FireWire-Ultra SCSI Converter FR1SX

User's Guide

Dec. 2006

Rev. 5.0

RATOC Systems, Inc.

FR1SX

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1.Introduction

The **FR1SX** is a Firewire to Ultra SCSI Converter for use in Firewire port enabled system. This User's Guide describes how to install and use the **FR1SX**. README file in the CD-ROM may include the newer information. For the latest information, go to http://www.ratocsystems.com/English/.

1-1.Package Contents

FR1SX FireWire-Ultra SCSI Converter
FR1SX CD-ROM
IEEE1394 6pin- 6pin cable
Quick installation guide
Software License Agreement

NOTE
If any of these items are missing, contact the supplier immediately.

1-2. Layout

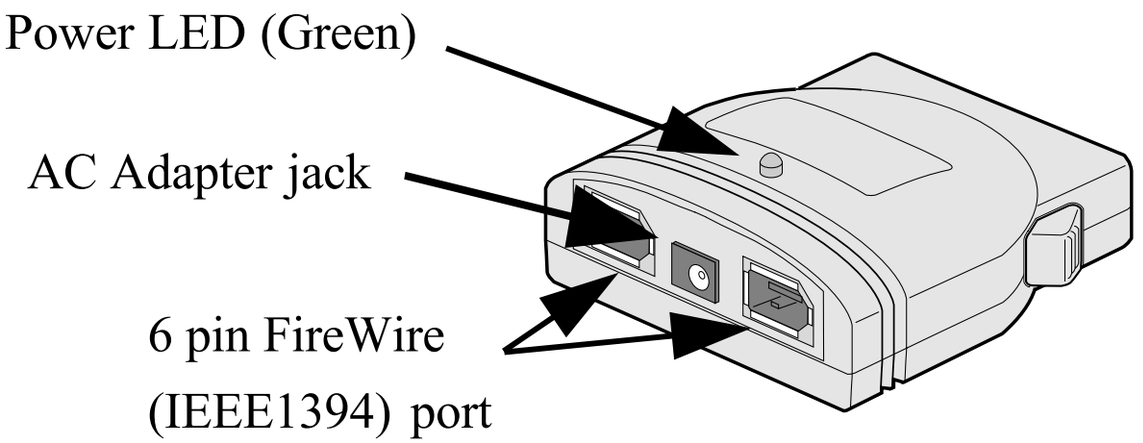


Fig. 1 Front Side

Fig. 1 shows the front side layout of the FR1SX. **Power LED** light-on state indicates the FR1SX is powered. If this LED is NOT lit, an optional AC adapter is needed. **Refer to Chapter 8 regarding optional items**.

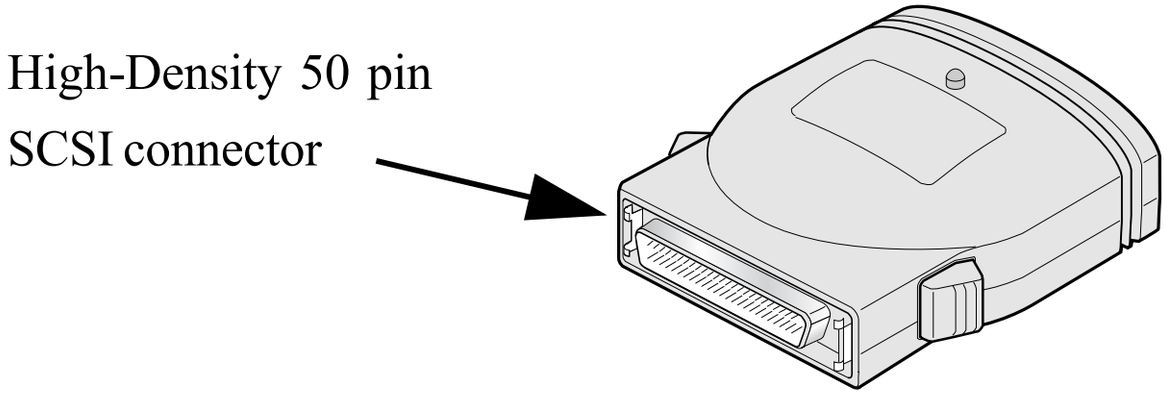


Fig. 2 Back Side

Fig. 2 shows the back side layout of the FR1SX. The FR1SX has a High-Density 50 pin SCSI male connector. If you have a SCSI device with a different type such as High-Density 68 pin, Centronics 50 pin or D-Sub 25 pin, you can use an optional adapter. In such a case, **refer to Chapter 8**.

1-3. System Requirements

System

IEEE 1394 (Firewire) enabled system

OS

• Mac OS X 10.1.x or later / Mac OS 9.1 or later
• Windows Server 2003/XP/2000/Me/98SE

SCSI device

• High-Density 50 pin female SCSI-2 connector on a SCSI device (If the SCSI connector type is different, refer to Chapter 8)
• Term-Power output capability

Caution: As FR1SX gets electric power from Term-Power on SCSI bus, this output capability is required. If Term-Power output is not available at your SCSI device such as iomega zip drive, optional AC adapter is needed. Refer to Chapter 8**.**

• Terminator (must be attached to the SCSI device properly)

1-4. Restrictions & Limitations

• FR1SX does not support multiple SCSI IDs. (If multiple SCSI device is connected, the lowest SCSI ID's device is recognized by the FR1SX.)

• FR1SX doesn't support LUN(Logical Unit Number).

• (For Windows Users Only) Booting system from a SCSI device through the FR1SX is not supported, because of Windows system limitation.

• (For Mac Users Only) If the system has a built-in firewire port, the system can be booted up from the SCSI device(ie. HDD) through the FR1SX. Sometimes firmware update for Mac may be required. Regarding firmware update for Mac, go to http://www.apple.com.
NOTE: Apple Firmware doesn't support boot up from external CD-ROM through FireWire.

2.Installation

Follow the steps through to connect the FR1SX to a SCSI device

2-1.Connecting the FR1SX to a SCSI device

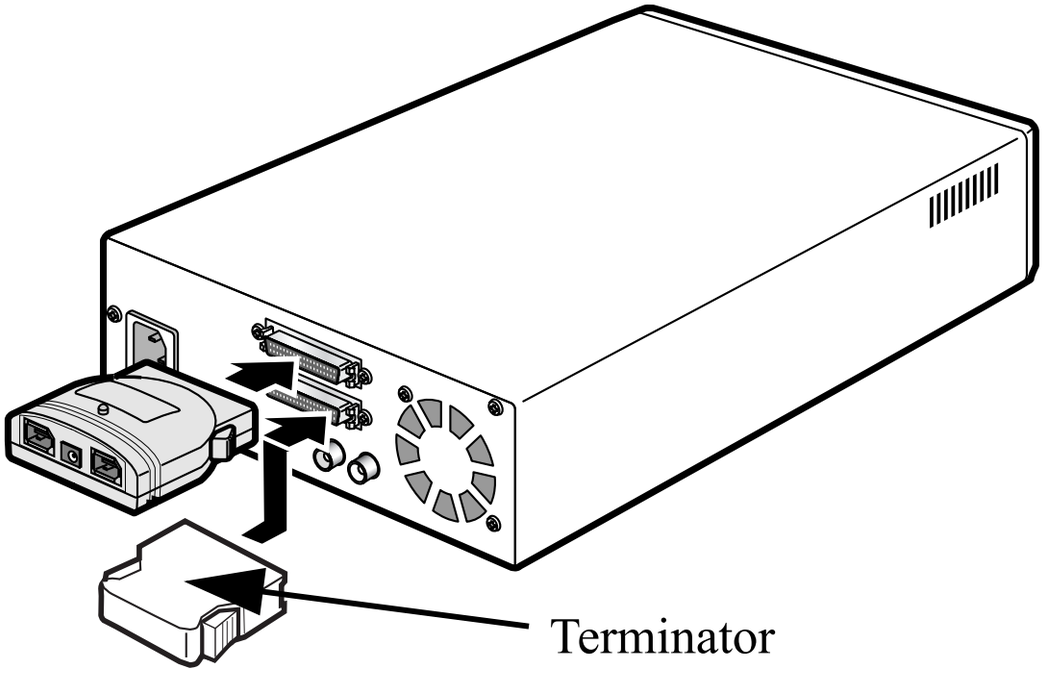


Fig. 3

1. **Make sure if the SCSI device is turned OFF before connecting the FR1SX**. Connect the FR1SX to a SCSI device, as Fig.3 shows. If the SCSI connector is different, you can use an optional adapter. **Regarding optional adapters, refer to Chapter 8**.

2. Make sure that the SCSI ID of the SCSI device is set properly. It must be from 0 to 6. ID 7 is reserved for the FR1SX. SCSI ID is usually set with a switch on the back of the SCSI device. For more information how to set SCSI ID, refer to the SCSI device's manual.

3. Attach an active terminator to the SCSI device, as Fig.3 shows. If the SCSI device has an internal terminator instead of external terminator, it must be enabled.

4. Turn ON the SCSI device and **check if the green LED on the FR1SX is lit.** If the green LED is not lit, the SCSI device doesn't have Term-Power output capability. If the SCSI device doesn't have this capability, an **optional AC Adapter** is needed. Regarding optional items, **refer to Chapter 8.**

5. Next step is connecting firewire cable to firewire port of the FR1SX and the computer, as Fig.4 shows. In most cases, the SCSI device will be recognized automatically and ready to go.

If the SCSI device is not recognized, go to Chapter 3.

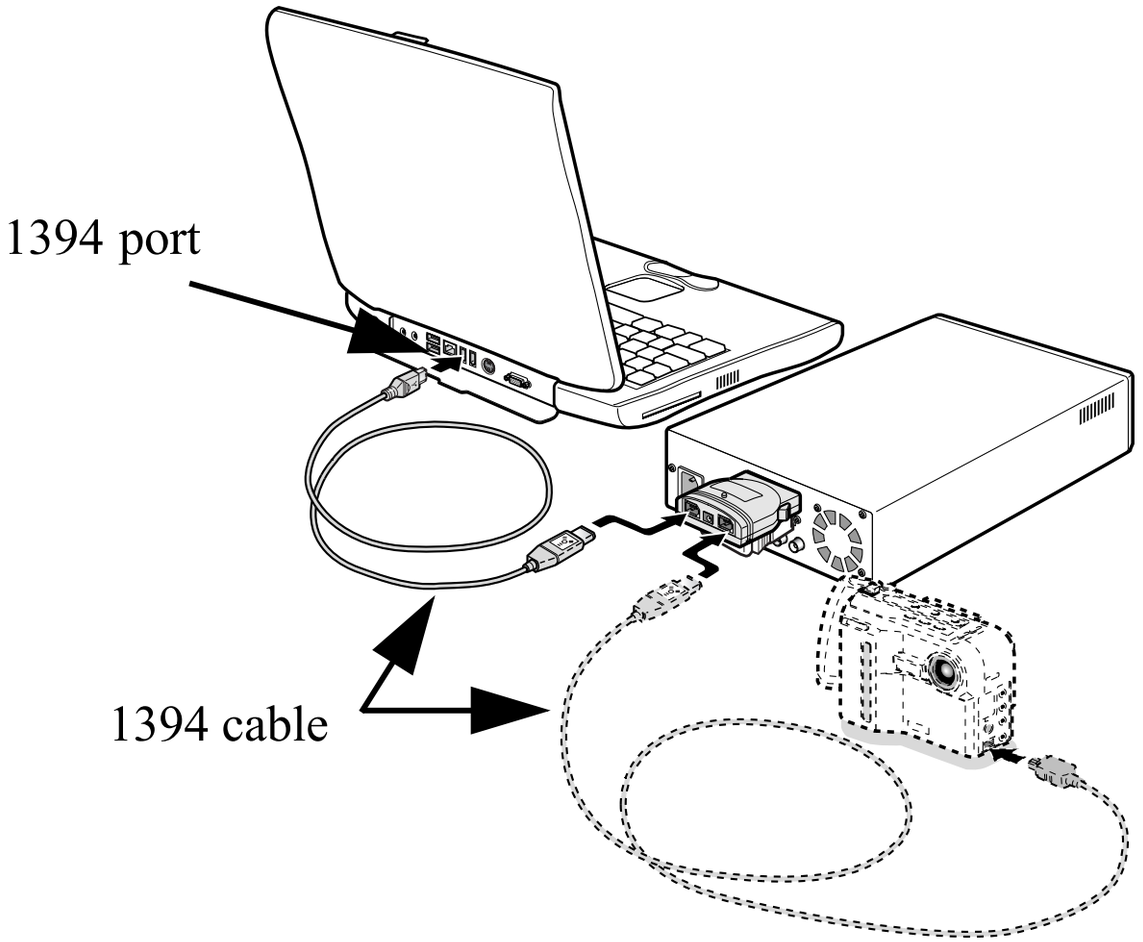


Fig. 4

2-2. Repeater function

The FR1SX works as a Firewire repeater as Fig.5 shows. It extends the distance between one Firewire device and another Firewire device up to 9m (30 feet). In this case, an optional AC adapter is required to supply power. Regarding optional items, **refer to Chapter 8.**

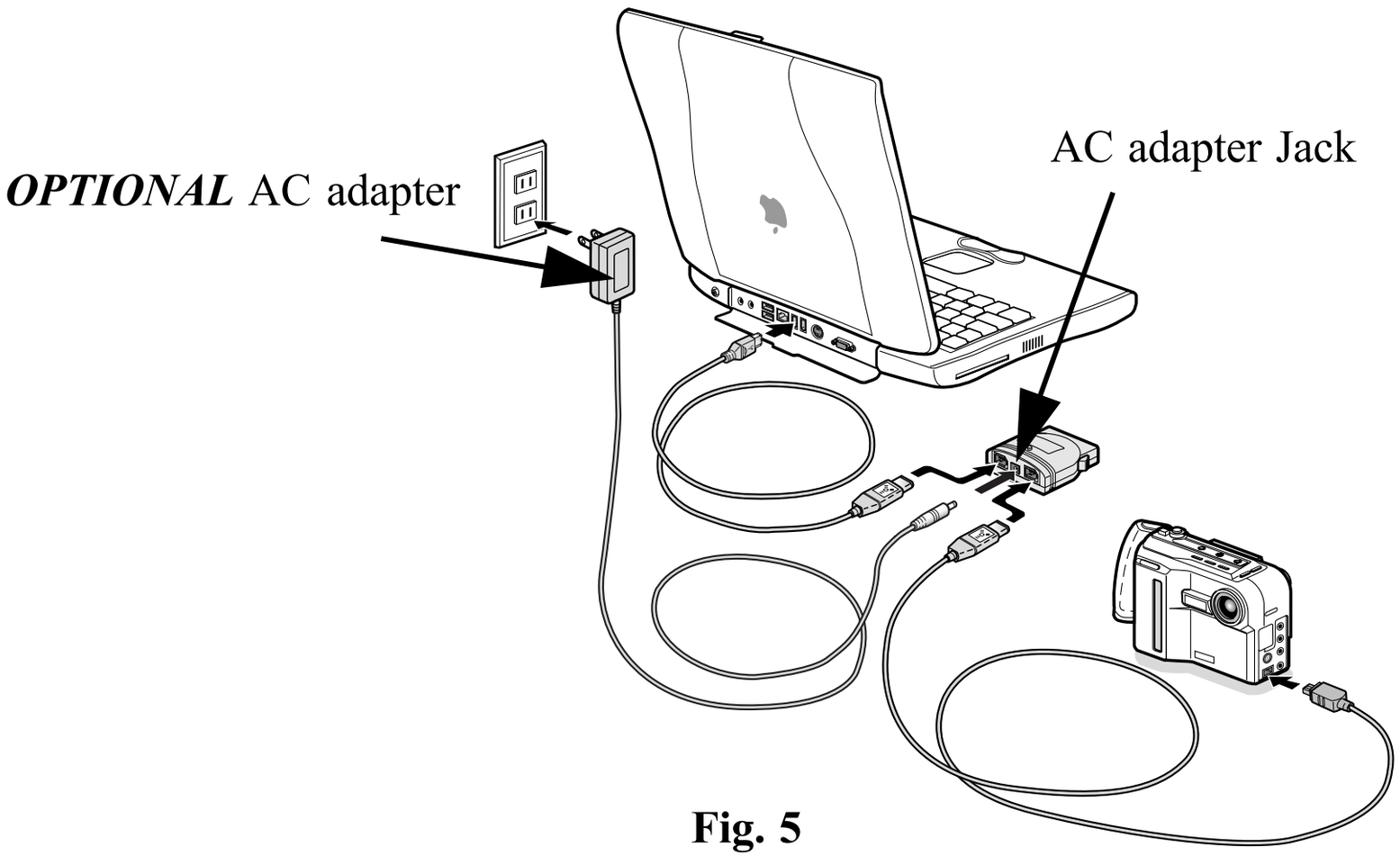


Fig. 5

3. How to check if device is working

If the SCSI device is not recognized:

Double check followings.

1. Is green LED on the FR1SX lit? If not, refer to Chapter 8.
2. Is terminator attached to the SCSI device properly?
3. Is SCSI ID of the SCSI device set properly? (Must be 0 - 6)

Try following sequence, too.

1. Unplug the firewire cable from the FR1SX or the computer.
2. Turn off the SCSI device.
3. If an optional AC adapter is used, unplug the AC adapter from the FR1SX.
4. Turn on the SCSI device and plug the AC adapter at the same time as possible as you can. If it is difficult, turn on the SCSI device first.
5. After self initialization of the SCSI device, plug the firewire cable to the FR1SX or the computer.
6. Wait about 5 seconds for recognition by the system and see if the SCSI device is recognized.

If the SCSI device is still not recognized:

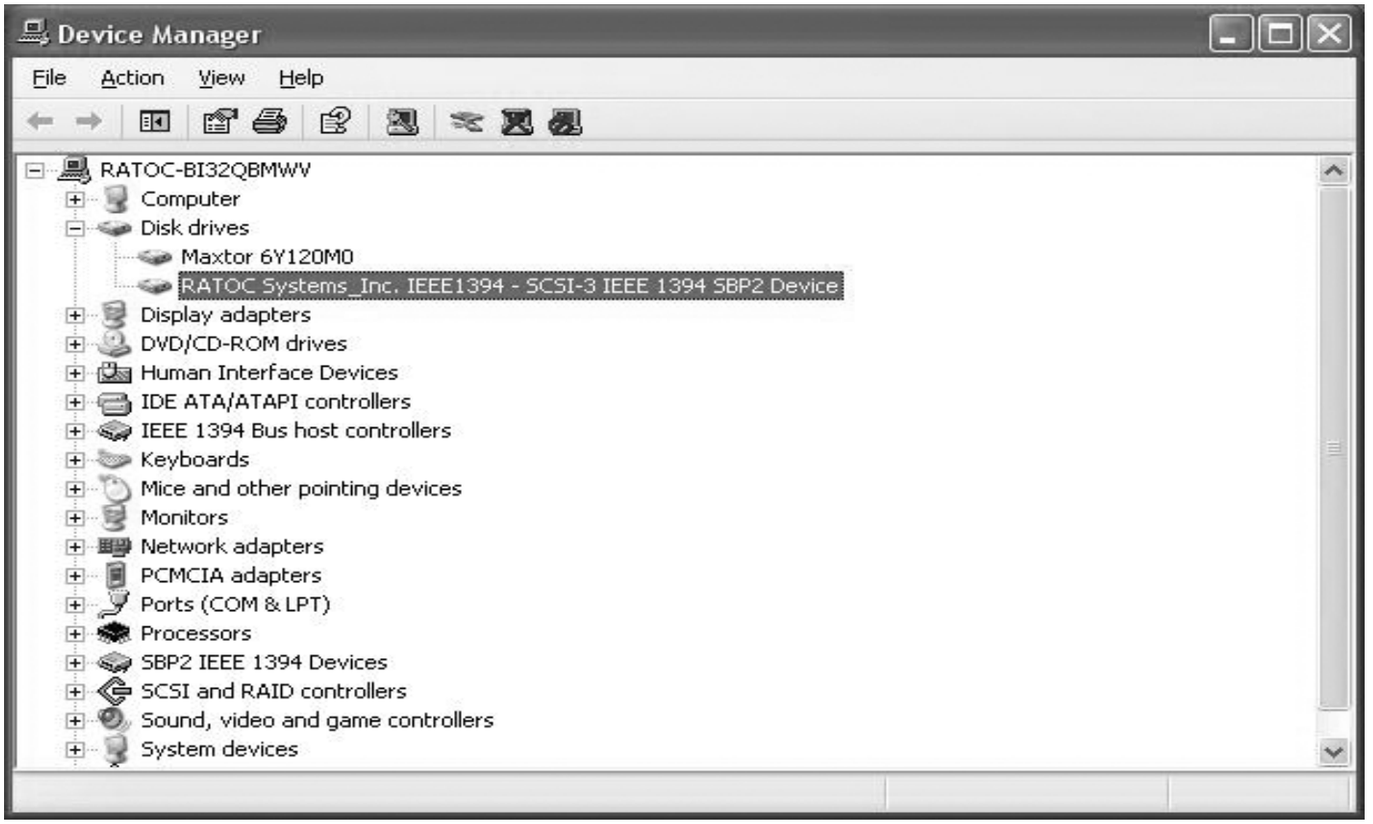
If you are using Windows system, go to Chapter 3-1
If you are using Mac OS X system, go to Chapter 3-2
If you are using Mac OS 9 system, go to Chapter 3-3

3-1. Windows system

If the SCSI device is a mass storage device like a **hard drive** or a **removable drive**, go to Chapter 3-1-1.
If the SCSI device is not a mass storage device like a **scanner device** or a **tape drive**, go to Chapter 3-1-2.

3-1-1. Mass Storage Device (ie. hard drive, removable drive)

Mass storage device with the FR1SX should be recognized by the system automatically. On the device manager, the hard drive with the FR1SX is recognized as follows.



If the hard drive or the media in the removable drive is formatted properly, it will be mounted. It can be seen in “MY Computer”.

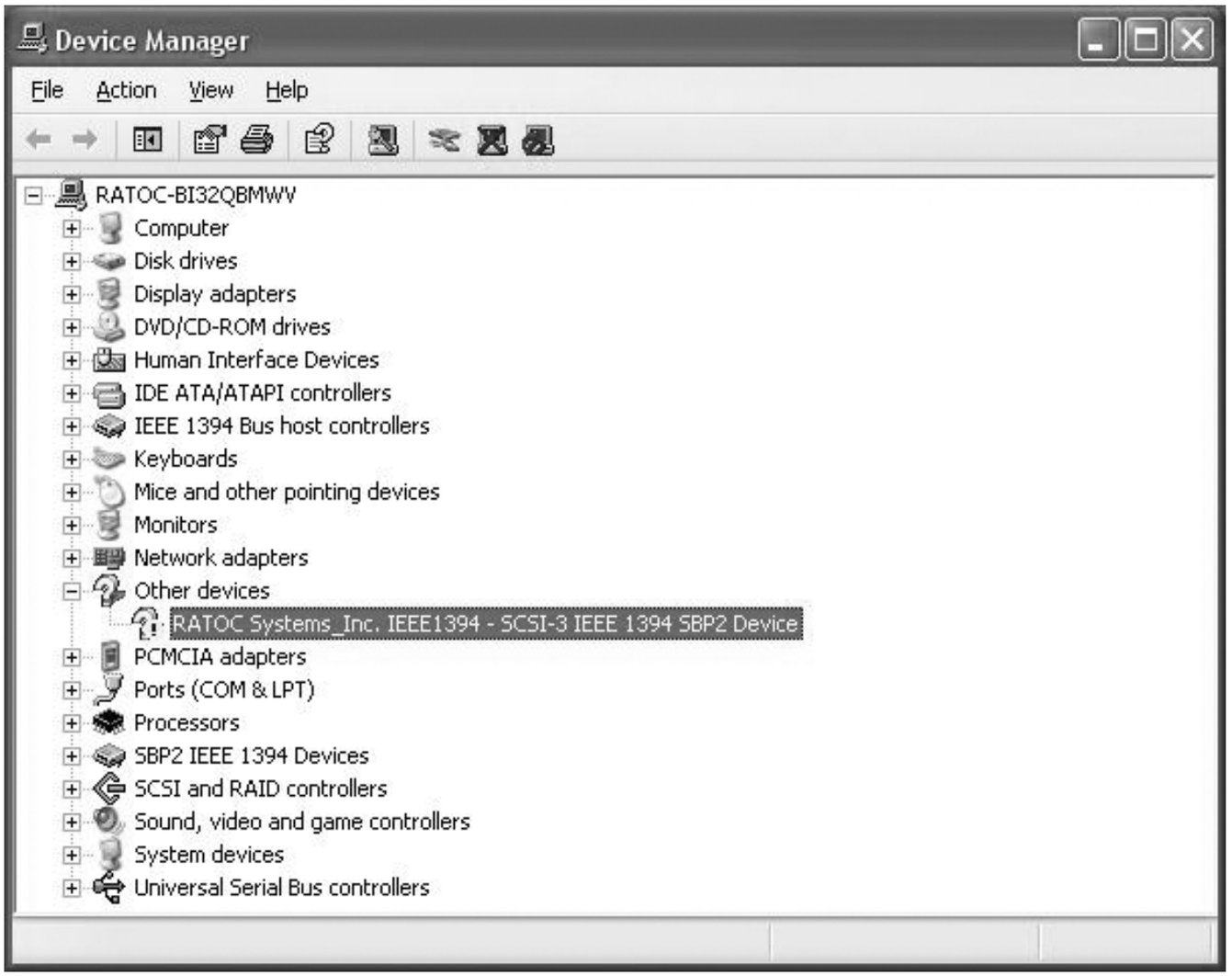
If the hard drive is still not recognized by the system, refer to Chapter 4.

3-1-2. Scanner device, Tape drive, CD/DVD burner, etc.

If the device driver of the SCSI device(ie. scanner, tape drive etc.) is not included in Windows or sometimes even if the driver is included, the **New Hardware Wizard** requires the device driver for “RATOC System_Inc. IEEE1394-SCSI-3 IEEE1394 SBP2 Device”.

If the New Hardware Wizard doesn't appear, but there is a yellow '!' point on "RATOC System_Inc. IEEE1394-SCSI-3 IEEE1394 SBP2 Device" on the **Device Manager,** the driver of the SCSI device needs to be installed.

(To open the device manager: Go to "Start" - Right click on "My Computer" - Properties - Hardware - Device Manager button.)



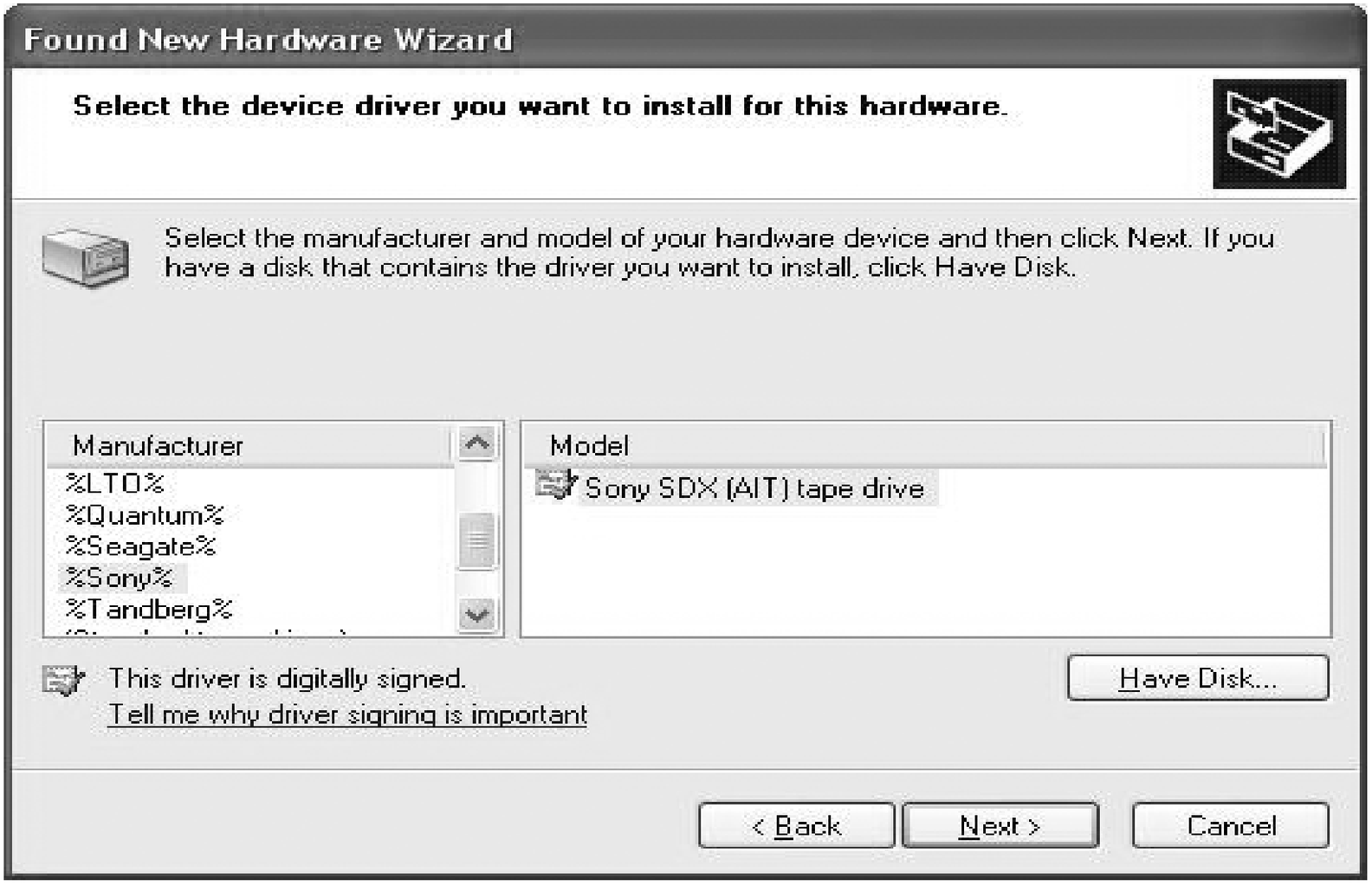
Following is an example of Windows2000/Xp how to find and install the driver of the SCSI device.

If the New Hardware Wizard requires the driver, **Start from [B]**.
If there is a yellow '!' point on the "RATOC System_Inc. IEEE1394-SCSI-3 IEEE1394 SBP2 Device" on the device manager, **Start from [A].**

[A] On the device manager:
1. Double click on "RATOC System_Inc. IEEE1394-SCSI-3 IEEE1394 SBP2 Device" to open "Properties".
2. Click on "Update Driver..." button on the Driver tab. New Hardware Wizard will appear.

[B] On the New Hardware Wizard:
3. Select "Install from a list or specific location" and click Next button.
4. Select "Don't search I will choose the driver to install" and click Next.
5. If the device is a scanner device, select "imaging device" and click Next. If the device is a tape drive, select "Tape drives" and click Next.

6. If the driver is included, the manufacturer and the model number of the SCSI device should be listed. Select proper device and click Next. If there is no driver on the list, specify the location of the driver with using **Have disk** button.



If the SCSI device is still not recognized by the system, refer to Chapter 4.

Windows 98SE(Second Edition) Storage Supplement Update

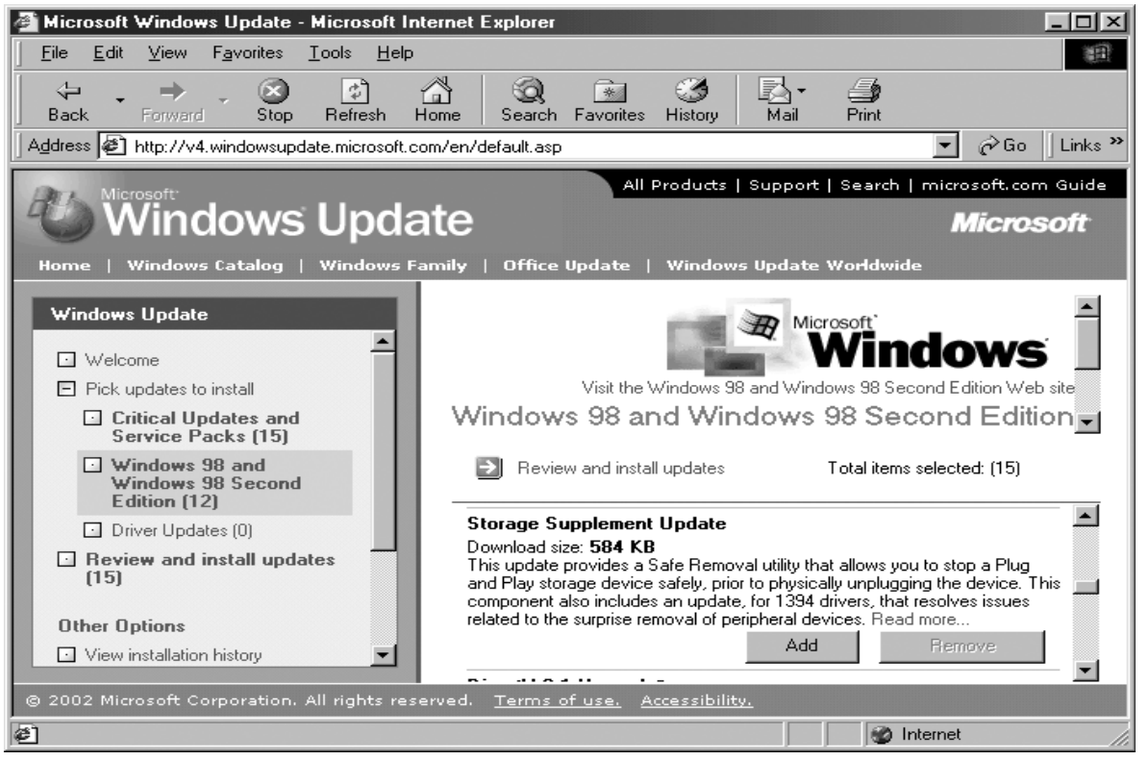
If you use Windows 98 SE, we highly recommend to install **Storage Supplement Update** from Microsoft web site. This component improves 1394 storage performance and also installs a Safely Removal Utility on the task bar.

To find the update:

1. Click **Start** menu on the TaskBar.
2. Select **Windows Update**.

   http://v4.windowsupdate.microsoft.com/en/default.asp

3. Click **Scan for updates** and find **Storage Supplement Update** for **Windows 98 Second Edition.**



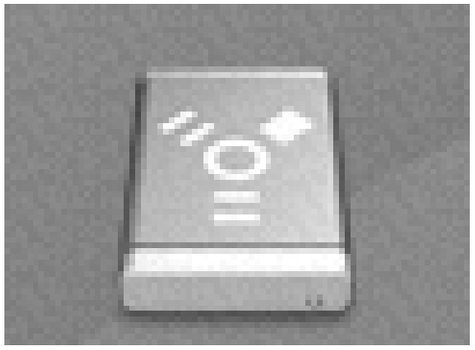
3-2. Mac OS X

If the SCSI device is a mass storage device like a **hard drive** or a **removable drive**, go to Chapter 3-2-1.

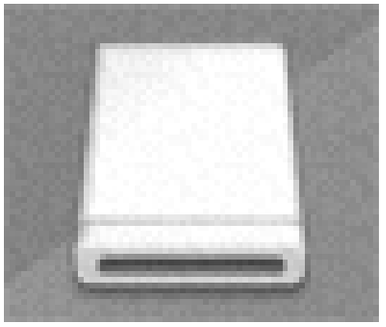
If the SCSI device is not a mass storage device like a **scanner device** or a **tape drive**, go to Chapter 3-2-2.

3-2-1. Mass Storage Device (ie. hard drive, removable drive)

Mass storage device with the FR1SX should be recognized by the system automatically. If the device is a fixed hard drive and it is formatted properly, it will be mounted on the desktop. If the device is a removable disk and the media is formatted properly, the media will be mounted on the desktop.



Fixed drive



Removable media

If the SCSI device is still not recognized by the system, refer to Chapter 4.

3-2-2. Scanner device, Tape drive, CD/DVD burner, etc.

The other SCSI devices besides mass storage device should be recognized by the system automatically, but they will not be mounted on the desktop. If the SCSI device is a scanner, it will be recognized by scanning software. If the device is a tape drive, it will be recognized by backup software. If the device is a CD burner, it will be recognized by burner software.
(**Note:** Even if the device is recognized by the system, if the software doesn't support firewire interface or doesn't support the device itself, the device will not work.)

On Mac OS X, we currently recommend following softwares

For Scanner: VueScan (Hamrick Software)
For Tape drive: Retrospect 5 or above(EMC Dantz), BRU(TOLIS Group)
For CD burner: Toast 5 or above(Roxio)

If the software which comes with the SCSI device doesn't work, try other software, too. Because the software which comes with the SCSI device may support only SCSI interface.

If the SCSI device is not recognized by the software, refer to Chapter 4.

3-3. Mac OS 9

If the SCSI device is a mass storage device like a **hard drive** or a **removable drive**, go to Chapter 3-3-1.

To use following device or software, go to Chapter 3-2-2.

1. If TWAIN driver for scanner has only SCSI API.
2. The Disk Utility software which comes with a removable drive that has only SCSI API.(ie. ORB drive)
3. If the writing software for CD burner doesn't support Firewire.
4. The device driver for the SCSI device supports only SCSI interface.

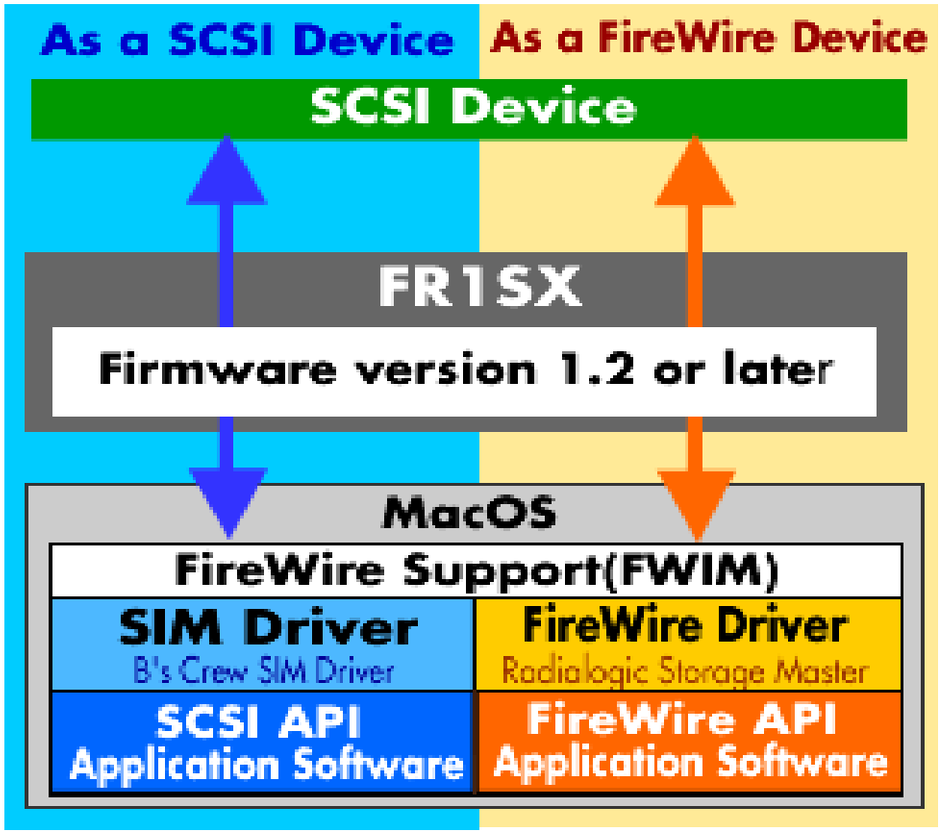
3-3-1. Mass Storage Device (ie. hard drive, removable drive)

Mass storage device with the FR1SX should be recognized by the system automatically. If the device is a fixed hard drive and it is formatted properly, it will be mounted on the desktop. If the device is a removable disk and the media is formatted properly, the media will be mounted on the desktop.

If the SCSI device is still not recognized by the system, refer to Chapter 4.

3-3-2. B’sCrew SIM driver

If the driver of the SCSI device or the software which comes with the SCSI device supports only SCSI API / SCSI interface, you can use **B’sCrew SIM driver**.



B’sCrew SIM driver works as shown above.

Note that the **B’sCrew SIM driver** runs on MacOS 9 only. It doesn’t work on MacOS X.

The B’sCrew SIM driver has following restrictions:

1. The SIM Driver mode must be set enable(Default setting is enable). You can set or reset this mode with the SCSI Configuration utility. Regarding the Utility, refer to Chapter X.

2. The SIM driver doesn’t support Firewire Plug and Play, Hot Swapping because the original SCSI API doesn’t include these features.

3. As the SIM driver hooks the standard SCSI APIs and substitute for Firewire API, some SCSI applications or drivers which don’t use standard SCSI APIs may not work properly.

4. The SIM driver doesn’t support system boot from a SCSI device connected to the FR1SX.

Follow the instructions to install the B’sCrew SIM driver.

1. To get the SIM driver, you have to download it from our Registered User page. Before downloading, you have to register the FR1SX. Go to the User Registration https://regist.ratocsystems.com/english/, and click "Web for User" and select B's Crew SIM driver.

2. After downloading, double-click it and follow the instructions.

3. When message screen says “install was successful”, click **[Restart]**.

4. **B’sCrew SIM FireREX1** is copied in the **[Extensions]** folder. If the B’sCrew SIM FireREX1 is not needed, you can disable it from the **Extensions Manager**.

If the SCSI device is not recognized by the software, refer to Chapter 4.

4. Configuration Utility

You can change **configuration settings** on the FR1SX for the SCSI device with using the utility. You can update/change firmware with the same utility, but refer to Chapter 5 regarding **Firmware Update.**

4-1. You can change following settings.

SIM Driver mode

Default is enabled. It is only for MacOS 9.

Transfer Mode/Speed (SCSI)

Default value is 20MB/s. You can select 20, 10, 5MB/s and Async.

Delay time between power on and SCSI bus reset (sec.)

You can set the delay time for some SCSI devices which hang up if SCSI bus reset is issued right after the FR1SX gets powered.

Delay time between SCSI bus reset and SCSI command (sec.)

You can set the delay time for some SCSI devices which hang up if SCSI command is issued right after SCSI bus reset.

Delay time until 1394 transaction start (sec.)
Default value is 4. If **START UNIT command** is **disabled**(Default), it indicates the delay time to start 1394(firewire) transaction. If **START UNIT command** is **enabled**, it indicates the delay time for the next command after being issued Start/Stop Unit command. Some SCSI devices cannot take any SCSI command right after Start/Stop Unit command is issued.

Enable SCSI bus reset
Default is enabled. If it is enabled, SCSI bus reset is issued. If disabled, SCSI bus reset is not issued.

Enable START UNIT command (Start/Stop UNIT command)
Default is disabled. Some SCSI devices don't spin up if Start/Stop unit command is not issued.

Enable parity check
Default is enabled. If the SCSI device doesn't have parity check function, it should be disabled.

Target SCSI ID.
Default value is AUTO. You can specify the target SCSI ID.

Max Payload Size (IEEE1394)
Default value is 1024. You can set Max byte size in transferring IEEE1394 data block. Max size is 2048 Bytes. You should set this value to 1024 for Blue&White PowerMac G3.

If you are using Windows system, go to Chapter 4-2
If you are using Mac OS X system, go to Chapter 4-3
If you are using Mac OS 9 system, go to Chapter 4-4

4-2. Installing Utilities on Windows

1. Before installing the utility, remove the SCSI device with the FR1SX from the system and unplug the firewire cable from the FR1SX or the computer.
2. Put the CD-ROM in the CD drive.
3. Installer should be launched automatically. If not, double click **Setup.exe** and follow the instructions.
4. After the installation, **FR Configuration** and **FR Format utility** will appear in the **RATOC Firewire Utility** in the list of **Programs.** Refer to **Chapter 6** for the FR Format utility.

You can change configuration settings on the FR1SX for the SCSI device.

1. From the **Start** button, select **Programs**, **RATOC FireWire Utility**, and then **FR Configuration**.

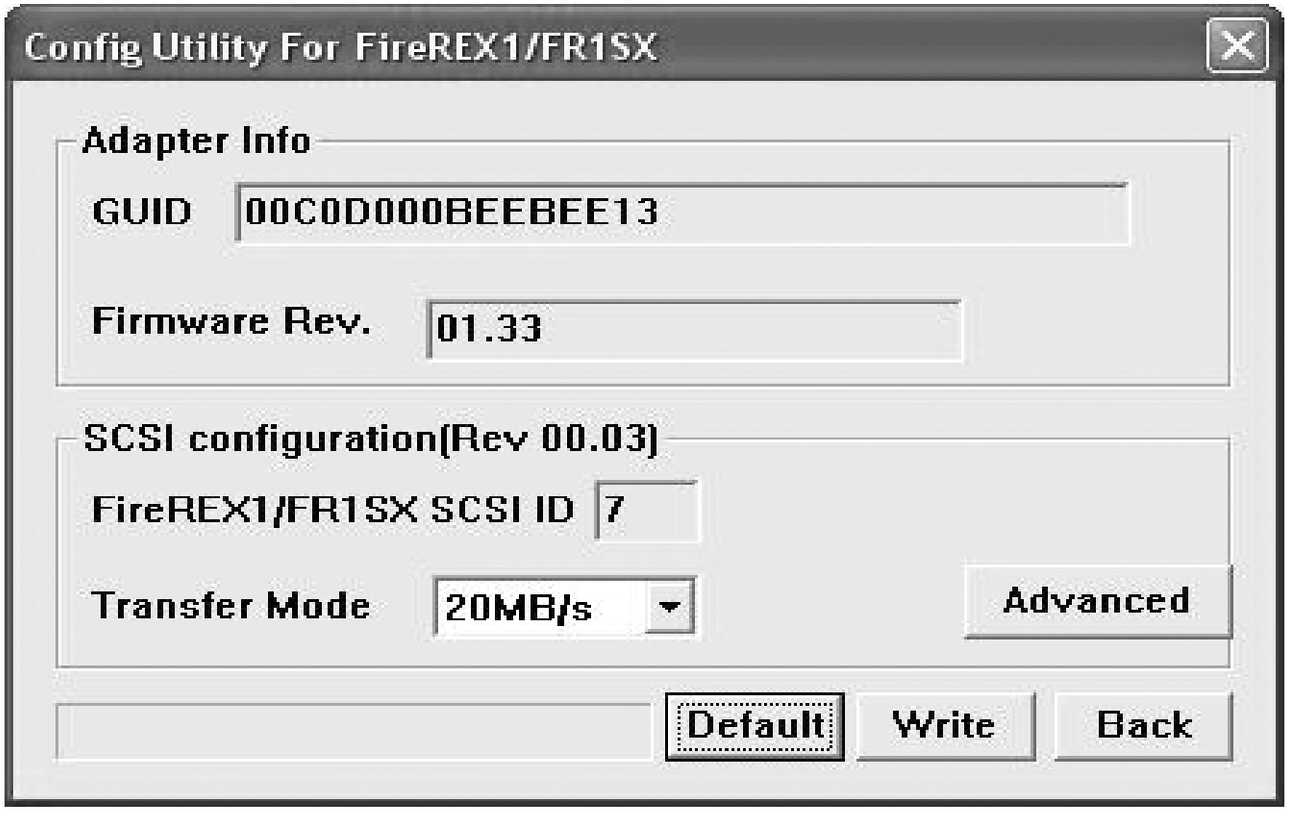
2. If the message box says “reconnect the 1394 cable”, unplug the firewire cable from the FR1SX or the computer and wait a few seconds. If the FR1SX is not connected, the message says “Can't find FireREX1/FR1SX. connect FireRex1/FR1SX now”. Then connect the firewire cable to the FR1SX or the computer and click **OK**.

3. If the **FR Configuration** is launched for the first time on Windows XP/ 2000, the **New Hardware Wizard** may appear. Just click **Next** and then click **Finish** at the last dialog. Click **Yes**, when the message says "Do you want to restart your computer now?". Restart your the computer. After the computer being restarted, launch the **FR Configuration** again.

4. Make sure **Setting was successful** is shown as follows.

5. Click **Config Utility**.

To quit **FR configuration Utility,** click **EXIT**.



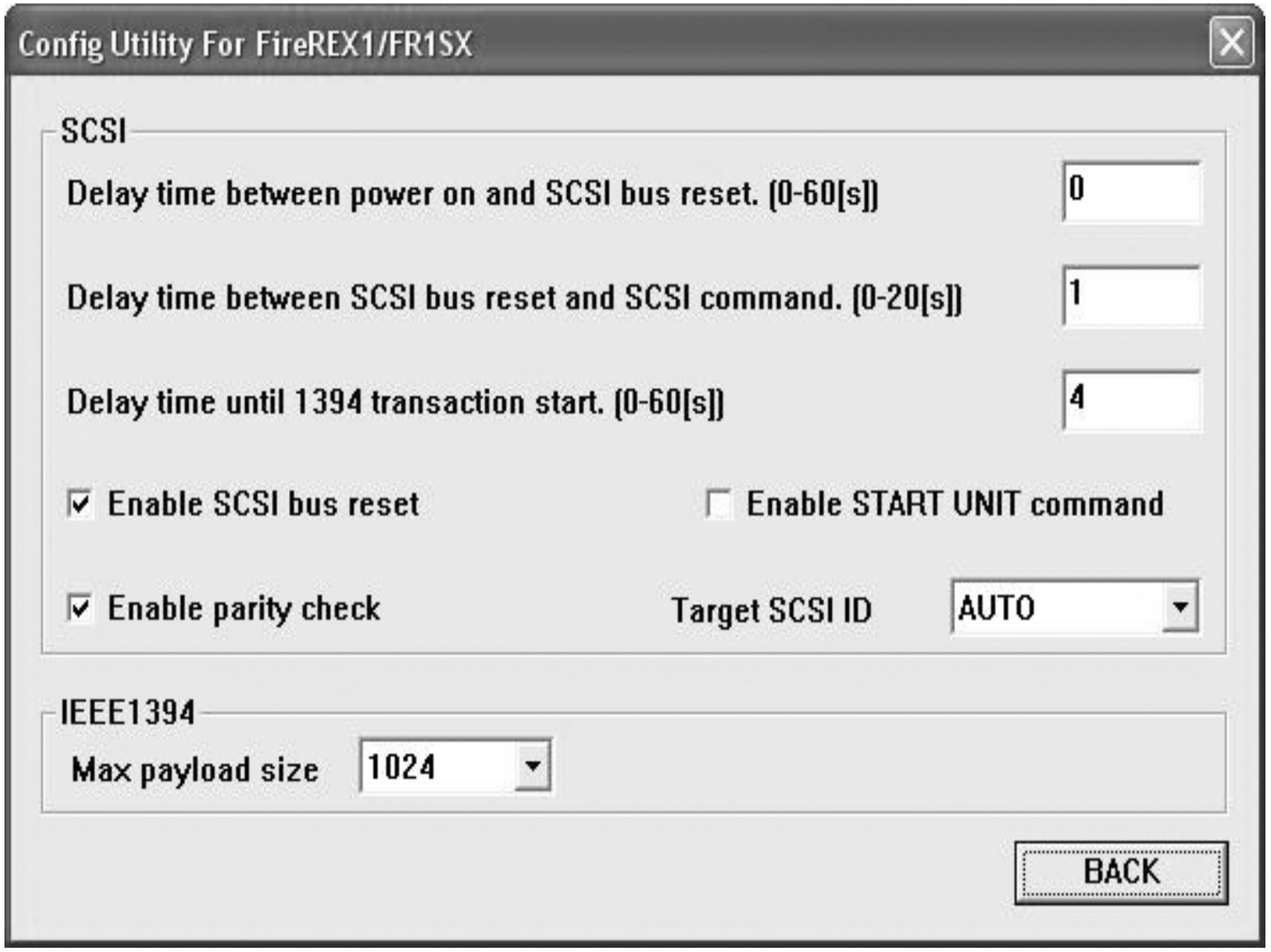
Advanced: The advanced window in the next page will appear.

Default: Default settings will be loaded.

Write: Click **Write** button to write settings. You can go back to the previous Window by clicking **Back** button**.**

6. After changing the configuration settings, restart the computer to take effect the change.

You can go back to the previous Window by clicking **Back** button**.**

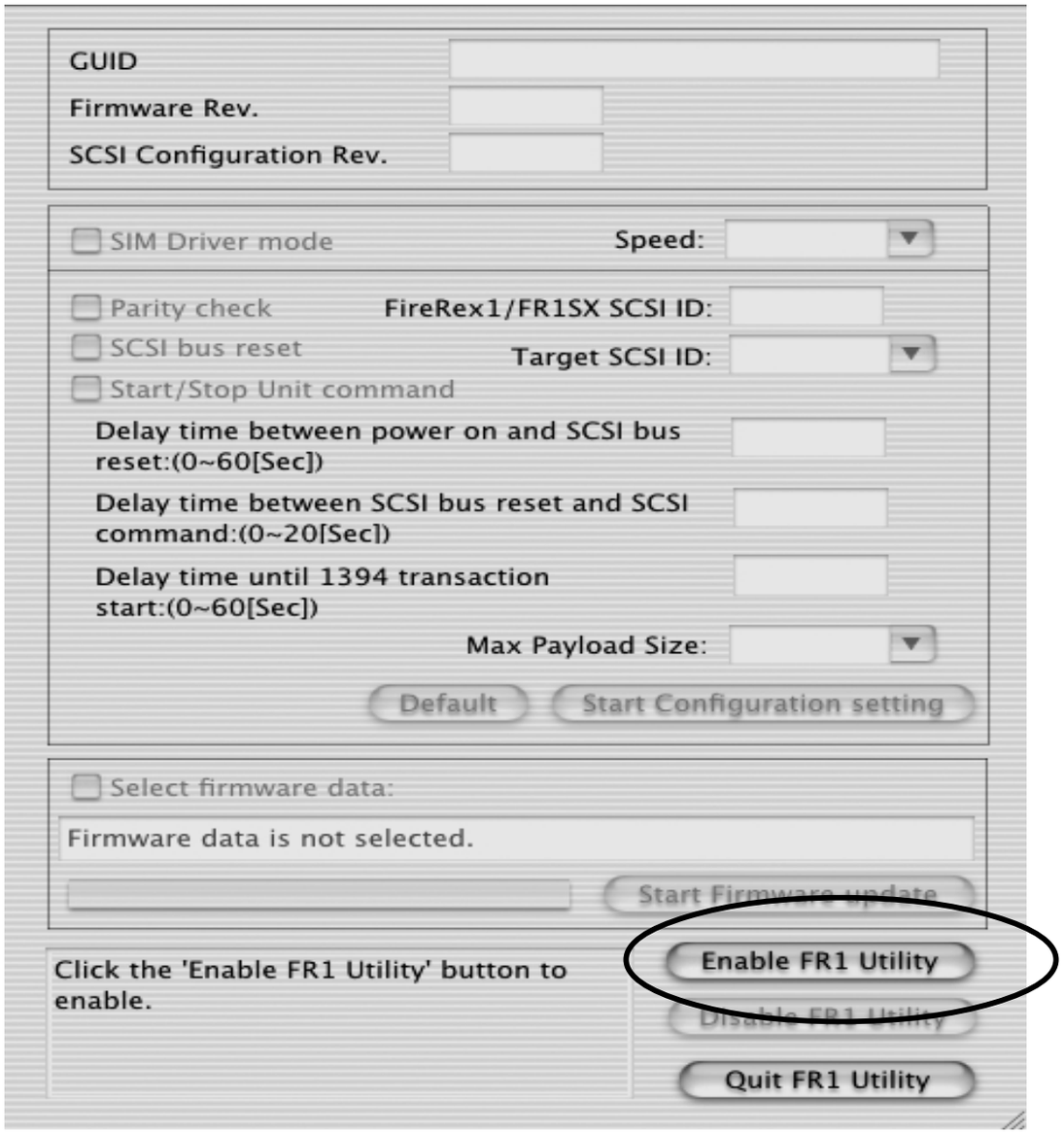


There are some examples of configuration settings. Refer to Chapter 4-5.

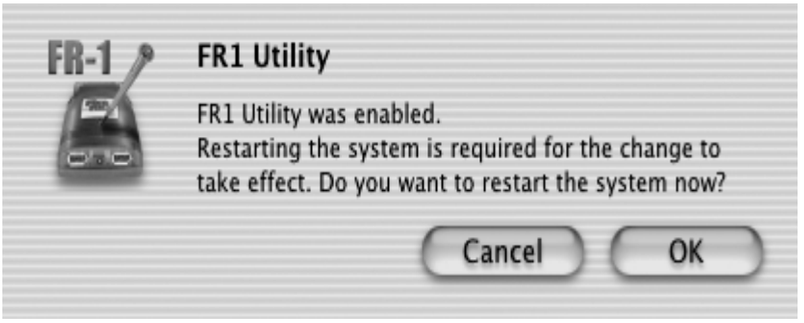
4-3. FR1 Utility (Mac OS X)

The FR1 Utility for Mac OS X doesn't need installation. You can directly launch it from CD-ROM. Before using this utility, it must be enabled.

Caution: If the utility is enabled, all the firewire devices connected to the system WILL NOT WORK temporally. If the MacOS X is booted from firewire hard drive, do not enable the FR1 Utility.



Click **Enable FR1 Utility** button and restart the system.

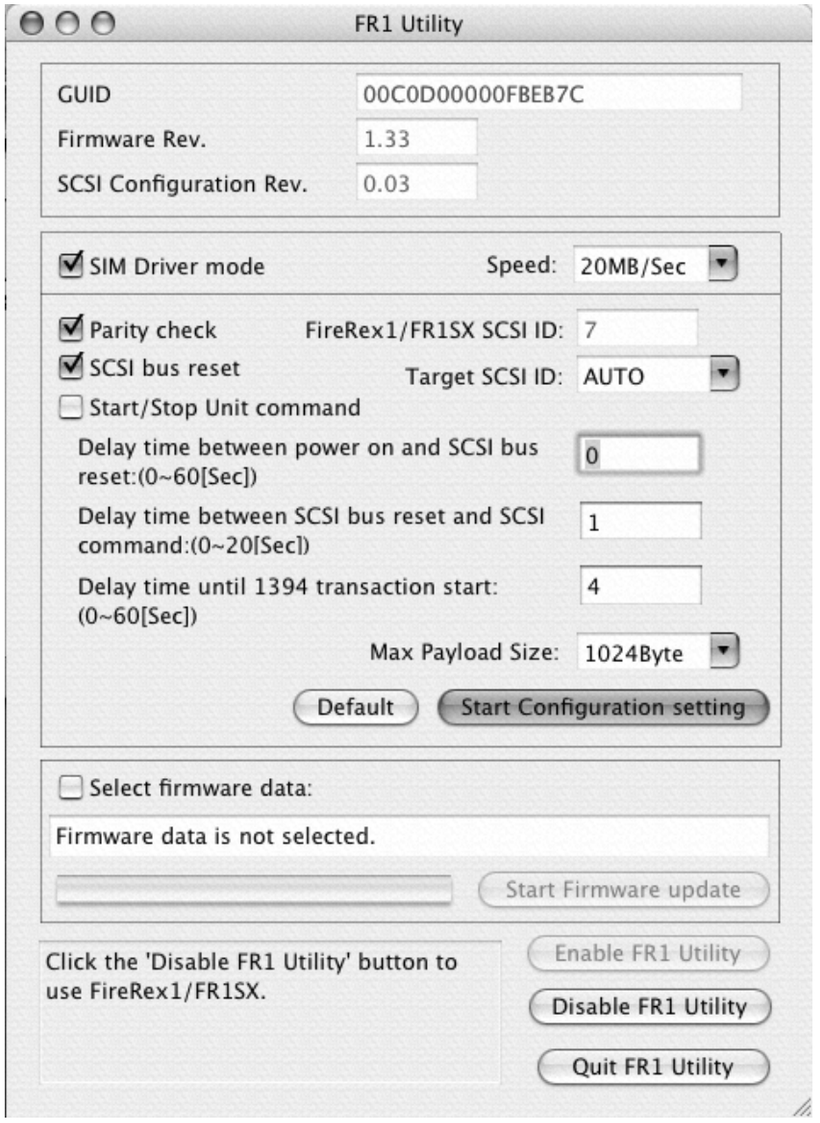


After the system being restarted, all the values are read from the FR1SX.

Default button loads default settings.

To write the settings, click **Start Configuration setting** button.

Before quitting the utility, it must be disabled to make all the firewire devices work properly. Click **Disable FR1 Utility** button.

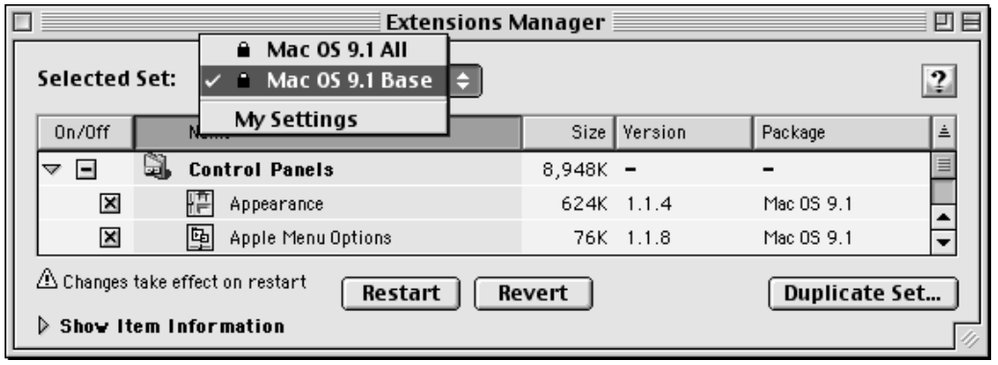


There are some examples of configuration settings. Refer to Chapter 4-5.

4-4. Installing the FRUty (Mac OS 9)

Before install the FRUty on Mac OS 9, we recommend to make a copy of **Mac OS Base** setting from the **Extensions Manager.**

1. Open the **Extensions Manager** and select **Mac OS Base** from **selected set** and click **Duplicate Set.**



2. Name the setting like **FR1SX CONFIGURATION** and click **OK**. Then, disable following drivers.

Authoring Support

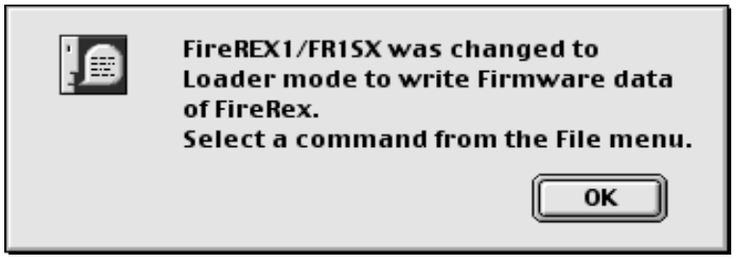
FireWire Authoring Support

Disc Banner Extension

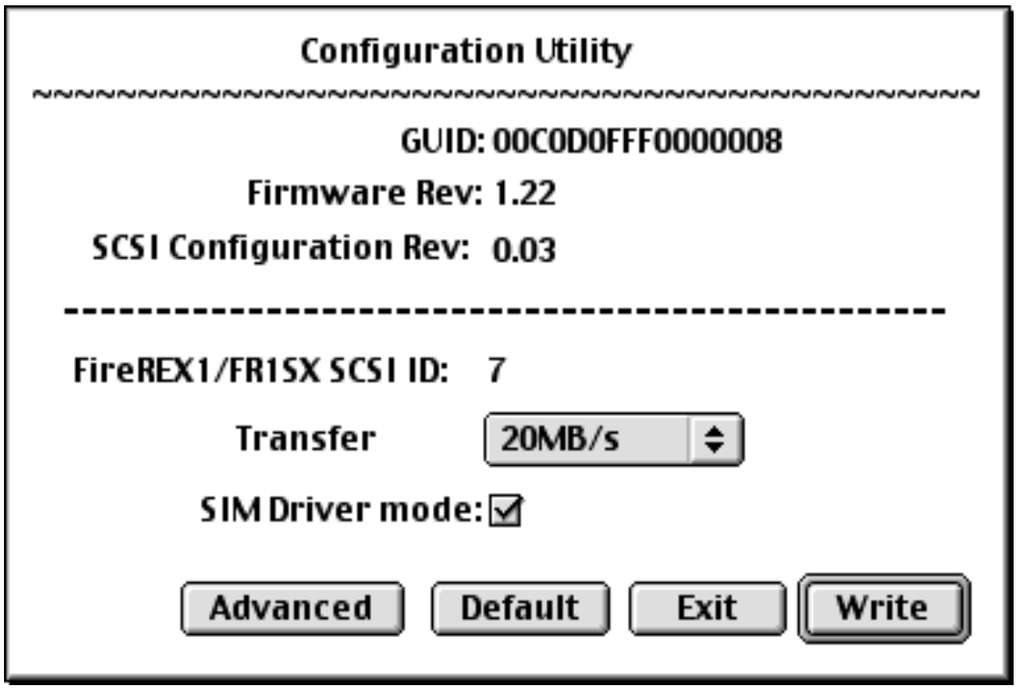
3. Put the CD-ROM in the CD drive.

4. Launch **FR1 Installer-E** in the **FRUTY** folder in the **FR1SX for OS 9**. Follow the instruction and restart the computer.

5. **FRUTY** folder is created in the location that you have specified. Open the folder and start **FR1 Utility**. Following window will appear. Click **[OK]**.



6. Select **Config Utility** from **File** menu. The window below appears.

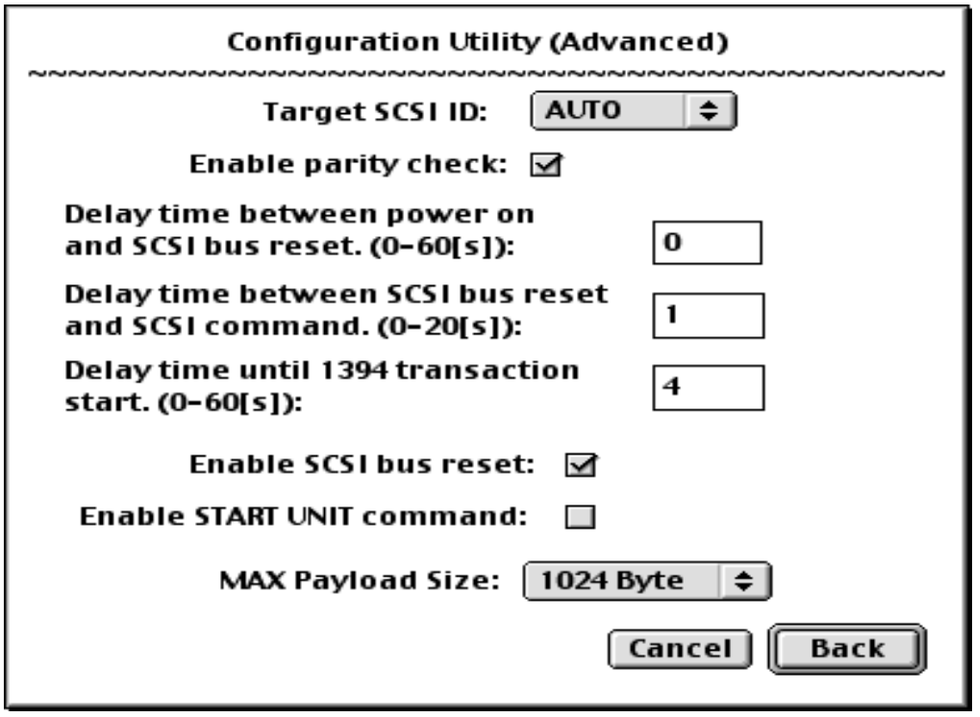


Advanced: The advanced window in the next page will appear.

Default: Default settings will be loaded.

Write: Click **Write** button to write settings. To quit the utility, select **Quit** from **File** menu. **Exit** button just close this window.

To go back to the previous window, click **Back**. For more information about each configuration setting, refer to Chapter 4-1



After changing configuration settings, revert extensions setting. Open the **Extensions Manager** and change selected set from **FR1SX CONFIGURATION** to the previous settings you used. Then restart the computer.

There are some examples of configuration settings. Refer to Chapter 4-5.

4-5. Examples of Configuration setting

Scanners:

CanonScan FB620S, Sharp JX-270/JX-370

Set **2** at **Delay time between power on and SCSI bus reset**

Agfa Duoscan T1200

Set **12** at **Delay time between power on and SCSI bus reset**

HP ScanJet4c

Set **15** at **Delay time between power on and SCSI bus reset**

Microtek Artiscan100, Polaroid SprintScan 4000

Set **40** at **Delay time between power on and SCSI bus reset**

MO drive:

FUJITSU MO M2512A, M2513A

Set **10MB/sec** at **Transfer Mode/Speed**

If the SCSI device is still not recognized, contact our tech support. **http://www.ratocsystems.com/english/contact/support.html**

5. Firmware Update

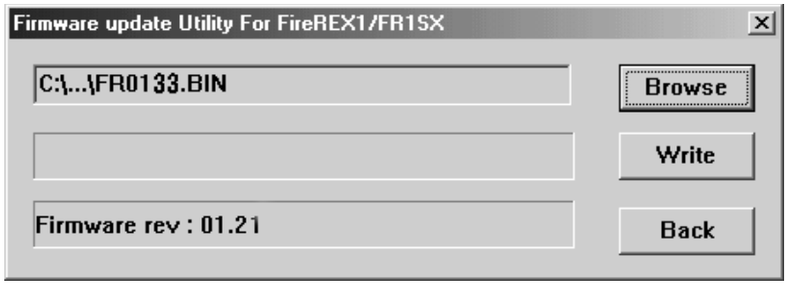
You can update/change firmware with the same utility. Refer to Chapter 4 regarding **Configuration settings.**

5-1. Updating firmware on Windows

Refer to Chapter 4-2 for installation of the utility.

1. Go to **Start** and select **FR Configuration** in the **RATOC FireWire Utility** in the list of **Programs.** Then click **Firmware update Utility.**

2. Following window will appear.The top row indicates the firmware data you are about to write. The bottom row indicates current firmware version on the FR1SX.



3. Click **Browse** to specify firmware data. The CD-ROM includes a firmware data. The latest version may have been released on our web site.
http://www.ratocsystems.com/english

4. After selecting the firmware, click **Write**.

5. When the update is completed successfully, the message box will appears. Click **OK**, click **Back** to go back to the main menu and click **EXIT**.

6. Restart the computer to take effect.

5-2. Updating firmware on Mac OS X

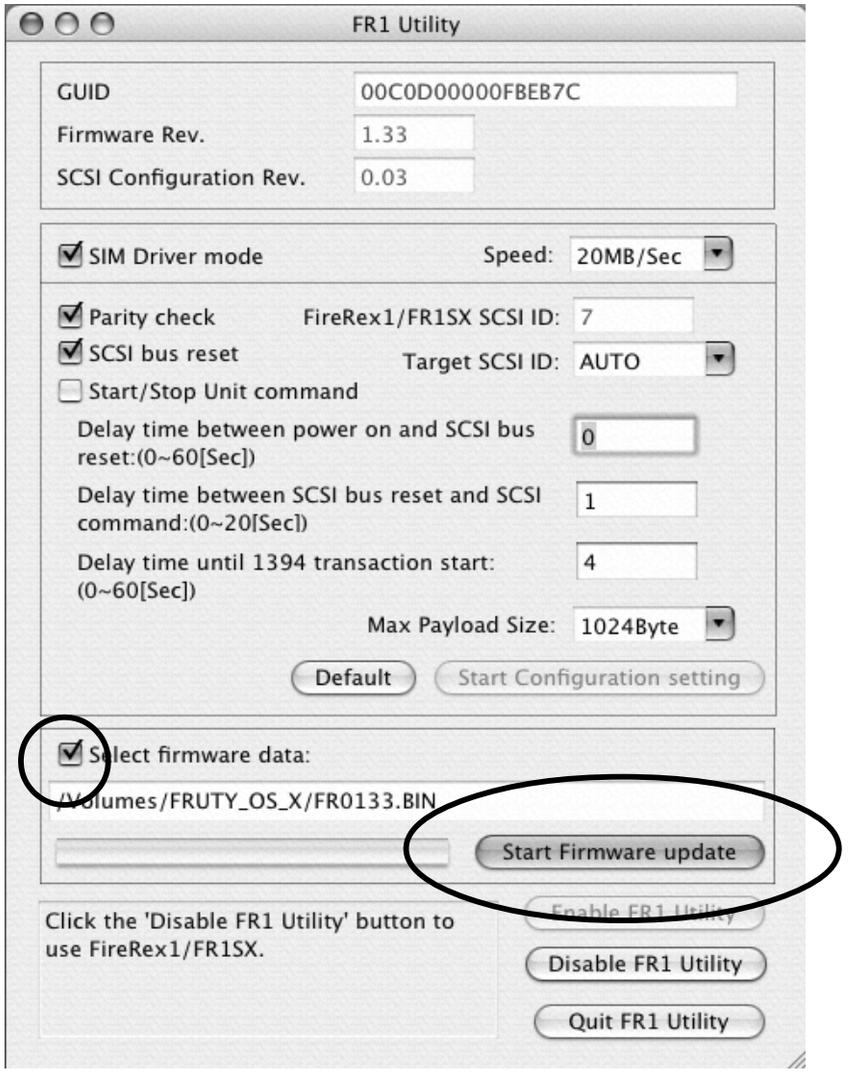
The FR1 Utility for Mac OS X doesn't need installation. You can directly launch it from CD-ROM. Before using this utility, it must be enabled.

Caution: If the utility is enabled, all the firewire devices connected to the system WILL NOT WORK temporally. If the MacOS X is booted from firewire hard drive, do not enable the FR1 Utility.

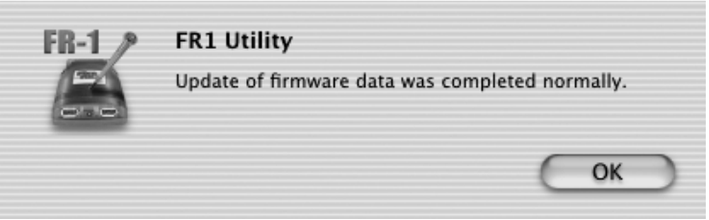
1. Click **Enable FR1 Utility** button and restart the system.

2. Click a small button at the left of **Select firmware data**. Specify the firmware data on the next window and click **Open**.

3. Click **Start Firmware update** button.



4. Click **OK** on the following window.



Before quitting the utility, it must be disabled to make all the firewire devices work properly. Click **Disable FR1 Utility** button and restart the computer.

There are some SCSI devices that work better with a specific firmware. Refer to Chapter 5-4 for more detail.

5-3. Updating firmware on Mac OS 9

Refer to Chapter 5-4 for installation of the utility.

1. Before starting this utility, make sure the followings:

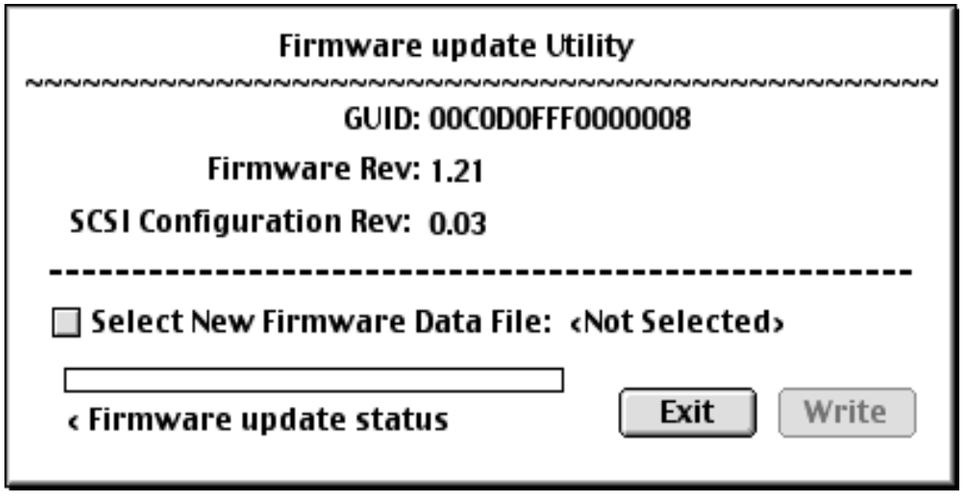
a. Open **Extensions Manager** and make sure selected set is **FR1SX CONFIGURATION.**

b. Make sure the following two drivers are enabled in the **Extensions Manager**. **FireREX1APIDriver** and **FireREXLoaderDriver**

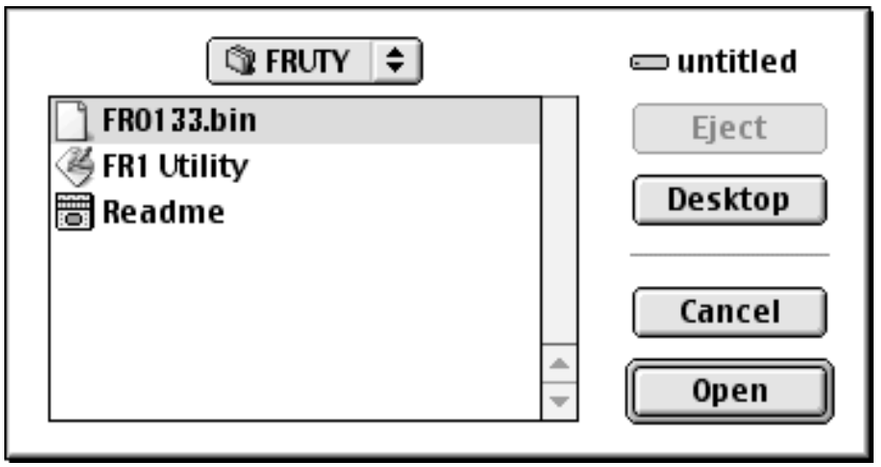
c. Make sure the following three drivers are disabled in the **Extensions Manager**. **Authoring Support, FireWire Authoring Support** and **Disc Burner Extension**

2. Open the **FRUTY** folder and start **FR1 Utility**.

3. Select **Firmware update Utility** from the **File** menu. Following window will appear. **Firmware Rev** indicates the current firmware revision.



4. Click a small button at left of **Select New Firmware Data File** to specify firmware data file.



5. The window in the previous page will appear again. Click **Write** to update the firmware. When the message says “Updating was successful”, click **OK**. Click **[Quit]** from the **[File]** menu.

After updating firmware, revert extensions setting. Open the **Extensions Manager** and change selected set from **FR1SX CONFIGURATION** to the previous settings you used. Then restart the computer.

5-4. Specific firmware revision for specific SCSI device

Printers:

Fuji Pictrography Series(PG3000,PG3500,PG4000,PG4000II,PG4500)

Firmware **1.23** works better than 1.33 (**MacOS X only**)

If you have any question about firmware update, contact our tech support.

http://www.ratocsystems.com/english/contact/support.html

6. Format Utility (Windows Only)

You can format a HDD, Jaz, MO, Zip drive, etc.,with this utility.
Caution: You can not format a CD-R, CD-RW or DVD-RAM.

Refer to Chapter 4-2 for installation of the utility.

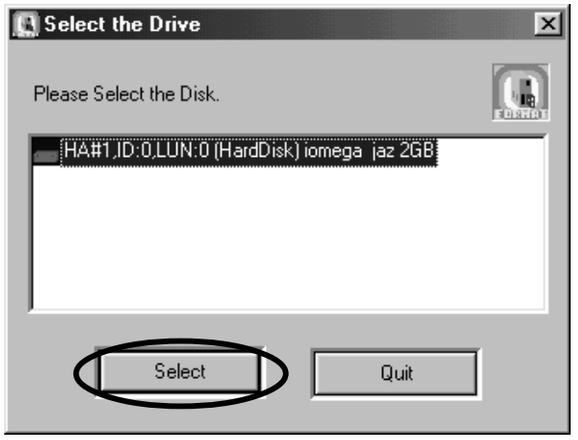
If you use Windows Me, 98SE, go to Chapter 5-1.
If you use Windows XP, 2000, go to Chapter 5-2.

6-1. How to use FRFMTW9X on Windows Me/98SE

Follow the steps through to format the SCSI drive:

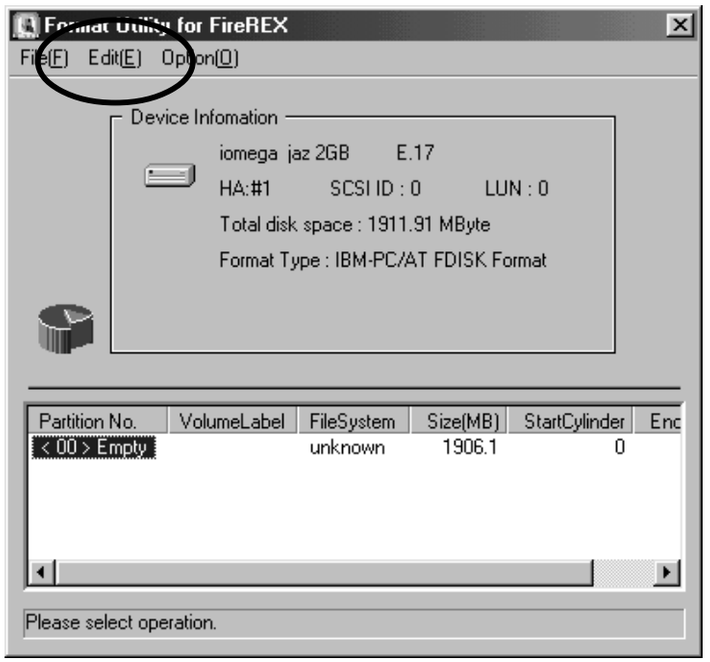
1. Make sure the SCSI device is connected and turned on.
2. If the device is a removable disk and its media is not inserted, insert a media.
3. From the **Start** menu, select **Programs**, **RATOC FireWire Utility** and then **FR Format utility**.

5. The following window will appear and select the drive you want to format. And click the **Select** button.



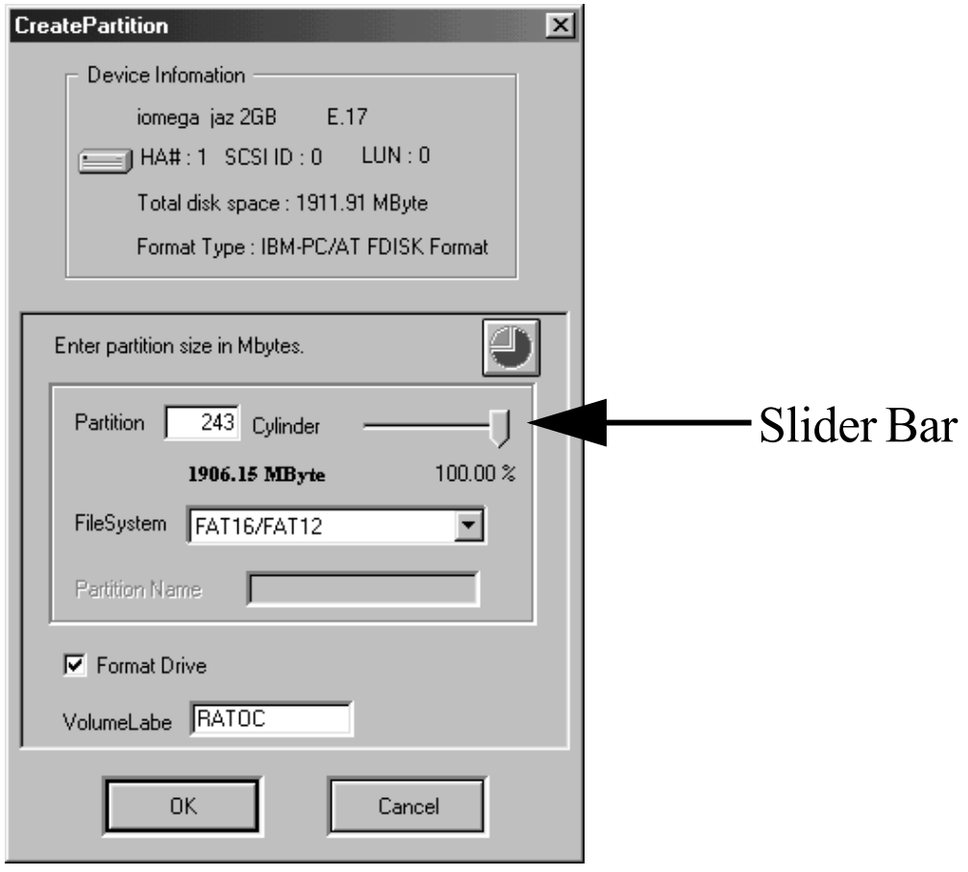
Caution: All the devices, connected to USB, SCSI port on the PC besides 1394, will be shown. Be sure to select the drive connected to the FR1SX.

6. Following window will appear. Select **Initialize/Format media** from the **Edit** menu.



7. The Initialize/Format screen will appear. Select **format type**. If you want to do Low Level Format simultaneously, check **Low Level Format**. Then, click **OK**.

8. If you selected **IBM-PC/AT FDISK format** at step 7, the message box saying **You should create partition next** will appear. Then, click **OK**. You will see the screen shown at the step 6 and select **Create Partition** from the **Edit** menu. And then, you will see the screen below. Select **File System** from the list box and set Partition size, using the slider bar. Then, click **OK** to create partition. If you selected **Super FD format** at step 7, you will see a screen similar to the following. Select **[File System]** from the list box.



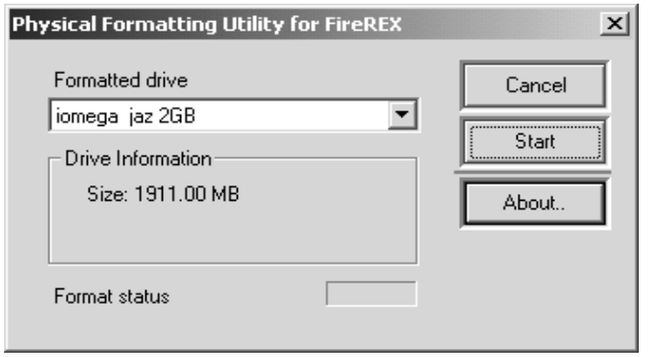
9. You must restart your computer for your information to take effect. If you are using a removable media, the media will be ejected to take effect. So, you don’t need to restart your computer.

6-2. How to use FRFMTW2K on Windows XP/2000

If you format a HDD, removable disk on Windows XP/2000, you usually use **Disk Management** in the **Computer Management** in Windows XP/ 2000. But, when you failed to format the HDD or a new drive letter will not be assigned after you have done **Disk Management**, you should do Low Level Format, using this format utility **FRFMTW2K.EXE**.

Follow the steps through to do Low Level Format.

1. Make sure the SCSI device is connected and powered on.
2. If the device is a removable disk and its media is not inserted, insert a media.
3. From the **Start** menu, select **Programs**, then **RATOC FireWire Utility**, and then **FR Format utility**.
4. The message box appears. Click **[OK]**.
5. The following window will appear. Select the drive and click **[Start]**.
6. After finishing, you have to write signature on the disk and format the disk, using **Disk Management** in Windows XP/2000. For more information, refer to a Windows XP/2000 help file.



7. Troubleshooting

7-1.General Hardware Troubleshooting

- Make sure the FR1SX's power LED comes on. If the LED does not come on, your SCSI device may not provide SCSI bus termination power. If the SCSI device can not provide it, an **OPTIONAL** AC adapter is required. For purchasing information, **refer to Chapter 8**.
- Make sure the FR1SX is firmly connected to your SCSI device.
- Make sure the 1394 cable is firmly connected to the FR1SX and a 1394 port on your PC or Mac.
- Make sure you are using the 1394 cable bundled in this package.
- Make sure the SCSI device has a proper SCSI ID. (Must be 0-6)
- Make sure the SCSI device is powered.
- Make sure a terminator is attached to the SCSI device.

7-2. When copying files is failed

When you come across an error message during copying files or the system locks up, try to reduce transfer speed with the SCSI configuration utility.
If you use the older MO models made by FUJITSU such as M2512A, M2513A, the system sometimes locks up. If you use the older FUJITSU MO(M2512A, M2513A), remove the FR1SX from the SCSI device and attached the FR1SX to other SCSI device to set transfer rate to 10MB/sec with the SCSI configuration utility. Please note that you can not execute the SCSI configuration utility with the older FUJITSU MO models attached to the FR1SX. You have to attach the FR1SX to other SCSI device.

Refer to Chapter 4, regarding to change configuration settings.

7-3. When a new drive letter is not assigned(Windows)

When you connect a HDD which is not formatted or does not have partition, a new drive letter will not be assigned in **[My Computer]**. You need to format or create partition on the HDD.

1. When you use Windows Me/98SE, you can format your HDD and create partition, using the **format utility, FRFMTW9X.EXE**.

2. When you use Windows XP/2000, you can format your HDD and create partition, using **Disk Management** in Windows XP/2000. For more information, refer to a Windows XP/2000 help file. If a new drive letter will not be assigned yet or you fail to format the HDD after you have done **Disk Management**, you should do Low Level Format, using the **format utility, FRFMTW2K.EXE**.

Regarding format utility, refer to Chapter 6.

7-4. When the green power LED does not come on

Check the following points:

1. Make sure the SCSI device is powered on properly.
2. Turn off the SCSI device and check the FR1SX is attached firmly. And turn on the device again.

If the LED does not come on even if above checking was made, refer to the user's manual of the SCSI device. SCSI specifications require Term-Power output capability as an optional, but some SCSI devices such as iomega Zip drive may not be implemented this capability. If your SCSI device does not have this Term-Power output capability, you have to connect an OPTIONAL AC adapter(sold separately) as Fig.7 shows. Regarding optional items, refer to Chapter 8.

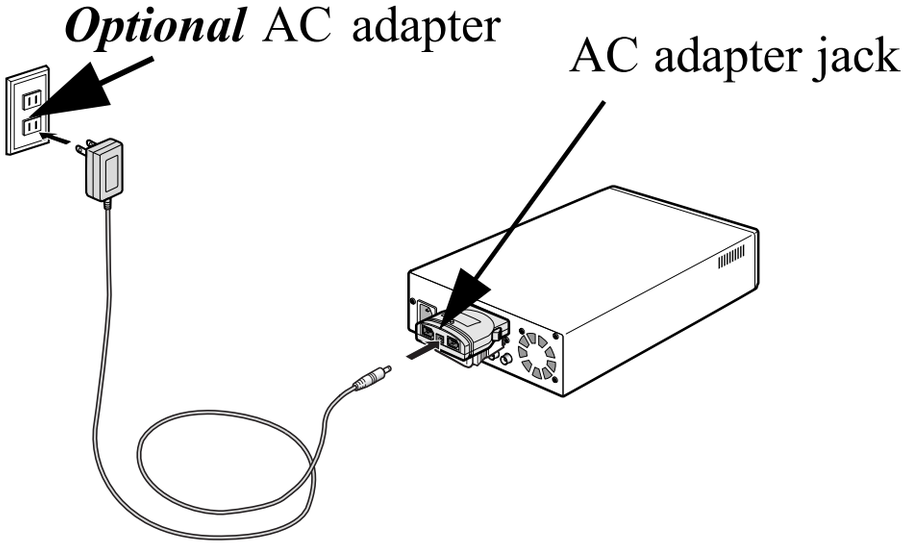


Fig. 7

7-5. Wrong drive name appears on the removable icon (Win 98SE / Me)

When you click the hardware removable icon on the Task Bar, you may see a wrong drive name. This happens on Windows 98 SE or Me.(The following screen shows a example when you connect a CD-R drive. It shows IEEE 1394 Disk, instead of CD-ROM.)

Follow these steps through to show the right drive name.

1. Open **Device Manager.**
2. When you use Windows 98 SE, you can find a string named **IEEE1394 CD-ROM**, **IEEE1394 Disk** or **IEEE1394 Optical Disk** under the **Storage device**. When you use Windows Me, you can find a string named **IEEE1394 CD-ROM**, **IEEE1394 Disk**, **IEEE1394 Floppy**, **IEEE1394 Optical Disk** or **IEEE1394 Tape** under the **Storage device**. Double click the wrong drive name string.
3. You will see the properties window. Click the **Driver** tab and click **Update Driver**.
4. **Update Device Driver Wizard** will start up. When you use Windows Me, check **Specify the location of the driver(Advanced)** and click **Next**. When you use Windows 98 SE, just click **Next**.

5. You will see the next screen. Check **Display a list of all the drivers in a specific location, so you can select the driver you want** and click **Next**.
6. You will see the next screen saying “select the manufacturer and model of your hardware device”. Check **Show all hardware** and select the right drive name from the list. Click **Next**. **Update Driver Warning** message may appear. In such a case, just click **Yes**.
7. You will see the next screen saying “Windows driver file search for the device”. Click **Next**.
8. You will see the next screen saying “Windows has finished installing the driver you selected for your hardware device.” Click **Finish**.

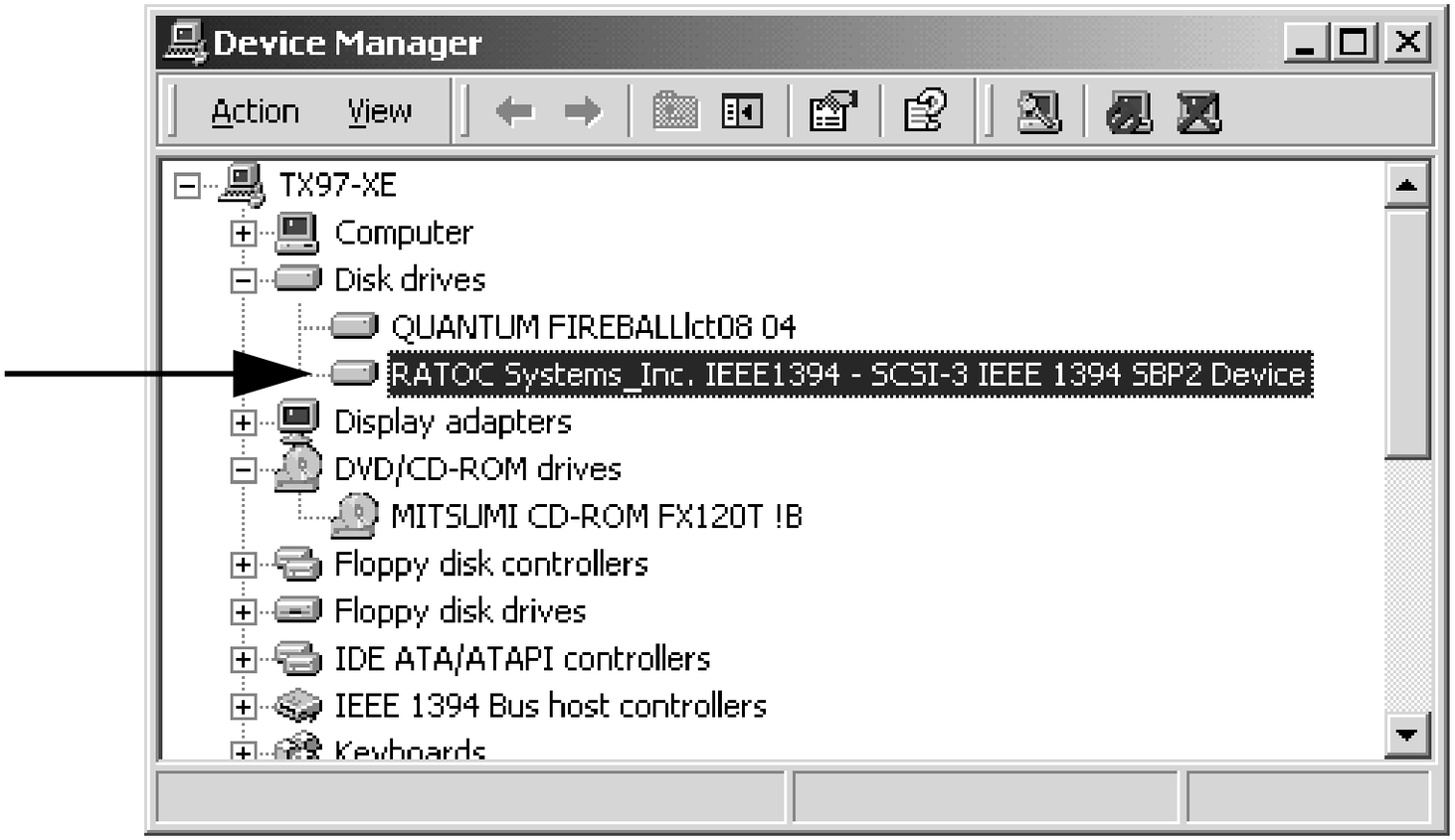
7-6. Wrong device icon appears in [My Computer] (Win 2000/XP)

If you exchange SCSI devices on Windows2000/XP, as shown below, the device icon in **My Computer** will not change. You can still find the previous drive icon in **My Computer**.

Change a device from	To	Icon in **[My Computer]**
CD-ROM,CD-R/RW	HDD/Jaz/Zip drive	CD-ROM
HDD/Jaz/Zip drive	CD-ROM,CD-R/RW	Removable

Follow these steps through to update driver so that you can resolve this issue.

1. Right-click on **My Computer** and select **Properties**.
2. You will see **System Properties** windows. Click the **Hardware** tab.
3. Click the **Device Manager** button. You will see the screen in the shown in the next page.



4. If you have changed from a CD-ROM or CD-R/RW to a Removable disk or HDD, you can find a **RATOC Systems_Inc. IEEE1394-SCSI-3 IEEE1394 SBP2 Device** string under the **DVD/CD-ROM drives**. If you have changed from a Removable disk or HDD to a CD-ROM or CD-R/RW, you can find a **RATOC Systems_Inc. IEEE1394-SCSI-3 IEEE1394 SBP2 Device** string under the **Disk drives**. Double click on the **RATOC Systems_Inc. IEEE1394-SCSI-3 IEEE1394 SBP2 Device** string to show its property.

5. Select **Driver** tab on the screen and click the **Update Driver** button.

6. **Update Device Driver Wizard** will start up. Click **Next**.

7. **Install Hardware Device Drivers** window will appear. Check **Search for a suitable driver for my device(recommended)** and click **Next**.

8. **Locate Driver Files** window will appear. Uncheck all the options at **Optional Search locations:**. Click **Next**.

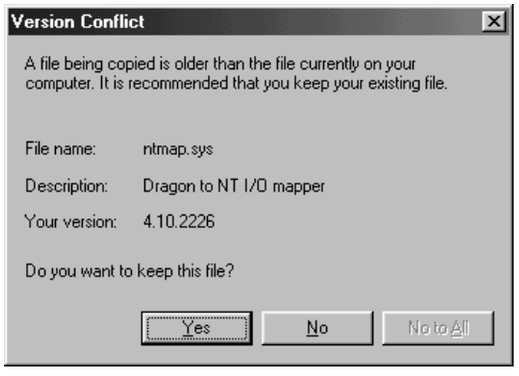
9. **Driver Files Search Results** window will appear. Click **Next**.

10. **Completing the Upgrade Device Driver Wizard** window will appear. Click **Finish**.

Open **My Computer** to see if the right icon appears in **My Computer**.

7-7. When Version Conflict message appears(Win98SE)

When you use Windows 98 SE, you may see a screen similar to the following. Click **[Yes]** all the time for the question “Do you want to keep this file?”



7-8. Write error happens with an old Castlewood ORB

The AC adapter the Castlewood ORB uses may not be able to provide enough termination power for the FR1SX to work. You should purchase an Optional AC adapter. Refer to Chapter 8.

7-9.Castlewood ORB can not be recognized, when you start your computer with an old ORB

Set 2 seconds at **[Delay time between power on and SCSI bus reset]** with the SCSI configuration utility. For more information, refer to Chapter 4.

7-10. CD-R/RW writing software can not recognize the CD-R/RW drive with the FR1SX, even though the Mac OS recognizes the CD-R/RW drive.

The software you are using may not be able to support Firewire interface.

8. Optional items

Optional AC adapter and **optional SCSI adapters** are available on our **direct online shop**. **http://www.firewireshop.com**

FR-AC05 (**AC Adapter for the FR1SX)**
Refer to Chapter 10 for the specification. According to our test, at least 1.2A(Output) is required to make the FR1SX work properly.

The FR1SX has a **high density 50 pin** connector**.** If the connector type of the SCSI device is different, you can use adapter between the FR1SX and the SCSI device.

RCL-3005 (HD50F - CN50M adapter)
For the device with **Centronics 50 pin female connector**
RCL-3068 (HD50F - HD68M adapter)
For the device with **High density 68 pin female connector**
RCL-3025 (HD50F - DB25M adapter)
For the device with **DSub 25 pin female connector**

If you have any questions about these optional items, feel free to ask us.
E-mail: http://www.ratocsystems.com/english/contact/sales.html

9. Registration and Tech-Support

9-1. How to Register

We highly recommend to register yourself as our customer through our on-line registration. **(http://www.ratocsystems.com/english/)**

9-2. Software Update and Support

-Utility Update-

The latest utility is subject to change for improvement or bug fix. You can download the latest version from our web site.

-Technical Support-

If you have any question, please feel free to contact to our tech-support:

Open 9:30AM-5:00PM(PST) Mon-Fri(except holidays)

RATOC Systems International, Inc. Tech support

Address: 2000 Wyatt drive

Suite 9

Santa Clara, CA 95054

TEL: 408-986-9040 FAX: 408-986-9042

E-mail: http://www.ratocsystems.com/english/contact/support.html

Home Page: http://www.ratocsystems.com/english/

Please include following information:

- **Our product name, serial number, and product description**
- **Host Computer Name, OS version, CD-ROM version**

10. Specifications

Product Name :FR1SX

Transfer :SCSI

•Max synchronous transfer 20MBytes/sec
(When you connect an Ultra SCSI device)

•Max synchronous transfer 10MBytes/sec
(When you connect a SCSI-2 device)

•Max asynchronous transfer 6MBytes/sec

FireWire

•100/200/400Mbps

SCSI connector: High-Density 50 pin male SCSI-2 connector x 1

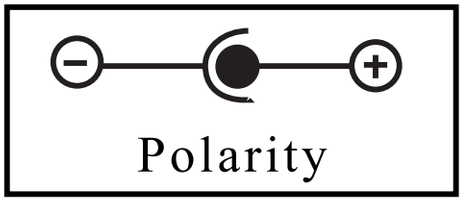
1394(FireWire) connector: 6pin x 2

Size:58 mm (W) x 66 mm (D) x 22mm (H)

Weight:70 g

Power Requirements :DC +4.25V to 5.25V
(SCSI Termination Power is required)

Optional AC Adapter :Input AC100-240V, Output DC 5V, 2A



Appendix

Trademarks

-Windows is a registered trademark of Microsoft Corporation.

-MacOS, PowerMacintosh, PowerBook and Mac logo are registered trademarks of Apple Computer,Inc.

-Other brand and product names may be registered trademarks or trademarks of their respective holders.

Regulatory Agency Notice

FCC Compliance Statement

This equipment 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 installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

(1) Reorient or relocate the receiving antenna.

(2) Increase the separation between the equipment and receiver.

(3) Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

(4) Consult the dealer or an experienced radio/TV technician for help.

Changes or modifications not expressly approved by the party responsible for compliance may result in this unit not
complying with FCC Rules Part 15.

To meet EN55022(Class B) and EN55024 requirements, you have to use a IEEE1394(FireWire) cable less than 3 m.

RATOC
Systems, Inc.