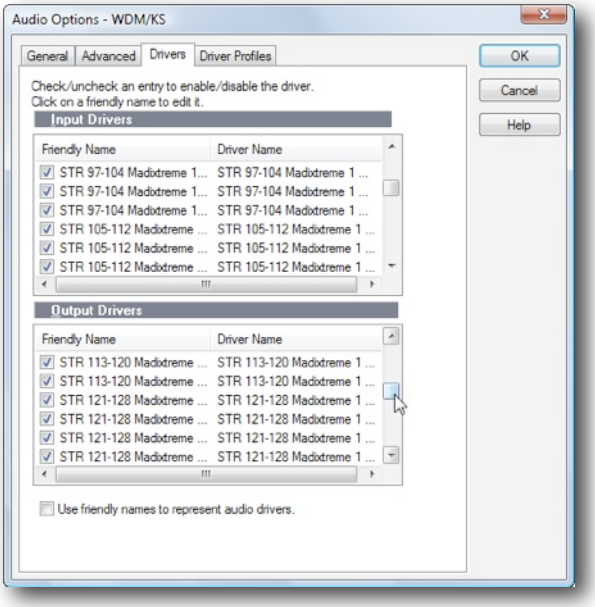
In Windows XP, multichannel audio cards are treated as surround devices.
A 16 input/output audio card would be seen as a 16 channel surround device, a 64 channel audio card (such as the SSL Mixpander or SSL MadiXtreme 64) would be seen as a 64 channel surround device.

Since this was not suitable for DAW software, the Soundscape driver implemented stereo and/or eight channel 'virtual devices' on top of the actual audio device.

In Vista, the way audio devices are handled has been changed several times by Microsoft.
At the time of writing, only the first input and output virtual device is seen by Windows Vista.



Despite this, DAW applications should still be able to see all the WDM/KS devices, as shown here in Cakewalk Sonar:



Note however that most current audio applications can use the SSL Soundscape ASIO-2 drivers (including Sonar).

Using the SSL Soundscape ASIO-2 Driver

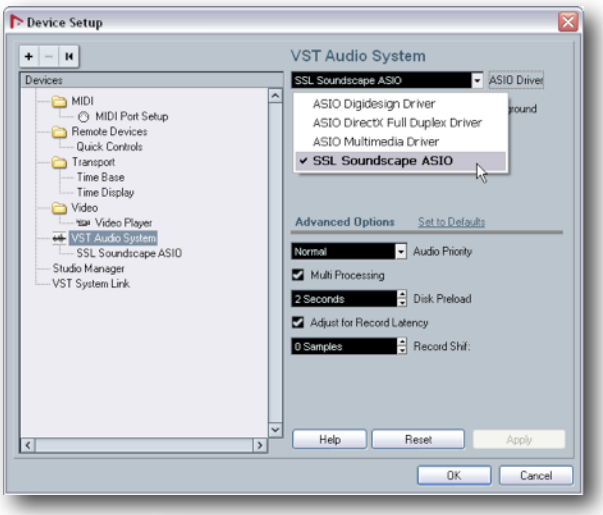
ASIO (Audio Streaming Input Output) is a **Steinberg** specification, originally developed for Cubase VST and used thereafter in subsequent versions of Cubase and Nuendo.
This driver protocol intends to provide a more direct interface for multi-channel audio streaming than the legacy Multimedia drivers and most PC-based software DAWs (for instance Cakewalk Sonar, Magix Samplitude or Cockos Reaper) now also support ASIO as an option.

ASIO-2 expands upon the original specification to provide additional features for compatible audio cards. One such feature allows the monitoring to be switched from play to record so that there is no delay in monitoring the input signal through the PC. Another feature is the ability to use accurate hardware synchronisation capabilities via the card and ASIO-2 driver.

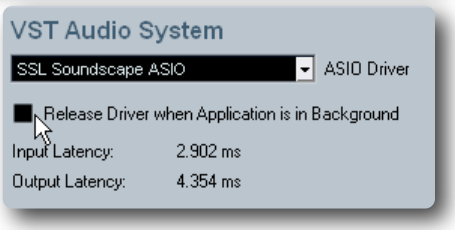
The SSL Soundscape ASIO-2 driver is automatically installed as part of the SSL Soundscape Device Drivers and should be available for selection in Cubase or Nuendo under the name **SSL Soundscape ASIO**.

Setting up ASIO (example Steinberg Nuendo):

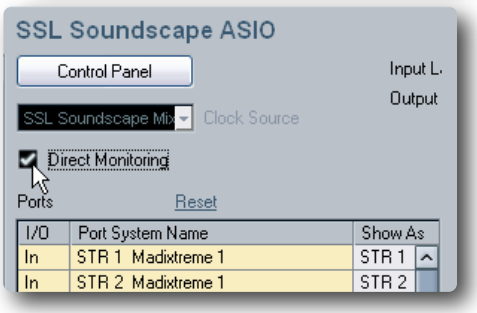
Select Device Setup under the Devices menu, select VST Audio System and use the ASIO Driver drop-down menu:



- The Release ASIO Driver in Background box should be unchecked – if it is checked, the audio output from Cubase SX or Nuendo will stop when the window is minimised or you switch to another application (like the SSL Mixer V6).



- To access the Direct Monitoring option, select Device Setup under the Devices menu, then select SSL Soundscape ASIO under VST Audio System. The Direct Monitoring box should be checked to switch monitoring between the input (for recording) and output (for playback) from Cubase or Nuendo.



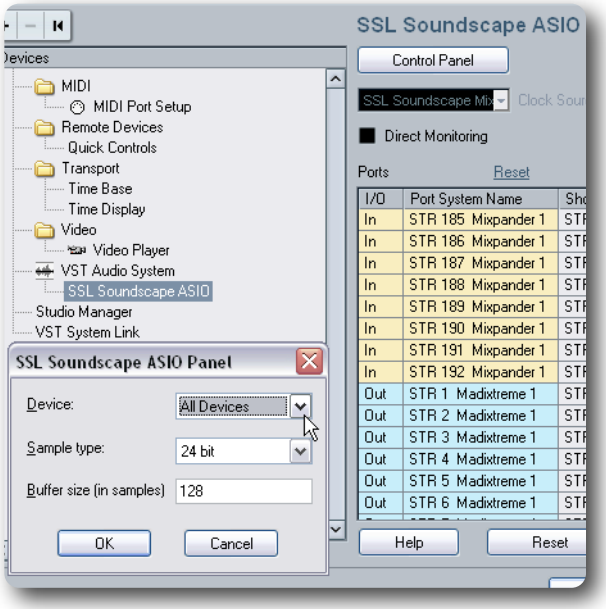
Please note that at the time of writing, Direct Monitoring has not been implemented for MadiXtreme and MX4.

Multiple SSL Audio Cards and ASIO-2

The ASIO-2 driver specification allows for only one audio card to be used at any single time.
However, the current implementation of the SSL Soundscape Device Driver allows multiple SSL audio cards to be used simultaneously under ASIO-2 by presenting them to the application as a single device.

In order to use multiple cards simultaneously, the **All Devices** Driver must be selected in the **SSL Soundscape ASIO Panel**. To open the SSL Soundscape ASIO Panel in Nuendo 4, click Device Setup under the Devices menu, select SSL Soundscape ASIO under VST Audio System and click the **Control Panel** button.

In the example on the right, a MX4 is used with a SSL Mixpander, for a total of 192 input streams and 192 output streams.



Although the Soundscape drivers allow multiple cards to be used simultaneously, the total number of input or output streams for ASIO-2 is currently limited to 254 – if the total number of either stream **exceeds 254** the audio application **will not be able to see or use any of the streams**.

For instance:

- Any combination of MX4s and Mixpanders could be used, provided that the combination does not exceed 254 channels and streams.
- Two MX4s cannot be used simultaneously under ASIO-2, neither can one MX4 and two Mixpanders as both of these configurations would present too many input and output channels and streams.
- Selecting a combination of cards that exceeds 254 input streams or 254 output streams will cause the sequencer to fail to detect any streams.

Driver Updates and Removing older Driver Versions



The description below shows the procedure in Windows XP. In Vista the procedure is similar but more warnings may be displayed. Always click the option that allows the procedure to continue.

New versions of the SSL Soundscape Device Driver can be downloaded from our website.
To install the new version of the driver, first decompress the downloaded file to a folder of your choice.

Then, locate the **DrvSetup.exe** icon in this folder and double-click it to launch the Setup application.

Windows will display a security warning: click **Run**, followed by a **Windows Logo Testing warning**: click **Continue Anyway**.

Click the **Update button** to update the driver or the **Remove button** if you want to remove it, and follow the instructions on screen.
Click **Done** to close the SSL Soundscape Driver Setup window at the end of the procedure.
The computer must **always be restarted** after the SSL Soundscape Device Driver has been updated or removed.

Removing the SSL Soundscape Device Driver completely

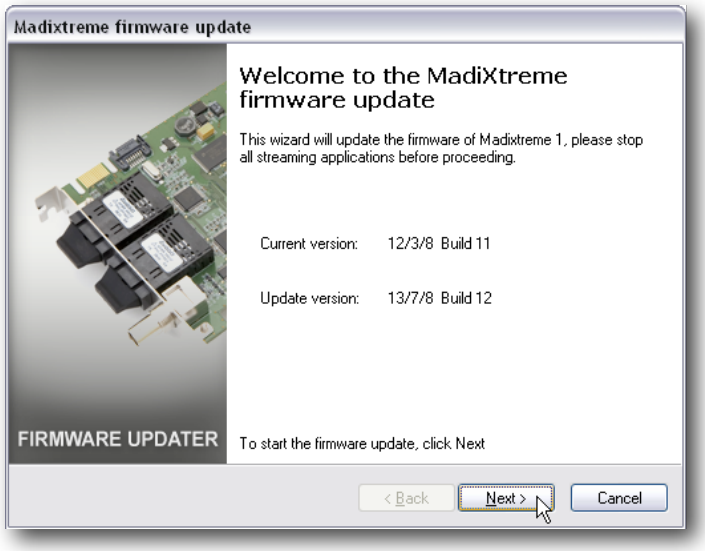
- In **Windows XP,** open the Windows Control Panel, click **Add or Remove Programs**, select **SSL Soundscape Driver (remove only)**, click the **Change/Remove** button and follow the on-screen instructions.
- In **Windows Vista**, open the Windows Control Panel, click **Uninstall a Program** (located near the programs icon), **double-click SSL Soundscape Driver (remove only)** and follow the on-screen instructions.

Firmware Updates

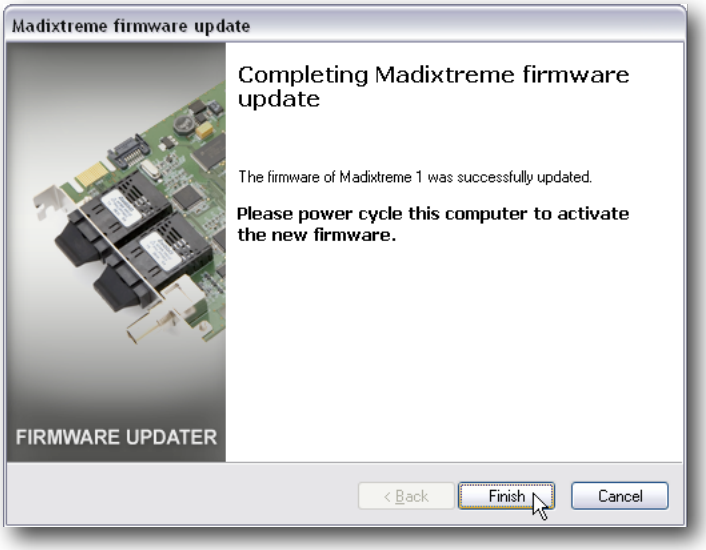
Updated MX4 firmware will be available for download from our website whenever necessary.
Typically, any new firmware will be included as part of a new driver package.

Please locate the **TRack.exe** Applet inside the latest Driver Installation folder. TRack **does not need to be installed** and can just be opened with a double-click. You can also copy the Applet to your Desktop or any other location.

- When the **TRack software** is launched, the Firmware Updater starts up automatically if a MX4 with obsolete firmware is detected. In such cases, click Next to proceed.



- Please **close any streaming applications** currently running, and wait while the firmware is updated. After the update, click Finish and then **power-down, wait 20 seconds and then re-start** the computer. (cold start)



It is **extremely important** that the power supplied to the computers PCIe Bus is disconnected for a short period after the firmware has been updated. The MX4 only loads the new firmware image into the hardware on a new **power-on reset command**. If the card receives constant power from the PC mainboard, or if the PC is switched off for a too short period of time, the new image will not be loaded permanently into the MX4...

Configuring a multiple unit system with the SSL Mixer V6 or SSL Soundscape V6

The SSL Mixer V6 software can work with any combination of MX4 and Mixpander cards. Within the Mixer environment the cards are identified as Unit 1, Unit 2, Unit 3 and so on.

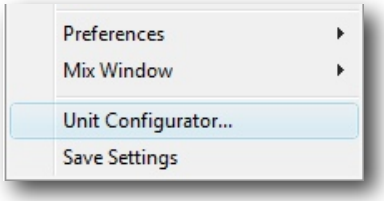
All the cards in a multiple unit system **must be synchronised** to a **common Master Clock signal**, which can be provided by one of the cards or by an external device.

Master Clock can be transmitted and received in a number of ways, depending on the type of cards used in a particular system. The WordClock connectors are an obvious solution. MADI, Adat, TDIF, or AES/EBU are also suited for clocking when two cards need to be connected anyway to transfer multitrack digital audio.

Before attempting to configure the clock settings of a multiple unit system, please read the **Settings Menu** Section in chapter **9. Menu Reference** in this manual for more information on Master Clock settings.

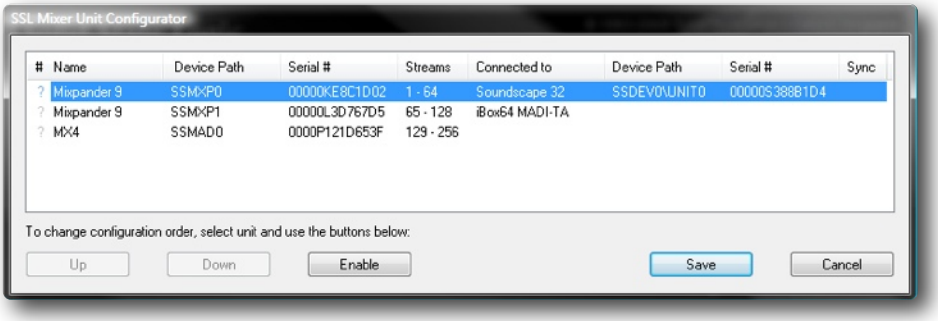
Unit Configurator

The Unit Configurator utility is located under the Settings menu, and from it you can enable, disable and assign unit numbers to the MX4 or Mixpander cards installed in the system.

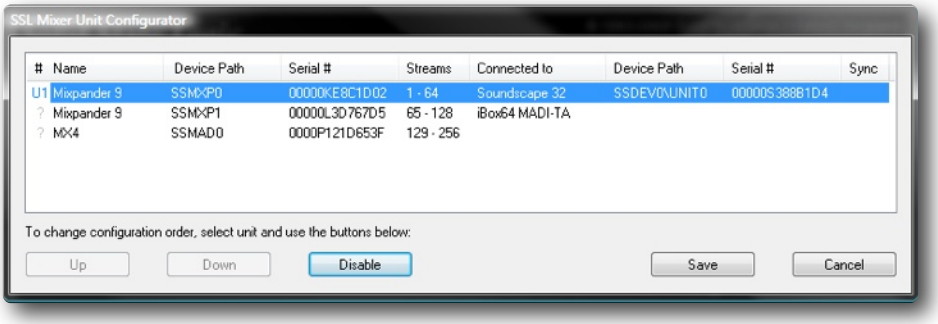


When the SSL Mixer or Soundscape V6 runs for the first time it will automatically open the Unit Configurator window in order to activate the installed cards and determine its unit number within the SSL Mixer.

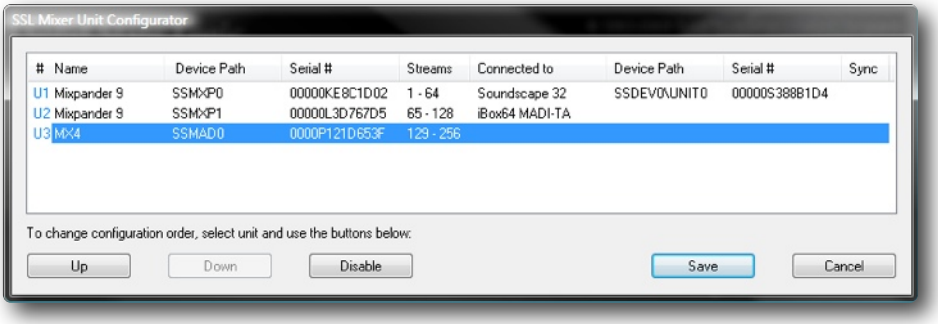
- Initially all units in the system **are disabled**. (Unit **#** shows **?**)



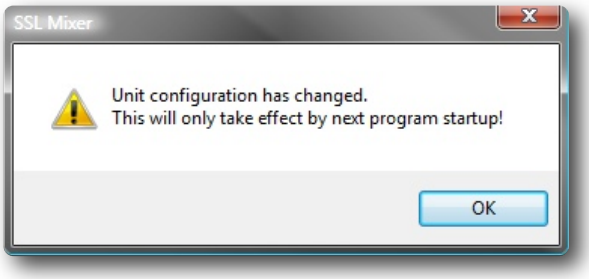
- To activate a unit highlight it and click the button **Enable**.



- With the **Up and Down Buttons** already active Units can be **re-numbered**, so they are seen by the SSL Mixer according to your preferences as unit 1, unit 2 and so on. The Top Unit is always U1, the second Unit always U2 a.s.o.



- When you are happy with the unit configuration, press **Save.**
  A warning message will appear:



In order for your configuration to become active, the **SSL Mixer V6 or Soundscape V6** software **must be restarted.**

4. Support

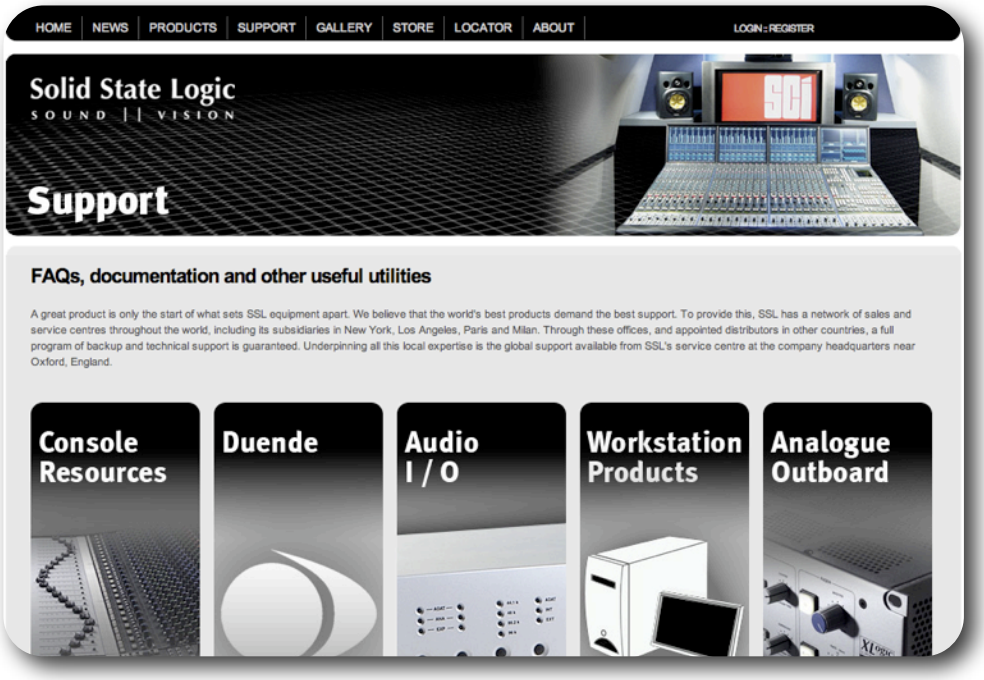
Support, FAQs and Online Help Centre

To access the latest support information on SSL Mixer V6, SSL Soundscape V6, MX4 or the SSL Console Bundle, please visit our online support site.

The information there is kept up to date by our support staff to make sure all information is accurate.
All information is available to you 24/7/365.

If you can't find your answer or a solution to your issue, you can submit a question via the site to our support staff for resolution.

URL: **http://www.solidstatelogic.com/support**



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