CME

MATRIX

AUDIO MATRIX SYSTEM

Matrix K

User's Manual

Version 1.0

FCC INFORMATION (U.S.A)

1. IMPORTANT NOTICE: DO NOT MODIFY THIS UNIT!

This product, when installed as indicated in the instructions contained in this manual, meets FCC requirements. Modifications not expressly approved by CME may void your authority, granted by the FCC, to use the product.

2. IMPORTANT: When connecting this product to accessories and/or another product use only high quality shielded cables. Cable(s) supplied with this product MUST be used. Follow all installation instructions. Failure to follow instructions could void your FCC authorization to use this product in the USA.

3. NOTE: This product 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 environment. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used according to the instructions found in the users manual, may cause interference harmful to the operation of other electronic devices. Compliance with FCC regulations does not guarantee that interference will not occur in all installations. If this product is found to be the source of interference, which can be determined by turning the unit “OFF” and “ON”, please try to eliminate the problems by using one of the following measures:

Relocate either this product or the device that is being affected by the interference.

Utilize power outlets that are on different branch (circuit breaker or fuse) circuits or install AC line filter(s).

In the case of radio or TV interference, relocate/reorient the antenna. If the antenna lead-in is 300 ohm ribbon lead, change the lead-in to co-axial type cable.

If these corrective measures do not produce satisfactory results, please contact the local retailer authorized to distribute this type of product. If you cannot locate the appropriate retailer, please contact CME.

The above statements apply ONLY to those products distributed in the USA.

PRECAUTIONS

IMPORTANT

Always follow the basic precautions listed below to avoid the possibility of serious injury or even death from electrical shock, damages, fire or other hazards. These precautions include, but are not limited to, the follows:

1. Read and understand all the instructions.
2. Always follow the instructions on the device.
3. Before cleaning the instrument, always remove the electric plug from the outlet as well as the USB or IEEE 1394 cable. When cleaning, use a soft and dry cloth. Do not use gasoline, alcohol, acetone, turps or any other organic solutions; do not use liquid cleaner, spray cleaner or too wet cloth.
4. Do not use the device near water or moisture, such as bathtub, washbasin, washing pool in the kitchen or similar places.
5. Do not place the device in an unstable position where it might accidentally fall over.
6. Do not jam sinks or holes of the device; those sinks of holes are used for air circulation to prevent the device from overheating. Do not place the device near heat sink or any places with poor air circulation.
7. Do not place anything on the power cord. Make sure the power cord is set on a safe place, so nobody will step on it and no body will trip over it.
8. Do not overload the outlet and the AC cable to avoid fire or electrical shock.
9. Do not insert anything in the device, which may cause fire or electrical shock. Do not splash any kind of liquid to the device.
10. Do not disassemble the device in case of accidental electrical shock.
11. Always take the device to a qualified service center in need of repair. You will cause yourself in danger if you open or remove the cover, and improper assembly may cause electrical shock in the future use.
12. Unplug all the connectors and take the device to a qualified service center if anything in the below listed happens:
    A. The power cord or connector get hurt or worn out.
    B. Any liquid get in the device.
    C. The device gets rain or water splash.
    D. The device dose not work properly after following all the instructions regarding to the trouble-shootings.
    E. The device falls down or gets broken.
    F. The device functions poorly.
13. Do not use the device when thundering; otherwise the thundering may cause long-distance electrical shock.
14. Do not use the device when there is a gas leak nearby.

Keep this manual in safe place

CAUTION:

Setting up

Do not connect the device when thundering.

Do not set up the cord or outlet to a moist place, except for that the outlet is specially designed for moist places.

When the power cord is connected to the AC outlet, do not touch the naked part of the cord or the connector.

Always follow the instructions carefully when setting up the device.

WARNING:

Do not expose the device to rain or moisture, to avoid fire or electrical shock.

Other precautions:

Keep the device away from electrical interface sources, such as fluorescent light and electrical motors.

Keep the device away from dust, heat and vibration.

Do not expose the device to sunlight.

Do not place heavy objects on the device, do not place containers with liquid on the device.

Do not touch the connectors with wet hands.

Central Music Co. is not responsible for any damage or data loss caused by improper operation to the device.

All the pictures and the LED display in the manual are used for demonstration; they may be different from the real device.

Trademarks:

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Introduction

The Matrix K is a small, multi-function, professional audio system, which integrates a microphone pre-amplifier with +48V phantom power, a Direct Box for connecting a guitar or bass, a 3-channel dual bus stereo mixer and dual headphone amplifiers. The unique dual bus design makes Matrix K the best choice for use with a computer based hard-disk recording system or when you want to add a microphone to a digital instrument with line in and line outs. For example, use the Matrix K with a synthesizer with a sampling function or to add vocals to a digital piano with line inputs and outputs.

After connecting Matrix K to your computer, your new music-making system will include many practical and convenient functions. Matrix K features not only inputs and outputs for transmitting signal to/from computer but also two headphone outputs with volume control knob for different monitoring needs. Matrix K also features different connectors such as Line In, Monitor Output, gain adjustable Mic In and Guitar In to satisfy all of your music-making needs. In addition, the Line In of Matrix K can receive un-balanced signals and convert into balanced signals. Furthermore, Matrix K provides +48V phantom power to support professional microphones.

Matrix K is bus powered when it connects with computer via IEEE 1394 port (Matrix K FW) or USB port (Matrix K USB). It works with full functions without any other extra power adaptor is needed.

Hardware Direct Monitor is another advantage for Matrix K users. Signals from the Line In, Mic In or Guitar In can be sent to the headphone outputs or monitor speakers directly by pressing the Direct Monitor button. Un-pressing the button will route those signals to the computer and then out through Matrix K back to the headphone output or monitor speakers. This is a convenient function to compare the sound before and after processing and recording on the computer.

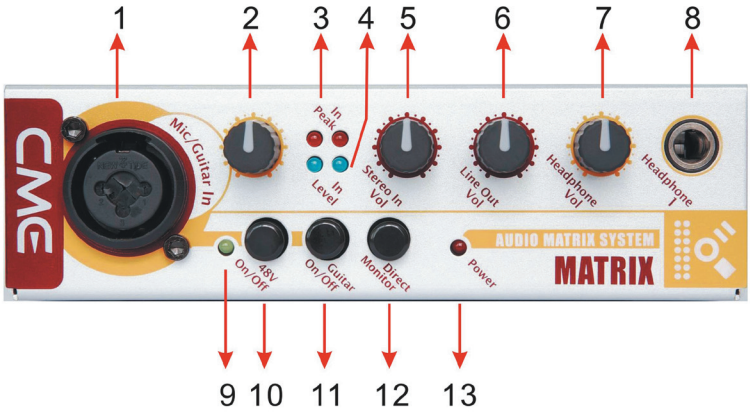
Besides working with computer, Matrix K can be used as a stand-alone device to add a microphone or guitar to a keyboard that has a line in and out. Simply connect the audio matrix and you can easily add a microphone or guitar to a digital piano with speakers or increase in the number of headphone outputs.

Matrix K is a unique utility mixer that fits many different audio applications because of its flexible and powerful design. It’s especially useful in a small computer recording environment. You’ll find that Matrix K will come in handy for many different situations and that it’s quality and cost performance is outstanding.

Configurations

Front Panel

Matrix K front panel has all of the input gain and output volume control knobs, and the switches for direct monitor, phantom power and guitar signal. Below is the detail of Matrix K front panel.



1. XLR / TS combo connector

You can connect a microphone or electrical guitar here. The XLR input is balanced and provides 48V phantom power (by pressing the “48V On / Off” button). It is suitable for professional condenser microphones. The ¼” connector is un-balanced and is suitable for dynamic coiled microphone and electric guitar or bass.

2. Mic / Guitar In

Adjusts the gain of the signal from the combo connector.

3. In Peak

After activating “Direct Monitor” function. A red LED flashes when the input signal level is near distortion indicating it would be better to lower the input gain.

4. In Level

After activating “Direct Monitor” function. A blue LED will light up and flash if signal is available at the input channel.

5. Stereo In Vol.

Adjusts the volume level of the Stereo In.

6. Line Out vol.

Adjusts the volume level of Line Out.

7. Head Phone Vol.

Adjusts the volume level of Head Phone 1 and Head Phone 2.

8. Head Phone 1

The first headphone output connector (stereo).

9. Phantom power LED

This LED will light up when phantom power supply is turned on and is providing power to XLR input.

10. 48V On / Off

Switches the phantom power on or off. Turn phantom power on by pressing the button.

11. Guitar On / Off

Pressing this button will activate the TS connector of the combo connector to receive external signals.

12. Direct Monitor

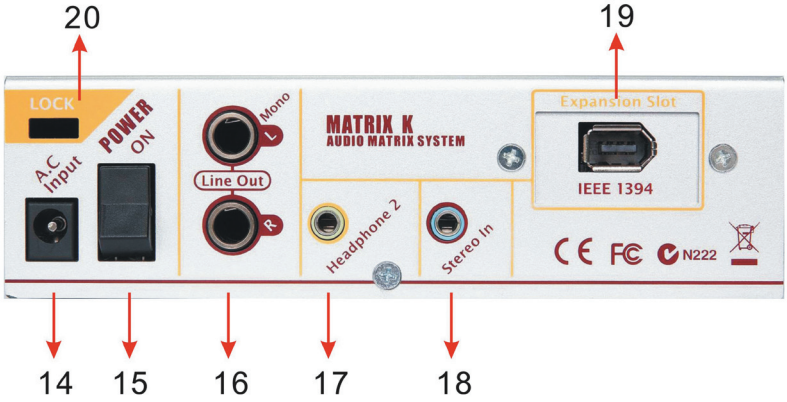
Switches the direct monitor function On or Off. Pressing this button down, all of the input signals will be sent to Head Phone 1 / 2 and Line Out directly. If you are using recording software to record, you should un-press this button to avoid latency while monitoring.

13. Power LED

This LED will light up when it is turned on.

Rear Panel of Matrix K FW

The main input and output connectors are in rear panel of Matrix-X.



14. Power Input

Plug the bundled power adapter here for supplying power to the Matrix K. To avoid voiding your warranty, only use the power adapter supplied for use with Matrix K.

15. Power On

Power switch. It just switches the power while using power adaptor. The power from IEEE 1394 or USB bus is not been controlled.

16. Line Out

Signal monitor output connectors, the left channel is on the top, the right channel is on the bottom. Both of the two connectors are balanced 1/4" TRS jacks.

17. Head Phone 2

The second headphone output connector (1/8", stereo).

18. Stereo In

This is stereo input to Matrix K. Please connect the Line Out of an external device to here. This connector is un-balanced 1/8” TRS jacks.

19. IEEE 1394

IEEE 1394 connector of Matrix K FW. Please connect with computer via IEEE1394 cable here.

20. Lock

Lock hole. Lock Matrix K with laptop lock to prevent missing.

Rear Panel of Matrix K USB

The only difference of rear panel between Matrix K FW and Matrix K USB is USB connector.

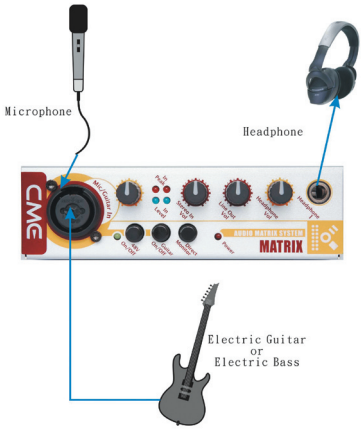
21. USB

USB connector of Matrix K USB. Connect Matrix K USB with computer via USB cable here.

Connection examples

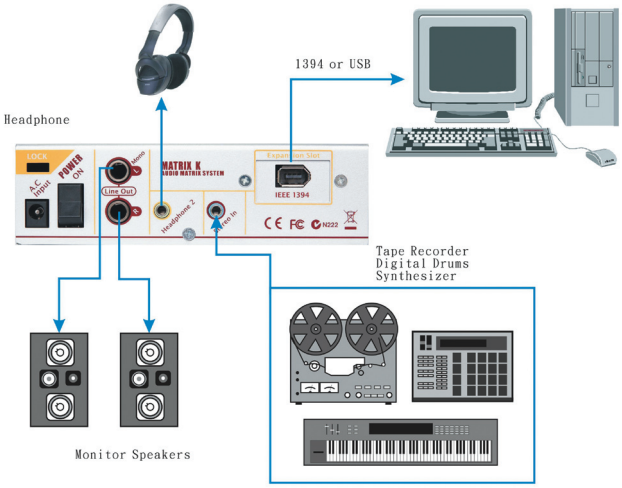
The Matrix K is a very flexible device that features many input and output connectors for different usage and applications. You can connect various external equipment to meet your audio needs.

Connection examples of front panel



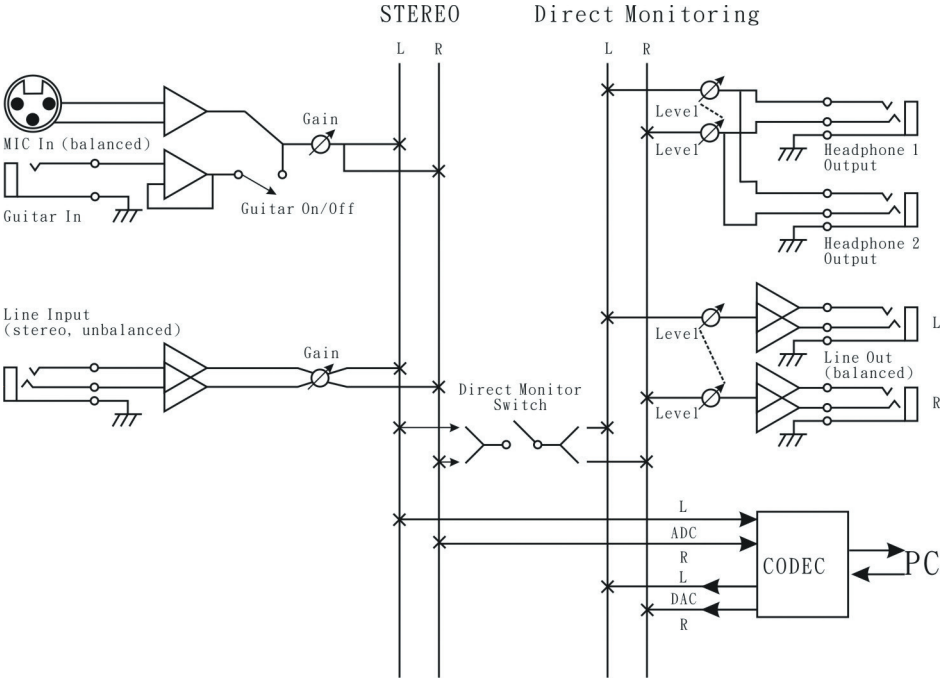
Note: You can only connect ONE device to the XLR / TS combo connector at the same time, either an XLR microphone or TS E.guitar/bass. The fig. Shows that the XLR / TS combo connector can be used to connect XLR microphones, as well as TS E.guitar/bass, but you cannot connect XLR device and TS device at the same time.

Connection examples of rear panel



Signal flow chart (block diagram)

The flow chart below shows how signals are routed through the Matrix K, which may help you better understand how to use the Maxtrix-X.



Driver Installation and Removal

Matrix K is an external digital audio device. You can start your music making just by an IEEE 1394 cable (Matrix K FW) or USB cable (Matrix K USB) to connect with computer. After installing driver, Matrix K FW can be used immediately.

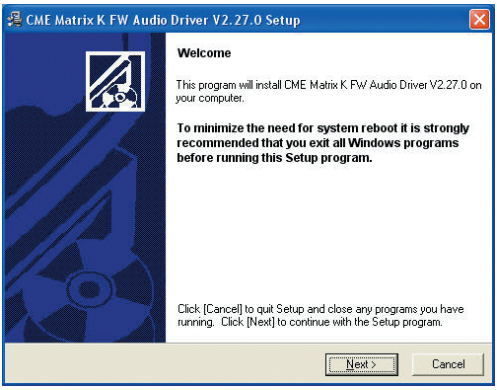
Matrix K USB can work properly without any extra driver in Windows XP.

Both Matrix K FW and Matrix K USB will work properly without extra drivers in MAC OS X.

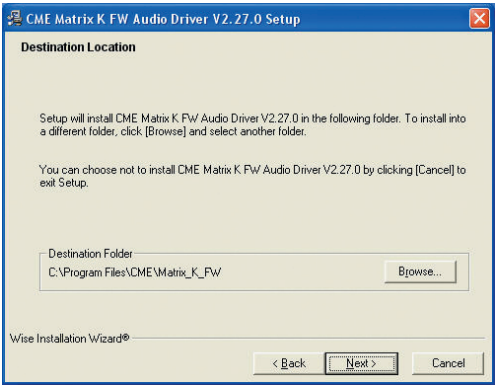
Driver Installation

The following is brief of Matrix K FW's driver installation step in Windows XP.
Please note, do not connect Matrix K FW with computer before the installer ask you to do so.

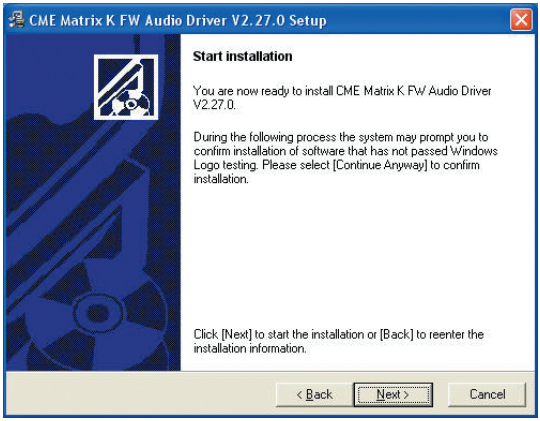
Please insert the driver CD which is within the pack of Matrix K FW into CD-ROM drive. The installation will start automatically later. Please select "Install Matrix K FW" in main menu to start the driver and control panel installation.



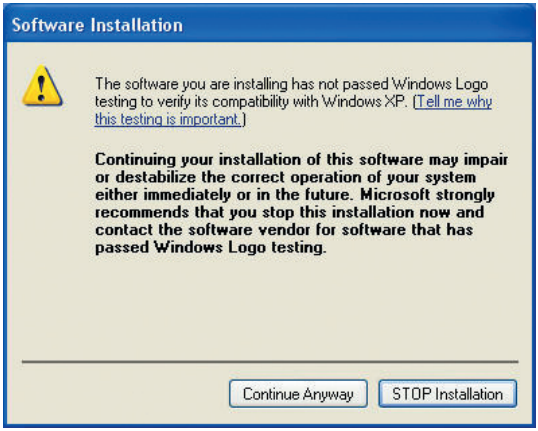
Select "Next" to go on.



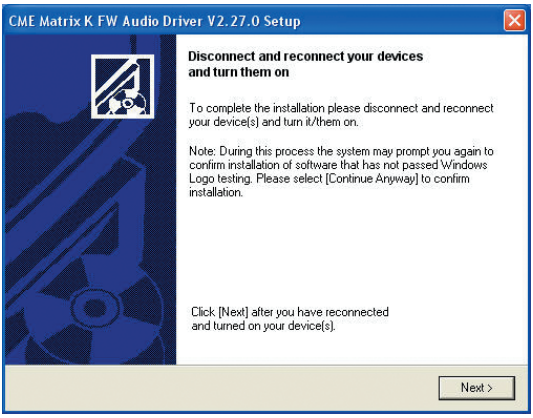
Please use the default path to install driver and control panel. Select "Next" to continue.



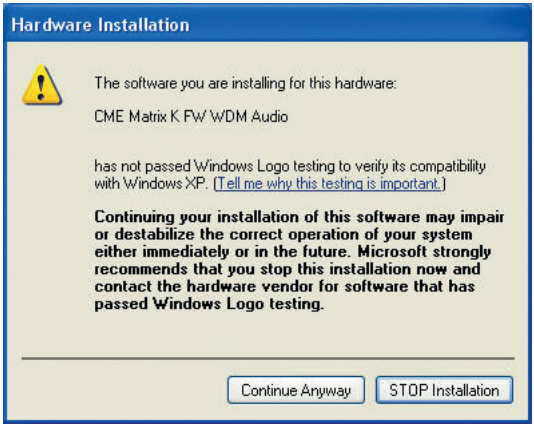
Select “Next” and go next step.



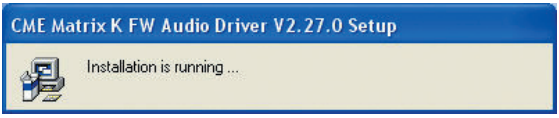
Select “Continue Anyway” to install.



Please connect Matrix K FW with computer by IEEE 1394 cable when this dialog shows up, and select “Next” to continue.



Please ignore this dialog and select “Continue Anyway” to continue.



Please wait for the installation to be finished. The installation is completed when this screen disappear.

After installing, there is a small Matrix K icon on the task bar. Open Matrix K FW’s control panel by double clicking this small icon.

Driver Removal

To remove Matrix K FW, please go to “Control Panel \ Add or Remove programs” and remove it.

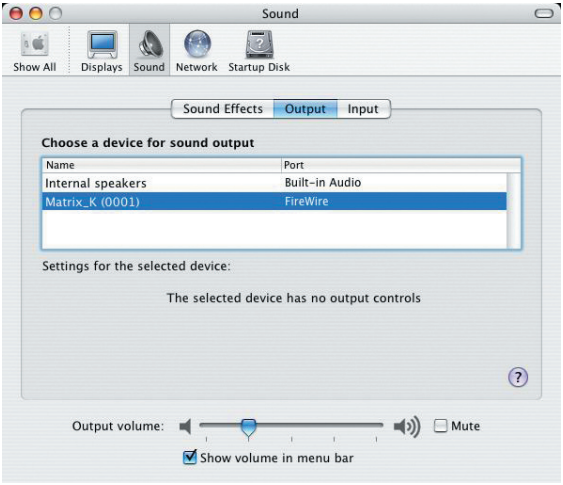
Control and Settings

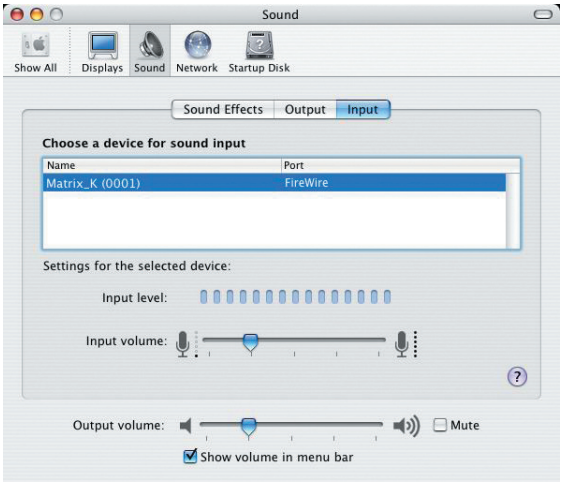
On Windows XP, besides the hardware controllers, most of the controls and settings of Matrix K are set by its control panel. Matrix K FW has its own control panel. We will discuss about it later.

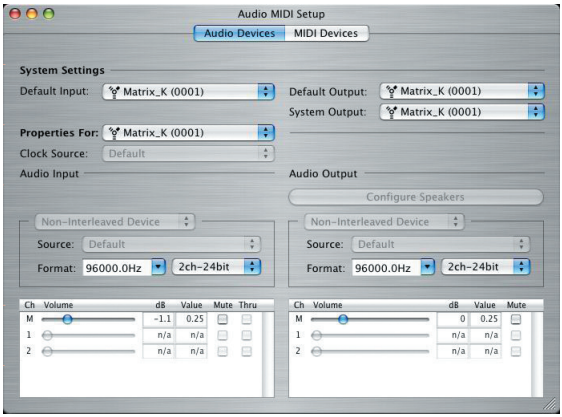
Matrix K USB uses the volume control of Windows XP. It does not have its own control panel, neither the ASIO driver supporting.

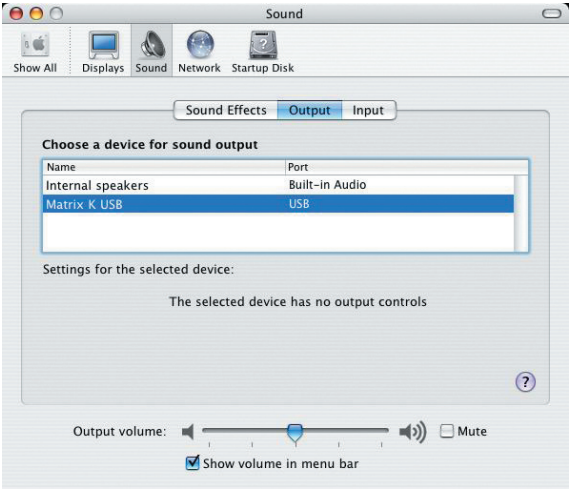
On MAC OS X, both of Matrix K FW and Matrix K USB use system control to adjust the settings.

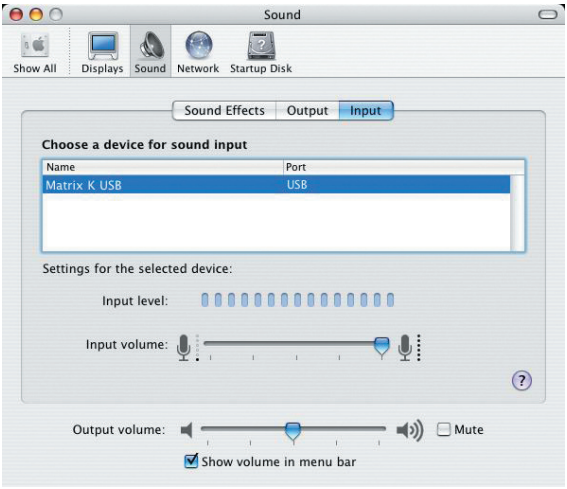
The following is some screen shots of Matrix K settings on MAC OS X. (The device name is just for reference.)

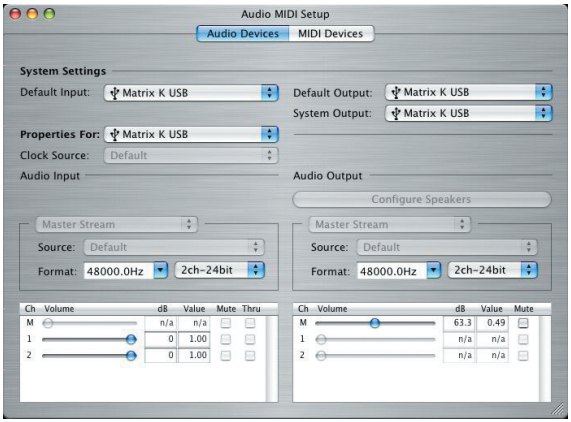

Sound
Show All
Displays
Sound
Network
Startup Disk
Sound Effects
Output
Input
Choose a device for sound output
Name
Port
Internal speakers
Built-in Audio
Matrix_K (0001)
FireWire
Settings for the selected device:
The selected device has no output controls
Output volume:
Mute
Show volume in menu bar


Sound
Show All
Displays
Sound
Network
Startup Disk
Sound Effects
Output
Input
Choose a device for sound input
Name
Port
Matrix_K (0001)
FireWire
Settings for the selected device:
Input level:
Input volume:
Output volume:
Mute
Show volume in menu bar


Audio MIDI Setup
Audio Devices
MIDI Devices
System Settings
Default Input:
Matrix_K (0001)
Default Output:
Matrix_K (0001)
System Output:
Matrix_K (0001)
Properties For:
Matrix_K (0001)
Clock Source:
Default
Audio Input
Audio Output
Configure Speakers
Non-Interleaved Device
Source:
Default
Format:
96000.0Hz
2ch-24bit
Ch
Volume
dB
Value
Mute
Thru


Sound
Show All
Displays
Sound
Network
Startup Disk
Sound Effects
Output
Input
Choose a device for sound output
Name
Port
Internal speakers
Built-in Audio
Matrix K USB
USB
Settings for the selected device:
The selected device has no output controls
Output volume:
Mute
Show volume in menu bar

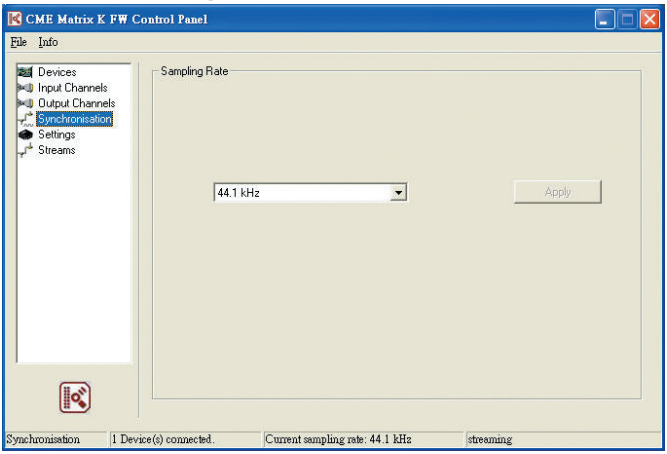

Sound
Show All
Displays
Sound
Network
Startup Disk
Sound Effects
Output
Input
Choose a device for sound input
Name
Port
Matrix K USB
USB
Settings for the selected device:
Input level:
Input volume:
Output volume:
Mute
Show volume in menu bar


Audio MIDI Setup
Audio Devices
MIDI Devices
System Settings
Default Input:
Matrix K USB
Default Output:
Matrix K USB
System Output:
Matrix K USB
Properties For:
Matrix K USB
Clock Source:
Default
Audio Input
Audio Output
Configure Speakers
Master Stream
Source:
Default
Format:
48000.0Hz
2ch-24bit
Ch
Volume
dB
Value
Mute
Thru

Control Panel of Matrix K FW

There are 6 pages in Matrix K FW control panel. But there are only 2 pages, “Synchronisation” and “ Settings”, related to setting and control. Other pages are providing device information to users.

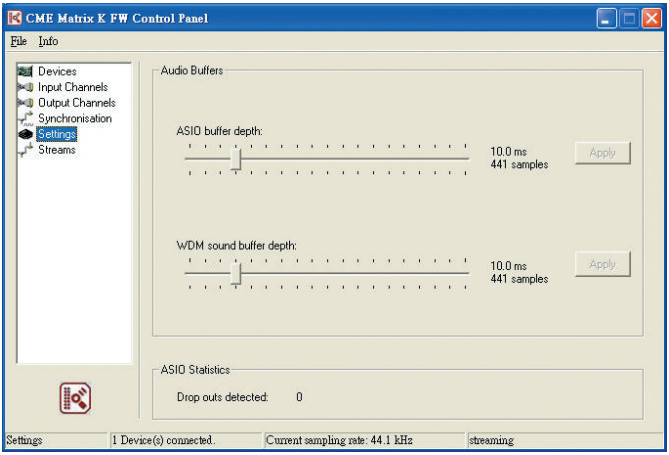
Synchronisation tag



Users set the sampling rate of WDM driver mode of Matrix K FW in this page. The supported sampling rates are 44.1, 48, 88.2, 96, 176.4 and 192KHz. It is not necessary to set sampling rate in ASIO driver mode. The sampling rate of Matrix K FW will sync to ASIO driver setting automatically.

Settings tag

Users set the buffer size of ASIO or WDM driver here. Adjust those buffer size settings once any pops happen while playback or recording, and eliminate pop noise.



Examples of Matrix K usage

Matrix K features various input and output connectors to use either in stand-alone mode or used with computer or external device. It will meet most of your music making, practicing and listening needs. There are some examples of Matrix K usage below to explain how to set up and connect Matrix K to your system. Please refer to them as a quick start guide.

1. Stand-alone Mode

You should connect “Line Out” to a set of active speakers to monitor output sound. You can use the Head Phone 1 in the front panel or Head Phone 2 in the rear panel to monitor, and adjust the output volume via the corresponding control knobs.

In Stand-alone mode, you should plug the bundled power adaptor into Matrix K to get electric power.

A. Connecting to a synthesizer or electric piano for live performance

You can skip step 2 if your synthesizer without sampling function.

1. Connect the Line Out of synthesizer to the “Stereo In” on the rear panel of Matrix K.
2. Connect the “Line Out” on the rear panel of the Matrix K to the Audio In of the synthesizer.
3. Plug a microphone or electric guitar into the “Mic / Guitar In” on the front panel of the Matrix K. This signal could be sampled by a synthesizer with a sampling function or it could simply add a vocal signal to the output of the synth or digital piano.
4. Please press down “Direct Monitor” button for the synthesizer without sampling function.
5. Please adjust the output volume from the sound source or the active speakers. You also can do the same thing by adjusting the “Line Out Vol.” knob.

B. Listening to music

1. Connect the Line Out of an external sound source (e.g. DVD player) to the “Stereo In” on the rear panel of the Matrix K.
2. Press the “Direct Monitor” button down.
3. Please adjust the output volume from the sound source or active speakers. You can do the same thing by adjusting the “Line Out Vol.” knob.

C. Practicing or playing Electrical Guitar / Bass along with music

If you don’t need any music to accompany with you while practicing or playing, please skip those steps which relate to external sound source.

1. Connect the Line Out of a sound source (e.g. DVD player) to the “Stereo In” on the rear panel of the Matrix K.
2. Connect the electrical guitar (bass) signal to the TS jack of the combo connector on the front panel of the Matrix K. To adjust the gain, turn the “Mic / Guitar In” knob.
3. Press the “Guitar On / Off” button down.

4. Press the “Direct Monitor” button down.
5. Start playing the external sound source and play electrical guitar (bass) along with music.
6. Please adjust music volume on external sound source. The gain of the electric guitar (bass) could be adjusted not only on guitar (bass) but also via the “Mic / Guitar In” knob. Use the “Line Out Vol.” knob to adjust the main output volume.

D. Vocal Practice and Karaoke

If you don’t need any music to accompany with you while vocal practice, please skip those steps which relate to external sound source.

(a) Microphone with self-powered and XLR connector

1. Connect the Line Out of a sound source (e.g. DVD player) to the “Stereo In” on the rear panel of the Matrix K.
2. Connect the microphone to the XLR jack of the combo connector on the front panel of the Matrix K. To adjust the gain, turn the “Mic / Guitar In” knob.
3. Press the “Direct Monitor” button down.
4. Start playing music and enjoying Karaoke.
5. Please adjust the music volume on the external sound source. The gain of microphone can be adjusted via the “Mic / Guitar In” knob. Use the “Line Out Vol.” knob to adjust the main output volume.

(b) Phantom Powered Microphone with XLR connector

1. Connect the Line Out of sound source (e.g. DVD player) to the “Stereo In” on the rear panel of the Matrix K.
2. Connect the microphone to the XLR jack of the combo connector on the front panel of the Matrix K. Adjust the gain by turning the “Mic / Guitar In” knob.
3. Press the “48V On / Off” button down.
4. Press the “Direct Monitor” button down.
5. Start playing music and enjoying Karaoke.
6. Please adjust music volume on the external sound source. The gain of microphone can be adjusted via the “Mic / Guitar In” knob. Use the “Line Out Vol.” knob to adjust the main output volume.

(c) Microphone with TS connector

1. Connect the Line Out of the sound source (e.g. DVD player) to the “Stereo In” on the rear panel of the Matrix K.
2. Connect the microphone to the TS jack of the combo connector on the front panel of the Matrix K. Adjust the gain by turning the “Mic / Guitar In” knob.
3. Press the “Guitar On / Off” button down.
4. Press the “Direct Monitor” button down..
5. Start playing music and enjoying Karaoke.
6. Please adjust music volume on the external sound source. The gain of microphone can be adjusted via the “Mic / Guitar In” knob. Use the “Line Out Vol.” knob to adjust the

main output volume.

2. Working together with computer

In Hard-disk Recording mode, you have to connect Matrix K with computer by IEEE1394 cable (Matrix K FW) or USB cable (Matrix K USB), and according to this manual to install driver and control panel correctly.

In this mode, Matrix K is bus powered via IEEE 1394 (Matrix K FW) or USB (Matrix K USB) interface and all functions will work properly. It is not necessary to plug power adaptor into Matrix K.

In this mode, we recommend not using “Direct Monitor” to avoid latency problems while using ASIO driver (Matrix K FW and Windows only) or software monitoring.

A. Recording from the Line In

1. Connect the Line Out of the sound source (e.g. DVD player) to the “Stereo In” on the rear panel of Matrix K.
2. Set the recording device driver in the recording software.
3. Playback music and record using the software.
4. Use the “Stereo In Vol.” knob in the front panel of Matrix K to set the input signal gain.

B. Recording from a microphone

(a) Self-powered Microphone with XLR connector

1. Connect the microphone to the XLR jack of the combo connector on the front panel of the Matrix K. Adjust the gain by turning the “Mic / Guitar In” knob.
2. Set the recording device driver in the recording software.
3. Pick-up the audio signal from the microphone and start recording in the software.

(b) Phantom power Microphone with XLR connector

1. Connect the microphone to the XLR jack of the combo connector on the front panel of the Matrix K. Adjust the gain by turning “Mic / Guitar In” knob.
2. Press the “48V On / Off” button down.
3. Set the recording device driver in the recording software.
4. Pick-up the audio signal from the microphone and start recording in the software.

(c) Microphone with TS connector

1. Connect the microphone to the TS jack of the combo connector on the front panel of the Matrix K. Adjust the gain by turning the “Mic / Guitar In” knob.
2. Press “Guitar On / Off” button down.
3. Set the recording device driver in the recording software.
4. Pick-up the audio signal from the microphone and start recording in the software.

C. Recording an Electric guitar (or bass)

1. Connect the electric guitar (or bass) to the TS jack of the combo connector on the front

panel of the Matrix K. Adjust the gain by turning the “Mic / Guitar In” knob.

2. Press the “Guitar On / Off” button down.
3. Play the electric guitar (bass) and start recording in the software.
4. The gain of the electric guitar (bass) can be adjusted not only on the guitar (bass) but also via the “Mic / Guitar In” knob.

Matrix-X setting chart

Mode	Usage		48V On / Off	Guitar On / Off	Direct Monitor
Stand-alone	Listen to music		×	×	◎
	Practice or play Electrical Guitar / Bass along with music		×	◎	◎
	Karaoke	Microphone with self-powered and XLR connector	×	×	◎
		Microphone with XLR connector but without self-powered	◎	×	◎
		Microphone with TS connector	×	◎	◎
With sound card	Record from Line In		×	×	×
	Record from Microphone	Microphone with self-powered and XLR connector	×	×	×
		Microphone with XLR connector but without self-powered	◎	×	×
		Microphone with TS connector	×	◎	×
	Record from Electrical guitar (bass)		×	◎	×

◎ : Button pressed down × :Button released

Specifications

◎ External IEEE1394 (Matrix K FW) or USB (Matrix K USB) audio system
◎ 1 IEEE1394 jack (for Matrix K FW) or USB jack (for Matrix K USB)
◎ Digital signal accessing up to 24-bit/192KHz (Matrix K FW) or 24-bit/48KHz (Matrix K USB)
◎ ASIO 2 support for Windows (only for Matrix K FW)
◎ WDM and MME driver support for Windows
◎ CoreAudio support for MAC OS X
◎ 1 “Stereo In” to receive external line level signal (un-balanced, 1/8” TRS)
◎ Stereo “Line Out” with volume control for connecting active speakers (2 balanced, 1/4” TRS)
◎ 2 Stereo headphone outputs with volume control (1/4” and 1/8" stereo TRS for each)
◎ 1 “Mic / Guitar In”, with a XLR and TS combo connector that microphone and electric guitar/bass share and a gain control knob
◎ XLR of combo connector is balanced, TS is un-balanced
◎ 2 input signal LEDs (blue, one for each channel), indicate if there is any signal available at the input channel
◎ 2 input peak LEDs (red, one for each channel), indicate if an input signal is near distortion
◎ 48V phantom power with switch (press button), provides power to XLR only
◎ 1 phantom power LED (green) indicates the status of phantom power supply
◎ 1 “Direct Monitor” button toggles the input signal between direct monitoring of the input or the sound card output
◎ 1 “Guitar On / Off” button turns on “Mic / Guitar In” function in front panel

PC system requirement

PC system requirement

◎ Intel Pentium III 800 or same performance CPU of AMD
◎ 256MB RAM
◎ IEEE1394 and USB connector
◎ Windows XP with ServicePack 1

Recommendation PC system

◎ Intel Pentium 4 2GHz or AMD Athlon XP2000+
◎ 512MB RAM
◎ IEEE1394 and USB connector
◎ Windows XP with ServicePack 2

MAC system requirement

- ◎ G4 800MHz
- ◎ 512MB RAM
- ◎ IEEE1394 and USB connector
- ◎ OS X Panther 10.3.4 or higher

Recommendation MAC system

- ◎ G5 1.8GHz
- ◎ 512MB RAM
- ◎ IEEE1394 and USB connector
- ◎ OS X Panther 10.3.4 or higher

Matrix K FW Technical information

Number of Input Channels	3
Number of Output Channels	2
Number of Headphone Outputs	2
Performance	
THD + Noise (%)	0.0062 (digital board)
Noise Floor (dB) (A-weighted)	-98.4 (digital board)
Dynamic Range (dB) (A-weighted)	97.7 (digital board)
Input	
Connectors (guitar and microphone)	XLR/TS combo
Connectors (line input)	3.5mm
Input Impedance, XLR	10Kohm
Input Impedance, High Z (1/4”)	2.2Mohm
Input Impedance, Line level TRS	10Kohm
Output	
Connectors (line output)	1/4” TRS
Connectors (headphone)	1/4” and 1/8” TRS
Output Impedance (line level)	33ohm
Output Impedance (headphone)	33ohm
Front Panel Controls	
Guitar In Gain	+10dB
MIC In Gain	+30dB
Headphone volume control	+8dB
Pad (48V On / Off)	Switch on / off
Pad (Guitar On / Off)	Switch on / off
Pad (Direct Monitor)	Switch on / off
Power Supply	
Type	Linear supply
Input	15 VAC / 1000mA
Power	15 Watts
Physical	
Dimensions	14.5cm x 15.5cm x 4.3cm

Matrix K USB Technical information

Number of Input Channels	3
Number of Output Channels	2
Number of Headphone Outputs	2
Performance	
THD + Noise (%)	0.0125 (digital board)
Noise Floor (dB) (A-weighted)	-95.5 (digital board)
Dynamic Range (dB) (A-weighted)	95.4 (digital board)
Input	
Connectors (guitar and microphone)	XLR/TS combo
Connectors (line input)	3.5mm
Input Impedance, XLR	10Kohm
Input Impedance, High Z (1/4")	2.2Mohm
Input Impedance, Line level TRS	10Kohm
Output	
Connectors (line output)	1/4" TRS
Connectors (headphone)	1/4" and 1/8" TRS
Output Impedance (line level)	33ohm
Output Impedance (headphone)	33ohm
Front Panel Controls	
Guitar In Gain	+10dB
MIC In Gain	+30dB
Headphone volume control	+8dB
Pad (48V On / Off)	Switch on / off
Pad (Guitar On / Off)	Switch on / off
Pad (Direct Monitor)	Switch on / off
Power Supply	
Type	Linear supply
Input	15 VAC / 1000mA
Power	15 Watts
Physical	
Dimensions	14.5cm x 15.5cm x 4.3cm