

USB 2.0

TRACKER *pre*

**Audio Interface /
Mobile Preamp**



Reference Manual

TRACKER

pre

Audio Interface / Mobile Preamp

Reference Manual

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Revision: A

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INTRODUCTION



Thank you for your purchase of the E-MU Tracker Pre USB 2.0 Audio Interface/Mobile Preamp. This interface brings an unparalleled level of USB audio quality to the Mac or PC, with pristine 24-bit/192kHz A/D and D/A converters, ultra-low jitter clock, and XTCT™ Class-A, ultra-low noise mic/line/hi-Z preamps. The signal-to-noise specs of Tracker Pre USB 2.0 are unmatched by any other brand of USB interface on the market! From its plug-and-play functionality and hands-on ergonomic design, to professional features like zero-latency direct monitoring, Tracker Pre will forever change your expectations of USB audio. We've also included the powerful E-MU Production Tools Software Bundle so that you'll have everything you need to create, record, edit, and mix your music.

Some of the other key features are detailed below:

- Record and Playback support for a multitude of sample rates: 44.1k, 48k, 88.2k, 96k, 176.4k, 192k. (176.4k & 192k available on PC version only)
- E-MU CurrentMorph™ (*pat. pend.*) phantom power circuit allows bus-powered +48V without compromising audio performance.
- Insert jacks on both channels allow you to insert compressors, EQs, or other processors after the XTCT™ Class-A, ultra-low noise preamps.
- Hardware zero-latency direct monitoring (mono or stereo) allows you to record and overdub with no annoying delay
- Can be used as a stand-alone, audiophile-quality microphone preamplifier using an optional external power supply.
- Independent ground lift switches for both analog TRS inputs help to solve potential ground loop problems
- Studio-Grade Headphone Amplifier with level control

NOTE

There are some limitations when operating at higher sample rates. See [page 16](#) for details.

PACKAGE INCLUDES

- E-MU Tracker Pre USB 2.0 Audio Interface
- USB Cable (2 meters)
- Installation Guide

E-MU Software/Manual Installation CD-ROM (OS X /Windows)

- Windows XP, Windows x64, Windows Vista, Windows Vista x64 Drivers
- Mac OS X 10.4, Mac OS X 10.5 Drivers
- Owner's Manual and Tutorials
- Adobe Acrobat Reader (*Windows only*)

E-MU Production Tools Software Bundle DVD (OS X /Windows)

Windows Applications

- E-MU Proteus VX (*with over 1000 sounds*)
- Cakewalk Sonar 6 LE
- Steinberg Cubase LE4
- Celemony Melodyne essential
- IK Multimedia AmpliTube Duo
- SFX Machine LT

OS X Applications

- Steinberg Cubase LE4
- BIAS Peak Express 5
- Celemony Melodyne essential
- IK Multimedia AmpliTube LE
- SFX Machine LT
- T-Racks EQ

Ableton Live Lite 6 E-MU Edition CD-ROM (OS X, Windows)

- Ableton Live Lite 6 E-MU Edition

Waldorf Edition LE CD-ROM (OS X, Windows)

- Waldorf Edition LE

COMPUTER REQUIREMENTS

The minimum computer system requirements for the E-MU Tracker Pre USB 2.0 are listed below.

Windows

- Intel® or AMD® processor – 1.2 GHz or faster
- Intel, AMD, or 100% compatible motherboard & chipset
- Microsoft® Windows® XP (SP 2 or greater), Windows XP x64, Windows Vista, or Windows Vista x64
- 1 available (Hi-Speed) USB 2.0 port *
- 512 MB System RAM
- 900 MB of free hard disk space for full installation
- CD-ROM/CD-RW drive required for software installation
- DVD-ROM drive required for bundled software installation
- X VGA Video (1024 x 768)

OS X

- Apple® Macintosh® G4 800 MHz G4 compatible or Intel-based processor
- Apple Macintosh OS X (10.4.3 or greater)
- 1 Available (Hi-Speed) USB 2.0 port †
- 512 MB System RAM
- 500 MB of free hard disk space for full installation
- CD-ROM/CD-RW drive required for software installation
- DVD-ROM drive required for bundled software installation
- X VGA Video (1024 X 768)

* *When connecting the Tracker Pre to a USB 1.1 port on a Windows PC, performance is limited to 16-bit and 44.1/48 kHz recording and playback.*

† *USB 1.1 is not supported on the Macintosh*

SOFTWARE INSTALLATION

Windows XP or Windows Vista

Follow these instructions to install the Tracker Pre USB 2.0 software and E-MU Production Tools software bundle on a Windows XP or Windows Vista computer.

1. First connect the Tracker Pre USB 2.0 to your computer using the supplied USB cable, and turn it on.
2. If Windows prompts you with an Add New Hardware Wizard, click **Cancel**.
3. Insert the E-MU Software/Manual Installation CD into your CD-ROM drive. If Windows AutoPlay mode is enabled for your CD-ROM drive, the CD starts running automatically. If not, from your Windows desktop, click **Start->Run** and type **d:\setup.exe** (replace **d:** with the drive letter of your CD-ROM drive). You can also simply open the CD and double-click **Setup.exe**.
4. The installation splash screen appears. Follow the instructions on the screen to complete the installation. You will have the option to install Tracker Pre, and Adobe Acrobat Reader.
5. Choose "Continue Anyway" when you encounter the "Windows Logo Testing" warning screen. See the note below.
6. When prompted, restart your computer.
7. Be sure to register your Tracker Pre so we can advise you of future software updates and special offers. You can register online at: www.emu.com/register
8. Your Tracker Pre USB 2.0 is now ready to use.
9. Insert the **Windows Production Tools Software Bundle DVD** into your DVD-ROM drive.
10. The installation splash screen appears. Follow the instructions on the screen to complete the installation.

Note About Windows Logo Testing

When you install the Tracker Pre USB 2.0 drivers, you will see a dialog box informing you either that the driver has not been certified by Windows Hardware Quality Labs (WHQL), or that the driver is signed by Creative Labs, Inc., and you will be asked if you would like to continue with the installation.

The Tracker Pre USB 2.0 audio drivers are not certified by WHQL because the driver does not support some of the features that the Microsoft Windows Logo Program requires, most notably Universal Audio Architecture (UAA) and Digital Rights Management (DRM).

Despite this, the Tracker Pre USB 2.0 audio drivers have been rigorously tested using the same test procedures that a WHQL qualified driver requires, and it passes in all of the other important categories, including those that measure the relative stability of the driver. So, it is perfectly safe to install these drivers on your computer.

Uninstalling all Audio Drivers and Applications

At times you may need to uninstall or reinstall the Tracker Pre USB 2.0 application and device drivers to correct problems, change configurations, or upgrade outdated drivers or applications. Before you begin, close the E-MU Audio control application. Applications running during the uninstallation will not be removed.

1. Click **Start -> Control Panel**.
2. Double-click the **Add/Remove Programs** icon.
3. Click the **Install/Uninstall** tab (or **Change or Remove Programs** button).

4. Select the **E-MU Audio Drivers** entry and then click the **Change/Remove** button.
5. In the **InstallShield Wizard** dialog box, select the **Remove ALL** option.
6. Click the **Yes** button.
7. Restart your computer when prompted.

You may now re-install existing or updated E-MU device drivers or applications.

► **To Reinstall the Drivers:**

1. Disconnect the Tracker Pre USB connection.
2. Reboot your PC.
3. When the operating system has finished loading, re-connect the Tracker Pre USB connection. Important! Make sure you are using a USB 2.0 port.
4. The Hardware Wizard will launch when it detects the Tracker Pre. **Cancel it!**
5. Run the Installer from the Software/Manual Installation CD-ROM.
6. Reboot the PC when asked. If you're not asked, reboot anyway.
7. Check the Device Manager, Sounds Video and Game Controllers to make sure the E-MU Tracker Pre|USB is shown.

Macintosh OS X

Follow these instructions to install the Tracker Pre USB 2.0 drivers and software on a Macintosh OS X computer. First, connect the Tracker Pre to your computer as shown on [page 12](#).

Install the Tracker Pre USB 2.0 Software

1. Insert the **E-MU Software/Manual CD-ROM** into your CD-ROM drive.
2. Double-click on the **E-MU** icon on the desktop.



3. Double-click on the **Install** icon to start the installation.



4. The installation Welcome screen appears. Follow the instructions on the screen.
5. When the **Authenticate** dialog box appears, enter the administrator password you chose when you installed OS X.
6. Continue to follow the instructions on the screen to continue the installation. You will be given the option to install:
 - **Easy Install:** Installs the following applications and drivers.
E-MU Tracker Pre USB 2.0: USB Drivers and Control Application
 - **Custom Install:** allows you to choose which components are installed.
7. **Easy Install** is recommended. The software will be quickly installed. When prompted, restart your computer.
8. Be sure to register your Tracker Pre USB 2.0 so we can advise you of future software updates and special offers. You can register online at:
www.emu.com/register

Set-up the Tracker Pre USB 2.0 as your Default Audio Device

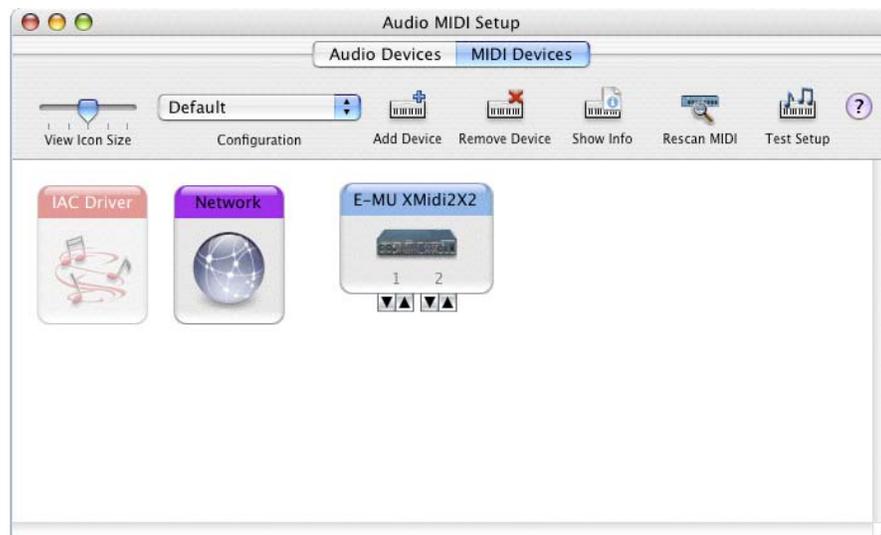
9. Click **Go** -> **Utilities** from the menu bar.
10. Double-click **Audio MIDI Setup**, then click the **Audio Devices** button if it's not already selected. The window shown on the following page appears.
11. Select the Tracker Pre USB 2.0 for the following: **Default Input**, **Default Output**, **System Output**, **Properties For**.
12. Play a song on **iTunes** to verify that the Tracker Pre USB 2.0 is the default device for audio playback.
13. Quit iTunes.



Setup the MIDI Devices

If you plan to use a MIDI keyboard, now would be a good time to set up your MIDI devices. Connecting a MIDI keyboard will allow you to use the virtual instruments provided in the software bundle and get the most out of your purchase. You'll also need a MIDI interface such as the E-MU Xmidi 2x2 or Xmidi 1x1.

14. Click the **MIDI Devices** button. The window shown below appears.



Software Installation

15. If you have a USB class-compliant MIDI device connected, it will appear as an icon in the MIDI Devices window.
16. Press the close button  to close the Audio MIDI Setup window.

Install the Production Tools Software Bundle

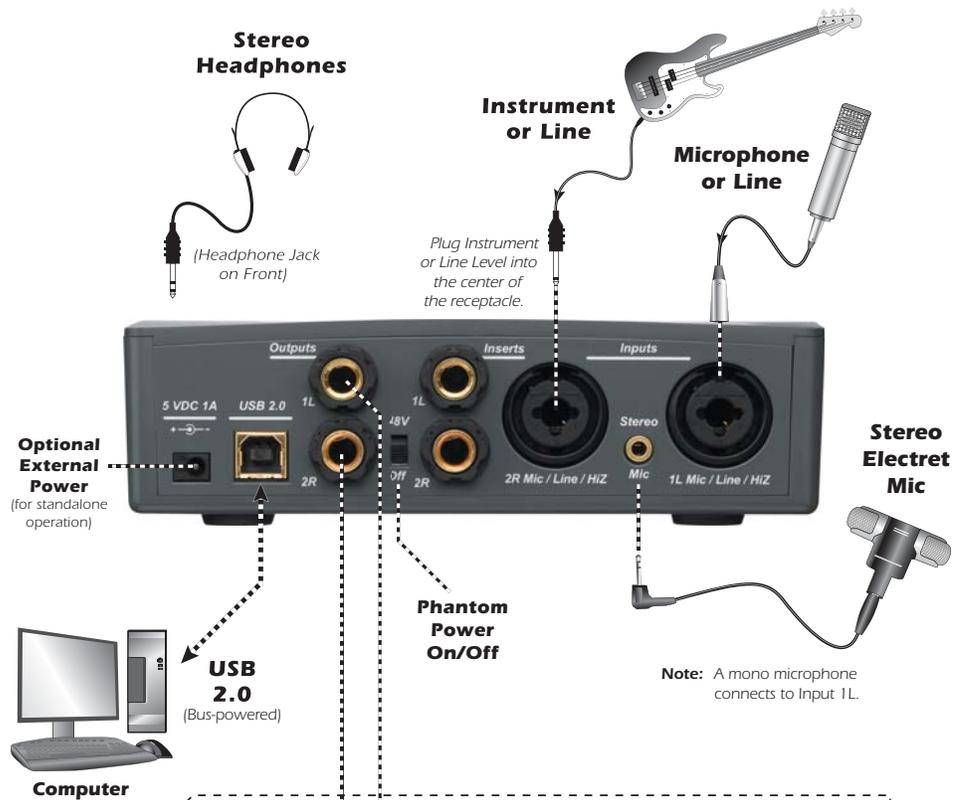
17. Insert the **Macintosh Production Tools CD** into your CD-ROM drive.
18. Double-click on the installer package.
19. The installation splash screen appears. Follow the instructions on the screen.
20. Continue to install applications from the bundle as desired.

Uninstalling the Audio Drivers and Applications

At times you may need to uninstall or reinstall the Tracker Pre USB 2.0 application and device drivers to correct problems, change configurations, or upgrade outdated drivers or applications. Before you begin, close the E-MU Tracker Pre Audio control panel application. Applications running during the uninstallation will not be removed.

1. Open the **Applications** folder.
2. Open the **Creative Professional** folder.
3. Open the **E-MU USB Audio** folder.
4. Click the **E-MU USB Audio Uninstaller** and follow the instructions.

BASIC CONNECTIONS



Note: A mono microphone connects to Input 1L.

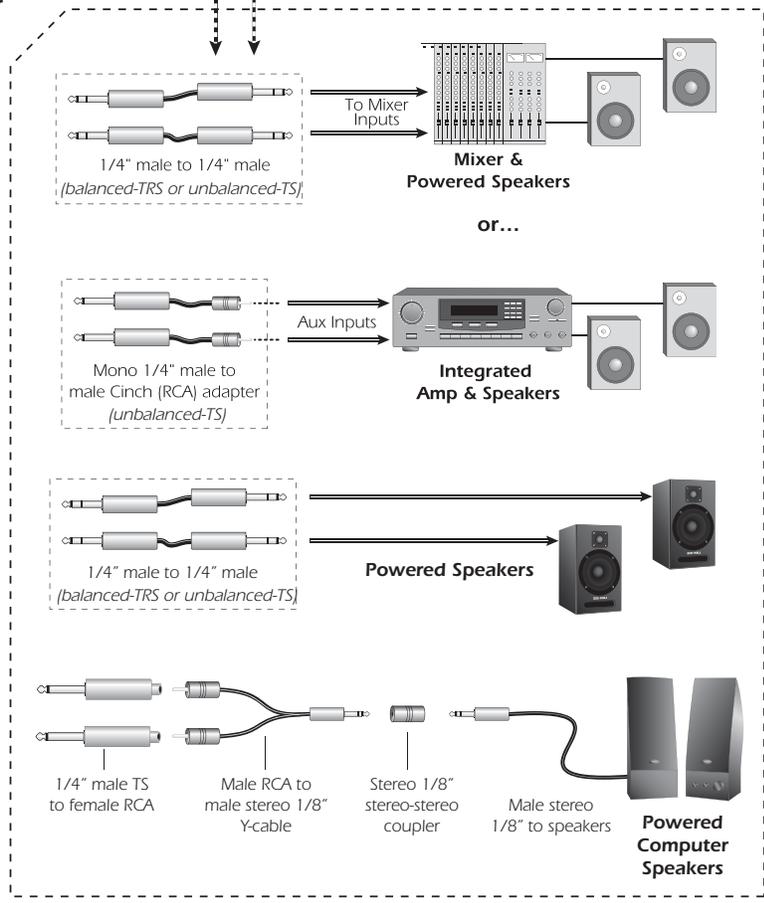
WARNING!

Use only a USB 2.0 certified Hi-Speed cable (like the one supplied) for the USB connection. Using a USB 1.1 cable may cause erratic behavior and degraded performance.

NOTE

The Main Outputs are balanced and can be used with either balanced or unbalanced cables.

Balanced cables should ONLY be used when connecting to a device with balanced inputs.

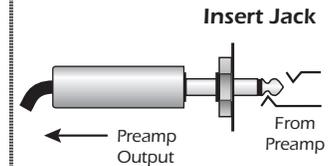


INSERT CONNECTION EXAMPLE

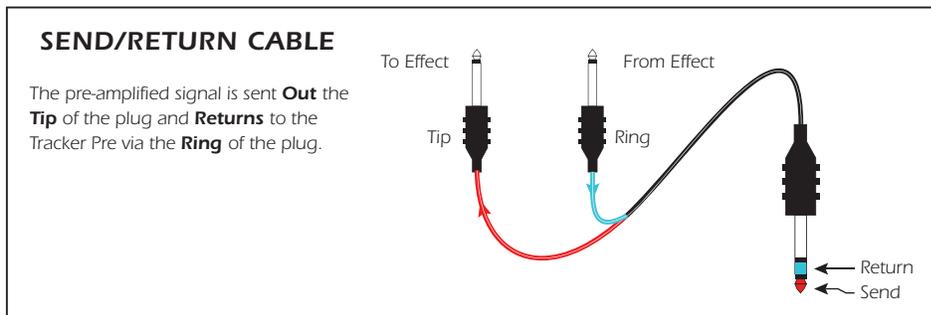
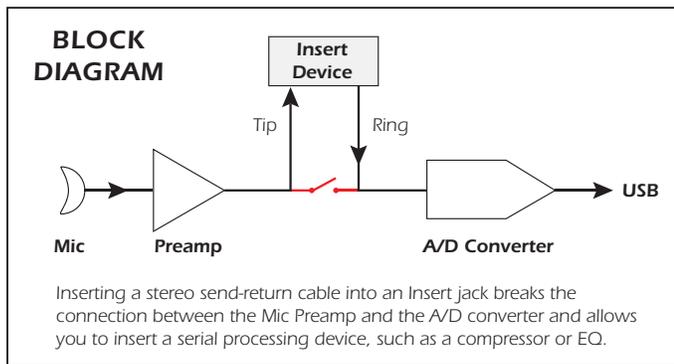


TIP . . .

Tracker Pre can be used as a standalone, high-quality stereo microphone preamp if needed.



To tap off the Mic Preamps without interrupting the connection to the ADC, insert a mono plug halfway (to the **first click**) into the insert jack.



CONTROLS & HEADPHONE OUTPUT



1. Signal Level & Clip Indicators

The LED signal level indicators show that you are inputting a proper signal level. With a proper input level, the green signal LED should be flickering, but the red clip indicator should NOT ever be lit.

The clip indicators light and show that the input level has exceeded 0dBFS.

2. Left/Right Gain Controls

These controls set the input gain from 0dB to +60dB for the two inputs.

3. Direct Monitor Level Control

This continuous encoder controls the amount of direct monitor signal mixed into the outputs. The level is adjustable from -24dB to off.

4. Direct Monitor On/Off & Mono-Stereo Switch

Press the button once to turn on Direct Monitoring. The stereo LED illuminates. In this mode the left and right channels are passed through to their respective outputs at the level set by the Direct Monitor Level control. Press the button again to switch to Mono Direct Monitoring, which sums the left and right direct monitor channels to mono. Mono mode is useful when the two inputs are being used for separate instruments, or when only one input is being used. See [“Direct Monitoring” on page 17](#).

5. Headphone Jack

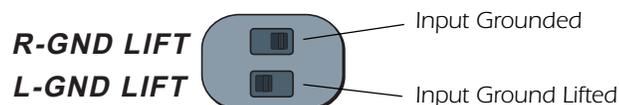
Connect your stereo headphones here.

6. Headphone Level Control

This knob controls the volume of the headphone output. This switch also turns the Tracker Pre on or off.

• Ground Lift Switches

There are “ground lift” switches for both analog 1/4” inputs located on the bottom of the unit. These switches can be used to safely stop the hum if a ground loop occurs in your setup. See [page 46](#) for more information.



The input ground is lifted when the L or R slide switch is closest to the GND LIFT label.

INPUT/OUTPUT



7. 5 VDC Power Adapter (optional)

Although the Tracker Pre is normally bus-powered via USB, it can also be powered by an external 5-Volt DC power adapter (optional) to allow it to be used as a stand-alone stereo microphone preamplifier.

8. USB

Connects the Tracker Pre to your computer via the supplied USB cable. The USB connection provides two-way communication when connected to the computer.

Since the Tracker Pre receives its power from the USB, always connect to the USB jack on the computer itself and NOT to a low-power USB connection that may be present on your computer keyboard or other USB peripheral.

9. Main Outputs (1L & 2R)

The balanced outputs are normally connected to your monitoring system.

Either balanced or unbalanced cables may be used. The main output volume can be controlled using the System Volume Control on your Mac or PC. Many “multimedia” computer keyboards contain System Volume Controls.

10. Phantom Power on/off

This switch turns 48V Phantom Power on or off to the XLR inputs for use with microphones which require phantom power. See [page 50](#) to learn more.

11. Inserts (1L & 2R)

These unbalanced TRS jacks allow you to insert a signal processor, such as a compressor or EQ, after the mic preamps, but before the A/D converter stage. See [“Insert Connection Example” on page 13](#).

The Insert jacks can also be used to tap off the mic preamp outputs when using the Tracker Pre as a stand-alone stereo microphone preamp. Page [13](#).

12. Hi-Z / Line / Mic Inputs (1L & 2R)

Use the XLR connector for microphones or balanced line level signals. Use the 1/4” jack in the center of the XLR connector as a Hi-Z input for guitar/bass, or as a line level input. The inputs are balanced, but they accept either balanced or unbalanced input signals. See [page 49](#) for additional information.

13. Stereo Mic Input

This 1/8” mini-phone jack is designed to accept a stereo, electret condenser microphone. The jack supplies +5VDC phantom power. Mono microphones can also be connected and will use input 1L.

- **Note:** The Stereo Mic jack takes precedence over the Hi-Z/Mic/Line inputs. Inserting a 1/8” plug disables the other inputs.

NOTE to PC Users:

When using a USB 1.1 port, performance is limited to 16-bit and 44.1/48 kHz recording and playback. (USB 1.1 is not supported on the Macintosh.)

System Volume Control

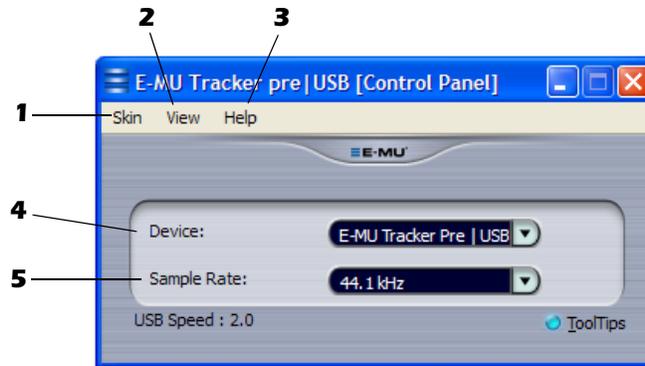
Mac 

PC 

E-MU USB AUDIO CONTROL PANEL

After you have successfully installed the audio drivers, launch the E-MU USB Audio control panel. The E-MU USB Audio control panel is shown below.

- **Windows:** The E-MU USB Audio control icon will be visible in the Taskbar, which is normally located in the bottom right of the screen. It can also be launched from the Start Menu (*All Programs, Creative Professional, E-MU USB Audio Application*).
- **OS X** The E-MU USB Audio control application is located in the **Applications** folder . You can also open the E-Control Application using the icon on the desktop.



1. Skin

Choose between different appearances for the E-MU USB Audio control panel.

2. View

Hide the application (Ctrl+H, Windows) You can restore the application by clicking the E-MU icon  in the System Tray (Windows), or by clicking the E-MU icon in the Dock (OS X).

3. Help

About Tracker Pre USB 2.0, Audio control, Launch Manual, Check Updates

4. Device

If you are using more than one E-MU USB Audio device, you can choose which unit is currently being controlled.

5. Sample Rate

Allows you to set the system sample rate: 44.1kHz, 48kHz, 88.2kHz, 96kHz, 176.4kHz or 192kHz.

NOTE

There are some limitations when operating at 176.4/192k sample rates.

PC - No Direct Monitor

Mac - Disabled

DIRECT MONITORING

Direct monitoring allows you to monitor inputs without having any software applications open. It can also be used as an alternative to software monitoring if you desire the lowest latency monitoring possible.

When using a computer for digital recording, an audible time delay occurs while the audio signal is being input to the computer, processed by the software and then returned to the output for monitoring. This time delay is called *Latency*.

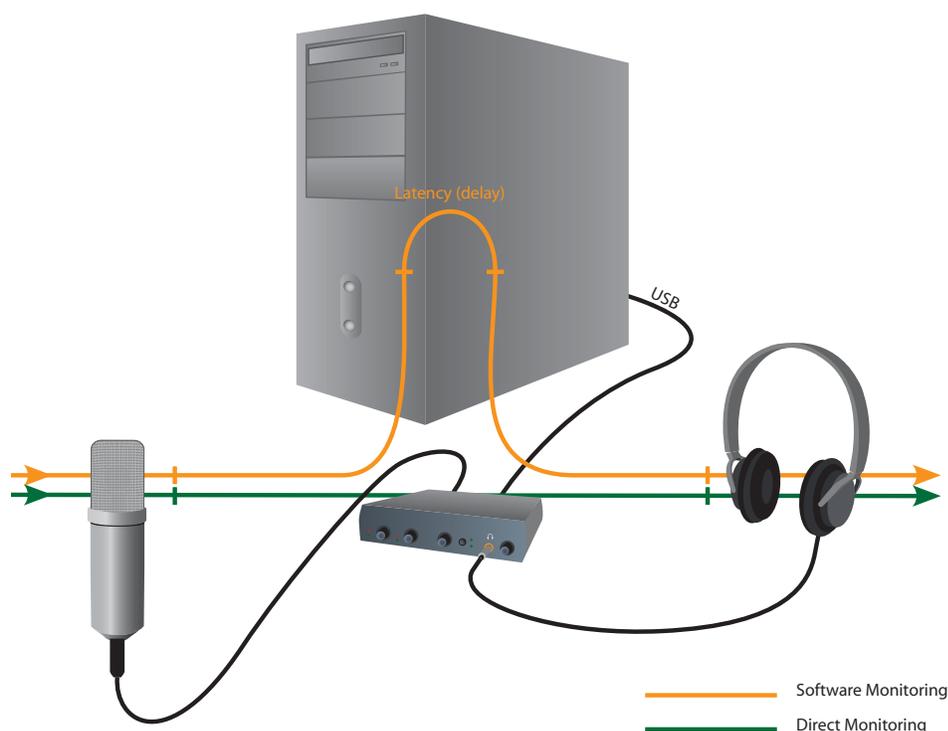
Latency becomes a problem when you have to use high buffer settings to conserve CPU resources. Because the Tracker Pre has hardware direct monitoring, you can enjoy zero latency regardless of your buffer setting.

The Direct Monitor feature connects the input signals to the output when recording so that you can hear your performance without delay. The Direct Monitor level control lets you adjust the volume of the input signal in relation to the recorded tracks.

Direct monitoring is controlled manually from the Direct Monitor switch on the Tracker Pre. It's not necessary to turn it on in your recording application.

NOTE

Direct monitoring is not available when using the 176.4 kHz or 192 kHz sample rates.



Direct Monitoring allows you to listen to the **direct** sound of your instrument during recording, without the delay incurred by going to the computer and back.

Direct Monitoring vs. Software Monitoring

Direct monitoring is lower latency and can also be used without software running. (or even without a computer connected!)

Software monitoring has the advantage of allowing audio effects or EQ added in the host software to be heard on the output. Its round-trip latency depends on what latency is chosen in the ASIO/Core Audio configuration. If you choose to software monitor, make sure to disable direct monitoring. If both are enabled, you will experience a 'comb filter' or doubling effect.

TUTORIALS

Introduction

This guide contains step-by-step walk-throughs of basic recording operations using your Tracker Pre interface with software applications for your Windows or Macintosh OS X computer. We encourage you to perform the steps on your computer as you read so that you become familiar with the process. The first tutorial only takes about half an hour to complete, by which time you'll know how to make a multitrack recording.

NEED MORE HELP?

If you need additional help with the bundled applications, please see:

- **Windows:** Program Files\Creative Professional\
E-MU Tracker Pre USB\Documents\3rdParty.htm.
- **OS X:** Applications Drive\Library\Documentation\
E-MU Tracker Pre USB\ 3rdParty.htm\

Before you Begin...

- You should have already installed the E-MU and Third-Party software on your computer.
- You should hear the computer sounds coming out of the Tracker Pre and your speakers when you play a CD or an MP3 using Windows Media Player or iTunes. If not, make sure your Tracker Pre is properly connected according to the diagram on [page 12](#).
- A source of audio should be connected to the inputs (a microphone, musical instrument, or CD/MP3 player).

WARNING!

Windows Users -
After checking your audio,
be sure to quit Windows
Media Player.

Getting Started with Steinberg Cubase LE 4 (Windows, OS X)

Steinberg Cubase LE 4 is a 24-bit, multi-track audio/MIDI sequencer with high-quality effects, automation, virtual instruments (VSTi), and many other professional features.

The following step-by-step tutorials are designed to get you recording as quickly as possible.

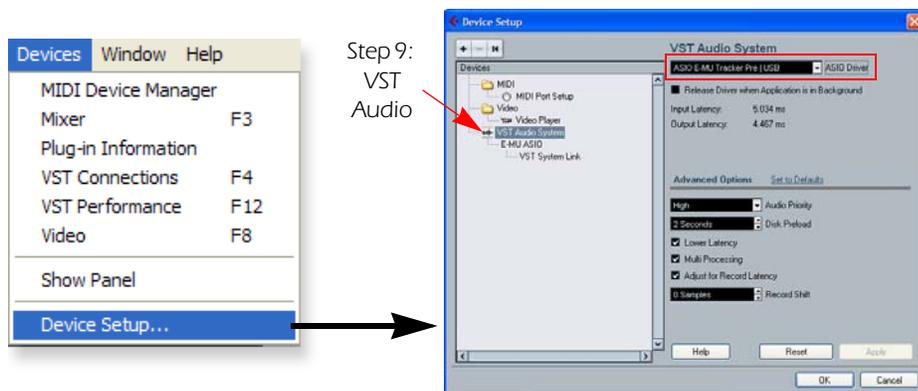
1 - Setting up Cubase LE 4

Follow these instructions carefully to ensure that Cubase LE 4 runs smoothly the first time. Cubase LE 4 will remember these settings, so you'll only have to do this once.

1. **Open Cubase LE 4** from the Start menu. An ASIO multimedia driver test dialog box will pop up to ask if you want to run the ASIO test. Choose **No**, because you won't be using the driver anyway.
2. Select **New Project** from the **File** menu.
3. Select **Empty** and click **OK**.
4. A **Select Directory** pop-up dialog box will appear. Choose a location on your hard disk where you want to store your audio files, then click **OK**.



5. The Cubase LE 4 Project window appears.
6. Select **Device Setup...** from the **Devices** menu.



7. Select **VST Audio System** from the left pane.
8. Choose **ASIO E-MU TRACKER Pre|USB** as the ASIO Driver. A pop up dialog box asks you if you want to keep or switch the ASIO driver. Select **Switch**.

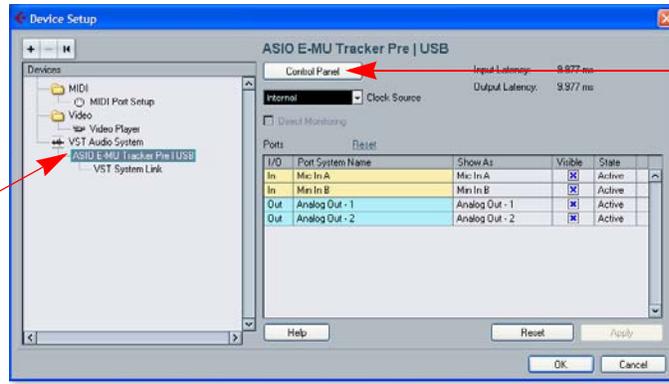
Buffer Latency Setting

9. Click on **ASIO E-MU Tracker Pre|USB** (located immediately below **VST Audio System** in the **Devices** pane).

TIP . . .

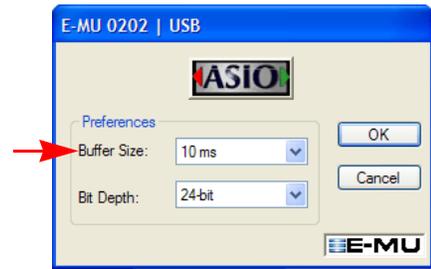
If you have two or more hard disks, it's better to store audio files on a disk that isn't running your OS.

Step 9
VST
Audio



Step 10
Control
Panel

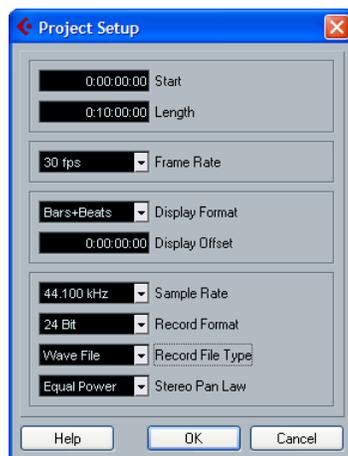
10. Click the **Control Panel** button. The pop-up dialog box shown at right appears.
11. Set the **ASIO Buffer Latency** as low as your computer will allow and click **OK**. (10ms is a good starting point.) A low latency setting is important to assure fast response when using virtual instruments and to minimize delay when monitoring through Cubase. If you hear crackles or other audio problems, try increasing the Buffer Size.



12. Close the **Device Setup** screen by clicking **OK**.

Setting up a New Project

13. Select **New Project** from File menu in Cubase LE 4. A pop-up Template selection dialog box appears. Select **Empty**, then click **OK**.
14. Another pop-up dialog box appears asking you to select the directory in which your audio files will be stored. Choose a location to store your audio files and click **OK**.
15. Select **Project Setup** (Shift +S) from the **Project** menu. This is where you set the Sample Rate and Record Format (bit depth), among other things. Set the Record Format to **24 Bit** and the Sample Rate to **44.100 kHz**.



NOTE

If the Cubase LE 4 application crashes for any reason, it's recommended that you re-boot the computer.

TIP . . .

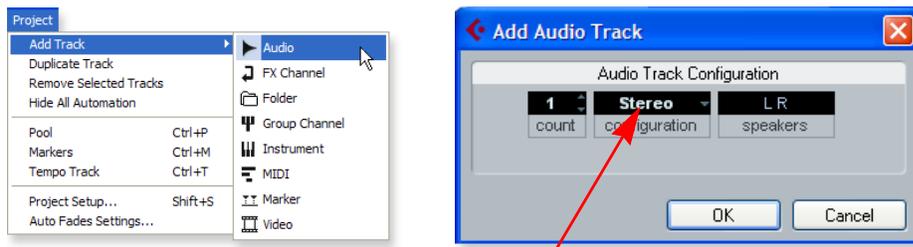
If you have more than one hard disk, it's usually best to store your audio files on a disk that doesn't contain your operating system.

2 - Basic Multitrack Recording

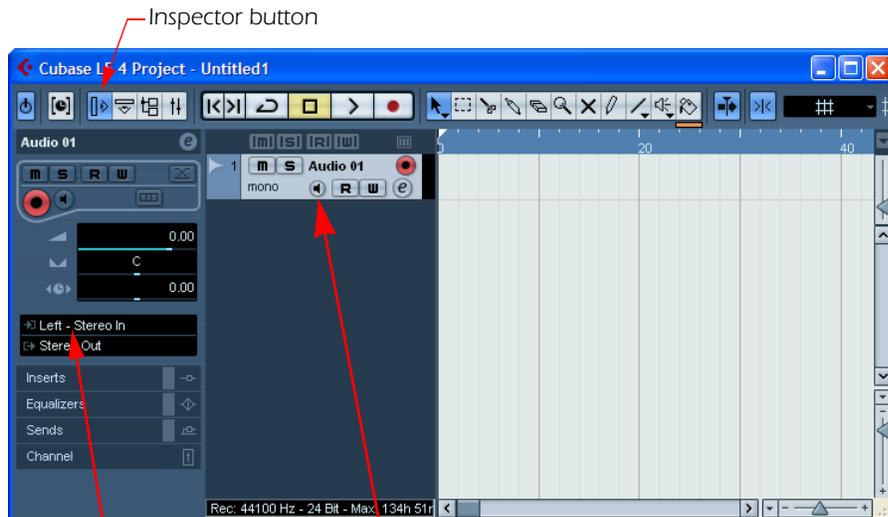
This tutorial assumes you're using a single input or a pair of inputs. For more advanced recording, refer to the Cubase LE 4 manual.

Add an Audio Track

1. From the Cubase LE 4 menu bar, select **Project, Add Track, Audio**. A pop-up dialog box appears, asking you if you would like to add a mono or stereo track. **Choose a mono track for now**. After making your selection, **click OK**. A new audio track is added to the project window.



Select Mono (or Stereo)



Track Input Routing

Monitor Button

2. The **Track Input Routing** field is where you connect the Tracker Pre inputs to the track. Left-Stereo In will appear in the Track Input field. (You can change this to "Right-Stereo In" if you wish.)
3. Make sure the Monitor button  is **OFF**. You will be monitoring the input through the Tracker Pre.
4. Press the **Direct Monitor** button on your Tracker Pre USB 2.0. If you are recording a mono track, set Direct Monitor to **Mono** by pressing the Direct Monitor button again.

Get Ready To Record

5. Plug in your instrument or microphone into the 1L (left) input and set the input gain control for a good signal level. The green -12 signal LED should come on, but the clip LED should never come on.
6. You should be hearing your instrument or microphone through your monitor speakers or headphones. If not, go back to steps 4 and 5.



The Direct Monitor Button routes the inputs directly to the outputs.

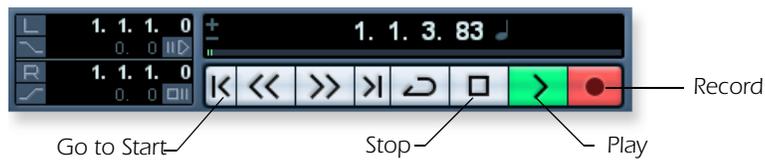
NOTE

Turning on the metronome adds a 2-bar lead-in before recording begins.

7. **Optional Step - Metronome:** To toggle the Metronome on and off, press **C** on the computer keyboard. To adjust the metronome output level, press the transport **Play** control, then select **Metronome Setup...** from the **Transport** menu. Use the volume slider to set the desired metronome level.
8. Press the **Go to Previous Marker / Zero** button. **⏪**
9. Make sure the **Record Enable** button on the track is on (it should be on by default).



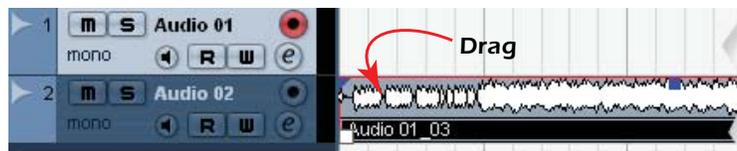
10. Press the **Record** button on the Cubase transport control panel. The button turns red and you're recording.



11. When you're finished recording your track, press the **Spacebar**, or press the **Stop** button on the Cubase Transport Control.
12. Press the **Go to Zero** button. **⏪**
13. Press the **Spacebar** or press the **Play** button to play back your new Track.

Record Another Track

14. Press the **Go to Zero** button. **⏪**
15. Drag the audio chunk you just recorded down below itself and release the mouse button. A new track is automatically created with your recording. This is a quick and easy way to set up a new track in Cubase. Now you're all set to record again on Track 1.



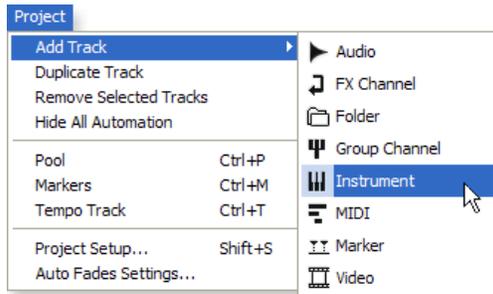
16. Press the **Record** button on the Cubase transport control panel and you're recording again. You'll hear your first track playing along with you.
17. **Repeat steps 12-14** to record more audio tracks.
18. Press the **Mute** button **m** to silence any tracks you don't want to hear.

3 - Recording a MIDI Track using Proteus VX (Windows only)

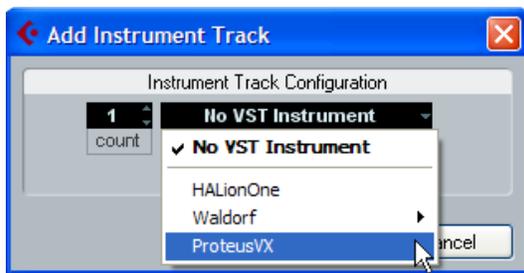
You'll need a MIDI interface and a MIDI keyboard (or other MIDI input device) for this tutorial.

Make the Connections

1. Connect the MIDI out of your MIDI keyboard to the MIDI input of your MIDI interface.
2. From the **Project** menu, select **Add Track, Instrument**.



3. A pop-up dialog box appears asking you to select a VST Instrument. Select **Proteus VX**. Select a **Count of 1**. Click **OK**.



The Cubase Project Window should now look more or less like the one below with one or more Audio tracks and one Instrument track:



NOTE

Selecting a Count of 2 or more, instantiates multiple copies of Proteus VX, which results in very inefficient usage of your CPU. (See the note on [page 25](#).)

NOTE #2

If you have Proteus X or Emulator X, you can select these in place of Proteus VX.

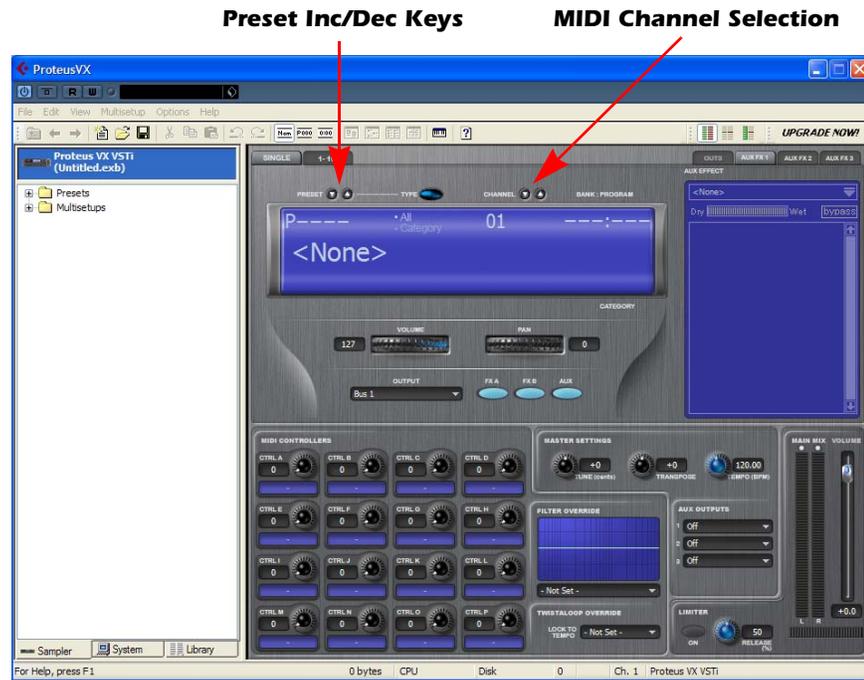
Open VX & Load a Bank

- Since Proteus VX is a sampler, you need to load a bank of samples before it can be played. The Edit Instrument button, located in the Inspector section of the window, allows you to edit the virtual instrument.



Edit Instrument Button

- Click the **Edit Instrument** button. The Proteus VX main window appears.



- Now we can load the Proteus X Composer bank. **Select Proteus X Composer** from the File menu. The bank is installed here: "Program Files\Creative Professional\E-MU Sound Central\Proteus X Composer." Loading takes a few seconds.
- Change the Preset using the Inc/Dec keys.** You also have to select a preset before you can hear anything. There are 1024 different presets (sounds) in this huge bank.
- Bring up the **mini keyboard**  by clicking the icon on Proteus VX and play a few notes. You should be hearing sound. If not, verify that the Tracker Pre USB 2.0 is properly configured in Cubase. (See [page 19](#).)
 - If the sound volume is very low, you can decrease the Headroom of Proteus VX. (Options, Preferences, Headroom/Boost). Keep in mind that with less headroom, the Proteus VX will be more prone to clipping when multiple channels are played.
- Play your MIDI controller** and verify that it plays Proteus VX. If not, check to make sure your MIDI keyboard is set to the same MIDI channel number as Proteus VX (*probably channel 1*).
- Try out the MIDI Controller knobs on your MIDI keyboard. In order for these to work, the continuous controller numbers of your keyboard knobs must match those on Proteus VX. (Options, Preferences, Controllers tab).

11. Feel free to play around for awhile and don't worry about losing anything. Nothing is made permanent until you **Save** the bank, so have fun.

To Record a MIDI Track

12. Make sure the **Record Enable** button on the MIDI track is on (it should be on by default).



13. Click **Record** on the Cubase LE Transport control and start playing your MIDI controller.



14. Press **Stop** when you're finished recording the first track.
15. Press the **Go To Start** button. |<
16. Press **Play** > on the Cubase Transport to play back your track.

To Record a MIDI Track on another MIDI Channel

NOTE: Proteus VX VSTi can play back up to 16 MIDI tracks at once, however, the LE version of Cubase 4 only supports a single MIDI channel per VSTi. You *could* load another instance of the Proteus VX for each channel, but this is very inefficient usage of your CPU resources and is NOT recommended. The full version of Cubase 4 does support multiple MIDI channels on a single VSTi.

On Your Own

Cubase LE 4 and Proteus VX include excellent online documentation and help files. Take the time to learn all the features of these powerful programs, and most of all have fun.

Getting Started with Cakewalk Sonar 6 LE (Windows)

Sonar 6 LE is a 24-bit multi-track audio/MIDI sequencer with high-quality effects, automation, virtual instruments (VSTi/DXi), and many other professional features. The following step-by-step tutorials are designed to get you recording on Sonar LE 6. After you finish the tutorial we encourage you to read the Sonar 6 LE PDF manual in order to learn about the many features of this comprehensive program.

1 - Setting up Sonar 6 LE

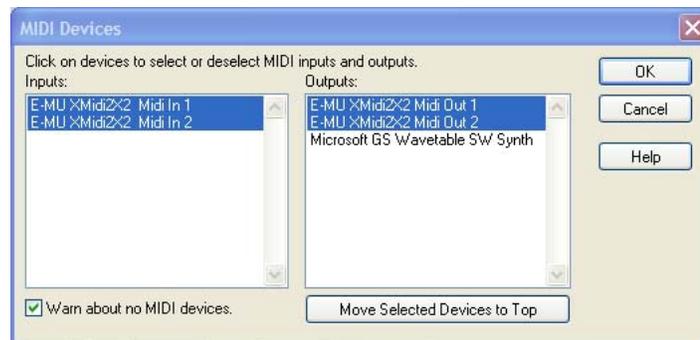
Follow these instructions carefully to ensure that Sonar 6 LE runs smoothly the first time. Sonar 6 LE will remember these settings, so you'll only have to do this once.

Run Sonar 6 LE for the first time

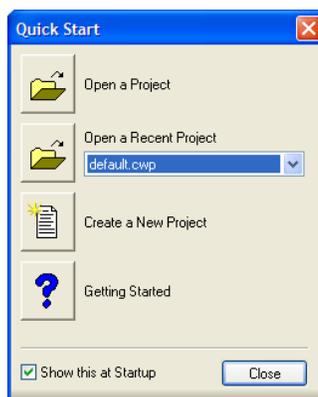
1. After installation Sonar 6 LE will automatically open. After completing the product registration, the following dialog box appears:



2. If you have a MIDI interface or USB keyboard connected (such as the E-MU Xmidi 2x2 or Xboard), select "Choose MIDI Inputs Now." If you don't have a MIDI interface, select "Continue with No MIDI Input." A MIDI keyboard is necessary if you wish to use the Proteus VX sampler.



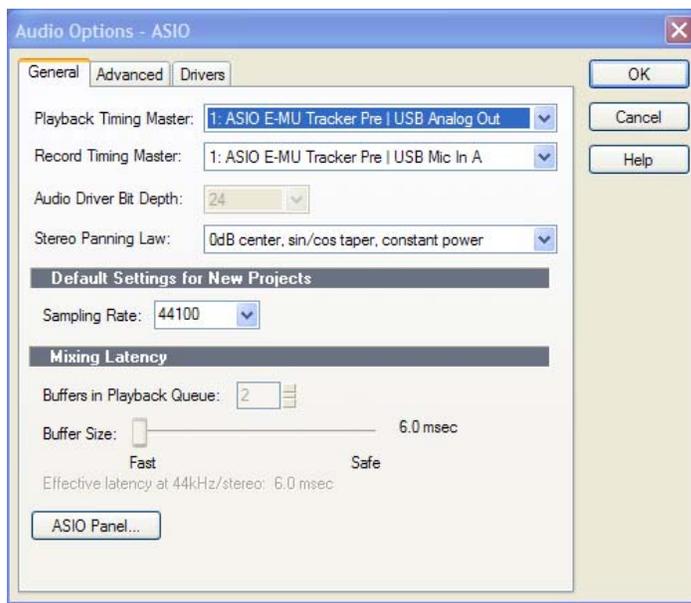
3. Sonar 6 LE opens and the following dialog box appears.



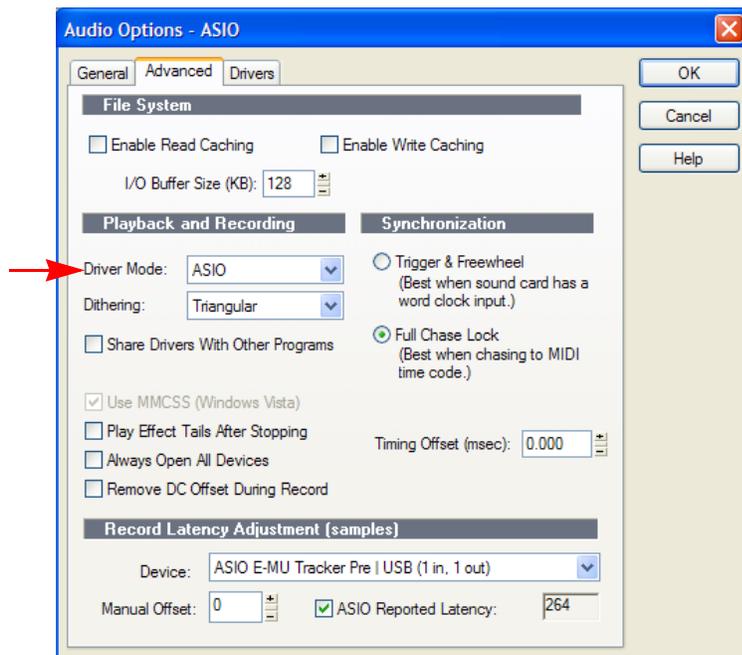
4. Click **Close** to close the dialog box. The Sonar Project Window appears.

Set-up the Audio Options

- From the **Options** menu, select **Audio...** The following dialog box appears.



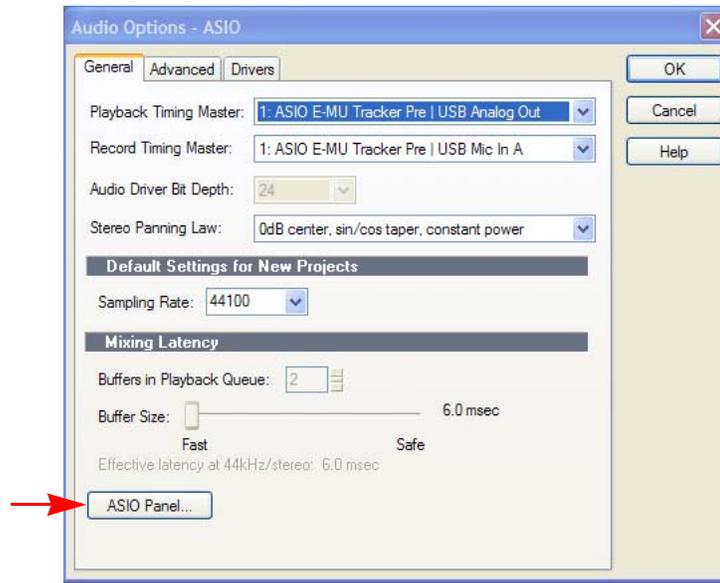
- Click on the **Advanced** Tab to access the next window.



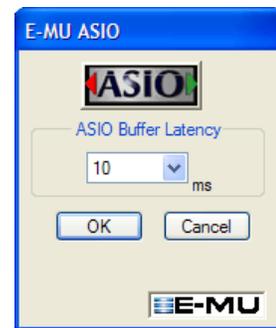
- Select **ASIO** as the Driver Mode and click **OK**. You'll get a pop-up dialog box explaining that the ASIO settings won't take effect until the next time you start Sonar 6 LE.
- Close **Sonar 6 LE** completely and restart the application.

Return to the Audio Setup Options

- Once Sonar 6 LE has restarted, select **Audio** from the **Options** menu.



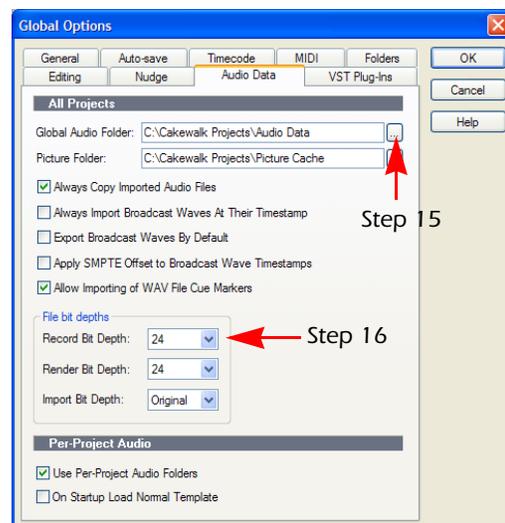
- Click the **ASIO Panel**. The pop-up dialog box shown at right appears.
- Set the **ASIO Buffer Latency** as low as your computer will allow. A low latency setting is important to assure fast response when using virtual instruments and to minimize delay when monitoring through Sonar LE 6. If you hear crackles or other audio problems, try slightly increasing the Buffer Size.
- Close the **Audio Options** screen by clicking **OK**.
Note: If the Sonar 6 LE application crashes for any reason, it is recommended that you re-boot the computer.



Set the Location of your Audio Files

TIP . . .
If you have two or more hard disks, it's better to store audio files on a disk that isn't running your OS.

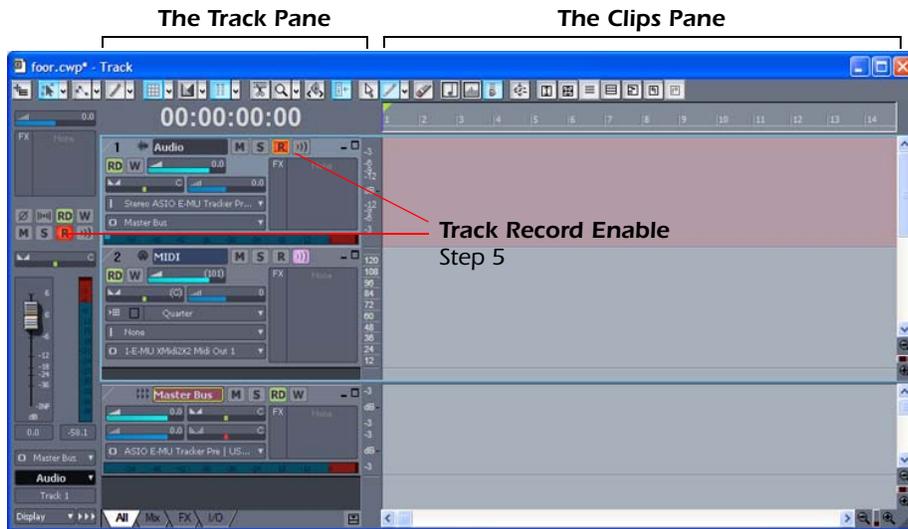
- From the **Options** menu, select **Global**.
- Select the **Audio Data** tab as shown at right.
- Select a location for the **Global Audio Folder**. This is where your large audio files will be kept.
- Select **24 bits** as the Recording Bit Depth. The Tracker Pre is a 24-bit device so why not use the best possible resolution?
- Click **OK** to select your choices and close Global Options.



2 - Basic Multitrack Recording

This tutorial assumes you're using a single input or pair of inputs. Sonar opens by default with 1 audio track and 1 MIDI track.

The Sonar Project Window



1. Track 1 is an audio track. Locate the input and output routing fields in the Track Pane as shown at right.
2. Select the input source by clicking on the small triangle on the input field. If you wish to record a mono signal on the Left input of the Tracker Pre USB, select **Left ASIO E-MU Tracker Pre|USB Mic In A**. To record both inputs in stereo select **Stereo ASIO E-MU Tracker Pre|USB Analog In A**.



3. The Input Echo button  should be OFF. You will be monitoring the input through the E-MU Tracker Pre.
4. Press the **Direct Monitor** button on your Tracker Pre. If you are recording a mono track, set Direct Monitor to **Mono** by pressing the Direct Monitor button again.
5. Press the **Track Record Enable** button  for the track (see the diagram above). The track turns a dull red color to indicate that it is record-enabled. You should now see activity on the **Track Input Meter** when inputting a signal.



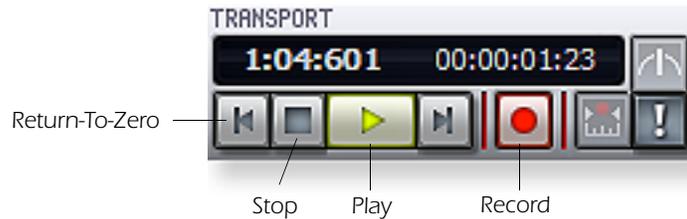
TIP . . .

If you don't see meter activity on the track after enabling Record, check the Input for the track. Make sure you are selecting the proper input source.

6. If your input signal is either too weak or too strong, adjust the input level control on the Tracker Pre.
7. **Optional Step - Metronome:** From the **Options Menu**, select **Project**. Select the **Metronome tab**. Next select **"Use Audio Metronome"**. Click **OK**. Make sure the **Metronome During Record** button in the Transport Bar is On. 

Record a Track

8. Press **Record** on the Sonar 6 LE Transport control and start playing.



9. Press **Stop** when you're finished recording the first track.
10. Press **Play** on the Sonar 6 LE Transport to play back your track.
11. If you want to dump the track and start over, **Right-click over the waveform display** in the track and choose **Delete**.

Create another Audio Track

12. From the **Insert Menu**, select **Audio Track**. Track 3 appears in the Project window.

Record another Track

13. **Select Track 3** and click the **Restore Strip Size** button  to expose the input and output routing.
14. **Set the Input source** for the track. Click on the little triangle ▼ on the right side of the track **Input** box.
15. Disable record for Track 1 by clicking on the **Track Record** button **Off**. 
16. Enable recording for Track 3 by clicking on the **Track Record** button **On**.
17. Press the transport **Record** button and you're recording.

Hot Tip: A quick way to record additional tracks using the same input is to simply drag the Part (audio region) you just recorded up or down to another audio track in the Sonar Project Window, then just hit **Record** again and go. (Choose **Blend Old and New** when asked in the Drag & Drop Options.)

Save your Project

18. Choose **Save As...** from the Sonar 6 LE **File** menu to save your project. Choose a name and location that will make the project easy to find later.

TIP . . .

You can create a new track by selecting **Clone**, from the **Track** menu. This handy feature duplicates the currently selected track complete with input/output routings.

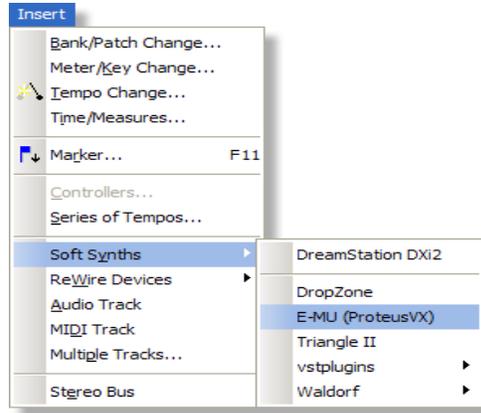
3 - Recording a MIDI Track using Proteus VX

These instructions explain how to start Proteus VX from within Sonar LE 6. You'll need a MIDI interface and a MIDI keyboard (or other MIDI input device) for this tutorial.

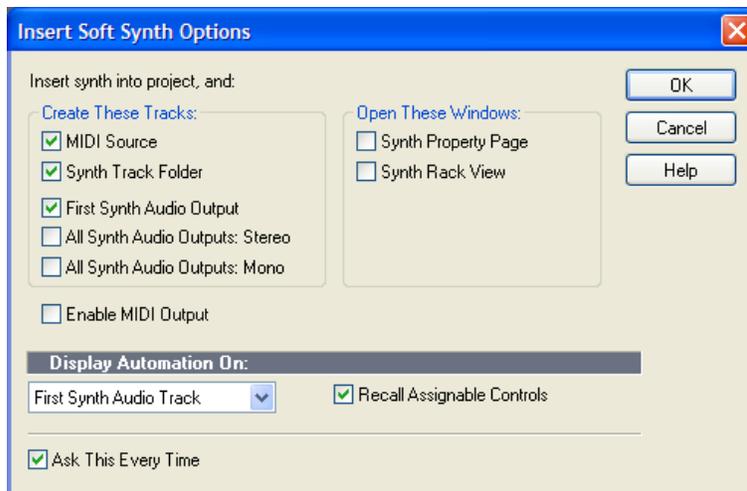
1. Connect the **MIDI output** of your MIDI keyboard to the **MIDI input** of your MIDI interface.

Select the Virtual Instrument

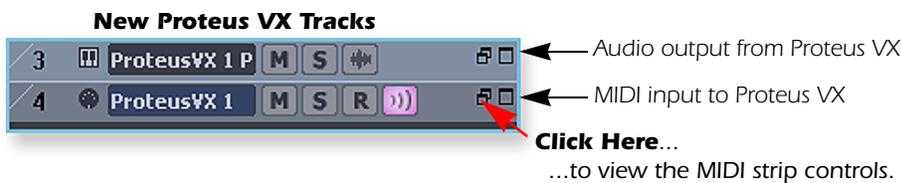
2. From the **Insert** menu, select **Soft Synths**, **E-MU**, **ProteusVX** from the **View** menu.



3. The following pop-up dialog box appears.



4. Select the default options (MIDI Source Track & First Synth Output) as shown. Click **OK** to continue. (This may take a few seconds.) Two new tracks have been added to the bottom of the track list.



NOTE
Proteus VX can also run as a standalone application.

TIP . . .

Check the Sonar MIDI Monitor  in the SysTray to verify that you're receiving MIDI.

The MIDI Connection

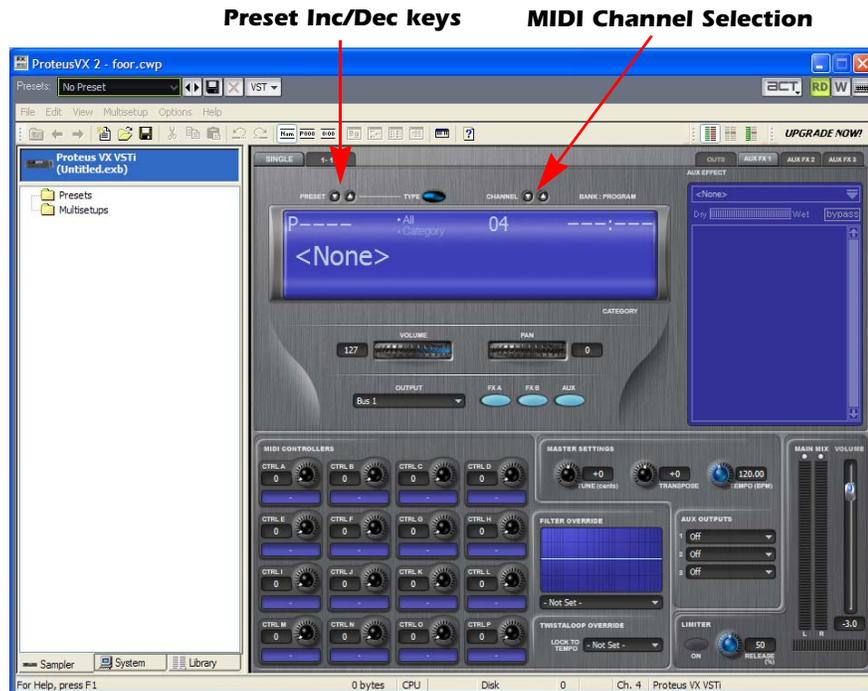
5. **Your MIDI Interface** should already be selected as the MIDI input in **Omni** mode. You can examine this setting if you wish, by clicking on the "Restore Strip Size" box on the new MIDI track that was created.
 - **Note:** "Omni" mode allows Proteus VX VSTi to receive on all 16 MIDI channels from your MIDI keyboard. (Proteus VX VSTi is "multi-timbral" and can assign a different preset to each of the 16 MIDI channels.)

Open Proteus VX

6. Double-click on the **little keyboard icon** in the synth track to open the Proteus VX editor.



7. After a few seconds, the Proteus VX editor screen shown below appears.



Load the Proteus X Composer Bank

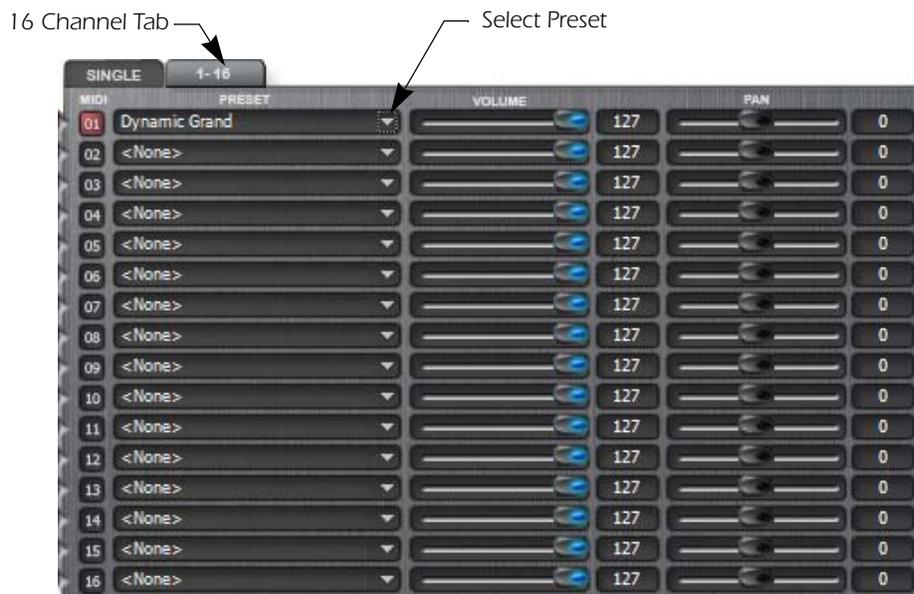
Before you can play Proteus VX, you have to load a bank of sounds. (This information will be saved when you save your Sonar LE Project.)

8. **Open the Proteus X Composer bank.** Select **Proteus X Composer** from the File menu. The bank is installed here by default: "Program Files\Creative Professional\E-MU Sound Central\Proteus X Composer." Loading takes a few seconds.
9. **Change the Preset using the Inc/Dec keys.** (You also have to select a preset before you can hear anything.) This bank contains 1024 different presets (sounds).

10. Bring up the **mini keyboard**  by clicking the icon on Proteus VX and play a few notes. You should be hearing sound. If not, verify that the Tracker Pre is properly configured.
 - **Note:** If the sound volume is very low, you can decrease the Headroom of Proteus VX. (Options, Preferences, Headroom/Boost) Keep in mind that with less headroom, Proteus VX will be more prone to clipping when multiple channels are played.
11. **Play your MIDI controller** and verify that it plays Proteus VX. If not, make sure that your MIDI keyboard is set to the same MIDI channel number as Proteus VX (*probably channel 1*). You can also change the MIDI channel of Proteus VX using the channel Inc/Dec keys shown on the previous page.

Play a Few Presets.

12. To Audition Presets: first highlight the preset number (i.e. **P0000**), then scroll through the presets using the up/down keys on your computer keyboard.
13. Try out the MIDI Controller knobs on your MIDI keyboard.
In order to work, the continuous controller numbers of your keyboard knobs must match those on Proteus VX. (*Refer to the manual that came with your MIDI keyboard, or change the controller numbers on Proteus VX, located under Options, Preferences, Controllers tab.*)
14. Select the 16 channel tab. This page allows you to select presets for all 16 MIDI channels.



15. Select a preset for MIDI Channel 1 by clicking the little triangle.

NOTE

You can also select a single preset for the track by selecting the Program Change number you want.



For some unknown reason, Sonar 6 LE filters out program change messages from a MIDI track.

A Better Way: Assign up to 16 presets in the Proteus VX Multisetup and record a MIDI track for each channel.

To Record a MIDI Track

16. **Minimize** the Proteus VX window by pressing the minimize button on Proteus VX. 
17. **Maximize** the Proteus VX MIDI track by pressing the Maximize button.



18. The Track Pane expands to show all the track options, as shown on right. Set the Channel field (CH) to **1:Proteus VX**. (This converts data on ANY incoming MIDI channel to Channel 1 data.)
19. Restore the Strip to its normal size by clicking the “Restore Strip Size” button. 



20. **Record-Enable** the MIDI Track by pressing the red **Record** button.  The clips pane section of the track turns a dull red color to indicate that it is record-enabled.
 - **IMPORTANT:** Be sure to turn Track Record Enable **OFF** for any tracks you don't want to record on, such as previously recorded tracks.



21. Verify that you hear the Proteus VX playing as you play your MIDI keyboard.
22. Press **Record** on the Sonar 6 LE Transport control and start playing.



23. Press **Stop** (or hit the Spacebar) when you're finished recording the first track.
24. Press **Play** on the Sonar 6 LE Transport to play back your track.

To Record a MIDI Track on another MIDI Channel

Proteus VX VSTi can play back up to 16 MIDI tracks at once with a different preset on each channel. Using several channels on one VSTi uses far fewer CPU resources than using multiple VSTi's with one channel each.

25. Select **MIDI Track** from the **Insert** menu. A new MIDI track appears.
26. Make sure **Omni** is selected as the MIDI input (see below).
27. Make sure **Proteus VX** is selected as the **Output** (see below).

28. Select **MIDI Channel 2** in the **Ch.** field as shown at right.

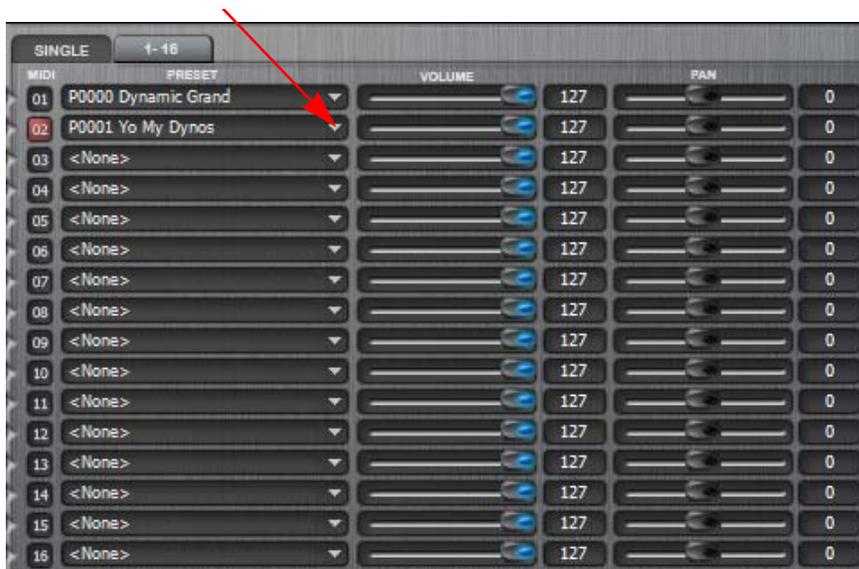
29. Record Disable the previous MIDI track by clicking the **Track Record Enable** button. 

30. Record Enable your new MIDI track by clicking its **Track Record Enable** button. 



31. Restore the Proteus VX editor by **double-clicking on the little keyboard icon**  in the Proteus VX track.

32. Select a preset for channel 2 by **clicking the little triangle on channel 2** in the 1-16 channel view of Proteus VX.



33. **Play your MIDI keyboard** to listen to the presets during the selection process.

34. Click **OK** when you've made your selection.

35. **Minimize or close Proteus VX** when you've made your preset selection.

36. Press **Record** on the Sonar 6 LE Transport control and start playing.

37. Press **Stop** when you're finished recording the second track.

38. Feel free to record additional MIDI tracks. You have 16 MIDI channels.

On Your Own

Now that you've had a little taste of what Proteus VX can do, please read the Proteus VX Operation Manual PDF to learn all about this exceptional instrument. Sonar 6 LE also includes useful online documentation and help files to help you learn about the features of this powerful program.

TIP . . .

The Export Multisample feature of Proteus VX allows to to save a bank containing **ONLY** the presets and samples used in the Multisetup. This gives you a smaller Project and a shorter load time.

Getting Started with Ableton Live Lite 6 (Windows/OS X)

This guide contains a basic walk-through of Ableton Live Lite 6 (E-MU Edition) to get you recording and playing back audio. A Proteus VX tutorial is also included for Windows users. We encourage you to perform the steps on your computer as you read so that you can “learn by doing.”

Ableton Live Lite 6 is an innovative composition and performance tool. Live combines digital recording, virtual instruments, and digital effects with an original interface design that many people find more intuitive than traditional designs.

The following step by step tutorials are designed to get you recording as quickly as possible. After you’ve finished the tutorial we encourage you to follow Ableton Live’s excellent interactive Lessons and read the Ableton Live reference manual pdf in order to learn more about the program.

Before you Begin:

- You should have already installed the **Tracker Pre** software on your computer according to the instructions in your “Getting Started” manual.
- You should have already installed the **Ableton Live Lite 6** software on your computer and unlocked it according to the instructions provided with the Ableton User Manual.
- You should hear sounds from Ableton Live 6 when you play the demos.
- PC Users - You should have already installed the **Proteus VX** software.
- You should have your MIDI interface and keyboard connected if you want to record MIDI.

NOTE

The first time you run Live, you may get the message, “Audio is disabled. Please choose an audio output device from the Audio Preferences.”

Simply follow the instructions in “1-Setting up the Preferences” to correct the situation.

1 - Setting up the Preferences

Unlock Ableton Live Lite 6 for E-MU by following the instructions in the Preferences menu. (*Windows - Options menu, Preferences; OS X - Live menu, Preferences*) Read the following instructions to configure the Audio and MIDI preferences. Live will remember these settings, so you’ll only have to do this once.

Set up the Audio Parameters

1. Click the **Audio** tab of the **Preferences** dialog box. The Audio Setup page appears.

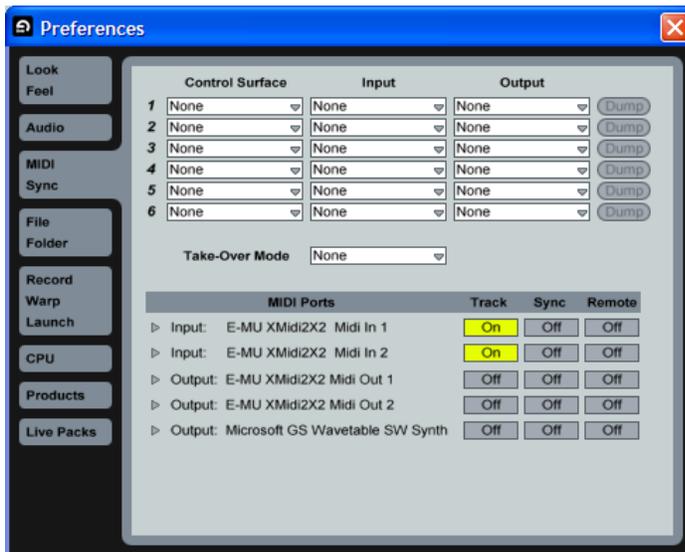


2. Select **ASIO** as the Driver Type. Select **ASIO E-MU Tracker Pre | USB** as the Audio Device.

Check the MIDI Parameters

3. Click the **MIDI/Sync** tab of the Preferences dialog box. The MIDI Setup page appears.

Windows



**Select
MIDI
Interface**

NOTE

Live enables every MIDI input by default.

OS X



4. Your MIDI interface or USB MIDI keyboard should appear in the list. Make sure it's selected.

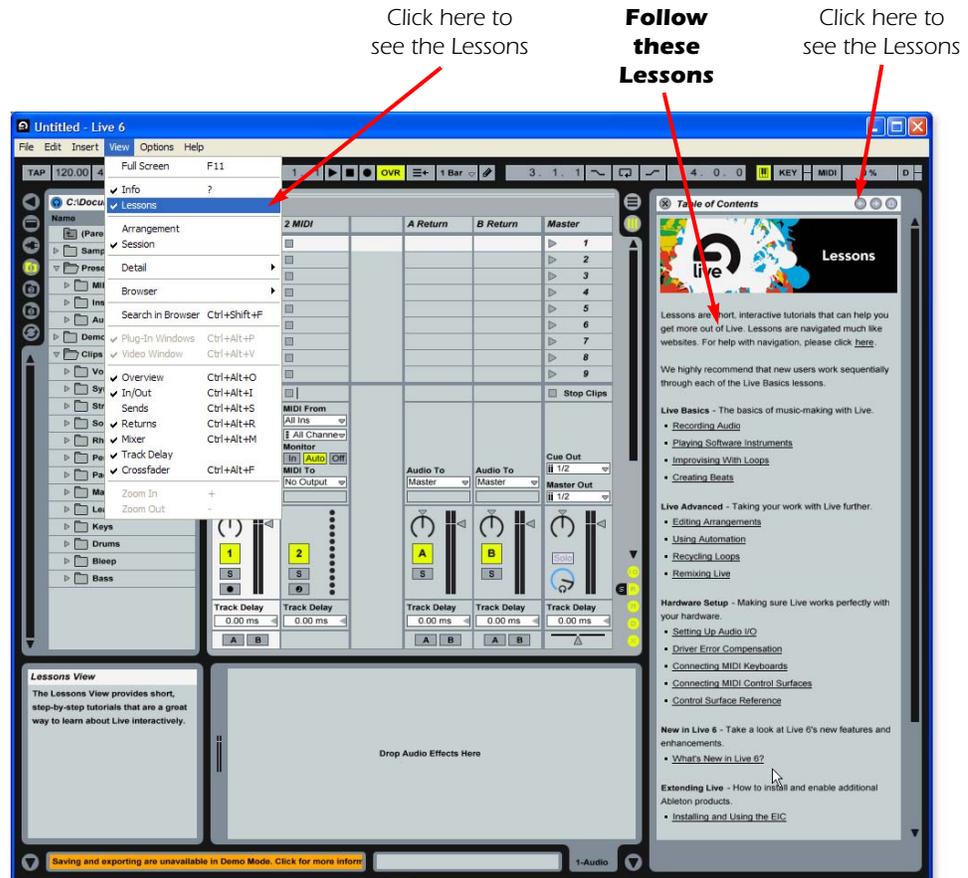
Demo Mode

In order to save your Live Sets, Demo Mode must be Off for all products. Ableton Live Lite 6 - E-MU Edition installs with Demo mode On for the other Ableton products such as Operator and Simpler.

5. Select the **Products** tab.
6. Deactivate Demo Mode for each product that has Demo Mode on.
7. Preference Setup is now complete. Click the **close button** to close the window.

2 - Follow the Live 6 Lessons

Ableton Live contains built-in tutorials to help you learn your way around. If you don't see the **Lessons** pane on the right side of the window, simply select Lessons from the View menu.



1. The first Lesson - **Recording Audio**, explains the basics of recording using your Tracker Pre.
2. Lesson 2 - **Playing Software Instruments**, is also highly recommended. This Lesson provides a good background for using Proteus VX VSTi in Ableton Live.
3. After Lessons 1 and 2, feel free to continue on with the rest of the Lessons. When you're ready to add Proteus VX to the mix, read on.

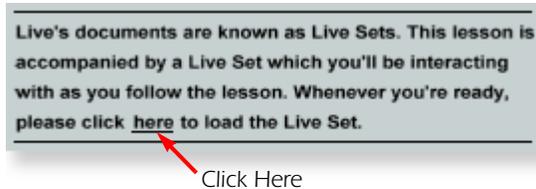
3 - Running Proteus VX from Ableton Live (Windows only)

These instructions explain how to run Proteus VX from within Ableton Live Lite 6. Proteus VX adds a professional-quality sample player and over 1000 new sounds and integrates perfectly with Ableton Live Lite 6. In this tutorial, you'll learn how to use a MIDI keyboard and the pre-recorded MIDI loops that come with Ableton Live Lite 6 to play Proteus VX.

NOTE
These instructions also apply to Proteus X or Emulator X.

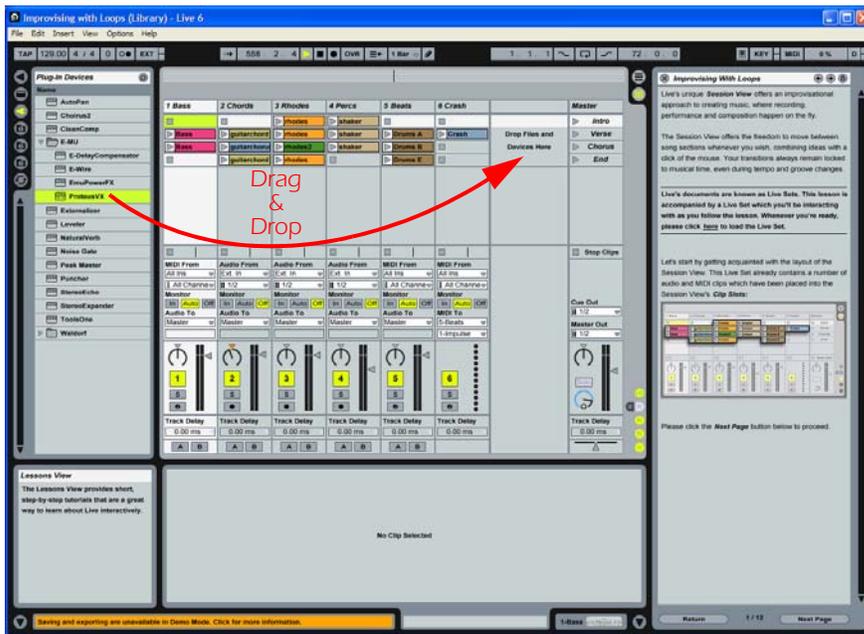
- In preparation for this tutorial, select the third Live lesson - **Improvising With Loops**. If you haven't already done so, go through the Lesson once until you are familiar with the concept of loops in Ableton Live.

1. Load the Live Set associated with the **Improvising With Loops** lesson by clicking the button shown below.



Click Here

2. The Live Set shown below appears. Press the **Play** button to check it out.



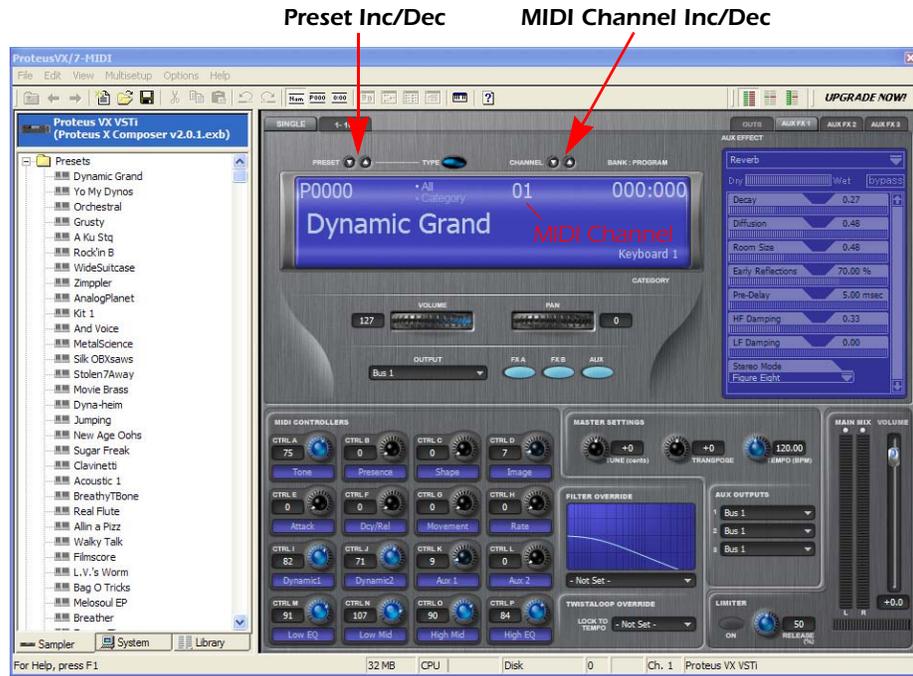
Browser Pane

3. From the Plug-in Device Browser,  select **Proteus VX** from the E-MU folder.
4. **Click and drag the Proteus VX VST icon** over the Clip/Device Drop Area as shown above. Wait a few seconds. Patience.
5. The Proteus VX editor window appears. (See the image on the following page.)



Load the Proteus X Composer bank.

6. Open **Proteus X Composer** from the File menu. The bank is installed here by default: "Program Files\Creative Professional\ E-MU Sound Central\Proteus X Composer." Loading takes a few seconds.



7. Make sure Proteus VX is set to **MIDI Channel 1** as shown above.

8. Using the preset increment/decrement keys, select **Preset 0005 - Rock'in B**.

9. Close the Proteus VX editor by clicking the close box.  This only hides the editor screen and doesn't close Proteus VSTi.

10. Notice that you now have a new MIDI Track and that the **Proteus VX Instrument** now appears at the bottom of the window.

11. **Select File Browser 1**, open the **Clips** folder and open the **Keys** folder.

12. From the **Keys** folder, **drag and drop** one or more files over to the **Clip** area on your Proteus VX MIDI track.

Proteus VX Instrument



Step 11



(Whurlie -Chords shown)

13. Press the **Scene Launch** button for the Verse scene.  **Verse**

14. Drag and drop a few more clips over to the track and try them out.

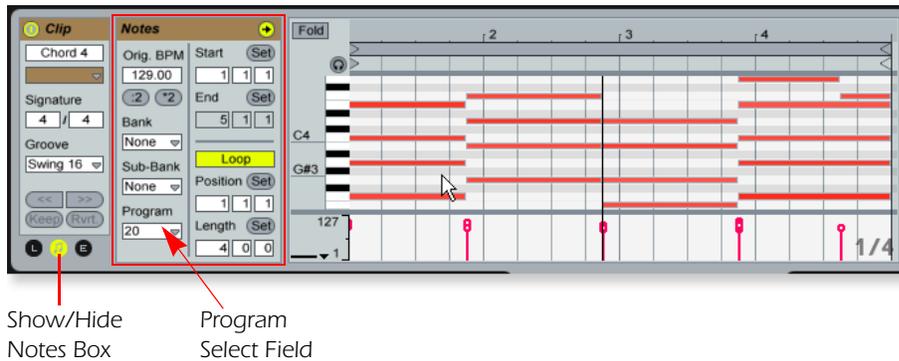


Change the Preset from Live

- When you have a clip you like, click the **Clip Overview Hot Spot** or simply double-click on the clip. (**Hint:** Shift+Tab toggles the view.)



The Clip View appears at the bottom of the application window.



- Click on the **Show/Hide Notes Box** to reveal the notes box as shown above.

- Click on the **Program Select** field in the Notes box. →  A black border appears around the Program field showing that it has the "focus". Select any preset number from the pop-up list.

- Use the **Up/Down Arrow** keys on your computer keyboard to increment or decrement through the presets. You can even do this while the clips are playing to try out sounds in a hurry.
- Assign different Program Change numbers to different clips and notice that they are remembered by Live.

NOTE

Proteus VX sounds are called Presets or Programs. Ableton Live Programs are offset by +1 from Proteus VX.

4 - Record a MIDI Track in Live using your MIDI Keyboard

Proteus VX is a multi-timbral instrument with the ability to play 16 different sounds at once. Let's get ready to make a multitrack MIDI recording.

1. Click the **Track View Selector** at the bottom of the window or simply double-click on the clip to show the Proteus VX Device. (Shift+Tab toggles the view.)



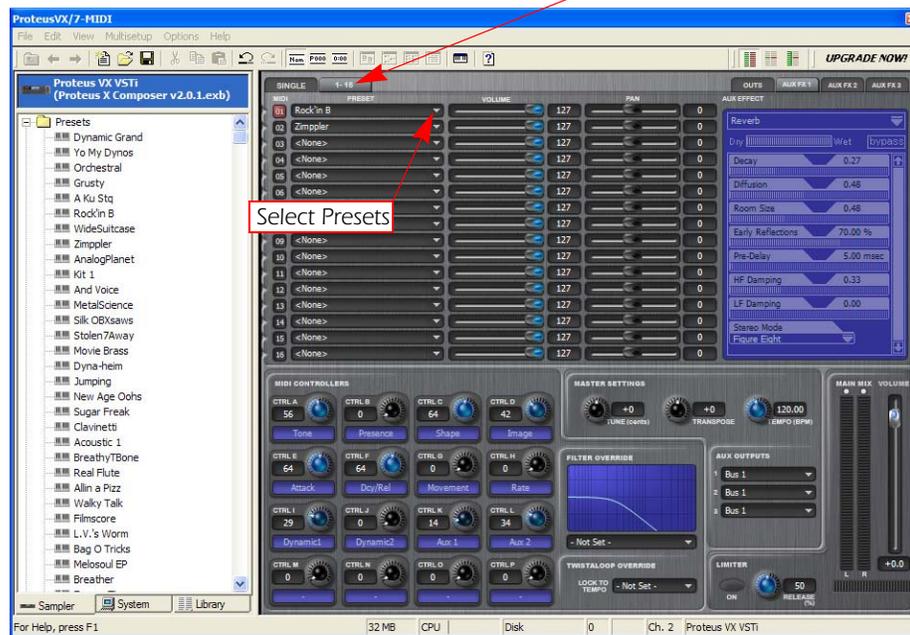
Track View Selector

The Proteus VX Device appears as shown below.



2. Click on the **Tool icon** to bring up the Proteus VX editor.

16 Channel View



3. Click the **1-16 tab** to view the preset selections 16 MIDI channels. When multitrack recording it's often easier to give each track its own MIDI channel and preset.

4. Click the little triangle to the right of the preset selection field for **Channel 1**.

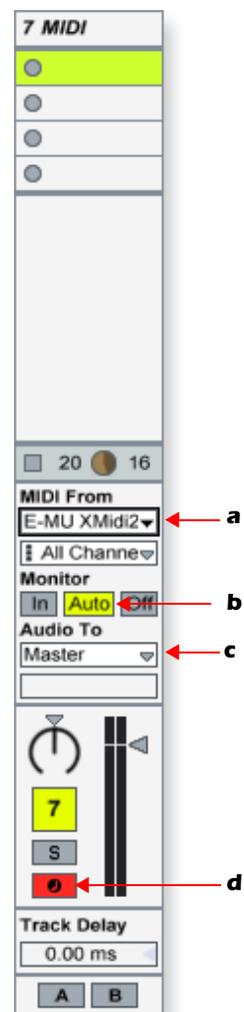


Click Here The preset selection dialog box appears.

5. Hit the **Spacebar** to start Live, then **browse through the presets**. Click **OK** when you find one you want to use for recording.

6. **Close the Proteus VX editor** by clicking the close box. ❌

7. Open the Preferences via the Options menu (PC) or Live menu (OS X) and choose the **Record/Warp/Launch** tab. Set the Count-in to any value other than "None." Live doesn't start recording until the count-in period has elapsed and gives you time to get ready after pressing "Record." **Close** the Window.
8. **Delete all the Clips** in your MIDI track. (Select a clip and hit backspace to delete it.)
 - If your MIDI interface isn't already connected, you'll have to quit Ableton Live Lite 6, connect the MIDI interface, then restart Ableton Live Lite 6 before continuing.
9. Set up the MIDI track as shown at left.
 - a. Select your MIDI Interface in the "MIDI From" field.
 - b. Monitor should be set to Auto.
 - c. Set the Audio To = Master
 - d. Turn Arm Session Record On (red).
10. **Play the keyboard.** You should hear Proteus VX playing the last sound you selected on channel 1. Go ahead and change the sound if you wish. (Double-click the top of the Track, then click the **Wrench** icon on the Device Title Bar. Make sure you're changing the sound on channel 1.)



Get Ready to Record

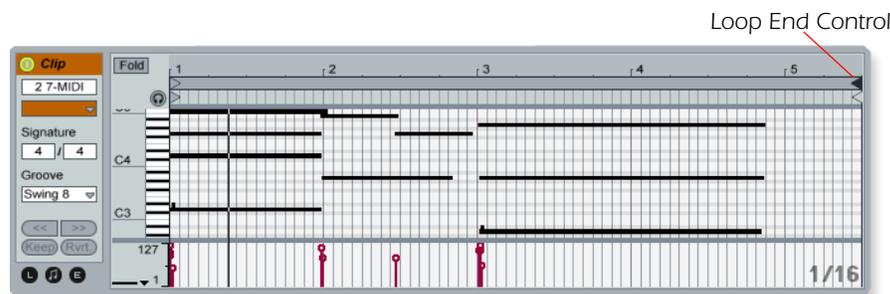
11. Start up the **Verse** using the **Scene Launch** button and practice playing along with it.
12. **Optional:** You can set the **Global Quantization** value to correct the timing of your playing. Set it to anything other than "None".



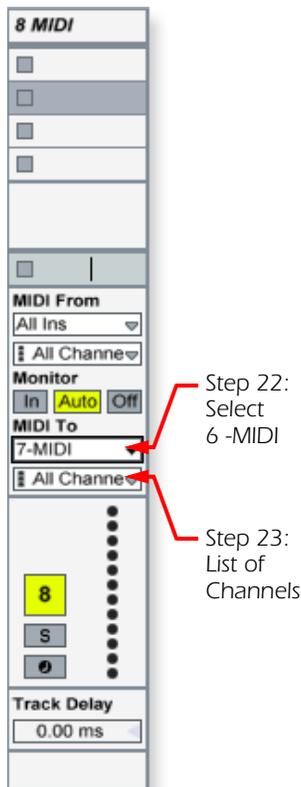
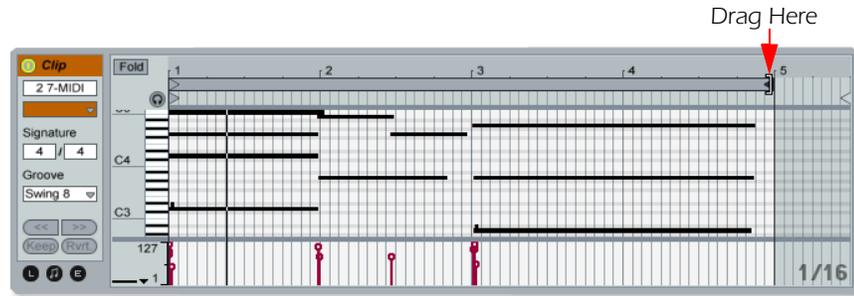
13. Click one of the round **MIDI Clip Record** buttons to begin recording. Recording will begin after the Count-In period you specified.
14. Click the **Spacebar** to stop recording.

Adjust the Loop Length

15. Start up the Verse using the Scene Launch button and take a listen. You'll notice that your part doesn't line up with the others after the first play through. This is because your loop length is not a multiple of four bars. Let's fix that.
16. Click on the clip you just recorded and your clip will appear at the bottom of the window. It might look something like the one below.



- Click and drag the Loop End triangle so that it lines up with the number 5. Now the loop is exactly 4 bars long and will sync with the rest of the song.



- Start up the Verse again using the Scene Launch button. Now it should play in perfect sync.
- For fun, try changing the Program Number. Remember how? Click the Show/Hide Notes icon, give Program the focus, then change the Program number while the scene is playing using the up/down keys.
- When you're happy with the recording, disarm recording for the track by clicking the arm button, turning it grey.

Add Another MIDI Track

IMPORTANT! - Ableton Live Lite 6 - E-MU Edition only allows you to create four MIDI tracks and we already have four. **Solution:** Delete track 6 **Crash**, which is only used as an accent for the song.

To Delete a Track: Click on the track heading to select it, then press the Backspace button.

- From the Insert menu, select **Insert MIDI Track** (PC - Ctrl+Shift+T; OS X -). A new MIDI track appears.
- On the new MIDI Track, the **MIDI To** box reads "No Output." Instead, select **6-MIDI**. This links the new MIDI track to the MIDI track containing Proteus VX (Track 7).
- Click on the box that reads "All Channels" to see the list of MIDI channels.
- Select **MIDI Channel 2** as shown at right.

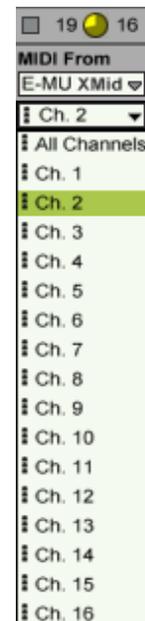
Choose a Sound for MIDI Channel 2

- Click on the **6 MIDI** heading to show the Proteus VX VSTi. Next, click on the wrench icon again to open Proteus VX.
- Select a Preset on Channel 2.** Click the little triangle to the right of the preset selection field for **Channel 2**.



- Note:** There are several ways to select presets. See the Proteus VX Operation manual pdf for details.

- Bring up the Mini Keyboard by **clicking on the keyboard icon** in the Proteus VX toolbar. Play the mini keyboard to audition presets.



Tutorials

Get Ready to Record on Channel 2

28. Turn **Arm Session Record On**.  You should now be hearing the preset you selected on channel 2 when you play your MIDI keyboard.
29. Start up the **Verse** using the **Scene Launch button** and practice playing along with it.
30. Click one of the round **MIDI Clip Record** buttons to begin recording.  Recording will begin after the Count-In period you specified.
31. Click the **Spacebar** to stop recording.

Saving your Work

32. Save your work by selecting **Save Live Set As...** from the File menu. The next time you load the set, the Proteus VX bank will automatically load as well.

On Your Own

Now you've had a little taste of what Proteus VX and Ableton Live Lite 6 can do. But don't stop now! Read the Proteus VX Operation Manual pdf to learn all about this exceptional instrument.

Ableton Live Lite 6 includes several excellent hands-on tutorials to help you learn all the features of this ground-breaking music application.

Other Cool Tips

- **To control Proteus VX with the knobs on your MIDI keyboard:**
Go to the MIDI Preferences on Proteus VX (Options, Preferences, Controllers tab) and make sure the MIDI Continuous Controller numbers match the ones your keyboard is sending. You can change the controller numbers on either your MIDI keyboard or Proteus VX, just as long as they both match.
- **To control Proteus VX with the Assignable X/Y Controls in Live:**
Simply select the Proteus VX Channel and Proteus VX controller letter A-M for each axis of the X/Y controller. Open Proteus VX to see what controllers A-M are controlling. For more information about MIDI controllers please refer to the Proteus VX pdf manual.



Assign Controllers

TROUBLESHOOTING

Can't hear Windows Media Player in Windows

If you currently have another audio device installed in your PC, or have had one installed in the past, you may have to set the Tracker Pre USB 2.0 as the "Default Audio Device".

1. Open the **Control Panel**, then select **Sounds and Audio Devices**.
2. Click the **Audio** tab and select **E-MU Tracker Pre USB 2.0** as the Default device under **Sound Playback**.
3. Click the **Volume** button under Sound Playback and turn up **Wave volume**.

You cannot record or monitor ASIO and WAVE at the same time. The first audio application you open will control the Tracker Pre.

Lost Communication

Should you lose communication between your E-MU Tracker Pre and an audio application (Ableton Live, Cubase, Sonar, etc.), the Tracker Pre USB 2.0 drivers may need to be re-selected in your application.

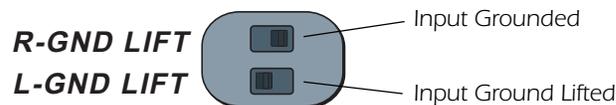
1. Go to your application's I/O settings, de-select the **E-MU Tracker Pre USB 2.0** for both input and output.
2. Apply these changes and exit the dialog.
3. Re-enter the application's preference settings and re-select the **E-MU Tracker Pre USB 2.0** drivers. If this doesn't work, the application may need to be restarted.

Ground Loops

In digital audio devices and computers, audio ground loops may appear as pitched tones, digital hash in the background, as well as the familiar 60 cycle hum.

Ground loops are caused by a difference in ground potential between two pieces of equipment. Computer audio devices are particularly susceptible to ground loops because most computers were not designed with high quality audio in mind.

Tracker Pre contains built-in "ground lift" switches for the 1/4" analog inputs in order to safely break the loop if a ground loop occurs in your setup. The XLR connectors do not have ground lifts.



The ground-lift switches are located on the bottom of the unit, close to the rear panel. The input ground is lifted when the L or R slide switch is closest to the GND LIFT label.

Pops & Crackles

Pops and crackling noises in the audio are most often caused by having the **ASIO Buffer Size** set too low. Adding audio tracks and VST plug-ins increases the load on your computer's CPU. If your computer cannot keep up with all the tasks you are asking it to perform, pops and crackles may occur. In effect, increasing the ASIO buffer gives your computer "more time" to complete its assigned tasks. The hardware Direct Monitor feature of the Tracker Pre allows you to increase the ASIO Buffer setting without the associated latency problems during recording and overdubbing. **USB hubs** can create problems with digital audio and should be avoided whenever possible.

Simultaneous WDM/ASIO Playback (PC only)

The Tracker Pre USB 2.0 only supports playing back one stream format at a time on the PC. Each of the two mentioned stream types has an associated priority. If a higher priority stream type is opened while a lower priority stream is already playing, the lower priority stream will stop playing. ASIO has the highest priority, followed by WDM.

Tracker Pre USB 2.0 vs. USB 1.1 Operation (PC only)

The Tracker Pre can operate in either USB 2.0 or USB 1.1 modes on the PC. To use the 88.2 kHz, 96 kHz, 176.4 kHz and 192 kHz sample rates, you must be operating in USB 2.0 mode. The included E-MU USB Audio Control panel software includes an indicator to let you know which mode the device is running in.

Tracker Pre USB 2.0 comes up in USB 1.1 mode (PC only)

To verify the USB operation mode (1.1 or 2.0), launch the E-Control application. The USB mode being used is displayed in the lower part of the window.

- Your computer may contain both USB 1.1 and USB 2.0 ports. Try using the USB ports on the rear of your computer.
- Always turn the power off to Tracker Pre using the front panel control before connecting or disconnecting the USB cable. Hot-plugging the unit with the power on can cause the Tracker Pre to power-up in USB 1.1 mode. If you see the Windows message, "This device could perform faster...", simply turn power off, wait a few seconds, then turn power on again.

Using Tracker Pre with Older Versions of Emulator X/Proteus X

Tracker Pre will not function as a dongle for Emulator X or Proteus X software versions below Ver. 2.5. If you have older versions of these products, you must upgrade to 2.5 in order to use Tracker Pre as a dongle. Older versions of Proteus XLE or Proteus VX will continue to operate normally.

INTERNET REFERENCES

The internet contains vast resources for the computer musician. A few useful sites are listed here, but there are plenty more. Check it out.

- Software Updates, Tips & Tutorials . <http://www.emu.com/support>
- Setting up a PC for Digital Audio <http://www.musicxp.net>
- Audio Recording <http://www.recording.org>
- MIDI & Audio Recording <http://www.midiworld.com>
- MIDI & Audio Recording <http://www.synthzone.com>
- Sonar Users Group <http://www.cakewalknet.com/index.php>
- Cubase, ASIO & Digital Audio <http://www.steinberg.net>
- ASIO, Cubase & Digital Audio http://www.steinbergusers.com/cubase/le_support.php
- Cubase Users Group <http://www.groups.yahoo.com/group/cubase/messages>

Forums

- Unofficial E-MU Forum <http://www.productionforums.com/emu>
- Sound-On-Sound Forum <http://www.soundonsound.com>
- Computer Music Forum <http://www.computermusic.co.uk/main.asp>
- Home Recording Forum <http://homerecording.com/bbs>
- Studio Central Forum <http://www.tweakheadz.com>
- KVR Forum <http://www.kvr-vst.com/forum/search.php>
- MIDI Addict Forum <http://forum.midiaddict.com/search.php>
- Sound Card Benchmarking <http://audio.rightmark.org>
- Driver Heaven Forum <http://www.driverheaven.net>

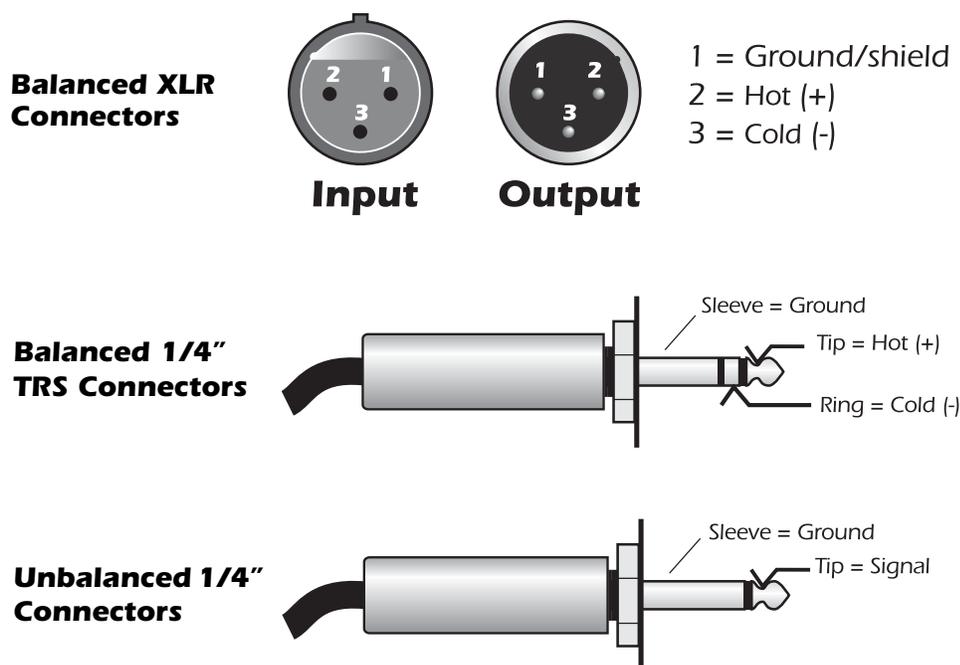
USEFUL INFORMATION

Cables - balanced or unbalanced?

All inputs and outputs on the E-MU Tracker Pre are designed to use EITHER balanced or unbalanced cables. Balanced signals provide an additional +6 dB of gain on the inputs and are recommended for best audio performance, although unbalanced cables work fine for most applications. If you're having problems with hum and noise, or just want the best possible performance, use balanced cables.

Balanced Cables

Balanced cables are used in professional studios because they cancel out noise and interference. Connector plugs used on balanced cables are XLR (3-prong mic connector) or TRS (Tip, Ring, Sleeve) 1/4" phone plugs.



Balanced cables have one ground (shield) connection and two signal-carrying conductors of equal potential but opposite polarity. There is one "hot" or positive lead and a "cold" or negative lead. At any point in time, both conductors are equal in voltage but opposite in polarity. Both leads may pick up interference, but because the interference is present both in and out of phase it cancels out at the balanced input connection.

Unbalanced Cables

Unbalanced cables have one conductor and one ground (shield) and usually connect via unbalanced 1/4" phone plugs or RCA phono plugs. The shield stays at a constant ground potential while the signal in the center conductor varies in positive and negative voltage. The shield completely surrounds the center "hot" conductor and is connected to ground in order to intercept most of the electrical interference encountered by the cable. Unbalanced cables are more prone to ground loops, hum and interference than balanced cables, but the shorter the cable, the less hum and noise will be introduced into the system.

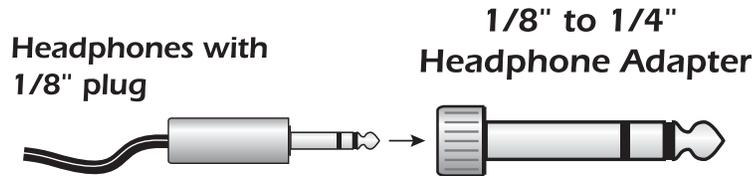
WARNING!

Balanced cables should ONLY be used when connecting to a device with balanced inputs. Ignoring this rule can actually INCREASE noise and hum!

Adapter Cables

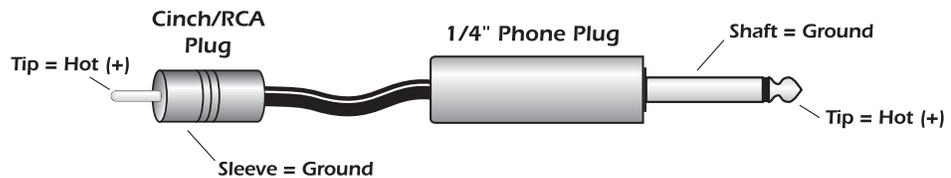
1/8" Mini-phone to 1/4" Adapters

To connect headphones with an 1/8" (mini-phone) plug to the headphone jack on the MicroDock, you'll need a 1/8" to 1/4" adapter. These handy devices are available at electronic department stores everywhere.



Cinch (RCA) to 1/4" Adapters

Equipment (such as consumer audio gear) which uses Cinch/RCA type connectors can be connected to the MicroDock using readily available adapter cables. These adapters can be found at most stores that sell audio equipment.

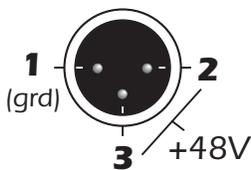


Grounding

In order to obtain best results and lowest noise levels, make sure that your computer and any external audio devices are grounded to the same reference. This usually means that you should be using grounded AC cables on both systems and make sure that both systems are connected to the **same grounded outlet or strip**. Failure to observe this common practice can result in a ground loop. 60 cycle hum in the audio signal is almost always caused by a ground loop.

Phantom Power

Phantom power is a DC voltage (+48 volts) which is normally used to power the preamplifier of a condenser microphone. Some direct boxes also use phantom power.



Pins 2 and 3 of the MicroDock microphone inputs each carry +48 volts DC referenced to pin 1. Pins 2 and 3 also carry the audio signal which "rides" on top of the 48 volt DC. Coupling capacitors at the input of the Tracker Pre block the +48 volt DC component from the preamplifiers and A/D converters. The audio mutes for a second when phantom power is turned on.

After turning phantom power off, wait two full minutes before recording to allow the DC bias to drain from the coupling capacitors, since the bias could affect the audio headroom.

Balanced dynamic microphones are not affected by phantom power. An unbalanced dynamic microphone may not work properly, but will probably not be damaged if phantom power is left on.

Ribbon microphones should NOT be used with phantom power on. Doing so can seriously damage the ribbon element. However, since ribbon microphones are fairly specialized and generally expensive, you'll know if you own one. Most microphones are either of dynamic or condenser type and these will not be harmed by phantom power.

TECHNICAL SPECIFICATIONS

General

Sample Rates: 44.1, 48, 88.2, 96, 176.4, 192kHz from internal crystal with no sample rate conversion
(Note: 176.4k & 192k sample rates not supported on Macintosh)

Bit Depth: 24-bit I/O, 32-bit processing

USB 2.0 Hi-Speed

Full 24-bit resolution at all sample rates

2 input and 2 output channels

Zero-latency direct hardware monitoring (disabled at 176.4/192kHz)

ASIO2, WDM MME, Apple Core Audio and Core MIDI drivers

Anti-Pop speaker protection minimizes noise during power on/off

Ultra-low jitter clock subsystem: <100ps RMS

Combo Microphone Preamplifier/Hi-Z/Line Input (2)

Type: Balanced combo mic preamplifier and Hi-Z/line input

A/D converter: AK5385

Phantom Power: Phantom-Z™ bus powered, E-MU CurrentMorph™, (patent-pending)

Microphone Input

Type: Balanced

Input Impedance: 1.5 K Ohms

Max Level: balanced: +6.4dBV; unbalanced: +8.6dBu

EIN: (20Hz-20kHz, 150ohm, unweighted) -127dBu

Signal-to-Noise Ratio: (A-weighted, min. gain) 112dB

THD+N: (1kHz at -1dBFS, min. gain) -102dB (.0007%)

Gain Range: +60dB

Frequency Response: (min. gain, 20Hz-20kHz) +0.0/-0.03dB

Stereo Crosstalk: (1kHz min. gain, -1dBFS) < -111dB

Hi-Z Input

Type: Balanced (can be used with unbalanced cables)

Input Impedance: 1M ohms

Max Level: balanced: +6.9dBV; unbalanced: +9.1dBu

Dynamic Range: -113dB

Signal-to-Noise Ratio: (A-weighted, min. gain) -108dB

THD+N: (1kHz at -1dBFS, min. gain) -102dB (.0007%)

Analog Line Outputs (2)

Type: balanced, AC-coupled, 2-pole low-pass differential filter

D/A converter: CS4392

Max Level: Consumer: +6.6dBV max (unbalanced)

Frequency Response: (20Hz - 20kHz) 0.00/-0.08dB

Dynamic Range: (1kHz, A-weighted) 112dB

Signal-to-Noise Ratio: (A-weighted) 112dB

THD+N: (1kHz at -1dBFS) -99dB (.0011%)

Stereo Crosstalk: (1kHz at -1dBFS) < -111 dB

Headphone Amplifier

Type: Class-A power amplifier

D/A converter: CS4392 (shared with Line Out)

Gain Range: 60dB

Maximum Output Power: 22mW

Output Impedance: 22 ohms

Frequency Response: (20Hz - 20kHz) 0.02/-0.07dB

Dynamic Range: (1kHz, A-weighted) 112dB

Signal-to-Noise Ratio: (A-weighted) 112dB

THD+N: (1kHz at -1dBFS) -99dB (.0011%)

Stereo Crosstalk: (1kHz at -1dBFS) -90 dB

Dimensions / Weight

Weight: 0.94 lb / 0.43 kg

Dimensions:

W: 6.5" **H:** 2.0" **L:** 5.5"

W: 165 mm **H:** 50.8 mm **L:** 140 mm

DECLARATION OF CONFORMITY

Trade Name: E-MU Systems
Model No.: EM8740
Responsible Party: E-MU Systems
Address: 1500 Green Hills Road, Suite 101
Scotts Valley, CA 95066 U.S.A.

This device complies with Part 15 of the FCC rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

CAUTION

You are cautioned that any changes or modifications not expressly approved in this manual could void your authority to operate this equipment.

Note:

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

The supplied interface cables must be used with the equipment in order to comply with the limits for a digital device pursuant to Subpart B of Part 15 of FCC Rules.

Compliance Information

United States Compliance Information

FCC Part 15 Subpart B Class B using:

CISPR 22 (1997) Class B

ANSI C63.4 (2003) method

FCC Site No. 958979

Canada Compliance Information

ICES-0003 Class B using:

CISPR 22 (1997) Class B

ANSI C63.4 (2003) method

Industry of Canada File No. IC 5933

European Union Compliance Information

EN55024 (1998 w/A1:01 & A2:03)

EN55022 (1998) Class B

Australia/New Zealand Compliance Information

AS/NZS CISPR 22 (2002) Class B using:

EN55022 (1998) Class B

Japan Compliance Information

VCCI (April 2005) Class B using:

CISPR 22 (1997) Class B

ANSI C63.4 (2003) method

VCCI Acceptance Nos. R-2160 & C-2332

Attention for the Customers in Europe

This product has been tested and found compliant with the limits set out in the EMC Directive for using connection cables shorter than 3 meters (9.8 feet).

Notice

If static electricity or electromagnetism causes data transfer to discontinue midway (fail), restart the application or disconnect and connect the USB cable again.

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