RICOH

SwapBox ™ and SwapFTL ™

Installation Manual

(Revision 1.0)

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Subject to change

TABLE OF CONTENTS

1.INTRODUCTION

1.1   PRECAUTIONS

1.1.1 SWAPBOX and Software

If you purchase SwapBox from an authorized SCM Microsystems dealer, do not use the software enclosed with the SwapBox. You need to purchase the required software and license additionally from Ricoh.
The software part number is:
A230 9353

1.1.2 Software License AGREEMENT

Before you use the software, you must agree to the SCM software license agreement that is enclosed in either the SwapBox or the software.
Users must be responsible for the agreement with SCM Microsystems Inc. Ricoh Co., Ltd. is not responsible for any legal problems caused by user's actions contrary to the agreement.

1.2 System Requirements

- An IBM PC-AT compatible computer with ISA Plug & Play BIOS
- One empty ISA bus slot (SBI-C2P and SBI-D2P)
- One empty 3.5" drive bay (SBI-D2P)
- Microsoft ® Windows ® 95 operating system 4.00.950a or later version installed (Refer to section 1.4 for more details.)
- At least 2MB of free disk space on the system partition (the partition where Windows 95 is installed) for SwapFTL software installation

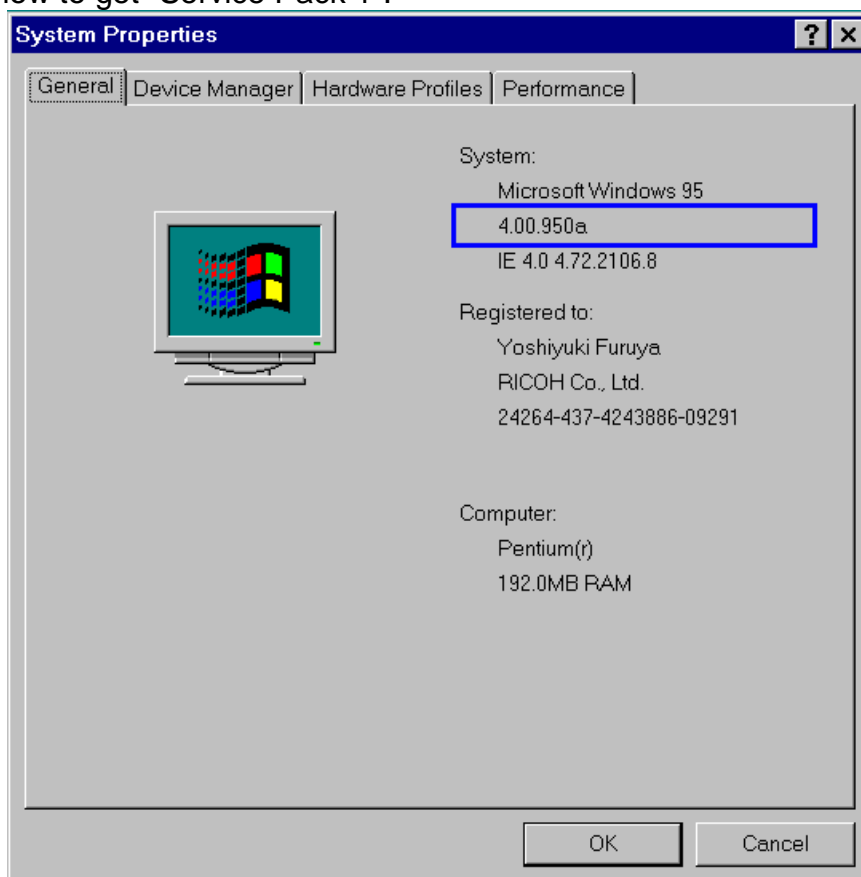## 1.3 ITEMS TO PREPARE BEROE INSTALLATION

- Computer hardware user's manual
- Windows 95 installation disks or CD-ROM
- Windows 95 service pack (Refer to section 1.4 for more details.)
- SCM SwapBox SBI-C2P or SBI-D2P
- SCM/RCH SwapFTL + SwapUTI (rev. 2.01 or later) software diskette, and a software license

1.4 Windows 95 Version Confirmation

Windows 95 has several different versions as shown in the following table.

Version	Description	Remarks
4.00.950	First version	**Not suitable for SwapBox and SwapFTL installation.**
4.00.950a	First version (4.00.950) plus service pack 1	Install service pack 1 (SP1) into Windows 95 version 4.00.950. SP1 is available from Microsoft's web site.
4.00.950B	So called "OSR2 (OEM Service Release 2)"	Only computers with Windows 95 pre-installed have had this version since 1997.
4.00.950C	So called "OSR2.5 (OEM Service Release 2.5)"	Only computers with Windows 95 pre-installed have had this version since 1998.

Check the Windows 95 version first, just by clicking the "System" icon in the Windows Control Panel. If you see 4.00.950 in the box shown below, though the example version is 4.00.950a, install "Service Pack 1" into the current Windows operating system. Refer to the next page for how to get "Service Pack 1".

If the version is 4.00.950B or 4.00.950C, install SwapBox and SwapFTL without updating Windows.

"Service Pack 1" is available from the Microsoft web site.
For the detailed information, refer to the following Internet address.
http://www.microsoft.com/windows95/info/service-packs.htm

The service pack file can be downloaded from the following Internet location. Choose the one that is suitable for your Windows version.

Language	Internet Location
US English	http://www.microsoft.com/windows95/info/service-packs.htm
Chinese (Simplified)	Not available.
Chinese (Traditional)	http://www.microsoft.com/windows/software/localize/tw-eu.htm
Czech	http://www.microsoft.com/windows/software/localize/cz-eu.htm
Danish	http://www.microsoft.com/windows/software/localize/dan-eu.htm
Dutch	http://www.microsoft.com/windows/software/localize/dut-eu.htm
Finnish	http://www.microsoft.com/windows/software/localize/fin-eu.htm
German	http://www.microsoft.com/windows/software/localize/frn-eu.htm
Greek	http://www.microsoft.com/windows/software/localize/ger-eu.htm
Hungarian	http://www.microsoft.com/windows/software/localize/grk-eu.htm
Italian	http://www.microsoft.com/windows/software/localize/itn-eu.htm
Japanese (PCAT)	http://www.microsoft.com/windows/software/localize/jpcat-eu.htm
Korean	http://www.microsoft.com/windows/software/localize/kr-eu.htm
Norwegian	http://www.microsoft.com/windows/software/localize/nor-eu.htm
Pan-European	http://www.microsoft.com/windows/software/localize/pan-eu.htm
Polish	http://www.microsoft.com/windows/software/localize/pl-eu.htm
Portuguese (Brazilian)	http://www.microsoft.com/windows/software/localize/brz-eu.htm
Portuguese (Iberian)	http://www.microsoft.com/windows/software/localize/pt-eu.htm
Russian	http://www.microsoft.com/windows/software/localize/ru-eu.htm
Slovenian	http://www.microsoft.com/windows/software/localize/slv-eu.htm
Spanish	http://www.microsoft.com/windows/software/localize/spa-eu.htm
Swedish	http://www.microsoft.com/windows/software/localize/swe-eu.htm
Thai	http://www.microsoft.com/windows/software/localize/thai2.htm
Turkish	http://www.microsoft.com/windows/software/localize/trk-eu.htm

2. SWAPBOX INSTALLATION

2.1 HARDWARE INSTALLATION

CAUTION: 1) Before installing the SwapBox in a computer, turn off the computer and disconnect the power cable.
2) This manual does not explain how to install an ISA board in your computer. Refer to your computer's users manual for how to do it.

Install the SwapBox as explained in Chapter 1 to 3 of the SwapBox Manual that is enclosed in the SwapBox package.
Then go on to the next section below for the driver installation.

2.2 DRIVER INSTALLATION

CAUTION: 1) Do not use the software disks that are enclosed with the SwapBox.
2) Ensure that you have Windows 95 - 4.00.950a or a later version installed in your computer. (Refer to section 1.4 for more details.)

1. Turn on the computer. "SCM SwapBox" may appear during boot-up.

2. When Windows 95 starts, it finds the SwapBox automatically and installs the necessary driver files from the Windows installation diskette(s) or CD-ROM.

3. After Windows starts, choose "PCCard" from the Control Panel.
   - If PCCard Properties is displayed, driver installation has finished. You can go on to the next section.
   - If PCCard Wizard is displayed, go on to the next step.

4. In the PCCard Wizard, choose all the default settings to finish the wizard, then reboot the computer.

5. After Windows 95 has restarted, choose "System" from the Control Panel.

6. Choose "Device Manager" and confirm that "SCM SwapBox Family Plug and Play PCMCIA Controller" is listed in the PCMCIA socket category.

7. Double-click "SCM SwapBox Family Plug and Play PCMCIA Controller" and confirm that the SwapBox is working properly.

3. SOFTWARE (SWAPFTL) INSTALLATION

CAUTION: 1) If you purchased SwapBox from an authorized SCM dealer, do not use the software diskettes that are enclosed in the SwapBox package.

2) Use the software diskette which is labeled "SwapBox Software/ RCH SwapFTL + SwapUTI".

3) A software license is required to **install** a software package on a computer.

4) The SwapFTL software may not work with some PC Card (PCMCIA), CardBus, or ZV port controllers installed in notebook computers.

3.1 SWAPFTL SOFTWARE INSTALLATION

1. Ensure that the SwapBox has been installed and configured under the Windows 95 environment.

2. Insert the software diskette in the floppy disk drive.

3. Choose "Run" from the Start menu.

4. Type "A:\setup" and click OK.

5. Follow the instructions on the display.

6. Reboot the computer after installation has finished.

3.2 VERIFICATION

3.2.1 SOFTWARE VERSION

1. Choose "SwapFTL Binary Utility" from the "SCMSwapFTL" program group.

2. After the utility starts, choose [Help] – [About SwapUti..].

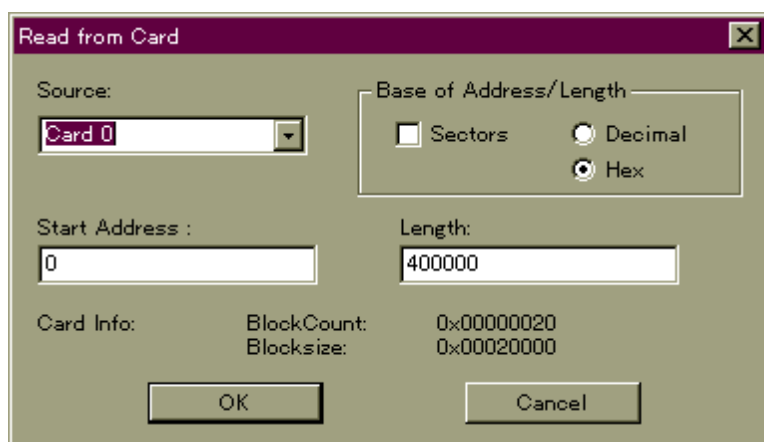3. Confirm that the version information is as follows:

About SwapUti

SwapUti Version V 2.01R

SCM Microsystems
RICOH COMPANY, LTD.
Copyright _ 1996-1997

Additional Information
SwapBox VxD driver not found
or driver not loaded

OK

VERSION.BMP

3.2.2 FLASH MEMORY CARD AUTOMATIC DETECTION

1. Insert the 4MB flash memory card supplied from Ricoh into a card slot.

2. Windows 95 automatically detects the card, if this is the first time a flash card has been used, Windows 95 installs the necessary drivers, and the "Found new hardware" dialog box should appear automatically.

3. Wait about 30 s, then choose "SwapFTL Binary Utility" from the "SCMSwapFTL" program group.

MENU.BMP

4. After the utility software starts, choose [Image] – [Read].
   If "Failed to open PCCard" appears, see Troubleshooting.

IMAGE-READ.BMP

5. Click OK to read the card.
   If this works successfully, a new file is created as a temporary file, and this can be stored on the computer.

4. TROUBLESHOOTING

4.1 SwapBOX Resource Conflict

An ISA device must not share resources (IRQ, I/O address, and memory address) with another device.
ISA plug and play BIOS automatically assigns necessary resources to ISA boards. However, this could cause a problem if an ISA board requires specific resources.
The SwapBox requires a specific memory address range to activate card services. So, if another ISA device or PCI device occupies this memory address range, the SwapBox and SwapFTL will not work.

4.1.1 IRQ and I/O address

To identify whether an IRQ or I/O address has a conflict with another device, check the SwapBox properties in the Windows device manager. If you find a conflict, follow the instructions given by Windows Help.

4.1.2 MEMORY ADDRESS

The SwapBox and card services require a memory Window between 0xC8000 to 0xD3FFF.
The SwapBox properties do not tell you if the memory address is in conflict with others. To identify whether the memory address is in conflict with another device, do the following:

1. Choose "Computer" in the Windows device manager, and click "Properties".

2. Choose "Memory" in the "View resources" tab.

3. Check if any other device is using the address range from **0xC8000** to **0xD3FFF**. If it is a PCI device, you need to adjust the plug and play BIOS settings. If it is an ISA device, you need to remove the device from the system.

Conflict with a PCI device

1. Shut down Windows and reboot the computer.

2. Enter BIOS setup during system boot-up.
      How to enter BIOS setup and BIOS setup options depends on your system.

3. Find the ISA plug and play settings in the BIOS setup.

4. Adjust the settings so that the BIOS does not allocate the SwapBox memory range to PCI devices.

Example: Award BIOS

1. Press the "DEL" key during boot-up to gain access to BIOS setup.
2 Choose "PNP AND PCI SETUP" from the main menu.

3   Change the "ISA MEM BLOCK BASE" setting as follows:
- ISA MEM BLOCK BASE: No/ICU → **D000**
- ISA MEM BLOCK SIZE: **8k**

4   Press "Esc" to exit "PNP AND PCI SETUP".

5 Choose "SAVE & EXIT SETUP".

Conflict with a plug and play ISA device

1. Shut down the computer.

2. Remove the ISA device that is in conflict with the SwapBox.

3. Restart the computer and see if the SwapBox and the SwapFTL work under the Windows environment.

Conflict with a legacy ISA device

Either remove the ISA device that is in conflict with the SwapBox to change its jumper settings, or run the setup utility of the device to change the setting.

4.2 "Failed to open PCCard" Error

4.2.1 TIMELAG TO LOADING DRIVER

Windows requires a certain time, which depends on system performance, to enable card services for a flash memory card after inserting it in a PC card socket.
If you try to read, erase, or write to the card before the card service is ready, you receive a "Failed to open PCCard" error.
Wait for about 30 s, then try again.

4.2.2 PCCard NOT CONFIGURED

If the PCCard icon in the Windows Control Panel is not configured, you receive a "Failed to open PCCard" error when you try to access the card.
Configure the PCCard icon using Control Panel as explained in the driver installation procedure.

4.2.3 RESOURCE CONFLICT

If you receive a "Failed to open PCCard" error even if the SwapBox looks correctly configured in the device manager, a memory address conflict is causing the error.
Refer to section 4.1.2 to solve the problem.

4.3 "INVALID DYNAMIC LINK CALL FROM SWAPENUM…" ERROR

A blue screen error with a message *"Invalid dynamic link call from SwapEnum to device xxxx service x"* may happen, if SwapFTL software was installed before SwapBox had been activated.

Once this happens, follow the procedure below.

1. Uninstall SwapFTL (choose "SwapFTL Uninstall" from "SCM SwapFTL" program menu).

2. Reboot the computer.

3. After Windows has restarted, double-click "System" icon in the Control Panel.

4. Choose "Device Manager" tab and double-click "SCM SwapBox" in the "PCMCIA sockets" category.

5. If the device was not activated, activate it.

6. Reboot the computer.

7. After Windows has restarted, re-install SwapFTL.

4.4 SWAPFTL Problem with Notebook Computers

4.4.1 Windows and PC Card driver version

Before installing the SwapFTL software into a notebook computer, ensure the following.

- Windows 95 OSR2 is installed or Service Pack 1 is installed.
  For how to identify the version of Windows 95, refer to section 1.4 for details.
- The latest PC Card driver is installed.
  Contact your computer manufacturer or PC Card controller vender.

4.4.2 System Summery

If you still have problems after updating Windows and the drivers, send your computer's system summary to the support database.

To prepare the system summary as a PostScript file, do the following.

1. Install a PostScript printer (e.g., HP LaserJet 4 PS).

2. Double-click the "System" icon in the Control Panel.

3. Choose the "Device manager" tab, and select "Computer" in the device map.

4. Click the "Print" button.

5. Choose the PostScript printer using the "Setup" button, choose "<u>All devices and system summary</u>" as the report type, and check the "Print to file" box.

6. Click OK to make a PostScript print file.

4.5 COMPLETE UNINSTALL

If the SwapBox and the SwapFTL software do not work due to unsuccessful configuration, the following process helps you to restart Windows plug and play from the beginning.
This procedure uninstalls all the software and drivers that were installed for the SwapBox, as well as deleting the Windows registry settings.

1. Uninstall the SCM SwapFTL programs.
   Choose "SwapFTL uninstall" from the Start menu.

2. Delete the following files from the \Windows\System directory.
   - SOCKETSV.VXD
   - FLS2MTD.VXD
   - FLS1MTD.VXD
   - SRAMMTD.VXD
   - CARDDRV.EXE
   - CSMAPPER.SYS
   - PCCARD.VXD

3. Delete "SCM SwapBox Family Plug and Play PCMCIA Controller" from the Windows device manager.
   (Choose 'System" from the Control panel to access the device manager.)

4. Shutdown and restart Windows.
   Windows starts the plug & play process again to install the SwapBox.