

Appendix C

Network Requirements

This appendix provides information on designing, troubleshooting and optimizing Ethernet networks used with Kaleidescape movie servers.

The Browser Interface

The browser interface is used to view and edit information about movies and music and configure a system.

For Windows

Use the following procedure to open the browser interface using Windows.

1. Open a web browser and enter <http://my-kaleidescape>.

If the browser interface does not appear or is slow to appear, go to the next step.

2. Enter the browser interface IP address in the web browser.
 - a. Press the **MENU** button on a remote control.
 - b. Use the arrow buttons to select **System**.
 - c. Select **System Summary** to see the browser interface (Web utility) IP address.
 - d. Enter the **Web utility IP address** in the web browser.

If access to the onscreen display of a Kaleidescape player is not readily available, or to avoid checking the IP address every time to access the browser interface, use the following procedure.

3. Enter <http://my-kaleidescape.local>.

If the browser interface does not appear or is slow to appear, go to the next step.

4. If Kaleidescape Conductor is installed on the computer, right-click the Kaleidescape icon in the notification area of the task bar (system tray). Then select **Manage Kaleidescape System...** from the pop-up menu.

If the browser interface does not appear or is slow to appear, go to the next step.

5. Install **Bonjour** for Windows. Go to the [Bonjour download](#) page and click the **DOWNLOAD** button.
6. Enter <http://my-kaleidescape.local> again.

For Mac

Use the following procedure to open the browser interface using a Mac.

1. Open a web browser and enter <http://my-kaleidescape.local>.

If the browser interface does not appear or is slow to appear, go to the next step.

2. Enter the browser interface IP address in the web browser.
 - a. Press the **MENU** button on a remote control.
 - b. Use the arrow buttons to select **System**.
 - c. Select **System Summary** to see the browser interface IP address.
 - d. Enter the browser interface IP address in the web browser.

Special Cases

Under special conditions, other methods are used to access the browser interface.

- ▶ Using a link local address when the server has an unknown static IP address
- ▶ Using a serial number when more than one Kaleidescape System is on the same network

Link Local Address

The link local address method is used in extreme cases under the following conditions:

- The server has an unknown static IP address.
- The server is on a different subnet than the computer.

(Using the link local address is a somewhat complicated procedure requiring setting the computer to a static IP in the 169.254.xxx.xxx range).

For detailed instructions on using the link local address, see Knowledge Base article at www.kaleidescape.com/go/link-local.

Server Serial Numbers

When more than one Kaleidescape System is on the same network, using <http://my-kaleidescape> accesses one of the servers.

To open the browser interface for a specific server, enter `http://ks-` followed by the twelve-digit serial number of the server.

For example, for a server with the serial number **0000 0001 2345**, enter `http://ks-000000012345` for Windows or `http://ks-000000012345.local` for Mac.

A dealer who has a demonstration system plus one or more customer systems on the dealer's network can access the browser interface for each system using this method.

Installer Pages

The installer pages of the browser interface are used for configuring a system. To access the installer pages, add `/installer` to the address used to access the browser interface. For example,

<http://my-kaleidescape/installer> (Windows)

<http://my-kaleidescape.local/installer> (Mac)

Network Switches

Gigabit Switch

A Gigabit switch is recommended for any M-Class installation, and is required to watch more than one Blu-ray movie from the same server at the same time. Both server and player require a 1000Base-T connection for 1000Base-T throughput.

All-in-one devices that combine the functions of a router and a switch are generally less effective and not recommended. Kaleidescape does not recommend a particular network switch, because there are several quality network switches on the market; however the following switches were tested and worked successfully:

- Dell PowerConnect Series Gigabit Ethernet switches (27xx, 28xx)
- Cisco Small Business Managed Gigabit Switches (SRWxxxx)
- Packedge Gigabit Switches

Multiple Switches

If more than one 1000Base-T switch is on the network, make sure all switches are interconnected using only 1000Base-T switches.

- Do not use 100Base-TX switches.
- Do not use a router as a switch.

Network Connections

Cat5, Cat5e and Cat6 network cabling can be used. Network cabling must have all four pairs of the cable terminated at each connector for 1000Base-T speed.

Kaleidescape strongly recommends the use of wired Ethernet network connections between servers and players. Wireless and powerline connections work well for providing Internet access to the Kaleidescape System, for connecting control systems, and for accessing the browser interface from a computer; however, a wired Ethernet network must be used for connecting the Kaleidescape components because there is little tolerance for latency while streaming movies or music.

Up to 54 megabits per second of network bandwidth is used while streaming a Blu-ray movie. Blu-ray Discs are not compressed when imported. Full audio and video fidelity are maintained.

1U and 3U Servers and 5U Servers (Model KSERVER-2500) can stream up to 5 Blu-ray movies over a well-designed 1000Base-T network at the same time. 5U Servers (Model KSERVER-2000) can stream one Blu-ray movie at a time because the network interface is limited to 100Base-TX.

Network Speed Test

Kaleidescape provides a network diagnostic tool to check the bandwidth between each player and the server. To run the Network Speed Test, go to <http://my-kaleidescape/speedtest.html>. The results are sent to Kaleidescape and appear on the system dashboard found on the Kaleidescape Extranet.

DHCP Reservations

Assigning Fixed IP Addresses Using DHCP Reservations

DHCP reservations provide a central point of management for all IP allocations at a site. With DHCP reservations, network parameters such as IP addresses, subnet mask, default gateway, and DNS servers are set in one place – at the DHCP server. If any of these parameters change, only the DHCP server has to be modified.

For most installations, the DHCP server built into the router is perfectly adequate.

The procedure to create DHCP reservations is device-specific. Refer to the router or DHCP server documentation for instructions. DHCP reservations are usually made using MAC addresses. To see MAC addresses for

Kaleidescape components, go to the **COMPONENTS** tab of the browser interface at <http://my-kaleidescape/installer/components.html>.

Resetting an M-Class Player to Use a DHCP Address

To remove a static IP configuration on an M-Class player, press the network **RESET** button on the back of the player to return the player to the factory default DHCP setting. The network **RESET** button is located just left of the analog audio connectors. (For non-M-Class players, the configuration must be changed on the browser interface **NETWORK** settings.)

To activate the **RESET** button, insert a paperclip in the reset hole. Press until the indicator on the right side of the **Network** connector starts blinking, then release. The player restarts with the factory default DHCP setting.

Assigning Static Network Addresses

If the installation site does not have a DHCP server, or if DHCP cannot be used for Kaleidescape components, IP addresses can be assigned manually. See [Network Settings on page 88](#). Add a DHCP server temporarily to the site network to access the installer pages of the browser interface and enter IP settings that are valid for the local site network.