100BASE-TX/10-BASE-T Network CardBus PC Card

REX-CB81U

User Guide

November 1998

First Edition

RATOC Systems, Inc.

REX-CB81U User Guide

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FCC 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.

1. Introduction

Thank you for purchasing the REX-CB81U kit. This kit contains the REX-CB81 100 BASE-TX/10BASE-T Network CardBus PC Card, RJ-45 cable, the support software for Windows 95/98 and this document. This guide contains the most complete information for installation and operation of the REX-CB81 100 BASE-TX/10BASE-T Network CardBus PC Card at press time. Be sure to read this guide before using the Network PC Card the first time. The README file included on the supplied floppy disk may contain more recent information which may not be included in this guide. Be sure to read the README file as well.

1-1. Features

- CardBus Compatible
- 32-bit data transfers and 33Mhz operation
- Supports Bus-mastering
- Supports ACPI
- Low power consumption
- Auto-negotiation of 10/100 Mbps

1-2. Trademarks

- Windows is a registered trademark of Microsoft Corporation.
- Other names of companies and products appearing in this guide are trademarks or registered trademarks respectively of those companies.

1-3. Before Using the REX-CB81

- Never attempt to disassemble the PC Card and the cable.
- Do not bend, drop or strike the PC Card and the cable, or subject it to heavy pressure.
- Information in this document is subject to change without notice.
- If you have any questions or find errors in this guide, do not hesitate to let us know.

1-4. System Requirements

- PC with CardBus-enabled PC Card slot
- Windows 95B, Windows 95C or Windows 98

  NOTE
    - If the version of your Windows 95 is 4.00950 or 4.00950A, you cannot use the 100 BASE-TX/10BASE-T Network CardBus PC Card.
    - The 100 BASE-TX/10BASE-T Network CardBus PC Card will not operate in, and should not be inserted in, the standard PCMCIA slot.

1-5. Check Package Contents

- REX-CB81 100BASE-TX/10BASE-T Network CardBus PC Card
- RJ-45 cable
- Support software on 3.5" floppy disk
- User Guide (This document)

  NOTE
    - If anything is missing, contact your store or RATOC Systems.

1-6. How to Register

1. On the Internet, access our site (**http://www.rexpccard.co.jp**)
2. Follow window menu guide to register.
3. Fill out and submit the registration form.

1-7. Program Update and Support

We recognize the need to keep users up-to-date with the latest software releases. Software updates can be downloaded from our web site (**http://www.rexpccard.co.jp**).

Technical support is handled by RATOC Systems, Inc. at the following:

RATOC Systems, Inc.

1-6-14 Shikitsu-higashi, Naniwa-ku, Osaka, JAPAN 556-0012

FAX : +81-6-633-3553   E-mail : int-support@rexpccard.co.jp

NOTE
- Please include the following information to help us to assist you in the event of a problem:
  - Model type, serial number, and product description
  - Host Computer Name, System BIOS Name and Version
  - Software driver product type and version number

2. Setup

2-1. Setup Procedure

**Here's how to get started using the REX-CB81:**

1. Install the REX-CB81 100BASE-TX/10BASE-T Network CardBus PC Card into the PC. If you will use the REX-CB81 with Windows 98, refer to **Installation for Windows 98** (→Page 7). If you will use it with Windows 95, refer to **Installation for Windows 95** (→Page 12).

2. Be sure that the REX-CB81 is installed correctly by following the **Verifying Correct Driver Installation** (→Page 17) instructions.

3. Connect the REX-CB81 to the RJ-45 cable and connect the server or HUB to the REX-CB81 following the **Connecting to the network** (→Page 18) instructions.

4. Restart the computer.

2-2. Installation for Windows 98

1. Inserting the REX-CB81 100BASE-TX/10BASE-T Network CardBus PC Card

Grasp the REX-CB81 by the edges with the label facing upward and the connector next to the insert slot. Insert the REX-CB81 into the slot and push it in until it is firmly seated.
If the REX-CB81 can not be firmly seated, check to see if the PC Card slot supports CardBus PC Cards. If the following windows do not appear, the PC may not support CardBus PC Cards. Check to see if the PC Card slot supports CardBus PC Cards. For more information, contact your PC manufacturer.
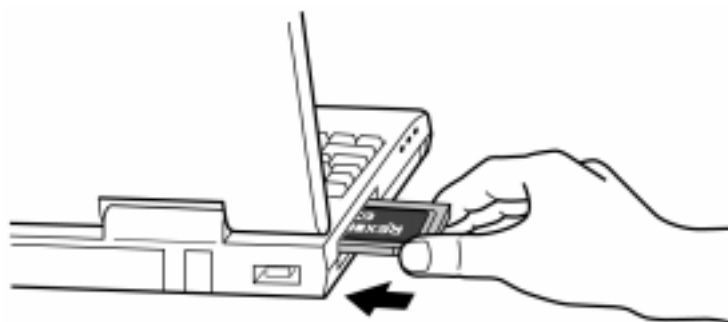
2. When The Add New Hardware Wizard Window Appears

When the REX-CB81 is inserted, the REX-CB81 is automatically installed as the **PCI Fast Ethernet DEC 21143 Based Adapter**. But the REX-CB81 cannot operate. Reinstall the driver following these instructions:

a. Click on the **Start** button, select **Settings** and then click **Control Panel**.

b. Double-click on the **System** icon.

c. Click on the **Device Manager** tab.

d. When the following window appears, double click **Network adapters**.

e. Select **PCI Fast Ethernet DEC 21143 Based Adapter** and click on the **Properties** button.
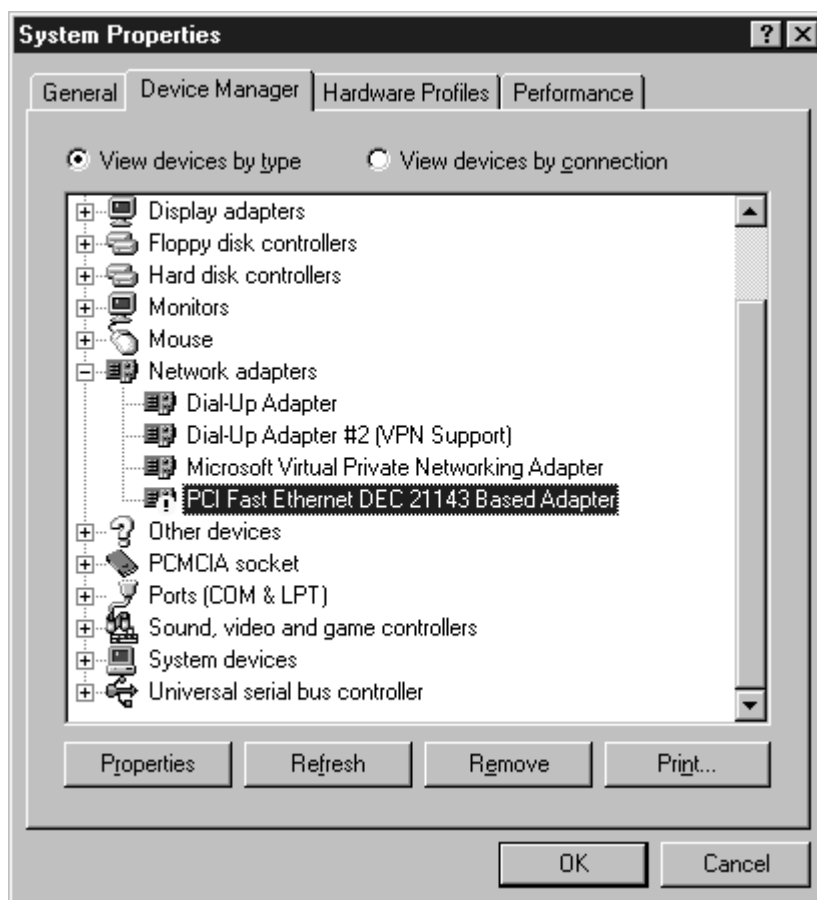
f. When the following window appears, click on the **Update Driver** button.

g. When the following window appears, click on the **Next** button.

h. When the following window appears, select **Search for a better driver than the one your device is using now (Recommended)** and click on the **Next** button.

i. When the following window appears, insert the support software floppy disk, check **Floppy disk drives** box and click on the **Next** button.

j. When the following window appears, select **The updated driver (Recommended)** and click on the **Next** button.

k. When the following window appears, check to see that the driver file on the floppy disk will be read by the PC and click on the **Next** button. This example indicates the PC will read **a:/NETRTCCB.INF**.

12. When the following window appears, the driver is successfully installed.

Remove the floppy disk from the PC.

13. Restart the PC.

2-3. Installation for Windows 95

1. Determining Your Version of Windows 95

    a. Click on the **Start** button.

    b. Select **Settings**.

    c. Select the **Control Panel**.

    d. Double-click on the **System** icon.

    e. In the **System Properties** window, click **General** tab. Information about your system is displayed, including the version of Windows 95 you are running, under **System**.
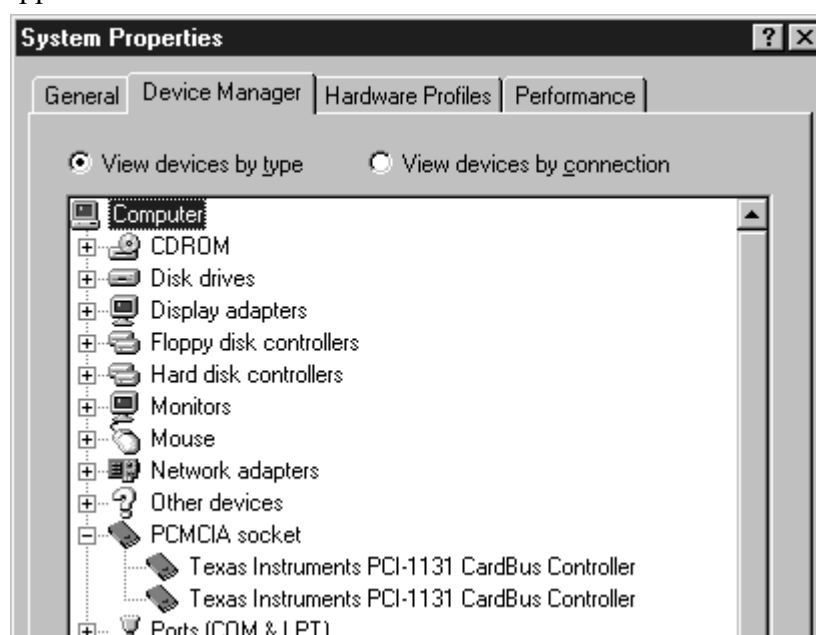

NOTE

● If the version is not 4.00950B or 4.00950C, you can not use the REX-CB81

2. Determining Your PCMCIA Controller

    a. In the **Control Panel**, double-click the **System** icon.

    b. Click the **Device Manager** tab.

    c. Double-click **PCMCIA socket** on the list that appears and determine if the CardBus controller appears and that there is no "**!**" or "**X**" mark.

NOTE

● If CardBus controller does not appear, or if it appears with a "**!**" or "**X**" mark next to it, enable the CardBus controller with **PC Card (PCMCIA) Wizard**.

d. Double-click on the CardBus controller to display the property. If **This device is working properly** appears under **Device status**, you can use the REX-CB81.
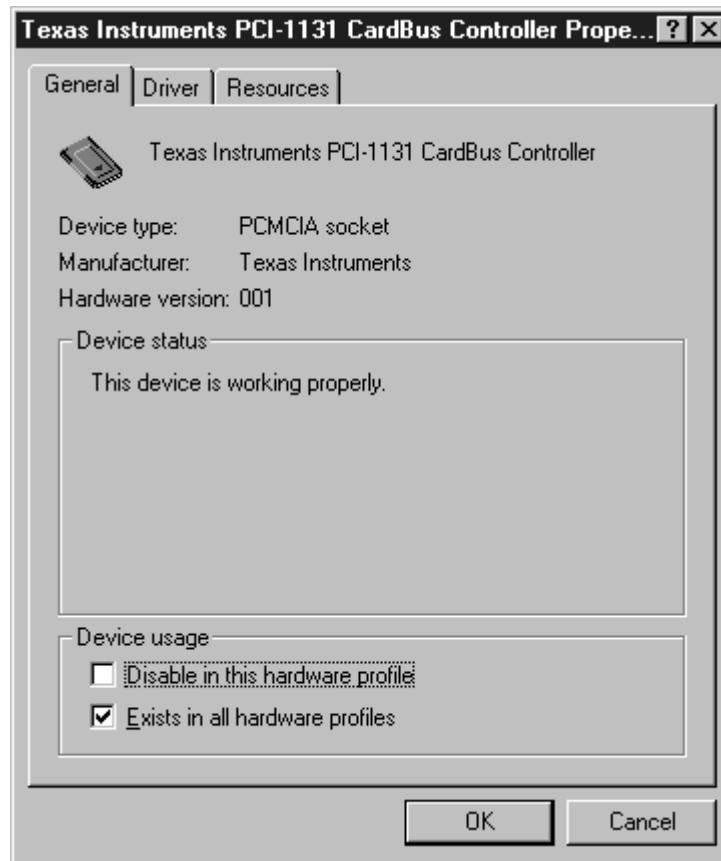
3. Re-enabling PC Card support on Toshiba computers

    a. Shut down the PC.

    b. Turn on the PC again.

    c. When starting, press the **ESC** key.

    d. If **Check system. Then press [F1] key** appears, press **F1** key.

    e. If **BIOS-SystemSetup(1/2)** appears, select **CardBus / 16Bit** under **PC Card Controller Mode**.

    f. Press the **End** key to restart Windows 95.

4. Inserting the REX-CB81 100BASE-TX/10BASE-T Network CardBus PC Card

Grasp the REX-CB81 by the edges with the label facing upward and the connector next to the insert slot. Insert the REX-CB81 into the slot and push it in until it is firmly seated.
If the REX-CB81 can not be firmly seated, check to see if the PC Card slot supports CardBus PC Cards. If the following windows do not appear, the PC may not support CardBus PC Cards. For more information, contact your PC manufacturer.

**5.** When The Update Device Driver Wizard Window Appears

   **a.** When the following window appears, insert the support software floppy disk and click **Next**.

    b. When **RATOC CardBus LAN Adapter REX-CB80/81** appears in the window, click **Finish**.

c. If a message requesting insertion of a floppy disk appears, click **OK**.

d. When **Copying Files...** appears, you will see a message prompting you to insert the disk that is already in the floppy drive. Continue by typing **a:** for the source of files and click **OK**.
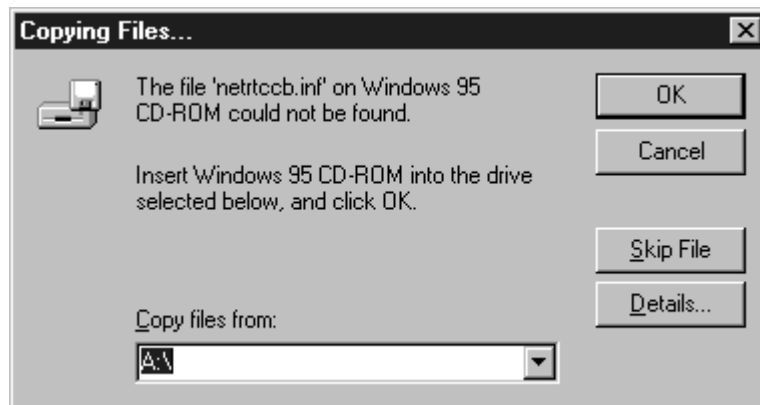
e. When the driver is successfully installed, the **Network** dialog box appears. Type the **Computer name**, **Workgroup** and **Computer Description**, and click on the OK button.
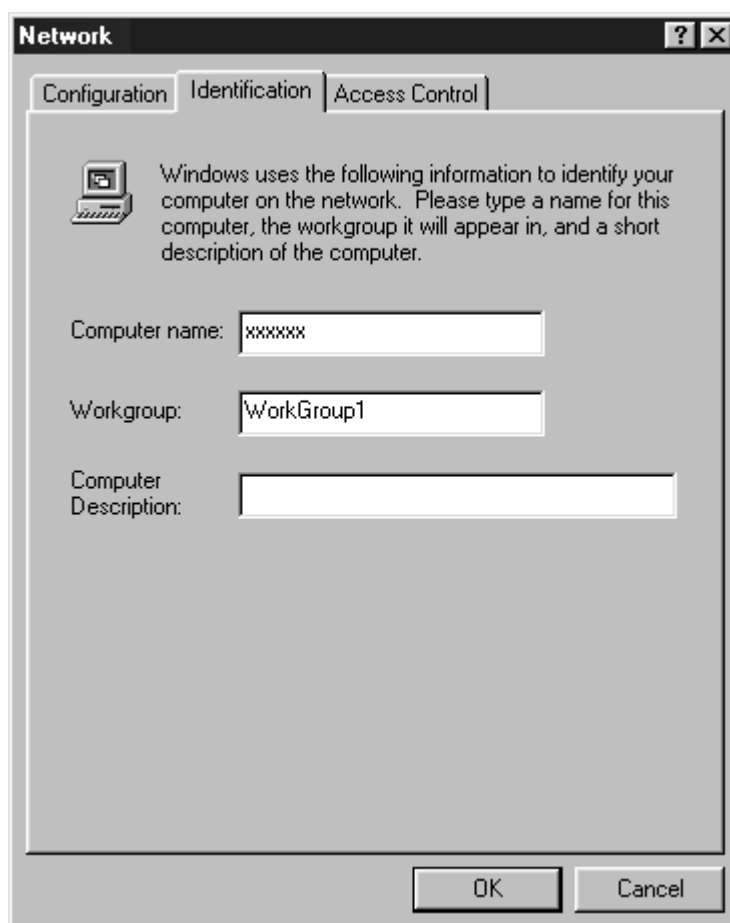
f. Remove the floppy disk from the PC.

g. Shut down the PC. Then restart the PC.

2-4. Verifying Correct Driver Installation

1. Click on the **Start** button, select **Settings** and then click **Control Panel**.

2. Double-click on the **System** icon.

3. Click on the **Device Manager** tab.

4. Double-click on **Network adapter** in the list.

5. Check to be sure that **RATOC CardBus LAN Adapter REX-CB80/81** is in the list.
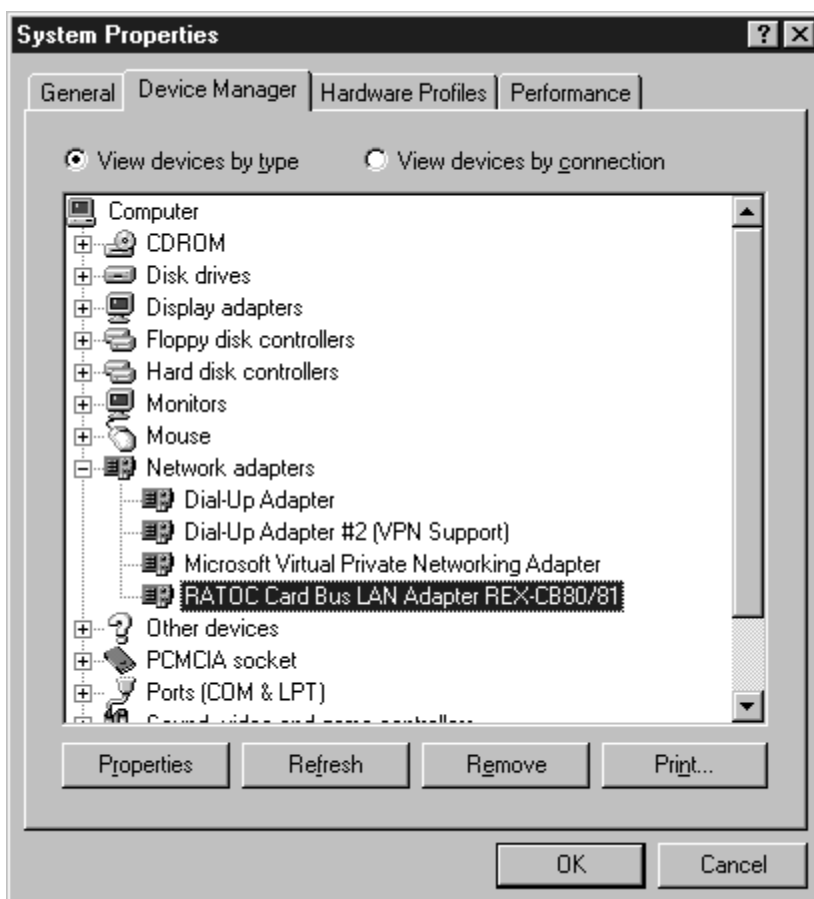
2-5. Connecting to the network

1. Connect the RJ-45 cable to the REX-CB81

Attach the 15-pin connector at the end of the RJ-45 cable to the mating connector on the end of the adapter. Press the cable connector gently into the connector on the card until it clicks into place. Do not force the connection.

2. Connect the network cable to the RJ-45 cable

Plug the network cable into the female RJ-45 connector.

3. The REX-CB81 is now connected to the network. Restart the PC.

2-6. Removing the REX-CB81

1. Click the **Start** button, select **Settings** and then click **Control Panel**.

2. Double-click the **PC Card (PCMCIA)** icon.

3. Select **RATOC CardBus LAN Adapter REX-CB80/81**.

4. Click on the **Stop** button.

5. When the window which says **You may safely remove this device** appears, you can remove the REX-CB81.

6. Press the eject button for the PC Card slot (1). Grasp the REX-CB81 by the side edges and pull it straight out of the PC Card slot (2).

3. Troubleshooting

3-1. Trouble in Device Manager

In "System Properties", in the "Device Manager" window, "RATOC CardBus LAN Adapter REX-CB80/81" does not appear under "Network adapters"!

Solution:

Try to check to see that **RATOC CardBus LAN Adapter REX-CB80/81** appears under **Other devices** or **Unknown devices**. If it appears, delete any or all **RATOC CardBus LAN Adapter REX-CB80/81** in the list following the instructions listed below. Then reinstall the driver.

In "System Properties", in the "Device Manager" window, more than one "RATOC CardBus LAN Adapter REX-CB80/81" appear under "Network adapters"!

Solution:

Delete all **RATOC CardBus LAN Adapter REX-CB80/81** in the list following the instructions listed, then reinstall the driver.

Removing of the driver:

1. Select **Control Panel** on the **Settings** pop-up submenu in the start menu.

2. Double-click the **System** icon.

3. Click on the **Device Manager** tab.

4. Double-click on **Network adapters**.

5. Click on **RATOC CardBus LAN Adapter REX-CB81**.

6. Click on the **Remove** button.

In "System Properties", in the "Device Manager" window, "X RATOC CardBus LAN Adapter REX-CB80/81" appears under "Network adapters"!

Solution:

1. Select **Control Panel** on the **Settings** pop-up submenu in the start menu.

2. Double-click the **System** icon.

3. Click on the **Device Manager** tab.

4. Double-click on **Network adapters**.

5. Click on **RATOC CardBus LAN Adapter REX-CB81**.

6. Click on the **Properties** button.

7. Uncheck **Disable in this hardware profile** under **Device usage.**

8. Check **Exists in all hardware profile** under **Device usage.**

In "System Properties", in the "Device Manager" window, "! RATOC CardBus LAN Adapter REX-CB80/81" appears under "Network adapters"!
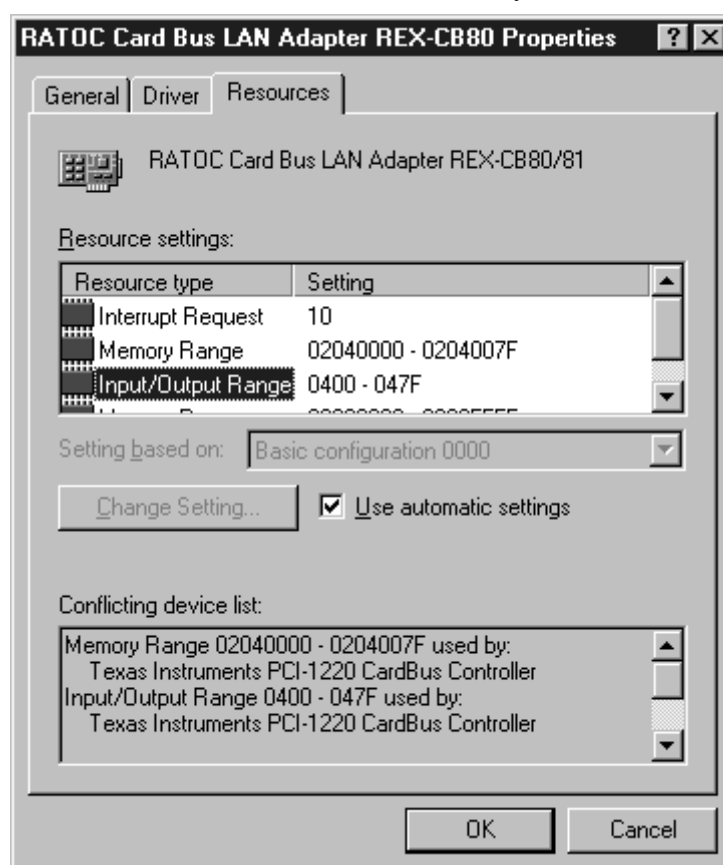
Solution:

1. Select **Control Panel** on the **Settings** pop-up submenu in the start menu.

2. Double-click the **System** icon.

3. Click on the **Device Manager** tab.

4. Double-click on **Network adapters**.

5. Click on **RATOC CardBus LAN Adapter REX-CB81**.

6. Click on the **Properties** button, then click **Resources** tab.

7. Uncheck **Use automatic settings**.

8. Click on the **Change Setting** button.

9. Select resources which do not conflict with any other devices.

NOTE

● In Windows 98, you cannot change resources.

3-2. ? PCMCIA Card Services

In "System Properties", in the "Device Manager" window, "? PCMCIA Card Services" appears under "Other devices"!

Solution:

This is not an error. If it is removed, you cannot use PC Cards.

3-3. System error in Power Management mode

In Power Management mode, when the REX-CB81 is inserted into the PC, system error happens!

Solution:

1. Double click on the **Power** icon in **Control Panel**.

2. Click on the **Advanced** button under **Power status**.

3. Click on the **Troubleshooting** tab, then check **Disable power status polling** and click on the **OK** button.
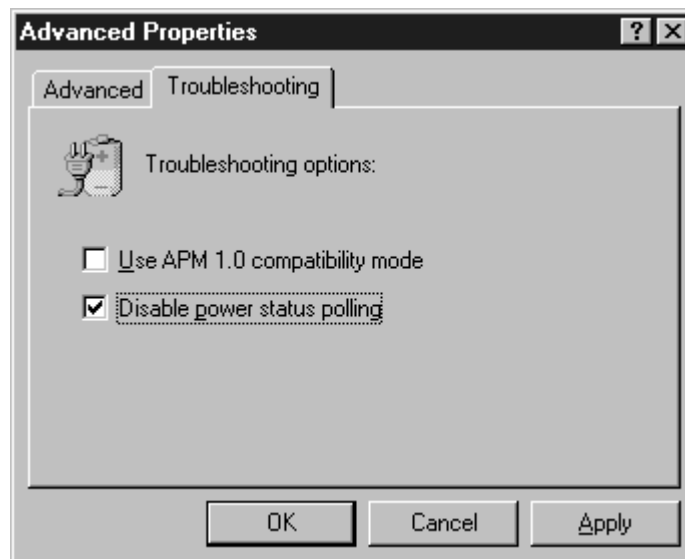
4. Restart the PC.

3-4. Updating the Driver

What should I do to update the driver?

Solution:

  1. Download the updated software from the RATOC WEB site (http://www.rexpccard.co.jp).

  2. Make an updated support software floppy disk.

    a. First, be sure the downloaded file is in an empty folder on the hard disk.

    b. Double-click the downloaded file icon in the folder.

    c. Be sure that multiple files are extracted.

    d. Delete the downloaded file from the folder.

    e. Check to insure that the size of the folder is less than 1.44 MB.

    f. Ready an empty 1.44MB floppy disk.

    g. Select all files in the folder, then copy them to the floppy disk.

  3. Update the driver.

    a. Click the **Start** button, select **Settings** and then click **Control Panel**.

    b. Click the **System** icon.

    c. Double-click on **Network adapters** in the list.

    d. Check to see that **RATOC CardBus LAN Adapter REX-CB80/81** appears in the list.

    e. Click on the **Properties** button, then click on the **Driver** tag.

    f. Click on the **Update Driver...** button.

    If you update the driver for Windows 98, follow **4. To update the driver for Windows 98** procedure. If Windows 95, follow **5. To update the driver for Windows 95** procedure.

4. To update the driver for Windows 98.

a. When the **Update Device Driver Wizard** window appears, click on the **Next** button.

b. When the following window appears, select **Search for a better driver than the one your device is using now (Recommended)** and click on the **Next** button.

c. When the following window appears, select **Floppy disk drives**, insert the floppy disk made in step **2. Make the updated support software floppy disk** into the PC and click on the **Next** button.

Update Device Driver Wizard

Windows will search for updated drivers in its driver database on your hard drive, and in any of the following selected locations. Click Next to start the search.

☑ Floppy disk drives

☑ CD-ROM drive

☐ Microsoft Windows Update

☐ Specify a location:

D:\WIN98

Browse...

< Back   Next >   Cancel

d. When the following window appears, select **The updated driver (Recommended)** and click on the **Next** button.

Update Device Driver Wizard

Windows has found an updated driver for this device, and also some other drivers that should work with this device.

What do you want to install?

◉ The updated driver (Recommended)
RATOC Card Bus LAN Adapter REX-CB80/81

○ One of the other drivers.   View List...

< Back   Next >   Cancel

e. When the following window appears, check to see **A:/NETRTCCB.INF** appears and clickon the **Next** button.

**f.** When the following window appears, updating the driver is complete.

g. Click on the **Finish** button, then remove the support floppy disk from the PC.

5. To update the driver for Windows 95.

    a. When the **Update Device Driver Wizard** window appears, select **Yes** and insert the floppy disk in step **2. Make the updated support software floppy disk** into the PC. Then click on the **Next** button.

    b. When the following window appears, click on the **Finish** button.

    c. If a message requesting insertion of a floppy disk appears, click **OK**.

    d. When **Copying Files...** appears, you will see a message prompting you to insert the disk that is already in the floppy drive. Continue by typing **a:** for the source of files and click **OK**.
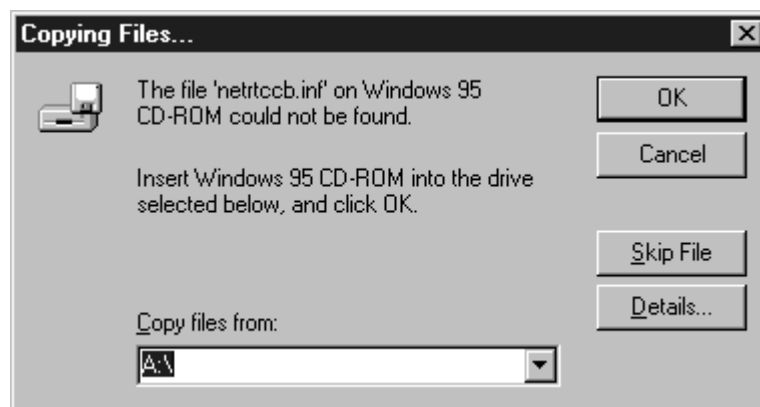
    e. Updating the driver is complete. Remove the floppy disk from the PC.

3-5. Other PCs are not found

**The REX-CB81 works properly, but other PCs are not found!**

Solution:

1. Check to be sure that network protocol is same for all connected computers.

2. Make an updated support software floppy disk.

    a. First, be sure the downloaded file is in an empty folder on the hard disk.

    b. Double-click the downloaded file icon in the folder.

The NetWare server icon appears, but I can't see anything on the server!

Solution:

1. Click on the **My Computer** icon.

2. Click on the **Control Panel** icon.

3. Click on the **Network** icon.

4. Select **IPX/SPX compatible Protocol**, then click on the **Advanced** tab.

5. Select **Frame type** in the **Property** list.

6. Select the appropriate frame type in the list.
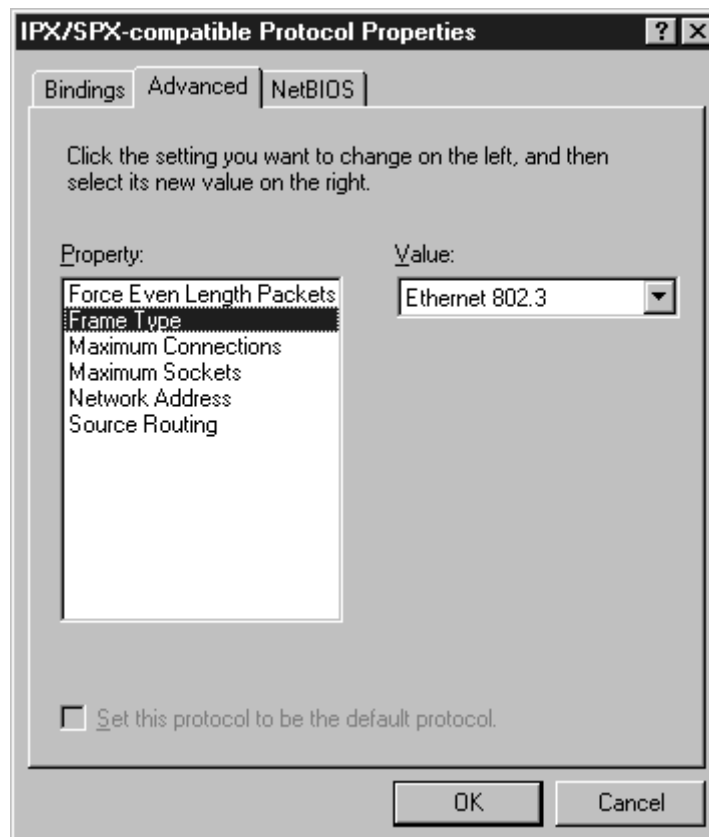
4. Specifications

Card size

PC Card Type II

Compatible with the following standard:

PC Card Standard '97 (CardBus)

Interface type

100BASE-TX/10BASE-T autonegotiation

Connector type

RJ-45

Impedance   100 ohms

Interface type to CPU

32bit Bus-mastering

I/O address

Occupies 128 bytes allocated by OS

Interrupt request

Uses IRQ allocated by OS

Global address (Mac address)

Stored into EEPROM in the Card

Power requirements

Voltage   +3.3V

300 mA (MAX)

Operating environment

Temperature from 0 to 55°C

Humidity from 20 to 80% (Non-condensing)