

*"The fastest solution and greatest value in
SCSI CD-ROM drive support for a Novell
NetWare file server!"*



PROCOMP

CD-ACCESS

One-in-One

CD/NLM

for NetWare 3.1x/4.x
for ASPI compatible SCSI adapters

PROCOMP CD-ACCESS One-in-One

Copyright © 1995 by PROCOMP USA, INC.
All rights reserved worldwide.

PROCOMP, ProExcel, SCSIMEDIA, CD-ACCESS, One-in-One & Many-in-One are trademarks of PROCOMP USA, INC. Novell and Adaptec are trademarks of these companies.

This product is provided under license to the user and cannot be copied, duplicated or distributed without authorization of PROCOMP USA, INC. See the license agreement enclosed with the software product for details.

PROCOMP USA, INC.,
6777 Engle Road, Cleveland, OH 44130
Phone: (216) 234-6387 FAX: (216) 234-2233
BBS: (216) 234-6581

*FACTS & SPECIFICATIONS ON THE
PROCOMP CD-ACCESS One-in-One
CD/NLM for NetWare 3.1x/4.x*

FOR USE WITH:

SCSI ADAPTERS WITH AN ASPI MANAGER,
ADAPTEC SCSI ADAPTERS,
BusLogic SCSI ADAPTERS, &
PROCOMP SCSI ADAPTERS.

- ◆ Simple menu-oriented operation.
- ◆ Fast and easy to use for anyone.
- ◆ Significantly faster than competitive solutions, including Novell, both in initial setup and load as well as in the subsequent reload of CD-ROM's.
- ◆ Allows definition and supports a virtually unlimited number of CD-ROM volumes without significant storage overhead penalty so CD-ROMs can be quickly changed without delay.
- ◆ Incorporates a unique PROCOMP mount and dismount capability from inside the NLM without using NetWare utilities.
- ◆ Supports all Novell NetWare versions' 3.1x through 4.x.
- ◆ Friendly NetWare utility type windowed menu user interface.
- ◆ Tested with dozens of CD-ROM drive brands and models, including Chinon, Denon, Hitachi, LMS, NEC, NSM, Panasonic, Philips, Pioneer, Plextor, Sony, TAC, Teac, Texel, Toshiba, and many others.
- ◆ Installed and in use today at thousands of sights.
- ◆ Easy and quick installation. Fast & efficient operation.
- ◆ Any number of users can access drive without restrictions or limitations making sharing CD-ROMs simple.

- ◆ Faster than dedicated CD-ROM servers. Reliable & dependable.
- ◆ Enhanced volume directory caching using NetWare.
- ◆ Support for Adaptec, BusLogic, PROCOMP & other true ASPI SCSI adapters.
- ◆ Available in different software versions for the broad hardware support.
- ◆ *CD-ACCESS One-in-One CD/NLM for NetWare* (MSRP \$399.00) is available for Adaptec, BusLogic, PROCOMP and other true ASPI adapters & compatibles. Also provides hybrid DOS/Mac CD-ROM mounting and sharing of DOS portion of CD-ROM.
- ◆ *DCB CD/NLM for NetWare* (MSRP \$199.00) available for Novell DCBs and the PROCOMP M-DCB, F-DCB & S-DCB boards, with similar but more limited features.

Installing the PROCOMP USA
CD-ACCESS One-in-One
CD/NLM for Sharing CD-ROM Drives
Using NetWare 3.1x/4.x

You can use this product for supporting from one to as many CD-ROM drives as your SCSI adapters permit on your Novell NetWare file server. It works with Adaptec, BusLogic, or PROCOMP SCSI adapter boards, or other SCSI adapter boards that have their own true ASPI manager software.

Most of the steps below only have to be performed once to install the CD-ACCESS product. Once a CD-ROM drive is made operational on your NetWare file server you will not have to worry about doing anything other than using the CD-ROM.

If you turn off your file server and then restart it, NetWare will automatically mount the CD-ROM volumes that you have already installed, so you do not have to do anything additional in normal daily operation.

If you need to change the CD-ROM in your CD-ROM drive after you have installed your drive and mounted a CD-ROM, follow step's 11-14.

Step 0: Installing a SCSI Adapter

Install the SCSI adapter, if it is not already installed, that you will use with the CD-ROM drives. Following the instructions that came with the adapter. Verify that the SCSI adapter is correctly installed.

Step 1: Attaching CD-ROM Drives

Turn your file server computer off and attach the CD-ROM drive(s) to the SCSI bus following the appropriate instructions given below for either internal or external drives.

We *very strongly recommend you put CD-ROM drives on their own SCSI adapter* and not attach them to the SCSI adapter with hard drives or other SCSI devices. Novell also recommends this approach.

Simply, the reason for this is that hard drives are much faster than slow CD-ROM drives, and the server can be significantly slowed down or the SCSI bus can be thrown out of synch if devices with such performance differences are handled together.

INTERNAL -- TO AN EXISTING SCSI ADAPTER:

We *do not recommend* you put your CD-ROM drives on an existing SCSI adapter. However, if you must attach a CD-ROM drive to a cable with a hard drive already on it, remove the termination resistor(s) from the CD-ROM drive following the instructions that came with the drive. *(Note: If you do not remove these termination resistors, you will probably have strange errors and not be able to access your CD-ROM drive or hard drives.)*

Set the SCSI ID of the CD-ROM drive to a value different from that of the hard drive(s) already installed in your computer. Usually ID 2 or higher will work since most hard drives are set to ID 0 or ID 1. *(SCSI IDs have to be unique for each device.)* Do this for each CD-ROM drive, if you have more than one.

Open the computer case and mount the drive(s) in an available bay. Connect the SCSI cable that is attached to your hard drive to both your CD-ROM drive(s) and your hard drive, making sure the hard drive that has termination resistors installed is the *last* device

attached on the SCSI cable. (Usually, SCSI cables have two connectors and most computers only have one hard drive, so the free mid-cable connector can be used for the CD-ROM drive. If you have an internal SCSI cable with only one connector, or have used up all the connectors on the cable, you will have to order a cable that has additional connectors on it. Contact PROCOMP because we carry cables, too.)

Close your computer case back up.

INTERNAL -- TO A NEW SCSI ADAPTER

This is a *highly recommended* approach if you are installing one or two CD-ROM drives internally. Install your new SCSI adapter according to the instructions that came with it.

If you are installing only one CD-ROM drive, leave the termination resistor(s) in. If you are installing more than one drive, remove the termination resistor(s) from all but one of the drives. Follow the instructions that came with the drive. (*Note: If you do not remove these termination resistors, you will probably have strange errors and not be able to access your CD-ROM drive.*)

Set the SCSI ID of the CD-ROM drive(s) to a value of ID 2 or higher. (SCSI IDs have to be unique for each device.)

Open the computer case and mount the drive(s) in an available bay.

Connect the *end* of your SCSI cable to your *terminated* CD-ROM drive. Make sure it is the last device attached on the SCSI cable. Attach the unterminated CD-ROM drives to the free mid-cable connector(s). If you have an internal SCSI cable with only one connector, or have used up all the connectors on the cable, you will have to order a cable that has additional connectors on it. Contact PROCOMP because we carry cables, too.)

Close your computer case back up.

EXTERNAL -- TO AN EXISTING SCSI ADAPTER:

We *do not recommend* you put your CD-ROM drives on an existing SCSI adapter. However if you must attach to an existing SCSI adapter, set the SCSI ID of the external CD-ROM drive to a value different from that of the hard drive(s) already installed in your computer. The SCSI ID setting is usually on the back of the external enclosure. Most of the time ID 2 or higher will work since most hard drives are set to ID 0 or ID 1. *(SCSI IDs have to be unique for each device.)*

You have to remove the termination resistors that are installed on the SCSI adapter inside your file server computer. Open up your computer and find the SCSI adapter. There are typically 2 or 3 termination resistor packs that have to be taken out. See the instructions that came with your SCSI adapter. *(Note: If you do not remove these termination resistors, you will probably have strange errors and not be able to access your CD-ROM drive or hard drives.)*

Close your computer back up.

Attach the appropriate external SCSI cable between your external CD-ROM drive(s) and the back of the SCSI adapter. Usually you will need a SCSI-2 to SCSI-1 cable. Most SCSI adapters have small SCSI-2 connectors on them, while external enclosures will have the larger SCSI-1 (centronics type) connectors, which are similar to a parallel printer connector.

Important: If you are attaching more than one CD-ROM drive externally, you have to follow the same termination rules as when attaching multiple internal drives.

EXTERNAL -- TO A NEW SCSI ADAPTER:

This is a *highly recommended* approach where more than one CD-ROM drive is to be attached. Install your new SCSI adapter according to the instructions that came with it.

Set the SCSI ID of the external CD-ROM drive to an ID of 2 or higher. (SCSI IDs have to be unique for each device.)

Attach the appropriate external SCSI cable between your external CD-ROM drive and the back of the SCSI adapter. Usually you will need a SCSI-2 to SCSI-1 cable. Most SCSI adapters have small SCSI-2 connectors on them, while external enclosures will have the larger SCSI-1 connectors (similar to a parallel printer connector).

If you are attaching more than one CD-ROM drive externally, you have to follow the same termination rules as when attaching multiple internal drives.

Step 2: Verifying SCSI Devices are Visible

Turn on your file server computer and observe the SCSI adapter BIOS message. It should scan for SCSI devices and display information about them. If you do not see this for each adapter and each CD-ROM, your computer is not communicating with them, and it is an indication to you that you have done something wrong. If your SCSI adapter does not display this information, run the SCSI test utility that you may have received with your SCSI adapter to determine if your SCSI adapter is functioning correctly.

If your SCSI adapter (or utility) does not recognize your devices, check the:

- Cabling,
- Termination of the SCSI bus,
- Power connections, and
- If all the devices are turned on.

Continue once the startup boot BIOS displays all SCSI adapter and attached device information.

Only when you are at this point should you continue with the following steps for installing with NetWare 3.1x or 4.x.

Installation for NetWare 3.1x/4.x

If you have previously installed a DEMO version or an older version of our CD-ACCESS (or AHAccelerator) software, please follow the UNINSTALL directions at the end of this manual before you install your new version of CD-ACCESS.

Step 3: Copying ASPI Manager

Copy the ASPI manager programs from the diskette that came with your SCSI adapter to the SYS/SYSTEM subdirectory on the C: drive partition of your server. Each manufacturer names their ASPI programs differently, but for Adaptec the files will usually be called AHA1510.DSK, AHA1520.DSK, AHA1540.DSK, AHA1740.DSK, or AIC7770.DSK.

Step 4: Installing CD-ACCESS

Start your NetWare server by typing:

```
SERVER
```

Insert the CD-ACCESS diskette into your floppy drive. At the NetWare colon (:) prompt type:

```
LOAD A:INSTALL
```

Important: This NLM program installs CD-ACCESS. **IF THE NETWARE "INSTALL" NLM IS LOADED YOU MUST UNLOAD IT FIRST.** (To ease your mind, PROCOMP's INSTALL does *not* replace the NetWare INSTALL. If you have the NetWare INSTALL loaded and try to load the CD-ACCESS INSTALL you will receive the error: "Driver already loaded""Cannot be loaded more than once." The NetWare INSTALL is often used as a utility program and may be loaded on

We *highly recommend* that you choose Y because otherwise the changes that are needed to run CD-ACCESS correctly will not be written to your AUTOEXEC.NCF file. Note that if you would like to go back to your original AUTOEXEC.NCF you do not have to worry, it will be there stored as AUTOEXEC.ORI, and a screen will come up indicating this and that the installation was a success.

The next time your file server is started, it will automatically run the commands in AUTOEXEC.NCF. (What it runs is a batch file called CDACCESS that starts the program with the correct parameters.)

Step 5: Editing the STARTUP.NCF File

Edit your STARTUP.NCF file and add the load statement for your adapter's drivers and ASPI to the end of it. You must do this manually because each adapter's requirements are different. If your system has more than 16 MEG of memory then you must also add this as the first line:

```
SET RESERVED BUFFERS BELOW 16 MEG = 200
```

Because STARTUP.NCF runs first when your computer runs the SERVER program, it must contain these drivers for the AUTOEXEC.NCF to run correctly. (If you want to do it manually each time, remove the CDACCESS entry in the AUTOEXEC.NCF file and do not put the driver load into the STARTUP.NCF file. You would then follow step 6 each time you started SERVER.)

Step 6: Loading the SCSI Adapter Driver

Load the driver for the adapter that will be handling the CD-ROM drives. If you are using the PROCOMP PS-150/51C then type:

```
LOAD AHA1510.DSK PORT=340 INT=B
```

(Remember, you also have to SET RESERVED BUFFERS as in step 5. You will only have to do this manually each time your file

Step 7a: Adding Volume Definitions

You can define and create new CD-ROM volumes for NetWare using CD-ACCESS in the following way:

```
+-----+
| PROCOMP CD-ACCESS One-in-One                               NetWare Loadable Module |
+-----+
| This product is registered to Server : BIGRED              |
|                   Company : Network USA Inc.              |
+-----+
|-----+-----+-----+-----+
| VolumeID | Defined CD-ROMs | Volume Name |
+-----+-----+-----+-----+
| -{CDFTC  |                 |             |
| :DCOS2005001 |                 | << CDFTC >> |
| :MEDLINE9294MO |                 | << DCOS2005001 >> |
| :NSEPRO    |                 | << MEDLINE9294MO >> |
| :PCD0892   |                 | << NSEPRO >> |
| :PENSION_AND_BENEFITS_EXPERT |                 | << PCD0892 >> |
| :PENSION_AND_BENEFITS_EXPERT |                 | << PENSION_AND_B >> |
+-----+-----+-----+-----+
|                                     |Add/remove CD-ROM |
|                                     |Mount/dismount volume |
+-----+-----+-----+-----+
|                                     Available CDROM devices |
+-----+-----+-----+-----+
| {000. - PLEXTOR CD-ROM PX-4XCS  1.01 CARD:1 SCSI ID:0 |
| {001. - PLEXTOR CD-ROM PX-4XCS  1.01 CARD:1 SCSI ID:1 |
| {002. - PLEXTOR CD-ROM PX-4XCS  1.01 CARD:1 SCSI ID:2 |
+-----+-----+-----+-----+
| Magic keys: + + <Enter> <Esc> |
+-----+-----+-----+-----+
```

1. Choose the **Add/remove CD-ROM** option from the main CDACCESS menu and press ENTER.
2. Press INSERT to display the list of available CD-ROM devices.
3. Move the cursor to the CD-ROM device that contains the CD-ROM you want to create a volume definition for and press ENTER. Answer YES to the "Are you sure?" question.
4. Press ENTER to change any of the parameters listed in the **CD information** box. Then, move the cursor to the parameter you want to change and enter a new value.
 - ⇒ **Vol. Name:** The default Vol. Name is read from the CD-ROM, but you have the option to change it.

You can assign a unique name to this CD-ROM so that you can easily remember it in the future.

- ⇒ **Owner ID:** The default Owner ID is Supervisor, but you have the option to change it to any one of the existing users defined on the file server.
- ⇒ **Group ID:** The default Group ID is Everyone, but you have the option to change it to any one of the existing groups defined on the file server.

5. Press ESC to create the volume with the above assigned parameters. You will have to wait anywhere from a few seconds to a few minutes for the CD-ROM to be analyzed and the volume definition to be created. The length of time depends on the number of files and the size of those files on the CD-ROM.

Step 7b: Removing Volume Definitions

If you want to delete an existing volume definition use the **Add/remove CD-ROM** option in the following way:

1. Choose the **Add/remove CD-ROM** option from the main CD-ACCESS menu and press ENTER. The **Defined CD-ROMs** box shows you the list of the defined CD-ROM volumes that can be deleted.
2. Choose the one you want to delete by moving the cursor using the up and down arrows, then press the DEL key. The selected volume definition will be removed.

Note: You have to dismount a volume before you can delete its volume definition.

Step 8: Mounting/Dismounting Volumes

Use the **Mount /dismount volume** option to mount or dismount CD-ROM volumes.

Step 8a: Mounting CD-ROM Volumes

Mount CD-ROM volumes in the following way:

1. Choose **Mount/dismount volume** option and press ENTER. If you have any mounted CD-ROM volumes you will see them listed in the **Mounted vol's** box along with their HA (hardware adapter) and ID (SCSI ID) designation. *The HA and ID can help you locate your CD-ROM.*
2. Press INSERT and the **Volumes** box will display the list of defined CD-ROM volumes.

```

+-----+
| PROCOMP CD-ACCESS One-in-One                               NetWare Loadable Module |
+-----+
| This product is registered to Server : BIGRED              |
|                   Company : Network USA, Inc.              |
|-----+-----+
|                                     Mounted vol's  HA:ID |
|-----+-----+
|                                     |CD92TAX        01:02 |
|                                     |CDFTC         01:05 |
|                                     |DCOS2005001   01:03 |
|                                     |MEDLINE9294MO 01:01 |
|                                     |NSEPRO        01:00 |
|                                     |PCD0892       01:06 |
|                                     |PENSION_AND_B 01:04 |
|-----+-----+
| Volumes                               Select function: |
|-----+-----+
| |APRIL94CD7                            |Add/remove CD-ROM |
| |CD92TAX                                |Mount/dismount volume |
| |CDFTC                                  |Quit                |
| |DCOS2005001                            |                     |
| |MEDLINE9294MO                            |                     |
| |NSEPRO                                  |                     |
| |PCD0892                                  |                     |
| |PENSION_AND_B                            |                     |
|-----+-----+
| Magic keys: + + <Enter> <Esc> <Ins>=All  <F5>=Mount |
+-----+

```

Important: The **Volumes** box shows you all the volume definitions for created for your CD-ROMs. You can only mount one of these volume definitions as a volume if the corresponding CD-ROM is physically inserted in one of the CD-ROM drives.

3: You can mount volumes in the following ways:

- ⇒ Press INSERT to mount all the volumes that are listed and answer yes to the "Are you sure ?" question. In this case, CD-ACCESS tries to mount all the volumes that are in the list, but only those will be mounted which have a corresponding CD-ROM disk physically inserted in one of your CD-ROM drives.
- ⇒ You can select one of the volumes by highlighting your selection with the cursor using the up and down keys and pressing ENTER. In this case, the selected volume will be mounted if its CD-ROM is physically inserted in one of your CD-ROM drives.
- ⇒ You can select a group of volumes to mount at the same time using the F5 key. To do this select a volume in the list using the up and down keys and press F5 in order to put it into the group. You can put as many volumes as available in the group. When you have put all the volumes into the group, press ENTER. The defined volumes in the group will be mounted if their CD-ROMs are physically inserted in one of your CD-ROM drives.

Note: When CD-ACCESS is loaded it automatically tries to mount all the volumes that are in the Mounted Vol's box. Once a volume definition exists, it does not matter which physical drive you put the CD-ROM into. The program will find the CD-ROM and mount it using its volume definition.

Step 8b: Dismounting CD-ROM Volumes

To dismount CD-ROM volumes with CDACCESS use the **Mount/dismount volume** option in the following way:

- ⇒ Choose the **Mount/dismount volume** and press ENTER. If you have any mounted CD-ROM volumes you will see them in the **Mounted vol's** box along with their HA (hardware adapter) and ID (SCSI ID) designation. *The HA and ID can help you locate your CD-ROM.*
- ⇒ Choose the volume you want to dismount and press the DELETE key.

Note: If CD-ACCESS is loaded you have to use it to mount and dismount CD-ROM volumes. However, if you quit CD-ACCESS you can use the standard NetWare mount and dismount commands to mount or dismount CD-ROM volumes created by CD-ACCESS. *(The standard NetWare mount and dismount commands are disabled while CD-ACCESS is running to prevent NetWare from becoming confused.)*

Step 9: Mapping CD-ROM Volumes

Now, go over to one of the client workstations from which you want to access the CD-ROM drive on the file server and map the CD-ROM volume(s) to an available DOS drive letter(s). For example, type the following:

```
map g:=fileserver name\CDROM01:
```

In place of fileserver name use your file server's name and instead of CDROM01 use the specific name you assigned your CD-ROM volume.

Do this at each client workstation you want to access the CD-ROM drive(s). You can set this up to be quick and automatic by using NetWare login scripts. You can also use the NetWare User Tools program that NetWare installs for use under Windows.

Step 10:

Go to Step 11 for instructions on how to change CD-ROM disks.

Changing a CD-ROM

Under NetWare 3.1x/4.x, changing a CD-ROM already mounted in the CD-ROM drive on your file server requires only a little more than simply pressing the eject button.

First you must issue a dismount command. Then you eject the current CD-ROM and insert the new CD-ROM. To make it available, you issue a mount command.

Since you have already done steps 1-10, steps 11-14 are all you need to do from now on to change CD-ROMs.

Step 11: Dismounting

Dismount a CD-ROM volume in the following way:

- ⇒ Choose **Mount/dismount volume** and press ENTER.
If you have any mounted CD-ROM volumes you will see them in the **Mounted vol's** box.
- ⇒ Select the volume you want to dismount using the up and down keys and press the DELETE key.

Step 12: Changing

Press the EJECT button on your CD-ROM drive and remove the CD-ROM. Put in a new CD-ROM.

Step 13: Mounting

If the new CD-ROM you just inserted is already defined as a volume (that is, if it is already in the defined volumes list), simply mount it with CD-ACCESS using one of the methods described in STEP 8. Usually, all you have to do is:

- ⇒ Choose **Mount/dismount volume** and press ENTER.
If you have any mounted CD-ROM volumes you will see them in the **Mounted vol's** box.
- ⇒ Press INSERT and the **Volumes** box will display the list of defined CD-ROM volumes.
- ⇒ Select the volume you want to mount using the up and down keys and press ENTER.

If the new CD-ROM you just inserted was not defined as a volume previously, you have to define it as described in STEP 7.

Remember. Do not delete previously defined volumes unless you really want to get rid of them permanently (that is, you have gotten rid of your CD-ROM). If you keep them then the next time you mount that CD-ROM you will not need to create a CD-ROM volume for it. Since the volume name takes up only a few kilobytes, you can have a long list of pre-defined CD-ROM volumes with virtually no system storage overhead.

Step 14: Mapping

Now, go over the client workstation you want to access the CD-ROM drive from and map the mounted volume to an available DOS drive letter. For example:

```
map g:=filesaver name\CDROM01:
```

Replace filesaver name with your file server's name and CDROM01 with the specific name you assigned your CD-ROM volume. If you set this up in your NetWare login script, or if you use the NetWare User Tools program under Windows, you do not have to do this step.

Uninstalling CD-ACCESS

Sometimes you may want to or need to remove the CD-ACCESS program from your file server. Follow these steps to completely uninstall CD-ACCESS and remove all traces of it:

Step 1:

Login to a workstation as a Supervisor or an Administrator.

Step 2:

Delete the PROCOMP subdirectory on your SYS volume. (This is not required if you have our earlier AHAccelerator software.)

Step 3:

Delete the CD_ROM subdirectory in your SYSTEM subdirectory on volume SYS.

Step 4:

At the file server load the NetWare INSTALL program and edit your AUTOEXEC.NCF.

⇒ Delete the 2 lines that have to do with the CD-ACCESS

```
rem ***PRO CD-ACCESS install***  
cdaccess
```

If you have AHAccelerator delete the following lines

```
load procdrom.dsk or load procdr4.dsk  
load procdfsc or load cdnlm3 or load cdnlm3a
```

The driver in your STARTUP.NCF has to do with your SCSI adapter and should remain, unless you are also removing the adapter and drives from your server.

Troubleshooting Tips

Problem: SCSI adapter doesn't show any attached devices when the computer system is started.

Solution: Make sure the CD-ROM drives are correctly attached to the cable, the termination resistors are installed or removed from the drives correctly, and that each CD-ROM drive has a unique SCSI ID selected on it.

Problem: The CD-ACCESS software installs correctly, but no adapters or CD-ROM drives show in the Add/remove menu item.

Solution: Make sure that you have the SCSI adapter device driver loaded, along with its ASPI manager (if that isn't automatically loaded by the driver) and you have executed a SET RESERVED BUFFERS command if your memory configuration requires it.

Problem: I don't know how to edit my STARTUP.NCF file or look at what is in my AUTOEXEC.NCF file.

Solution: Use the Novell NetWare INSTALL utility function that lets you edit these files. You can also edit at the DOS level using the DOS EDIT command. If you don't know how to do this, you should consult with your NetWare Administrator or the computer technical person for your location.

Problem: I have 7 drives attached to a SCSI adapter and everything is visible to CD-ACCESS, however I cannot mount CD-ROMs in all of my drives.

Solution: Use the rule of thumb that you need about 8 MEG of memory just to get NetWare started and you need between 1-1.5 MEG of additional memory for each CD-ROM volume. If a CD-ROM has very many files on it, it requires more NetWare memory resources. 16 MEG should be enough for most applications, but if you are using 7 or more CD-ROM drives we recommend your server has 24-32 MEG of memory installed.

Questions? If you still can't get it to work after checking your work & re-reading the manual call us at (216) 234-6387.

Other SCSI & Storage Products

PROCOMP USA makes a variety of innovative products and offers them at competitive prices.

PROCOMP DataHouse CD Towers

We offer a number of configurations of 1, 2, 4, 7, 14 and larger CD towers. Our best selling model is the **PROCOMP DataHouse CD Estate** with 7 Toshiba 4x high speed CD-ROM drives in a compact minitower unit for just \$2929.00.

The **DataHouse CD Nuvo Estate** uses 7 Plextor 4x drives and is priced at just \$2525.00.

Other models are available, including larger models of 14 or more drives. PROCOMP also configures CD Servers that can be attached to NetWare or other networks and do not require connection to existing file servers.

For creating your own CD-ROMs we offer the **DataWriter CD** series of products, starting at just \$1989.00.

PROCOMP SCSIMEDIA SCSI Adapters

For connecting your CD-ROMs and hard drives to your servers and computer systems, consider the PROCOMP SCSIMEDIA line of SCSI adapters. The SCSIMEDIA **PI-350PC** is a SCSI-3 adapter that supports FAST & WIDE SCSI-2, delivering speeds up to 20MB/sec. The SCSIMEDIA SCSI-2 family of adapters is available for all the major bus families and consists of BusLogic chipset based models including the **PBT-946C PCI**, **PBT-747C EISA**, **PBT-445C VLB** and **PBT-545C ISA**.

Call for information on custom configured disk storage solutions. for PC based servers, RS-6000 and SUN architecture systems.

Call now for information on all your SCSI needs: (216) 234-6387