

Dolby Digital Cinema Release Notes

Version 4.9.4.5 Release
Release Date: July 2019

This document describes bug fixes for the Dolby® Digital Cinema v4.9.4.5 release (also referred to as v4.9 in some sections of this document). This upgrade is available for all Dolby Digital Cinema systems except for the Dolby Show Store 100 (DSS100) and Dolby Show Player 100 (DSP100). For information on using a DSS100/DSP100 on the same theatre network with units running v4.9, see [Section 21](#).

For upgrade instructions, see [Section 23](#). For alternative upgrade methods (for example, upgrading remotely), refer to the applicable *Dolby Digital Cinema System Manual*.

If the Dolby Show Store (DSS) and the media block (MB) or integrated media block (IMB) software versions are incompatible, the system prevents playback and displays a **Transport Not Available** message.

This upgrade is available at no cost for qualified systems. For units that are no longer under software maintenance, there may be a small fee associated with the upgrade. Contact your Dolby Sales representative for information regarding any required cost.

1 System v4.9.4.5 Software Components

The following table lists the v4.9.4.5 components.

Component	Version
Dolby Show Manager	4.9.8.21
Dolby Show Store/Dolby Show Library (DSS200, DSS200i, DSS220, DSL100, DSL200)	4.9.1.22
CAT862 (DSS200 media block)	4.8.6.2
CAT745 IMB	07182017
DSS100, DSP100	Not Supported

2 System 4.9.4.5 Fixes and Other Improvements

The bug fixes and improvements listed in the following table are provided in the v4.9.4.5 release.

ID	Bug
DC-13421	Added support for the new Dolby Cinema Processor CP950 automation and log extraction.
DC-13077	Fixed an issue with the DSS server web service interface (SOAP). Previously the web services allowed deletion of currently playing content. The system now correctly returns a web service fault, stating that it cannot perform this action.
DC-13106	Fixed an issue for systems running in the Australian Eastern Standard Time zone that caused the system to behave as though it was in the US Eastern Standard Time zone.
DC-13194	Fixed an issue where the Show Manager was not displaying the 3D indication on a show playlist (SPL) that contained a 3D CPL as part of the intermission.
DC-13304	Fixed a rare Show Manager GUI crash when browsing an external FTP server.
DC-13358	Fixed a rare issue when changing the auditorium device configuration for a DSS server using the config login. This happened when upgrading from a CP750 to a CP850. If the older device(s) were still present on the auditorium network, Show Manager would try to connect to the older device. The new setting is now correctly applied.
DC-13363	Added a new configuration script that allows the option to prevent the DSS from synchronizing time to CAT745 media block. This can be useful if the CAT745 media block is not on the correct time. The system will use NTP or the DSS internal clock if the setting = 0. Instructions noted in Section 21 .
DC-13365	Fixed an issue that caused servers to incorrectly boot up in the stopped transport state instead of the selected transport state, preventing scheduled shows from starting.
DC-13370	Fixed an issue where the Show Manager GUI displayed a yellow-blinking Dolby Atmos indicator (indicating a problem with Dolby Atmos playback) even though Dolby Atmos was playing correctly. This issue occurred when the CPL had encrypted main picture and main audio tracks while the Dolby Atmos audio track was unencrypted. The configuration is now handled correctly.
DC-13394	Fixed an issue where the DSS incorrectly reported CPL transfer in progress after a CPL deletion.
DC-13396	Fixed an issue with the DSS220/CAT745 IMB that prevented the first show on the schedule from playing when switching out of HDMI mode after a system reboot.
DC-13413	Fixed an issue where the DSL200 FTP transfer to an external SAS was incorrectly transferring to the DSL internal RAID.
DC-13420	Fixed an intermittent issue where the DSS was unable to unmount a CRU or USB drive. Previous versions might show a blinking activity light in Show Manager that did not stop unless you rebooted.
DC-13428	Fixed an issue where the copying of content from a DSS200 to a CRU drive in software v4.9.1 took a considerably longer time than in software v4.8 or earlier.

3 System 4.9.1.22 Fixes and Other Improvements

The bug fixes and improvements listed in the following table are provided in the v4.9.1.22 release.

ID	Bug
DC-13373	Fixed a rare issue with SMPTE timed text decryption that prevented subtitle playback on the DSS200 CAT862.
DC-13389	Fixed an issue that occurred when adding an intermission to a reel, which caused it to fail and displayed the error message: Intermission anchor position overlaps with Entrypoint position.
DC-13397	Fixed an issue that caused automation cues to incorrectly refire after a network disconnect/reconnect to cinema processors, and so on.

4 System 4.9.1.18 Fixes and Other Improvements

The bug fixes and improvements listed in the following table are provided in the v4.9.1.18 release.

ID	Bug
DC-13092	Content containing OpenType fonts is now properly supported.
DC-13182	Improved the stability of the CAT862 media block to prevent disconnected errors.
DC-13248	Supports a composition playlist (CPL) when it contains signer certificates whose validity period exceeds the year 2049.
DC-13269	Fixed an issue where repeated queries for secure logs could cause playback issues.
DC-13295	Fixed an issue that occasionally caused a system containing future scheduled shows and missing content or missing licenses to remain in an unselected state, even after the missing content and the missing licenses were ingested
DC- 13302	Fixed an issue with the CAT745 IMB where an event UUID was sometimes formatted in an invalid way.
DC-13313	Fixed an issue with playback logs for shows containing an intermission, where the timestamps for events after the intermission were incorrect.
DC-13314	Fixed an issue that sometimes caused a system with future scheduled shows to go into the unselected state.
DC-13315	Fixed an issue that affected automation cues where the cues would not fire when a show was selected before the system connected to the targeted device.
DC-13333	Fixed an issue where the DSS system time was set for the incorrect time zone. This impacted DSS systems that were not configured to synchronize to an NTP server and were also configured with a non-English language setting, including Russian.
DC-13335	Fixed an issue where Show Manager GUI clients occasionally failed to correctly display content and RAID status on startup.
DC-13365	Fixed a rare issue that prevented scheduled shows from starting when a server incorrectly booted up in the stopped transport state, instead of the selected transport state.

5 System 4.9.0.96 Bug Fixes and Other Improvements

The bug fixes and improvements listed in the following table are provided in the v4.9.0.96 release.

ID	Bug
DC-11944	System logs now include SMART data from systems running the 3ware® 9750 RAID card.
DC-12597	Updated the 3ware 9650 RAID controller firmware with 3 TB and larger hard disk drive support for the DSL100 and DSS200.
DC-12600	Fixed an issue that caused loss of server-to-media block data connection messages to take several minutes to appear on Show Manager. It now takes < 1 minute.
DC-12730	Fixed a rare issue that prevented some KDMs with unusual X509SubjectName fields from loading.
DC-12879	Fixed an issue that occasionally prevented a user from selecting content on a CRU drive.
DC-12901	Fixed a rare issue on an external drive (connected through eSATA/CRU) with the CAT745 IMB where a show with an intermission at the beginning caused an IMB disconnection.
DC-12917	The DSS content export mechanism now supports SMPTE 429-8 and 429-9, making it compatible with Dolby TMS, Dolby ShowVault, and the Dolby IMS servers, as well as 3rd-party servers.
DC-12928	Fixed an issue with the CAT862 where the last frame of content froze on the screen for several seconds. The last frame is now played correctly.
DC-12943	Fixed an issue with the web services API where, when firing a CP850 format cue, the cue fired correctly but the web services API incorrectly returned a fault.
DC-12974	Fixed an issue with the CAT745 IMB that prevented playback of encrypted SMPTE CPLs keyed with a KDM that omitted the certificate authority (CA).
DC-12980	Removed the unused CAT745 IP setting in the Config script.
DC-12989	The web service API now correctly treats clip UUIDs as case-insensitive.
DC-12994	Fixed a rare subtitling issue that caused subtitles in a show with an intermission to play the subtitles incorrectly during the intermission (if a skip forward was performed during that intermission).
DC-12996	Fixed some inconsistencies with playback logs where the start time might be late or the end time might be early by ~5-10 seconds.
DC-13001, DC-13110	Playback logs for systems with a CAT862 now correctly report in the local time zone. Playback logs for systems with a CAT745 IMB now report in UTC.
DC-13020	Fixed a content ingest issue where SMPTE CPLs contained invalid marker types. The system now ignores such marker types and ingests the content.
DC-13027	The web services API now allows a user to enable the loading of KDMs during playback on the CAT862.
DC-13029	Fixed an issue with the <code>purge_removed.sh</code> command line script that prevented it from working for CPLs containing markers.
DC-13041	Fixed an issue with system-generated asset maps where subtitle paths were occasionally invalid.
DC-13047	Fixed a CAT745 IMB issue in HDMI mode where automatically start scheduled shows in Show Manager was disabled, but a scheduled show would start. The auto-start enable/disable setting now functions properly in all cases.

ID	Bug
DC-13058	The web services API <code>getSPL3</code> service now returns location of intermissions with millisecond accuracy.
DC-13075	Fixed an issue impacting System 4.8.5 and later that prevented the 3D calibration light leveling setting from activating.
DC-13082	Fixed an issue that occasionally activated scheduled show times that were deleted close to the time the show was scheduled to start (within 5 minutes).
DC-13142	Fixed an issue where the system indicated that screens were disconnected and shows did not start according to the schedule.
DC-13145	Updated the HDMI-to-server switching behavior, so it does not automatically switch from HDMI mode to server mode when schedule mode is on but auto-start is off.
DC-13190	Fixed an issue that incorrectly marked 50 fps as unsupported on the CAT745 media block. This frame rate is now correctly supported.
DC-13237	Improved performance of Show Manager when multiple shows start simultaneously.
DC-13250	The web services <code>PlaybackControl</code> service now reports correct and up-to-date lamp and douser status.
DC-13266	The CP750 Dolby Surround 7.1 format (Format 91) now correctly appears within the automation cues in build mode.
DC-13292	Fixed an issue where CAT745 systems would deselect a scheduled show. This occurred when the content was selected, and the system received a KDM which could result in a failure in the KDM checking. The server now attempts to reselect the content 60 seconds before show time.
DC-13304	Fixed a rare Show Manager GUI crash when browsing an FTP server.

6 System 4.9 New Features and Improvements

The following new features are provided in System 4.9:

- Entry point setting for clips within a show (only in v4.9.1.x and later)
- Ethernet automation
- Automation configuration import/export
- Input telemetry
- Server pause cue
- Content offloading improvements
- Serial automation reselect cue

6.1 Setting a Clip Entry Point

This feature enables you to configure a Show Play List that skips past the beginning of one or more clips within a show. You can do this by setting an entry point. When playing the show, the system will skip the beginning of the clip until it reaches your defined entry point.

You can specify the entry point as either an offset in HH:MM:SS:SSS from the beginning of a clip, or by a marker located within the clip.

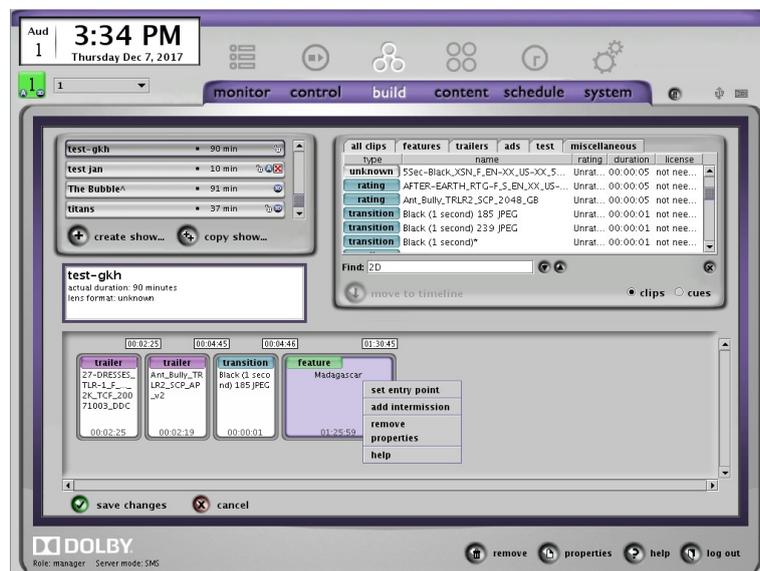
The point in the show where the skip begins is not frame accurate. A few frames of the Composition Playlist (CPL) immediately before the clip at the entry point may be cut off. We highly recommended that you place a 1-second black clip before any CPL with an entry point. The black clip ensures the best transition (no flashing lines or missing frames).



Note: The system does not send any automation commands that are placed between the start of a CPL and the entry point. You need to move automation commands before the clip (and it's 1-second black clip) or after the entry point. You should not place automation commands on the 1-second black clip.

To set the entry point for a clip:

1. Click **build**, then right-click on a clip in a show, and click **set entry point** in the pop-up menu to display the **Add Entry Point** dialog box.

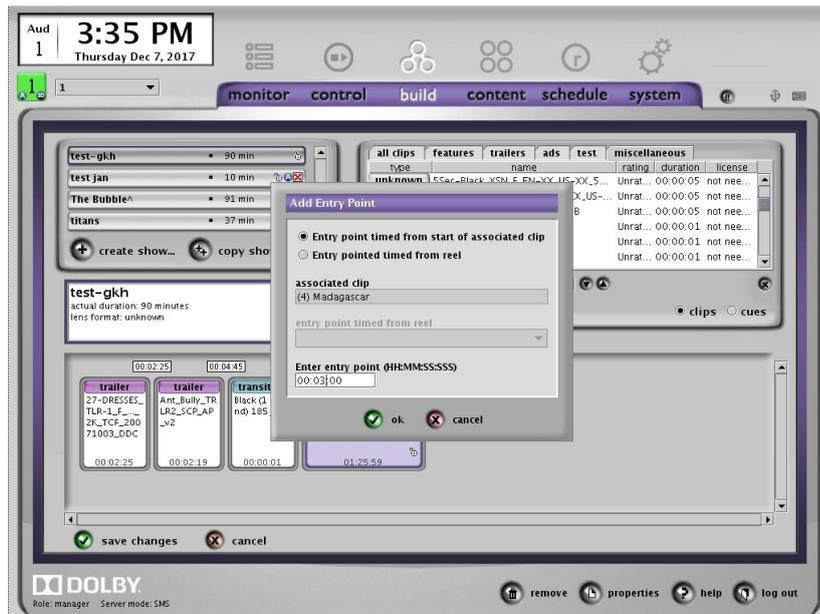


2. In the **Add Entry Point** dialog box, specify whether to set the entry point from the start of the selected clip or at the beginning of a reel within the respective clip.

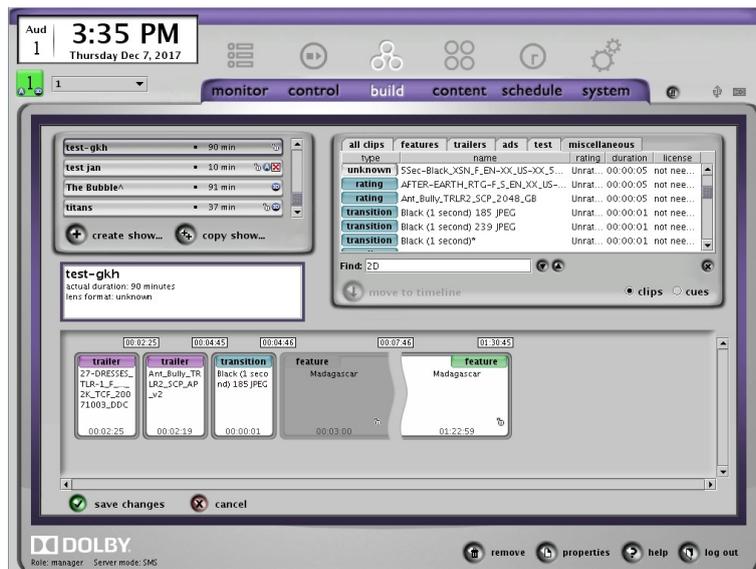
If the entry point is for the start of the specified clip, enter the HH:MM:SS:SSS entry point offset in the **Enter entry point (HH:MM:SS:SSS)** field.

If the entry point is for the start of a reel within the clip, click in the **entry point timed from reel** field, and select the desired reel in the drop-down menu.

3. Click **ok** in the dialog box.



When the show is played, the grayed-out section of the specified clip is skipped. It takes a few moments to complete the skip. During this time, the system is in the **seeking** state.



6.2 Ethernet Automation

This feature enables the input and output of Ethernet automation cues through TCP/IP sockets. You can ingest, import (apply), and export Ethernet automation configuration files and you must configure the DSS and the external automation device separately by entering the same commands on each device. These commands are supported by many Ethernet automation controllers that use TCP/IP sockets, but we have currently tested only the JNIOR automation controller with Dolby DSS systems. The DSS import port is set to 9202.

6.3 Importing and Exporting Automation Configurations

This feature provides a consistent approach for configuring a DSS and an external automation device in the same auditorium using Ethernet, Serial, or GPI/O configurations. You can use FTP or USB along with the *adminstrator* login using the same commands to import and export Ethernet, Serial, and GPI/O .xml configuration files.



Note: Previously, we used a different method for importing and exporting configurations. Although you can still use the previous method, we recommend that you use the new method.

6.3.1 Ingesting and Importing a Configuration Using FTP

To ingest a configuration file using FTP:

1. Log into the DSS FTP server as follows:
 - User: *dolbyftp*
 - Password: *dolbyftp*
2. Follow the standard FTP prompts and enter the standard *put* command to copy the respective configuration file to the DSS.

To import a configuration file into the DSS and make it the active configuration

1. Log into the system as follows:
 - User: *administrator*
 - Password: *dolby*
2. Go to the scripts directory by entering *cd scripts*
3. Enter *./listAutomationConfigurations.sh localhost* to display an ordinal numbered list of all ingested configurations.
4. Enter *./importAutomationConfiguration.sh localhost <name of file> <store>* where *name of file* is your most recently ingested file and *store* is *MainStore*. (Alternatively, you can type the displayed ordinal number of the desired configuration file.) The system imports and automatically applies the configuration.

6.3.2 Exporting a Configuration Using FTP

To export a configuration file using FTP:

3. Log into the DSS FTP server, as described in the previous section.
 4. Enter *cd AutomationConfiguration*.
 5. Enter *ls* to display a list of configuration files.
 6. Enter *get <name of file>* to export the configuration file into the desired FTP directory on your external device.
-

6.3.3 Copying and Importing a Configuration Using USB

To copy a configuration file to USB:

7. Copy a previously created configuration file to a USB device.
8. Insert a USB device into a USB port on the DSS.

The DSS automatically ingests the configuration file and the file is ready for importing using the *administrator* login, as described in [Section 6.3.1](#).

6.3.4 Exporting a Configuration Using USB

To export a configuration file to USB:

9. Insert a USB device into a USB port on the DSS.
10. Log into the DSS using the *administrator* login.
11. Enter `./exportAutomationConfiguration.sh localhost<name of file>` to copy to the USB device.



Caution: Do not interrupt the USB import or export process by removing the USB device or disconnecting the AC mains power.

6.3.5 Sample Automation Configurations

Following are samples for each automation configuration type. To download the respective schemas, go to <https://www.dolbycustomer.com>.

6.3.6 Sample Ethernet Configuration

```
<?xml version="1.0" encoding="UTF-8"?>
<EthernetAutomationConfiguration
  xmlns="http://www.dolby.com/dcinema/automation/v1/schemas/ethernet">

  <!-- Socket address and port -->
  <DeviceConfiguration>
    <address>10.201.129.77</address>
    <port>9200</port>
  </DeviceConfiguration>

  <!-- Output Cue Configuration -->
  <OutputCueConfiguration>
    <name>Curtains Open</name>
    <type>other</type>
    <command>curtains-open</command>
  </OutputCueConfiguration>

  <OutputCueConfiguration>
    <name>Curtains Close</name>
    <type>other</type>
    <command>curtains-close</command>
  </OutputCueConfiguration>
```

```
<OutputCueConfiguration>
  <name>Lights Up</name>
  <type>light</type>
  <command>lights-up</command>
</OutputCueConfiguration>

<OutputCueConfiguration>
  <name>Lights Mid</name>
  <type>light</type>
  <command>lights-mid</command>
</OutputCueConfiguration>

<OutputCueConfiguration>
  <name>Lights Low</name>
  <type>light</type>
  <command>lights-low</command>
</OutputCueConfiguration>

<!-- Input Cue Configuration -->
<InputCueConfiguration>
  <name>play</name>
  <type>other</type>
  <command>play</command>
</InputCueConfiguration>

<InputCueConfiguration>
  <name>pause</name>
  <type>other</type>
  <command>pause</command>
</InputCueConfiguration>

<InputCueConfiguration>
  <name>server</name>
  <type>other</type>
  <command>server</command>
</InputCueConfiguration>

<InputCueConfiguration>
  <name>hdmi1</name>
  <type>other</type>
  <command>hdmi1</command>
</InputCueConfiguration>

<InputCueConfiguration>
  <name>hdmi2</name>
  <type>other</type>
  <command>hdmi2</command>
</InputCueConfiguration>

<InputCueConfiguration>
  <name>stop</name>
  <type>other</type>
  <command>stop</command>
</InputCueConfiguration>

<InputCueConfiguration>
  <name>reselect</name>
```

```
        <type>other</type>
        <command>reselect</command>
    </InputCueConfiguration>

</EthernetAutomationConfiguration>
```

6.3.7 Sample Serial Configuration

```
<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<SerialAutomationConfiguration
    xmlns="http://www.dolby.com/dcinema/automation/v1/schemas/serial">
    <!-- Serial Port Configuration -->
    <DeviceConfiguration>
        <data-rate>1200</data-rate>
        <data-bits>8</data-bits>
        <stop-bits>1</stop-bits>
        <parity>even</parity>
        <flow-control>hardware</flow-control>
        <termination-command>
        </termination-command>
        <reset-command></reset-command>
    </DeviceConfiguration>

    <!-- Output Cue Configuration -->
    <OutputCueConfiguration>
        <name>Curtains Open</name>
        <type>other</type>
        <command>curtains-open</command>
    </OutputCueConfiguration>

    <OutputCueConfiguration>
        <name>Curtains Close</name>
        <type>other</type>
        <command>curtains-close</command>
    </OutputCueConfiguration>

    <OutputCueConfiguration>
        <name>Lights Up</name>
        <type>light</type>
        <command>lights-up</command>
    </OutputCueConfiguration>

    <OutputCueConfiguration>
        <name>Lights Mid</name>
        <type>light</type>
        <command>lights-mid</command>
    </OutputCueConfiguration>

    <OutputCueConfiguration>
        <name>Lights Low</name>
        <type>light</type>
        <command>lights-low</command>
    </OutputCueConfiguration>
```

```
<!-- Input Cue Configuration -->
<InputCueConfiguration>
  <name>play</name>
  <type>other</type>
  <command>play</command>
</InputCueConfiguration>

<InputCueConfiguration>
  <name>pause</name>
  <type>other</type>
  <command>pause</command>
</InputCueConfiguration>

<InputCueConfiguration>
  <name>server</name>
  <type>other</type>
  <command>server</command>
</InputCueConfiguration>

<InputCueConfiguration>
  <name>hdmi1</name>
  <type>other</type>
  <command>hdmi1</command>
</InputCueConfiguration>

<InputCueConfiguration>
  <name>hdmi2</name>
  <type>other</type>
  <command>hdmi2</command>
</InputCueConfiguration>

<InputCueConfiguration>
  <name>stop</name>
  <type>other</type>
  <command>stop</command>
</InputCueConfiguration>

<InputCueConfiguration>
  <name>reselect</name>
  <type>other</type>
  <command>reselect</command>
</InputCueConfiguration>

</SerialAutomationConfiguration>
```

6.3.8 Sample GPIO Configuration

```
<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<GPIOConfiguration>
  <!-- Output Cue Configuration -->
  <OutputPin pin="2" polarity="HIGH" type="other">
    <LatchOutput enableName="Curtains Open" disableName="Curtains Close"/>
  </OutputPin>
  <OutputPin pin="3" polarity="HIGH" type="projector">
    <LatchOutput enableName="Projector On" disableName="Projector Off"/>
  </OutputPin>
  <OutputPin pin="4" polarity="HIGH" type="audio">
    <PulseOutput name="Sound Pre-Show" width="1000"/>
  </OutputPin>
  <OutputPin pin="5" polarity="HIGH" type="audio">
    <PulseOutput name="Sound Feature" width="1000"/>
  </OutputPin>
  <OutputPin pin="6" polarity="HIGH" type="light">
    <PulseOutput name="Lights Low" width="5000"/>
  </OutputPin>
  <OutputPin pin="7" polarity="HIGH" type="other">
    <PulseOutput name="Seat Rumble" width="5000"/>
  </OutputPin>
  <OutputPin pin="8" polarity="HIGH" type="projector">
    <PulseOutput name="Projector MPEG" width="1000"/>
  </OutputPin>
  <OutputPin pin="9" polarity="HIGH" type="projector">
    <PulseOutput name="Projector JPEG" width="1000"/>
  </OutputPin>
  <OutputPin pin="10" polarity="HIGH" type="light">
    <PulseOutput name="Lights High" width="5000"/>
  </OutputPin>

  <!-- Input Cue Configuration -->
  <GPIOInputPinConfiguration>
    <InputPin pin="1" polarity="HIGH" name="PLAY"/>
    <InputPin pin="2" polarity="HIGH" name="STOP"/>
    <InputPin pin="3" polarity="HIGH" name="RESELECT"/>
    <InputPin pin="4" polarity="HIGH" name="SERVER"/>
    <InputPin pin="5" polarity="HIGH" name="PAUSE"/>
  </GPIOInputPinConfiguration>
</GPIOConfiguration>
```

6.4 Input Telemetry

The DSS now displays Digital Cinema Package (DCP) information (for example, frame rate, format, sample rate, and so on) in Show Manager **Control** mode.

6.5 Server Pause Cue

You can now drop an internal pause cue into Show Manager on a DSS that is connected through Serial, GPI/O, or Ethernet automation. This enables the system to pause at the desired point in a show for an external device, and then resume playback of the show, as specified by the internal pause cue.

6.6 Content Offloading Improvements

This new feature makes a DSS compatible with the SMPTE standard (which also supports Interop content) for offloading content to external media. The system now references the asset map in the root directory to make the offloaded content compatible with most Digital Cinema playback systems.

6.7 Serial Automation Reselect Cue

In addition to GPI/O, you can now send a serial or Ethernet command from an external device to the DSS to reselect a clip or the beginning of a show and then reset the show to the ready state.

7 System 4.8.10 Bug Fixes and Other Improvements

The bug fixes listed in the following tables are provided in the v v4.8.10 release.

ID	Bug
DC-13169	Fixed an issue that caused systems to go into the disconnected state on boot-up, which required a second boot to make the system operational.
DC-13242	Improved the stability of the CAT862 media block to connect more reliably to a DSS server. This addresses issues that may have been identified as Transport Not Available , Lack of Playback Progress , or Server Freezes .

8 System 4.8.9 Bug Fixes and Other Improvements

The bug fixes listed in the following table are provided in the v4.8.9 release.

ID	Bug
DC-13201	Updated the HDMI-to-server switching behavior so that it does not automatically switch from HDMI to server mode when schedule mode is on and auto-start is off.
DC-13202	Fixed an issue with servers using the CAT745 IMB when in schedule mode with automatically start scheduled shows disabled and the system set to HDMI mode. In such a case, the scheduled show started anyway. The auto-start setting is now honored in all cases.
DC-13205	Playback logs for systems with a CAT862 now correctly report in the local time zone. Playback logs for systems with a CAT745 IMB now report in UTC. For more details, see Additional details for DC-13205 .
DC-13207	Fixed a problem impacting System 4.8.5 and later that prevented the 3D calibration light leveling setting from taking effect immediately.
DC-13208	Fixed a problem with system-generated asset maps where subtitle paths were sometimes invalid.
DC-13209	Fixed an issue with the <code>purge_removed.sh</code> command line script that prevented it from working with a CPL containing markers.
DC-13210	Fixed an issue with ingesting SMPTE CPLs that contained invalid marker types. These marker types are now ignored and the content can be ingested.
DC-13211	The web service API now correctly treats clip UUIDs as case-insensitive.
DC-13212	Fixed an issue with the web services API, when firing CP850 format cues. In such a case, the cue fired correctly but the web services API incorrectly returned a fault.
DC-13213	Fixed an issue that occasionally prevented content selection from a CRU drive.
DC-13214	Fixed a rare issue that prevented certain KDMs with unusual X509SubjectName fields from loading.
DC-13215	Sped up the boot time for DSS200/CAT862 systems by about 30 seconds.

ID	Bug
DC-13216	The system logs now includes SMART data from systems running the 3ware 9750 RAID card.
DC-13227	The system now automatically removes old show times that are more than 6 months old at each reboot.

9 System 4.8.8 Bug Fixes and Other Improvements

The bug fixes listed in the following table are provided in the v4.8.8 release.

ID	Bug
DC-9903	Fixed a leap-year bug affecting FTP transfers of content with a last modified date of February 29.
DC-1684	Fixed an issue that prevented usage of a CPL containing an empty Rating element.
DC-13130	Fixed an issue preventing ingest of content containing SMPTE 429-14 auxiliary data track files.

10 System 4.8.7 Bug Fixes and Other Improvements

The bug fixes listed in the following table are provided in the v4.8.7 release.

ID	Bug
DC-13063	Fixed an issue impacting customers using third-party TMS systems and intermissions that prevented intermission shows from being deleted when the parent shows where they were used were deleted first.

11 System 4.8.6 Bug Fixes and Other Improvements

The bug fixes listed in the following table are provided in the v4.8.6 release.

ID	Bug
DC-12729	Encrypted SMPTE packages with large subtitle files are now fully supported.
DC-12865	
DC-12906	
DC-12971	
DC-12942	Fixed an issue that caused the system to freeze in the Checking Content and Licenses state when a KDM for the currently playing show was ingested.
DC-13023	Fixed a v4.8.5 issue with <code>imb-time-maint.sh</code> .
DC-13049	Fixed a rare issue that caused cues from the currently selected show to fire at the incorrect time.
DC-13070	Fixed an intermittent issue where scheduled shows failed to start at the beginning of the day (or after any server reboot). This was caused by a system error that incorrectly booted up the server with a show in the stopped transport state rather than the ready state.

12 System 4.8.5 Bug Fixes and Other Improvements

The bug fixes listed in the following table are provided in the v4.8.5 release.

ID	Bug
DC-11103	Fixed a CAT862 MB issue where certain boards displayed a white screen instead of displaying video.
DC-12095	Removed the 14-macro limit for Barco projectors. The system now supports up to 40 macros.
DC-12631	Improved the playback logs so that no two events have the same UUID.
DC-12633	Resolved a slow memory leak that disrupted playback on DSS220 servers running continuously for more than a month.
DC-12592	
DC-12617	
DC-12640	Fixed an issue that occasionally prevented system logs from successfully exporting to a USB drive.
DC-12837	Added the script, <code>setSnatReductionMode.sh</code> , available in the administrator login, to reduce the likelihood of an audible <code>snat</code> when used with certain cinema processors that are sensitive to an AES clock drop. Use <code>setSnatReductionMode.sh -help</code> to see the full description.
DC-12850	Fixed an issue with the CAT745 IMB that affected playback when an intermission was placed within a couple of frames of the end an encrypted reel.
DC-12858	Improved handling of large numbers of show and showtime creation/deletion operations that can occur when using the system with a third-party TMS.
DC-12904	Fixed a timed text issue where the server would fail to send files larger than 5 MB to the projector. This typically occurred with large font files. The server can now pass a set of subtitle files to the projector where any single file (within the set of files) can be up to 40 MB.
DC-12931	Fixed an issue with certain show playlists containing an intermission where subtitles from the feature displayed during the intermission.
DC-12938	Fixed a rare issue with the CAT862 MB where certain JPEG content could trigger instability resulting in a restart.
DC-12949	Fixed a license loading problem during Transport not available that caused the system to freeze for an extended period during Checking content and licenses .
DC-12960	Updated IANA time zone data from 2013d to 2015a. This includes daylight saving time and other time zone changes for many countries and regions around the world.

13 System 4.8.4 Bug Fixes and Other Improvements

The bug fixes listed in the following table are provided in the v4.8.4 release.

ID	Bug
DC-12411	Changed the intermission dialog behavior where changing the anchor of an intermission no longer changes the time offset. For example, when changing the timing from the start of a clip to the start of a reel, the offset does not change in the dialog to compensate for that change.
DC-12524	Improved the performance of both the HDMI™ to server and server to HDMI input mode switches on the CAT745 IMB.
DC-12593	AC3 audio is now playable via the CAT745 IMB HDMI input.
DC-12694	Fixed a CAT862 media block issue where shows with repeated clips produced no video due to a problem with link encryption keys.
DC-12704	Fixed an issue during the standalone Show Manager client installation where it failed to locate a System 4.8.x server.
DC-12707	Improved the behavior of checking content and licenses after a show is selected, where unnecessary rechecking no longer occurs. This allows playback to start more quickly in most cases.
DC-12712	Fixed an issue affecting CAT862 media blocks with A/V delay set to 0 where video appeared in black for some content.
DC-12716	Fixed a CAT862 media block issue with KDMs that have not-valid-after dates past the year 2038. KDMs with these distant-future dates are now rejected by the CAT862.
DC-12734	Fixed an issue that caused bad subtitle synchronization for certain shows containing mixed frame rates.
DC-12753	Fixed a rare issue that prevented ingest of a small number of KDMs where the formatting of the subject name omitted a comma after the common name field.
DC-12767	Fixed a CAT862 media block problem that caused instability when audit logs were very full.
DC-12785	Fixed a CAT745 IMB issue where shows selected in HDMI input mode could incorrectly start from the wrong position.
DC-12786	Fixed a small problem with <i>next/previous</i> web service transport operations that caused a failure to throw a fault if the system was already seeking.
DC-12787	Improved the CAT745 IMB logical marriage mechanism to prevent projector connection problems.
DC-12795	Fixed a CAT745 IMB issue while playing AC3 audio via the HDMI inputs.
DC-12826	Fixed the <i>getPlaybackLogStatus</i> web service operation where it sometimes failed to return a valid <i>LogStatusInfo</i> XML document.
DC-12873	Fixed an issue that caused exported Show Library system logs files to omit the devel logs.

14 System 4.8.2 Bug Fixes and Other Improvements

The bug fixes listed in the following table are provided in the v4.8.2 release.

ID	Bug
DC-11509	Fixed an issue that occasionally caused database corruption when power was removed from a system that was actively ingesting content using FTP.
DC-12234	Fixed a web services issue with the <code>getClipInfosRequest</code> response message. Clips with CPL title's containing spaces are now properly URL encoded.
DC-12458	Fixed an issue that resulted in short shows that failed to run using the schedule when the CAT745 IMB switched from HDMI mode to server mode at the start of the show.
DC-12480	Made additional improvements to Network Time Protocol (NTP) time sync.
DC-12491	Fixed an issue where subtitles did not appear for shows with a mixture of SMPTE and Interop content when the projector was running older Texas Instruments™ (TI) firmware.
DC-12499	Improved the stability of Dolby Atmos clip playback.
DC-12501	Fixed a problem with certain drop frame MPEG content that caused A/V sync drift.
DC-12550	The system now allows closed caption devices to communicate with the server over the theater network without impacting subtitles.
DC-12552	Added a script to enable/disable .png subtitle scaling for Interop content. The script is now available in the console for an administrator user. By default, the server scales .png subtitles. Setting the value to <code>off</code> disables server scaling.
DC-12569	Improved the DSS200 behavior to make it more reliable when reconnecting to the CAT862 during the mandatory 24 hour TLS refresh. This issue previously displayed an erroneous upgrade is in progress Show Manager message.
DC-12576	Fixed an infrequent issue that prevented the system from switching the CAT745 IMB to HDMI input mode after show playback.
DC-12581	Fixed an issue that prevented the system from cancelling pending content transfers.
DC-12589	Fixed an issue where certain combinations of rapid transport changes caused the CP850 to revert to PCM.
DC-12604	Corrected the behavior of the CAT745 IMB low battery alert.
DC-12620	Fixed a system operation problem that resulted from creating a show using web services with an invalid UUID.
DC-12621	Fixed a Show Manager GUI crash when copying the show to another show using the replace contents of existing show option.
DC-12630	The web services <code>getPlaybackLogsRequest</code> operation now correctly interprets the timezone of the start and end dates.
DC-12724	Fixed a subtitles issue when playing a show with an intermission where the subtitles from the main feature were displayed during intermission rather than stopping and continuing after intermission.
DC-12769	Fixed an issue that caused instability on the CAT745 IMB when a KDM being used for a show expired while playing that show.

15 System 4.8.1 Bug Fixes and Other Improvements

The bug fixes listed in the following table are provided in the v4.8.1 release.

ID	Bug
DC-10701	Fixed an intermittent CAT745 IMB playback problem for shows containing a 24 fps MPEG clip immediately followed by a 25 fps MPEG clip that resulted in a temporary disconnection.
DC-11060	Improved the long-term stability of the CAT745 IMB by addressing some resource leaks.
DC-11263	
DC-12049	
DC-12457	
DC-12469	
DC-12473	
DC-12192	
DC-12301	
DC-11330	Fixed a rare CAT862 MB playback problem that caused slight audio distortion of encrypted content.
DC-11394	Improved CAT745 IMB stability for certain shows that caused the transport not available error state.
DC-11615	Fixed CAT745 IMB problems that occurred when using random seek in shows with MPEG clips.
DC-11888	Fixed a CAT745 playback problem that resulted in clips with no audio.
DC-11900	Improved the CAT745 IMB HDMI telemetry reporting that was occasionally incorrect.
DC-11916	Fixed an occasional issue when exporting audit logs from a CAT745 IMB while also exporting system logs.
DC-11996	Fixed an occasional crash on the CAT862 during audit logs export.
DC-12022	Improved the reliability of the CAT745 IMB when switching from HDMI mode to server mode.
DC-12095	Increased the maximum number of Barco projector macros available from 14 to 40.
DC-12118	Fixed occasional incorrect version mismatch reporting between the CAT862 MB and the Show Store.
DC-12121	Fixed a CAT745 IMB issue that occasionally caused a temporary disconnection after switching to server mode from HDMI and starting playback.
DC-12191	Fixed an occasional crash on the Show Store when connected to a CP850 and using the transport controls to skip around a show.
DC-12205	Fixed a problem ingesting CPLs with names longer than 255 characters.
DC-12225	Fixed a rare CAT745 IMB crash during system log extraction.
DC-12303	Fixed a problem that reported some shows as corrupt when they were not (caused by a corrupt copy of the content on a removable drive).
DC-12321	Fixed some cue offset display issues in the cue properties dialog.
DC-12331	Fixed the offset display in the intermission properties dialog when intermission was timed from a marker.
DC-12343	Fixed a CAT745 IMB disconnect problem that occurred when starting playback after exporting system logs.
DC-12375	Corrected the CAT745 IMB audit logs file name to correctly reflect the media block model and serial number when exporting from the Show Manager GUI.
DC-12422	Fixed some CAT745 IMB issues when upgrading from System 4.6.x.

ID	Bug
DC-12424	Fixed a CAT745 IMB problem that resulted from issuing pause and play transport commands.
DC-12426	Fixed a CAT745 IMB problem that occurred when seeking to within a few frames of the end of a show.
DC-12430	Fixed a CAT862 issue that that caused stuttering when playing DCPs lacking the HMAC MIC.
DC-12445 DC-12516	Corrected the playback time indication in Show Manager Monitor and Control modes when playing a show containing an intermission when the clip containing the intermission was missing.
DC-12486	Fixed CAT745 IMB drop-frame support issues.
DC-12492	Improved CAT745 IMB behavior so that it tolerates a slightly marginal data connection better than it did previously.
DC-12509	Fixed a rare condition where not all required Dolby Atmos keys were sent to the CP850 despite their availability on the DSS.
DC-12525	Fixed a CAT862 issue where the projector logs were unnecessarily downloaded again after running the <i>getAllProjectorLogs</i> script.
DC-12548	Fixed an issue with the system installer that caused problems with installs and remote upgrades for DSS systems using the 9750 RAID controller card.

16 System 4.8.0 New Features

The following new feature was provided in System 4.8.0:

- You can now create shows that include an **Intermission** feature, where the system plays content from the DSS during the intermission.

With **Intermission**, you can mark clips within a show to include content from another show at the specified point within the clip. This is called an intermission show.

16.1.1 Creating an Intermission Show

To create an intermission show:

- Click **build**, and then click **create show** to create a show that includes the content and automation cues that you want the system to play during intermission, as shown in the following figures.



Figure 1 Create an Intermission Show

The **mark as intermission show** checkbox is optional. If you click in this box, this marks the show as an intermission show and enables the filtering of intermission shows in the intermission dialog box.

- Create and define a show that includes the main content of the show with clips and automation cues.

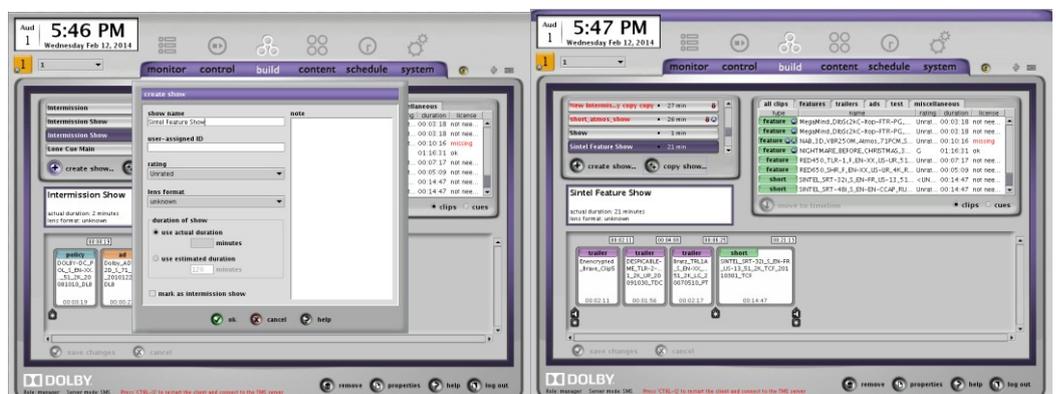


Figure 2 Create a Show with the Main Content

- To add intermission to the main show, right-click the clip where the intermission is desired and click **add intermission**.

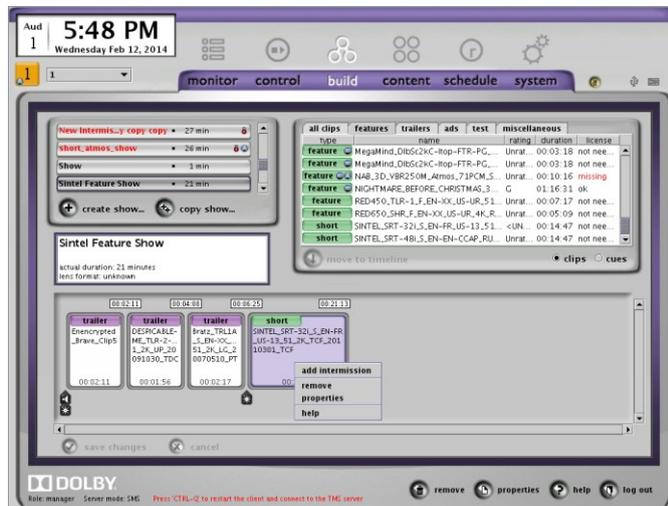


Figure 3 Add Intermission to Main Show

- Select the previously defined intermission show, then enter the time offset (**intermission offset**) where the intermission should occur, and click **ok**.

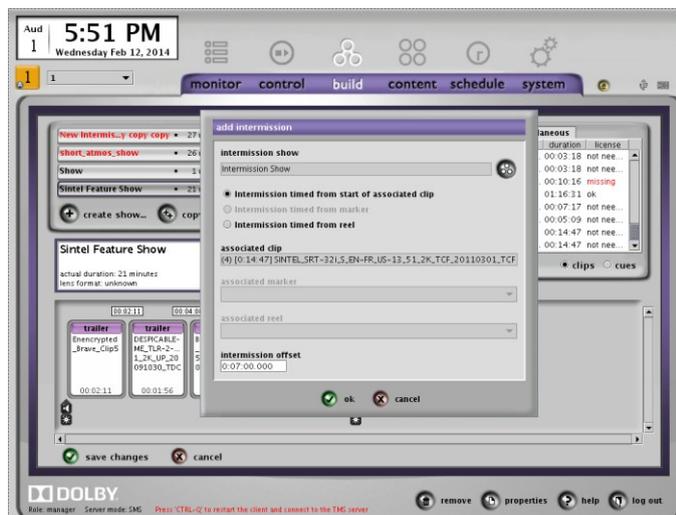


Figure 4 Select Time Offset for Intermission Show

You can schedule an intermission show to play from the beginning of a reel (only available in multi-reel content) or a content marker (only available in content with markers inserted in the CPL).

When selecting a marker or reel to start an intermission show, the timeline remains locked at the current position. When you open the dialog, the position is set to 0:00:00.000. If you select a marker or reel at 0:20:00.000, the intermission offset time is set to -0:20:00.000. If you want the intermission show to play at the 0:20:00.000 mark, you must change the intermission offset to 0:00:00.000.

Once added, the intermission show and its clips and automation cues appear inline with the main show content.

Note: You cannot edit the intermission show content while editing the main show.

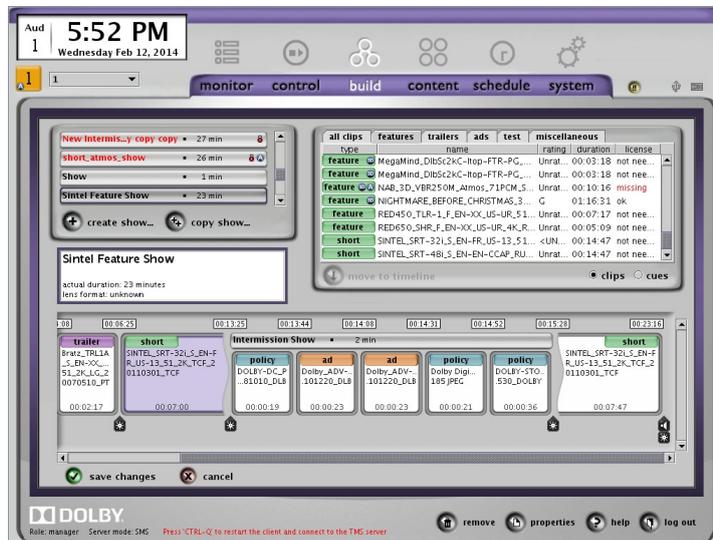


Figure 5 Main Show Including Intermission Show

When you select the main show, the intermission show appears inline with the other clips in the show.



Figure 6 Main Show Clips with Intermission Show Clips

During playback, the main show plays normally up to the point where the intermission show occurs and then automatically starts playing the intermission show.

All automation cues from the main show and the intermission show are fired, as specified by their position in the show.

While the intermission show is playing, Show Manager displays the remaining time in the intermission show.

When the intermission show playback is complete, the main show automatically continues playing.



Figure 7 Show Manager Displays Time Remaining in Intermission Show

17 System 4.8.0 Bug Fixes and Other Improvements

The bug fixes listed in the following table are provided in the v4.8.0 release.

ID	Bug
DC-11248	Show Manager now allows manual selection of shows containing broken clips.
DC-12079	Fixed a Barco™ S-series projector-related automation issue.
DC-12090	Corrected the values for frame counts in the secure logs for 3D content.
DC-12174	Fixed an occasional incorrect Dolby Atmos license state indication on the Show Library.
DC-12205	Fixed a problem handling clips with names longer than 255 characters.
DC-12256	Fixed a problem introduced in system v4.7.0 where occasionally a clean install of the system via CD-ROM would cause that system to fail to connect to a Dolby TMS.
DC-12300	Fixed a subtitles problem for shows with both Interop and SMPTE content.
	General stability fixes.

18 System 4.7.0 New Features and Improvements

The following new features and improvements were provided in v4.7.0:

- HDMI™ input is now functional on the IMB.
- The CAT862 MB now loads KDMs during playback by default. This setting is adjustable using an *administrator* login script. You can view the current value

by clicking **system** and then **theatre devices** in Show Manager. You cannot load KDMs during playback on a DSP100 or CAT745.

- The exFAT file system is now supported for external hard drives.

18.1 Using HDMI on the CAT745 Integrated Media Block

The IMB provides two HDMI input ports. Each input supports both audio (L-PCM) and 2D video, as well as HDCP content protection. These HDMI ports should use the RGB projector macro (not XYZ).

18.1.1 Selecting an Input Source

To select an input source (**HDMI 1**, **HDMI 2**, or **server**), click the **control** tab and then click **input** at the lower-left corner of the screen, as shown in the following figure.

In HDMI mode, the Show Manager timeline for the current show is grayed out and the system displays the HDMI signal information, as shown in Figure 1. If schedule mode is active, the system displays the countdown information and the selected show begins at the specified start time.



Figure 1 Select an HDMI Input Source

If the IMB does not synchronize with the source, cannot determine the format of the HDMI source, or the format is not supported, the system indicates that the input source is invalid. In server mode, the display is normal.

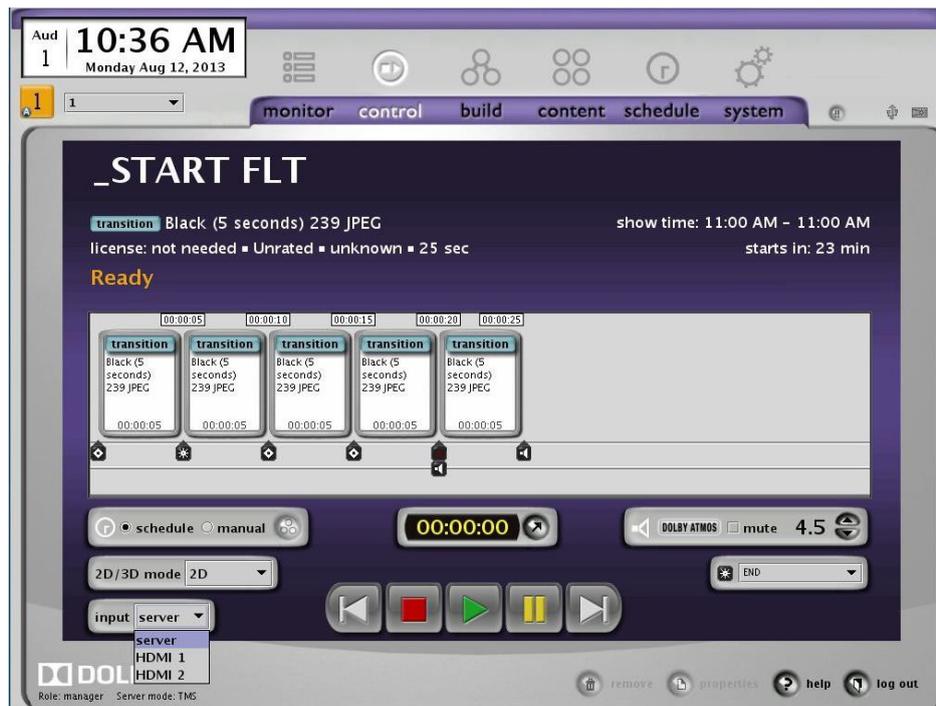


Figure 2 Select Server as the Input Source

If you stop a show manually or by using the automation inputs, the system does not activate this function.

You can also configure the system to automatically switch to the selected input after playback of a show ends normally. To perform this function, click the **system** tab, click **auditorium**, then select an input source and click in the applicable checkbox, as shown in the following figure.

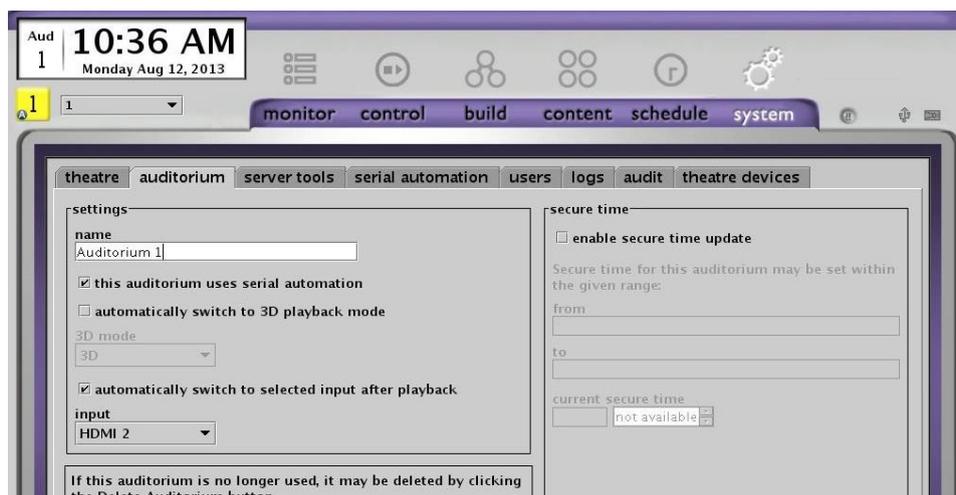


Figure 3 Automatically Switch to Selected Input After Playback

You can set up each auditorium to automatically select one of the alternative inputs when show playback is completed. Note that the system activates this function only when a show or clip plays to completion.

In addition, you can switch to an HDMI or server (DCP playback) mode using serial or GPIO commands.

For serial commands, click in the applicable checkbox (see Figure 3), click the **serial automation** tab, click the **name** button to display serial automation options, and then click on an input source (see Figure 4).

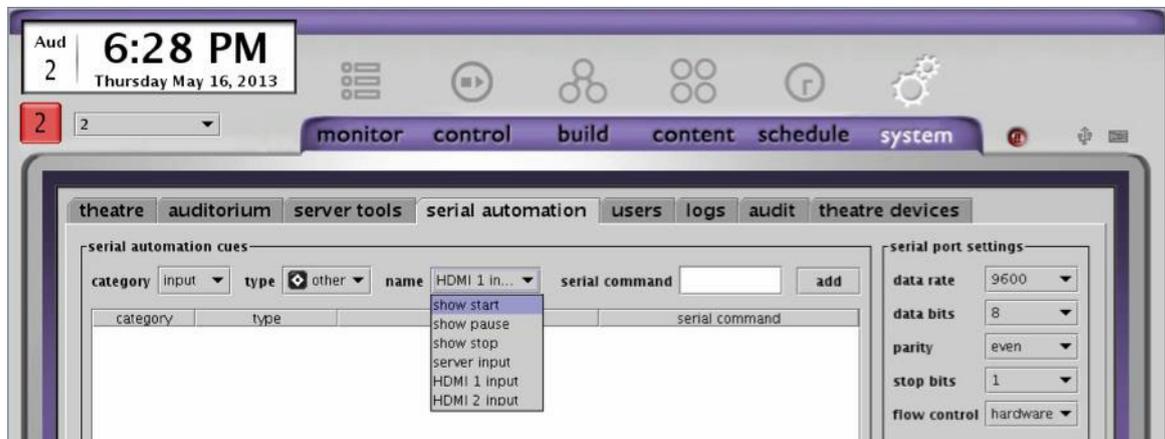


Figure 4 Set Up Serial Commands

For more information regarding GPIO, see [Section 21](#).

18.2 CAT745 IMB HDMI Supported Formats (2D Only)

The HDMI formats listed in the following table are provided in the v4.7.0 release.

HDMI Video ID Code	Format	Field Rate	Picture Aspect Ratio (H:V)	Pixel Aspect Ratio (H:V)
1	640 × 480p	59.94 Hz/60 Hz	4:3	1:1
2	720 × 480p	59.94 Hz/60 Hz	4:3	8:9
3	720 × 480p	59.94 Hz/60 Hz	16:9	32:27
4	1280 × 720p	59.94 Hz/60 Hz	16:9	1:1
16	1920 × 1080p	59.94 Hz/60 Hz	16:9	1:1
17	720 × 576p	50 Hz	4:3	16:15
18	720 × 576p	50 Hz	16:9	64:45
19	1280 × 720p	50 Hz	16:9	1:1
31	1920 × 1080p	50 Hz	16:9	1:1
32	1920 × 1080p	23.97 Hz/24 Hz	16:9	1:1
33	1920 × 1080p	25 Hz	16:9	1:1
34	1920 × 1080p	29.97 Hz/30 Hz	16:9	1:1



Note: Only progressive formats are supported. Interlaced or progressive segmented frame (PsF) formats are not supported. 3D playback is not supported.

19 System 4.7.0 Bug Fixes and Other Improvements

The bug fixes listed in the following table are provided in the v4.7.0 release.

ID	Bug
DC-11376	The administrator login script for upgrading the connected MB or IMB was renamed from 'upgradeInternalMediaBlock.sh' to 'upgradeMediaBlock.sh'. This script upgrades the DSP100, CAT862, and CAT745.
DC-11490	Fixed a condition where subtitles do not work on the first playback of a new show.
DC-11548	Fixed a problem where the FTP transfer of licenses onto a DSS occasionally caused the system to hang and subsequently restart.
DC-11605	Added support for 29.97 and 30 fps linear timecode (LTC). Also fixed a bug in 48 fps LTC.
DC-11641	Fixed a CAT745 issue when playing back certain MPEG clips and the progressive sequence flag of the sequence extension header is set to 0. These sequences now play back as progressive frames.
DC-11748, DC-11976, DC-12003	Fixed a problem that caused an occasional Dolby Atmos® red error indicator in Show Manager when Dolby Atmos was playing correctly.
DC-11838, DC-11985	Fixed several CAT745 HDMI reupgrade issues.
DC-11873	Fixed the capability for all subtitles to play out on shows with mixed Interop and SMPTE CPLs.
DC-11910	Fixed conditions where an occasional playback failure occurred in a DSS220, CAT745, and CP850 configuration.
DC-11974, DC-12089	Added a script to manually trigger the collection of all projector link decryptor logged event records. For details, see Known Issues in the next section.
DC-11977	Fixed a subtitle font problem that occasionally occurred when ingesting content via FTP.
DC-11996	Fixed CAT862 out of memory condition when downloading audit logs.
DC-12000	During playback, the system now sets CAT862 KDM loading to TRUE by default.
DC-12001	The Show Manager System Mode theatre attributes tab now indicates whether CAT862 KDM loading during playback is enabled.
DC-12013	Fixed network transfers for packages where the ASSETMAP contained an empty PackingList element.
DC-12019	Fixed a rare occurrence where selecting a show from the schedule after a transport-not-available error required a reboot.
DC-12051	Fixed a condition where subtitles might not play for the first show after a reboot of the projector.
DC-12053	Implemented NTP changes, resulting in more robust synchronization.
DC-12063	The system now purges deleted shows and deleted show times more effectively when using a third-party theatre management system (TMS). In addition, a new script enables manual purges.
DC-12066	Fixed a condition where the system displayed a Show Manager alert that indicated a missing Dolby Atmos data connection when a CP850 was not selected or present.
DC-12075	Shows with different frame rates now use the correct subtitle timing.
DC-12126	Fixed a condition where the DSS/CAT745 timeline halts during

ID	Bug
	playback and cues fail, requiring a reboot of the DSS.
DC-12153, DC-12154	Fixed subtitle timing issues for shows with multiple SMPTE clips with different frame rates. Also improved CAT745 timing accuracy.
	General stability fixes.

20 Known Issues

Issue 1

When powering up the system with a USB device or a CRU removable drive inserted in a DSS220, a message appears on the console, indicating that no operating system was found.

Workaround: Remove the USB device or CRU drive and press any key on your keyboard. Alternatively, you can remove the USB or CRU drive and power cycle the DSS220.

Issue 2

If there is a license on your DSS200/CAT862 that causes a content/licenses check failure for a specific clip and you load a new license for the same clip, the new license loads, but the clip or the show containing that clip may not play.

Workaround: Back up all of your licenses to a separate backup disk, then delete all existing licenses on your system (and on any other connected USB device except your backup disk). You cannot select individual licenses for removal. Remove the failed license from your backup disk, and then use your backup to reinstall all the valid licenses. Be sure not to reload the license that caused the content/licenses check failure.

Issue 3

In very rare cases, the default audio/video (A/V) delay may be offset slightly from software version 4.3. After upgrading, if the synchronization looks correct on the screen, no theatre realignment or other user action is required. However, initial testing shows A/V is in sync if the global audio delay value is set to two (2) frames, which is approximately 78 milliseconds for the CP750 when using a Series 2 projector. If the CAT862 audio delay setting is not 0 prior to upgrading, the effective audio delay may differ.

Issue 4

The system logs remain in the previous time zone after changing the time zone.

Workaround: Rebooting the system resolves this problem.

Issue 5

Starting playback while downloading logs or loading playback keys can cause the CAT862 MB to disconnect. It may only disconnect for a few seconds or disconnect/reconnect a few times.

Workaround: Do not begin playback while loading playback keys or downloading logs. However, if the system goes into this state, the show should play back successfully after a couple of CAT862 MB disconnect/reconnects.

Issue 6

In some cases, the projector subtitle engine enters a bad state.

Workaround: Although the DSS attempts to restart subtitles, you may need to reboot the projector.

Issue 7

Although the system may allow it, avoid using international characters in notes and show playlist names.

Issue 8

When configuring one to three DSS200/DSS220 systems in a miniplex without a Show Library, you may need to manually configure the NTP server address on each system. You can also do this using one of the DSS systems as the time source or an external NTP server. If NTP is not set up correctly, time synchronization between the systems fails. This could result in loss of Show Manager data during TMS/SMS synchronization.

Issue 9

NA10 automation cues may fail, or the NA10 may not appear in the Show Manager **Theatre Devices** tab. This is due to a connection limitation in the NA10.

Workaround: Power cycle the NA10

Issue 10

For the CAT745 IMB, we recommend that you perform the upgrade with no cables connected to the HDMI ports.

Issue 11

Rebooting only the CAT745 IMB can cause a condition where the projector does not communicate with the IMB.

Workaround: Reboot the projector to restart the connection between the IMB and the projector.

Issue 12

The DSS200 and DSS220 do not accept playback keys when the CAT745 IMB is not powered on.

Workaround: Power up the projector/CAT745 IMB before loading playback keys.

Issue 13

The DSS220 may display an error indicating that one of the power supplies is missing.

Workaround: If you have only one power supply installed, run the Unconfig script and select **Option 3 (Show Store Parameters)**. For instructions on using the Unconfig script, refer to your *Dolby Digital Cinema System Manual*. Use caution, as this operation deletes the GPIO settings.

Issue 14

When a show ends in dual projector mode on a DSS200 CAT862, the system may intermittently fail to collect secure logs from the second projector. This issue should not cause playback or security issues.

Workaround: If you experience a security exception on the second projector, reboot the projector or the DSS200 to restart the log extraction process and clear the error.

Issue 16

When you connect your PC to the DSS200 CAT862 MB using the Media Block setup application while the system is playing content, the CAT862 MB may reboot or lock up.

Workaround: Do not connect the Media Block setup during critical playback.

Issue 15

The system plays back 48 frames per second (fps) content in 10-bit mode and 24 fps content in 12-bit mode on a DSS200 CAT862.

Workaround: To play a show with both of these content types, you may need to change the macro on the projector.

Issue 16

When playing back content for the first time after rebooting the DSS200 CAT862, the audio/video sync can occasionally be 1 frame out of sync.

Issue 17

In projectors using HD-SDI inputs with TI Series 2 Enigma Link Decryptor boards, the link decryptor logging system may become full due to problems with uncollected event records. If this occurs, a link decryptor security alert prevents further playback.

Workaround: Collect all link decryptor security event logs by logging into the DSS system via the *administrator* login and entering the following commands:

```
[hostname]:~$ cd scripts  
[hostname]:~/scripts$ ./getAllProjectorLogs.sh localhost
```

This process can take more than 2 hours, so you should run this script only on systems known to be in the alert status mode.

Do not interrupt this process or invoke other operations while running this script. Once started, the logs collection process cannot be cancelled.



Note: You need to run this script only once to collect all logs from the link decryptor.

If the logs collection process is completed but the link decryptor security alert is not cleared, there may be other problems with the link decryptor that you cannot correct using the DSS.

Issue 18

Subtitle display on TI Series 1 projectors is validated using TI DLP cinema release v15.1. To avoid subtitle problems with any SMPTE content on TI Series 1 projectors, the projector firmware must be TI DLP cinema release v15.0 or later. In all cases, we recommend using v15.1.

21 Additional Information

New configuration script in v4.9.4.5

DSS Software 4.9.4.5 introduces a new configuration script **setDSSsyncWithMediablock.sh**. This new configuration script allows you the option to prevent the DSS from synchronizing time to a CAT745 media block. This can be useful if the CAT745 media block is not on the correct time. The system will use NTP or the DSS internal clock if the setting = 0.

To disable the system time sync with the CAT745 run the script with parameter 0
./setDSSsyncWithMediablock.sh 0

To enable the system time sync with the CAT745 run the script with parameter 1
./setDSSsyncWithMediablock.sh 1

Query how the system is currently set without changing the value:
./setDSSsyncWithMediablock.sh 2

Running v4.8.x and v4.7.x or Earlier in the Same Multiplex

Prior to v4.8.x, a single TMS could control multiple DSS systems only if all the DSS systems were running the same system software version. Running more than one TMS on the network was not supported. The Dolby Show Manager TMS can now detect and control multiple DSS systems with different system software versions.

The v4.8.x and later software releases do not support the DSS100 and DSP100. To support installations running both DSS100/DSP100 systems along with more recent DSS hardware (running v4.8.x or later), you must configure two TMS systems, one running v4.7.x or earlier to support the DSS100/DSP100, and a second running v4.8.x or later.

The following instructions explain how to split a multiplex when upgrading some systems to v4.8.x while other systems continue to run v4.7.x or earlier (with no networking changes required).

- For a v4.7.0 (or earlier) TMS with a v4.8.x (or later) DSS:
If the v4.7.0 TMS includes any auditoriums that were upgraded to 4.8.x, you must delete those auditoriums manually from the 4.7.0 (or earlier) TMS to avoid problems.
- For a v4.7.1 TMS with a v4.8.x (or later) DSS:
The v4.7.1 TMS automatically deletes any auditoriums that were upgraded to v4.8.x. or later. No manual user action is required.
- For a v4.8.x TMS with v4.7.x (or earlier) DSS:
During the upgrade to the v4.8.x TMS, the TMS deletes any auditoriums that were running DSS100/DSP100 systems.
After upgrading to the v4.8.x TMS, if any auditoriums (except those with DSS100/DSP100 systems) continue to run v4.7.x (or earlier), you must manually delete those auditoriums from the v4.8.x TMS to avoid problems.

Additional Details on the v4.8.9 DC-13205 Bug Fix

The playback logs format has changed. The format string for the playback logs is defined by <https://docs.oracle.com/javase/6/docs/api/java/text/SimpleDateFormat.html>. The same notation is used to describe the formats for the media blocks (although they do not use the same implementation). Following is a playback logs history beginning with v4.5.0.

System Version	Playback Logs Time Zone and Format	DSP100 and CAT862 Audit Logs Time Zone and Format	CAT745 Audit Logs Time Zone and Format
4.5.0- 4.6.1	<u>Time formatted using: local time zone</u> Format: yyyy-MM-dd'T'HH:mm:ss	<u>Time formatted using: local time zone</u> Format: yyyy-MM-dd'T'HH:mm:ssZ	<u>Time formatted using: UTC</u> Format: yyyy-MM-dd'T'HH:mm:ss-00:00
4.7.0 - 4.8.1	<u>Time formatted using: UTC</u> Format: yyyy-MM-dd'T'HH:mm:ss-00:00		
4.8.2 - 4.8.8	<u>Time formatted using: local time zone</u> Format: yyyy-MM-dd'T'HH:mm:ss-00:00 Note: The time zones formatting is incorrect for all time zones except those where the time is the same as UTC. For these records, you can ignore the time zone and interpret the timestamps as existing in the local time zone.		
4.8.9	CAT862: <u>Time formatted using: local time zone</u> Format: yyyy-MM-dd'T'HH:mm:ssZ CAT745 <u>Time formatted using: UTC</u> Format: yyyy-MM-dd'T'HH:mm:ss-00:00		

Downgrading to System 4.3 from DCI Compliant Software on a DSS200 with CAT862

The DCI upgrade is one way only. If DCI compliant software (v4.4.0 and later) is installed, you cannot downgrade to system 4.3.

Downgrading to v4.6.x from v4.8.x

When downgrading we recommend that you delete the Show Manager database. You can do this by running the Unconfig script and selecting **YES to option #2 (Show Manager Settings)**. Be sure to proceed with caution, as this will also delete any serial commands and Show Play Lists.

Passwords

The VNC password for all Dolby servers is: dolby!

Firmware Requirements for Proper Subtitles

Dolby servers require TI ICP firmware v4.2 or later to display subtitles properly.

System Frame Rates for DCP Playback DSS200 or DSS220 with CAT745 IMB

JPEG 2000 4K 2D: 24, 25

JPEG 2000 2K 2D: 24, 25, 30, 48, 50, 60, 96*, 100*

JPEG 2000 2K 3D: 24, 25, 30, 48, 50

MPEG2: 23.98, 24, 25, 29.97, 30

* Subject to availability. For more information, contact your Dolby representative.

DSS200 with CAT862 MB

JPEG 2000 2K 2D: 24, 25, 30, 48, 50, 60

JPEG 2000 2K 3D: 24, 25, 30

MPEG2: 23.98, 24, 25, 29.97, 30, 47.95, 48, 50, 59.94, 60

CAT745 Precautions

Be careful when handling the CAT745 IMB. You should always use an ESD strap in order to avoid static discharge and damage to the IMB.

Do not remove the CAT745 IMB main battery without a good backup battery in place. Removing the main battery without a backup results in a tamper event and the subsequent loss of the IMB private key. In addition, be sure not to place the IMB on a conductive surface.

Some projectors may require the removal of the link decryptor (Enigma board) for CAT745 IMB functionality.

Series 1 Projectors with an Incompatible Interface Board

Installing the upgrade on a system that is connected to a Series 1 projector that contains an incompatible interface board cannot playback content. These projectors do not support the CineLink™ II Transport Layer Security (TLS) protocol. If you have a Series 1 projector, be sure that it supports CineLink II (TLS) before installing the upgrade. In addition, some Series 1 projectors that have the correct interface board may fail to connect to a DSS via TLS due to an internal problem. For details, contact your projector manufacturer for information regarding the TI Series 1 Certificate Recovery Procedure.

GPIO Automation

There are two new input pins for GPIO. These pins allow you to select the **server** input or the **HDMI 1** input.

The server input is pin 24 with pin 5 as the ground. You can use pin 25 with pin 6 as the ground for either HDMI 1 (shown here) or HDMI 2.

Sample GPIO file

```
<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<GPIOConfiguration>
  <GPIOInputPinConfiguration>
    <InputPin pin="1" polarity="HIGH" name="PLAY"/>
    <InputPin pin="2" polarity="HIGH" name="STOP"/>
    <InputPin pin="3" polarity="HIGH" name="PAUSE"/>
    <InputPin pin="4" polarity="HIGH" name="RESELECT"/>
    <InputPin pin="5" polarity="HIGH" name="SERVER"/>
    <InputPin pin="6" polarity="HIGH" name="HDMI1"/>
  </GPIOInputPinConfiguration>

  <OutputPin pin="2" polarity="HIGH">
    <LatchOutput enableName="GPO2ON" disableName="GPO2OFF"/>
  </OutputPin>
  <OutputPin pin="3" polarity="HIGH">
    <LatchOutput enableName="GPO3ON" disableName="GPO3OFF"/>
  </OutputPin>
  <OutputPin pin="4" polarity="HIGH">
    <LatchOutput enableName="GPO4ON" disableName="GPO4OFF"/>
  </OutputPin>
  <OutputPin pin="5" polarity="HIGH">
    <LatchOutput enableName="GPO5ON" disableName="GPO5OFF"/>
  </OutputPin>
  <OutputPin pin="6" polarity="HIGH">
    <LatchOutput enableName="GPO6ON" disableName="GPO6OFF"/>
  </OutputPin>
  <OutputPin pin="7" polarity="HIGH">
    <PulseOutput name="GPO7" width="1000"/>
  </OutputPin>
  <OutputPin pin="8" polarity="HIGH">
    <PulseOutput name="GPO8" width="1000"/>
  </OutputPin>
  <OutputPin pin="9" polarity="HIGH">
    <PulseOutput name="GPO9" width="1000"/>
  </OutputPin>
  <OutputPin pin="10" polarity="HIGH">
    <PulseOutput name="GPO10" width="1000"/>
  </OutputPin>
</GPIOConfiguration>
```

22 Other Recent Software Revisions

The following sections provide information on software versions 4.7.x, 4.6.x and 4.5.x.

22.1 Changes in System 4.7.x

Software version 4.7 provided the following features:

- HDMI™ input on the IMB.
- CAT862 MB KDMs loading during playback by default. This setting is adjustable using an *administrator* login script. You can view the current value by clicking **system** and then **theatre devices** in Show Manager. You cannot load KDMs during playback on a Dolby Show Player (DSP100) or CAT745.
- exFAT file system support for external hard drives.
- Dolby DSP100 DCI compliance. Only 1 KDM is required to upgrade the DSP100 to the DCI compliant version.

22.2 Changes in System 4.6.x

Software version 4.6 was the first release to support the Dolby Atmos Cinema Processor CP850. This enables you to select the CP850 as your cinema processor in the Config script. With a properly configured system, the system detects Dolby Atmos content and plays this content automatically. If the Dolby Atmos media connection is lost, the system switches to a standard AES audio stream.

In addition, v 4.6.x upgrades for the DSP100 and DSS200 Dolby were streamlined. In previous versions, Media Block upgrade began during the DSS boot process after it was upgraded. Now the upgrade for all Dolby Media Blocks occurs after Show Manager launches so you can monitor progress remotely via VNC or using the Show Manager Client.

22.3 Changes in System 4.5.x

Software version 4.5 provided initial support for the CAT745 IMB. The IMB supports High Frame Rate (HFR) and 4K. The IMB also changes the way in which you interact with the system. Note the following changes:

- There are no license keys required to upgrade the CAT745 IMB. Once you upgrade the DSS200 (if it uses an IMB) or DSS220 and connect to the CAT745, the DSS checks the IMB version and performs an upgrade if required. (License keys are still required to upgrade the DSP100 Media Block and a DSS200 that uses the CAT862 Media Block).
 - For Dolby 3D color calibration, you may have previously used a USB cable to connect to the Media Block. With a CAT745, you connect via Ethernet over the Theatre Network. Use Dolby Media Block version 2.5.0.0 or later and connect to port 1610. For example, you would do this to connect to the Auditorium 1 DSS using the standard Dolby IP scheme: 192.168.241.3:1610.
-

- When using the CAT745 4K capabilities, you may need to create the following projector macros:

2K Flat 4K Flat

2K Scope 4K Scope

If you are using 3D, you may also require:

2K 3D Flat 2K 3D Scope

In addition, you may need macros for HFR 2K 3D.

- For Dolby Surround 7.1, the CAT745 IMB provides 2 audio out RJ45 connectors. Channels 1-8 are transmitted on the top connector. Channels 9-16 are transmitted on the lower connector.



Left, Right, Center, LFE, Left Surround, Right Surround are transmitted on Channels 1-6.

Back Surround Left, and Back Surround Right are transmitted on Channels 11 and 12.

Be sure to wire the audio correctly from the CAT745 IMB to your audio processor for Dolby Surround 7.1.

23 Upgrade Instructions

This section provides instructions for upgrading the DSS200, DSS220, and DSL100/200.

23.1 DSS200 Upgrade Instructions

To upgrade the DSS200, CAT862 Media Block, and Dolby Show Manager, all units must have a base release of system v4.2 or later. If not, install base release v4.3, and then follow these upgrade instructions to install v4.9. If you are upgrading a DSS200 that is connected to a CAT745 IMB, follow the instructions for a DSS220 in [Section 23.2](#).

To perform the upgrade:

1. Obtain the upgrade disc image from www.dolbycustomer.com.
2. Burn the disc image to a CD, and obtain the appropriate key delivery message (KDM) license files from Dolby Technical Support. These KDMs are enclosed in a .zip file. You need one file for the base release (if needed) and two files for v4.9. If you are upgrading from system 4.4, 4.5, or 4.6, only one file is required.
3. Insert the upgrade CD into the CD/DVD-ROM drive.
4. Copy the .zip file to the top level (root directory) of a USB storage device, and insert the USB device in one of the DSS200 USB flat (type A) ports.
5. Remove power from the DSS200, wait 30 seconds, and then restore power to reboot the unit. The unit performs the upgrade and prepares for the Media Block upgrade.
6. If you have the console displayed on your monitor, you can view the progress of the DSS200 upgrade. The upgrade can take 30 minutes or more. Show Manager is not visible during the upgrade. When the upgrade is completed, the CD automatically ejects and a prompt tells you to remove the CD and power cycle.
7. Remove the CD and the USB device, remove power, wait 30 seconds, and then restore power to reboot the unit.

The unit takes several minutes to display Show Manager, because it needs to upgrade the Media Block. You can view the Media Block upgrade progress on your monitor console. There is no visible activity for approximately eight minutes during the second .kdm install (during the Media Block upgrade).



Caution: Do not interrupt the upgrade process by removing the CD or disconnecting the AC mains power.

8. If a DSL100 or DSL200 is installed in your theatre network, follow the instructions in [Section 23.3](#) for upgrading your Dolby Show Library.
-

23.2 DSS220 Upgrade Instructions

To upgrade the DSS220, CAT745 IMB, and Dolby Show Manager software:

1. Obtain the upgrade disc image from www.dolbycustomer.com.
2. Go to <https://wiki.ubuntu.com/Win32DiskImager> and follow the links to download the **Win32Disk Imager** application.
3. Launch the application and connect a blank USB device to your PC.
4. Select the disc image; you will need to change the dialog to show all files (*.*) rather than .img files.
5. Select the drive letter of your USB device as the device, and then click **Write**. Note that the system completely overwrites any data on the USB device while it writes the disc image.
6. Remove the USB device from your PC and connect it to one of the DSS220 USB ports.
7. Reboot the DSS220 to perform the upgrade from the USB device.

If you have the console displayed on your monitor, you can view the progress of the DSS220 upgrade. Show Manager is not visible during the upgrade. When the upgrade is completed you are prompted to remove the USB device and power cycle the DSS220.

The unit may take several minutes after Show Manager has started to upgrade the IMB. You can monitor the IMB upgrade progress using Show Manager.

When the upgrade is completed, a prompt tells you to remove the USB storage device and power cycle.

8. Remove the USB device, remove power, wait 30 seconds, and then restore power to reboot the unit.
9. If a DSL100 or DSL200 is installed in your theatre network, follow the instructions in [Section 23.3](#) for upgrading your Dolby Show Library.



Caution: Do not interrupt the upgrade process by removing the USB device or disconnecting the AC mains power.

23.3 Dolby Show Library DSL100/DSL200 Upgrade Instructions

To upgrade the DSL100 and Show Manager software, your unit must have an acceptable base release. (Acceptable base release is 4.3.5 or later). If not, install the base release, and then follow these upgrade instructions to install v4.9. You can upgrade the DSL200 to v4.9 without a minimum base release.

1. Obtain the upgrade disc image from www.dolbycustomer.com. (The same disc image is used for the DSS200 upgrade.)
2. Burn the disc image to a CD.
3. Insert the upgrade CD into the CD/DVD-ROM drive.
4. Remove power from the Show Library, wait 30 seconds, and then restore power to reboot the unit.

The drive activity LED blinks intermittently and the Show Library temperature LED on the front panel flashes in green while the system automatically performs the upgrade.

If a monitor is connected to the Show Library, messages appear confirming the upgrade process. When the upgrade is completed (after approximately ten minutes), the temperature LED stops flashing and turns solid green.

5. Remove power from the Show Library, wait 30 seconds, and then restore power to reboot the unit.



Caution: Do not interrupt the upgrade process by removing the USB device or disconnecting the AC mains power.

6. Remove the upgrade CD.

24 Contacting Dolby

If you have questions or comments regarding this document or another related document, please contact [Technical Publications](#).

If you need assistance with Dolby Digital Cinema Servers, or have other questions, you can contact us at:

Dolby Laboratories

Portal: www.dolbycustomer.com

Email: cinemasupport@dolby.com

Region	Support Phone Numbers
Americas	+1-415-645-4900
EMEA	+44-179-384-2130
APAC	+86-400-692-6780
Japan	+81-3-4540-6782