SCS.1d

Deck Control Surface

SCS.1d

stanton

SETUP

CONTROL

BROWSE

VINYL

▶
ENTER

DECK
SELECT

◀
CANCEL

◀◀ ▶▶
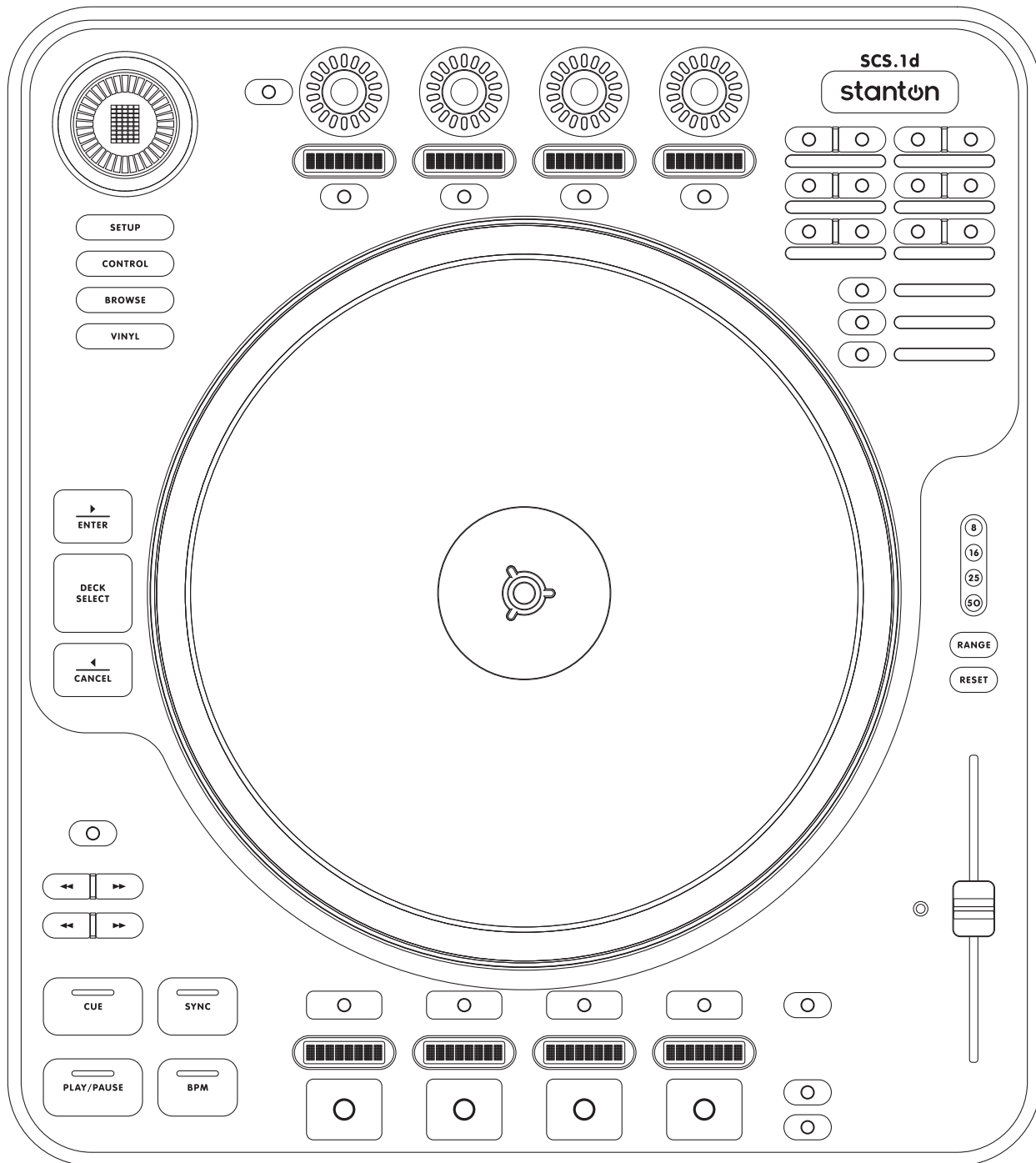
◀◀ ▶▶

CUE   SYNC

PLAY/PAUSE   BPM

8
16
25
50

RANGE

RESET

User Manual

Important Safety Instructions

- Read and follow the provided instructions before operating this unit.
- Adhere to all warnings and security advices, and retain this document for future reference.

Installation: Install the unit in accordance with the provided instructions

Power Supply:

- The unit should be connected to a power supply outlet only of the voltage and frequency marked on its rear panel.
- The power supply cord should be routed so that it is not likely to be walked on or pinched.
- The power supply cord of the unit should be unplugged from the wall outlet when it is to be unused for a long period of time, or during electrical storms.

Placement and Environment:

- Locate the unit away from direct sunlight and any equipment that produces heat such as power supplies, amplifiers, and heaters.
- Place your SCS.1d on stable surfaces, away from vibration and from sources that generate hum or noise, such as transformers, or electric motors.
- The location and position of the unit should not interfere with its proper ventilation.
- Do not use this unit near water. For example, near a bathtub, washbowl, kitchen sink, laundry tub, in a wet basement, or near a swimming pool.
- To reduce the risk of fire or electric shock do not expose the equipment to rain or moisture or use it in damp or wet conditions.
- Protect the unit from excessive dirt and dust.
- Avoid drinks spillage, tobacco ash, and smoke (especially that associated with smoke machines).
- Do not place heavy objects on the unit surface.

Cleaning: Unplug the unit from the wall outlet before cleaning. Never use benzine, thinner, or other solvents for cleaning. Use only a soft damp cloth.

Service:

- The unit contains no user-serviceable parts.
- The manufacturer is not responsible for any damage or personal injury resulting from unauthorized user servicing or modifications. Please read the warranty.
- The warranty will be void if any unauthorized service by the user is detected.
- If service is required, please contact Stanton Tech at +1 954.316.1500 (Option 3)

WARNING
To reduce the risk of electric shock, do not expose this apparatus to rain or moisture. Ensure that the apparatus is not exposed to splashing and that no objects filled with liquids, such as vases, are placed on the apparatus.

⚡	**CAUTION** **DO NOT OPEN** **RISK OF ELECTRIC SHOCK** ⚠	**CAUTION:** To reduce the risk of electric shock, do not remove any cover. No user serviceable parts inside. Refer servicing to qualified personnel only.

⚡	The lighting flash with arrowhead symbol within the equilateral triangle is intended to alert the user to the presence of un-insulated "dangerous voltage" within the product enclosure that may be significant enough to constitute a risk of electric shock.

⚠	The exclamation point within the equilateral triangle is intended to alert the user to the presence of important operation and maintance (servicing) instructions in the literature accompanying this appliance.

CAUTION
To prevent electric shock, do not use this polarized plug with an extension cord, receptacle or other outlet unless the blades can be fully inserted to prevent blade exposure.

Contents

1.   Introduction

1.1   Welcome to the SCS.1d!

Thank you for purchasing SCS.1d! The SCS.1d (**S**tanton **C**ontrol **S**ystem **1 d**eck) is the premier deck control surface for laptop DJs, remixers, VJs, and producers.

Before we begin, there are a few important issues we would like to bring to your attention.

There is a software component to this hardware. It is called DaRouter. DaRouter is a kind of "MIDI processor" that allows the use of presets. These presets can be application specific mappings, or generic maps that can be applied to a number of different software packages. In fact, you may already be familiar with the DaRouter software because it is also used with our SCS.3 line of controllers. Well, DaRouter is even more important for the SCS.1 controllers than it is for the SCS.3 controllers. This is because the DaRouter software for the SCS.1 controllers also contains the driver for them. So it is important for you to go to *http://www.enterthesystem.com/scs1* to download and install the latest DaRouter software. This single software package gives you the latest presets and the latest version of your driver. Be sure to keep your DaRouter software updated so you can take advantage of new presets and features as they become available!

This brings us to the next important issue. *Please do not connect the SCS.1 hardware to your computer before you go through the driver install*. Most audio interface installers, FireWire or USB, carry the same warning. We know that when you buy new gear, most people are excited to hook it all up and see what it can do, but in this case, it is better to wait until you are prompted. The process will go like this...

- You should connect the power to your SCS.1d and locate the FireWire connector, but do not connect it to the computer yet.
- Download and run the DaRouter installer for the SCS.1d. This installer is located at *www.enterthesystem.com/scs1*
- On Windows a dialog box will open telling you to connect and power up your SCS.1d. At this point, connect the FireWire cable to your computer. On a Mac computer you will just need to install DaRouter first, however no dialog will show for connecting the units.

The driver will then detect the SCS.1 devices connected to your computer and load the drivers for them. Allow the installer to continue normally. Following these steps is a good idea for any hardware installation you have, and might save you from possibly having to troubleshoot a problem later.

Finally, we would like to point out that the descriptions of specific functionality of the SCS.1d are generic.
The SCS.1d is a MIDI controller and does not generate any audio itself. Although it *looks* like a CD player or turntable, it in fact is not. The functionality of a given control on the surface of the SCS.1d (like the pitch slider for example) is dependent on what it is assigned to. We had to start somewhere, so we thought it would be best to describe the functionality of the generic preset. When you are using other presets, you can click on the *Preset Documentation* button in DaRouter (it's the "?" button) to learn all about how that specific preset works with your new SCS.1d.

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1.2   Overview

The SCS.1d was designed for high-precision software control. Thanks to its straightforward interface and intuitive ergonomics, the SCS.1d provides a host of top-notch features at your fingertips, such as high-torque 10" motorized platter, 100mm motorized pitch fader, velocity-sensitive pads, assignable encoder sections, and much more...

The SCS.1d (deck) and the SCS.1m are the main components of the SC System 1; Stanton's most advanced digital control system for the professional DJ. You can use the SCS.1d in conjunction with the SCS.1m for tight integration and full control of your DJ/VJ application's main parameters or with other audio interfaces.

- Adjustable high-torque 10" motorized platter with vinyl surface and superior tracking.
- High-resolution vinyl tracking system allows for super-accurate mixing and scratching.
- 100mm pitch fader motorized to maintain sync with software.
- 4 Velocity-sensitive pads assignable to loops, cue points, etc.
- Assignable Encoder section with 360° of LED feedback.
- LCD "scribble strips" for two-way communication with selected software.
- Familiar Transport section for direct music control.
- Perfect for adding maximum control capabilities into existing DJ software.
- Easily controls multiple virtual decks for powerful multi-channel mixes.

Before you start hooking up your new unit, let's check what is in the box!

1.3   Unpacking

Please check that you have received the following items:

- (1) SCS.1d unit
- (1) FireWire cable
- (1) 4 to 6 pin FireWire adapter
- (1) Power cable and adapter (24V)
- (1) Felt slipmat
- (1) Vinyl control disc
- (1) SCS.1d Manual

In addition to the above items, remember that to take advantage of the SCS.1d full potential you will need the SCS.1m or a traditional DJ mixer, a Mac or PC computer, a DJ application, and to download and install DaRouter software. So let's get started!

2.   Connecting the SCS.1d
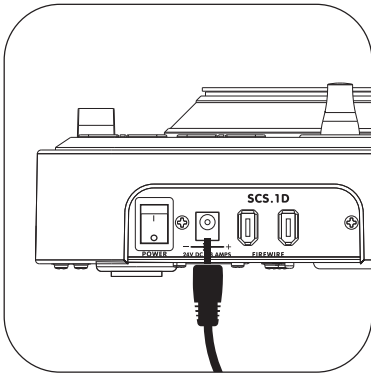
2.1   Connecting to Your Computer

Step 1:

Locate the included power cable and adapter (24V) and connect it to the SCS.1d and to your power source. (Figure 2.1)

Note If you own both the SCS.1m and the SCS.1d, the power adapters look very similar. Looking at the output voltage will tell you which is for which component, (e.g., 12V for the SCS.1m, and 24V for the SCS.1d). There is also a label on each of the power cords to specify which product they are to be used with.

Figure 2.1

Step 2:

Attach the included FireWire cable to the SCS.1d. The FireWire ports are clearly labeled on the back panel of the SCS.1d. (Figure 2.2)
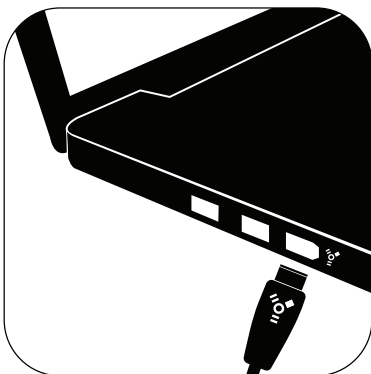
Figure 2.2

Step 3:

Download and run the DaRouter installer for the SCS.1d.

A dialog box will open telling you to connect and power up your SCS.1d. At this point, turn the SCS.1d on and connect the FireWire cable to your computer's FireWire port (Figure 2.3). *Do not connect the SCS.1d until prompted*.

Figure 2.3

On laptops, there are two different types of FireWire ports: 6 and 4 pin. Typically, you will find "full sized" 6 pin ports on Apple laptops. If your computer has a full sized (6 pin) FireWire port, use the included FireWire cable to connect directly from the SCS.1d to your computer.

Most PCs will have a 4 pin FireWire port. So if you have a 4 pin port on your computer, connect the FireWire cable to the provided 4 to 6 pin adapter, and then just plug it to your computer's 4 pin FireWire port. Now that power and FireWire are connected, we can explore hooking up the SCS.1d with the SCS.1m (if used).

2.2   Connecting to the SCS.1m

All of the SCS.1 controllers have two FireWire ports on them, so devices can be chained together if needed.
So when connecting a single SCS.1d to the SCS.1m, you would go from the unused FireWire port on the SCS.1m (Figure 2.4), (the other port is connected to your computer) to an open port on the SCS.1d. (Figure 2.5)
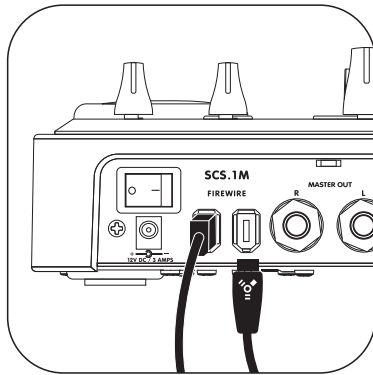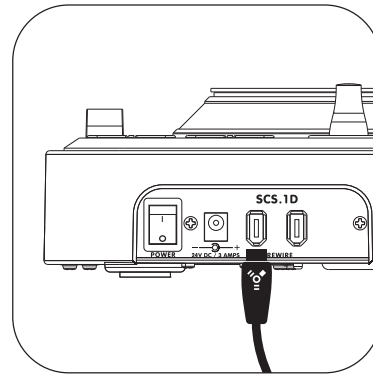

Figure 2.4

Figure 2.5

Likewise, if you're connecting two SCS.1ds to a SCS.1m, then you would go from the free FireWire port on the first SCS.1d to a port on the second. Any other FireWire devices should go at the end of the chain and not before any of the SCS.1 controllers. Let's take a look of the SCS.1m Setups.

2.3   SCS.1d Setups

The following configurations can be used for the SCS.1d for typical use cases:

SCS.1d + SCS.1m
This mixer-and-deck configuration can be used to emulate a dual-deck setup by using virtual decks for controlling transport, loop, and effects, while using the mixer to blend and EQ songs and sounds. This system is the perfect entry into the world of professional SC System laptop mixing. (Figure 2.6)
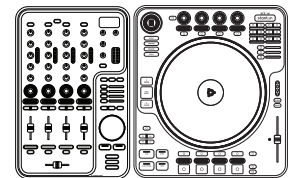

Figure 2.6

Dual SCS.1d + SCS.1m
This setup recreates the "traditional" DJ system, allowing users to have two physical decks, each representing an on-screen deck (which can easily be toggled to four decks by using virtual decks). The mixer is used for blending, channel EQ, etc, in a traditional manner. This setup is tailored towards professional DJs wanting to replace their existing setup with an SC System controller-based solution. (Figure 2.7)
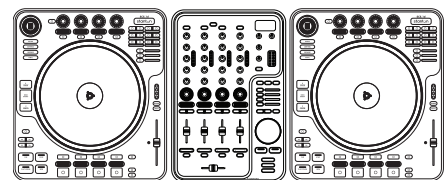

Figure 2.7

Single / Dual SCS.1d + traditional DJ mixer
The SCS.1d(s) can be used with an existing sound card to send audio outputs from DJ software into an existing analog DJ mixer. This allows users to incorporate SC System decks into their system while using their favorite traditional DJ mixer (Figure 2.8).
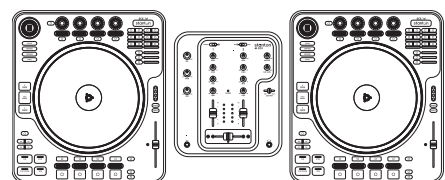

Figure 2.8

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3.   SCS.1d Description

In this chapter, we will briefly describe the top panel of the SCS.1d.

It's important to understand that the SCS.1d is a traditional DJ turntable / CD player "analogy" in a control surface. This means that while the SCS.1d looks like a DJ turntable / CD player, at its core, it is really a control surface that sends and receives control data to and from a computer. As a control surface, the SCS.1d's functionality is completely derived from the host application (software) that it is controlling.

The SCS.1d also utilizes presets in DaRouter to define its capabilities, which can drastically change its functionality depending on how the preset is configured. So as we discuss the panel and layout it is important to remember that when running a specific preset its best to read the documentation associated with that preset as it will explain how the SCS.1d is tailored towards the application it is being used with. So in the below explanations we describe the controls and how they traditionally *may* be mapped into an application.

3.1   Top Panel Functional Groups

To easily understand the main SCS.1d Top Panel, we have divided it in six functional groups:

- Encoder Section
- Trigger Section
- Platter / Global Section
- Pitch Section
- Transport Section
- Preset Switcher Section

On the next page, let's take a look of the Figure 3.1:
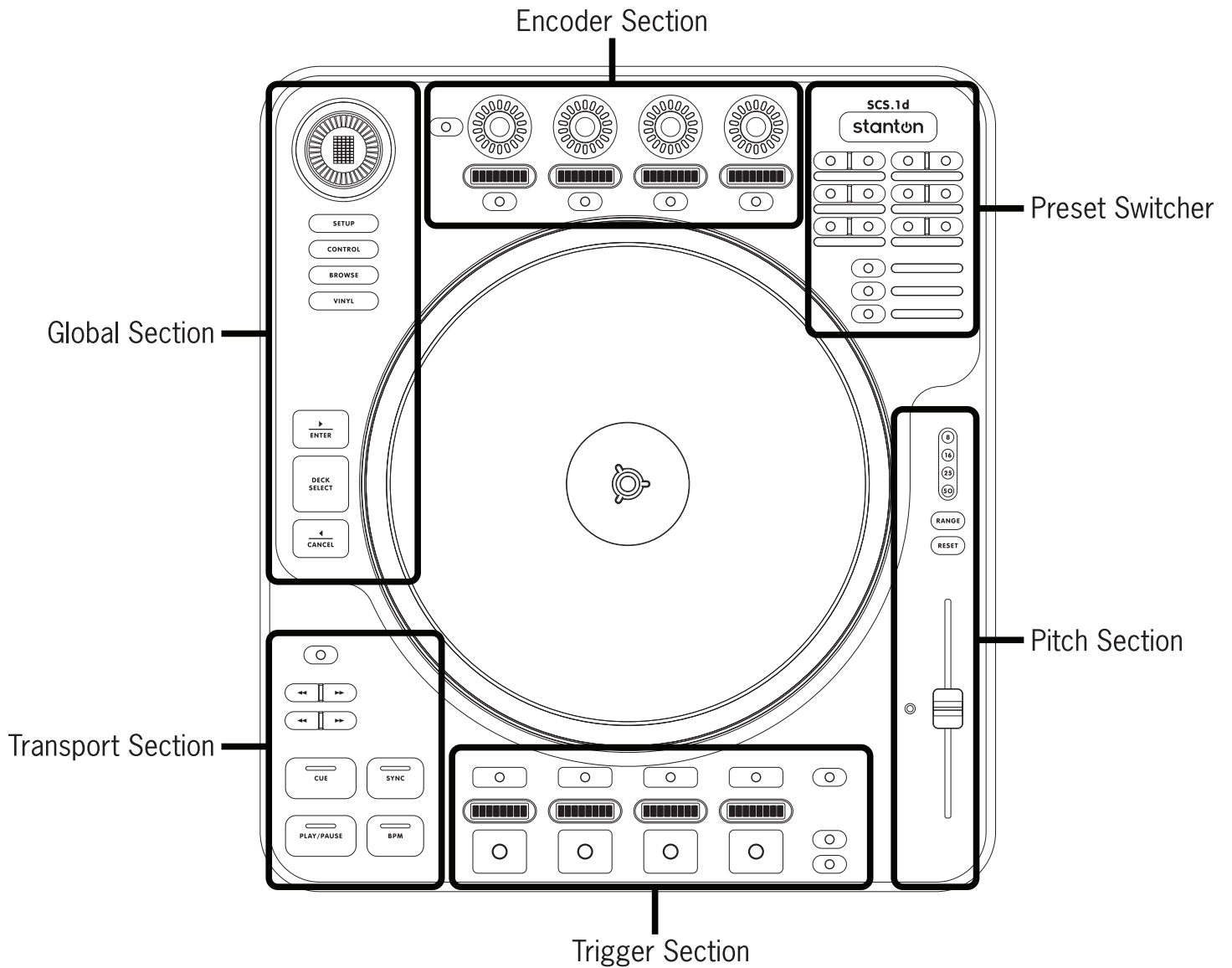
Top Panel Functional Groups (continuation)

Figure 3.1

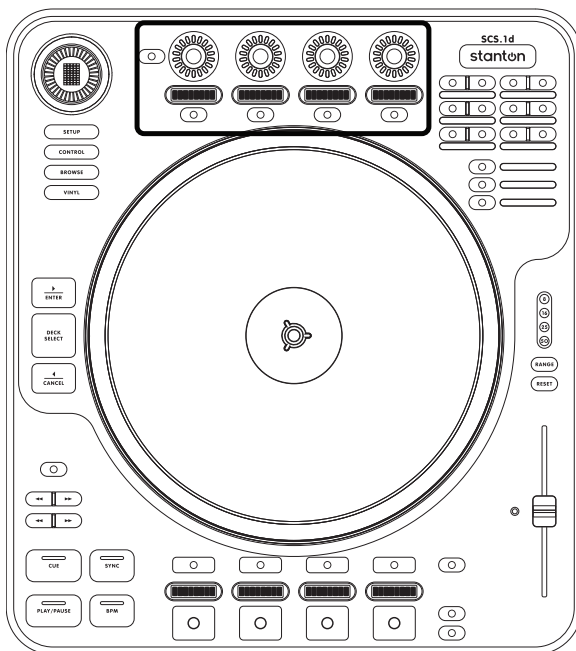Now, let's take a closer look of each of the functional groups.

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3.2   Encoder Section

This section consists of four rotary push encoders, each with an LED encoder ring to indicate the value of the encoder, and an LCD "scribble strip" that can be used to indicate the functionality of each encoder.

Encoders are used to control variable parameters such as effect levels. Encoders do not physically stop when you turn them; instead the LED encoder rings indicate the position of the control you are adjusting. (Figure 3.2)
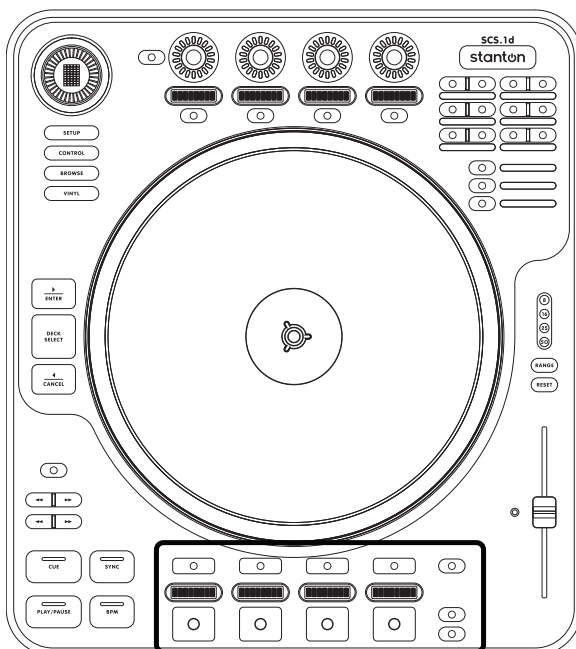
Figure 3.2

3.3   Trigger Section

The trigger section consists of four velocity sensitive pads, four LCD "scribble strips", and seven clicking switches.

Each pad, switch and screen is backlit by multicolor (red, green, orange) LED's. The velocity sensitive pads and switches are typically assigned to trigger actions such a playing cue points, moving loops or killing frequencies. The LCD "scribble strips" will display functionality and status depending on the preset.(Figure 3.3)
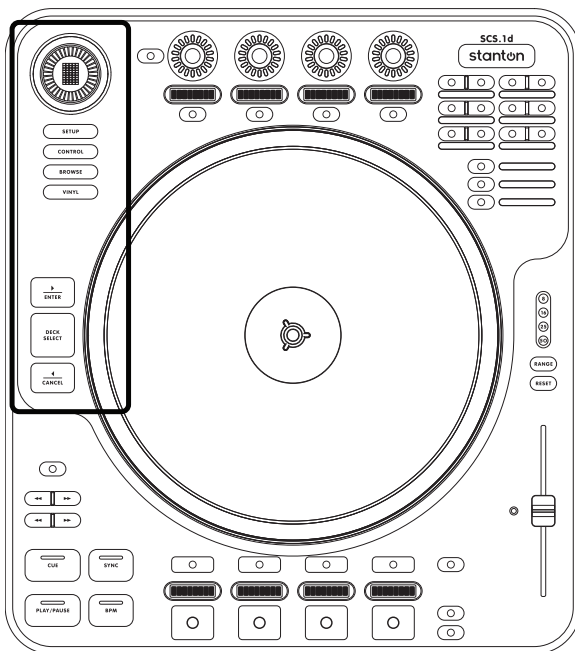
Figure 3.3

3.4   Platter / Global Section

This section controls the assignment of the platter as well as global functionality.

The DECK SELECT button will allow you toggle virtual decks on screen. In this way when you switch virtual decks, the SCS.1d will also change its state to match the on screen deck. By using one physical SCS.1d you can control multiple virtual decks.

The VINYL, CONTROL and BROWSE buttons all modify the motorized jogwheel's functionality within the application. The motorized platter is normally used for scratching and scrubbing through a song when "VINYL" is activated. However, the Control button allows the platter to be freely used as a large parameter control such as scratching an effect. BROWSE is used to scroll the playlists in applications that support mapping to browser view. Depending on the control mode the ENTER and CANCEL buttons will allow for expanded functionality with the platter. (Figure 3.4)

Figure 3.4

SETUP button will allow for adjustments of the overall deck controller. Upon pressing setup you will see the current firmware version. Using the first encoder will allow you to select a value to change; the second encoder will allow you to adjust the value.

-   Contrast: Adjusts the contrast of the LCD screens.

-   Torque: Adjusts the torque of the platter to simulate different turntables.

-   MIDI Ch: Changes the output MIDI channel of the device. It is suggested NOT to change this as presets usually expect the deck to send data from the default MIDI channel.

-   Decay: Adjusts the acceleration curve of the encoders.

3.5 Pitch Section

Figure 3.5

The pitch section represents a traditional pitch control found on a CD player or turntable. However, the key difference is that the pitch control is motorized to support functionality such as auto-sync in an application and updating position when switching virtual decks. It's important to not stop the motorized fader while it's moving to prevent damage.

The RESET button will center the pitch slider to 0% automatically.

The RANGE button will change the sensitivity of the pitch slider (as long as the application supports the ranges). (Figure 3.5)

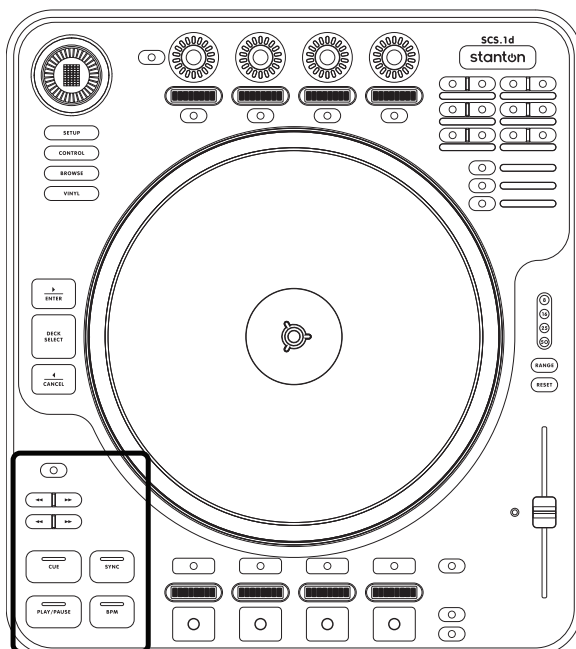### 3.6 Transport Section

Figure 3.6

The transport section is analogous to the transport controls on a CD player however it places a few extra buttons for common functions found in DJ applications (such as auto sync). Each of the 4 main transport buttons are multi color back lit to indicate status.

Along with the 4 main transport buttons are seek forward and backwards as well as scan forward and backwards. Above the seek and scan buttons is a freely assignable backlit button. (Figure 3.6)
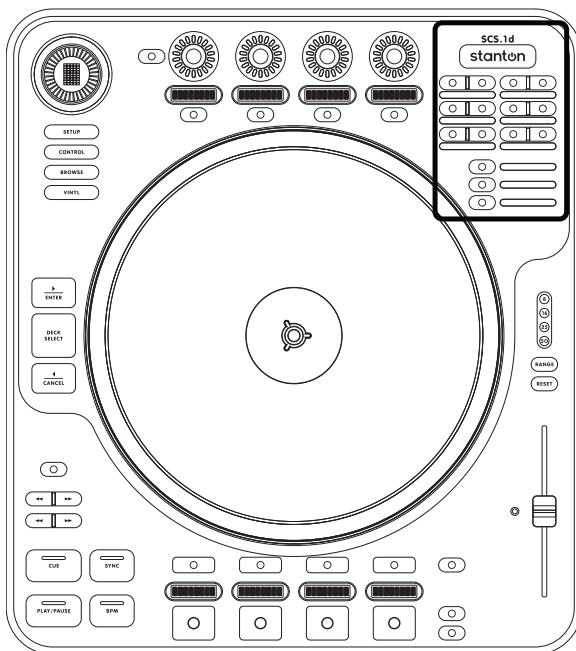
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3.7   Preset Switcher Section

The preset switcher section controls switching of presets on the SCS.1d.

Presets are generally related towards switching presets for the encoder section, trigger section or pitch slider. Presets are groups of controls with functionality focused towards doing a single task. For instance, a loop preset will contain all the controls needed to create, move and modify a loop.

Preset configuration and functionality are highly dependent on the application the SCS.1d is being used with. As with the rest of the controls it's very important to read the preset documentation from within DaRouter for information on how the unit is configured. (Figure 3.7)

Figure 3.7

4.   SCS.1d Software Installation

Before installing the SCS1 software (DaRouter and drivers) make sure you follow these guidelines:

> 1) Windows: Do NOT connect the SCS.1 controller(s) until prompted by the driver installer.
> 2) Windows: When intending to use multiple SCS.1 controllers at once (mixer + decks) make sure you connect ALL the devices during the driver installer.
> 3) Always check the Stanton website (listed below) for the latest drivers and firmware.

To fully maximize SCS.1 capabilities and take advantage of its great features, some software needs to be installed with it. In fact, the SCS.1 Software Installation process differs greatly between Mac and PC computers.

> - On a Mac, the SCS.1d is a class compliant FireWire device, which means that it will connect to the system without drivers, however, because the SCS.1d uses a proprietary high speed MIDI system it is necessary to install DaRouter to communicate with the SCS.1d and create a virtual MIDI port for the host application to receive MIDI messages through. On the Mac you will simply need to install DaRouter, connect the unit(s) and start using your desired preset.
>
> - In Windows, a high level FireWire driver must be installed to communicate with the SCS.1d. Once this driver is installed the SCS.1d and can communicate with DaRouter. Upon installing DaRouter, both the FireWire and virtual MIDI port driver are installed. It is important to *not connect* the SCS.1d until prompted. It is also important to connect all units that will be used when installing the driver (if using multiple SCS.1d's or with a SCS.1m).

In either case, (Mac or PC) the DaRouter software needs to be installed. This software acts as an intermediary between your SCS.1 controllers and your performance software, intercepting and processing MIDI messages before sending them out to your application of choice. This process takes less than a millisecond, and gives you some amazing power. Not only does it allow you to quickly change the MIDI output of the SCS.1 controllers (by switching presets), it also allows for logic-based programming that your performance software may or may not be capable of performing. This means that it is actually possible to add or change some functionality in your software of choice. This can be as simple as adding MIDI data to an application that does not normally support it, to totally changing the behavior of a given control.

In short, if you are a PC user, you will run one installer that will install the SCS.1 driver and DaRouter. If you are a Mac user, you do not need to install any driver but you must install DaRouter.

Before walking through specific installation procedures for Mac and PC, you will need to download the latest version of DaRouter from the Stanton website:

www.enterthesystem.com/scs1

So, let's follow the specific instructions for each platform.

4.1 **Windows XP**

1. Double click the executable file (.exe). If the following Open File- Security Warning appears, click **Run**. (Figure 4.1)

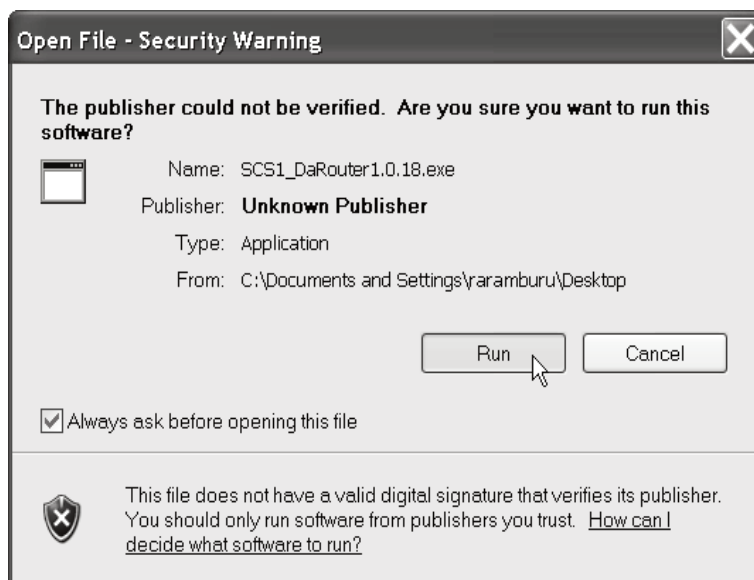Figure 4.1

2. The Stanton SCS.1 DaRouter Setup Wizard will guide you through the installation process. Click **Next**. (Figure 4.2)

Figure 4.2

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3. To install the software for the first time, choose the **Standard** option. To update your previously installed version, choose **Custom**. In this example, let's choose **Standard**. (Figure 4.3)
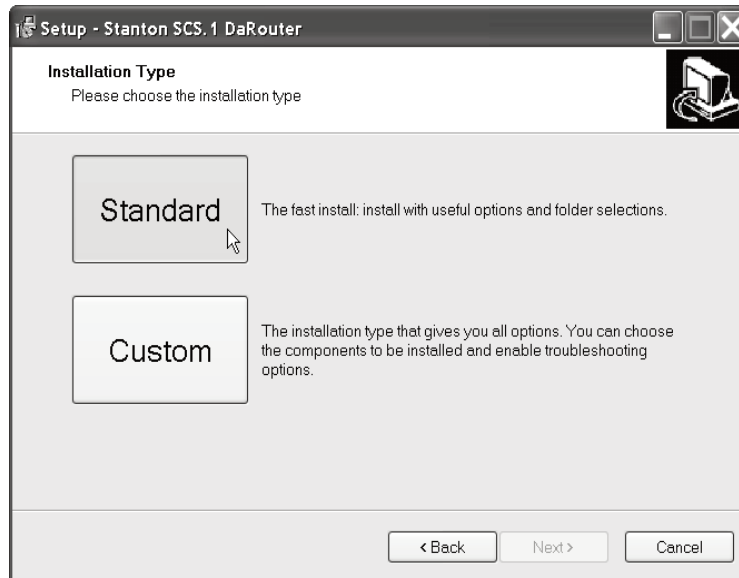

Figure 4.3

4. Read the License Agreement, select the "I accept the agreement" option, and then click **Next**. (Figure 4.4)
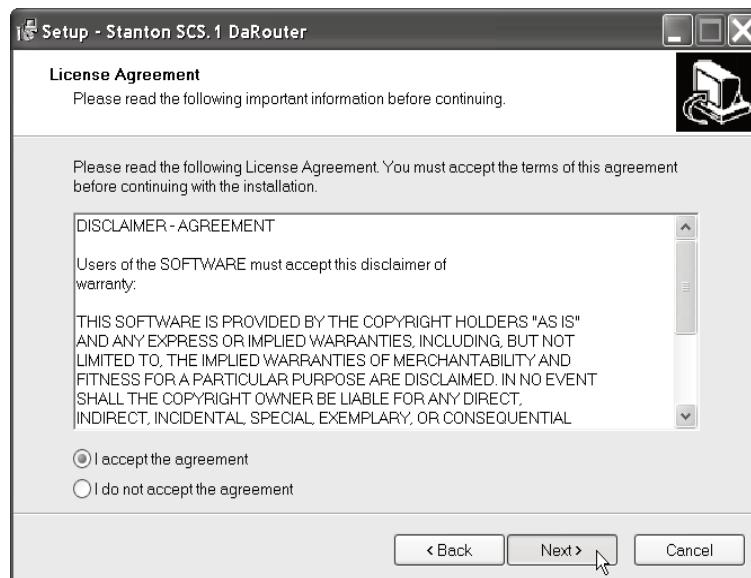

Figure 4.4

5. The installation of the ASIO driver will begin. Make sure that your SCS.1 controller(s) are properly connected but do not turn them ON yet. When you are ready, click **Next**. (Figure 4.5)
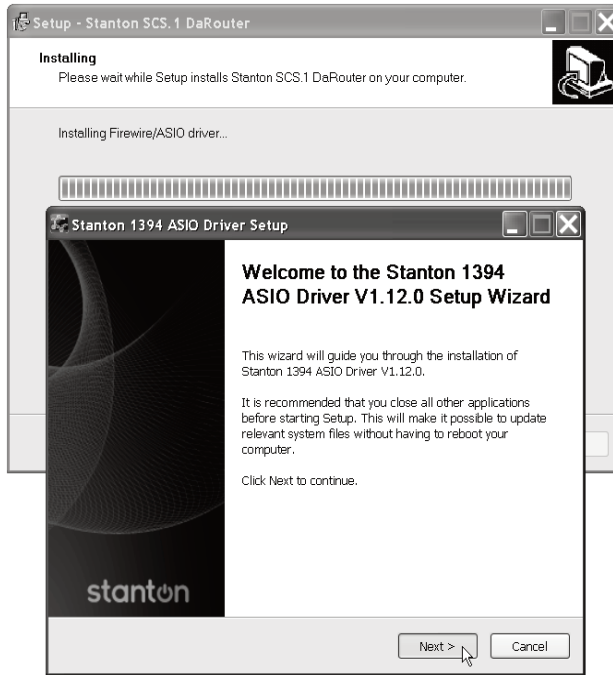

Figure 4.5

6. Please wait while Stanton 1394 ASIO Driver is being installed, and then turn your SCS.1 controllers ON and click **OK**. (Figure 4.6)
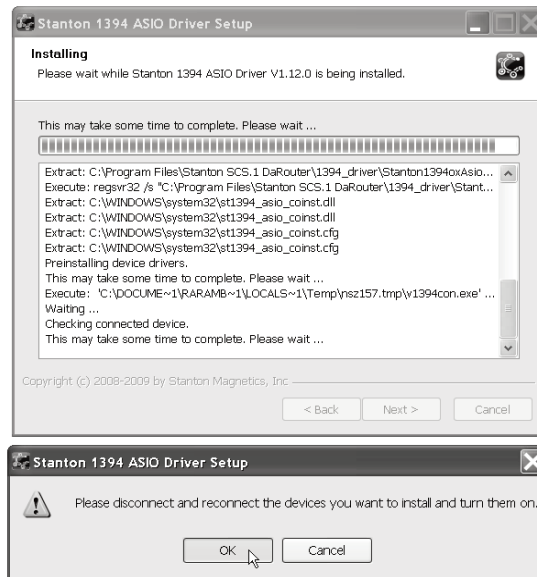

Figure 4.6

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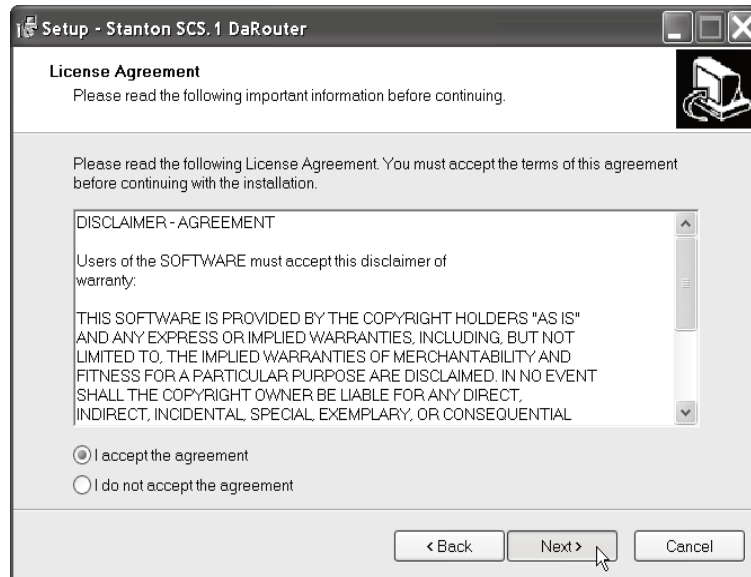**7.** We are almost ready to complete the Stanton 1394 ASIO Driver Setup installation. Click **Next**. (Figure 4.7)

Figure 4.7

8. Stanton 1394 ASIO Driver has been installed. Click **Finish** to close this wizard. (Figure 4.8)

Figure 4.8

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9. Now let's install Bome's Virtual MIDI ports. Read carefully the following instructions and click **OK**. (Figure 4.9)
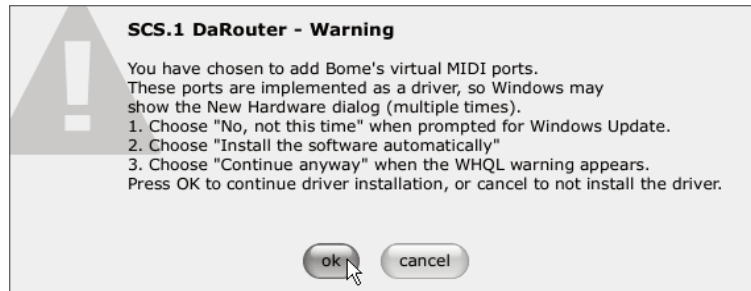

Figure 4.9

10. Select **No, not this time** and click **Next**. (Figure 4.10)

Figure 4.10

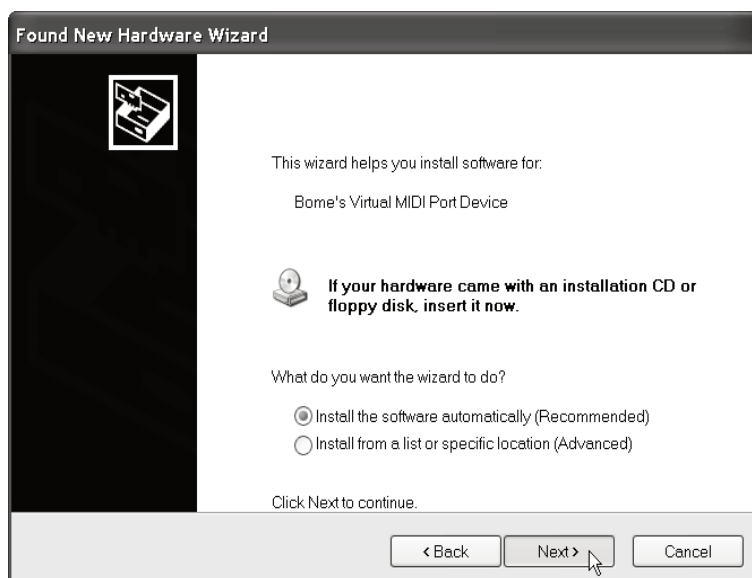**11.** Select **Install the software automatically** and click **Next**. (Figure 4.11)

Figure 4.11

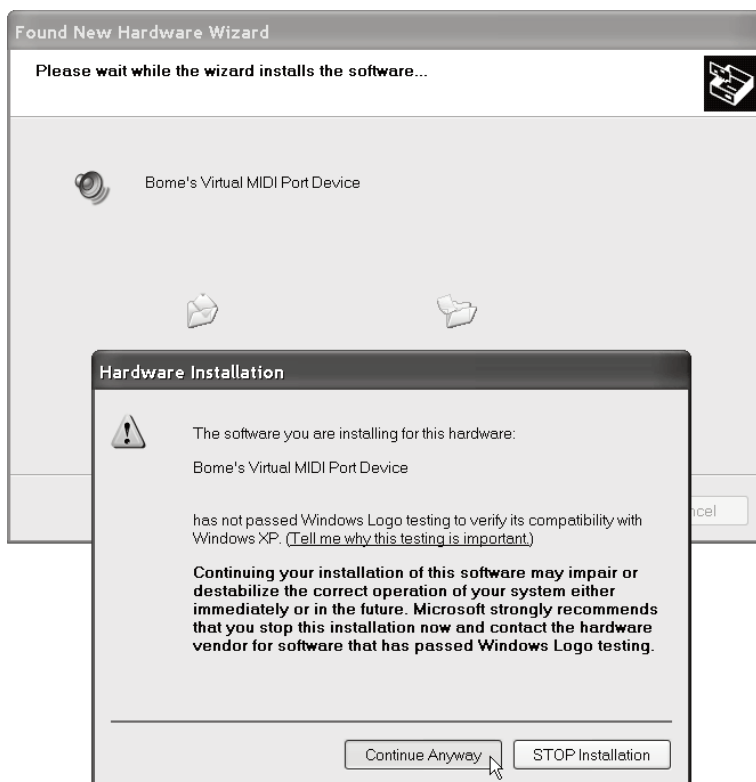**12.** Click **Continue Anyway**. (Figure 4.12)

Figure 4.12

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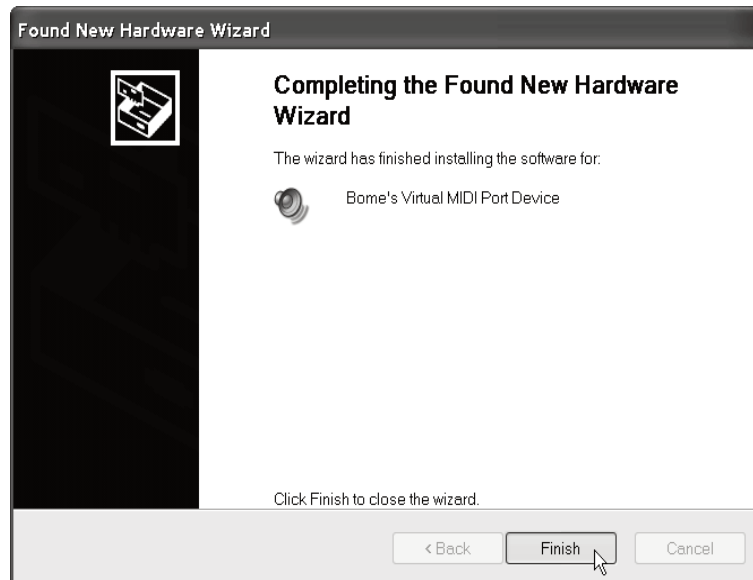**13.** Click **Finish** to complete the Bome's Virtual MIDI Port device. (Figure 4.13)

Figure 4.13

To check that your drivers and software are properly installed, open **Device Manager**. On your desktop, right click **My Computer** icon and click **Properties**. In the **System Properties** window, click the **Hardware** tab, and then the **Device Manager** button. (Figure 4.14)

Figure 4.14

You will see a new section called *Stanton 1394 Audio Devices* that includes the *Stanton 1394 Virtual Device* and a hardware specific driver for each controller you have connected. Check that the SCS.1m and SCS.1d devices are attached to your computer.

You can also click the **Start** button and verify that all associated applications appear there. (Figure 4.15)

Figure 4.15

You will see a driver program group, along with an SCS.1 DaRouter icon. That is it. You are done!

4.2   Mac OS X

To install DaRouter, first make sure that your SCS1 controller is not connected and then follow the next instructions:

1.   Double click the *.dmg* file to expand it. (Figure 4.16)

Figure 4.16

2.   Double click the *DaRouter.pkg* file to start the installer. (Figure 4.17)

Figure 4.17

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3. Once the installer has started, click **Continue**. (Figure 4.18)

Figure 4.18

4. Read the license agreement and click **Continue**. In the next dialog, click **Agree**. (Figure 4.19)

Figure 4.19

5. Next, you can set the default path of the program. Click **Install** unless you want to install DaRouter to a specific destination. (Figure 4.20)

Figure 4.20

6. DaRouter will be installed. Once done, click **Close**. (Figure 4.21)

Figure 4.21

7. DaRouter will be installed into your Applications folder and the presets will be placed in your home directory. Plug in your SCS.1 controller, power it ON, connect the FireWire cable to your computer, start DaRouter, and read the rest of this documentation. (Figure 4.22)

Figure 4.22

Now that you have installed DaRouter, let's learn about it.

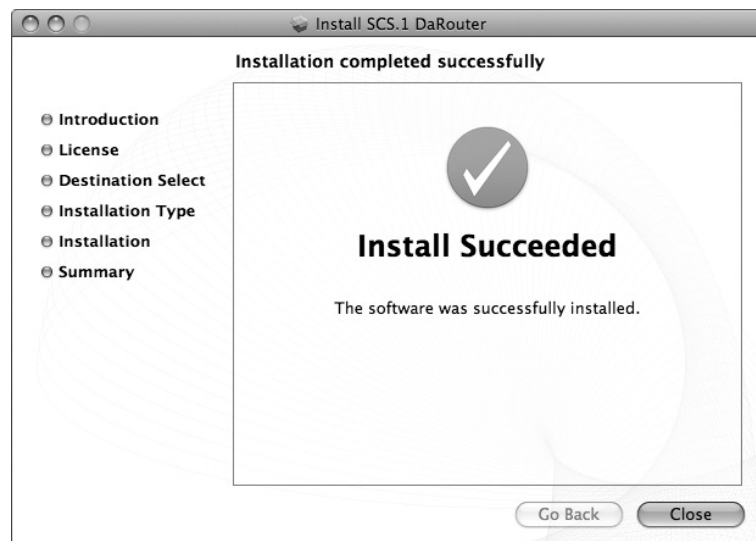**5.** **DaRouter**

5.1 About DaRouter

DaRouter is an application developed between Stanton and Bome's Software, which allows the SCS.1 devices to specifically integrate and interact with audio applications. DaRouter takes incoming messages coming from a SCS.1 device using a proprietary high speed messaging protocol and translates them to the host target audio application through the form of presets. This translation process allows the unit to change its functionality depending on which mode the unit is in and the desired host application functionality. Every single action on the SCS.1 controllers is processed through DaRouter, which means that as applications evolve, so do presets... More importantly, presets can be created and edited freely with virtually no limit to what SCS.1 controllers can do, thus opening up a whole element in control surface DJing. It is important to constantly check the Stanton website and forums for new presets.

5.2 Anatomy of DaRouter

DaRouter is the brains behind interaction between SCS.1 controllers and the application they are being used with. DaRouter is designed to sit in the background and just translate MIDI but does have some functionality to load presets and configure your SCS.1 controllers with DaRouter/Active preset. Before we load a preset, let's take a quick tour of what everything inside of DaRouter does. To easily describe DaRouter, we divided its interface in three sections: A, B, and C respectively. (Figure 5.1)
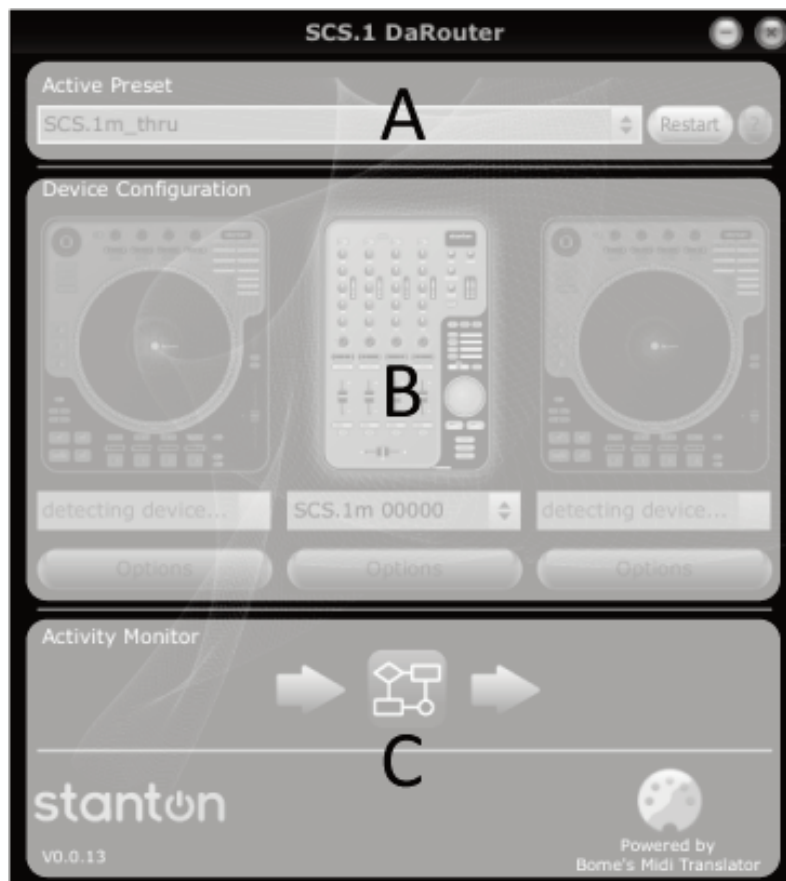

Figure 5.1

5.2.1 Section A

Figure 5.2

Active Preset Dropdown

The Active Preset is the currently used preset. In this drop down menu, all pre-installed presets will be listed as well as any presets dragged or manually loaded into DaRouter. To load a preset into DaRouter, just select one from the list.

At the bottom of the drop down list is a *Browse* listing that can be used to manually browse a preset using a file explorer dialog.

Restart Preset Button

The Restart button will start the currently running preset. This should not need to be used, but gives you the option to *restart* a preset in case of any problems.

Preset Documentation Button

The Preset Documentation button (shown as "?") will load the HTML documentation associated with the selected preset. The preset documentation includes all the setup instructions for using the preset with the application it was designed for. *To fully take advantage of the SCS.1m capabilities it is strongly recommended to click the Preset Documentation button and read its content every time that'you load a new preset.* (Figure 5.2)

5.2.2 Section B

Figure 5.3

Device Configuration

This section indicates if a device is required for use with a preset, and if that device is connected. For "Single" presets, only one device is required. For "Dual" presets, two devices are required. When a device is *not* used in a preset, the image will be ghosted. When a device is used, the image will be gray, and when the device is detected (plugged in), it will glow blue to indicate connectivity.

Device Dropdown

The device dropdown menu will list any detected devices by their serial number. Selecting a device will assign it to the deck used in the preset. Once this assignment is made, DaRouter will remember the assignment for future use so you do not need to assign the device each time. (Figure 5.3)

Options

Below each **Device Dropdown** menu there is a button called **Options**. Clicking on it will allow you to change several important settings.
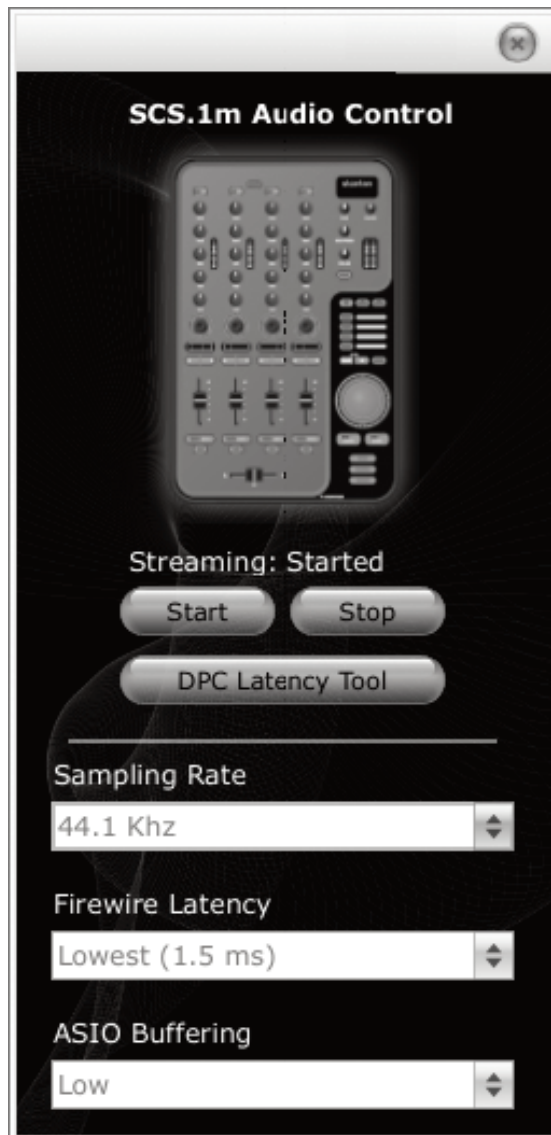

Figure 5.4

For example, if you click the SCS.1m **Options** button the *SCS.1m Audio Control Panel* will open so you will be able to Start and Stop the streaming process, access the Deferred Procedure Calls (DPC) Latency Checker (for more information please read the Appendix), and select the Sampling Rate, FireWire Latency, and ASIO Buffering settings. (Figure 5.4)

Start / Stop Streaming – Use this to start or stop the audio stream between the driver and hardware. If streaming has been stopped then no audio will be passed to the hardware.

DPC Latency Tool – Stanton includes a troubleshooting tool for detecting high DPC latency. When there is high DPC latency apparent on a machine it can affect the performance of audio and MIDI streaming. You must have low DPC latency to achieve consistent performance and low latencies.

Sampling Rate – Sampling rate will set the resolution of the audio coming from the outputs of SCS.1m. Higher sampling rates mean more audio fidelity but also more processing on the computer and should only be used on newer machines. Another consideration is the material being played. For instance, 96 kHz should only be used if your source audio is high resolution whereas 44.1 kHz or 48 kHz should be used for MP3's and CD quality content.

FireWire Latency – This sets the latency or speed in which audio is sent to the hardware. Low latency will make the controls feel "snappier." However, your computer must be able to support these low speeds. If the computer cannot support low latency, then audio hiccups or "drop outs" might be observed. If low latency is not achieved with a high-end machine, it is suggested to use the DPC tool and follow the instructions in Appendix for system optimization.

ASIO Buffering – This controls the buffers used between the driver and host application. Low buffering will mean higher speed / lower latency but requires a high-end computer.

Figure 5.5

Now, if you click the SCS.1d **Options** button the *SCS.1d Control Panel* will open, so you will be able to change the Scratch Engage, the Scratch Release, and Pitch Bend Sensitivity values. (Figure 5.5)

Scratch Engage Sensitivity – The SCS.1d uses an algorithm to detect scratching to accommodate MIDI scratching implementation in host applications such as Traktor. The Scratch Engage slider will set how quickly the scratch algorithm will detect that you are trying to perform a scratch. Higher settings will make the algorithm more snappy. However, if you set this value too high you run the risk of mistriggering a scratch message with the slightest variance in record speed.

Scratch Release Sensitivity – This slider controls how quickly the SCS.1d will detect the record being released and catching up to speed with the platter thus entering regular playback mode and disabling scratching in the host application.

Pitch Bend Sensitivity – The SCS.1d also has the ability to detect when the platter is being rubbed manually by hand to slow or speed the track up. This is detected when the platter and record change speed at the same time (whereas with scratching the platter keeps spinning at its set speed). Setting this value will change the sensitivity and once again, making it too sensitive might cause mistriggers of the pitch bend message going to the host application.

5.2.3   Section C

Figure 5.6

Activity Monitor

The activity monitor indicates messages flowing in and out of DaRouter. The first arrow indicates an incoming message. The DaRouter icon indicates a translation occurring, and the last arrow indicates an outgoing message. The images will glow blue to indicate they are processing an action.

Logos

Just for bling... actually, they do link to websites.

Version
This displays the current version of DaRouter. (Figure 5.6)

5.3   Using DaRouter

When using DaRouter, there are two basic types of presets that you may utilize; generic and application specific. The generic preset allows you to configure the application to the SCS.1 controllers through conventional MIDI Learn. However, the application specific presets are designed to work specifically with certain applications and provide logic in the SCS.1 controllers that is focused towards that application.

5.4   Loading a Preset

Confirm that no preset is loaded and your SCS.1 controller(s) is connected. At this point, you may select the preset you wish to use and then read its included documentation by clicking the "?" button. Also, remember to check the Stanton website for the latest presets as they are constantly being updated to support new functionality and applications!

5.5   Using a Preset for the First Time

1) Select the desired preset you would like to use depending on which application you are using DaRouter with.

2) Move any faders, switches or knobs on the SCS.1 controllers, to confirm feedback is making its way into DaRouter and the unit should load the preset and stop flashing.

3) Now you are ready to use the preset.

Important   Click the "?" button next to the preset (Figure 5.7) to read its included HTML documentation which explains setting up the host application and the functionality of the SCS.1 with that particular preset.

Figure 5.7

For more information about the specific SCS.1 presets always check the Stanton website for the latest presets and documentation.

6.   **Troubleshooting**

1. **I have both the SCS.1m and SCS.1d, and when I try to power them up nothing happens. What is wrong?**

You probably have the power supplies for each controller swapped. If you plug the wrong power cord into a unit, it won't power up. The power cable for the SCS.1m supplies 12V, and the one for the SCS.1d supplies 24V. You can also tell which is which by the color-coding. For example, gray for the SCS.1m and blue for the SCS.1d.

2. **Can I use the FireWire cable alone to power the SCS.1 controllers?**

No, the SCS.1 controllers require external power. We intentionally wanted power to be supplied to guarantee that consistent performance is achievable as not all bus power on the FireWire port is stable across machines.

3. **I cannot find the driver for my controller.**

In Windows, the driver installer is combined into the SCS.1 DaRouter software. In OS X, the SCS.1m controllers is Core Audio compliant and doesn't need a driver, however both the SCS.1d and SCS.1m require DaRouter to translate their control data into MIDI. As stated in the installation procedure, make sure you download the latest driver from the Stanton website.

4. **My computer does not have a 6 pin FireWire port on it.**

Use the 6 to 4 pin adapter included in the packaging.

5. **My computer doesn't have a FireWire adapter at all.**

In most cases, a FireWire interface can be easily added to a computer. For laptops, you need to look for either a PCMCIA or ExpressCard based adapter (which one to use depends on the card slot your computer is equipped with). For desktops, you should use an add-in PCI FireWire card. Please do not use a USB-to-FireWire adapter cable because it will severely degrade performance. Check the appendix of this manual for suggestions on choosing a FireWire card.

6. **I am getting click and pops in my audio.**

This can be many things. Do you hear noise even when there's no software playback? If so, then the cause is likely a ground loop (especially if it goes away when running the computer on battery power). If not, does increasing the buffering in the driver make the problem go away? If so, then it could be an issue with your system performance. For OS tweaks, please read the Appendix Optimizing Computers for 1394.

If neither of the previous options seems to fix the issue, let's try a couple of more alternatives. Do you have multiple FireWire devices connected? If so, try using just the SCS.1m. If that addresses your issue, then try re-ordering the devices in the FireWire chain. You should always have the SCS.1 controllers "closest" to the computer and plug other devices (drives, etc) into them (or run your drives on a separate port altogether). If you're running Windows XP, you might need the SidSpeed fix outlined in the appendix of this manual.

To contact Tech Support, please call us at +1 954.316.1500 and select the SCS.1 option.

7.   Specifications

Motor Type	16 Pole, 3 phase, brushless DC motor
Motor Speeds	33 1/3 rpm, 45 rpm
Starting Torque	>4.5 kgf.cm
Start / Stop Time	.2 seconds
FireWire Speed	FireWire 400
Power	24 VDC / 3.0 Amps

Appendix

Optimizing Computers for 1394 (FireWire)

When using any computer for live audio applications it is always suggested to perform certain optimizations to ensure consistent performance. For the most part live audio is not always the highest consideration for both hardware designers and software programmers. With that being said, Stanton has put together this guide and included one of the most widely used troubleshooting tools (DPC Latency Checker) with the SCS1 to help optimize your computer by performing certain tweaks, which we have found increases performance and stability substantially.

If you are having issues getting your computer to recognize the SCS.1 controllers then it is suggested to start with the SidSpeed fix. If you are having issues with audio performance (drop outs) then it is first suggested to perform the following steps:

- Disable wireless internet devices
- If running Windows on a Mac (Boot Camp), kill the process "KbdMgr.exe"
- Disable ACPI
- Perform DPC checks (below)
- Perform the SidSpeed fix (below)
- Check the brand of 1394 host controller you are using.

Please read the next page about the (DPC) Latency Checker.

DPC (Windows XP-Vista)

During the SCS.1 driver installation process, we are also installing the Deferred Procedure Calls (DPC) Latency Checker. This useful Windows application not only analyzes how your computer is handling real-time data streams but also helps you to find the potential cause for drop-outs (interruptions in real-time audio and video stream). In fact, the DPC Latency Checker will allow you to find out the driver that causes the excessive DPC latencies so then you are able to disable it through the *Windows Device Manager*. In other words, using this application will help you to optimize your system so everything runs smoothly while using the SCS.1 controllers.

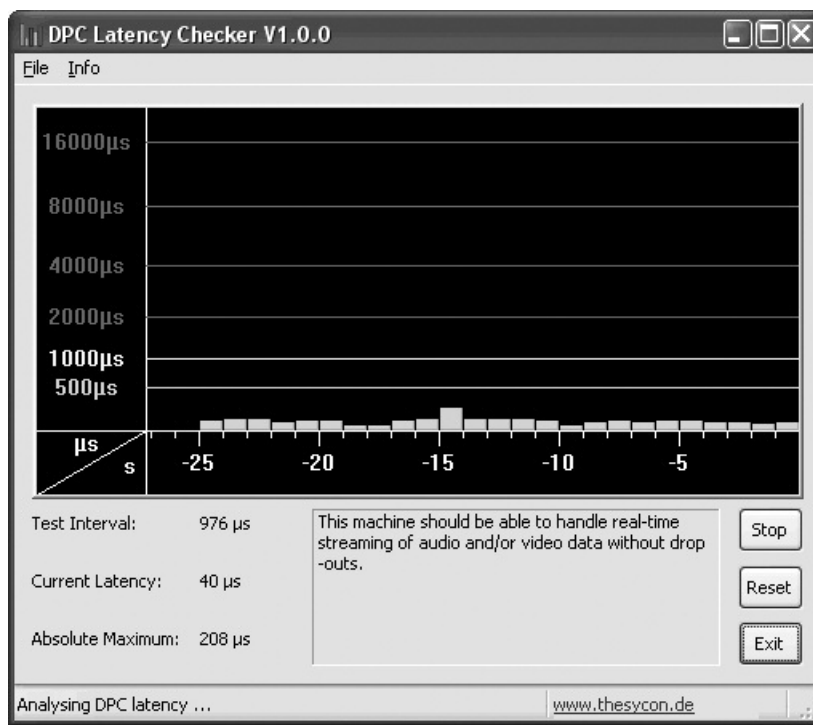Let's take a look of its main window. (Figure A.1)

Figure A.1

The green *Bar Graph* shows the current latency value over time. Each bar represents the maximum DPC latency occurred within one second. Every second, bars are scrolled from right to left and a new bar is added at the right-hand side, (representing the most recent value).

DPC Latency Checker updates its internal statistical data at an interval displayed as *Test Interval*.
The *Current Latency* value indicates the maximum DPC latency measured within the last second.
The *Absolute Maximum* value represents the maximum latency measured since the tool was started.
Click **Reset** to clear this value.

To stop the Latency click **Stop**, and to exit the application click **Exit**.

For example, a typical problem is shown in the next figure. Red bars indicate excessive DPC latency. (Figure A.2)

Figure A.2

So let's open *Device Manager* to find out the driver that causes the excessive DPC latencies. On your desktop, right click **My Computer** icon and click **Properties**. In the **System Properties** window, click the **Hardware** tab, and then click the **Device Manager** button. In the next page, please check Figure A.3.

Figure A.3

Now, before you start finding out which device could be the cause of the excessive DPC latency, please follow these suggestions:

You should *not* disable:

- any device listed in *Device Manager* under *System devices* or Computer
- the hard disk that contains the system partition
- the IDE/ATAPI or SATA controller this hard disk is connected to
- the system keyboard
- the mouse, track point or touch pad device
- the USB controller external keyboard and/or mouse devices are connected to
- the display controller listed under Display adapters

Try to disable the following devices first:

- Network adapters for Ethernet and Wireless LAN (W-LAN)
- ACPI Power Management
- Internal modems
- Internal sound devices (on-board sound systems)
- Any PCI or PCI Express add-on card, any PCCard or ExpressCard, e.g., TV tuner cards, ISDN or DSL adapters, modems, etc.

To disable a device, right-click on it (e.g. on the Ethernet adapter) and choose **Disable**. The disabled device will be marked with a red cross. (Figure A.4)
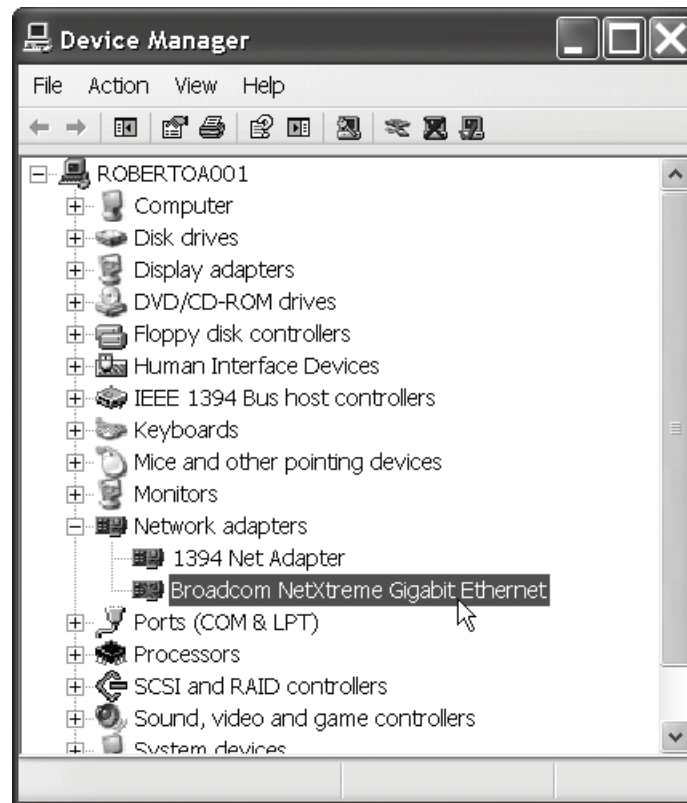

Figure A.4

Now, check the DPC Latency Checker to see if the excessive latency values (red bars) disappeared. If yes, we have found the problem, if not, try the next device. To enable a device again, choose **Enable** from the context menu.

After you have identified the device driver which is responsible for the dropouts, visit the device vendor's Web site or contact its Customer Support department to find an update for this driver. If there is no update available at the moment, you may decide to disable that particular device while you are using streaming applications.

Windows 1394a Bandwidth Limiting Issue (Windows XP-Vista)

First, let's explain a little about what the *SidSpeed Fix* is. Basically, SidSpeed is a value in your windows registry that regulates the speed of your FireWire bus. It can have a value from 0-3 (0=S100 speed, 1=S200 speed, 2=S400 speed, and 3=800 speed). If a SidSpeed value larger than 3 is used, then Windows will reject that and use a value of 0 instead, so it's important to use a value of 0-3.

Normally, the default value for SidSpeed is 2, which corresponds to a transfer rate of 400 mbps (FireWire 400).
This speed is standard for most audio interfaces, including ours. The problem is that there are situations where this value can be lowered to "0" during an OS update and result in choppy and unusable performance for streaming audio. This issue seems to have first been encountered in the SP2 update for Windows XP...

http://support.microsoft.com/kb/885222

...and came back again with the XP SP3 update.

http://support.microsoft.com/kb/955408/en-us

We've also seen incorrect (or no) SidSpeed value set in Windows Vista. So now that you have some background, let's walk through a fix that should work regardless of what version of Windows you're using.

Log in as **Administrator** on your computer (or as a User that has Administrator rights). Click on **Start**, and then click **Run**. (Figure A.5)
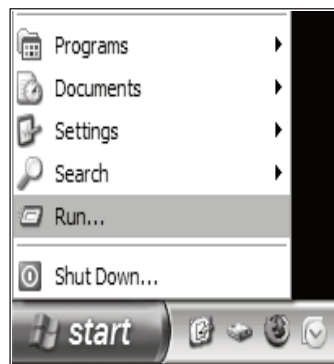

Figure A.5

This will open the **Run** command box. In the entry field, type the word *regedit* (Figure A.6)
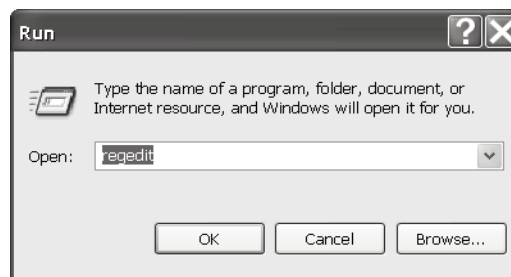

Figure A.6

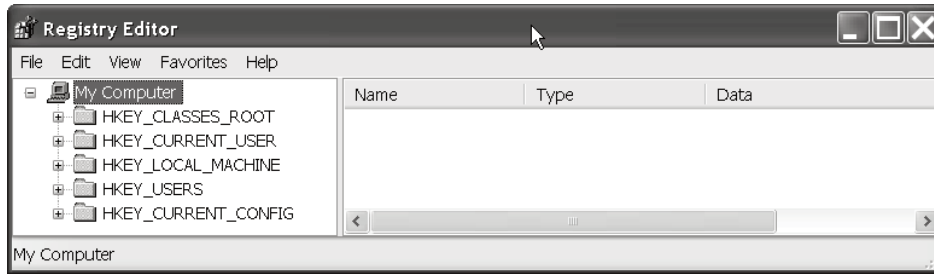This will open your **Registry Editor**, which will look like this...(Figure A.7)

Figure A.7

Now, before we go any further, we need to give you a warning and back some things up.

The registry is a dangerous place to be playing around. Using this tool makes it *very easy* to completely ruin your installation of Windows. *Please do not do anything that isn't outlined in this guide.* If you have any question at all about what you should be doing, stop and contact Technical Support.

OK, now we're ready to backup your registry (or at least the part of it that we'll be modifying). Look in the left hand side of the split pane in regedit and locate the branch called *HKEY_LOCAL_MACHINE*. Click it once to highlight it. (Figure A.8)

Figure A.8

Now click **File**, and then click **Export**. A new window will pop up. (Figure A.9)
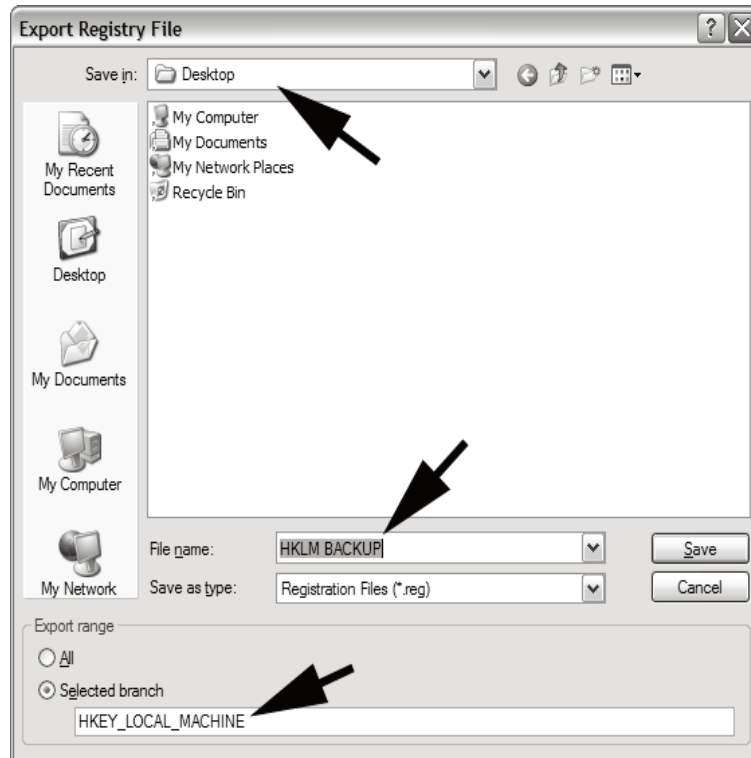

Figure A.9

At the bottom of the new window, there is an area called *Export Range*. Make sure that *Selected Branch* is marked, and that the text in the field there says *HKEY_LOCAL_MACHINE*. Go to the top of the window and find the *Save In* drop down. Select a location to save the backup that you will remember (like your desktop). Now go down to the *File Name* field and type in a name for the backup. Press the **Save** button and wait until the hourglass disappears. You have now backed up a registry branch. Although this is not necessary, at this point I would recommend also saving the registry backup you just made to an external device like a USB flash drive. If you make a mistake and there are problems booting into Windows later, this will make restoring the registry much easier. Now let's look for the *SidSpeed* value.

Expand **HKEY_LOCAL_MACHINE** (Figure A.10)

Figure A.10

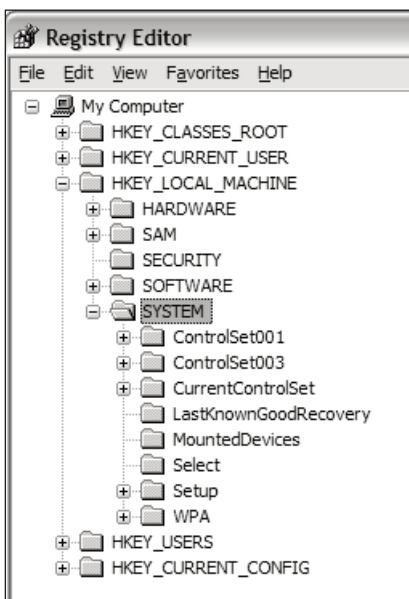Then expand the **SYSTEM** branch. (Figure A.11)

Figure A.11

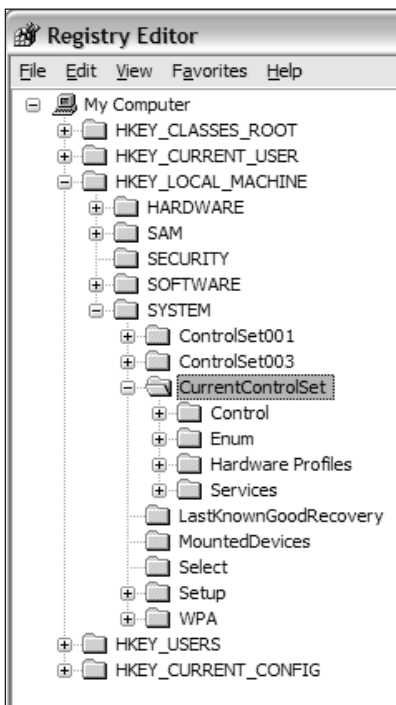Then expand **CurrentControlSet**. (Figure A.12)

Figure A.12

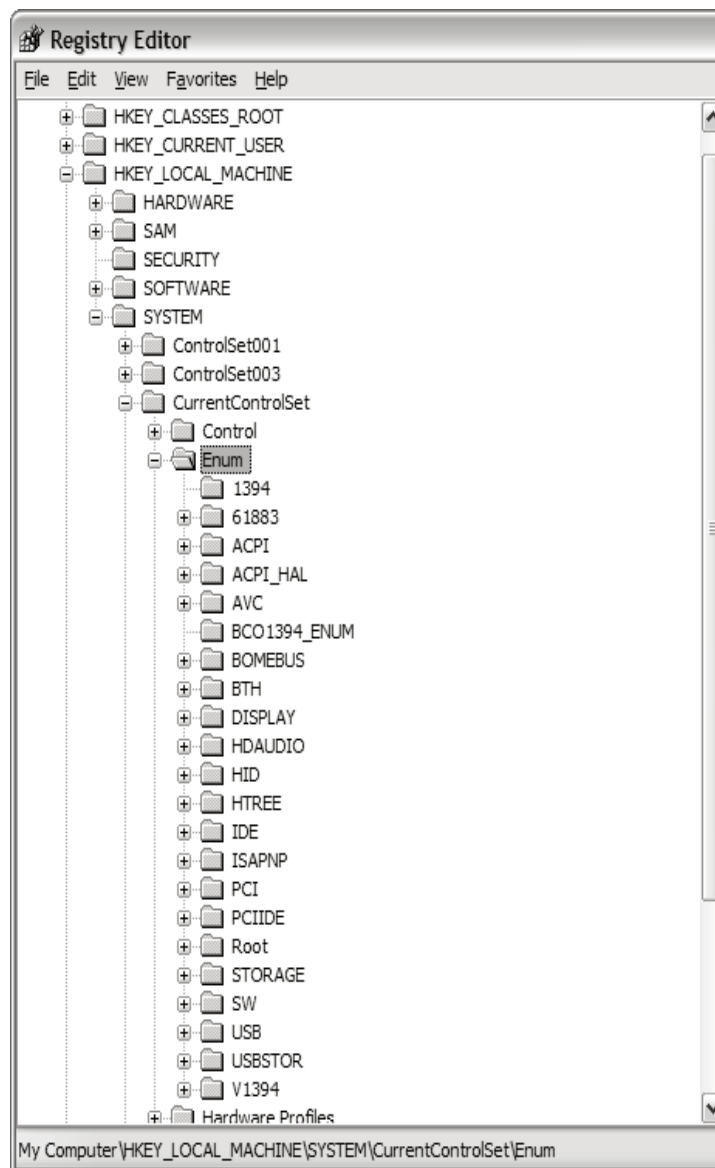Now expand **Enum**. (Figure A.13)

Figure A.13

Then expand the **PCI** branch. (Figure A.14)

Figure A.14

Now we need to find the specific key for your FireWire controller. As you can see, all the devices are named in a way that does not seem to make a whole lot of sense. It is not as hard as it may look.

Leave the **Regedit** window open and go back to Start > Run. Type in devmgmt.msc and then press **OK**. (Figure A.15)
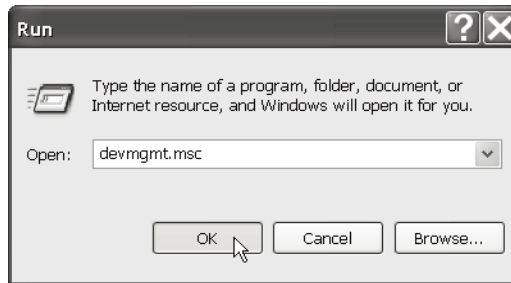

Figure A.15

This will open your **Device Manager**. Look for your *FireWire controller* (commonly called IEEE 1394). One example is highlighted in Figure A.16.
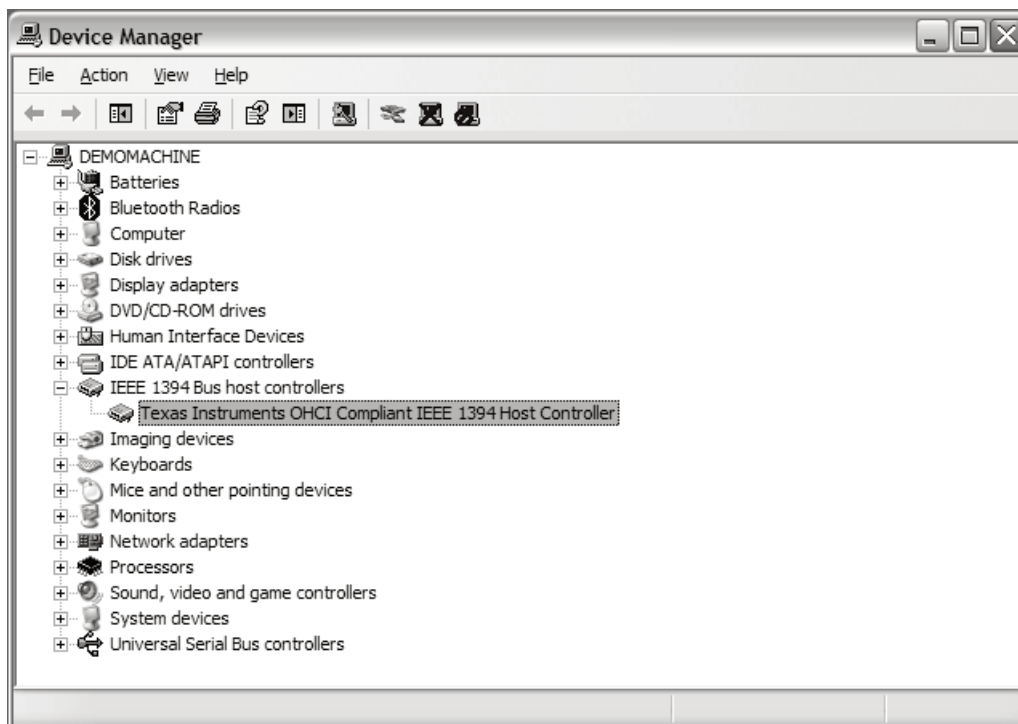

Figure A.16

Right click on your FireWire device and click **Properties**.

42

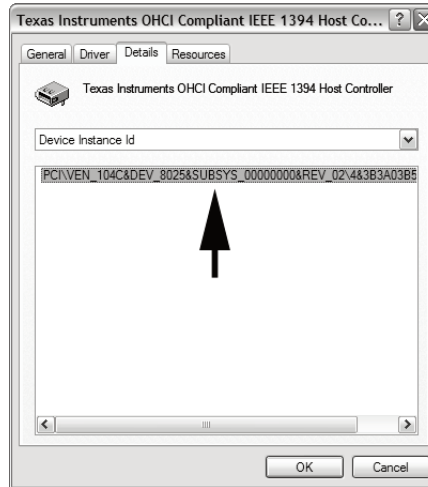Now click on the **Details** tab. (Figure A.17)

Figure A.17

See this string of text? This is what we are going to look for in the PCI branch we have open in Regedit. Going back to Regedit, we can see that I got a little lucky and have it as the first key. (Figure A.18)
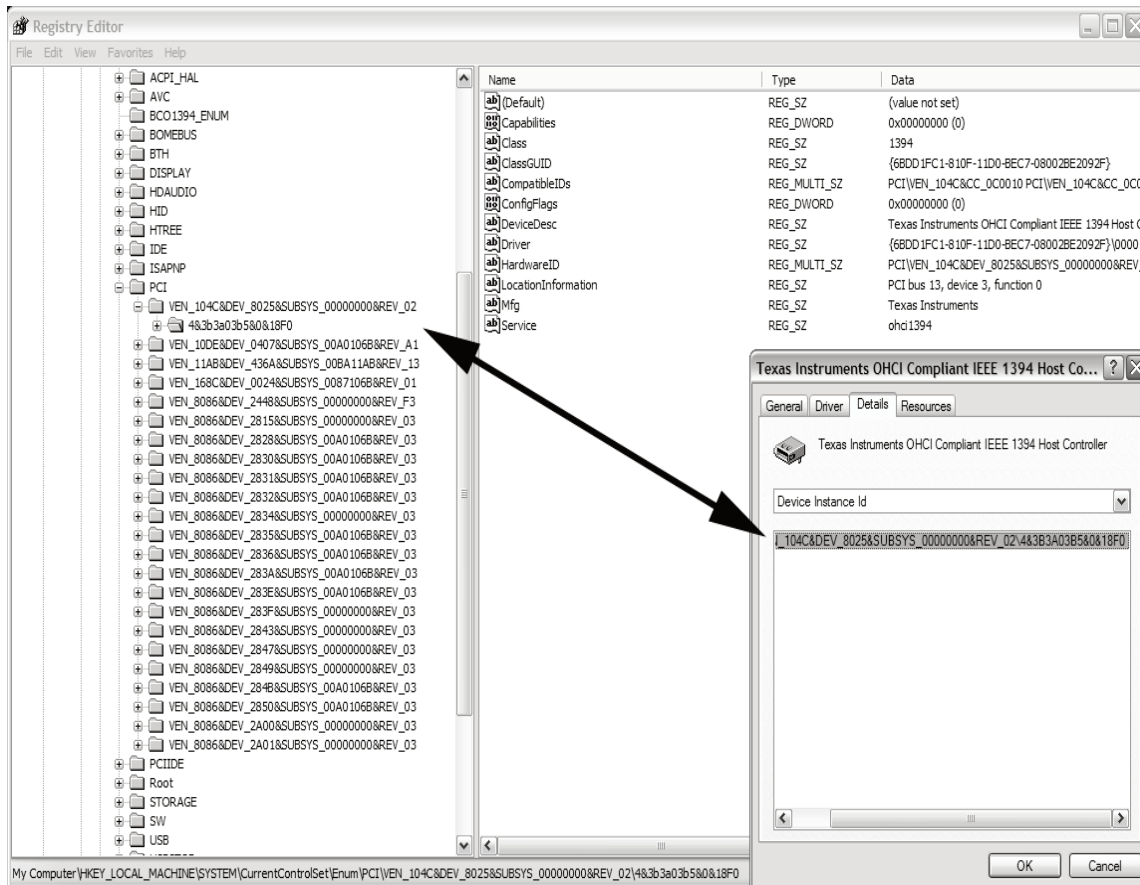

Figure A.18

If you expand out the device subkey, you'll find another subkey called **Device Parameters**. Click it to select it and look in the right pane. (Figure A.19)
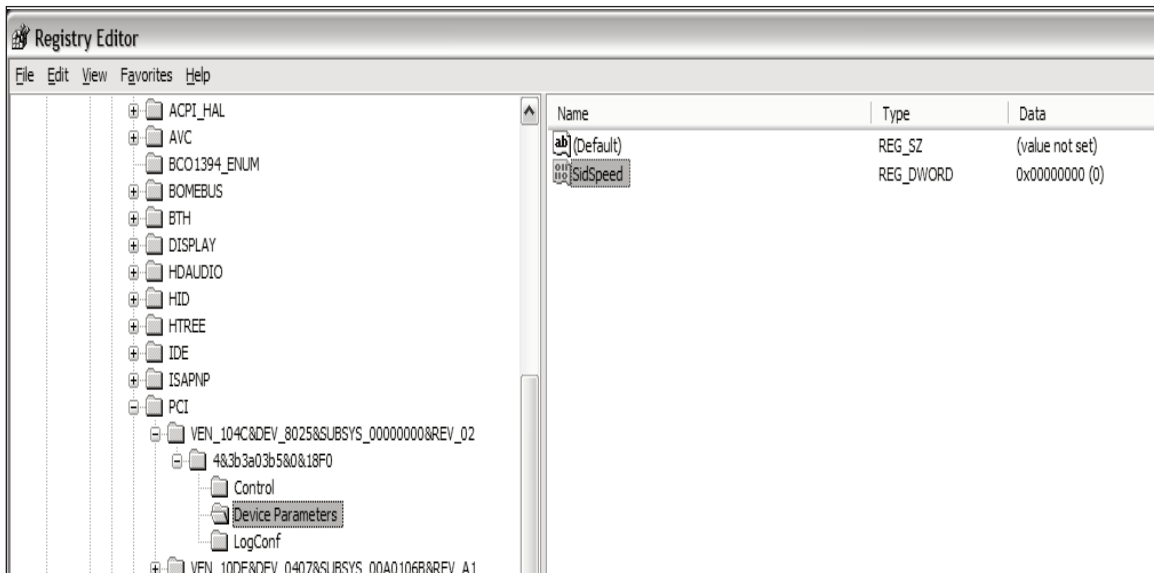

Figure A.19

In the example above, the SidSpeed key actually exists, but it is set to the incorrect speed. Double click on the **SidSpeed value** and a window will open. In that window will be a field called *Value Data*. If that value is a 0 or 1, CHANGE IT to a 3 and press **OK**. If you do not see the SidSpeed value at all, keep reading. (Figure A.20)
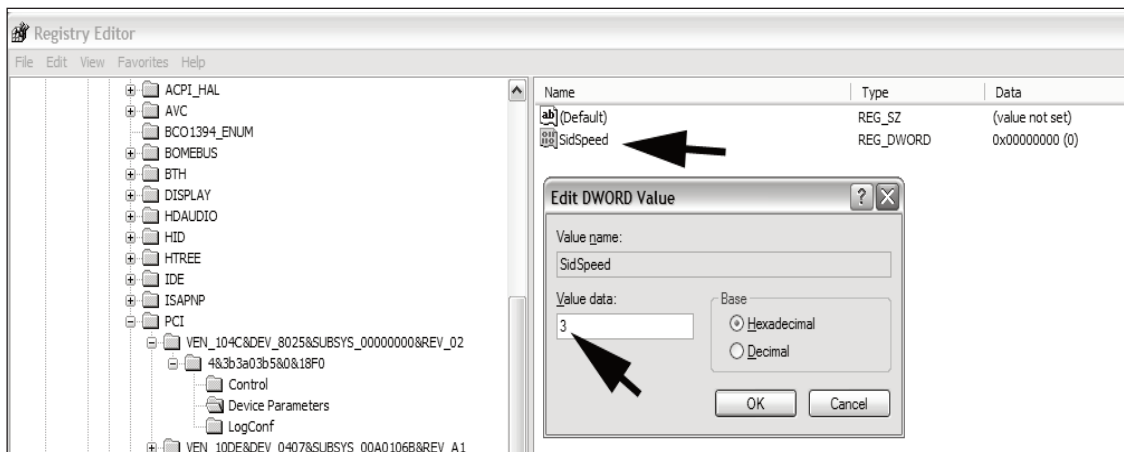

Figure A.20

If you do not have the SidSpeed value, you will need to make one. Right click in the right pane and select **New > DWORD Value.** (Figure A.21)
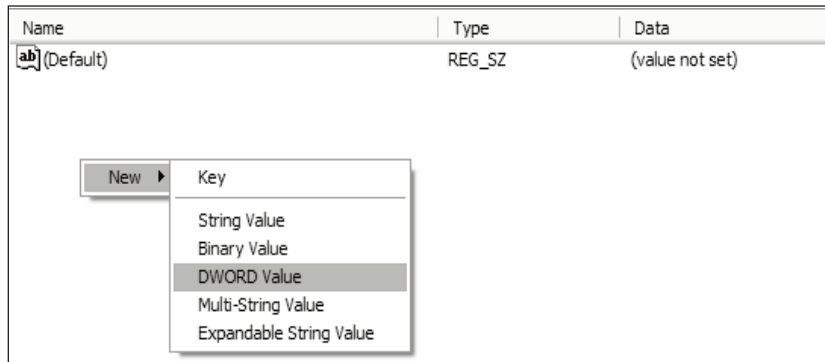

Figure A.21

Once you have created a new string, name it *SidSpeed* (Figure A.22)

Figure A.22

Finally, double click **SidSpeed** and change its value data to 3 as outlined above. Press **OK** and close the **Registry Editor**.

If you encounter an error during any step of this process (especially Vista users and errors about not having proper rights to alter a registry value), please contact Stanton Technical support. If you made a mistake and need to restore your registry, just double click on the backup you made right before we started and follow the prompts. Reboot afterwards.

FireWire Chipsets

High definition audio flowing over FireWire requires a consistent stream between the chipset in the host computer and the chipset in the SCS1 device. Unfortunately, some FireWire chipsets have known issues when it comes to the reliability and synchronization required for streaming audio. It is suggested to use name brand PCI and PCMCIA cards such as *Adaptec®* when your PC does not have FireWire capabilities, as some no-name or "OEM" FireWire cards will use chipsets of FireWire that have subpar performance and can affect stability or at worst the device will not work at all. Stanton recommends the *Texas Instruments® FireWire chips* for streaming audio. It is also suggested to stay away from Agere® chipsets as in testing issues have been identified with these chipsets. Most Apple computers utilize Texas Instruments chipsets. However, it was reported that in late 2007 Apple had switched to Agere chipsets for some production runs.

The easiest way to check if you have a Texas Instruments chipset is to run **Device Manager** and check the name of your host controller. (Figure A.23)
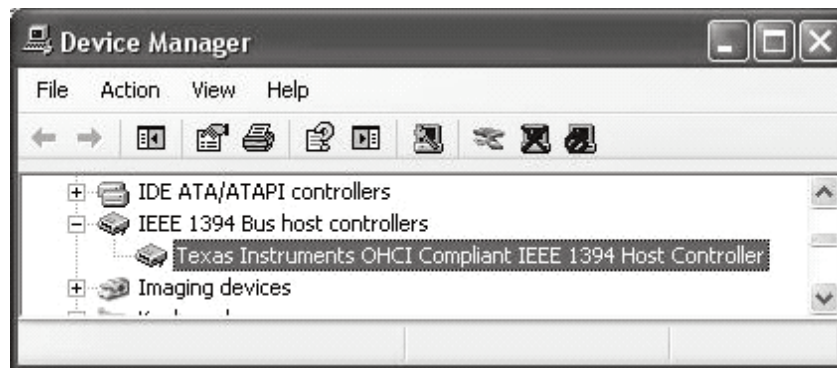

Figure A.23

To register your Stanton product on-line, please visit:
http://www.stantondj.com/v2/login_product.asp

Model Type _____ Model No. _____ Serial No. _____

Date of Purchase _____

Dealer's Name _____

Your Name _____

Your Address _____

E-mail Address _____

Please check this box ☐ to receive updates and important information about Stanton via e-mail.

How did you hear about us?

☐ Dealer ☐ Magazine ☐ Friend ☐ Web ☐ Other (Please specify) _____

stanton
www.stantondj.com

Thank you for choosing Stanton!

Your satisfaction is extremely important to us. We proudly stand behind the quality of our work and appreciate that you put your trust in us. Registering your product will help us guarantee that you are kept up to date on our latest advances.

Warranty Service in the United States:

Please contact Stanton Tech Support BEFORE sending your product. In some cases, our Tech Support team can resolve your problem immediately, avoiding down time due to shipping delays. However, if Tech Support determines that a repair is needed; please call us at +1 954.316.1500 (Option 3) to obtain a Return Authorization Number (RA#) PRIOR to shipping your product to us.

Warranty Service outside the United States:

To initiate a warranty repair, please contact the authorized Stanton dealer from whom you purchased your product, and follow the dealer's return policy.

Save your shipping boxes and all packaging materials!

For the fastest and safest product return to Stanton, please use the original shipping carton and packaging materials. Stanton cannot be responsible for any damages incurred during the shipping process due to poor or inadequate packing. Please remember to insure your shipment!

PLACE
STAMP
HERE

Stanton Magnetics, Inc
3000 SW 42 St.
Hollywood, Florida 33312
USA
Attn: Technical Support

stanton

Stanton Warranty

Through Stanton's authorized dealers around the World, Stanton, or one of Stanton's authorized distributors outside the U.S., will, without charge, repair or replace, at the sole discretion of the entity responsible for making the repair or providing the replacement, any Stanton merchandise proved defective in material or workmanship for a period of one (1) year following the date of original purchase. Exceptions to this warranty are as noted below:

The warranty for mechanical parts which are subject to wear and tear are limited to either the earlier of thirty (30) days following the date of original purchase or for 10,000 cycles for switches.

Stanton will warrant all replacement parts and repairs for ninety (90) days from the date of original shipment. Repairs made necessary by reason of misuse, alteration, normal wear, or accident are not covered under this warranty.

Returns

Authorized Stanton dealers are only authorized to sell and distribute merchandise within a specific country. All goods requiring warranty repair or replacement must be returned (freight prepaid if not hand-delivered) to the authorized Stanton dealer from whom the merchandise was purchased and in the same country where the merchandise was purchased. For purposes of purchases made via the Internet, the merchandise must be returned to the authorized Stanton dealer in the country where the authorized Stanton dealer which sold the merchandise to purchaser is located and not the authorized Stanton dealer in the country where the purchaser is located or the country in which the merchandise was received. Any returns to a non-authorized dealer or to an authorized Stanton dealer not in the same country as the merchandise was intended to be sold or as set forth above will void this warranty.

To initiate a warranty repair, you must contact the authorized Stanton dealer from whom you purchased the merchandise, and follow such authorized Stanton dealer's return policy.

Stanton assumes no risk and shall be subject to no liability for damages or loss resulting from the specific use or application made of the merchandise. Stanton's liability for any claim, whether based on breach of contract, negligence, infringement of any rights of any party, or product liability, and relating to the merchandise shall not exceed the price received by Stanton from your purchase of such merchandise. In no event will Stanton be liable for any special, incidental or consequential damages (including loss of use, loss of profit and claims of third parties) however caused, whether by the negligence of Stanton or otherwise. To the extent permitted by law and except as otherwise provided above, Stanton disclaims any express or implied warranties of merchantability or fitness for a particular purpose.

The above warranty provides you with specific legal rights. You may also have additional rights, which are subject to variation from state to state and country to country.

If there is a dispute regarding the warranty of merchandise that does not fall under the warranty conditions stated above, please include a written explanation with the merchandise when returned pursuant to the terms and conditions set forth herein.

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