



kaleidescape

Replication Guide

March 2016

Applications

The replication feature is an easy way to copy movies, collections, user settings, and metadata stored on one Kaleidescape Strato System to another Kaleidescape Strato System. Replication is often used in the following circumstances:

- ▶ Moving content to new components when one or more components is retired
- ▶ Duplicating content onto a second system for a second home
- ▶ Copying content to a backup system
- ▶ Upgrading to or from Kaleidescape Alto or Kaleidescape Strato

Terminology

Kaleidescape Strato System

A single Kaleidescape Alto or Kaleidescape Strato, or up to four linked players form a Strato system. A Strato system may also contain any number of Kaleidescape Terra servers.

Replication Source

The **replication source** is a Strato component containing content to be replicated onto the destination Strato system. To replicate content from a Strato system containing more than one player, each player must be replicated individually. Only one replication source at a time should replicate to a destination system. The replication source cannot be used to play back content during replication.

Destination System

The **destination system** is the Strato system that receives replicated content.

System Requirements

The following criteria must be met before replication can begin:

- ▶ Replication must be enabled from the Kaleidescape Extranet on both the system containing the replication source and the destination system. Access to enable replication is limited to the system administrator (or any other dealer contact who can view the system from the Extranet). For more information, go to <https://extranet.kaleidescape.com/programs/replication>.
- ▶ The replication source and destination system must be running the exact same version of kOS. An internet connection is required to receive the latest kOS version.
- ▶ An internet connection is required on the source and destination systems to replicate some movies.
- ▶ The replication source and the destination system must be on the same subnet of the same network. For fastest replication speed, use a Gigabit network. On a healthy Gigabit network, replication should take roughly one day to transfer one terabyte of data.

Disk Space

The destination system should have enough free space to accommodate all content on the replication source not already on the destination system. **If the destination system does not have enough free space, only some content will be replicated.** Duplicate content already on the destination system is skipped during replication.

When configuring the target system, the available disk space reported does not account for duplicate content already on the destination system.

If the destination system runs out of disk space during replication, an option is available to skip copying the remaining content, but continue copying collections. Any cataloged content skipped over in this way will not be cataloged on the target.

Replication Content

If a specific content type is not supported on the target system, it will be skipped with an indication it is not supported. Cataloged content is always replicated when space permits. Examples of content that will be skipped:

- Some downloads on Kaleidescape Strato players can only be replicated to systems containing Kaleidescape Strato players.
- Downloads cannot be replicated unless both systems are connected to the Internet to verify that they can be replicated.

The following table lists what can and cannot be replicated.

Always Replicated	Never Replicated
<ul style="list-style-type: none"> • Cataloged Movies • Downloaded Movies • Favorite scenes • Paused bookmarks • Movie metadata entered by the user • Movie Collections 	<ul style="list-style-type: none"> • Server front panel light setting • Player configurations, e.g., Primary video output • Group membership • System passcode

Replication Process

There are four basic steps to the replication process.

- ▶ Configuring the components
- ▶ Selecting the replication source
- ▶ Starting the replication session
- ▶ Monitoring the session

Configuring Components

Complete the Initial Setup process, including activation (if desired), before beginning replication. **Do not activate or deactivate a destination player during the replication process, or the process will halt and have to be restarted.**

When replicating to a single component, it may be configured to use either a wired or wireless connection. Do not change the network configuration on the destination player during the replication process.

When replicating to a system containing more than a single component, all components must be configured to use a wired connection. Link them together before beginning the replication process. Do not change the network configuration on a destination player during the replication process.

Complete the replication process before using the destination system for cataloging from discs, downloading, or playback. Do not replicate from more than one replication source at a time.

Use the following procedure to configure the components for replication. The browser interface must be accessed from a device connected to the same local network as the Kaleidescape System.

1. Open a web browser and access the browser interface on the source Strato system.

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

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

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

2. Select **View another system** from the top banner. See Figure 1.

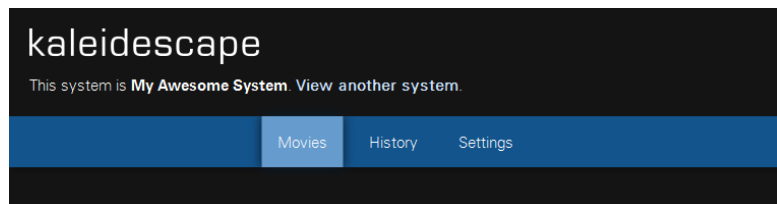


Figure 1 View Another System Link

3. The **View Another System** window appears. See Figure 2. Write down the serial number of all source devices and the destination system. These numbers are needed to identify the source servers and the destination system when starting replication and monitoring the replication session.

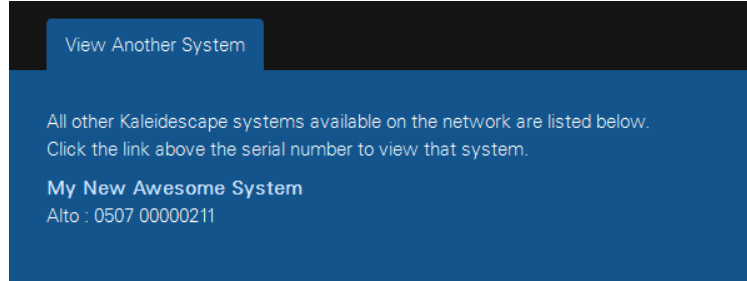


Figure 2 View Another System Window

Note: Only servers and server/players will appear in the **View Another System** window. Players, disc servers, and other components will not be listed.

4. Locate the destination system and click on the **name of the system**.
5. The **browser interface** for the destination system appears in a new window. Select the **Settings** tab and select **Components** from the second row of tabs if it is not already selected.
6. Select **Components** from the second row of tabs.
7. Compare the components with the serial numbers recorded during step 3. If a source server is listed in the destination system, remove it by clicking the **Remove from system** button. See Figure 3. Be sure that no source servers are part of the destination system before starting a replication session.

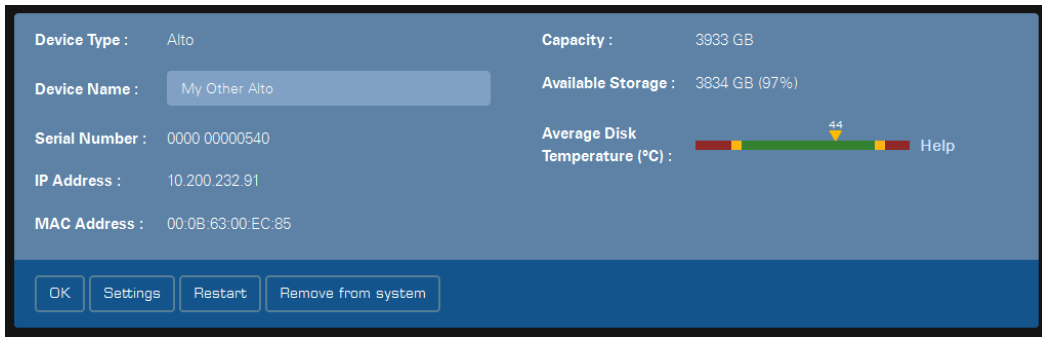


Figure 3 Remove from System Link

- 8. If the destination system contains more than one server, verify that all destination servers are listed on the **Components** page before starting a replication session.

Note: Content residing on a source server cannot be played back during replication. To play content during replication, players must be part of the destination system.

- 9. If a server is missing from the destination system, or a player needs to be added to the destination system, from the **Components** page click **Add component**. See Figure 4.

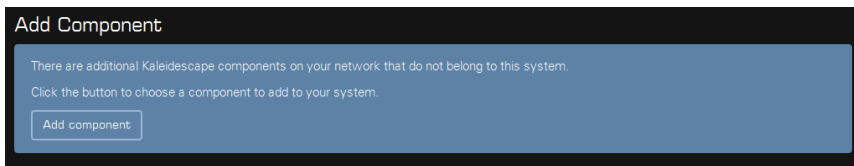


Figure 4 Add a Component Link

- 10. The **Add Component** window appears. Select the **Add** button next to the missing component to have it added to the destination system. See Figure 5.

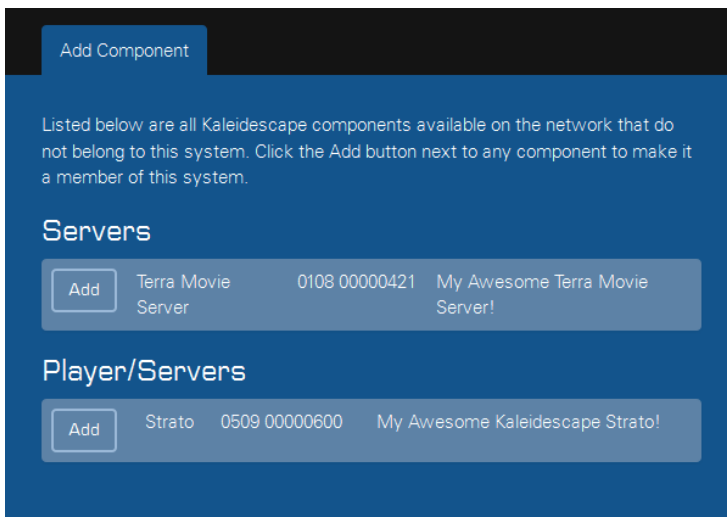


Figure 5 Adding Missing Component

Select the Replication Source

Note: When there is more than one source device, this procedure must be performed separately for each device after the process completes for the previous device.

1. From the **View another system** link (see Figure 2), locate the source server by matching the serial number, then click on the **system name**.
2. The **browser interface** for the source server appears in a new window. Select the **Settings** tab, and select **Components** from the second row of tabs if it is not already selected.
3. Click the **Replicate from this Alto/Strato/Terra** link to prepare the source server for replication. See Figure 7.

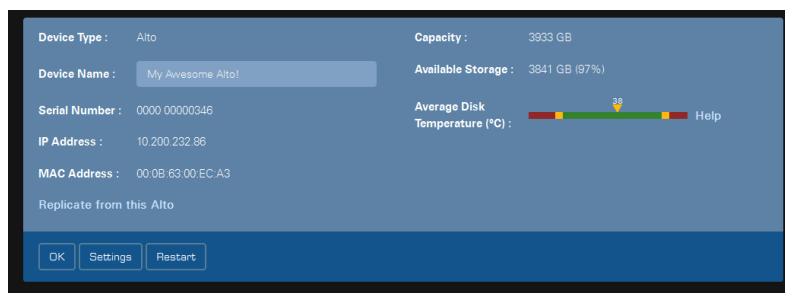


Figure 7 Replicate from this Alto

Note: If this link does not appear, replication has not been enabled for the system with the source server. To enable replication, ask the Extranet admin for your dealership to enable replication by visiting the Kaleidescape Extranet at <https://extranet.kaleidescape.com/programs/replication>.

Starting the Replication Session

1. The **Replication** page for the replication source appears. See Figure 8.

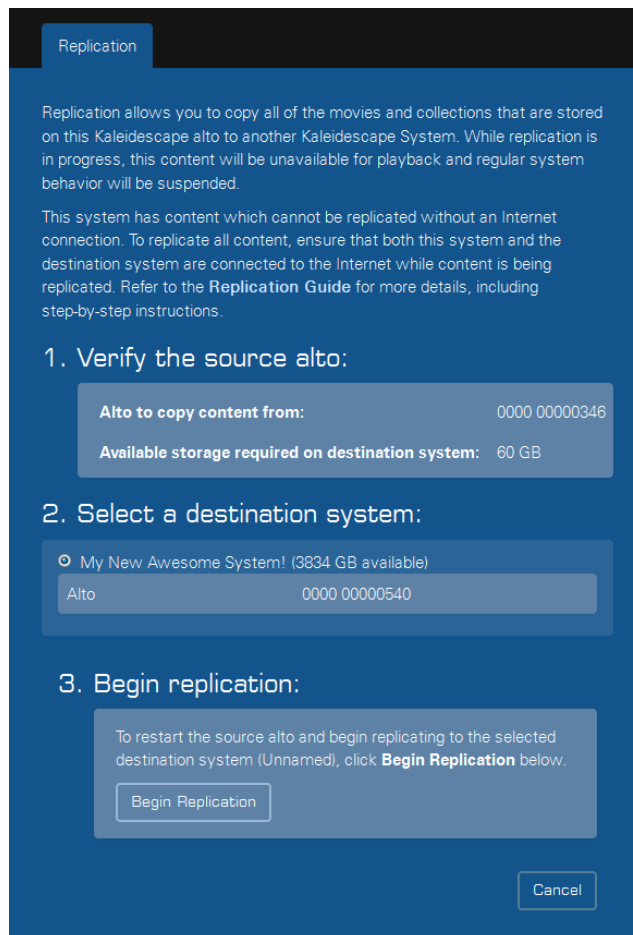


Figure 8 **Replication Page**

2. Verify the source server's serial number and note the amount of disk space required on the destination system.
3. Select the radio button to the left of the **destination system** and verify that the system has enough disk space for the content from the source server.

Note: Replication can be started even if there is not enough free disk space. The available disk space reported does not account for duplicate content already on the destination system.

4. Click the **Begin Replication** button at the bottom of the page to start the replication process. (Click **Cancel** at the bottom of the page if the source server is incorrect.)

A wait window appears while the source server reboots into replication mode and

initiates replication. See Figure 10. The reboot usually takes from 30 seconds to 2 minutes. Components with a lot of content can take more time.

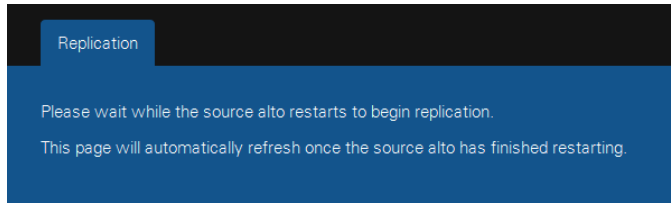


Figure 10 Wait Window

After reboot, the wait window is replaced by a window showing replication progress details. See Figure 11. The Kaleidescape logo on the source component begins to pulse slowly on and off when replication begins.

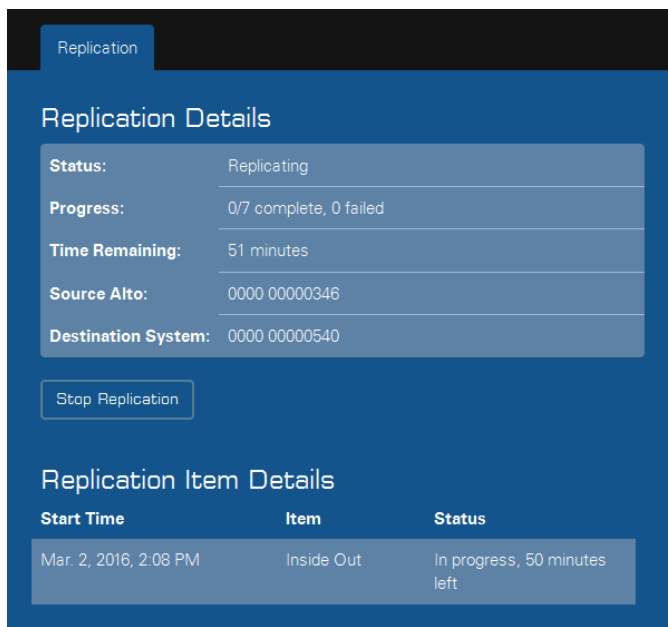


Figure 11 Replication in Progress

- Wait for at least one piece of content to be replicated to verify that the replication process is working correctly and for the best estimate of the remaining session time.

Note: The replication status page can be closed and later reopened anytime during the replication session.

Monitoring the Session

During the replication session, the Kaleidescape logo on the source device pulses on and off slowly. When replication is complete, the logo blinks rapidly.

Replication status can be monitored remotely by the system administrator (or any other dealer contact who can view the system) using the System dashboards data on the Extranet. Replication status on the dashboard includes the following information:

- **Replication not enabled**
- **Replication enabled**
- **Replication in progress**
- **Replication requires attention**
- **Replication failed**
- **Replication completed**

Use the following procedure to view replication status locally via the browser interface. The browser interface must be accessed from a device connected to the same local network as the Kaleidescape System.

1. Open a web browser and access the browser interface for the source server by entering one of the following URLs

- [http://\[device_IP_address\]](http://[device_IP_address])
- [http://ks-\[device_serial_number\]](http://ks-[device_serial_number]) (Windows)
- [http://ks-\[device_serial_number\].local](http://ks-[device_serial_number].local) (Mac)

Note: The serial number is a 12-digit (left-padded zero) number. For example, serial number 1cb is <http://ks-0000000001cb>

2. A page appears with a message stating that the component is replicating. See Figure 12.

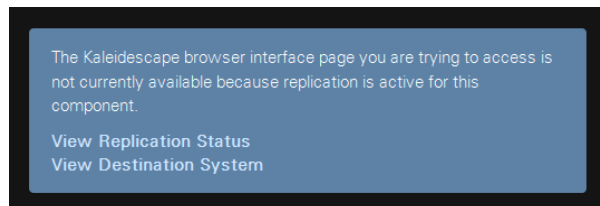


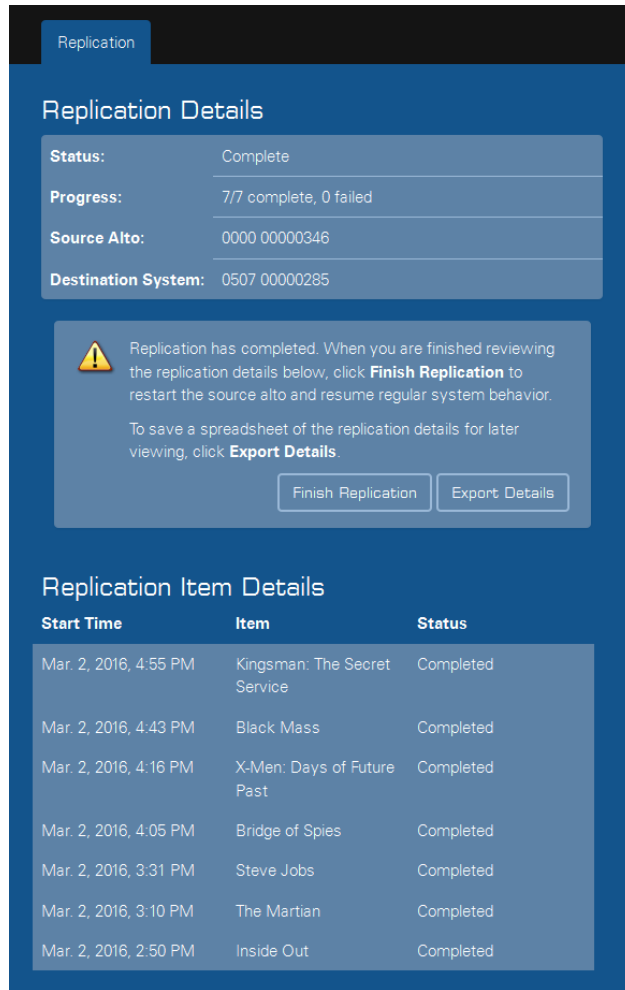
Figure 12 **Browser Interface Message**

There are two links on the message page.

- **View Replication Status** brings up the replication status page.
 - **View Destination System** brings up the browser interface for the destination system.
3. Select the **View Replication Status** link. The replication in progress window appears showing the number of movies replicated and the time remaining for replication to complete. The first item in the list is the most recently replicated. Refer to Figure 11.
 4. When replication is complete, the glow on the Kaleidescape logo on the source device stops pulsing and starts blinking rapidly.

Verifying Replication

1. If not actively monitoring a replication session when the front panel of the source server begins blinking rapidly, perform steps 1 to 3 under “Monitoring the Session” on page 9. The replication status page now shows a message stating that replication is complete. See Figure 13.



The screenshot shows a web interface for monitoring replication. At the top, there is a 'Replication' tab. Below it, the 'Replication Details' section displays the following information:

- Status:** Complete
- Progress:** 7/7 complete, 0 failed
- Source Alto:** 0000 00000346
- Destination System:** 0507 00000285

A warning icon (yellow triangle with exclamation mark) is present next to a message: "Replication has completed. When you are finished reviewing the replication details below, click **Finish Replication** to restart the source alto and resume regular system behavior. To save a spreadsheet of the replication details for later viewing, click **Export Details**." Below this message are two buttons: "Finish Replication" and "Export Details".

Below the message is the 'Replication Item Details' section, which contains a table with the following data:

Start Time	Item	Status
Mar. 2, 2016, 4:55 PM	Kingsman: The Secret Service	Completed
Mar. 2, 2016, 4:43 PM	Black Mass	Completed
Mar. 2, 2016, 4:16 PM	X-Men: Days of Future Past	Completed
Mar. 2, 2016, 4:05 PM	Bridge of Spies	Completed
Mar. 2, 2016, 3:31 PM	Steve Jobs	Completed
Mar. 2, 2016, 3:10 PM	The Martian	Completed
Mar. 2, 2016, 2:50 PM	Inside Out	Completed

Figure 13 Replication Status Page with Replication Complete Message

2. Review and verify that all content was replicated successfully.
3. Click the **Export Details** button to save replication details to a spreadsheet (see Figure 14) or simply review the details on the replication status page.

Note: Replication details are no longer accessible once the **Finish Replication** button is clicked unless saved to a spreadsheet.

Start Time	Original Ingestion Start Time	Item	Status
Mar. 2, 2016, 4:55 PM	Mar. 1, 2016, 11:08 PM	Kingsman: The Secret Servic	Completed
Mar. 2, 2016, 4:43 PM	Mar. 1, 2016, 8:40 PM	Black Mass	Completed
Mar. 2, 2016, 4:16 PM	Mar. 1, 2016, 7:16 PM	X-Men: Days of Future Past	Completed
Mar. 2, 2016, 4:05 PM	Mar. 1, 2016, 6:22 PM	Bridge of Spies	Completed
Mar. 2, 2016, 3:31 PM	Mar. 1, 2016, 5:02 PM	Steve Jobs	Completed
Mar. 2, 2016, 3:10 PM	Mar. 1, 2016, 4:32 PM	The Martian	Completed
Mar. 2, 2016, 2:50 PM	Mar. 1, 2016, 2:50 PM	Inside Out	Completed

Figure 14 Spreadsheet of Replication Details

- Note any titles that failed to replicate. Content cataloged from disc can be manually re-cataloged onto the destination system. Content purchased from the Kaleidescape Movie Store can be downloaded again at no additional charge.

Completing Replication

Use the following procedure to complete the replication process.

- Click on the **Finish Replication** button to restart the source server and return the server to normal operation. See Figure 13.

A replication message appears while the source server restarts. See Figure 16.

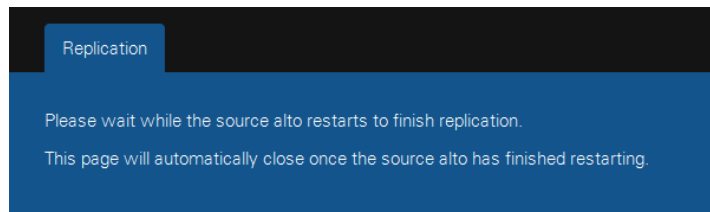


Figure 16 Source Server Restart Message

Replication and System Activation

The replication feature is typically used when a disk set needs to be replaced, when a player with movies stored on it needs to be replaced, or when the content needs to be duplicated (e.g., for a second home or for backup).

To ensure content from the Kaleidescape Movie Store is managed correctly during replication, all systems containing downloaded content must be connected to the Internet and activated or deactivated either before initiating the replication session or after it is complete:

- When replacing hard disks, **deactivate** the source server (which contains the hard disks to be replaced) and **activate** the destination server (which contains the new hard disk).

- When setting up a duplicate system, ensure that both the existing source replication system and new destination system are activated under the **same** Kaleidescape Movie Store account.

Each Store account is authorized to download movies to as many as 5 different Kaleidescape Systems activated with that account. Downloaded movies on a deactivated server are not automatically deleted, but become unauthorized. They appear dim on the OSD, are not playable, and do not count toward the 5 authorized downloads limit. They can be deleted, if desired.

If a system is deactivated in error, reactivating with the same Store account will ensure the downloaded movies are again playable.

Note: Activating or deactivating a system during replication stops the replication session and requires that the process is started over again.

To activate a system

1. Turn on the server and make a note of the server serial number.
2. Open the **browser interface** by entering one of the following URLs in a web browser. The browser interface must be accessed from a device connected to the same local network as the Kaleidescape System.
 - [http://\[server_IP_address\]](http://[server_IP_address])
 - [http://ks-\[device_serial_number\]](http://ks-[device_serial_number]) (Windows)
 - [http://ks-\[device_serial_number\].local](http://ks-[device_serial_number].local) (Mac)

Note: The serial number is a 12-digit (left-padded zero) number. For example, serial number 1cb is <http://ks-0000000001cb>

3. Select the **Settings** tab, and select **General** from the second row of tabs if it is not already selected. Click the **Activate System** button near the bottom of the page. See Figure 18.

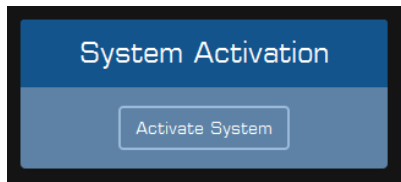


Figure 18 **Activate System Button**

4. To complete activation, follow the onscreen instructions and respond to the registration email message.

To deactivate a system

1. Turn on the server and make a note of the server serial number.
2. Open the **browser interface** by entering one of the following URLs in a web browser:
 - [http://\[device_IP_address\]](http://[device_IP_address])
 - [http://ks-\[device_serial_number\]](http://ks-[device_serial_number]) (Windows)
 - [http://ks-\[device_serial_number\].local](http://ks-[device_serial_number].local) (Mac)

Note: The serial number is a 12-digit (left-padded zero) number. For example, serial number 1cb is <http://ks-0000000001cb>

3. Select the **Settings** tab which loads the Components page. Click **General**. Click the **Deactivate System** button near the bottom of the page. See Figure 17.

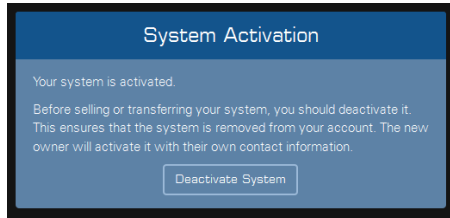


Figure 17 Deactivate System Button

4. Click **OK** at the prompt "Are you sure you want to deactivate your system?"

To replace a disk set in an activated multi-component system

Remove the single server from the system before initiating replication.

Use the following procedure to remove a server from an activated system.

1. Open a web browser and access the browser interface for the system. The browser interface must be accessed from a device connected to the same local network as the Kaleidescape System.
 - [http://\[server_IP_address\]](http://[server_IP_address]) (Windows or Mac)
 - <http://my-kaleidescape> (Windows)
 - <http://my-kaleidescape.local> (Mac)
2. Select the **Settings** tab, and select **Components** from the second row of tabs if it is not already selected
3. Remove the server from the system by clicking the **Remove from system** button. See Figure 3.

The single server you removed from the system is no longer activated.

Kaleidescape Support

For more information, contact Kaleidescape Support:

- ▶ Send an email message to support@kaleidescape.com.
- ▶ Call the support line at **+1 (650) 625-6160**