To use the US-122 with the supplied GigaStudio 24 and Cubasis applications together on Windows, you will need to carry out the following steps after installing the latest US-122 drivers, Cubasis and GigaStudio. Ensure that the GigaStudio is installed in accordance with the instructions contained in the README file on the CD-ROM.

A technical note on different audio data types

In common with the other products in the TASCAM series of USB audio interfaces, the (Windows) drivers for the US-122 provides kernel-level mixing of audio data sent to the unit. There are three types of client: WDM, ASIO and GSIF, and the audio from up to one client of each type (this is, up to three sources) is mixed at unity gain, with saturation logic applied to preserve the range. This applies to all versions of Windows supported by the US-122 and there is very little system overhead involved

In practical terms, this means that you can use GigaStudio (a GSIF client) together with Cubasis (an ASIO client), at the same time, with the output of both programs being sent to the US-122 outputs simultaneously.

Setting up the GigaStudio 24 application

1 **Launch the GigaStudio application.**

2 **Under the** *View* / *Settings* **menu, select the** *Choose Hardware/Routing* **tab.**

3 **Use** US-122 **for the** *Hardware* **choice.**

In the GigaStudio 24 Select Library function:

1 **Under View / Port1, double-click the appropriate MIDI channel, to bring up a popup window.**

2 **Choose the correct library file (**.gig **file) from the** Gigs **folder (this "Gigs" folder should have been specified when you installed GigaStudio).**

Cubasis

1 **Launch the Cubasis application.**

2 **Under the** *Options* / *MIDI Setup* / *System* **menu, choose** US-122 **as the MIDI input.**

3 **Make sure the MIDI thru function is turned ON.**

4 **On the** Arrange **window, choose** *Nemesys Midi Port1* **as the output destination for the MIDI track corresponding to the GigaStudio channel you have set up earlier.**

Cubase SX/SL

Cubase SX/SL is very similar in both its Mac OS X and Windows implementations.

Before setting up the US-122 to work with Cubase, please install the latest US-122 drivers. Begin the setup procedure below with the US-122 plugged in. If you have not already done so, install Cubase SX or SL.

Setting up MIDI

Use the *MIDI System* panel of the *Devices/Device Setup* window to select the US-122 as the default MIDI input and output.

Note that this does not mean that the US-122 is the only MIDI device that can be used in your projects, but it does make it the first choice.

Setting up audio

Use the *VST Multitrack* panel of the *Devices/Device Setup* window to select the US-122 in the *ASIO Driver* section for input and output.

The sampling frequency, etc. is set in the project settings.

Set the *Audio Buffer Size* to an appropriate setting (this depends on your computer, etc., so it is impossible to make hard and fast recommendations).

For a detailed discussion of latency-related issues, see the Cubase SX/SL *Getting Started* manual, pp44–48.

In the Windows version, you can use the *Control Panel* button to bring up the US-122 control panel. In OS X, you must launch this from /Applications.

Use the panel brought up by the *Devices/VST Inputs* menu item to enable and disable the two inputs of the US-122 as required (they can be enabled and disabled only as a pair). You can rename them here if you want, and this name will appear in all mixer, etc. settings.

Windows

Before setting up the US-122 to work with Cubase, please install the latest US-122 v3.0 drivers. Begin the setup procedure below with the US-122 plugged in. If you have not already done so, install Cubase VST

NOTE

Several revisions and bug fixes were implemented in subsequent updates to VST 5. We suggest you visit Steinberg's Web site and make sure you have the most current version.

Open the Cubase application.

Under the *Options* / *Audio Setup* / *System* menu, locate the *ASIO DEVICE* selector and choose one of the US-122's ASIO drivers (16 or 24 bit) as the device.

Under *VST INPUTS*, make sure both pairs of inputs are open (green input indicators are lit).

Also set up the MIDI inputs and outputs using the *Option*/ *MIDI* / *System* menu, and select the US-122 for input and output.

NOTE

These parameters save with the song and are not globally remembered. You will need to save the song as DEF.ALL *if you want the US-122 setup to load automatically.*

With Cubase 3.7 and earlier:

Open the Cubase application.

From the *AUDIO* pulldown menu, choose *SYSTEM*. In the ASIO dropdown menu, select the US-122 16-bit or 24-bit ASIO drivers.

Mac OS

Open the Cubase application.

From the *Options* pulldown menu, choose *MIDI* / *Setup* / *System.* Under *OMS COMPATIBILITY*, select *IN AND OUT*.

Still under the *Options* / *MIDI Setup* / *System* menu, open the *Input From* menu and enable the US-122 MIDI inputs and outputs.

Under the *Options* / *Audio Setup* / *System* menu, locate the *ASIO Device* selector and choose one of the US-122's ASIO drivers (16 or 24-bit) as the device.

NOTE

These parameters save with the song and are not globally remembered.You will need to save the song as DEF.ALL if you want the OMS MIDI setup to load automatically.

You should now be ready to use Cubase 5.0 with the US-122.

With Cubase 4.1 and earlier:

Open the Cubase application.

From the *Options* pulldown menu, choose *MIDI Setup* / *System*. Under *Oms Compatibility*, select *IN AND OUT*.

Still under the *Options* / *MIDI Setup* / *System* menu, open the *INPUT FROM* dialog and enable the US-122 MIDI connectivity.

Under the *Options* / *Audio Setup* / *System* menu, locate the *ASIO Device* selector and choose one of the US-122's ASIO drivers (16 or 24-bit) as the device.

NOTE

These parameters save with the song and are not globally remembered. You will need to save the song as DEF.ALL *if you want the OMS MIDI setup to load automatically.*

You should now be ready to use your Cubase with the US-122.

Nuendo — Windows and Mac OS

Before setting up the US-122 to work with Nuendo, please install the latest US-122 v3.0 drivers. (Refer to the document on installing the US-122 drivers with either Win98SE/ME or Win2000.)

Begin the setup procedure below with the US-122 plugged in. If you have not already done so, install Nuendo.

Installing the US-122 under Nuendo:

Open the Nuendo application

From the *Devices* menu, choose *Device Setup*.

Select the *Add/Remove* tab. Select TASCAM US-122 from the device menu and click *ADD*. TASCAM US-122 should appear on the list of loaded devices on the left side of the window.

Highlight *VST Multitrack*. In the *ASIO Driver* pull-down menu, select the *ASIO US-122* (16- or 24-bit) driver.

Highlight *Default MIDI Ports*. Select *US-122 MIDI* from the *INPUT* and *OUTPUT* drop-down menus.

From the *Devices* menu, choose *VST Inputs*. Make sure the pair of inputs of the US-122 is set to active.

If you're running Nuendo for the first time, you'll need to create a new project.

Select *File/New Project*, and choose *Empty Project*.

You'll then need to add tracks to the project. Select the *Project/Add Tracks* menu. This can be done one at a time by choosing the type of track (*Audio*, *MIDI* or *Group*), or by selecting *Multiple*.

Pro Tools Free: This free software application offers eight tracks of digital audio and 48 tracks of MIDI. You can record up to two inputs simultaneously.

Before using the set-up information provided in this chapter, first install Pro Tools Free (and OMS if you're on a Mac) as described in the ProTools document PT FREE Quick Start Guide.pdf that comes with the Pro Tools Free download.

Make sure that Pro Tools Free is working using your computer's built-in speaker before proceeding further. You can use the sample project provided with Pro Tools Free to test it.

To use the US-122 in this set-up, you must have the latest version of the US-122 driver installed on your system.

Before using this set-up document, first read the documentation on installing the US-122 drivers.

US-122 setup

You might need to adjust the audio latency for your system. Do this in the *System* tab of the US-122 control panel.

Using a smaller setting will reduce the audio input to output latency through Pro Tools Free, but also increases the chance of audio drop outs. A setting of 1024 works well on many computers.

If you get an error message when playing that says You're running out of CPU power.Take out some plug-ins to free up CPU power then you should first try increasing your latency setting. You might also adjust your CPU usage limit under the *Setups*/*Hardware* menu item. For advice on low-latency input monitoring, see the Input Monitoring section below.

Input Monitoring

With Pro Tools Free, you can monitor your inputs using on-screen controls, including listening to plug-in effects applied to input in real time. As an engineer, this can be quite handy, but as a performer it is less than ideal since the input to output latency (time delay from input to output signal) is tens of milliseconds long. That's long enough to ruin your timing if you are trying to record while listening to previously recorded tracks (overdubbing).

For ultra-low latency monitoring (<1.5msec), you can instead use the US-122's hardware input monitoring feature.

Using this technique, you won't hear plug-in effects being applied to your inputs, but your timing will be rock solid. Here's how to do it:

1. **For record-enabled tracks, assign their output to an unused bus. This way, you won't hear Pro Tools' high-latency monitor output.**
2. **Use the DIRECT switch on the US-122 to enable direct monitoring. Adjust the level with the DIRECT MONITOR control. You can also fold the direct monitor signal to mono using the MONO switch.**

Setting up SoundManager Support (pre OS X)

The Macintosh Sound Manager is a standard 2-channel software interface for playing and recording sound on a Mac. The audio inputs and outputs (speakers) that are built into any Macintosh use the Sound Manager interface, and essentially every Mac application that uses sound supports it.

This includes not only audio recording and editing programs, but also games, video editors, web browsers, MP3 players, and even Macintosh beeps and system sounds. Even some audio-oriented program only support Sound Manager I/O, such as Digidesign's Pro Tools Free. The Sound Manager input and output sources are selected by control panels. The control panels used are different in MacOS 8.6 and 9.0, and are explained separately below.

Mac OS 9.0

The Sound control panel in MacOS 9.0 is used to select Sound Manager inputs and outputs. With this control panel active, click on the left of the window where it says Output to display the possible Sound Manager output devices. On the right, click on US-122 to select it as the Sound Manager output.

The US-122 has its own output volume controls, so the output volume slider can only be used to mute or enable sound output. Moving the volume slider to the right or clicking on it will send a system beep from the US-122 outputs.

When you click Input on the left, the available input devices appear on the right. Click on US-122 to select it as the Sound Manager input device.

Mac OS 8.6

The Monitors and Sound control panel in MacOS 8.6 has a Sound section. It displays the currently selected Sound Manager output and lets you select among several Built In input sources. It cannot be used to select the US-122 as the Sound Manger input or output.

The Sound control panel has a selection line at the top to let you choose among *Alert Sound*, *Sound In*, *Sound Out*, and *Volume* windows Note that if your Sound control panel does not have all these options, you should use the alternate Sound control panel found in *Apple Extras*/*Sound Control Panel*). With Output selected, you can choose US-122 as the Sound Manager output.

Since the US-122 has its own output volume control, its slider under Volume in this control panel is only used to enable or mute the US-122 output.

The US-428 is supported in Digital Performer v2.7 and later. Before setting up the US-428 to work with Digital Performer, please install the latest US-122 Mac OS drivers, and set up either OMS or FreeMIDI.

Refer to the chapters on setting up both the drivers and OMS. Information on setting up FreeMIDI may be found in the Digital Performer documentation)

Begin the setup procedure below with the US-428 plugged in.

Verify that the ASIO drivers are installed correctly. Open the ASIO Drivers folder within the Digital Performer folder. Verify that this folder contains both the US-122's 16-bit and 24-bit ASIO drivers. (If not you can copy them from the US-428 folder on the Desktop, which was created during installation).

Open Digital Performer. Select an existing project, or open a new one.

From the *Basics* / *MOTU Audio System Options* menu, select *Configure Hardware Driver*. From the pulldown menu that appears, select the *ASIO* device option, and then select one of the US-428's ASIO drivers.

Cakewalk Sonar

With Cakewalk Sonar, you can use the US-122's audio and MIDI facilities.

Make sure that the latest US-122 drivers are installed, and that the US-122 is connected before you install Sonar.

Selecting MIDI

From the *Options* menu, select *MIDI Devices*.

Select the *US-122 MIDI Port* for both input and output devices (Sonar allows you to choose more than one MIDI port for both input and output, so you can add these MIDI ports to the list of available ports).

Selecting audio

From the *Options* menu, select *Audio*.

Select the US-122 as the *Playback Timing Master* (*US-122 Out*) and the Record Timing Master (*US-122 L-R*) in the *General* tab).

Adjust the Audio Driver Bit Depth (16 or 24 bits) and the Sampling Rate (44.1kHz or 48kHz) and the File Bit Depth (we suggest you keep this value the same as the Audio Driver Bit Depth).

Click the *Wave Profile* button. The system will analyze the audio properties of the US-122 and you can see the results in the *Driver Profiles* tab.

Enable or disable any other audio devices as well as the US-122 in the *Drivers* tab. Since the US-122 probably has a lower latency than most other devices, you may well want to disable everything except the US-122.

Finally, you can enable or disable direct monitoring (bypassing the AD-DA loop) in the *Input Monitoring* tab.

Propellerheads Reason

You can use the US-122 to act as the MIDI I/O and audio output for the Reason virtual synthesizer environment.

Make sure that you have installed the latest US-122 drivers before proceeding.

The following instructions work equally well with the Windows or Mac OS versions of Reason.

Setting up MIDI

In the Reason *Preferences* panel, select the *MIDI* pane, and select the US-122 as the *Port* on which MIDI information will be received. Match the MIDI channel to the *Channel* which your MIDI device is using for transmission.

If you're playing Reason from an external sequencer, etc. you may also look at the *Advanced MIDI* pane, especially the *MIDI Clock Sync* selection, if you need to synchronize Reason with an external sequencer, etc.

Setting up Audio

In the Reason *Preferences* panel, select the *Audio* pane, and select the US-122 as the Audio Card.

Select the sampling frequency (*Sample Rate*)—either 44.1 or 48kHz.

In the Windows version, you can adjust latency with the Buffer Size slider, and in Mac OS X, select the number of *Buffer Frames* to avoid pops, etc.

Reason under Mac OS pre-X does not allow the latency to be adjusted.

See the Reason documentation (pp238–241 of the PDF manual) for full discussions of audio issues within Reason.