

## INDEX

<b>1. Introduction to Waveterminal 192M</b>	<b>4</b>
<b>2. Description of Waveterminal 192M</b>	<b>6</b>
<b>1. Break out box</b>	<b>6</b>
<b>2. PCI card</b>	<b>6</b>
<b>3. Hardware Installation</b>	<b>8</b>
<b>1. System Requirement</b>	<b>8</b>
<b>2. Preparation for hardware installation</b>	<b>9</b>
<b>3. Installing Waveterminal 192M PCI card</b>	<b>10</b>
<b>4. Waveterminal 192M Software Installation</b>	<b>12</b>
<b>5. MI/ODI/O add-on card (sold separately)</b>	<b>19</b>
<b>6. Waveterminal 192M Console</b>	<b>22</b>
<b>1. Pull Down Menu</b>	<b>22</b>
<b>2. Clock</b>	<b>24</b>
<b>3. Sample Rate</b>	<b>24</b>
<b>4. MIX Circuit</b>	<b>24</b>
<b>5. Input 1,2</b>	<b>25</b>
<b>6. Input 3,4</b>	<b>26</b>
<b>7. MIC1 &amp; MIC2 level faders</b>	<b>27</b>
<b>8. MON –VOL –Monitor Volume faders</b>	<b>27</b>
<b>9. HW VOL –Output Level meters and Adjust faders</b>	<b>27</b>
<b>10. MME SW VOL – Additional Level Adjust faders in MME SW</b>	<b>27</b>
<b>9. Setting in Applications</b>	<b>28</b>
<b>1. Windows Multimedia setup</b>	<b>29</b>
<b>2. 5.1 channel for DVD Player application</b>	<b>30</b>
<b>3. ASIO 2.0- Cubase, Logic, Nuendo</b>	<b>33</b>

<b>4. Sonar/Cakewalk</b>	<b>36</b>
<b>5. Sound Forge</b>	<b>37</b>
<b>6. Wave Lab</b>	<b>38</b>
<b>7. Giga Studio (v. 2.20.42 or higher)</b>	<b>39</b>
<b>8. Using Direct Wire</b>	<b>40</b>
<b>9. Specifications</b>	<b>45</b>

**\* All features and specifications subject to change without notice.**

## **1. Introduction to Waveterminal 192M**

Thank you for choosing ESI Waveterminal 192M.

The Waveterminal 192M is the Multi-media digital audio interface different from other conventional sound cards. You will be amazed at the various and powerful functions and features of Waveterminal 192M. Waveterminal 192M will satisfy beginners who have just become involved in digital audio to professional musicians produce music at the professional level with its various features and useful functions.

### **1. Up to 192kHz sampling rate support**

Waveterminal 192M is worlds leading 192kHz support digital recording devices. The digital recording capability constantly progressed from 44.1kHz to 96kHz and even up to 192kHz. Waveterminal 192M will prove their value in Multi-track Recording, Mastering or DVD Audio application.

### **2. Perfect compatibility with E-WDM driver**

Waveterminal 192M adopts the E-WDM (Enhanced Audio MIDI driver model), providing superior data processing and compatibility. Until now, Windows native drivers such as MME, Direct Sound and the WDM driver could not show satisfied performance for serious music production scene. Furthermore, Steinberg's ASIO driver and TASCAM's GSIF drivers were not supported fully. Waveterminal 192M employ the E-WDM driver to provide the best solution for users in to take advantage under newer Windows OS environment and concentrate on their work, not their system. The E-WDM supports MME, ASIO, GSIF, and Direct X taking all the merits of these drivers. One of its advantages is OS support that range from Windows 98SE and Windows ME to Windows 2000 and XP, thus allowing the users to choose the OS of his or her preference.

### **3. Professional Digital Recording Device**

Waveterminal 192M can be used for the beginners to professionals of hard-disk recording application. The E-WDM will work at its best in multi-track hard disk recording. The Waveterminal 192M is fully compatible with multi-track recording software such as Sonar/Cakewalk, Cubase, Logic and Nuendo; mastering software such as Sound Forge and Wave Lab; software sampler like GigaStudio, EXS and Halion and most of Virtual Instruments such as Reason, Reactor.

#### **4. Multimedia/5.1 channel surround device**

Waveterminal 192M delivers super high-quality sound from Windows multimedia tools with various additional features, which will be worth to replace the soundcard in your computer. Waveterminal 192M is capable of playing back MPEG, MP3, wav files, and playing DVD and Video CDs. As the Internet becomes more and more popular, multimedia contents on the web is also useful, such as Flash media and Internet Broadcast. Waveterminal 192M supports all of these features and, most importantly, 5.1 channel Dolby Surround format that will turn your computer system into a DVD AV system better than expensive AV equipment for Hi-Fi users.

As the evolution of the computer system continues, digital audio is becoming more and more common. With Waveterminal 192M, you can complete your Desk Top Music Production System easily. Waveterminal 192M will be the center of your DTMP system providing high quality sound, which is not less than the quality of a professional studio and a guide to the world of digital audio music and multimedia.

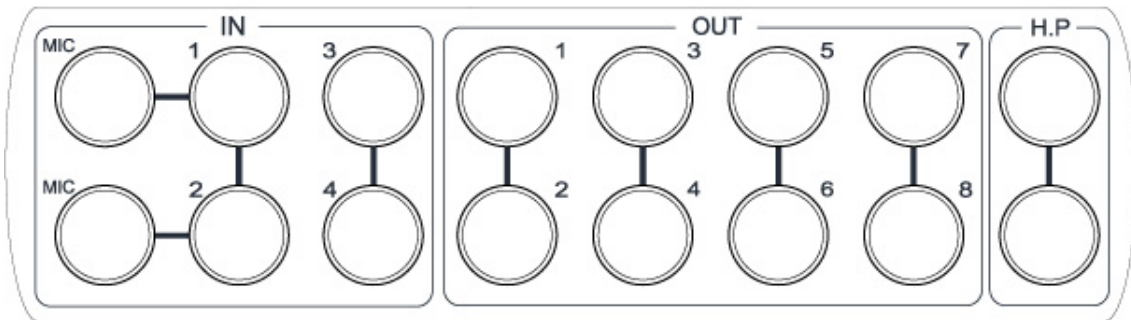
#### **5. DirectWire feature**

Waveterminal 192M supports DirectWire function that is provided by E-WDM supported products from ESI. This unique feature will simplify the hassles of wiring externally for inter-driver/inter-application audio data transfer. Especially when you use software synthesizers or virtual instrument, DirectWire will help you to simplify your setup.

## 2. Description of Waveterminal 192M

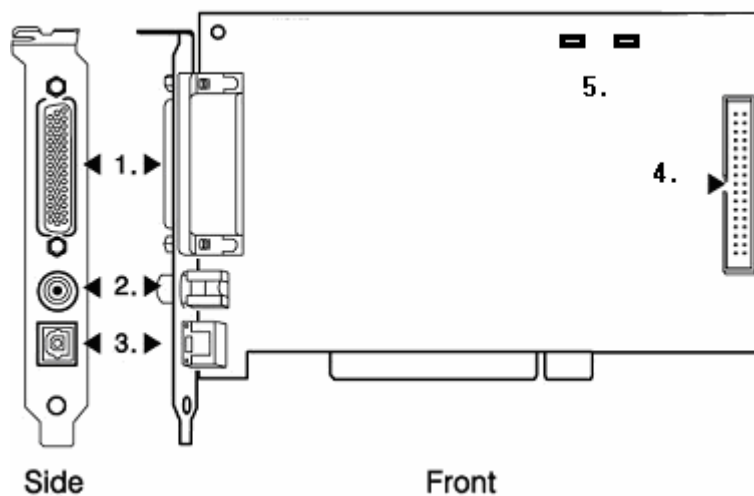
Here are the short descriptions of Waveterminal 192M's outlook.

### 1. Break out box



- 1) Two MIC Input ports – Two 1/4” TRS phone jack type MIC Input ports
- 2) 4 Line Inputs – 4 analog Line Input ports with Unbalanced TRS phone connector
- 3) 8 Line Outputs – 8 analog Line Output port with Unbalanced TRS phone connector
- 4) Two Headphone Outputs

### 2. PCI card



1. D-Sub connector: Connect Waveterminal 192M PCI card with the break out box.
2. Digital Coaxial Output: Digital Output in Coaxial type.
3. Digital Optical Output: Digital Output in Optical type.
4. MI/ODI/O(sold separately) connector: This connector is for connecting optional MI/ODI/O add-on card.
5. **Jumper 1,2: If you have a Mixer and you don't need to listen Out 3~8 signals through Output1,2, you can remove the jumper 1,2**

### **3. Hardware Installation**

Waveterminal 192M require couple of installation: 'PCI card installation', 'Driver installation', and finally 'Connection with external device'. The 'PCI card installation' step includes install the Waveterminal 192M PCI card into the PCI slot. 'Driver installation' is having the operating system in your computer recognize Waveterminal 192M and building the communication channel. In the 'Connection with external device' step, you will understand how to connect the Waveterminal 192M to other devices such as MIC, Amp, mixer, and recording devices such as an MD or DAT player.

#### **1. System Requirement**

To take advantage of Waveterminal 192M and their full capacity, the computer specifications are very important. Even though Waveterminal 192M is built to have low-CPU resource dependability, the computer needs to meet certain requirements in order to get maximum performance. Waveterminal 192M is not just a simple soundcard, but also a multimedia digital audio device with various functions. Therefore, the performance of Waveterminal 192M would be affected by the computer specs that are required to process the vast amount of digital data. A faster CPU, faster hard disk, and larger amounts of RAM are generally recommended.

#### **Minimum System Requirement**

1. Intel Pentium II 350 MHz CPU or equivalent AMD CPU
2. Mainboard with Intel or VIA chipsets
3. 128MB of RAM
4. One available PCI slot
5. Microsoft Windows 98SE/ME/2000/XP operating system
6. Ultra DMA 33 hard disk drive

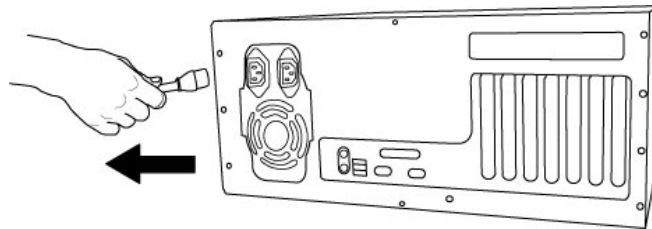
#### **Recommended System Requirement**

1. Intel Pentium III CPU or equivalent AMD CPU
2. Motherboard with Intel series chipsets(BX,820,815 and so on) or VIA chipsets
3. More than 256MB of RAM
4. UDMA66/100 7200rpm hard disk drive

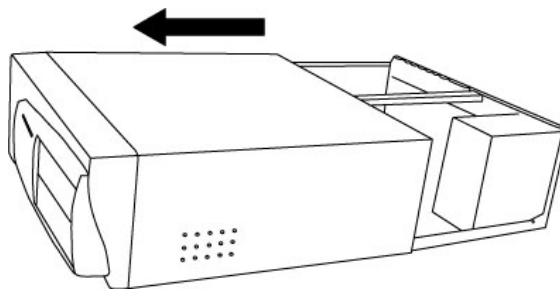
## 2. Preparation for hardware installation

Waveterminal 192M PCI card and other components in the computer can be easily damaged by electrical shock. You need to use an anti-static device that can discharge the static electricity of your body to avoid potential static damage to the cards.

1. Waveterminal 192M PCI card is placed into the anti static plastic pouch as it is packaged. Do not open the pouch before you install the card.
2. Turn off the computer power and remove the power cable from your computer power supply.

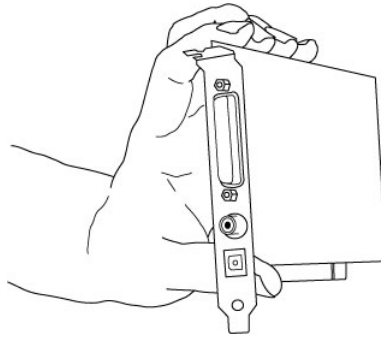


3. Remove the computer cover. Make sure that you have an available PCI slot in your motherboard to install Waveterminal 192M. Please, refer to your computer user's manual to remove the cover.



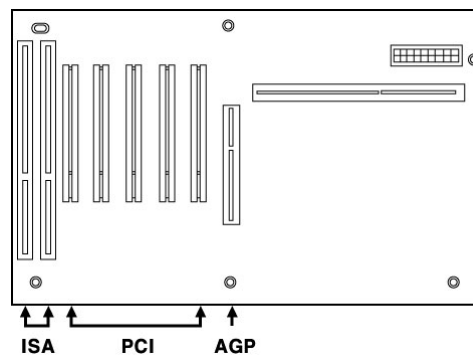
4. To avoid possible static shock to the computer parts, discharge it by touching the computer case or something grounded. We recommend you to use an anti-static device such as an anti-static wrist band.
5. When you need to hold the Waveterminal 192M PCI card, please hold it on the guide or edge of card. Do not grab the card by the board.





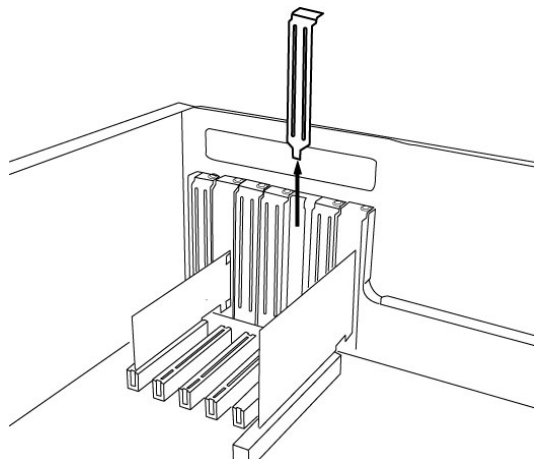
### 3. Installing Waveterminal 192M PCI card

Please look for an empty PCI slot. If you do not know which one is an actual PCI slot, please, read the following;

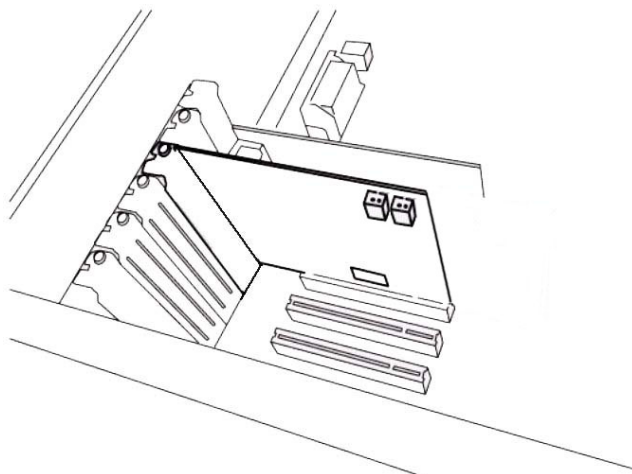


There are 3 kinds of slots in most of recent computers. The PCI slot is most common and is used for different types of devices from the soundcard to the modem. Usually, the PCI slot is the white-colored slot. The ISA slot is used in older computers and it is marked with a black slot. The AGP slot is only for the video card and is the most recent type of slot. It is marked with a brown slot and is located close to the CPU. It will be not too hard to find the PCI slot for Waveterminal 192M.

If there is a guide blocking the empty slot, please remove the guide using the proper screwdriver.



Next, put the Waveterminal 192M PCI card into the slot and make sure it is placed in the slot correctly. The card will fit into your slot and then tighten the screw.



Close the computer case.

## 4. Waveterminal 192M Software Installation

After completing the installation of hardware for Waveterminal 192M, you need to install its driver software to use it. The software installation is not too hard, even for computer beginners. Just follow the steps below and you will complete it without any hassel. The installation steps under Windows 98SE, Windows ME, Windows 2000 and XP are a little bit different from each other. Below installation procedure is for the Windows XP. However, Driver installation procedure is similar to other Windows version.

\* **Caution:** Depend on your operating system, you may need Windows install CD.

You need to prepare Windows installation CD before the installation procedure begins.

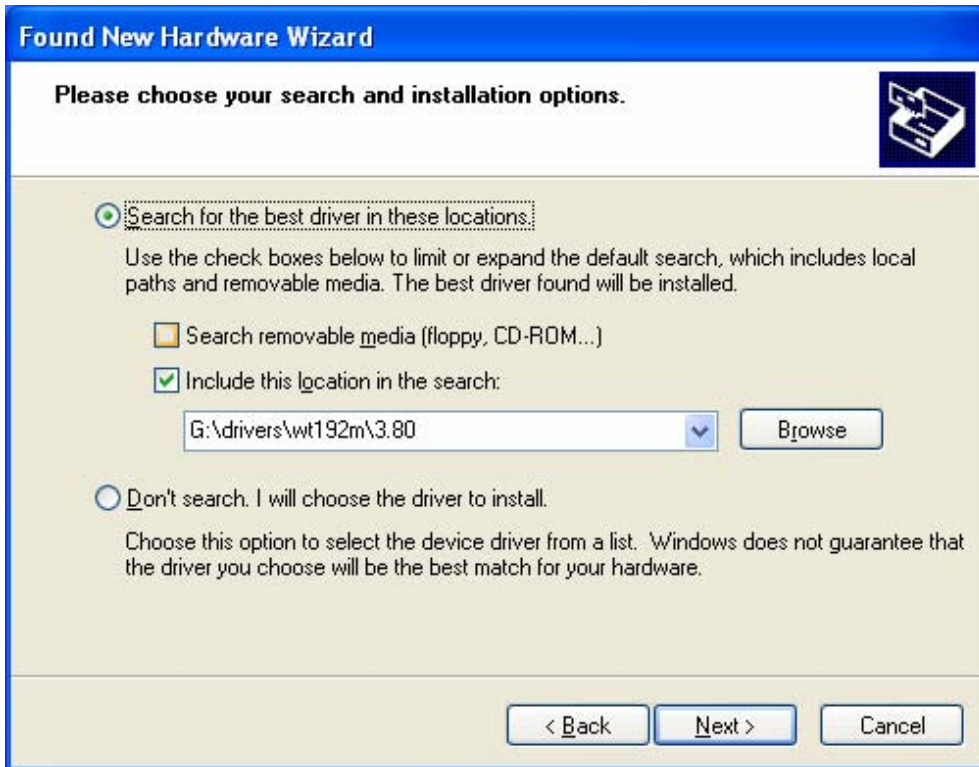
\* **Caution:** Because of the driver characteristic, Waveterminal 192M installs several drivers and continuously try to reboot the system. Unless the driver installation is completely finished until the system cannot detect driver anymore, DO NOT reboot the system. After all the driver is installed, restart your computer.

1 **Turn your computer's main power on.** Windows will automatically detect a new device has been installed and "Found New Hardware Wizard" will appear.

**Choose Install from a list or specific location and click next.**



2. Choose 'Search for the best driver in these locations' and Specify the location of the driver. Insert the provided Driver CD into the CD-Rom drive and select 'Include this location in the search' and click 'Browse' to find the accurate location.



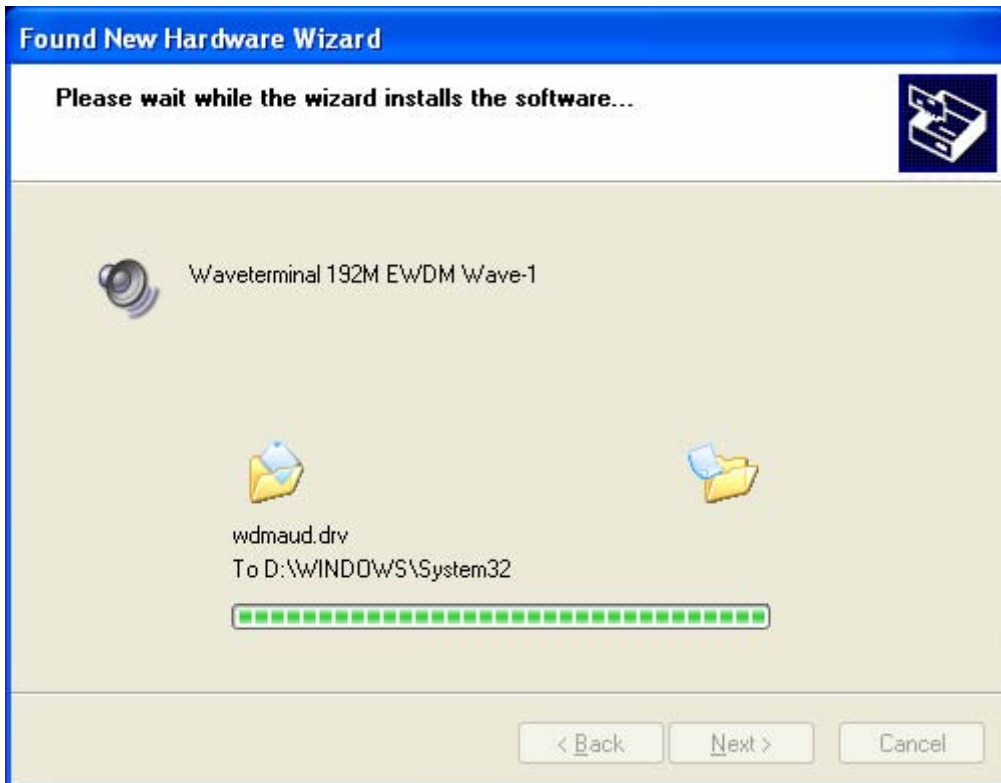
3. On Windows 2000 and XP, there might be a message appeared that says “The software has not passed Windows Logo testing to verify its compatibility with Windows XP.” You can simply ignore it and just select ‘*Continue Anyway*’.

Though, the message is appeared, the driver is completely tested and verified by manufacturer(ESI) and safe to use it.

4. First Waveterminal 192M driver will be installed.



5. Windows will automatically install second driver. It's same as above procedure.



6. Windows will continuously install from Waveterminal 192M E-WDM Wave-2 to Wave-6.

And finally Windows will recognize and install 'Waveterminal 192M E-WDM Midi'.

Even though, several devices will be recognized and installed, just follow above step 1 ~4. When your system keeps asking restart the computer, just ignore that and keep going to install.

When all the drivers are installed and the system doesn't ask driver install any more, restart the computer.





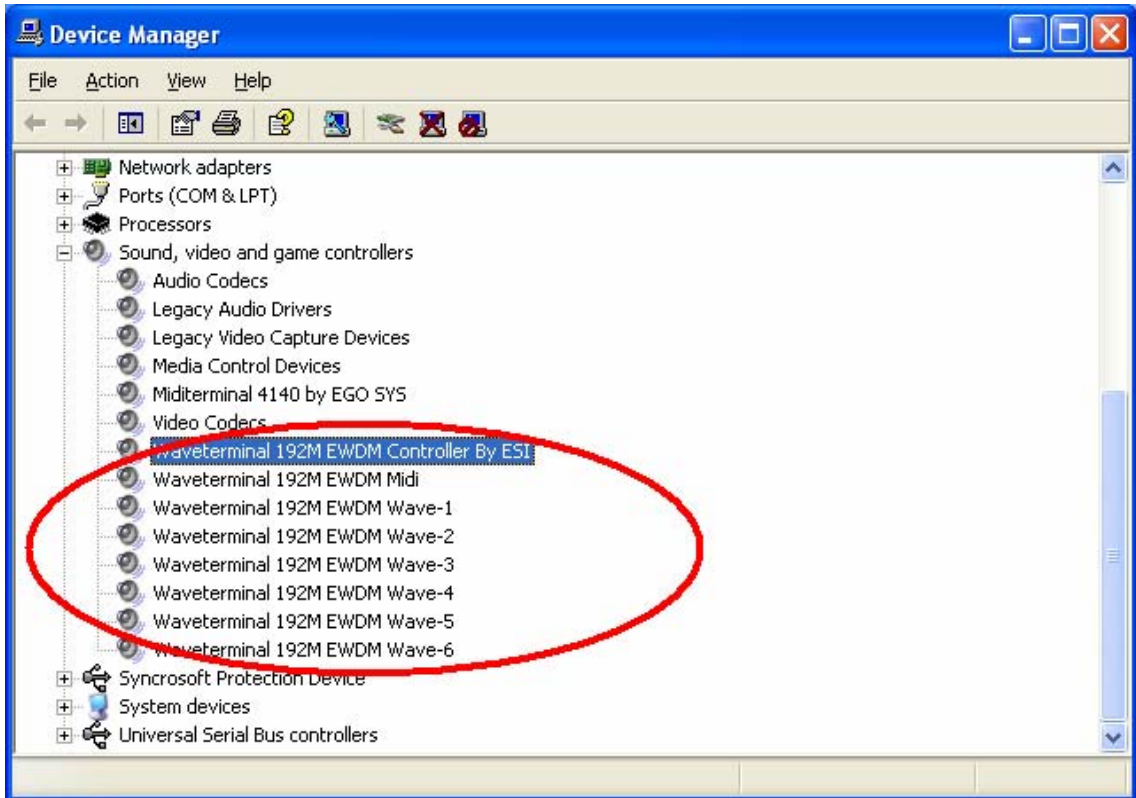
7. After restart the windows, please confirm 'M' icon on the system tray.





8. Checking your system.

After rebooting, go to 'My computer -> Control Panel -> System -> Device Manager'. Check the devices under 'Sound, video and game controllers'. If they are installed correctly.



## 5. MI/ODI/O add-on card (sold separately)

**Caution:** MI/ODI/O add-on card is not included in Waveterminal 192M.  
It's sold separately.

The MI/ODI/O has one Coaxial Input/Output, one Optical digital Input and 16 channels MIDI Input/Output.

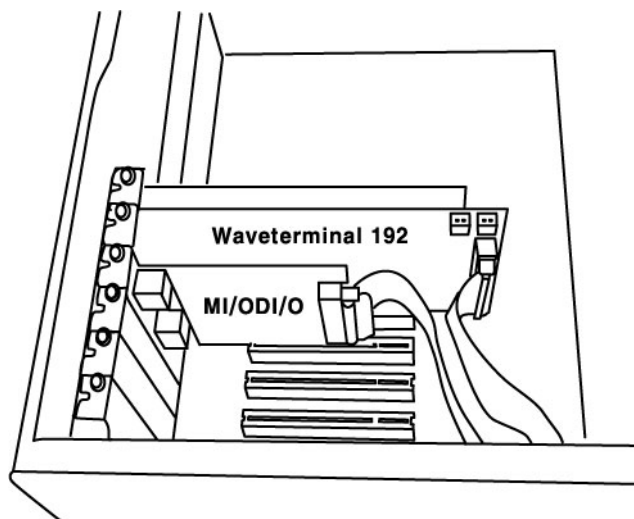
The MI/ODI/O is designed to be used with the Waveterminal 192 series of audio cards as an add-on. It's easy to install and does not require any additional power supply or drivers to install. No new IRQ set up involved.

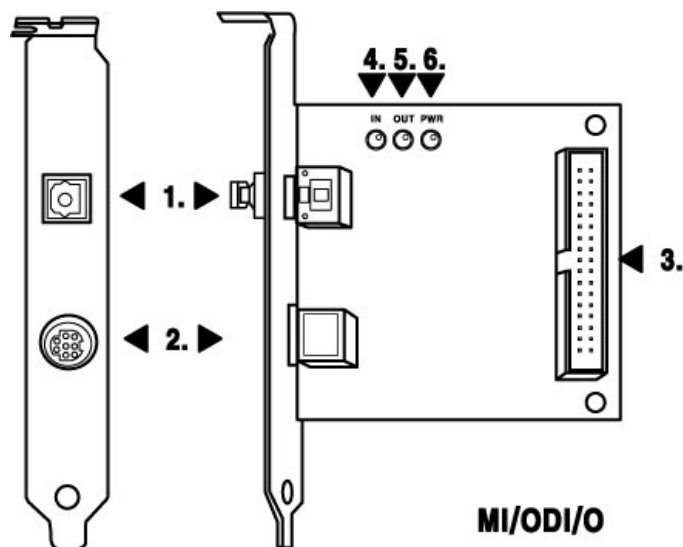
The MI/ODI/O let you get more from your Waveterminal 192M by adding the power of S/PDIF In and Out and MIDI I/O.

MI/ODI/O driver already included in E-WDM driver of Waveterminal 192M.

Therefore, by the installation of the driver of Waveterminal 192M, you can use MI/ODI/O right away.

Just hook it up to your Waveterminal 192M card like a below picture and you're ready to go!





### 1. SPDIF Optical Input (24bit/96kHz)

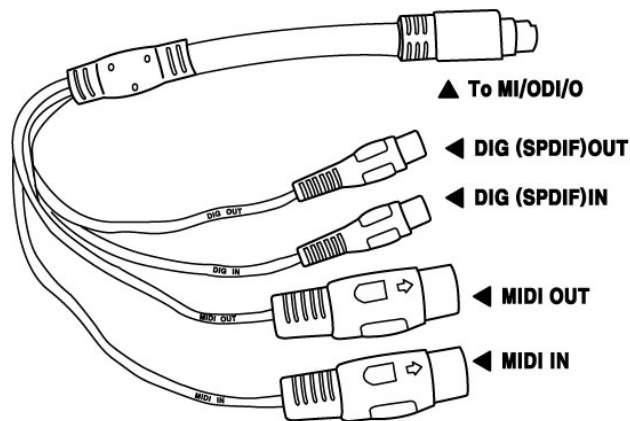
#### **Caution:**

Although MI/ODI/O's Tos-Link Optical I/O port can't support 192kHz in specification, we got the reports shows possibility while we were testing. However, it heavily depends on system environment, It may have problem on over 100kHz sample rate. **You have to use high quality Optical cable otherwise you may get loss of data or distortion.**

### 2. External connector port

This port is connecting for the exclusive external connection cable. This cable is provided with the MI/ODI/O.

As next picture, the cable consists of five connectors. On one end, there is an 8-pin connector to MI/ODI/O. The other end, there are two small connectors for SPDIF digital In/Out port and large connectors for MIDI interface In/Out. These four cables are labeled for easier distinction.



### 3. Connector for Waveterminal 192M

This port is for connecting MI/ODI/O add-on card to Waveterminal 192M. Using provided cable, connect MI/ODI/O and Waveterminal 192M.

### 4. 5. In, Out – MIDI In/Out display

When MIDI signal flows through MI/ODI/O, This LED will be blinking.


### 6. PWR

It is MI/ODI/O power LED(Indicator). When connect MI/ODI/O on your computer and turn on computer, this LED will lit.

## 6. Waveterminal 192M Console

If you complete the Waveterminal 192M hardware and driver installation, you need to learn about the Waveterminal 192M Console. This console is what you control your setup for the Waveterminal 192M.

The Waveterminal 192M Console is built for easy to use. However, it could give a complicated look since there are many inputs and outputs. All input and output controls are the same. So, if you learn about one control, you can use the others easily.


After successfully installing Waveterminal 192M hardware and driver, you can see the  icon on the system tray. It is the Waveterminal 192M control panel icon and clicking on this icon will launch the console.



### 1. Pull Down Menu

The Waveterminal 192M console includes a pull down menu bar that contains the configuration menus for the Console

#### 1. File - Exit

File – Exit will close the Waveterminal 192M console window but it will not shut down the Console. You can always launch the Console by clicking  icon on the system tray.

## 2. Config – Mouse Wheel

Mouse Wheel will control the mouse wheel adjustment. When you use the mouse wheel to adjust the volume level, the adjustment step is set to  $\pm 1.5\text{dB}$  as default. You can configure the adjustment steps to your preference.

- **Step 1:** When you move the mouse wheel one step, the fader will move by  $\pm 1.5\text{dB}$ .
- **Step 2:** When you move the mouse wheel one step, the fader will move by  $\pm 3.0\text{dB}$ .
- **Step 4:** When you move the mouse wheel one step, the fader will move by  $\pm 6.0\text{dB}$ .
- **Step 8:** When you move the mouse wheel one step, the fader will move by  $\pm 12.0\text{dB}$ .

## 3. Config – Latency

This will decide the latency of the Waveterminal 192M. You have to set proper latency depends on your situation. Generally, higher latency is fit for Multi-track recording software using multiple tracks. Process time maybe longer, but it's stable. Lower latency is fit for software synthesizer, mastering software or Multi-track software using only few tracks.

## 4. Config – Factory Default

This returns all the Waveterminal 192M configurations to factory default setting.

## 5. Config - Always On Top

This will set the Waveterminal 192M Console to always over other Windows. If this is not selected, the active windows will be set over the Waveterminal 192M Control Panel.

## 6. DirectWire

By clicking this menu, DirectWire window will be appeared. DirectWire is a unique feature of E-WDM driver that make possible to transfer digital audio data within different applications using same/different drivers.

As you can see, MME, Multi-MME, ASIO and GSIF indicate driver names of Waveterminal 192M. Along the vertical channel indicate number, output and input ports of each driver are showed.

Just click desired output number of the driver and drag it to the input of the driver you want to record the source.

Next image shows all the possible combination of DirectWire configure console.

Please refer to the “Using DirectWire” on Page 40 for the detailed direction of DirectWire.



## 2. Clock

Select this menu for choosing digital clock source of the Waveterminal 192M.

- **Internal:** Selecting 'Internal' causes the Waveterminal 192M's internal clock becomes master clock. When you use only one Waveterminal 192M or other device was set as slave, you have to choose this mode.

- **Digital:** By selecting 'Digital' you will be using the incoming digital audio data from external device with audio data as the clock source. External device will be Master device and Waveterminal 192M will become slave device in this mode.

## 3. Sample Rate

**Auto:** Selecting 'Auto' sets sample rate automatically according to your audio file's sample rate.

**Lock:** In this mode, you can set sample rate manually.

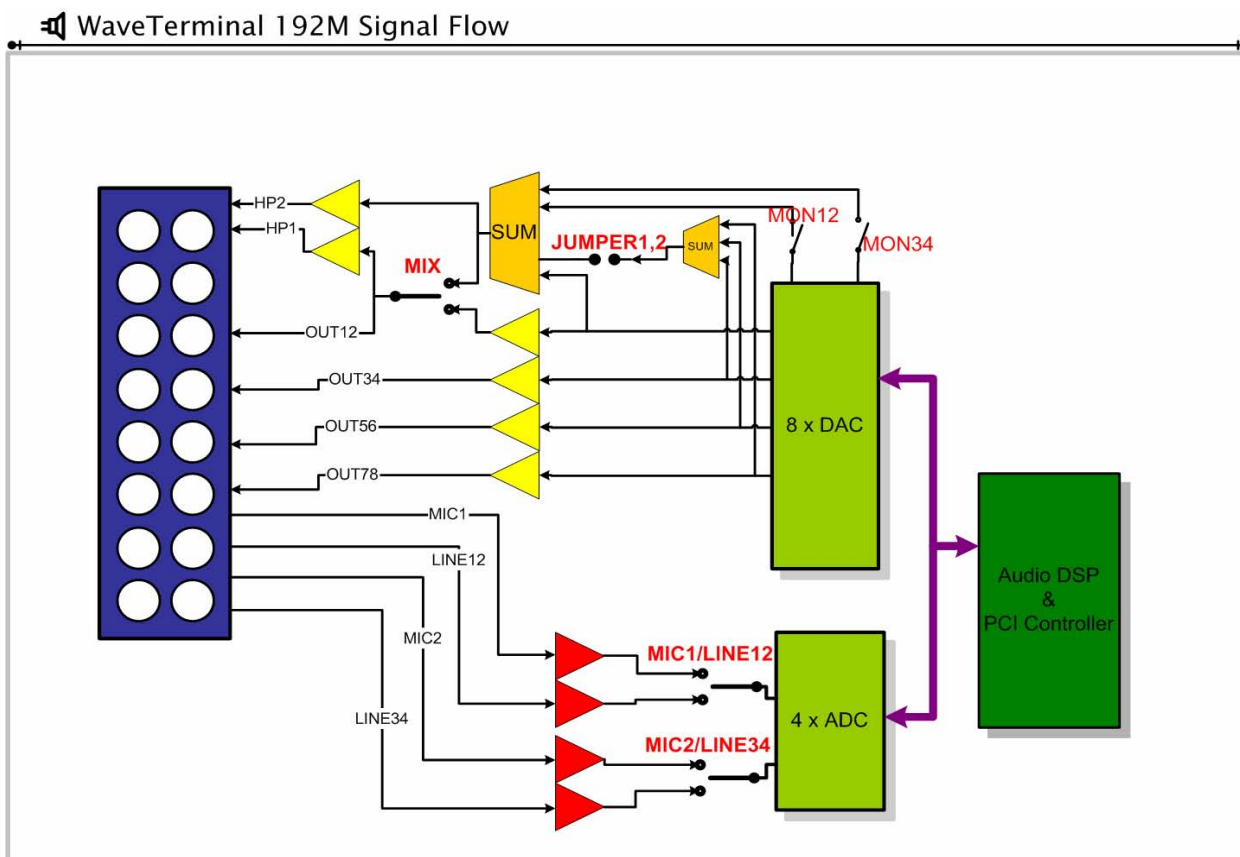
## 4. MIX Circuit

See next 'signal flow' picture.

When you click this 'MIX' button, Out 1~8 signals are mixed together.

And this signal goes to Output 1,2 with its monitor signal.

**\* Jumper 1,2: If you have Mixer and you don't need to listen OUT 3~8 signals through Output1,2, you can remove the jumper 1,2. You can choose two status depends on your situation.**



## 5. Input 1,2

### Monitor in

During MIX button is selecting, Selecting this button makes that Analog Input 1,2 signals goes to Output 1,2 and also Headphone 1,2(stereo).

You can monitor Input signal in real-time. You can monitor same signal out of Output 1,2 through Headphone 1,2

**\* Regardless of MIX on/off, you can always monitor 'mixed signals' from Headphone 2. It's very useful in Studio's control room.**



**LINE**

When you select this button, 192M accepts LINE Input 1&2.

**MIC**

When you select this button, 192M accepts MIC Input 1.

**6. Input 3,4****Monitor in**

During MIX button is selecting, Selecting this button makes that Analog Input 3,4 signals goes to Output 1,2 and also Headphone 1,2(stereo).

You can monitor Input signal in real-time.

**\* Regardless of MIX on/off, you can always monitor mixed signals from Headphone 2. It's very useful in Studio's control room.**

**LINE**

When you select this button, 192M accepts LINE Input 3&4.

**MIC**

When you select this button, 192M accepts MIC Input2.

**ANALOG**

When you select this button, 192M accepts Line or MIC input as WT192M's input 3,4.

**DIGITAL**

: When you select this button, 192M accepts Digital Input of MI/ODI/O as 192M's input3,4

**Optical**

: When you connect WT192M with MI/ODI/O, you can select MI/ODI/O's Optical Input as digital input.

**Coaxial**

: When you connect WT192M with MI/ODI/O, you can select MI/ODI/O's Coaxial Input as digital input.

**PRO & CONSUMER**

: Digital format selector.

When you use WT192M's digital ports, this is where you to set various digital format.

**Pro (IEC 958 Type I)**

: WT192M's digital in/out format is AES/EBU.

**Consumer** (IEC 958 Type II)

: WT192M's digital in/out format is S/PDIF.

## 7. MIC1 & MIC2 level faders

: You can change the input level of MIC by click and drag the fader(you can also adjust fader using Mouse wheel) and the number at the bottom shows you relative amount of level in dB.

Each MIC fader has independent +12V phantom power On/Off switch.

**Caution:** Please do not use software monitoring and hardware monitoring in simultaneously.

You can't get accurate monitoring and it may causes flange effect.

## 8. MON –VOL –Monitor Volume faders

### MON –VOL (Input 1,2)

You can change the input monitoring level 1,2 by click and drag the fader and the number at the bottom shows you relative amount of level in dB, by clicking it you can mute the channel.

### MON –VOL (Input 3,4)

You can change the input monitoring level 3,4 by click and drag the fader and the number at the bottom shows you relative amount of level in dB, by clicking it you can mute the channel.

## 9. HW VOL –Output Level meters and Adjust faders

**1,2 3,4 5,6 7,8(Analog):** Output goes to Analog Output port 1,2 3,4 5,6 7,8 directly as you set on your application.

Click and drag to change Level. The numbers of bottom show the relative amount of level in dB. If you click, it changes to 'MUTE'.

**DIG OUT 9,10:** Output goes to Digital Output port(Coaxial and Optical) directly as you set on your application.

**MIX :** See P. 25 'MIX circuit'.

## 10. MME SW VOL – Additional Level Adjust faders in MME SW

1,2 3,4 5,6 7,8 9,10

You can adjust level of MME supporting software in here. MME driver output levels sometimes lower than its actual output level. In this case, you should adjust level using this fader. The ‘%’ of bottom means volume level indication.

**\* Mute**

When you click the number on bottom of each fader, selected fader will be muted. And the number on bottom is changed to display ‘Mute’.

## **9. Setting in Applications**

Waveterminal 192M is a premium multimedia audio device designed to be used for professional audio work in a Windows environment. It has a wide range of usage from

game sound to DVD surround sound. It is very easy to set up the WT192M in the multimedia setup of the windows control panel. Also the WT192M can be used with digital audio software to perform hard disk recording. This chapter includes set up guide for some common software. Especially, WT192M uses the E-WDM driver that supports the audio dedicated drivers such as WDM, MME, ASIO, GSIF and Direct Sound.

This chapter only contains the basic setup for some of the software. For more detailed info, please refer to the manual of the software.

### **Driver name and Output**

1-Waveterminal 192M 1,2	Analog Output 1,2
2- Waveterminal 192M 3,4	Analog Output 3,4
3- Waveterminal 192M 5,6	Analog Output 5,6
4- Waveterminal 192M 7,8	Analog Output 7,8
5-Waveterminal 192 SPDIF-AC3 Out	Digital Output
6. Waveterminal 192 Multi-10ch	Analog Output 1~8 Surround output

## **1. Windows Multimedia setup**

The Windows Multimedia setup is required to use WT192M as the sound system for Windows multimedia applications.

Go to 'My computer-> Control Panel -> Sounds and Audio Device Properties -> Audio tab. Select WT192 driver as your playback device.



**2. 5.1 channel for DVD Player application  
( Ex. Power DVD )**

WT192M can be used with 5.1 channel DVD software player to provide 5.1 channel analog surround sound. Since WT192M is built for professional audio, it will deliver optimal sound for your DVD player. You can configure WT192M easily to use it for surround sound.

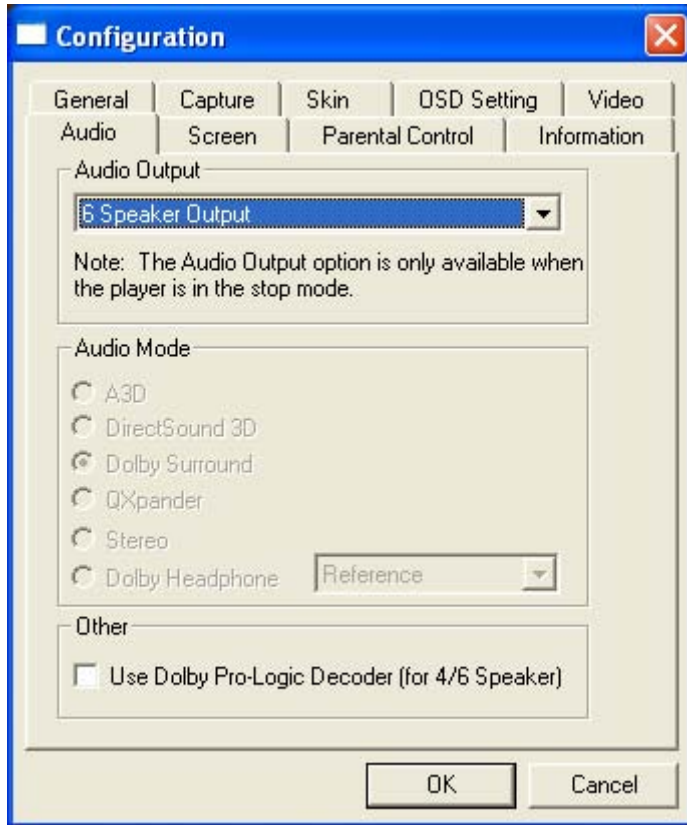
Go to ‘My computer-> Control Panel -> Sounds and Audio Device Properties -> Audio tab. Select ‘6-Waveterminal 192M multi-10ch’ driver as your playback and Recording device.



**\* You must check “DMA” in your DVD-Rom drive settings. IF you don’t check DMA, you cannot attain a crisp picture.**

On the Power DVD main applet, click the right mouse button, and choose ‘Configuration.’

Select ‘6 Speaker Output’. Now you can enjoy DVD with 5.1 channel surround sound.



**Caution:** This is 5.1 channel surround sound route  
 This order will be varied by your operating systems.

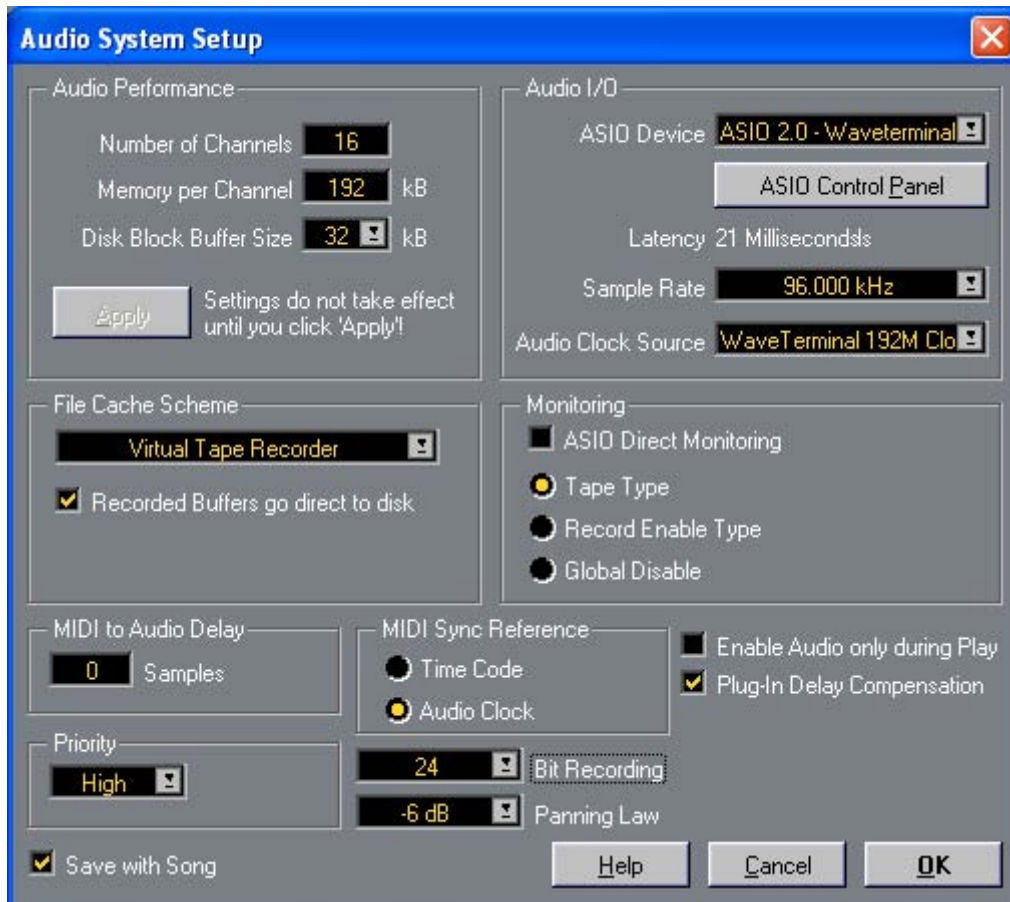
Waveterminal 192 Output	1	2	3	4	5	6
Speaker	Front Left	Front Right	Center	Woofers	Surround Left	Surround Right

**Caution.** When you use 5.1 channel surround, you have to turn off 'Input Monitor' and 'MIX' button.

### 3. ASIO 2.0- Cubase, Logic, Nuendo

#### -Cubase VST

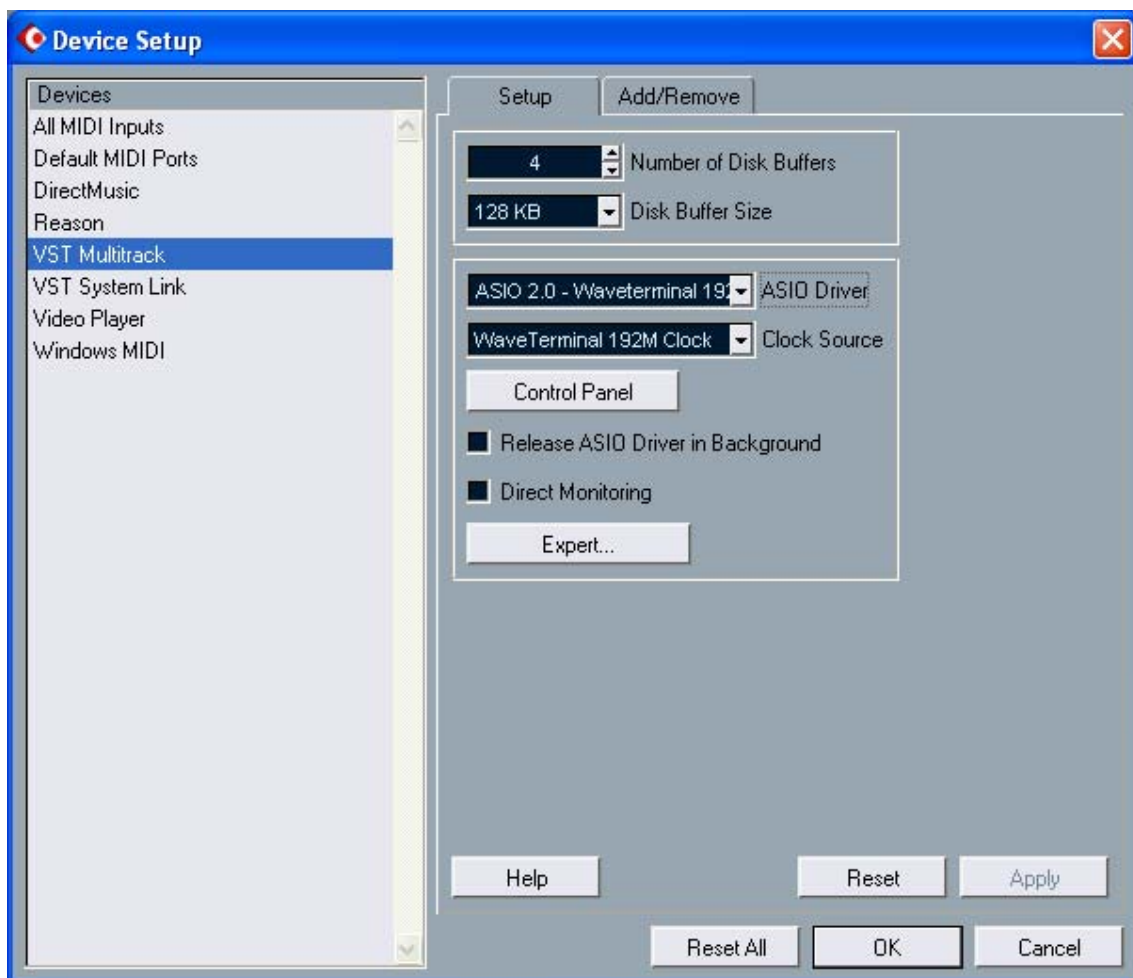
After launching Cubase, go to 'System' under 'Audio' menu. Select 'ASIO 2.0 – Waveterminal 192M' for the ASIO device and 'Waveterminal 192M Clock' for the Audio clock source.





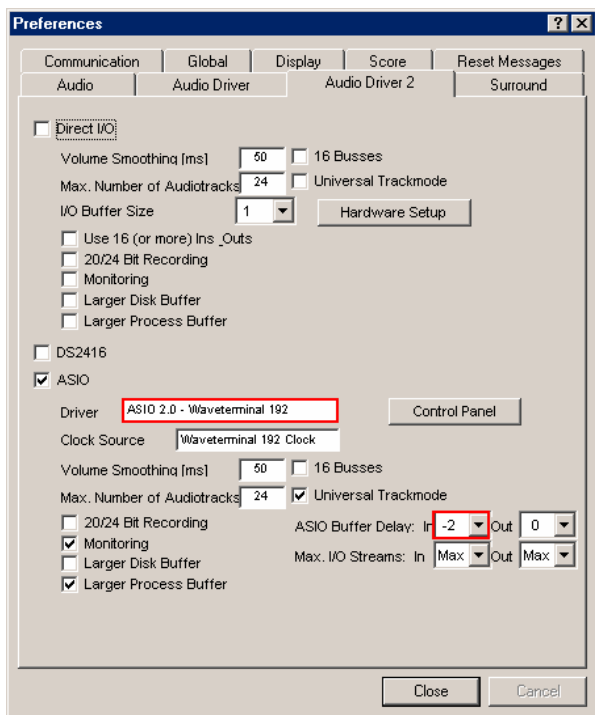
## -Nuendo or Cubase SX

After launching Nuendo or Cubase SX, go to Device -> Device setup ->VST Multitrack. Select 'ASIO 2.0 -Waveterminal 192M' for the ASIO device and 'Waveterminal 192M Clock' for the Audio clock source.

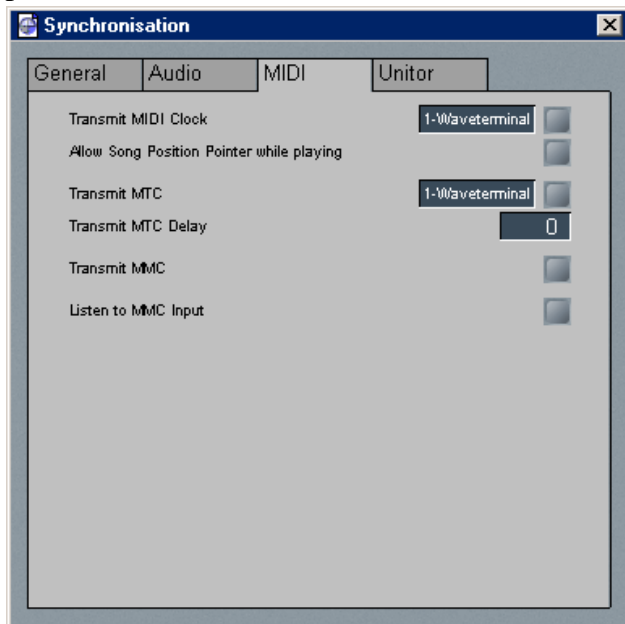


### -Logic

After launching Logic, go to Preference -> Audio Drivers2. Check the 'ASIO' and select 'ASIO 2.0 -Waveterminal 192M'.



And go to 'Synchronisation' -> 'MIDI' and uncheck 'Transmit MIDI Clock' for better performance.

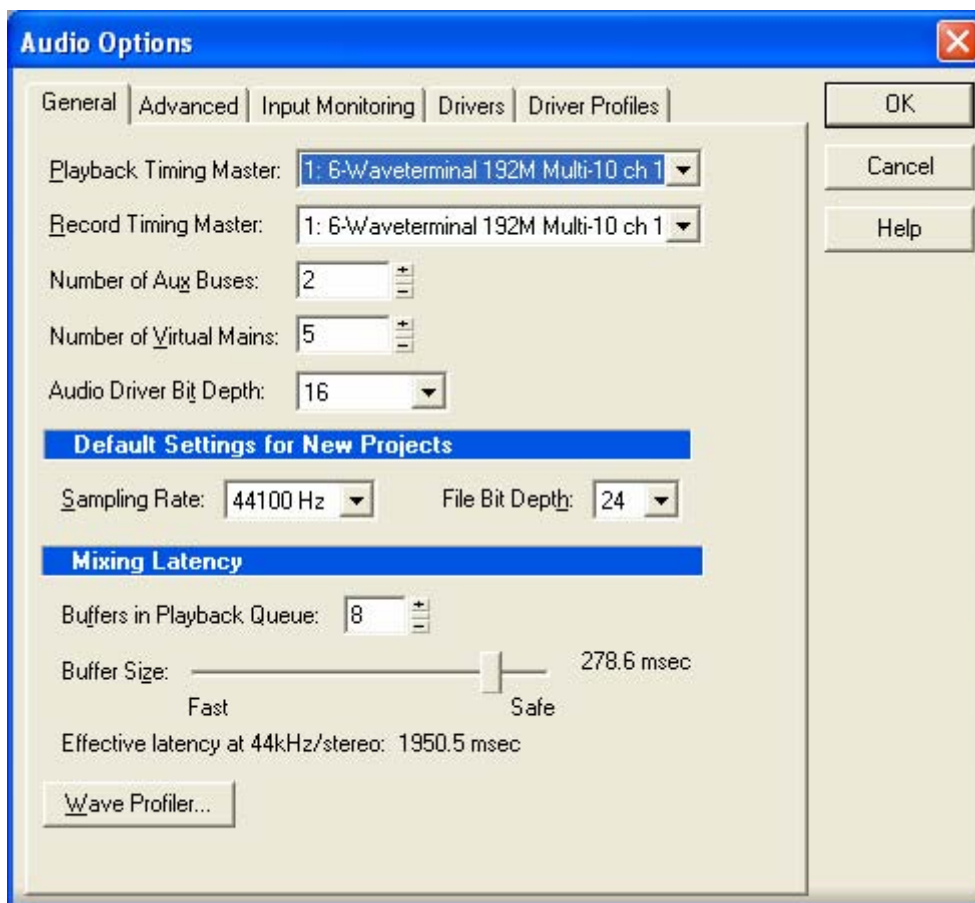


## 4. Sonar/Cakewalk

Before you using Sonar, you have to do several setting first.

You have to set proper latency on the control panel of 192M.

After launching sonar, Go to 'Option' -> Audio and select 'Wave Profiler' of 'General' tab. Unless Sonar can't recognize buffer of 192M.



### In the case of Sonar:

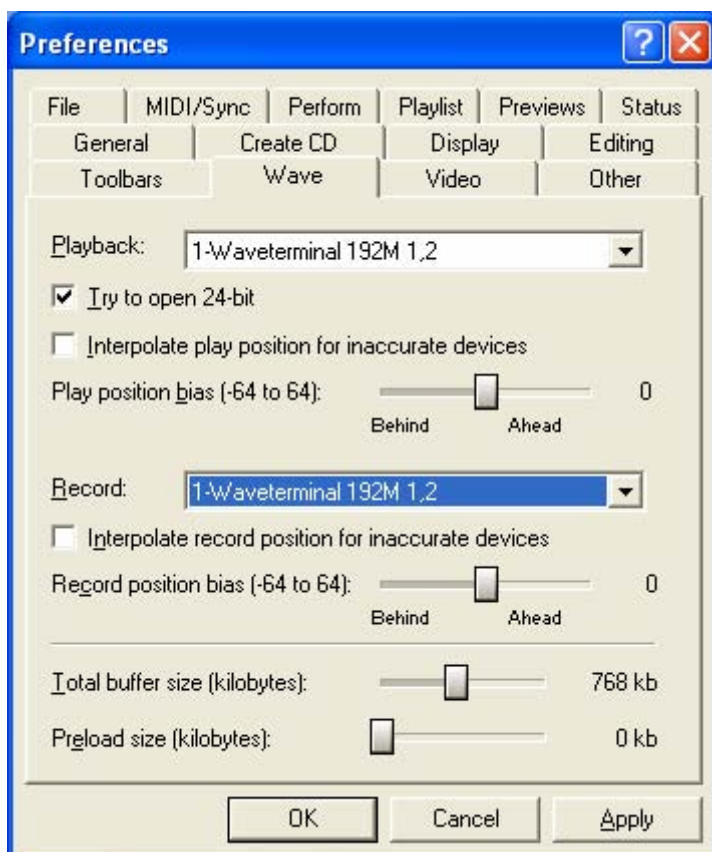
Like an above picture, select '**Waveterminal 192M Multi-10ch 1~10**' for using WDM driver.

### In the case of Cakewalk:

Cakewalk has to use MME driver, therefore select '**Waveterminal 192M 1,2,,,9,10 (2ch)**' drivers.

## 5. Sound Forge

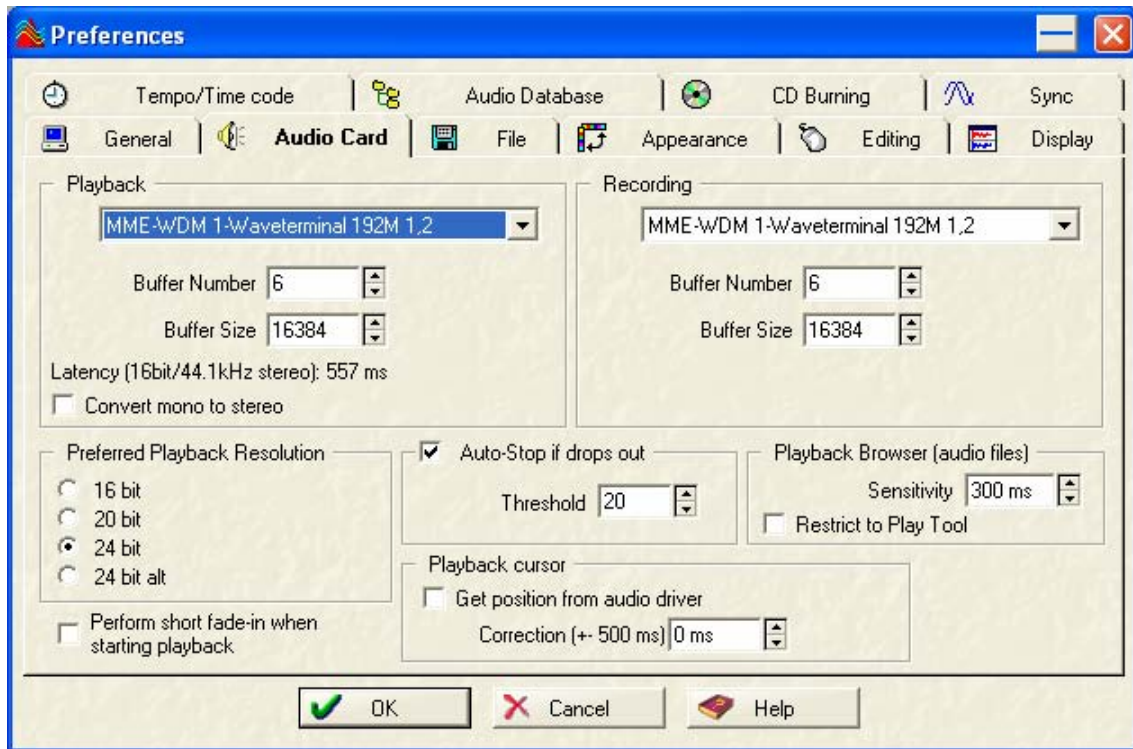
In Sound Forge, select 'Option' from menu bar. Select 'Preference...' and 'Wave'. Choose 'Waveterminal 192M 1,2(2ch)' as Playback and Record device.



## 6. Wave Lab

In Wave Lab, Go to Option -> Preferences -> Audio Card.

Choose 'Waveterminal 192 1,2(2ch)' as Playback and Record device.

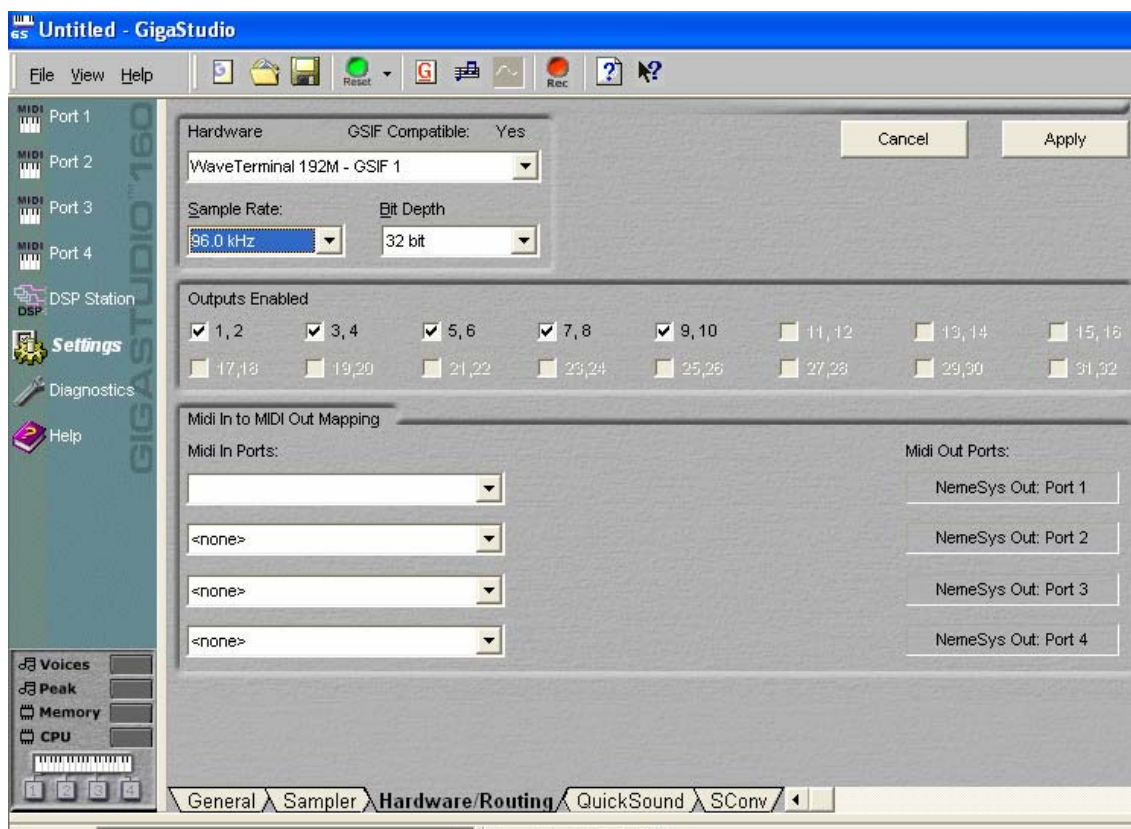


### 7. Giga Studio (v. 2.20.42 or higher)

If you want to use Waveterminal 192M with Giga Studio, you have to use Giga Studio v.2.20.42 or higher.

Caution: If you want to use Giga Studio in Windows 2000 or XP, you need to use Giga Studio v.2.5.

Set as below picture.



## 8. Using Direct Wire

By clicking this menu on WT192M console, DirectWire window will be appeared. DirectWire is a unique feature of E-WDM driver that make possible to transfer digital audio data within different applications using same/different drivers.



As you can see, MME, Multi-MME, ASIO and GSIF indicate driver names of WT192M. Along the vertical channel indicate number, output and input ports of each driver are showed.

Just click desired output number of the driver and drag it to the input of the driver you want to record the source.

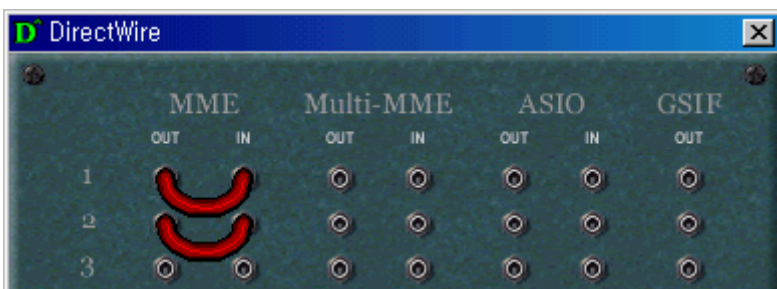
MME section means normal application's I/O, ex.) WinAmp, WaveLab, Cakewalk ...

Multi-MME section means SONAR, PowerDVD, Win DVD I/O ...

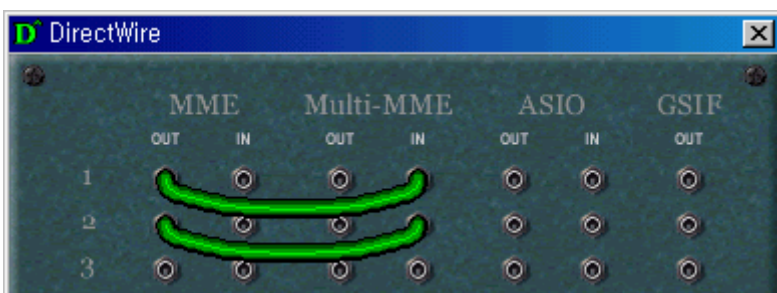
ASIO section means Cubase, Logic, Nuendo, Reason I/O ...

GSIF section means GigaStudio I/O.

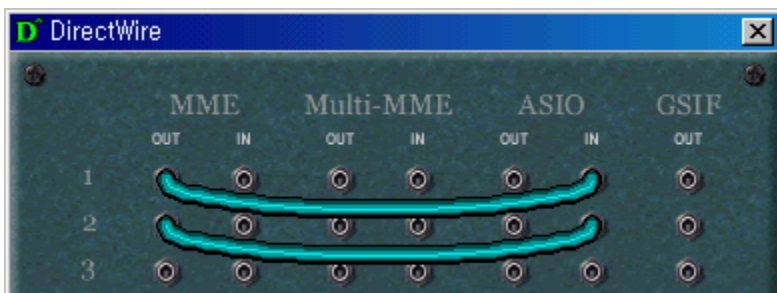
EX1. Recording from Winamp to WaveLab



EX2. Recording from Winamp to Sonar

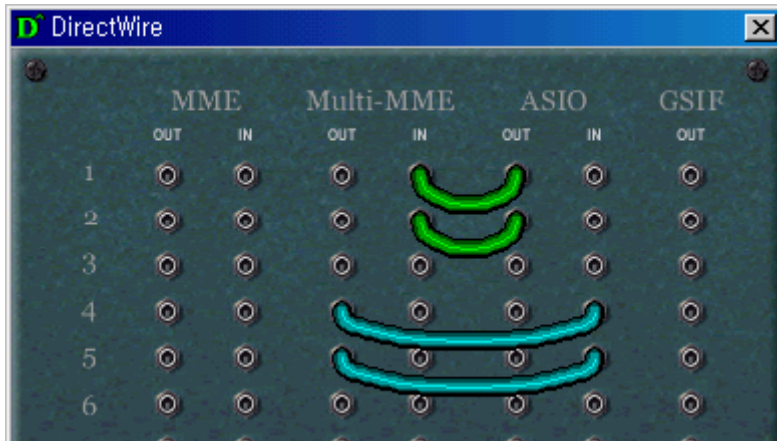


EX3. Recording from Winamp to Cubase





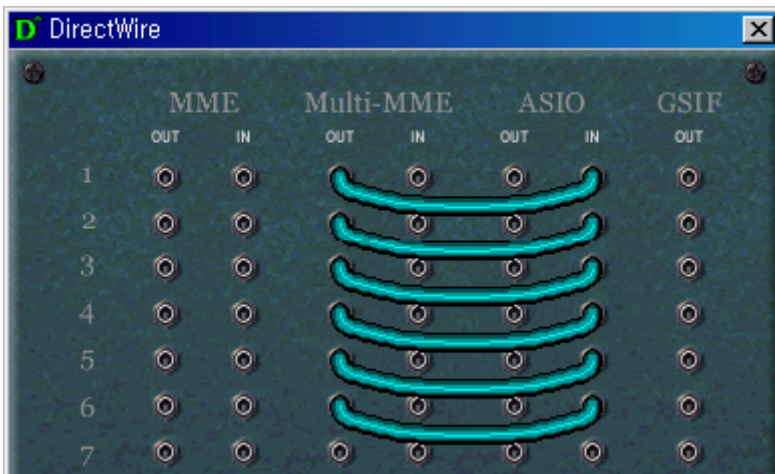
EX4. Recording from Sonar to Cubase or Vice versa



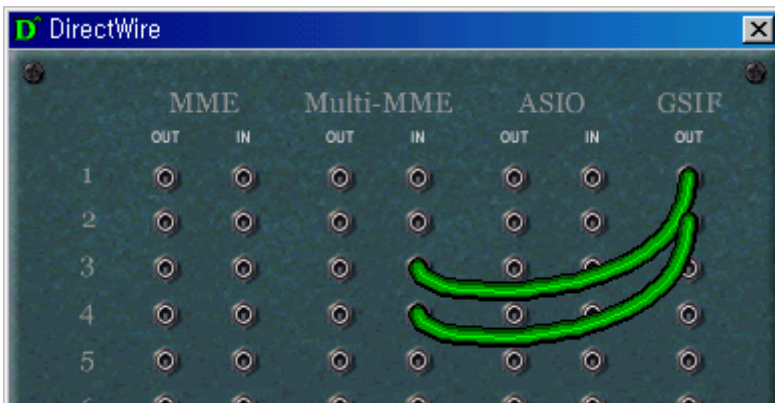
EX5. Recording from Power DVD 5.1 to Sonar



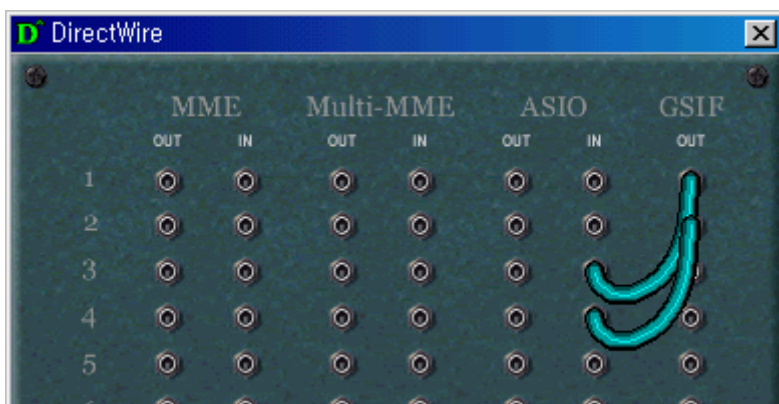
EX6. Recording from Power DVD 5.1 to Cubase



EX7. Recording from GigaStudio to Sonar



EX8. Recording from GigaStudio to Cubase



## 9. Specifications

### 1. Analog Inputs

- 1) Type : 4 Channel analog inputs
  - \* 4 Unbalanced 1/4" TRS Phone Jack(Line in)
  - \* 2 Balanced 1/4" TRS Phone Jack(Mic in)
- 2) Level : +4dBu UnBalanced, +4dBu Nominal,  
+17.5dBu Max (Gain +0dB)
- 3) Impedance : 10K Ohm

### 2. Analog Outputs

- 1) Type : 8 Channel analog line outputs
  - \* 8 Unbalanced 1/4" TRS Phone Jack
- 2) Level : +4dBu UnBalanced, +4dBu Nominal,  
+17dBu Max (Gain +0dB)
- 3) Attenuation : Digital 0dB ~ -96dB with mute, 0.75 step size
- 4) Impedance : 100 Ohm

### 3. Mic Preamplifier

- 1) Sensitive : 45mV Max
- 2) Gain Adjustment : +35dB Fix and +0dB ~ +22.5dB Variable  
(1.5dB Step Size)
- 3) Impedance : 1.5K ohm
- 4) +12V Phantom Power

### 4. Headphone Amplifier

- 1) Output Power : 60mW Max
- 2) Signal to Noise Ratio: 110dB (Typical)
- 3) (THD+N)/S : -70dB, 0.03% (Typical)

- 5. Sample rate supports : 16,22,24,32,44.1,48,88.2,96,176.4,192 KHz  
(176.4,192Khz only playback)

### 6. A/D Converter

- 1) Type : High performance SIGMA-DELTA ADC
- 2) Dynamic Range (S/N): 100 dB A-Weighted (Typical)

- 3) Frequency Response : 20 ~ 22.5KHz (@ fs=48kHz)
- 4) Sample Rate Supports: Up to 96KHz
- 5) Resolution : 24-Bit
- 6) Inter channel Gain Mis match : 0.5dB

#### 7. D/A Converter

- 1) Type : High performance SIGMA-DELTA DAC
- 2) Dynamic Range (S/N): 104dB A-Weighted (Typical)
- 3) Frequency Response : 20 ~ 22.5KHz (@ fs=48kHz)
- 4) Sample Rate Supports: Up to 192KHz
- 5) Resolution : 24-Bit
- 6) Inter channel Gain Mismatch : 0.5dB

#### 8. Digital Out

- 1) Type : Coaxial and Optical
- 2) Format : IEC-958 Consumer(S/PDIF),  
IEC-958 Professional(AES/EBU)
- 3) Sampling Rate : 32,44.1,48,88.2,96,176.4,192 KHz  
(176.4,192Khz are not recommended at Optical port)
- 4) Resolution : 24-Bit

#### 9. MI/ODI/O (Optional)

- 1) 16 Channel MIDI In/Out Interface
- 2) Coaxial In/Out - IEC-958 Consumer(S/PDIF),  
IEC-958 Professional(AES/EBU)
- 3) Optical In - IEC-958 Consumer(S/PDIF), IEC-958 Professional(AES/EBU)