CD/DVD Array Controller

The Best Network CD/DVD Thin Server Solutions

CTL-9800/ CTL-9805

User's Manual

Preliminary Version

Amaquest Computer Corp.

8F-1, 79 Hsin-Tai 5th Road, Sec.1

Hsi-Chih, Taipei Hsien 221

Taiwan, R.O.C.

Printed June 22, 1999

Disclaimer

Amaquest Computer makes no representations or warranties with respect to the contents hereof and specifically disclaims any implied warranties of merchant ability or fitness for any particular purpose. Furthermore, Amaquest Computer reserves the right to revise this publication and to make changes from time to time in the content hereof without obligation to notify any person of such revisions or changes.

Trademarks

CTL-9800/9805 CD/DVD Server is a trademark of Amaquest Computer Corp. All other names, brands, products or services are trademarks or registered trademarks of their respective companies.

For Europe

CE This product is in conformity with the EMC directive.

Table of Contents

Chapter 1

CTL-9800/9805 CD/DVD SERVER

Congratulations on the purchase of your new CTL-9800/9805 CD/DVD Server! CD/DVD Server is a compact device that can be connected to an Ethernet-based network and provides simultaneous access of up to 14 CD/DVD-ROM drives or changers to any number of clients.

CD/DVD Server is a product series designed to enable client machines to access CD/DVD-ROM drives over the network. It is a combination of hardware and software, which enables users to share CD/DVD-ROM drives on Windows 95/98, Windows for Workgroups, Windows NT Server or Workstation, OS/2, UNIX, any NFS client, or any computer with HTTP browser installed.

This manual presents general information about the CD/DVD Server and instructions about installing your CD/DVD Server and configuring it.

Features

Some of the outstanding features of your CD/DVD Server are as follows:

- NOS independent, no server needed.
- Compatible with CD-ROM and DVD-ROM.
- Support multiple protocols and concurrent users.
- Instant Web server, and Internet ready.
- Configuration and management via LAN, Web, or local terminal is available.
- Passwords protected drive access and license control.
- No software driver is needed on client machine.
- System software resides on Flash-ROM for easy upgrade.
- Unique Socket API for custom application development (OEM option).
- 5.25" drive form factor size.
- Intelligent caching algorithm for improved performance (optional).

The CTL-9800/9805 CD/DVD Server Package

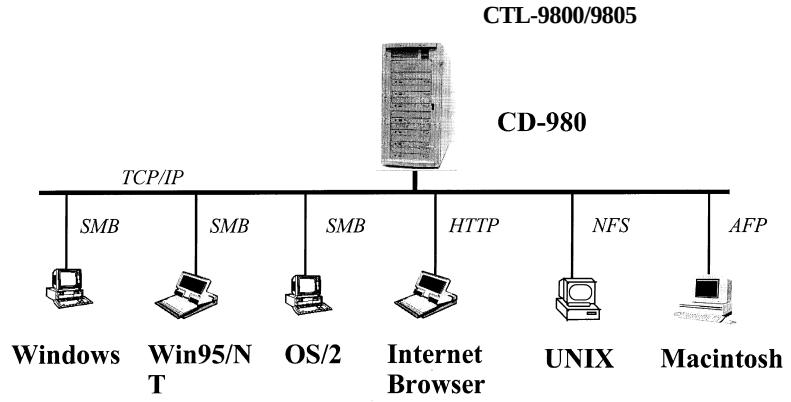
1. A 5.25 inch CD/DVD Server controller
2. Ethernet Extension Connector
3. A Ethernet Cable
4. A RS232C Serial Cable (9805 only)
5. Two SCSI II 50-pin terminators
6. Two 50-pin SCSI II Cables
7. CD/DVD Server User's Manual

Chapter 2

HARDWARE INSTALLATION

This chapter presents easy-to-follow instructions on how to install your CD/DVD Server.

CD/DVD Server can be physically located anywhere on the network. CD/DVD Server has a RJ-45 connector for 10Base-T (UTP, RJ-45) network cabling. 9805 CD/DVD Server is able to connect up to 14 SCSI CD-ROM drives through 2 SCSI ports. 9800 CD/DVD Server is able to connect up to 7 SCSI CD/DVD ROM drives. Each port can connect 7 drives. Please plan the SCSI ID settings carefully in advance, or consult your dealer about the ID of pre-installed SCSI CD-ROM drives if you want to attach any external drive. CD/DVD Server will not work if those IDs conflict. The controller always assumes a SCSI ID of 7. Each SCSI cable must be terminated either by the external terminator or by the jumpers on the last CD/DVD-ROM drive.



Installing CTL-9800/9805 CD/DVD Server

To Install CTL-9800/9805 CD/DVD Server, follow this simple process:

1. Connect the power cable to the CD/DVD Controller. Do *not* switch on the power
2. Connect one end of the SCSI cable to the SCSI connector at the rear of

the CD/DVD controller. (Make sure the colored end of the cable aligned with the number "1" printed on the board besides the SCSI connector.)

3. Connect the other ends of the SCSI cable to the CD-ROM/CD-ROM/DVD-ROM drive(s). (Check the alignment of the colored end of the cable with the number "1" indicated on the drives.)
4. Set a SCSI ID for each CD-ROM/DVD-ROM drive, make sure that each has a unique ID, from 0~6. Refer to the CD-ROM/DVD-ROM drive manual for detail instruction. The SCSI ID can be the same for two drives only when the drives are located separately on two SCSI channels.
5. Terminate the last CD-ROM/DVD-ROM drive of the chain for each channel, do not terminate the rest. Example, if all SCSI ID are used on a channel, 0~6, terminate the drive with SCSI ID 6.
6. Connect the controller to the network using the network interface port. Connect the 100BASE-TX network cable to the RJ-45 network connector.
7. Switch on the CD/DVD Controller. The LED on the face panel starts blinking after the system software initializes itself. The CD/DVD Controller is now ready, please refer to the TCP/IP setup for network configuration.

If any problem is encountered during the installation, please contact your local dealer for assistance.

NOTE: The CD/DVD Controller needs to be shut down before any new drive can be added. Do *not* tempt to add any devices when the Controller is still powered on.

Chapter 3

SOFTWARE INSTALLATION AND SETUP

This chapter presents easy-to-follow instructions on installing your CD/DVD Server configuration utility, CD/DVD Server Manager, on a Windows 95 or Windows NT client.

After completing the hardware installation of the CD/DVD Server, it boots up with a default configuration. For the CD/DVD Server to become operational, you need to configure its name, workgroup/domain name, and IP address. CD/DVD Server Manager, provided along with CD/DVD Server, can be used to configure and manage the CD/DVD Server.

System Requirements

The CD/DVD Server Manager requires the following environment for installation and use:

- A PC with Windows NT, Windows 95/98 or Windows for Workgroups, with a TCP/IP protocol stack installed and properly configured
- The machine where CD/DVD Server Manager is to be installed should be in the same network segment and subnet as that of the CD/DVD Server
- CD/DVD Server can also be configured in a non-Windows environment as long as there is an Internet browser available. For details, please see the section entitled "Managing CD/DVD Server using a Web Browser" in the chapter "CD/DVD Server as an HTTP Server".

Default Configuration

CD/DVD Server will automatically configure itself the first time it is powered on. This automatic configuration is based on the parameters stored in non-volatile memory:

- The name of CD/DVD Server is set by default to **Server.**
- The IP address of CD/DVD Server will be set by default to '**202.132.129.196**', which should be changed immediately to an available

IP address that does not conflict with any other host on the network.

- The Domain/Workgroup name of CD/DVD Server is set by default to **WORKGROUP** and should be changed to the name of the domain or workgroup in which CD/DVD Server is installed.
- The configuration password of CD/DVD Server is set by default to **root**. This password is required for changing any configuration of the CD/DVD Server.
- All the CD/DVD-ROM drives connected to the CD/DVD Server are shared by default without a password and with the share names **DVD0**, **DVD1**, **DVD2**, and so on up to a maximum of **DVD13** depending on the number of CD/DVD-ROM drives connected.

Setup Internet (IP) Address

Before a connection between the CD/DVD Server and the client can be setup over the TCP/IP network, an internet (IP) address has first to be assigned to the Server.

The IP address can be set under various networks, such as Window 95/98, Window NT, UNIX or OS/2. *Root* authority is required on UNIX system and *administrator* is required over Window NT server for this setup.

Three options, ARP/BOOTP/ DHCP, are given to assign an IP address to the CD/DVD Server.

- **ARP** - Easiest method available but IP address is downloaded individually. Not recommend to use this method over routers. System available: Windows 95/98, Windows NT,UNIX and OS/2.
- **BOOTP**- Download IP address automatically but operates on the entire network. Requires a BOOTP daemon on your system. System available: UNIX.
- **DHCP**- Allows automatic but temporary assignment of IP addresses from a central pool. When enabled, DHCP will download a free IP address, default router address and net mask

to the requesting CD/DVD Server during the absence of an active BOOTP daemon in the host. It also provides validation data that defines how long the Internet addresses will remain valid.
System available: Windows NT, and UNIX.

Procedures for using each of the methods are outlined below.

The ARP, BOOTP, and the DHCP methods can be enabled or disabled by setting *Enable* ARP/BOOTP/DHCP parameters in the **Other Protocols** in the **Configuration** option.

Caution
Only one of the ARP, BOOTP and DHCP methods for setting the Internet address should be enabled at a time. If both a BOOTP and a DHCP server on the network provide an Internet address, then the BOOTP address will be used. If both a ARP and a BOOTP or DHCP server provides an Internet address at the same time, the results will be undefined.

Using ARP in Windows

In Windows 95 and Windows NT the Internet address can be set using the ARP method. perform the following commands to download the Internet address and verify the communication.

From the DOS prompt, type the following:

```
arp -s <Internet address> <Ethernet or node
address>
ping <Internet address>
```

Example:

```
arp -s 192.36.253.80 00-40-8c-11-00-86
ping 192.36.253.80
```

The Ethernet address or node address equals the serial number found on the underside label of the CD/DVD Server with each pair of digits separated by a hyphen.

The host will return 'Reply from 192.36.253.80...' or similar message. This indicates that the address has been set and that the communication is established.

Notes:

- Once the CD/DVD Server has established communication using an appropriate Internet address, the arp/ping commands cannot be used to change the address. The reason for this is to avoid accidental or unauthorized changes of the Internet address. Restart the CD/DVD Server to make it accept the setting of the Internet address.

- In Windows 95, the arp command cannot be used if you have an empty ARP table. Type: arp -a to view the ARP table. If it is empty you must ping an existing unit on your network before you can set the Internet address of your CD/DVD Server.
- When you execute the ping command for the first time, the response time may be significantly longer than usual.

Using ARP in UNIX and OS/2

Type the following commands to download the Internet address and verify the communication**:**

```
arp -s <host name> <Ethernet or node address> temp
ping <host name>
```

Example:

```
arp -s cdserv 00:40:8c:11:00:86 temp
ping cdserv
```

The Ethernet address or node address equals the serial number found on the underside label of the CD/DVD Server with each pair of digits separated by a colon.
The host will return 'cdserv is alive' or similar message. This indicates that the address has been set and that communication is established.
Notes:

- The arp -s command may vary between different systems. Some BSD-type systems expect the host name and Ethernet address in reverse order. IBM AIX systems require the additional argument ether for Ethernet networks (e.g. arp -s ether salesdept 0:40:8c:11:00:86 temp).
- Once the CD/DVD Server has established communications using an appropriate Internet address, the arp/ping commands cannot be used to change the address. The reason is to avoid accidental or unauthorized change of the Internet address. Restart the CD/DVD Server to make it accept the setting.
- When you execute the ping command for the first time, the response time may be significantly longer than usual. It may be necessary to issue 'ping -t' command instead of a simple 'ping' to

facilitate the IP initialization.

- The system will automatically reboot itself upon successfully initializes the IP 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 and tr for Token Ring
vm =	rfc1048
ha =	The Ethernet or node address, i.e. the StorPoint CD serial number
ip =	The Internet address of the StorPoint CD
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. Make sure the host table and alias name databases are updated

3. Start the BOOTP daemon (if not already running), typically by the command: bootpd -a

4. Restart the CD/DVD Server to download the Internet address, default router address and net mask.

Using DHCP

Follow these steps to use the DHCP method:

1. Edit or create a scope in the DHCP manager of the DHCP daemon. The entries in this scope should include the following:

- Range of Internet addresses
- Subnet mask
- Default router address
- WINS server address(es)
- NetBIOS over TCP/IP *node type*
- NetBIOS over TCP/IP scope ID
- Lease duration

2. Activate the scope.

3. Set the DHCPEnable parameter to yes in the config.ini file of the CD/DVD Server.

First-Time Setup Using An Internet Browser

When you install CD/DVD Server for the first time, make sure a client machine with a web browser (preferably Internet Explorer 4.0 and above) installed is set up, in the network where the CD/DVD Server will be located. All set up procedures will be performed from this client machine.
Please follow the following set up procedures to set up your CD/DVD Server.

Execute the web browser you installed on your client machine. Enter the IP address that you just setup for the Server, for example http://202.132.129.196, use the default IP if no IP address is available. Press "Enter" to activate the Server Manager embedded in the CD/DVD Server. The home page of the Server Manager will be shown if steps are followed correctly

When the Server Manager home page appears, select the "Manager" option from the three options on the right of the page. You will be prompt to enter the user name and password. The user name and password is "root" and

"root" individually by default, you can change the password later from the Server Configuration. Click "ok" to continue.

The Manager Selection page is shown with a list of Manager configurable options. Select "Configuration" from the list, and it will lead you to the "Set Server Configuration" page. Under the "Server Configuration" table, you can change the manager password (which is the password entered when selecting "Manager"), server (host) name, the time zone, date and time. These are CD/DVD Server parameters that are set using these available options (refer to Chapter 4 for more details on *Server Configuration*). Click on "Submit new setting" when ready to confirm the new configurations.

Next, select the TCP/IP configuration option. This configuration page provides options that allow you to change the default TCP/IP configurations to meet your network requirement. First enter the domain name of the network where the CD/DVD Server will be located. The default IP address of the Server should be changed to an unused Internet (IP) address in your network. Set also the gateway address if required and the net mask of the network (refer to *TCP/IP Configuration* for more details). Remember to click on "Submit new setting" after changes are made.

Restarting CD/DVD Server

Basic configuration of your CD/DVD Server is now complete, but you will need to restart the CD/DVD Server for these changes to take effect. You can either restart the Server by selecting the restart options found under "Operation" or simply by switching off and on the system's power switch. It is recommended that you reboot the system so that the configured changes are saved and your CD/DVD Server can start functioning. Your CD/DVD Server will restart within 90 seconds and can then be found on machines on the network.

NOTE: The actual boot time varies depending on the type and number drives attached to the Server.

Chapter 4

CONFIGURATION AND MANAGEMENT

CD/DVD Server Manager enables the system administrator of the CD/DVD Server to view exist disc information, drive information, configure parameters of the CD/DVD Server, and manage individual drives. This utility can be executed from any Windows, NT or Unix machine on the network with web browser (preferably I.E 4.0 or above) and a TCP/IP stack installed.

Once the CD/DVD Server Manager has started, it automatically scan the system to locate all drives that is link to the CD/DVD Server, and their related information, for example volume title, drive manufacturer, etc..

Only administrator with super-user authority can modify at the configuration of the Server. Whenever there is an attempt to configure a CD/DVD Server, a password is requested. This configuration password will be validated whenever a CD/DVD Server is to be configured after finishing a fresh browse of the network. All configurations and management functions can be found when "Manager" or "Manager Selections" is selected on the Server manager.

The configuration options and Server management functions are designed easy-to-follow. Following are the detail descriptions for each option.

Changing Server Configuration

The **Server Configuration** options under the **Configuration** menu allow the person in super-user mode to change configuration such as manager password and server (host) name of the CD/DVD Server.

Manager Password Password used to enter the "Manager" options. The factory default password set is ***root***. Enter the new password in the column provided.

Server (Host) Name The identity for the CD/DVD Server. The default Server name is ***Server***, and can be changed at your preference.

Time Zone The time zone should be set to the time zone of the country where the CD/DVD Server is located. For example the time zone for Taiwan is UTC+8, eight hour faster than the standard time. Please refer time zone table in Appendix A to find out the appropriate time zone. This setting is required to present accurate information in areas such as Event Log.

Date Please set the date according to the format, year/month/day (example: 99/06/22).
Note: Do not enter the "#" sign when changing the date. It will automatically appear when changes are submitted.

Time Please set the date according to the format, hours:minutes:seconds (example: 18:25:22).
Note: Do not enter the "#" sign when changing the date. It will automatically appear when changes are submitted.

When configurations are completed, remember to select "Submit new setting" to save the new configurations.

Changing Network Configuration

The network configurations (TCP/IP, SMB, HTTP, etc.) under **Configuration** are parameters that should be set to meet the requirement of the network environment the CD/DVD Server is to be placed. Only person in super-user mode is allowed to adjust the configurations.

Select **View All Config.** to view all status of all configurations.

TCP/IP Configuration

Selecting the **TCP/IP Configuration** option under **Configuration** to change the domain name, IP address, gateway address, and net mask of the CD/DVD Server. It is important to configure these parameters correctly for the Server to function in the network.

Domain Name — The name of the network which the CD/DVD Server is located (e.g. amaquest.com)

IP Address — The internet address of the CD/DVD Server (e.g.202.132.129.196). Select an unused internet address from the network where the Server will be located and replaced the factory default IP address. This is to prevent clashes of address with the other system.

Gateway Address — The internet address of the default router. All data transfer within the network has to be directed to the router to be re-directed outside networks. Gateway address is optional if not required.

Net Mask — Used to determine if traffic should be sent via a router. Net mask 0.0.0.0 indicates that router will be sense automatically.

SMB (for Windows) Parameters

Select **SMB Configuration** under **Configuration** if the CD/DVD Server is to be shared in the Windows environment. Select "Yes" to enable the SMB. The server (host) name should appear in the Network Neighbour if the

TCP/IP configuration is set up correctly.

Workgroup Name The name of the workgroup in SMB which the CD/DVD Server is located.

Server String The description of the CD/DVD Server that will appear when view the Server in the Network Neighbourhood or File Manager.

Security Mode The level of security set for the CD/DVD Server.

- **Share Level** A password can be set for each drive/device shared over network.
- **User Level (Authenticated by another server)** Each user requires an individual account and password. The password server is located at another server.
- **User Level (Authenticated by DVD Tower)** Each user requires an individual account and password. The password server is located within the CD/DVD Server.
- **Public** No security is set for the Server and is opened to Public.

WINS Server The server (host) name of the password server used to check the CD/DVD Server security.
Only required when the security mode is set to "Server"

OS Level The authority to hold the name list of all systems in the workgroup. Higher number represents higher level.
It is suggest to leave as default, only modify OS level when necessary.

NFS (for UNIX) Parameters

Select **NFS Configuration** under **Configuration** if the CD/DVD Server is to be shared in the Unix environment. Select "Yes" to enable the NFS. This allows users to mount the CD/DVD Server and access to the CD/DVD-

ROMs.

Root ID

HTTP (for WEB) Parameters

Select **HTTP Configuration** under **Configuration.** Disable HTTP by selecting"No". This allows user to access the CD/DVD-ROMs through web browsers. It is set "Yes" by factory default.

SOCKET (for RPC) Parameters

Select **Socket Configuration** under **Configuration.** Select "Yes" to enable the Socket. A set of functions will be activate to allow remote calls of function from client-end programs via Socket.

Port Number The port designate for Socket function. The port number should be set greater than 1023 and lower than 32768. Make sure no other function uses same port number to prevent possible cause of errors

Other Protocols

NTP Set "Enable" to enable NTP setup

NTP Sync-Server

BOOTP Set "Disable" to enable BOOTP setup

DHCP (Client) Set "Enable" to enable DHCP (Client) setup

DHCP Server

RARP Set "Disable" to enable RARP setup

ARP Set "Enable" to enable ARP setup

WINS Client Set "Enable" to enable WINS setup

SNMP Client	Set "Disable" to enable SNMP setup
SMTP	Set "Enable" to enable SMTP setup

Setting Security

CTL-9800/9805 CD/DVD Server supports two levels of security in SMB, user-level security and share-level security.

User-level security acknowledges the access of all users. An user account has to be set for each user to validate their access to the CD/DVD Server. Specific restriction to resources can be set using the account.

Share-level security means specific restriction can be set to each individual drive in the system. Password can be given for access to each restricted drive

View All option under the Security menu allow viewing of the entire database. User information, including user name and group name, are compiled for management.

Edit User Account

The **Edit User Account** option under the **Security** menu sets the user account required for user-level security.

All three information, *user name*, *group name*, and *password*, are required for an valid user account. Prompt will be given if any of the information is missing.

Select one of the following actions when all information are completed:

- Select "**Add user**" to save the new user account information to database.
- Select "**Modify user_data**" to save change of information of exists user.
- Select "**Delete user**" to remove user account from the database.

Set Access Control

The **Set Access Control** option under the **Security** menu set specific restriction or password to specific drives that require protection.

Access rights for each drive are classified according to three network protocols, SMB, NFS, and HTTP. Each configures the access rights to the protected drive under these network protocols.

1. Select a drive (e.g. DVD0) from the drive menu at left of the

configuration table. The drive menu only shows CD/DVD-ROMs present in the system.

2. Decide type of network protocol to set access rights (access rights can be set concurrently for all three protocols). For example SMB.
3. Choose the methods to grant access rights, for example by group name.
   [SMB]
   #Set a share-mode password
   #SHAREPWD pass
   #Grant access right to "member" group
   #GROUP member
   ……
4. Uncomment the default set up of method chose.
   [SMB]
   #Set a share-mode password
   #SHAREPWD pass
   #Grant access right to "member" group
   GROUP member
5. Modify the set up to fit requirement. For example set SMB access rights another group "RD".
   [SMB]
   #Set a share-mode password
   #SHAREPWD pass
   #Grant access right to "member" group
   GROUP member
   GROUP RD

Server Operations

Basic operations are provided for remote control using the CD/DDV Server manager through web browsers. Web control operation options includes, eject/load disc, lock/ unlock drive, and reset function. Details of each operation are as follow.

Eject/ Load Disc

Eject/ Load Disc function can be found under **Operation**. Only available drive(s) is shown for selection. Select operation to be performed (eject or load) from the drop–down menu of the selected drive. One or more discs can be eject (or load) at the same time. Click "Perform operation" when ready. Reset option is also provided to reset changes to previous settings.

NOTE: Load operation is only available for tray-type CD/DVD-ROM.

Lock/ Unlock Drives

Lock/ Unlock Drive function can be found under **Operation**. Only available drive(s) is shown for selection. Select operation to be performed (lock or unlock) from the drop–down menu of the selected drive. One or more drives can be lock (or unlock) at the same time. Click "Perform operation" when ready. Reset option is also provided to reset changes to previous settings.

When a drive is under lock mode, panel operation on the drive will be malfunction.

Reset

Reset function can also be found under **Operation.** The reset function is differentiate into four types. Please refer to the explanation below for each reset function.

Reset System	Entire system including the drives will be reset when function selected.
Reset Configuration To (Previous)	All configurations will be reset to the status last last configured.
Reset Configuration To (Default).	All configurations will be reset to factory default.

Restart HTTP Server

Chapter 5

CD/DVD SERVER INFORMATION

This chapter presents the information able to obtain using the CD/DVD Server Manager. Membership status of user decides the type of information able to retrieve.

Guest User not registered with Server administrator. View only *Guest Information*.

Member User registered with Server administrator. Information provide, includes *Disc Access information*, and *Member Information*.

Manager Provided only for user with super-user authority, such as Server administrator. User have full access and control to Server information and configurations.

User should select the group (access level) belongs from the menu found on the home page of the CD/DVD Server Manager. For example, select manager, if user data has been registered with the administrator.

System scan periodically (every minute) for update of information and configuration. User can manually update information using "Refresh" function found on top of every browser.

Disc Access Information

Disc Access information provides all disc related information. Drive number, Drive status, Data type of the discs, and volume name (disc title) are all included under this option. Both Member and Manager have access to this option. Disc data can be obtained by selecting the volume name. Web access rights can be set under **Security** (refer to *Set Access Control*).

Drive Information

Disc Access information provides all drive related information, it holds similar information as Disc Access Information except drive vendor information (manufacturer) and device mode (DVD-ROM, CD-ROM, etc.). Only Manager level user have access to this option. Disc data can also be obtained by selecting the volume name. Web access controls can be set under

Security (refer to *Set Access Control*).

System Information

Under **System Information**, CD/DVD Server system related information are listed for management. Only Manager level user have access to these information. List of system information provided are as follows:

NOTE: The total memory under System Information is the Disk-on-Chip memory.

Event Log

A log file that records errors occurred while operating the CD/DVD Server. Error messages are date stamped for reference. User can refer to the information when problem encountered during operation.

Edit Guest Information

Edit area to the Guest Information shown under Guest. Message for guest users can be edited in this area. Select " Submit new content" to save changes in Guest Information. User can also "Reset content" to previous message.

Edit Member Information

Edit area to the Member Information shown under Member. Message for member users can be edited in this area. Select " Submit new content" to save changes in Member Information. User can also "Reset content" to previous message.

APPENDIX A
The Time Zone Parameter Value

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

Time Zone Parameter Value	Hours +/- UTC
UTC	0
UTC+1_(No_DST)	1
UTC+2_(No_DST)	2
UTC+3_(No_DST)	3
UTC+4_(No_DST)	4
UTC+5_(No_DST)	5
UTC+6_(No_DST)	6
UTC+7_(No_DST)	7
UTC+8_(No_DST)	8
UTC+9_(No_DST)	9
UTC+10_(No_DST)	10
UTC+11_(No_DST)	11
UTC+12_(No_DST)	12
UTC-1_(No_DST)	-1
UTC-2_(No_DST)	-2
UTC-3_(No_DST)	-3
UTC-4_(No_DST)	-4
UTC-5_(No_DST)	-5
UTC-6_(No_DST)	-6
UTC-7_(No_DST)	-7
UTC-8_(No_DST)	-8

Time Zone Parameter Value	Hours +/- UTC
GB_Eire	0
Western_Europe	0
Iceland	0
Central_Europe	1
Poland	1
Eastern_Eurpe	2
Turkey	3
Western_Russia	3
US_CAN_Eastern	-5
US_CAN_Central	-6
Saskatchewan	-6
US_CAN_Mountain	-7
US_Arizona	-7
US_CAN_Pacific	-8
US_Alaska	-9
US_Aleutian	-10
Cuba	-5
Egypt	2
Libya	1
Sudan	2
Tunisia	1

UTC-9_(No_DST)	-9
UTC-10_(No_DST)	-10
UTC-11_(No_DST)	-11
UTC-12_(No_DST)	-12

If the parameter value above is used, there will be no automatic adjustment for DST. (DST= Daylight Saving Time)

If the parameter values shown on the right is used, DST will be adjusted automatically.

Brazil_Noronha	-2
Brazil_Sao_Paulo	-3
Brazil_Manaus	-4
Brazil_Rio_Branco	-5
Chile	-4
Chile_Easter_Isl	-7
Paraguay	-4
Aust_Adelaide	9h30min
Aust_Darwin	9h30min
Aust_Hobart	10
Aust_Perth	8
Aust_Sydney	10
New_Zealand	12
Afghanistan	4h30m
Armenia_Azer	4
Burma	6h30min
China_PRC	8
India	5h30min
Iran	3h30min
Iraq	3
Jordan	2
Kazak_Kirgi	6
Lebanon	2
Syria	2