

Ultra SCSI (FAST-20) CardBus PC Card

CB31Pismo

User's Guide

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 RATO C Systems, Inc.

CB31Pismo

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1. Introduction

This User's Guide describes how to install, use, and troubleshoot the RATOC CB31 Ultra SCSI CardBus PC Card (called CB31Pismo in this User's Guide). Please refer to our web site for additional information. (<http://www.ratocsystems.com>)

1-1. Package Confirmation

Check package contents:

- CB31 Ultra SCSI CardBus PC Card
- CB31Pismo start up guide
- High-Density 50-pin cable for CB31
- Software CD-ROM

NOTE

If any of these items are missing from the CB31Pismo retail package, contact your supplier immediately.

1-2. System Requirements

- Mac OS X 10.1.x/10.2.x/10.3.x
 - PowerBookG4
 - PowerBookG3 500, 400 (2000 Pismo)
- Mac OS 9.2.x/9.1/9.0.4/9.0.2/9/8.6
 - PowerBookG4
 - PowerBookG3 500, 400 (2000 Pismo)
 - PowerBookG3/400, G3/333 (1999 Lombard)
 - PowerBookG3/300, G3/292, G3/266, G3/250, G3/233 (1998 Wallstreet)

2. Setup

For Mac OS X, go to Chapter 2-1.

For Mac OS 9, go to Chapter 2-2.

Restrictions

- At least one SCSI device must supply termination power to the SCSI bus. Read the SCSI device's manual if you are not sure whether the SCSI device provides termination power.
- You can not boot up Mac OS from a SCSI device connected to the CB31Pismo. Do not install Mac OS into the SCSI device connected to the CB31Pismo.
- The total length of cabling on the SCSI bus should not exceed 5ft(1.5m).
- Do not enable virtual memory setting. If it is enabled, mass storage device connected to the CB31Pismo doesn't work properly. (Mac OS 9.x Only)

2-1. Mac OS X Setup

Here's how to get started with the CB31Pismo and SCSI devices on MacOS X:

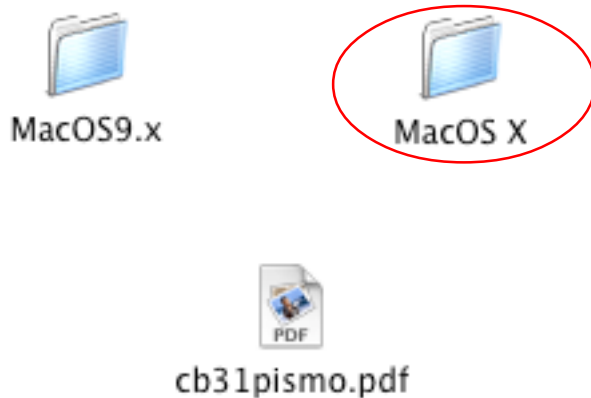
1. Check the restrictions before you install the CB31Pismo.
2. Install the driver for the CB31Pismo. Refer to Chapter 2-1-1.
3. Insert the CB31Pismo to the PC card slot. Refer to Chapter 2-1-2.
4. Remove the CB31Pismo from the PC card slot. Refer to Chapter 2-1-3.
5. Connecting SCSI device. Refer to Chapter 3-1.

2-1-1. Installing the driver for the CB31Pismo on Mac OS X

1. Insert the CD-ROM which comes with the CB31Pismo and double click on CD-ROM icon.



2. Double click "MacOS X" folder.



3. Double click "cb31p" package.

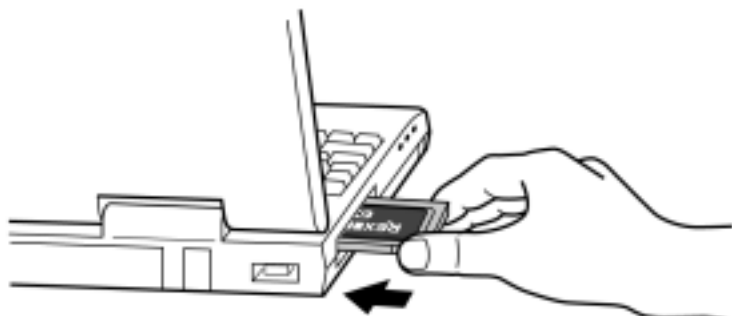


4. Follow the instructions of the installer. Restart the system after installing the driver.



2-1-2. Insert the CB31Pismo to the PC card slot

On Mac OS X, the driver support hot plug in of the CB31Pismo. You can insert the CB31Pismo after restarting the system.



2-1-3. Remove the CB31Pismo from the PC card slot

On Mac OS X, the driver doesn't support hot plug out of the CB31Pismo. To remove the CB31Pismo from PC card slot, shut down the system first and then remove the CB31Pismo.



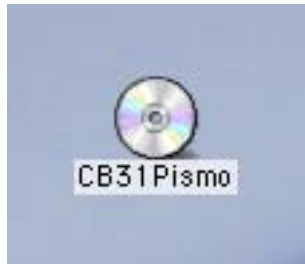
2-2. Mac OS 9 Setup

Here's how to get started with the CB31Pismo and SCSI devices on MacOS 9:

1. Check the restrictions before you install the CB31Pismo.
2. Install the driver for the CB31Pismo. Refer to Chapter 2-2-1.
3. Insert the CB31Pismo to the PC card slot. Refer to Chapter 2-2-2.
4. Remove the CB31Pismo from the PC card slot. Refer to Chapter 2-2-3.
5. Connecting SCSI device. Refer to Chapter 3-1.

2-2-1. Installing the driver for the CB31Pismo on Mac OS 9

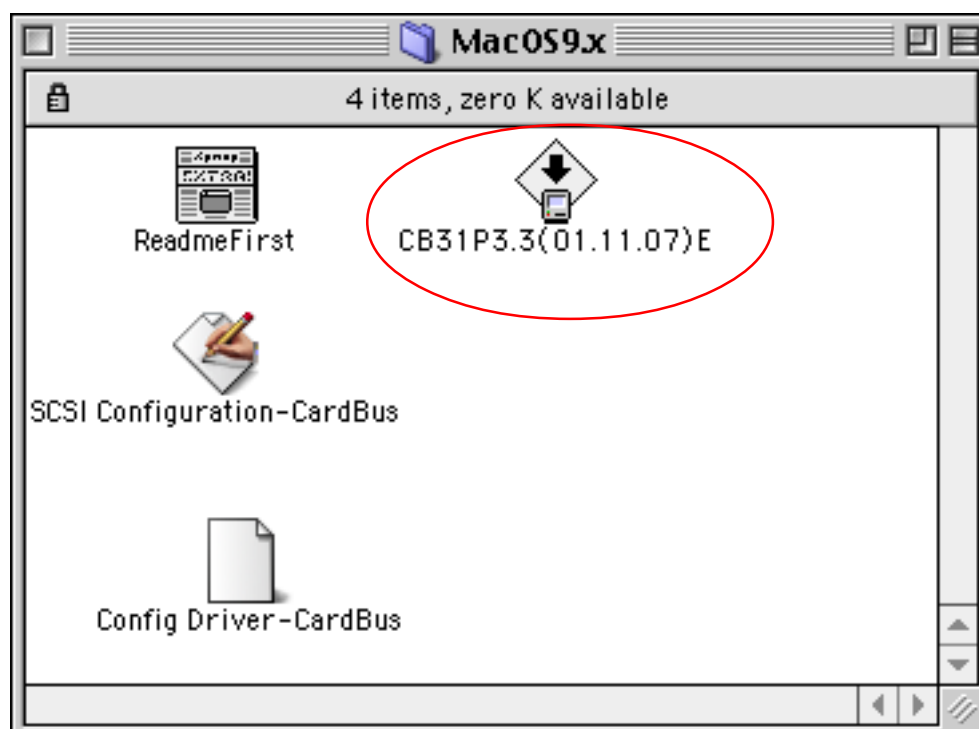
1. Insert the CD-ROM which comes with the CB31Pismo and double click on CD-ROM icon.



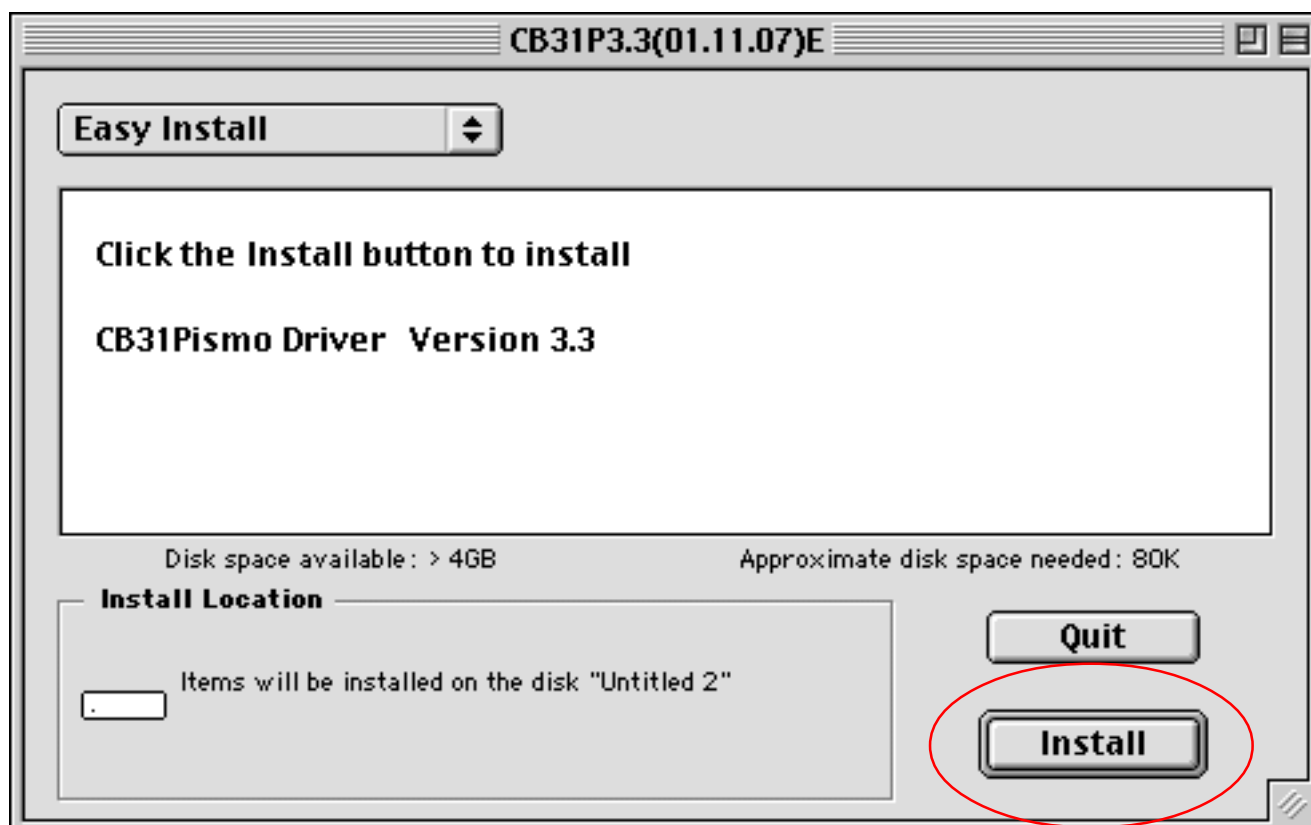
2. Double click "Mac OS 9.x" folder.



3. Double click installer icon.



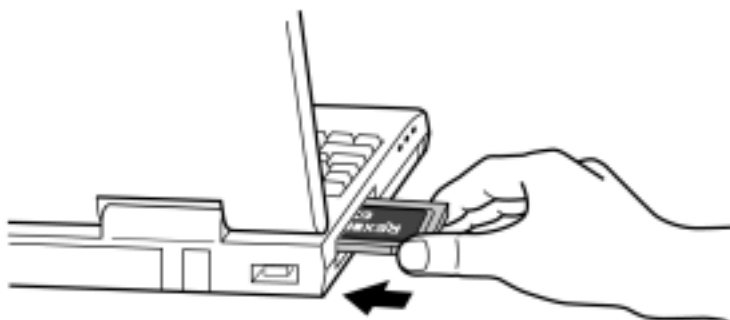
4. Follow the instructions of the installer. Restart the system after installing the driver.



2-2-2. Insert the CB31Pismo to the PC card slot

On Mac OS 9, the driver support hot plug in of the CB31Pismo. You can insert the CB31Pismo after restarting the system.

Mac OS 9



2-2-3. Remove the CB31Pismo from the PC card slot

On Mac OS 9, the driver support hot plug out of the CB31Pismo, too. If SCSI device is mounted on the desktop, it must be unmounted before removing the CB31Pismo from the PC card slot. To unmount the SCSI device, drag the icon of the device and drop it on trash can,



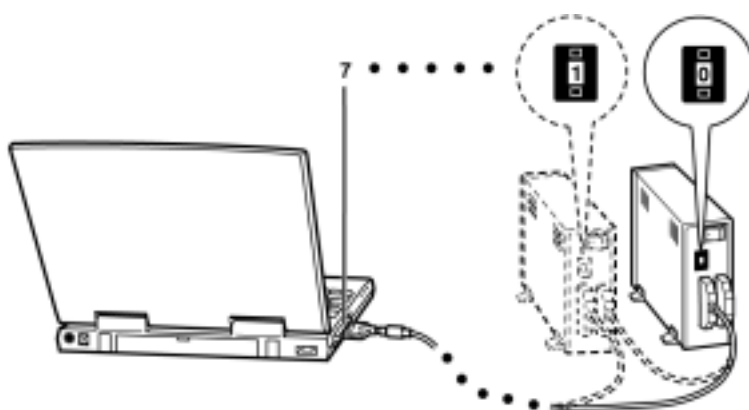
3. Using SCSI devices

3-1. Connecting the SCSI device

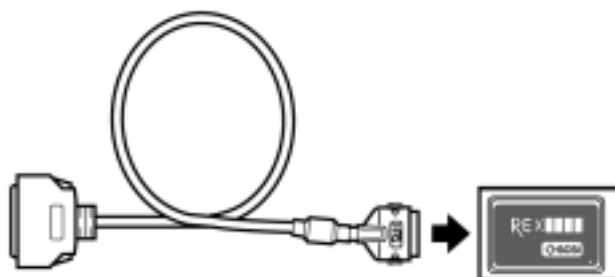
1. Attach an external active terminator to the SCSI device, as shown below. If the SCSI device has an internal terminator and the switch, set it on state. Refer to the SCSI device manual if you are not sure how to activate termination.



2. Be sure that at least one SCSI device connected to the CB31Pismo supplies termination power to the SCSI bus. Refer to the SCSI device manual if you are not sure whether the SCSI device provides termination power.
3. Be sure that each SCSI device has a unique SCSI ID, ranging from 0 to 6. The CB31Pismo uses SCSI ID 7. You can usually change a SCSI ID with a switch on the back of the SCSI device. For more information, refer to the SCSI device's manual.

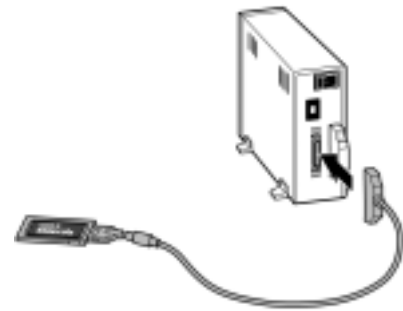


4. Connect the PCMCIA connector at the end of the SCSI cable to the CB31Pismo, as shown below.

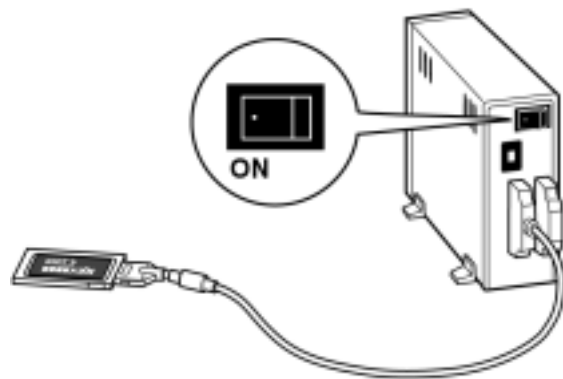


3. Using SCSI devices

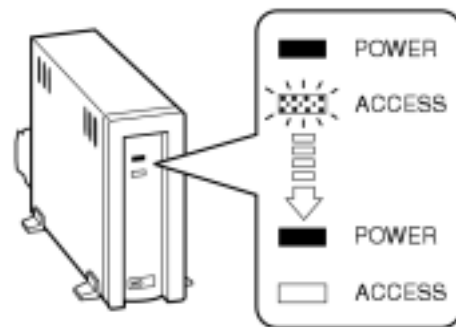
5. Attach the SCSI connector on the other end of the SCSI cable into a SCSI device.



6. Turn on all the SCSI devices connected to the CB31Pismo.



7. Wait until ACCESS lights of the SCSI devices are turned off.



8. Turn your PC on and insert the CB31Pismo into your PC.



4. SCSI Configuration Utility

The software CD-ROM which comes with the CB31Pismo includes a SCSI configuration utility. This may be required for some SCSI devices. Before starting this utility, close all other running programs.

4-1. Installing the Configuration Utility on MacOS X

1. Insert the software CD-ROM to CD-ROM drive.
2. Double click **CD-ROM** icon.



3. Double click "MacOS X" folder.



4. Double click “CB31 Config_X”.



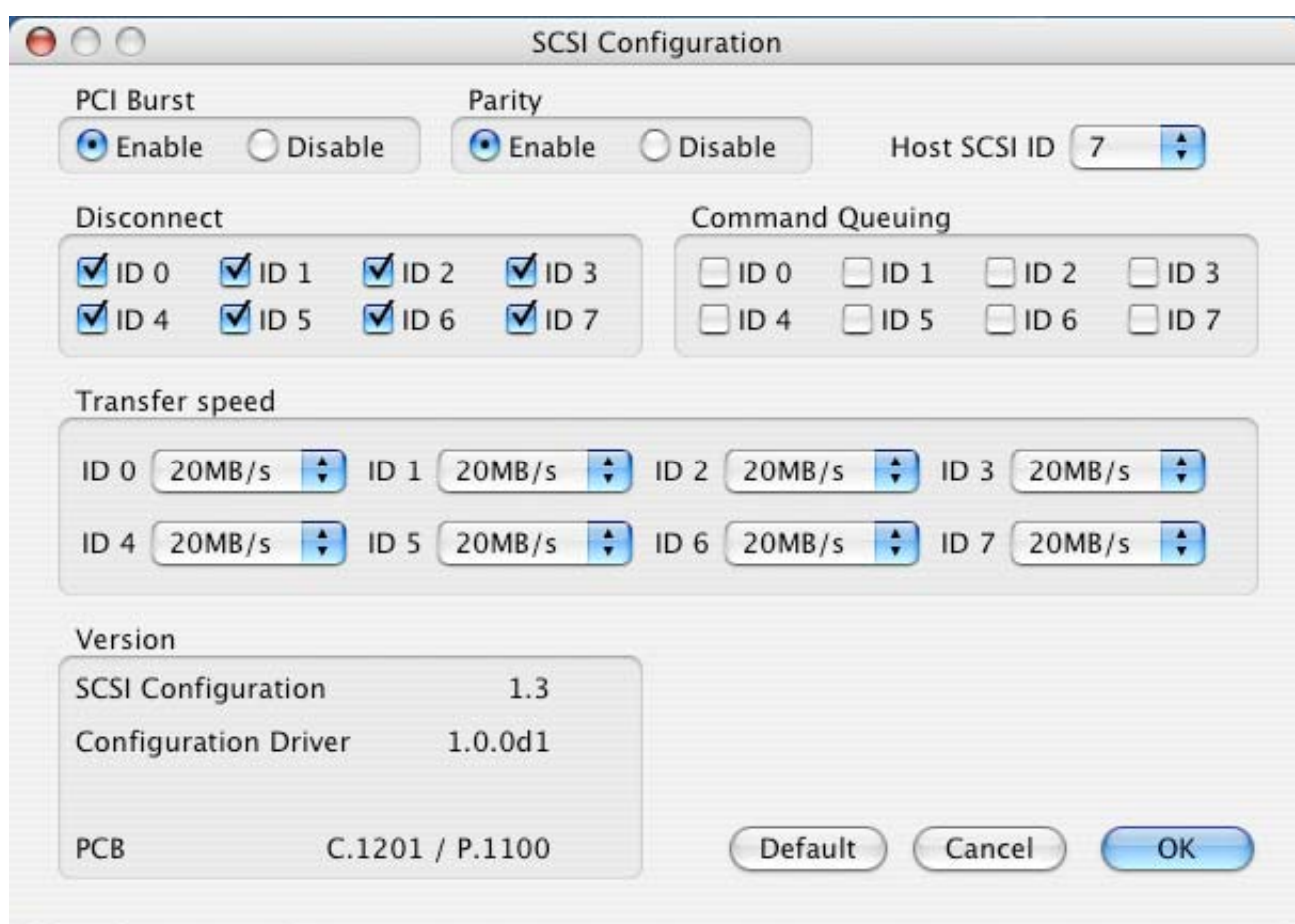
4. Follow the instructions of the installer.



5. The CB31 Configuration Utility will be copied in Applications folder. Double click the CB31 Config_X icon to launch the utility.



6. Following window appears.



Refer to **4-3 Configuration Window** regarding each settings .

4-2. Installing the Configuration Utility on Mac OS 9

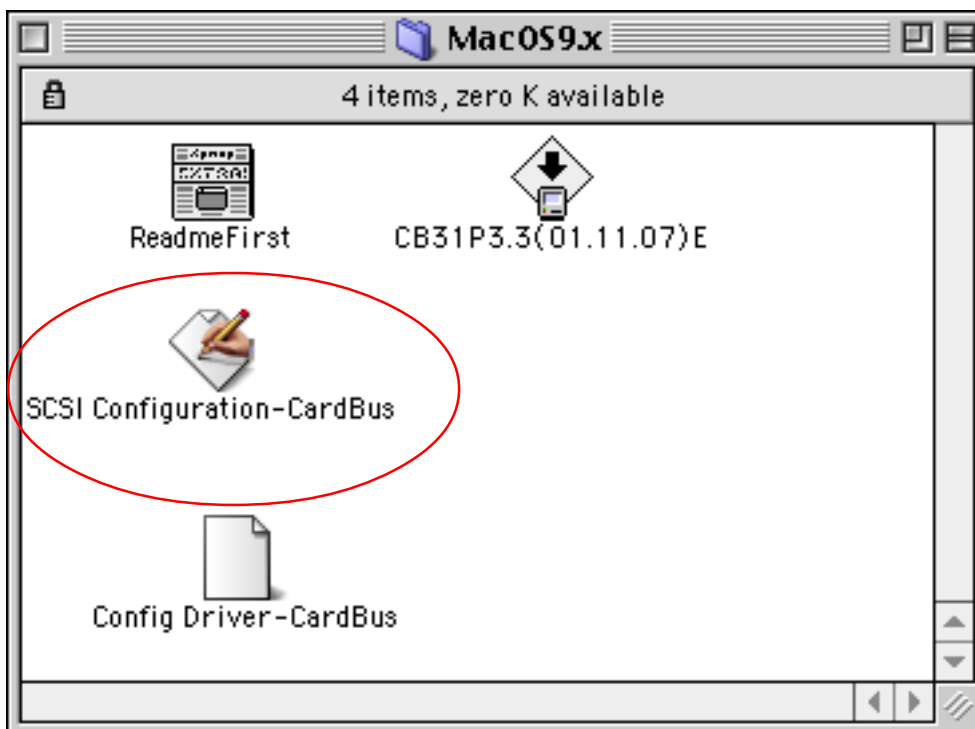
1. Insert the CD-ROM which comes with the CB31Pismo and double click on CD-ROM icon.



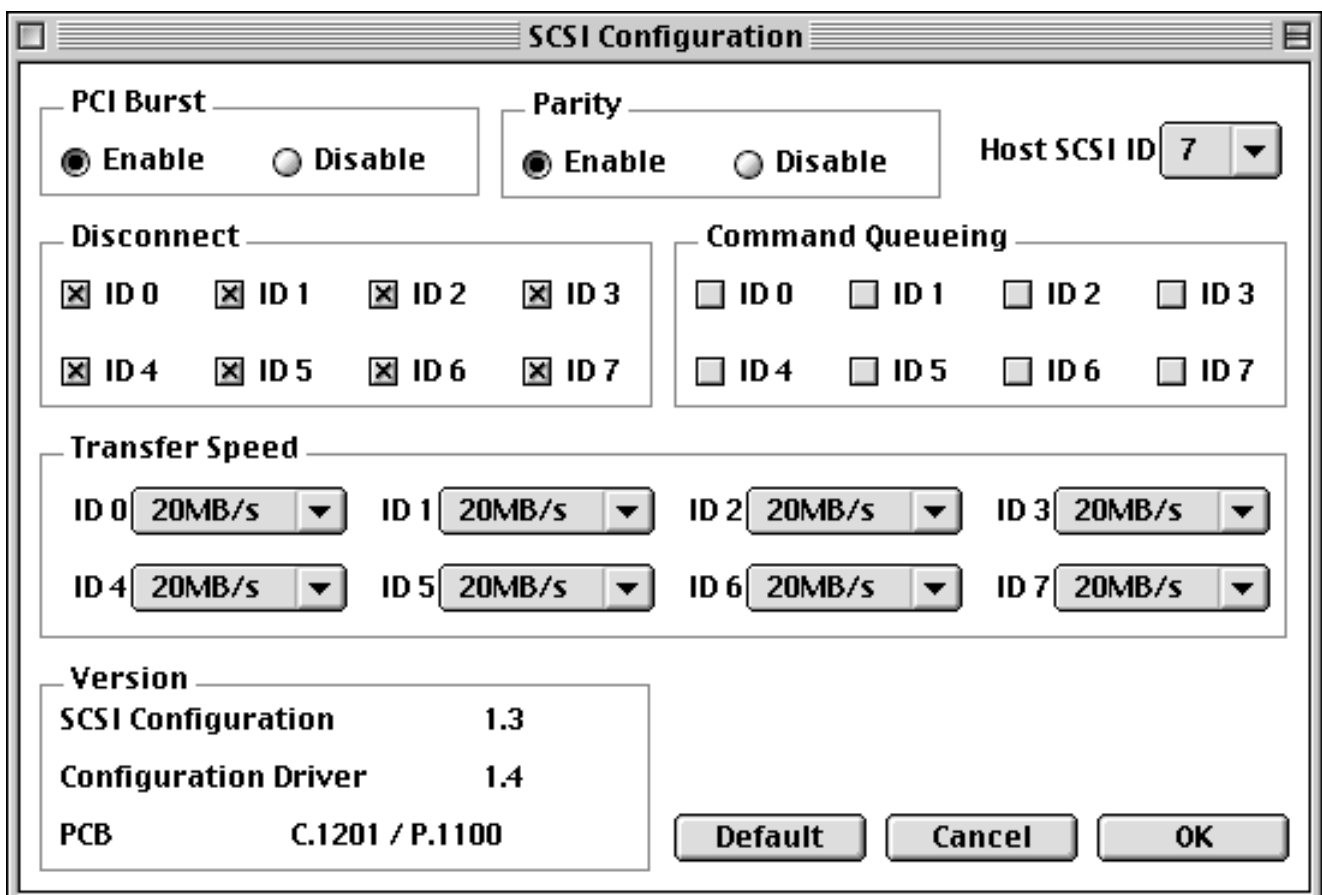
2. Double click "Mac OS 9.x" folder.



3. Double click “SCSI Configuration-CardBus”.



4. Following Window will appear.



4-3. SCSI Configuration Utility Window

[PCI Burst Mode]

Default is **Enable**. If the PC does not support PCI Burst Mode, check **Disable**.

[Parity]

Default is **Enable**. If you connect the device which does not have parity check function, check **Disable**.

[Host SCSI ID]

SCSI ID No. for the CB31. Default is **7**. If you connect the device which can be not assigned other than 7, change the ID.

[Disconnect]

Default is **ON** (checked) at all IDs. In case of **ON**, the device is disconnected from SCSI bus temporarily. While the device is disconnected, the SCSI PC Card can run other functions on the SCSI bus efficiently.

[Command Queuing]

Default is **OFF**. If the queuing is required, check Queuing ID and enable Disconnect function.

[Translation]

Default is **20MB/s**. Select the transfer rate by trying the choices shown until you find one that is successful. If you connect FUJITSU MO(M2512A, M2513A), select **10MB/sec**.

If you connect the asynchronous device, select **Async**.

5. FAQs (Troubleshooting)

Q: CB31Pismo icon does not appear on the desktop.

A: It is normal that CB31Pismo icon does not appear on the desktop.

Q: SCSI Configuration Utility can not detect the CB31Pismo.

A: Check if the card is inserted in PC card slot.

Q: When transferring data, the system freezes or does not start up.

A1: Check if there is any problem with SCSI cabling.

A2: Check if an active terminator is attached properly.

A3: Check total length of the SCSI daisy chain is not more than 1.5m.

A4: Try to reduce SCSI device connected to the CB31Pismo.

Q: MacOS doesn't start up from the device connected to the CB31Pismo.

A: It is because CB31Pismo it self is recognized after MacOS is loaded. You cannot boot MacOS form the SCSI device connected to the CB31Pismo.

Q: SCSI hard drive is not mounted on the desktop.

A1: Check if the drive is formatted that MacOS can recognizes.

A2: On Mac OS 9, mounter utility is needed to mount the drive through CB31Pismo.

Q: SCSI Scanner is not mounted on the desktop.

A: Scanner device itself will not be mounted on the desktop. Use scanning software if the scanner is recognized.

6. Registration and Tech-Support

6-1. How to Register

We highly recommend to register yourself as our customer through our on-line registration.

1. On the Internet, access our site (<http://www.ratocsystems.com/english/>)
2. Follow window menu guide to register.
3. Fill out and submit the registration form.

6-2. Driver Update and Support

-Driver Update-

The latest driver and utility are subject to change for improvement or bug fix.

You can download the latest version from our web site.

(<http://www.ratocsystems.com/english/>)

-Technical Support-

You can get a Tech support from RATOOC at the following

(Open Monday - Friday, 9:30A.M. to 5:00P.M(PST) except holidays)

RATOOC Systems International, Inc. Tech support

Address: 2000 Wyatt Drive Suite 9

Santa Clara, CA 95054

Phone : (408)986-9040

Fax : (408)986-9042

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

Web : <http://www.ratocsystems.com/english/>

NOTE:

Please include the following information to help us to assist you in the event of a problem:

- Our product name, serial number, and product description
- Host Computer Name, Mac OS version
- Utility/Driver version

7. Options

Optional SCSI cables are available (sold separately) at the web site:

<http://www.firewireshop.com>

- HD 50P SCSI-II cable (2 feet)
- Centronics 50P SCSI-I cable (2 feet)
- DB 25P SCSI-I cable (2 feet)
- HD 50P female to Centronics 50P male adapter

If you have any questions about these options, contact to:

RATOC Systems International, Inc.

TEL : (408)955-9400

FAX: (408)955-9402

E-mail: <http://www.ratocsystems.com/english/contact/sales.html>

8. Specifications

Specifications of the CB31Pismo

SCSI Interface

- Ultra SCSI (FAST-20)
- Single ended

SCSI PC Card

- PC Card Standard Compliant CardBus (Type II)

Data Transfer Rate

- Up to 20MB/sec with Ultra SCSI devices (synchronous)
- Up to 10MB/sec with SCSI-II devices (synchronous)
- Up to 132MB/sec between host and CB31

Power Consumption

- Voltage +3.3V (Supplied from PC Card slot)
- 300mA (TYP) - at Reading/Writing
- 130mA (TYP) - at Idling
- 77mA (TYP) - at Power save mode

Termination Power

- Internal active termination embedded

Operation Temperature

32°F to 131°F (0°C to 55°C)

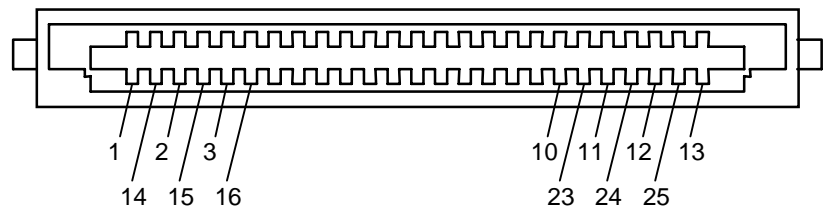
Storage Temperature

-4°F to 158°F (-20°C to 70°C)

SCSI Cable Connector Pin Assignment

The following figure indicates the pin assignment of the CB31 SCSI cable(PC Card side). The connector uses a Hirose NX30TA-25PAA or compatible connector.

Do not use any other SCSI cables than the supplied one.



PIN	SIGNAL	PIN	SIGNAL
1	REQ	14	GND
2	MSG	15	C/D
3	I/O	16	GND
4	RST	17	ATN
5	ACK	18	GND
6	BSY	19	SEL
7	GND	20	DBP
8	DB0	21	DB1
9	GND	22	DB2
10	DB3	23	DB4
11	DB5	24	GND
12	DB6	25	TERMPWR
13	DB7		

Appendix

Trademarks

- MacOS, Macintosh and Powerbook are registered trademarks of Apple Computer Inc.
- Other brand and product names may be registered trademarks or trademarks of their respective holders.

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.

Shielded cables and certified Class B peripherals must be used on this product.

Using unshielded cables or uncertified peripherals may result in this unit not complying with FCC Rules Part 15.

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

FCC ID : M9AREXCB31SCSIPC