

EES PC-MIDI ST Operating Instructions

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Introduction

Thank you for using EES PC- MIDI ST Interface.

The EES PC- MIDI ST Interface adds two MIDI In and four MIDI Out ports to your computer (MIDI= **M**usical **I**nstrument **D**igital Interface), allowing you to connect external MIDI devices to the computer.

Synchronisation connectors give you the opportunity to synchronize external devices (normally a tapedeck) to your PC. Synctracks can be recorded on tape and can be played back to synchronize the units.

The PC- MIDI ST comes with driver software for different versions of the Microsoft Windows operating system. For optimum compatibility with different versions, there are three different drivers. The driver fitting your Windows operating system has to be installed.

EES PC-MIDI drivers are multi-client-capable, i.e., multiple MIDI applications can be active and access the interface at the same time. For example, you can simultaneously use a sequencer and a sound editor.

Because the interface is an external device, you do not need to open up your computer or reconfigure its hardware to install it. Nevertheless, we recommend that you read the following installation instructions before connecting the interface to your computer.

System requirements

The computer must meet Microsoft's requirements for a minimum system configuration.

A serial port (COM1 or COM2) is also needed.

Package contents

- 1 EES PC- MIDI ST Interface
- 1 power cable
- 1 DB-9 cable to connect the interface to the serial port
- 1 driver disk, MIDI Router and Control program
- 1 manual

Connectors and operating conditions

RS232 port.

Connect the port to the COM- port of your PC. – v. hardware installation.

MIDI connections.

The **MIDI connectors** of the interface are connected as usual to the MIDI connectors of keyboards, expanders or other MIDI devices. The four MIDI Out ports can be used independently from each other. MIDI Port selection is performed by software.

Synconnections LTC In and LTC Out .

Synconnections (LTC In and LTC Out) have to be connected to the corresponding syncsource. If there already exists a synctrack on tape, only the LTC In has to be connected to the output of the valid track.

The synconnections are designed universal. They can be used balanced (tip and ring) or unbalanced (tip and ground of the quarter inch phone jack).

The PC- MIDI ST detects automatically the correct operating mode.

Different to the digital MIDI signal the syncsignal is analog. That means the volume of the signal is an important fact for correct working of the synchronisation. The syncsignal should be around 0db studio level.

A marginal track is mostly used to create a sync track because it has only one neighbour track that could be influenced by crosstalk. Recording level should be 0db. But when problems (crosstalk) occur, a lowered level of – 4db will do as well in most of the cases.

Power Supply.

Use the power cable to plug the interface into the nearest available power outlet. Make sure that the voltage requirements printed on the interface matches the mains voltage at your site.

To ensure stable operation of the MIDI setup, the connecting cables should not exceed 10 feet (3 meters) in length.

In rare cases, static discharges or interference can spoil the EES PC- MIDI ST interface. If this happens, normal MIDI operation can be restored by powering up the interface again.

Operation and Precaution.

When using EES PC- MIDI ST Interfaces, observe the standard precautions for electrical devices: Do not use the device in surroundings that are wet, very humid, hot or very dusty. Only qualified technicians may open the interface.

Clean the case using only a dry cloth. Cleaners containing solvents may damage the case's surface.

Indicator lights.

11 LEDs indicate the operating mode and the data exchange from and to the PC-MIDI interface.

RS232 LED.

If there is at least 1 program started on the PC that operates with MIDI ports, the PC- MIDI ST driver switches the interface to the PC mode. The yellow RS232 LED is lit and it starts blinking when there is a data exchange between PC and PC-MIDI ST via COM port.

MIDI In LEDs.

The MIDI In LEDs start blinking in rhythm with the arriving MIDI data.

Caution: If the MIDI device (for example a keyboard) transmits „ active sensing „ signals, the corresponding MIDI IN LED blinks about three times a second. This is okay and has no influence on the operating mode because these signals are filtered by the PC-MIDI ST interface , that means they are not transmitted to the PC.

MIDI Out LEDs.

The MIDI Out LEDs start blinking in rhythm with the MIDI data transmitted by the PC .Therefore it is very easy to check if the MIDI data are splitted as desired.

Mode LEDs.

The Mode LEDs indicate the synchronous mode. The LEDs have three operating conditions: Off, On and Blinking. The symbols printed on the front cover of the interface are standing for the corresponding operating condition: Off = open symbol, On = filled symbol, Blinking = partly filled symbol.

Continuous blinking of the green mode LED means that the PC-MIDI ST is in read standby and is waiting for sync data.

Format LEDs.

These LEDs show the syncformat. The different formats are depending on the different sync sources. The syncformat is counted in frames. The value **frame** means screen changes per second.

The 24 frame format is used by movies with 24 screens per second.

The 25 frame format depends on the european (50 cycles) TV.

The 30 frame format depends on the american (60 cycles) TV.

The 30d format is necessary for US color TV (NTSC).

Installation.

The installation of the interface is divided in two steps.

1. Connecting the PC-MIDI ST.

Before you connect the interface to the PC, make sure that the PC is powered down. Then connect the interface to the PC using the supplied cable.

For historic reasons the COM - port can have two different kinds of sockets:

1. A 9 pole D-Sub socket. Then the PC-MIDI ST will be connected direct with the supplied cable to the PC.
2. A 25 pole socket. Then the PC-MIDI ST will be connected with one end of the 9 pole cable and the other end must be connected by an adapter to the PC.

The parallel LPT port of the PC (25 pole socket) can **not** be used for the PC-MIDI ST.

Power up the PC now and plug the interface into a wall socket. (Again, make sure that the correct voltage is supplied!) The left red format LED on the PC- MIDI ST Interface should now be lit. The 25 frame format is pre selected. Besides the green mode LED is blinking – also the SMPTE read standby is a default setting.

If desired, you may also connect your MIDI devices to the interfaces In and Out ports at this point.

2. Installing the software (includes a description of the drivers)

Installation of the software requires that a version of MS-Windows (Windows 95/ 98/ ME Windows NT 4.0 or Windows 2000) is installed on the computer. If Windows is not present, you have to install it first.

The installation floppy should be write-protected during installation—the slider in the upper right corner (as viewed from the front) should be in the open position.

The installation consists of two parts: Installing the driver (connection between hard- and software) and installing the utilities. The installation of the driver is a must to operate the PC-MIDI ST, the utilities can be installed additional.

2.1 Driver installation Windows 9x +ME and Windows 2000.

To install the new driver click the "**Start** " icon and scroll to "**Settings**". Open up "**Control Panel**". Select and open "**Add new Hardware**" with a double click. The "**Add New Hardware Wizard**" dialog box appears on screen. Read the instructions and click "**Next**". Follow the instructions and click "**Next**" once again.

Answer the following question in the devices recognition with "**No**". Then click "**Next**" in the dialog box. In the next window click "**Next**" once again and then scroll down the hardware types and mark "**Audio-, Video-, Gamecontroller**". Then click "**Next**". In the following window click on "**Have Disk**" to access the EES PC-MIDI ST floppy and search for A:\Win9x (also for ME) respectively A:\Win2000 and confirm. In the window "**Select Device**" confirm the PC-MIDI ST with "**Ok**" and click "**Finish**".

2.1.a Checking driver information

Open the System icon in the Control Panel and click on the Device Manager tab. Switch to "**View devices by type**" and click on the plus sign in front of "**Sound, video and game controllers.**" Select EES PC-MIDI in the resulting sublist. To check or change the settings, click on "**Properties.**"

In the „**Settings**“ window, you can specify how many in and out ports are used (usually two and four). The name of each socket can be changed.

Important: Because of a bug in Windows 95, up to eleven ports in total are available!

The number of the serial port to whom the PC-MIDI ST is connected should be selected at "**COM Port**". This can speed up the start procedure.

To view the version number of the driver, click the "**Driver File Details**" button in the "**Driver**" tab.

2.1.b Deinstalling or updating the driver

Open the System icon in the Control Panel and click on the Device Manager tab. Switch to "**View devices by type**" and click on the plus sign in front of "**Sound, video and game controllers.**" Select EES PC-MIDI in the resulting sublist. Click on "**Remove**" to delete the driver from the system. To update the driver, click on "**Properties**" and click the Driver tab. The version number is displayed and you can install a new driver (e.g. from floppy)by clicking on "**Update Driver.**"

2.2 Driver Installation Windows NT

Under Windows NT the driver will be installed as usually.

2.2.a Installing the driver

Open the "**Multimedia**" icon in the "**Control Panel**" and click on the "**Devices**" tab. Select the "**MIDI Devices and Instruments**" entry and click the "**Add...**" button. Choose "**Unknown or updated driver**" and click "**OK.**" Enter the installation directory from the setup application **A:\WinNT** and click "**OK.**" Confirm the choices in the next window by clicking "**OK.**"

The version number of the driver is found by clicking on "**Driver Information.**"

2.2.b Deinstalling or updating the driver

Open the Multimedia icon in the Control Panel and click on the "**Devices**" tab. Click the plus sign in front of the "**MIDI Devices and Instruments**" select the "**EES PC-MIDI ST**" entry. Click on "**Remove**" to delete the driver from the system. To update the driver, you first have to remove the driver and then to install the new driver with "**Add...**" (see 2.2.a).

2.3 Multiclient capability

The PC- MIDI ST interface is multi-client-capable under all supported operating systems. This means that several MIDI applications may be open at the same time, which are all accessing the interface at the same time. This quality is very useful in combination with the added utility program. So it is possible that the big time window of the EES PC-MIDI ST control program can be active simultaneous to a sequencer program.

3. Utilities

Installation: Starting Setup.Exe

Start Setup.Exe from the EES floppy. To do so choose "**Run**" from the "**Start**" menu. Enter "**A:\Setup**" or "**B:\Setup**" (depending on the floppy drive's drive letter) in the command line and click "**OK.**"

In the welcome screen the language can be selected. A preview shows the components that can be installed. Click on "Continue" to proceed to the selection of the installation directory. Usually, you can confirm the default directory by again clicking on "Continue."

Next, you select the software to install. Usually, all options should be selected (indicated by a check mark).

Caution: Components not indicated will be deinstalled if they have been present before.

Click "Continue" to proceed to the next screen, where you have to click "Start" to begin with the installation process.

After the installation has been completed, you can exit the installation application by clicking on "Done."

EES applications are added to the EES program group.

The Setup.Exe installation application can also be used to deinstall software: all applications not marked will be removed!

PC- MIDI ST Utilities

During installation of the utilities a program group will be created that shows the icons of the EES PC-MIDI ST Controlprogram and the EES Router.

The EES PC- MIDI ST Controlprogram.

The EES PC-MIDI ST Controlprogram is a utility that is not quite necessary for the normal operation of the PC-MIDI ST. But to make settings in the sync mode it is very helpful and the scaleable SMPTE time display can make it indispensable. This program is largely self explaining. The functions correspond to the mode- and format selections of the PC-MIDI ST. The time preselection and the choice of the LTC Out level can be selected only by program.



The PC-MIDI ST Controlprogram does not transmit MIDI data. For routing MIDI data the EES MIDI Router can be used for example, which can be opened simultaneous because of the multi-client capability of the driver.

The MIDI Router

The MIDI Router is a utility which is not required for the "normal" operation of the PC- MIDI ST.

The MIDI router allows to create MIDI connections inside your PC to view and to alter MIDI signals. For example, it is possible to connect an external keyboard to the sound card or a master keyboard to various expanders.

The MIDI Router features the group window at the left and at the right a window where three different types of information can be displayed:



Group window

Port window (shown) or Status window or Protocol window

The group window is used to create groups of one MIDI In and one or more MIDI Out ports.

To do so, simply drag a MIDI In port from the port window to the group window, creating a new group, and then add as many MIDI Out ports as needed. The MIDI information from the input port are displayed in the group status and are routed to the MIDI Out ports included in the group.

The MIDI In and Out ports can be individually disabled to allow you to check the MIDI signals quickly and easily. If the "Tips" feature is activated in the EES menu (at the upper left, under the EES logo), explanations for the various functions and displays appear on screen.

Routing groups can be named and saved to disk. Saved routing groups can later be selected and activated in the list box. When the EES MIDI Router is started, it automatically opens the routing group named "Default". You should save your standard settings under this name.

The status window displays detailed information about the MIDI data of the selected group. It also allows you to adjust the volume and select timbres.

The log window, finally, displays the most detailed information: All MIDI In data of the selected group is presented as a list here. You can select which MIDI channels and which kind of MIDI information is to be shown in the list. See the Tips feature for further information.

Operating modes of the EES PC-MIDI ST.

The PC-MIDI ST has two operating modes: Connected to the PC (computer mode) and not connected to the PC (stand alone mode).

Standalone Mode.

The red RS232 LED is not lit in this operating mode. The PC-MIDI ST is not connected to the PC or there's no MIDI application active.

1. MIDI.

The MIDI data at the two MIDI In sockets will be transmitted to the corresponding MIDI Out. That means In 1 is connected to Out 1 and In 2 is led to Out 2.

2. Synchronisation

First the desired frame rate should be selected. While reading from tape the PC-MIDI ST recognizes the correct frame rate automatically but that could take up to two minutes (30d only). To write the sync track the desired frame rate must be selected.

The PC- MIDI ST can be used as a sync box. It can convert **LTC** sync signals to MTC, format a tape with a sync track or convert **MTC** signals to **LTC** signals. The desired function will be selected with the mode pushbutton. After powering up the PC-MIDI ST **Read** respectively **Read standby** is preselected if a syncsignal is present at the LTC Input.

Caution: If there is no syncsignal present at the time not the read mode but the read standby mode is preselected.

Reading starts automatically when the syncsignal starts. The read syncsignal will be transmitted to the MIDI Out 2 socket as MTC (MIDI time code),

For **Refresh** the conditions are identically. Refresh reads the LTC syncsignal and generates simultaneus a new syncsignal that is present at the LTC socket. That gives the opportunity to record with a " fresh " syncsignal.

The MTC signal will be also transmitted to the MIDI Out socket 2.

With the **Write** command a new sync track can be created. Normally the first thing to do before starting a new recording session. The sync track should have the same length or even more than the planned recording.

The sync time start is mostly set to 00:59:50 , that means 10 seconds delay to an hour sharp. Other time settings can be selected with the PC-MIDI Controlprogram. Volume Level – 4db is preselected , a compromise between syncquality and crosstalk to the neighbour track of the tape recorder.

Other volume levels may be selected in the PC-MIDI Controlprogram.

The mode **MTC – LTC** is just like refresh. But in this case the syncsignal will not be taken from LTC In, but as **MTC** (MIDI time code) from MIDI In 1.

PC Mode.

When the PC-MIDI ST is connected to the PC and a MIDI application has been started the yellow RS 232 LED is lit. When there is a data exchange between the PC-MIDI ST and the PC the RS 232 LED is flickering.

1. MIDI

The PC-MIDI ST is acting like a "**normal**" MIDI interface depending on the software it adds in - and outputs to the application. The driver using the Windows system should be able to work with every kind of software after a successful installation.

2. Synchronisation.

The sync settings of the PC-MIDI ST can be changed with the added PC-MIDI ST Controlprogram or at the PC-MIDI ST interface itself.

The PC-MIDI ST can convert LTC syncsignals to MTC, format a sync track on tape or convert MTC signals into LTC syncsignals. The desired function will be selected at the PC-MIDI Controlprogram.

First the fitting frame rate should be selected. In reading cycle the frame rate is detected automatically but this can take up to 2 minutes (only 30d). For write mode the frame rate must be selected.

Read reads the syncsignal from LTC In, respectively is waiting for a valid syncsignal.

Caution: If there is no syncsignal present at this time, not the read mode but the read standby is selected. Reading starts automatically as soon as the syncsignal starts.

For refresh the conditions are identically. With the refresh function the LTC syncsignal will be read and a new syncsignal will be generated simultaneously and is present at the LTC Out socket . That gives you the opportunity to have a "freshed up" syncsignal for recording.

Write generates a new synctrack on tape. This is normally the first thing to do before starting a new recording session. The sync track must be as long as the planned recording track or even longer. Sync time starts with the displayed time in the time window . This will be 00:59:50 in the most cases. This means 10 seconds before an hour sharp is selected.

The volume level can be selected with the Volume Switch in the PC-MIDI ST Controlprogram between - 9 and + 4db.

MTC – LTC has quite the same function as refresh. But in this case the sync signal will not be taken from LTC In but from MTC (MIDI time code). To do so the MTC must be routed from the sequencer to MIDI Out 1 of the PC-MIDI ST.

MIDI commands for the PC-MIDI ST.

The synchronisation of the PC-MIDI ST can be controlled by Sys Ex data (used by the PC-MIDI ST Controlprogram) or by MIDI Machine Control (MMC). These commands can be entered from the PC in computer mode or from MIDI In 1 socket in stand alone mode.

```
Used MMC ( MIDI-Machine-Control ) :
F0 7F 7F 06 xx F7 ; xx = 01 : Stop
                    ; xx = 02 : Play immediate
                    ; xx = 03 : Play deferred ( just like play ,e.g. used
by Logic )

F0 7F 7F 06 44 06 01 hh mm ss ff 00 F7 ; 44 : Locate
                    frames
                    seconds
                    minutes
                    hours
The hour byte contains the frame rate( bit 6,5 ) 00 = 24fps 01 = 25fps
10 = 30fps drop 11 = 30fps
```

Troubleshooting

This is NO error: The red LED is blinking rhythmically.

Even when there is no apparent MIDI data traffic, many keyboards transmit an Active Sensing signal every third second. While the PC- MIDI ST driver filters out this signal, it still arrives at the MIDI In port, causing the interface to indicate incoming data by flashing the LED.

Internet and updates

If you have problems or questions, you can contact us not only by mail, fax or phone but also on the Internet:

The most current drivers are always available at http://www.ees-musik.de/com_int.htm.

If you experience difficulties using the interface and find a new driver on the web site, we encourage you to download and install it. Additional information is available on the web site.

Our technical support can be reached at support@ees-musik.de.

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