



Dolby IMS3000

Installation Manual

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Safety precautions

Warning

THIS DEVICE MUST BE GROUNDED.



Important

Power requirements for electrical equipment vary from area to area. Please ensure that the Dolby IMS3000 meets the power requirements in the surrounding area. If in doubt, consult a qualified electrician or a Dolby Laboratories, Inc., dealer.

Dolby IMS3000 power ratings

The Dolby IMS3000 maximum power consumption is up to 53 W when in playback at 400 Mbps and has three external Universal Serial Bus (USB). USB devices connected can draw 5 V/0.5 A from each USB port.

Dolby IMS3000 rackmount and thermal information

- Maximum operating ambient temperature is 40°C.
- Never restrict the airflow through the device fan or vents.

Protecting yourself and the Dolby IMS3000

Always disconnect the projector from the power supply by pulling on the plug, not the cord. Never touch the projector AC plug with wet hands.

In addition to voiding the warranty, unauthorized engineers may receive a serious electric shock when touching live internal parts. Use only a projector or authorized equipment from Dolby to supply power to the .

If water or any other liquid is spilled into or onto the Dolby IMS3000, disconnect the power and call a Dolby Laboratories, Inc., dealer. The unit must be well ventilated and be kept away from direct sunlight. To avoid damage to internal circuitry, as well as the external finish, keep the Dolby IMS3000 away from direct sources of heat (heater vents, stoves, radiators). Avoid using flammable aerosols near the Dolby IMS3000. They can damage the surface area and may ignite. Do not use denatured alcohol, paint thinner, or similar chemicals to clean the Dolby IMS3000. These can damage the unit.

Modification of this equipment is dangerous and can result in the impairment of the functions of the Dolby IMS3000. Never attempt to modify the equipment in any way. In order to ensure optimum performance of the Dolby IMS3000, select the setup location carefully and make sure the equipment is used properly. Avoid setting up the Dolby IMS3000 in the following locations:

- In a humid or dusty environment
- In a room with poor ventilation
- On a surface that is not level
- Inside a moving vehicle where it will be subject to vibration
- In an extremely hot or cold environment

Removable drives warning

Removal of the hot-swappable hard drives allows access to pins and traces supplying power to the hard drive back plane. This is considered an energy hazard. Removal of the hard drives must be performed by a trained service specialist or by trained personnel.

The equipment may be used only in a restricted access area that is not accessible to the general public.

Battery caution

The nonremovable battery is located on the Dolby IMS3000. Danger of explosion if battery is removed.

Warning

To prevent fire or shock hazard, do not expose this appliance to rain or moisture.

CAUTION

RISK OF ELECTRIC SHOCK. DO NOT OPEN.

CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE THE COVER (OR BACK).

NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.



The lightning flash with the arrowhead symbol superimposed across a graphical representation of a person, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock.



The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

Product end-of-life information



This product was designed and built by Dolby Laboratories to provide many years of service, and is backed by our commitment to provide high-quality support. When it eventually reaches the end of its serviceable life, it should be disposed of in accordance with local or national legislation. For current information please visit our website: <http://www.dolby.com/environment>

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1 Introduction to the Dolby IMS3000 Installation Manual

This documentation provides the instructions for performing the initial hardware setup and configuration for the Dolby IMS3000.

- [Supporting documentation](#)
- [Contacting Dolby](#)

1.1 Supporting documentation

Dolby provides a full set of documentation to support setting up and configuring the Dolby IMS3000 with Dolby Atmos audio.

- The *Dolby Atmos Designer User's Manual* provides instructions for configuring the theatre auditorium audio parameters and for generating a Dolby Atmos Designer (.dad) file.
- The *Dolby Multichannel Amplifier Manual* provides instructions for setting up the Dolby IMS3000 with a Dolby Multichannel Amplifier.
- The *Dolby Atmos Interface DAC3202 Manual* provides instructions for setting up a Dolby DAC3202.
- The *Dolby IMS3000 User's Manual* provides instructions for operating the Dolby IMS3000.
- The *Dolby IMS3000 software bundle release notes* include information about software component versions and release notes.

1.2 Contacting Dolby

You can contact Dolby Cinema Solutions and Support using email or regional telephone numbers. You can also access documentation by visiting the Dolby customer portal.

Contact Dolby Cinema Solutions and Support

- Send an email to cinemasupport@dolby.com.
- Call:

Americas: +1-415-645-4900

Europe/Middle East/Africa (EMEA): +44-33-0808-7700

Asia-Pacific (APAC): +86-400-692-6780

Japan: +81-3-4540-6782

Access documentation

Visit www.dolbycustomer.com.

Submit feedback about this documentation

Send an email to documentation@dolby.com.

2 Dolby IMS3000 overview

The Dolby IMS3000 is a Digital Cinema Initiatives, LLC (DCI) compliant playback system that plays movies and other content. It is an all-in-one playback system that provides real-time internal audio rendering and video playback.

- [Dolby IMS3000 web UI](#)
- [Dolby IMS3000 packing lists](#)
- [Dolby IMS3000 front panel](#)
- [Dolby IMS3000 RTC battery life and shelf life](#)

2.1 Dolby IMS3000 web UI

The Dolby IMS3000 includes a web user interface (UI) that enables you to configure and control audio and video settings, ingest content, ingest a Key Delivery Message (KDM), build a show playlist (SPL), and load an SPL for playback.

2.2 Dolby IMS3000 packing lists

The Dolby IMS3000 packing list is dependent on the storage option ordered.

Packing list for internal storage, 1 TB hard-disk drives

- A box containing a Dolby IMS3000 (no storage) and cable accessories.
- A box containing three 2.5" 1 TB HDDs with hard disk drive (HDD) carriers.

Packing list for internal storage, 2 TB solid-state drives

- A box containing a Dolby IMS3000 (no storage) and cable accessories.
- A box containing three 2.5" 2 TB solid-state drives (SSDs) with SSD carriers.

Packing list for Main Storage NAS

- A box containing a Dolby IMS3000 (no storage) and cable accessories.
- A box containing the QNAP Main Storage network-attached storage (NAS) with no storage.
- A box containing four 3.5" 4 TB HDDs with HDD carriers.

2.3 Dolby IMS3000 front panel

The Dolby IMS3000 front panel identifies the inputs and outputs and each HDD. There are three different front panels, depending on the projector manufacturer.

Figure 1: Front panel for NEC Series 2 projector



2.4 Dolby IMS3000 RTC battery life and shelf life

The Dolby IMS3000 contains a real-time clock (RTC). The RTC determines the unlocking of playback keys and other functions.

The RTC has a battery backup that is rechargeable, but not field replaceable. The RTC battery has a life expectancy of ten years under normal use conditions, but a shelf life of only one year.

The owner is responsible for ensuring that the Dolby IMS3000 RTC battery is properly charged. If a Dolby IMS3000 has been in storage for at least six months, we recommend charging the RTC battery. To charge the RTC battery, you must place the Dolby IMS3000 into a projector and then power on the projector. The Dolby IMS3000 RTC battery requires 60 hours of continuous power for a full charge.

3 Setting up the Dolby IMS3000

Depending on the internal storage, it may be necessary to install the hard-disk drives or solid-state drives into the Dolby IMS3000. If you received the Dolby IMS3000 with external storage hardware, you must install the hard-disk drives into that external storage hardware.

- [Installing the internal storage drives](#)
- [Connecting the Dolby IMS3000 to an automation controller](#)

3.1 Installing the internal storage drives

You must install the internal storage drives into the Dolby IMS3000.

About this task

Each internal storage drive must be from the Dolby approved hardware list.

If you are not installing the internal storage drives, then put the HDD inserts into the internal storage slots (which are located in the accessory box).

You do not need to install the internal storage drives in any specific order.

Procedure

1. Remove the Dolby IMS3000 from its carton and antistatic bag.
2. Release the lever of the drive carrier by pressing the release tab, and insert the drive into the internal storage slot with the handle open.
The three internal storage slots are labeled as **HDD-1**, **HDD-2**, and **HDD-3** on the Dolby IMS3000 front panel.
3. Push the drive carrier handle into the Dolby IMS3000 internal storage slot until it locks into place.
4. Repeat this procedure for the remaining drives.

3.2 Connecting the Dolby IMS3000 to an automation controller

You have the option to connect the Dolby IMS3000 to an automation controller.

Prerequisites

You need two shielded CAT5 or CAT6 RJ-45 cables for this task.

Procedure

1. Connect one end of a shielded CAT5 or CAT6 cable to the general-purpose input (GPI) port, labeled **GPI**, on the Dolby IMS3000.
2. Connect the other end of the shielded CAT5 or CAT6 cable to whichever automation controller is available or required.
3. Connect another shielded CAT5 or CAT6 cable to the general-purpose output (GPO) port, labeled **GPO**, on the Dolby IMS3000.
4. Connect the other end of the shielded CAT5 or CAT6 cable to the automation controller.

Related information

[general purpose input and general purpose output pinouts](#) on page 105

[general purpose input and general purpose output interface diagrams](#) on page 107

4 Setting up the main storage NAS

The Dolby IMS3000 provides the option of an external storage device to be used as the main storage. This external storage is performed via a NAS device. This is an alternative to the internal storage of the three 2.5" drives previously described.

- [Understanding the main storage NAS](#)
- [Configuring the QNAP device network](#)
- [Connecting the network cables](#)
- [Configuring the Dolby IMS3000 to use the main storage NAS](#)

4.1 Understanding the main storage NAS

The QNAP Systems, Inc. NAS (Dolby part number NAS-Q1-HDD) hardware device ships with the Dolby IMS3000 if you purchased the external storage option. This external storage option provides a significantly larger amount of space for content. This solution utilizes four 3.5" 4 TB drives, allowing for approximately 11 TB of formatted redundant array of independent disks (RAID)5 storage.

This external storage option cannot be used in conjunction with the internal RAID option.

The QNAP NAS (Dolby part number NAS-Q1-HDD) hardware device ships from factory with specific Ethernet port information and credentials.

The **ETH1** port includes these settings:

- IP address: 43.0.0.1
- Subnet: 255.255.255.248

You must directly connect the Dolby IMS3000 to the **ETH1** port.

The **ETH2** port includes these settings:

- IP address: 192.168.100.100
- Subnet: 255.255.255.0

You must directly connect the theatre's media network to the **ETH2** port.

The user name is **admin**, and the password is **password**.

4.2 Configuring the QNAP device network

To have the main storage NAS accessible to the content media network, you must reconfigure the Ethernet 2 port on the NAS to meet the theatre's networking requirements.

Procedure

1. Insert the drives into the QNAP device and then power on the QNAP device.
2. Using a computer on the 192.168.100.X (subnet 255.255.255.0) network, connect to the Ethernet 2 port of the QNAP device.
3. Open a web browser and type the IP address 192.168.100.100:8080 into the address bar, to access the QNAP device interface and log in.
4. Open the **Control Panel** application and click **Network & File Services**.

The **Network settings TCP/IP** tab is displayed.

5. Use the **Edit** button to change the network configuration so that it is compatible with the theatre's content management network.
6. Click **Apply** to save the settings.

The QNAP device interface does not need to be re-accessed. The Ethernet 2 port is solely used for offline content transfers (when the Dolby IMS3000 is powered off).

4.3 Connecting the network cables

You must connect the network cables from the QNAP device to the Dolby IMS3000 and content management network.

Prerequisites

You need three network cables for this task.

Procedure

1. Connect a network cable from the Ethernet 1 port of the QNAP device directly to any port on the Dolby IMS3000.
2. Connect a network cable from the Ethernet 2 port of the QNAP device to the content management network.
3. Connect a network cable from any port of the Dolby IMS3000 to the content management network.

4.4 Configuring the Dolby IMS3000 to use the main storage NAS

To use the main storage NAS, you must configure the Dolby IMS3000 to use the external storage option.

About this task

You must be logged in as **SuperUser** to configure the external storage option.

Procedure

1. In the Dolby IMS3000 web UI, click **Setup & Maintenance**, and then click **Device / Storage Configuration**.
2. Click **Main Storage Manager**, click **External Storage**, and then click **Start configuration**.

The **External storage access settings** popup window is displayed.

Figure 2: External storage access settings popup window

External storage access settings

The following information are required to initialize your External Storage.

Unit Interface

External storage admin password

ⓘ Please note if your external storage was previously configured, you must use the currently configured password or you will not be able to continue the initialization.

3. From the **Unit Interface** list, select the network port on the Dolby IMS3000 that is used to connect with the QNAP device directly.
4. From the **External storage admin password** list, enter the QNAP device administrator password, and then click **Continue**.
5. Click **Save**, and then click **Save** again.
6. Reboot the Dolby IMS3000.

5 Installing the Dolby IMS3000 into an NEC Series 2 projector

You can install the Dolby IMS3000 into an NEC Series 2 projector. Afterward, you must perform the marriage between the Dolby IMS3000 and the NEC Series 2 projector.

- [Inserting the Dolby IMS3000 into the NEC Series 2 projector](#)
- [Powering on the NEC Series 2 projector](#)
- [Setting up the network for the Dolby IMS3000 and NEC Series 2 projector](#)
- [Adding the NEC Series 2 projector as a device](#)
- [Performing marriage between the Dolby IMS3000 and NEC Series 2 projector](#)
- [Verifying marriage between the Dolby IMS3000 and NEC Series 2 projector](#)

5.1 Inserting the Dolby IMS3000 into the NEC Series 2 projector

Insert the Dolby IMS3000 into the NEC Series 2 projector.

Prerequisites

You must make sure that the NEC Series 2 projector is powered down and in the off position, and the power cord is disconnected from the wall. Follow standard electrostatic discharge procedures to protect the electronic components from damage.

About this task

Make sure to look for any obstructions. Do not force the Dolby IMS3000 into the projector, as this may cause damage to the connectors.

Procedure

1. Remove the NEC Series 2 projector filter cover.

Figure 3: Removing projector cover



2. Remove the four screws holding the projector cover in place.

Figure 4: Removing filter screws



3. Use the key to unlock the projector.

Figure 5: Unlocking the NEC projector



4. Remove the cover from the projector.

Figure 6: NEC projector cover removed



5. Remove the blank cover from the media block (MB) slot by unscrewing its two handles at the side.

Figure 7: Removing the slot cover



6. Slide the Dolby IMS3000 board into the projector media block slot.

Figure 8: Media block slot



7. Screw in the handles on the side of the Dolby IMS3000 to secure it in the NEC projector.
8. Position the projector cover by lining it up with the screw holes.

Figure 9: Repositioning the front cover



9. Tighten the four screws.
10. Use the key to lock the cover, and then replace the filter cover by pushing it into place.

5.2 Powering on the NEC Series 2 projector

You must power on the NEC Series 2 projector.

About this task

Refer to the manual from the projector manufacturer for the proper power-up sequence.

Procedure

1. Connect the power cable to the projector.
2. Turn the projector on.

5.3 Setting up the network for the Dolby IMS3000 and NEC Series 2 projector

You must connect the Dolby IMS3000 to an NEC Series 2 projector and then to a laptop and a local network switch.

Prerequisites

You need three Ethernet cables for this task.

About this task

You must use the **ETH-0** Ethernet port to begin the installation process. All Dolby IMS3000 servers are shipped from the factory with this default IP address for **ETH-0**:

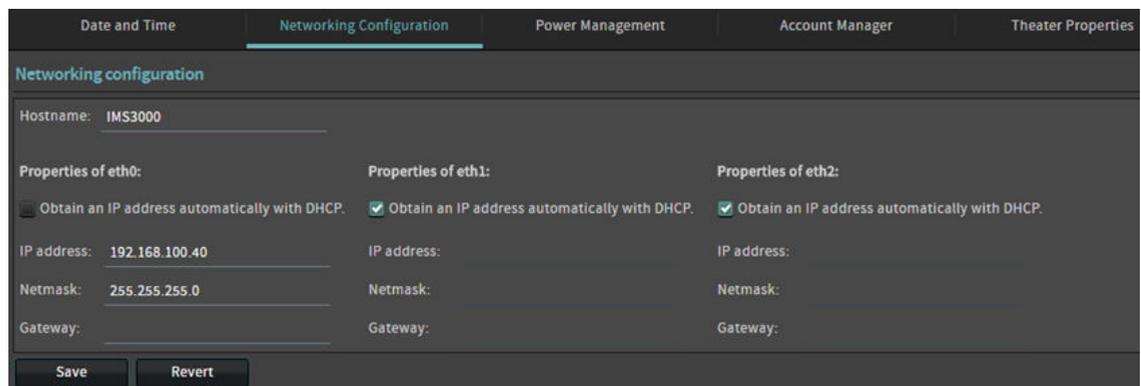
- IP: 192.168.100.50
- SM: 255.255.255.0
- GW: Blank

Ethernet ports **ETH-1** and **ETH-2** are set to Dynamic Host Configuration Protocol (DHCP) by default and should not be used for initial configuration.

Procedure

1. Take the first Ethernet cable, and connect it to the Dolby IMS3000 Ethernet port labeled **ETH-0**. Next, connect the other end of this Ethernet cable to the local network switch.
2. Take the second Ethernet cable, and connect it from the NEC Series 2 projector to the same local network switch as step 1.
3. Take the third Ethernet cable, and connect it from the local network switch to a laptop.
4. To set up the network configuration on the laptop to connect to the Dolby IMS3000:
 - a) Open the laptop network settings, and then open the IP address settings dialog.
 - b) Select Internet protocol version 4 (TCP/IPv4) from the available options.
 - c) Set the IP address to 192.168.100.25 and the netmask to 255.255.255.0.
 - d) Set the network to the desired network connection.
5. To log in to the Dolby IMS3000 web UI, open a web browser and enter the default **ETH-0** port IP address.
6. Click **Setup & Maintenance**, click **System Settings**, and then click **Networking Configuration**.
7. Select and configure **ETH-0**, **ETH-1**, or **ETH-2** as needed for installation.
If you change the settings for Ethernet port **ETH-0**, you must change the computer settings to access the Dolby IMS3000 again.

Figure 10: Networking Configuration



8. When you finish, click **Save**.

5.4 Adding the NEC Series 2 projector as a device

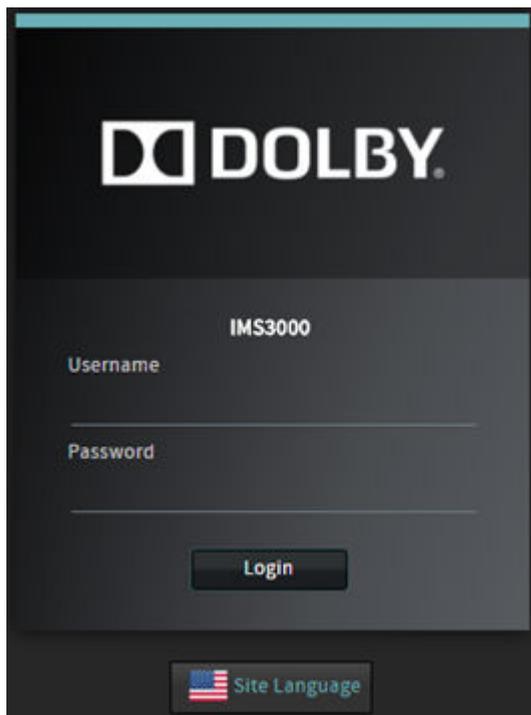
You must add and then configure an NEC Series 2 projector as a new device.

About this task

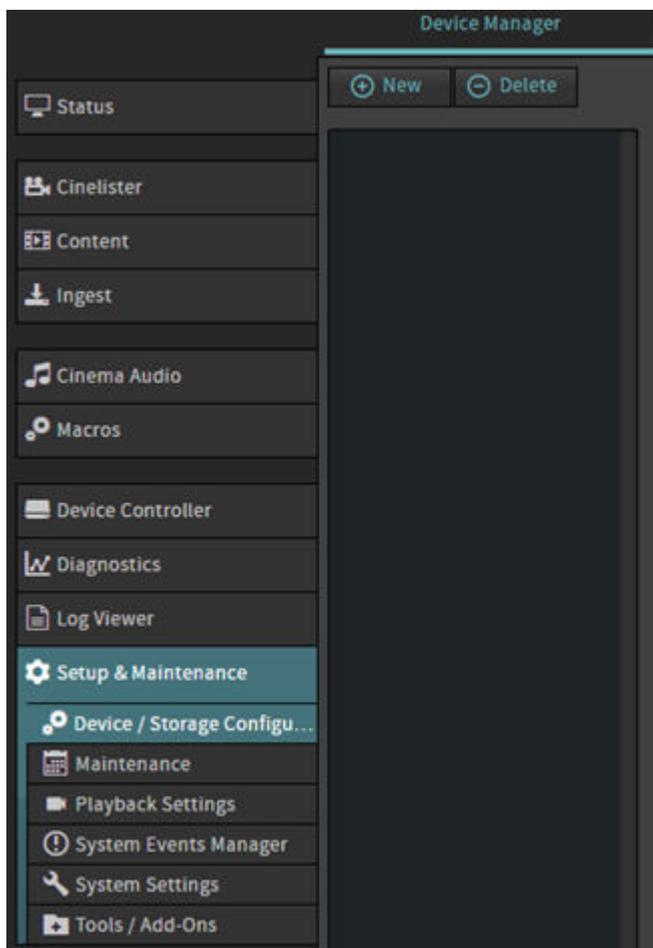
You must be logged in as **SuperUser** to add and configure a projector as a new device.

Procedure

1. Open a web browser, and then enter the Dolby IMS3000 IP address.
2. Enter the log-in credentials, and then click **Login**.

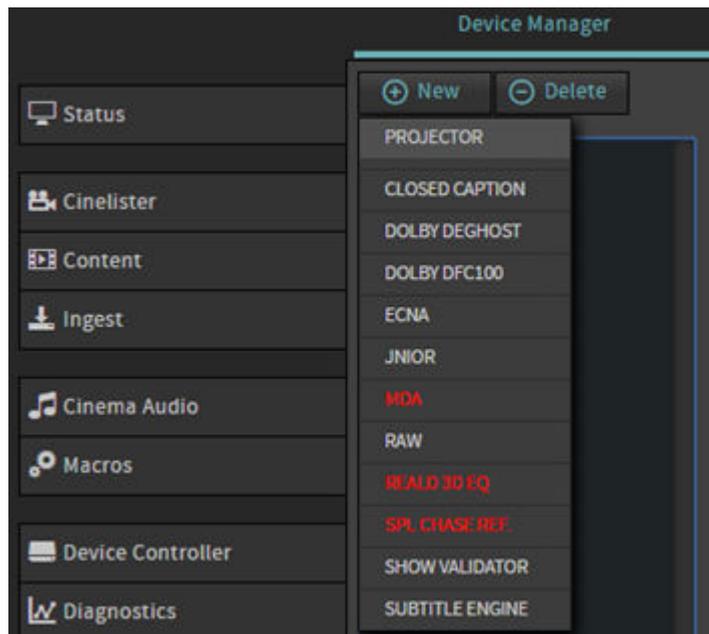
Figure 11: Web UI log-in screen

3. Click **Setup & Maintenance**, and then click **Device/Storage Configuration**.

Figure 12: Device Manager

4. In the **Device Manager** tab, scroll over **New**, and then click **Projector**.

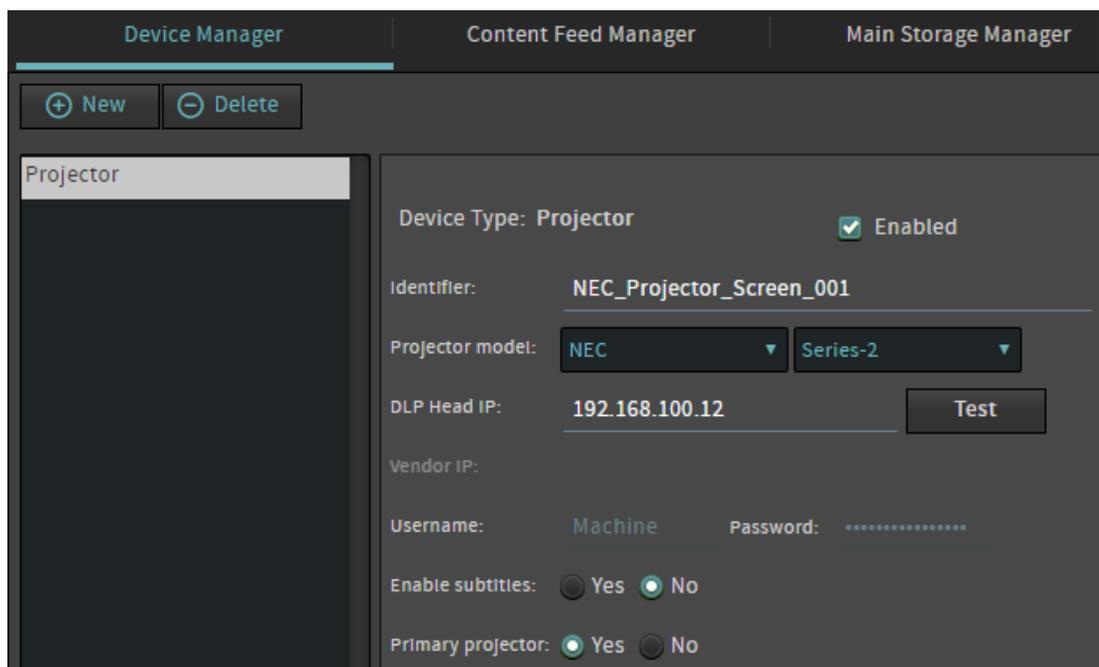
Figure 13: New projector device



5. In the **Device Manager** tab, enter this information:

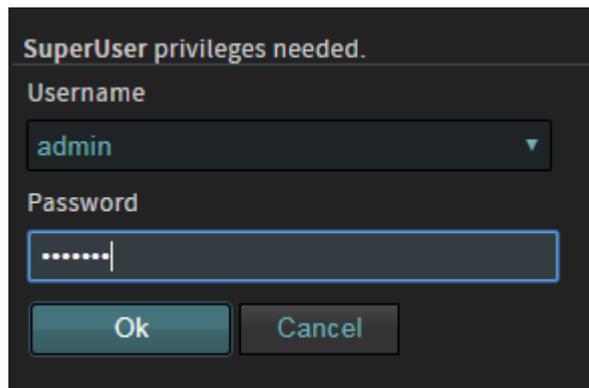
- a) In the **Identifier** field, enter a name for the projector.
- b) From the **Projector model** lists, select the projector make and model.
- c) In the **DLP Head IP** field, enter the default Digital Light Processing (DLP) head IP address.
- d) From the **Enable subtitles** field, select to enable or disable projector-rendered subtitles.
- e) From the **Primary projector** field, select whether this projector is the primary projector.

Figure 14: NEC Series 2 projector added



6. When you finish, click **Save**.

7. In the authentication window that appears, enter the **admin** user-name account password, and then click **Ok**.

Figure 15: Authentication window

5.5 Performing marriage between the Dolby IMS3000 and NEC Series 2 projector

You must perform the marriage between the Dolby IMS3000 and NEC Series 2 projector.

Prerequisites

You may need a computer laptop to connect to the NEC Series 2 projector using an Ethernet cable.

Make sure the projector is properly powered on.

About this task

You can refer to the projector manufacturer manual for additional information or changes related to the marriage process. Contact the projector manufacturer to receive the latest NEC Digital Cinema Communicator version.

Procedure

1. Use the control panel on the NEC Series 2 projector to find the IP address, if unknown.

Figure 16: NEC Series 2 projector control panel

2. On your computer laptop, open the NEC Digital Cinema Communicator application.
3. In the **Communication Settings** window, enter the default IP address of the projector, and then click **OK**.

Figure 17: Communication Settings window

Communication Settings

Target Select

Projector MMS

Communication Device Settings

IP Address

192 . 168 . 100 . 10

Host Name

Port

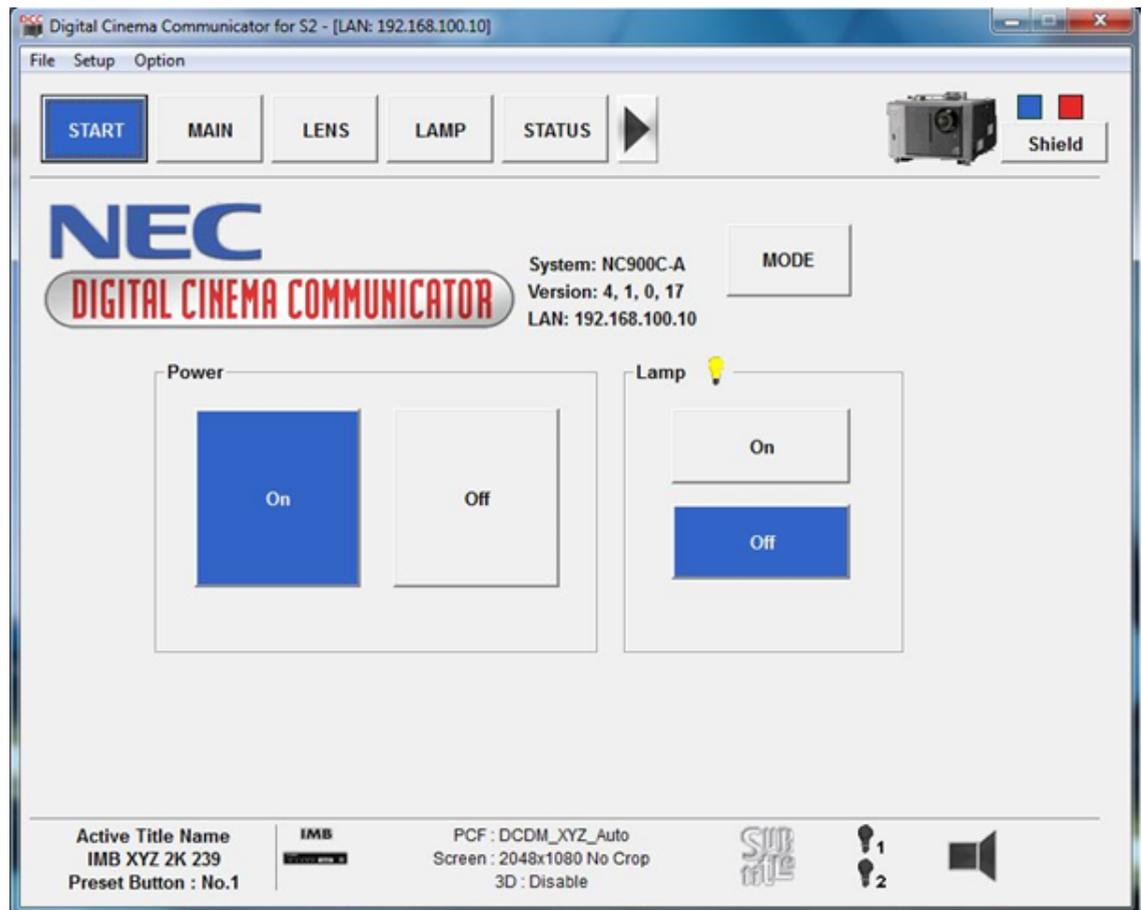
43728

History

OK Cancel Apply

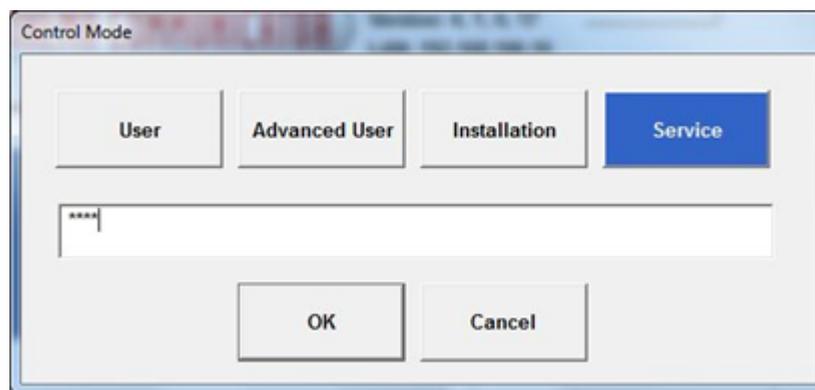
4. Click **MODE**.

Figure 18: Mode button



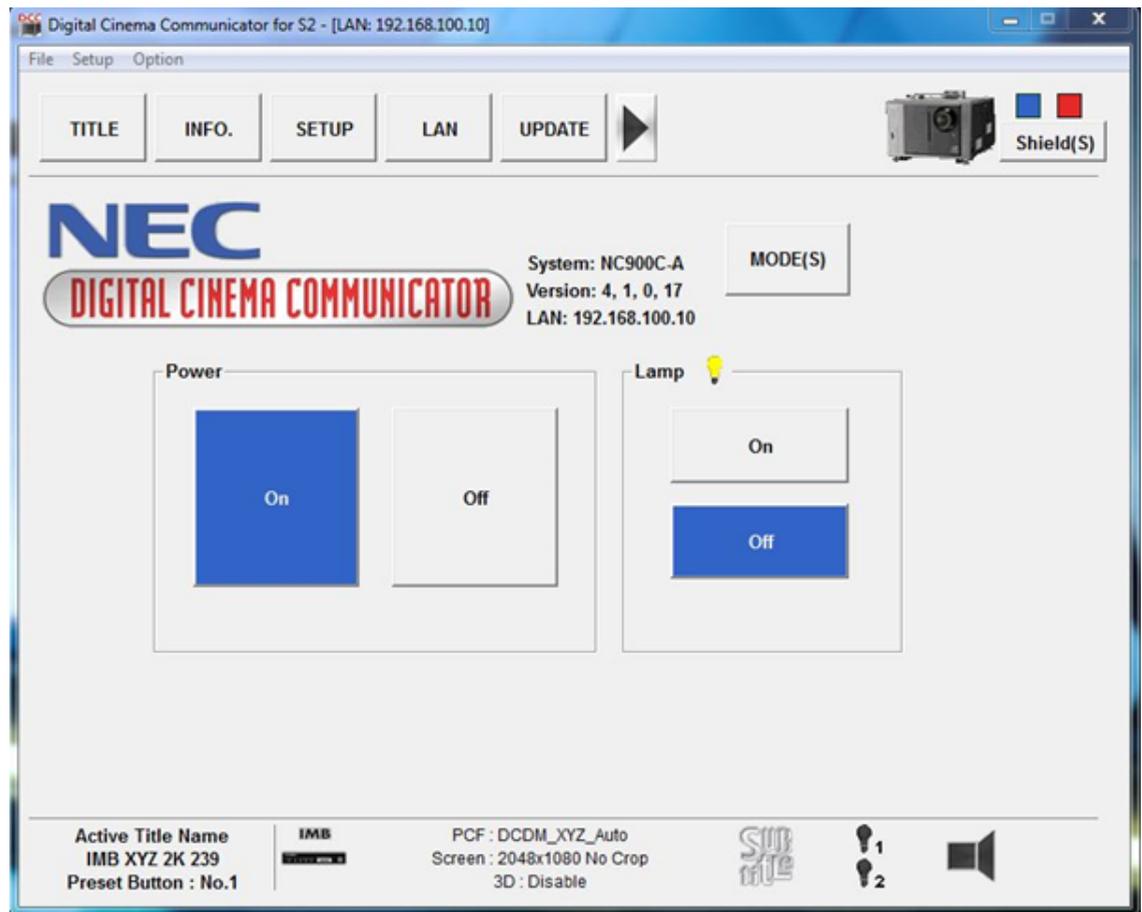
5. In the **Control Mode** window, click the **Service** tab, enter the password, and then click **OK**.

Figure 19: Control Mode window



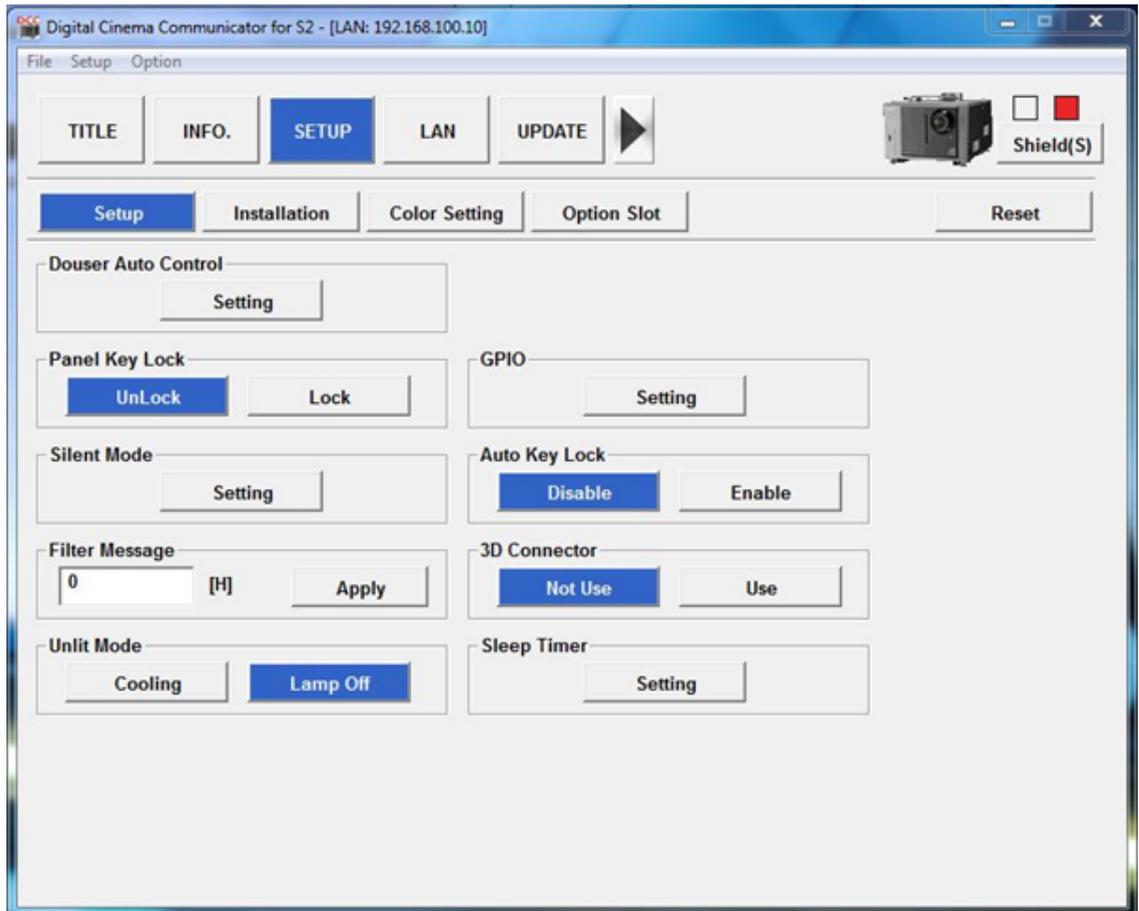
6. In the window that appears, use the arrow button to scroll until the **SETUP** button is available.
7. Click **SETUP**.

Figure 20: Setup button



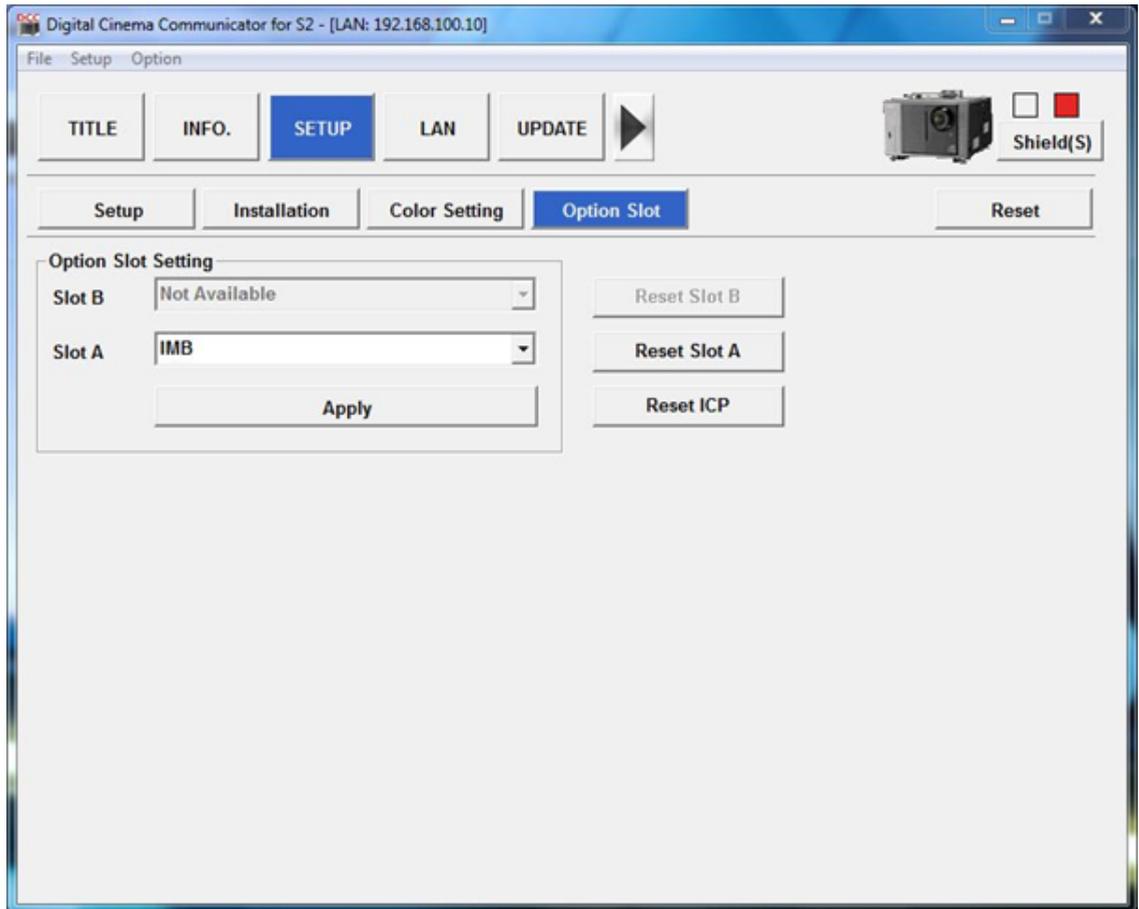
8. In the **Setup** window, click **Option Slot**.

Figure 21: Setup window



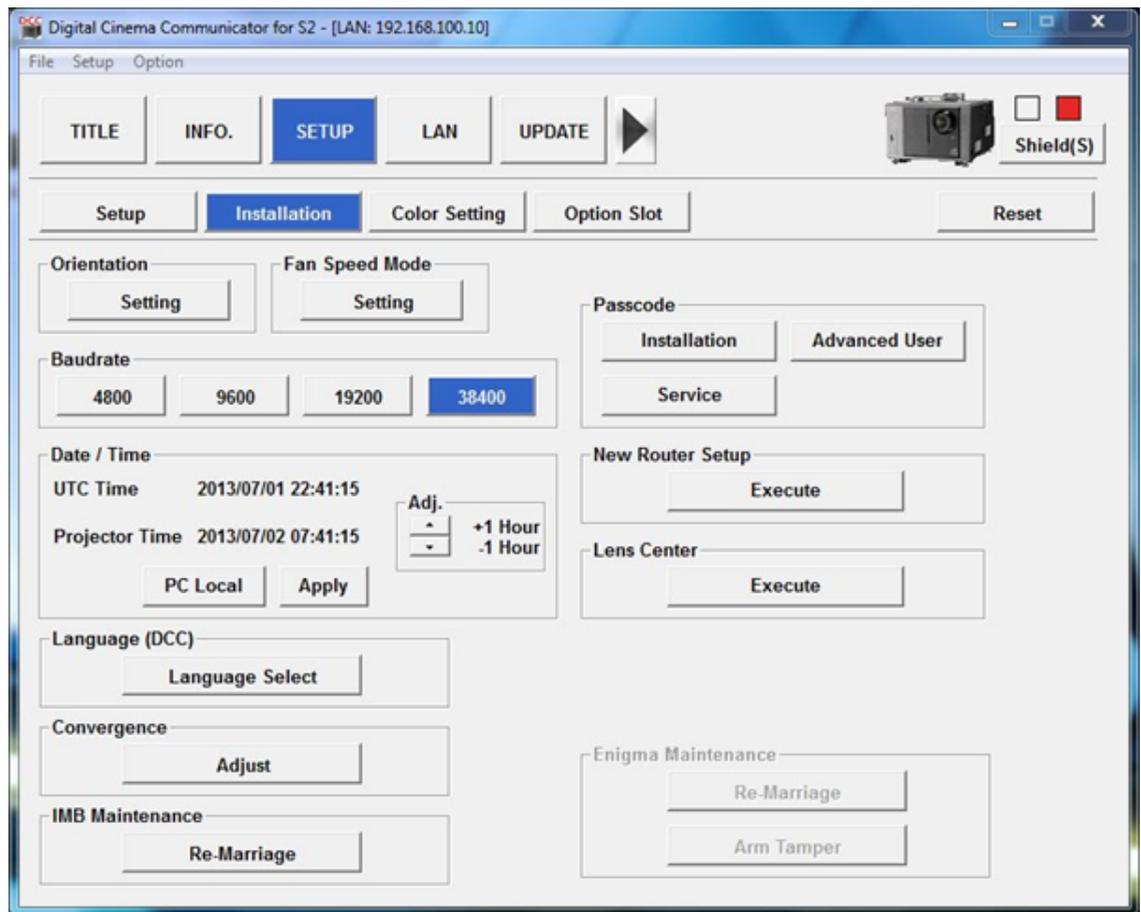
9. From the **Slot A** list, make sure **IMB** is selected. If not, select it from the list and then click **Apply**.

Figure 22: Option Slot



10. Click **Installation**, and then click **Re-Marriage**.

Figure 23: Re-marriage button



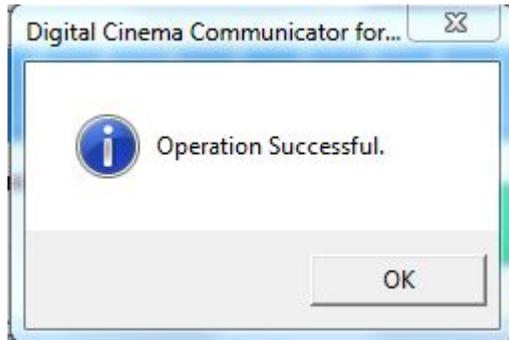
11. To complete the NEC Series 2 projector marriage:

- a) Enter the log-in ID and password, and then click **Re-Marriage**.

Figure 24: IMB Re-Marriage window



- b) In the window that appears, click **OK**.

Figure 25: Operation successful message**What to do next**

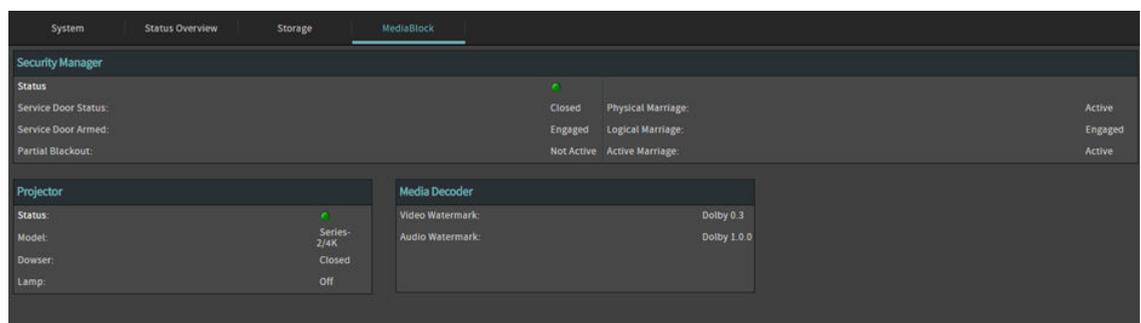
You may need to clear the tamper errors on the NEC Series 2 projector.

5.6 Verifying marriage between the Dolby IMS3000 and NEC Series 2 projector

After you perform the marriage, you must verify that it is valid and correctly configured.

Procedure

1. Log in to the Dolby IMS3000 web UI.
2. Click **Diagnostics**, and then click **MediaBlock**.
3. In the **MediaBlock** tab, verify this information in the **Security Manager** section:
 - **Status:** Green
 - **Physical Marriage:** Active
 - **Logical Marriage:** Engaged
 - **Active Marriage:** Active

Figure 26: Media block verification**What to do next**

When you finish with the projector installation, you must update the Dolby IMS3000 software.

6 Installing the Dolby IMS3000 into a Barco Series 2 projector

You can install the Dolby IMS3000 into a Barco Series 2 projector. Afterward, you must perform the marriage between the Dolby IMS3000 and the Barco Series 2 projector.

- [Inserting the Dolby IMS3000 into the Barco Series 2 projector](#)
- [Powering on the Barco Series 2 projector](#)
- [Setting up the network for the Dolby IMS3000 and Barco Series 2 projector](#)
- [Adding the Barco Series 2 projector as a device](#)
- [Performing marriage between the Dolby IMS3000 and Barco Series 2 projector](#)
- [Verifying marriage between the Dolby IMS3000 and Barco Series 2 projector](#)

6.1 Inserting the Dolby IMS3000 into the Barco Series 2 projector

Insert the Dolby IMS3000 into the Barco Series 2 projector.

Prerequisites

You must make sure that the Barco Series 2 projector is powered down and in the off position, and the power cord is disconnected from the wall. Follow standard electrostatic discharge procedures to protect the electronic components from damage.

About this task

Make sure to look for any obstructions. Do not force the Dolby IMS3000 into the projector, as this may cause damage to the connectors.

Procedure

1. Remove the blank cover of the MB slot by unscrewing the two screws on the sides.

Figure 27: Barco Series 2 projector MB slot



Figure 28: Empty slot

2. Insert the Dolby IMS3000 into the projector MB slot guide rails.
3. Tighten the two screws to secure the Dolby IMS3000 to the projector.

6.2 Powering on the Barco Series 2 projector

You must power on the Barco Series 2 projector.

About this task

Refer to the manual from the projector manufacturer for the proper power-up sequence.

Procedure

1. Connect the power cable to the projector.
2. Turn the projector on.
The expected boot-up time is approximately two minutes, 30 seconds.

6.3 Setting up the network for the Dolby IMS3000 and Barco Series 2 projector

You must connect the Dolby IMS3000 to a Barco Series 2 projector and then to a laptop.

Prerequisites

You need three Ethernet cables for this task.

About this task

You must use the **ETH-0** Ethernet port to begin the installation process. All Dolby IMS3000 servers are shipped from the factory with this default IP address for **ETH-0**:

- IP: 192.168.100.50
- SM: 255.255.255.0
- GW: Blank

Ethernet ports **ETH-1** and **ETH-2** are set to DHCP by default and should not be used for initial configuration.

Procedure

1. Take the first Ethernet cable, and connect it to the Dolby IMS3000 Ethernet port labeled **ETH-0**. Next, connect the other end of this Ethernet cable to the local network switch.
2. Take the second Ethernet cable, and connect it from the Barco Series 2 projector to the same local network switch as step 1.
3. Take the third Ethernet cable, and connect it from the local network switch to a laptop.
4. To set up the network configuration on the laptop to connect to the Dolby IMS3000:
 - a) Open the laptop network settings, and then open the IP address settings dialog.
 - b) Select Internet protocol version 4 (TCP/IPv4) from the available options.
 - c) Set the IP address to 192.168.100.25 and the netmask to 255.255.255.0.
 - d) Set the network to the desired network connection.
5. To log in to the Dolby IMS3000 web UI, open a web browser and enter the default **ETH-0** port IP address.
6. Click **Setup & Maintenance**, click **System Settings**, and then click **Networking Configuration**.
7. Select and configure **ETH-0**, **ETH-1**, or **ETH-2** as needed for installation.
If you change the settings for Ethernet port **ETH-0**, you must change the computer settings to access the Dolby IMS3000 again.

Figure 29: Networking Configuration

8. When you finish, click **Save**.

6.4 Adding the Barco Series 2 projector as a device

You must add and then configure the Barco Series 2 projector as a new device.

About this task

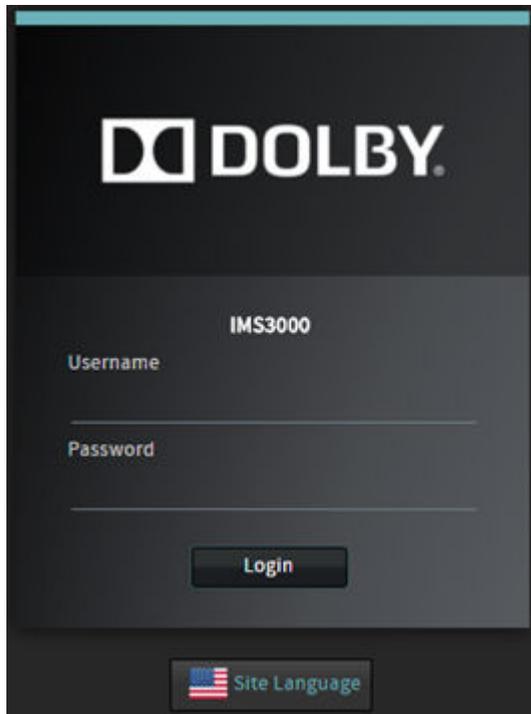
You must be logged in as **SuperUser** to add and configure a projector as a new device.

If you are installing the Dolby IMS3000 into a Barco projector for the first time, you must add the projector in the Dolby IMS3000 **Device Manager** tab, save the settings, and then power cycle the projector. Once complete, you can proceed to marry the Dolby IMS3000 with the Barco projector.

Procedure

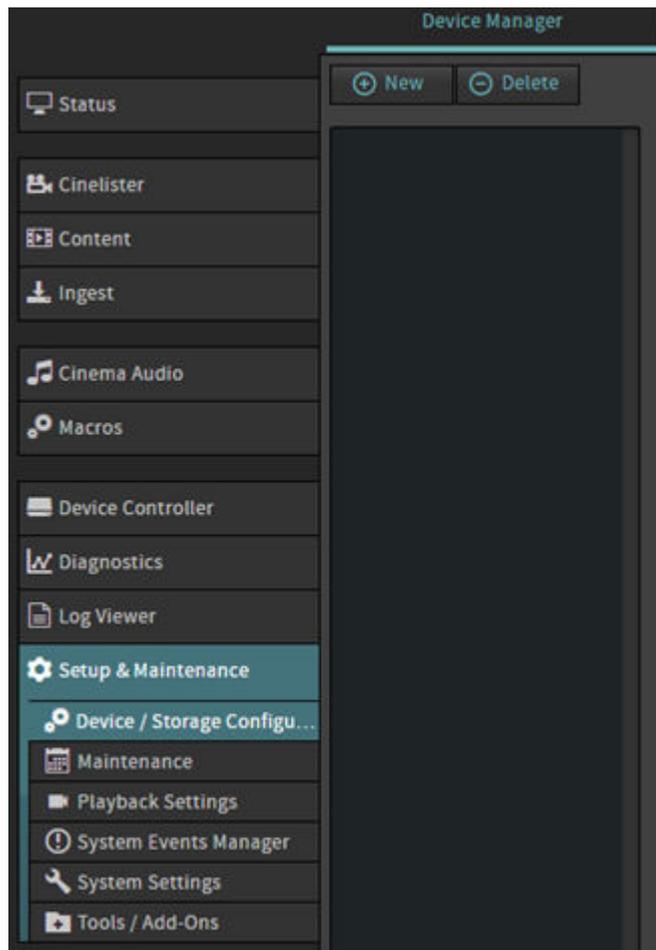
1. Open a web browser, and then enter the Dolby IMS3000 IP address for Ethernet port **ETH-0**.
2. Enter the log-in credentials, and then click **Login**.

Figure 30: Web UI log-in screen



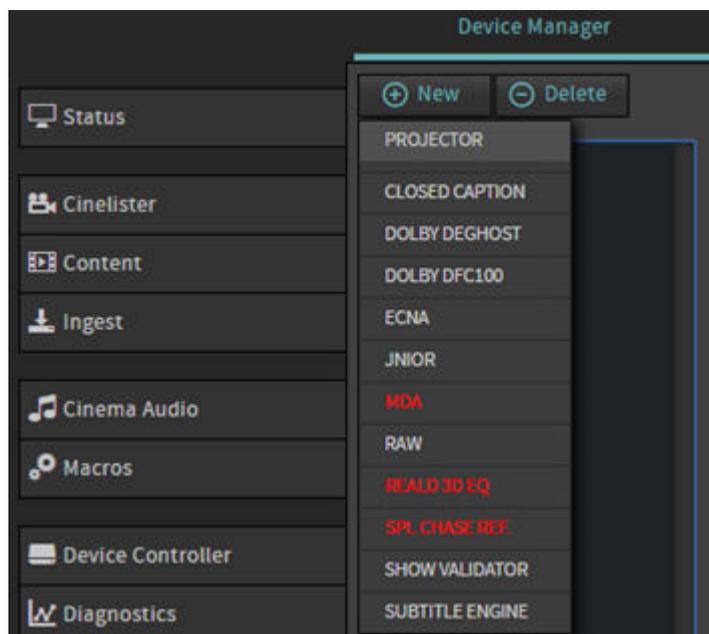
3. Click **Setup & Maintenance**, and then click **Device/Storage Configuration**.

Figure 31: Device Manager



4. In the **Device Manager** tab, scroll over **New**, and then click **Projector**.

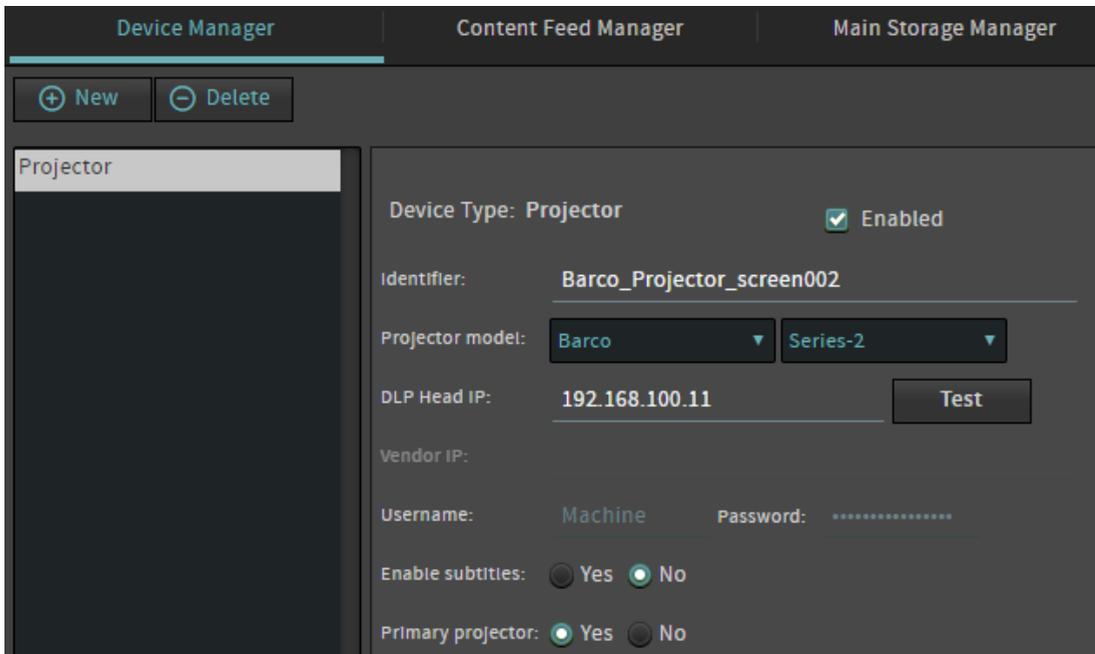
Figure 32: New projector device



5. In the **Device Manager** tab, enter this information:
- In the **Identifier** field, enter a name for the projector.
 - From the **Projector model** lists, select the projector make and model.

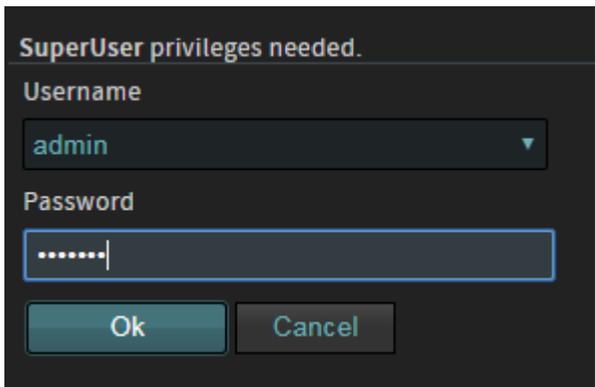
- c) In the **DLP Head IP** field, enter the default DLP head IP address.
- d) From the **Enable subtitles** field, select to enable or disable projector-rendered subtitles.
- e) From the **Primary projector** field, select whether this projector is the primary projector.

Figure 33: Barco Series 2 projector added



- 6. When you finish, click **Save**.
- 7. In the authentication window that appears, enter the **admin** user-name account password, and then click **Ok**.

Figure 34: Authentication window



6.5 Performing marriage between the Dolby IMS3000 and Barco Series 2 projector

You must perform the marriage for the Barco Series 2 projector using the external controls.

Prerequisites

If you do not have a valid password, contact the projector manufacturer.

About this task

You can refer to the projector manufacturer manual for additional information or changes related to the marriage process.

After the Barco Series 2 projector is finished booting up, the lights at the back of the projector illuminate in red, indicating that the board and the projector are not married. If there is a touch screen attached to the projector, two tamper errors appear, indicating that the marriage has not occurred.

Procedure

1. On the Barco Series 2 projector, push the button with the key symbol.

The button illuminates in red to indicate that the physical marriage is not complete. After you push the button with the key symbol, the numbered buttons flash in orange.

Figure 35: Barco projector key symbol



2. Enter the correct password.

The numbered buttons flash green when you have entered the password correctly.

Figure 36: Barco projector key symbol



Results

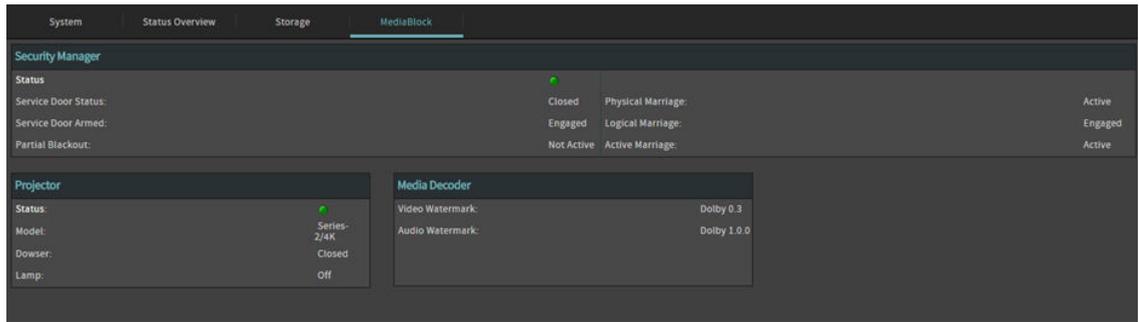
Allow approximately a minute for the tamper errors to clear. After the marriage is complete, the button with the key symbol turns green and the light at the back of the projector also turns green.

6.6 Verifying marriage between the Dolby IMS3000 and Barco Series 2 projector

After you perform the marriage, you must verify that it is valid and correctly configured.

Procedure

1. Log in to the Dolby IMS3000 web UI.
2. Click **Diagnostics**, and then click **MediaBlock**.
3. In the **MediaBlock** tab, verify this information in the **Security Manager** section:
 - **Status:** Green
 - **Physical Marriage:** Active
 - **Logical Marriage:** Engaged
 - **Active Marriage:** Active

Figure 37: Media block verification

What to do next

When you finish with the projector installation, you must update the Dolby IMS3000 software.

7 Installing the Dolby IMS3000 into a Christie Series 2 projector

You can install the Dolby IMS3000 into a Christie Series 2 projector. Afterward, you must perform the marriage between the Dolby IMS3000 and the Christie Series 2 projector.

- [Inserting the Dolby IMS3000 into the Christie Series 2 projector](#)
- [Powering on the Christie Series 2 projector](#)
- [Setting up the network for the Dolby IMS3000 and Christie Series 2 projector](#)
- [Adding the Christie Series 2 projector as a device](#)
- [Performing marriage between the Dolby IMS3000 and Christie Series 2 projector](#)
- [Verifying marriage between the Dolby IMS3000 and Christie Series 2 projector](#)
- [Setting the projector channel configuration](#)

7.1 Inserting the Dolby IMS3000 into the Christie Series 2 projector

Insert the Dolby IMS3000 into the Christie Series 2 projector.

Prerequisites

You must make sure that the Christie Series 2 projector is powered down and in the off position, and the power cord is disconnected from the wall. Follow standard electrostatic discharge procedures to protect the electronic components from damage.

About this task

Make sure to look for any obstructions. Do not force the Dolby IMS3000 into the projector, as this may cause damage to the connectors.

Procedure

1. Remove the blank cover of the media block slot, if present, by unlatching the two latches on the sides.
2. Insert the Dolby IMS3000 into the projector media block slot guide rails on the inside of the slot.
The latches must be out and open for the Dolby IMS3000 to fit properly.
3. To open the latches, press the red button.
4. Close the two latches to secure the board.

7.2 Powering on the Christie Series 2 projector

You must power on the Christie Series 2 projector.

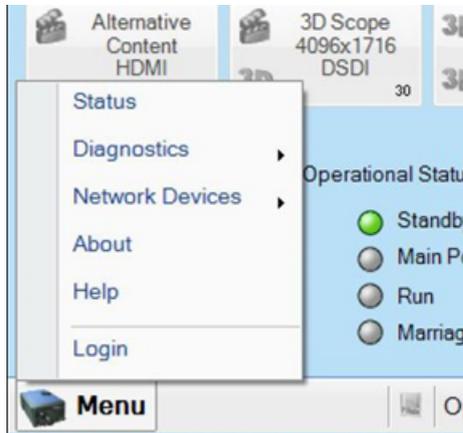
About this task

Refer to the manual from the projector manufacturer for the proper power-up sequence.

Procedure

1. Power on the projector.
The Christie Series 2 projector boots into **STANDBY** mode.
2. On the touch panel controller on the projector, select **Login**.

Figure 38: Christie projector login



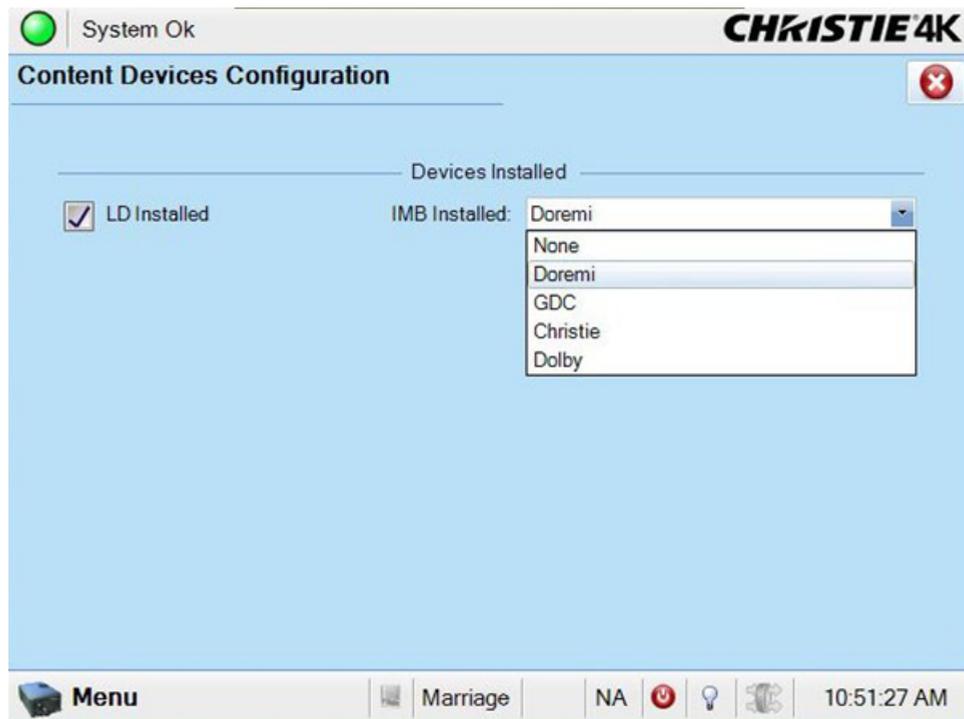
3. Log in as **Marriage**.
4. Click **Menu**, click **Administrative Setup**, and then click **Content Devices Configuration**.

Figure 39: Content Devices Configuration



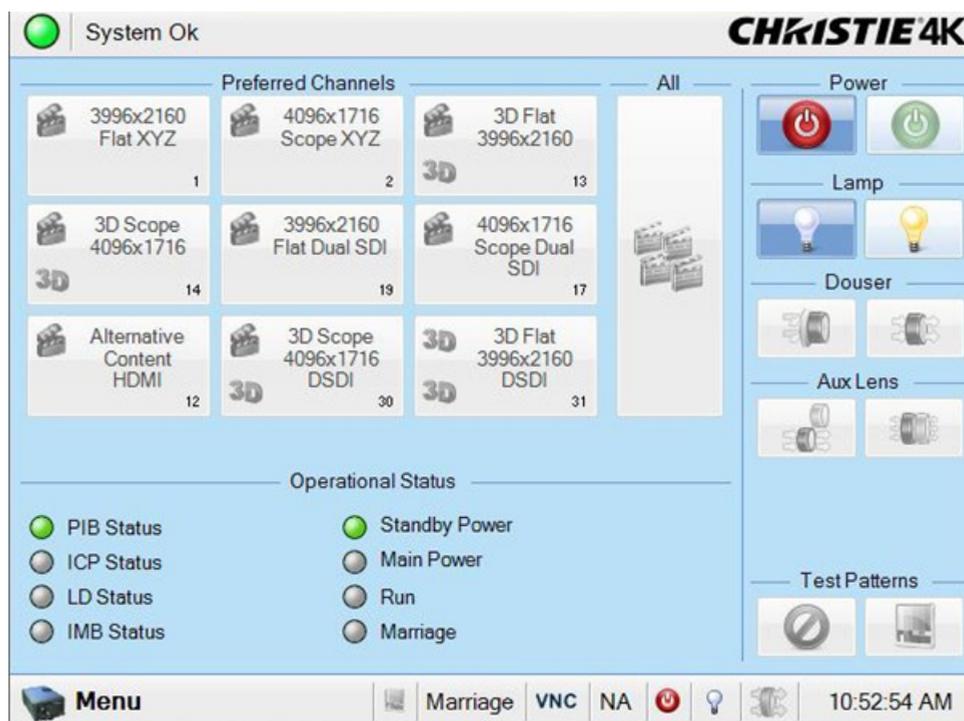
5. From the **IMB Installed** list, verify that **Doremi** is selected.

Figure 40: Content Devices Configuration



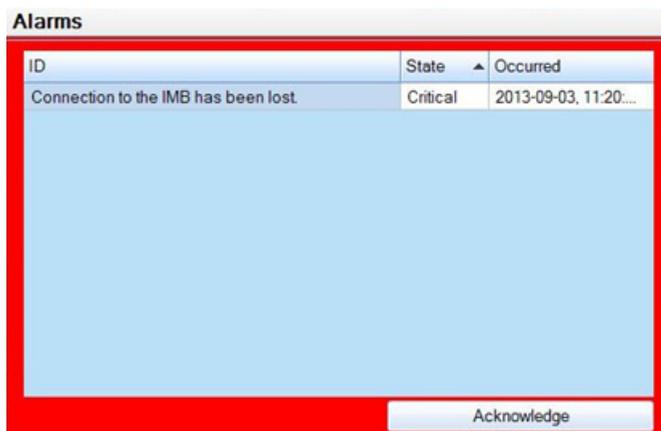
- Press the green power button at the top-right corner of the touch panel to switch the projector from standby to active mode. The Dolby IMS3000 and projector attempt to communicate with each other at this stage.

Figure 41: Christie projector Power button



- Click **Acknowledge** to clear any critical errors that may appear as the projector is in standby mode.

Figure 42: Alarms message



7.3 Setting up the network for the Dolby IMS3000 and Christie Series 2 projector

You must connect the Dolby IMS3000 to the Christie Series 2 projector and then to a laptop and a local network switch.

Prerequisites

You need three Ethernet cables for this task.

About this task

You must use the **ETH-0** Ethernet port to begin the installation process. All Dolby IMS3000 servers are shipped from the factory with this default IP address for **ETH-0**:

- IP: 192.168.100.50
- SM: 255.255.255.0
- GW: Blank

Ethernet ports **ETH-1** and **ETH-2** are set to DHCP by default and should not be used for initial configuration.

Procedure

1. Take the first Ethernet cable, and connect it to the Dolby IMS3000 Ethernet port labeled ETH-0. Next, connect the other end of this Ethernet cable to the local network switch.
2. Take the second Ethernet cable, and connect it from the Christie Series 2 projector to the same local network switch as step 1.
3. Take the third Ethernet cable, and connect it from the local network switch to a laptop.
4. To set up the network configuration on the laptop to connect to the Dolby IMS3000:
 - a) Open the laptop network settings, and then open the IP address settings dialog.
 - b) Select Internet protocol version 4 (TCP/IPv4) from the available options.

- c) Set the IP address to 192.168.100.25 and the netmask to 255.255.255.0.
 - d) Set the network to the desired network connection.
5. To log in to the Dolby IMS3000 web UI, open a web browser and enter the default **ETH-0** port IP address.
 6. Click **Setup & Maintenance**, click **System Settings**, and then click **Networking Configuration**.
 7. Select and configure **ETH-0**, **ETH-1**, or **ETH-2** as needed for installation.
If you change the settings for Ethernet port **ETH-0**, you must change the computer settings to access the Dolby IMS3000 again.

Figure 43: Networking Configuration

8. When you finish, click **Save**.

7.4 Adding the Christie Series 2 projector as a device

You must add and then configure the Christie Series 2 projector as a new device.

Prerequisites

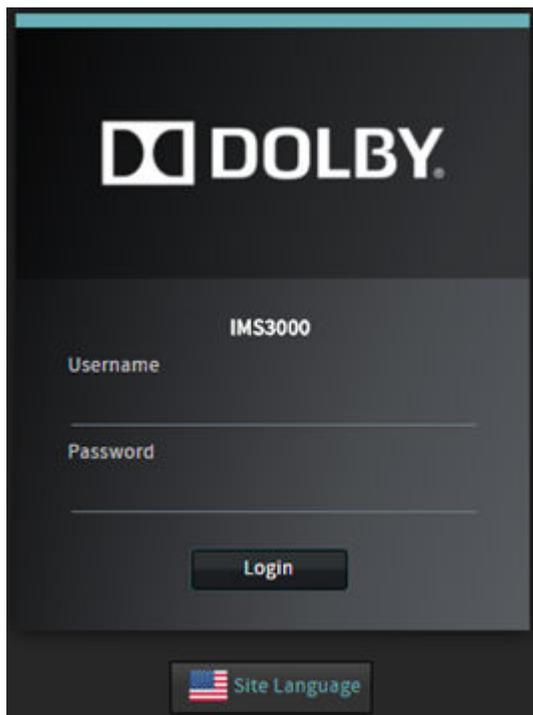
Verify that the Christie Series 2 projector is powered off.

About this task

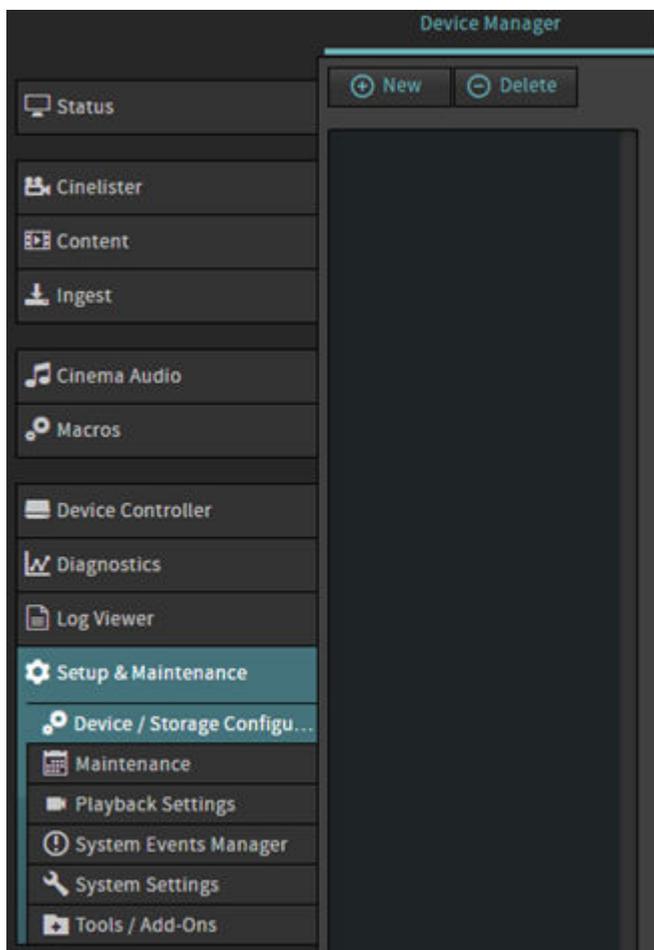
You must be logged in as **SuperUser** to add and configure a projector as a new device.

Procedure

1. Open a web browser, and then enter the Dolby IMS3000 IP address for Ethernet port **ETH-0**.
2. Enter the log-in credentials, and then click **Login**.

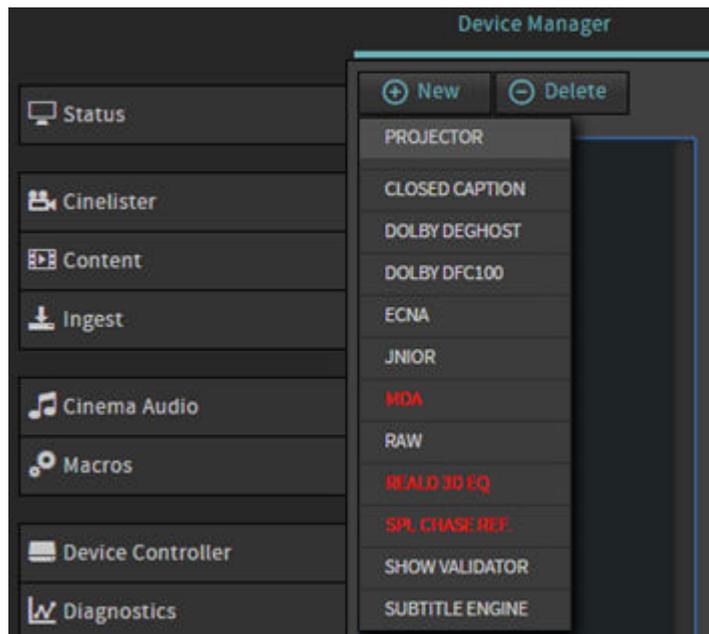
Figure 44: Web UI log-in screen

3. Click **Setup & Maintenance**, and then click **Device/Storage Configuration**.

Figure 45: Device Manager

4. In the **Device Manager** tab, scroll over **New**, and then click **Projector**.

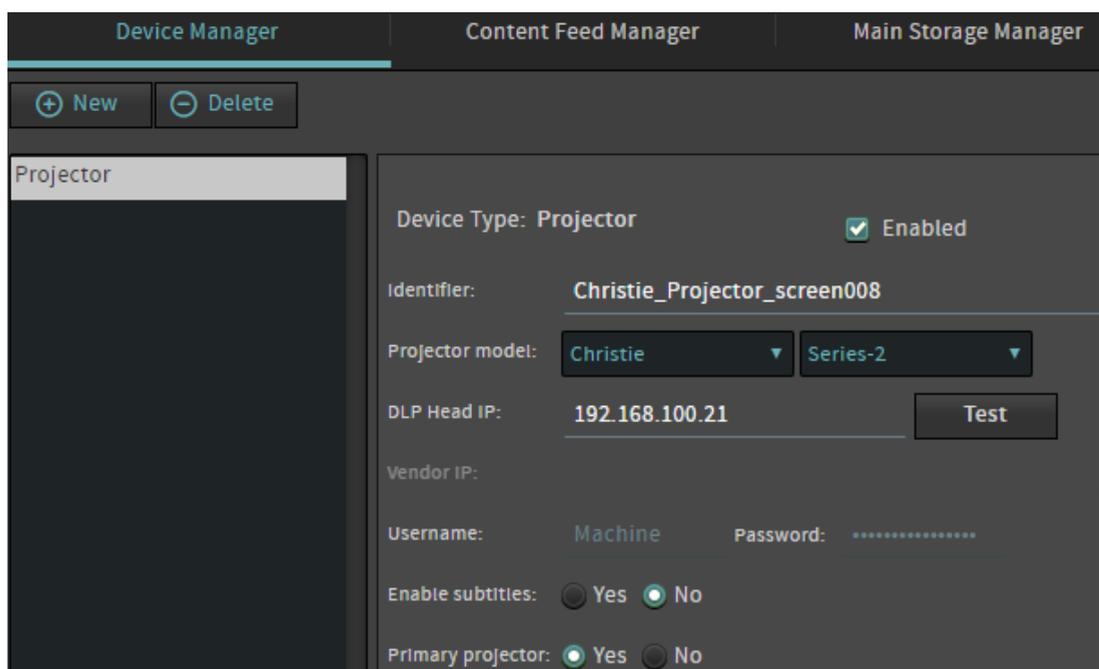
Figure 46: New projector device



5. In the **Device Manager** tab, enter this information:

- a) In the **Identifier** field, enter a name for the projector.
- b) From the **Projector model** lists, select the projector make and model.
- c) In the **DLP Head IP** field, enter the default DLP head IP address.
- d) From the **Enable subtitles** field, select to enable or disable projector-rendered subtitles.
- e) From the **Primary projector** field, select whether this projector is the primary projector.

Figure 47: NEC Series 2 projector added



6. When you finish, click **Save**.

7. In the authentication window that appears, enter the **admin** user-name account password, and then click **Ok**.

Figure 48: Authentication window

SuperUser privileges needed.

Username
admin

Password
.....

Ok Cancel

7.5 Performing marriage between the Dolby IMS3000 and Christie Series 2 projector

You must use the wizard on the Christie Series 2 projector touch-panel controller to perform the marriage.

About this task

After the Christie projector boots up, the lights on the side of the projector illuminate in red and green, indicating that the board and the projector are not married. The touch-panel controller attached to the Christie projector displays a second error window, indicating that the marriage has not occurred.

Refer to the projector manufacturer manual for additional information or changes related to the marriage process.

Procedure

1. On the Christie Series 2 projector touch-panel screen, tap **Acknowledge**.

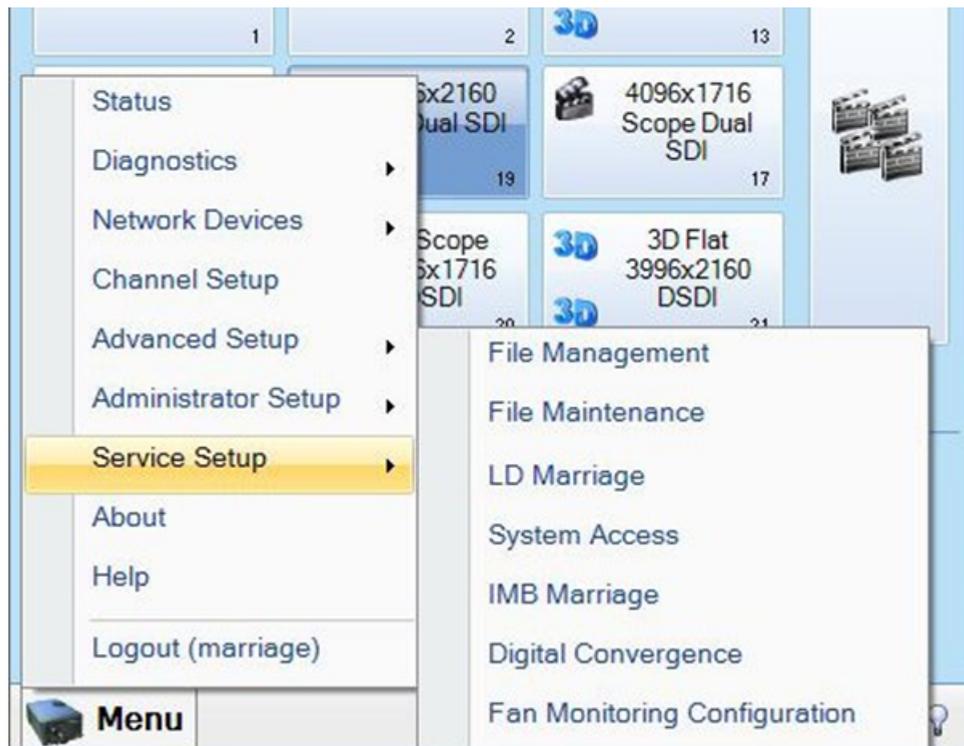
Figure 49: Projector added message

ID	State	Occurred
IMB Connection to the ICP could not be establis...	Critical	2013-09-03, 11:29:...
IMB Logical Tamper	Critical	2013-09-03, 11:29:...
IMB Physical Tamper	Critical	2013-09-03, 11:29:...
IMB Marriage Broken	Critical	2013-09-03, 11:29:...

Acknowledge

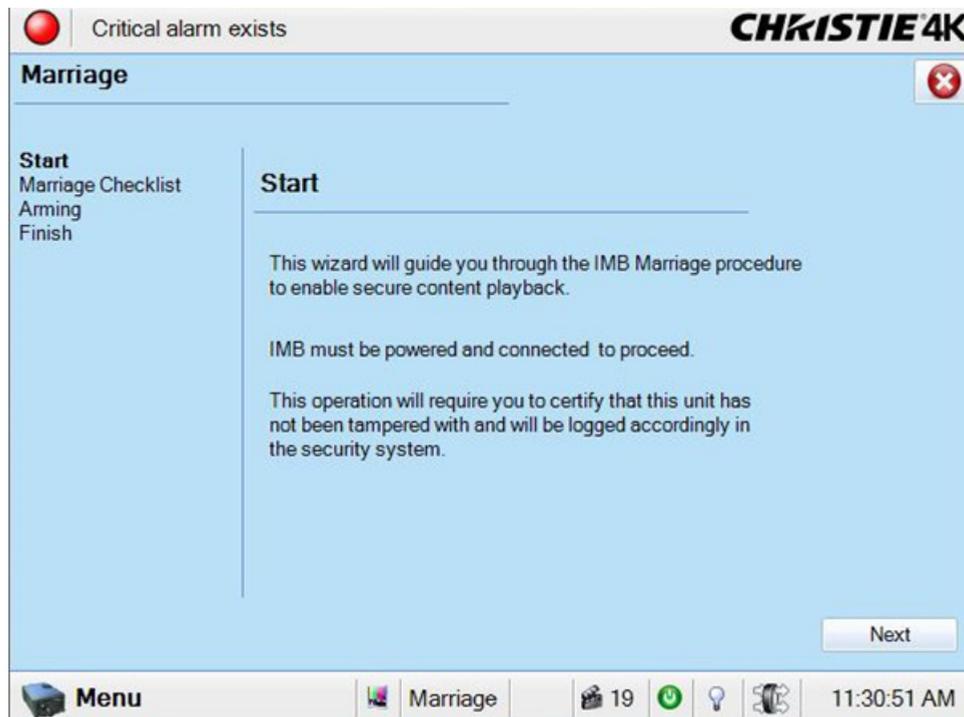
2. Click **Menu**, click **Service Setup**, and then click **IMB Marriage**.

Figure 50: Christie IMB marriage



3. Tap **Next** to begin.

Figure 51: Begin Christie IMB marriage



4. In the **Marriage Checklist** section, tap **Next**.

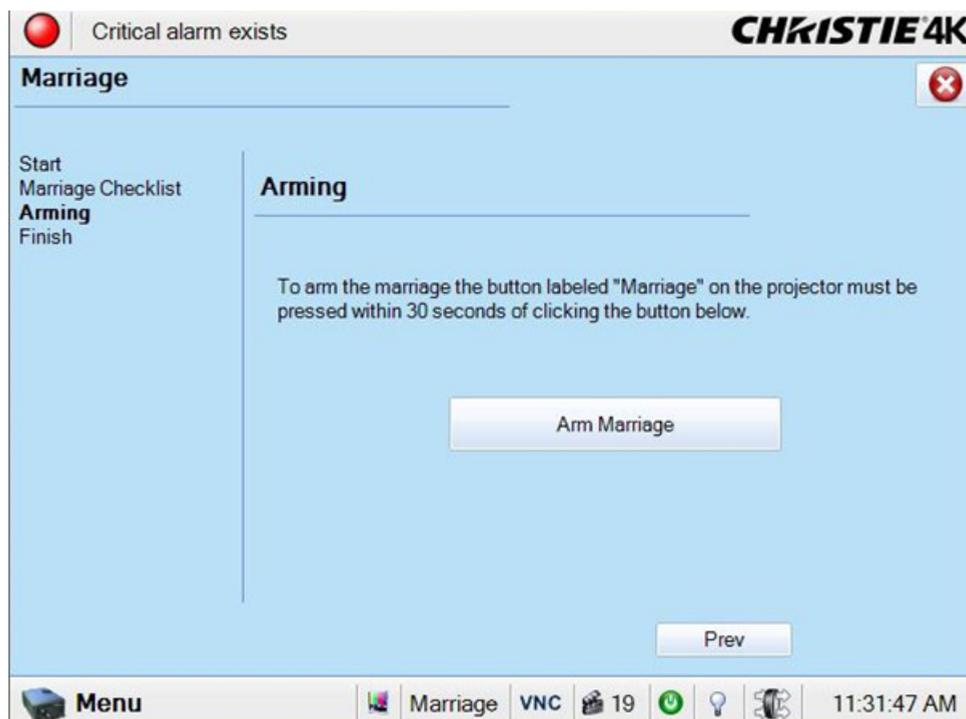
Figure 52: Christie projector marriage checklist



5. Tap **Arm Marriage**.

After **Arm Marriage** is pressed, you have 30 seconds to press **Marriage** on the projector, which should now illuminate in green.

Figure 53: Christie projector arm marriage



Results

The light on the back of the Christie projector turns green when the marriage is complete.

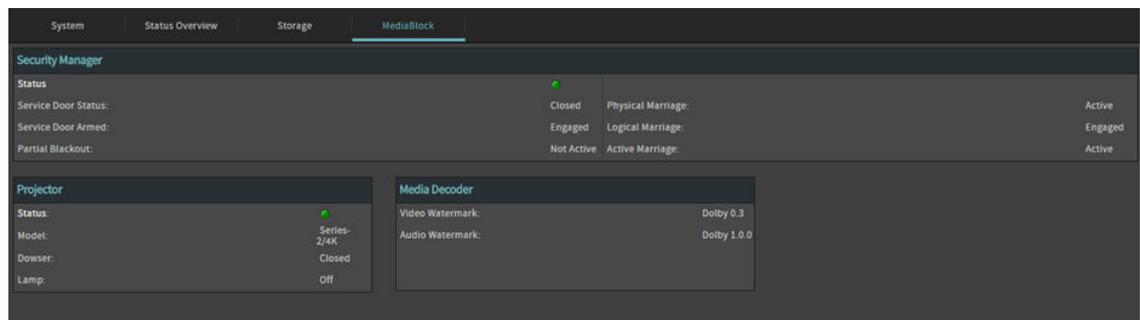
Figure 54: Christie projector green light

7.6 Verifying marriage between the Dolby IMS3000 and Christie Series 2 projector

After you perform the marriage, you must verify that it is valid and correctly configured.

Procedure

1. Log in to the Dolby IMS3000 web UI.
2. Click **Diagnostics**, and then click **MediaBlock**.
3. In the **MediaBlock** tab, verify this information in the **Security Manager** section:
 - **Status:** Green
 - **Physical Marriage:** Active
 - **Logical Marriage:** Engaged
 - **Active Marriage:** Active

Figure 55: Media block verification

7.7 Setting the projector channel configuration

You must set the input in the Christie channel setup to **IMB-Generic** for all channels for proper operation.

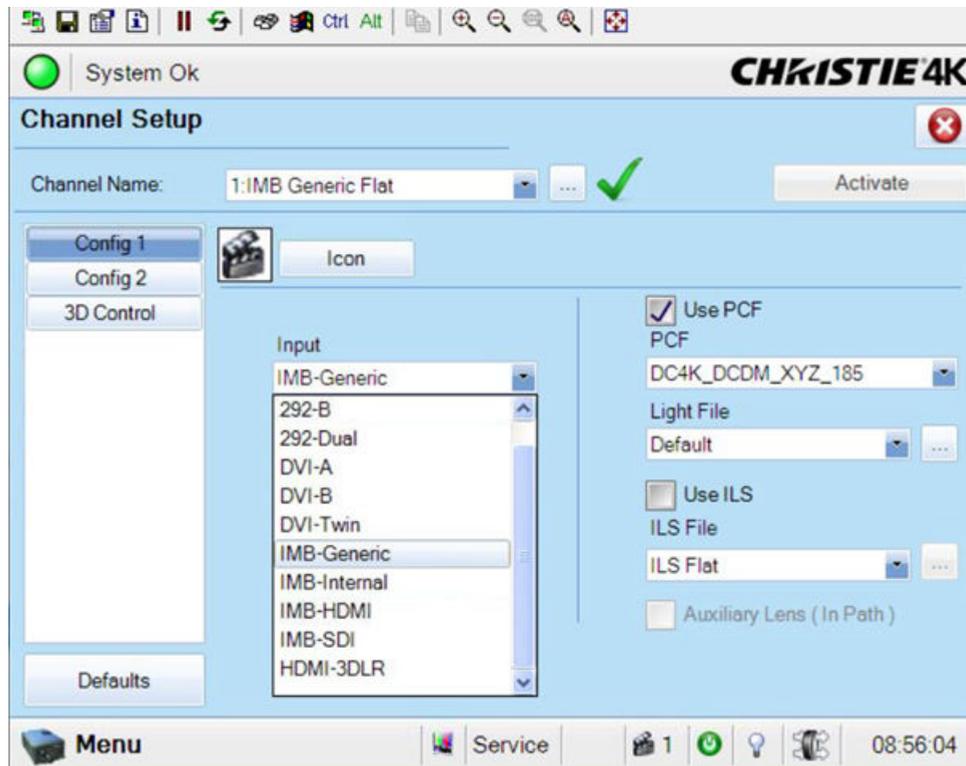
About this task

If you set the input to other IMB selections, issues may arise with Audio Engineering Society (AES) audio dropout when a macro is performed during playback.

Procedure

1. On the Christie Series 2 projector touch-panel screen, from the **Channel Setup** page, select **Config 1**.
2. From the **Input** list, select **IMB-Generic**.

Figure 56: Christie projector channel configuration



What to do next

When you finish with the projector installation, you must update the Dolby IMS3000 software.

8 Updating the Dolby IMS3000 software

Before you operate the Dolby IMS3000, we recommend that you update the Dolby IMS3000 with the latest software version.

- [Software update overview](#)
- [Updating the Dolby IMS3000 using an external device](#)
- [Updating the Dolby IMS3000 using the Ingest Manager](#)
- [Updating the Dolby IMS3000 using FTP](#)
- [Accepting the Dolby IMS3000 license agreement](#)

8.1 Software update overview

With previous products, several different components had to be updated separately. With the Dolby IMS3000, the firmware, software, and Security Manager (SM) update all together in a single bundle.

The latest Dolby IMS3000 software package is available from the Dolby customer portal at www.dolbycustomer.com. If you need access, you can sign up on the site or you can contact your dealer.

8.2 Updating the Dolby IMS3000 using an external device

You can update the Dolby IMS3000 software using an external device.

Prerequisites

You have received the software package from Dolby.

Procedure

1. Load the software package onto an external device.
2. Insert the external device into a USB port on the Dolby IMS3000.
3. Click **Ingest**.
4. In the **Ingest Scan** window, from the **Select a Location** list, select **Local Storage**.
5. Select the software package.
6. Click **Ingest**.
7. Reboot the Dolby IMS3000 to apply the update.

Results

You are now ready to use the newly updated Dolby IMS3000 software.

8.3 Updating the Dolby IMS3000 using the Ingest Manager

You can update the Dolby IMS3000 software using the ingest manager.

Prerequisites

You have received the software package from Dolby.

Procedure

1. In the Dolby IMS3000 web UI **Status** window, click **Ingest**.
2. Click **Upload**.
3. Click **Choose Files**.
4. Click the software package.
5. Click **Upload**.
6. Reboot the Dolby IMS3000 to apply the update.

Results

You are now ready to use the newly updated Dolby IMS3000 software.

8.4 Updating the Dolby IMS3000 using FTP

You can update the Dolby IMS3000 software using File Transfer Protocol (FTP).

Prerequisites

You have received the software package from Dolby and have an FTP client application.

Procedure

1. Log in to the Dolby IMS3000 via an FTP client application using admin credentials.
2. Upload the software bundle to the directory `/etc/rc.once/`.
3. Reboot the Dolby IMS3000 to apply the update.

Results

You are now ready to use the newly updated Dolby IMS3000 software.

8.5 Accepting the Dolby IMS3000 license agreement

You must accept the license agreement in the Dolby IMS3000 web UI after initial setup and after a software update.

Procedure

1. After you log in to the Dolby IMS3000 web UI, click **Setup & Maintenance**, click **System Settings**, and then click **License Agreement**.
2. Scroll down, read the license agreement, and then select **I have read and accept the terms of the software license agreement**.

Figure 57: License agreement

Date and Time Events Configuration Networking Configur... Power Management Account Manager Theater Properties **License Agreement**

i You must read the license and accept the terms by clicking the checkbox below.

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I have read and I accept the terms of the software license agreement

9 Setting up the Dolby IMS3000 audio

The Dolby IMS3000 provides you with multiple options to configure the audio setup. The Dolby IMS3000 ships from factory with the audio configuration in a default state. By default, the AES3 outputs labeled **AES-OUT 1-8** and **AES-OUT 9-16** will pass through these standard channels.

- [Dolby IMS3000 audio setup overview](#)
- [Connecting the Dolby IMS3000 to a Dolby DAC3202](#)
- [Connecting the Dolby IMS3000 to a Dolby Multichannel Amplifier](#)
- [Connecting the Dolby IMS3000 to a cinema audio processor](#)

9.1 Dolby IMS3000 audio setup overview

You can configure the audio for Dolby Atmos. You can connect the Dolby IMS3000 Dolby Atmos Connect ports, using AES67, to one or more Dolby DAC3202 units or Dolby Multichannel Amplifier units.

If needed, you can also use the 16-channel AES3 digital outputs in combination with the AES67 connection. Note that these may need to be converted to analog for use with certain amplifiers.

The cinema audio processor is backwards compatible with 5.1 and 7.1 content.

The AES3 outputs can be reassigned using Dolby Atmos Designer software for your individual speaker feeds. If any speaker feeds are assigned to the AES3 outputs, this will disable the pass through of any other channels. This is noteworthy if you are using any of these channels for motion chair or other applications, as they typically use Channel 13.

By incorporating the cinema audio processor into the Dolby IMS3000, there are improvements in Dolby Atmos content handling. Only one KDM is required to play back all the essence files: Main Picture, Main Audio, Main Subtitle, and Dolby Atmos. The server keeps the Dolby Atmos audio synchronized with the Main Picture without needing the sync signal on AES channel 14. There is no need to request content decryption KDMs that disable Audio Forensic Marking above channel 12.

If you are not installing Dolby Atmos, you can configure the audio for a standard 5.1 or Dolby Surround 7.1 auditorium. You can use the Dolby Atmos Connect ports via AES67 or the 16-channel AES3 digital outputs. The Dolby DAC3202 and the Dolby Multichannel Amplifier are supported, or you can use a digital-to-analog converter (DAC) to interface with analog amplifiers.

The Dolby IMS3000 supports these audio formats for the HDMI input:

- Dolby Atmos (consumer) at 48 khz and 96 kHz
- Dolby Digital at 48 kHz
- Dolby Digital Plus at 48 kHz and 96 kHz
- Dolby TrueHD at 48 khz, 96 kHz, and 192 khz
- PCM at 48 khz, 96 kHz, and 192 kHz
- PCM at 32 kHz, 44.1 kHz, 88.2 kHz, and 176.4 kHz using field-programmable gate array (FPGA) input ASRC

Connecting more than one Dolby DAC3202 or Dolby Multichannel Amplifier or a combination

You can use Dolby audio devices such as the Dolby DAC3202 and Dolby Multichannel Amplifier together, or a combination of these.

For more information, refer to the *Dolby Multichannel Amplifier User's Manual*.

 **Note:** The Dolby DAC3201 uses a different protocol and is not supported for use with the Dolby IMS3000.

Related information

[Supporting documentation](#) on page 10

9.2 Connecting the Dolby IMS3000 to a Dolby DAC3202

You can connect the Dolby IMS3000 to a Dolby DAC3202 to output up to 32 channels of AES67 Dolby Atmos audio.

Prerequisites

You need two CAT5e or greater Ethernet cables for this task.

About this task

For more instructions on configuring the Dolby IMS3000 audio, refer to the *Dolby IMS3000 User's Manual*.

Procedure

1. Connect one end of the first Ethernet cable to the **DOLBY ATMOS CONNECT OUT** connector port on the Dolby IMS3000 front panel, and then connect the other end of this Ethernet cable to the Dolby DAC3202 **DOLBY ATMOS CONNECT IN** connector port.
2. Connect one end of the second Ethernet cable to the **DOLBY ATMOS CONNECT IN** connector port on the Dolby IMS3000 front panel, and then connect the other end of this Ethernet cable to the Dolby DAC3202 **DOLBY ATMOS CONNECT OUT** connector port.
3. Generate a Dolby Atmos Designer file, connect to the Dolby IMS3000, and then send the Dolby Atmos Designer file over to the Dolby IMS3000.
For instructions on generating a Dolby Atmos Designer file, refer to the *Dolby Atmos Designer User's Manual*.
4. In the Dolby IMS3000 web UI, click **Cinema Audio** and confirm that the Dolby Atmos Designer file is present.
5. Verify that the proper default audio configuration file is set according to the type of audio setup.
 - a) In the **Status** window, click **Cinema Audio**, and then click **Default Audio Configuration**.
 - b) Use the up and down arrows to adjust the audio delay value.

- c) From the **EQ Preset** list, select an available preset.
- d) Click **Save All**.

9.3 Connecting the Dolby IMS3000 to a Dolby Multichannel Amplifier

You can connect the Dolby IMS3000 to a Dolby Multichannel Amplifier to output up to 64 channels of AES67 Dolby Atmos audio.

Prerequisites

You need two CAT5e or greater Ethernet cables for this task.

About this task

For more instructions on configuring the Dolby IMS3000 audio, refer to the *Dolby IMS3000 User's Manual*.

Procedure

1. Connect one end of the first Ethernet cable to the **DOLBY ATMOS CONNECT OUT** connector port on the Dolby IMS3000 front panel, and then connect the other end of this Ethernet cable to the Dolby Multichannel Amplifier **DOLBY ATMOS CONNECT IN** connector port.
2. Connect one end of the second Ethernet cable to the **DOLBY ATMOS CONNECT IN** connector port on the Dolby IMS3000 front panel, and then connect the other end of this Ethernet cable to the Dolby Multichannel Amplifier **DOLBY ATMOS CONNECT OUT** connector port.
3. Generate a Dolby Atmos Designer file, connect to the Dolby IMS3000, and then send the Dolby Atmos Designer file over to the Dolby IMS3000.
For instructions on generating a Dolby Atmos Designer file, refer to the *Dolby Atmos Designer User's Manual*.
4. In the Dolby IMS3000 web UI, click **Cinema Audio** and confirm that the Dolby Atmos Designer file is present.
5. Verify that the proper default audio configuration file is set according to the type of audio setup.
 - a) In the **Status** window, click **Cinema Audio**, and then click **Default Audio Configuration**.
 - b) Use the up and down arrows to adjust the audio delay value.
 - c) From the **EQ Preset** list, select an available preset.
 - d) Click **Save All**.

9.4 Connecting the Dolby IMS3000 to a cinema audio processor

You can connect the Dolby IMS3000 to an external cinema audio processor to output up to 16 channels of AES3 audio.

Prerequisites

You need two CAT5e or greater Ethernet cables for this task.

About this task

For more instructions on configuring the Dolby IMS3000 audio, refer to the *Dolby IMS3000 User's Manual*.

Procedure

1. If the cinema audio processor does not have RJ-45 ports but has a single 25-pin D-connector, connect an RJ-45 to 25-pin D-connector audio adapter to the cinema audio processor.
2. Connect one end of the first Ethernet cable to the **AES-OUT 1-8** connector port on the Dolby IMS3000 front panel, and then connect the other end of this Ethernet cable to the **A** port on the RJ-45 to 25-pin D-connector adapter.
3. Connect one end of the second Ethernet cable to the **AES-OUT 9-16** connector port on the Dolby IMS3000 front panel, and then connect the other end of this Ethernet cable to the **B** port on the RJ-45 to 25-pin D-connector adapter.
4. In the Dolby IMS3000 web UI, add the cinema audio processor as a raw device in the **Device Manager** tab, and then save the settings.

10 Configuring HDMI settings

The Dolby IMS3000 provides you with the option to add a composition playlist (CPL) as a live source or to switch to an HDMI input source.

- [Dolby IMS3000 front panel](#)
- [Adding an HDMI input source as a live CPL](#)
- [Switching to an alternative HDMI input source](#)

10.1 Dolby IMS3000 front panel

The Dolby IMS3000 front panel identifies the inputs and outputs and each HDD.

Figure 58: Dolby IMS3000 front panel



10.2 Adding an HDMI input source as a live CPL

You can add a live CPL for the HDMI input source to the Dolby IMS3000.

Prerequisites

You need one HDMI cable for this task.

Procedure

1. Take an HDMI cable, and connect it to the Dolby IMS3000 front-panel **HDMI-IN** input connector.
2. Take the other end of this HDMI cable, and connect it to the alternative input source.
3. In the web UI, click **Setup & Maintenance**, click **Playback Settings**, and then click **Live Manager**.
4. From the **Live source device type** list, select **Mediablock HDMI**.

Figure 59: Live source device type

The screenshot shows the 'Live Manager' tab in a web interface. At the top, there are three tabs: 'Cinelister/Scheduler Config.', 'Live Manager' (selected), and 'StreamIt Manager'. Below the tabs is a 'Live Composition Playlist' section with a 'Local Live' entry from IP 127.0.0.1. The main section is 'Create a new Live Composition'. It contains a dropdown for 'Live source device type' set to 'Mediablock HDMI', a text field for 'Content title' with 'Mediablock HDMI', a 'Device IP' field, a 'Channel' dropdown set to '1', and a 'Duration' field set to '1 hour(s) 0 minute(s) 0 second(s)'. A 'Create' button is at the bottom left of this form.

5. In the **Content title** field, enter a content title if needed.
6. Enter any necessary information, and then click **Create**.
7. After you finish, add this live CPL to the SPL, to ensure the switch to the HDMI input source.

10.3 Switching to an alternative HDMI input source

You can use the Device Controller to manually switch to the HDMI input source without the use of Cinelister or the Live Manager.

Procedure

1. In the web UI, click **Device Controller**.
2. In the **Registered** section, select the IMS device to connect.
3. From the **Input** list, select **HDMI** for the input source.

11 Configuring AES auxiliary inputs and outputs

The Dolby IMS3000 supports several digital inputs that are configurable in different ways to support several alternative workflows.

- [AES auxiliary inputs and outputs overview](#)
- [Adding a microphone](#)
- [Adding a monitor](#)
- [Adding a fader](#)
- [Configuring additional auxiliary AES inputs and outputs](#)

11.1 AES auxiliary inputs and outputs overview

The Dolby IMS3000 does not support any analog inputs or outputs through the **AUX AES** connector. If the input source is analog, use an analog-to-digital converter. If analog output is required, use a digital-to-analog converter.

The Dolby IMS3000 also provides alternative inputs to add a microphone input, add a monitor, add a fader input, and configure additional AES auxiliary inputs and outputs.

Figure 60: Dolby IMS3000 front panel



11.2 Adding a microphone

You can use the **AUX AES** input connector on the Dolby IMS3000 front panel to add a microphone input.

Prerequisites

To use an analog microphone, connect the microphone to a preamp and convert the line-level analog signal to digital AES-3.

About this task

The **AUX AES** input is not a microphone preamp, but it supports unbalanced or balanced AES-3 digital input.

Procedure

1. Connect a cable with an RJ-45 connector into the **AUX AES** input connector on the Dolby IMS3000. Next, connect the other end of this cable to a digital device (such as a microphone or analog-to-digital adapter).
2. In the web UI, click **Cinema Audio**, and then click **Microphone**.
3. From the **Audio Delay (ms)** list, select the audio delay in milliseconds.
4. From the **EQ Preset** list, select the equalization (EQ) preset.
5. From the **Output channels** list, select the output channel.
6. When you finish, click **Save**.

11.3 Adding a monitor

You can use the **AUX AES** output connector on the Dolby IMS3000 front panel to add a monitor.

Procedure

1. Connect a cable with an RJ-45 connector into the **AUX AES** output connector on the Dolby IMS3000. Next, connect the other end of this cable to a digital monitor or a digital-to-analog adapter.
2. In the web UI, click **Cinema Audio**, and then click **AUX AES Inputs/Outputs**.
3. From the **AES Outputs** section, select which output and channel are used for the monitor.

Figure 61: AES output monitor configuration

AES Outputs	
AES Output 1 Ch 1	HI
AES Output 1 Ch 2	VI
AES Output 2 Ch 1	Booth Monitor
AES Output 2 Ch 2	Unassigned

Save

4. When you finish, click **Save**.

11.4 Adding a fader

You can add a fader to remotely adjust the audio level in an auditorium.

About this task

You can use only one Cat. No. 868 remote unit at a time with the Dolby IMS3000. As soon as the remote unit is connected, it is live and communicates with the Dolby IMS3000. You can adjust the audio level using the Dolby IMS3000 web UI or the fader. The changes display on both.

The combined length of cable connecting the remote unit to the Dolby IMS3000 must not exceed 100 meters (or 328 feet).

Procedure

1. Connect an Ethernet cable into the **FADER** input connector on the Dolby IMS3000. Next, connect the other end of this cable to a fader box.

You cannot put this cable through a network switch. It must be a direct connection.

2. In the web UI, click **Cinema Audio**, and then click **AES Inputs/Outputs** to configure the fader settings.
3. When you finish, click **Save**.

11.5 Configuring additional auxiliary AES inputs and outputs

You can configure additional inputs and outputs using the auxiliary AES input and output connectors on the Dolby IMS3000.

About this task

The **SMPTE Sync** output is routing Digital Cinema Package (DCP) AES channel 14 to auxiliary AES output.

Procedure

1. In the web UI, click **Cinema Audio**, and then click **AES Inputs/Outputs** to configure any additional inputs and outputs.
2. When you finish, click **Save**.

12 Configuring the Dolby IMS3000 time zone

The Dolby IMS3000 web UI enables you to configure the Dolby IMS3000 to operate in any time zone. The clock in the device is an RTC used with keys that unlock encrypted content.

12.1 Configuring the date and time

You can configure the Dolby IMS3000 system date and time.

About this task

You can adjust the RTC to compensate for small time drift, but you cannot change it beyond the limits set by DCI. If the clock drifts beyond the limits, contact Dolby Cinema Solutions and Support.

Procedure

1. In the web UI, click **Setup & Maintenance**, click **System Settings**, and then click **Date and Time**.
2. In the **Date and Time** section, configure this information:
 - a) From the **Time Format** list, select a time format, and then click **Update**.
 - b) From the **Change time** lists, select the hour, minute, and seconds. Then, select whether the time is **AM** or **PM**, and then click **Update**.

Figure 62: Date and time configuration

Date and Time	Networking Configuration	Power Management	Acc
Date and Time			
Current Date:	Tuesday, 26 June 2018		
Current Time:	01:38:16 PM		
Time Format:	12	Update	
Secured Clock:	0s/360s		
Change time:	01	:	31
	:	47	PM
	Update		

3. In the **Time Zone** section, from the **Time Zone** list, select your preferred region of the world or city. Then, click **Update**.

Figure 63: Time zone configuration

Time Zone	
Time Zone:	America/Los_Angeles
UTC Offset:	-420 minutes
Next DST change:	Sun Nov 4 01:59:59 2018 PDT

13 Configuring the Dolby IMS3000 user accounts

The Dolby IMS3000 enables you to add, modify, and delete a user account.

- [Adding a new user account](#)
- [Modifying a user account](#)
- [Deleting a user account](#)

13.1 Adding a new user account

You can add a new user account to the Dolby IMS3000.

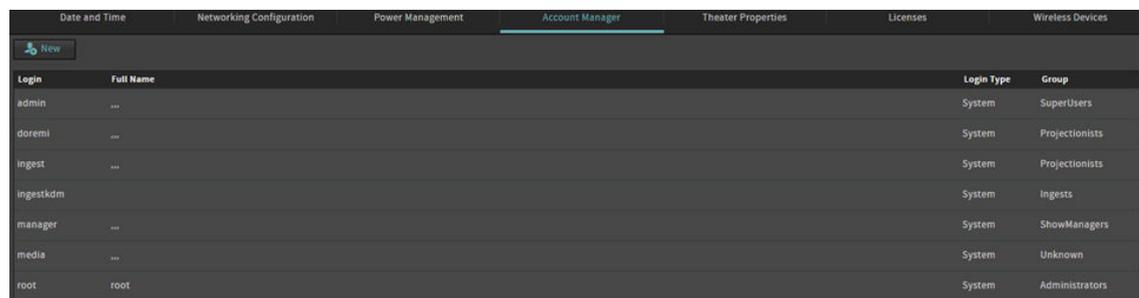
About this task

You must be logged in as **SuperUser** to add a new user account.

Procedure

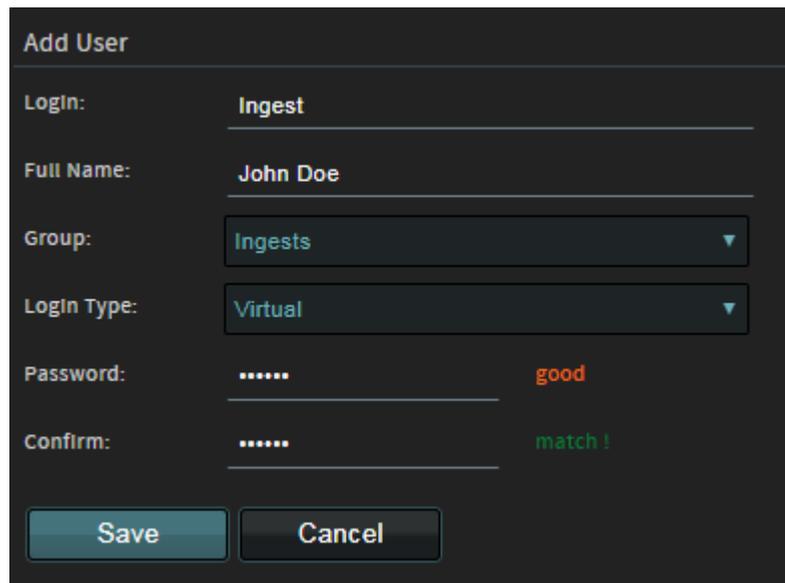
1. In the web UI, click **Setup & Maintenance**, click **System Settings**, and then click **Account Manager**.

Figure 64: Account Manager



Date and Time		Networking Configuration		Power Management		Account Manager		Theater Properties		Licenses		Wireless Devices	
Login	Full Name					Login Type	Group						
admin	...					System	SuperUsers						
doremi	...					System	Projectionists						
ingest	...					System	Projectionists						
ingestkdm	...					System	Ingests						
manager	...					System	ShowManagers						
media	...					System	Unknown						
root	root					System	Administrators						

2. Click **New**.
3. In the **Add User** window, enter this information:
 - a) Enter a log-in name and a full name for the new user account.
 - b) From the **Group** list, select the type of user account.
 - c) From the **Login Type** list, select the level for the log-in user account.
 - d) Enter a password, and then confirm the password.
4. When you finish, click **Save**.

Figure 65: Add User window

Add User

Login:

Full Name:

Group:

Login Type:

Password: good

Confirm: match !

13.2 Modifying a user account

You can modify a user account created previously and change any user privileges, passwords, and names associated with it.

About this task

You must be logged in as **SuperUser** to modify a user account.

Procedure

1. In the web UI, click **Setup & Maintenance**, click **System Settings**, and then click **Account Manager**.
2. Click a user account.
3. In the **Edit User** window:
 - a) In the **Full Name** field, enter a new name, if needed.
 - b) From the **Group** list, select a new user account group.

Figure 66: Edit User window

The screenshot shows the 'Edit User' window for a user named 'media'. The window has a dark background. At the top left is a user icon. To the right of the icon is the name 'media'. Below the icon and name are the following fields:

- Full Name:** A text input field containing three asterisks (***)
- Group:** A dropdown menu with 'Inactives' selected and a downward arrow on the right.
- Login Type:** A text input field containing 'System'
- Set password...** A button with a light blue background.

At the bottom of the window are two buttons: 'Save' and 'Close', both with light blue backgrounds.

- c) Click **Set password...** to modify the user account password.

Figure 67: Edit User window

The screenshot shows the 'Edit User' window for a user named 'media'. The window has a dark background. At the top left is a user icon. To the right of the icon is the name 'media'. Below the icon and name are the following fields:

- Full Name:** A text input field containing three asterisks (***)
- Group:** A dropdown menu with 'Inactives' selected and a downward arrow on the right.
- Login Type:** A text input field containing 'System'
- Hide password...** A button with a light blue background.
- Password:** A text input field
- Confirm:** A text input field
- Set Password** A button with a light blue background, positioned between the Password and Confirm fields.

At the bottom of the window are two buttons: 'Save' and 'Close', both with light blue backgrounds.

- d) When you finish, click **Save**.

13.3 Deleting a user account

You can delete a user account created previously on the Dolby IMS3000.

About this task

By default, six user accounts are hard coded into the system software and cannot be deleted or modified:

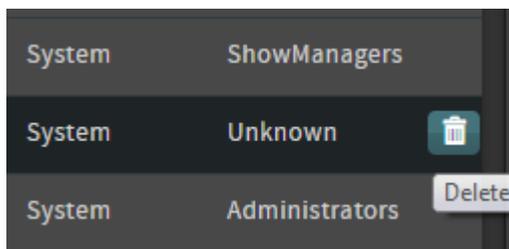
- admin
- doremi
- ingest
- ingestkdm
- manager
- root

You must be logged in as **SuperUser** to delete a user account.

Procedure

1. In the web UI, click **Setup & Maintenance**, click **System Settings**, and then click **Account Manager**.
2. Hover over the user account, and then click the trash bin symbol that appears.

Figure 68: Trash bin symbol



3. In the small dialog window that appears, confirm the deletion operation, and then click **OK**.

14 Configuring the ingest content source

The Dolby IMS3000 enables you to manually add an ingest content source, perform an automatic scan of your network for an ingest content source, or modify an existing ingest content source.

- [Manually adding a new ingest content source](#)
- [Scanning the network for an ingest content source](#)
- [Removing an ingest content source](#)

14.1 Manually adding a new ingest content source

You can manually add a new ingest content source to the Dolby IMS3000.

About this task

You must configure the FTP settings for each ingest content source you add to the Dolby IMS3000. Afterward, you can ingest content from that source to the Dolby IMS3000.

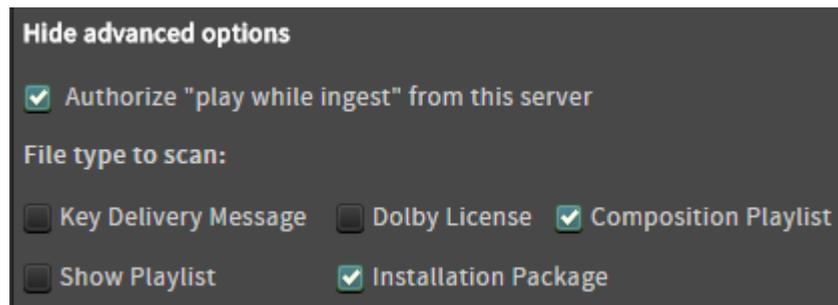
Procedure

1. In the web UI, click **Setup & Maintenance**, click **Device/Storage Configuration**, and then click **Content Feed Manager**.
2. Click **New**.
3. In the **Identifier** field, enter a name for the ingest content source.
4. From the **Ingest Protocol** list, select the ingest protocol.
5. In the **Server IP** field, enter an IP address for the ingest content source. Then, click **Test** to validate the connection.
6. In the **Username** field, enter a user name.
7. In the **Password** field, enter a password for the user name.

Figure 69: New ingest content source

The screenshot shows the 'Content Feed Manager' tab in a web interface. At the top, there are three tabs: 'Device Manager', 'Content Feed Manager' (selected), and 'Main Storage Manager'. Below the tabs are three buttons: '+ New', 'Auto Discover', and 'Delete'. On the left, there is a 'TMS' section with a list containing 'New Server 1'. The main area shows the configuration form for 'New Server 1' with the following fields: 'Identifier: New Server 1', 'Ingest Protocol: FTP' (dropdown menu), 'Server IP: 0.0.0.0', 'Username: manager', 'Password:,', and 'Remote Path:'. A 'Test' button is located to the right of the 'Server IP' field. At the bottom, there is an 'Advanced options...' link.

8. Click **Advanced options...** to expand the menu.
9. In the expanded **Advanced options...** menu, choose the type of content to ingest from the source into the Dolby IMS3000.

Figure 70: Advanced options menu

10. To complete the configuration:
 - a) To clear all changes, click **Revert**.
 - b) To save the configuration, click **Save**.

14.2 Scanning the network for an ingest content source

You can scan the network and automatically add a new ingest content source to the Dolby IMS3000.

Procedure

1. In the web UI, click **Setup & Maintenance**, click **Device/Storage Configuration**, and then click **Content Feed Manager**.
2. Click **Auto Discover**.
3. In the **Auto Discovery** window, use the server identifier tabs to navigate to the desired ingest content source.

Figure 71: Auto Discovery window

Hostname	IP Address	Version	Serial Number
dcp2000	10.209.1.224	2.8.17-0	199000
dcp2000	192.168.254.243	2.8.17-0	199000
dcp2000	10.209.1.192	2.0.7-0	199000
dcp2000	10.209.1.231	2.8.20-0	249218
dcp2000	10.209.1.194	2.0.7-0	263956
0429DCSMS10	10.209.1.79	2.6.4-0	203581-02
screen-11	10.209.1.241	2.8.16-0	200618
dcp2000	10.209.1.153	2.8.17-0	251764
TS_Screen1	10.209.1.77	2.8.19-0	257288
dcp2000	10.209.1.178	2.0.7-0	00001

4. Click the server you want to add.
The server information is automatically added to the **Content Feed Manager**.
5. When you finish, click **Save**.

14.3 Removing an ingest content source

You can remove an ingest content source from the Dolby IMS3000.

About this task

You must be logged in as **SuperUser** to remove an ingest content source.

Procedure

1. From the **Content Feed Manager** tab, select the ingest content source.
2. Click **Delete**.
3. Click **Save**.

15 Ingesting KDMs into the Dolby IMS3000

The Dolby IMS3000 web UI enables you to ingest a KDM to unlock an encrypted clip, which is also known as a CPL. After the content is unlocked, you can play that CPL in a show.

15.1 Ingesting a KDM using an external drive

You can use an external drive to ingest a KDM into the Dolby IMS3000.

Prerequisites

Load the KDM file onto an external drive.

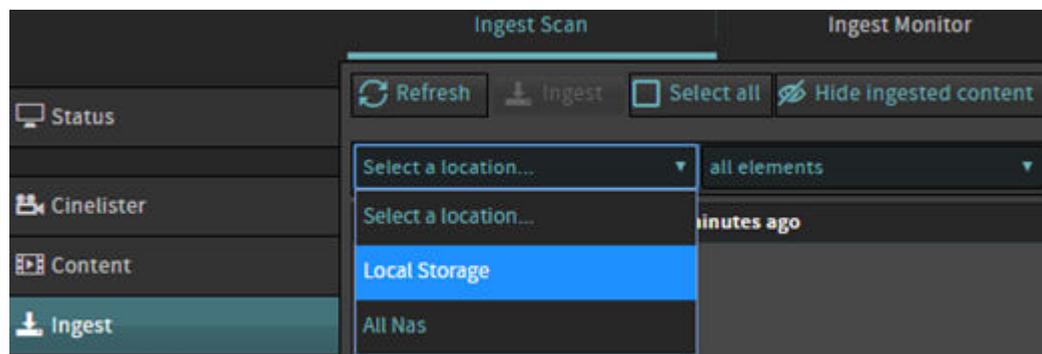
About this task

If the KDM is not visible, it could be because the KDM is not targeted to this Dolby IMS3000.

Procedure

1. Insert the external drive into a USB port or eSATA port on the Dolby IMS3000 front panel.
2. In the web UI, click **Ingest**, and then click **Ingest Scan**.
3. From the **Select a location** list, select **Local Storage**.

Figure 72: Ingest Scan



4. Select the KDM, and then click **Ingest**. You can also select multiple KDMs by clicking on all of the files to load, and then clicking **Ingest**.

Results

As the KDM is ingested, the **Ingest Monitor** page appears and displays the status of the operation.

16 Ingesting content into the Dolby IMS3000

The Dolby IMS3000 enables you to ingest content from a local storage device connected through USB or eSATA cable. You can also ingest content over a network from another Dolby server, Dolby TMS, NAS, FTP site, or satellite delivery server.

- [Ingesting content](#)
- [Ingesting content to the Dolby IMS3000 while offline](#)
- [Canceling an ingest operation](#)
- [Pausing an ingest operation](#)
- [Resuming an ingest operation](#)

16.1 Ingesting content

You can ingest content from a local storage device, NAS, or a satellite delivery server into the Dolby IMS3000.

Prerequisites

You must connect the local storage device, NAS, or satellite delivery server to the Dolby IMS3000 prior to ingesting content.

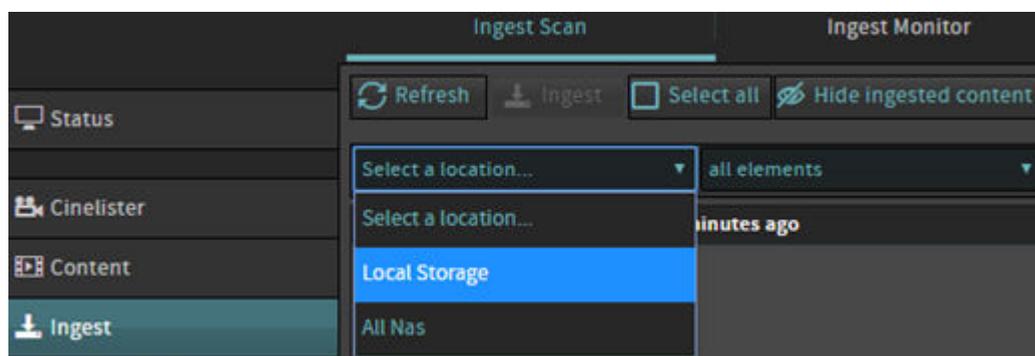
About this task

You must be logged in as **ShowManager** to ingest content.

Procedure

1. In the web UI, click **Ingest**, and then click **Ingest Scan**.
2. From the **Select a location** list, select the content source.

Figure 73: Ingest content location

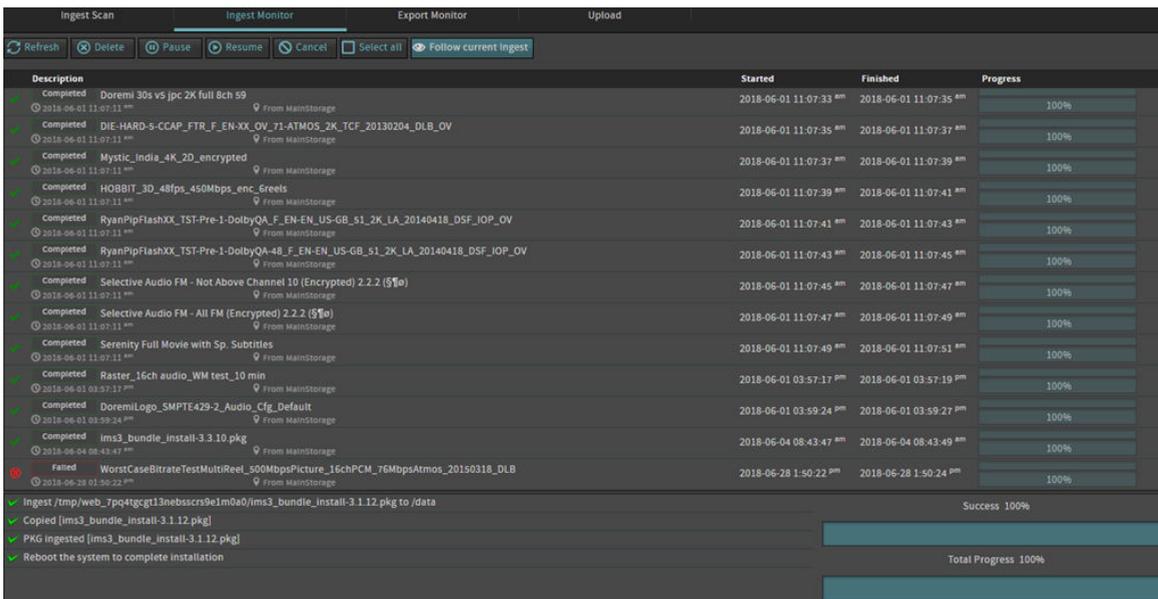


3. Click the content, and then click **Ingest**.
You can also select multiple content items by pressing the Ctrl button.

Results

As the content item is ingested, the **Ingest Monitor** page appears and displays the status of the operation.

Figure 74: Ingest Monitor



16.2 Ingesting content to the Dolby IMS3000 while offline

You can ingest content to the Dolby IMS3000 while it is offline.

About this task

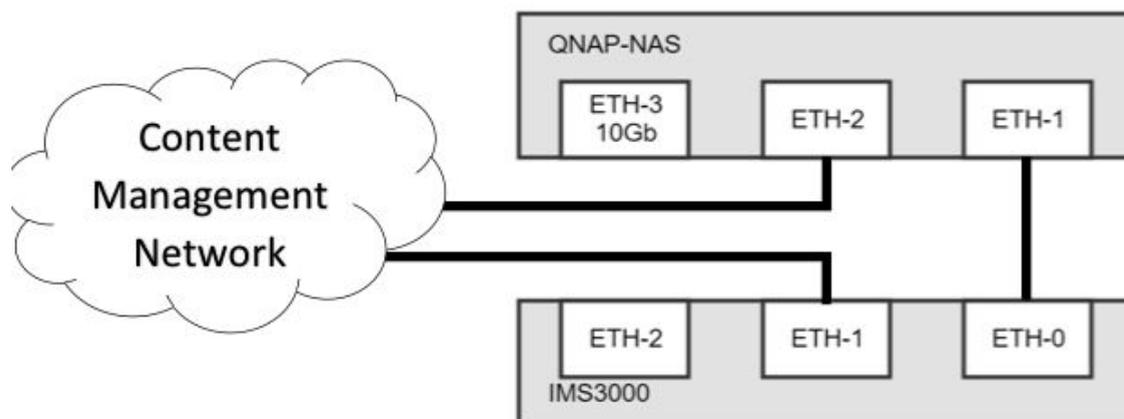
The Dolby IMS3000 with the main storage NAS adds the ability to ingest content while the Dolby IMS3000 is powered off. The main storage NAS must remain powered on and must be accessible via the media network. This feature does not work with a Dolby IMS3000 that has internal storage and an additional storage NAS.

You need **SuperUser** privileges to perform this operation.

Procedure

1. Set up an FTP connection between the source (such as an ingest server or Dolby TMS, etc.) and the **ETH2** port of the NAS.
2. Enter the appropriate credentials.
 - Username: admin
 - Password: password
 - /partition_data/data/offline_incoming

After you connect to the main storage NAS, you will be able to upload content into the directory. There is no need to change to a different directory. After the content is fully uploaded to the NAS, the system ingests the content, moving it from your current directory to its final destination in the file system.

Figure 75: Content management network diagram

16.3 Canceling an ingest operation

You can use the **Cancel** button to cancel an ingest operation.

Procedure

1. In the web UI, click **Ingest**, and then click **Ingest Monitor**.
2. Select one or more ingest operations, and then click **Cancel**.

16.4 Pausing an ingest operation

You can use the **Pause** button to pause an ingest operation.

Procedure

1. In the web UI, click **Ingest**, and then click **Ingest Monitor**.
2. Select one or more ingest operations, and then click **Pause**.

16.5 Resuming an ingest operation

You can use the **Resume** button to resume an ingest operation.

Procedure

1. In the web UI, click **Ingest**, and then click **Ingest Monitor**.
2. Select the ingest operation, and then click **Resume**.

17 Managing SPLs

The Dolby IMS3000 enables you to build a new SPL, edit an SPL, delete an SPL, and manage all SPLs. In addition, you can view and assign specific properties for each SPL.

- [Building a new SPL](#)
- [Viewing the properties for an SPL](#)
- [Deleting an SPL](#)

17.1 Building a new SPL

You can build a new SPL.

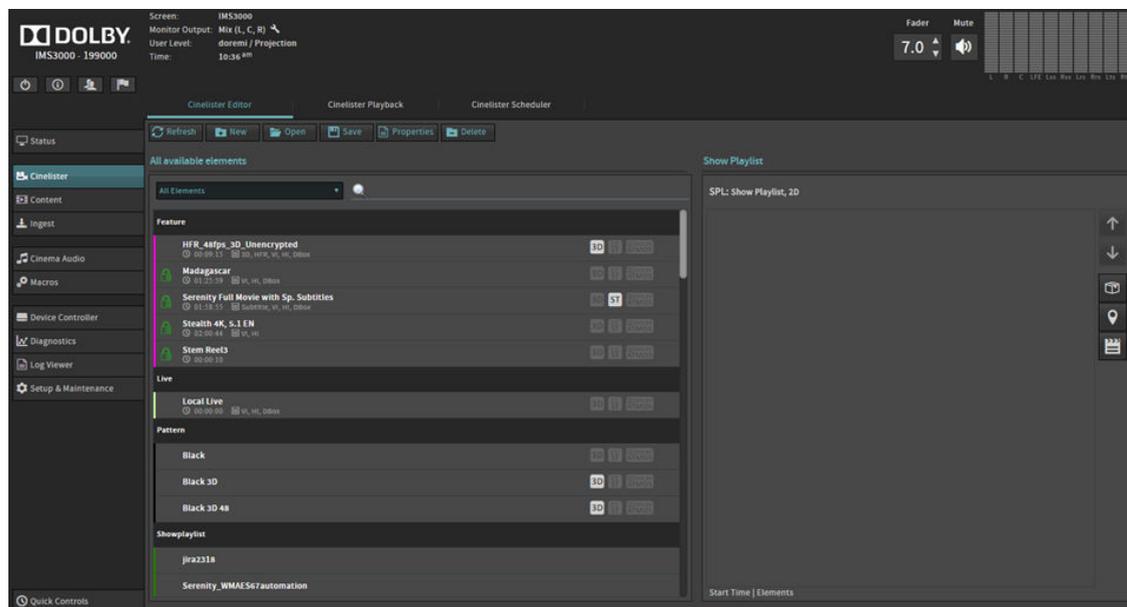
About this task

You must be logged in as **ShowManager** to create and save an SPL.

Procedure

1. In the web UI, click **Cinelister**, and then click **Cinelister Editor**.

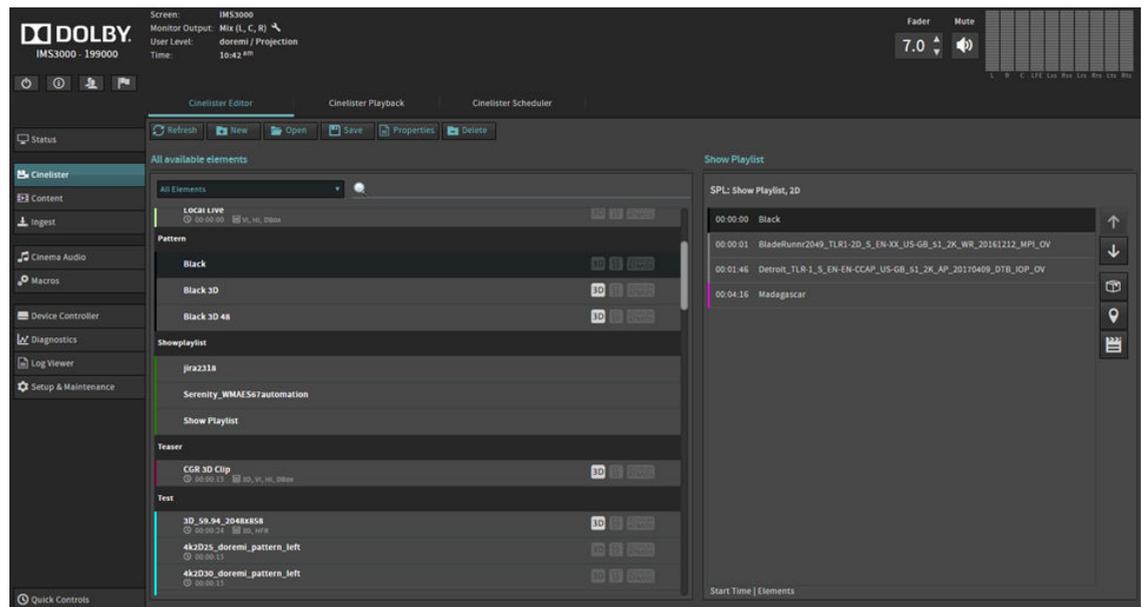
Figure 76: Cinelister Editor



2. Click **New**.

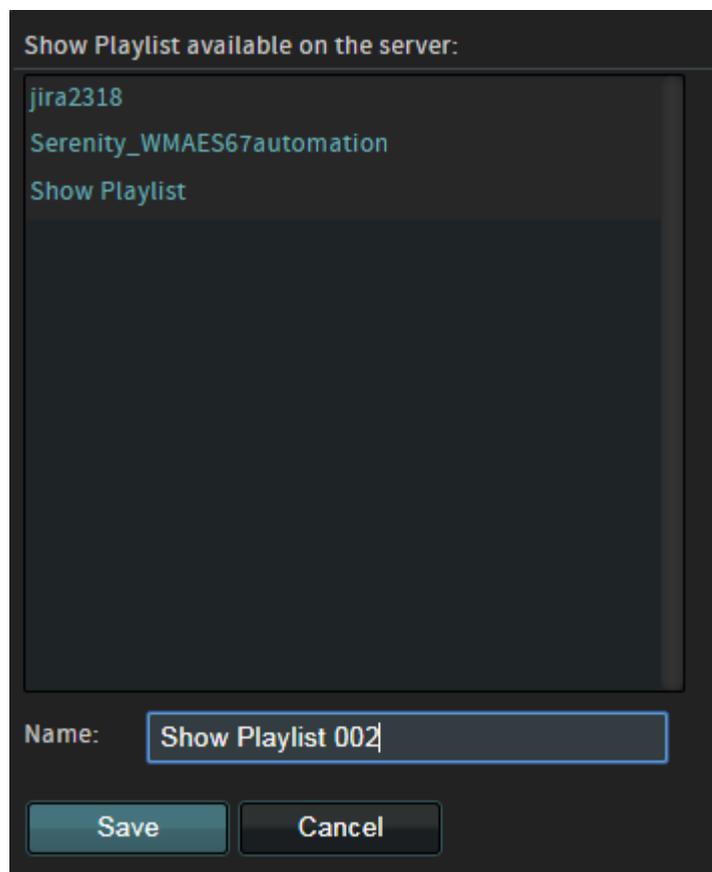
3. Find and select the content to add to the SPL by clicking once on each content item. Or, you can also drag and drop the content item from the left section to the right section.

Figure 77: Content items added



4. When you finish adding content, click **Save**.
5. In the window, enter a name for the new SPL, and then click **Save**.

Figure 78: Name and save new SPL

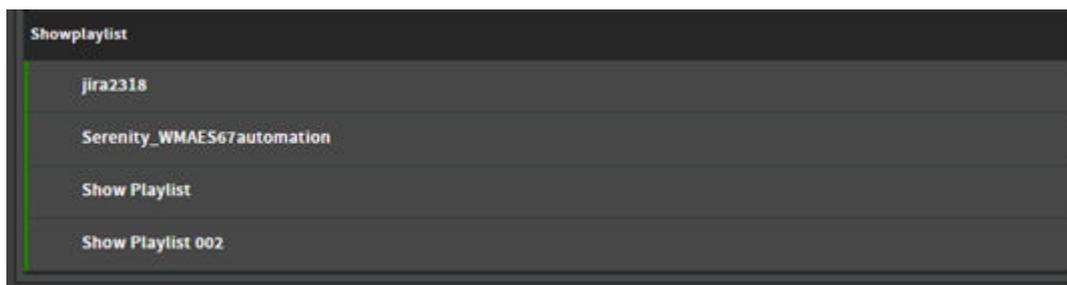


6. In the **Cinelister Editor** tab, click **Refresh**.

Results

The new SPL appears under the content heading for **Showplaylist**.

Figure 79: New SPL



17.2 Viewing the properties for an SPL

You can view specific properties for an SPL.

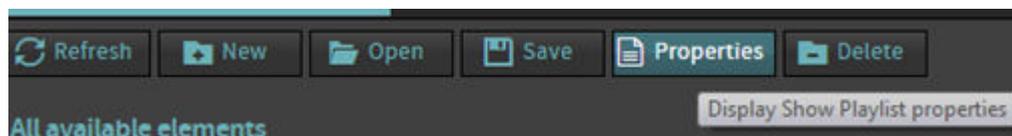
Procedure

1. In the web UI, click **Cinelister**, and then click **Cinelister Editor**.
2. Click **Open**.
3. In the window, select the SPL, and then click **Ok**.

The SPL opens in the right section of the **Cinelister Editor** tab.

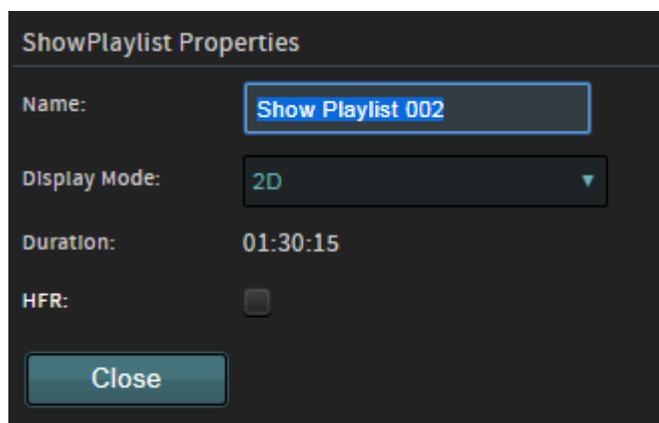
4. In the **Cinelister Editor** tab, click **Properties**.

Figure 80: Properties button



5. In the **ShowPlaylist Properties** window, view the information and then click **Close**.

Figure 81: ShowPlaylist Properties window



17.3 Deleting an SPL

You can delete an SPL.

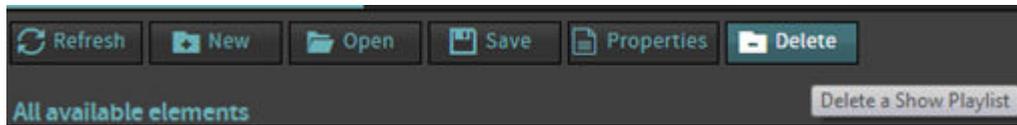
About this task

You must be logged in as **ShowManager** to delete an SPL.

Procedure

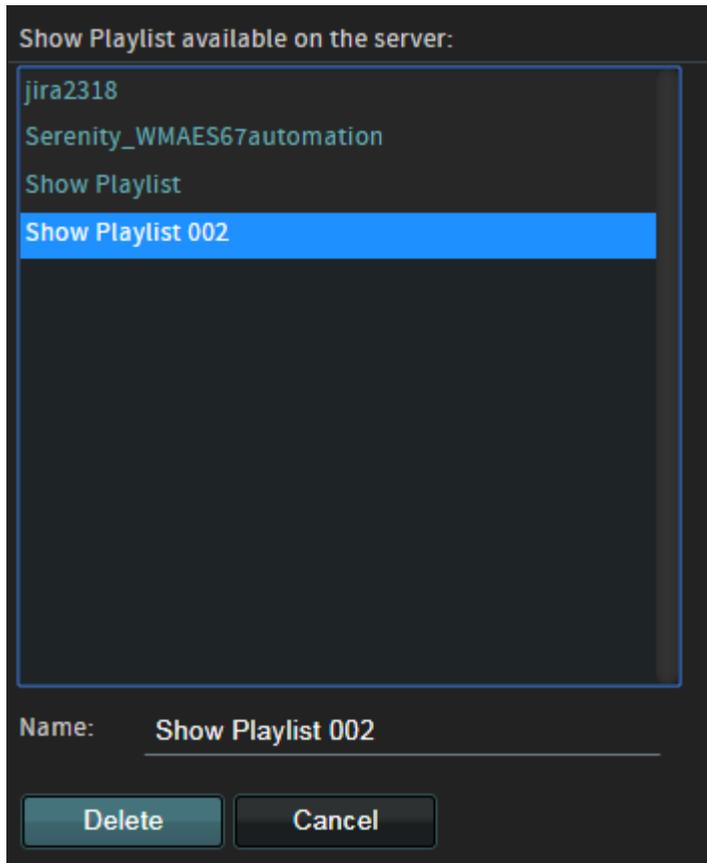
1. In the web UI, click **Cinelister**, and then click **Cinelister Editor**.
2. Click **Delete**.

Figure 82: Delete SPL button



3. In the window, click the SPL, and then click **Delete**.

Figure 83: Delete SPL window



4. In the **Cinelister Editor** tab, Click **Refresh**.

18 Performing playback

The Dolby IMS3000 enables you to perform video and audio playback of an SPL.

- [Loading and playing an SPL](#)
- [Creating an SPL schedule for playback](#)

18.1 Loading and playing an SPL

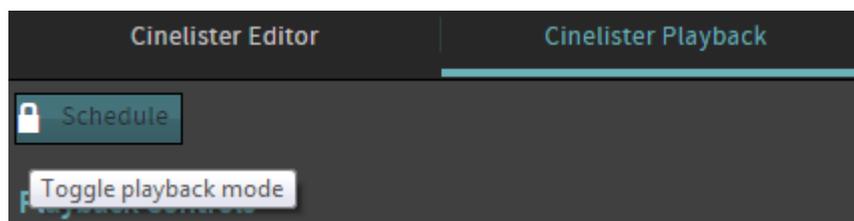
You can manually load and play an SPL.

Procedure

1. In the web UI, click **Cinelister**, and then click **Cinelister Editor**.
2. Click **Open**.
3. In the window, select the SPL and then click **Ok**.
4. Click the **Cinelister Playback** tab, and then click **Schedule** to place the system into Manual mode, to display the playback control options.

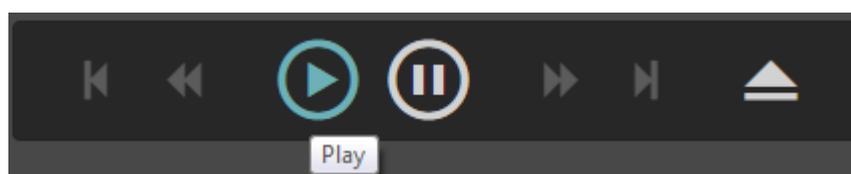
 **Note:** If the playback control options are not visible, the system is in Schedule mode. In Manual mode, the Dolby IMS3000 does not play any scheduled shows.

Figure 84: Schedule button



5. In the **Cinelister Playback** window, click **Play**.

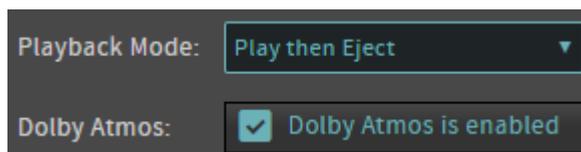
Figure 85: Play button



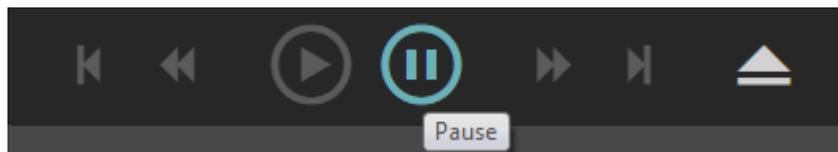
As each CPL item plays, a green dot appears next to its name. After each CPL item finishes, a yellow dot appears next to its name.

Figure 86: CPL playback progress

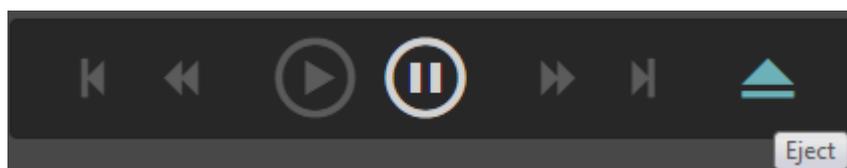
6. To adjust the SPL playback, choose from the **Playback Mode** list:
 - a) To play only the SPL, click **Play**.
 - b) To put the SPL playback on continuous loop, click **Loop**.
 - c) To play and then set the SPL back to the beginning, click **Play then Rewind**.
 - d) To play and then immediately eject the SPL, click **Play then Eject**.

Figure 87: Playback mode list

7. To manage the SPL playback:
 - a) Click **Pause** to pause playback, if needed.

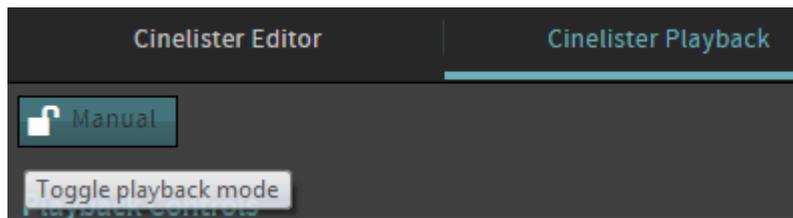
Figure 88: Pause SPL playback

- b) Click **Eject** to stop playback and remove the SPL from the **Cinelister Playback** tab.

Figure 89: Eject SPL from playback

- c) If needed, click **Manual** to place the system back into Schedule mode.

Figure 90: Manual button



18.2 Creating an SPL schedule for playback

You can create a schedule to play back an SPL.

About this task

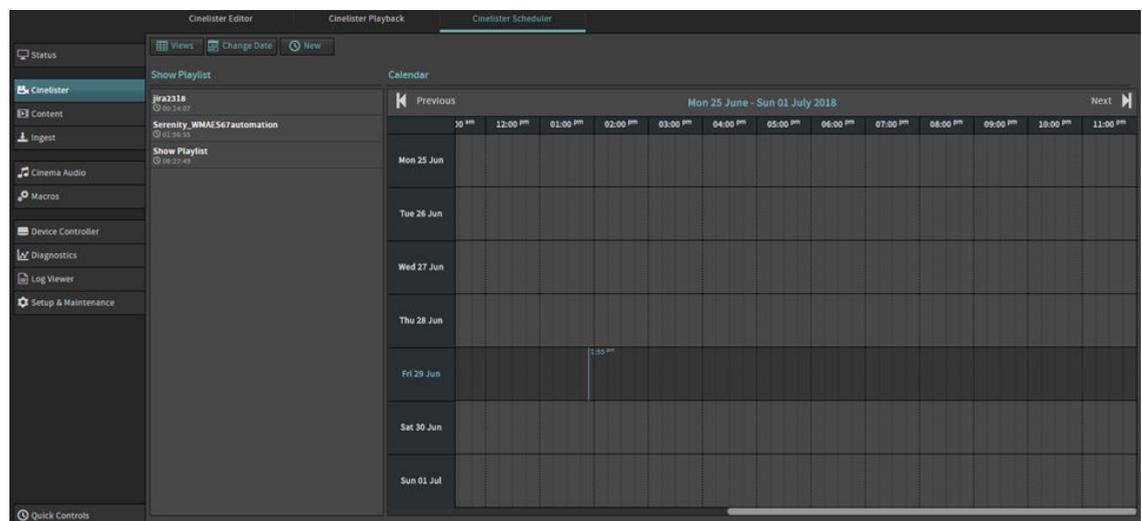
You must be logged in as **ShowManager** to create an SPL playback schedule.

You can create and view your SPL playback schedule using **CALENDAR VIEW** (default view) or **LIST VIEW**.

Procedure

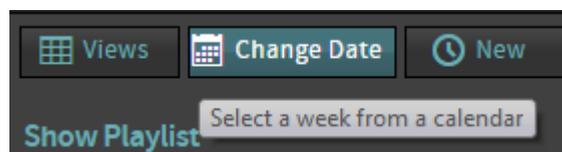
1. In the web UI, click **Cinelister**, and then click **Cinelister Scheduler**.

Figure 91: Cinelister Scheduler tab



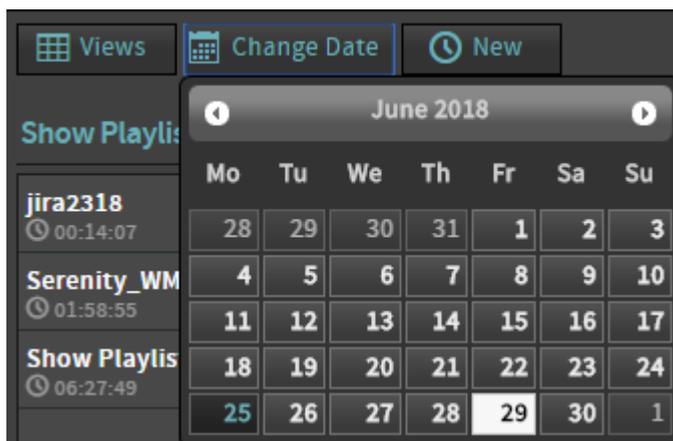
2. Click **Change Date** to select the desired date for the SPL playback schedule.

Figure 92: Change date



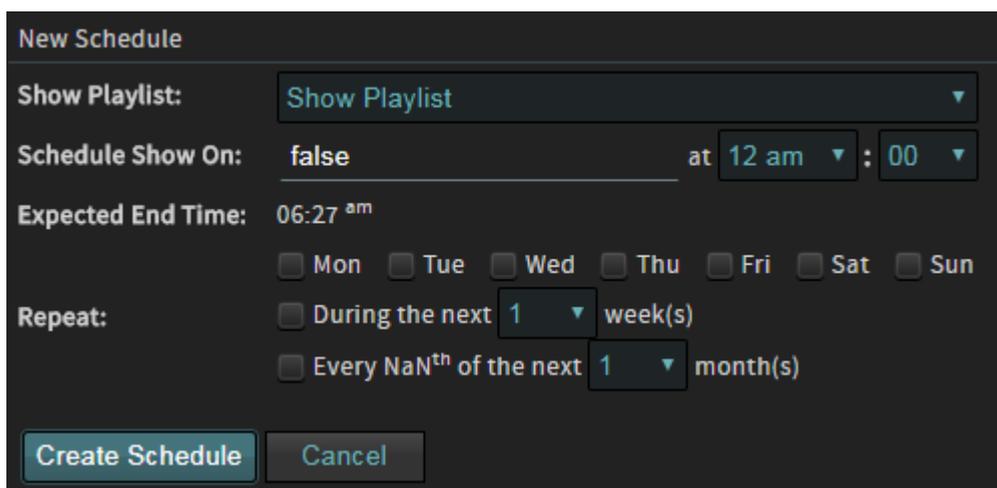
The month and date configuration box appears.

Figure 93: Month and date configuration



3. Click **New** to add a new SPL playback schedule. Or, you can also drag and drop the SPL from the **Show Playlist** section directly to the calendar.
4. In the **New Schedule** window, define the playback schedule, and then click **Create Schedule**.

Figure 94: New Schedule window

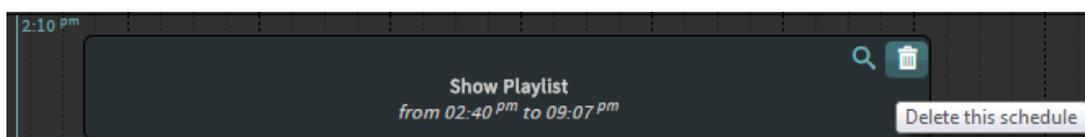


The new schedule appears in the **Cinelister Scheduler** tab.

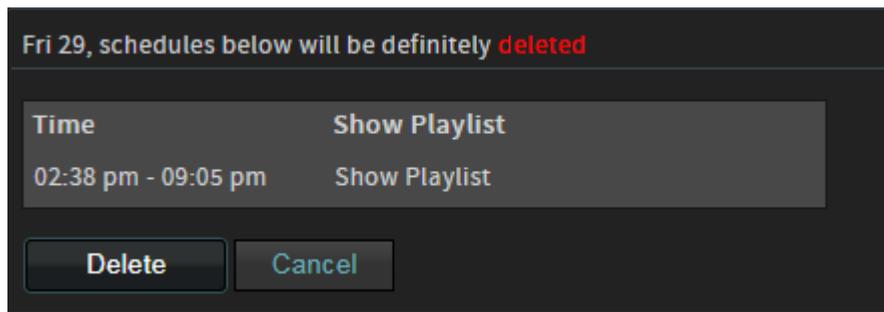
5. To change how the schedule appears in the **Cinelister Scheduler** tab, click **View** and select an option.
- The **Cinelister Scheduler** tab opens in **Calendar View** by default.
6. To delete the SPL schedule from the calendar:

- a) Hover your mouse over the schedule, and then click the trash bin symbol.

Figure 95: Delete SPL schedule



- b) Confirm the deletion, and then click **Delete**.

Figure 96: Delete SPL schedule window

19 Managing the Dolby IMS3000 API and SNMP

The Dolby IMS3000 supports an application programming interface (API) that enables the Dolby TMS and other devices to control the system remotely. At launch, the system uses multiple APIs that control different sections of the Dolby IMS3000.

- [API and web services overview](#)
- [SNMP overview](#)
- [Downloading the WSDL files](#)

19.1 API and web services overview

The Dolby IMS3000 supports an API that enables the Dolby TMS and other devices to control the system remotely.

Dolby TMS v4.2.1 and greater supports the Dolby IMS3000.

In addition to supporting the previous version of the key-length-value (KLV) API used on the Dolby IMS1000/Dolby IMS2000, the Dolby IMS3000 includes updated SOAP/web services for additional control of the Screen management system (SMS) and several new functions not supported in the previous version.

These functions are included for KLV API control of the SMS:

- SPL creation and management
- SPL scheduling
- Ingestion of content over the network
- SMS macros

These functions are included with SOAP/web services controls in the SMS and cinema audio processor:

- KLV API functionality
- Fader control
- Mute control
- Test signal generation
- Room configuration
- EQ settings
- Crossover settings
- Cinema processor status

The Web Services Description Language (WSDL) files for the web service are available on the Dolby IMS3000 at `/dolby/share/wsdl/` and from the web UI.

19.2 SNMP overview

The Dolby IMS3000 supports remote monitoring through Simple Network Management Protocol (SNMP), which is a generic protocol used to monitor networked devices. It enables central management systems to get information or alarms from these devices.

There are two management information base (MIB) files: DOREMI-DC-DCPLAYER-MIB.MIB and DOREMI-HQ-REG-MIB.MIB. You need a dedicated MIB browser to view both files.

The MIB files are stored on the Dolby IMS3000 at /dolby/etc/snmp/.

19.3 Downloading the WSDL files

You can download a single WSDL file or all WSDL files from the web UI.

Procedure

1. From the web UI, click **Tools / Add-Ons**.
2. Click the **WSDL Download** tab.
3. To view the properties for a specific WSDL file:
 - a) Find the WSDL file, and then click **Preview**.

Figure 97: Preview WSDL file

Title	Description	Size	Preview	Download
AssetCheck.wsdl	Asset Check provides functions to verify asset (link Sanity or Integrity).	9 KB		

- b) In the window, you can view the information, and then click **Close**.

Figure 98: Preview window

```
AssetCheck.wsdl
<?xml version="1.0" encoding="UTF-8"?>
<!--
Copyright (c) 2011, Doremi Labs, Inc.
All rights reserved.

Redistribution in source or binary forms, with or without
modification, are NOT permitted.

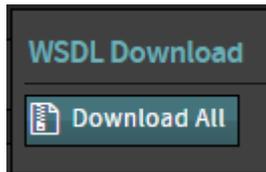
Doremi Labs, Inc.
1020 Chestnut St.
Burbank, CA 91506
Tel : (818) 562 1101
Fax : (818) 562 1109

-->
<wsdl:definitions xmlns:soap="http://schemas.xmlsoap.org/wsdl/soap/" xmlns:tns="http://www.doremilabs.com/dc/dcp/ws/v1" xmlns:com="http://www.doremilabs.com/dc/dcp/ws/v1/schemas/common" >
  <documentation>
    Asset Check provides functions to verify asset (link Sanity or Integrity).
  </documentation>
  <wsdl:types>
    <xsd:schema targetNamespace="http://www.doremilabs.com/dc/dcp/ws/v1_0">
      <xsd:import schemaLocation="AssetCheck.xsd" namespace="http://www.doremilabs.com/dc/dcp/ws/v1/schemas/assetcheck"></xsd:import>
      <xsd:import schemaLocation="Common.xsd" namespace="http://www.doremilabs.com/dc/dcp/ws/v1/schemas/common"></xsd:import>
      <xsd:element name="GetAssetCheckInt">
    </xsd:element>
  </xsd:schema>
</wsdl:types>
</wsdl:definitions>
```

Download Close

- c) To download the WSDL file directly, click **Download**.
4. To download the WSDL file without previewing it, click **Download**.
5. To download all WSDL files, click **Download All**.

Figure 99: Download all WSDL files



Results

The WSDL files download together in a .zip folder.

20 Configuring the Bluetooth connection

The Dolby IMS3000 enables you to connect remotely using a Bluetooth connection from a hand-held device to control and administer certain functions.

- [Bluetooth connection overview](#)
- [Setting up a Bluetooth connection](#)

20.1 Bluetooth connection overview

The Cinema Server Control application from Dolby lets you use your Apple iOS or Android tablet to give you wireless access and control of your Dolby IMS3000.

Figure 100: Cinema Server Control application icon



With a Bluetooth connection, you can enable booth operation of each available server from a single mobile device, with no physical connection between a PC or servers required. You have access to all primary server functions such as playback controls, playlist building, and audio controls.

The Bluetooth connection is secure to help prevent unauthorized access. It requires an approved USB Bluetooth adapter (ASUS USB-BT400). The recommended minimum screen size is 9.6" (244 mm) with extra high-density screens (320 dpi minimum).

20.2 Setting up a Bluetooth connection

You have the option to set up a Bluetooth connection with one or multiple Dolby IMS3000s.

Prerequisites

- Connect to the Dolby IMS3000 with a laptop computer.
- Download and install the Cinema Server Control application from the Apple App Store or the Google Play Store.
- On the hand-held device, disable the Wi-Fi connection, and then enable the Bluetooth connection.

About this task

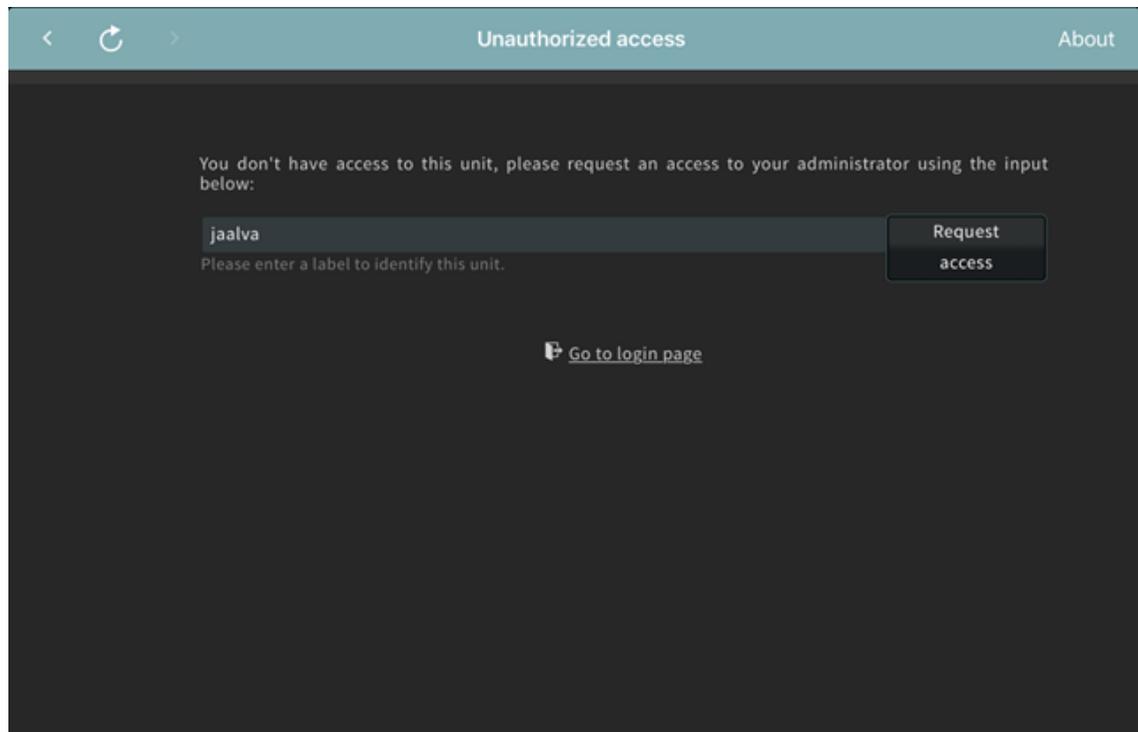
You can install the Cinema Server Control application on Apple iOS or Android.

You must install the USB Bluetooth adapter on every Dolby IMS3000 that will use this functionality.

Procedure

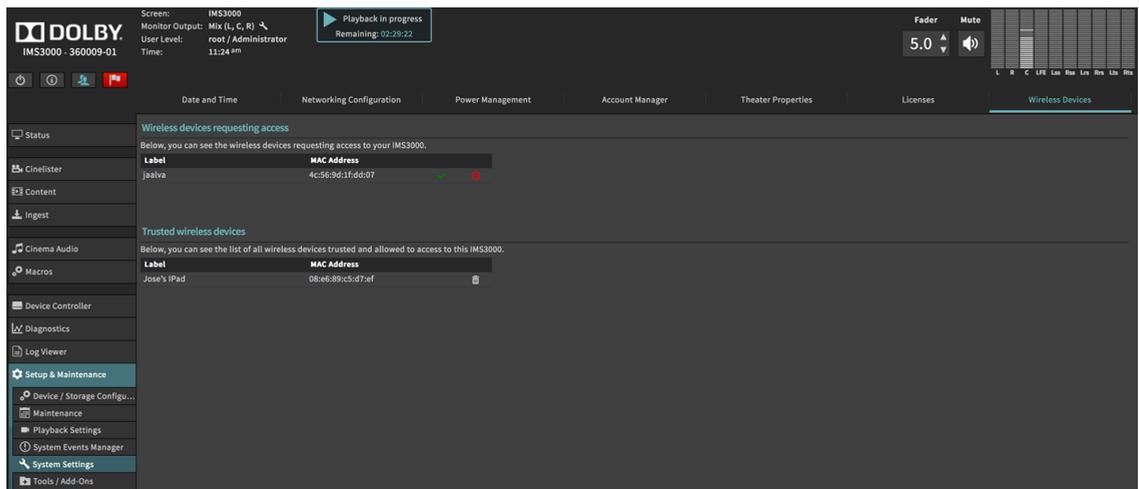
1. Insert the USB dongle into one of the USB connectors on the Dolby IMS3000.
2. On the Apple tablet, launch the **Settings** application, and then click **Bluetooth**.
By default, the Bluetooth dongle's broadcast name is the IMS3000 + Serial_Number.
3. On the Android tablet, launch the **Settings** application, click **Connections**, and then click **Bluetooth**.
By default, the Bluetooth dongle's broadcast name is the IMS3000 + Serial_Number.
4. Connect to the Bluetooth device.
5. Launch the Cinema Server Control application.
6. To request access, input the name for your device, and then click **Request access**.

Figure 101: Request tablet access



7. From a PC, log in to the Dolby IMS3000 web UI.
8. Click **Setup & Maintenance**, click **System Settings**, and then click **Wireless Devices**.

Figure 102: Wireless Devices



9. Under **Trusted wireless devices**, confirm the name of the device and that it is available, and then select the check box for **Yes**.
10. On the tablet device, refresh the Cinema Server Control application.

Results

You are now ready to remotely control the Dolby IMS3000 using the tablet device.

What to do next

On the tablet device, launch the Cinema Server Control application and then log in to the web UI after you are prompted.

21 Digital and analog audio converters

The Dolby IMS3000 **AUX AES** connector supports AES digital audio input and output. The **AUX AES** input supports AES3-EBU (balanced), or Sony/Philips Digital Interconnect Format (S/PDIF) (unbalanced). There are no analog inputs or outputs on the Dolby IMS3000.

- [Digital and analog audio converters overview](#)
- [Digital-to-analog audio converters](#)
- [Analog-to-digital audio converters](#)
- [Bidirectional audio converters](#)

21.1 Digital and analog audio converters overview

If the input source is analog, use an analog-to-digital converter (ADC). If analog output is required, use a DAC.

In the web UI **Cinema Audio** menu **AES Input/Outputs** tab, you need to select the appropriate balanced or unbalanced type. In the case of unbalanced audio, connect your signal to the plus pin and the ground to the minus pin.

If you connect an unbalanced source, the cable impedance must be 75Ω. If you connect a balanced source, the cable impedance must be 110Ω.

21.2 Digital-to-analog audio converters

The suggested digital-to-analog audio converters are used to integrate with the Dolby IMS3000 and to help you verify setup options and avoid performance issues.

 **Note:** This is not a definitive list and may not work with an existing audio setup. We recommend you test the Dolby IMS3000 with one of these converters to avoid performance issues.

Table 1: Digital-to-analog audio converters

Manufacturer	Product name
Gra-Vue	MIO DA-AUD D/A converter
Broadcast Tools	DAC-1 24-bit D/A converter
Kramer	6410N D/A converter
RDL	HR-DAC1 D/A converter

21.3 Analog-to-digital audio converters

The suggested analog-to-digital audio converters are used to integrate with the Dolby IMS3000 and to help you verify setup options and avoid performance issues.

 **Note:** This is not a definitive list and may not work with an existing audio setup. We recommend you test the Dolby IMS3000 with one of these converters to avoid performance issues.

Table 2: Analog-to-digital audio converters

Manufacturer	Product name
Gra-Vue	MIO AD-AUD A/D converter
Broadcast Tools	ADC-1 Plus 24-bit A/D converter
Kramer	6420N A/D converter
RDL	HR-ADC1 A/D converter

21.4 Bidirectional audio converters

The suggested bidirectional analog-to-digital and digital-to-analog audio converters are used to integrate with the Dolby IMS3000 and to help you verify setup options and avoid performance issues.

 **Note:** This is not a definitive list and may not work with an existing audio setup. We recommend you test the Dolby IMS3000 with one of these converters to avoid performance issues.

Table 3: Bidirectional audio converters

Manufacturer	Product name
AJA	ADA4 four-channel bidirectional A/D and D/A converter
Behringer	Ultramatch Pro SRC2496 bidirectional A/D and D/A converter

22 Dolby IMS3000 audio system diagrams

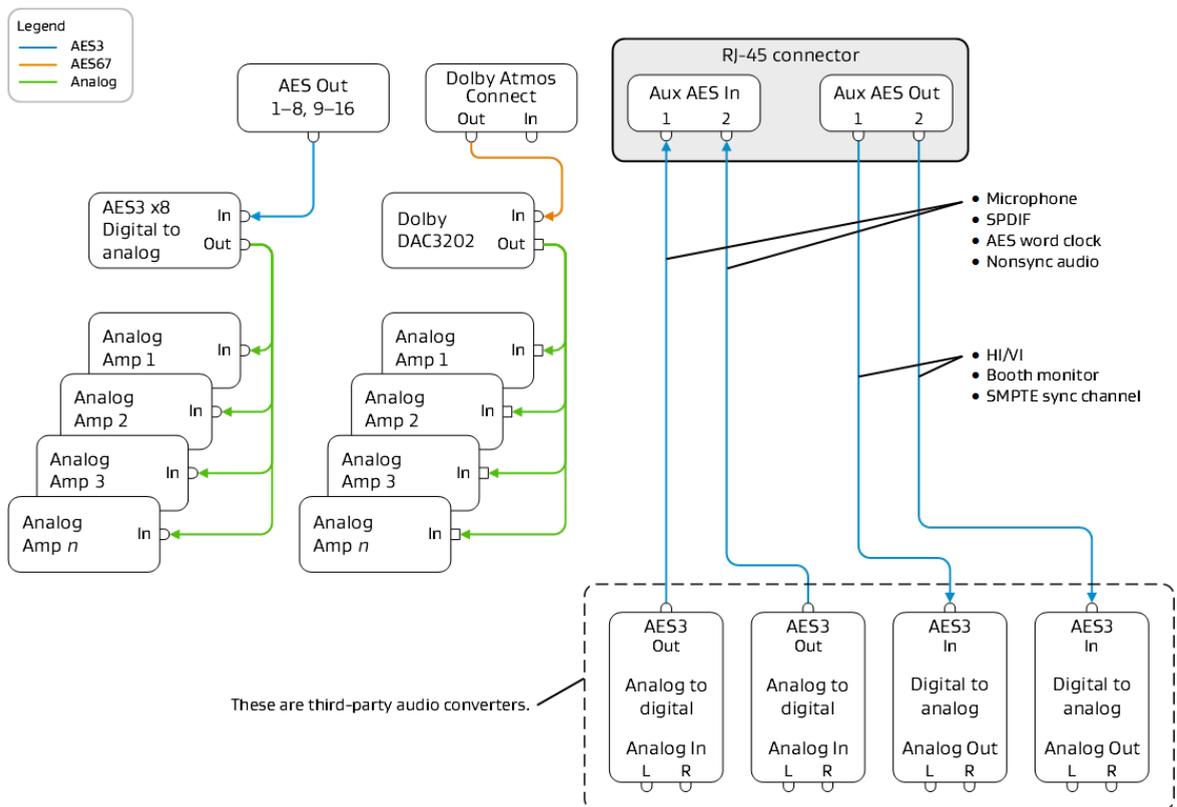
The Dolby IMS3000 audio system diagrams provide useful information to help you verify setup options and avoid performance issues.

- [Dolby IMS3000 with Dolby DAC3202 diagram](#)
- [Dolby IMS3000 with Dolby Multichannel Amplifier diagram](#)

22.1 Dolby IMS3000 with Dolby DAC3202 diagram

The Dolby IMS3000 with Dolby DAC3202 audio system diagram provides useful information to help you verify setup options and avoid performance issues.

Figure 103: Dolby IMS3000 with Dolby DAC3202 diagram



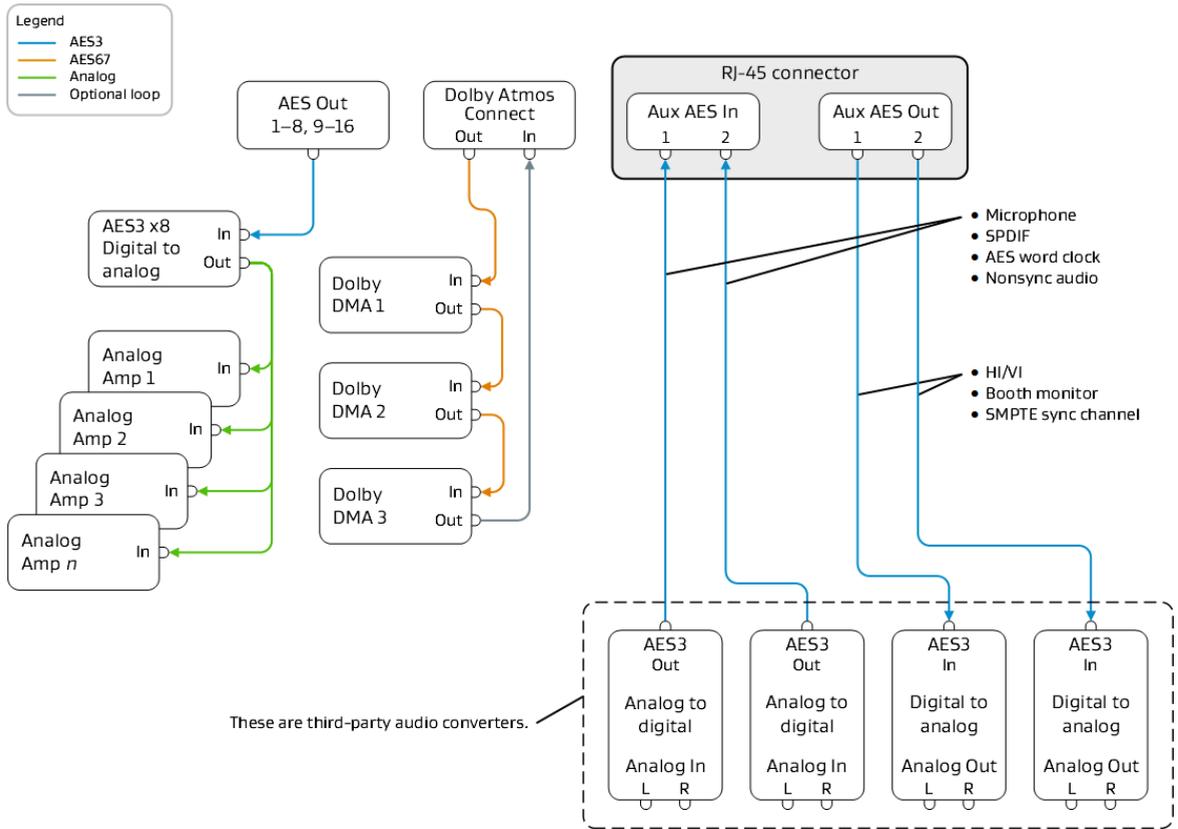
Related information

[Digital and analog audio converters](#) on page 91

22.2 Dolby IMS3000 with Dolby Multichannel Amplifier diagram

The Dolby IMS3000 with Dolby Multichannel Amplifier audio system diagram provides useful information to help you verify setup options and avoid performance issues.

Figure 104: Dolby IMS3000 with Dolby Multichannel Amplifier diagram



Related information

[Digital and analog audio converters](#) on page 91

23 Audio AES and adapter pinouts

The Dolby IMS3000 audio AES and adapter pinouts provide useful information to help you connect the Dolby IMS3000 to external devices. Note that the Dolby IMS3000 contains a fully functional cinema audio processor. It does not supply Dolby Atmos audio to a Dolby CP850.

- [RJ-45 Ethernet cable color codes](#)
- [RJ-45 to 25-pin D-connector male adapter pinning information](#)
- [AES3 channels 1–8 output](#)
- [AES3 channels 9–16 output](#)
- [AES3 audio pinout wiring for Dolby cinema audio processors](#)
- [AES3 audio pinout wiring for third-party cinema audio processors](#)
- [Dolby CP750 for 5.1 mode pinouts](#)
- [Dolby CP750 for 7.1 mode pinouts](#)
- [Dolby IMS3000 AES auxiliary input and output pinouts](#)
- [Auxiliary input audio S/PDIF for RCA to RJ-45 unbalanced cable](#)
- [Auxiliary input audio AES3/EBU for XLR-F to RJ-45 balanced cable](#)
- [Auxiliary input audio AES-3id BNC to RJ-45 unbalanced cable](#)
- [Auxiliary output audio AES3/EBU for RJ-45 to XLR-M balanced cable](#)
- [AES auxiliary input and output](#)

23.1 RJ-45 Ethernet cable color codes

The RJ-45 to DB25 pins are color coded to help you identify which DB25 pinhole to insert the pin into.

Table 4: RJ-45 AES 1–8 connector color codes

RJ-45 AES 1–8 connector	Pins AES 1–8 Side A	Color code
Channels 1 and 2 plus	1	Blue
Channels 1 and 2 minus	2	Orange
Channels 3 and 4 plus	3	Black
Channels 5 and 6 plus	4	Red
Channels 5 and 6 minus	5	Green
Channels 3 and 4 minus	6	Yellow
Channels 7 and 8 plus	7	Brown
Channels 7 and 8 minus	8	White

Table 5: RJ-45 AES 9–16 connector color codes

RJ-45 AES 9–16 connector	Pins AES 9–16 Side B	Color code
Channels 9 and 10 plus	1	Blue
Channels 9 and 10 minus	2	Orange
Channels 11 and 12 plus	3	Black
Channels 13 and 14 plus	4	Red
Channels 13 and 14 minus	5	Green

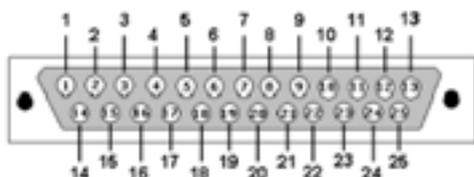
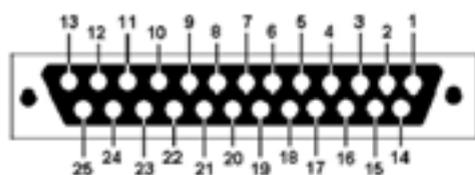
Table 5: RJ-45 AES 9–16 connector color codes (continued)

RJ-45 AES 9–16 connector	Pins AES 9–16 Side B	Color code
Channels 11 and 12 minus	6	Yellow
Channels 15 and 16 plus	7	Brown
Channels 15 and 16 minus	8	White

23.2 RJ-45 to 25-pin D-connector male adapter pinning information

To pin the adapter, you need to insert the correct pin into the male adapter. Use the information provided to identify the 25-pin D-connector pinhole the cable is connected to.

The 25-pin D-connector end indicates the pin numbers in small print beside each pin.

Figure 105: 25-pin D-connector front*Figure 106: 25-pin D-connector front**Figure 107: 25-pin D-connector back**Figure 108: 25-pin D-connector back*

Insert the cable into the pinhole until you feel the pin latch/click. To confirm that the pin is secure, pull the cable slightly to ensure that it does not come out of the connector.

23.3 AES3 channels 1–8 output

The description of AES3 channels 1–8 output pinouts provide useful information to help you verify setup options and avoid performance issues.

Table 6: AES3 channels 1–8 output

Pin number	Description
1	Channels 1 and 2 plus
2	Channels 1 and 2 minus
3	Channels 3 and 4 plus
4	Channels 5 and 6 plus
5	Channels 5 and 6 minus
6	Channels 3 and 4 minus
7	Channels 7 and 8 plus
8	Channels 7 and 8 minus

23.4 AES3 channels 9–16 output

The descriptions of AES3 channels 9–16 output pinouts provide useful information to help you verify setup options and avoid performance issues.

Table 7: AES3 channels 9–16 output

Pin number	Description
1	Channels 9 and 10 plus
2	Channels 9 and 10 minus
3	Channels 11 and 12 plus
4	Channels 13 and 14 plus
5	Channels 13 and 14 minus
6	Channels 11 and 12 minus
7	Channels 15 and 16 plus
8	Channels 15 and 16 minus

23.5 AES3 audio pinout wiring for Dolby cinema audio processors

The description of AES3 audio wiring for Dolby cinema audio processors pinouts provides useful information to help you verify setup options and avoid performance issues. We recommended that you consult the cinema audio processor documentation for more information.

Table 8: AES3 audio pinout wiring for Dolby cinema audio processors

Signal	Dolby IMB/ Dolby Integrated Media Server AES Out	Doremi AUD-D2A AES Input	Dolby CP650 with Cat790 (5.1 config) (7.1 config)	Dolby CP750 (5.1 mode) (7.1 mode)	Dolby CP850	Dolby Multichanne l Amplifier8/ Dolby Multichanne l Amplifier8 plus
Channels 1 and 2 plus	1A	24	1	14	14	14
Channels 1 and 2 minus	2A	12		2	2	2

Table 8: AES3 audio pinout wiring for Dolby cinema audio processors (continued)

Signal	Dolby IMB/ Dolby Integrated Media Server AES Out	Doremi AUD-D2A AES Input	Dolby CP650 with Cat790 (5.1 config) (7.1 config)	Dolby CP750 (5.1 mode) (7.1 mode)	Dolby CP850	Dolby Multichanne l Amplifier8/ Dolby Multichanne l Amplifier8 plus
Channels 1 and 2 ground		25	7			1
Channels 3 and 4 plus	3A	10	2	3	3	3
Channels 3 and 4 minus	6A	23		16	16	16
Channels 3 and 4 ground		11	7			4
Channels 5 and 6 plus	4A	21	13	17	17	17
Channels 5 and 6 minus	5A	9		5	5	5
Channels 5 and 6 ground		22	7			18
Channels 7 and 8 plus	7A	7	21 for 5.1; none for 7.1	6 for 5.1; none for 7.1	6	6
Channels 7 and 8 minus	8A	20		19 for 5.1; none for 7.1	19	19
Channels 7 and 8 ground		8	7 for 5.1; none for 7.1			7
Channels 9 and 10 plus	1B				8	
Channels 9 and 10 minus	2B				21	
Channels 9 and 10 ground						
Channels 11 and 12 plus	3B		None for 5.1; 21 for 7.1	None for 5.1; 6 for 7.1	22	
Channels 11 and 12 minus	6B			None for 5.1; 19 for 7.1	10	
Channels 11 and 12 ground			None for 5.1; 7 for 7.1			

Table 8: AES3 audio pinout wiring for Dolby cinema audio processors (continued)

Signal	Dolby IMB/ Dolby Integrated Media Server AES Out	Doremi AUD-D2A AES Input	Dolby CP650 with Cat790 (5.1 config) (7.1 config)	Dolby CP750 (5.1 mode) (7.1 mode)	Dolby CP850	Dolby Multichanne l Amplifier8/ Dolby Multichanne l Amplifier8 plus
Channels 13 and 14 plus	4B				11	
Channels 13 and 14 minus	5B				24	
Channels 13 and 14 ground						
Channels 15 and 16 plus	7B				25	
Channels 15 and 16 minus	8B				13	
Channels 15 and 16 ground						

23.6 AES3 audio pinout wiring for third-party cinema audio processors

The description of AES3 audio wiring for third-party cinema audio processors pinouts provides useful information to help you verify setup options and avoid performance issues. We recommend that you consult the cinema audio processor documentation for more information.

Table 9: AES3 audio pinout wiring for third-party cinema audio processors

Signal	DTS XD10P	Datasat AP20	USL JSD-60/USL JSD-80	Odyssey 650-OPTIO AES	QSC Basis 922dz	QSC DCP 100/DCP 200/DCP 300
Channels 1 and 2 plus	14	14	14	14	7	14
Channels 1 and 2 minus	2	2	2	2	15	2
Channels 1 and 2 ground	1		1	Shell		1
Channels 3 and 4 plus	3	3	3	3	24	3
Channels 3 and 4 minus	16	16	16	16	23	16

Table 9: AES3 audio pinout wiring for third-party cinema audio processors (continued)

Signal	DTS XD10P	Datasat AP20	USL JSD-60/USL JSD-80	Odyssey 650-OPTIO AES	QSC Basis 922dz	QSC DCP 100/DCP 200/DCP 300
Channels 3 and 4 ground	4		15	Shell		15
Channels 5 and 6 plus	17	17	17	17	8	17
Channels 5 and 6 minus	5	5	5	5	16	5
Channels 5 and 6 ground	18		4	Shell		4
Channels 7 and 8 plus	6	6	6	6	22	6
Channels 7 and 8 minus	19	19	19	19	21	19
Channels 7 and 8 ground	7		18	Shell		18
Channels 9 and 10 plus						
Channels 9 and 10 minus						
Channels 9 and 10 ground						
Channels 11 and 12 plus						
Channels 11 and 12 minus						
Channels 11 and 12 ground						
Channels 13 and 14 plus						
Channels 13 and 14 minus						
Channels 13 and 14 ground						
Channels 15 and 16 plus						

Table 9: AES3 audio pinout wiring for third-party cinema audio processors (continued)

Signal	DTS XD10P	Datasat AP20	USL JSD-60/USL JSD-80	Odyssey 650-OPTIO AES	QSC Basis 922dz	QSC DCP 100/DCP 200/DCP 300
Channels 15 and 16 minus						
Channels 15 and 16 ground						

23.7 Dolby CP750 for 5.1 mode pinouts

The description of Dolby CP750 for 5.1 mode pinouts provides useful information to help you verify setup options and avoid performance issues.

Table 10: Dolby CP750 for 5.1 mode pinouts

RJ-45 Side A	DB25 Side	RJ-45 Side B
1-Blue	14	No connection
2-Orange	2	No connection
3-Black	3	No connection
4-Red	17	No connection
5-Green	5	No connection
6-Yellow	16	No connection
7-Brown	6	No connection
8-White	19	No connection

23.8 Dolby CP750 for 7.1 mode pinouts

The description of Dolby CP750 for 7.1 mode pinouts provides useful information to help you verify setup options and avoid performance issues.

Table 11: Dolby CP750 for 7.1 mode pinouts

RJ-45 Side A	DB25 Side	RJ-45 Side B
1-Blue	14	No connection
2-Orange	2	No connection
3-Black	3	6
4-Red	17	No connection
5-Green	5	No connection
6-Yellow	16	19
7-Brown	No connection	No connection
8-White	No connection	No connection

23.9 Dolby IMS3000 AES auxiliary input and output pinouts

The description of Dolby IMS3000 AES auxiliary input and output pinouts provides useful information to help you verify setup options and avoid performance issues.

Table 12: Dolby IMS3000 AES auxiliary input and output pinouts

Pinout	Description
1	AES input channels 1 and 2 plus/SPDIF 1 input
2	AES input channels 1 and 2 minus/SPDIF 1 ground
3	AES input channels 3 and 4 plus/SPDIF 2 input
4	AES input channels 3 and 4 minus/SPDIF 2 ground
5	AES output channels 1 and 2 plus
6	AES output channels 1 and 2 minus
7	AES output channels 3 and 4 plus
8	AES output channels 3 and 4 minus

23.10 Auxiliary input audio S/PDIF for RCA to RJ-45 unbalanced cable

Use this table to modify an Ethernet cable to create an S/PDIF 1 and S/PDIF 2 cable.

 **Note:** There are two different S/PDIF inputs on the Dolby IMS3000 RJ-45 **AUX AES** connector. You need two RCA cables to connect an S/PDIF source. The RCA impedance must be 75Ω.

Table 13:

Signal/designation	RJ-45 connector	RCA connector
S/PDIF 1	Pin 1	Center pin
Ground for S/PDIF 1	Pin 2	Ground/shield
S/PDIF 2	Pin 3	Center pin
Ground for S/PDIF 2	Pin 6	Ground/shield
Not used	Pins 4, 5, 7, 8	Not used

23.11 Auxiliary input audio AES3/EBU for XLR-F to RJ-45 balanced cable

Use this table to modify an Ethernet cable to create an AES3/EBU for XLR-F to RJ-45 balanced cable.

 **Note:** You can connect XLR or other balanced cables from an AES3 digital source.

Table 14:

Signal/Designation	RJ-45 connector	XLR connector
AES IN channels 1/2 plus	Pin 1	Pin 2
AES IN channels 1/2 minus	Pin 2	Pin 3
Ground/shield	No connection	Pin 1
AES IN channels 3/4 plus	Pin 3	Pin 2
AES IN channels 3/4 minus	Pin 6	Pin 3
Ground/shield	No connection	Pin 1

23.12 Auxiliary input audio AES-3id BNC to RJ-45 unbalanced cable

Use this table to create an AES-3id BNC to RJ-45 unbalanced cable.

 **Note:** You could also use a BNC 75Ω to XLR-M 110Ω adapter (for example, Neutrik NADIT BNC-MX) with a balanced cable. A word clock input would typically use this cable.

Table 15:

Signal/Designation	RJ-45 connector	BNC connector
AES IN channels 1/2	Pin 1	Center pin
Ground for channels 1/2	Pin 2	Ground/shield
AES IN channels 3/4	Pin 3	Center pin
Ground for channels 3/4	Pin 6	Ground/shield

23.13 Auxiliary output audio AES3/EBU for RJ-45 to XLR-M balanced cable

Use this table to create an AES3/EBU for RJ-45 to XLR-M balanced cable. The information in this table applies for any type of AUX AES3 output (hearing impaired (HI)/Visually Impaired-Narration (VI-N), booth monitor, or SMPTE sync signal).

 **Note:** The Dolby IMS3000 supports only balanced AES3/EBU outputs. If you need to connect to a device that accepts only unbalanced AES3 input, you need to add an XLR-F 110Ω to BNC 75Ω adapter (for example, Neutrik NADITBNC-FX).

Table 16:

Signal/Designation	RJ-45 connector	XLR connector
AES OUT channels 1/2 plus	Pin 4	Pin 2
AES OUT channels 1/2 minus	Pin 5	Pin 3
Ground/Shield	No connection	Pin 1
AES OUT channels 3/4 plus	Pin 7	Pin 2
AES OUT channels 3/4 minus	Pin 8	Pin 3
Ground/Shield	No connection	Pin 1

23.14 AES auxiliary input and output

The description of AES auxiliary input and output pinouts provides useful information to help you verify setup options and avoid performance issues.

Table 17:

Pin number	Description
1	AES input channels 1 and 2 plus/S/PDIF 1 input
2	AES input channels 1 and 2 minus/S/PDIF 1 ground
3	AES input channels 3 and 4 plus/S/PDIF 2 input
4	AES input channels 3 and 4 minus/S/PDIF 2 ground
5	AES output channels 1 and 2 plus
6	AES output channels 1 and 2 minus
7	AES output channels 3 and 4 plus
8	AES output channels 3 and 4 minus

24 General purpose input and general purpose output pinouts

The Dolby IMS3000 supports GPI and GPO. A GPI enables an external device to control some basic functions on the Dolby IMS3000. A GPO enables the Dolby IMS3000 to control external devices, such as lighting or curtain controllers.

- [General purpose input pinouts](#)
- [General purpose output pinouts](#)
- [LTC and clip playback](#)

24.1 General purpose input pinouts

The list of GPI pinouts and descriptions provides useful information to help you verify setup options and avoid performance issues.

Table 18:

Pin number	Description
1	GPI 0 plus
2	GPI 0 minus
3	GPI 1 plus
4	GPI 2 plus
5	GPI 2 minus
6	GPI 1 minus
7	GPI 3 plus
8	GPI 3 minus

24.2 General purpose output pinouts

The list of GPO pinouts and descriptions provides useful information to help you verify setup options and avoid performance issues.

Table 19:

Pin number	Description
1	GPO 0
2	GPO 1
3	GPO 2
4	GPO 4
5	GPO 5
6	GPO 3
7	+5 volts direct current (VDC)
8	Ground

24.3 LTC and clip playback

The Dolby IMS3000 includes an HD-BNC connector that outputs linear timecode (LTC). The LTC is not user configurable. The LTC outputs automatically during playback.

The LTC is generated in **Hours:Minutes:Seconds:Frames** (as in 00:00:00:00) format, beginning from the start of each clip. The timecode resets after each clip and does not track the timecode of the SPL.

25 General purpose input and general purpose output interface diagrams

The GPI and GPO connection diagrams provide useful information to help you configure the Dolby IMS3000 to send GPO and receive GPI for automation within the theatre auditorium.

- [General purpose input and general purpose output overview](#)
- [General purpose input interface diagram](#)
- [General purpose output interface diagram](#)

25.1 General purpose input and general purpose output overview

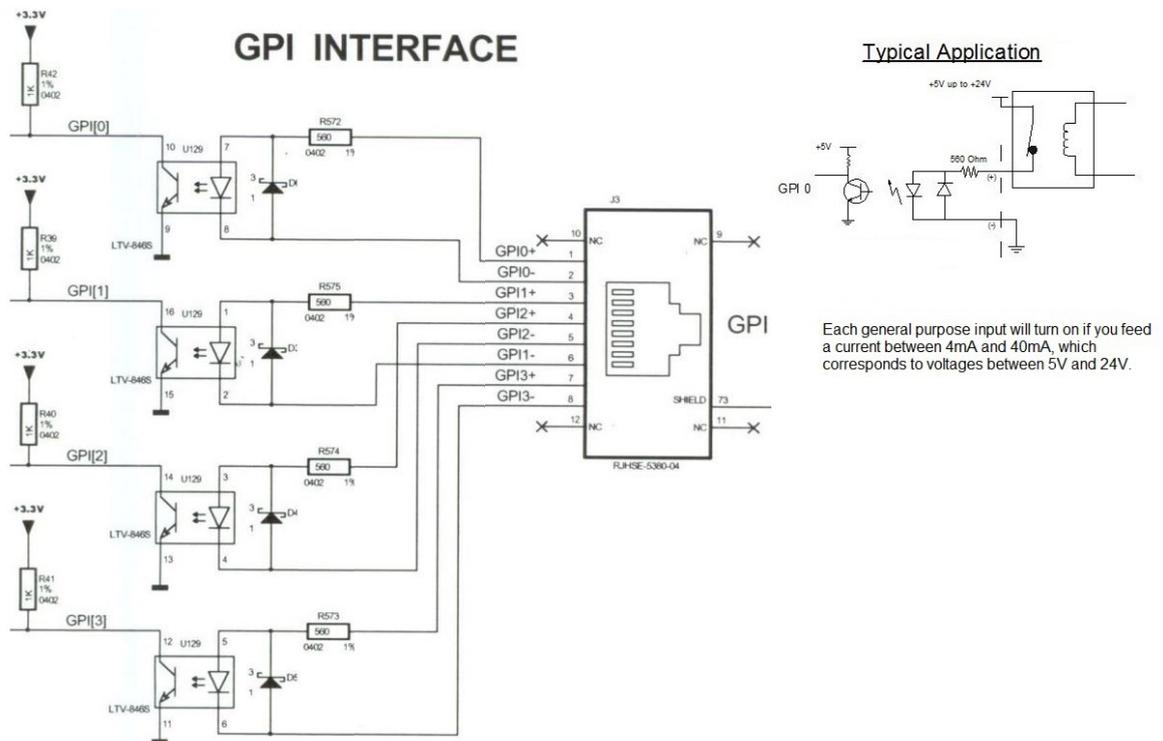
To trigger any of the four general purpose inputs, you need voltages between 5 V and 24 V and current between 4 mA and 40 mA.

The general purpose output has an open collector stage. The stage can turn on relays with voltage range from 5 V to 24 V, and current up to 200 mA. The general purpose output connector itself does not provide any voltage.

25.2 General purpose input interface diagram

The GPI interface diagram provides useful information to help you verify setup options and avoid performance issues.

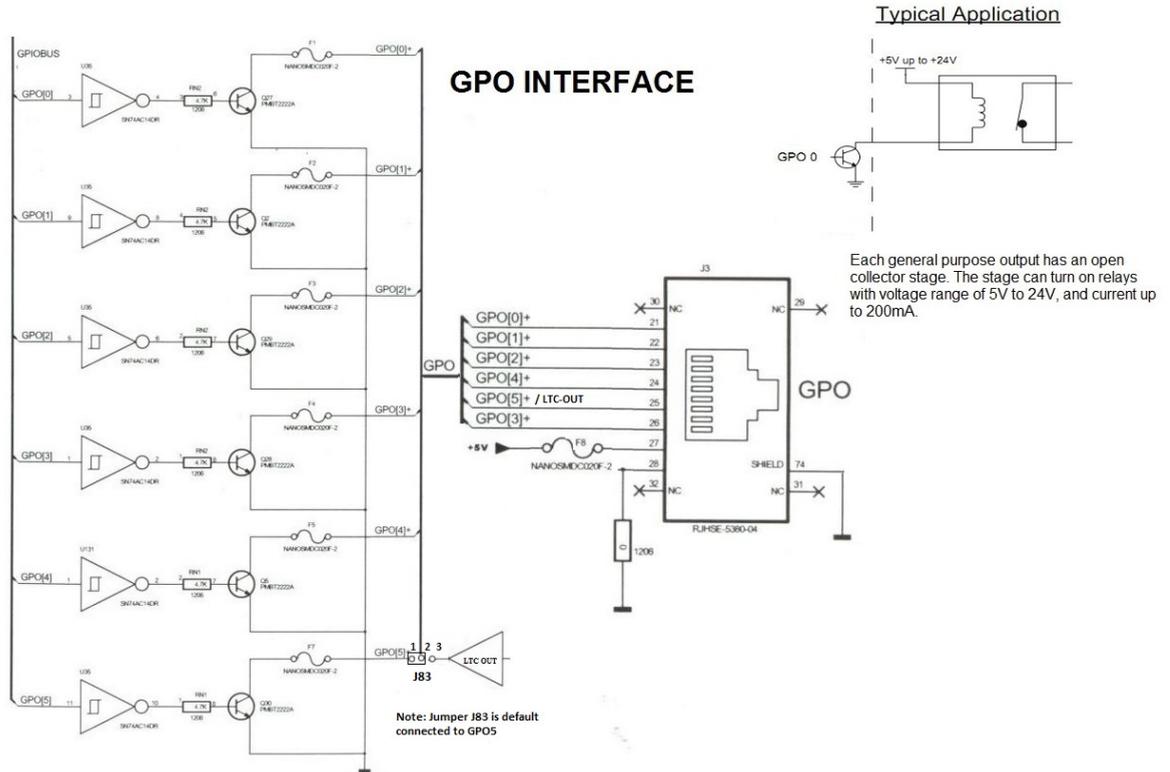
Figure 109: GPI interface diagram



25.3 General purpose output interface diagram

The GPO interface diagram provides useful information to help you verify setup options and avoid performance issues.

Figure 110: GPO interface diagram



26 Dolby IMS3000 LED indicators

The Dolby IMS3000 LED indicators provide useful information to help you verify operational status and avoid performance issues. The LED indicators are located on the front panel.

- [Dolby IMS3000 SMS LED indicators](#)
- [Dolby IMS3000 SM1 and SM2 LED indicators](#)
- [Dolby IMS3000 SM3 and SM4 LED indicators](#)

26.1 Dolby IMS3000 SMS LED indicators

The Dolby IMS3000 SMS LED indicators provide information about the status.

Table 20:

SMS1	SMS2	SMS LED indicator status
Orange	Green	Standby.
Green	Green	Central processing unit (CPU) is operational without any warnings or errors.
Green	Orange	Server is booting up.
Orange	Orange	CPU is operational, but the hard drive RAID is showing an error (for example, RAID degraded).
Orange	Red	CPU is operational, but with warning for high or low temperature status.
Red	Off	CPU is operational, but no marriage to the projector.
Red	Orange	CPU is operational, but cannot play due to a critical error on the hard drive RAID.
Red	Red	CPU is operational but cannot play due to error in communication with SM software.

26.2 Dolby IMS3000 SM1 and SM2 LED indicators

The Dolby IMS3000 SM1 and SM2 LED indicators provide information about the status of the SM.

-  **Note:** Federal Information Processing Standards (FIPS) lock refers to a condition where the server has detected that its security system is damaged or is in a tampered state. If you have a Dolby IMS3000 in this state or encounter another issue, contact Dolby Cinema Solutions and Support.

Table 21:

SM1	SM2	SM LED indicator status
Green	Orange	Booting.
Green	Green	SM is operational.
Orange	Orange	SM is in rescue mode; reboot the server.
Red	Any	SM is in FIPS lock.

26.3 Dolby IMS3000 SM3 and SM4 LED indicators

The Dolby IMS3000 SM3 and SM4 LED indicators provide information about the status of the server and its connection to the projector or another secure processing block.

Table 22:

SM3	SM4	Marriage status
Green	Green	Okay to play; no problem reported since last CPL validation.
Orange	Green	Service door is closed, but needs rearming.
Orange	Orange	Service door is open; marriage is activated.
Orange	Red	Service door is open; marriage not activated.
Red	Orange	Marriage is initialized/armed, but marriage not verified.
Red	Green	Marriage is not initialized or armed; service door and physical marriage are ready for marriage.
Red	Red	Marriage is not activated; physical marriage is broken.

27 Dolby IMS3000 supported frame rate formats

The Dolby IMS3000 supported frame rate formats provide useful information to help you verify setup options and avoid performance issues. The Dolby IMS3000 supports HDMI 2.0 and High-bandwidth Digital Content Protection (HDCP) 2.2.

- [Dolby IMS3000 HDMI input 2D 2K supported frame rate formats](#)
- [Dolby IMS3000 HDMI input 2D 4K supported frame rate formats](#)
- [Dolby IMS3000 HDMI input 3D supported frame rate formats](#)
- [Dolby IMS3000 HDMI HDCP supported formats](#)
- [Dolby IMS3000 internal DCP playback supported frame rate formats](#)
- [Dolby IMS3000 HD-SDI 1.5G single link supported formats](#)
- [Dolby IMS3000 HD-SDI 1.5G dual link supported formats](#)
- [Dolby IMS3000 3G SDI single link supported formats](#)
- [Dolby IMS3000 3G SDI dual link supported formats](#)

27.1 Dolby IMS3000 HDMI input 2D 2K supported frame rate formats

The list of Dolby IMS3000 HDMI input 2D 2K supported frame rate formats provides useful information to help you verify setup options and avoid performance issues.

Table 23:

HDMI input 2D 2K frame rate format	Fps	Support
480p	59/60	Yes
576p	50	Yes
720p	50/59/60	Yes
1080i	25/29/30	Yes
1080p	23/24/25/29/30	Yes
1080p	47/48/50/59/60	Yes

27.2 Dolby IMS3000 HDMI input 2D 4K supported frame rate formats

The list of Dolby IMS3000 HDMI input 2D 4K supported frame rate formats provides useful information to help you verify setup options and avoid performance issues.

Table 24:

HDMI input 2D 4K frame rate format	Fps	Support
3840 × 2160p	23/24/25/29/30/50/59/60	Yes
4096 × 2160p	23/24/25/29/30/50/59/60	Yes

27.3 Dolby IMS3000 HDMI input 3D supported frame rate formats

The list of Dolby IMS3000 HDMI input 3D supported frame rate formats provides useful information to help you verify setup options and avoid performance issues.

Table 25:

HDMI input 3D	Fps	Support
Side by Side (SBS)		
1080p	23, 24, 25, 29, 30	Yes
720p	50, 59, 60	Yes
1080i	25 29 30	Yes
Top Bottom		
1080p	23, 24, 25, 29, 30	Yes
720p	50, 59, 60	Yes
Frame Packing		
1080p	23, 24, 25, 29, 30	Yes
720p	50, 59, 60	Yes

27.4 Dolby IMS3000 HDMI HDCP supported formats

The list of Dolby IMS3000 HDMI HDCP supported formats provides useful information to help you verify setup options and avoid performance issues.

Table 26:

HDMI HDCP format	Support
2D-720p	Yes
2D-1080i	Yes
2D-1080p	Yes
2D-2160p	Yes
3D-720p	Yes
3D-1080i	Yes
3D-1080p	Yes

27.5 Dolby IMS3000 internal DCP playback supported frame rate formats

The list of Dolby IMS3000 internal DCP playback supported frame rate formats provides useful information to help you verify setup options and avoid performance issues.

Table 27:

Internal DCP playback	Fps	Support
MPEG2 3D 1080p SBS	24	Yes
Joint Photographic Experts Group (JPEG) 2D 2K	23/24/25/29/30	Yes
JPEG 2D 2K	47/48/50/59/60	Yes
JPEG 3D 2K	24	Yes
JPEG 3D 2K	48/60	Yes
JPEG 2D 2K HBR 250/500 Mbps	60	Yes
JPEG 3D 2K HBR 250/500 Mbps	60	Yes
JPEG 2D 2K with 96 KHz audio	24	Yes
JPEG 2D 4K	24/25/30/60	Yes
JPEG 3D 4K	24/25/30	Yes
MPEG2 2D 1080p	23/24/25/29/30	Yes
MPEG2 2D 720p	50/59/60	Yes
H.264 2D 1080p	24	Yes

27.6 Dolby IMS3000 HD-SDI 1.5G single link supported formats

The list of Dolby IMS3000 HD-SDI 1.5G single link supported formats provides useful information to help you verify setup options and avoid performance issues.

Table 28:

Frame rate format	Fps	Support
2D 4:2:2 10b		
720p	50/59/60	Yes
1080p	23/24/25/29/30	Yes
1080 progressive segmented frame (PsF)	23/24	Yes
1080i	50/59/60	Yes
2Kp	24/25/30	Yes
2K PsF	24/25/30	Yes

27.7 Dolby IMS3000 HD-SDI 1.5G dual link supported formats

The list of Dolby IMS3000 HD-SDI 1.5G dual link supported formats provides useful information to help you verify setup options and avoid performance issues.

Table 29:

Frame rate format	Fps	Support
2D 4:4:4 12b		
1080p	23/24/25/29/30	Yes

Table 29: (continued)

Frame rate format	Fps	Support
1080 PsF	23/24	Yes
1080i	50/59/60	Yes
2Kp	24/25/30	Yes
2K PsF	24/25/30	Yes
2D 4:2:2 10b		
1080p	50/59/60	Yes

27.8 Dolby IMS3000 3G SDI single link supported formats

The list of Dolby IMS3000 3G serial digital interface (SDI) single link supported formats provides useful information to help you verify setup options and avoid performance issues.

Table 30:

Frame rate format	Fps	Support
2D 4:2:2 10b		
1080p	50/59/60	Yes

27.9 Dolby IMS3000 3G SDI dual link supported formats

The list of Dolby IMS3000 3G SDI dual link supported formats provides useful information to help you verify setup options and avoid performance issues.

Table 31:

Frame rate format	Fps	Support
2D 4:4:4 10/12b		
1080p	50/59/60	Yes
2Kp	48/50/60	Yes

28 Documentation revision history

The documentation revision history lists the date, issue number, and description of all publications of the *Dolby IMS3000 Installation Manual*.

Date	Issue	Description
21 March 2017	1	Initial release.
14 April 2017	2	Added chapter for LED indicators.
10 November 2017	3	Added chapter for GPI and GPO connection diagrams; added chapter for HDMI input formats; added section for RTC battery; added more information for audio AES and adapter pinouts; and made minor modifications.
30 November 2018	4	Limited availability release for software v3.3.22.
10 December 2018	5	Updated software reference to v3.3.x.

Glossary

1080p

See [full high definition](#) on page 117.

2160p

See [ultra-high definition](#) on page 120.

AC

Alternating current.

ADC

Analog-to-digital converter.

AES

Audio Engineering Society. An international organization that promotes advances in audio and disseminates new knowledge and research.

API

Application programming interface. A set of functions that can be used to access the functions of an operating system or other type of software.

CPL

Composition playlist. A composition playlist represents a complete digital cinema work, which may include features, trailers, teasers, and advertisements.

CPU

Central processing unit.

DAC

Digital-to-analog converter.

DCI

Digital Cinema Initiatives, LLC. A joint venture of several motion picture studios that defines an open architecture based on voluntary standards for digital cinema systems.

DCP

Digital Cinema Package. A packing list (PKL) file and all of the files that it references.

DHCP

Dynamic Host Configuration Protocol.

DLP

Digital Light Processing. A technology developed by Texas Instruments for processing high-resolution image pixels in digital cinema projectors using digital micromirrors on a semiconductor chip.

EQ

Equalization. The adjustment of audio frequency responses for practical or aesthetic reasons.

FHD

Full high definition. Video with a display resolution of 1920×1080 pixels and an aspect ratio of 16:9. Also referred to as 1080p.

FIPS

Federal Information Processing Standards. A set of federal standards (such as data encoding and encryption standards) for computer systems that are used by nonmilitary government agencies and by government contractors.

FPGA

Field-programmable gate array. An integrated circuit (IC) that users can reprogram “in the field” after manufacture.

fps

Frames per second. The number of unique consecutive images (frames) an imaging device produces in one second.

frame rate

The number of frames decoded per second in real-time operation.

FTP

File Transfer Protocol. A network-based protocol designed for transferring data using a client-server architecture.

GPI

For digital cinema servers, an interface that is used to trigger an internal input (or pulse) to a digital cinema server.

GPIO

General purpose input/output. Generic, user-configurable pins that are used to control automation devices.

GPO

For digital cinema servers, an interface that is used for macro automation output and is controlled from the user interface on a digital cinema server.

H.264

Also known as Advanced Video Coding (AVC), ISO/IEC MPEG-4 AVC, and ISO/IEC 14496–10:2012. An MPEG standard for video compression most commonly used for high-definition video, such as Blu-ray Disc. The standard was developed jointly by the International Telecommunication Union (ITU) and ISO/IEC MPEG.

HDCP

High-bandwidth Digital Content Protection. A method of digital encryption developed by Intel that is designed to prevent copying of audio and video data traveling across HDMI, DisplayPort, Digital Visual Interface (DVI), and other types of digital connections.

HDD

Hard disk drive.

HDMI

High-Definition Multimedia Interface. A high-speed, high-capacity format for transferring digital information and the specific hardware interface for the format.

- HI**
Hearing impaired. A dedicated audio channel that provides amplified dialogue for the hearing impaired.
- IMB**
Integrated media block. A media block that is installed in a digital cinema projector.
- IP**
Internet Protocol.
- IP address**
Internet Protocol address. A numerical identifier assigned to a device that is a member of a network that uses the IP for communication.
- JPEG**
Joint Photographic Experts Group. An International Organization for Standardization (ISO)/International Electrotechnical Commission (IEC) working group that develops still image coding standards. May also refer to a digital image format for lossy compression.
- KDM**
Key Delivery Message. An XML file that is used to provide decryption keys for a specific composition playlist (CPL) containing encrypted content. A KDM also specifies the time window during which the keys remain valid, as well as trusted equipment information to ensure that the CPL playback is possible only on authorized equipment and for an approved period of time.
- KLV**
Key-length-value. A data format defined by the SMPTE 336M standard. This encoding format is composed of a data identification (key), followed by a numerical value (length), and finally by the data encoded (value).
- LED**
Light-emitting diode.
- LTC**
Linear timecode. A timecode developed by the Society of Motion Picture and Television Engineers (SMPTE) that provides a time reference for editing, synchronization, and identification.
- MB**
Media block. A hardware device that converts packaged feature film content into streaming data and then delivers the data to the projector.
- MIB**
Management information base. A type of communications network management database.
- NAS**
Network-attached storage. Data storage that is accessed by means of a local network connection for fast data sharing and file access.
- PC**
Personal computer.

PCM

Pulse code modulation. A method that is used to convert analog signals into digital, binary, coded pulses by sampling the analog signal, quantizing each sample independently, and converting the resulting quantized values into a digital signal.

PsF

Progressive segmented frame. A method for acquiring, storing, modifying, and distributing progressive scan images through the same equipment and media that are used for interlaced video.

RAID

Redundant array of independent disks.

RTC

Real-time clock. A specialized battery-powered microchip on a computer motherboard that keeps track of the current time, even when the computer is turned off.

S/PDIF

Sony/Philips Digital Interconnect Format. A digital interface protocol and specification for a physical connector for carrying digital audio signals, defined in IEC 60958.

SDI

Serial digital interface.

SM

Security Manager. Embedded software that controls security data and content access from unwarranted intrusion. SM is required by Digital Cinema Initiatives, LLC (DCI) and is controlled according to defined policy.

SMPTE

Society of Motion Picture and Television Engineers.

SMS

Screen management system. A device connected to a digital cinema projector that plays packaged audio and video content and issues automation commands to control an auditorium environment.

SNMP

Simple Network Management Protocol. A protocol for managing IP network devices

SOAP

A messaging protocol that uses XML to exchange information among different computer networks with different operating systems.

SPL

Show playlist. A playlist that defines one digital cinema show and is made up of a sequence of composition playlists (CPLs) that are associated with automation events, inserts (black pattern and others), or both.

SSH

Secure Shell protocol. An encrypted network protocol for secure data communication, remote command-line login, remote command execution, and other secure network services between two networked computers.

UHD

Ultra-high definition. Ultra-high-definition television or video, with a display resolution of 3840×2160 pixels in the 16:9 aspect ratio. Also referred to as 2160p.

UI

User interface.

USB

Universal Serial Bus. A standard that defines the cables, connectors, and communications protocols used in connections between computers and electronic devices.

VI-N

Visually Impaired-Narration. A dedicated audio channel that provides visual narration for the visually impaired.