

# U-M-D E-M-D



## Quick Start Guide

0404

# 1- Introduction

---

Thank you for purchasing the E-MU 0404 Digital Audio System. We've designed this E-MU Product to be logical, intuitive and above all, to provide you with pristine sound quality. This audio interface features studio-quality, 24-bit/96kHz multi-channel recording and playback and built-in, hardware-based effects, S/PDIF (coaxial & optical) digital interface, as well as MIDI I/O.

## System Requirements

- Genuine Intel® Pentium® III, AMD® K6® class processor operating at 500 MHz or faster
- Intel, AMD or 100% compatible motherboard & chipset
- Windows 2000 SP4, or Windows XP SP1
- 128 MB RAM
- 500 MB of free hard disk space for full installation.
- Available PCI 2.1 compliant slot (Two slots needed for E-MU 0404 and Sync Daughter Card)
- XVGa Video (1024 x 768)
- CD-ROM drive required for software installation.
- Headphones or amplified speakers

*Other applications may have higher system requirements.*

## Package Contents

### **E-MU 0404**

- |                                    |  |
|------------------------------------|--|
| ▪ E-MU 0404 PCI card               | ▪ E-MU Digital Audio Systems Software/Driver Installation CD-ROM |
| ▪ (1) Digital Breakout Cable       | ▪ Owner's Manual (on CD)   |
| ▪ (1) Analog Breakout Cable (1/4") | ▪ Quick Start guide  |

## **Safety First!**

As you install hardware components, observe the following general precautions to avoid damage to your equipment and yourself.

- To avoid possible permanent damage to your hardware, make sure that all connections are made to the E-MU 0404 card with the host computer's power off.
- Unplug the computer's power cable to make sure that the computer is not in sleep mode.
- Take care to avoid static damage to any components of your system. Internal computer surfaces, the E-MU 0404 PCI board and the interfaces are susceptible to electrostatic discharge, commonly known as "static". Electrostatic discharge can damage or destroy electronic devices. Here are some procedures you can follow when handling electronic devices in order to minimize the possibility of causing electrostatic damage:
  - Avoid any unnecessary movement, such as scuffing your feet when handling electronic devices, since most movement can generate additional charges of static electricity.
  - Minimize the handling of the PCI card. Keep it in its static-free package until needed. Transport or store the board only in its protective package.
  - When handling a PCI card, avoid touching its connector pins. Try to handle the board by its edges only.
  - Before installing a PCI card into your computer, you should be grounded. Use a ground strap to discharge any static electric charge built up on your body. The ground strap attaches to your wrist and any unpainted metal surface within your computer.
  - Before connecting a cable to your interface or between PCI cards, touch the connector sleeve of the cable to the sleeve of the jack to which you'll be connecting the cable in order to discharge any static build-up.

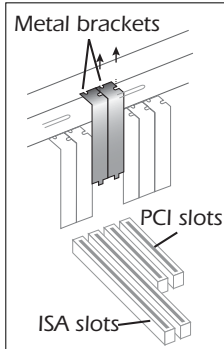
## **Getting More Information**

Refer to the various online Help files and the Owner's Manual (on CD) for detailed information on the E-MU Digital Audio System and various software applications.

## **Technical Support**

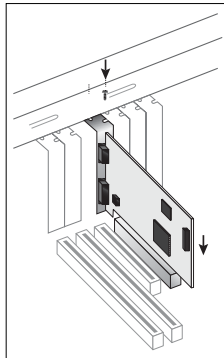
As the E-MU Digital Audio System expands, you'll want to keep up with the latest software and new options for your E-MU Digital Audio System. You can find all of this—plus other helpful information—at [www.emu.com](http://www.emu.com). Refer to your Owner's Manual on CD for the technical support phone number.

## 2 - Hardware Installation



### Step 1: Prepare your Computer

1. Turn off your computer and all peripheral devices.
2. Touch a metal plate on your computer to ground yourself and to discharge any static electricity, and then unplug the power cord from the wall outlet.
3. Remove the computer cover.
4. Remove the metal bracket from any available PCI slot. If you are installing a Sync Card as well, remove the bracket from two adjacent PCI slots. See the figure at left.



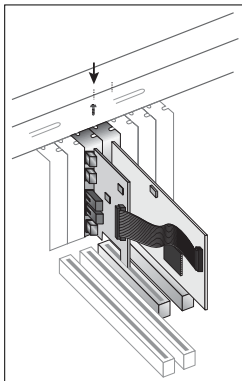
### Step 2: Install the E-MU 0404 PCI card

1. Align the E-MU 0404 PCI card with the slot and press gently but firmly down into the slot as shown in the figure opposite.
2. Do not force the E-MU 0404 card into the slot. Make sure that the gold finger connector of the card is aligned with the PCI bus connector on the motherboard before you insert the card into the PCI slot. If it doesn't fit properly, gently remove it and try again.
3. Secure the card to the slot using a screw (if necessary).

### Step 3 - How to Install the E-MU Sync Daughter Card *(Optional)*

**Note:** These steps are for E-MU Sync Daughter Card owners only, otherwise skip to step 4 below.

1. Connect the ribbon cable provided with the kit between the E-MU 0404 card and the Sync Daughter Card as shown in figures below. The cable is keyed so it cannot be incorrectly inserted. Seat the connectors firmly in the sockets and arrange the cable neatly.
2. Secure the E-MU Sync Card into the slot next to the E-MU 0404 card using a second screw (if necessary).



*E-MU Sync Daughter Card*

### Step 4 - Close the Computer

1. Replace the cover to your computer.
2. Plug the power cord and your peripheral devices into your computer and turn on your computer.

## 3 - Software Installation

### Installing and Uninstalling the E-MU 0404 Drivers and Applications

The first time you restart your PC after installing the E-MU 0404 PCI card, you will need to install the Patchmix DSP software and E-MU 0404 PCI card drivers.

#### Windows 2000 or Windows XP *(The software is not compatible with other versions of Windows.)*

1. After you have installed your audio card, turn on your computer. Windows automatically detects your audio card and searches for device drivers.
2. When prompted for the audio drivers, click the **Cancel** button.
3. Insert the E-MU Digital Audio Systems Software/Driver Installation CD-ROM 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:\ctrun\ctrun.exe** (replace **d:\** with the drive letter of your CD-ROM drive). You can also simply open the CD and double-click **Ctrun.exe** located in the CTRun folder.
4. The installation splash screen appears. Follow the instructions on the screen to complete the installation.
5. Choose "Continue Anyway" when you encounter the "Windows Logo Testing" warning screen. *(Info on last page.)*
6. When prompted, restart your computer.

#### Uninstalling all Audio Drivers and Applications

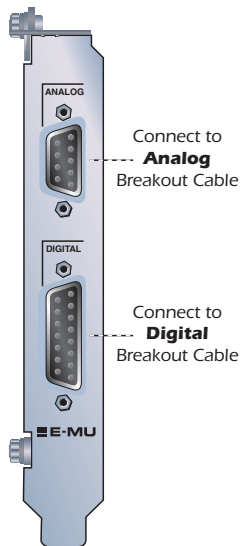
At times you may need to uninstall or reinstall some or all of the audio card's applications and device drivers to correct problems, change configurations, or upgrade outdated drivers or applications. Before you begin, close all audio card applications. Applications still running during the uninstallation will not be removed.

1. Click **Start -> Settings -> 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 0404 PCI card entry, or the application entry and then click the **Add/Remove** button.
5. In the **InstallShield Wizard** dialog box, select the **Remove** option.
6. Click the **Yes** button.
7. Restart your computer when prompted.
8. You may now re-install existing or updated E-MU 0404 PCI card device drivers or applications.

## 4 - E-MU 0404 PCI Card

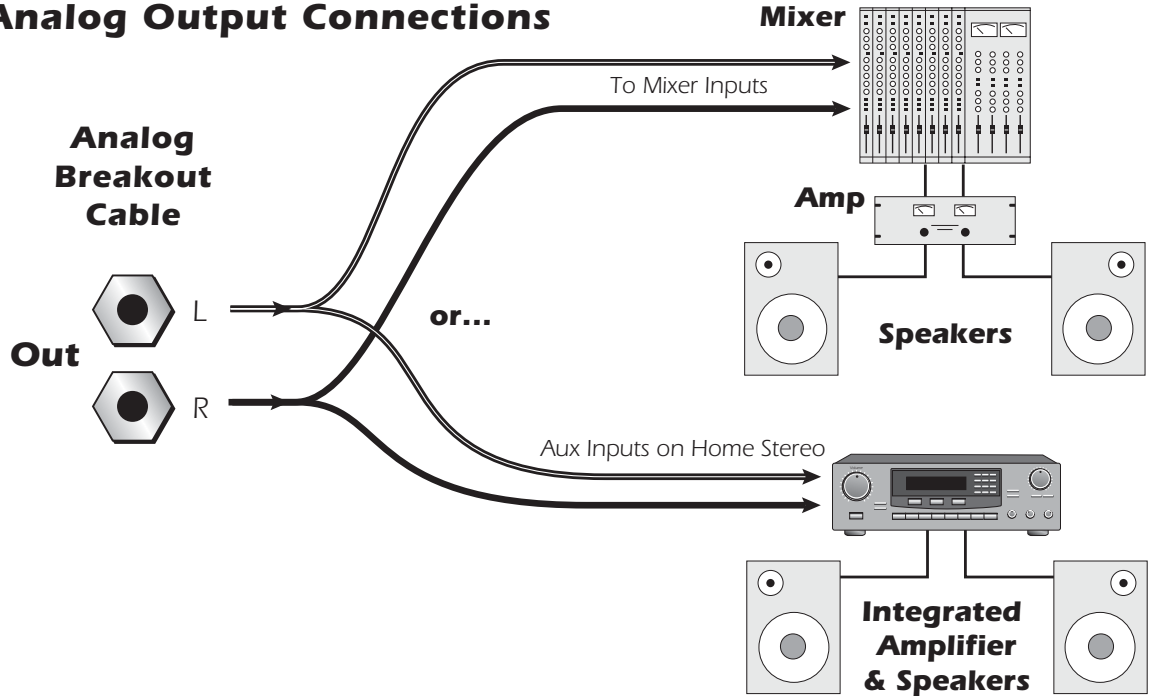
The E-MU 0404 PCI card contains E-MU's powerful E-DSP chip. The powerful hardware DSP on this card leaves more power free on your CPU for additional software plug-ins and other tasks.

### Connections



<p><b>Analog Connector</b></p>	<p>Connect the analog breakout cable to the PCI Card.</p> <ul style="list-style-type: none"> <li>Connect the supplied 1/4" jack breakout cable to the analog connections of your audio system or mixer. See diagrams on the following pages.</li> </ul>
<p><b>Digital Audio &amp; MIDI Connector</b></p> <p>(MIDI &amp; S/PDIF)</p>	<p>Connect the digital breakout cable, which provides MIDI In &amp; Out and S/PDIF In &amp; Out (2-channels optical or coaxial) to the PCI Card.</p> <ul style="list-style-type: none"> <li>MIDI input and output ports allow you to interface any type of MIDI equipment such as keyboards, effect units, drum or guitar controllers. The MIDI drivers were installed when you installed your PatchMix DSP software and the MIDI ports will appear in your system control panel under "Sounds and Audio Devices".</li> <li>S/PDIF digital I/O can be used for the reception and/or transmission of digital data from external digital devices such as a DAT machine, an external analog-to-digital converter or an external signal processor equipped with digital inputs and outputs.</li> </ul> <p>S/PDIF can be transmitted and received via the RCA coaxial connectors or TOSLINK optical connectors on the Digital Breakout Cable. Optical connections have certain advantages such as immunity to electrical interference and ground loops. The optical S/PDIF and RCA coaxial S/PDIF inputs cannot be used simultaneously, however both S/PDIF outputs are available simultaneously (carrying the same signal).</p> <p>The S/PDIF out can be configured in either Professional or Consumer mode with 24-bits of resolution. The S/PDIF input and outputs support 44.1kHz, 48kHz and 96kHz sample rates.</p>

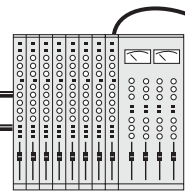
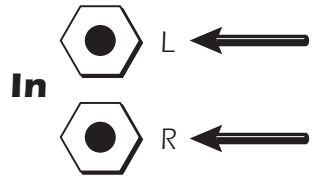
# Analog Output Connections





# Analog Input Connections

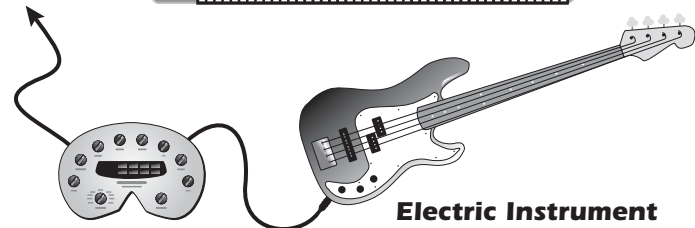
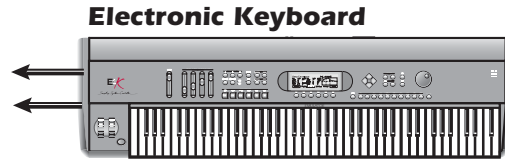
**Analog Breakout Cable**



**Mixer**



**Microphone**



**Instr. Preamp**

**Electric Instrument**

# Digital Connections

## Digital Breakout Cable

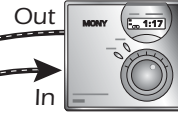
**S/PDIF**  
(Optical)



**S/PDIF**  
(Coax)



**MIDI**



**Portable  
Digital Recorder**

**DAT / CD / DVD**

Any Digital Audio Device with S/PDIF



**MIDI Keyboard**



**MIDI Sound Module**



Optical

Coaxial

MIDI Out

MIDI In

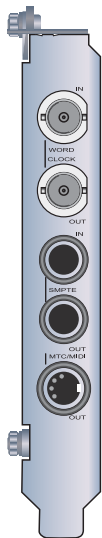
## The E-MU Sync Card (Optional Accessory)

The Sync Card provides Word Clock in and out, SMPTE (LTC) in and out and an additional MIDI output for transmitting MIDI Time Code (MTC). MIDI Time Code is a special rendering of SMPTE that can be transmitted over MIDI cables.

Word Clock is a standard means of synchronizing two or more pieces of digital equipment at the system sample rate (44.1kHz, 48kHz or 96kHz). To avoid data corruption, digital equipment MUST be synchronized to each other.

Recording equipment can also be synchronized using SMPTE or MTC sync so that two audio recorders or an audio and video recorder can lock together as a single machine. For more information, please refer to your Owner's Manual (on CD).

## Connections



<b>Word Clock Inputs and Outputs</b>	<p><b>Word Clock In:</b> Receives word clock (sample clock) from another digital device such as a digital video deck, digital recorder or digital mixer.</p> <p><b>Word Clock Out:</b> Sends word clock (sample clock) to another digital recorder. Word clock is always output, whether it is generated by the internal clock or passed through from the word clock input.</p>
<b>SMPTE In/Out</b>	<p>The SMPTE Input converts incoming SMPTE longitudinal time code (LTC) to MIDI Time Code (MTC) and passes this information to the host computer to be used by a sequencer or audio recorder application. When your computer application is the "Master", MTC generated by the computer application is converted into SMPTE and sent out to another SMPTE device such as another audio recorder to synchronize it with the sequencer.</p>
<b>MTC Out</b>	<p>This output transmits MIDI Time Code to another computer or audio recorder. The source of the MTC can be from the sequencer or SMPTE in.</p>

**Note about Windows™ Logo Testing:**

The Digital Audio System drivers are not signed because the driver does not support some of the consumer audio features that the Microsoft driver signing program requires, most notably Digital Rights Management.

However, the Digital Audio System drivers have been rigorously tested using the same test procedures that a signed driver requires, and it passes in all important categories, including those that measure the relative stability of the driver. So, it is perfectly safe to install these drivers on your computer.

**Notice**

Information in this document is subject to change without notice and does not represent a commitment on the part of E-MU Systems, Inc. No part of this manual may be reproduced or transmitted in any form or by any means, electronic or mechanical, including photocopying and recording, for any purpose without the written permission of E-MU Systems, Inc. The software described in this document is furnished under a license agreement and may be used or copied only in accordance with the terms of the license agreement. It is against the law to copy the software on any other medium except as specifically allowed in the license agreement. The licensee may make one copy of the software for backup purposes only. E-MU is a registered trademark of E-MU Systems, Inc. in the United States and/or other countries.

Copyright © 2004 by E-MU Systems, Inc. All rights reserved.

Version 1.00

April, 2004

