



Barco Alchemy-S2 Cinema Server Configuration

For Optimizer Installation

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Optimizer Configuration

Configure the Optimizer Settings by using the Configurations button from the Menu Bar.


Select Settings:

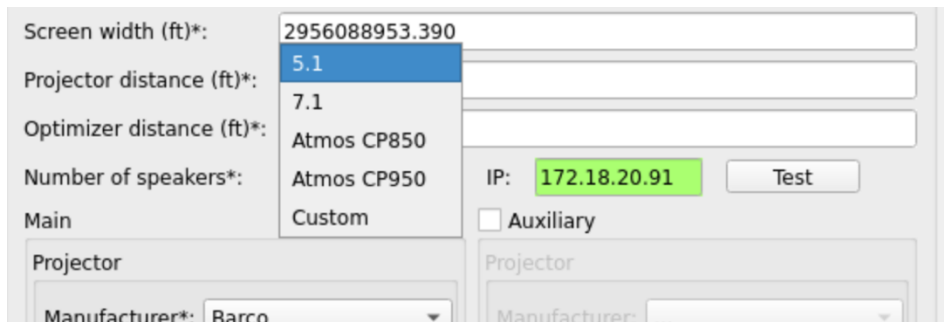
Site Specific Configurations:

- General
 - Optimizer Name
 - Units
- Room Configurations > Room Manager
- Tolerances > Site Specific Tolerances
- Calibration
 - SMTPE Seat Enabled - If Calibrated with Ultimate
 - Luminance Coefficient - If Calibrated with Spectro
 - Audio active reference active once recorded and saved
 - Microphone calibration file using mic serial number: [LINK](#)
- Network Settings
 - Static IP
 - Network Address
 - Subnet Mask
 - Gateway
 - DNS Server
 - NTP Server Optional
 - **Click Save and Reboot**
- Installation settings
 - Camera Orientation - Right Side Up/UpSide Down
 - Playlist version: Version 5 preferred
 - Projector Display Resolution: 2K or 4K
 - Screen Format: Flat or Scope
 - Manual Geometry Detection Geometry: Optional based on configuration
 - SNMP Trap: Configure server and IP

Configure Room Settings

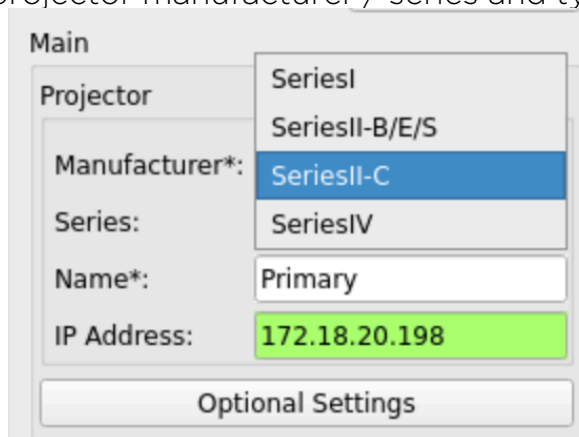
For a Barco Alchemy Server, you will need to configure the room settings as follows:

1. Select the Configurations > Settings > Room manager.
2. Click the  icon to add a new room to the configuration.
3. Add required information
 - a. Type the detailed information for the theatre group, theatre name, and room name into the field.
 - b. Screen width and throw are required but not used.
4. Select the number of speakers in the auditorium.

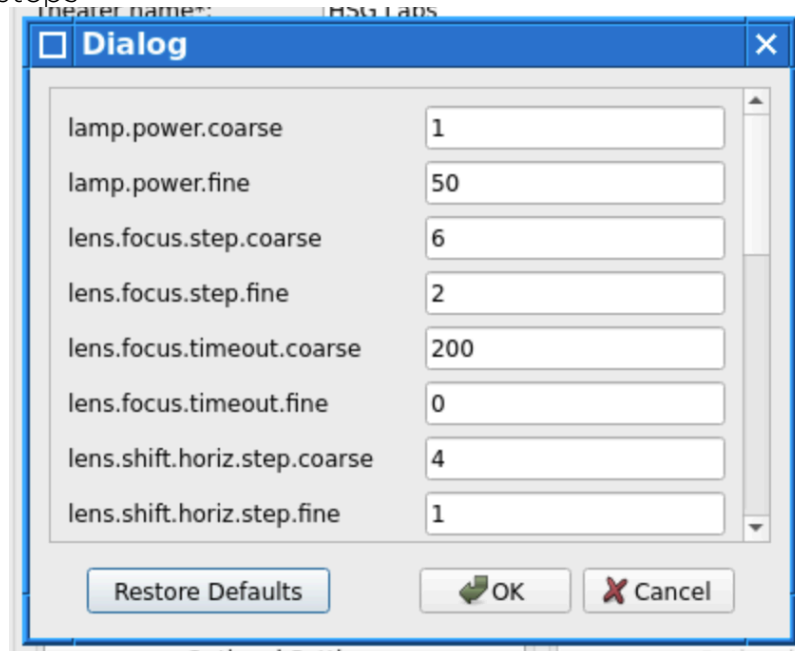


Note: To enable Atmos audio features, an Atmos license is required. Please speak to your salesperson. If Atmos is selected the IP address should be filled.

5. Select the correct projector manufacturer / series and type in the IP address.

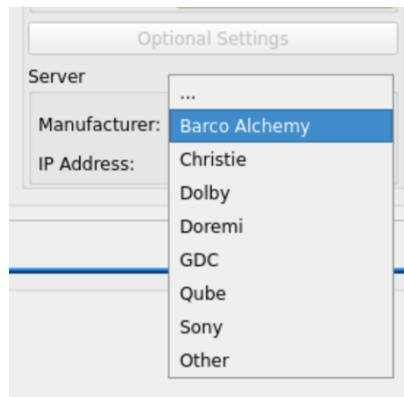


6. Optional Settings – Select to adjust the lens control speed and fine/coarse adjustment steps

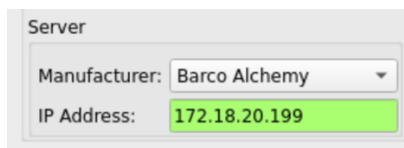


Default Settings

7. Select the *Barco Alchemy* server



8. Type the IP address of the server



9. Auxiliary Projector is not required
10. Select Save to save Room
11. Select Save to Save Configuration

Device and Macro configuration

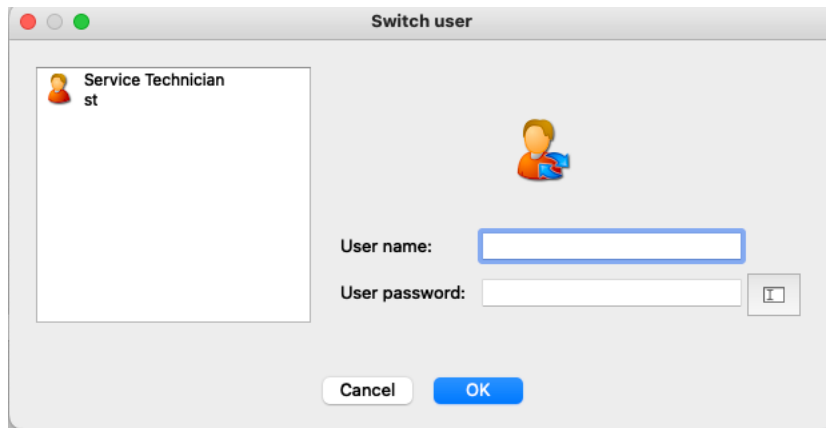
Connect via a browser to the web interface of the projector (Web communicator)

Note: For support on this section, beyond the defined configuration, please contact Barco support.

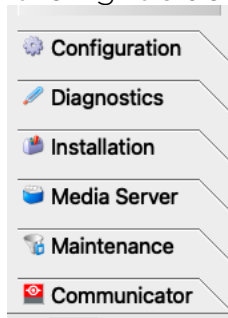
Add the HSG Labs device

To allow the SMS Player to communicate to the HSG Labs device a new device type should be created.

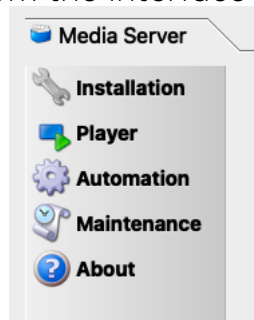
1. Open the Barco Communicator software and ensure to have Service Technician authorization level



2. Select the Media Server tab on the right side of the software interface



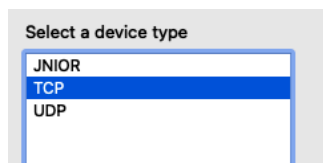
3. Select the Automation tab from the interface



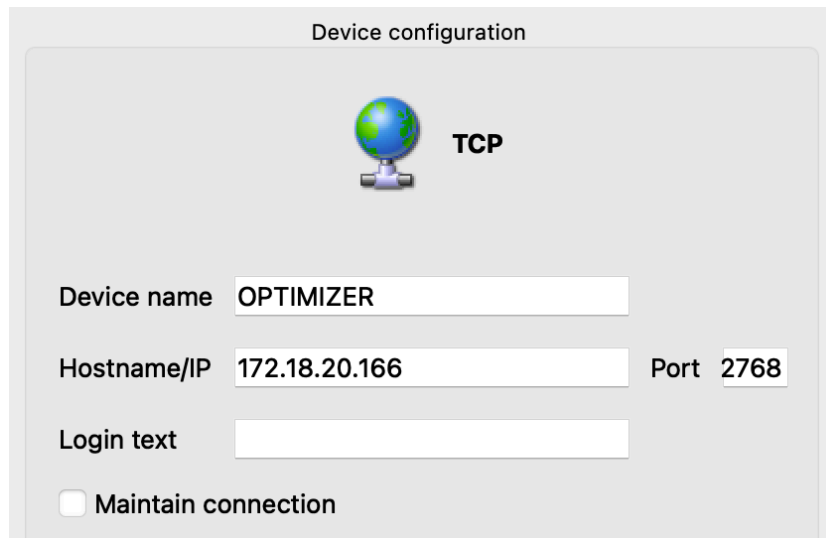
4. Select Devices button



5. Select
6. Select TCP for device type



7. Type in the Device Name 'Optimizer', Hostname/IP for the Optimizer, port '32768', Login text is blank and the 'Maintain Connection' is unchecked.

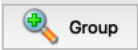


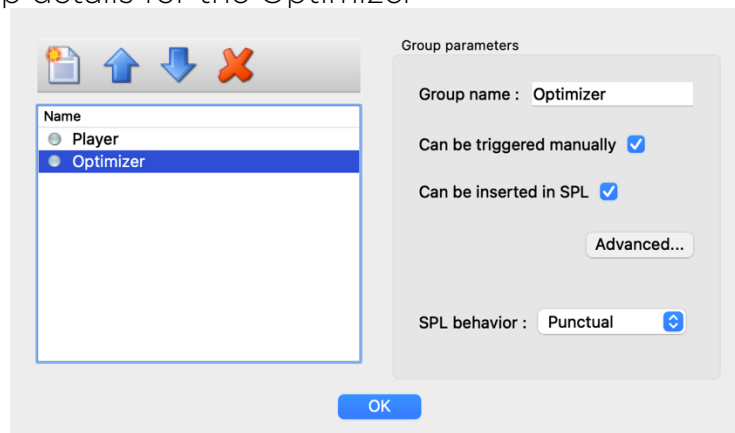
8. Select Finish
9. Select OK

Cues Groups


Cues are messages sent to the device from the SMS Player that allows to send action commands. In the following example is how a typical cue is configured.

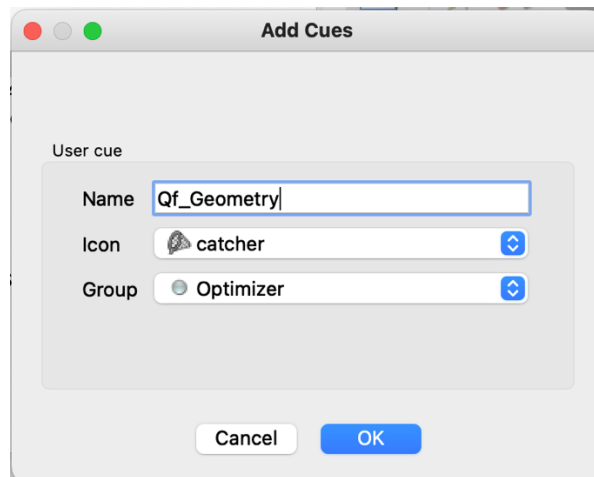
Let's start by creating a Cues Group named Optimizer

1. Select the Cues button
2. Select 
3. Type the group details for the Optimizer

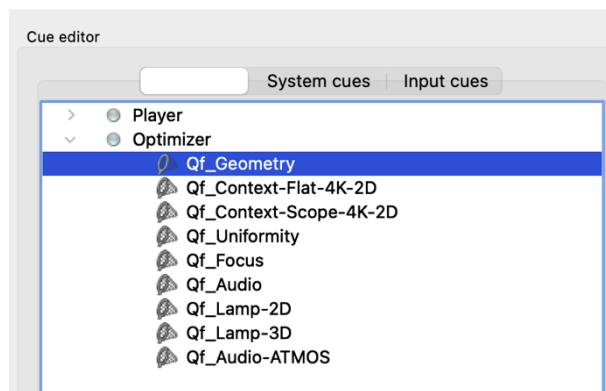


Add the Cues

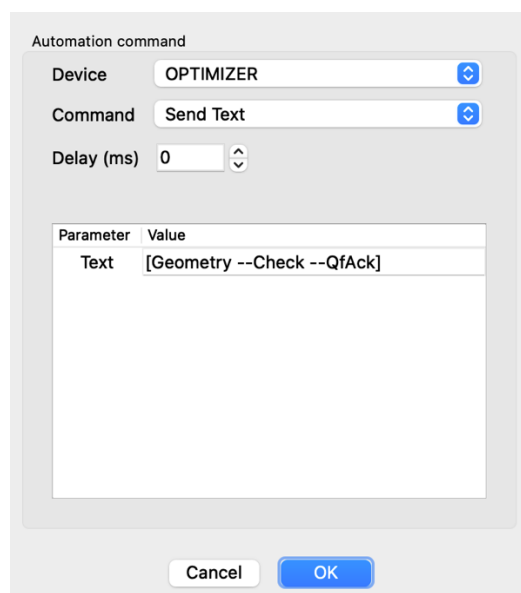
1. Select  to add a new cue.
2. Type 'Qf_geometry' and select an icon for the macro (catcher), ensure it is in the Optimizer Group



3. Select the Qf_Geometry user cue

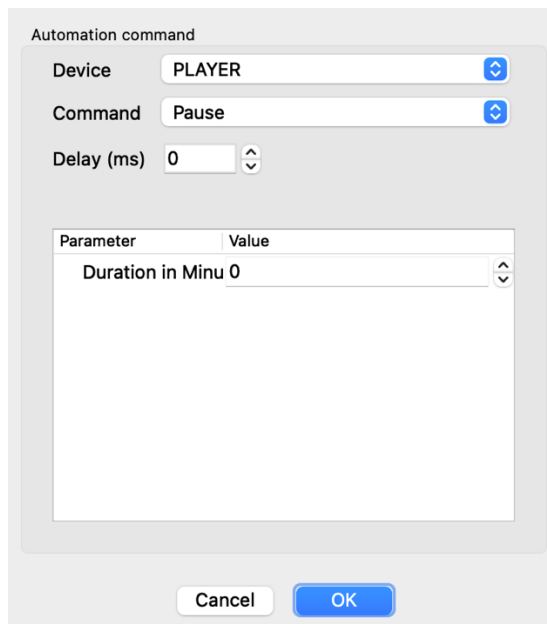


4. Select the top left icon to add new command to the user cue
5. Select the Optimizer Device, select Send Text Command, set delay to 0 ms.
6. Type the text command `[Geometry --Check --QfAck]`



Note: In the command above, the 'Geometry' text defines the feature, the '--Check' defines the command for that feature, and the '--QfAck' defines the response required from the Optimizer to the Server for resume playback.

7. Select the top left icon to add new command to the user cue
8. Select the Player Device, select Command 'Pause', set delay to 0 ms, set duration to 0



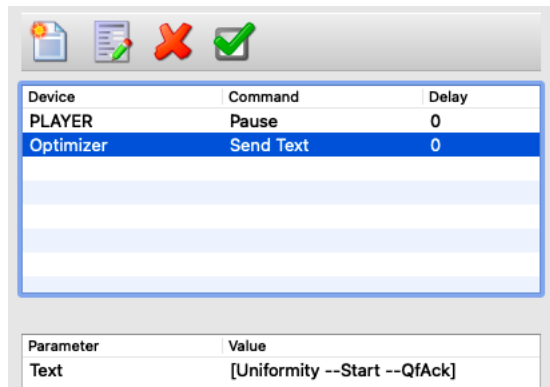
9. Finished Macro will have both the Player and Optimizer device operations in a single cue. The player will signal the playlist to pause and simultaneously send a command to check the geometry from the Optimizer while the server outputs the Geometry Pattern.

Configure all macros

Repeat those operations for all the required macros:

Macro Name	HSG Labs API string	Notes
Qf_Geometry	[Geometry --Check --QfAck]	
Qf_Uniformity	[Uniformity --Start --QfAck]	
Qf_Context-Flat-4K-2D	[OperatingContext --Type Flat --Resolution 4K --Mode 2D]	No pause needed
Qf_Context-Scope-4K-2D	[OperatingContext --Type Scope --Resolution 4K --Mode 2D]	No pause needed
Qf_Focus	[Focus --Start --QfAck]	
Qf_Audio	[Audio --Start --QfAck]	The pause is needed after the audio pattern
Qf_Audio-ATMOS	[Audio --Start --QfAck]	The pause is required just after the audio macro send
Qf_Lamp-2D	[Lamp --Start --Mode 2D --QfAck]	
Qf_Lamp-3D	[Lamp --Start --Mode 3D --QfAck]	

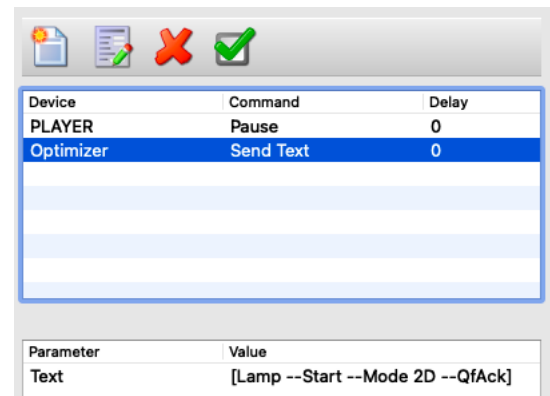
Qf_Uniformity



Device	Command	Delay
PLAYER	Pause	0
Optimizer	Send Text	0

Parameter	Value
Text	[Uniformity --Start --QfAck]

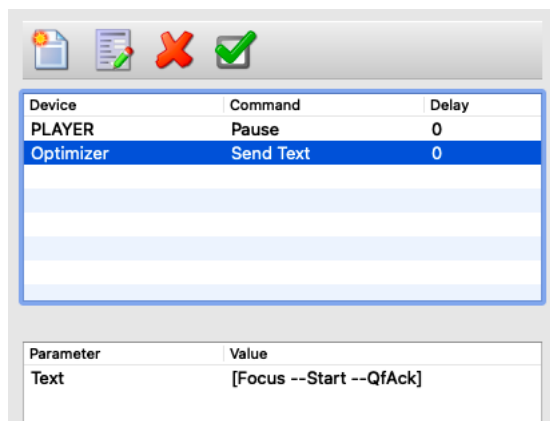
Qf_Lamp-2D



Device	Command	Delay
PLAYER	Pause	0
Optimizer	Send Text	0

Parameter	Value
Text	[Lamp --Start --Mode 2D --QfAck]

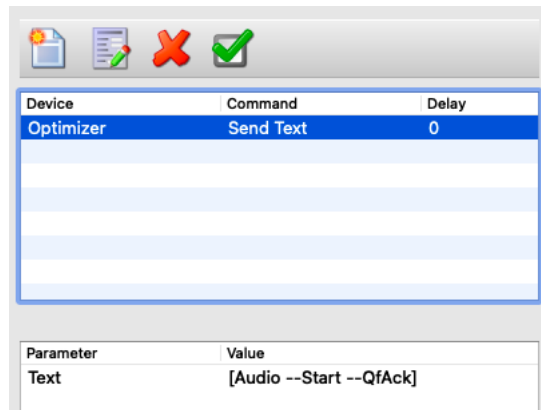
Qf_Focus



Device	Command	Delay
PLAYER	Pause	0
Optimizer	Send Text	0

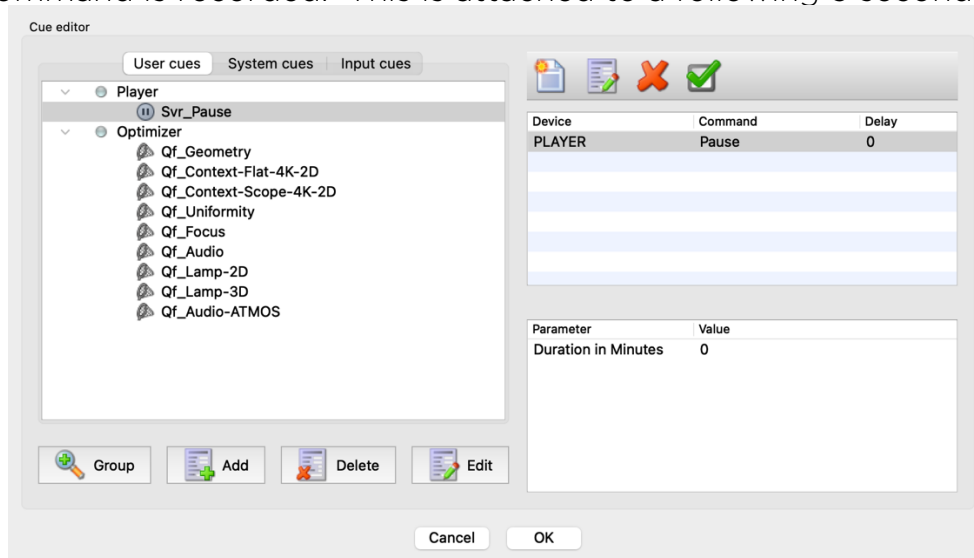
Parameter	Value
Text	[Focus --Start --QfAck]

Qf_Audio



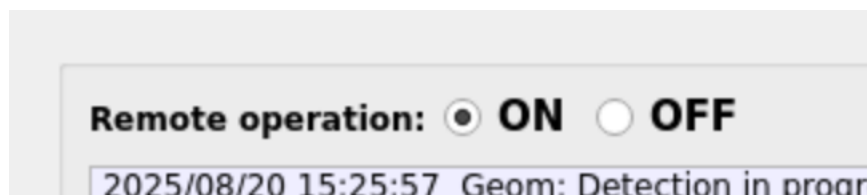
Server Pause

The server pause cue is required as a player command to be used with the Audio Recording macro for processing the audio compare function after the audio 5.1ch or 7.1ch command is recorded. This is attached to a following 5 second black clip.



Communication test

To test the communication, ensure the Optimizer has the remote mode enabled:



1. Select the Qf_Geometry macro from the cues list and click the green check box to run the macro.

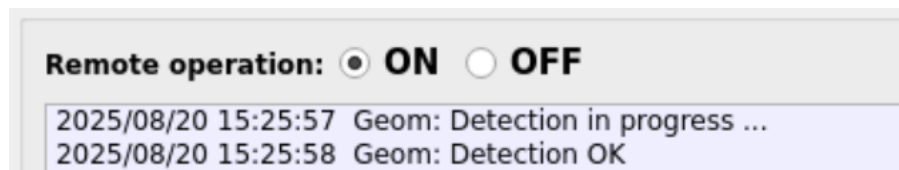
Device	Command	Delay
PLAYER	Pause	0
Optimizer	Send Text	0

Parameter	Value
Text	[Geometry --Check --QfAck]

2. The projector will report a success if the projector can communicate with the Optimizer

State	Test successful
Response	<pre>testing: "Optimizer" "Send Text" ("[Geometry --Check --QfAck]") TEST-STEP - "Optimizer" "Send Text"(...) - Success - action executed</pre>

3. A message will also appear on the optimizer interface



Note: Even if the Geometry is not detected correctly the important part here is that the message is received from the Optimizer.

Resume playback command

Once the Alchemy is correctly configured on the optimizer each time the acknowledge is requested for a command the Optimizer will resume the playback using the Alchemy SMS server API.

Required DCP Content

The required content needed for the Optimizer operation is listed below:

Macro Name	Pattern name
Qf_Geometry	QF-GeomQO-5.0_TST_X_XX_HT
Qf_Uniformity	QF-White-2.0_TST_X_XX_HT
Qf_Context-Flat-4K-2D	Server black pattern
Qf_Context-Scope-4K-2D	Server black pattern

Qf_Focus	QF-Checkerboard-2.0_TST_X_XX_HT
Qf_Audio	HSG-Audio_TST-1_C_71_2K
Qf_Audio-ATMOS	Server black pattern
Qf_Lamp-2D	QF-White-2.0_TST_X_XX_HT
Qf_Lamp-3D	QF-White-2.0_TST_X_XX_HT
Qf_Export	Server black pattern

The content is available for download via an FTP client like Filezilla using the following credentials:

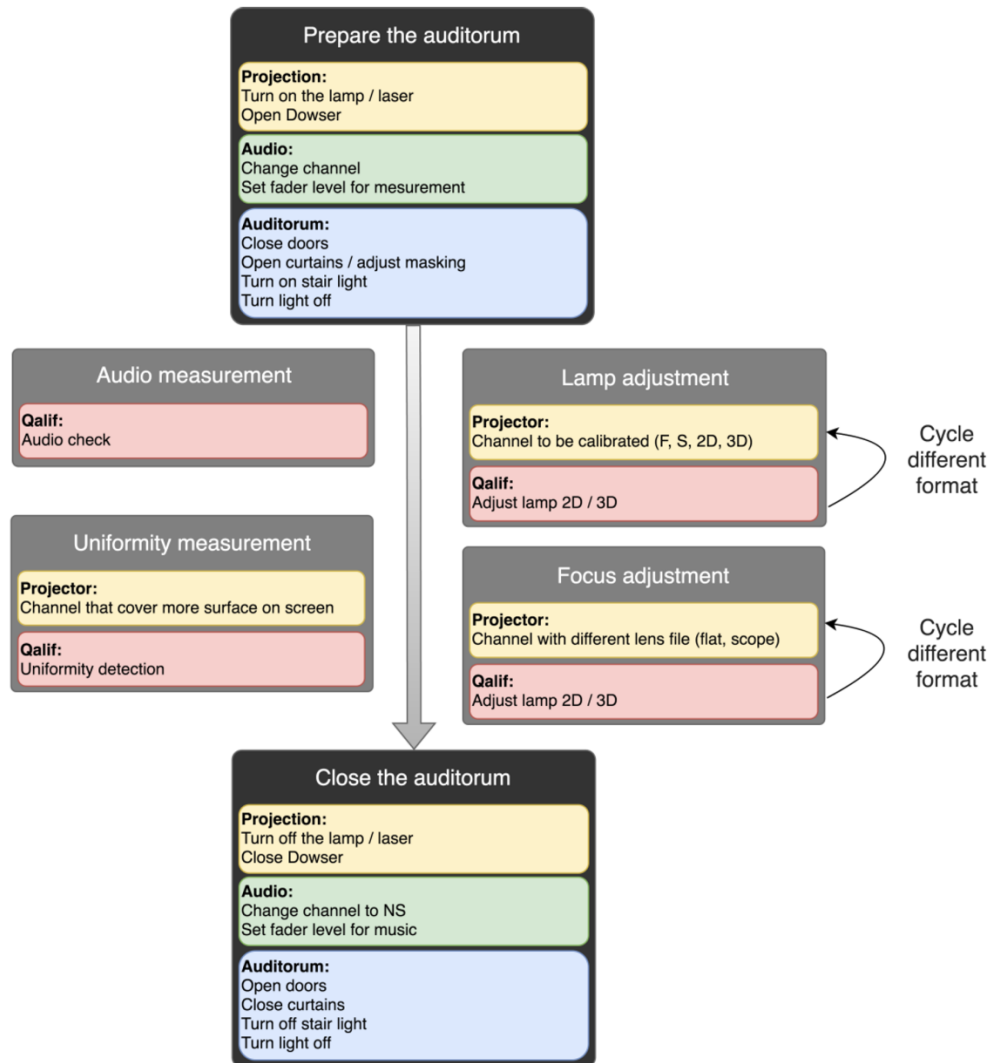
Address: ftp.active.ht
 Port: 2121
 User: capartner
 Password: partner
 Remote folder: /public/

Playlist Configuration

The operation of the Optimizer when controlled remotely is done via a SMS player activating specific macros during specific content to trigger an event. These events tell the Optimizer which pattern is displayed and what featured to measure. The instructions below define one option for a playlist to operate the Optimizer. Many playlists can be created with different operational functions and frequency of use requirements.

Recommendations

- Determine the frequency of each operation; daily, weekly, monthly.
- Determine the best time to schedule the play list to run, before of after last show.
- Before each calibration session the room should be setup in Movie mode:
 - Lighting / Stair light / Doors
 - Projector Lamp on & Warm-up
 - Projector Channel macro (Flat or Scope)
 - Audio Channel & Volume



- Before every calibration sequence and projector format macro change remember to set the operating context and to detect the geometry correctly.
- The Geometry must be checked at the first operation and before each format change to be able to correctly identify where the images are located with reference to the device camera.
- Is preferable to Set up Luminance prior to measuring the uniformity luminance of the screen. Luminance adjustment suggested only on Xenon projectors for colorimetry reasons.
- For audio:
 - The reference should be recorded at device installation and after each audio system calibration.
 - The volume level during the check should be set to the same level as the reference was recorded (i.e.: 7.0).

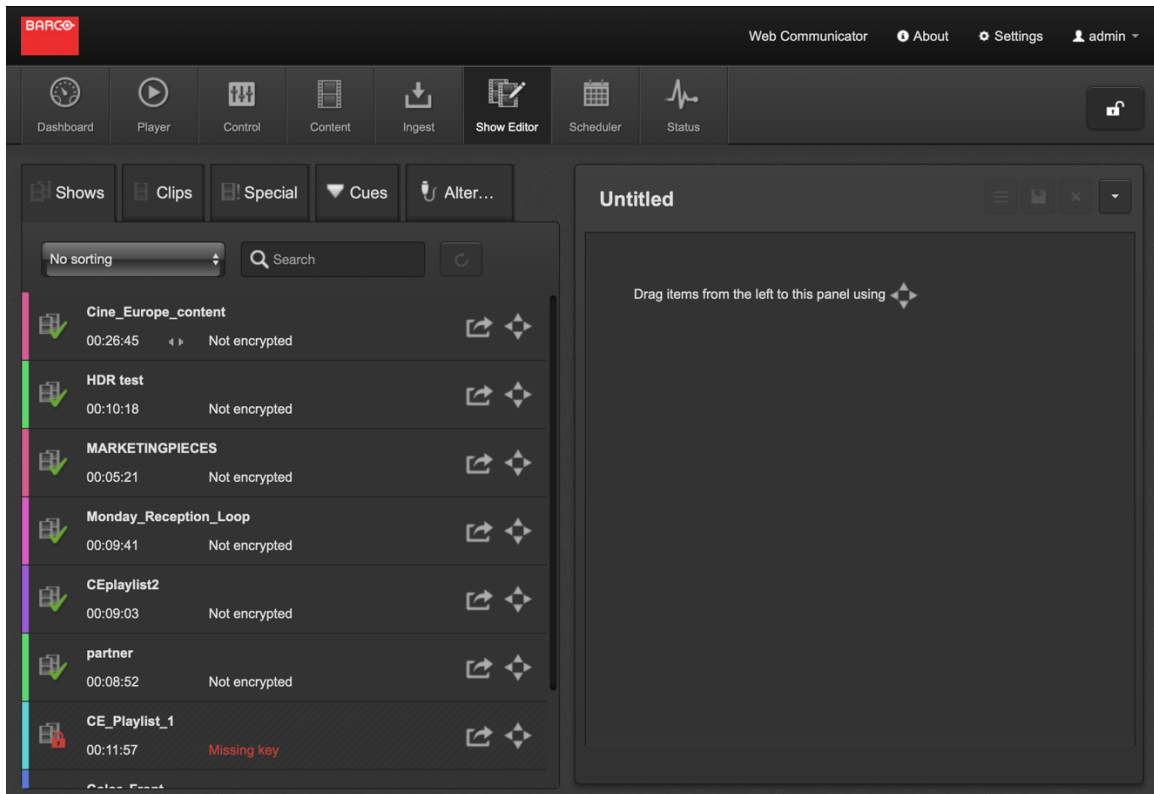
Frequency

Operation	Suggested Frequency
Set operating Context	Before every calibration sequence / format change

Geometry detection	Before every calibration sequence / format change
Uniformity measurement	Daily after the last show in the format that cover more surface on the screen
Light adjustment	Daily after the last show for used scope and flat channel
Focus adjustment	Weekly after the last show for every lens file used on projector
Audio measurement	Daily after the last show when the speaker are warmed up

Playlist creation

1. Login to the Alchemy web commander via the HTTP interface and open the *Show Editor*



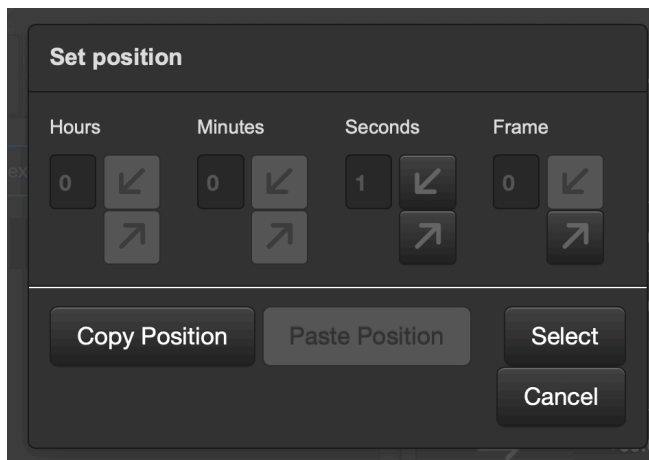
2. Drop the following listed content from the left panel to the right one.

- ✓ [Room preparation actions]
- ✓ Black (10 seconds)
- ✓ QF-GeomQO-5.0_TST_X_XX_HT
- ✓ QF-White-2.0_TST_X_XX_HT
- ✓ Black (5 seconds)
- ✓ *HSG-Audio_TST-1_C_71_2K or black (Dolby Atmos enabled)*
- ✓ Black (5 seconds)
- ✓ [Room close actions]

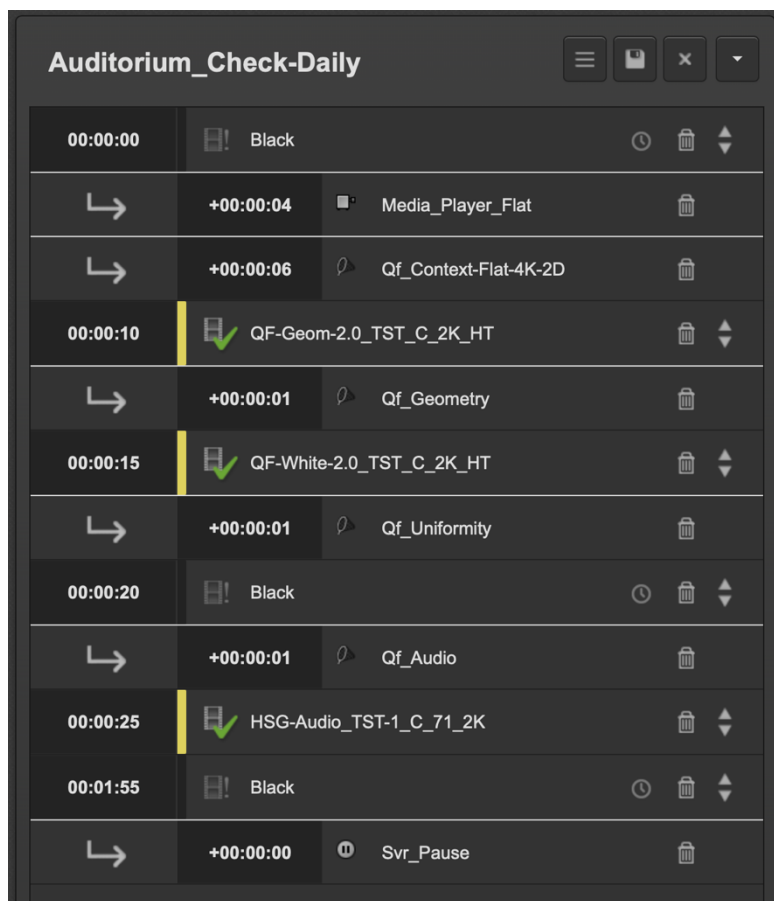
Note: Ensure to use the correct pattern format according to the projector format.

- C for Flat and HD formats
- S for Scope

3. Add in the cues to each content. Each time a cue is added to the content we suggest that is setup with at least 1 second from the beginning of the clip and each cue on the same pattern should be separated by at least 1 second offset.

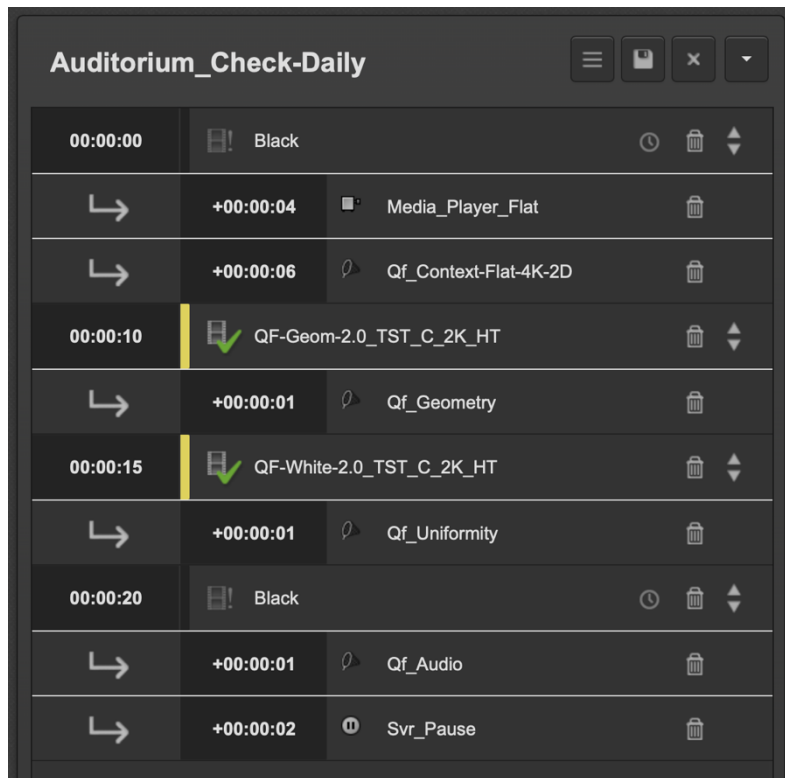


Playlist example: Check

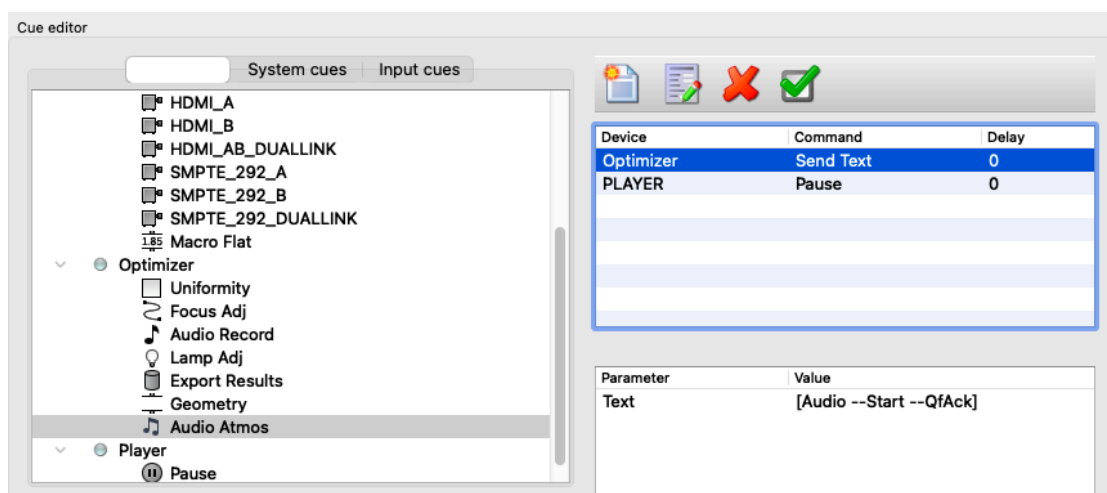

































Playlist example: Check with Dolby ATMOS processor

For Dolby Atmos processor configuration the Optimizer will communicate directly with the CP850 or CP950 to activate the pink noise generator. This will allow the Optimizer to control the sequence and record the audio as expected. The audio pattern is not required for this operation but the pause command is required after the audio macro. In some integration is suggested to create a specific ATMOS cues on the SMS Server that already contain the pause command.



Or configure a specific Atmos cues

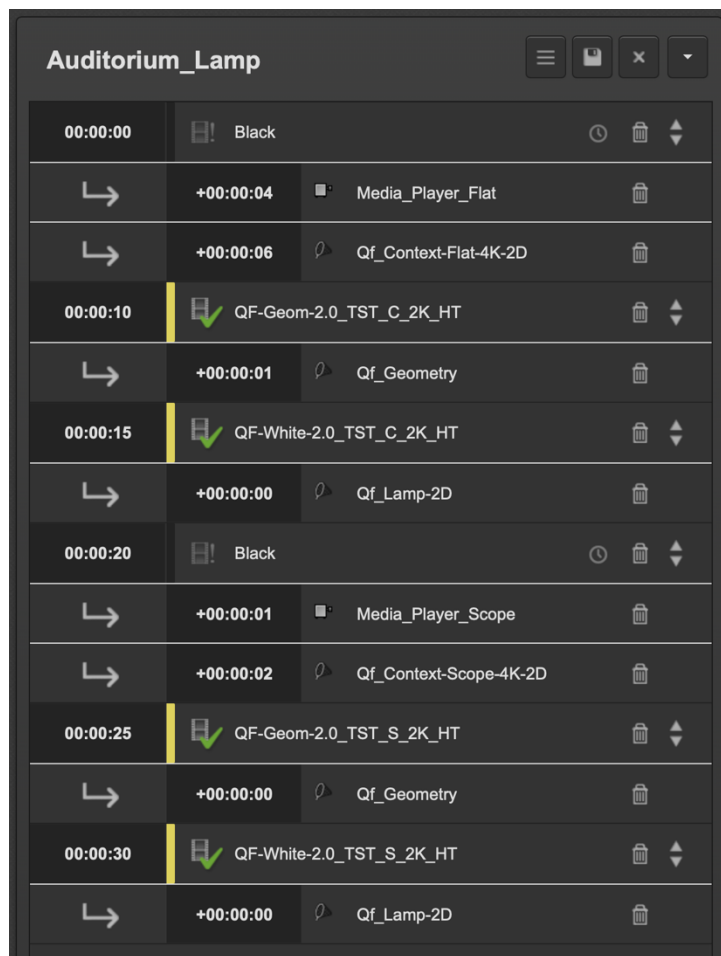


Auditorium_Check-Daily			
00:00:00	 Black		  
	+00:00:04	 Media_Player_Flat	
	+00:00:06	 Qf_Context-Flat-4K-2D	
00:00:10	  QF-Geom-2.0_TST_C_2K_HT		 
	+00:00:01	 Qf_Geometry	
00:00:15	  QF-White-2.0_TST_C_2K_HT		 
	+00:00:01	 Qf_Uniformity	
00:00:20	 Black		  
	+00:00:01	 Qf_Audio-ATMOS	

Playlist example: Focus

Auditorium_Focus			
00:00:00	Black		
↳	+00:00:04	Media_Player_Flat	
↳	+00:00:06	Qf_Context-Flat-4K-2D	
00:00:10	✓ QF-Geom-2.0_TST_C_2K_HT		
↳	+00:00:01	Qf_Geometry	
00:00:15	✓ QF-Checkerboard-2.0_TST_C_2K_HT		
↳	+00:00:00	Qf_Focus	
00:00:20	Black		
↳	+00:00:01	Media_Player_Scope	
↳	+00:00:02	Qf_Context-Scope-4K-2D	
00:00:25	✓ QF-Geom-2.0_TST_S_2K_HT		
↳	+00:00:00	Qf_Geometry	
00:00:30	✓ QF-Checkerboard-2.0_TST_C_2K_HT		
↳	+00:00:00	Qf_Focus	

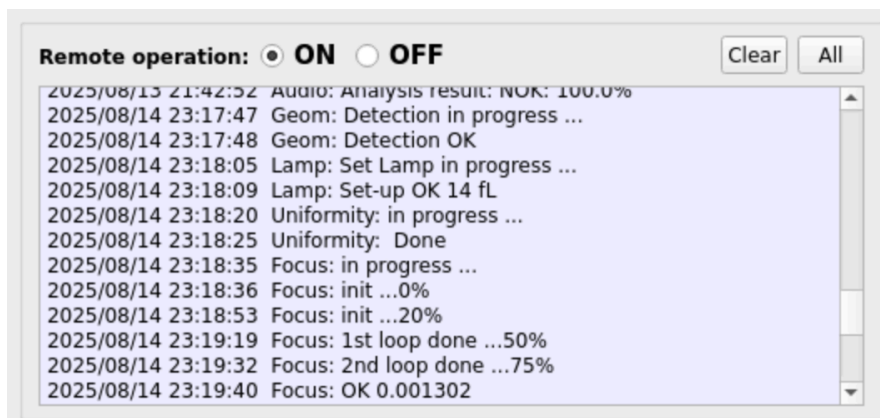
Playlist example: Lamp



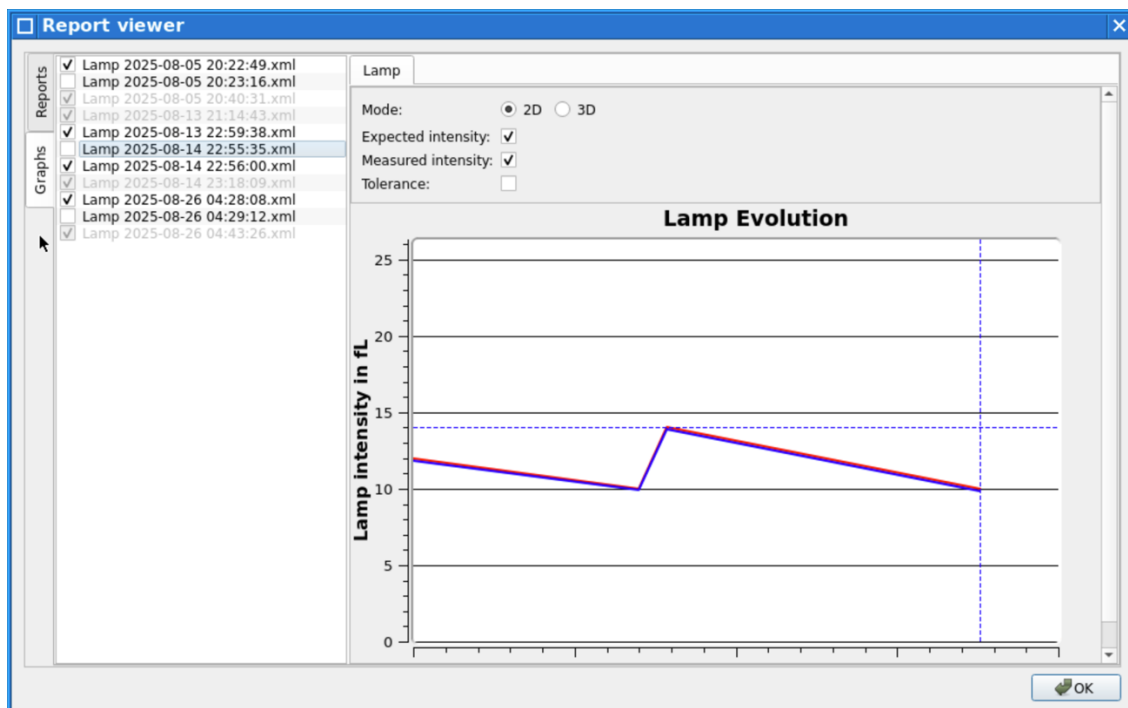
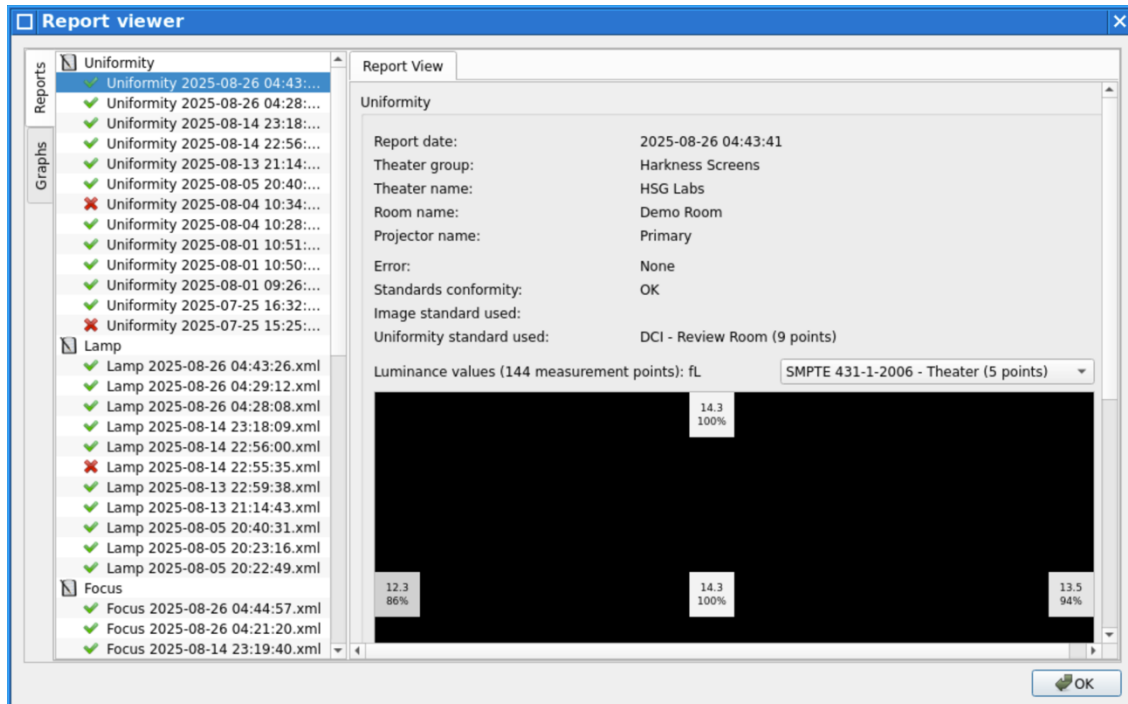
Playlist Test

Once the playlist is saved it can be tested. Ensure Optimizer is configured in remote operation and run the playlist.

The Display log on the Optimizer show the remote operation log and details as showed in the example here below.



History data can be checked via the History menu on the optimizer or via NOC monitoring software if configured.



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