



---

# Technical Note

---

## E-MU 0202 USB

Installation, setup and calibration with Dirac



## TN010 E-MU 0202 USB

---

This page intentionally left blank.

---

## TN010 E-MU 0202 USB

---

### 1 Introduction

E-MU's 0202 USB device outstanding feature is the support for a 192 kHz samplerate (and a corresponding bandwidth), which is a requirement for scale model measurements. It is also bus-powered which is useful for field measurements. The disadvantages of this device are the custom drivers that need to be installed, the external hardware gain controls and the lack of a phantom power supply.

The Acoustics Engineering website lists a number of alternative devices.  
See: <http://www.acoustics-engineering.com/dirac/faq.htm#soundcard 2>

The remainder of this document will guide you through the installation, setup and calibration of the E-MU 0202 USB device.

### 2 Installation

Please note that these installation instructions may be invalid when E-MU changes the installer and drivers that are shipped with the device.

#### Windows XP

For the installation on Windows XP, you can simply follow the instructions given in the Quick Start installation guide that comes with the device. Take care to install the software first, before connecting the device to your PC.

#### Windows Vista

The drivers that ship with the device (as of November 2008) are not compatible with Windows Vista. A Vista compatible driver can be downloaded from the E-MU website:

<http://www.emu.com/support/files/download2.asp?Centric=1005&Legacy=0&Platform=1>

Install the downloaded driver before attaching the device to the PC.

After installation, the device is set as the default sound device in Windows. To prevent Windows sounds, such as those caused by the arrival of an email, from interfering with your measurements, the previous defaults must be restored.

Open the Sound applet from the Windows Control Panel, and change the selections such that the E-MU 0202 USB is no longer the default for playback and recording.

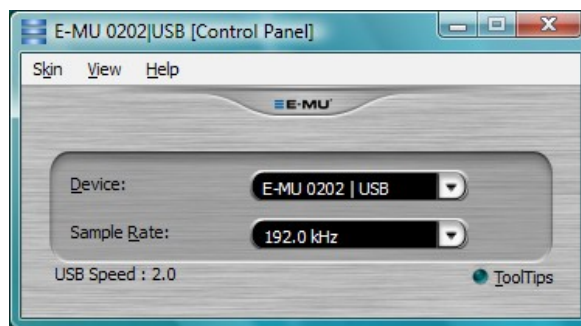
---

## TN010 E-MU 0202 USB

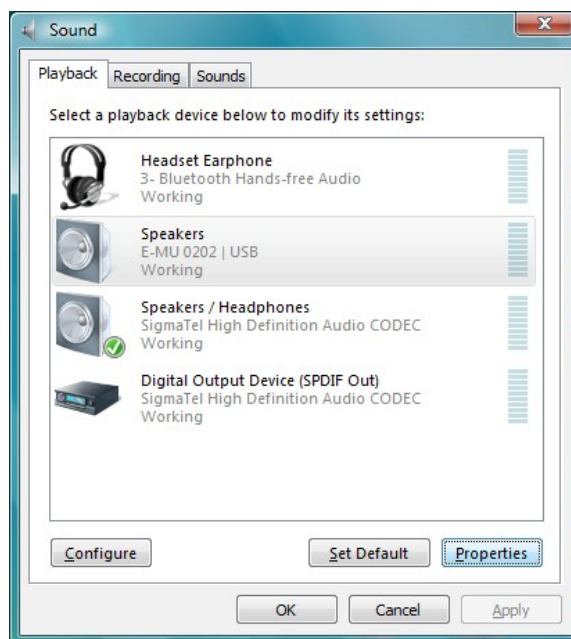
---

### 3 Setup

1. Use a short wire with 3.5 mm stereo (TRS) jack plugs on both ends to connect the Stereo Output to the Left Input, or use a wire with 6.3 mm mono (TS) jack plugs to connect the Left Output to the Left Input at the back of the device.
2. Set all gain controls on the front panel to their minimum (0 dB) position (CCW).
3. Start the E-MU USB Audio Application and verify that the USB Speed indicator displays '2.0'. Set the sample rate to 192 kHz:



4. On Windows Vista: Open the Sound applet in the Windows Control Panel and click on the Properties button for the E-MU playback device:

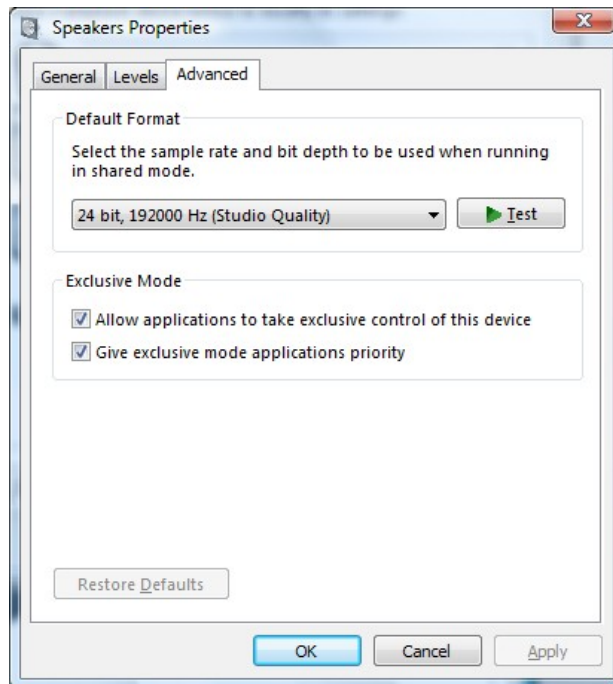


---

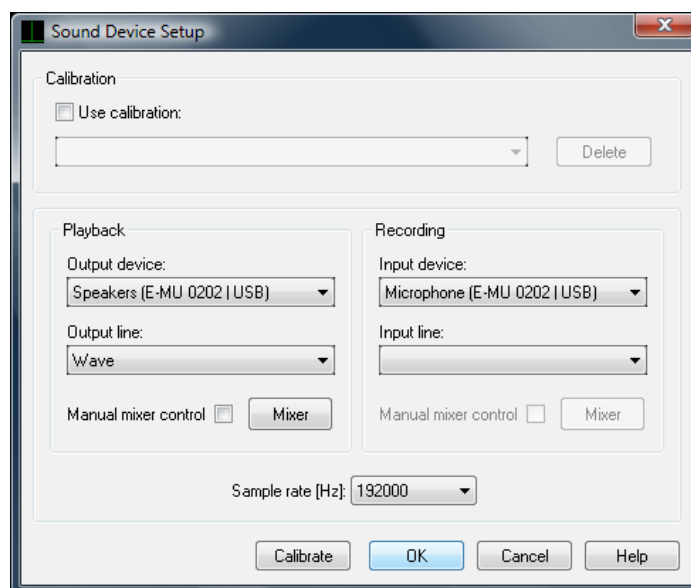
## TN010 E-MU 0202 USB

---

5. Set the Format on the Advanced tab as displayed below:



6. Do the same for the Recording device properties.  
7. Start Dirac and open the Sound Device Setup window (Setup menu).  
8. Copy the settings from the following window:

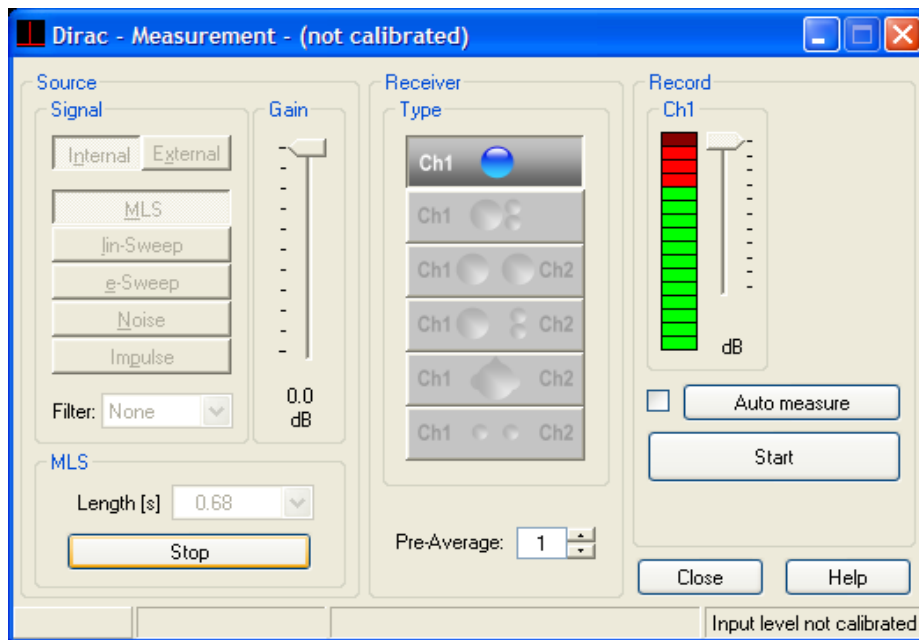


---

## TN010 E-MU 0202 USB

---

9. Press OK, and open the Measurement window.
10. Select Internal MLS for the source signal, and a single omni-directional microphone for the receiver. Press the Test button, and verify that the VU meter indicates a strong signal, as in the screen shot below:



11. If the VU meter does not register a signal, then recheck the settings in the E-MU USB Audio Application, in the Windows Sound applet and in the Sound Device Setup window.

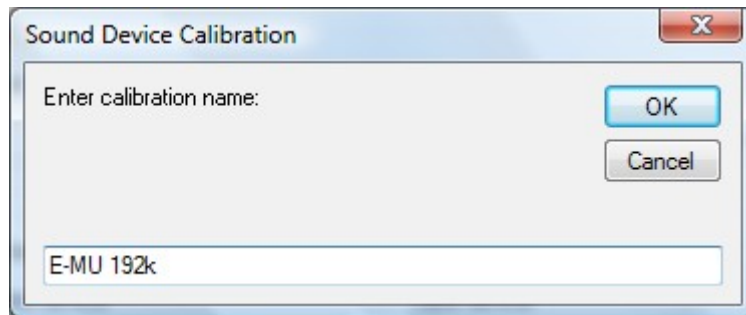
---

## TN010 E-MU 0202 USB

---

### 4 Calibration

1. Open the Sound Device Setup window and click the 'Calibrate' button.
2. Do not accept the default name (it contains invalid characters), but use a name such as “E-MU 192k”.



3. Click OK to start the calibration.

### 5 Notes

1. For normal measurements (that is outside the scale model), a samplerate of 48 kHz is preferred. This requires a new calibration of the sound device. Close Dirac, and change the samplerate in the E-MU USB Audio Application to 48000 Hz. On Windows Vista, change the format settings for the playback and recording devices in the Sound applet of the Control Panel to 48000 Hz. Start Dirac and open the Sound Device Setup window. Change the samplerate to 48000 Hz, and click the 'Calibrate' button. Again, do not use the suggested default calibration name, but use for instance: “E-MU 48k”.
2. For all measurements, the gain control settings on the front panel of the device should match those used during the calibration.

---

## TN010 E-MU 0202 USB

---

**Acoustics Engineering** develops systems for the prediction and measurement of acoustical parameters, resulting in user-friendly tools that enable you to perform fast and accurate acoustical measurements and calculations.

### For information on our products, please contact

**Acoustics Engineering**    Email:            info@acoustics-engineering.com  
Phone/Fax:            +31 485 520996  
Mail:                    Acoustics Engineering  
                              Groenling 43-45  
                              5831 MZ Boxmeer  
                              The Netherlands  
Website:                www.acoustics-engineering.com

Brüel & Kjær is the sole worldwide distributor of Dirac. For information on Dirac, please contact your local B&K representative or the B&K headquarters in Denmark:

**Brüel & Kjær**                    Email:                    info@bksv.com  
Phone:                    +45 45 80 05 00  
Fax:                        +45 45 80 14 05  
Mail:                        Brüel & Kjær A/S  
                                  Skodsborgvej 307  
                                  DK-2850 Nærum  
                                  Denmark  
Website:                    www.bksv.com

Copyright © Acoustics Engineering 2008

All rights reserved. No part of this document may be reproduced or transmitted in any form or by any means, electronical or mechanical, without the prior written permission of Acoustics Engineering.