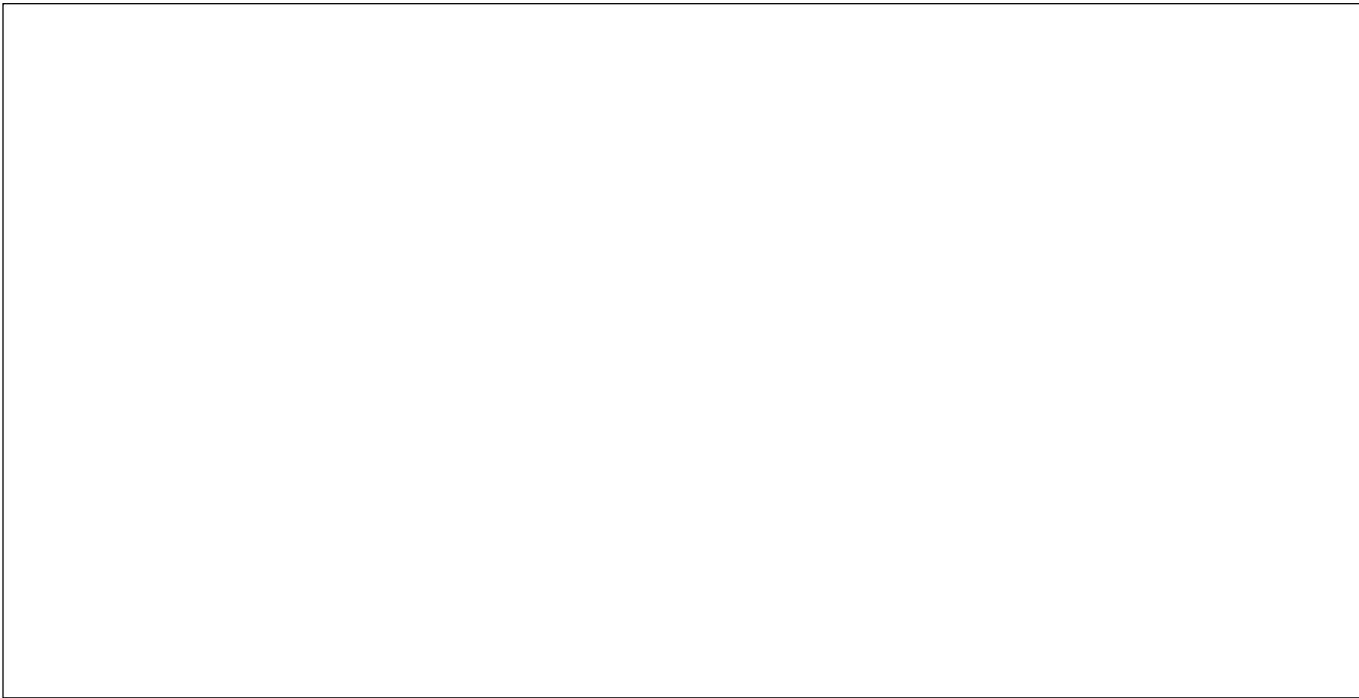


Pioneer

NETWORK CACHE CHANGER

DRM-6NX

Operating instructions



IMPORTANT

If the apparatus is fitted with AC mains power outlet(s), See the REAR PANEL FACILITIES for convenient connection of additional Hi-Fi component(s). Make all connections to the AC outlet(s) and the signal terminals first. Connect the plug to the wall socket last (make sure that the power switch is off.)

THE APPARATUS MUST BE GROUNDED



[FOR NORTH AMERICA MODELS]

CAUTION

CONSULT WITH THE COMPANY SALES REPRESENTATIVE.
"USE ONLY UL LISTED AND CANADIAN CERTIFIED POWER SUPPLY CORD."

A POWER SUPPLY CORD TYPE SJT, 18 AWG MINIMUM, 3-WIRE GROUNDED TYPE SHALL BE USED WITH THIS EQUIPMENT.

IMPORTANT



The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.



CAUTION:
TO PREVENT THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.



The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

IMPORTANT! SAFETY INSTRUCTIONS

- 1. READ INSTRUCTIONS** – All the safety and operating instructions should be read before the appliance is operated.
- 2. RETAIN INSTRUCTIONS** – The safety and operating instructions should be retained for future reference.
- 3. HEED WARNING** – All warnings on the appliance and in the operating instructions should be adhered to.
- 4. FOLLOW INSTRUCTIONS** – All operating and use instructions should be followed.
- 5. CLEANING** – Unplug this product from the wall outlet before cleaning. Do not use liquid cleaners or aerosol cleaners. Use a damp cloth for cleaning.
- 6. WATER AND MOISTURE** – Do not use this product near water.
- 7. ACCESSORIES** – Do not place this product on an unstable cart, stand, or table. The product may fall and be seriously damaged.
- 8. VENTILATION** – Slots and openings in the cabinet and back or bottom are provided for ventilation and to ensure reliable operation of the product and to protect it from overheating. These openings must not be blocked or covered. They should never be blocked by placing the product on a bed, sofa, rug, or other similar surface. This product should never be placed in a built-in installation unless proper ventilation is provided.
- 9. POWER SOURCES** – This product should be operated only from the type of power source indicated on the marking label. If you are not sure of the type of power available, consult your dealer or local power company.
- 10. PLUG** – This product is equipped with a wired grounding-type plug (a plug having a third (grounding) pin). This plug will only fit into a grounding type power outlet. This is a safety feature. If you are unable to insert the plug fully into the outlet, contact your electrician to replace your obsolete outlet. Do not defeat the safety purpose of the grounding type plug.
- 11. POWER-CORD PROTECTION** – When unplugging the apparatus, pull on the plug – not on the cord. Do not handle the cord on plug with wet hands. Doing so could cause an electric short or shock. Do not allow anything to rest on the power cord. Do not locate this product where persons will walk on the cord.
- 12. OVERLOADING** – Do not overload wall outlets and extension cords as this can result in fire or electric shock.
- 13. OBJECT AND LIQUID ENTRY** – Never push objects of any kind into this product through openings as they may touch dangerous voltage points or short out parts that could result in a fire or electric shock. Never spill liquid of any kind on the product.
- 14. CONDENSATION** – Moisture will form in the operating section of the product and the product's performance will be impaired if the product is brought from cool surroundings into a warm room or if the room temperature rises suddenly. To prevent this, let the product stand in its new surroundings for about an hour or two before switching it on, or ensure that the room temperature rises gradually.
- 15. SERVICING** – Do not attempt to service this product yourself as opening or removing covers may expose you to dangerous voltage or other hazards. Refer all servicing to qualified service personnel.
- 16. DAMAGE REQUIRING SERVICE**
Unplug this product from the wall outlet and refer servicing to qualified service personnel under the following conditions:
 - When the power cord or plug is damaged.
 - If liquid has been spilled, or objects have fallen into the video product.
 - If the product has been exposed to rain or water.
 - If the product does not operate normally when the operating instructions are followed. Adjust only those controls that are covered by the operating instructions. Improper adjustment of other controls may result in damage and will often require extensive work by a qualified technician to restore the product to its normal operation.
 - If the product has been dropped or the cabinet has been damaged.
 - When the product exhibits a distinct change in performance – this indicates a need for service.

[FOR U.S. MODEL]

CAUTION

- Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.
- The use of optical instruments with this product will increase eye hazard.

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:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Information to User

Alteration or modifications carried out without appropriate authorization may invalidate the user's right to operate the equipment.

WARNING: TO PREVENT FIRE OR SHOCK HAZARD, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.

For pluggable Equipment, The Socket-Outlet Shall Be Installed Near The Equipment and Shall Be Easily Accessible.

Contents

IMPORTANT NOTICE [For U.S. model]
RECORD THE MODEL NUMBER AND SERIAL NUMBER OF THIS EQUIPMENT BELOW. THE NUMBERS ARE ON THE REAR PANEL.

MODEL NO. DRM-6NX

SERIAL NO.

KEEP THESE NUMBERS FOR FUTURE USE.

CAUTION [For U.S. Model]

This product satisfies FCC regulations when shielded cables and connectors are used to connect the unit to other equipment. To prevent electromagnetic interference with electric appliances such as radios and televisions, use shielded cables and connectors for connections.

CAUTION [For Canadian Model]

This Class B digital apparatus meets all requirements of the Canadian Interference-Causing Equipment Regulations.

[Pour le modèle Canadien]

Cet appareil numérique de la Class B respecte toutes les exigences du Règlement sur le matériel brouilleur du Canada.

사용자안내문	
A급 기기	이 기기는 업무용으로 전자파적합등 목속한 기기 이오니 판매자 또는 사 용자는이 점을 주의하시기 바라며 만 약 잘못 판매 또는 구입하였을 때에 는 가정용으로 교환하시기 바랍니다.

POWER-CORD CAUTION

Handle the power cord by the plug. Do not pull out the plug by tugging the cord and never touch the power cord when your hands are wet as this could cause a short circuit or an electric shock. Do not place the unit, a piece of furniture, etc., on the power cord, or pinch the cord. Never make a knot in the cord or tie it with other cords. The power cords should be routed such that they are not likely to be stepped on. A damaged power cord can cause a fire or give you an electrical shock. Check the power cord once in a while. When you find it damaged, ask your nearest PIONEER authorized service center or your dealer for a replacement.

The export of this product from Japan is regulated by the Japanese government. The export of this product may be prohibited without governmental license. To export or re-export of this product from a country other than Japan may also be prohibited without a license from that country.

Thank you for buying this Pioneer product. Please read through these operating instructions so you will know how to operate your model properly. After you have finished reading the instructions, put them away in a safe place for future reference. In some countries or regions, the shape of the power plug and power outlet may sometimes differ from that shown in the explanatory drawings. However, the method of connecting and operating the unit is the same.

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Features

This 6-disc CD-ROM changer is a CD-ROM server equipped with a network board for easy network connection. The internal hard disk serves as cache memory for CD-ROM data which significantly reduces access times.

The support of multiple protocols enables compatibility in a variety of network environments.

Where to Use the DRM-6NX Changer

The PIONEER Network Cache Changer DRM-6NX can be used simultaneously from NetWare, Windows, OS/2, DOS, UNIX and Internet/intranet clients. It supports basic messaging and network protocols:

- NCP over IPX and IP
- SMB over NetBIOS/NetBEUI
- SMB over NetBIOS/TCP/IP
- NFS over UDP/IP
- HTTP over TCP/IP for access from any environment using a Web browser.

NetWare

The DRM-6NX emulates a Novell File Server running NetWare 3.x and 4.x. No.nlm is required.

Microsoft and IBM Networks

The DRM-6NX is easily accessed using SMB.

UNIX

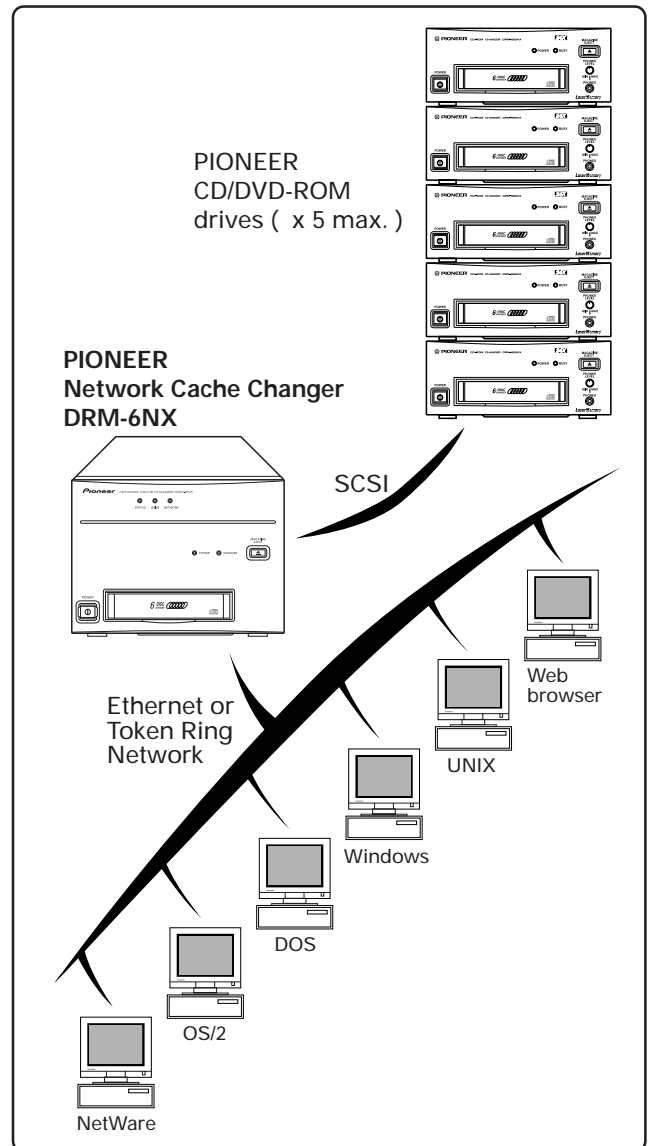
The DRM-6NX is mounted using NFS.

Internet/Intranet

The DRM-6NX is accessed from Web browsers in any environment using HTTP over TCP/IP.

Major Features

- Use of a high-capacity hard disk drive makes it possible to cache data for all 6 CD-ROMs in a magazine. (Volume Cache *1)
- To use the changer as a 12-disc CD-ROM server, save the data to cache memory on the hard drive then replace the discs in the CD-ROM drive with another disc magazine
- A total of 5 CD/DVD-ROM drives or changers can be connected to the external SCSI terminal
- A Directory Cache*2 function reduces file retrieval time and includes CD-ROM discs that have not been stored in the Volume Cache
- Replacing the internal hard disk with a larger hard disk drive (IDE type) enables caching of more CD-ROM discs. *3
- Fast Ethernet is supported through 100BASE-TX/10BASE-T automatic switching function
- Miscellaneous cache and network management enabled through use of standard Web browsers
- Network board and changer firmware can be upgraded via the network (operating software upgrades are available from the PIONEER web site)



- Discs can be managed by magazine unit for 6-disc magazines.
- Incorporates the CD-ROM changer with a maximum 24-speed capacity
- Universal 110 to 240 V power supply

*1 Volume Cache: All CD-ROM disc data is copied to this cache

*2 Directory Cache: Hard disk cache copies the disc directory structure down to file units to speed up file retrieval

*3 Changing the unit's built-in drive must be done in accordance with procedures using a Pioneer-recommended hard disk drive (for details, consult your dealer or the Pioneer website)

It is illegal to use works for which usage rights have not been obtained.

NOTE:

- This product does not support caching DVD discs.

Handling Precautions

Installation

Select an installation site with a flat, solid surface.

Do not install the system where it will suffer any of the following:

- ① Exposure to direct sunlight or a heater
- ② High humidity or dust
- ③ Proximity to bathroom or kitchen
- ④ Exposure to spotlight
- ⑤ Proximity to any large electric apparatus such as a refrigerator, air conditioner, dimmer, etc.
- ⑥ Uneven or unsteady installation surface
- ⑦ Difficulty of service and maintenance

If you install the system close to a wall, be sure to leave a space between the wall and the system so that the rear of the system is accessible.

CAUTION

- This unit contains a hard disk drive and must not be exposed to shock.
- Do not turn off the power when the disk drive is running, especially not during caching (when data is written to the disk). The front panel HDD indicator shows hard disk operation. See page 8 for details.
- Do not connect a CD-ROM or DVD-ROM drive other than a Pioneer drive to the SCSI terminal on the rear panel. Do not connect this terminal to a SCSI controller as this could cause malfunction or breakdown.

Handling precautions

- Be careful not to stain, scratch or leave fingerprint, etc., on the signal surface, or recording surface of the discs. The specified playback performance or recording performance may not be obtained with such discs.
- The unit can accommodate only the discs with a diameter of 12 cm (4.72").
- Since the disc rotates at a high speed in the unit, vibrations or noise may be generated as a result. Note that this is not a malfunction and that it will not exert adverse effects on the performance of the unit.

Condensation

If the temperature difference between the unit and environment is too large, water will condense in the unit and the system may not provide proper performance. For example, if you bring the unit into a warm room from outside in cold weather, or if you increase room temperature abruptly, condensation may result.

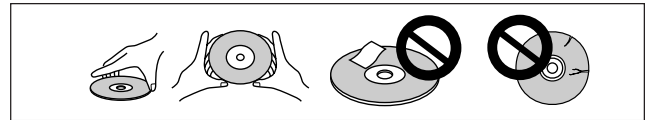
If condensation occurs, leave the unit for one hour in the room, or increase room temperature gradually before using it.

Handling the discs

- Use only those discs which display the mark shown to the right.

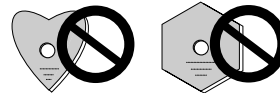


- Avoid touching the signal surface when you use a disc
- To hold it, place your fingers on the edge of the disc or the edge of the center hole and the disc edge
- Do not attach paper or stickers to the label side of the disc. Handle discs carefully and avoid damaging the label
- Discs rotate at high speed in the unit. Do not use defective discs (e.g., cracked or considerably warped) as such discs may damage the unit



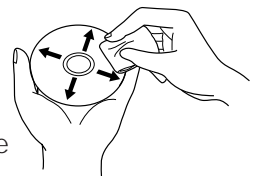
CAUTION RE: USE OF SHAPED CD's

- This product is designed for use with conventional, fully circular CD's only
- Use of shaped CD's is not recommended for this product
- Pioneer disclaims all liability arising in connection with the use of shaped CD's



Disc care

- Fingerprints or dust on the disc will not directly influence the recorded signals. However, sound quality may decline since such contamination diminishes the intensity of the light reflected from the signal side. Therefore, discs should be kept clean. When you clean a disc, use a soft cloth and carefully wipe towards the outer edge of the disc.
- If the disc is heavily soiled, wipe off the dirt using a soft cloth soaked with water. Wipe excess water off with a dry cloth.
- Do not use an aerosol record cleaner or antistatic agent. Do not use benzene, thinner or similar volatile chemicals as they may damage the disc surface.



Disc storage

- CDs are made of plastic, like conventional audio records. Take proper care to prevent discs from warping. Always put them in a case and store vertically away from humidity or extremes of temperature. Do not leave your discs in a car for a long periods.
- Read the instructions supplied with the discs.

Cleaning the magazine

Clean the magazine with a soft dry cloth. If it becomes dirty, wipe the dirt away gently with a damp, soft cloth soaked in a solution of water with a few drops of mild detergent. If there is any moisture on the unit after cleaning, dry it off with a soft, dry cloth. Let the magazine cartridge air dry thoroughly before inserting discs or placing it in the unit.

Cleaning the unit

To clean the panel and the cover, use a soft, dry cloth to wipe off dust and dirt. If the cabinet is heavily soiled, wipe off the dirt using a soft cloth soaked in a neutral detergent diluted 5 to 6 times. Then wipe the water off with a dry cloth. Do not use benzine, thinner, insecticide or similar volatile chemicals, as they may dissolve or discolor the cabinet surface. If you use a chemical polishing cloth, carefully read the instructions supplied with it before applying to the cabinet.

● CD lens cleaner

The unit's pickup lens should not become dirty in normal use. If it should malfunction due to soiling, check with the nearest PIONEER authorized service center. Lens cleaners for CD players are commercially available, however, use caution as some products may cause damage to the lens.

TRADEMARKS

Trademarked names appear throughout this manual. Rather than list the names and entities that own the trademarks or insert a trademark symbol with each mention of the trademarked name, the publisher states that it is using the names only for editorial purposes and to the benefit of the trademark owner with no intention of infringing upon that trademark.

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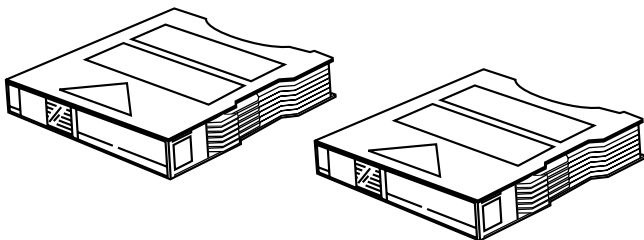
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NOTICE

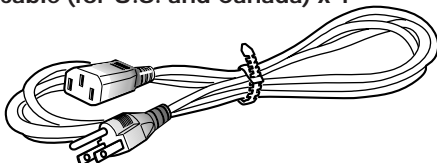
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Checking the Accessories

6-disc magazines x 2

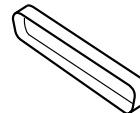


Power cable (for U.S. and Canada) x 1



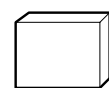
The accessory power cable is for use in North America. In other regions, please consult your dealer for information regarding purchase of an alternate power cable.
"Use Only Safety Licensed Power Supply Cord"

SCSI connector cover x 1



Cover for SCSI terminal

Power button cover x 1



A cover used to prevent inadvertent power off. See page 8 for instructions on use.

Operating instructions x 1

Internal network board serial number label x 1

This label relates to the internal network board. The Serial Number information is needed to complete the product installation. After installing the product, write the IP Address in the space provided and attach this label to the cover for future reference.

Panel Facilities

Front View

NETWORK indicator

Flashes to indicate the presence of network traffic

HDD indicator

Flashes to indicate hard drive and SCSI activity

STATUS indicator

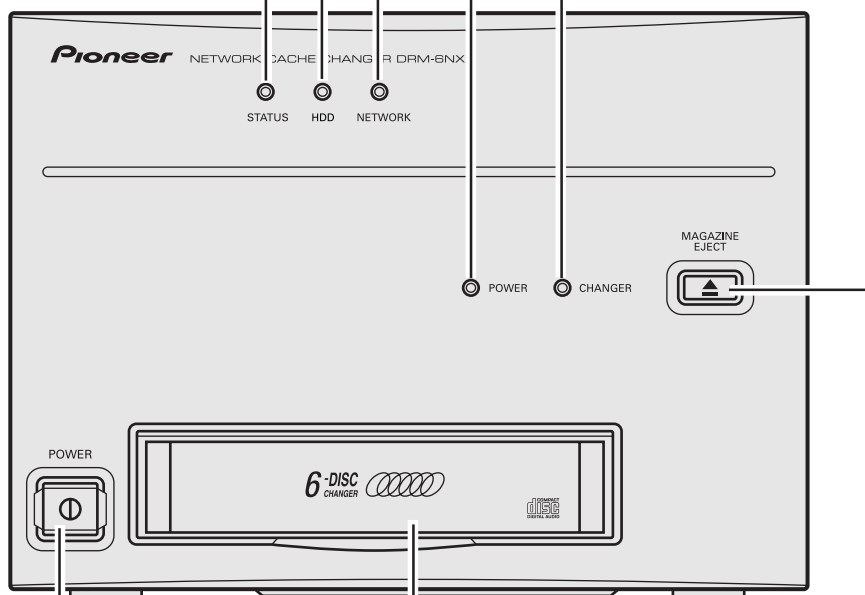
Flashes during startup then goes out when the DRM-6NX is ready for use (LED remains off unless an error occurs)

POWER indicator

Lights when the power is on

CHANGER indicator

Lights when data is read from the internal changer and when the SCSI bus is accessed



POWER button

Press to turn the power on/off

MAGAZINE EJECT button

Press the button to remove the CD-ROM magazine

NOTE:

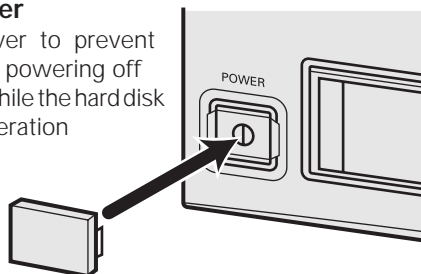
The magazine will not eject if the rear panel FUNCTION switch #3 is set to the UP/ON disabled position.

Caution!

The HDD indicator lamp is flashed during internal hard disk caching operations. Take care not to turn off the hard disk drive at such times.

■ Diagram illustrating installation of power button cover

Use this cover to prevent inadvertently powering off the system while the hard disk drive is in operation



Magazine insertion slot

front-loading mechanism to switch magazines

Rear View

Ventilators

Ventilation openings protect the unit from overheating thus must remain clear and uncovered

SCSI connector

A 50-pin Centronics connector for connecting external PIONEER CD/DVD-ROM drives (a total of 5 units may be connected)

NOTE:

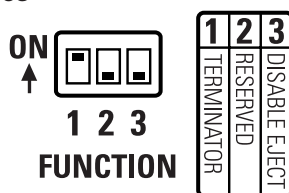
- Do not connect a CD-ROM or DVD-ROM drive other than a Pioneer drive to the SCSI terminal on the rear panel
 - Do not connect this terminal to a SCSI terminal on a PC as this could cause malfunction or breakdown
- "SCSI CONNECTION FOR PIONEER CD-ROM/DVD-ROM DRIVE ONLY. DO NOT CONNECT SCSI CONTROLLER."**
- Assign a SCSI ID (between 2 to 6) for all connected drives. SCSI ID 0, 1 and 7 are reserved for the internal CD-ROM changer, hard disk drive and network board. Never assign IDs 0, 1 or 7 to an external drive.

Black cover

The SCSI ID switch of the internal CD-ROM changer is inside this cover. Note that changing this ID setting may cause a breakdown. Do not remove this cover.

FUNCTION switches

Used to set the operation mode of the internal CD-ROM changer. Turn the power off to the unit before changing the operating mode.



1. SCSI terminator switch for internal CD-ROM changer

It is set to ON (terminator ON) at time of shipment. Set it to OFF (terminator OFF) when other drives are to be connected to the SCSI terminal and set the terminator on the connected drive.

2. RESERVE (for service use only)

Must be set to OFF.

3. Disable magazine eject button

ON: Disables MAGAZINE EJECT button (eject disable)

OFF: Enables MAGAZINE EJECT button (eject enabled)

SIGNAL GND terminal

AC IN socket

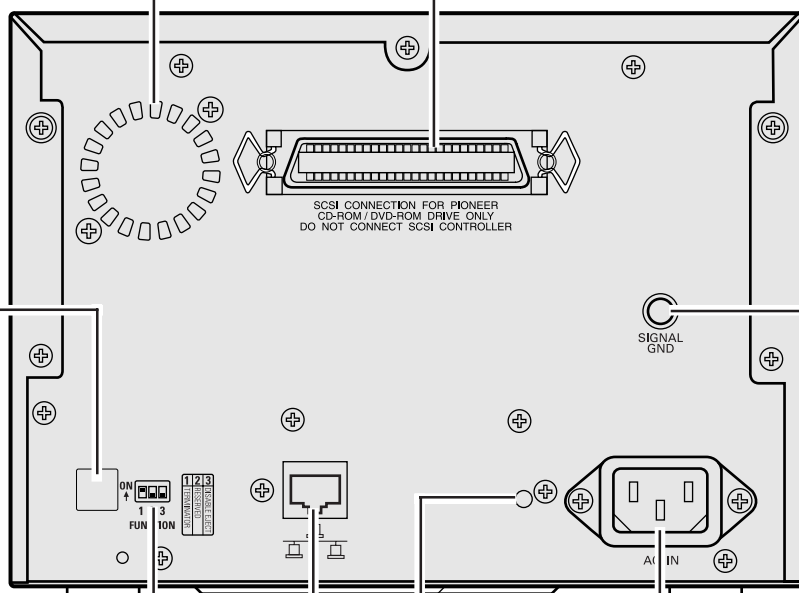
Connect to a wall outlet. This unit is designed to operate at AC 110 – 240 V 50/60 Hz. (There is no power supply voltage switch as switchover takes place automatically internally) The accessory power cord is for use in North America. In order regions, please consult your dealer for information on

Reset button

Press this button to return all settings to their factory defaults

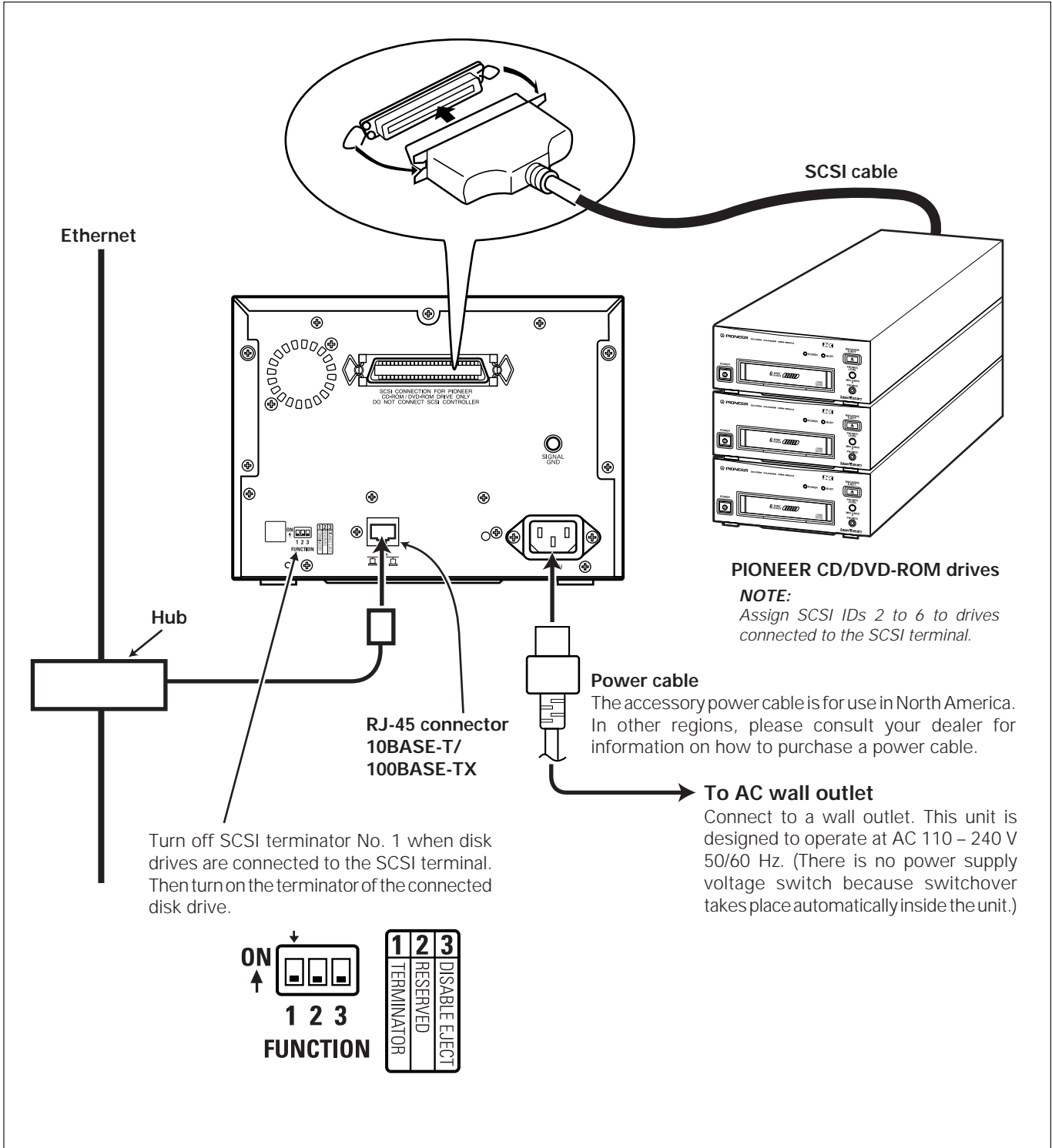
Network connector

Connect to the Ethernet or Token Ring network (RJ-45 connector, 100 Base-TX/10 Base-T)



Connections

Before making or changing the connections, switch off the power switch and disconnect the power cord from the AC outlet.



Handling Magazines

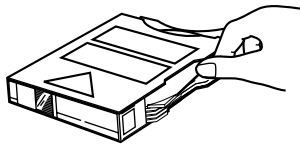
There are a few things you should know about the use of the magazine and your CD-ROM discs. Let's start with the magazine:

THE MAGAZINE AND ITS FUNCTIONS

The Magazine resembles a cartridge and can hold up to 6 CD-ROM discs.

Two magazines are packaged with the unit but additional magazines may be purchased through your Authorized Pioneer Dealer (Six-disc Magazine DRM-A600).

For instructions on how to use and care for the discs and the magazines, please read the information in this section carefully:



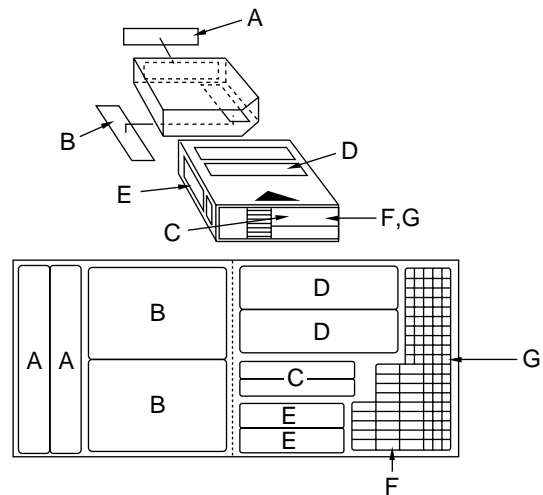
CAUTIONS Regarding Handling of Magazines:

- 8-cm (3.15 in.) CDs cannot be used with this magazine
- CD-ROM discs cannot be placed into the unit without the magazine
- **DO NOT** touch the recorded surface of discs (the shiny side)
- Discs **must** be inserted label side **↓ down ↓** and shiny side up
- **DO NOT** place anything other than discs in the disc tray
- Insert discs into disc trays one tray at a time
- Close one tray before opening another tray
- **DO NOT** drop or hit magazines
- **DO NOT** take magazines apart
- **DO NOT** use the magazine with an 8-cm CD adapter
- **DO NOT** use volatile liquids to clean the magazine surface
- **DO NOT** force the magazine into the slot. It should slide in with a straight, easy push.
- Insert the correct end of the magazine into the magazine slot.
- After use, store magazines in the case provided
- Store magazines in a cool place away from direct sunlight
- After approximately 5,000 operations per tray, the Magazine should be replaced

CAUTION Regarding Transporting the Changer:
Never transport or ship the Pioneer Network Cache Changer with the magazine installed. The optical heads are unlocked thus are susceptible to damage. Remove the magazine before moving, shipping or transporting the unit.

LABELING THE MAGAZINE

When affixing the supplied labels, apply them in the positions specified below:



- Each label can be conveniently used as follows:
 - A: Titles
 - B: Names of stored discs and tracks
 - C: Titles
 - D: Names of stored discs
 - E, F, G, : Classification
- **DO NOT** put new labels on top of old labels. The exceptions are F and G may be placed over C.

CAUTION:

If labels are not placed in the designated positions, the magazine and the changer may not operate correctly.

SUPPORTED DISC FORMAT

Physical Format

The DRM-6NX changer supports 2048 Bytes/Block format only. The supported physical formats are Mode 1, Mode 2, form 1, Multi-session, and packet write (Variable).

Logical Format

Logical format to be supported is basically ISO9660 (includes Rock Ridge and Joliet Extensions)

NOTES:

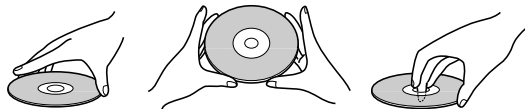
- This unit does not support the use of CD-DA Audio Discs.
- This product does not support some CD-R discs written with packet writing. (This product does not support ISO9660 Level 3 discs which contain multi extent files. If these discs are used, multiple same filenames appear in a directory.)

MEDIA DIAMETER

120mm/12cm/4.72" discs only

HANDLING OF CD-ROM DISCS

- When holding discs, **DO NOT** touch the data surfaces (the shiny side of the disc). Hold the disc by the edges or by one edge and the center hole.



- **DO NOT** affix labels or adhesive tape to either side of the discs. Also, do not scratch or damage the **pre-existing label**.

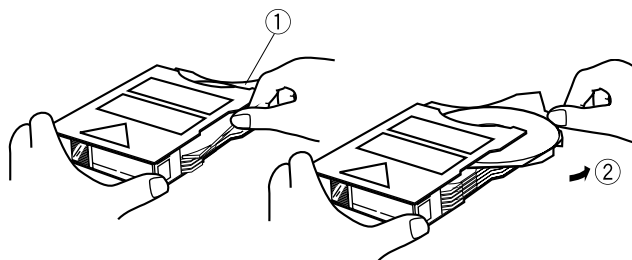
DO NOT use damaged, cracked, or warped discs. If they break inside the unit, they may damage the optics. Discs rotate at high speed inside the changing mechanism.

INSERTING DISCS INTO THE MAGAZINE

Because the Changer has a front-loading magazine slot, inserting discs is easy. To insert discs into the magazine, follow these steps:

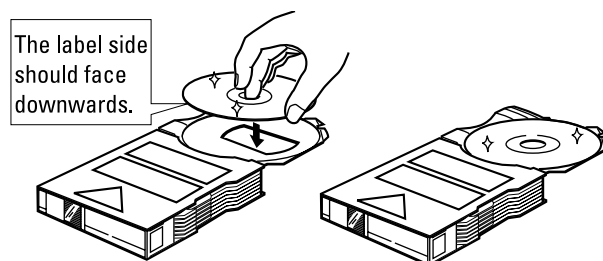
Step 1

Open a disc tray (open one at a time) by placing your thumb on the outer tab and pushing the tray out in a counterclockwise direction.



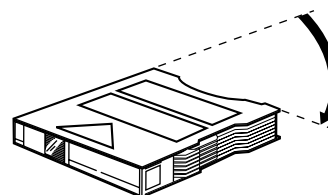
Step 2

Place a CD-ROM disc **label side ↓ down ↓**, shiny side up in the tray.



Step 3

With your index finger on the disc tray tab, swing the tray back into the magazine.



Repeat these steps until you have inserted each disc into the magazine. Insert the magazine into the unit.

WARNING:

Discs **must** be placed in the disc tray **label side ↓ down ↓**, shiny side up.

Basic Installation

This section includes the basic setup procedures for getting your PIONEER Network Cache Changer DRM-6NX up and running:

- Connecting the DRM-6NX to the network
- Assigning an Internet address
- Setting basic system parameters

You must configure the DRM-6NX and set up the appropriate access restrictions for your specific network environment. Proceed to the relevant sections of the manual:

- pp. 18 – 19 - Microsoft & IBM Networks (SMB)
- pp. 20 – 24 - NetWare (NCP)
- pp. 25 – 26 - UNIX (NFS)
- pp. 27 – 28 - Web (HTTP)

Connecting the Network Cache Changer to the Network

Before you begin

Always consult the Network Administrator before making changes to the network configuration.

Procedure

To connect the DRM-6NX to your network, follow these steps:

1. Turn off the power
2. Connect the network cable to the appropriate connector
3. Turn on the power

The DRM-6NX front panel indicators will flash during power-on and self-test. When the Status indicator stops flashing and remains off, the DRM-6NX is ready for use.

Assigning an Internet Address

The DRM-6NX supports HTTP over TCP/IP, which means that it works as a web server available to the Internet and intranets. To establish communication with the TCP/IP network, you must assign an appropriate Internet address to your DRM-6NX as an address assignment is required to access the DRM-6NX web interface.

You can set the Internet address of the DRM-6NX Changer using either DHCP, ARP, RARP or BOOTP. All methods are enabled by default. Each Method is described below:

DHCP

DHCP is available in Windows NT and UNIX. It operates on the entire network and allows for automatic but temporary assignment of Internet addresses from a central pool. DHCP will, when enabled, cause the selected host to automatically allocate and download a free Internet address, default router address and subnet mask to the requesting DRM-6NX. It also provides validation data that defines how long the Internet addresses will remain valid.

ARP

ARP is available in Windows 95, Windows NT, UNIX and OS/2. It requires the Internet address for each new device to be downloaded individually. It is not appropriate to use this method over routers.

RARP

RARP is available in UNIX. It downloads the Internet address to each device automatically. This method requires a RARP daemon on your system and operates within a single network segment only.

BOOTP

BOOTP is available in UNIX and is similar to RARP although it can operate on the entire network. It requires a BOOTP daemon on the system. A request made to an active BOOTP or RARP daemon initiates a search of the Ethernet address table (RARP daemon), or boot table (BOOTP daemon) for an entry matching the unit's Ethernet address. If a matching entry is found, the daemon then downloads the Internet address to the device.

Before you begin

Make sure that the DRM-6NX is powered up and connected to the network.

Internet Address

Obtain an address from the Network Administrator.

System Privileges

You will require *Root* privileges on the UNIX system or *Administrator* privileges on the Windows NT servers.

Ethernet Address

Depending upon the selected method, you will need to know the Ethernet address of your DRM-6NX. The Ethernet address is based upon the internal network board serial number found on the attached label.

Important!

Do not use the default (192.36.253.80) or example Internet address when installing your DRM-6NX. Always consult the Network Administrator before assigning an Internet address.

Mapping a Host Name to the Internet Address

If you are using host names, you can map a unique host name to the acquired Internet address. Refer to your system manuals or to the Network Administrator for instructions on how to perform name mapping on the particular system.

NOTE:

- *If the host name has not been included in the system host table, you can still perform the following instructions on how to download the Internet address. In this case, simply replace the host name entry with the Internet address wherever required.*

Procedures

Download the Internet address to your DRM-6NX using the appropriate method for your system.

DHCP

Follow the steps below to use the DHCP method:

1. Edit or create a scope in the DHCP manager of the DHCP daemon. For Windows NT servers, refer to the "*Windows NT Resource Kit*" for instructions. The entries made in this scope typically include the following parameters:
 - Range of Internet addresses
 - Subnet mask
 - Default router Internet address
 - Lease duration
 - Mail server Internet address

- DNS server Internet address
 - Domain name
 - NTP server Internet address
2. Activate the scope.

In the DRM-6NX configuration file, DHCP is enabled by default. The Internet address and all the other settings will be downloaded automatically.

NOTE :

- It takes a few minutes to get the IP address from the DHCP server

ARP in Windows 95 and Windows NT

Perform the following commands to download the Internet address and verify correct Internet communication:

1. Start a DOS window and type the following command:

```
arp -s <Internet address> <Ethernet address>
```

2. Ping the unit as follows:

```
ping <Internet address>
```

Example:

```
arp -s 172.16.253.80 00-40-8c-10-00-86
ping 172.16.253.80
```

The host will return 'Reply from 172.16.253.80 . . . ' or some similar message. This indicates that the address has been set and the communication is established.

Important!

Windows 95 only: If the ARP table is empty, you must first ping an existing unit on your network before setting the Internet address of your DRM-6NX. Type `arp -a` to display the ARP table.

NOTES:

- Please note that when you execute the `ping` command for the first time, you will experience a significantly longer response time
- ARP and PING commands should be used consecutively in order to set an IP address to this product. With this method, IP address can be changed in 30 minutes after the server is started up. The confirmation by Web Browser is recommended. If you have some problem, please see ARP command help.

ARP in UNIX and OS/2

Follow these steps to download the Internet address and verify the communication:

1. Type the following command:

```
arp -s <host name> <Ethernet address> temp
```

2. Ping the unit as follows:

```
ping <host names>
```

Example:

```
arp-s cdserv 00:40:8c:10:00:86 temp
ping cdserv
```

The host will return 'cdserv is alive', or a similar message to indicate that the address has been set and that communication is established.

NOTES:

- Please note that when you execute the `ping` command for the first time, you may experience a significantly longer response time
- The `arp -s` command may vary from system to system. Some BSD-type systems expect the host name and Ethernet address in reverse order, whereas IBM AIX systems require the additional argument `ether`. For example:

```
arp -s ether <host name> 00:40:8c:10:00:86 temp
```

RARP in UNIX

Follow these steps to use the RARP method in UNIX:

1. Append the following line to your Ethernet address table. This is typically performed using the command `/etc/ethers`:

```
<Ethernet address> <host name>
```

Example:

```
00:40:8c:10:00:86 cdserv
```

2. If necessary, update your host table and alias name databases as required by your system.
3. If it is not already running, start the RARP daemon. This is typically done using the command `rarpd -a`.
4. Restart the DRM-6NX to download the Internet address.

Using BOOTP in UNIX

Follow these steps to use the BOOTP method:

1. Append the following entry to your boot table (typically /etc/bootptab):

```
<host name>:ht=<hardware type>:vm=<vendor magic>:\  
:ha=<hardware address>:ip=<Internet address>:\  
:sm=<subnet mask>:gw=<gateway field>
```

where:

ht = ether for Ethernet, tr for Token Ring
vm = rfc1048
ha = The Ethernet or node address, i.e. the DRM-6NX serial number
ip = The Internet address of the DRM-6NX
sm = The subnet mask
gw = The default router address

Example (Ethernet):

```
cdserv:ht=ether:vm=rfc1048:\  
:ha=00408c110086:ip=192.36.253.80:\  
:sm=255.255.255.0:gw=192.36.253.254
```

2. If necessary, update your host table and alias name databases as described required by your system
3. Start the BOOTP daemon (if not already running) , typically by the command: `bootpd -a`
4. Restart the DRM-6NX to download the Internet address, default-router address and net mask

Basic System Settings

The PIONEER Network Cache Changer DRM-6NX can be configured using one of these tools:

- **Web browser** - The DRM-6NX web interface is the preferred administration tool. The Internet address must be set. See description below.
- **Text editor** - The DRM-6NX text files. However, not all administration tasks can be performed from this interface. Refer to "Text Editor" on page 44.

Accessing the DRM-6NX Web Pages

The DRM-6NX web interface is divided into two parts:

- The **File View** page for browsing and accessing files and folders on the discs. This page is available to all users.
- The **Administration** pages for specifying configuration parameters and access rights. These pages are intended for the Administrator only.

Access the DRM-6NX from a standard Web browser such as Netscape Navigator or MS Internet Explorer. Follow these steps:

1. Start the Web browser
2. Enter the name or Internet address of your DRM-6NX in the location/address field:

```
http://< Internet address>
```

The DRM-6NX Home Page is displayed




All users have full access to this **File View** page. From this page, users can display and access the discs inserted in the Changer according to their access permissions.

- Click on **Administration** to access Administration pages. You will be prompted to supply the Server password for the initial session. The default password is set to 'pass'.

From the main menu you may access any of the following Administration tools:

- **This server** - To specify system settings related to a DRM-6NX, To refresh the hard disk cache. To Upgrade firmware on the changer
- **File Rights** - To set up access rights to volumes, files and folders
- **Discs & Drives** - To manage the drives and the inserted CD-ROM discs
- **Network Settings** - To specify settings for the network protocols to use
- **Event Log** - To view the event log that contains occurrences involving the DRM-6NX
- **Statistics** - To display statistics on the DRM-6NX

NOTES:

- To prevent users from accessing the volumes from the web interface disable the **Enable access to volumes via Web browser (HTTP)** parameter on the **Network Settings - Web (HTTP)** page
- Online help is available from all the DRM-6NX web pages. If you need help on a specific task, click Help .

Server Password

To protect the system files, it is important that you set the **Server Password**. The Server password is used in all primary protocols, (i.e. HTTP, NetWare (NCP), Windows (SMB), SNMP and FTP). For example, a user will be prompted for the Server password when accessing the Administration web pages for the first time each session.

To set the Server password, follow these steps:

- From the **This Server** page, click **Edit** to open the Server Settings dialog box
- Open the **General** page
- Specify and confirm the **Server Password**
- Click **Close**

NOTE:



- If you lose the Server password, you must restore the factory default settings. See **"Restoring Factory Default Settings"** on page 48.

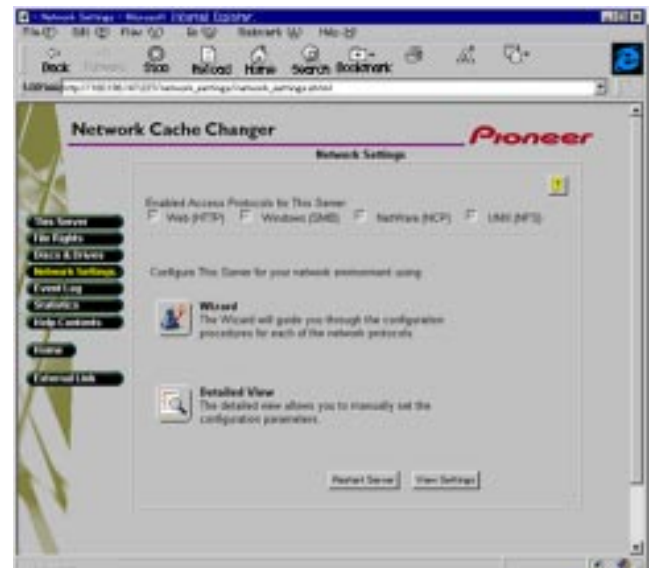
Date and Time

- On the **This Server** page, click **Edit** to open the Server Settings dialog box
- Open the **Date/Time** page
- Specify the appropriate time zone in which the DRM-6NX Changer operates
- To set the time using a time synchronization source, choose **Automatically** and specify the time source:
 - **Network Time Protocol (NTP)** - for TCP/IP networks
 - **Novell Directory Services (NDS)** - for NetWare
 To set the time manually, choose **Manually** and specify the date in `yy-mm-dd` format and time in `hh:mm:ss` format using the 24 hour clock
- Click **Close**

TCP/IP

The installation wizard is a convenient way to set up the DRM-6NX for your network environments.

- Click **Network Settings**
- Click **Wizard**  and the Wizard dialog appears
- Choose **TCP/IP** to set up the DRM-6NX for the TCP/IP environment. Click **Start** to proceed with the installation. Follow the instructions on the screen without skipping any steps
- Click **Close** when finished
- Click **Detailed View**  to verify the settings



Microsoft & IBM Networks (SMB)

This section outlines the required configuration settings for running the Network Cache Changer DRM-6NX in the Microsoft and IBM (SMB) network environment, (i.e. Windows for Workgroups, Windows 95, Windows NT or OS/2). It also describes how to set up access restrictions for individuals and groups of users.

SMB (Server Message Blocks) is a protocol that uses NetBIOS. NetBIOS may be transported over several different network protocols. The DRM-6NX supports the following transport methods:

- SMB over NetBIOS/NetBEUI
 - SMB over NetBIOS/TCP/IP (also designated NBT)
- Both protocols are enabled by default. However, you can disable the protocols not needed by setting the appropriate configuration parameters.

If you are using the DRM-6NX in a multi-protocol environment, proceed to the other relevant sections of the manual:

- pp. 20 – 24 - NetWare (NCP)
- pp. 25 – 26 - UNIX (NFS)
- pp. 27 – 28 - Web (HTTP)

Network Settings



Use the **Administration** pages within the DRM-6NX interface to configure the Network Cache Changer. Refer to "Accessing DRM-6NX Web Pages", page 16.

SMB Server Name


The default SMB server name is PIONEER<nnnnnn>, where <nnnnnn> is the last six digits of the DRM-6NX serial number. This is the name that will be presented to the Windows clients on the network. You can change that name by editing the **SMB Server Name** parameter. It can be useful to choose a more descriptive name such as indicating where the unit is located.

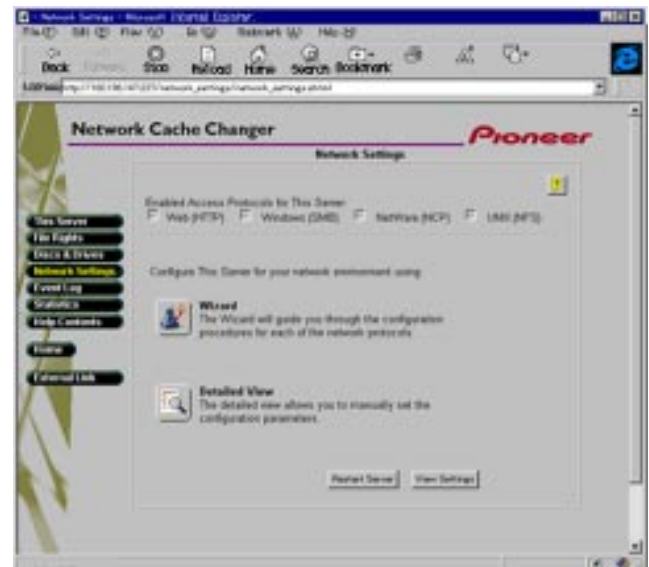
Wizard

The installation wizard is a convenient way to set up the DRM-6NX for your network environments.

1. Click **Network Settings**.
2. Click **Wizard**  and the Wizard dialog appears
3. Choose **Windows (SMB)** to set up the DRM-6NX for your Windows clients
4. Click **Start** to proceed with the installation and follow the instructions on the screen
5. When finished, click **Close**
6. Click **Detailed View**  to verify the settings


NOTES:

- It is recommended that you disable all protocols that you do not intend to use
- Online help  is available for all parameters
- The parameter list is described in detail in "Appendix A - Parameter List" on page 40



Access Control

In the Windows (SMB) environment, you must select whether you want to use share-level or user-level access control. Follow these steps to select the proper security level for your needs:

1. Click **Network Settings**
2. Click **Detailed View** 
3. Open the **Windows (SMB)** page
4. Select the security mode to be used; share-level or user-level. For user-level, you must specify the name of the authentication domain to which the domain controller belongs. Otherwise, no access will be granted.
5. Click **OK**

NOTE:

- If you need specific access restrictions for specific resources, use the user-level access control. User-level access control also allows you to integrate the DRM-6NX with existing Windows NT or OS/2 domains.

Share-level

Share-level access control means that you can assign passwords to each shared resources on the DRM-6NX. The user will automatically be prompted for the password when trying to access the shared resource. The user will then be granted access to the volume and all its subfolders.

By default, all users will have access to all the discs. The system files are protected by the Server password.

File Rights

1. Click **File Rights**
2. To make all the discs available to some users only:
 - Locate the Volumes folder in the file tree
 - To protect one or several resources, but grant all users access to most other resources:
 - Locate the resource you want to protect in the file tree
3. Click **Properties**
4. Open the **Windows Sharing** page



5. Specify the sharing options
6. Click **OK**

NOTES:

- Access Type of Volumes are always **Read Only**. It cannot be changed on the **File Rights** page
- If the same password is set for multiple volumes, a user who has access to a volume may access another volume without a password

User-level

User-level access control means that specific users and groups can be granted access to each shared resource on the DRM-6NX. The DRM-6NX validates all users except the local administrator against a domain controller. On successful login, the user is authenticated to use the shared resources on the DRM-6NX according to their existing permissions.

The system files are protected by default. All users that belong to the administrator groups in the domain have administrator rights on the DRM-6NX. All members of the domain have full access to all the discs.

File Rights

1. Click **File Rights**
2. To make all the discs available to some users only:
 - Locate the Volumes folder in the file tree
 - To protect one or several resources but grant all users access to most other resources:
 - Locate the resource you want to protect from the file tree
3. Click **Properties**
4. Open the **Windows Security** page



5. Add permissions for the users and groups you want to grant access

NOTE:

- All users must belong to the same domain

6. Click **OK**

NetWare (NCP)

This section outlines the required configuration settings for running the Network Cache Changer DRM-6NX in the Novell NetWare environment. The section also outlines how to set up access restrictions.

If you intend to use the DRM-6NX in a multi-protocol environment, proceed to the other relevant sections in this manual:

- pp. 18 – 19 - Microsoft and IBM Networks (SMB)
- pp. 25 – 26 - UNIX (NFS)
- pp. 27 – 28 - Web browser (HTTP)

Network Settings

The DRM-6NX emulates both a NetWare 3.x bindery server and a 4.x NDS server. It supports NetWare over the IP protocol. Clients that support the NetWare/IP protocol will connect directly to the DRM-6NX, (i.e. peer-to-peer). Clients without NetWare/IP support will be routed through a Novell server with an IPX/IP gateway. If your network supports TCP/IP, use the Administration pages within the DRM-6NX web interface to configure the DRM-6NX. Refer to " *Accessing the DRM-6NX Web Pages* " on page 16.

NetWare Server Name

The default NetWare server name is PIONNER<nnnnnn>_NW, where <nnnnnn> is the last six digits of the DRM-6NX serial number. This is the name that will be presented to the NetWare clients on the network. You can change that name by editing the **NetWare Server Name** parameter. It can be useful to choose a more descriptive name, such as indicating the location of the unit.

Installation as a Bindery Server

If the DRM-6NX is designated as a bindery server, no specific installation is required prior to using the changer.

Installation as an NDS Server



If the DRM-6NX is used as an NDS server, it must first be installed in the NDS tree. Refer to the Install Wizard available from the DRM-6NX web interface. However, if you do not have TCP/IP, you must use a text editor and edit the configuration file manually. Refer to the section entitled " *Alternative Method* " on page 21.

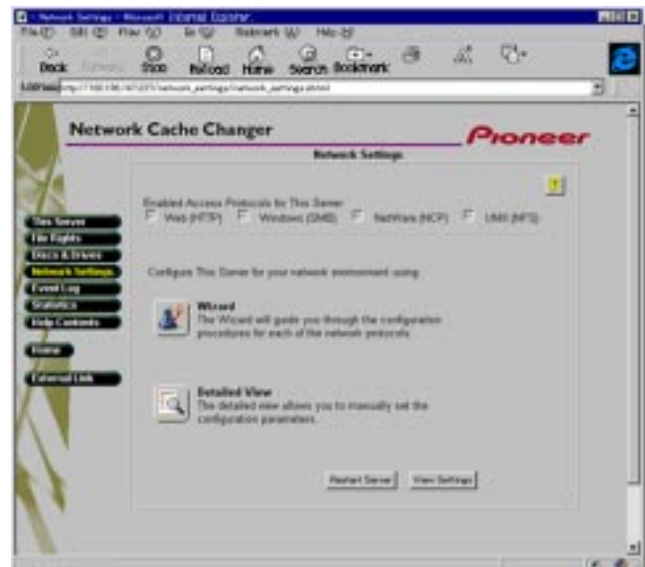
NOTES:

- When installing the first DRM-6NX in your NDS tree, the DRM-6NX will try to extend the NDS Schema with a new attribute to the "NCP server" class. The extension is needed for storing the DRM-6NX's file system rights, (i.e. access rights to the discs and the system files). The new attribute is called "PIONEER:SPcd:rights". This new attribute will not affect the operation of your NetWare servers. The schema extension has been approved by Novell.
- Adding the schema extension requires Supervisor rights to the [Root] object of the NDS Directory tree. This means that the user in the **NDS Admin Name** parameter must have Supervisor access rights.
- If schema extensions are not allowed in your NDS tree, you can store the access rights in a file on a Novell file server. In this case, you do not need Supervisor access rights. However, you must specify the **NDS Rights Storage** and **NDS Rights File** parameters properly. After the NDS installation, you should also create and assign access rights to a directory on the Novell file server.


Wizard

The installation wizard is a convenient way to set up the DRM-6NX for your network environments.

1. Click **Network Settings**
2. Click **Wizard**  and the Wizard dialog appears
3. Choose **NetWare (NCP)** to set up the DRM-6NX for your NetWare clients
4. Click **Start** to proceed with the installation and follow the instructions on the screen
5. When finished, click **Close**
6. Click **Detailed View**  to verify the settings and edit the configuration parameters



NOTES:

- It is best to disable all protocols that will not be used for your system interface
- Online help  is available for all parameters
- The parameter list detailed in " **Appendix A - Parameter List** " on page 40

Alternative Method

Follow the steps below to install the DRM-6NX as an NDS server:

1. Verify that the NDS tree is synchronized
Load DSREPAIR on the server in the NDS tree and select Unattended full repair
If the NDS tree is not synchronized, do not continue the installation until you have solved the problem
2. Use a standard text editor to edit the configuration parameters DRM-6NX configuration file .
From Windows Explorer or File Manager, locate the DRM-6NX configuration file entitled config.ini from PIONEER<nnnnnn>\System\Server Properties\config.ini, (<nnnnnn> are the last six digits of the serial number)
3. Enter the appropriate settings for these parameters:

Parameter name	Value	Description
[Server]		
TimeZone	=	Must be set to the time zone in which the DRM-6NX is operating
TimeSyncSource	= NDS	Set to <i>NDS</i> to enable the unit to match the time set on the NetWare network. <i>The Default setting is NDS</i>
[NetWare]		
NDSEnable	= yes	Must be set to Yes to enable the NDS login
NDSTreeName	=	The name of the tree where you want to install the unit e.g. <i>MEDCORP</i>
NDSServerContext	=	The specific name of the context in the NDS tree where THE DRM-6NX changer is to be installed e.g. <i>Manufacturing.Medtec</i>
NDSAdminName	=	The specific name of a user or administrator with Supervisor or Create rights to the context where you want to install the DRM-6NX changer e.g. <i>Admin.Medtec</i>
NDSAdminPassword	=	The password of the administrator entered in NDSAdminName is shown above. Once written, this password will appear as *****
NDSInstall	= install	Changing to 'install' when you are ready to install the changer A 'forced install 'will overwrite the existing server object without warning.
NDSRightsStorage	= NDS	Set to <i>NDS</i> to store the access rights in the NDS tree. Set to <i>File</i> to store the access rights in on the Novell server.
NDSRightsFile	=	If storing the access rights in a file on the Novell file server, specify the whole path, e.g. <i>CORPSERVER/SYS:CDSERVER/CDSRV.DAT</i>

Parameter name	Value	Description
TimeSyncSources	= SAP	Default is <i>SAP</i> for the network agreed time. Alternatively, enter the chosen server names to be contacted for time synchronization.

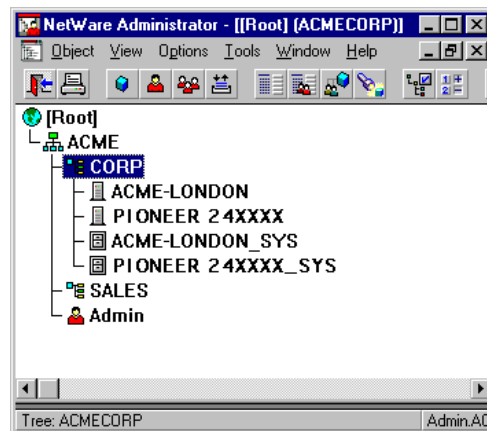
Example (NDS settings):

The DRM-6NX is placed in Eastern United States. The name of your NDS tree is ACMECORP; the name of the context where you wish to install the DRM-6NX is Corp.Acme; the name of the administrator is Admin.Acme. Specify these parameters:

```
[Server]
TimeZone                = US_CAN_Eastern
TimeSyncSource          = NDS
. . .
[NetWare]
NDSEnable               = yes
NDSTreeName             = ACMECORP
NDSServerContext        = Corp.Acme
NDSAdminName            = Admin.Acme
NDSAdminPassword        = secret
NDSInstall              = install
NDSRightsStorage        = NDS
TimeSyncSources         = SAP
```

4. Save the config.ini file to start the NDS server installation. The installation takes about 15 seconds after which users are able to access the DRM-6NX changer in NDS mode
5. After the installation you must log out then log in to have all of the necessary rights on the DRM-6NX server object and the associated volume.

Using the NWAdmin, you will find a new server object and corresponding volume object in the context you chose above



The DRM-6NX installed in the NDS Tree

Specific Distinguished Names

Names in the Directory tree have two name types: typeful or typeless. A typeful name includes the name types (OU,O, etc.) when identifying the distinguished name of the object. A typeless name excludes the name types. You can use either syntax when specifying the parameters.

Example 1 (NDSServerContext parameter syntax):

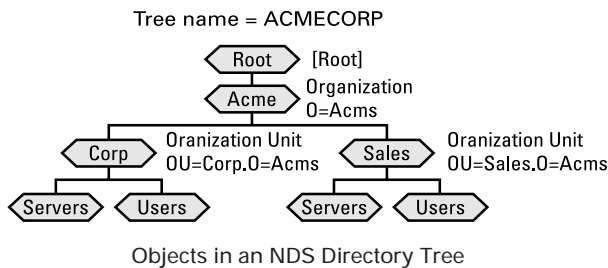
Typeful distinguished name: OU=Corp.O=Acme

Typeless distinguished name: Corp.Acme

Example 2 (NDSAdminName parameter syntax):

Typeful distinguished name: CN=Admin.O=Acme

Typeless distinguished name: Admin.Acme



NOTE:

- Display Details in NWAdmin to verify the syntax of the NDSServerContext and NDSAdminName parameters

Deleting the Server Object

If the NW Admin's partition manager is used to delete the server object from your NDS tree, turn off the unit (DRM-6NX) for a minimum of 5 minutes before deleting the object. If you do not turn off the server before attempting to delete the server object, your client workstation will hang and you will have to reboot the PC. However, when using NDS manager this is not needed.

Installation Errors in NetWare NDS

Any errors which may occur when installing your DRM-6NX in a NetWare NDS network, are written to a file named logfile.txt located in the System / Server Properties folder. Display the log file through the Event Log page within the DRM-6NX web interface.

The table comprises a summary of error messages:

Error	Description
Installation failed: NDS tree not found	The server could not find the NDS tree. Verify the spelling
Installation failed: Administrator object missing	The server could not find the user object specified in the NDSAdminName parameter. Verify that the proper format is used e.g. admin.acme. Verify the spelling
Installation failed: Administrator password is incorrect	The password supplied in the NDSAdminPassword password could not be used to login as the user in the NDSAdminName parameter. Verify the spelling
Installation failed: Server context not found	The context specified in the NDSServerContext parameter was not found. Verify the spelling
Installation failed: Insufficient rights to create server object	The specified user in the NDSAdminName parameter does not have sufficient rights to create the server object in the specified context.
Installation failed: NDS Server object already exists	You have tried to install the server on top of an existing server object. Set the NDSInstall parameter to forced to overwrite the existing object.
Installation warning: Could not extend NDS Schema. User xxxxx doesn't have SUPER-VISOR rights to the [Root] object.	The administrator who is trying to install the server has insufficient rights for adding the schema extension. Specify a NDSAdminName with Supervisor rights to the [Root] object.
Installation warning: Could not extend NDS Schema (class 1)	These errors are the result of insufficient rights of the administrator trying to install the server. Specify a NDSAdminName with Supervisor rights to the [Root] object.
Installation warning: Could not extend NDS Schema (class 2)	
Installation warning: Could not extend NDS Schema (attribute)	

NOTE:

- If logged in as Administrator, the NDS error message "Insufficient rights" indicates that NDS has been corrupted. You must repair or rebuild NDS. Repair NDS by entering the LOAD DSREPAIR command at the server console.

Access Control

Security Management within NetWare depends upon the selected mode:

- Bindery mode without user authentication
- Bindery mode with user authentication
- NDS mode

The DRM-6NX acts as a typical NetWare file server, which means use standard procedures such as Filer and NWAdmin for handling security

NOTE:

- *You cannot set up access restrictions for the NetWare environment via the DRM-6NX web interface.*

NetWare Bindery Without Authentication

If user authentication is not required, you do not have to specify an authentication server. The Supervisor can log in using the Server password. Other users can log in without password and will be considered to belong to the EVERYONE group.

NetWare server licenses are not required since the DRM-6NX does not log on to the file server.

Use the standard NetWare administration tool, (e.g. Filer) to limit DRM-6NX system file access to the Supervisor. Unauthorized users will have **guest** access to the volumes. This is normally sufficient security for a DRM-6NX.

NetWare Bindery With Authentication

If user access control is required, you must specify an authentication server in the **Authentication Server** parameter. The DRM-6NX will need to log on to the authentication server in order to authenticate the user and read which groups the user belongs to. In this case, the authentication server must have a standby license for the DRM-6NX, but several DRM-6NXs can share this license. If a license is not available, the user will still be authenticated but group information cannot be read.

Authorized users will have configurable rights to the volumes of the DRM-6NX.

The authentication procedure reduces the Administrator overhead as there is no need for maintaining a separate user database for the DRM-6NX. If the user is defined in the file server that the DRM-6NX uses for authentication, the user will automatically have access to the DRM-6NX.

Authentication to a NetWare 3.x Server

For access to a DRM-6NX connected to a NetWare 3.x server, authentication is checked against the user list in the bindery of the NetWare server:

- If a user is on the list, the password will be verified. If the password is correct, the user will be granted access.
- If the password is incorrect, log in will fail. If a user is not on the list, access to the DRM-6NX is refused. However, a user may log in as a **guest** and obtain access to volumes that are not protected.

Default Access Rights

The default access rights in NetWare bindery mode are set up by the following trustee assignments:

- The root of the SYS volume has [EVERYONE] as trustee with File Scan, Read, Write, Create, Modify and Erase rights
- The system and wwwroot folders have all rights except Supervisor filtered. Thus all system files are effectively protected from unauthorized users

NOTE:

- *Use Filer to change the default access rights*

Setting Security Rights in NetWare Bindery

The security rights can be set using standard procedures, e.g. Filer.

If you want to make all of the volumes in the DRM-6NX available to some users only, limit access to all the volumes:

1. Login as Supervisor on the DRM-6NX. In order for Filer to access the DRM-6NX, the client must have an active connection.
2. Login as Supervisor on your NetWare Bindery file server and start Filer.
3. Change the current directory to PIONEER<nnnnnn>_NW/SYS:.
4. Remove the [EVERYONE] trustee from the root.
5. Add a new trustee assignment to the root.

If you want to restrict access to one or more volumes but grant all users access to most volumes, limit access to individual resources:

1. Login as Supervisor on the DRM-6NX. In order for Filer to access the DRM-6NX, the client must have an active connection.
2. Login as Supervisor on your NetWare Bindery file server and start Filer.
3. Change the current directory to PIONEER<nnnnnn>_NW/SYS:.
4. On the resource you want to protect, set an inherited rights filer and filer ALL rights.

5. Add the new trustee assignment to the resource.
(available to the users on the trustee list only)

NOTES:

- *The NetWare bindery access rights for the DRM-6NX can be set using Group and User Objects as with any other file server.*
- *You can always access the DRM-6NX using the user name Supervisor and the password specified by the Server Password parameter. By default the password is pass.*

Access Restrictions in NetWare NDS

In NetWare, access rights for users in bindery mode is separate from users accessing the DRM-6NX in NDS mode. For this reason, we recommend that you disable bindery mode after you have successfully installed the DRM-6NX in NDS and thus allow users to log on in NDS mode only.

NOTE:

- *If NDS mode is not functioning, you can always access the DRM-6NX in bindery mode by logging in as Supervisor. This is true even if you have disabled bindery mode.*

Default Access Rights

The default access rights protect all the system files, which means that only users with Supervisor privileges on the DRM-6NX have access to those files. However, all users logged into NDS can access the volumes on the hard disks. These access rights are set up by the following trustee assignments:

- The Supervisor right from the NDS tree is inherited to all the volumes on the DRM-6NX. All users who have Supervisor privileges in the context in which the DRM-6NX was installed will also have Supervisor privileges on the DRM-6NX.
- The root of the SYS volume has [Public] as trustee with File Scan, Read, Write, Create, Modify and Erase rights
- The system and wwwroot folders have all rights except Supervisor filtered. Thus, all system files are effectively protected from unauthorized users

NOTES:

- *If the default security is satisfactory to your system, simply do not change anything*
- *Use NWAdmin to change the default trustee assignments*

Setting Security Rights in NetWare NDS

Because the DRM-6NX acts as a normal NDS file server, its NDS security rights can be set using standard procedures, e.g. NWAdmin.

If you want to make all of the hard disks inserted into the DRM-6NX available to some users only, limit access to all the volumes:

1. Log in as Admin then start the NWAdmin
2. Remove the [Public] trustee from the root of the SYS volume
3. Add the new trustee assignments to the root of the SYS volume

If you want to restrict access to one or several hard disks but grant all users access to most other hard disks, limit access to individual resources:

1. Log in as Admin then start the NWAdmin
2. On the resource you want to protect, set an inherited rights filter then filter ALL rights
3. Add the new trustee assignments to the resource
(provides availability to the users in the trustee list only)

NOTE:

- *The NetWare NDS access rights for the DRM-6NX can be set using Security Equivalence, Group, Container, Organization role, and User Objects as with any other NDS file server. There is no difference between how you use NWAdmin to set these access rights for a DRM-6NX and how you would set the access rights on an NDS file server.*

UNIX (NFS)

This section outlines the required configuration settings for running the DRM-6NX in the UNIX (NFS) environment and how to set up access restrictions.

NOTE:

- Make sure you have set the Internet address as described in "Assigning an Internet Address" on page 14.


If you are using the DRM-6NX in a multiprotocol environment, proceed to the other relevant sections of the manual, namely:

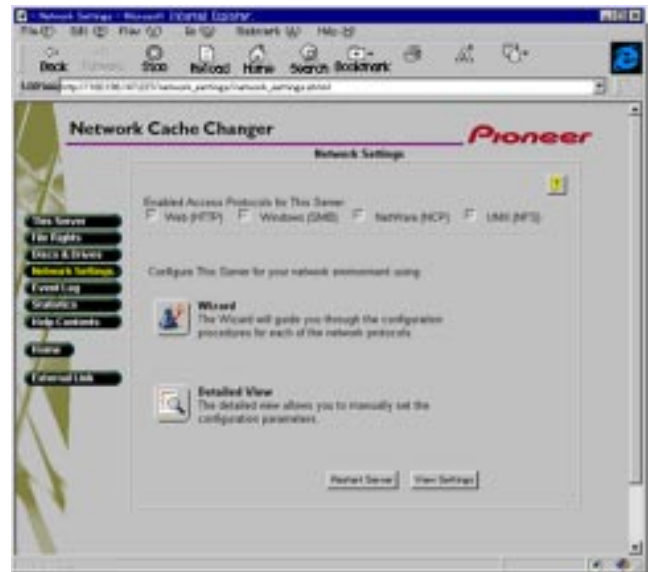
- pp. 18 – 19 - Microsoft & IBM Networks (SMB)
- pp. 20 – 24 - NetWare (NCP)
- pp. 27 – 28 - Web browser (HTTP)

Network Settings


Use the Administration pages within the PIONEER Network Cache Changer DRM-6NX web interface to configure the DRM-6NX. Refer to "Accessing the DRM-6NX Web Pages" on page 16.

The UNIX(NFS) setting does not appear on Wizard (change UNIX(NFS) settings through Detailed View)

1. Click **Network Settings**
2. Click **Detailed View** 
3. Change and verify the settings
4. Click **OK** or **Cancel** upon completion



NOTES:

- It is recommended that you disable all protocols that you do not intend to use.
- Online help  is available for all parameters.
- The parameter list is described in detail in "Appendix A - Parameter List" on page 40.

Access Control

File Rights

1. Click File Rights

- To make **all** of the discs available to some users only:
Locate the Volumes folder in the file tree
- * To protect **one or several** resources but grant all users access to most other resources:
Locate the resource you want to protect (from the file tree)

2. Click **Properties**

3. Open the **UNIX Security** page



4. Add permissions for the IP addresses, users and groups to which you are granting access

NOTE:

- *There is an 'or' relation between the NFS access control parameters. A user that fulfills any of the NFS access criteria you have specified will be granted access.*

Web Browser (HTTP)

This section describes how to configure the DRM-6NX for use via the web interface

The DRM-6NX supports HTTP over TCP/IP, which means that the changer works as a web server and is available on the Internet and intranets.

If you are using the DRM-6NX in a multiprotocol environment, proceed to the other relevant sections of the manual:



- pp. 18 – 19 - Microsoft & IBM Networks (SMB)
- pp. 20 – 24 - NetWare (NCP)
- pp. 25 – 26 - UNIX (NFS)

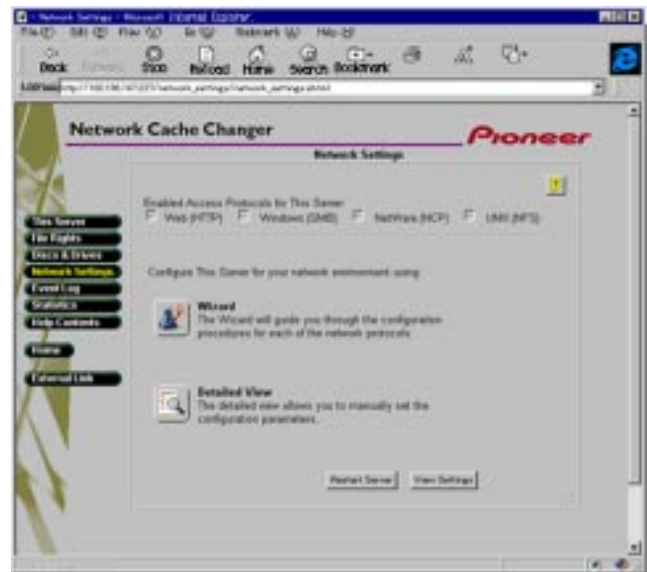
Network Settings

Use the Administration pages within the PIONEER Network Cache Changer DRM-6NX web interface to configure the DRM-6NX. Refer to " *Accessing the DRM-6NX Web Pages*" on page 16.


Wizard

The installation wizard is a convenient way to set up the DRM-6NX for your network environments.

1. Click **Network Settings**
2. Click **Wizard** 
3. Choose **Web (HTTP)** to enable Web browser access
Click **Start** to proceed with the installation. Follow the instructions on the screen
4. Click **Close** upon completion
5. Click **Detailed View**  to verify the settings and edit the configuration parameters




NOTES:

- Disable all protocols that are not intended for use with your system setup
- Online help  is available for all parameters
- The parameter list is described in " **Appendix A - Parameter List**" on page 40

External Link

You can add a customized link on the Home Page. For example, you might want to provide a link to a page on your company's intranet with guidelines on how to access the discs on the DRM-6NX.

Follow these steps:

1. Click **Network Settings**
2. Click **Detailed View** 
3. Open the **Web (HTTP)** page
 - In the **URL to Page** field, specify the full path to the page, e.g. `http://www.company.com`
 - In the **URL to Image** field, specify a link to an image to be used as a button for the customized link. Specify the full path, (e.g. `http://www.company.com/images/image.gif`) or the path relative to the URL of the page, (e.g. `images/image.gif`). If you leave the field blank, a standard button will be used.

Access Control

All users have access to the PIONEER Network Cache Changer DRM-6NX Home Page. However, individual discs may be protected by password. If necessary, limit Web browser access to the Administration pages only.

Use the Administration pages within the DRM-6NX web interface for access control. Refer to "Accessing the DRM-6NX Web Pages" on page 16.

NOTES:

- The Server password implies full access to the DRM-6NX including all discs, regardless of any additional passwords set for particular discs.
- If the same password is set to multiple volumes, a user with access to one volume may access the other volumes without re-entering a password.

File Rights

To restrict user access to a particular disc:


1. Click **File Rights**.
2. Locate the disc you want to protect in the file tree.
3. Click **Properties**.
4. Open the **Web Security** page.



5. Specify how the resource should be protected when accessed from a Web browser. By default, access rights are inherited from the parent folder, but you can optionally specify another password.
6. Click **OK**.

Disable User Access

To disable user access and thus limit access to the Administration pages only:

1. Click **Network Settings**.
2. Click **Detailed View** .
3. Open the **Web (HTTP)** page.
4. Disable access to the discs by unchecking **Enable access to volumes via Web browser (HTTP)**.
5. Click **OK**.

Accessing the Network Cache Changer Resources

The PIONEER Network Cache Changer DRM-6NX makes your networked CD/DVD-ROMs available to anyone who has the appropriate privileges on the network. Users access the DRM-6NX just like any other workstation or file server.

This section explains how to choose access points when mapping the DRM-6NX. It also describes how to access the DRM-6NX resources in the following network operating systems:

- Windows 95/98 and Windows NT 4.x (SMB, NetWare)
- Windows NT 3.x (SMB)
- Windows for Workgroups (SMB, NetWare)
- OS/2 (SMB)
- DOS (SMB, NetWare)
- UNIX (NFS)

NOTES:

- *The examples will assume that you have not changed the default server name. The default server name is PIONEER<nnnnnn> in the SMB environment and PIONEER<nnnnnn>_NW in NetWare. <nnnnnn> are the six last digits of the DRM-6NX serial number. If you have changed the server name, use the new name where the examples refer to the default name.*
- *Depending on the access rights set up by the Administrator, you might be prompted to supply a password or receive a message similar to 'Access is denied' when trying to access a shared resource on the DRM-6NX.*

Access Points

The DRM-6NX is integrated into your network operating system just like any other file server thus using the same access commands. To be able to access the discs from within various applications, mount the DRM-6NX (make it available) to your system. On PC systems this is typically done by mapping the DRM-6NX Changer to a drive letter.

The DRM-6NX offers several possibilities to specify access points:

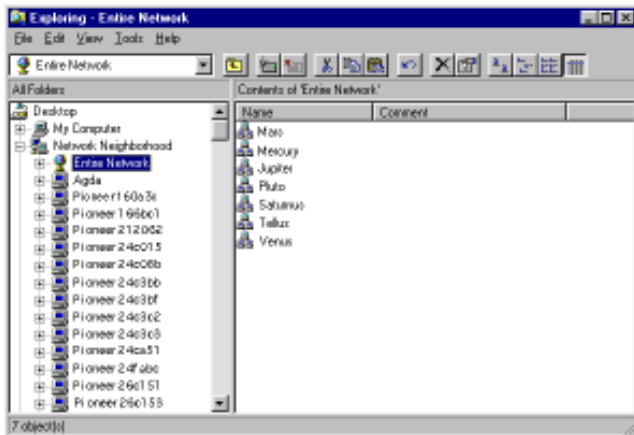
- **Root level access:** If the top level of the DRM-6NX directory structure is used as the access point, the user can access all the files on the DRM-6NX. This is useful for the Administrator, who wants to configure and monitor the DRM-6NX.
- **Volumes folder access:** If the Volumes folder is used as the access point, the user can access all the inserted or persistent discs inserted into the connected drives. On PC systems, this makes it possible to use one drive letter to access all connected drives. This is the recommended access for network users.
- **Disc access:** If the folder for a particular disc is used as the access point, the user can access only the files on that disc. This is useful or even necessary with software that expects to find its data at root level.

Windows 95/98 and Windows NT 4.x

SMB

In Windows 95/98 and Windows NT 4.x on an SMB client, follow these steps to map the DRM-6NX:

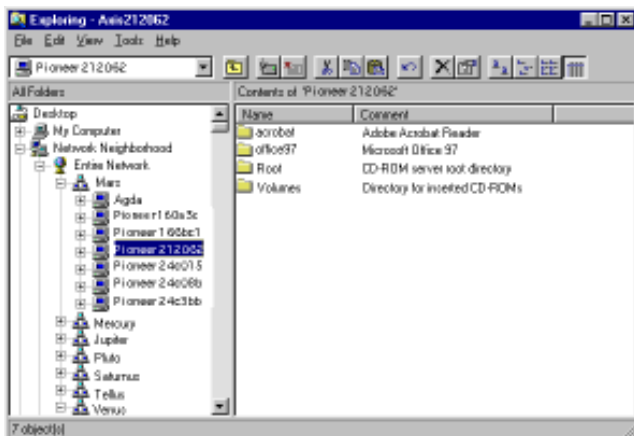
1. Start the Windows Explorer
2. Expand the **Network Neighborhood** icon
3. Expand the **Entire Network** icon (The DRM-6NX lists in the first folder if it is sorted by name. If the Domain Name is already set, the changer appears in the specified folder)



NOTE:

- If you cannot find the DRM-6NX under **Entire Network**, refer to "**Alternative Method**" listed on the right

4. Double click the entry for your new DRM-6NX (The default name is PIONEER<nnnnnn> where <nnnnnn> is the last six digits of the DRM-6NX serial number)



5. To map one of the DRM-6NX resources, locate:
 - **Root** for root level access
 - **Volumes** for access to all the discs
 - The volume name for access to an individual disc
6. Right click the resource and select **Map Network Drive...**
7. Select a drive letter for your DRM-6NX

8. Check **Reconnect at logon** if you wish to use the resource under the same drive letter the next time you start your computer
9. Click **OK** (The DRM-6NX is ready for use)

Alternative Method

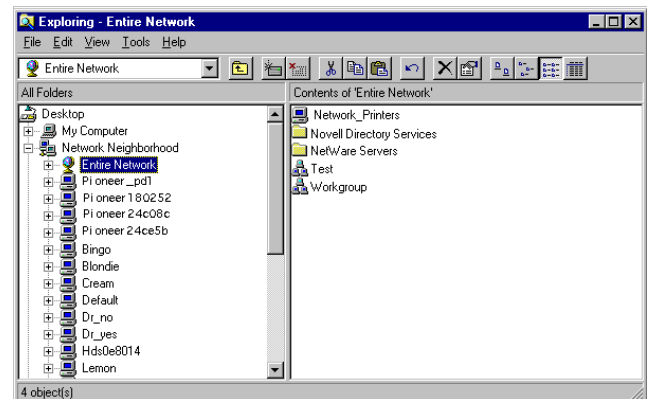
If you are unable to find the DRM-6NX, follow these steps:

1. Start the Windows Explorer from the Start menu
2. From the Tools menu, select **Map Network Drive...**
3. Select a drive letter
4. In the path box, type \\PIONEER<nnnnnn>\root (where <nnnnnn> is the last six digits of the DRM-6NX changer's serial number)
5. Check **Reconnect at logon** if you wish to use the resource under the same drive letter the next time you start your computer
6. Click **OK** (The DRM-6NX is ready for use)

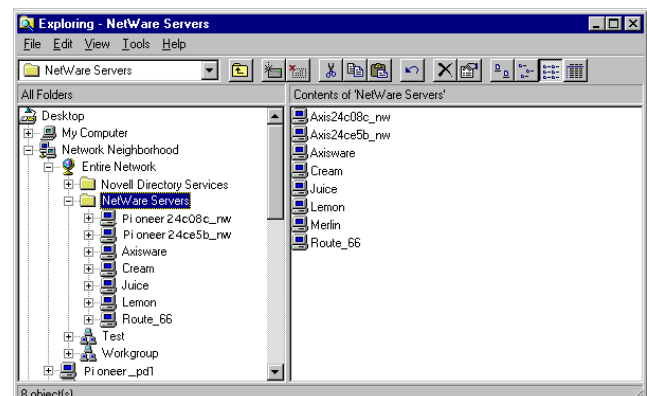
NetWare

To map the DRM-6NX in Windows 95/98-Windows NT on a NetWare client, follow these steps:

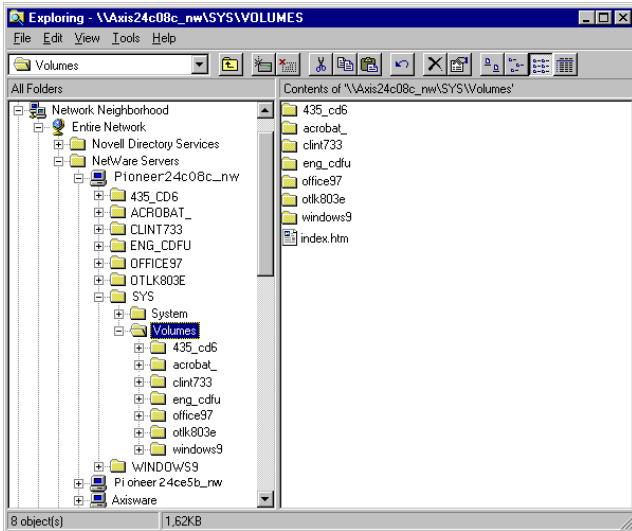
1. Start the Windows Explorer
2. Expand the **Network Neighborhood** icon
Available resources are displayed:



3. Expand the **Entire Network** icon and then open the **NetWare Servers** folder



4. Double click the entry for your new DRM-6NX (The default name is PIONEER<nnnnnn>_NW, where <nnnnnn> is the last six digits of the DRM-6NX serial number)
5. Enter your user name and password when prompted if you are using the bindery mode (unless you are already logged on)
6. Expand the SYS and Volumes folders to display all of available discs:



NOTE:

■ If the **Show All Volumes** parameter is set to yes, the individual discs will be shown at the same level as SYS. Some applications will not run properly unless the data is stored at root level. To avoid such problems, assign a drive letter to that particular volume.

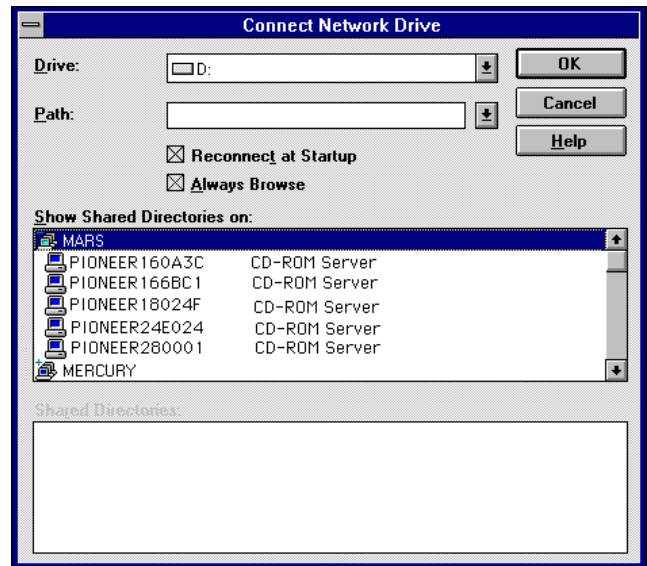
7. To map a DRM-6NX resource to a drive letter, locate:
 - **SYS** for root level access
 - **Volumes** for access to all the discs
 - The volume name for access to an individual disc
8. Right click the resource and select **Map Network Drive...**
9. Select a drive letter for your DRM-6NX
10. Check **Reconnect at logon** if you wish to use the resource under the same drive letter the next time you start your computer
11. Click **OK** (The DRM-6NX is ready for use)

Windows for Workgroups

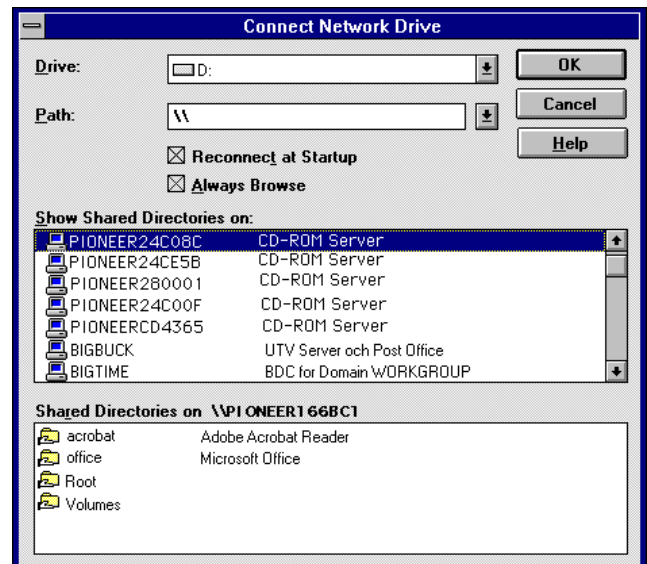
SMB

In Windows for Workgroups on an SMB client, follow these steps:

1. Start the File Manager
2. From the Disk menu, select **Connect Network Drive...** and double-click Workgroup (The following dialog is displayed. You may have to click **Browse>>** to see the complete dialog)



3. In the top listing, double click the entry for your new DRM-6NX (The default name is PIONEER<nnnnnn> where <nnnnnn> is the last six digits of the DRM-6NX serial number)



NOTE:

■ If you cannot find the DRM-6NX, enter \\PIONEER<nnnnnn> \root, in the Path box and click **OK**.

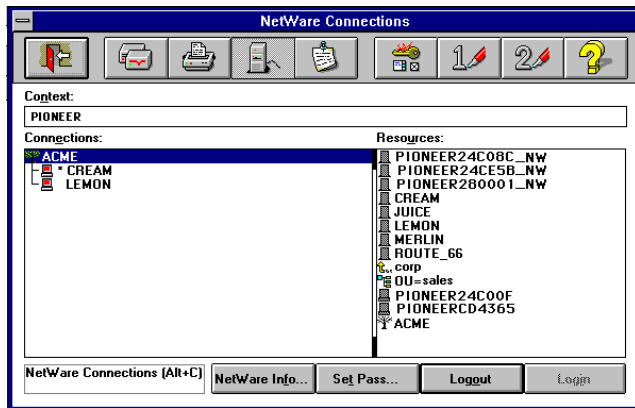
Accessing the Network Cache Changer Resources

4. From the bottom listing, select one of the DRM-6NX resources:
 - **Root** for root level access
 - **Volumes** for access to all the discs
 - The volume name for access to an individual disc
5. Select a drive letter
6. Check **Reconnect at Startup** if you wish to use the resource under the same drive letter the next time you start your computer
7. Click **OK** (The DRM-6NX is ready for use)

NetWare (NCP)

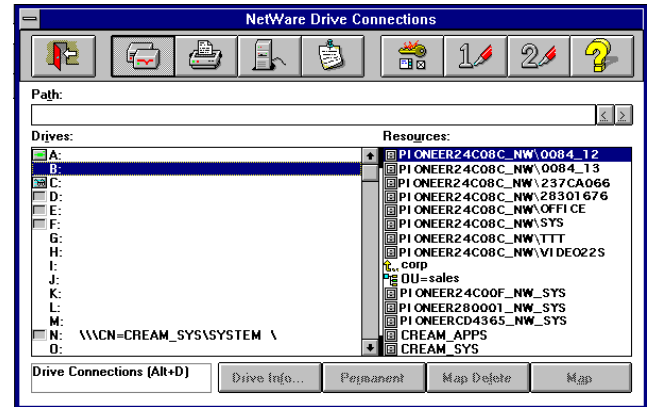
In Windows for Workgroups on a NetWare client, follow these steps:

1. Start the File Manager and select **Connect Network Drive...** from the Disk menu. If you also have Microsoft Network installed, you may have to click the **NetWare...** button.
2. Click the **Select NetWare Connections** button on the toolbar. A screen similar to this is displayed:



3. Select the entry for your new DRM-6NX (The default name is PIONEER<nnnnnn>_NW, where <nnnnnn> is the last six digits of the DRM-6NX serial number)
4. Click the **Login** button
5. If you are using bindery mode, you will be prompted to enter your user name and password, unless you are already logged in (before the DRM-6NX has been set up, all users have full access to it)

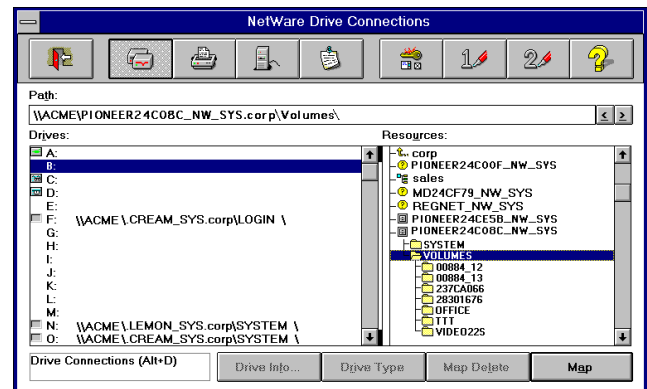
6. Click the **Drive Connections** button on the toolbar once you are logged in to the DRM-6NX. The screen shown below is displayed:



NOTE:

- If the **Show All Volumes** parameter is set to yes, the individual discs are shown at the same level as SYS. Some applications will not run properly unless the data is stored at root level. To avoid such problems, assign a drive letter to that particular disc.

7. Double click PIONEER<nnnnnn>_NW\SYS and then **VOLUMES** to display this screen:



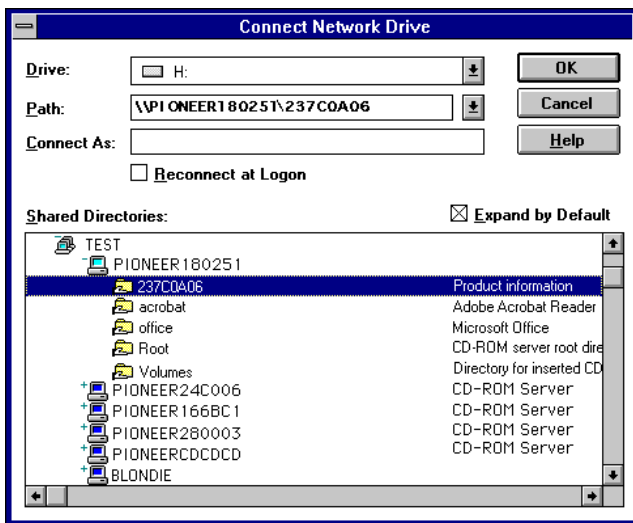
8. Select a drive letter in the Drives listing
9. In the Resources listing, select a DRM-6NX resource:
 - **PIONEER<nnnnnn>_NW\SYS** for root level access
 - **Volumes** for access to all the discs
 - The volume name for access to an individual disc
10. Click **Map** to map the DRM-6NX to the selected drive letter
11. Click **Permanent** if you wish to use the resource under the same drive letter the next time you start your computer
12. Click the **Exit** button on the toolbar (The DRM-6NX is ready for use)

Windows NT 3.x

SMB

For Windows NT 3.x on an SMB client, follow these steps:

1. Start the File Manager
2. From the Disk menu, select **Connect Network Drive...**
3. Double click the entry for the DRM-6NX from the listing (The default name is `PIONEER<nnnnnn>` where `<nnnnnn>` is the six last digits of the DRM-6NX serial number)



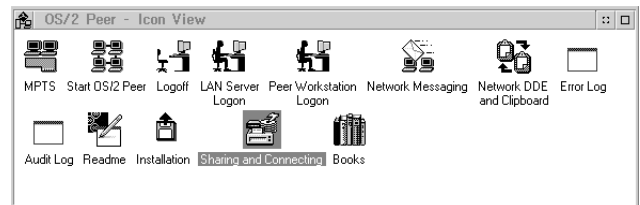
4. To connect a DRM-6NX resource, select:
 - **Root** for root level access
 - **Volumes** for access to all the discs
 - The volume name for access to an individual disc
5. Select a drive letter for your DRM-6NX
6. Check **Reconnect at Logon** if you wish to use the resource under the same drive letter the next time you start your computer
7. If you wish to connect using a different user name, enter the name in the **Connect As** box (otherwise, leave the **Connect As** box empty)
8. Click **OK** (The DRM-6NX is now ready for use)

OS/2

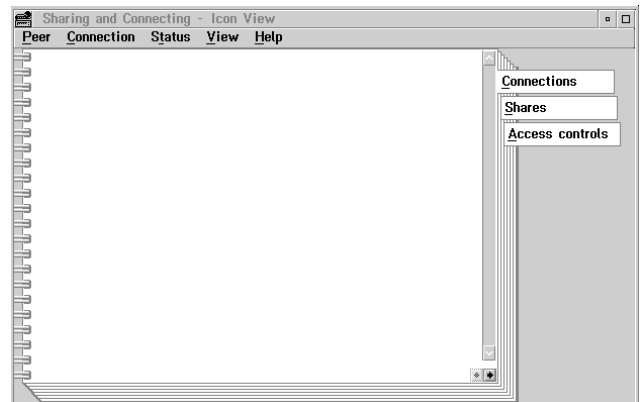
IBM Peer for OS/2

Verify that the IBM Peer for OS/2 installed. If it is not, see the instructions in "*Alternative Method*" on page 34.

1. Double click the **OS/2 Peer** icon. The Peer window is displayed:

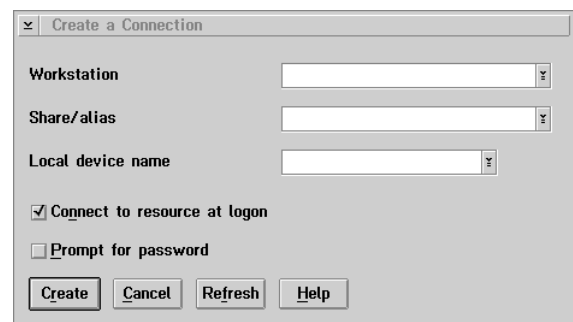


2. Double click the **Sharing and Connecting** icon to open the window shown below:



Any active connections you have will be listed in the window.

3. From the **Connection** menu, select **Create**. The dialog shown below is displayed:



4. In the **Workstation** field, type `PIONEER<nnnnnn>`, where `<nnnnnn>` is the last six digits of the DRM-6NX serial number)
5. In the **Share/alias** field enter the DRM-6NX resource:
 - For root level access, type `root`
 - For Volumes folder access, type `volumes`
 - For disc access, type the volume name, (e.g. `44_18881`)

6. Select a drive letter for the DRM-6NX from the Local device name field
7. Click **Create** (The DRM-6NX is ready for use)

NOTE:

- *The DRM-6NX folders will not be visible on the Desktop in OS/2 versions prior to OS/2 WARP Connect. If you wish to use an earlier version of OS/2, we recommend using third party NFS software to connect to the DRM-6NX.*

Alternative Method

If you do not have Peer for OS/2, map the DRM-6NX to a drive letter using the `net use` command. Follow the steps listed below:

1. Open an OS/2 window
2. Use the `net use` command to mount the DRM-6NX
At the OS/2 prompt, type:
`net use <drive letter>: \\PIONEER<nnnnnn>\<folder>`
where `<nnnnnn>` is the last six digits of the DRM-6NX serial number and `<folder>` is any shared folder on the DRM-6NX changer
3. To make the connections permanent, create or edit the `startup.cmd` file to include the `net use` commands

DOS

SMB

When you are using DOS in the SMB environment, mount the DRM-6NX changer using the `net use` command once the appropriate network support is installed. Follow the steps listed below:

1. At the DOS prompt, type:
`net use <drive letter>: \\PIONEER<nnnnnn>\<folder>`
where `<nnnnnn>` is the last six digits of the DRM-6NX serial number and `<folder>` is the DRM-6NX folder to be mapped
2. To make the connections permanent, edit the `autoexec.bat` file to include the `net use` commands

Example 1 (Root level access):

To access the root level of the DRM-6NX (with serial number 00408C18025C) under drive letter E, type:

```
net use E: \\PIONEER18025C\root
```

Example 2 (Volumes folder access):

If the DRM-6NX serial number is 00408C18025C and you want to be able to access all the discs under the drive letter F, type:

```
net use F: \\PIONEER18025C\volumes
```

Example 3 (Disc access):

If the DRM-6NX serial number is 00408C18025C and you want to map a disc named 44018881 to drive G, type:

```
net use G: \\PIONEER18025C\44018881
```

NOTES:

- *If you are using DOS within Windows 95 or Windows NT 4.x, and you wish to access files or directory names longer than 8 characters, you will need to precede these long names with a quote mark ("). For example, to change to the directory called Product Information:*

```
G:\PIONEER18025C\VOLUMES\>CD "PRODUCT  
INFORMATION
```

- *Windows NT gives the additional facility of using the * wildcard. For example, a quick way of changing to the Product Information directory would be:*

```
G:\PIONEER18025C\VOLUMES\>CD "PRODUCT*
```

NetWare

When using DOS in NetWare, issue the map command to mount the DRM-6NX. Follow these steps:

1. At the DOS prompt of a NetWare file server, type:

```
map root <drive letter>:=PIONEER<nnnnnn>_NW/
<folder>:
```

 where <nnnnnn> is the last six digits of the DRM-6NX serial number and <folder> is the folder on the DRM-6NX to be mapped
2. To make the connections permanent, edit the autoexec.bat file to include the map commands

Example 1 (Root level access):

To access the root level of the DRM-6NX (with serial number 00408CCD000B) under drive letter E, type:

```
map root E:=PIONEERCD000B_NW/SYS:
```

Example 2 (Volumes folder access):

To access all the discs on the DRM-6NX (with serial number 00408CCD000B) under drive letter F, type:

```
map root F:=PIONEERCD000B_NW/SYS:/
VOLUMES
```

Example 3 (Disc access):

If the DRM-6NX serial number is 00408CCD000B and you want to map a disc named 44018881 to drive G, type:

```
map root G:=PIONEERCD000B_NW/SYS:/VOLUMES/
44018881
```

NOTE:

- If the Show All Volumes parameter is set to yes, individual discs can be mapped at SYS level. Some applications will not run properly unless the data is stored at root level. To avoid such problems, you can map drive G directly to the volume named 44018881. Type:

```
map root G:=PIONEERCD000B_NW/44018881
```

UNIX (NFS)

You will need *root* privileges to mount the DRM-6NX. To access the DRM-6NX from a UNIX client, follow these steps:

1. Create a directory for the DRM-6NX

```
mkdir <directory>
```

Example:

```
mkdir /storpoint
```

2. Mount the DRM-6NX

```
mount <host name>:/ <directory>
```

Example:

```
mount cdserv:/ /storpoint
```

NOTE:

- The <host name> is the host name assigned to the DRM-6NX during TCP/IP configuration.

NFS for PC or Apple Macintosh

The DRM-6NX may be accessed using third party NFS software (PC or Apple Macintosh computers) if you have a TCP/IP network instead of running SMB. Refer to the NFS software documentation for instructions on how to mount the DRM-6NX.

Hard Disk Caching

The Network Cache Changer DRN-6NX has **hard disk for caching** which means that discs in the Changer may be copied to a hard disk drive. The caching system involves directory caching and complete mirroring. It allows the networked discs to run at hard disk speed.

The DRM-6NX Changer also supports hard disk caching for externally connected CD/DVD-ROM drives. See page 10.

Disc Changers

Because of the relatively long time needed to change discs in a disc changer, the data transfer rate may become unacceptably low when two users simultaneously attempt to read different discs. Hard disk caching significantly increases the access speed if you are using changers.

Persistent Use

The hard disk caching facility allows you to make the cached discs persistent, (i.e. allow users to access the copies even if the original discs are ejected from the drives). Persistent discs that are currently not inserted will always remain cached on the hard disk. This means that if the hard disk becomes full, the DRM-6NX does not overwrite data which is no longer available on to an inserted disc.

Capacity

The number of discs that can be cached depends on the size of the hard disk as well as the size of the individual discs. For example, a 4.3 Gbyte hard disk allows six 650 Mbyte CD-ROMs to be cached. However, if each disc contains only 100 Mbyte, about 40 discs can be cached on the hard disk.

NOTE:

- This product does not support caching DVD discs.

Managing Hard Disk Caching

You manage the hard disk caching facility via the DRM-6NX web interface.

Caching Settings

To specify the settings, follow these steps:

1. Start your Web browser
2. Enter the name or Internet address of your DRM-6NX in the location/address field
3. Click **Administration**

4. Click **Edit** on the **This sever** page (The **Server Settings** dialog box appears)
5. Open the **Caching** page



6. Specify caching level:
 - None** – No caching
 - Normal** – Only the directory structure will be cached on new CDs
 - Mirror** – Complete caching ; the hard disk contains a complete copy of the mirrored disc. This method allows faster user access, but takes more time to complete when a new disc is inserted. If the disc drives are frequently changed then automatic mirroring is not recommended. As it takes between 2 and 20 minutes to copy one CD-ROM, performance decreases if the DRM-6NX is constantly busy copying discs to a hard disk drive.
 - Persistent** – Complete caching
The persistent disc will be accessible to the users even if the original disc is ejected from the drive.

NOTES:

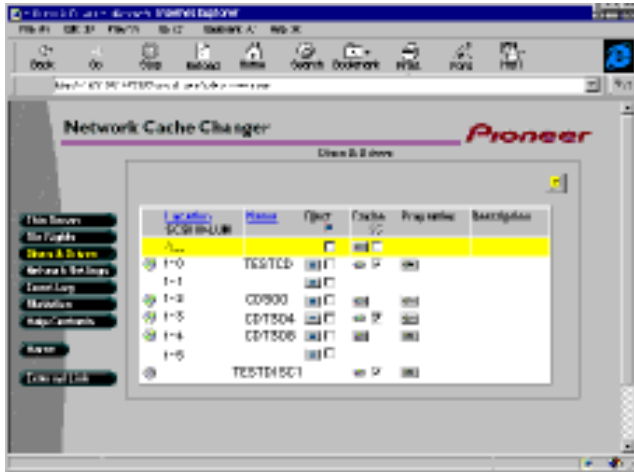
- You can change the default settings for particular discs later on the **Discs & Drives** page.
- If an access request is received from the network while the DRM-6NX is caching (copying discs to the hard disk), the network request is given priority, to allow data transmission to take place. During this time, the caching is interrupted, and resumes about one minute after completion of the network access.
- The caching level of factory default is **Mirror**.
If you want to set the normal caching mode, you have to change the caching level before you insert the magazine.

7. Click **Set** then click **Close** to exit the setup menu

Management

To manage the hard disk caching, follow these steps:

1. Click Discs & Drives. This screen appears:



2. The table lists:

- drives
- inserted discs
- persistent discs that are currently not inserted

Eject

Click to eject a disc (Available only if the disc is currently inserted in the drive)

Check the box to lock a drive (available only if the disc is currently inserted in the drive)

Only an Administrator can eject a magazine by using a Web Browser and may over-ride a locked eject button

Cache

Click to cache a copy of a disc to the attached hard drive (available only if the disc has not already been cached). The symbol appears when a disc has been cached on the hard disk drive.

Check the box to make a cached disc persistent, (i.e. make it accessible to users when the original discs have been ejected from the drives).

Properties

Click to set the properties and access rights

NOTES:

- To affect **all** the drives, you can perform operations in the yellow row marked ALL. However, properties and access rights may only be set for one drive or disc at a time.
- You can click the **Location** or **Name** link to sort the items in the list by drive or volume name, respectively. The location is indicated as <bus>-<SCSI ID>-<LUN>. For example, location A-1-0 means bus A, SCSI ID 1 and LUN 0.
- If the hard disc is full and you want to cache another disc, first free some space on the hard disk. The DRM-6NX will not overwrite any information until you either:
 - Re-insert a persistent disc that has been ejected, or
 - Click once again to “uncache” a cached copy
- If the system returns a write error on the hard drive during caching, re-format the drive in a low-level format. Select the **Hard Disk** option on the **This Server** page to find **Format**
- When multiple external DRM-6324Xs or other Pioneer's 6-Discs Changers are connected, you must not insert multiple magazines at the same time. Please insert another magazine after caching has finished
- When duplicate discs are loaded, only the disc found first is available (other discs are not used)
- If a cached volume has a large quantity of files, it takes a few minutes to delete the volume. Sometimes the caching function fails to start automatically while deleting the volume.
- When volume caching is executed manually (using a mirror button), the persistent check box is not marked automatically.

Monitoring the Network Cache Changer

This section describes:

- Event Log
- Statistics
- E-mail
- SNMP

Event Log

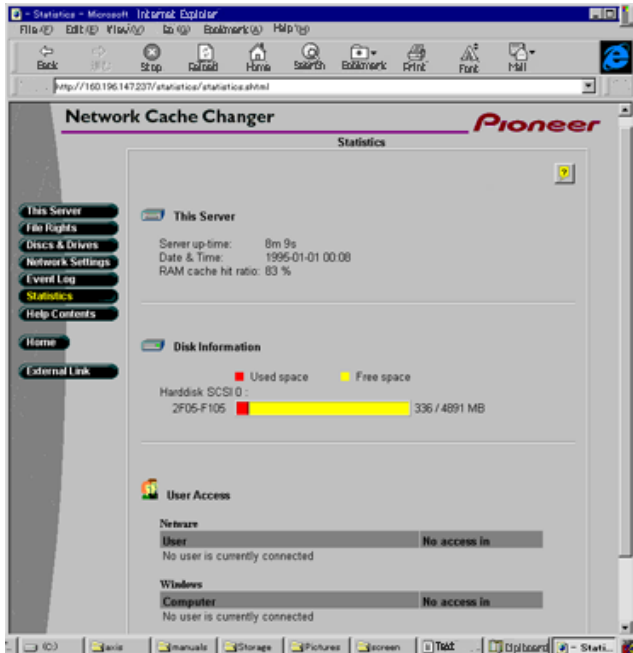
To display the event log, click **Event Log** within the Administration pages.



In the event log, the DRM-6NX writes information such as completed tasks, warnings, installation failures, etc.

Statistics

To display the statistics, click **Statistics** within the Administration pages.




The DRM-6NX presents statistics such as:

- Server up-time
- Cache hit ratio
- List of users currently accessing the DRM-6NX in each network environment

SNMP

To specify the settings for SNMP (Simple Network Management Protocol):

1. Click **Network Settings**
2. Click **Detailed View** 
3. Open the **SNMP** page
4. Specify the settings then click **OK**

Appendix A : Parameter List

This section includes the DRM-6NX parameter list. It also explains the DRM-6NX directory structure and how to edit the configuration settings.

The Configuration File

The table shows the parameter list stored in the `config.ini` file. The middle column states the default values, where applicable. The right-hand column gives a brief description of the parameters.

Parameter name	Value	Description
[Server] HardwareAddress	= 00:40:8c:11:00:86	The DRM-6NX hardware address - Default is the <i>serial number</i> - you may set a Locally Administrated Address. The value shown is an example only.
Date	= 97-01-01	yy-mm-dd, enter the date followed by ! to set manually
Time	= 12:00:00	hh:mm:ss, enter the time followed by ! to set manually
FactoryDefaults	= no	Set to <i>yes</i> to restore factory default settings.
Restart	= no	Set to <i>yes</i> to restart the DRM-6NX.
TimeZone	= UTC	Must be set to the time zone that the DRM-6NX is operating in. Refer to " <i>TimeZone Parameter Values</i> " on page 42.
TimeSyncSource	= NDS	Specifies the time source for the DRM-6NX. Set to <i>NDS</i> for the NetWare network. Set to <i>NTP</i> for UNIX and SMB over TCP/IP.
ServerPassword	= pass	The Supervisor, Administrator or Root user password used for basically all protocols; i.e. HTTP, NetWare bindery, SMB user level, SNMP and FTP. Once written into the configuration file, the password will not be shown but replaced with *'s, representing each letter of the password.
Cache	= mirror	Specifies the caching level: none, normal, mirror, persistent
Flush Cache	= no	Set to <i>yes</i> to remove all information from the hard disk.
[SCSI] SCSITermination	= on	Always on.
JukeBoxLockTime	= 0	Specifies the maximum duration for a data read operation during multiple access requests to prevent disc changer fluttering. Default is 0 seconds which disables the function.
DisconnectReselect	= on	Set to <i>off</i> to disable the disconnect/reselect function in the disc drives.
BusMode	= Asynchronous	Specifies the transfer mode on the SCSI bus: <i>Asynchronous</i> , <i>Synchronous</i> , <i>Fast-10</i> or <i>Ultra</i> .
[IP] InternetAddress	= 192.36.253.80	The DRM-6NX IP address.
DefaultRouter	= 0.0.0.0	The IP address for the default router. All traffic directed outside the local network (according to the NetMask) is sent to the default router. Any re-routing via other routers is done automatically. The default 0.0.0.0 indicates that no default router is set.
NetMask	= 0.0.0.0	Used to determine when the traffic should be sent via a router. For example, the normal class C mask is 255.255.255.0. The default 0.0.0.0 indicates that automatic router sensing is used.
BOOTPEnable	= yes	Enables BOOTP IP address setup.
RARPEnable	= yes	Enables RARP IP address setup.
DHCPEnable	= yes	Enables DHCP IP address setup.
DomainName	=	Name of the domain to which the DRM-6NX belongs.
PrimaryDNS	= 0.0.0.0	The IP address of the primary DNS server. Used for identifying computers with names instead of IP addresses.
SecondaryDNS	= 0.0.0.0	The IP address of the secondary DNS server, should the primary DNS server be unavailable or disconnected.
NTPServer	=	Name or IP address for the NTP server.
EnableWINS	= no	Enables WINS over NetBIOS/TCP/IP.
PrimaryWINSserver	= 0.0.0.0	The IP address of the primary WINS server.
SecondaryWINSserver	= 0.0.0.0	The IP address of the secondary WINS server, if required.

Parameter name	Value	Description
[SMB] EnableNetBEUI EnableNBT NBTScopeID Domain/GroupName ServerName NetBEUIFrameType SecurityMode AuthenticationDomain	= yes = yes = = = PIONEERnnnnnn = auto = shareLevel =	Enables SMB over NetBIOS/NetBEUI. Enables SMB over NetBIOS/TCP/IP. Defines the NetBIOS scope to which the DRM-6NX belongs. Name of the DRM-6NX workgroup in SMB. If not specified, the DRM-6NX will appear in the folder that comes first in alphabetical order. The server name in the SMB environment. Default is <i>PIONEERnnnnnn</i> where <i>nnnnnn</i> are the last six digits of the serial number. If set to auto, 802.2 or dix will automatically be selected by scanning the network. If required, the frame type can also be set to either <i>802_2</i> or <i>dix</i> . Specifies the security mode used in SMB: <i>userLevel</i> or <i>shareLevel</i> . Name of the domain to which the controller used for authenticating users in user-level security mode belongs. If left empty.
[NFS] NFSEnable DefaultUid PCNFSDAuthentServer	= yes = -2 = 0.0.0.0	Enables NFS. Default user id to be used when authenticating PCNFSD clients. Disable by setting the parameter to 0 (zero). The IP address of the server used for authentication of PC users on the UNIX (NFS) network. The default <i>0.0.0.0</i> disables the function.
[HTTP] HTTPEnable BaseURL EnableMediaAccess ExternalLink ExternalImage	= yes = www.pioneer.co.jp/english = yes = =	Enables HTTP. Set to <i>no</i> to restrict users from accessing the CD-ROMs from a Web browser. Enables access to the inserted discs. When set to <i>no</i> , only administration is available from HTTP. Specifies the URL to a customized link, e.g. to your company's web site. The link will be available from the DRM-6NX web interface. Specifies the URL to the image that will indicate the customized external link.
[SNMP] GetCommunityName TrapDestination TrapCommunityName SystemContact SystemName SystemLocation AuthenticationTrap	= public = 0.0.0.0 = public = = = = disabled	Specifies the community that has read only access to all supported SNMP objects except writeCommunity, SupervisorPassword and ftpPassword. It corresponds to the readCommunity SNMP object. Specifies the IP address which SNMP traps are sent to. It corresponds to the trapAddress SNMP object. Default is <i>0.0.0.0</i> , i.e. all SNMP traps are disabled. Specifies the community for all generated SNMP traps. It corresponds to the trapCommunity SNMP object. Optional entry which should be in plain text and may be used to show the name of the system contact person. Optional entry which should be in plain text and may be used to show the name of the location of the system. Optional entry which should be in plain text and may be used to show the name of the location of the system. Disables the SNMP authentication failure traps. It corresponds to the snmpenableAuthenTraps (MIB-II) SNMP object.
[NetWare] NWEnable Frame_802.2 Frame_802.3 Frame_EthernetII Frame_SNAP NetWareIP_Enable NetWareIP_DSS_Server ServerName InternalNetAddress BurstMode ShowAllVolumes BinderyEnable	= yes = auto = auto = auto = auto = no = = PIONEERnnnnnn_NW = nn-nn-nn-nn = on = yes = yes	Enables NetWare support. Enables the 802.2 frame type. Enables the 802.3 frame type (Ethernet versions only). Enables the Ethernet II frame type (Ethernet versions only). Enables the SNAP frame type. Enables NetWare over the IP protocol. The IP address of the DSS server. NetWare server name to be presented to the NetWare clients. Default is <i>PIONEERnnnnnn_NW</i> where <i>nnnnnn</i> are the last six digits of the serial number. Internal network address. Default is <i>nn-nn-nn-nn</i> where <i>nnnnnnnn</i> are the last eight digits of the serial number. Burst mode enable. Shows all drives and discs also at SYS level. Enables bindery mode login. When using NDS, set to <i>no</i> in order to increase system security. The Supervisor can always login in bindery mode even if this parameter is set to <i>no</i> .

Appendix A : Parameter List

Parameter name	Value	Description
BindAuthentication	=	Name of the server used for authenticating clients.
NDSEnable	= yes	Enables NDS mode.
NDS_TreeName	=	Name of the tree where you wish to install the DRM-6NX.
NDS_ServerContext	=	Distinguished name of the context in the NDS tree where you wish to install the DRM-6NX, e.g. <i>Corp.Acme</i> .
NDS_AdminName	=	Distinguished name of a user or administrator with Supervisor or Create rights to the context where you want to install the DRM-6NX, e.g. <i>Admin.Acme</i> .
NDS_AdminPassword	=	Password for the administrator defined in NDS_AdminName. Once written into the configuration file, the password will not be shown but replaced with *'s, representing each letter of the password.
NDS_Install	= no	Set to install when you are ready to install the DRM-6NX in NDS, or <i>forced</i> to overwrite the NDS server object.
NDS_RightsStorage	= NDS	Set to <i>NDS</i> to store the access rights in the NDS tree. Set to <i>File</i> to store the access rights in a file on the Novell server.
NDS_RightsFile	=	If you have set NDS_RightsStorage to <i>File</i> , specify the whole path to the file on the Novell file server using this syntax: <i>SERVER/VOLUME:DIR/.../FILE.DAT</i>
TimeSyncSources	= SAP	Default is <i>SAP</i> for the network agreed time. Alternatively, enter the server names to be contacted for time synchronization.
[END]		

TimeZone Parameter Values

This table lists the time zone as the number of hours +/- UTC.

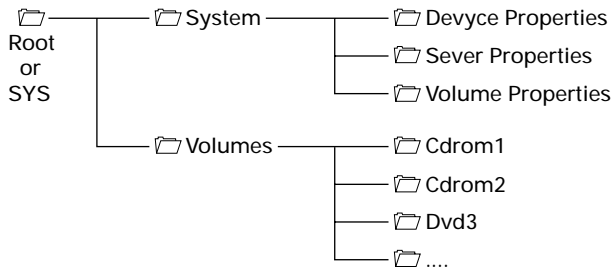
TimeZone parameter value	Hours +/- UTC	TimeZone parameter value	Hours +/- UTC	TimeZone parameter value	Hours +/- UTC
UTC	0	GB_Eire	0	Chile	-4
UTC+1_(No_DST)	1	Western_Europe	0	Chile_Easter_Isl	-7
UTC+2_(No_DST)	2	Iceland	0	Paraguay	-4
UTC+3_(No_DST)	3	Central_Europe	1	Aust_Adelaide	9h30m
UTC+4_(No_DST)	4	Poland	1	Aust_Darwin	9h30m
UTC+5_(No_DST)	5	Eastern_Europe	2	Aust_Hobart	10
UTC+6_(No_DST)	6	Turkey	3	Aust_Perth	8
UTC+7_(No_DST)	7	Western_Russia	3	Aust_Sidney	10
UTC+8_(No_DST)	8	US_CAN_Eastern	-5	New_Zealand	12
UTC+9_(No_DST)	9	US_CAN_Central	-6	Afghanistan	4h30m
UTC+10_(No_DST)	10	Saskatchewan	-6	Armenia_Azer	4
UTC+11_(No_DST)	11	US_CAN_Mountain	-7	Burma	6h30m
UTC+12_(No_DST)	12	US_Arizona	-7	China_PRC	8
UTC-1_(No_DST)	-1	US_CAN_Pacific	-8	India	5h30m
UTC-2_(No_DST)	-2	US_Alaska	-9	Iran	3h30m
UTC-3_(No_DST)	-3	US_Aleutian	-10	Iraq	3
UTC-4_(No_DST)	-4	Cuba	-5	Jordan	2
UTC-5_(No_DST)	-5	Egypt	2	Kazak_Kirgi	6
UTC-6_(No_DST)	-6	Libya	1	Lebanon	2
UTC-7_(No_DST)	-7	Sudan	2	Syria	2
UTC-8_(No_DST)	-8	Tunisia	1		
UTC-9_(No_DST)	-9	Brazil_Noronha	-2		
UTC-10_(No_DST)	-10	Brazil_Sao_Paulo	-3		
UTC-11_(No_DST)	-11	Brazil_Manauas	-4		
UTC-12_(No_DST)	-12	Brazil_Rio_Branco	-5		

UTC = Universal Time Coordinated, which used to be known as Greenwich Mean Time (GMT), i.e. the local time at the Greenwich meridian (zero degrees longitude).

DST = Daylights Savings Time. No_DST means that automatic adjustment for DST is not included. The parameter values shown to the right include adjustments for DST.

Directory Structure

The DRM-6NX will appear to your system as a file server. Like any other file server it has a directory structure where files are stored. The directory structure of the DRM-6NX is outlined below:



The purpose of each folder is explained on the following pages.

The System folder

The **System** folder includes configuration information about the DRM-6NX, (e.g. configuration settings, connected drives, inserted discs, access rights etc.). The System folder contains these subfolders:

- **Device Properties** - Includes one text file for each connected drive (i.e. CD/DVD-ROM drives and hard disks)
- **Server Properties** - Includes the configuration parameter list, event log and statistics files
- **Volume Properties** - When a disc is inserted into a connected drive, a text file for that disc will be created. If specified, the volume name will be used. If the no volume name has been set, the volume label will be used. If the disc does not have a volume label, the DRM-6NX will use a unique eight digit number. If the disc is not formatted or uses an unknown file system, the text file will be named `unknown##.txt`.

The Volumes Folder

When a disc is inserted into a connected drive, a subfolder for that volume will be created in the Volumes folder. The files on that disc can be accessed through this folder. By default, the **Volumes** folder is available to all users. However, the Administrator can set a password to protect it.

The names of the subfolders found under the Volumes folder will comply with the following rules:

- If the Administrator sets a volume name, the volume is re-named from the disc label name
- If no volume name has been set, the volume label held on the disc will be used
- If the disc does not have a volume label and no volume name has been set, the DRM-6NX will automatically allocate a name of the form `<nnnnnnnn>`, where `<nnnnnnnn>` is a unique eight digit number

Often the volume label is not a good representation of the disc contents. A volume name is a convenient way of setting a more specific or recognizable name.

Important!

If you wish to run an application that is stored on a disc or looks for its associated files on a disc, you cannot use an alias name because the application will not recognize it.

Editing the Configuration Parameters

Web Browser

If your network supports TCP/IP, you may display and edit the DRM-6NX parameter list using any standard Web browser. Note that you must first assign a valid Internet address as described in " *Assigning an Internet Address*" on page 14.

To access the DRM-6NX Home Page from your Web browser, simply enter the URL of the DRM-6NX, (i.e. the name or Internet address, in the location/address field)

Example:

```
http://172.16.253.80
```

Text Editor

The configuration settings for the DRM-6NX are stored in the config.ini file located in the **System/Server Properties** folder. You may use your preferred text editor to make updates to the file.

Submit the new settings to the DRM-6NX by saving the file. To activate the new settings, it is necessary to restart the DRM-6NX. Set the **Restart** parameter to Yes.

Configuration Settings

The DRM-6NX configuration settings are stored in the config.ini file located in the System/ServerProperties folder.

Example:

```
; Parameter List, V5.00

[Server]
HardwareAddress      = 00:40:cc:24:c0:0c
Date                 = 98-11-02
Time                 = 08:54:37
FactoryDefaults     = no
Restart              = no
TimeZone             = UTC
TimeSyncSource       = None
ServerPassword       = *****
Cache                = mirror

[SCSI]
SCSITermination     = on
JukeBoxLockTime     = 0
Disconnect_Reselect = on
BusMode              = Asynchronous
```

```
[IP]
IPAddress           = 172.16.253.80
DefaultRouter       = 172disc.16.1.1
NetMask              = 255.255.0.0
BOOTPEnable         = yes
DHCPEnable          = yes
RARPEnable          = yes
...
```

Access Control Parameters

The DRM-6NX access control parameters are stored in separate text files for each shared resource. These text files are located in the System/VolumeProperties folder.

NOTE:

- The text files cannot be used for setting up access rights to NetWare. Instead, use NWAdmin or Filer

Example:

```
...
; Explanations:
;   [W] - Writable
;   [R] - Read-only

--- Identification ---
[R] Volume name = Root
[R] Volume label = Root
[R] Volume serialnumber = 00000001
[W] Volume description =
...
; Access rights
...
--- Windows Sharing ---
...
File           = /
Share name      = Root
Comment        =
AccessRight     = Full-Server-Password
Read-Only Password =
Full Access Password =

[END]
```

NOTES:

- When editing the file, be sure that the equal sign and the parameter value is separated by a space.
- Do not remove the [END] marker from the file.

Appendix B: Troubleshooting

This section provides useful information to resolve difficulty you may experience with your DRM-6NX:

- The front panel indicators
- Errors when accessing the DRM-6NX
- Problems running CD-ROM software
- Difficulties locating the DRM-6NX in NetWare
- Problems locating the domain controller in SMB
- Problems when accessing disc changers
- Restoring the factory default settings
- The others

The latest information regarding this product is provided at

<http://wwwbsc.pioneer.co.jp/is/products/index.html>

United States <http://www.pioneerusa.com>

Europe <http://www.pioneer-eur.com/product.htm>

The Front Panel Indicators

The front panel indicators show the status of the DRM-6NX. The indicators have the following functions:

- Status - Flashes during startup (When the DRM-6NX is ready for use, the light goes out. The LED remains off, unless an error condition occurs.)
- HDD - Flashes to indicate hard disk activity and SCSI activity

Caution!

Never turn off the power when the hard disk drive is active (while a HDD indicator is flashing)

- Network - Flashes to indicate the presence of network traffic
- CHANGER - Lit when data is read from the internal changer and when the SCSI bus is accessed
- Power - Indicates that power is connected to the DRM-6NX (This LED remains lit and is only used to indicate power is present in the DRM-6NX unit)

Normal Conditions

The Power LED is hardware-controlled and is always lit when power is connected

This table shows the other front panel indicators under normal conditions:

Event	Status LED	HDD LED	Network LED
Initial power to unit	ON	ON	ON
During power-up/Self-test. Approx. 30 seconds.	Flash	OFF	OFF
After power-up/Self-test	OFF	ON	Flash*
First disc inserted	OFF	ON	Flash*
Last disc removed	OFF	OFF	Flash*
Network Packet arrived	OFF	N/A	Flash*
Flash loading	1 Flash/sec	1 Flash/sec	1 Flash/sec

* The Network LED flashes when there is network traffic

Error Conditions

The table shows the front panel indicators under various error conditions:

Event	Status LED	HDD LED	Network LED
CD-ROM has incorrect format or SCSI bus not connected**	OFF	Flash	Flash*
Faulty network connection	OFF		OFF
Illegal serial no.	Flash	Flash	Flash
Flash load failed	Flash	OFF	OFF
Token-Ring loopback failure	Flash	Flash	OFF
Token-Ring speed error	ON	OFF	Flash
Error in EEPROM	Flash	OFF	OFF
Error in FLASH PROM	Flash	OFF	Flash
Error in SRAM	Flash	Flash	OFF
Error in DRAM/DIMM	Flash	OFF	OFF
Error in DRAM/DIMM configuration error	Flash	Flash	OFF
Software/Hardware combination error	Flash	Flash***	Flash***
Disconnect/reselect drive error ****	Flash		

* The Network LED will flash when there is network traffic.
 ** Check the *logfile.txt* file in the System folder for more information.
 *** The HDD LED and Network LED will flash alternately in this condition.
 **** Disable the function by setting the Disconnect/Reselect parameter to off.

Status Indicator On

If the Status indicator remains lit after startup, it may indicate an error. Usually it is a problem with the SCSI bus or with one or more of the connected disc drives. Verify that all connected drives have unique SCSI addresses and that only the last drive in the SCSI chain is terminated.

Errors when Accessing the Network Cache Changer or Inserted Discs

Listed below are possible causes of error messages when trying to access the Changer or an inserted disc:

- If you are using TCP/IP, make sure that you have a unique Internet address assigned to the DRM-6NX
- Check the SCSI chain to ensure that all external disc drives are switched on and that only the last unit is terminated
- When using Microsoft Windows Network, verify that the SMB protocol is enabled
- Consult the message table in the "Error Conditions" section to see if the front panel indicators explain your situation

Problems Running CD-ROM Software

If you have inserted a CD-ROM successfully but the software refuses to run or produces error messages, the program may expect the CD-ROM data to be at the root level. In NetWare as well as in the Microsoft and IBM network operating system environments, assign a drive letter to that particular CD-ROM. In NetWare, the 'Show All Volumes' parameter must also be enabled. See also "Accessing the Network Cache Changer Resources" on page 29.

Some CD-ROMs, (e.g single user version of a "Computer Select"), require the MSCDEX (Microsoft) driver. The volume is usually released in a network version as well. An MSCDEX emulation, called PIONEERCDEX, is available on the Axis web site. The emulator causes a CD-ROM on the DRM-6NX to look as if it were locally connected to the PC. PIONEERCDEX supports Windows for Workgroups. but an MSCDEX emulation for Windows 95 is available. If the CD-ROM is a single user version, you must restrict the number of simultaneous users to one. Some applications look for information on the CD-ROM using a default name - if you have set an alias name, the disc may not be recognized thus fails to run.

Difficulties Locating the Network Cache Changer in NetWare

Frame Types - Ethernet

There are basically two different frame types on Ethernet networks, Ethernet II or IEEE 802.3. The IEEE 802.3 frame can be encapsulated in an IEEE 802.2 LLC frame or a SNAP frame. All four frame types are enabled by default with the value `auto`, which means that your DRM-6NX automatically adapts to the frame type used on the network. This will meet most requirements. Frame types used in your network will be supported by the DRM-6NX.

However, depending upon the network, you may want the DRM-6NX to ignore some frame types. If your network has multiple sections with different frame types on some of the sections, then the Changer might log on to the wrong network area and adapt to a frame type incompatible with the intended network section. For this reason, you have the option to disable specific frame types by changing the parameter from `auto` to `off`.

Alternatively, mark the frame type with the eight digit number appropriate to your network segment, such as 00-3F-B5-01. Usually marking is unnecessary as the auto-detection will handle most situations. To create this mark, edit the `config.sys` file using a text editor. Although you cannot enter the network number from a Web Browser, you may display the frame type and change the value to `auto` or `off` if required.

Problems Locating the Domain Controller in Windows (SMB)

If there is a problem locating the primary domain controller when running user-level security mode in Windows (SMB), all users will be denied access to the DRM-6NX.

Web Browser

To verify configuration settings for the DRM-6NX web interface, access the Administration pages. Click on **Network Settings** and **Detailed View** then open the **Windows (SMB)** tab.

Local Administrator Account

To locate the Domain Controller in Windows NT, log on to the DRM-6NX as the local administrator. Note that a local administrator is **not** the same as an Administrator with an account on the domain.

In the Map Network Drive dialog, specify the following:

Path:	The DRM-6NX name
Connect as:	Server name\Administrator
Password:	The password set in the ServerPassword parameter

Example:

The host name of the DRM-6NX is `cdserv`.

Path:	\\cdserv\root
Connect as:	cdserv\Administrator

NOTE:

- *In Windows 95, you cannot tell the SMB client to change domain and user when you are already logged in. Therefore, you cannot use the local administrator account to solve domain problems in the Windows 95 environment.*

Problems When Accessing Disc Changers

Disc changer flutter can occur if a user requests access to a CD-ROM while a second user is reading data from another CD-ROM. The changer may repeatedly switch between the two CD-ROM discs, sending small bits of data each time, in order to service both users. Because of the relatively long time needed to change a CD-ROM, the data transfer rate for both users may become unacceptably low.

The **JukeBox Lock Time** parameter in the DRM-6NX configuration file specifies how long a user has exclusive access to a CD-ROM during a data read operation. This is to prevent disc change flutter and to optimize the access speed when many users are reading different discs in the same changer.

The **JukeBox Lock Time** parameter will ensure that when there are simultaneous requests for access to different discs, a sizable block of data is transferred to each user before the access is changed.

- If the **JukeBox Lock Time** parameter is set too low, the data transfer rate will be unacceptably slow
- If the **JukeBox Lock Time** parameter is set too high, the disc drive will time-out on a second user's request before the first user's transfer is complete. This will result in users receiving a 'CD-ROM not available' notice.

The default setting is 0 seconds which disables this function.

NOTE:

- *If some drive error occurs during caching/reading, Caching/Reading is canceled and the drive and discs become disabled. Only by restarting this product can the condition be cleared.*

Restoring Factory Default Settings

If required, use any of the methods listed below to restore the factory default settings to a DRM-6NX (e.g. if you have disabled all network protocols)

- Web browser
- FTP on a TCP/IP network
- Reset button

Step by step instructions for each method are given below.

NOTES:

- *The node address, the Hardware Address parameter, will remain unchanged, but all other parameters will be restored. You will thus need to re-assign the Internet address to re-establish the Web browser connection.*
- *All Cached data in the HDD is cleared when restoring the factory default setting.*

Web Browser

To restore the defaults settings using a Web browser:

1. Start the Web browser
2. Click **Administration**
3. Click **PIONEER Changer**
4. Click **Factory Defaults**

The factory default setting is restored thru the DRM-6NX reboots automatically

FTP

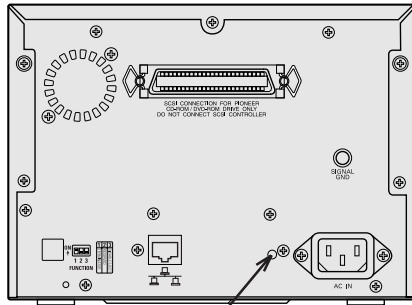
To restore the default settings using FTP:

1. Log in to the DRM-6NX with the command:
`ftp <host name>`, where <host name> is the name assigned in your system's host table
2. Enter the user id and password (Use the user id 'root' which has the default password 'pass' (root is the user id with the highest priority)
3. Restore the default setting with the command:
`get defaults`
(The unit will then automatically reboot)
4. Log out using one of the commands `quit`, `bye` or `exit` depending upon your FTP version

Reset Button

To restore the default settings using the Reset button:

1. Turn off the DRM-6NX
2. Press and hold the Reset button while you switch on the DRM-6NX (continue to press the 'Reset' button until the Network indicator flashes at regular two-second intervals).



Reset button

3. Release the Reset button and wait at least two seconds (one flash of the Network indicator)
4. Press and hold the Reset button for at least five seconds until the Network indicator remains constantly lit
5. Turn off the DRM-6NX then back on again

The factory default setting are now restored.

The Others

- When some 100Base switching HUBs are used, Collision LEDs may light at 3-second intervals. This is normal behavior and may be ignored.
- With some HUBs, the Link LED may not light. Reseat the cable until this LED light is on.
- If a 'write error on hard drive' message is returned during caching, re-format the drive with a low-level format (Select **Hard Disk** on **This Server** page and click on the Format button)
- When multiple external DRM-6324Xs or other Pioneer 6-Discs Changers are connected, you must not insert multiple magazines at the same time. Please insert the next magazine after the caching is complete.
- If there are problems when using a Web Browser with an earlier release than Internet Explorer 3.0x, please upgrade the Web Browser to IE4.0x or an equivalent.
- Once File Rights (Windows Sharing) of the root directory are changed to **Not Shared**, the shared name is changed to **NoName**. Only restoring the factory defaults setting or editing the **Root.txt** file will clear this condition. The **Root.txt** file is found in the **System/VolumeProperties** folder.

Appendix C: Upgrading the Network Cache Changer

This section includes the following information:

- Obtaining new software
- Upgrading the PIONEER Network Cache Changer DRM-6NX

Obtaining New Software

The following software for the DRM-6NX can be updated free of charge:

- The DRM-6NX software held in *Flash Memory*

Over the Internet

You may wish to check the PIONEER WWW Home Page <http://wwwbsc.pioneer.co.jp/is/products/index.html> to view/download the latest versions of the software for the DRM-6NX Changer.

A link to the web site is available on the DRM-6NX Product Home Page.

NOTE:

- *If you cannot access to the Products web site, you may access to other PIONEER Group's web site.*

United States <http://www.pioneerusa.com/>
Europe [http://www.pioneer-eur.com/
product.htm](http://www.pioneer-eur.com/product.htm)

Flash Memory

The software that runs on the DRM-6NX is stored in Flash Memory. This is a memory chip that, like ordinary ROM memory, keeps its contents even when the power is turned off. What makes it unique is the possibility to erase its contents and write new data to it. This means that when software updates are available for your DRM-6NX, you may update the software without having to replace any parts. The new software is simply loaded into the memory over the network.

Your Dealer

Contact your dealer to check if there has been any new versions of the software. You should have your present version numbers ready to compare against the latest software issues from PIONEER.

Upgrading the Network Cache Changer

The DRM-6NX software can easily be upgraded over the network using FTP on a TCP/IP network.

To upgrade over the network you will need the following:

- The file with the new DRM-6NX software. (the name of this file is of the form `product_version.bin`, e.g. `cde_500.bin` for the software release 5.00 for the Ethernet version of the DRM-6NX)
- A computer on the network with TCP/IP and FTP
- The DRM-6NX must also be installed on the network with TCP/IP as described in "Assigning an Internet Address" on page 14

Follow these steps to upgrade the DRM-6NX:

1. Log in to the DRM-6NX with the command:
`ftp <host name>` where `<host name>` is the name or Internet address of your DRM-6NX
 2. Enter the user id and the password (use the user id `'root`, which has the default password `pass`)
 3. Issue the command `bin` to change to a binary transfer mode
 4. Issue the command `put <software name> flash` where `<software name>` is the name of the new software (e.g. `cde_500.bin`)
- NOTE:**
- If you intend to download an earlier version or a beta version, you need to type `FLASH` in capitals, i.e. `put <software name> FLASH`, to force a flash memory load.
5. Wait for the flash memory load to finish (normally the flashing requires 1 to 4 minutes. The unit automatically restarts with the new DRM-6NX software active)
 6. Log out using the command `quit`, `bye` or `exit` depending on your FTP version

NOTE:

- With some new firmware, restoring factory default setting is required after upgrading. Please refer the release note attached to the new firmware.

Caution!

Do not to interrupt the file transfer. If the transfer is interrupted the DRM-6NX may require service / re-initialized by an authorized PIONEER provider.

Instructions on how to carry out the update are also supplied with the new software.

Upgrading the Internal Drives

The internal disc drives can be upgraded via the DRM-6NX web interface.

Follow these steps to upgrade an internal drive:

1. Make sure that you have the most current version available from the network
2. Start the Web browser
3. In the location/address field, enter the name or Internet address of the DRM-6NX
4. Click **Administration**
5. Click **This DRM-6NX**
6. Click on the icon that represents the device you want to upgrade
7. If the firmware upgrade capability is detected for the selected drive, you can click **Upgrade Firmware...**
8. Locate the new software file and click **OK**



Appendix D: Specifications

Supported Systems

Novell NetWare	NetWare 3.11, 3.12, 4.10 and 4.11
Microsoft Windows	Windows for Workgroups, Windows 95, 98, Windows NT v3.51, v4.0
Microsoft LAN Manager	LAN Manager 1.3 and above
IBM LAN Server	LAN Server 1.3 and above
TCP/IP	Supports all UNIX dialects through NFS over UDP/IP on TCP/IP network
WWW	Internet/Intranet over HTTP 1.0 and HTML 2.0 compatible browsers

Supported Protocols

Novell NetWare	NCP over IPX, RIP, SAP.
Windows and OS/2	SMB over NetBIOS/NetBEUI and SMB over NetBIOS/TCP/IP.
UNIX	NFS over UDP/IP, TCP, ARP, RARP, BOOTP, DHCP, WINS/NBNS, SNMP, FTP
WWW	HTTP over TCP/IP

Network Management

SNMP MIB-II and private enterprise MIB - Platform independent configuration and management from standard Web browser

Supported Disc Format

NOTE:

This unit does not support the use of CD-DA Audio Discs.

Physical Format	Only 2048 Bytes/Block format is supported in this system. Physical formats to be supported are Mode 1, Mode 2 form 1, Multi-session, and packet write (Variable).
Logical Format	Logical format to be supported is basically ISO9660 (include Rock ridge and Joliet extension).

Software Updates

Flash memory allows central and remote updating of the Network Cache Changer Software over the network using FTP over TCP/IP.

Performance

Date Throughput	<1,300 kbytes/s (100BASE-TX) <1,050 kbytes/s (10BASE-T)
Hardware	Internal Hard Disc Drive Storage Capacity 5.1 GB Average seek time 9.5ms
	Internal CD-ROM Drive Data transmission speed 1,800 – 3,600 kbytes/s Average access time 75ms

Interface

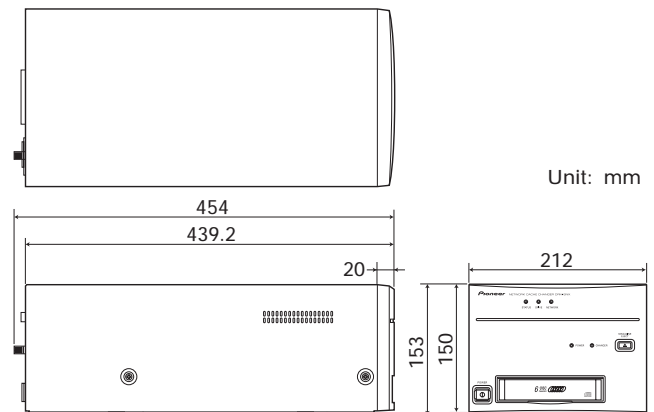
RJ-45	for 100BASE-TX and 10 BASE-T
SCSI connector (SCSI-2 support)	for PIONEER CD/DVD-ROM drives (Up to 5 drives).

Accessories

6-disc magazines	x 2
Power cable	x 1
Operating instructions	x 1
Power button cover	x 1
SCSI connector cover	x 1
Internal network board serial number label	x 1

Others

Power requirements	AC 110 V – 240 V, 50/60 Hz (automatic select)
Power consumption	AC 110 V – 240V, 0.62 A
Dimensions	212(W) x 454(D) x 153(H) mm 8-11/32(W) x 17-27/32(D) x 6-1/32(H) in.
Weight	6.4 kg (14 lb 2 oz)
Operating temperature	+5 to +35 °C (+41 to +95 °F)
Operating humidity	10 % to 80 %
Storage temperature	-20 to +60 °C (-9 to +140 °F)



NOTE:

Specification and design subject to possible modifications without notice due to improvements.

Appendix E: Glossary

AIX	Advanced Interactive eXecutive; A version of the UNIX operating system from IBM that runs on various IBM computers including Mainframe systems
ARP	Address Resolution Protocol; A protocol within TCP/IP networks that allows a host to find the physical address of a node on the same network
BOOTP	Boot Protocol; A TCP/IP protocol which allows an Internet node to discover certain startup information such as its Internet address
BSD	Berkeley Software Distribution; University of California, Berkeley additions to the UNIX operating system
DHCP	Dynamic Host Configuration Protocol; A system based on network interface card addresses for allocating Internet addresses and other configuration information for networked systems
DNS	Domain Name Service; Reflects the server names and addresses within a network
DSS	Domain SAP/RIP Services; Provides a source of SAP/RIP information in a NetWare environment
DVD	Digital Versatile Disk; An optical disk that store up to 16 times more information than a standard CD-ROM disk (developed for video, multimedia, etc.)
FAT	File Allocation Table; A file system originally invented for the DOS Operating System
FTP	File Transfer Protocol; The TCP/IP protocol used for logging in to a network and transferring files
HTML	Hypertext Markup Language; A standard hypertext language used for creating World Wide Web pages and other hypertext documents
HTTP	Hypertext Transfer Protocol; The TCP/IP protocol for Web based communication
IP	Internet Protocol; The TCP/IP session-layer protocol that regulates packet forwarding by tracking Internet addresses, routing outgoing messages and recognizing incoming messages
LED	Light Emitting Diode; A small light acting as an indicator for status or activity
MIB	Management Information Base; A database of network configuration information used by SNMP and CMIP to monitor or change network settings
NCP	NetWare Core Protocol; Method for Network clients to request services of servers and for the servers to provide services, such as file and print services
NDS	NetWare Directory Services; Manages network resources such as NetWare servers and volumes
NIS	Network Information Services; The security and file-access databases on UNIX systems, previously known as the 'Yellow Pages'
NTP	Network Time Protocol; Used by Internet time servers and their peers to synchronize clocks as well as automatically organize and maintain the time synchronization of the subnet

Appendix E: Glossary

RARP	Reverse Address Resolution Protocol; A TCP/IP protocol governing the translation of a Data-Link Control (DLC) address to an Internet address
RISC	Reduced Instruction Set Computing; A processor that recognizes only a limited number of assembly-language instructions
SAP	Service Advertising Protocol; A network name advertising service that file servers may use for advertising their existence to network clients
SCSI	Small Computer System Interface; A high-speed parallel interface, used to connect a computer to peripheral devices using just one port
SMB	Server Message Blocks; A protocol that makes use of NetBIOS
SNMP	Simple Network Management Protocol; A TCP/IP protocol for managing and monitoring nodes on a network
TCP	Transmission Control Protocol; The connection-oriented, transport-level protocol used in the TCP/IP suite of protocols
UDF	Universal Disk Format; A specification developed by OSTA (Optical Storage Technology Association) for use in optical storage devices. (file format for DVD)
UNIX	A 32-bit, multitasking, multiuser Operating System originally developed by AT&T
URL	Uniform Resource Locator; A way of specifying the location of publicly, available information on the Internet
YP	Yellow Pages; The security and file-access databases on UNIX systems (now known as Network Information Services)

AFTER-SALES SERVICE FOR PIONEER PRODUCTS

Please contact the dealer or distributor where you purchased the product for any / all after-sales service (including warranty conditions) or any other information. In case the necessary information is not available, please contact the Pioneer's subsidiaries (regional service headquarters) listed below:

PLEASE DO NOT SHIP YOUR PRODUCT TO THE COMPANIES at the addresses listed below as these companies are **not repair locations**.

AMERICA

PIONEER ELECTRONICS SERVICE, INC. CUSTOMER SERVICE DEPARTMENT
P.O. BOX 1760, LONG BEACH, CA 90801-1760, U.S.A.

EUROPE

PIONEER ELECTRONIC (EUROPE) N.V. EUROPEAN SERVICE DIVISION
HAVEN 1087, KEETBERGLAAN 1, 9120 MELSELE, BELGIUM

ASEAN

PIONEER ELECTRONICS ASIACENTRE PET. LTD. SERVICE DEPARTMENT
253 ALEXANDRA ROAD, #04-01, SINGAPORE 159936

JAPAN AND OTHERS

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4-1, MEGURO 1-CHOME, MEGURO-KU, TOKYO 153-8654 JAPAN



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