



Barco Alchemy-S4 Cinema Server Configuration

For Optimizer Installation

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Version: *1.0*

Date: *2025/09/12*

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Status: *Draft*
 Routing for Document Approval
 Approved
 Unapproved

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Optimizer Configuration

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


Select Settings:

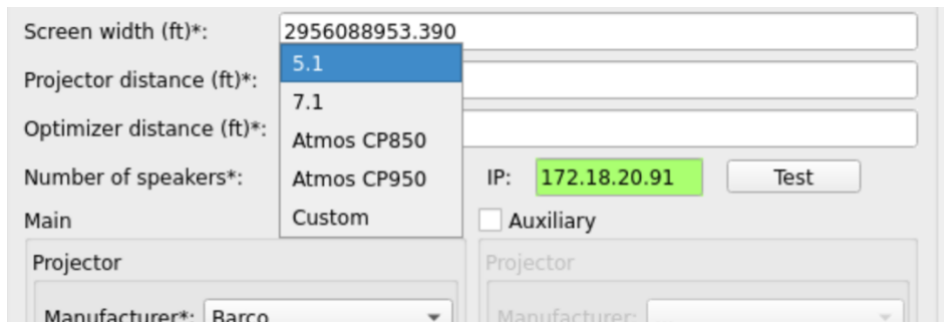
Site Specific Configurations:

- 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

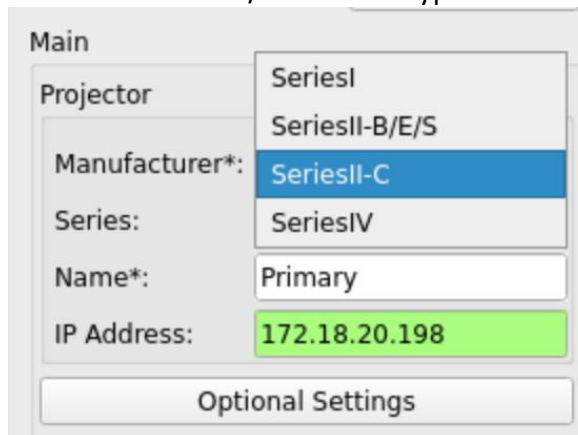
For a Barco Alchemy Server, you will need to configure the room settings as follows:

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.

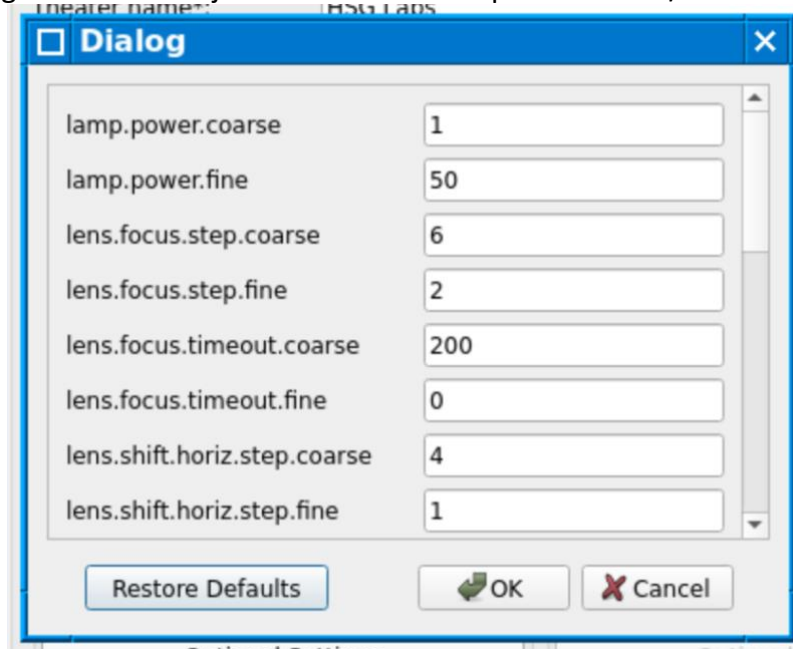


Note: To enable Atmos audio features, an Atmos license is required. Please speak to your salesperson. If Atmos is selected the IP address should be filled.

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

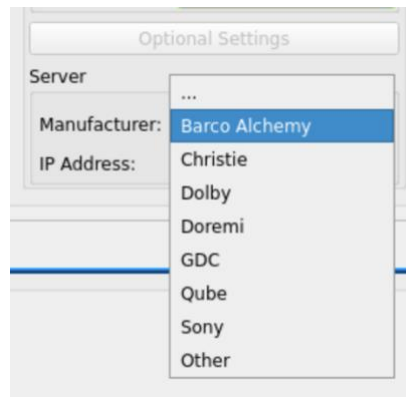


6. Optional Settings – Select to adjust the lens control speed and fine/coarse adjustment steps

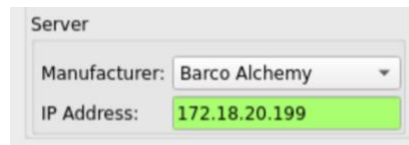


Default Settings

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

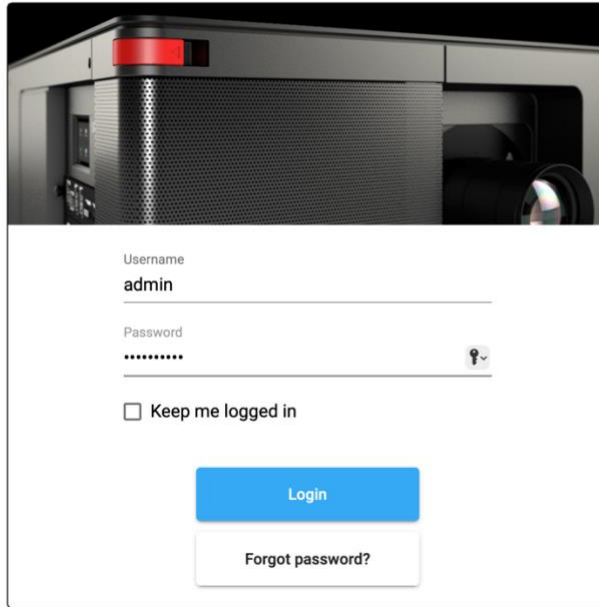
Connect via a browser to the web interface of the projector (Web communicator)

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.

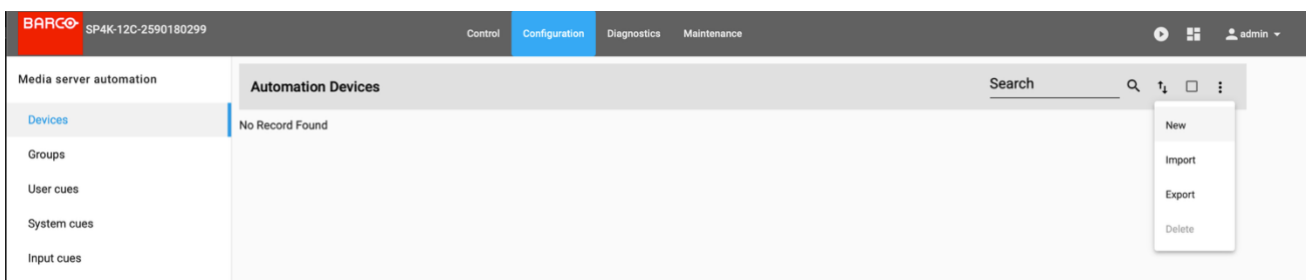
1. Login to the Barco Web Communicator as admin.



2. From the menu click on **Devices** in the **Medi Server Automation** section

Control	Configuration	Diagnostics	Maintenance
Projector	Color management		Licenses and certificates
Macros	Light source		Manage licenses
PCF	Projector color		Manage certificates
Lens selection	Verify corrected colors		Media server
Lens position	SCC		Content
3D	Projector automation		Player
Input	GPI		Scheduler
Picture	GPO event		Immersive sound
Test patterns	GPO status		Audio channel
Internal clock settings	Media server automation		System access
Image orientation	Devices		Network configuration
Light output	Groups		Manage users
Sensor	User cues		Marriage pin code
Mode	System cues		SNMP
	Input cues		Multi projectors

3. Click on the 3 dots icon and **New** device



4. Configure as per the following

← *untitled

Protocol
TCP

Hostname/ IP address: 192.168.50.151 Port: 32768

Login text

Maintain connection

Protocol: TCP
Port: 32768

5. Click on save icon and confirm after filling the device name

Save as

Configuration name *

OPTIMIZER

Use letters, numbers, percent, underscore & hyphen.

Cancel Save

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. Under **Media server automation** go to **Groups** submenu and click the tree dots and **New** entry.

BARCO SP4K-12C-2590180299 Control Configuration Diagnostics Maintenance admin

Media server automation

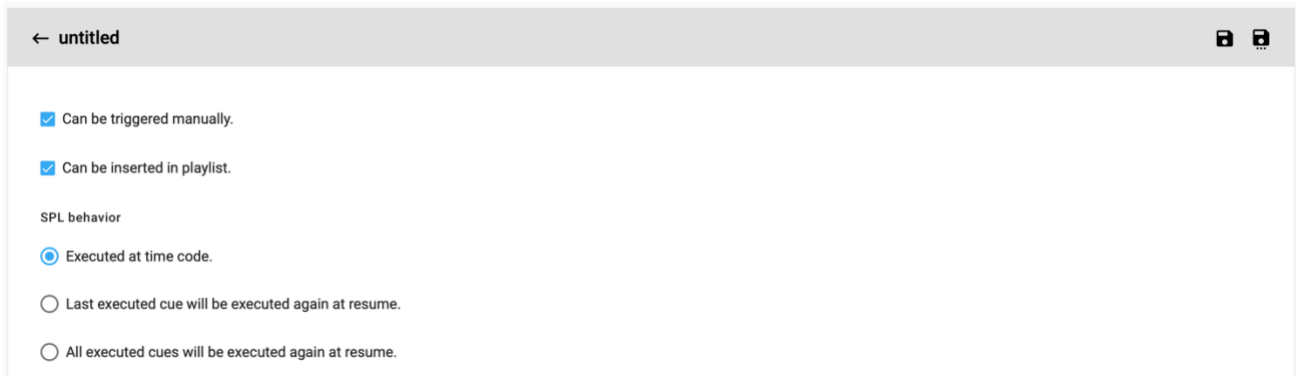
- Devices
- Groups**
- User cues
- System cues
- Input cues

Automation Groups Search

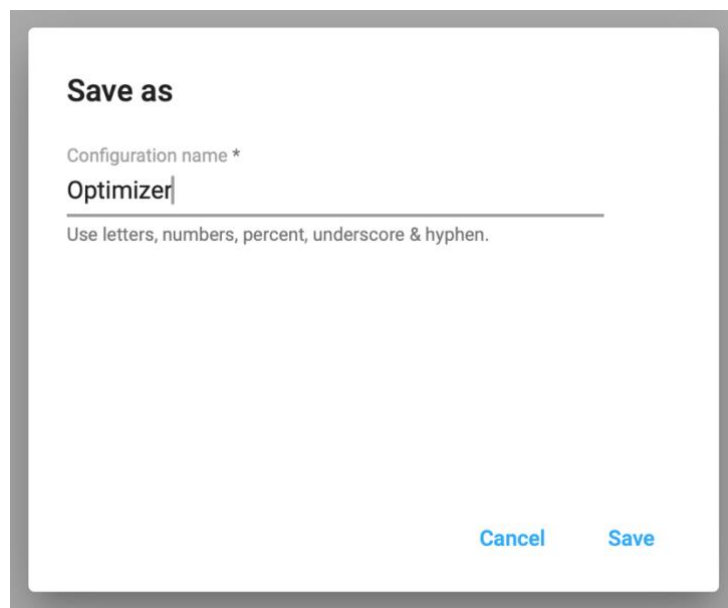
Player	Can be triggered manually	Can be inserted in SPL
Projector	Can be triggered manually	Can be inserted in SPL

- New
- Import
- Export
- Delete

2. Fill the data accordingly and hit save icon.

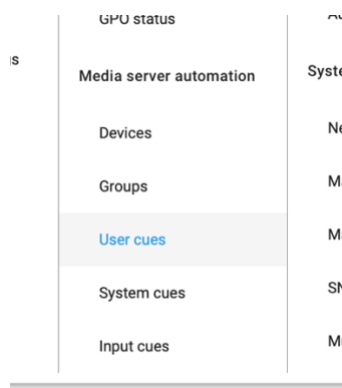


3. Give Optimizer name to the group and hit save

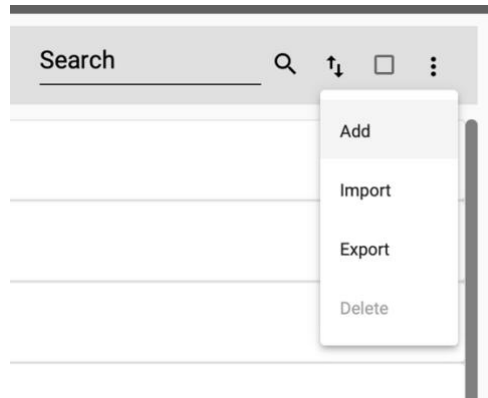


Add the Cues

1. From the menu click on **User cues** in the **Medi Server Automation** section

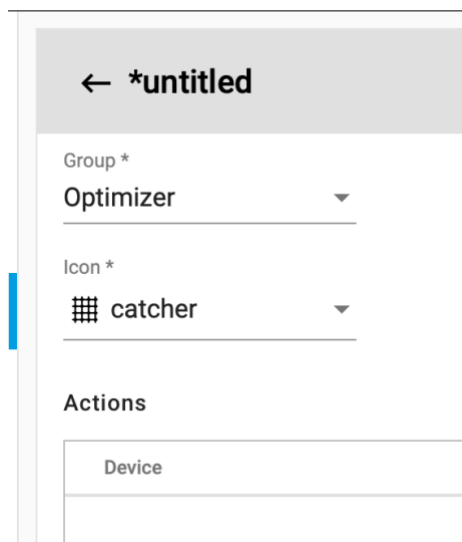


2. Click the tree dots and **Add** entry.

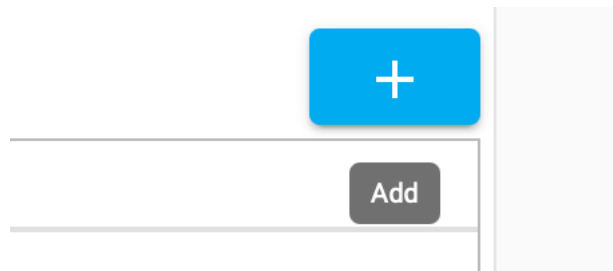


3. Fill the data for **geometry detection** as per the following screenshot.

Group: Optimizer
Icon: catcher (or anything is appropriate)

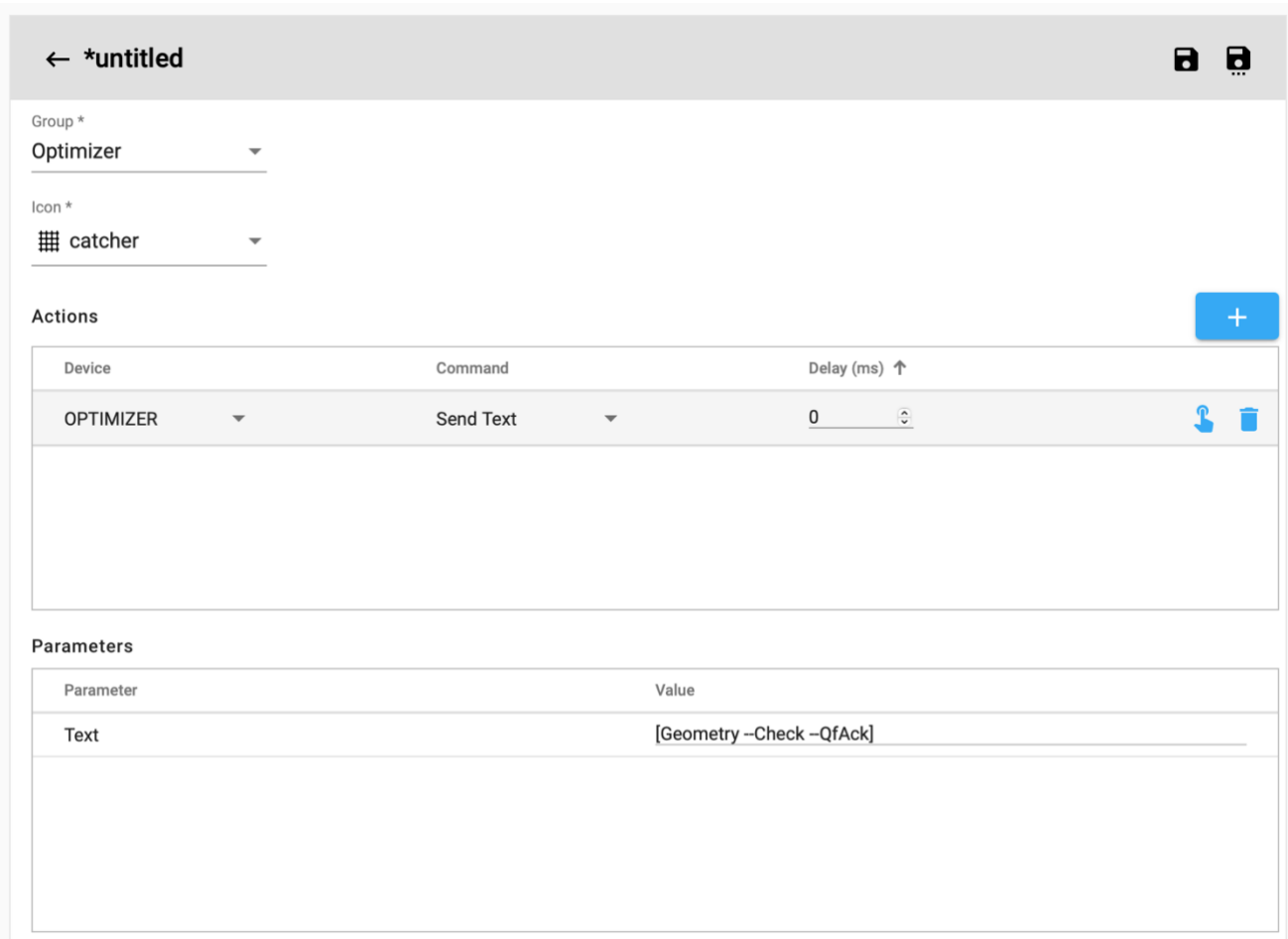


4. Click the + button to add the first action



5. Configure as per the following

Device: Optimizer
Command: Send Text
Value: **[Geometry --Check --QfAck]**



Note: In the command above, the '**Qf_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 SMS for resume playback (see add the trigger section of this document).

6. From this interface is also possible to test the command by clicking on test button

Actions



Device	Command	Delay (ms) ↑	
OPTIMIZER	Send Text	0	

7. As the QfAck has been requested is required to add a pause command in the cues sequence. Click on + button to add another action and fill a player pause.

← *untitled



Group *

Optimizer

Icon *

catcher

Actions

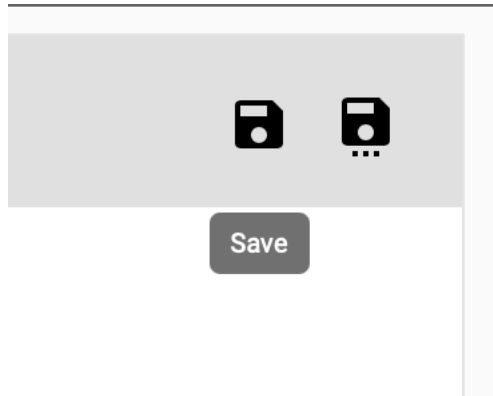


Device	Command	Delay (ms) ↑	
OPTIMIZER	Send Text	0	
PLAYER	Pause	0	

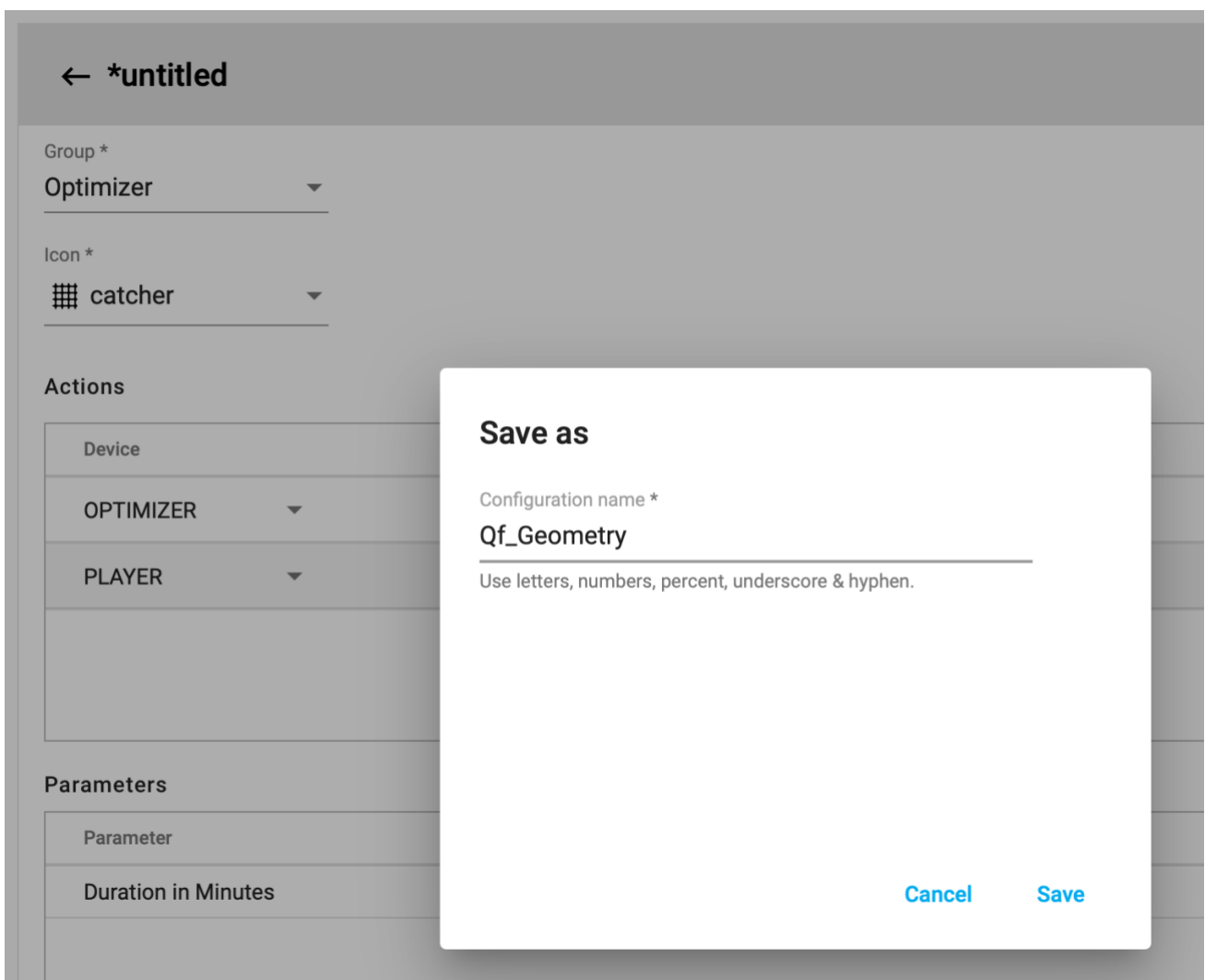
Parameters

Parameter	Value
Duration in Minutes	0

8. Click the disk icon to save the User cue



9. Give name **Qf_Geometry** and hit **save** button



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]	

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.

← *untitled
📄 🖨️

Group *

Player ▾

Icon *

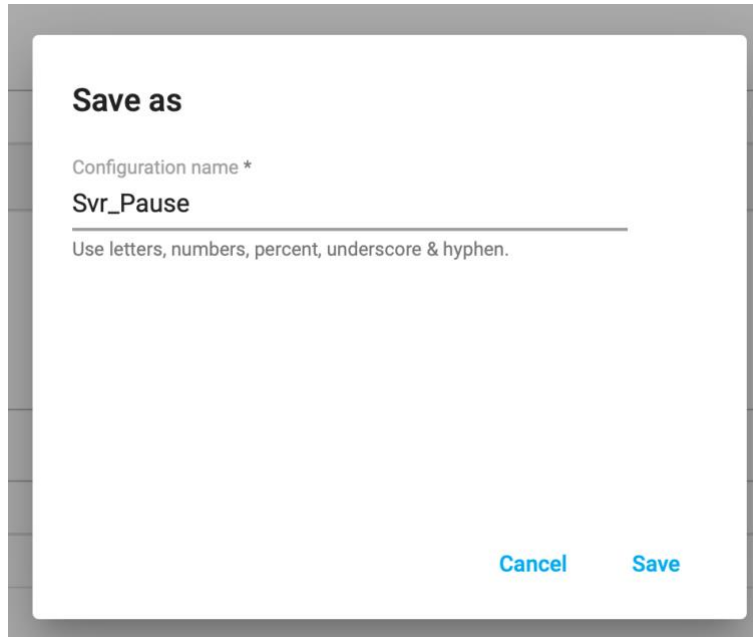
|| btnPause ▾

Actions +

Device	Command	Delay (ms) ↑	
PLAYER ▾	Pause ▾	0 <input style="width: 40px; border: 1px solid #ccc;" type="text"/>	👤 🗑️

Parameters

Parameter	Value
Duration in Minutes	0 <input style="width: 40px; border: 1px solid #ccc;" type="text"/>

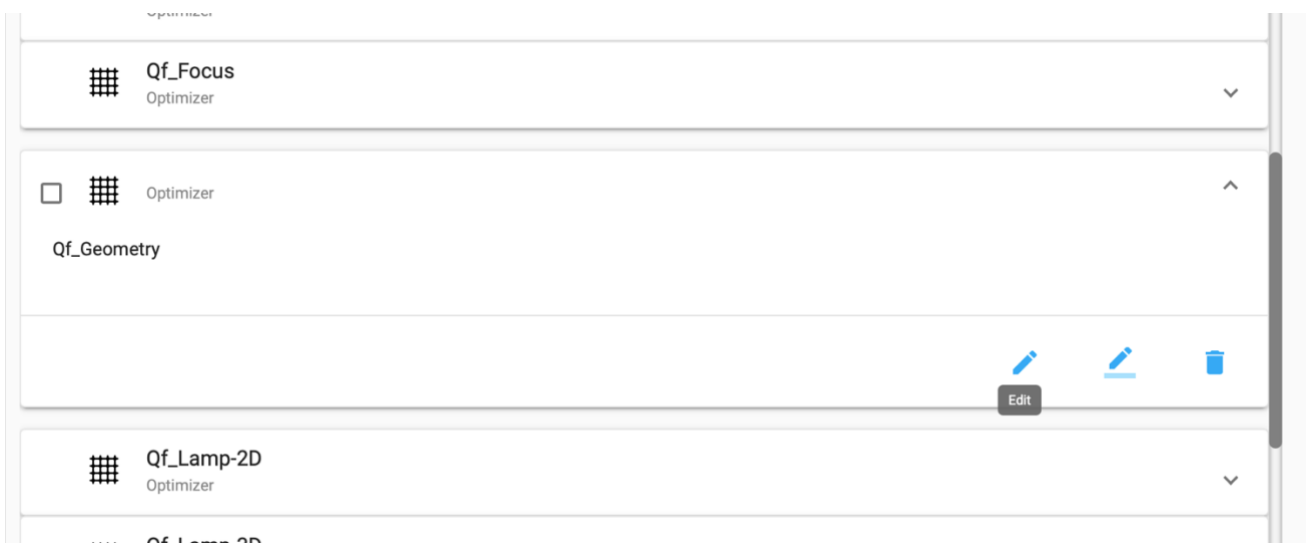


Communication test

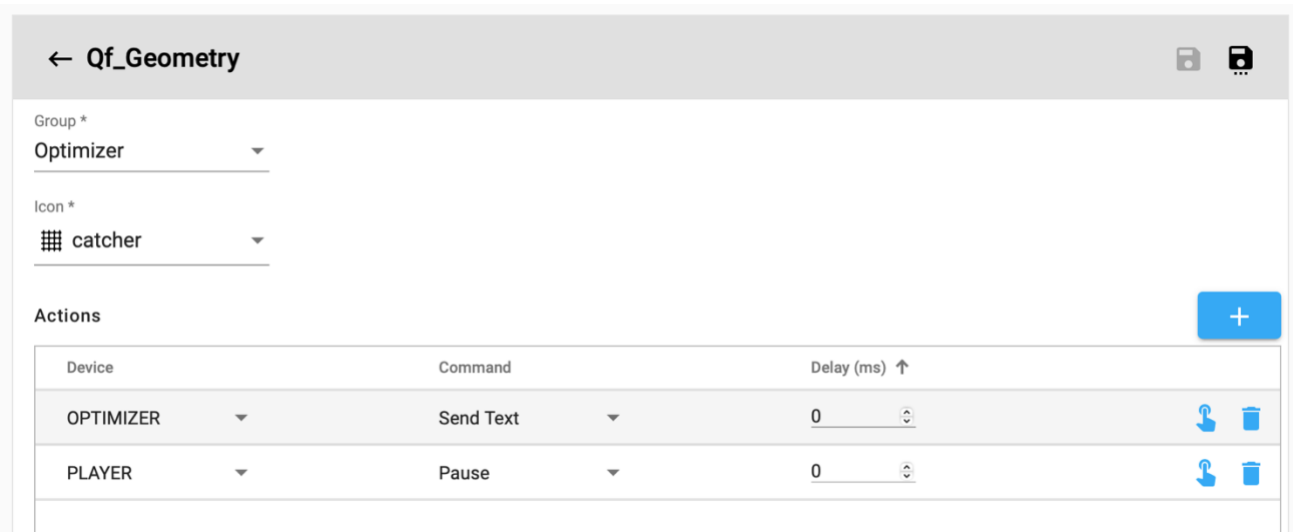
To test the communication, ensure the Optimizer has the remote mode enabled:



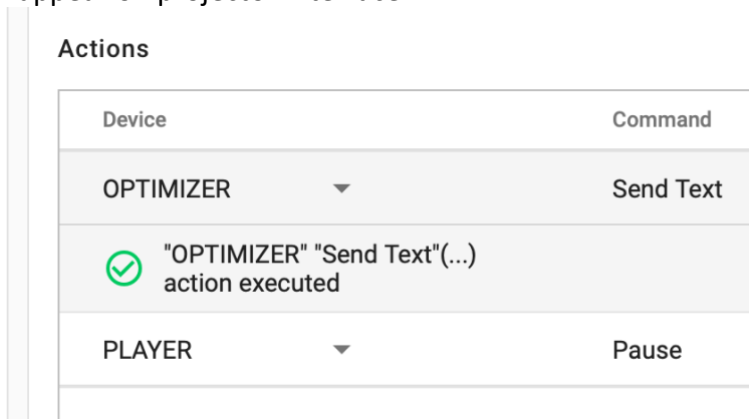
1. On the SMS Player select a macro (geometry) from the User cues under **Media server automation** menu. Click edit macro button.



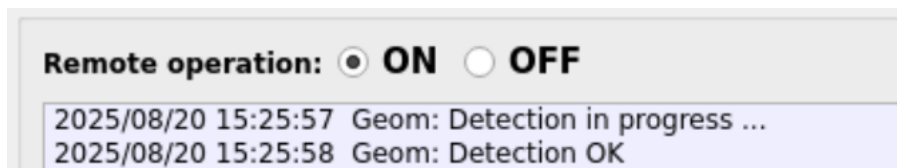
- From the macro menu select the optimizer command test button.



- A message will appear on projector interface:



- 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

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

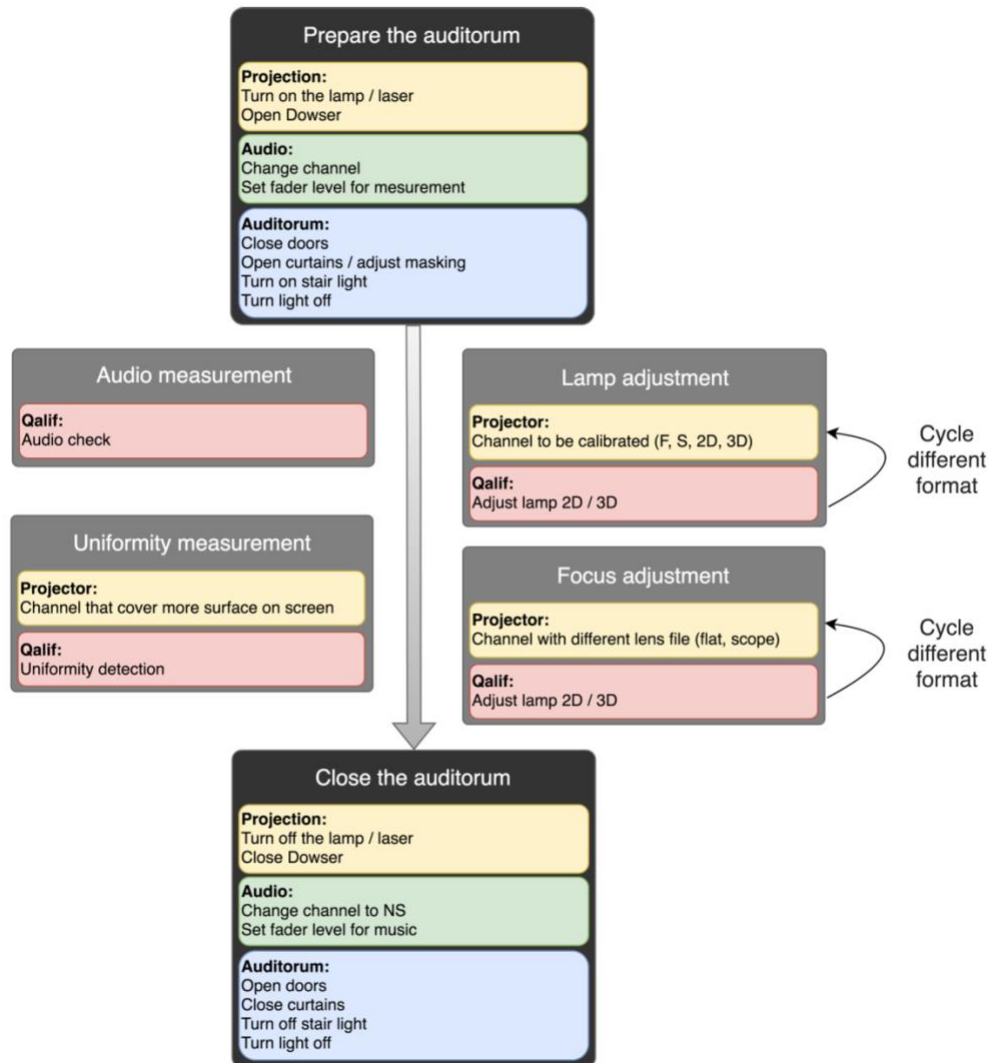
Address: ftp.active.ht
Port: 2121
User: capartner
Password: partner
Remote folder: /public/

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).

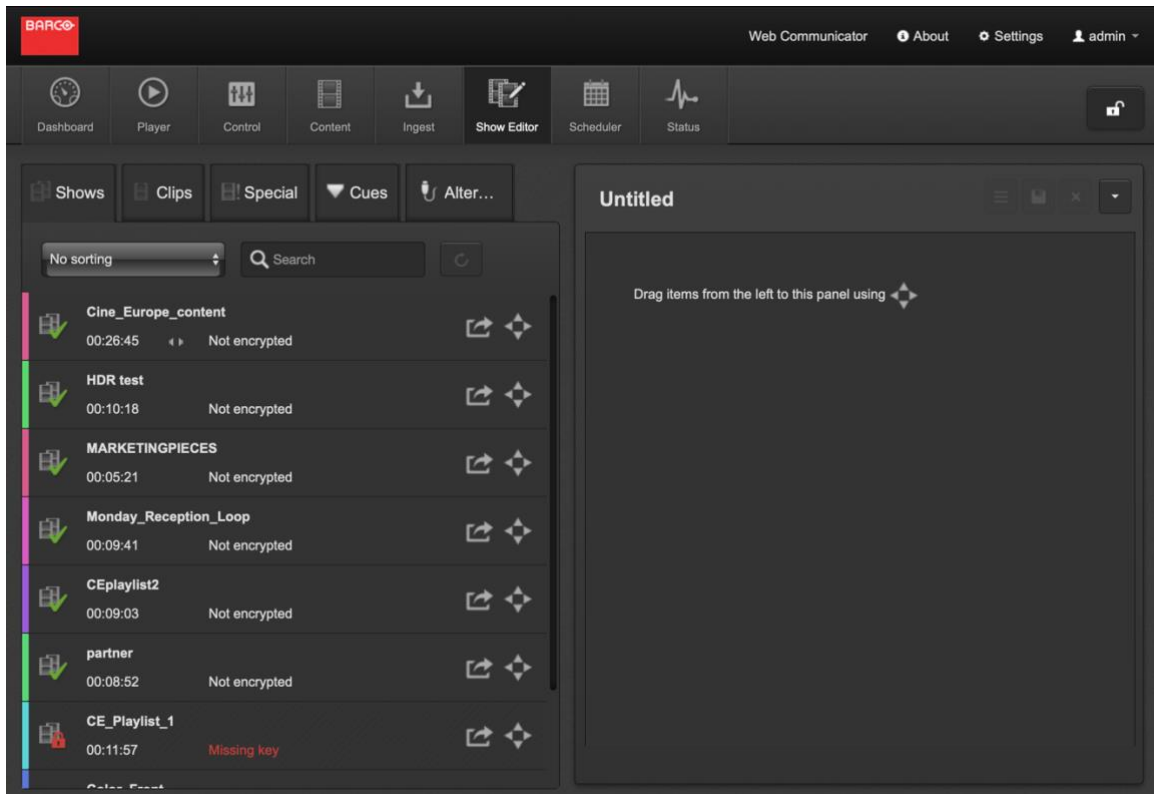
Frequency

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*



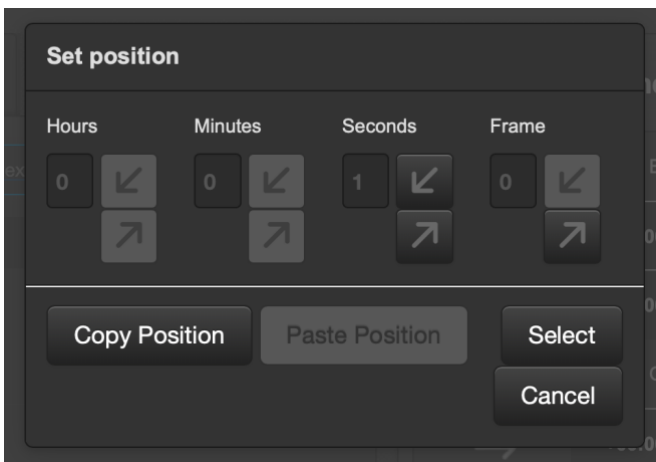
2. Drop the following listed content from the left panel to the right one.

- ✓ [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]

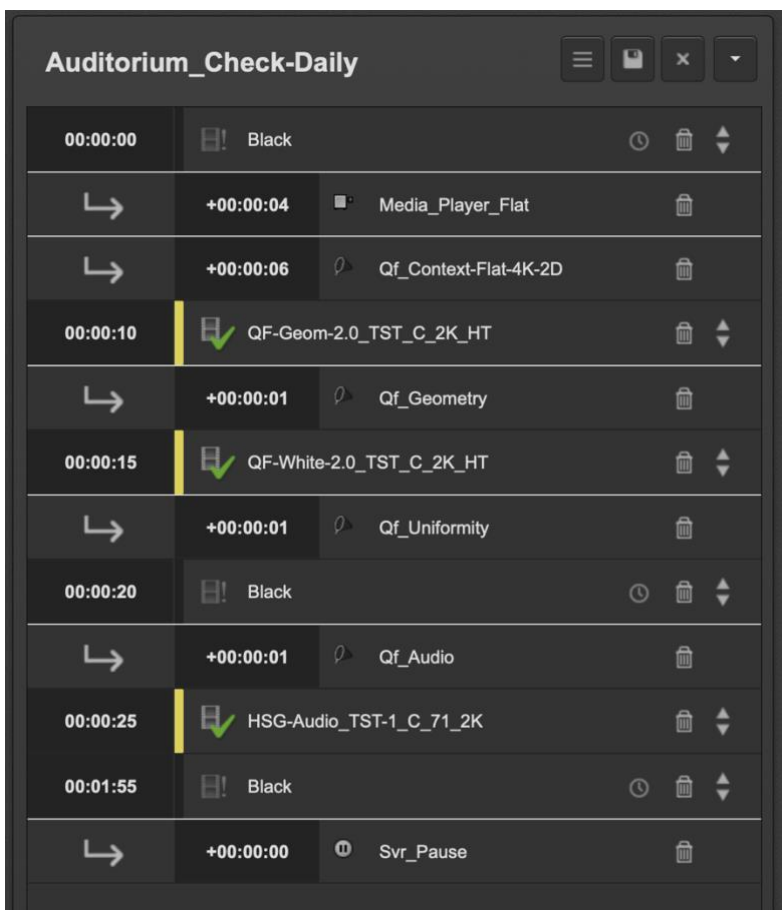
Note: Ensure to use the correct pattern format according to the projector format.

- 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.

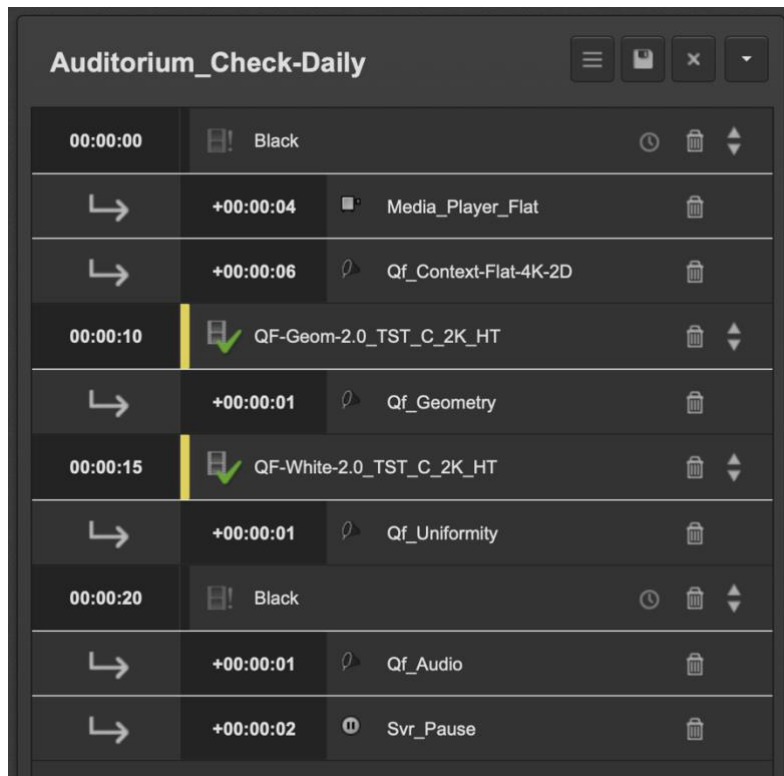


Playlist example: Check



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.



Start Time	Duration	Cue Name	Icon
00:00:00		Black	Black icon
	+00:00:04	Media_Player_Flat	Speaker icon
	+00:00:06	Qf_Context-Flat-4K-2D	Speaker icon
00:00:10		QF-Geom-2.0_TST_C_2K_HT	Speaker icon with green checkmark
	+00:00:01	Qf_Geometry	Speaker icon
00:00:15		QF-White-2.0_TST_C_2K_HT	Speaker icon with green checkmark
	+00:00:01	Qf_Uniformity	Speaker icon
00:00:20		Black	Black icon
	+00:00:01	Qf_Audio	Speaker icon
	+00:00:02	Svr_Pause	Pause icon

Or configure a specific Atmos cues

← Qf_Audio-ATMOS 📄 🖨

Group*
 Optimizer ▾

Icon*
 📊 catcher ▾

Actions +

Device	Command	Delay (ms) ↑	
OPTIMIZER ▾	Send Text ▾	0 <input type="text"/>	
PLAYER ▾	Pause ▾	0 <input type="text"/>	

Parameters

Parameter	Value
Text	[Audio -Start -QfAck]

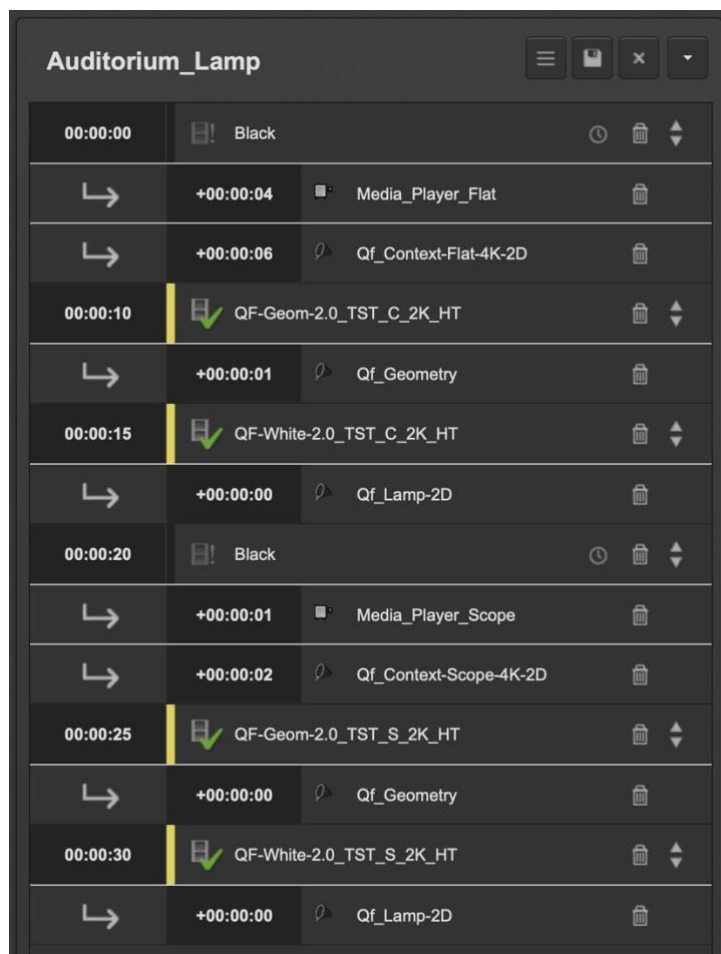
Auditorium_Check-Daily ☰ 📄 ✕ ▾

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	

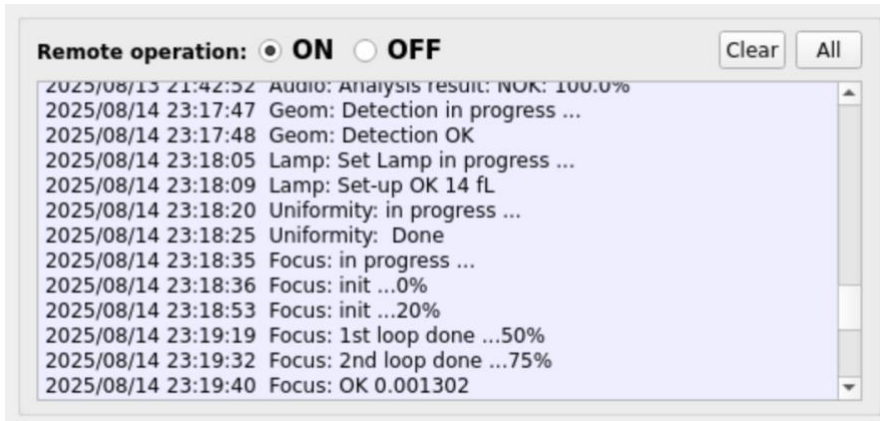
Playlist example: Lamp



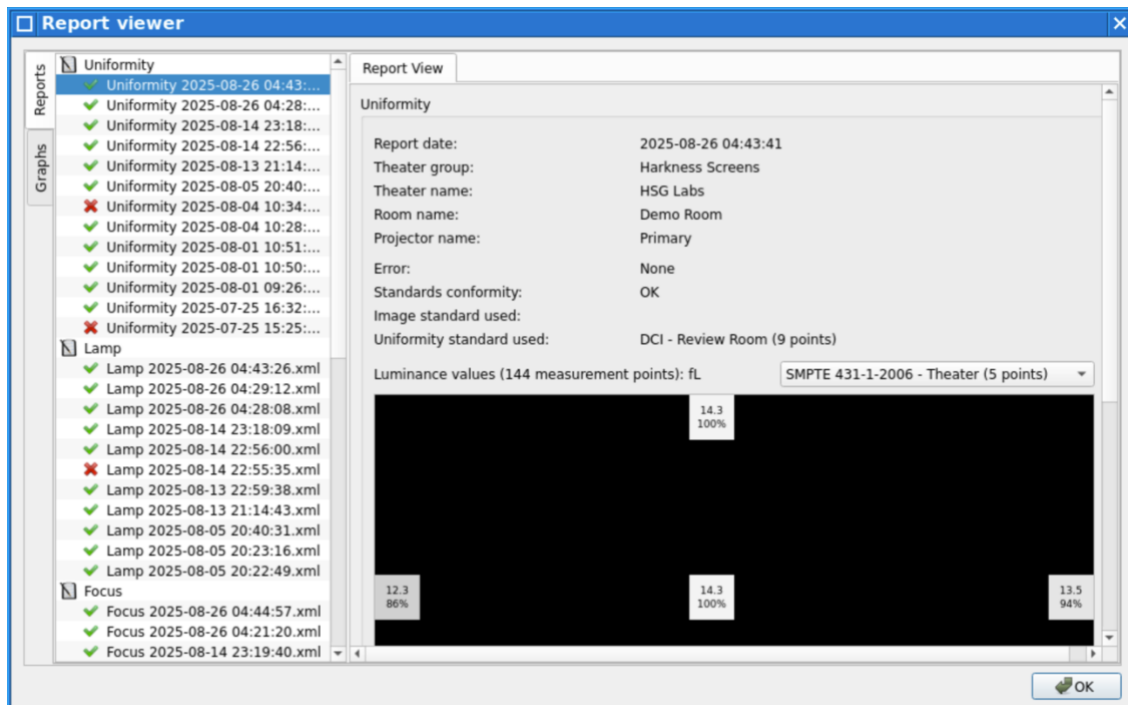
Playlist Test

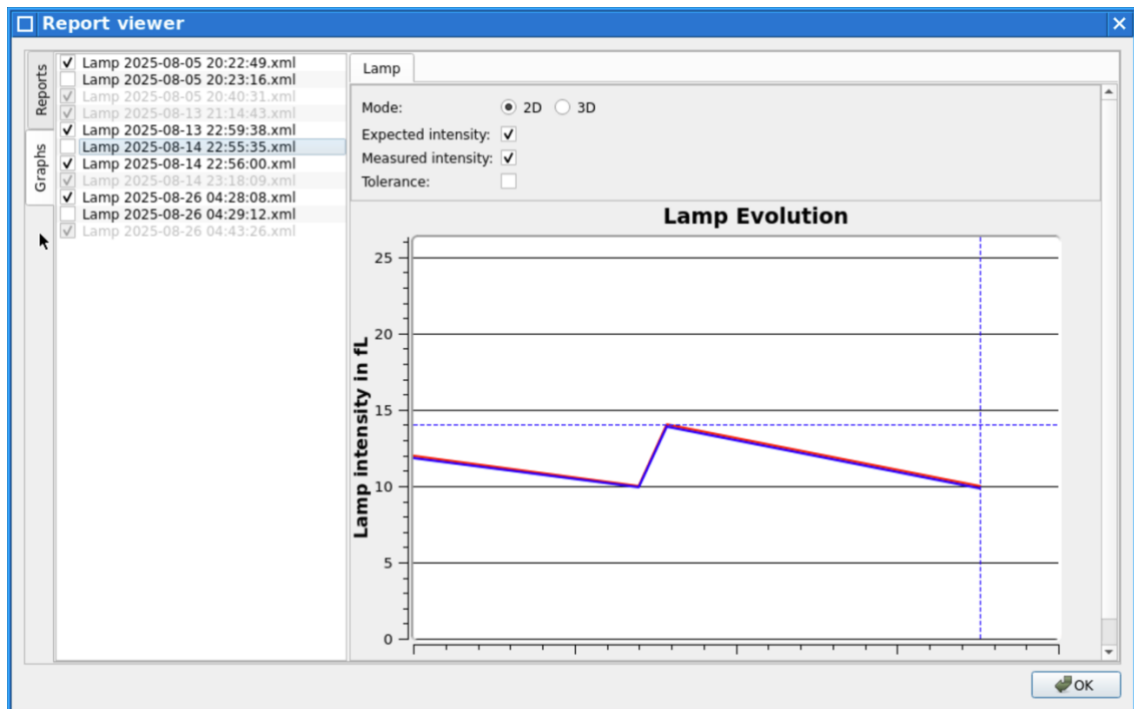
Once the playlist is saved it can be tested. Ensure Optimizer is configured in remote operation and run the playlist.

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.





-- End of Document--