

This document describes new features, improvements, bug fixes, and other information for the Dolby® Atmos™ Cinema Processor CP850.

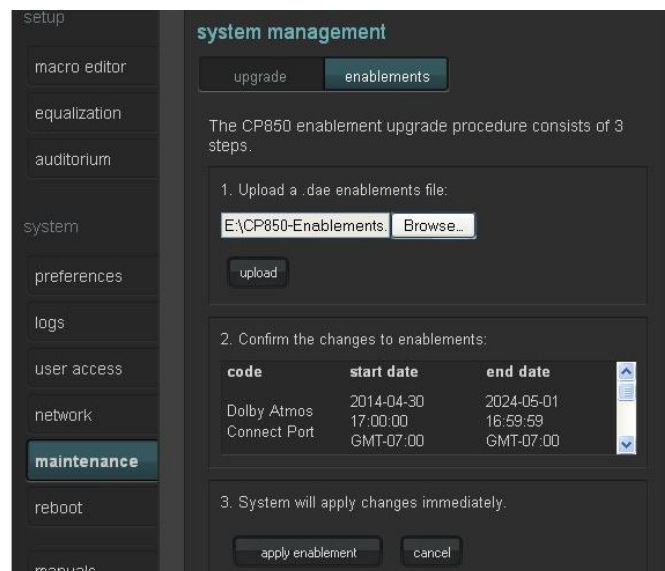
System 2.1.0.10 – Patch Release for system 2.0.

General information

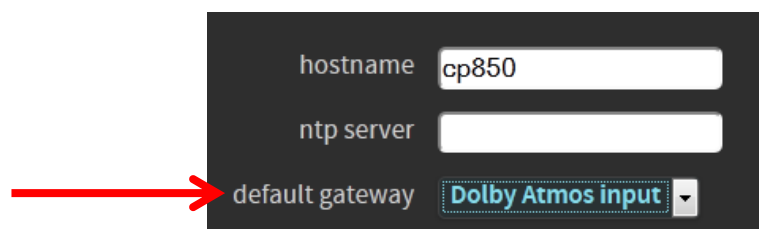
1. Once upgraded to CP850 version 2.x, the CP850 cannot be downgraded to a previous 1.x version. **DO NOT upgrade a CP850 that is in a security tamper state. ALWAYS test encrypted Dolby Atmos playback before upgrading.**
2. It is recommended that all 16 PCM channels be connected from the Media Block to the CP850 for playback of Dolby Atmos and other formats.
3. It is recommended that you use Dolby Digital Cinema Software 4.8.4 (or higher) with CP850 version 2.x.
4. Use Dolby Atmos Designer version 2.1.4 (or higher) with this CP850 release.
5. Global Audio Delay has been reduced for most inputs in version 2.0. You must change the delay manually using the macro editor in the CP850 web user interface. If you make a change to the *5.1 + Dolby Atmos* or the *7.1 + Dolby Atmos* macros you **MUST** also make adjustments to the delay in the Image Media Block and any downstream devices (motion chair or other systems).
6. Version 2.x of the CP850 introduces the concept of Enablements. Features of the CP850 are enabled by a Dolby Atmos Enablements (DAE) license which unlocks the feature. Primary features are:
 - a. **Dolby Atmos Playback** – The ability to decode and playback a Dolby Atmos soundtrack.
 - b. **Internal Crossover Support** – Activates the CP850 crossover functionality. User can select from pre-programmed crossovers.
 - c. **Dolby Atmos Connect Ports** – Activates the digital audio output on the Dolby Atmos Connect RJ45 connectors. Without this enablement the only audio output is the 16-channel analog outputs.

“Fully Featured” CP850s sold to this point will receive the three Enablement licenses for these features at no cost. The enablements file (*.dae) for all units in the field is included in the installer file and will be automatically loaded during the upgrade. There should be no need for the user to load the enablements manually.

7. When the CP850 boots up, it will check the enablements of the unit and the system configuration file. If the enablement status does not permit the loading of the system configuration, the mute button will repeatedly blink red and no audio will be heard. A separate enablements key can be provided by Dolby Customer Support. Load the enablements using the Web GUI:



8. In previous versions of CP850, the user was allowed to set a default gateway on each of the two networks. This caused issues with some networks. Version 2.x of CP850 only allows one default gateway to be active. By default, COMMAND network is set as the active default gateway. The setting can be changed to the DOLBY ATMOS INPUT network through the Web GUI or front panel user interface.



9. The port number for automation control over Ethernet is 61408.

New Features

- The CP850 now supports decoding of consumer Dolby Atmos over HDMI.
- Dolby Atmos Connect is now switchable between BLUlink and AES67 protocols. This selection is made from the “Preferences” tab in the CP850 Web GUI. Changing between DAC protocols will take a few minutes.
- Dolby Atmos rendering improvements.
- Bass management now uses Butterworth 4th order filters.
- FPUI (Front Panel User Interface) improvements:
 - Set the default fader value for a specific macro using the MACRO tab.
 - Rotate pink noise test signal generation from the front panel.
 - Bitstream status reporting (PCM, Dolby Atmos, reverted to PCM).
- The CP850 now has a command to raise or lower the fader by an integer value. The command is “ctrl.fader_delta x” where x= any number between -100 and 100. If your CP850 is at fader level 7.0, and you send the command ctrl.fader_delta 1”, the fader will move to 7.1.

Known Issues

1. Power cycle is required on some units after an upgrade.

Bug Fixes

Issue Number(s)	Change Description
OCP-1300, 1301,1302	Fixed a condition where consumer/alternative content inputs would experience underflow conditions at the minimum latency
OCP-1335	Fixed a problem where manual changes to the EQ after the Auto-EQ process would affect future Auto-EQ measurements
OCP-1099, 1140	Made improvements to HDMI EDID
	General Stability Fixes

System 2.0.0.21 – Generally Availability Release

New Features

- Internal crossover capability
- Manual Array EQ capability added
- Improved the speed of the AES lock switching (changing macros)
- Reduced latency on analog and digital inputs:
 - PCM only = 20msec (new option through 8x AES input)
 - PCM + Dolby Atmos = 80msec (previously 251msec)
 - Non-sync = 20msec
 - PA Microphone = 20 msec
 - AES-3id, optical, SPDIF, and HDMI = 50msec
 - Surround processing applied to non-sync and coded audio adds 21msec of latency.
- User Interface (UI) improvements
- Improved handling of sample rate changes for coded inputs
- Additional alerting available in front panel, Web GUI, and Web Services
- HDMI improvements and reconnection optimizations
- Changes/corrections to the network gateway settings
- CP850 will recognize word clock on the BNC port “C” input on the back of the processor. Standard word clock is supported. 2x word clock is not supported.
- Improved surround processing functionality for non-sync, HDMI, and AES-3id inputs
- Bitstream detection on the 16-ch input (Dolby Digital and Dolby Digital Plus on first AES pair)
- Dolby TrueHD support added over HDMI
- Improvements to Web Services (the new WSDL file is accessible for download from the manuals tab)
- Ability to set NTP on the CP850

Known Issues

2. Downloading a backup of the CP850 may show the cinema name as: “untitledTheatre”. This does not affect the content of the backup file.
3. Power cycle is required on some units after an upgrade.
4. When using the CP850 internal crossovers, MIC input routing may be incorrect.

Bug Fixes

Issue Number(s)	Change Description
OCP-1266	Corrected issues with the mute fade in/out timing
OCP-1116	Changed the function of the power button on the CP850. Previous software versions shut down the unit with a very short press of this button. User must now hold down the button for five (5) seconds to shut down the processor
OCP-1232	Fixed a condition where no audio was heard when switching to HDMI
	General Stability Fixes

Troubleshooting playback problems

If you are having a problem where the CP850 reverts to PCM audio instead of playing the encrypted Dolby Atmos audio, one of the first things to check is the content Key Delivery Message (KDM).

To ensure that the Dolby Atmos soundtrack is in sync with the picture, the CP850 uses a synchronization signal embedded into channel 14 of the DCP Main Soundtrack. This signal sends information to the CP850 about the ID of the track and frame position.

Audio Forensic Marking (AFM) of encrypted content can disrupt the synchronization signal which may result in audible playback problems. Unencrypted content does not contain AFM.

All KDMs for Dolby Atmos content must contain the DCI disable-above-channel-12 flag:

```
<ForensicMarkFlagList>  
<ForensicMarkFlag>http://www.dcimovies.com/430-1/2006/KDM#mrkflg-audio-disable-above-channel-12</ForensicMarkFlag>  
</ForensicMarkFlagList>
```

This is a DCI approved field in the KDM that tells the media block NOT to include AFM on channels 13 through 16. All of the audible channels in the auditorium will include AFM, but the synchronization signal will be protected allowing clean playback of the Dolby Atmos soundtrack.

If you receive a KDM for Dolby Atmos content that does not have the DCI disable-above-channel-12 flag, request a new KDM with the DCI disable-above-channel-12 flag. It may be necessary to delete the previous key that had AFM enabled on all channels before the server will use the new key.

System 1.3.0.1 – Generally Availability Release

General information

1. The minimum global delay for the 16 channel input is 251 msec. Because the projector latency is less than the audio latency of the CP850, the audio delay in the media block must be changed.
 - a. For many media blocks (IMB), set the global audio delay to -251 msec.
 - b. Media Blocks that use HDSOI cables will have different latencies.
 - c. Contact your projector manufacturer for latency information on the projector. Dolby Customer Support may also be able to assist.
2. It is recommended that all 16 PCM channels be connected from the Media Block to the CP850 for playback of Dolby Atmos and other formats.
3. Use Dolby Atmos Designer version 1.1.10 (or higher) with this CP850 release.
4. The port number for automation control over Ethernet is 61408.
5. Once upgraded to CP850 version 1.3.0.1, the CP850 cannot be downgraded to a previous version.

New Features

Added the ability to disable Jumbo Frames for some networks and servers that do not support this functionality.

Improved TLS communication speed and connection time.

Made changes for the CP850 to interoperate better with Digital Cinema Servers made by other manufacturers.

Bug Fixes

Issue Number(s)	Change Description
OCP-1161	Corrected an issue where the system will fail to boot correctly after a failed/interrupted upgrade.
OCP-1053	Fixed a condition where extended playback of Dolby Atmos content (>120 hours) without a reboot would cause the system to lock up. Playing standard 5.1 or 7.1 content did not affect this problem.
OCP-1050	Fixed a condition where log files of unusually large size were being generated.
OCP-936	Corrected a problem where HI and VI/N could be out of sync.
	General Stability Fixes

Known Issues

6. GPIO fader may not work in the current version of software.
7. Dolby Digital Plus 7.1 over AES does not decode properly.
8. Power cycle is required on some units after an upgrade.
9. PCM and Dolby Digital are the only consumer bit streams supported over HDMI.
10. For some situations, HDMI link establishment can take up to 1 minute.

Dolby Customer Support:

- Email: customersupport@dolby.com
- In the Americas please dial [+1-415-645-4900](tel:+1-415-645-4900)
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