kaleidescape

Large Systems

Design Guide for Premiere Line
April 2015

Contents

Using This Document

An installation of Premiere line components is considered a large system when it consists of one or more of the following:

- ▶ A system with ten or more players
- ▶ A system with two or more servers
- ▶ A collection of more than 5,000 movies or albums

This document discusses common large system scenarios with suggested strategies for system installation and management.

Large system concepts and terminology

This document uses the following concepts and terms to describe a large system.

System

A **system** refers to the collection of Kaleidescape components that are linked together on the same network. All components that make up a system are listed together on the *Components* page of the browser interface.

M-Class Player

M-Class players are based on Kaleidescape M-Class architecture, a powerful platform for Blu-ray playback and a high-definition user interface. M-Class players include the M500 Player (KPLAYER-M500), the M300 Player (KPLAYER-M300), and the integrated player in the M700 Disc Vault (KVAULT-M700).

Zone

A **zone** is active during playback of a movie or music. An M-Class player can support either one active movie zone, or one active music zone, but not both simultaneously. A Music Player can support up to four music zones that can be active simultaneously. The number of total zones that can be active simultaneously by linking components depends on the player types and the playback capacity of the servers. A 1U Server or a 3U Server can support a combination of 50 DVD quality movie or music zones and 15 Blu-ray quality movie zones. Additional servers can be added to support playback to more zones.

Alto and Cinema One (2nd generation) cannot be linked to a Premiere line system.

Large System Scenarios

The scenarios in this section are presented as guidelines to addressing the needs of customers that require a large system.

A large number of simultaneous playbacks

My customer is building a yacht with 71 staterooms — what kind of system do they need?

When designing a system that provides playback to a large number of rooms it is important to remember that it is not only the number of rooms that must be considered, but the number of simultaneous playbacks the customer is likely to require. Consider the following table.

	1U Server	3U Server
Number of simultaneous playbacks		
DVD quality/CD	50	50
Blu-ray quality	15	15

In this scenario, if the customer is unlikely to have more than a handful of different staterooms playing movies at the same time, they could only require a single server (though another consideration would be the size of the collection). However, if it is likely that a large number of the players will be accessing content simultaneously (especially Blu-ray movies) then more than one server is likely required. See Playback capacity on page 6 for more information.

A large collection

My customer has 10,000 movies — what can I do to make their entire collection accessible?

Servers are built with large movie and music collections in mind and storage capacity can be added easily, with additional disk cartridges and additional servers. The following table describes server storage capacity.

	1U Server	3U Server
Capacity	Four 4 TB Disk Cartridges	Fourteen 4 TB Disk Cartridges
DVD quality movies	1,800	7,200
Blu-ray quality movies	325	1,300

For best user interface performance when browsing a large library, collections of more than 8,000 movie selections or 10,000 music selections should be divided between separate systems.

The number of selections can be different than the number of discs added. For example, a two-disc CD set may be presented as a single music selection, or a television series box set containing six Blu-ray discs would also be presented as a single selection. Alternatively, a DVD containing two different movies appears as two separate selections.

When dividing content, try to ensure that movies and music are evenly distributed among the servers in different systems. To do this, all the servers in a system should have the same storage capacity. When adding content, all the servers in a system must be turned on and linked together. If disk cartridges are added to increase the storage capacity of the system later, add the same number of disk cartridges to each server to maintain the same capacity for each server.

To make managing and viewing content easier, try adding similar content to each system. For example, creating one system for movies and another for concert DVDs, music videos and television series will help take the guesswork out of finding the right movie or music.

Upgrading a large system to play Blu-ray quality movies

My customer has a system with 50 players but no Blu-ray capability — how do I ensure a smooth transition to M-Class?

M-Class players support Blu-ray playback and are designed to integrate easily with an existing Premiere line system. You can remove already connected players and add M-Class players without any server downtime. Both types of players can be part of the same system, but only M-Class players can play Blu-ray content.

Additionally, non-M-Class players will continue to display the original onscreen user interface showing only DVD quality movies, while M-Class players will display the high-definition onscreen user interface showing both DVD and Blu-ray quality movies.

Systems with M-Class players can also include a disc vault. The DV700 Disc Vault imports and stores Blu-ray discs, non-protected DVDs, and CDs; it catalogs and stores CSS-protected DVDs and allows playback of CSS-protected DVDs from its internal optical disc drive. The M700 Disc Vault has the same functionality, as well as an integrated M-Class player.

When adding or using vaults as part of a system, ensure the following:

- ► The vault is linked to the same servers from which the M-Class players play Blu-ray content. M-Class players outside of the system will not be able to play that content.

- ► Blu-ray discs are present in a vault or the tray of an M500 Player in the system. Blu-ray discs not in a vault or tray cannot be played.

Note that M-Class players use RCA connectors rather than the BNC connectors used on prior models for component video, composite video, and coaxial digital audio.
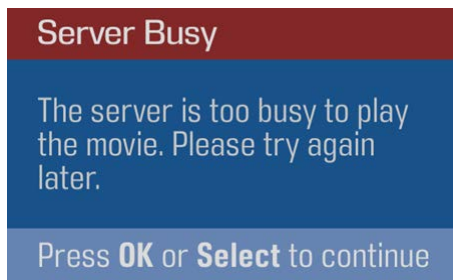
Performance Considerations

Playback capacity

It is important to understand the playback capacity of Kaleidescape players and servers when configuring a large Premiere line system:

- ► Each movie player can play either a movie or music to one zone.

- ► Each Music Player can play music to up to four simultaneous independent music zones.

- ► Each server can support simultaneous playback of 50 DVD quality movies or CDs or 15 Blu-ray quality movies in any combination.

If more playback capacity is required, then movies and music can be distributed across multiple servers. Adding servers generally increases the simultaneous playback capacity of the system. For CD and DVD quality movie playback, two or more servers can reliably support most large systems because it is unlikely that more than 50 zones will simultaneously request playback from the same server. While each server supports 15 Blu-ray quality movie zones, do not expect a system with two servers to support 30 Blu-ray quality movie zones simultaneously, unless the servers are in two separate systems. Keep in mind that if many zones request Blu-ray quality movie playback in a system with multiple servers, then it may be likely that 16 or more zones request playback from the same server, which can support only 15 simultaneous Blu-ray quality playbacks.

Attempting to play too many movies at once will present the following dialog box. Playback in other zones will continue.

Server Busy

The server is too busy to play the movie. Please try again later.

Press **OK** or **Select** to continue

Disc vault considerations

Limit the number of vaults in a system to ten. If more than ten vaults are required, add a second system to the installation.

HDCP display capacity

Each player can support 16 downstream HDCP devices, which can be relevant in large HDMI® matrix switched installations.

Network considerations

Large systems that will stream seven or more simultaneous DVD quality movies or two or more simultaneous Blu-ray quality movies must use a Gigabit network (1000Base-T).

Licensing considerations

Large systems that will stream more than five movies at the same time must have a Kaleidescape Unlimited Movie Streams Playback License.

Configuring a System

The following are the key points to remember when adding players and servers to a Premiere line system:

▶ When there is only one Kaleidescape server or one collection of Kaleidescape servers on a network, new players and vaults join that one system automatically.

▶ When adding a new server to an existing system, it must deliberately be linked to the existing system.

▶ Adding movies and music using a component in a system will add that content to a server that is in the same system.

▶ All players in the system will present a single movie and music library comprising the content of all servers in that system.

▶ Disc vaults enable playback of Blu-ray movies stored on servers in the same system.

Viewing a system

When multiple unified libraries are required to address the needs of the customer, the components of each system appear together on the *Components* page of the browser interface. The browser interface must be accessed from a computer on the same network as the Kaleidescape system.
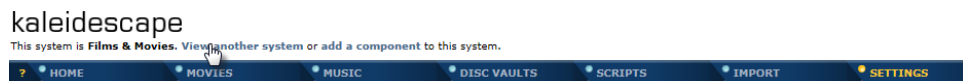
1. Open a web browser and enter:

   ▶ http://my-kaleidescape (Windows)

   ▶ http://my-kaleidescape.local (Mac)
      Or

   ▶ http://[server_IP_address] (Windows or Mac)

2. Select View another system from the message at the top of the page.

   ▶ When a system is not activated, a reminder appears along with the message.
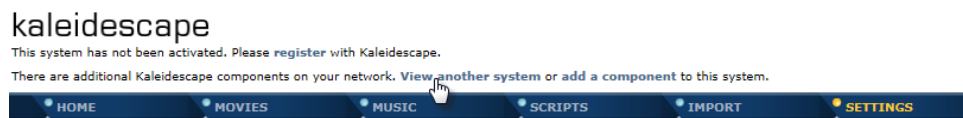
   ▶ When a system is activated, the system name appears in the message.

3. The VIEW ANOTHER SYSTEM page appears listing all Kaleidescape systems available on the network. Click the system name link above the serial number to view that system.
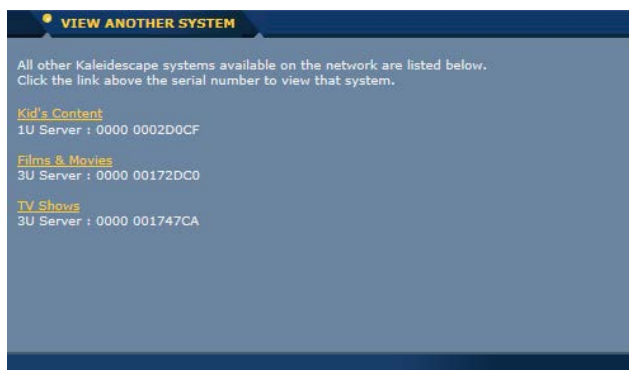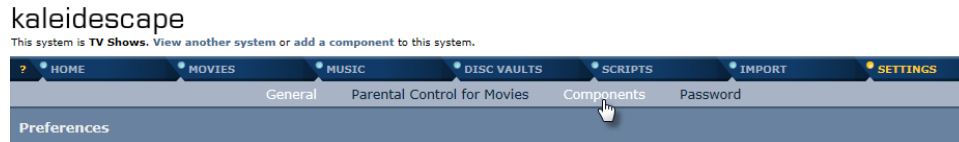

   Note: Only servers appear on the VIEW ANOTHER SYSTEM page.

4. A new window opens and the browser interface for the selected system appears.

5. Select the **SETTINGS** tab.

6. Select **Components** from the new row of headings.

The *Components* page lists all components currently linked in the selected system.

To add components to the selected system, continue to the next section.

To view another system repeat steps 2 through 6.

Adding components

1. Select add a component from the message at the top of the browser interface. The *ADD COMPONENT* window appears.
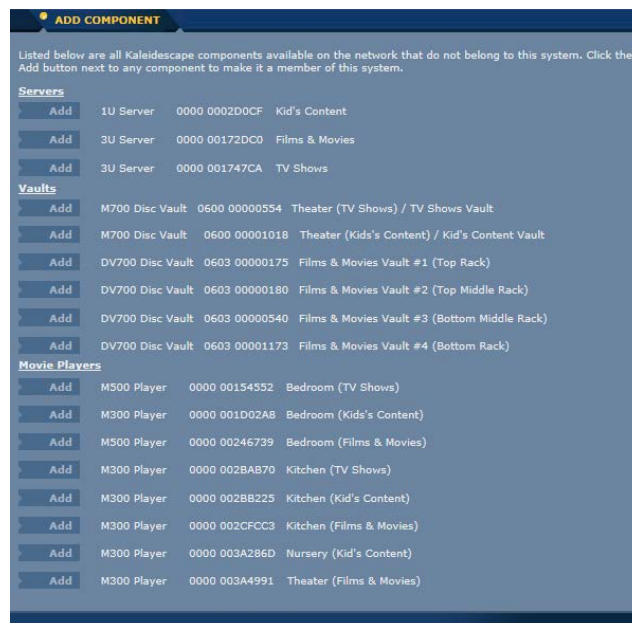

2. Click the **Add** button next to each component you wish to link to the system. When done adding components, close the *ADD COMPONENT* window.

3. Return to the *Components* page and wait while any added components reboot. Verify that all components are linked to the system. Repeat steps 1 and 2 to add more components.

   Note: If a player or disc vault is accidentally added to the wrong system, simply view the correct system, and then add the component to that system. There is not a deliberate method for removing a player or disc vault from a system.

Removing servers

1. Open a web browser and enter:

   ▶   http://my-kaleidescape (Windows)

   ▶   http://my-kaleidescape.local (Mac)
       Or

   ▶   http://[server_IP_address] (Windows or Mac)

2. Select the **SETTINGS** tab.

3. Select **Components** from the new row of headings.

4. Click the **Remove from system** button next to the server you wish to remove from the system.
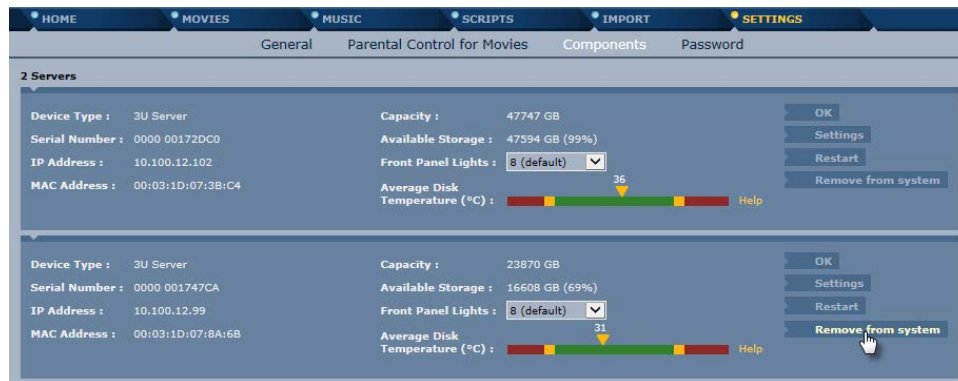
Control systems

Kaleidescape recommends that no more than 15 independent zones be controlled at the same time from a single control system processor (like AMX or Crestron) to avoid the possibility of processor overload. If the Kaleidescape system has more than 15 player zones that need to be controlled from the same control system, add processors and subdivide the logic between them.

For more information on best practices when using these control systems, refer to:

▶   www.kaleidescape.com/go/programming-amx-controllers
    (AMX documentation)

▶   www.kaleidescape.com/go/programming-crestron-controllers
    (Crestron documentation)

Each server can accept concurrent control connections from up to 20 iPads running the Kaleidescape App for iPad. For installations with more than 20 iPads, configure no more than 20 iPads to connect to each server.

Getting Additional Support

For additional help contact Kaleidescape Support:

- ▶ See online resources at www.kaleidescape.com/support

- ▶ Contact Kaleidescape Support at support@kaleidescape.com
  or +1 (650) 625-6160

Notices

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