



User Guide
020-103873-03

Christie IMB-S4

CHRISTIE®



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Products are warranted under Christie's standard limited warranty, the details of which are available at <https://www.christiedigital.com/help-center/warranties/> or by contacting your Christie dealer or Christie.

PREVENTATIVE MAINTENANCE

Preventative maintenance is an important part of the continued and proper operation of your product. Failure to perform maintenance as required, and in accordance with the maintenance schedule specified by Christie, voids the warranty. For preventative maintenance schedules, refer to www.christiedigital.com.

REGULATORY

The product has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the product is operated in a commercial environment. The product generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of the product in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at the user's own expense. Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment

CAN ICES-3 (A) / NMB-3 (A)

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ENVIRONMENTAL



The product is designed and manufactured with high-quality materials and components some of which can be recycled and reused. This symbol  means electrical and electronic equipment, at their end-of-life, should be disposed of separately from regular waste. Please dispose of the product appropriately and according to local regulations. In the European Union, separate collection systems are for used electrical and electronic products.

If printing this document, consider printing only the pages you need and select the double-sided option.

Please help us to conserve the environment we live in!

Notation

Learn the hazard and information symbols used in the product documentation.



Danger messages indicate a hazardous situation which, if not avoided, results in death or serious injury.



Warning messages indicate a hazardous situation which, if not avoided, could result in death or serious injury.



Caution messages indicate a hazardous situation which, if not avoided, could result in minor or moderate injury.



Notice messages indicate a hazardous situation which, if not avoided, may result in equipment or property damage.



Information messages provide additional information, emphasize or provide a useful tip.

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Safety precautions

Learn about the safety precautions related to the Christie IMB-S4.

General safety precautions

Read all safety and warning guidelines before installing or operating the product.

Hazard warnings also apply to accessories once they are installed in a Christie product connected to power.



Warning! If not avoided, the following could result in death or serious injury.

- SHOCK HAZARD! Disconnect the product from AC before installing, moving, servicing, cleaning, removing components, or opening any enclosure.
- EXPLOSION HAZARD! Allow sufficient time for the lamp to cool down before powering down the product, disconnecting it from AC, and opening the lamp door.
- EXPLOSION HAZARD! Replacement battery must be of the correct type.
- EXPLOSION HAZARD! Dispose of the battery according to local area regulations.



Caution! If not avoided, the following could result in minor or moderate injury.

- Only Christie qualified technicians are permitted to open product enclosures.
- Observe all electrostatic precautions. Use a grounded wrist strap and insulated tools when handling, servicing, or cleaning electronic assemblies.

Introduction

This manual provides information on using the Christie IMB-S4, including management of storage devices, content, settings, playlists, and automation.

What's new in the guide?

The following updates have been made to the guide.

- Added the *Uploading KDMs from the web user interface* (on page 12) topic.
- Added the *Removing orphaned assets* (on page 16) topic.
- Updated the *Creating a new playlist* (on page 18) topic to add in information about the network attached storage (NAS).

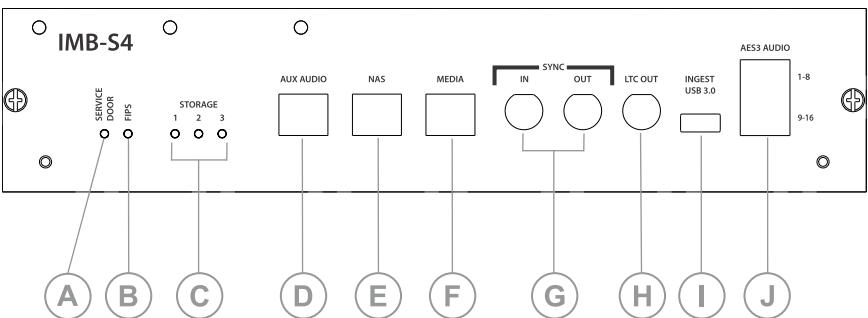
Key features

Understand the important features of the Christie Integrated Media Block (IMB-S4).

- On board solid state drive (SSD) storage
- Network attached storage (NAS) device support
- Can play content at up to 4K 96fps (4K 48fps per eye 3D)
- Long-life battery that does not require charging
- Easy integration with all Christie CineLife+ Series 4 projectors
- Fully integrated with the projector web user interface (UI)

Christie IMB-S4 components

Learn about the components on the Christie IMB-S4.



Feature	Description
A	Service door status indicator—Displays green when the security door is closed. Displays red if the security door is open. Playback will not commence or continue until this LED is green.

Feature	Description
B	FIPS (Federal Information Processing Standards Publications) status indicator—Displays green when FIPS security status is operating correctly. If the LED is red, an error has occurred. Restart the IMB-S4. If the LED remains red, return the product to Christie Digital Systems USA Inc.
C	Integrated Storage status indicator—Indicates the operational status of the integrated storage.
D	Auxiliary Audio port for immersive audio—Can be used to connect to IAB (immersive audio bitstream) to an Atmos cinema audio processor. 1GBase-T (RJ45 female).
E	Optional NAS storage interface—2.5GBase-T connection.
F	Content/Media network interface—2.5GBase-T connection to the Content/Media network (such as, TMS and LMS). Can also be used as a live streaming input port (RJ45 female).
G	Multi-projector playback Sync In and Sync Out (75 ohm BNC)—Provides a GEN LOCK output signal (primary projector) or sync input signal (secondary projector) carrying playback video frequency and phase (timecode) information—Not currently supported.
H	Linear Timecode (LTC) output for driving D-box systems, for example.
I	Data Interface for local ingest (USB-3 (4.8 Gbits/s) Type A)—The USB 3.0 port can be used to load content (DCP) or keys (KDM).
J	AES3 port for up to 16 channels of uncompressed digital audio output (2 x RJ45 female).

Related documentation

Additional information on this product is available in the following documents.

- *Christie IMB-S4 Installation and Setup Guide (P/N: 020-103872-XX)*
- *Servicing the IMB-S4 Instruction Sheet (P/N: 020-103880-XX)*

Accessing product documentation

For installation, user, and service information, see the product documentation available on the Christie Digital Systems USA Inc. website. Read all instructions before installing, using, or servicing this product.

1. Access the documentation from the Christie website:
 - Go to this URL: <https://bit.ly/3VHe6cI> or <https://www.christiedigital.com/products/all-accessories/integrated-media-block/imb-s4/>.
 - Scan the QR code using a QR code reader app on a smartphone or tablet.



2. To access service information, sign into the Partner Portal.
3. On the product page, switch to the **Downloads** tab.

Viewing Christie University product training videos

Christie University provides select product training videos that are helpful for understanding and using your product.

To view the available videos for your product:

1. Go to Christie University: <https://training.christiedigital.com>.
2. Select **I'm a Christie partner or customer**.
3. Log into your profile.
4. Select **Catalog**.
5. Select **Videos**.
6. Select **Product Training Videos**.
7. Navigate to the folder for your product.

Managing IMB-S4 end-of-life

As per FIPS140-3, make sure all components of the IMB-S4 are disposed of properly according to local regulations and laws.



Warning! If not avoided, the following could result in death or serious injury.

- EXPLOSION HAZARD! Dispose of the battery according to local area regulations.



Notice. If not avoided, the following could result in property damage.

- Do not remove both batteries at the same time. If you remove both, you tamper it, your keys are erased, and you must replace the IMB-S4. Failure to follow these steps results in permanent failure of the IMB-S4.

1. Remove both battery boards from the IMB-S4.
This causes tampering and zeroization of the IMB-S4 module.
2. Dispose of the board properly according to local e-waste regulations and laws.
3. Dispose of the batteries, which contain lithium, properly according to local regulations and laws.

Technical support

Technical support for Christie Cinema products is available at:

- Support.cinema@christiedigital.com
- +1-877-334-4267

Managing content

Use the procedures in this section to manage content and keys.

Content manager icons

These icons appear in the content manager.

Icon	Description
	The content is presented in flat format.
	The content is presented in scope format.
2D	2D content identifier.
	3D content identifier.
	A subtitle file is included with the content.
	A closed captioning file is included with the content.
2K	2K content identifier.
4K	4K content identifier.
ATMOS	The content includes a Dolby Atmos audio file.
	High frame rate identifier.
	Extended Dynamic Range (EDR) content.

Ingesting content and keys

To ingest content, an ingest device must be connected to the projector. The ingest device must be properly configured and operating correctly. For information about connecting an ingest device, see the projector User Manual.

1. In the left navigation menu, select **Content Manager**.
2. Select the **Ingestible Content** tab.
3. In the Source list, select a source for the content.
Ingest devices connected to the projector are automatically added to the Source list.
4. In the Show list, select the content type.
5. Select the checkbox to the left of the content you want to ingest or select the empty checkbox at the top of the column to select all content.
6. Select **Ingest**.

7. To view the ingest progress, select the **Progress** tab.

Supported ingest file formats

Ingest drives can contain Microsoft® Windows® (FAT, FAT32, exFAT, VFAT, NTFS) or Linux (EXT2, EXT3, EXT4) file systems.

Canceling an ingest

Cancel an ingest if the operation is taking too long.

1. Through the Content Manager, *run an operation to ingest content and keys* (on page 10).
2. Switch to the **Progress** tab.
3. Select the checkbox to the left of the content.
4. Select **Cancel**.

Filtering content by type

Filter content by type to locate content of a specific type or reduce the return results.

1. In the left navigation menu, select **Content Manager**.
2. On the Local Content tab in the Show list, select the content type.

Deleting local content

Delete local content to increase local storage space.

1. In the left navigation menu, select **Content Manager**.
2. On the Local Content tab, select the checkbox to the left of the content or select the empty checkbox at the top of the column to select all content.
3. Select **Delete**.
4. To confirm the deletion, select **Delete**.

Viewing content details

The Properties panel provides detailed information about the selected content.

1. In the left navigation menu, select **Content Manager**.
2. Switch to the **Local Content** tab.
3. Select **Details**.

Loading and playing content

To play content it must be loaded first.



Content stays loaded even when the content finishes unless the scheduler is turned on.

1. From the bottom play bar, select and hold **Load**. 
 2. Load local content or a playlist:
 - To load a playlist, select the **Playlists** tab.
 - To load locally stored content, select the **Local Content** tab.
 3. Select the required playlist or content.
 4. Select **Load**.
The Loading Media dialog displays progress information.
You can only jog the content after it has been loaded but before playback starts or if playback has been paused.
 5. To start playback, select and hold **Play**. 
- Selecting **Stop** returns to the beginning of the playlist or content.

Unloading content

Unload content when it has finished playing and is no longer required.

1. From the bottom play bar, stop or pause playback.
2. Select **Unload**. 

Uploading KDMs from the web user interface

Use this procedure to upload key delivery messages (KDMs) from the web user interface.

A KDM key is not required for trailers and other unencrypted content. The KDM key is typically sent separately from the encrypted content on a USB flash drive or an email message.

1. Receive an xml (for a single KDM) or zip (for one or more KDMs) file from the movie distributor.
2. Log into the projector web user interface.
3. In the left navigation menu, select **Content Manager > Keys > Import KDM**.
4. In the Open dialog, navigate to the folder where the file is located.
5. Select one or more xml or zip files.
6. Select **Open**.
7. Monitor the progress on the Progress tab and the toast messages to see what keys are stored or rejected.
If KDMs are selected for uploading that are not targetted at the current , the rejects the KDMs and the user interface generates an error toast message for each rejected KDM.

Viewing available keys

Keys are required to play encrypted content.

1. In the left navigation menu, select **Content Manager**.
2. To view the available keys, switch to the **Keys** tab.

Filtering the key list

Filter the key list to locate keys of a specific type.

1. In the left navigation menu, select **Content Manager**.
2. Switch to the **Keys** tab.
3. In the Show list, select one of the following options for filtering the list:
 - All Keys
 - Not Yet Valid
 - Valid
 - Expiring Soon
 - Expired

Deleting keys

Delete keys when they are no longer required.



Key delivery message (KDM) keys are automatically deleted when they expire.

1. In the left navigation menu, select **Content Manager**.
2. Switch to the **Keys** tab.
3. Select the checkbox to the left of the keys.
4. Select **Delete**.
5. To confirm the deletion, select **Delete**.

Collapsing or expanding columns

Expand or collapse columns to display more or less information.

- In the column heading, select **Resize**.

Managing audio settings

Learn how to enable and modify projector audio settings.

Setting the global audio delay

The global audio delay setting increases or decreases the audio delay.

1. In the left navigation menu, select **Service Setup** > **Audio Setup**.
2. On the **Global Settings** tab, in the Global Audio Delay area, select one of these options:
 - To increase the audio delay, select **Up**.
 - To decrease the audio delay, select **Down**.

Managing Christie IMB-S4 settings

This section provides procedures for managing Christie IMB-S4 settings.

Adding a channel for Integrated Media Block (IMB) input

Create a channel to store customized projector settings for input devices connected to the Integrated Media Block (IMB).

1. In the left navigation menu, select **Channel Setup**.
2. Select **+ Create New Channel**.
3. In the Enter a new file name field, enter the channel name.
4. Select **Create**.
5. Complete these fields:

Field Name	Description
Input Type	Select IMB.
3D Sync Input Mode	For Christie IMB, specifies how 3D input data is encoded. • Auto (Default)—Automatically encodes 3D input data. • 2D Mode—No 3D synchronization is applied. 3D Sync Input Mode is not required when using the Christie IMB.
ILS File	Intelligent Lens System™ (ILS) file associated with the channel.
2D Light Source File	2D light source file associated with the channel. Any changes made to the file settings are applied to all channels using this file.
3D Light Source File	3D light source file associated with the channel. Any changes made to the file settings are applied to all channels using this file.
2D Sensor-to-screen Calibration File	2D sensor-to-screen calibration file associated with the channel.
3D Sensor-to-screen Calibration File	3D sensor-to-screen calibration file associated with the channel.
2D MCGD File	Measured Color Gamut Data file associated with the 2D image.
3D MCGD File	Measured Color Gamut Data file associated with the 3D image.
TCGD File	Target Color Gamut Data file associated with the channel.

Field Name	Description
Screen File	Screen type, masking, cropping, and lens settings for the channel.
Gamma File	The gamma correction required for the proper tonal range of the source material.
3D File	3D settings file associated with the channel.
Source File	The resolution and aspect ratio for the channel.
Christie Pureformity Color™ Correction Files	The color correction file associated with the channel. Bypass (Default)
Warp File	Warp file associated with the channel. Bypass (Default)

6. Select **Create**.

Downloading a certificate

Complete the following procedure to download a certificate and generate key delivery message (KDM) keys.

The Security Manager (SM) certificate is used for digital cinema package (DCP) decryption. Typically, this is the certificate you send when requesting KDM keys. The Log certificate is used for signing log files.

1. In the left navigation menu, select **About**.
2. In the certificate list, select one of the following certificates:
 - Projector Certificate
 - SMS Certificate
 - SM Certificate (used by distributors to generate KDM keys)
 - Log Signer Certificate
3. Select **Download**.
4. Select **Accept**.

Viewing status information

You can view the status of the Christie IMB-S4 on the projector.

1. On the dashboard, select **Status**.
You can also select **Status** from the left navigation menu.
2. Review the status information.

Removing orphaned assets

Learn how to remove any orphaned assets from the IMB-S4 storage.

Cleaning of orphaned assets does not start when an ingest is in progress or content is being loaded.

1. In the left navigation menu, select **Service Setup > Storage Device Setup**.
2. Select a storage device from the list.
3. Select **Clean Up**.
4. When the Scan for Orphaned Assets dialog appears, select **Scan**.
The scan can take several minutes.
5. When the Orphaned Assets dialog appears, select **Clean Up**.
6. When the clean up has completed, select **OK**.

Managing playlists

Use the procedures in this section to manage playlists. A playlist is a list of content files and automated events that play in an order you define.

Creating a new playlist

A playlist is a list of content files and automated events that play in an order you define.



- To manage minor time gaps between content files, Christie recommends inserting a short period of black screen with no audio. To achieve this, you can insert a BLACK MOS clip into the playlist. BLACK MOS clips are small, silent compositions and are set in varying lengths to accommodate different projection requirements. The clips are available from content distributors.
 - When working in a multi-projector environment, make sure each piece of content in a playlist is at least five seconds in length.
1. In the left navigation menu, select **Playlist Editor**.
 2. Select **Create New**.
 3. In the Create New Playlist dialog, enter a name for the playlist and select **Create**.
 4. Add content or an automation event to the playlist:
 - To add content to the playlist, select the content item shown under the **Local Content** tab.
You can filter content by location (on-board storage or a network attached storage (NAS) device) and type of content.
 - To add an automation event or macro to the playlist, select a content item in the playlist and then switch to the **Automation** tab. Select the automation event or macro item to add it to the playlist.
 5. Select **Save**.

Reordering playlist content

Reorder the playlist content to change the time when content plays.

1. In the left navigation menu, select **Playlist Editor**.
2. From the left-hand side, expand the playlist list.
3. Select the playlist you want to update.
4. In the right-hand pane, select the content or a macro in the playlist.
5. Select **Save**.

Adding a time offset to a macro

An offset identifies when a macro plays in a playlist.

1. In the left navigation menu, select **Playlist Editor**.
2. From the left-hand side, expand the playlist list.
3. Select a playlist.
4. Select the macro.
5. Select **Edit**.
6. In the Edit dialog, adjust the offset.
7. Select **Update**.

Replacing playlist content

Replace playlist content when content has been added in error, or you want to add new content to an existing playlist.

1. In the left navigation menu, select **Playlist Editor**.
2. From the left-hand side, expand the playlist list.
3. Select the playlist you want to update.
4. In the right-hand pane, select the content in the playlist.
5. Select **Replace Content**. 
6. In the Replace Content dialog, select the new content.
7. Select **Replace**.
8. Select **Save**.

Removing playlist content

Remove playlist content when content has been added in error or you want to update an existing playlist.

1. In the left navigation menu, select **Playlist Editor**.
2. From the left-hand side, expand the playlist list.
3. Select the playlist you want to update.
4. In the right-hand pane, select the content in the playlist you want to remove.
5. Select **Remove Content**.
6. Select **Save**.

Copying a playlist

Copy a playlist when you want to quickly create a playlist with similar content.

1. In the left navigation menu, select **Playlist Editor**.

2. From the left-hand side, expand the playlist list.
3. Select the playlist you want to update.
4. Select **Save As**.
5. In the Save Playlist dialog, enter a new name for the playlist.
6. Select **Save**.

Viewing details about playlist content

The Details dialog provides detailed information about the selected content.

1. In the left navigation menu, select **Playlist Editor**.
2. In the Local Content tab, to the right of the content, select **Details**.

Importing a playlist

Upload a playlist from another projector or computer on the network.

1. In the left navigation menu, select **Playlist Editor**.
2. Select **Upload**.
3. In the Open dialog, navigate to the playlist you want to import and select it.
A filter of *.ply is applied automatically to display available playlist files.
4. Select **Open**.

Exporting a playlist

Download existing playlists to another projector or computer on the network.

1. In the left navigation menu, select **Playlist Editor**.
2. Select **Download**.
The playlists are downloaded to the default download location specified for your browser.

Deleting a playlist

Delete a playlist when it is no longer required or when the content has expired.

1. In the left navigation menu, select **Playlist Editor**.
2. From the left-hand side, expand the playlist list.
3. Select the playlist you want to delete.
4. Select **Delete**.
5. To confirm the deletion, select **Delete**.

Working with the scheduler

Use the scheduler to schedule playlists and automated events to play automatically on a specific date at a specific time.

Scheduling a playlist, content, or automation

Schedule a playlist, content, or automation to run automatically on a specific date and time.



If you want to load content or a playlist that is not the next scheduled show, you must disable the scheduler first. Otherwise, the scheduler unloads the manually loaded content or playlist to ensure the scheduled show is loaded in preparation for playback.

1. In the left navigation menu, select **Scheduler**.
2. To enable scheduled events, select the **Scheduler is off** slider.
The color of the slider changes to blue and the text changes to **Scheduler is on** to indicate it is active.
3. To select a date for the scheduled event, select **Calendar**.
4. Select a square below the date and next to the time you want the event to run.
5. Select **+ New Event**.
6. Select **Playlist**, **Content**, or **Automation**.
7. Select a playlist, content, or automation item.
8. Select the start time.
9. Select the start date.
10. To repeat the event daily, weekly, or monthly:
 - a) Select the **Recurrence** slider.
 - b) Select the frequency of the recurrence.
The options are daily, weekly, or monthly.
 - c) Select the days or months you want the playlist, content, or automation event to play.
 - d) To select an end date for the schedule, select **Calendar**.
11. To prevent the scheduled event from being overwritten, select the **Lock Event** slider.
Locked events cannot be overwritten by pasted events.
12. Select **Create Event**.

Editing a scheduled event

Edit a scheduled event to modify the run time and date.

1. In the left navigation menu, select **Scheduler**.
2. In the calendar view, select the scheduled event.
3. Select **Edit**.
4. Edit the scheduled event settings.
5. Select **Update Event**.

Copying and pasting an existing scheduled event

To run a scheduled event at a different date and time, copy and paste it.

1. In the left navigation menu, select **Scheduler**.
2. In the calendar view, select the scheduled event.
3. Select **Copy**.
4. Select a square below the date and next to the time you want the event to run.
5. Select **Paste**.
6. Adjust the settings for the scheduled event.
7. Select **Paste Event**.

Copying and pasting scheduled events for an entire day

To run an existing full day of scheduled events on a different date, copy and paste the entire day of scheduled events.

1. In the left navigation menu, select **Scheduler**.
 2. At the top of the calendar, select the day with the events you want to copy.
 3. Select **Copy**.
 4. At the top of the calendar, select the new target day.
 5. Select **Paste**.
- Only unlocked events are copied to the new day.

Cutting and pasting a scheduled event

To move an existing scheduled event to a different date and time, cut and paste it.

1. In the left navigation menu, select **Scheduler**.
2. In the calendar view, select the scheduled event.

3. Select **Cut**.
4. Select the new date in the calendar.
5. Select **Paste**.
6. Adjust the settings for the scheduled event.
7. Select **Paste Event**.
Only unlocked events are copied.

Deleting a scheduled event

Delete an individual scheduled event when it is no longer required.

1. In the left navigation menu, select **Scheduler**.
2. In the calendar view, select the scheduled event.
3. Select **Delete**.
4. To confirm the deletion, select **Delete**.

Deleting scheduled events for an entire day

Delete the scheduled events for an entire day when they are no longer required.

1. In the left navigation menu, select **Scheduler**.
2. At the top of the calendar, select the target day.
3. Select **Clear Day**.
4. To confirm the change, select **Clear Day**.

Changing the day of the week the scheduler starts

Change the start day of the scheduler to match the schedule of the theater.

1. In the left navigation menu, select **Service Setup > Preferences**.
2. Select **General**.
3. In the Scheduler area, select the day of the week to start the scheduler.

Turning off the scheduler

Turn off the scheduler when you do not want scheduled events to run automatically on a specific date and time.

1. In the left navigation menu, select **Scheduler**.
2. To disable scheduled events, move the **Scheduler is on** slider to the left.
The color of the slider changes to grey and the text changed to **Scheduler is off** to indicate it is inactive.

Managing automation

Automation controls playback, the projector, and external devices. The Christie IMB-S4 includes built-in support for some external automation devices. If the device is not supported, you can use the serial-over-Ethernet protocol to send automation commands.

This section provides instructions for managing and defining:

- **Macros:** A macro is a list of actions you define. For example, opening the curtains or turning on the house lights at the end of playback. A macro can be activated by a global trigger, or it can be added to a playlist.
- **Device input triggers:** Input cues wait for events such as a general purpose input (GPI) state change or an Ethernet message received on the projector management IP address port 5111. An input cue in a playlist delays playback until an event occurs. In a global trigger, a macro runs when an input cue event occurs. These are the available input cues:

Automation device	Action	Description
Projector	Lamp Off Event	An event starts when the lamp turns off.
IMB automation	Serial String Input	Waits for a serial string.
IMB automation	GPI Wait	Waits for a GPI event. Not available on Solaria One or Solaria One+.

- **Global triggers:** A global trigger combines an input cue with a macro. When the predefined event for the input cue occurs, the output macro is triggered. For example, a fire alarm input signal stopping playback to stop and turning on the house lights. A global trigger is always active and is not dependent on specific playlist definitions.

Available macro actions

The following macro actions are available to control automated events.

Action item	Available actions	Description
Automation	Set Global	Sets a global variable to be used in automation scripting (intended for advanced scripting by Christie).
	Print	Generates a projector log entry when an automation macro runs.
	Get Global	Allows the automation script to read the value of a global variable (intended for advanced scripting by Christie).
	Set GPO	Sets the specified GPO pin to high or low.
	Pulse GPO	Pulses the specified GPO pin.
	Get GPI	Allows an automation script to read the GPI state (intended for advanced scripting by Christie).

Action item	Available actions	Description
Playback	Delay	Delays macro execution.
	Wait On GPI	Pauses the automation script and waits for the specified GPI event to enter the specified state.
	Pause	Pauses playback.
	Stop	Stops playback.
	Play	Starts or resumes playback.
Projector	Toggle	Pauses playback if content is playing or resumes playback if content is paused.
	Jog	Moves content forward by the time specified.
	Douser Open	Opens the douser (shutter).
	Douser Close	Closes the douser (shutter).
	Light On	Turns the light on.
	Light Off	Turns the light off.
	Standby	Puts the projector in standby mode.
	Channel	Selects a specific projector channel.
	Full Power	Places the projector in full power mode.
	Wait	Delays the execution of a macro.

JNIOR actions

The following built-in commands are available for JNIOR devices.

Command	Description
Open Relay	Opens a specific JNIOR relay
Close Relay	Closes a specific JNIOR relay
Pulse Relay	Sends a pulse to a specific JNIOR relay for the specified time (in milliseconds)
Execute Macro	Executes a JNIOR macro

Christie provides three JNIOR libraries.

Christie library	Relay outputs	JNIOR model supported
JNIOR	8	JNIOR 310, JNIOR 410
JNIORx12	12	JNIOR 312, JNIOR 412
JNIORx16	16	JNIOR 412 with a 4-relay output expansion model

Note the following:

- You can create macros on the JNIOR device and call them using the `Execute Macro` command. Make sure you use `\\0D` for a carriage return and `\\0A` for a line feed.

To create and run macros on the JNIOR, use the JNIOR Support Tool to enable and configure the Cinema.JNIOR application. For additional information, see INTEG Process Group (<https://jnior.com>). Port 9200 is the default Ethernet port for sending automation commands to the JNIOR.

- The jnior login must be disabled on the JNIOR device and the jnior username and password removed in the Christie software to allow the cues to pass over the network.

Dolby cinema processor actions

The following built-in commands are available for Dolby CP650, CP750, CP850, CP950, and CP950A devices:

Command	Description
Mute On/Mute Off	Enables or disables muting.
Set Format (CP650 only)	Selects the format.
Set Fader Level	Sets the fader level.
Send Message (CP850 only)	Sends the specified message.

If you need to control additional functions and a built-in command is not available, send a command string in a macro. For example, send this command to enable surround boost on the Dolby CP750:

```
cp750.sys.surround_boost 1\\0D
```

Make sure you include a carriage return (\\0D) at the end of each command. For more information about controlling other features with serial commands, see the Dolby CP750 documentation.

The default Ethernet port for sending automation commands to the Dolby CP650 is port 61412. For Dolby CP750, CP850, CP950, and CP950A, the default Ethernet port is port 61408.

Adding an automation device to your auditorium

Add an automation device so it can be controlled remotely and can communicate with other theater hardware.

1. In the left navigation menu, select **Automation > My Auditorium Devices**.
2. Select **+ New Device**.
3. In the Name field, enter a name for the device.
The Name field cannot contain spaces.
4. In the Device Type list, select the device type.
5. In the Select Device list, select the device.
6. Select **Add**.
7. Complete these fields:
 - **IP Address**—The IP address of the automation device.
 - **Port**—The port used by the automation device to communicate with the projector.
 - **Username**—The username used to access the automation device.
 - **Password**—The password used to access the automation device.

- **Keep Alive Message**—The message value sent to the automation device to make sure the projector is not disconnected when inactive.
 - **Keep Alive Interval (ms)**—The time interval (in milliseconds) for sending the Keep Alive Message to the automation device.
8. Select **Save**.
The added device is displayed in the list of auditorium devices in the Macro Editor.

Modifying automation device settings

Modify the settings of automation devices when parameters such as the username or password change. If the settings are not updated, the automation device might not be able to communicate with other theater hardware or be controlled remotely.

1. In the left navigation menu, select **Automation > My Auditorium Devices**.
2. In the left pane, select an automation device.
3. Modify these fields:
 - **IP Address**—The IP address of the automation device.
 - **Port**—The port used by the automation device to communicate with the projector.
 - **Username**—The username used to access the automation device.
 - **Password**—The password used to access the automation device.
 - **Keep Alive Message**—The message value sent to the automation device to make sure the projector is not disconnected when inactive.
 - **Keep Alive Interval (ms)**—The time interval (in milliseconds) for sending the Keep Alive Message to the automation device.
4. Select **Save**.

Removing an automation device from your auditorium

Remove an automation device when it is no longer required, or it has been physically removed from the theater.

1. In the left navigation menu, select **Automation > My Auditorium Devices**.
2. In the left pane, select an automation device.
3. Select **Delete**.
4. To confirm the deletion, select **Delete**.

Creating a macro

Create a macro to make the projector perform a specific list of actions.

1. In the left navigation menu, select **Automation > Macro Editor**.
2. In the left pane, select **Create New Macro**.
3. Enter a name for the macro.
4. Select the macro type.
5. Select **Create**.

6. Add an action item to the macro:
 - a) Select **Add New Action**.
 - b) In the Add New Action Item dialog, select **My Auditorium**.
 - c) Under Automation, Playback, or Projector, select the action item.
 - d) Select **Create**.
7. To save the macro, select **Save**.
8. To test the macro, select **Test**.

Running a macro

Run a macro to have the projector perform a specific list of actions.

1. In the left navigation menu, select **Automation > Macro Editor**.
2. Select the macro you want to run.
3. Select **Run Macro**. 

Adding an action item to an existing macro

Add an action item to a macro to have the projector perform an additional action when the macro runs.

1. In the left navigation menu, select **Automation > Macro Editor**.
2. In the top left pane, select a macro from the list.
3. Select **Add New Action Item**.
4. Select **Automation, Playback, or Projector**.
5. Under Automation, Playback, or Projector, select the action item.
6. Select **Create**.
7. To save the macro, select **Save**.
8. To test the macro, select **Test**.

Adding a macro to an existing macro

Combine macros to have the projector complete a complex set of actions.

1. In the left navigation menu, select **Automation > Macro Editor**.
2. From the list in the top left pane, select a macro.
3. Select **Add New Action Item**.
4. Select **Macros**.
5. From the list, select a macro.
6. Select **Create**.
7. To save the macro, select **Save**.

Deleting a macro

Delete macros when they are no longer required.

1. In the left navigation menu, select **Automation > Macro Editor**.
2. From the list, select a macro.
3. Select **Delete**.
4. To confirm the deletion, select **Delete**.

Creating a new playlist trigger

Create new playlist triggers to activate an automation device in a playlist.

1. In the left navigation menu, select **Automation > Device Input Triggers**.
2. Select the **Playlist Trigger** tab.
3. Select **+ New Playlist Trigger**.
4. Complete the Name, Device Source, and Resume Playback On fields.
The Name field cannot contain spaces.
5. Select **Add**.

Editing existing playlist trigger settings

Edit playlist trigger settings to change the playlist trigger behavior.

1. In the left navigation menu, select **Automation > Device Input Triggers**.
2. Select the **Playlist Triggers** tab.
3. To the right of the playlist trigger you want to edit, select **Edit**.
4. Edit the playlist trigger settings.
5. Select **Save**.

Deleting a playlist trigger

Delete a playlist trigger when it is no longer required.

1. Select **Automation > Device Input Triggers**.
2. Select the **Playlist Triggers** tab.
3. To the right of the playlist trigger, select **Delete**.
4. To confirm the deletion, select **Delete**.

Creating a new global trigger

Create a global trigger to trigger an output macro. For example, a fire alarm input signal could cause playback to stop and the house lights to come on. A global trigger is always active and is not dependent on specific playlist definitions.

1. In the left navigation menu, select **Automation > Device Input Triggers**.
2. Select the **Global Triggers** tab.

3. Select **+ New Global Trigger**.
4. Complete the Name, Source, and Trigger Event fields.
The Name field cannot contain spaces.
5. In the Macro Name list, select the macro that will run on trigger detection.
6. Select **Add**.

Editing existing global trigger settings

Edit the settings of an existing global trigger to change its behavior.

1. In the left navigation menu, select **Automation > Device Input Triggers**.
2. Select the **Global Triggers** tab.
3. To the right of the global trigger you want to edit, select **Edit**.
4. Edit the global trigger settings.
5. Select **Save**.

Deleting a global trigger

Delete a global trigger when it is no longer required.

1. In the left navigation menu, select **Automation > Device Input Triggers**.
2. Select the **Global Triggers** tab.
3. To the right of the global trigger, select **Delete**.
4. To confirm the deletion, select **Delete**.

Importing a device library

A device library contains commands used to control a specific device.

1. In the left navigation menu, select **Automation > Device Libraries**.
2. Select **Import Device Library**.
3. Browse to the location of the device library file.
4. Select the file and select **Open**.

Viewing a device library

View device libraries to determine if a library exists for the network device.

1. If the device library is not in the list, *import it* (on page 30).
2. In the left navigation menu, select **Automation > Device Libraries**.
3. To the right of the device in the View Library column, select **View Library**.
Review the list of actions available for the device.
4. To exit the dialog, select **OK**.

Deleting a device library

Delete a device library when it is no longer required.

1. In the left navigation menu, select **Automation > Device Libraries**.
2. To the right of the device library, select **Delete**.
3. To confirm the deletion, select **Delete**.

Accessing projector diagnostics

Learn how to access projector system logs and run diagnostic utilities.

Retrieving and downloading system logs

System logs can aid with the identification and correction of projector faults.

1. In the left navigation menu, select **Diagnostics > System Logs/Interrogator**.
2. In the From list, select a start date for the logs.
3. In the To list, select an end date for the logs.
4. Select **Search Logs**.
5. To sort log files by type, message, date or severity, select a column heading.
6. To download the Security Manager (SM) report, select **Download SM Report**.
The system generates and download the report to the default download location for your browser.

Running the projector interrogator

Run the interrogator to identify and correct projector faults.

1. If using the touch panel control, insert a USB flash drive into the **USB** port on the projector faceplate.
2. In the left navigation menu, select **Diagnostics > System Logs/Interrogator**.
3. Select **Run Interrogator**.
4. In the confirmation dialog, select **Interrogate**.
By default, the interrogator excludes the following to limit the size of the log file output:
 - Warp files
 - LOS data (for warranty purposes)
 - Cinema sensor files beyond the 5 most recent
 - Core snapshots beyond the 5 most recent
 - Test patterns

To include the above files in the interrogator log, select the option for **Enhanced**. Including these files significantly increases the size of the interrogator log file (ZIP).
5. If using the web user interface, in the Interrogator dialog, select **Download File**.

6. If using the touch panel control, browse to the location where you want the interrogator file to be saved.
7. In the Name field, enter a name for the interrogator file.
8. Select **Accept**.

Downloading a certificate

Follow these steps to download a required certificate.

1. In the left navigation menu, select **About**.
2. From the certificate list, select one of the following certificates:
 - Projector Certificate
 - SMS Certificate
 - SM Certificate (used by distributors to generate KDM keys)
 - Log Signer Certificate
3. Select **Download**.
4. In the Name field, enter a name for the certificate file.
5. Select **Accept**.

Upgrading IMB-S4 files

Learn how to upgrade IMB-S4 files.

Upgrading the IMB-S4

When a new version of the software is released, the IMB-S4 must be upgraded.

1. Power on the projector and place it in full power mode.
2. Upload the required upgrade package using one of the following methods:
 - Using the touch panel—Upload the required upgrade package to a USB key or navigate to the projector's `ftpuser` directory.



NTFS-formatted USB drives are not supported for this release.

- Using the web user interface (UI)—Upload the required upgrade package to your computer.
3. If using the USB method, insert the USB key in the USB CAVE port on the projector (not the IMB USB port).
 4. In the left navigation menu, select **Service Setup** > **System Upgrade**.
The available upgrade packages are displayed on screen.
 5. If you uploaded the upgrade package to your computer, select **+ New Upgrade File**.
 6. Select the upgrade package file from the list.
 7. Select **Open**.
 8. In the right pane, navigate to the upgrade file and select **Upgrade**.
 9. To begin the upgrade, select **Upgrade** in the confirmation dialog.
The projector restarts automatically when the upgrade is complete.

Deleting an upgrade package

Delete an upgrade package no longer required.

1. In the left navigation menu, select **Service Setup** > **System Upgrade**.
2. For the upgrade package you want to delete, select **Delete**.
3. To confirm the deletion, select **Delete**.