

Supra-5000

Digital Cinema and Secured Media
Projection System



User Manual

May 19th, 2021.

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Thank you for purchasing the Supra-5000 Digital Cinema and Secured Media Projection System from Espedeo Holdings Limited.

To ensure proper operation and to maximize the value of Supra-5000 Digital Cinema and Secured Media Projection System, please review this Manual. It will guide you through all the features and benefits of the Supra-5000 Digital Cinema and Secured Media Projection System

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FCC STATEMENT

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference and (2) this device must accept any interference received, including interference that may cause undesired operation. Warning: Changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

NOTE: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

1.Starting the Espedeo Supra-5000

1.1 Switching ON the Projector

Before powering ON the Espedeo Supra-5000 digital cinema and secured media projection system, please ensure the environmental requirements (refer to **Table 1**) for the safe operation of the Projector are met:

Surroundings	During Operation	Non-Operating Period
Ambient Temperature	5 °C to 35 °C	-10 °C to 60 °C
Humidity	10% to 85% (non-condensing)	5% to 90% (non-condensing)
Air Cleanliness	Neat office environment (in compliance with the <u>Cleanroom Standard ISO 14644-1 Category 9</u>)	Not applicable
Altitude	-60 to 3000 meters	-60 to 10000 meters

Table 1

Additionally, please ensure the following in accordance with the Espedeo Supra-5000 Installation manual:

1. The Projector is mounted correctly and is connected to the power supply of the correct rating.
2. The Projector is equipped with a suitable lens.
3. If an external video source such as a Blu-Ray player is used, please ensure that it is connected to the HDMI port on the projector's PIB, before powering ON the projector.

After confirming the above points, connect the power cable to a recommended power outlet (as specified in the Espedeo Supra-5000 Installation manual) and turn ON the power source to the projector. After approximately 5 minutes, the projector will be powered ON.



Figure 1:

Check the status indicator of the Projector. The Green indicator should be steady ON after boot-up is complete, as shown in **Figure 2**. Refer to **Table 2** for the complete working status of the Projector indicators.

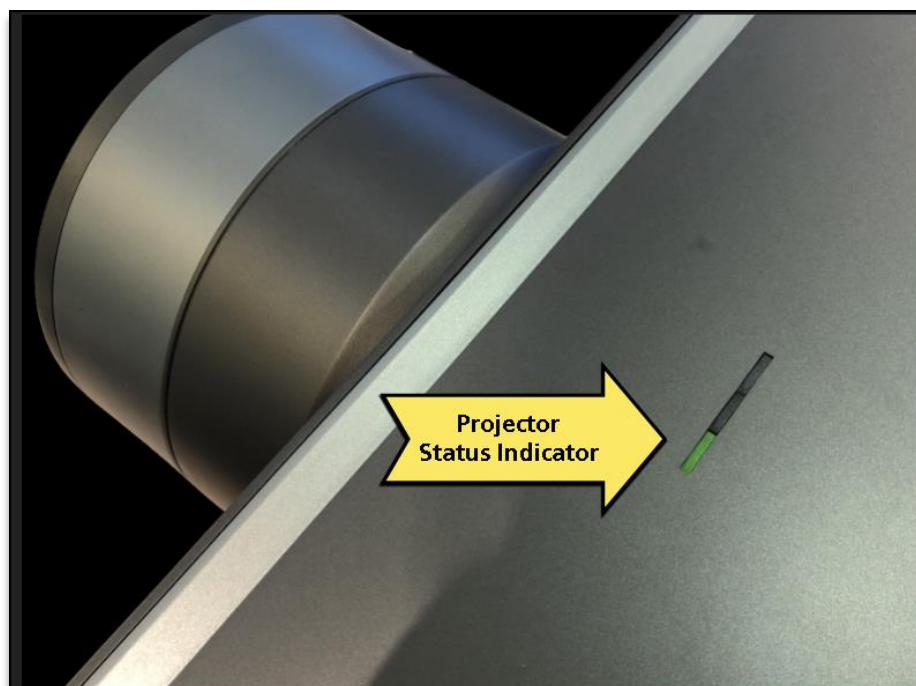


Figure 2:

SN	LED Color	LED Status	Projector Status	Function Description
1	Green	Steady on green	Power-on	The projector works properly
2	Green	Blinking green (fast)	Boot process	The projector is being boot with the AC power or via the network wakeup function The indicator blinks fast. After the power-on process with the AC power is completed, the green indicator stops blinking and becomes steady on
3	Green	Blinking green (slow)	Standby mode	The projector is in standby mode and can be woken up by an external device through the network. The blinking frequency is low
4	Yellow	Blinking yellow	Warning	An alarm is generated. You can view the alarm information using the software. After the alarm is cleared, the yellow indicator becomes off
5	Red	Blinking red	Error	An error occurs, which may affect the normal operation. After the error information is handled, the red indicator becomes off
6	Red	Blinking red	Error	An error occurs, resulting in the system shutdown

Table 2:

In the scenario, where the mounting and placement of the Projector allows you to access the back panel; you may also check the status of the LED indicators on the Digital Cinema Media Board (DCMB). To do so, remove the back cover by carefully pushing it upwards as indicated in **Figure 3**. Make sure you do not damage the clips of the back cover, highlighted in **Figure 3**.

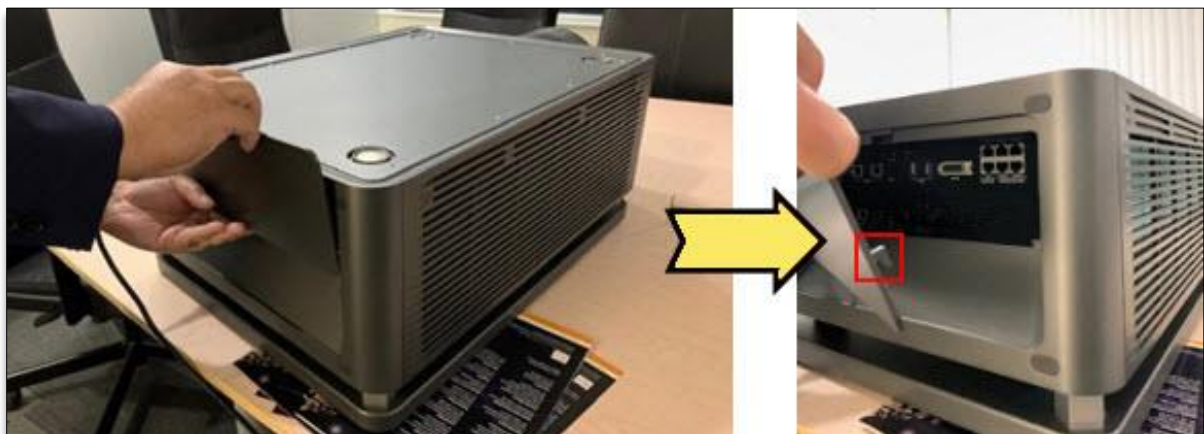


Figure 3

Wait for the working status of the **SM**, **TAMPER** and **EXT** LED indicators on the DCMB to show steady Green, as highlighted in **Figure 4** (refer to **Section 2.1** for more information regarding the DCMB LED indicators).



Figure 4:

1.2 Controlling and Operating the Espedeo Supra-5000

The Espedeo Supra-5000 digital cinema and secured media projection system is controlled and operated via a Web user interface that can be wirelessly accessed from a web browser* on an Android™ tablet OR from a web browser* on a computer connected via a wired or wireless connection to the projector

Connect your device to the projector via a wired or wireless LAN connection as described in the following sections:

1.2.1 Using a Wired LAN Connection

OPTION A:

Step 1: Connect a laptop to the **IMB Ethernet 2** network port (marked as **GIGABIT Port 2** on the DCMB faceplate) of the projector's DCMB using a network cable (refer to **Section 2.1** to understand the various connectors on the DCMB).

Step 2: The default IP address of the DCMB's **IMB Ethernet 2** port is 192.168.1.12. However, the **IMB Ethernet 2** IP address can also be modified as per the Cinema's Management network (from the **Configuration** tab → **System** sub-tab → **Network Configuration** section of the DCMB Web UI).

Make sure that the **IMB Ethernet 2** IP and the laptop network interface IP are on the same subnet. For example: If the **IMB Ethernet 2** IP Address of the DCMB is 192.168.1.12, then the IP Address of the laptop network interface can be set to 192.168.1.15 as shown in **Figure 5**.

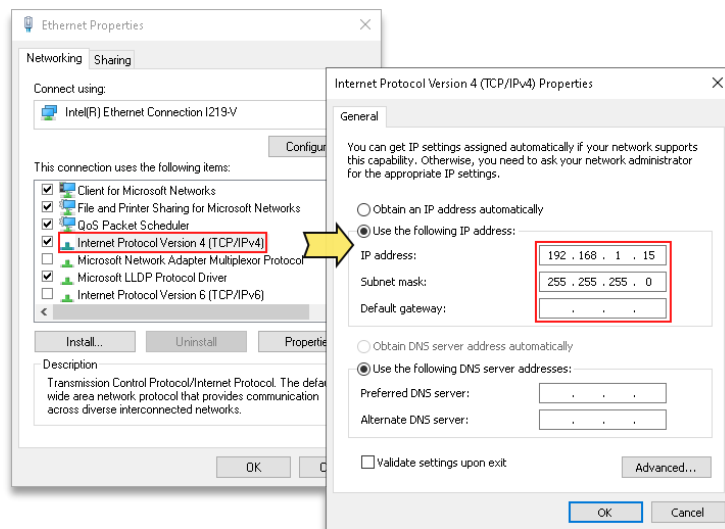


Figure 5:

Step 3: Open the Chrome™ browser* and enter the **IMB Ethernet 2** IP Address of the DCMB. Refer to **Section 1.2.3** for more details.

OPTION B (recommended for debugging):

Step 1: Connect the laptop to the **LAN2** network port of the projector's PIB (refer to **Section 2.2** to understand the various connectors on the PIB) using a network cable.

Step 2: The IP address of the **LAN2** port of the PIB is fixed to 192.168.254.241 (Supra Command Center) and 192.168.254.246 (DCMB Web UI). Make sure that the **LAN2** IP and the laptop network interface IP are on the same subnet. As shown in **Figure 6**, the "XXX" part of the IP Address must range from 240 to 255 and cannot be set to 241 and 246. Additionally, the **Subnet mask** value for the laptop network interface should be set to 255.255.255.240.

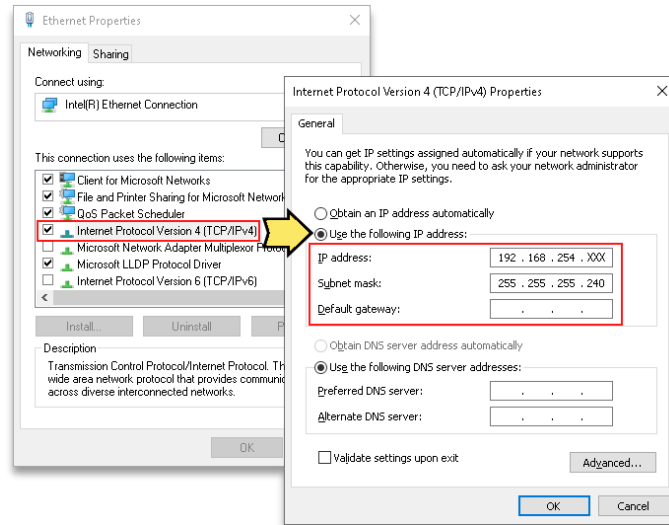


Figure 6:

Step 3: Open the Chrome™ browser* and enter the **LAN2** IP Address of the PIB. Refer to **Section 1.2.3** for more details.

* Please note that Google Chrome™ browser is supported at the time of writing this manual

1.2.2 Using a Wireless LAN Connection

The Espedeo Supra-5000 has an in-built Access Point which makes it possible to connect wirelessly to the projector without the need for an external Wi-Fi router. This Access Point name will be shown as “SMS-XXXXXX”, where XXXXXX represents the unique **Serial Number** of the projector’s DCMB. Additionally, you can refer to **Section 1.2.7** for details regarding how to enable/disable this wireless Access Point. The following example explains how to connect wirelessly to the Supra-5000, using an Android™ tablet.

Step 1: The tablet should automatically connect to ‘SMS-XXXXXX’ Access Point. You can confirm this by going to ‘Apps’ → ‘Settings’ app → ‘Connections’ → ‘Wi-Fi’.

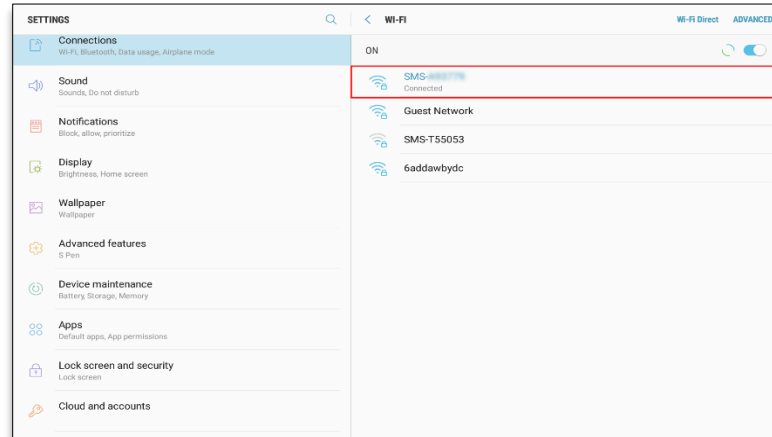


Figure 7:

Step 2: Ensure the tablet is connected to the Access Point “SMS-XXXXXX” over Wi-Fi before proceeding.

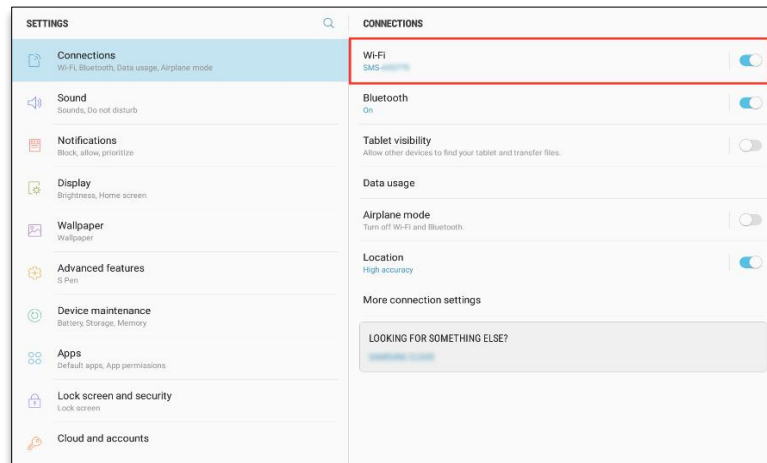


Figure 8:

Step 3: Open the Chrome™ browser on the tablet and enter the **IMB Ethernet 2** IP Address of the DCMB.

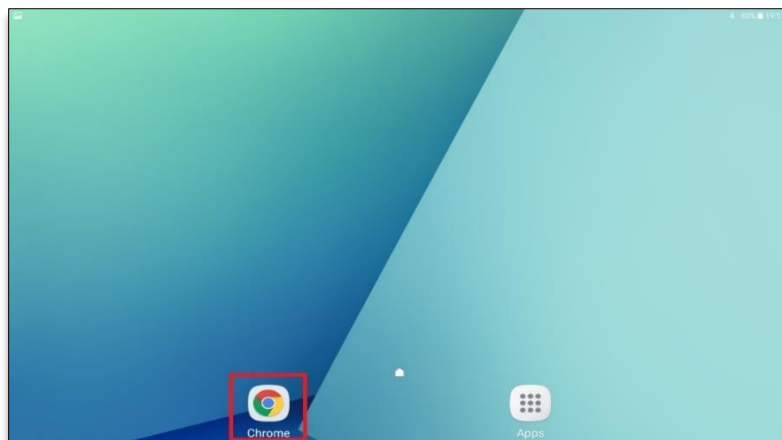


Figure 9:

1.2.3 Accessing the Supra Command Center and DCMB Web UI

Depending on how a laptop/tablet is connected to the Espedeo Supra-5000, you can access the **Supra Command Center web interface** (to access all projector functions) and the **DCMB Web UI** (to access all playback functions of the DCMB) using the various methods mentioned under this section.

For ease of access, the Espedeo Supra-5000 comes with a 'Single tab mode' feature which allows you to access the Supra Command Center web interface from within the DCMB Web UI.

This feature can be enabled/disabled from the DCMB Web UI, by checking/unchecking the **Single tab mode** option under the **Configuration** tab → **General** sub-tab → **Options** section (as shown in **Figure 10**).

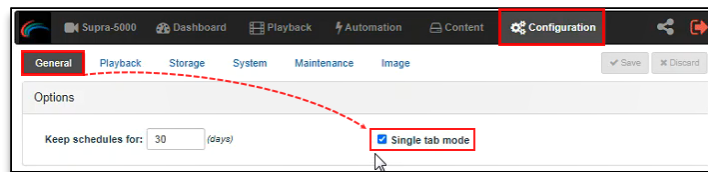


Figure 10:

Method ①

When the projector is wirelessly connected to a laptop or Android™ tablet using the DCMB's wireless Access Point (refer to **Section 1.2.2** for more details), the Supra Command Center web interface and the DCMB Web UI can be accessed using this method.

In this case, the DCMB Web UI can either be accessed by using the URL: <http://192.168.254.246> or by using the URL: <http://IMBETH2IP> (where "IMBETH2IP" represents the **IMB Ethernet 2** IP address of the DCMB) via a web browser*. For example: if the **IMB Ethernet 2** IP Address of the DCMB is 192.168.1.12, then the DCMB Web UI can be accessed using the URL <http://192.168.1.12>, as shown in **Figure 11**.

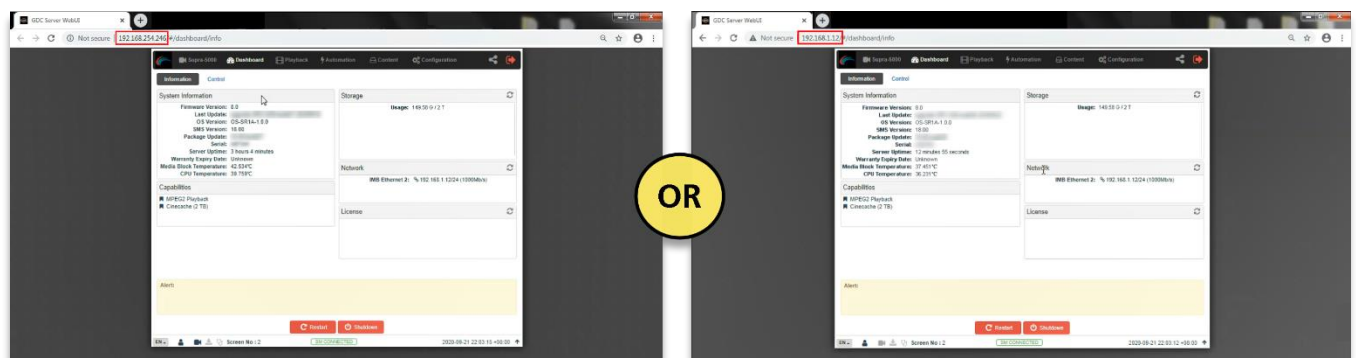


Figure 11:

* Please note that Google Chrome™ browser is supported at the time of writing this manual

- a. When the **Single tab mode** option is enabled; you can access the Supra Command Center web interface within the DCMB Web UI, by clicking on the **'Supra-5000'** tab (as shown in **Figure 12**).

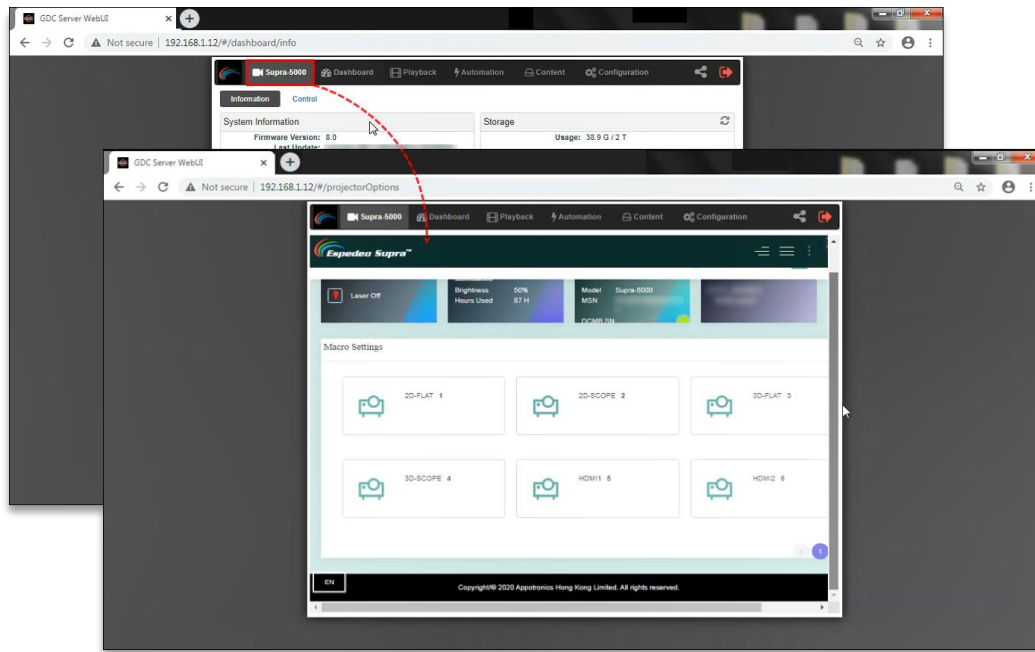


Figure 12:

- b. When the **Single tab mode** option is disabled; you can click on the **'Supra-5000'** tab to open and access the Supra Command Center web interface in a new browser tab (as shown in **Figure 13**).

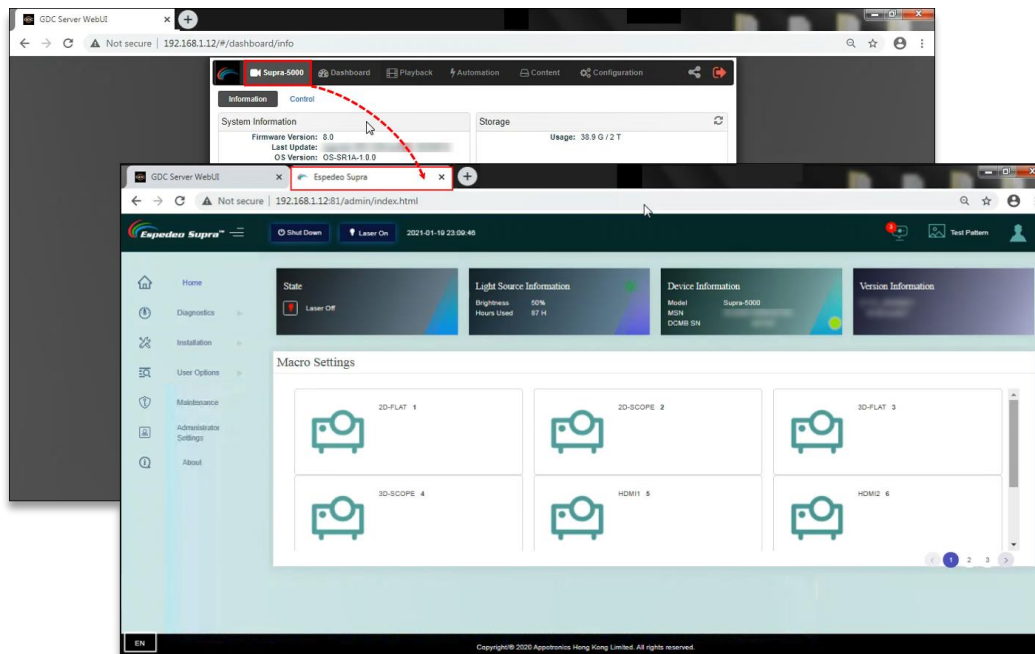


Figure 13:

Please Note: You can also access the Supra Command Center web interface either via the URL: <http://192.168.254.241> or via the URL: <http://IMBETH2IP:81> (where “IMBETH2IP” represents the **IMB Ethernet 2** IP address of the DCMB) using a new browser tab. For example: If the **IMB Ethernet 2** IP Address of the DCMB is 192.168.1.12, then the URL to access the Supra Command Center web interface will be <http://192.168.1.12:81>.

Method ②

When a laptop is connected to the **IMB Ethernet 2** network port (**ETH 2**) of the projector’s DCMB (refer to **OPTION A** under **Section 1.2.1** for more details) via a network cable, the Supra Command Center web interface and the DCMB Web UI can be accessed using this method.

In this case, the DCMB Web UI can be accessed by using the URL: <http://IMBETH2IP> (where “IMBETH2IP” represents the **IMB Ethernet 2** IP address of the DCMB) via a web browser*. For example: if the **IMB Ethernet 2** IP Address of the DCMB is 192.168.1.12, then the DCMB Web UI can be accessed using the URL <http://192.168.1.12>, as shown in **Figure 14**.

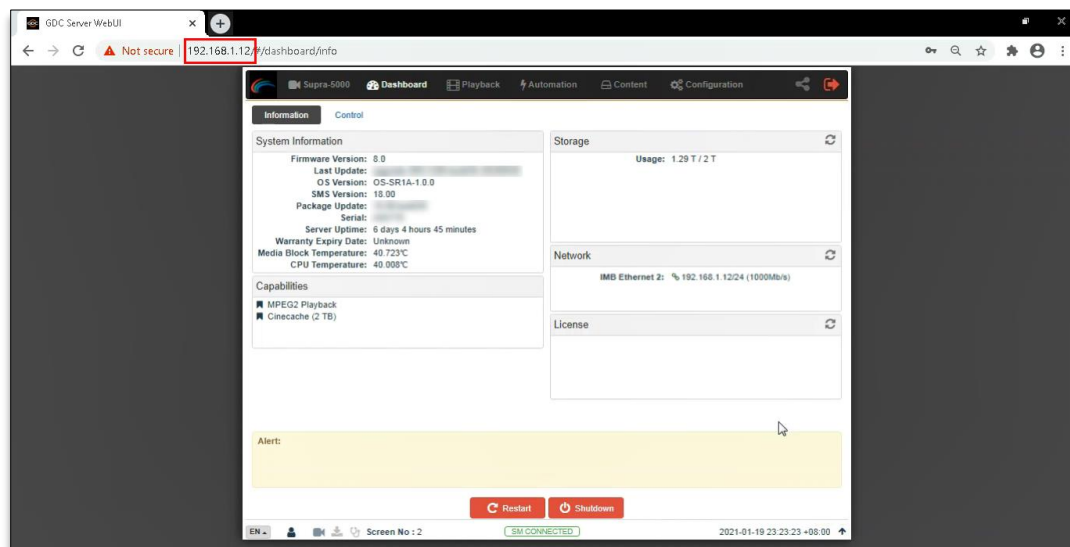


Figure 14:

- a. When the **Single tab mode** option is enabled; you can access the Supra Command Center web interface within the DCMB Web UI, by clicking on the '**Supra-5000**' tab (as shown in **Figure 15**).

* Please note that Google Chrome™ browser is supported at the time of writing this manual

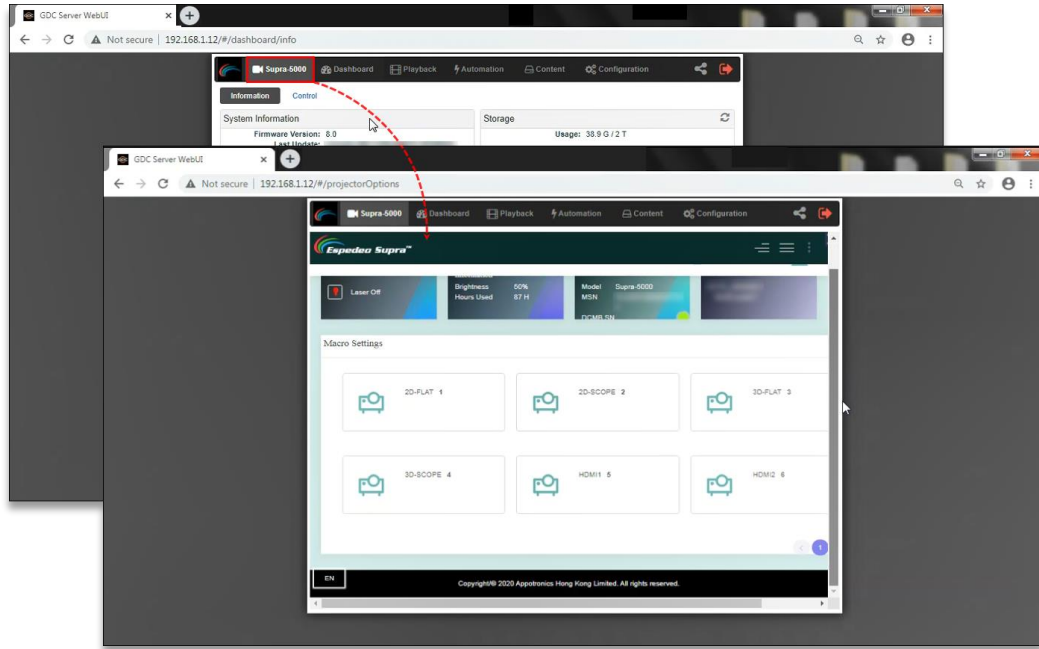


Figure 15:

- b. When the **Single tab mode** option is disabled; you can click on the '**Supra-5000**' tab to open and access the Supra Command Center web interface in a new browser tab (as shown in **Figure 16**).

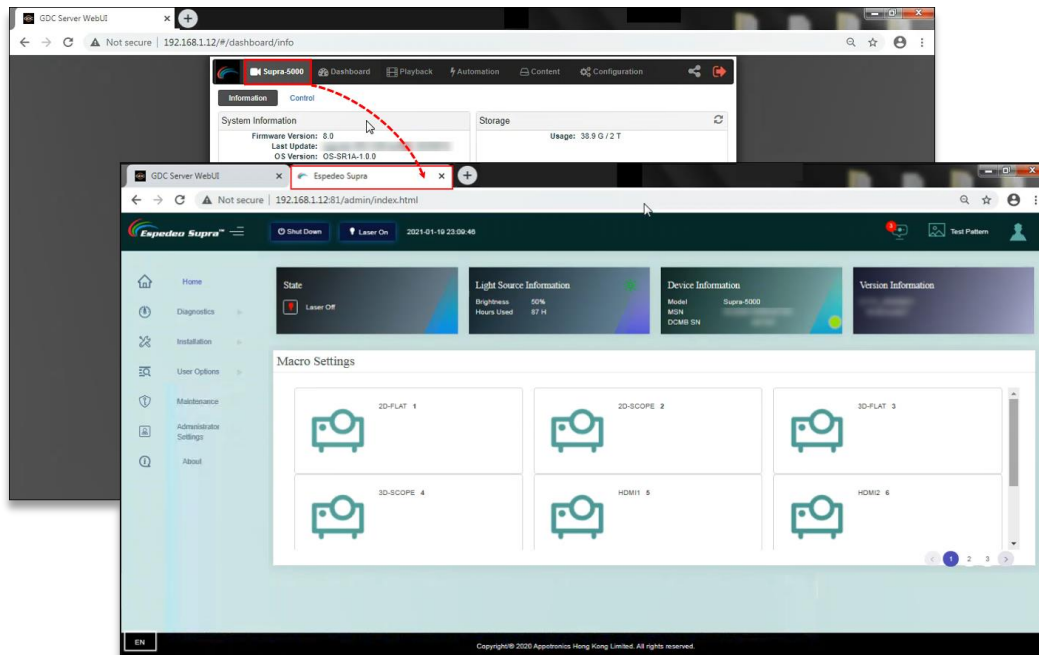


Figure 16:

Please Note: You can also access the Supra Command Center web interface via the URL: <http://IMBETH2IP:81> (where “IMBETH2IP” represents the **IMB Ethernet 2** IP address of the DCMB) using a new browser tab. For example: If the **IMB Ethernet 2** IP Address of the DCMB is 192.168.1.12, then the URL to access the Supra Command Center web interface will be <http://192.168.1.12:81>.

Method ③ (recommended for debugging)

When a laptop is connected to the **LAN 2** network port (**ETH 2**) of the projector's PIB (refer to **OPTION B** under **Section 1.2.1** for more details) via a network cable, the Supra Command Center web interface and the DCMB Web UI can be accessed using this method.

In this case, the DCMB Web UI can be accessed by using the URL: <http://192.168.254.246> via a web browser* (as shown in **Figure 17**).

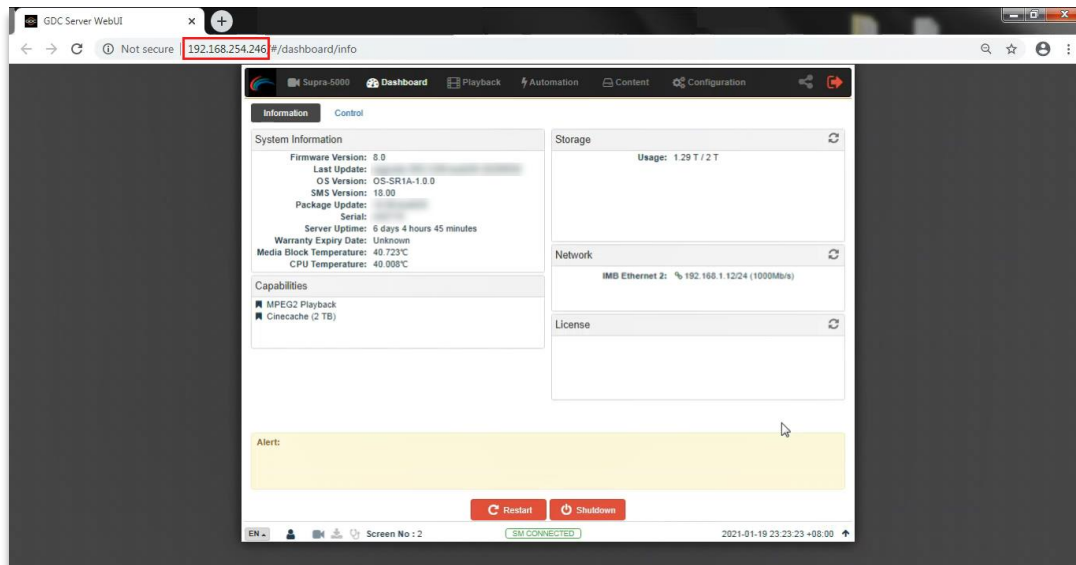


Figure 17:

- a. When the **Single tab mode** option is enabled; you can access the Supra Command Center web interface within the DCMB Web UI by clicking on the '**Supra-5000**' tab (as shown in **Figure 18**).

* Please note that Google Chrome™ browser is supported at the time of writing this manual

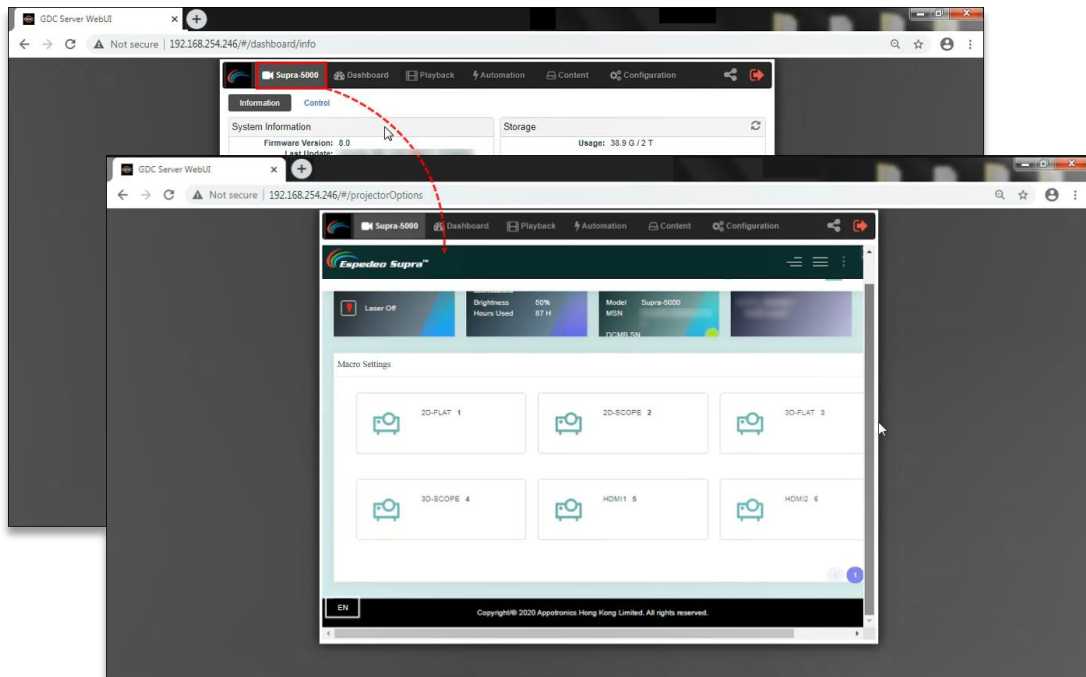


Figure 18:

- a. When the **Single tab mode** option is disabled; you can click on the '**Supra-5000**' tab to open and access the Supra Command Center web interface in a new browser tab (as shown in **Figure 19**).

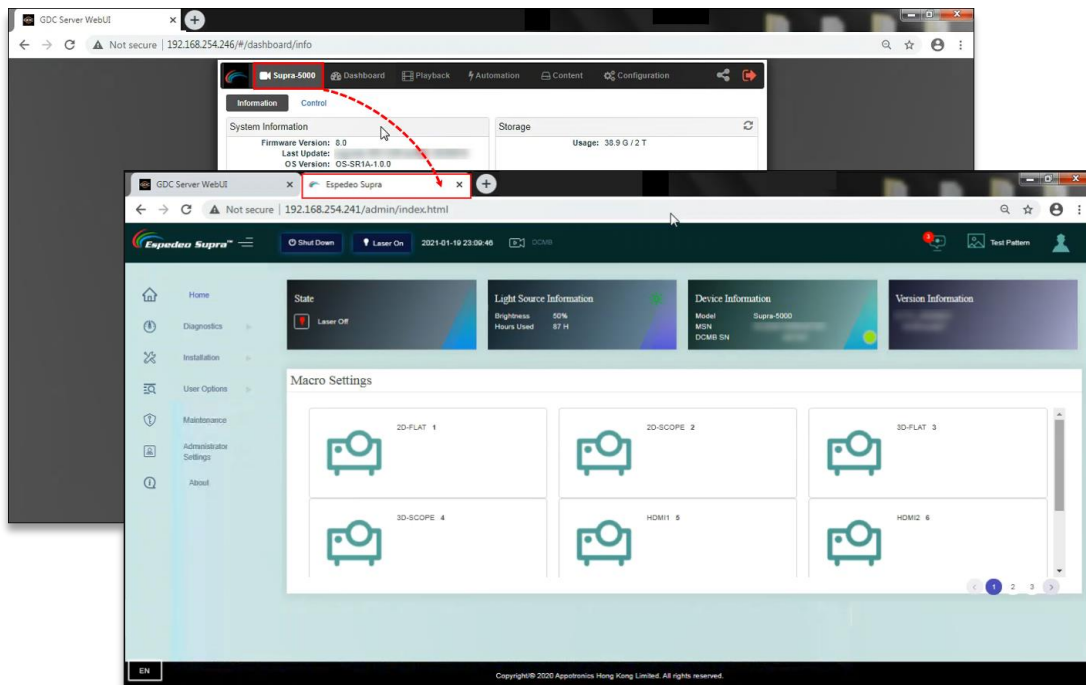


Figure 19:

Please Note: You can also access the Supra Command Center web interface via the URL: <http://192.168.254.241> using a new browser tab.

The Supra Command Center web interface has been set to not ask for login credentials for 30 days. In case the login dialog pops up after 30 days, type in the login credentials and click on the **Sign In** button. You may select the '*No Login within 30 days*' option while logging in.

In case you do not know the login credentials for the Supra Command Center and DCMB Web UI, please contact Espedeo Holdings Limited.

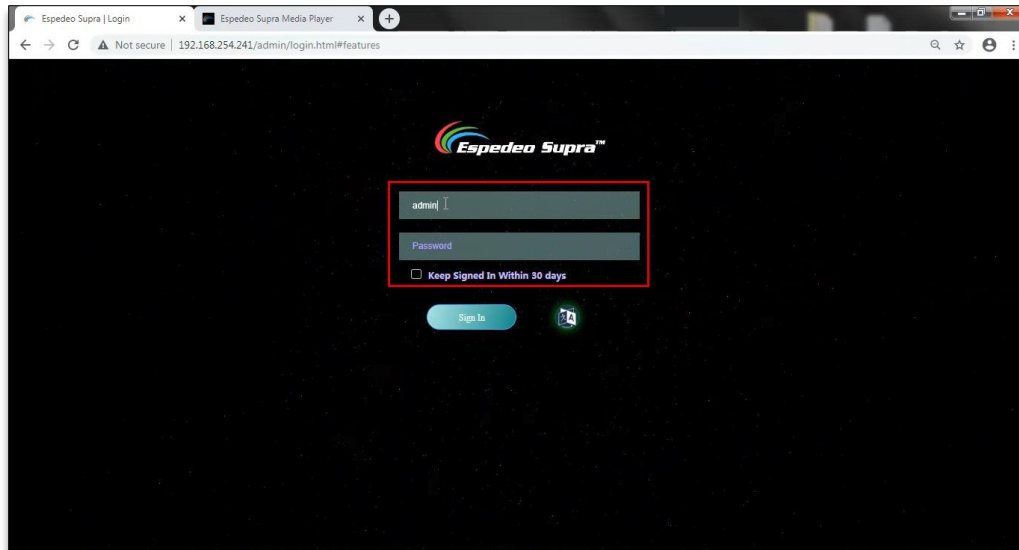


Figure 20:

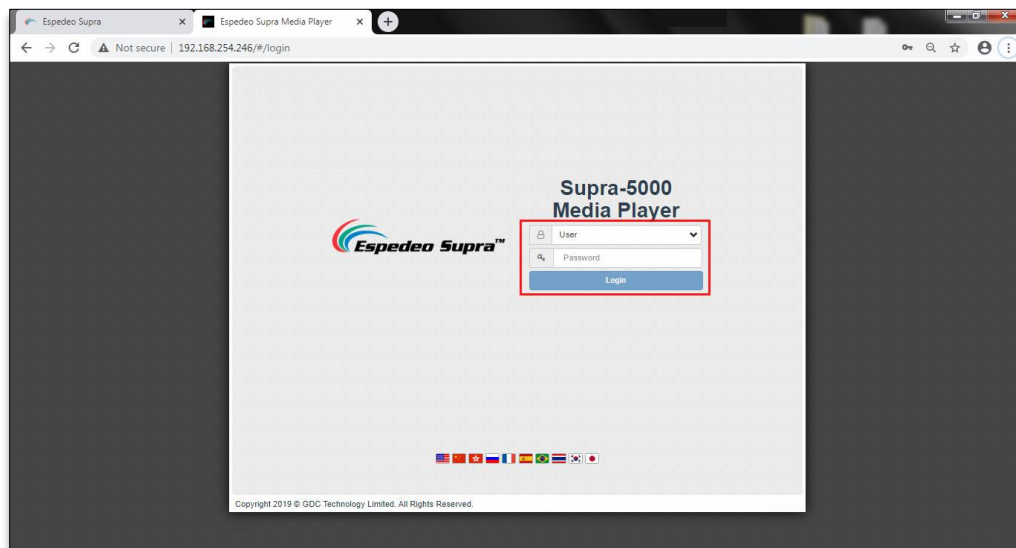


Figure 21:

* Please note that Google Chrome™ browser is supported at the time of writing this manual

1.2.4 Switching On the Laser Light Source of the Supra-5000

From the Supra Command Center interface, click the **Laser On** button on the top menu bar to switch ON the projector's Laser Light Source. The projector State will change to 'Laser On', as shown in **Figure 22**.

If you want to switch OFF the projector's Laser Light Source, click on the **Laser Off** button. The projector State will now change to 'Laser Off'.

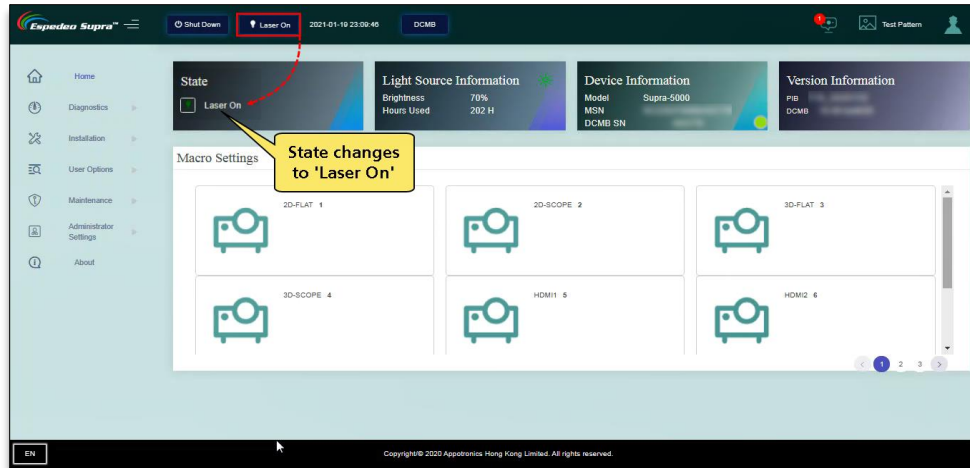


Figure 22:

You may also project a Test Pattern to make sure that the Laser Light Source has been switched ON successfully (optional). Refer to **Section 1.2.4.1** for more information on projecting a Test Pattern.

1.2.4.1 Projecting a Test Pattern

From the Supra Command Center interface, click the **Test Pattern** shortcut button on the top menu bar to access the Test Pattern screen. Here, you can select the default test pattern image for the projector.

Click on the **Close Test Pattern** button to clear the test pattern from the screen, so that Digital Cinema Package (DCP) content or input from an HDMI source can be projected.

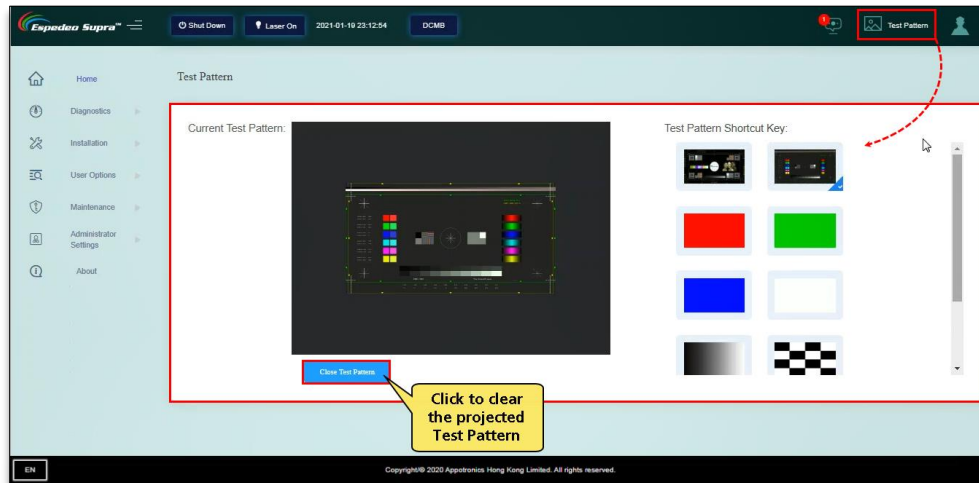


Figure 23:

1.2.5 Macro Selection on the Supra-5000

The **Macro Settings** section on the Home screen of the Supra Command Center allows you to select the appropriate macro for content playback. Select the required macro setting based on the type of source and content that needs to be projected, which can either be DCP content from the local storage or HDMI input from an external AV source.

In case a 2D DCP in FLAT format needs to be played from the local storage of the projector, please select the appropriate macro. For example; '2D-FLAT' in this particular case, from the **Macro Settings** section of the Supra Command Center (as shown in **Figure 24**) before initiating playback on the DCMB Web UI.

Alternatively, the show playlist (SPL) on the DCMB can be programmed to trigger the selection of appropriate macros on the projector using an automation cue.

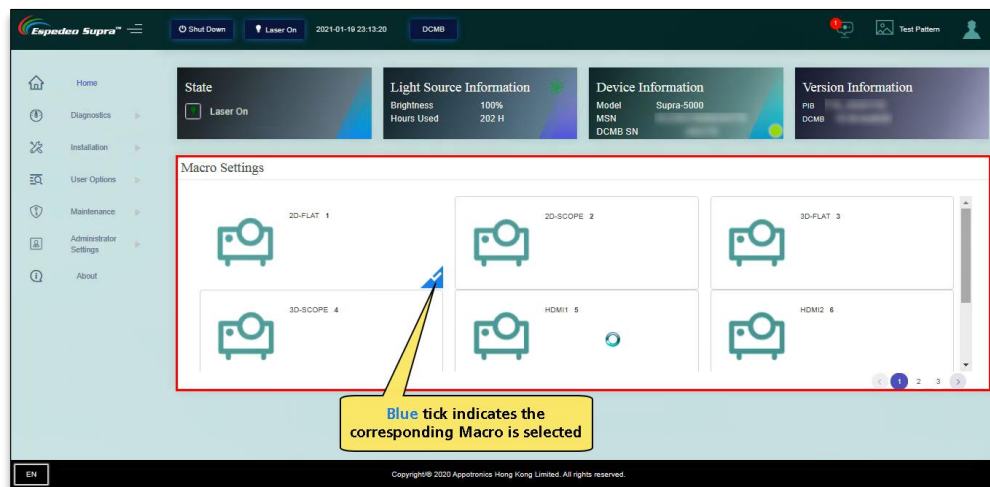


Figure 24:

1.2.5.1 Switching to HDMI Playback

In the case of HDMI playback from an external AV source, you can select a macro setting that has been programmed to switch to HDMI input. In this example, **'HDMI1'** on the Supra Command Center (as shown in **Figure 25**).

NOTE: Changing to HDMI macro setting, for example: **'HDMI1'** or **'HDMI2'** will automatically load and start an HDMI playlist on the DCMB Web UI. Video from a connected HDMI source (example: Blu-ray player) will be projected immediately. For more details on how to connect an HDMI source to the DCMB of the projector, please refer to **Section 2.3**.

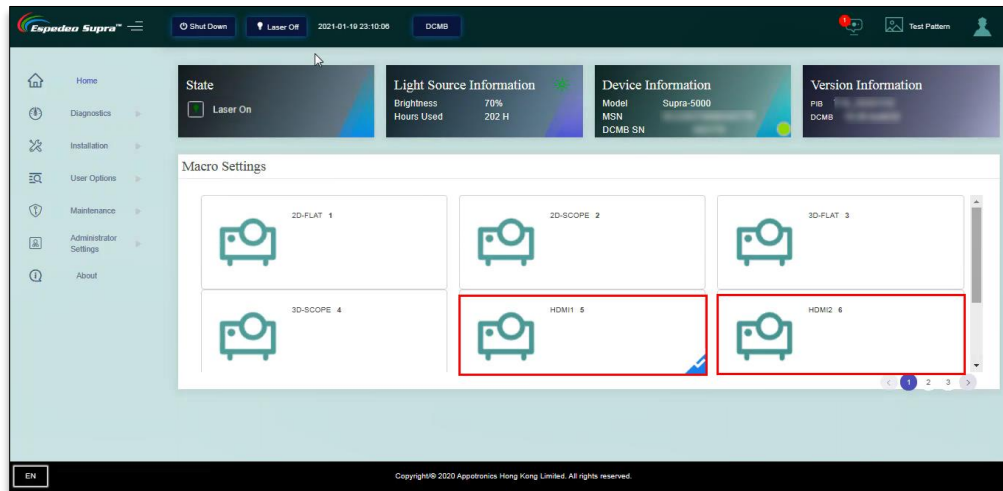


Figure 25:

1.2.6 Using the DCMB Web UI to start Playback

To initiate playback of content from the local storage of the projector, you need to access the DCMB Web UI. As depicted in **Figure 26** and **Figure 27**, follow the steps mentioned below:

Step 1: Click on the **Playback** tab on the menu bar.

Step 2: Access the Playlist Editor screen by clicking on the **Edit** sub-tab. Here, you can select the desired playlist that has already been created on the DCMB, from the Playlist drop-down.

Step 3: After selecting the show, click on the '**Load for Playback**' button to load the playlist to the **Playback** screen.

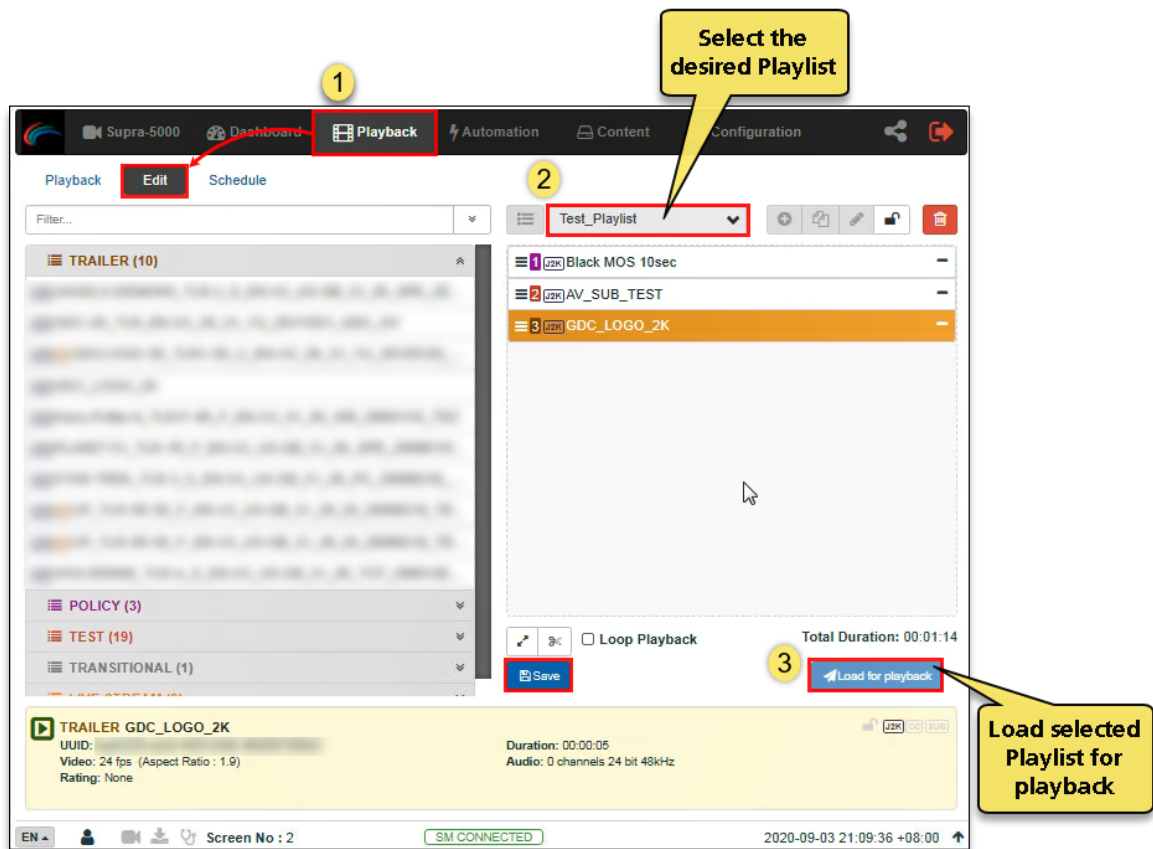


Figure 26:

Step 4: Click the '**Play**' button to start the playback of the selected playlist. To fast-forward or advance to the next clip in the playlist, playback must be paused first. Use the '**Pause**' button to pause playback, before clicking on the '**Previous Clip**', **Rewind**, '**Forward**' or '**Next Clip**' navigation buttons. When paused, the timeline slider can be dragged to the desired point and un-paused from there. However, you cannot rewind or fast-forward a clip by clicking at a particular point on the timeline slider.

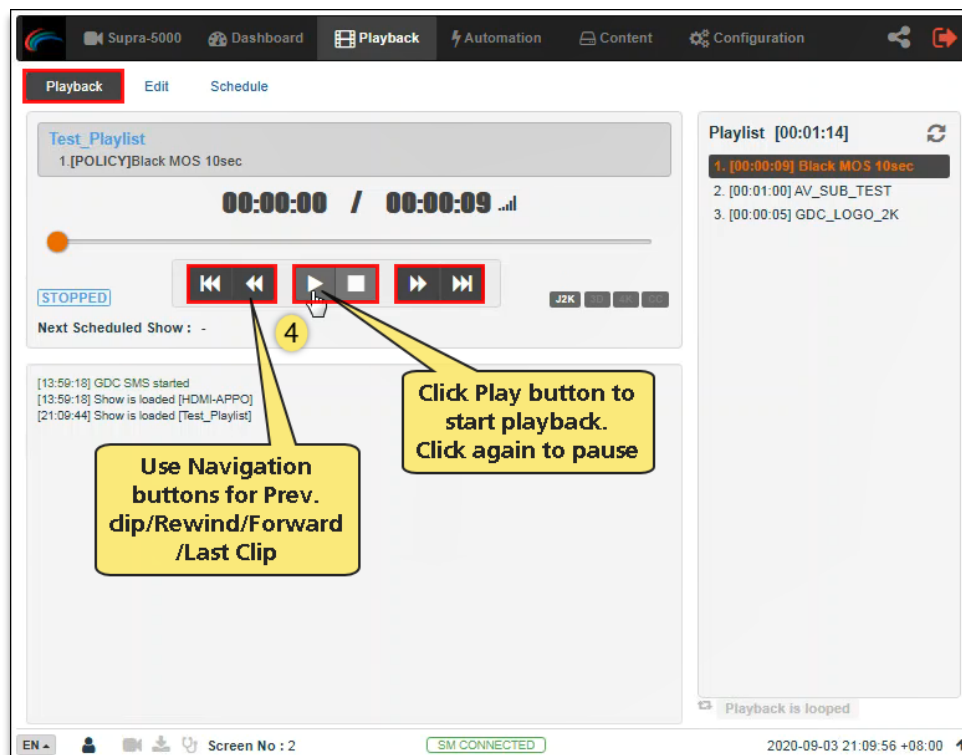


Figure 27:

For more information related to the Playback tab and how to create/edit playlists from the DCMB Web UI, please refer to **Section 4.3**.

1.2.7 Wireless Access Point Settings for the Supra-5000

The wireless Access Point of the Espedeo Supra-5000 can be used to access the Supra Command Center and the DCMB Web UI, using a Wi-Fi-enabled device. To enable/disable this feature, first access the DCMB Web UI (as described in **Section 1.2.3**) using a wired connection. You would need to log in to the DCMB Web UI with 'Maintenance' access-level, to access this particular feature.

As shown in **Figure 28**, go to **Configuration** → **System** → **Wireless SMS**. You can check/uncheck the 'Enable' checkbox, to enable/disable the wireless Access Point of the projector. Please note that the wireless Access Point of the Supra-5000 Projector will be enabled by default.

The name of the wireless Access Point will appear as shown in **Figure 28**, in the format "SMS-XXXXXX" where XXXXXX represents the Serial Number of the DCMB. Please contact Espedeo Holding Ltd. in case you do not know the password for the wireless Access Point of the Supra-5000 Projector.

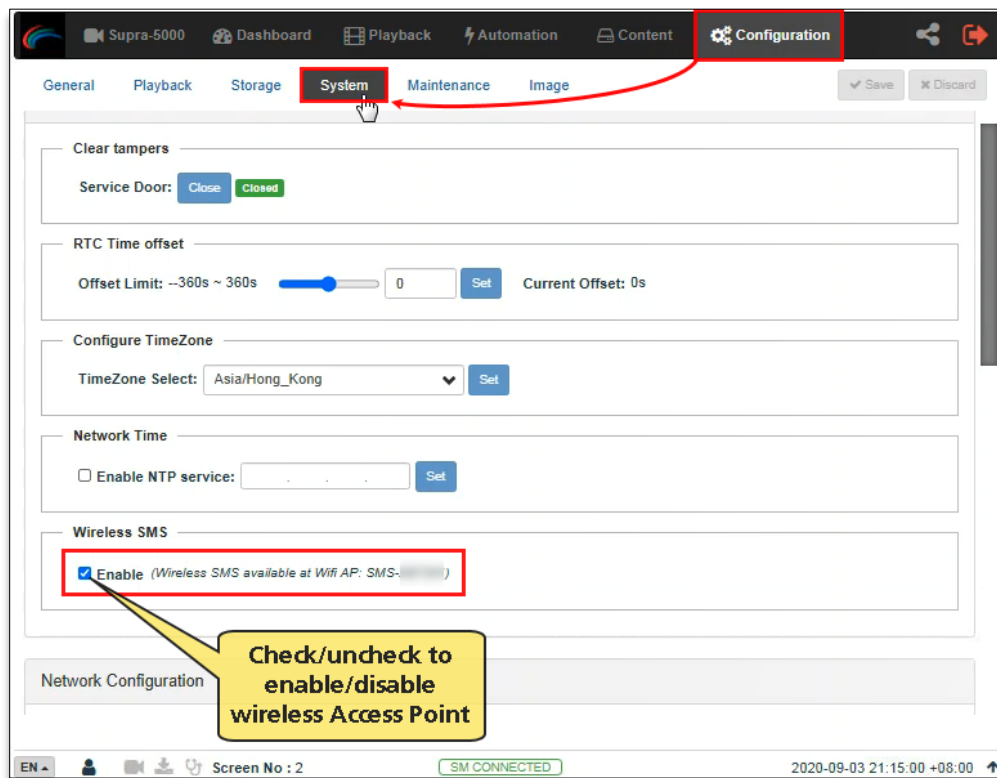


Figure 28:

1.3 Switching OFF the Projector

To switch OFF the Espedeo Supra-5000 digital cinema and secured media projection system, please follow the power down sequence depicted in **Figure 29**:

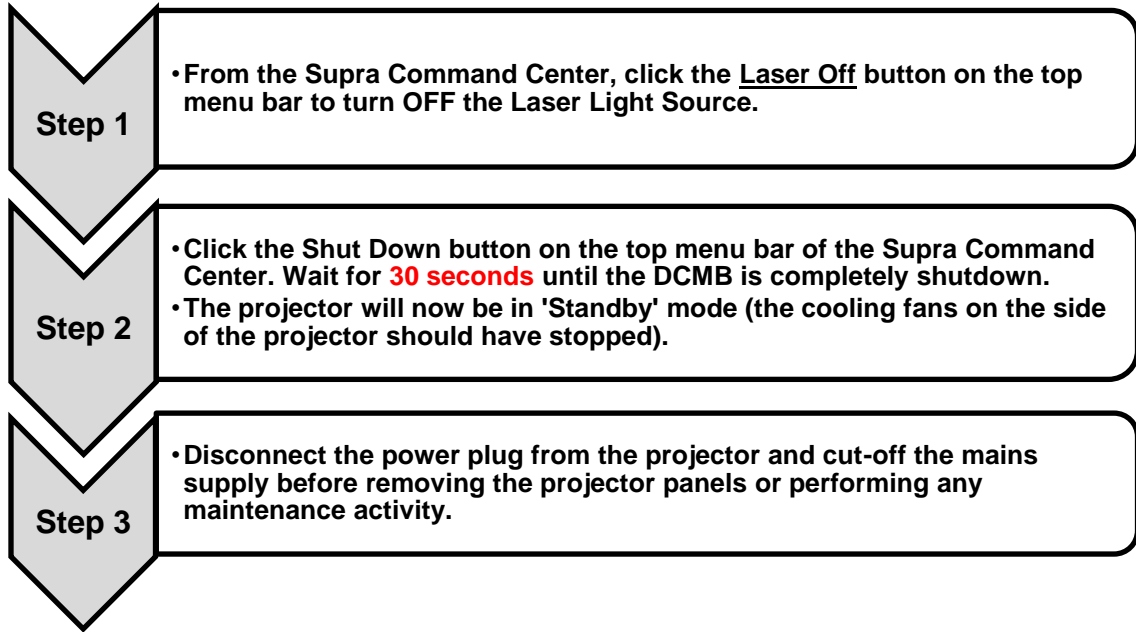


Figure 29:

Please Note: When the Supra-5000 is in 'Standby' mode, you can access the Supra Command Center web interface using the URL: <http://192.168.254.241> and click the **Power On** button on the top menu bar to boot-up the DCMB Web UI.

2. Input and Communication

In this section, we will look at the various connectors, ports and indicators on the **DCMB** or **Digital Cinema Media Block** and the **PIB** or **Projector Intelligence Board** of the Espedeo Supra-5000. These boards can be accessed by removing the back cover of the projector (refer to **Figure 3**).

Additionally, we will see how the Espedeo Supra-5000 can be connected to external HDMI sources for content playback.



Figure 30:

2.1 Projector terminal board: DCMB (Digital Cinema Media Block)

The **DCMB** or **Digital Cinema Media Block** is a digital cinema media server that is responsible for content playback. The various connectors and indicators on the DCMB are shown in **Figure 31**.

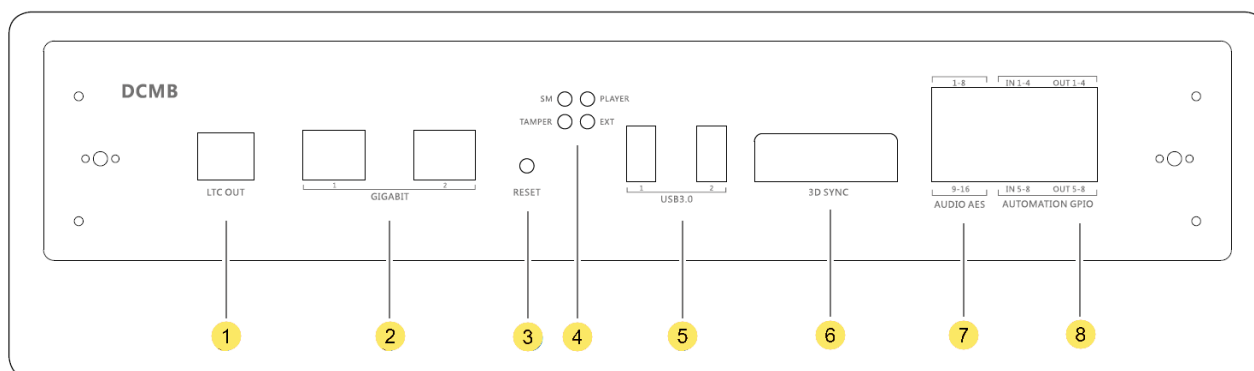


Figure 31:

SN	Name	Type	Function
①	LTC-OUT	BNC interface	This connector can be used to synchronize peripheral devices with the DCMB, through the linear timecode (LTC).
②	GIGABIT	2 x RJ45 connector	Gigabit Ethernet (1000 BaseT) ports.
③	RESET	Button	This button can be used to reset the DCMB.
④	SM, TAMPER PLAYER, EXT	4 x LED indicators	<p>These LEDs indicate the working status of the DCMB:</p> <ul style="list-style-type: none"> ▪ SM indicates the Security Manager status of the DCMB ▪ TAMPER indicates the DCMB tamper status ▪ PLAYER indicates the playback status of the DCMB ▪ EXT indicates the module status of the DCMB <p>NOTE: During normal playback operation, all four LEDs should be steady Green.</p>
⑤	USB3.0	2 x USB A-type female connector	This port can be used to connect a local ingest source OR USB drive to download the DCMB logs and configuration.
⑥	3D SYNC	DB15 female socket	This can be used to output 3D synchronization signals when connected to 3D devices.
⑦	AUDIO AES	2 x RJ45 connector	16/24-bit AES/EBU, 16 channels, 48/96 kHz.
⑧	AUTOMATION GPIO	4 x GPIO	These ports can be used for controlling automation devices.

Table 3

2.1.1 Digital Certificate for the DCMB

The digital certificate of DCMB can be downloaded from the Espedeo website www.espedeo.com. Go to the "**Customer Service**" → "**Digital Certificate Download**" page to download the certificate. Registration may be required, please follow the instructions provided on the website.

The Digital certificate of the DCMB is required by the KDM provider, to provide KDMs which are used to unlock encrypted content for playback.

2.2 Projector terminal board: PIB (Projector Intelligence Board)

The **PIB** or **Projector Intelligence Board** is the main control module of the projector. The various connectors and indicators on the PIB are shown in **Figure 32**.

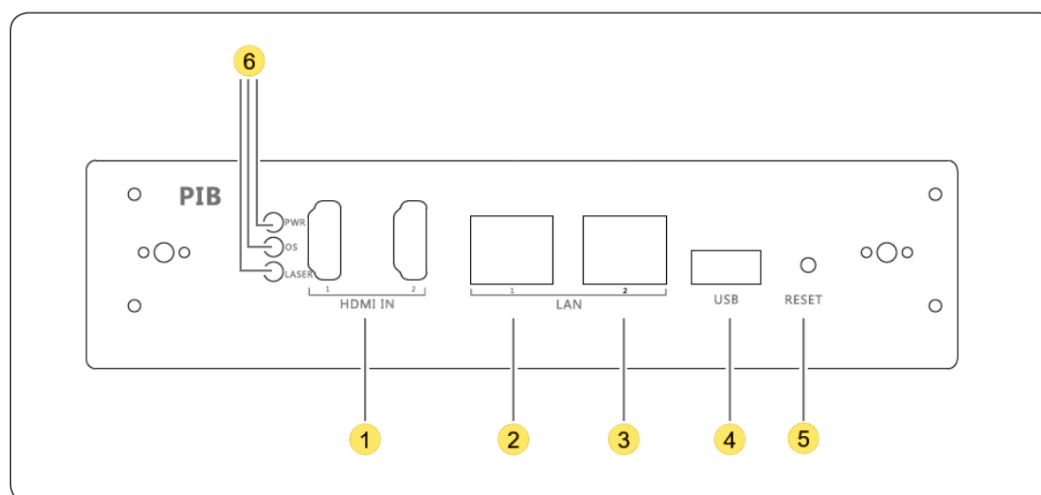


Figure 32:

SN	Name	Type	Function
①	HDMI IN	2 x HDMI IN	This port can be used for content playback from an external HDMI source. Timing:1080p@60Hz
②	LAN1	RJ45 connector	Ethernet (100 BaseT) ports are used for local access by the main module as well as for remote NOC control. <ul style="list-style-type: none"> ▪ LAN1 IP Address can be modified ▪ LAN2 IP Address is fixed to <u>192.168.254.241</u>
③	LAN2		
④	USB	USB A-type female connector	This port can be used to upgrade the main control software of the PIB.
⑤	RESET	Button	If this button is pressed, the PIB is powered on, the main control chip enters the USB upgrade mode and the main control program can be upgraded (the upgrade can be implemented through a connected PC)
⑥	PWR, OS, LASER	3 x LED indicators	Indicate the status of the PIB power supply, main control OS and laser light source. <ul style="list-style-type: none"> ▪ PWR: PIB power status - The system monitors the power supply of the PIB. When the PIB power supply is normal, the LED indicator is steady on Green. ▪ OS: main control system status - The system monitors the main control chip. When the main control chip works properly after startup, the LED indicator rapidly blinks Green.

			<ul style="list-style-type: none">▪ LASER: Laser light source module status:<ul style="list-style-type: none">I. LED indicator is OFF: The laser control module is in standby status or is not powered ON.I. LED indicator blinking: The laser control module is waiting for startup.II. LED indicator is steady ON: The laser control module works properly.
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Table 4

2.3 Connecting the Espedeo-5000 to an HDMI Source

As illustrated in **Figure 33**, the Espedeo Supra-5000 can playback content from an HDMI output source (Timing: 1080p@60Hz) such as a Blu-Ray player, Set-Top Box, etc. Using an HDMI cable, you need to connect the HDMI port on the HDMI output source, to either **HDMI IN 1** or **HDMI IN 2** port on the PIB.

Once connected, select the corresponding HDMI Macro i.e 'HDMI1' or 'HDMI2' from the Home screen of the Supra Command Center interface to initiate playback (as shown in **Figure 34**).

NOTE: Please ensure that the HDMI cable from the HDMI output source is connected to the HDMI port on the projector's PIB, before powering ON the projector.

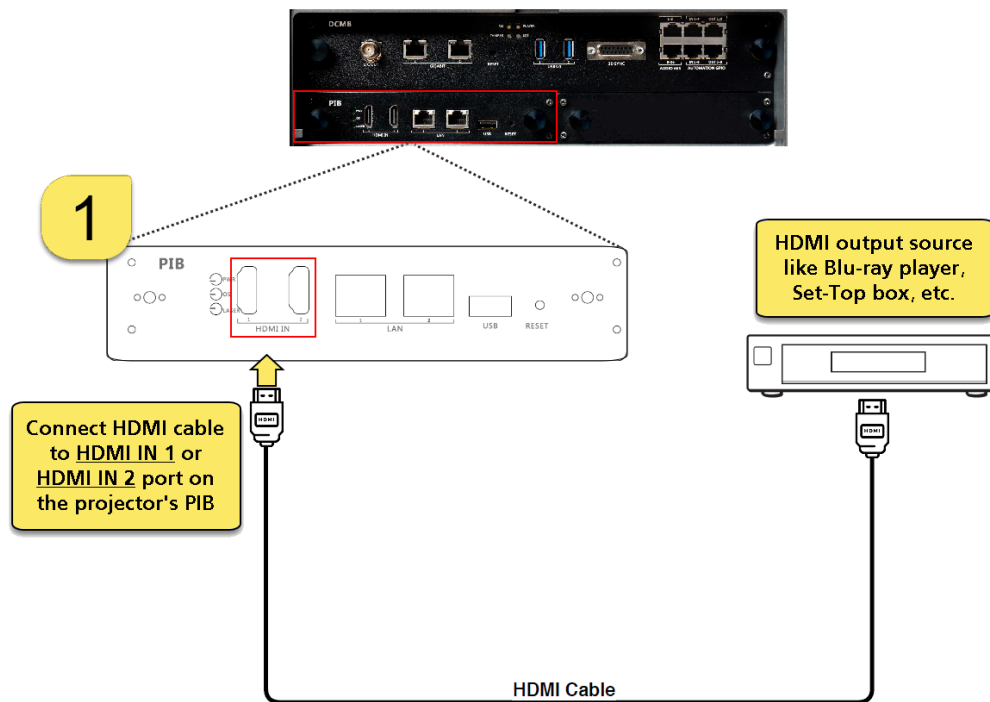


Figure 33:

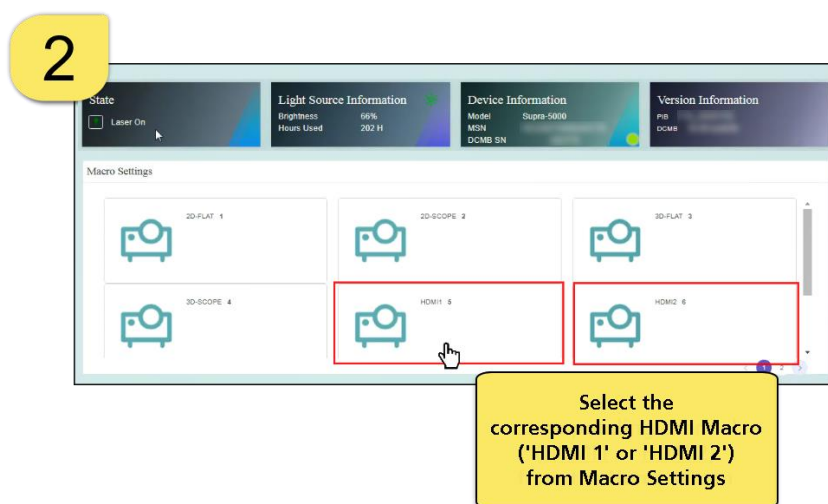


Figure 34:

3. Understanding the Supra Command Center

This section explains the different menu options and corresponding functions of the Espedeo Supra Command Center web interface.

3.1 Home screen

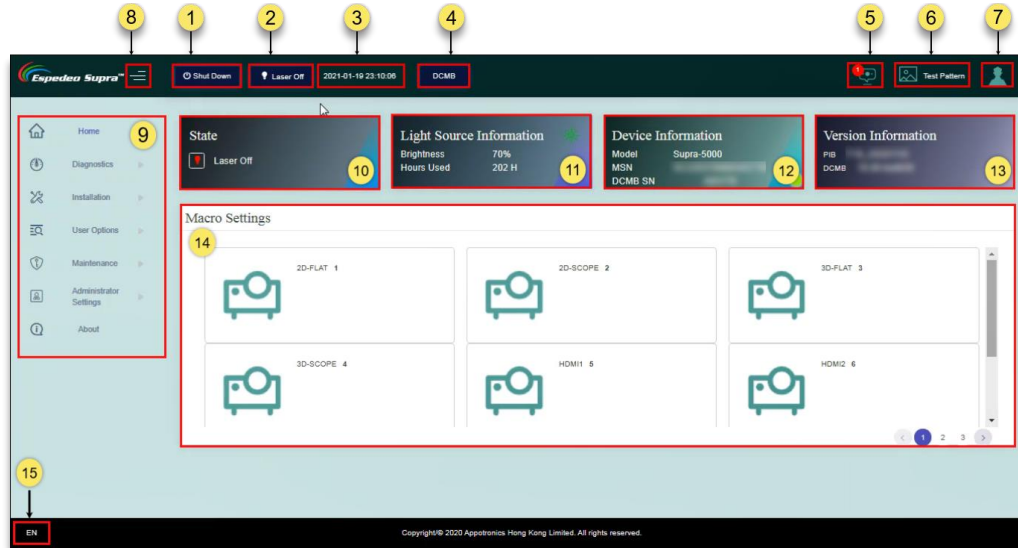


Figure 35:

SN	Name	Function Description
①	Power switch	Indicates the operational status of the projector. You can toggle between ON and OFF: <ul style="list-style-type: none"> Power On: The projector is in running status. When the projector is in ON mode, the Laser light source can be turned ON or OFF. Shut Down: The Laser light source is turned OFF and the projector fan is in spin-down mode. After being shut down, the projector enters the Standby mode. You can wake up the projector through the network.
②	Light Source switch	Indicates the operational status of the Laser light source of the projector. You can toggle the Projector Status between 'Laser On' and 'Laser Off'.
③	Date and Time	Indicates the system date-time that has been set on the projector.
④	DCMB	Clicking on this button will open the DCMB Web UI in a separate tab of the web browser.
⑤	Error Information	Show the warning and error information of the projector.




⑥	Test Pattern	Shortcut icon for projecting a test pattern. The default test pattern can be selected
⑦	User permissions	Users are classified into 'Ordinary User' or 'Professional User'. Menu UI options vary based on user permissions.
⑧		Show/Hide the Navigation functions on the Home screen.
⑨	Navigation	List of various functions available under the Supra Command Center. The operation functions shown in this list vary according to user permissions.
⑩	State	Displays the current state of the projector which includes 'Power On', 'Standby', 'Laser On' and 'Laser-Off'.
⑪	Light Source Information	<p>Displays the brightness and use time of the Laser light source. If the equipment is in rental mode, the remaining time of the light source is also displayed.</p> <p>You can also adjust the brightness of the current image on the screen. Click on the  icon to access the Light Source Settings. Select the desired brightness value from the drop-down and click on the Setting button. However, the configuration cannot be saved under the current macros.</p> 
⑫	Device Information	Displays the model of the projector, MSN and DCMB Serial No.
⑬	Version Information	<p>Displays the version information of the PIB and DCMB software.</p> <p>NOTE: The software versions being used at the time of writing this User Manual is 'T18' for the PIB and '18.00-build30' for the DCMB.</p>
⑭	Macro Settings	Displays the six default macros along with any custom 2D/3D macros created by the user.
⑮	Language Select	Indicates the current language in which the DCMB Web UI is displayed. To change the language, click on this button and select the desired language from the list.

Table 5

3.2 Diagnostics

The **Diagnostics** screen can be used to monitor and display the equipment status, obtain version information, perform self-test, download the diagnosis package, query error code and implement other tasks.

3.2.1 Diagnostics → Current State

The **Current State** menu displays the *temperature, voltage, speed, current, laser information, projector information and lens information* under separate sub-sections in real-time.

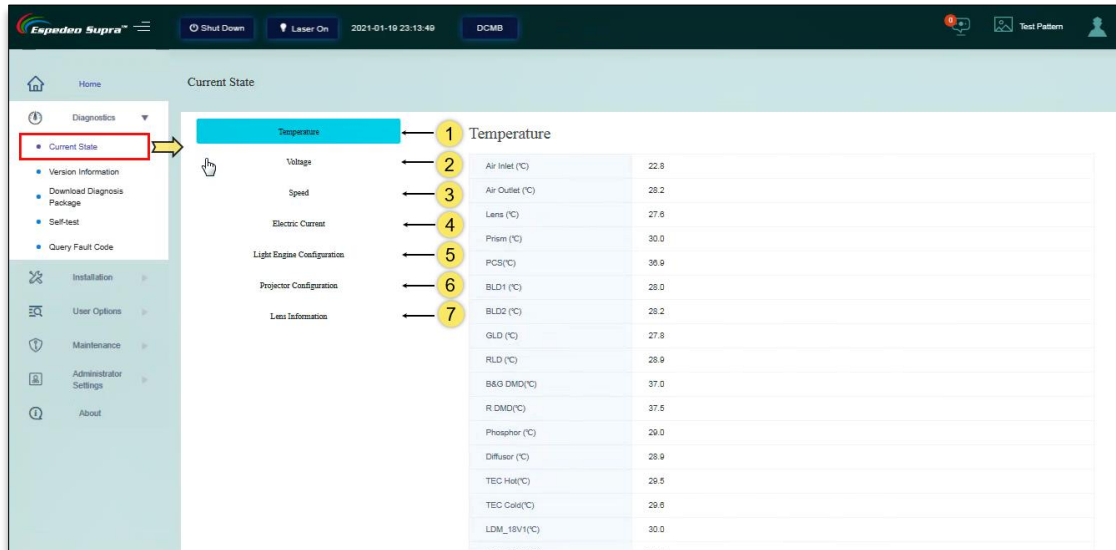


Figure 36:

SN	Name	Function Description
①	Temperature	Displays the temperature (measured in °C) of the various projector components such as the air inlet, air outlet, lens, prism, PCS, laser, DMD, motor, etc.
②	Voltage	Displays the voltage (measured in V) of the local PIB measured at +12V, PIB +5V and PIB +3V3.
③	Speed	Displays the rotation speed (measured in RPM) of the projector components such as the system fans 1-4, PCS, BLD, scattering wheel and phosphor wheel.
④	Current	Displays the current (measured in mA) of the projector components such as the blue light setting current, green light setting current, red light setting current, blue light display current, green light display current and red light display current.

⑤	Light Engine Configuration	Displays information about the Laser light source such as the resolution, model, SN, version, production date and used time of light source.
⑥	Projector Configuration	Displays information about the projector such as model, whole machine MSN, DCMB SN and manufacturing date.
⑦	Lens Information	Displays information about the projector lens such as the lens mounting status and lens model.

Table 6

3.2.2 Diagnostic → Version Information

The **Version Information** menu displays version information for each projector module.

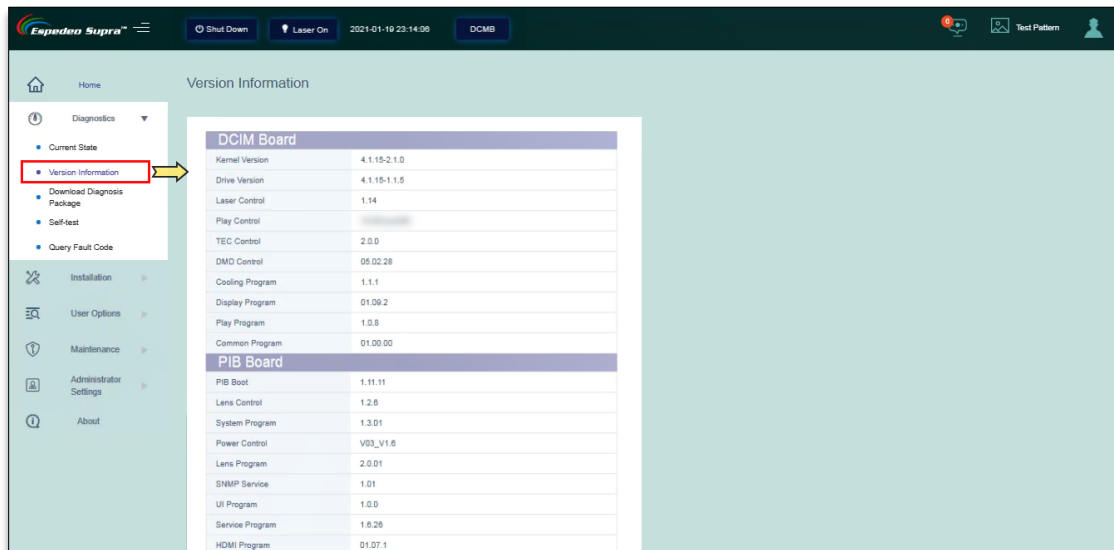


Figure 37:

3.2.3 Diagnostic → Download Diagnostic Package

In case any alerts or error messages are displayed on the **Home** screen, you can download the projector log files from the **Download Diagnostic Package** menu to troubleshoot the related issue/fault.

While downloading the diagnostic package, select the 'Select All' option and click the **Download** button. The system will automatically download the diagnosis package to the default *Downloads* folder of the Chrome™ browser.

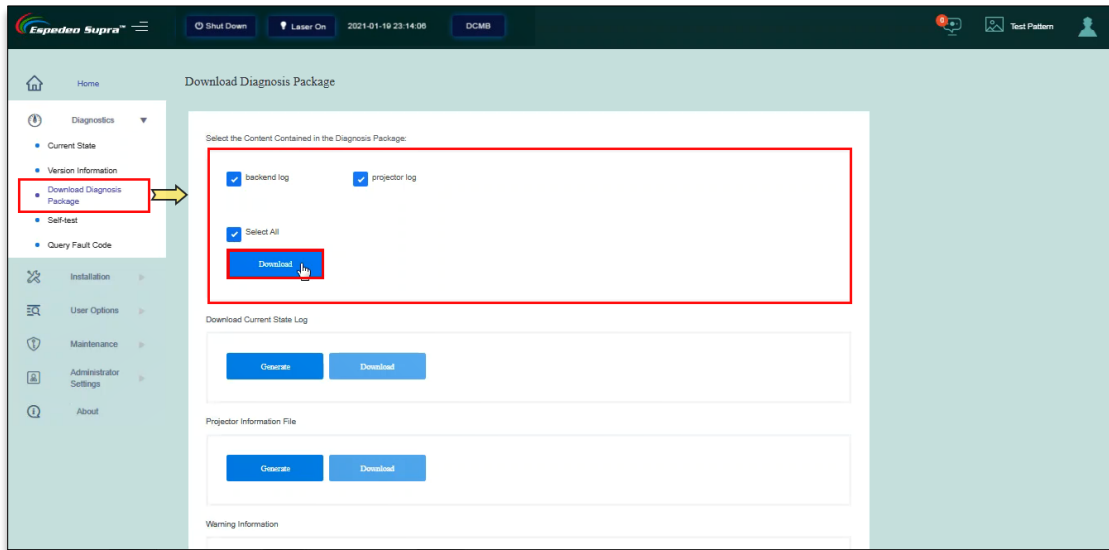


Figure 38:

Locate the diagnosis package in the Downloads folder and use any file compression tool such as **WinRAR** to extract the log files. You can view the logs using any text editor such as **Notepad** or provide the entire compressed package to the Espedeo for further analysis.

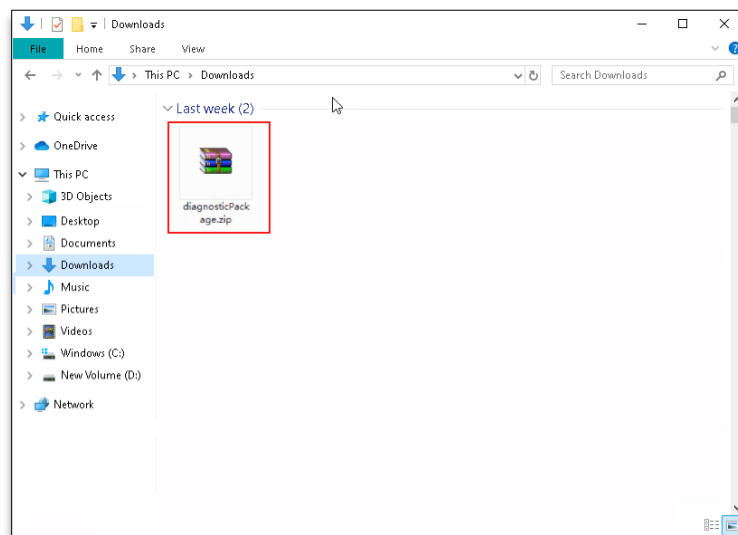


Figure 39:

3.2.4 Diagnostic → Self-test

The **Self-test** menu can be used to detect whether the HDMI, IMB and DLP modules are functioning as expected.

3.2.4.1 Self-check

You can check the number of faults and warnings for these modules as well as view detailed information about these faults and warnings using the **Self-check** tab.

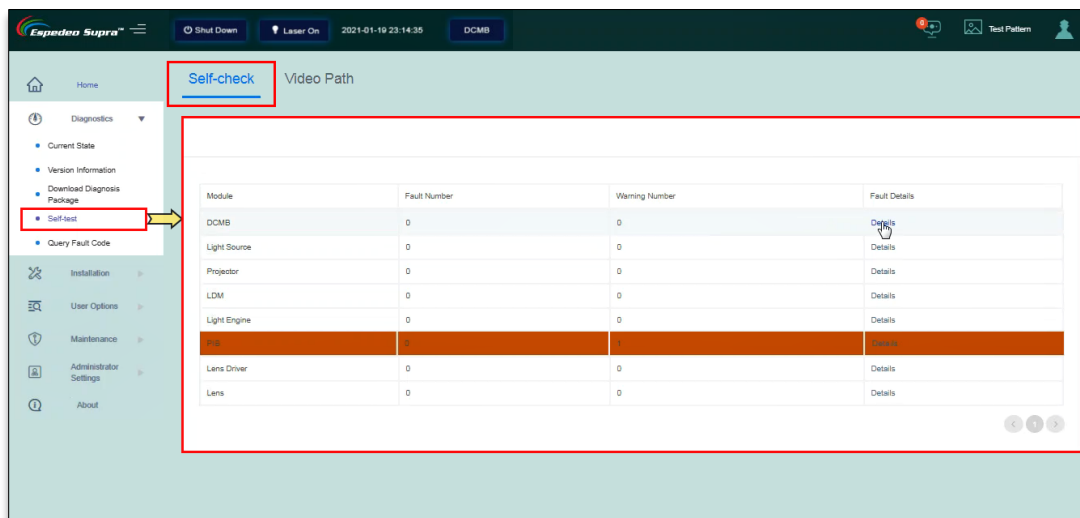


Figure 40:

3.2.4.2 Video Path

The **Video Path** tab is used to detect whether the video channels of the HDMI, IMB and DLP modules are functioning as expected.

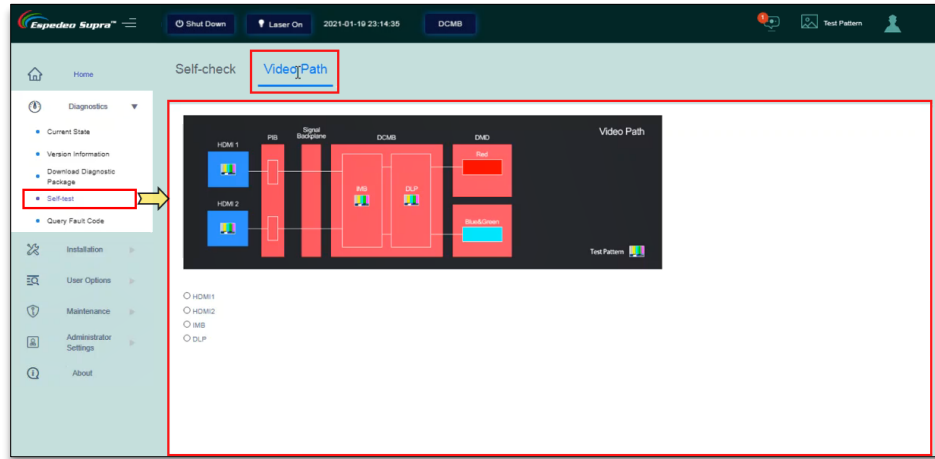


Figure 41:

I. HDMI1 module detection

This function is mainly used to detect the HDMI1 module. After the HDMI1 port of the PIB is connected to a computer, DVD device or set-top box, select the "HDMI1" icon under the "Video Path" column. At this time, if the video signals transmitted over the HDMI1 port are displayed normally, the video channel of the HDMI1 port is normal.

NOTE: This test requires an external HDMI signal source and the resolution is set to 1080p@60Hz.

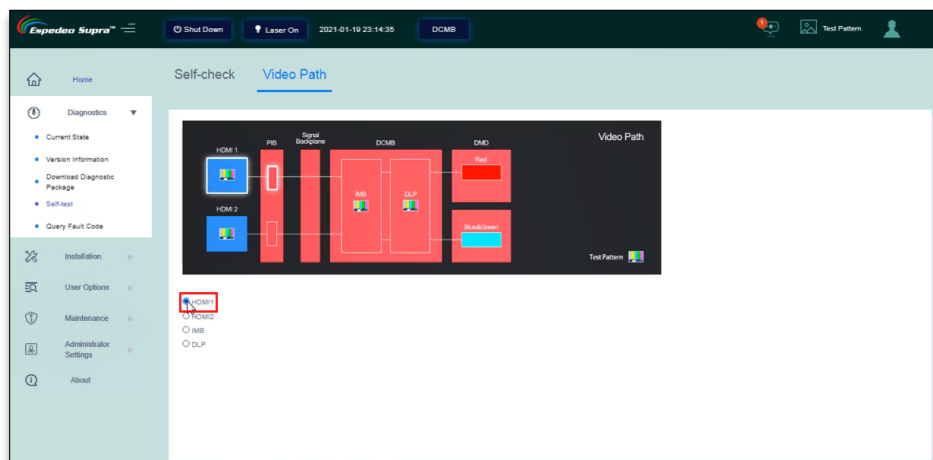


Figure 42:

II. HDMI2 module detection

This function is mainly used to detect the HDMI2 module. After the HDMI2 port of the PIB is connected to a computer, DVD device or set-top box, select the "HDMI2" icon in the "Video Path" column. At this time, if the video signals transmitted over the HDMI2 port are displayed normally, the video channel of the HDMI2 port is normal.

NOTE: This test requires an external HDMI signal source and the resolution is set to 1080p@60Hz.

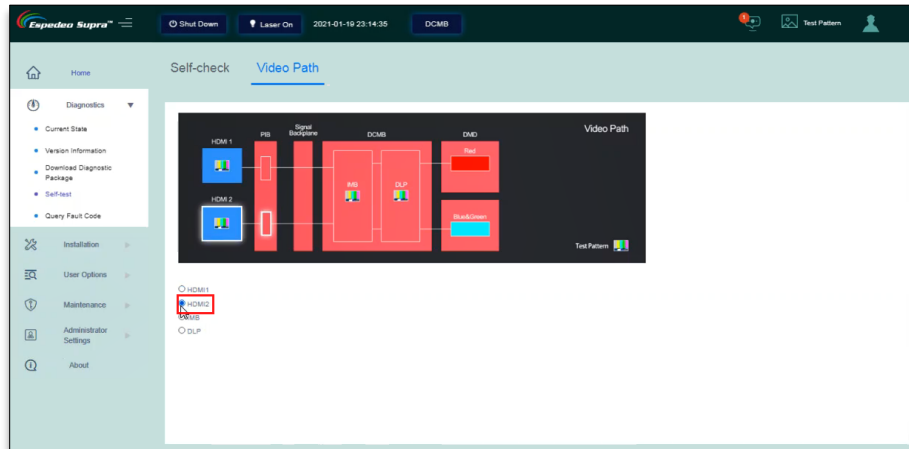


Figure 43:

III. IMB module detection

This function is mainly used to detect the decoding function of the IMB module. Select the "IMB" icon in the "Video Path" column. At this time, if any test pattern is displayed normally on the UI, the video path of the IMB module is normal.

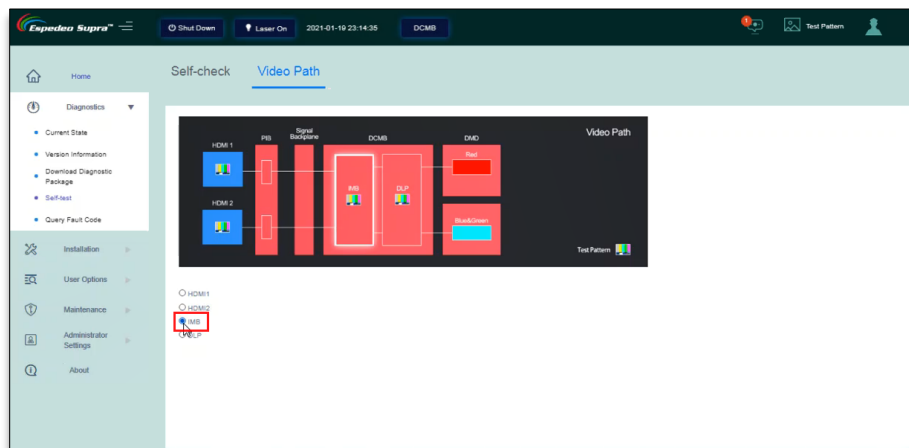


Figure 44:

IV. DLP module detection

This function is mainly used to detect the display function of the DLP module. Select the "DLP" icon in the "Video Path" column. At this time, if the grid image is displayed normally, the video path of the DLP module is normal.

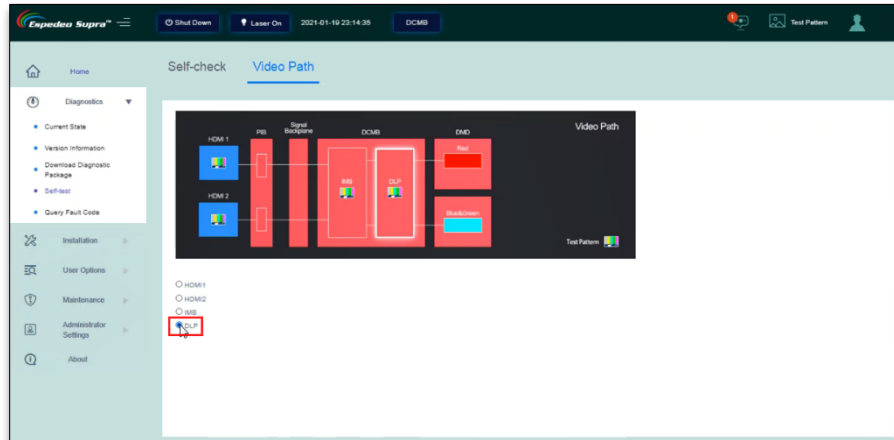


Figure 45:

3.2.5 Diagnostic → Query Error Code

If there is an alert or error message shown under the 'Error Information' section of the **Home** screen, you can check the corresponding details using the **Query Fault Code** menu. Enter the fault code shown against the alert/error message and click on the **Query** button to view details related to the fault code.

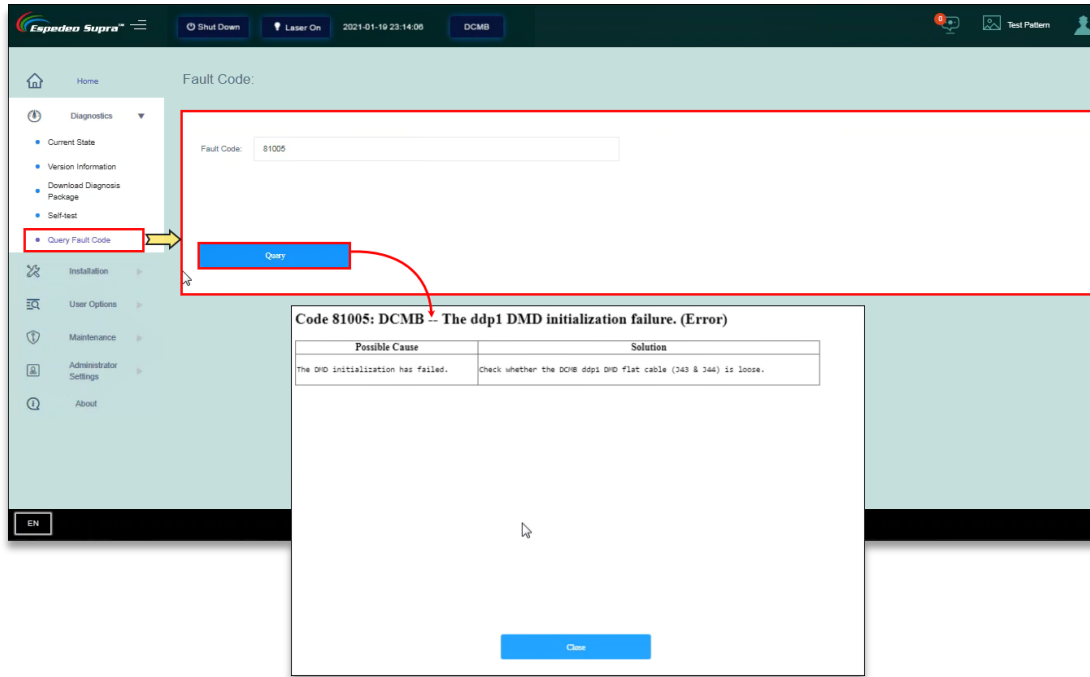


Figure 46:

3.3 Installation

The **Installation** screen provides installation-related settings for the projector such as setting the macros, setting source files, setting screen files, setting color files, setting light source files, setting lens files, setting 3D files and setting the IP address of the projector.

3.3.1 Installation → Macro Settings

The **Macro Settings** menu allows you to edit the settings for the default macros of the projector i.e., **2D-FLAT**, **2D-SCOPE**, **3D-FLAT**, **3D-SCOPE**, **HDMI1** and **HDMI2**.

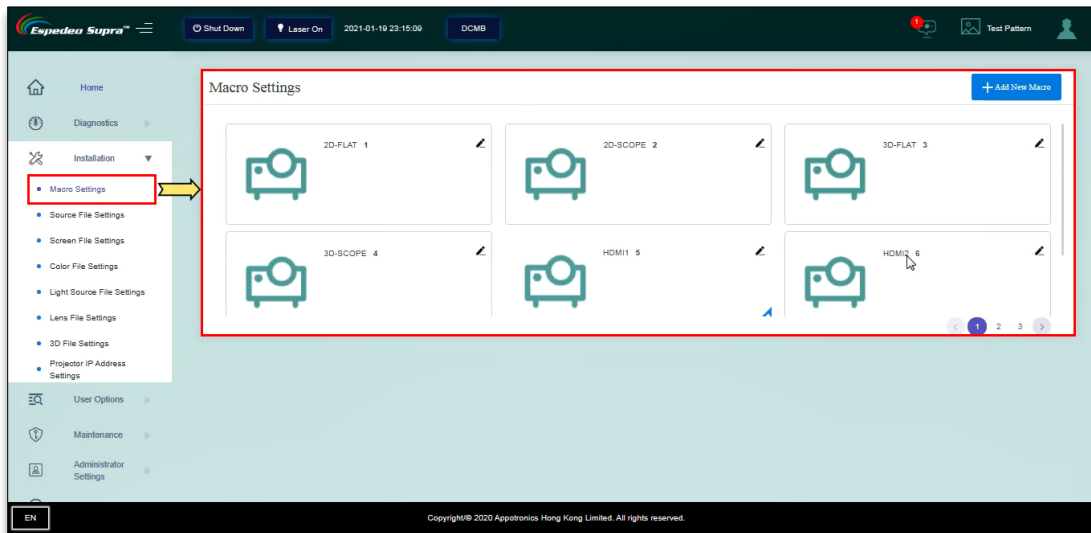



Figure 47:

3.3.1.1 Editing the 2D-FLAT Macro

Click on the  icon under the 2D-FLAT macro. Select the source file, screen file, color file, light source file and lens file. Click 'Load File' and import the preset source file, screen file, 2D color file, light source file and lens file in sequence. Click 'Save'. The macro will be successfully edited.

NOTE: By default, the source file and PCF file under this macro are imported and the 3D file cannot be selected.

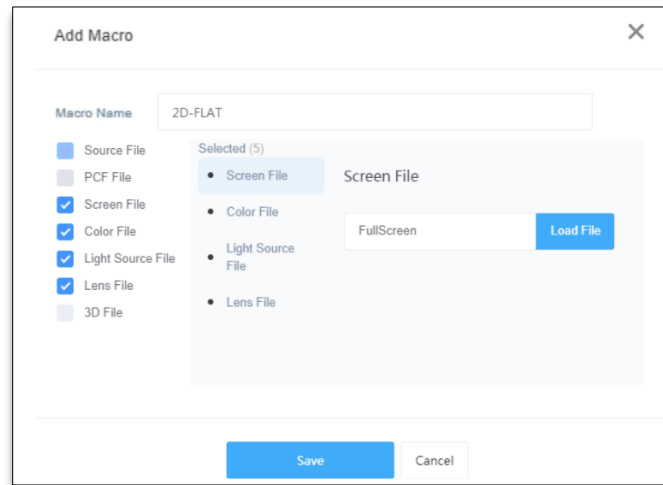



Figure 48:

3.3.1.2 Editing the 2D-SCOPE Macro

Click on the  icon under the 2D-SCOPE macro. Select the source file, screen file, color file, light source file and lens file. Click 'Load File' and import the preset source file, screen file, 2D color file, light source file and lens file in sequence. Click 'Save'. The macro will be successfully edited.

NOTE: By default, the source file and PCF file under this macro are imported and the 3D file cannot be selected.

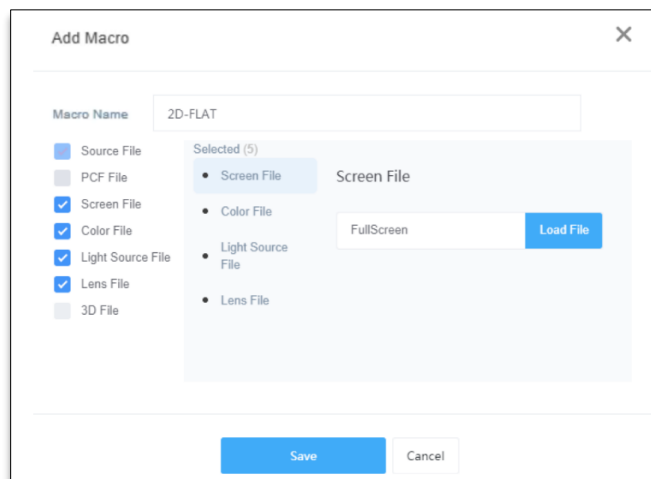



Figure 49:

3.3.1.3 Editing the 3D-FLAT Macro

Click on the  icon under the 3D-FLAT macro. Click 'Load File' and import the preset source file, screen file, color file, light source file, lens file and 3D file in sequence. Click 'Save'. The macro will be successfully edited.

NOTE: By default, the source file and PCF file under this macro are imported and the preset 3D file is selected.

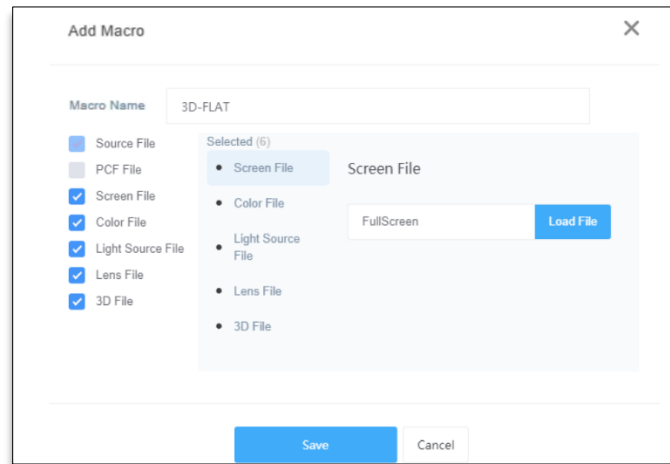



Figure 50:

3.3.1.4 Editing the 3D-SCOPE Macro

Click on the  icon under the 3D-SCOPE macro. Click 'Load File' and import the preset source file, screen file, color file, light source file, lens file and 3D file in sequence. Click 'Save'. The macro will be successfully edited.

NOTE: By default, the source file and PCF file under this macro are imported and the preset 3D file is selected.

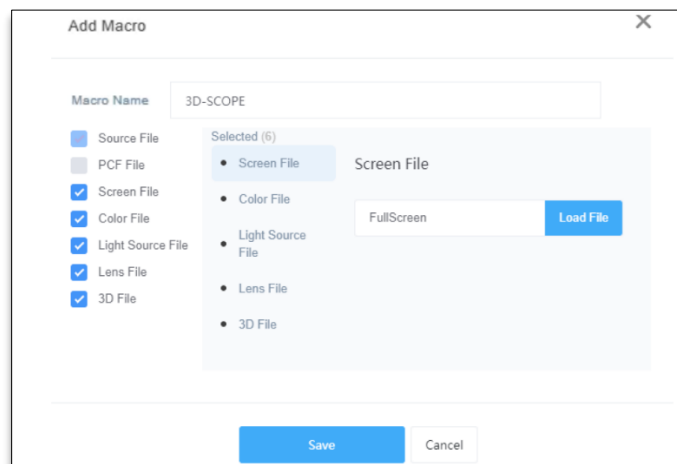


Figure 51:

3.3.1.5 Switching to HDMI Macro

After the HDMI1 port or HDMI2 port of the PIB is connected to a computer, DVD device or set-top box, you can select the corresponding HDMI macro from the **Macro Settings** section of the Home screen.

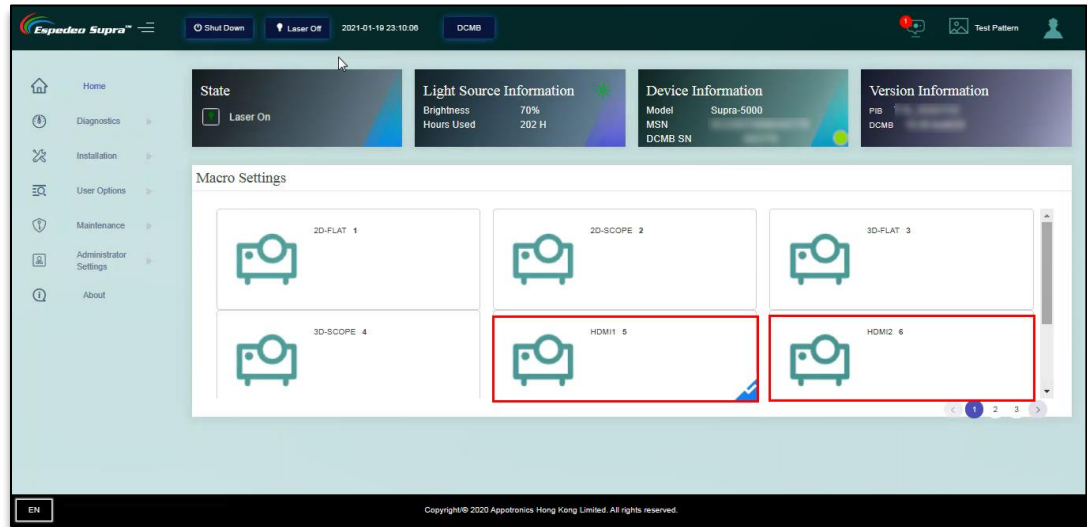


Figure 52:

3.3.1.6 Creating a Custom 2D or 3D Macro

You can also add a custom 2D or 3D macro by clicking on the **Add New Macro** button and importing the relevant *Source*, *Screen*, *Color*, *Light Source* and *Lens* files as shown in **Figure 53**.

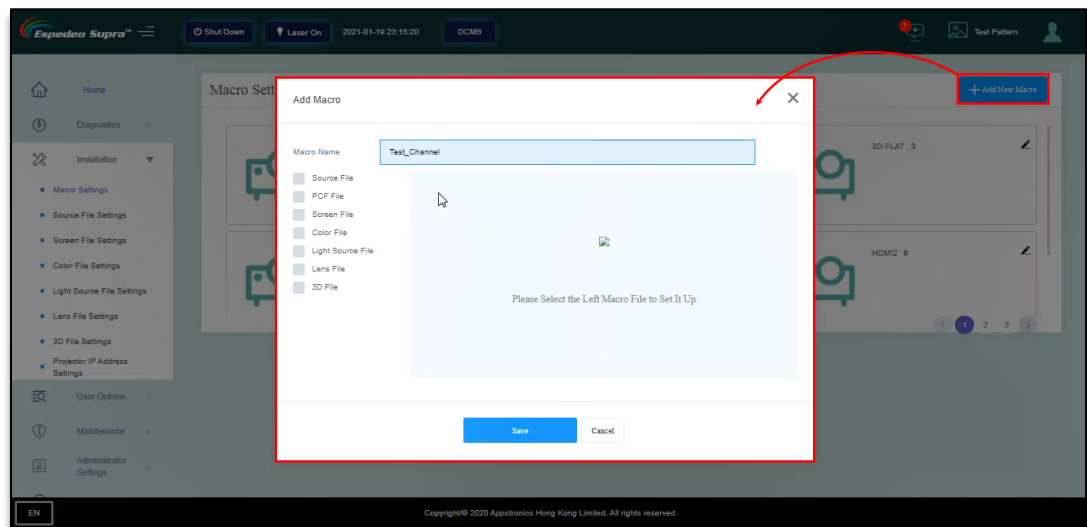


Figure 53:

- I. The procedure for creating a 3D macro is consistent with the procedure for editing the '3D-FLAT' or '3D-SCOPE' macro. Note that the DCMB file shall be selected as the source file.

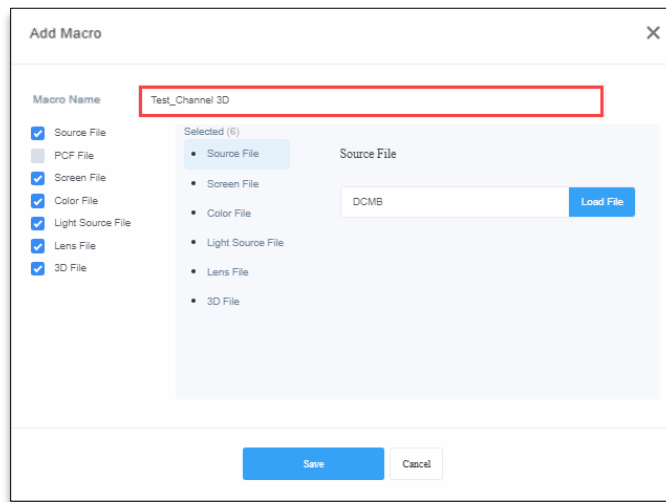


Figure 54:

- II. The procedure for creating a 2D macro is consistent with the procedure for editing the '2D-FLA'T or '2D-SCOPE' macro. Note that the DCMB file shall be selected as the source file while no 3D file is selected.

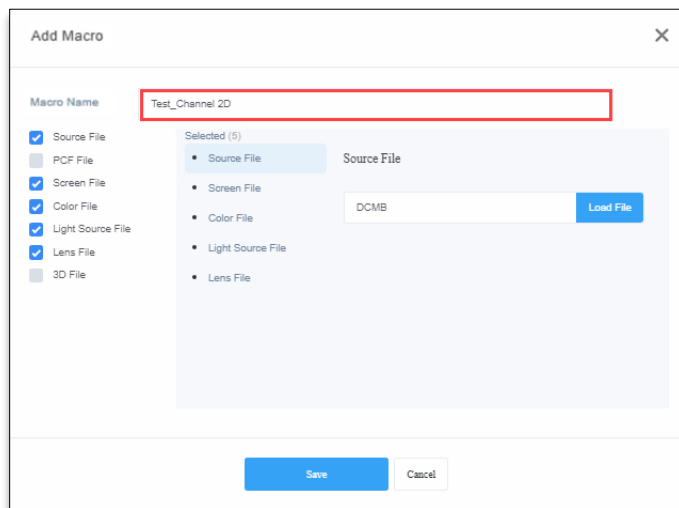


Figure 55:

III. You can now view the created macros under **Macro Settings** as shown in **Figure 56**.

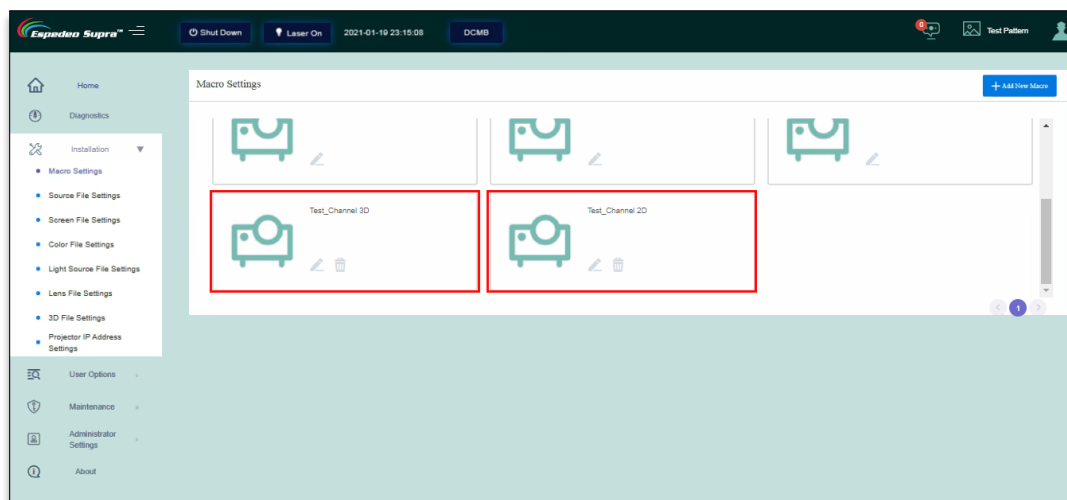


Figure 56:

3.3.2 Installation → Source File Settings

The **Source File Settings** menu lists the type of video sources supported by the projector. The projector supports packing formats of SMTPE DCP and Interop DCP as well as supports the input of HDMI signal.

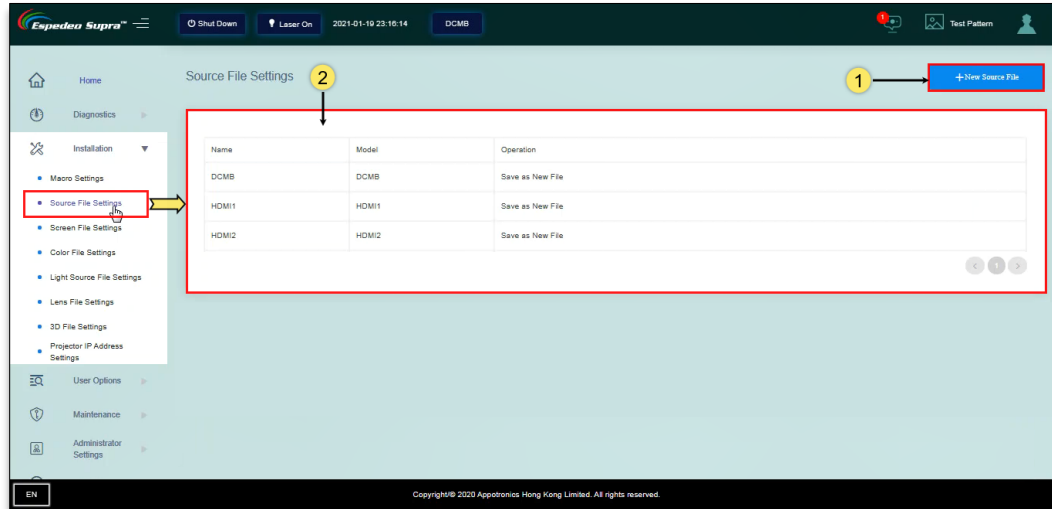


Figure 57:

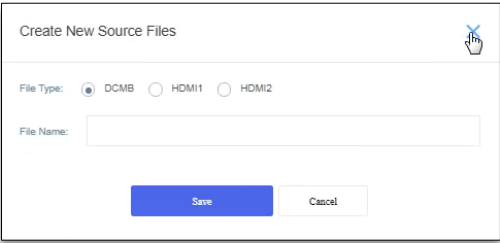
SN	Name	Function Description
①	New Source File	<p>Click on this button to create a new source file. This button is enabled when you set the source file.</p>  <p>You can add the desired source file to a particular macro, under the Macro Settings menu.</p>
②	Source file list	<p>Lists the source files, including DCMB, HDMI1 and HDMI2. The DCMB source file is used when the Server plays DCP content from the local storage of the projector. As an alternative to DCP, you can also use HDMI content input.</p> <p>NOTE: The projector supports only <u>1080p@60Hz</u> HDMI source</p>

Table 7

3.3.3 Installation → Screen File Settings

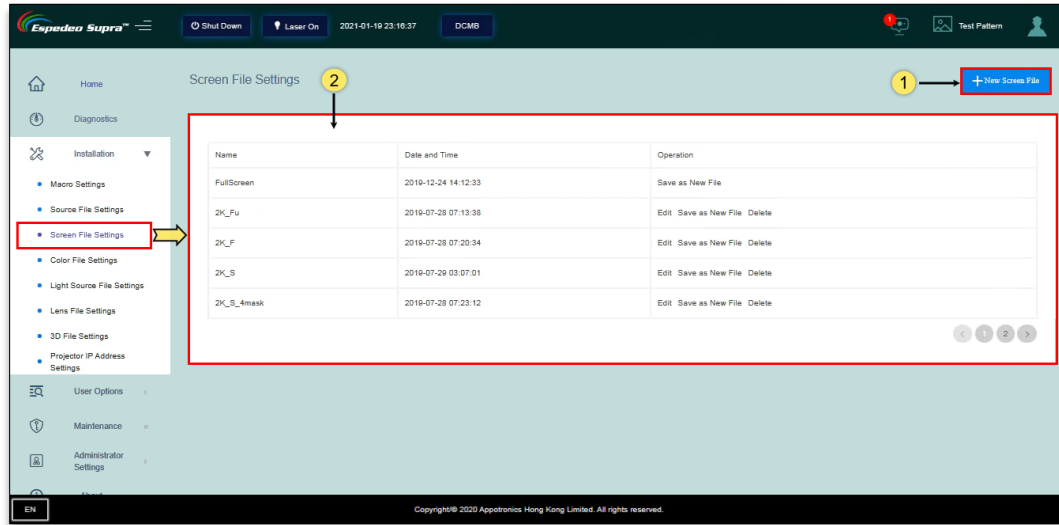


Figure 58:

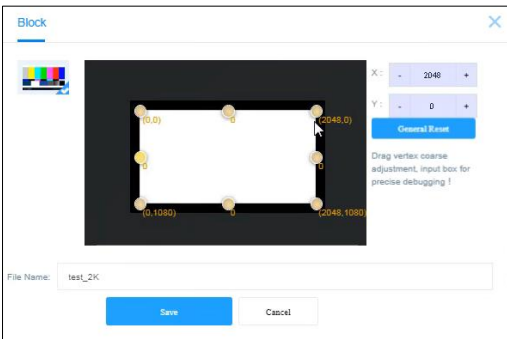
SN	Name	Function Description
①	New Screen File	<p>Click on this button to create new screen files. Drag the adjustment points to the desired coordinates or curvature. You can also click on a particular adjustment point and mentioned the corresponding 'X and Y' or 'Curve' values. Provide a file name and click on the Save button to create the screen file.</p>  <p>You can add the desired screen file to a particular macro, under the Macro Settings menu.</p>
②	Screen File list	<p>Lists all the screen files, including FullScreen (No crop). You can also edit or delete a newly created screen file or save it as a new screen file.</p>

Table 8

3.3.4 Install → Lens File Settings

Different lens files represent different sizes of projected images. You can set different lens files using the Up, Down, Left, Right, ZOOM +/- and FOCUS +/- buttons. Before proceeding with the lens file creation, make sure the appropriate lens model is selected and lens leading/homing is performed from the **Administrator Settings** → **Select lens** menu (refer to **Section 3.6.2** for more details).

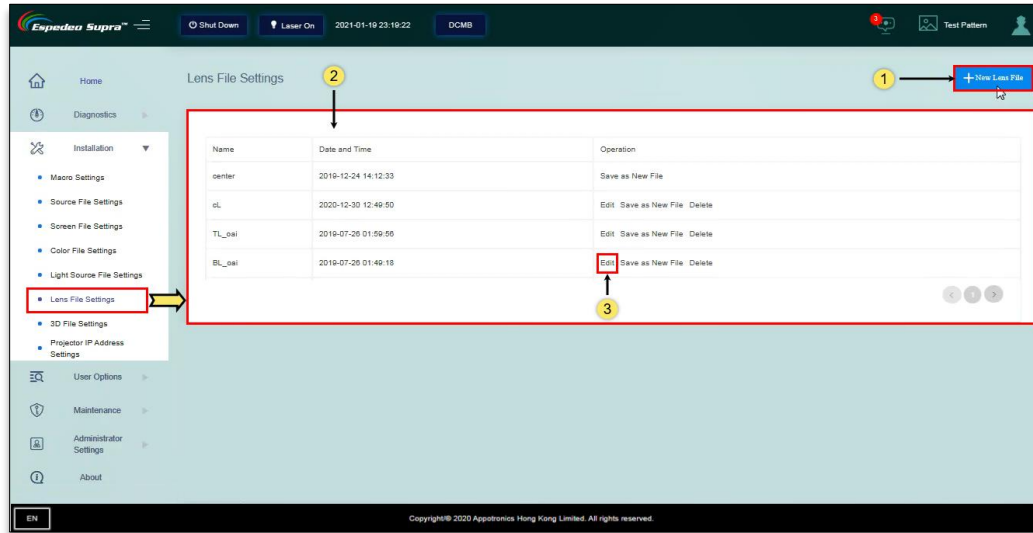


Figure 59:

SN	Name	Function Description
①	New Lens File	Click on this button to create a new lens file, as shown in Figure 60 . This button is enabled when you set the lens file.
②	Lens file list	Lists the lens files of the projector. You can create suitable lens files according to actual requirements.
③	Edit Lens file	You can use the edit option to adjust the offset of the position after the lens is installed,

Table 9

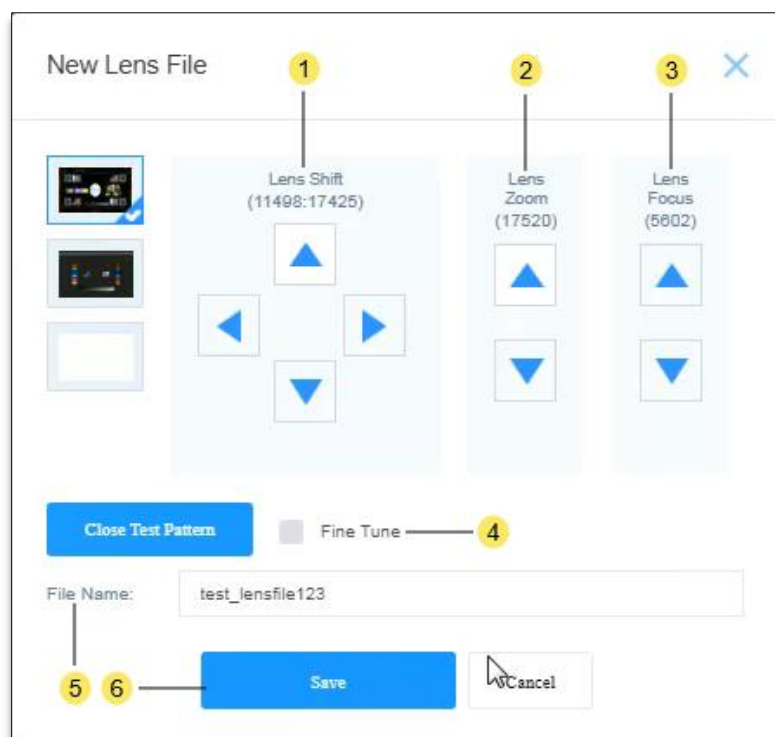


Figure 60:

SN	Name	Function Description
①	Lens Displacement	These buttons can be used to shift the lens Up, Down, Left and Right.
②	Lens Zoom	These buttons can be used to zoom in/out the lens.
③	Lens Focus	These buttons can be used to adjust the focus (sharpness) of the lens.
④	Fine Tune	Select this option to fine-tune the lens shift, zoom and focus settings.
⑤	File Name	Enter a name for the new lens file.
⑥	Save	Create a lens file in the current position as a new lens file

Table 10

3.3.5 Installation → Color File Settings

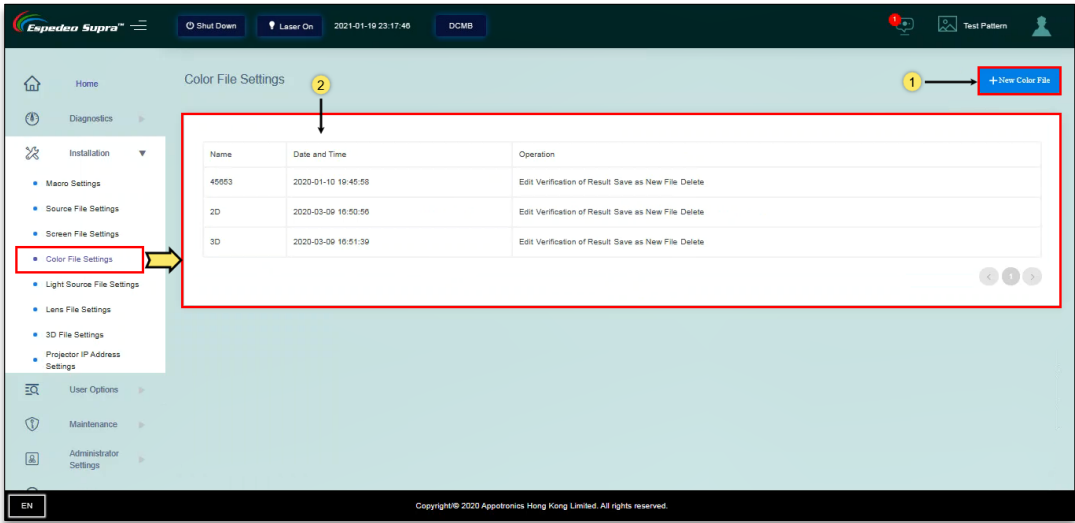


Figure 61

SN	Name	Function Description
①	New Color File	Click on this button to create new 2D and 3D color files (refer to Figure 62). You can add the desired color file to a particular macro, under the Macro Settings menu.
②	Color file list	Newly created 2D and 3D color files are displayed under the Color File list. You can edit or verify the corrected color file, save it as a new color file or delete a particular color file.

Table 11

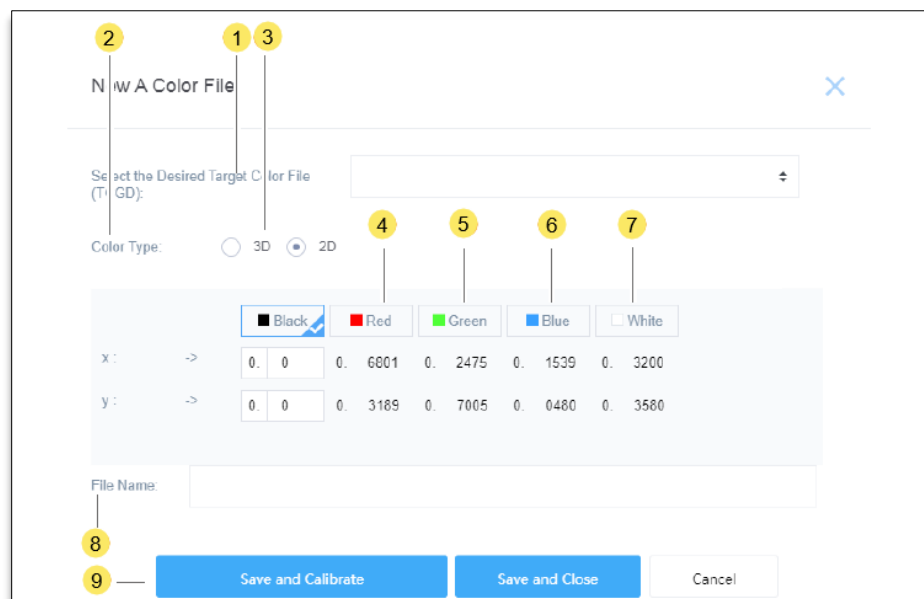
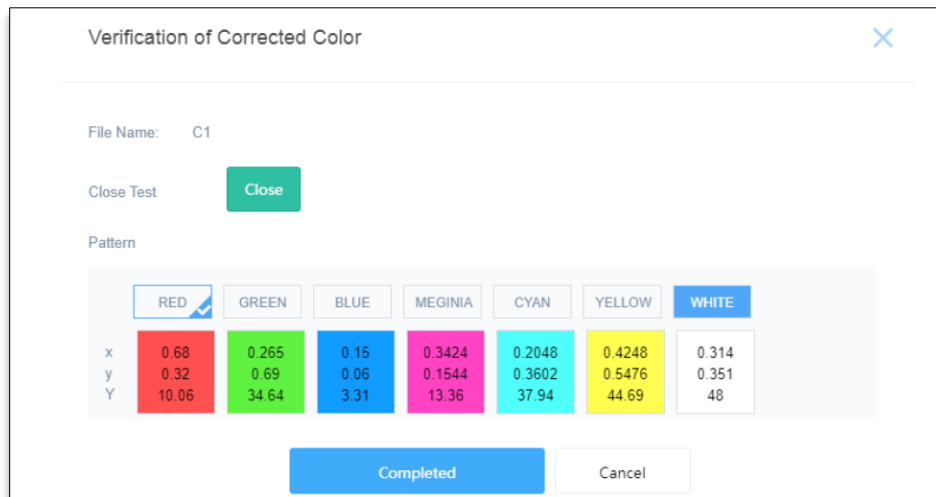


Figure 62

SN	Name	Function Description
①	Select the desired Target Color Gamut Data (TCGD) file	You can select the TCGD file based on the source <ul style="list-style-type: none"> For the DCP, select the DCI color file: DCI-P7_x314_y351 For the HDMI, select the rec.709 color file: Rec.709_x3127_y329
②	Color type	For 2D_DCP color calibration, select '2D'. For 3D_DCP color calibration, select '3D'.
③	3D device	When the color type is set to 3D, you need to select the corresponding 3D device. The default 3D device used by the projector is 'DEFAULT-3D'. To use a new 3D device, choose 3D File Settings → New 3D File and configure the corresponding control parameters of the new 3D device.
④	Red	After you click 'Red', the screen displays the Red test pattern. Use a colorimeter to measure the color coordinates of the current screen center and enter values of X and Y based on the color coordinates.
⑤	Green	After you click 'Green', the screen displays the Green test pattern. Use a colorimeter to measure the color coordinates of the current screen center and enter values of X and Y based on the color coordinates.
⑥	Blue	After you click 'Blue', the screen displays the Blue test pattern. Use a colorimeter to measure the color coordinates of the current screen center and enter values of X and Y based on the color coordinates.
⑦	White	After you click 'White', the screen displays the White test pattern. Use a colorimeter to measure the color coordinates of the current screen center and enter values of X and Y based on the color coordinates.

⑧	File Name	Enter a name for the new color file. It is recommended to name the 2D and 3D color files separately, for example, "2D_DCP" or "3D_DCP".
⑨	Save and Calibrate	Save and calibrates the current color file, as shown in Figure 63 . Checks whether the color is within the standard range after calibration. If yes, it is qualified. Otherwise, you need to find the reason.

Table 12



Verification of Corrected Color

File Name: C1

Close Test Close

Pattern

	RED	GREEN	BLUE	MEGINIA	CYAN	YELLOW	WHITE
x	0.68	0.265	0.15	0.3424	0.2048	0.4248	0.314
y	0.32	0.69	0.06	0.1544	0.3602	0.5476	0.351
Y	10.06	34.64	3.31	13.36	37.94	44.69	48

Completed Cancel

Figure 63:

NOTE:

- Before proceeding with color calibration, it is recommended to perform the lens back focus adjustment and DMD convergence (refer to [Supra-5000 Installation Manual](#) for more details).
- For 2D color calibration, set the color type to '2D'.
- For 3D color calibration, set the color type to '3D'. By default, the 'DEFAULT-3D' device is used for 3D color calibration.
- While performing a 3D color calibration, the 3D filter unit should be placed in front of the projector lens and measurements should be taken through a pair of 3D glasses.
- The corrected color files should be differentiated between 2D and 3D and used for the corresponding 2D or 3D macros.

3.3.6 Installation → Light Source File Settings

Light Source files are configured based on the brightness of light output by the projector. Therefore, you can set different light source files to achieve different luminous fluxes of the projector.

The light source file defines a percentage based on the maximum luminous flux output by the projector, configured by setting differentiated proportions downwards.

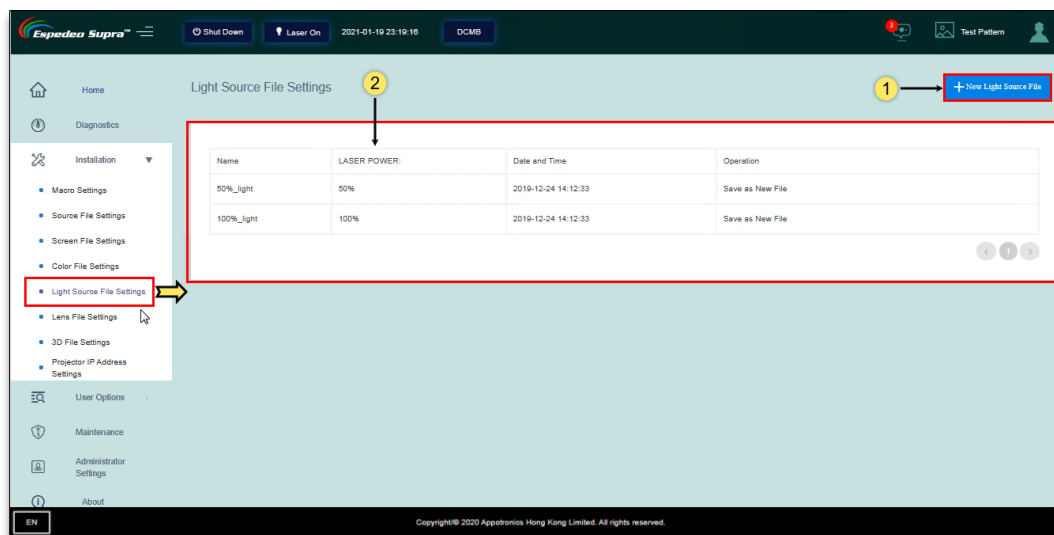


Figure 64:

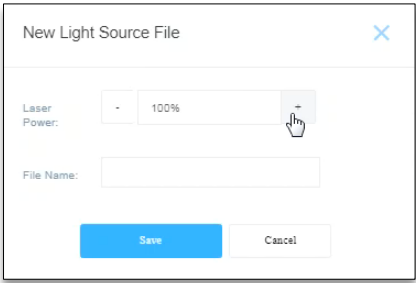
SN	Name	Function Description
①	New Light Source File	<p>Click on this button to create a new light source file. This button is enabled when you set the light source file.</p>  <p>NOTE: The Laser Power should not be set below <u>30%</u> in any light source file.</p>
②	Light Source file list	<p>Lists the light source files of the projector. By default, there are 50% and 100% light source files, indicating that the maximum luminous flux output by the projector is 50% and 100% respectively.</p> <p>You can create suitable light source files according to the actual brightness.</p>

Table 13

3.3.7 Install → 3D File Settings

You can create different 3D files in the **3D File Settings** menu.

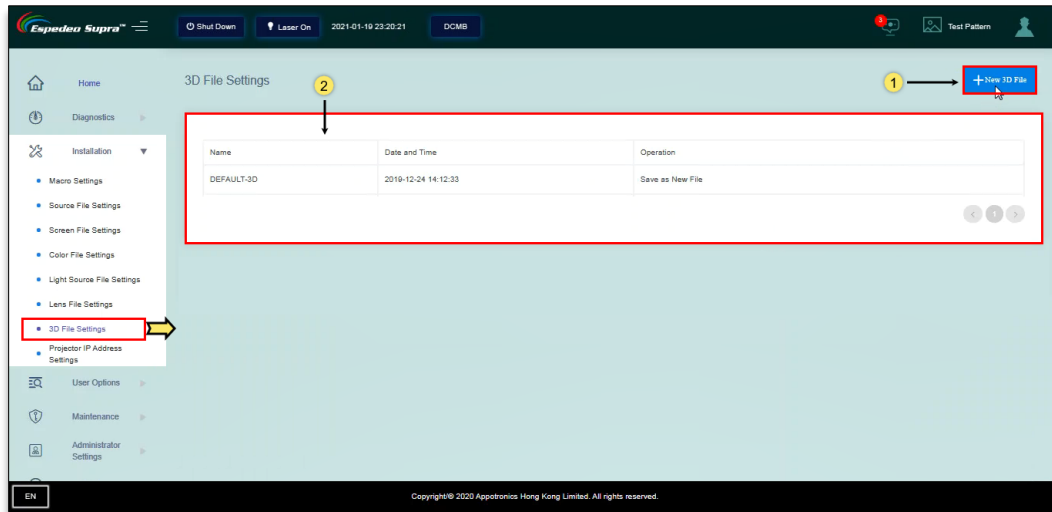


Figure 65

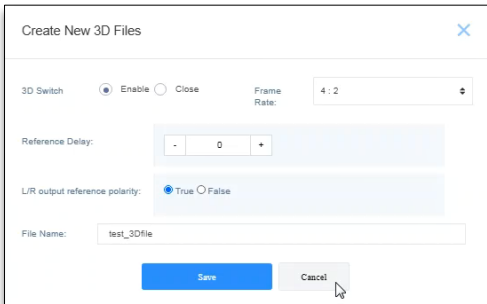
SN	Name	Function Description
①	New 3D File	<p>Creates a new 3D file. You can configure 3D files based on the various parameters in the 'Create New 3D Files' window.</p> 
②	3D File List	<p>Lists all 3D files on the projector. The default 3D file of the projector is 'DEFAULT-3D'.</p>

Table 14

3.3.8 Install → Projector IP Address Settings

You can set the IP address of the PIB module (LAN1) as required.

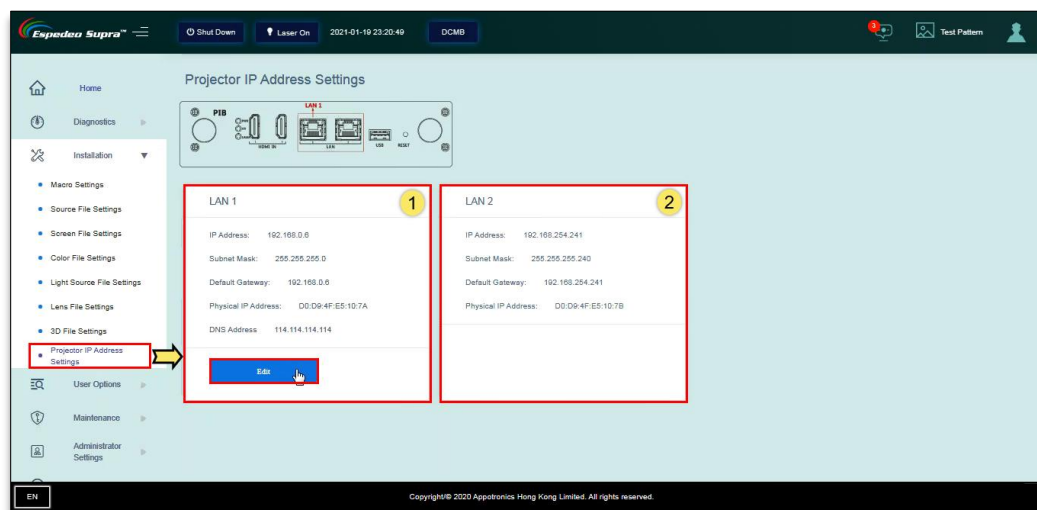


Figure 66:

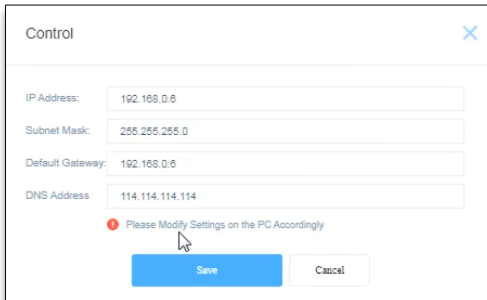
SN	Name	Function Description
①	IP address of LAN1 port	<p>You can set different IP addresses for port LAN1 according to actual requirements. Click on the Edit button to edit the <i>IP address</i>, <i>Subnet Mask</i>, <i>Default Gateway</i> and <i>DNS Address</i> values for port LAN1. The IP Address must range from <u>240 to 255</u> and cannot be set to <u>241</u> and <u>246</u>. Additionally, the <i>Subnet Mask</i> value for the laptop network interface should be set to <u>255.255.255.240</u>.</p> <p>Once set, you must set the same network segment on the laptop to access the Supra Command Center.</p> <div data-bbox="792 1335 1276 1633" data-label="Image">  </div> <p>NOTE: This setting takes effect only after you restart the projector.</p>
②	IP address of LAN2 port	<p>The IP address of port LAN2 is fixed to <u>192.168.254.241</u>.</p>

Table 15

3.4 User Options

The **User Options** function allows you to manage all the configuration files of the projector and select a language for the Supra Command Center web interface.

3.4.1 User Options → File Management

Under the **File Management** menu, you can backup user-created files (*Color files, Lens files, Light Source files, etc.*). In case of file loss due to equipment replacement or improper operation, you can upload the previous backup file to the projector.

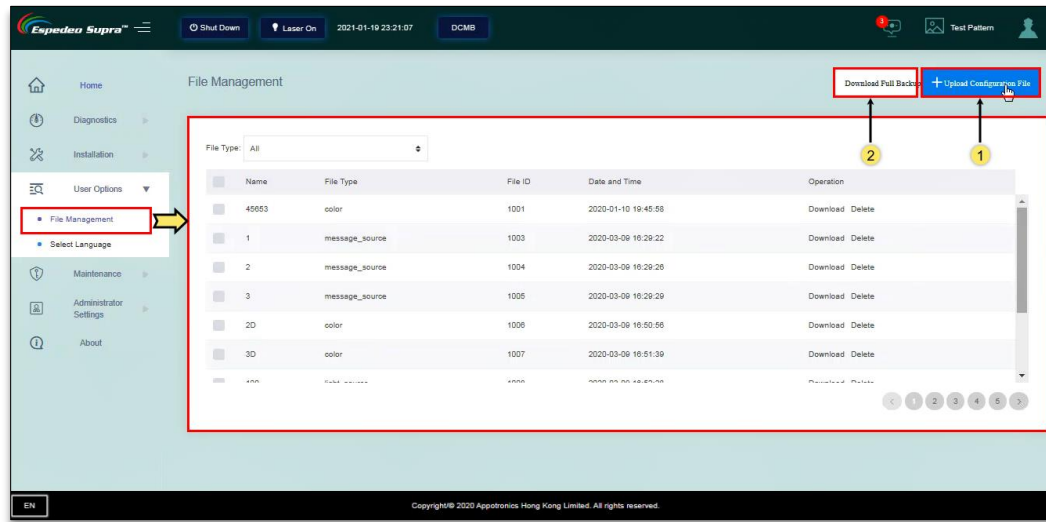


Figure 67:

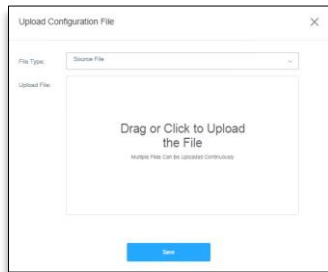
SN	Name	Function Description
①	Upload Configuration File	<p>To upload a backup file to the computer, click on the Upload Configuration File button and operate as prompted.</p> 
②	Download Full Backup	<p>The "File Management" screen displays all created files. To download a file to your computer, click the corresponding Download button.</p> <p>Alternatively, you can download a full backup of all created files by clicking the Download Full Backup button in the upper right corner and save the backup file to your computer as prompted.</p>

Table 16

3.4.2 User Options → Select Language

The **Select Language** menu allows you to switch between languages for the Supra Command Center interface, as per the user's preference.

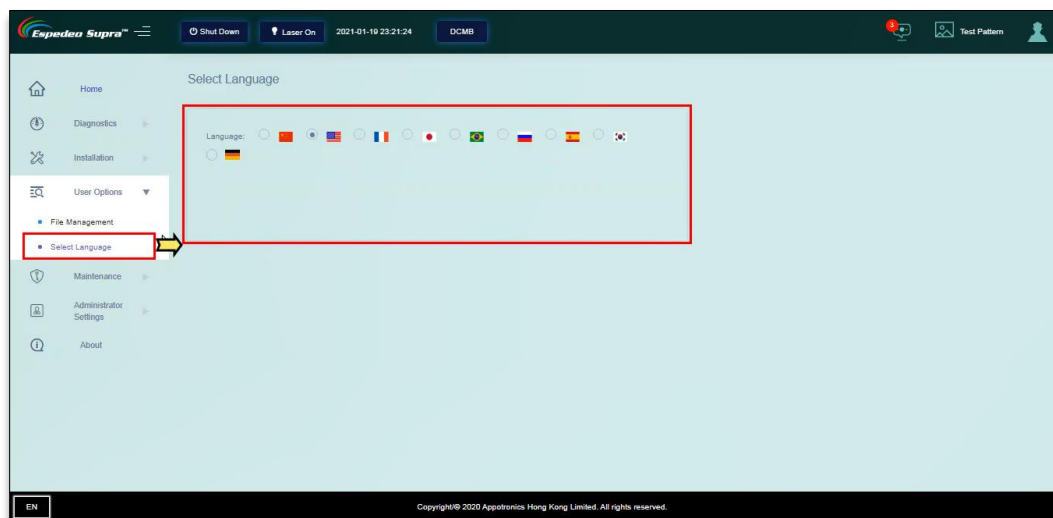


Figure 68:

3.5 Maintenance function

The **Maintenance** menu is mainly used to restart the projector, upgrade the firmware (main control of the PIB, Laser control and Lens control) and prompt for filter cleaning.

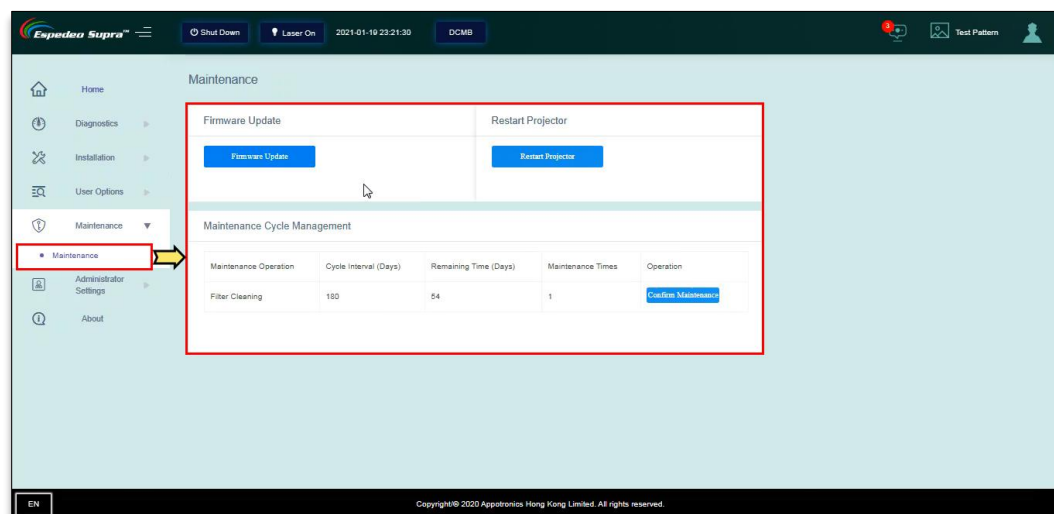


Figure 69:

3.6 Administrator Settings

3.6.1 Administrator Settings → Time Settings

The **Time Settings** menu allows you to set 'Projector Time' or 'Auto Synchronize Date and Time' from an NTP Server, as per actual requirements.

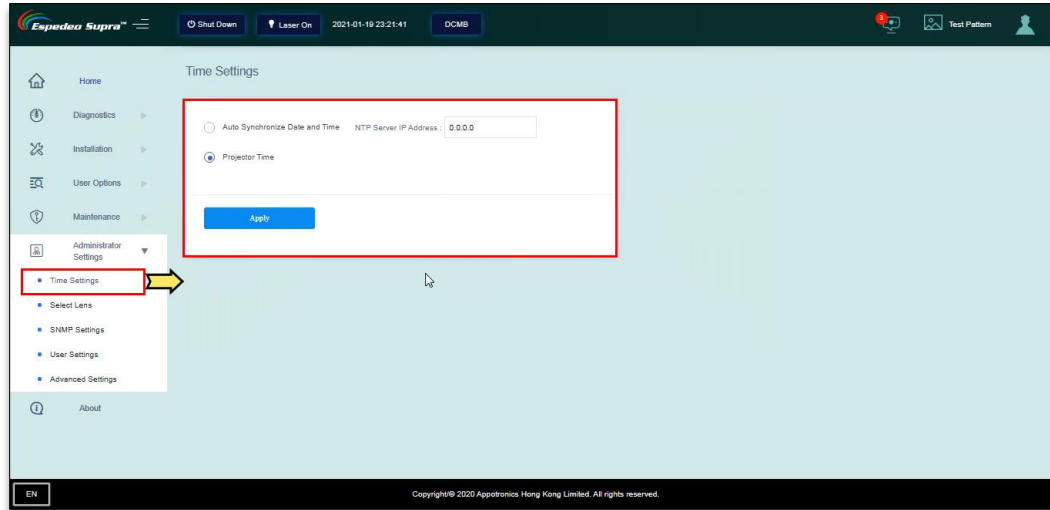


Figure 70:

3.6.2 Administrator Settings → Select Lens

When installing the lens for the first time or changing the lens due to lens damage, you need to select the lens model from the **Lens**: drop-down. Click the **Startup** button to initialize the lens. After the initialization is successful, a "Success" message will be shown.

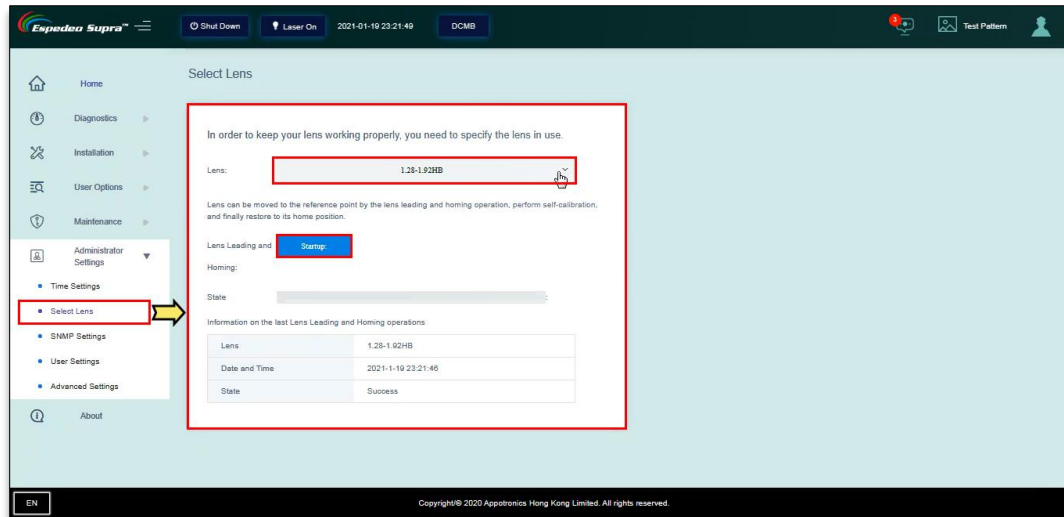


Figure 71:

3.6.3 Administrator Settings → SNMP Settings

The **SNMP Settings** menu can be used to mention the NOC Server details for receiving SNMP traps and alerts. After entering the NOC's IP address, click the **Apply** button. If the interface uses the SNMP function, the NOC Server can receive the corresponding log information.

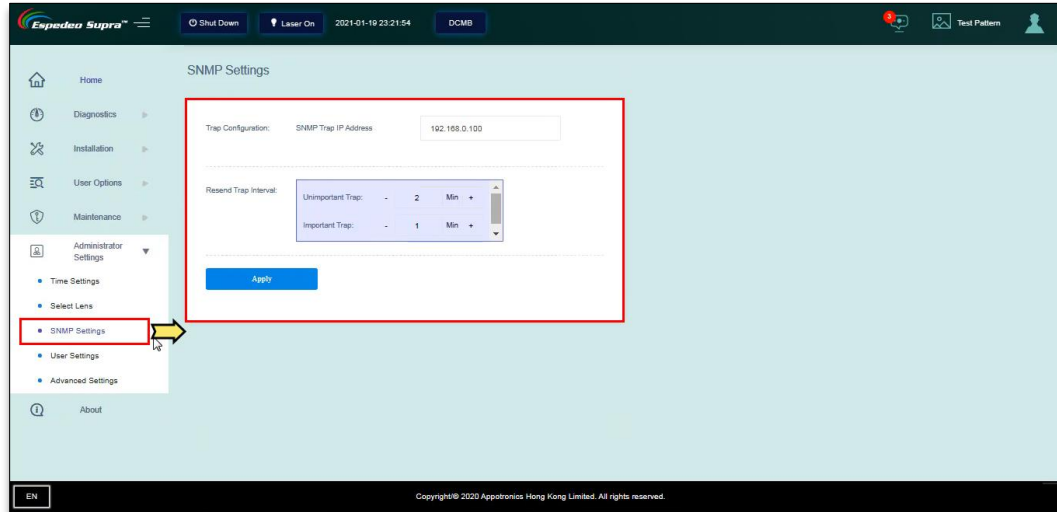


Figure 72:

3.6.4 Administrator Settings → User Settings

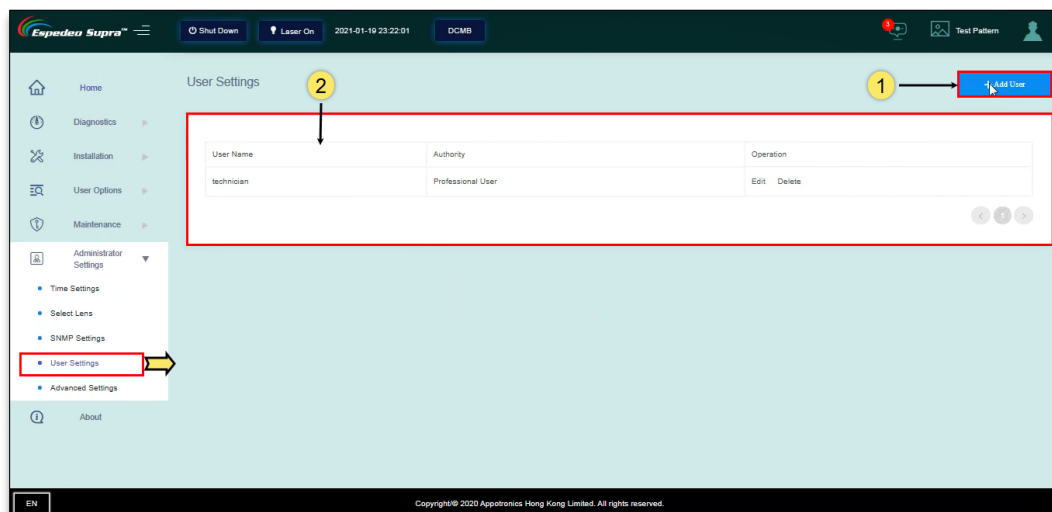


Figure 73:

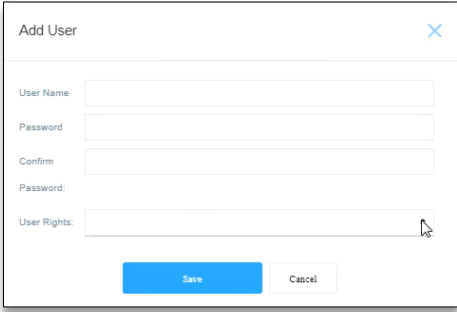
SN	Name	Function Description
①	Add User	<p>You can click the Add User button to create a user that has authorized user rights of an 'Ordinary User' or 'Professional User'.</p> 
②	User List	<p>Lists all the users that have been created. Click on Edit to edit the user details and Delete to delete a particular user.</p>

Table 17

3.6.5 Administrator Settings → Advanced Settings

Using the **Advanced Settings** menu, you can set the orientation of the projector (Front projection or Mounted projection), Altitude mode and Remote Control of the projector.

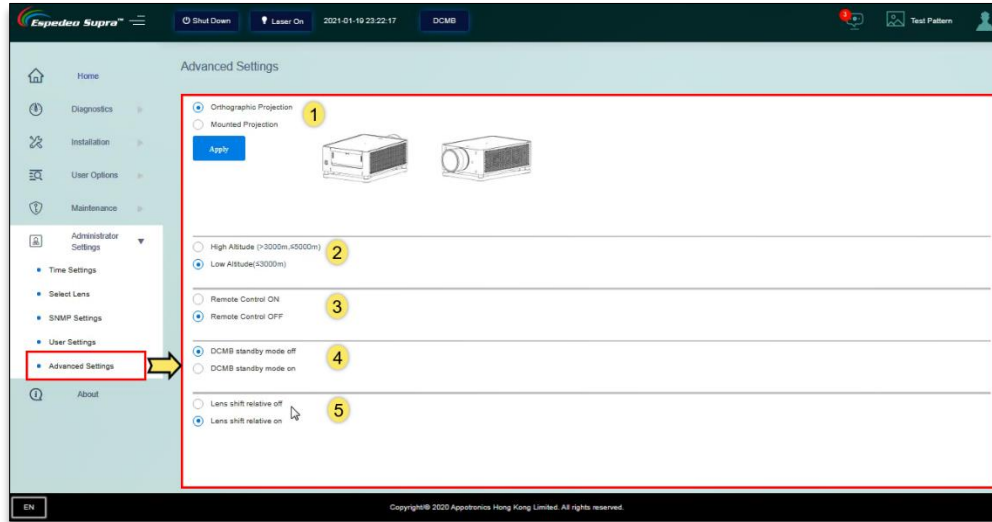


Figure 74:

SN	Name	Function Description
①	Projector Orientation	Select the orientation of the projector: i.e. Front projection or Mounted projection.
②	Altitude mode	Select the altitude mode based on the actual mounting altitude of the cinema: <ul style="list-style-type: none"> 3000m < Cinema's altitude ≤ 5000m: it is mandatory to select the high-altitude mode Cinema's altitude ≤ 3000m: it is mandatory to select the low altitude mode. The low altitude mode is selected by default.
③	Remote Control ON/OFF	Set the remote-control operation of the projector to ON or OFF.
④	DCMB standby mode on/off	When DCMB standby mode is ON: The projector will be in 'Always-On' mode and will not go into 'Standby' mode unless the DCMB is shutdown from the DCMB Web UI. When DCMB standby mode is OFF (default): Clicking the Shutdown button on the Supra Command Center will put the projector in 'Standby' mode and send a command to the DCMB to shut down as well.
⑤	Lens shift relative on/off	Lens shift relative improves the accuracy of lens movement. By default, this option is set to ON. NOTE: If Lens shift relative is set to OFF, the time taken by the projector to switch between macros will be affected.

Table 18

4. Understanding the DCMB Web UI

The DCMB of the Espedeo Supra-5000 has a web-based User Interface or Web UI, which can be used to control the functions of the DCMB. Refer to **Section 1.2.3** for more information related to accessing the DCMB Web UI.

4.1 Access Levels

On the login page, you need to select the **User Level** and enter the corresponding correct **Password** to access the DCMB Web UI. Different users will have different access levels of the **Configuration** tab under the DCMB Web UI.

Access Level	Available Access
User	Supra-5000, Dashboard, Playback, Automation, Content and Configuration* tabs. (*Only System sub-tab under Configuration menu is accessible.)
Technician	Supra-5000, Dashboard, Playback, Automation, Content and Configuration* tabs. (*Only System and Maintenance sub-tabs under Configuration menu are accessible.)
Maintenance	Supra-5000, Dashboard, Playback, Automation, Content and Configuration tabs.

Table 19



Figure 75

4.2 Dashboard

In the DCMB Web UI, the **Dashboard** tab displays basic information related to the DCMB, such as *System Information*, *Network Information*, *Storage Information*, *Licenses installed*, *Capabilities* and *System alerts*.

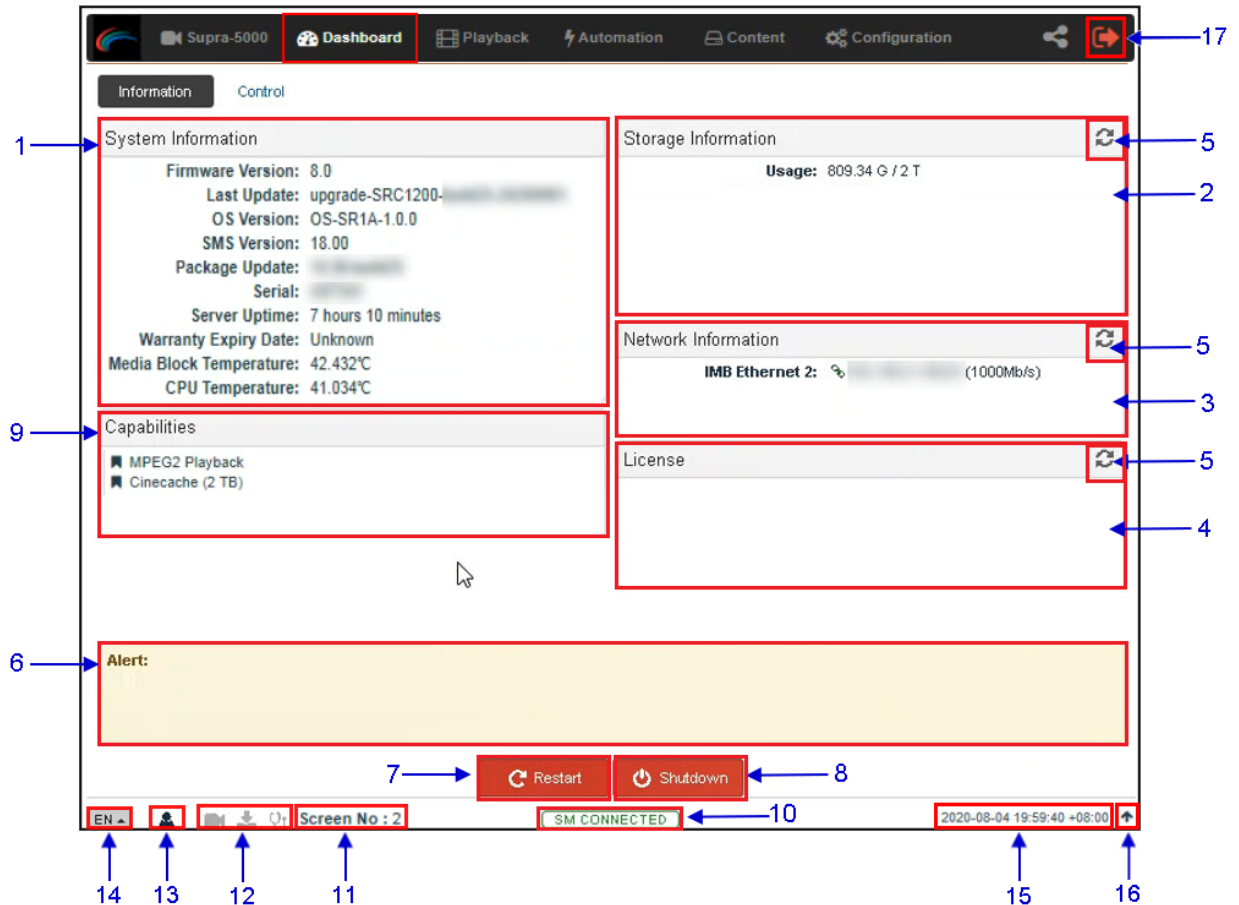




Figure 76:

SN	Name	Function Description
1	[System Information]	Displays DCMB system information.
2	[Storage Information]	Displays storage status on the DCMB.
3	[Network Information]	Displays current network settings and network status.
4	[License]	Displays the licenses installed on the DCMB.
5	[Refresh]	Refreshes the information on the respective sections.

6	[Alert]	System alerts are displayed here.
7	[Restart]	<p>To restart the DCMB, press Restart. A pop-up window will be displayed. Click OK to confirm restart.</p> 
8	[Shutdown]	<p>To shutdown the DCMB, press Shutdown. A pop-up window will be displayed. Click OK to confirm shutdown.</p> 
9	[Capabilities]	Displays the supported features or capabilities of the DCMB.
10	[SM Connection Status]	<p>Displays the connection status of the SM or Security Manager.</p> <p>The SM should always be connected and the 'SM CONNECTED' status should be highlighted in Green color.</p> <p>In case the SM is disconnected or the status appears in Red color, please contact Espedeo Holdings Ltd..</p>
11	[Screen No:]	Displays the auditorium number which has been set for the DCMB.
12	[Playback, Ingest, and Verify status]	These icons will start blinking individually in case content playback, content ingest or content verification is in-progress. Otherwise, they will remain greyed-out.
13	[User]	Indicates the access-level with which the current user is logged-in to the DCMB Web UI. Place the mouse pointer over this icon to view the access-level of the current user.
14	[Language Select]	Indicates the current language in which the DCMB Web UI is displayed. To change the language, click on this icon and select the desired language from the list.



15	[Date and Time]	Indicates the system date and time as per the timezone set on the DCMB.
16		Moves the Status bar to the top of the Web UI screen. To bring the Status bar back to its original position, click on the  icon.
17	[Logout]	Logs out the current user from the DCMB Web UI.

Table 20

4.3 Playback

The **Playback** tab is used to create/edit show playlists and to control playback functions on the DCMB.

4.3.1 Playback → Playback

The **Playback** sub-tab displays playback progress and allows the operator to control playback.

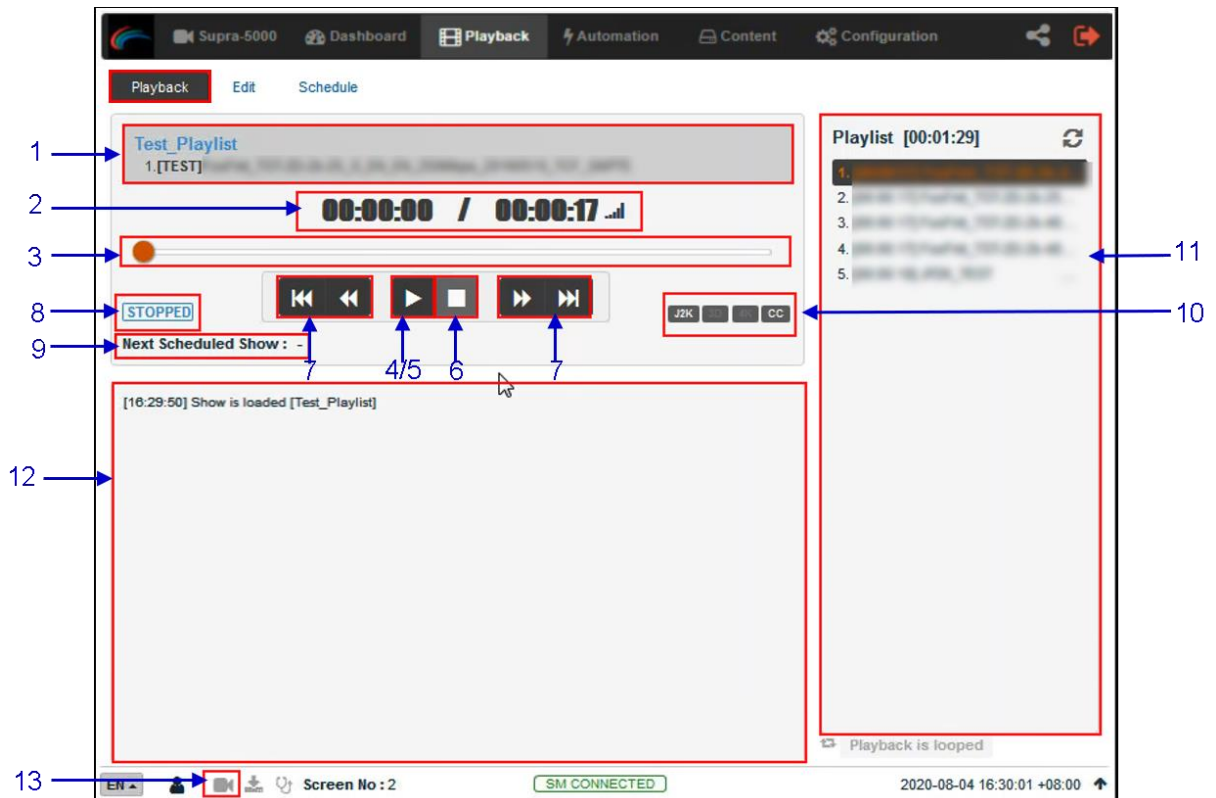



Figure 77:

SN	Name	Function Description
1	[Clip Name Display]	Displays the name of the current show playlist or SPL as well as the order number and name of the current clip.
2	[Clip Playback Time]	Displays the duration of the current clip played and the total duration of the clip. Click on the  icon to toggle between the current playback time and remaining playback time for the clip.

3	[Playback Progress Bar]	<p>This bar will start advancing to show playback progress.</p> <p>Press [▶] to start playback. When [■] is pressed, the Playback Progress Bar will stop and return to its starting point.</p> <p>When playback is paused, the Playback Progress Bar can be moved to the left or right to seek within the clip.</p>
4	[▶]	Play button. The [▶] button is displayed when the playback is stopped or paused. Clicking this button will resume or start playback.
5	[]	Pause button. The [] button is displayed only when playback is in progress. Clicking this button will pause playback.
6	[■]	Stop button. The [■] button stops playback when pressed.
7	[◀◀] [◀] [▶] [▶▶]	<p>Move to the previous clip.</p> <p>Rewind (move back) by 20 frames</p> <p>Forward (move forward) by 20 frames</p> <p>Move to the end of the clip.</p> <p>NOTE: These buttons will remain disabled when playback is in progress and will be enabled when playback is paused or stopped.</p>
8	[Playback Status Display]	Displays the current playback status: Playing, Paused, Stopped or Preparing.
9	[Next Scheduled Show:]	Displays the name of the next scheduled show and the time remaining for the next scheduled show.
10	[Clip Format]	Displays information on the clip format.
11	[Playlist]	Displays all the clips in the current playlist.
12	[Status Display]	<p>Displays the playback status of the system.</p> <p>The display shows the name of the active playlist and the name of the clip currently being played.</p> <p>Information and errors encountered during playback will also be displayed here.</p>


13		<p>If this icon is <u>flashing continuously</u>, it indicates that playback on the system is either in progress OR has been paused.</p> <p>If this icon is <u>grayed out</u>, it indicates that playback on the system has been stopped.</p> <p>Clicking on this icon will redirect the user to the Playback sub-tab.</p>
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Table 21

4.3.2 Playback → Edit

The **Edit** sub-tab is used to create and edit show playlists or SPLs on the DCMB.

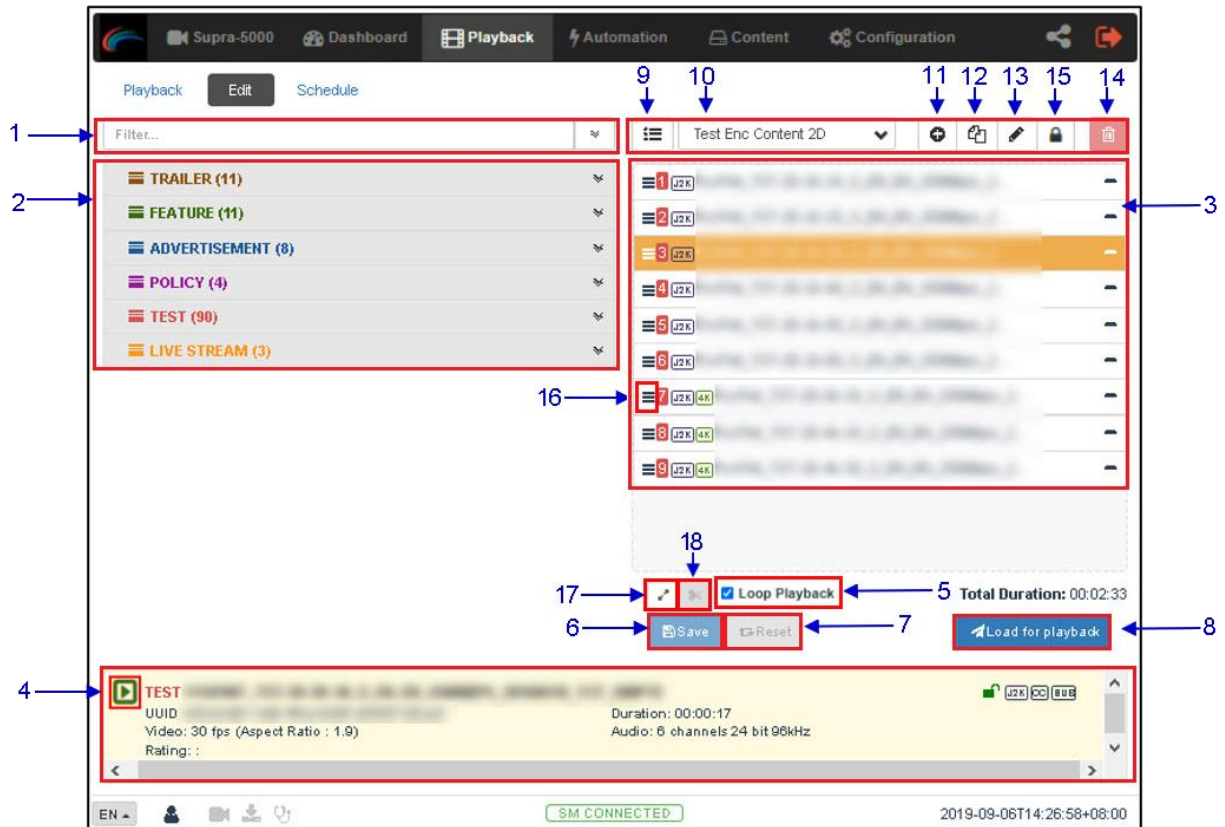




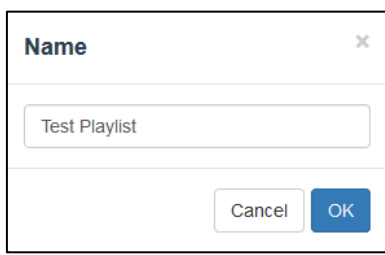


Figure 78:

SN	Name	Function Description
1	[Filter]	Filter the content list based on the content name.
2	[Content List]	<p>Available content on the DCMB is listed here.</p> <p>Use the  arrow to expand and list all the clips under the selected category.</p> <p>Content can be dragged and dropped between [Content List] and [Playlist Editor].</p>

3	[Playlist Editor]	<p>The contents of the playlist being currently edited are displayed.</p> <p>Click the '-' button to remove a clip from the playlist. Clips can be dragged and dropped within the playlist to change the playback order.</p>
4	[Clip Information Display]	<p>Displays the information on the selected clip.</p> <p>It also includes the 'Quick Play' feature which can be used to test playback for a particular clip without adding it to the current playlist.</p> <p>To use this feature, select a clip from the [Content List] and click on the  button next to the clip name (displayed under the [Clip Information Display] section) to play the selected clip.</p>
5	[Loop Playback]	Enable Loop Playback of the current playlist.
6	[Save]	Save the playlist currently being edited.
7	[Reset]	Reset any changes to the playlist currently being edited.
8	[Load for playback]	Load the selected playlist into the player for playback.
9	[Manage Playlist ]	A pop-up window will be displayed and show all the playlists with options to Delete, Rename, Copy or Filter the playlists.
10	[Show List]	<p>Click the  icon to open the drop-down list of all available playlists. The name of the selected playlist is displayed and its content is displayed in the [Playlist Editor]</p> <p>NOTE: A playlist that is currently playing cannot be edited.</p>
11	[+ Add New playlist]	<p>Create a new playlist. A name must be specified for the playlist.</p> <div data-bbox="852 1522 1234 1774" data-label="Form">  </div> <p>Refer to Section 4.3.2.1 for details on creating a new playlist.</p>




12	[Copy Playlist]	<p>Duplicate the currently selected playlist.</p> <p>Enter the name of the new playlist in the pop-up window and click OK.</p>
13	[Rename Playlist]	<p>Rename the selected playlist.</p> <p>NOTE: A playlist that is currently playing cannot be renamed.</p>
14	[Delete Playlist]	<p>Delete the selected playlist.</p> <p>NOTE: A playlist that is currently playing cannot be deleted.</p>
15	[Lock Playlist]	<p>Lock the selected playlist. When a playlist is locked, actions like drag/drop, editing CPL properties and deleting CPLs will be disabled for it.</p> <p>To unlock the selected playlist, click again on the Lock Playlist button.</p>
16	[Edit Props]	<p>Clicking on  button against a particular clip in the playlist opens a pop-up window to edit properties of the selected clip.</p>
17	[Standard/Timeline View]	<p>Use the  button to toggle between Standard and Timeline view of the [Playlist Editor].</p>
18	[Add Intermission]	<p>Use this feature to add intermissions. Select a clip from the playlist and click on the  button.</p> <p>Refer to Section 4.3.2.3 for details on adding an intermission.</p>

Table 22

4.3.2.1 Creating/Editing a Show Playlist

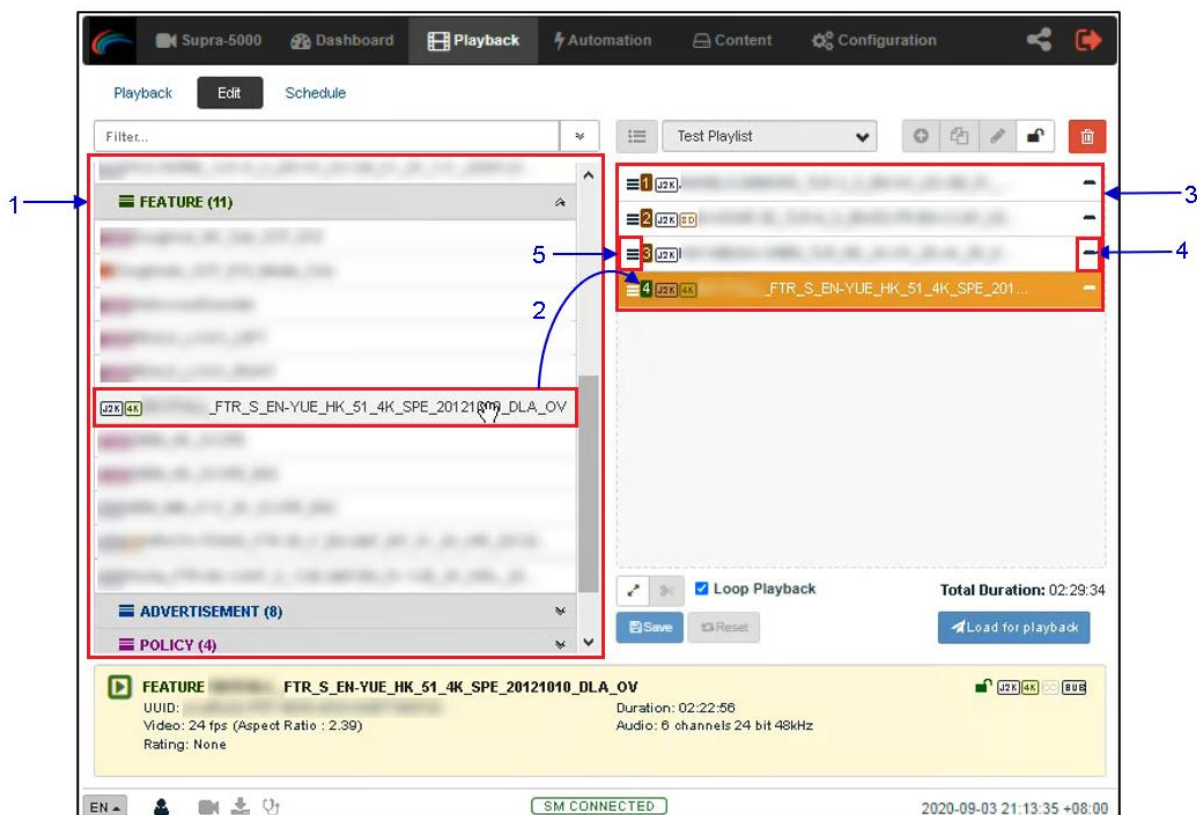


Figure 79:



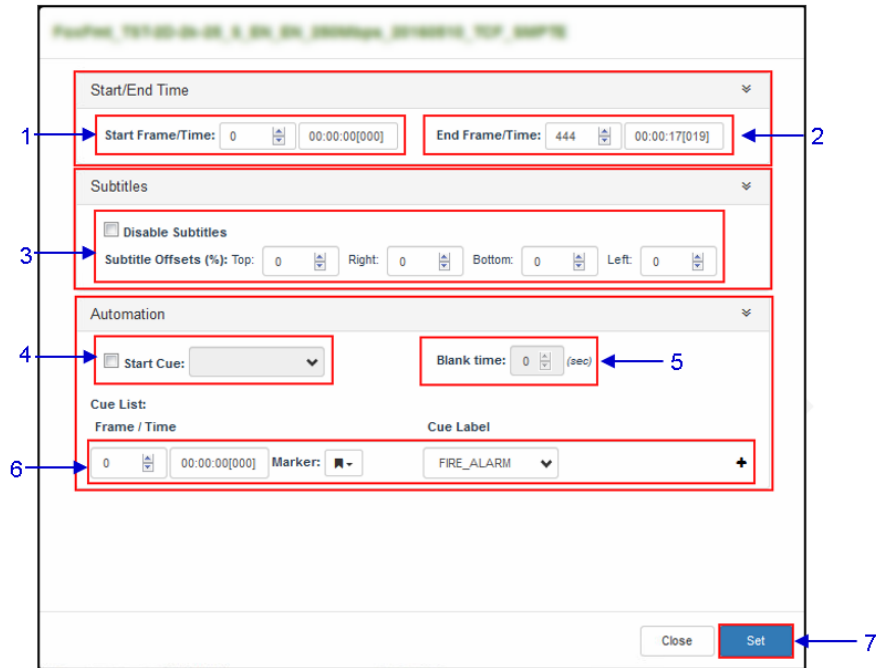
SN	Description
1	All compositions stored are listed in the Content List on the left. Compositions are grouped according to their types [<i>Trailer, Advertisement, Feature, etc.</i>] and listed alphabetically
2	Drag and drop the composition that needs to be added from the Content List to the Playlist Editor . Repeat the same step to add other compositions (e.g., trailers or advertisements) to the playlist
3	The order of the compositions in the playlist may also be changed by dragging and dropping them to the desired position.
4	You can remove compositions from the Playlist Editor column by pressing the  button on the right end of that particular entry.
5	Clicking on the  button against a particular clip in the playlist opens a pop-up window to edit the CPL properties of the selected clip. Refer to Section 4.3.2.2 for more details.

Table 23

4.3.2.2 Edit Composition Playlist (CPL) Properties

Additional functions can be applied to each composition by editing the CPL properties. The "Edit CPL Properties" popup will be opened by clicking the ≡ (Edit Props) button on a particular clip in the Playlist Editor.



The screenshot shows the 'Edit CPL Properties' dialog box. It is divided into several sections:

- Start/End Time:** Contains two input fields. The first is 'Start Frame/Time' with a value of 0. The second is 'End Frame/Time' with a value of 444.
- Subtitles:** Includes a checkbox labeled 'Disable Subtitles'. Below it are four input fields for 'Subtitle Offsets (%)': Top (0), Right (0), Bottom (0), and Left (0).
- Automation:** Features a 'Start Cue' dropdown menu and a 'Blank time' input field set to 0 (sec).
- Cue List:** A table with three columns: 'Frame / Time', 'Marker', and 'Cue Label'. It contains one row with values 0, a marker icon, and FIRE_ALARM.
- Buttons:** At the bottom right, there are 'Close' and 'Set' buttons.

Numbered arrows point to specific elements: 1 points to the Start Frame/Time field, 2 points to the End Frame/Time field, 3 points to the Subtitle Offsets section, 4 points to the Start Cue dropdown, 5 points to the Blank time field, 6 points to the Cue List table, and 7 points to the Set button.

Figure 80

SN	Name	Function Description
1	[Start Frame/Time]	Set the time code/frame number where the playback of the clip starts.
2	[End Frame/Time]	Set the time code/frame number where the playback of the clip ends.
3	[Subtitle Offsets]	Set the Top , Right , Bottom and Left values to adjust the position of the subtitles projected. You can also disable subtitles by selecting the Disable Subtitles checkbox.
4	[Start Cue]	Set an automation cue to execute before the clip begins.
5	[Blank time]	Set the time interval between the end of the start cue and the start of the clip playback.

6	[Cue list]	<p>Sets automation cues to execute during playback.</p> <p>Select the cue from the dropdown list, enter the Frame/Time and click the + Insert button.</p> <p>The cue list will display the inserted automation cue.</p>
7	[Set]	<p>Save the changes to the CPL.</p>

Table 24

4.3.2.3 Adding an Intermission

An Intermission can be added to a feature CPL on the DCMB, by using the **Add Intermission** feature.

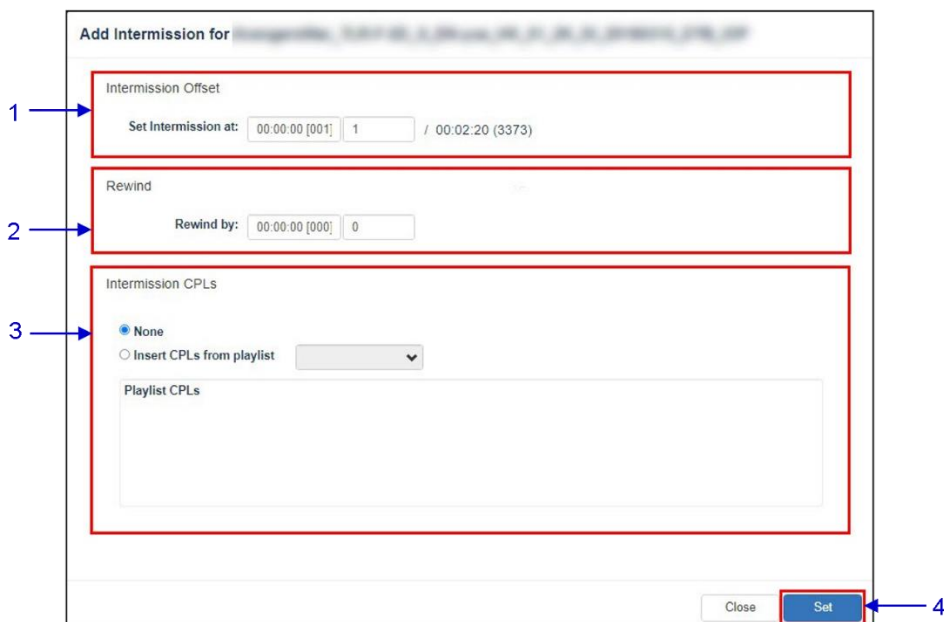


Figure 81

SN	Name	Function Description
1	[Intermission Offset]	
	Set Intermission at:	Set the preferred time code or frame number where the intermission cut position should be set for the selected CPL.
2	[Rewind]	
	Rewind by:	Set the amount of time or number of frames to rewind the selected CPL before the intermission cut position, once the intermission playlist
3	[Intermission CPLs]	<p>Choose the Insert CPLs from playlist option and select the desired Intermission playlist from the drop-down.</p> <p>Note: The Intermission playlist needs to be created and saved before adding the intermission to the feature CPL.</p>

Table 25

4.3.2.4 Saving a Show Playlist

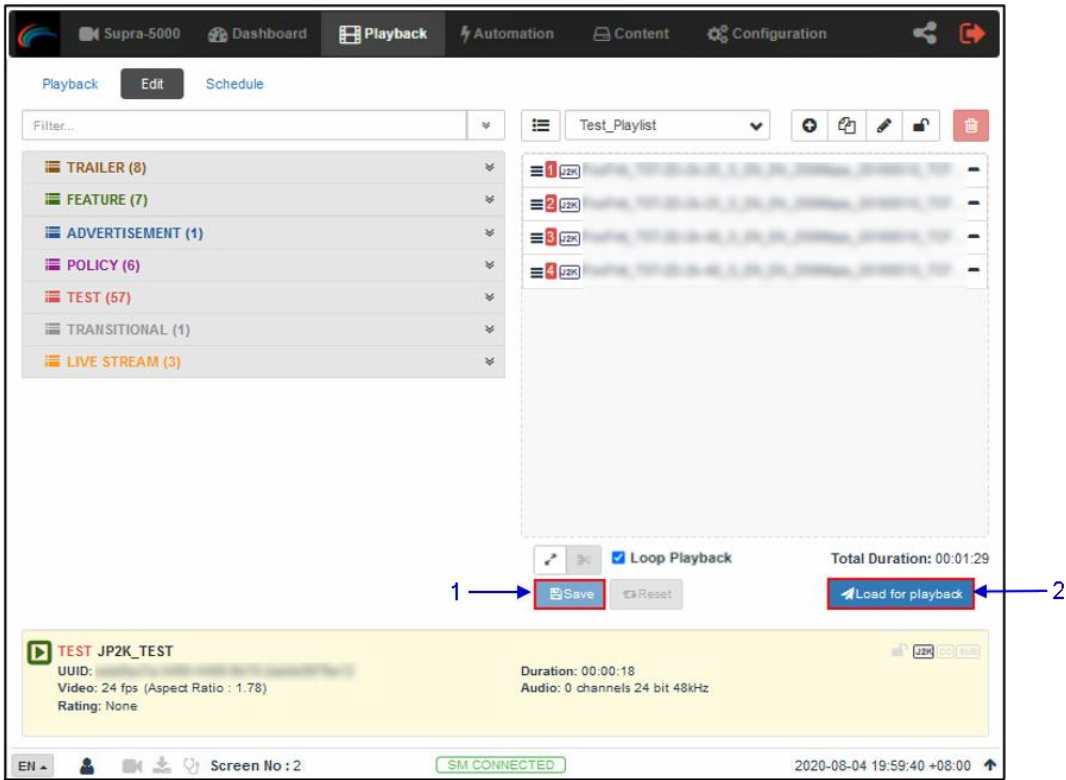


Figure 82

SN	Description
1	Click on the Save button to save the playlist. This ensures any changes to the playlist will not be lost.
2	Click on the Load for Playback button to load the newly created playlist to the Playback interface. NOTE: This button will remain disabled until the playlist is saved by clicking on the Save button.

Table 26

4.3.3 Playback → Schedule

The **Schedule** sub-tab is used to schedule playback.

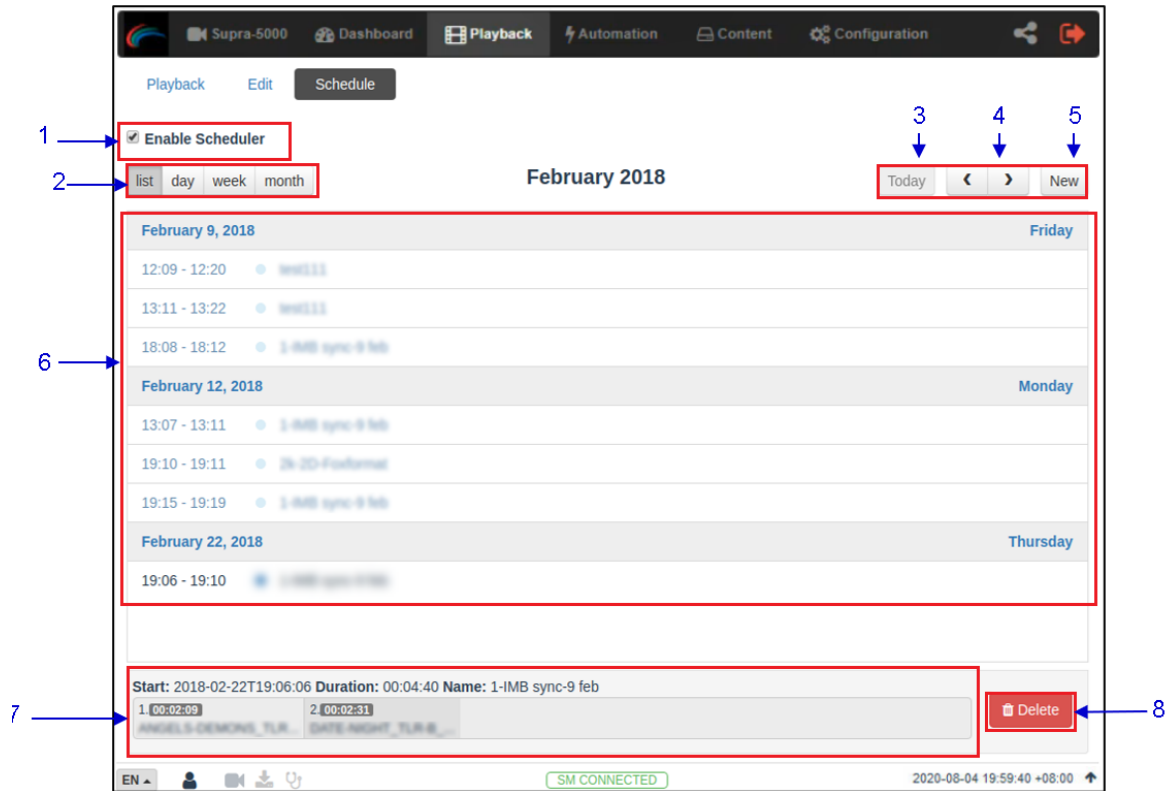


Figure 83:

SN	Name	Function Description
1	[Enable Scheduler]	Enable or disable the scheduler function. It is recommended to keep the scheduler enabled.
2	[List, Day, Week, Month]	Select to display the schedules on the DCMB in a list; per day, per week or per month.
3	[Today]	Switch back to the current day in month or week view.
4	[< Previous / > Next]	Displays the schedules of the previous or next day, week or month.

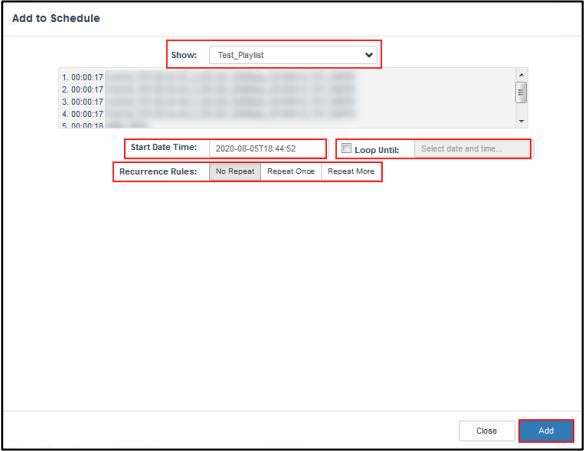
5	[New]	<p>Add a new schedule.</p> <p>Select the Show and Start Date Time.</p> <p>You can also Loop the selected playlist until the selected date and time.</p> <p>Recurrence Rules by default is selected as <i>No Repeat</i>.</p> <p>User can select <i>Repeat Once</i> or <i>Repeat More</i> and enter further details.</p> <p>Click the Add button to add the schedule.</p> 
6	[Schedules]	Schedules are displayed here. The display will change as per the selected listing option [2].
7	[Schedule Details]	<p>Displays the details of the selected show.</p> <p>NOTE: Only the selected schedule details will be displayed here.</p>
8	[Delete]	Deletes the selected schedule.

Table 27

4.4 Automation

The **Automation** tab is used to set up automation cues and input triggers. Scheduling and manual triggering of automation cues can be done here.

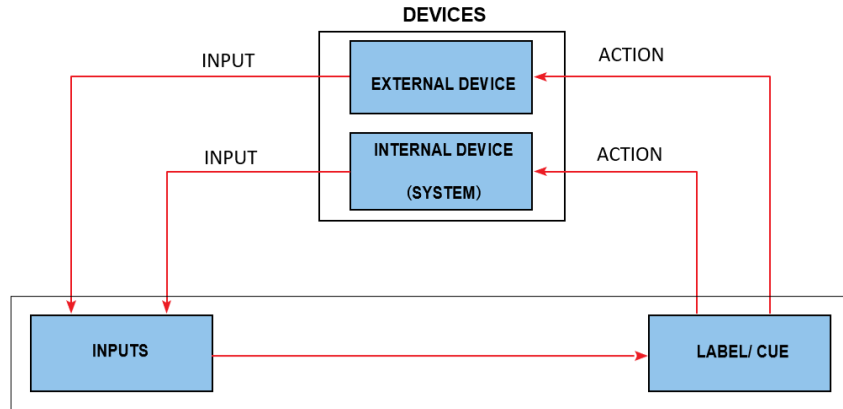


Figure 84: Automation Workflow

4.4.1 Automation → Trigger

The **Trigger** sub-tab can be used to manually trigger automation cues and commands for configured devices.

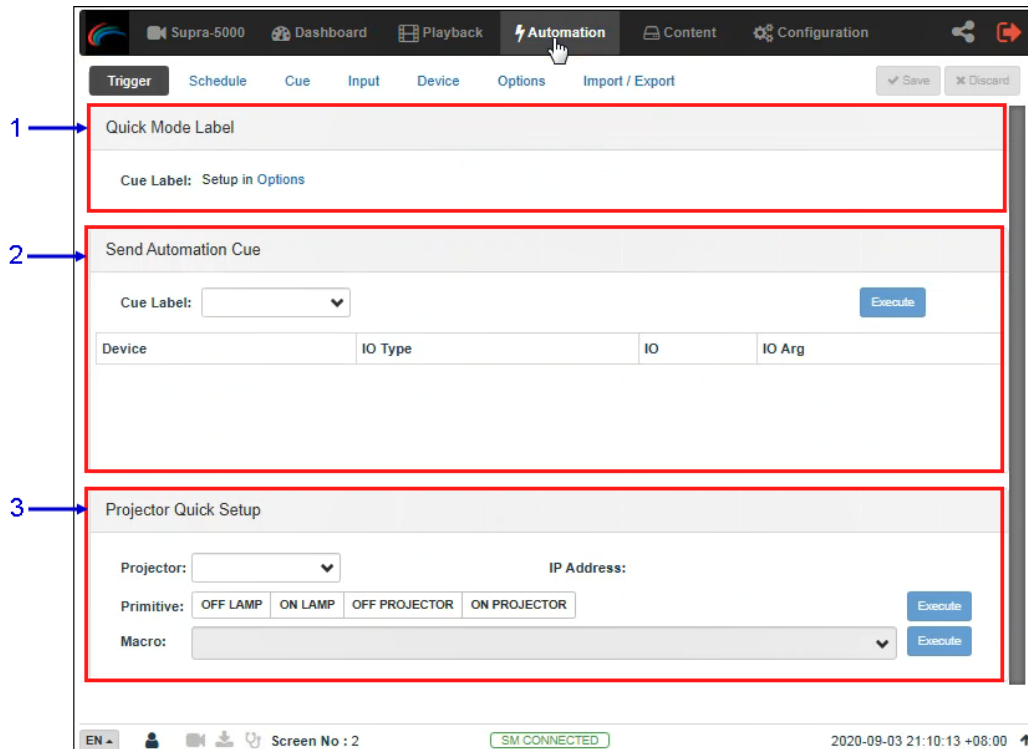


Figure 85:

SN	Name	Function Description
1	[Quick Mode Label]	<p>An automation label can be configured to be easily triggered here.</p> <p>This label can be set in Automation → Option tab. (Refer to Section 4.4.6)</p> <p>Click the Execute button to execute the automation cue.</p>
2	[Send Automation Cue]	<p>This section is used to manually execute a configured automation label.</p> <p>Select a label and click the Execute button to execute the automation label manually.</p>
3	[Projector Quick Setup]	<p>This section can be used to directly execute automation commands and select macros for the Supra-5000 projector.</p> <p>Select a primitive or macro and click the Execute button to execute it manually.</p>

Table 28

4.4.2 Automation → Schedule

The **Schedule** sub-tab can be used to schedule automation cues to execute at the specified date and time.

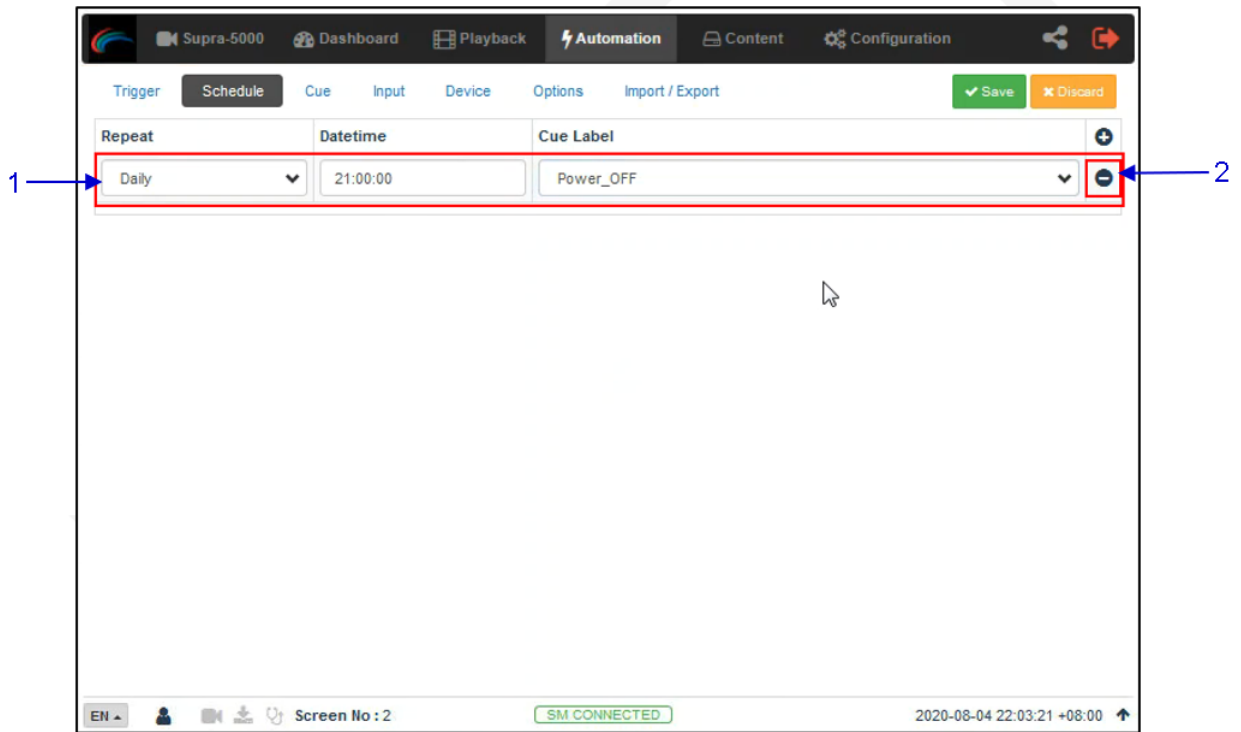


Figure 86:

SN	Name	Function Description
1	[+ Add Schedule]	<p>Click + to add a new schedule.</p> <ul style="list-style-type: none"> ▪ <i>Repeat</i>: Choose between <i>None</i> or <i>Daily</i>. ▪ <i>Datetime</i>: Select a specific date and time for the automation cue to be executed. ▪ <i>Cue Label</i>: The first cue in the cue list is added by default. Select from the drop-down list to select another cue. <p>Click Save to save the added schedule or click Discard to remove.</p>
2	[- Remove Schedule]	<p>Click – to remove the selected scheduled automation cue.</p>

Table 29

4.4.3 Automation → Cue

The **Cue** sub-tab lists down all the automation cues configured on the DCMB. New automation cues can be added and configured from this sub-tab.

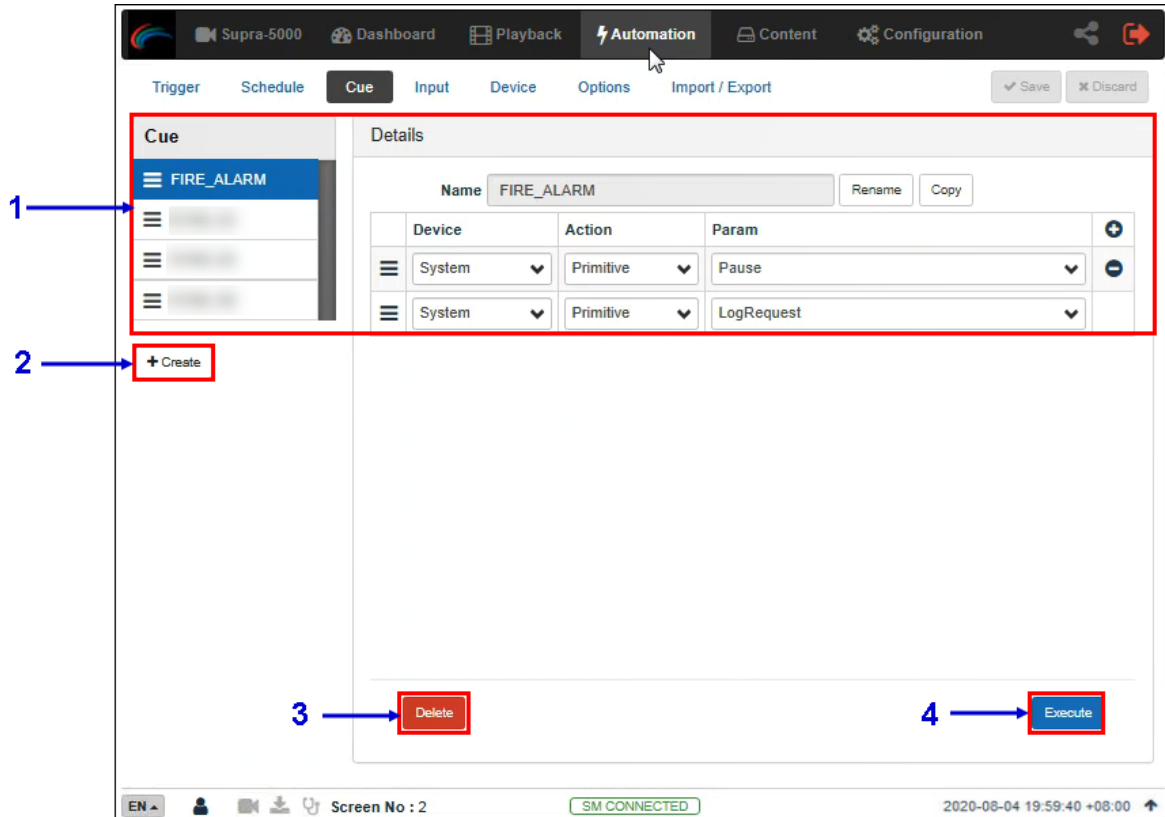


Figure 87:

SN	Name	Function Description
1	[Cue]	<p>A list of configured cues is displayed here. Cues can be rearranged by dragging and dropping.</p> <p>When a cue is selected from the list, the cue details are displayed.</p> <p>Click + to add actions or click – to remove actions.</p> <p>Click Execute to manually execute this automation cue.</p>

2	[+Create]	<p>Click +Create to create a new cue. A pop-up window will be shown. Enter the name of the cue and click OK.</p> <div><div>Name</div><div></div><div>CancelOK</div></div> <p>Refer to Section 4.4.3.1 for more details regarding adding a new automation cue.</p>
3	[Delete]	Deletes the selected cue.
4	[Execute]	Executes the selected cue. This can be used to test the cue.

Table 30

4.4.3.1 Adding a new Automation Cue

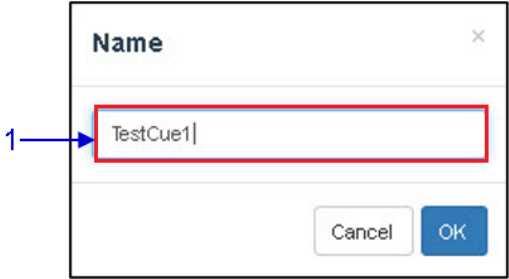


Figure 88:

SN	Description
1	Type in the name that needs to be assigned to the new cue being added and click on OK .

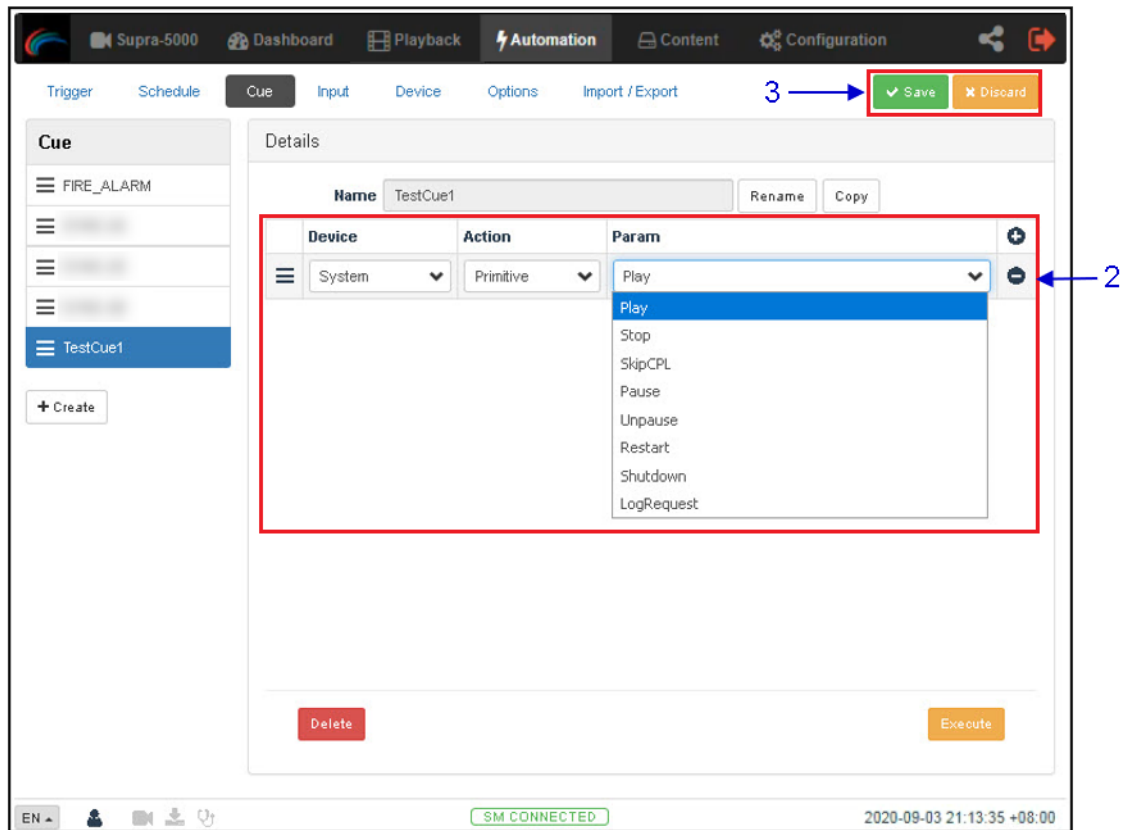
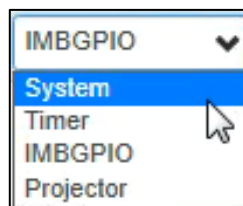


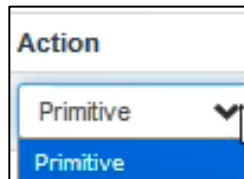
Figure 89:

- 2 Click + to add actions or click – to remove actions.

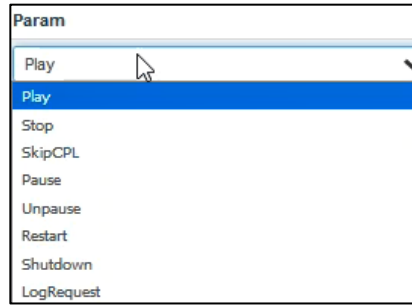
Select a device from the dropdown list as seen below. New devices can be added to the list from the **Device** tab.



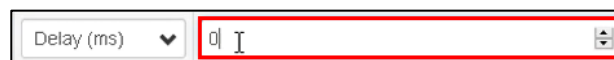
- a) If the selected **Device** is '**System**', then the **Action** type will be '**Primitive**'.



Then, select the desired **Param** value from the drop-down as shown below:

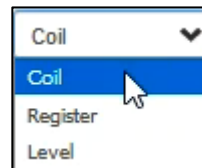


- b) If the selected **Device** is 'Timer', then the **Action** type will be 'Delay (ms)'.

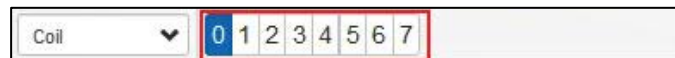


The user can specify the value (in *milliseconds*) under the **Param** option. This can be used to create a time delay between two consecutive actions within the cue.

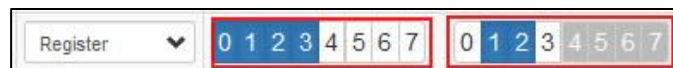

- c) If the selected **Device** is 'IMBGPIO', then the **Action** type can be 'Coil', 'Register' or 'Level'.



1. If 'Coil' is selected as the **Action** type, only one pin can be selected at a time from the **Param** option:



2. If 'Register' or 'Level' is selected as the **Action** type, multiple pins can be selected from the **Param** option. The number of pins selected (left section) will be the number of pins shown as enabled (right section). The user may select multiple pins (right section) based on the number of pins selected (left section).

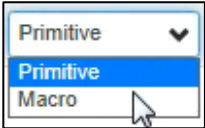
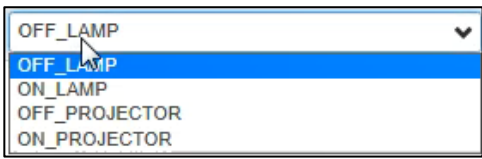
	<p>d) If the selected Device is 'Projector', then the Action type can be 'Primitive' or 'Macro'.</p>  <ol style="list-style-type: none"> If 'Primitive' is selected as the Action type, you can select the desired Param value from the drop-down as shown below:  If 'Macro' is selected as the Action type, you can select the desired projector macro as the Param value from the drop-down.
<p>3</p>	<p>Click on the Save button to add the new cue or click Discard to remove it.</p>

Table 31

Please Note: In order to create a quick access button for a particular automation cue that can be accessed from the **Control** sub-tab under **Dashboard**; insert the prefix "q_" before the actual cue name while creating a new automation cue (For cues that already exist on the DCMB, select the cue name and use the **Rename** option).

Save the changes by clicking on the **Save** button. A new quick access button should be created under the **Control** sub-tab, as shown below:

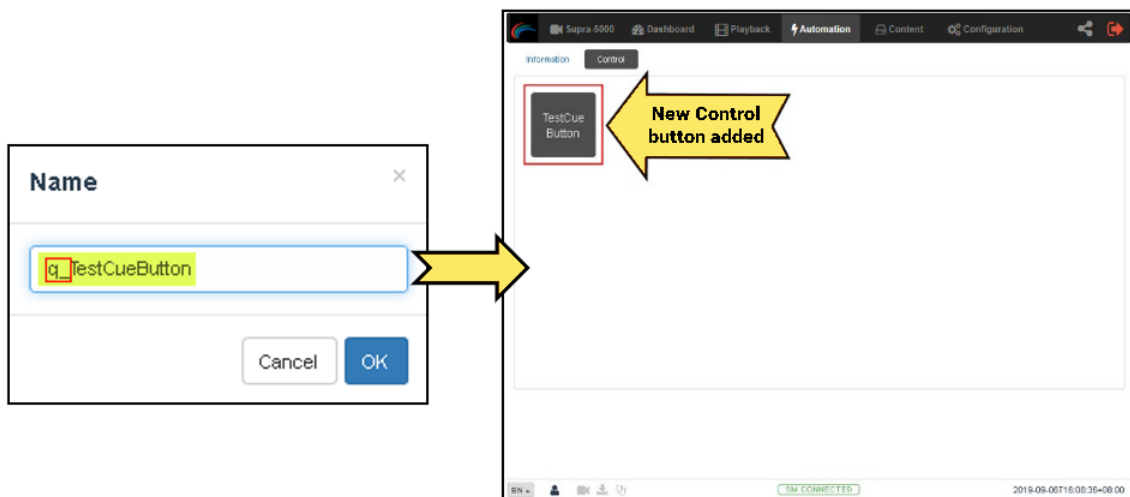


Figure 90:

4.4.4 Automation → Input

The **Input** sub-tab can be used to configure input automation triggers on the DCMB. When an input is detected from any of the supported devices, the configured automation cues will be triggered on the DCMB.

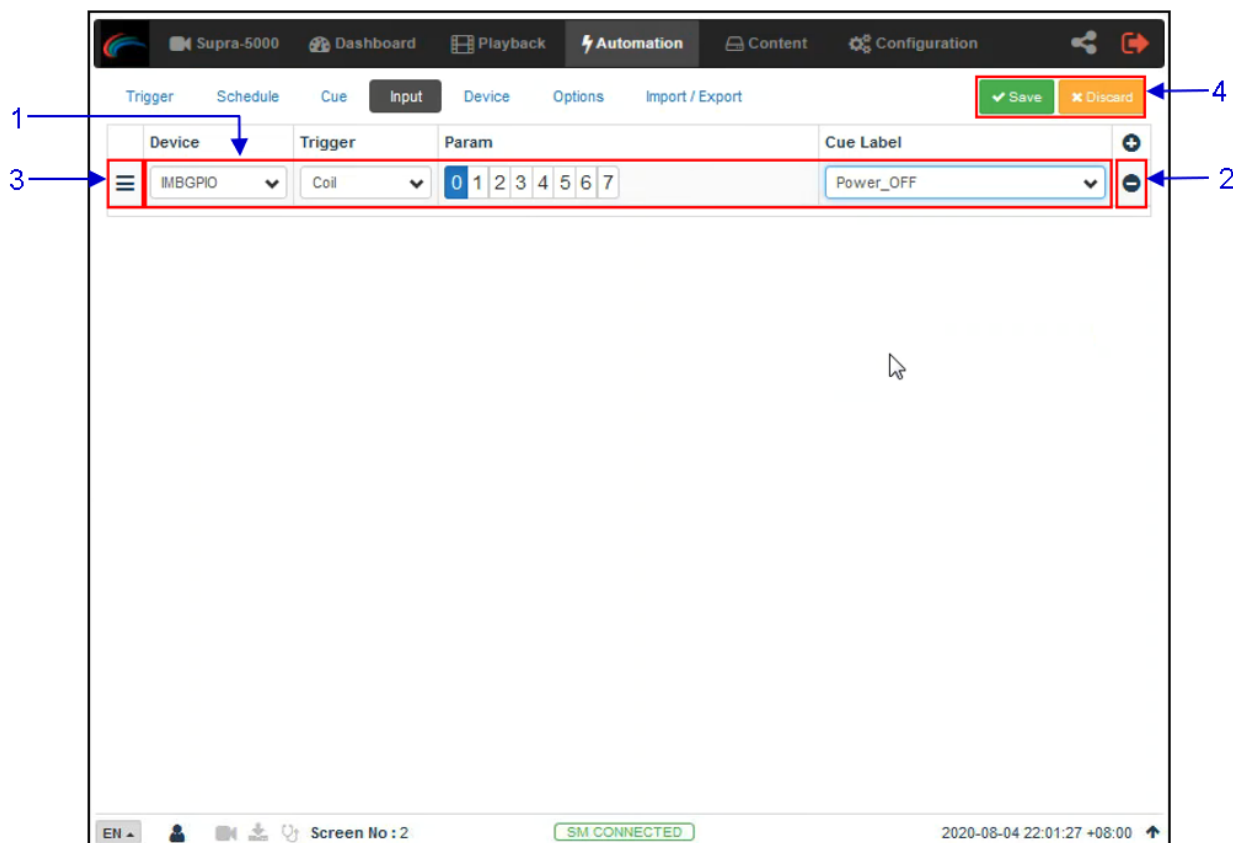
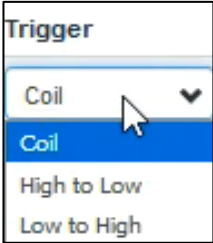


Figure 91

SN	Name	Function Description
1	[+ Add Trigger]	<p>Click + to add an input trigger.</p> <p>NOTE: Only devices capable of sending a signal to the DCMB can be added under Input.</p> <p>a) Select a Device from the list for the input trigger that needs to be set.</p> <p>b) Select a Trigger type, which can be 'Coil', 'High to Low' or 'Low to High' for the selected device:</p> 

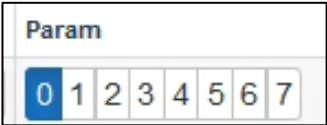
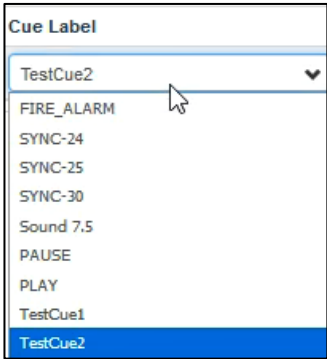


		<p>c) Select the Param value from '0 to 7'. Only one pin can be selected at a time.</p>  <p>d) Select an automation Cue Label that should be triggered for the selected device based on the selected trigger value:</p> 
2	[– Delete Trigger]	Click – to remove the selected input trigger.
3		Click  to reorder the input triggers using drag-and-drop.
4	[Save]/[Discard]	Click on the Save button to add the new input trigger or click Discard to remove.

Table 32

4.4.5 Automation → Device

The **Device** sub-tab can be used to configure the DCMB to communicate with external automation devices.

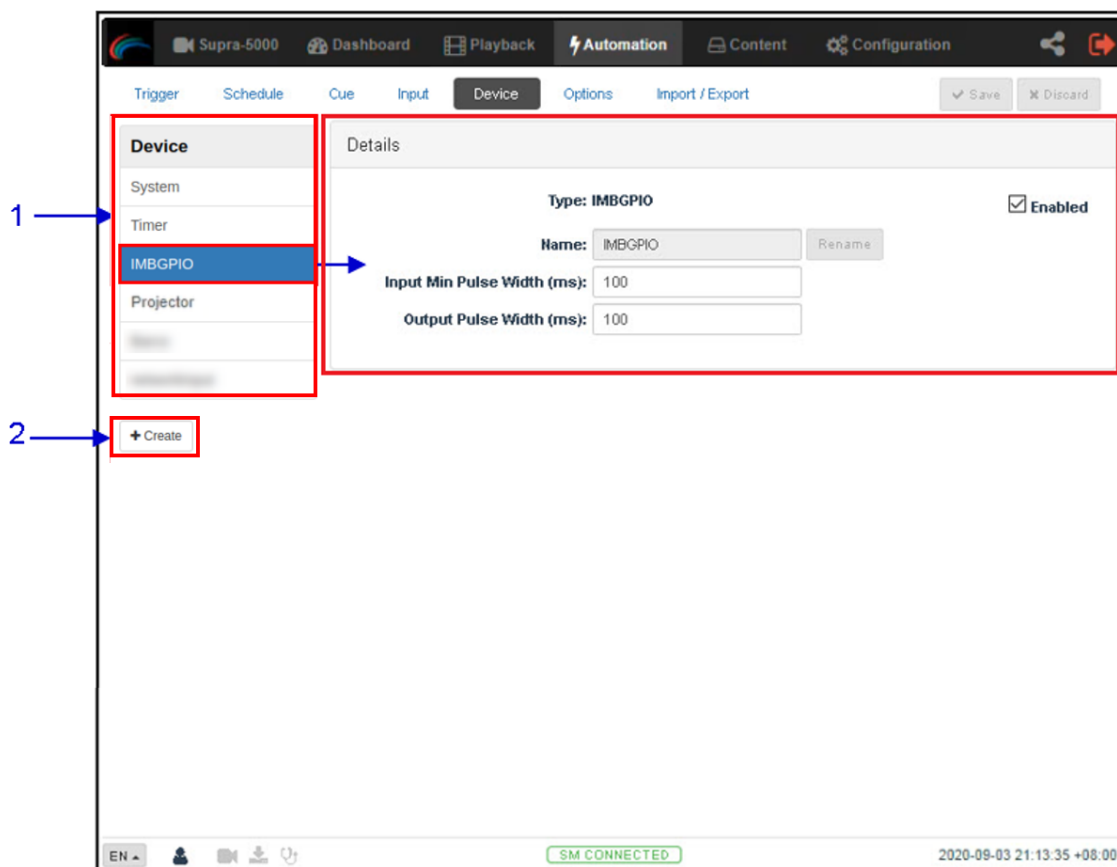


Figure 92:

SN	Name	Function Description
1	[Device]	<p>This is a list of configured automation devices on the DCMB.</p> <p>When a device is selected from the list, device details are displayed under the Details section.</p>

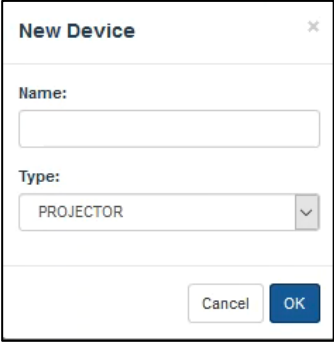
2	[+Create]	<p>Click +Create to create a new device.</p> <p>Enter Device Name and select the device Type. Click OK to confirm or click Cancel to cancel adding devices.</p> <div><p>The 'New Device' dialog box contains a 'Name' text field and a 'Type' dropdown menu. The 'Type' dropdown is currently set to 'PROJECTOR'. At the bottom right are 'Cancel' and 'OK' buttons.</p></div> <p>Refer to Section 4.4.5.1 for more details on creating a new automation device.</p>
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Table 33

4.4.5.1 Creating a new Automation Device

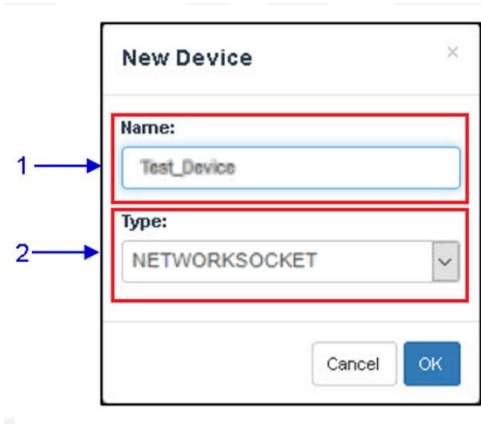


Figure 93:

SN	Name	Function Description
1	[Name]	Type in the name that needs to be assigned to the new device being added.

2	[Type]	<p>After adding the device name, assign the type of device you want to use. Select from a dropdown list as seen below:</p> <div><div>Type:</div><div>JNIOR_IO</div><div>JNIOR_IO</div><div>NETWORKSOCKET</div><div>RS232</div><div>eCNA_IO</div><div>ChristieACT</div><div>DolbyCP650</div><div>USL-DAX</div><div>USL-JSD</div><div>DolbyCP750</div><div>DolbyCP850</div><div>DP104E</div><div>QSC</div><div>AP20</div><div>MASTERIMAGE</div><div>GEFEN</div><div>FCQA</div><div>XTX</div><div>XSP-1000</div></div> <p>After clicking the OK button, the device is registered and added to the device list. But it may not be properly configured yet.</p> <p>Select the device from the Device list and fill in all the required parameters in detail to complete device configuration.</p> <div><div>TriggerScheduleCutInputDeviceOptionsImport / ExportSaveDisrupt</div><div><div>Device</div><div>System</div><div>Timer</div><div>IMBGPIO</div><div>Projector</div><div>Test_Device</div><div>Create</div></div><div><div>Details</div><div>Type: NETWORKSOCKET</div><div>Enabled</div><div>Name: Test_DeviceRename</div><div>IP Address:</div><div>Port:</div><div>Local Port:</div><div>Transport: TCP</div><div>Linefeed Type: LF</div><div>Control Cues: Name Value</div><div>+</div><div>Delete</div></div></div>
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Table 34

4.4.6 Automation → Option

The **Options** sub-tab can be used to configure automation cues that will be triggered on DCMB boot-up and when content playback errors occur.

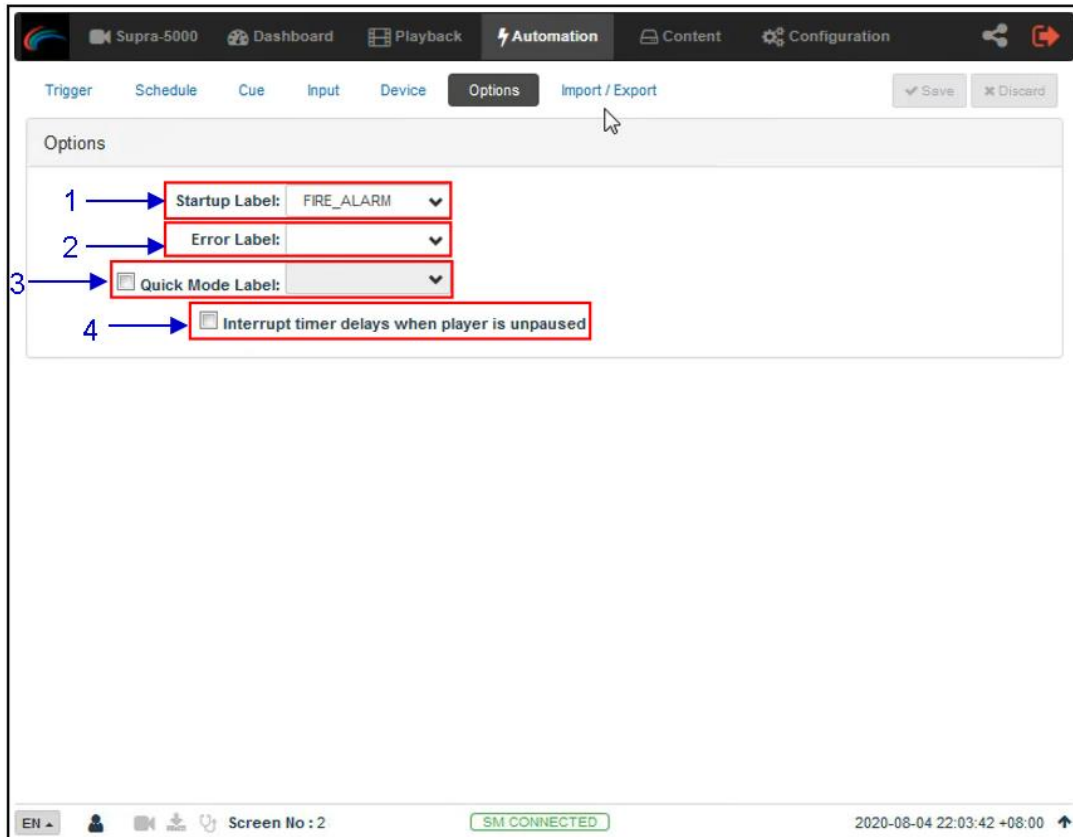


Figure 94

SN	Name	Function Description
1	[Startup Label]	Select a specific automation cue that will be executed when the DCMB fully boots up
2	[Error Label]	Select a specific automation cue that will be executed whenever a playback error occurs.
3	[Quick Mode Label]	Enables selection of a specific automation cue which can be triggered quickly using the Execute button under the Quick Mode Label section of the Trigger sub-tab.
4	[Interrupt timer delays when player is unpaused]	When this option is selected and the user clicks the Unpause button under the Playback sub-tab, the next action in the automation cue will be executed immediately without waiting for the Timer delay to complete.

Table 35

4.4.7 Automation → Import/ Export

The **Import/Export** sub-tab allows you to import and export the automation cues that have been setup on the DCMB.

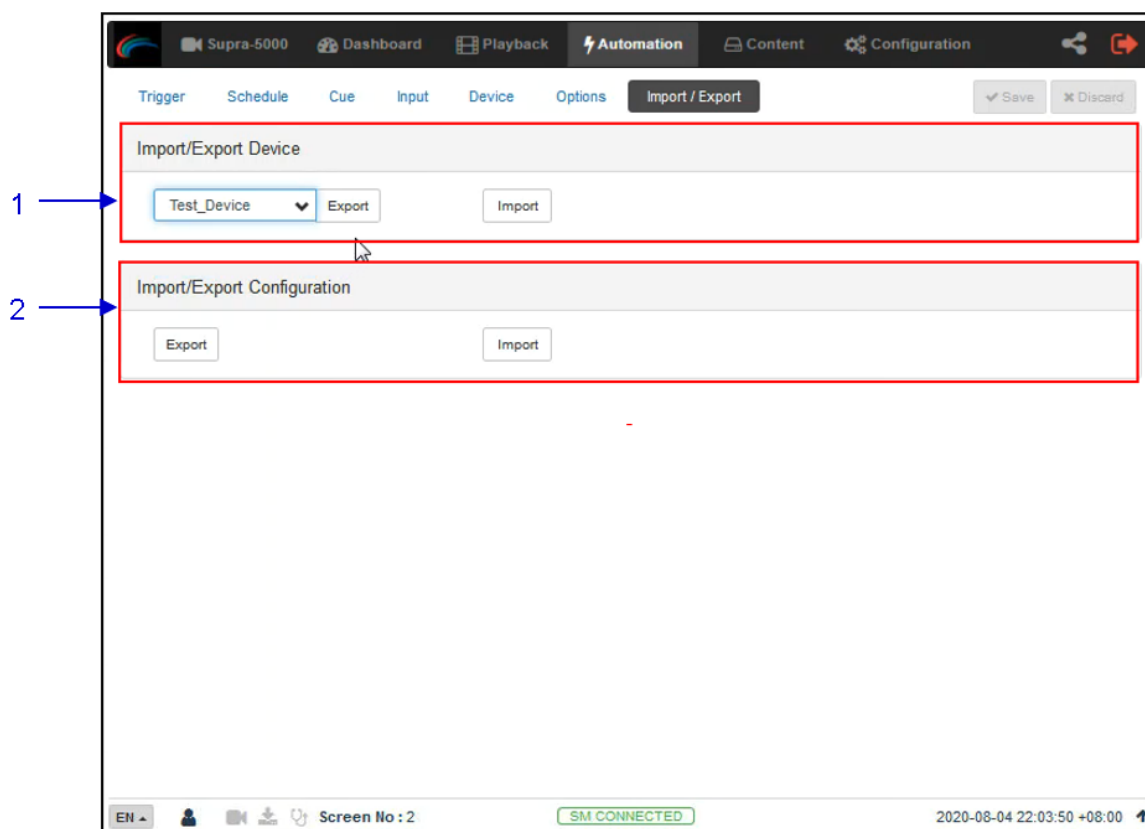


Figure 95:

SN	Name	Function Description
1	[Import/Export Device]	<p>Import opens a pop-up window that allows the user to select a configuration file for the selected automation device.</p> <p>Export automatically saves the configuration file for the selected automation device to your web browser's default download location.</p>
2	[Import/Export Configuration]	<p>Import allows the user to select a configuration file containing all automation cues from an alternate DCMB.</p> <p>Export automatically saves the configuration file containing all automation cues to your web browser's default download location.</p>

Table 36

4.5 Content

The **Content** tab is used to manage the content, KDMs and licenses on the DCMB. It allows you to perform the actions listed below:

- Ingest content from disk or network source.
- Ingest Key Delivery Messages (KDMs) are required for playing encrypted content.
- Ingest License Delivery Messages (LDMs).
- Delete content from DCMB storage.
- Verify content on DCMB storage.

4.5.1 Content → Summary

The **Summary** sub-tab shows a summary of the content and the storage space on the DCMB.

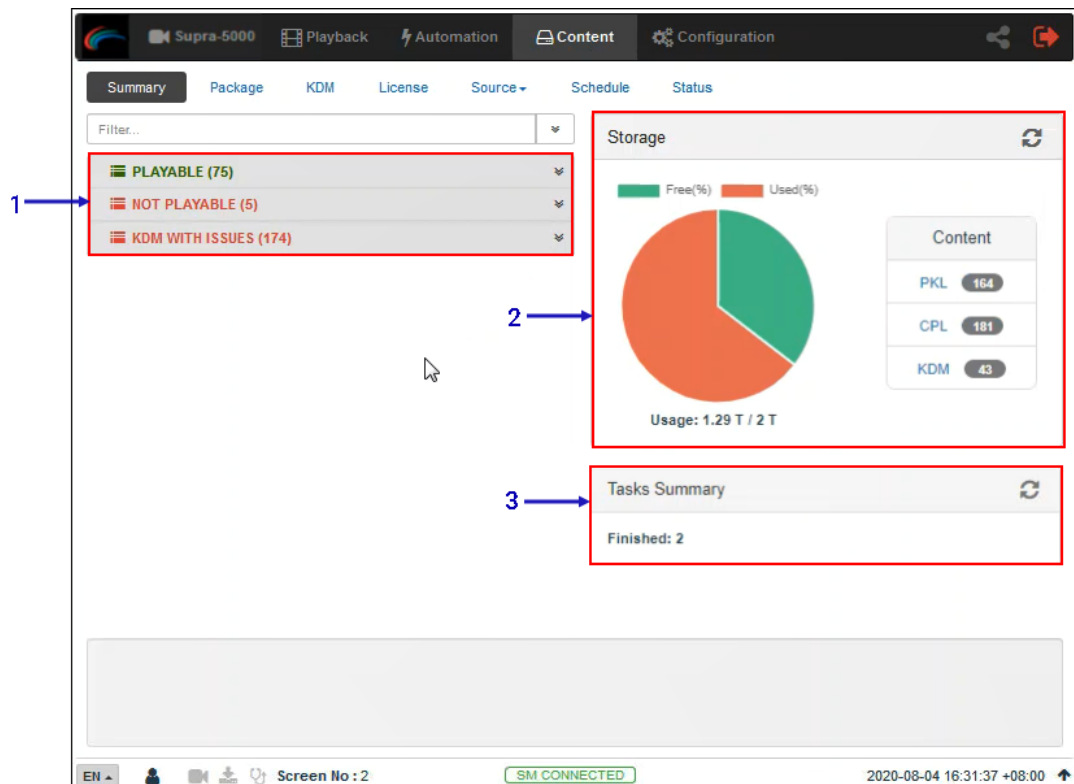


Figure 96

SN	Name	Function Description
1	[Playable/Not Playable/KDM with Issues List]	Displays a list of playable and non-playable content which are currently present on the DCMB, along with the list of KDMs with issues.


2	[Storage]	<p>Shows a graphical overview of the number of PKL, CPL, KDM present on the DCMB. It also displays storage usage and capacity.</p> <p>Click the  Refresh button to update the displayed information.</p>
3	[Tasks Summary]	Displays the tasks available on the DCMB.

Table 37

4.5.2 Content → Package

The **Package** sub-tab displays the content which has been ingested into the local storage of the projector and is available to the DCMB.

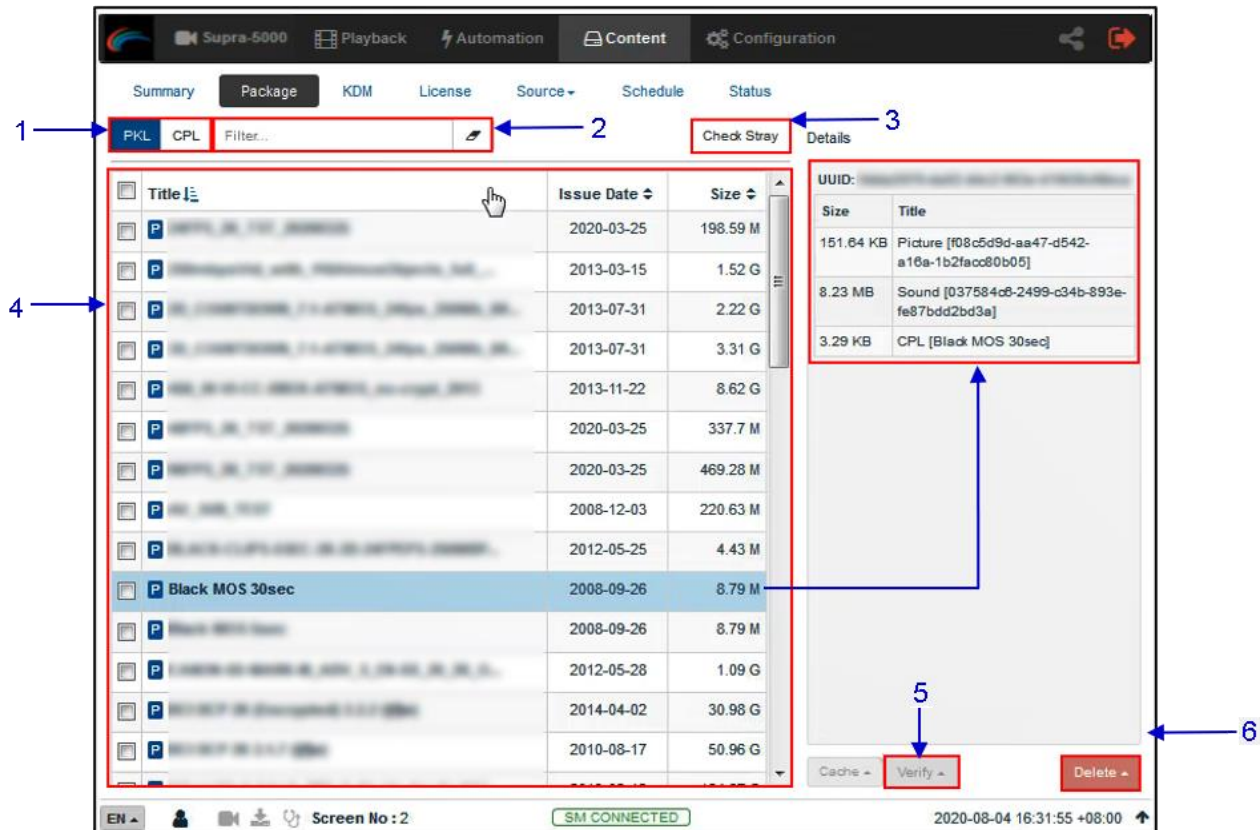



Figure 97:

SN	Name	Function Description
1	[PKL/CPL]	Displays list by CPLs or Packing List Files (PKLs).
2	[Filter]	PKL/CPL list will be filtered by the text entered here. Click  Clear Filter button to clear the search text entered.
3	[Check Stray]	Click Check Stray to detect and delete any of the stray files from deleted PKLs and CPLs.

4	[Content List]	<p>Displays the list of content available on the DCMB.</p> <p>Clicking on the headers (<i>Title, Issue Date and Size</i>) can change how the displayed list of CPLs/PKLs is sorted.</p> <p>When an item is selected, details are displayed on the right panel. Content name displayed in Black indicates it is available in the Primary storage.</p>
5	[Verify]	<p>Verify the integrity of the selected content. There are 3 options available: Quick Verify, Immediately Verify and Schedule Verify. Refer to Section 4.5.2.1 for more details.</p>
6	[Delete]	<p>The following content delete options are available: Immediately Delete and Schedule Delete. Refer to Section 4.5.2.2 for more details.</p>

Table 38

4.5.2.1 Checking Content Integrity

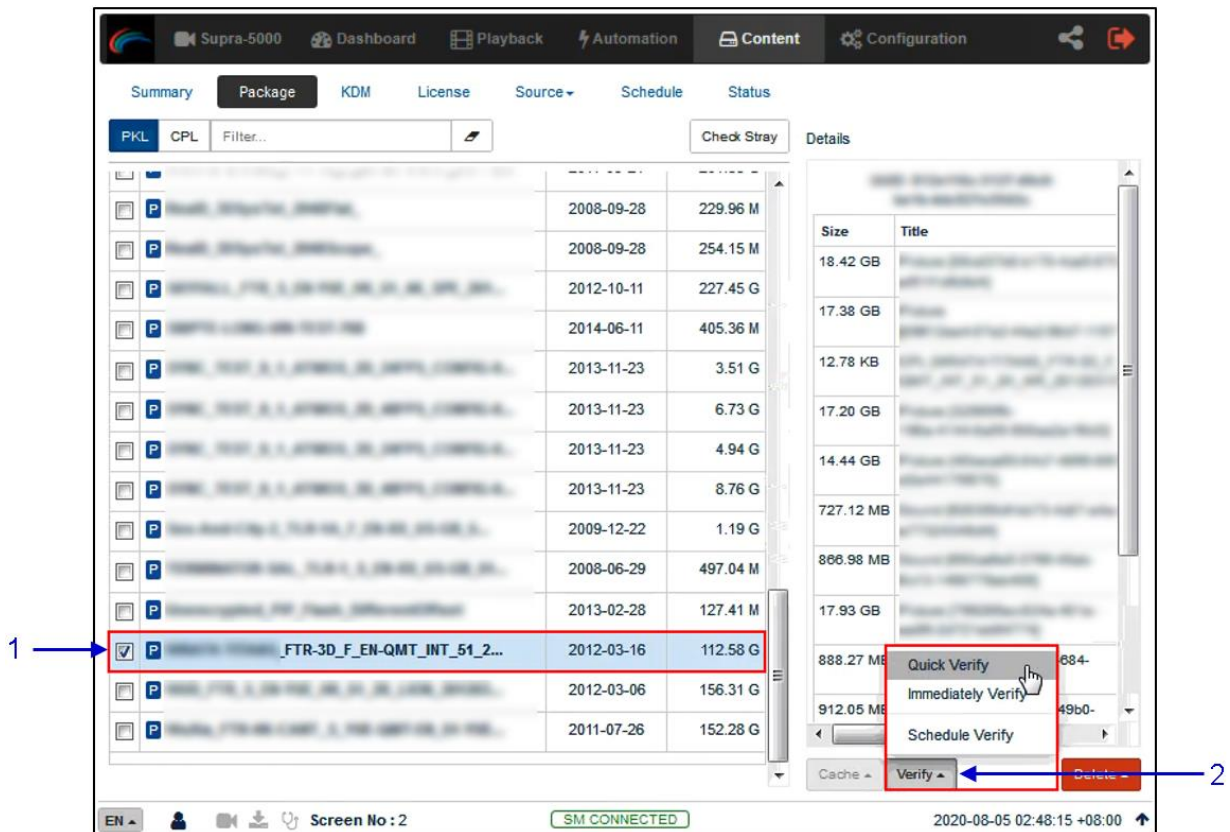
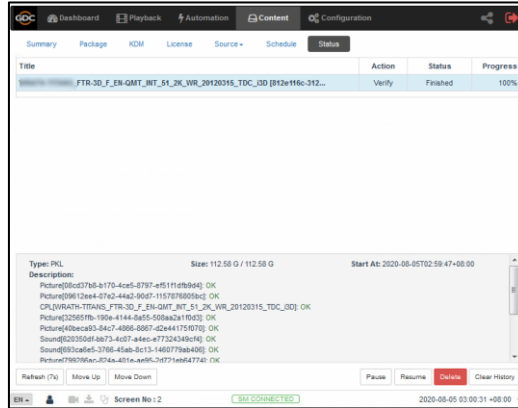
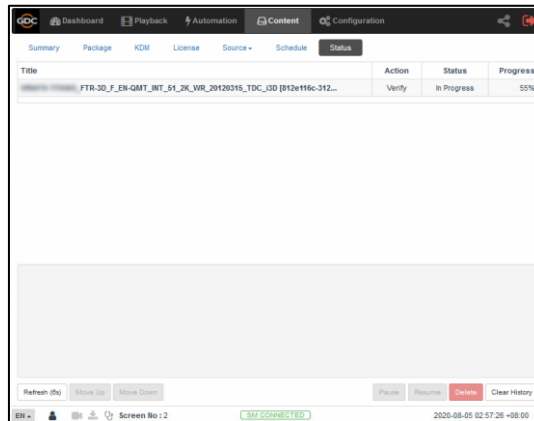


Figure 98:

SN	Function Description
1	To verify the integrity of a package or CPL, go to the Package tab and select the checkbox against the package or CPL that needs to be verified. The PKL/CPL details will be displayed under the Details section on the right.
2	Click on the Verify button. There are 3 ways in which content can be verified: <ul style="list-style-type: none"> a) Quick Verify: The selected content gets quickly verified. The verification status will be displayed under the Status tab. The Green "OK" indicates no error is found. Otherwise, the description of the error will be shown.



- b) **Immediately Verify:** Immediate full verification of the selected CPL/PKL. The Verification status will be displayed under the **Status** tab.



- c) **Schedule Verify:** Set a date and time for full verification of the selected CPL/ PKL. A pop-up window will be shown to provide details for the schedule. Provide a **Name** for the schedule being created.

Schedule

Name:

Action:

Verify

Frequency:

Once only

Time:

Packages:

_FTR-3D_F_EN-GMT_INT_51_2K_WR_20120315_TDC_00

Create

Close

4.5.2.2 Deleting Content

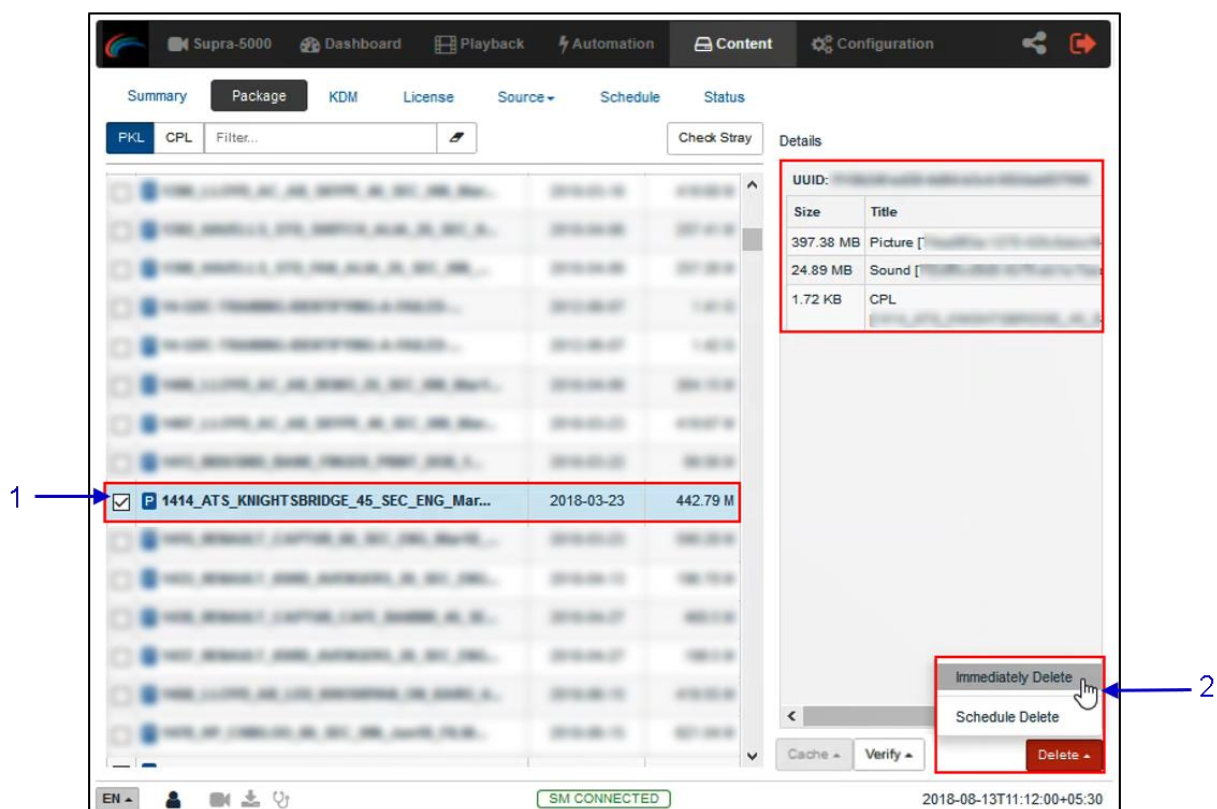


Figure 99

SN	Function Description
1	To delete a package or CPL, go to the Package tab and select the checkbox against the package or CPL that needs to be deleted. The PKL/CPL details will be displayed under the Details section on the right.

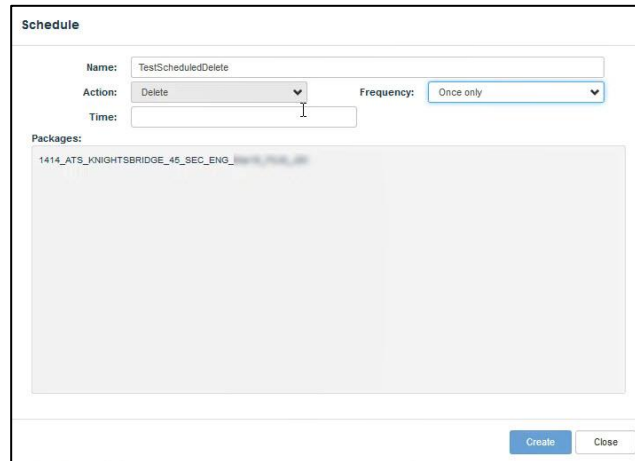
2

Click on the **Delete** button to delete the selected package or CPL. You can either choose **Immediately Delete** or **Schedule Delete**.

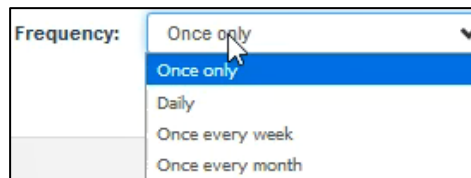
- a) **Immediately Delete:** This option can be used to immediately delete the selected PKL/CPL. A pop-up window is shown to confirm the deletion of the package. Click on **Confirm** to delete content or click **Close** to cancel.

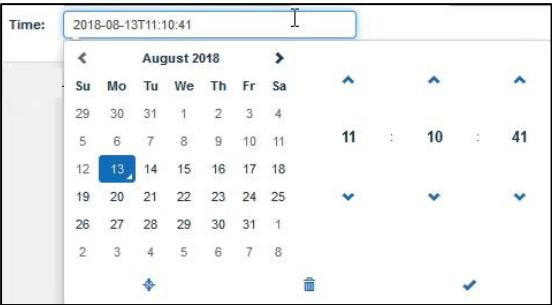


- b) **Schedule Delete:** Set a date and time to delete the selected PKL/CPL. A pop-up window will be shown to provide details for the schedule. Provide a **Name** for the schedule being created.



Select the **frequency** and **date and time** for the schedule





Click on the **Create** button to schedule the deletion. The scheduled deletion will be displayed under the *Schedule* tab, as shown below. To delete this schedule, click on the *Delete* button.

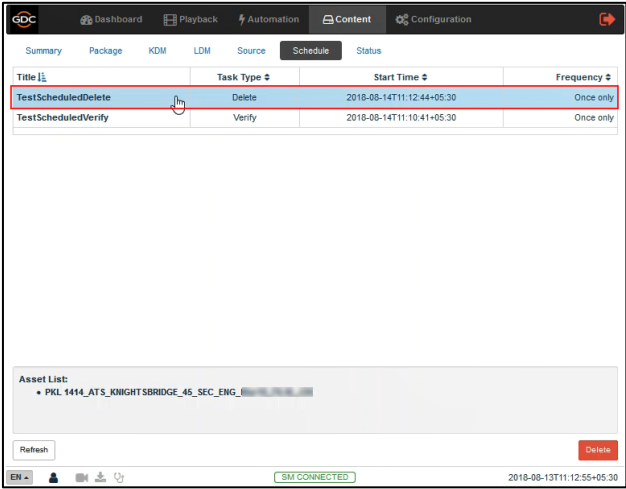


Table 40

4.5.3 Content → KDM

The **KDM** sub-tab displays all the KDMs present on the DCMB.

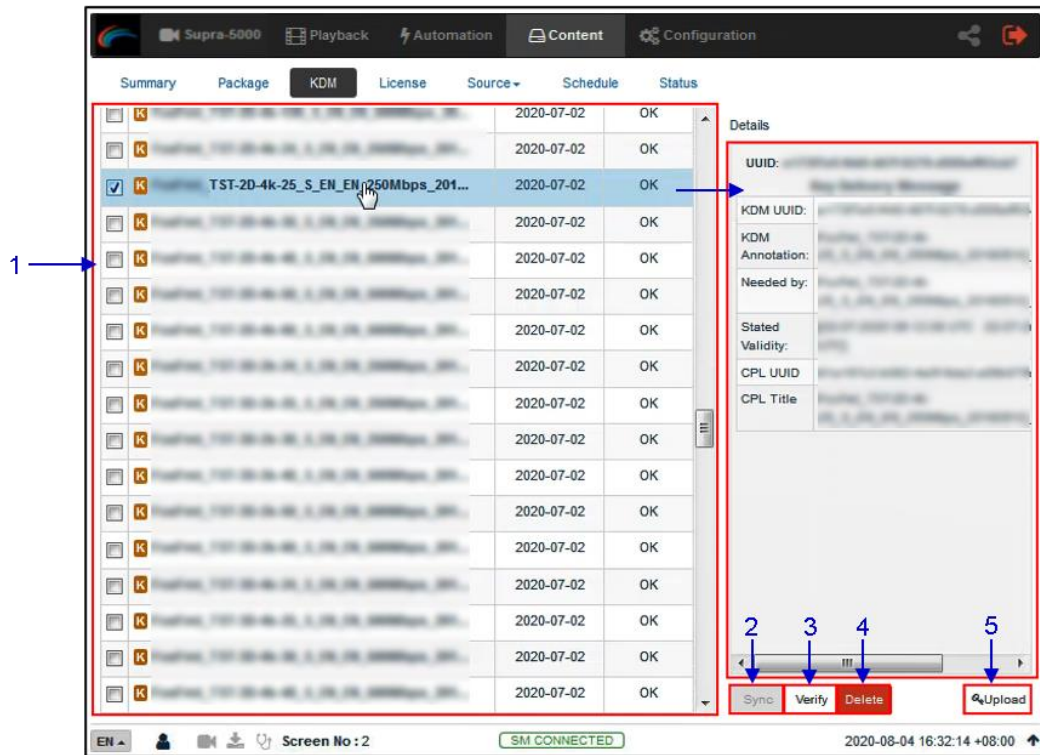


Figure 100:

SN	Name	Function Description
1	[KDM List]	Displays a list of the KDMs on the DCMB. When a KDM is selected from the list, KDM details are displayed on the right panel.
2	[Sync]	When the status displays 'Not in SM', click the Sync button to synchronize the KDM to the SM.
3	[Verify]	Verifies the selected KDM. Any errors found will be displayed. The verification status will be displayed under the Status tab
4	[Delete]	Deletes the selected KDM from the DCMB.

5	[Upload]	<p>Upload KDM files (.kdm) directly using the Web UI. A pop-up window is shown.</p> <p>Click on the Choose file button to select the KDM file(s) from the folder where it has been downloaded and click on Open.</p> <div><div>Upload KDM</div><div><div>Choose file... (Maximum 30)</div><div>Upload</div></div><div><div>Close</div></div></div>
---	----------	--

Table 41

4.5.4 Content → License

The **License** sub-tab displays the list of licenses on the DCMB.

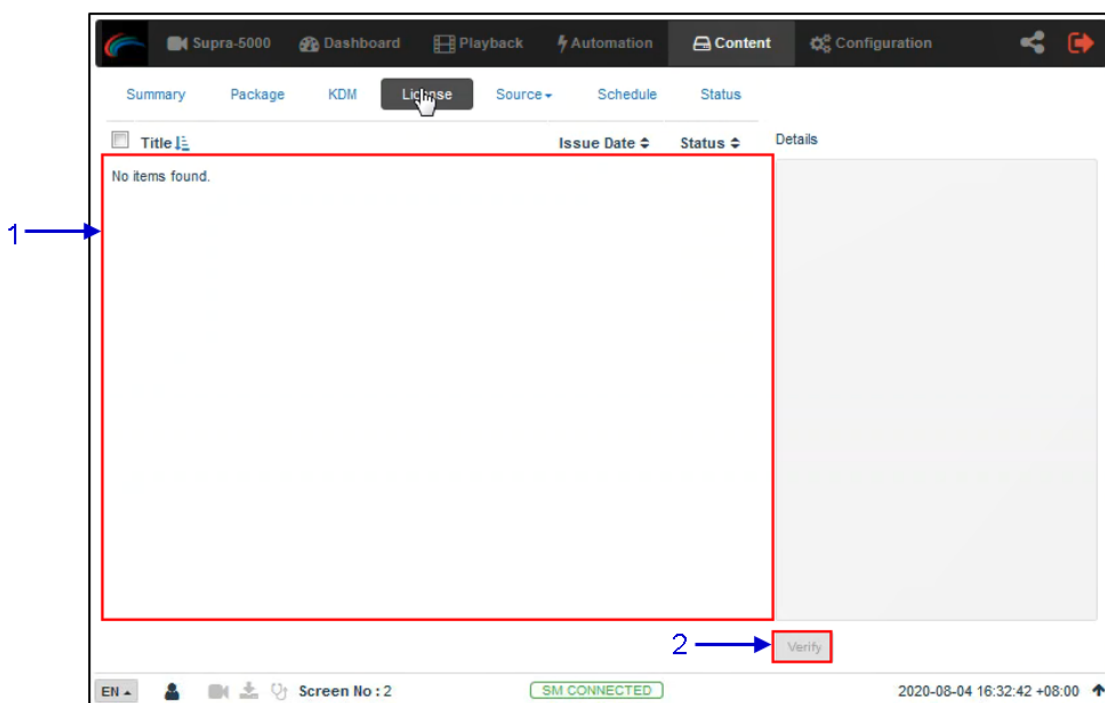


Figure 101:

SN	Name	Function Description
1	[LDM List]	Displays a list of licenses installed on the DCMB. When an LDM is selected from the list, LDM details are displayed on the right panel.
2	[Verify]	Verify that the LDM is valid. Any errors found will be displayed. The verification status will be displayed under the Status tab.

Table 42

4.5.5 Content → Source

The **Source** sub-tab is used to configure and manage the content ingest sources of the DCMB. There are two options available under this tab: **Ingest** and **Manage**.

The **Ingest** screen displays the list of sources from which the user can choose to ingest content. The options listed on this screen should be used to perform ingest operations on a daily basis.

The **Manage** screen provides advanced options to create as well as edit the sources from which the user can choose to ingest content.

Please Note: The **Manage** screen should only be used either to create an ingest source during setup or to edit an existing ingest source.

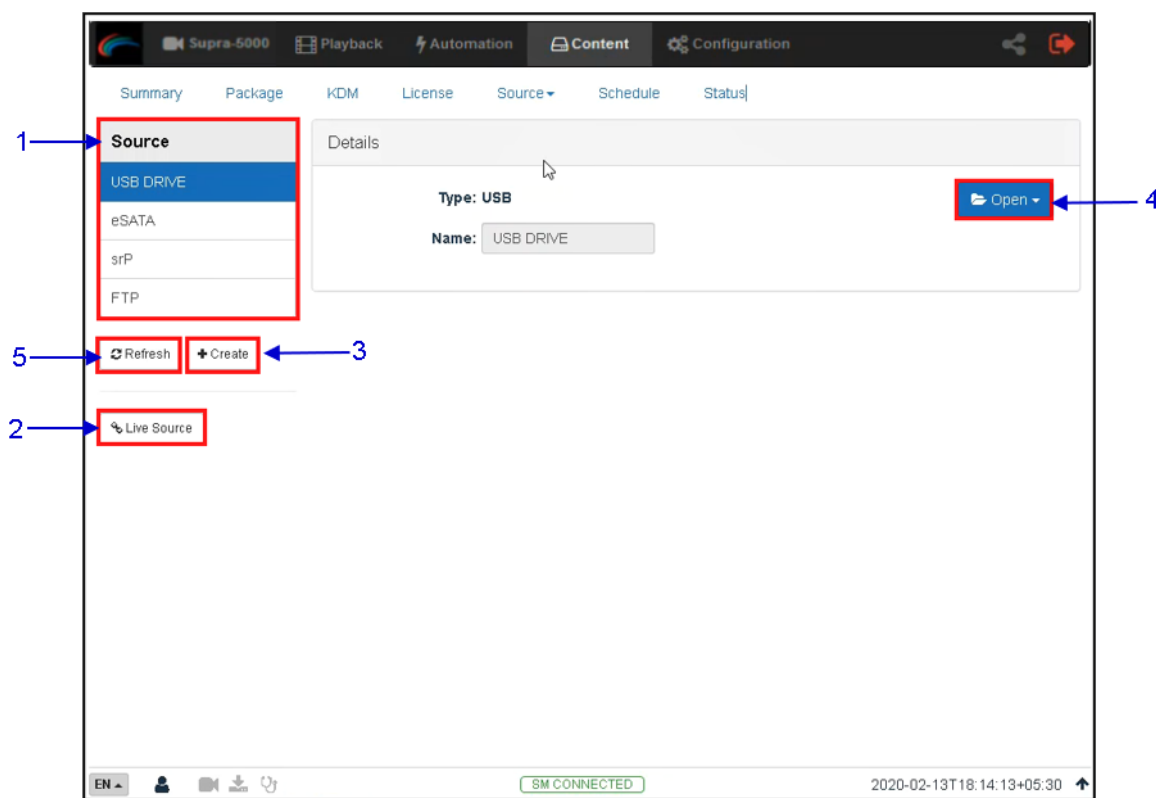


Figure 102:

SN	Name	Function Description
1	[Source]	Displays a list of configured content ingest sources on the DCMB.

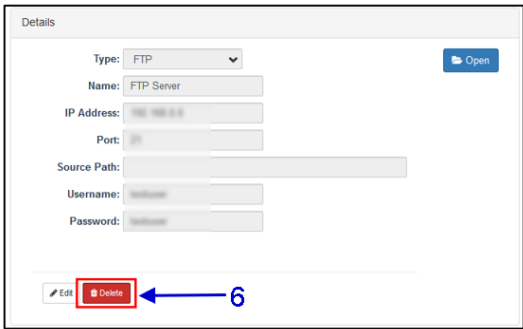
2	[Live Source]	Displays the list of content for Live Play. (Please refer to Section 4.5.5.2 for details.)
3	[+Create]	Click +Create to add a new content ingest source. Fill in the details for the content ingest source and click Save to save the changes.
4	[Open]	Click Open to mount the content ingest source and select the content to be ingested.
5	[Refresh]	Click Refresh to refresh the list of content ingest sources
6	[Delete]	Click Delete to delete the selected content ingest source.  NOTE: Delete and Edit buttons only available on created ingest sources.

Table 43

4.5.5.1 Ingesting Content from a USB Source

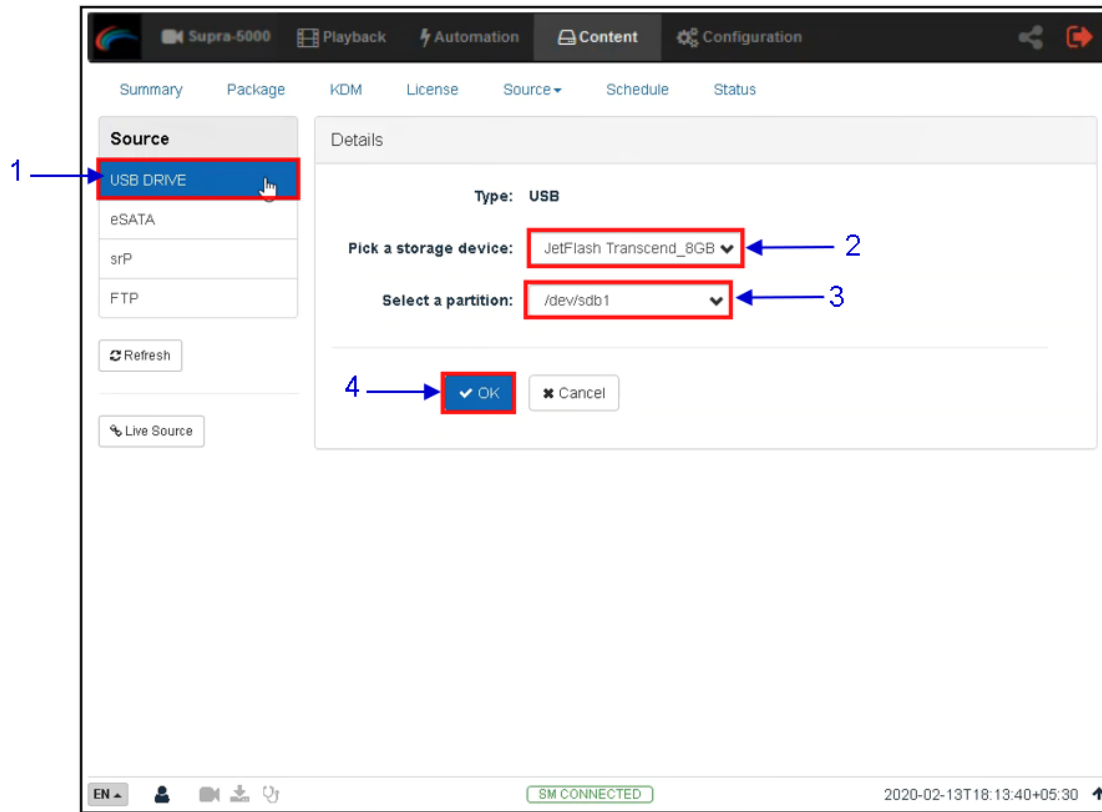


Figure 103:

SN	Function Description
1	Select USB DRIVE from the Source list.
2	Under the Details section; select the drive name assigned to the USB Disk, from the Pick a storage device drop-down
3	Select the drive partition assigned to the USB Disk by the DCMB from the Select a partition drop-down
4	Click OK to mount the content ingest source and select the content to be ingested.

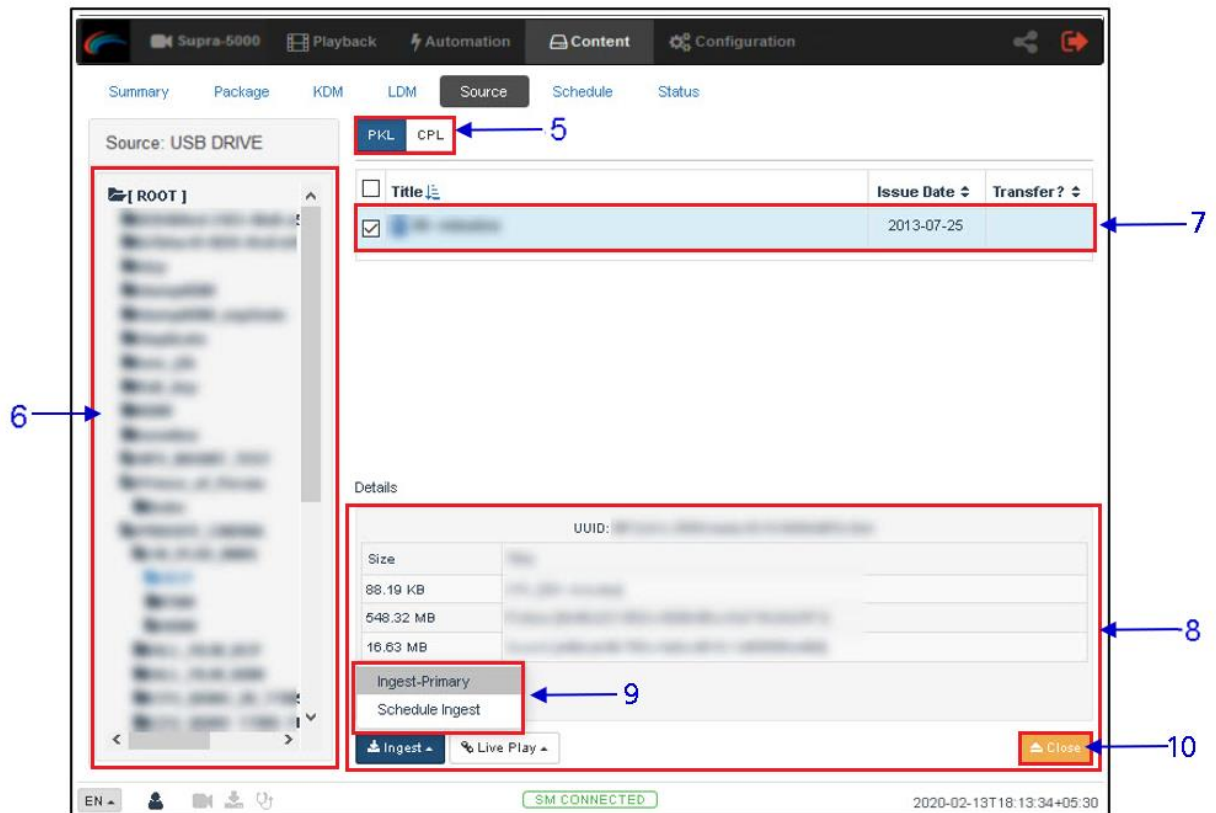


Figure 104:

5	This button can be used to toggle between the PKL/CPL list displayed in the top right section of the screen.
6	Browse the selected source and select the directory where the package is located. The list of packages in the directory will be displayed in the top right section of the screen.
7	Select the package or CPL you wish to ingest using the checkbox on the left of that particular entry in the PKL/CPL list. You can select multiple PKL's or CPL's.
8	Information about the selected package or CPL, including the file size, is shown in the section below the PKL/CPL list.

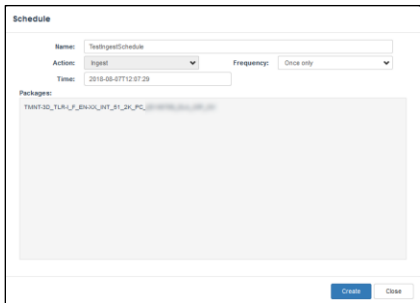
9	<p>Click on the Ingest button and select the Ingest-Primary option to queue downloading of the PKL/CPL. (To bypass ingestion for direct playback you can click on Live Play instead. Please refer to Section 4.5.5.2 for details).</p> <p>You may also ingest the selected content by creating a schedule, using the Schedule Ingest option.</p> <div data-bbox="673 424 1091 724" data-label="Form">  </div> <p>To check on the download status of the ingested content, go to the Status tab. Please refer to Section 4.5.6 for more details.</p>
10	<p>When done selecting the package(s), click on the Close button.</p> <p>IMPORTANT: Always press Close after you are done starting the download of content. You can monitor the progress of ingesting from the Status tab.</p> <p>Please refer to Section 4.5.6 for details about the Status tab.</p>

Table 44

4.5.5.2 Live Play

The **Live Play** feature allows you to playback content directly from a source without ingesting:

- **Live play** is supported for **USB 3.0** sources only.
- Content should always be ingested before playback whenever possible.

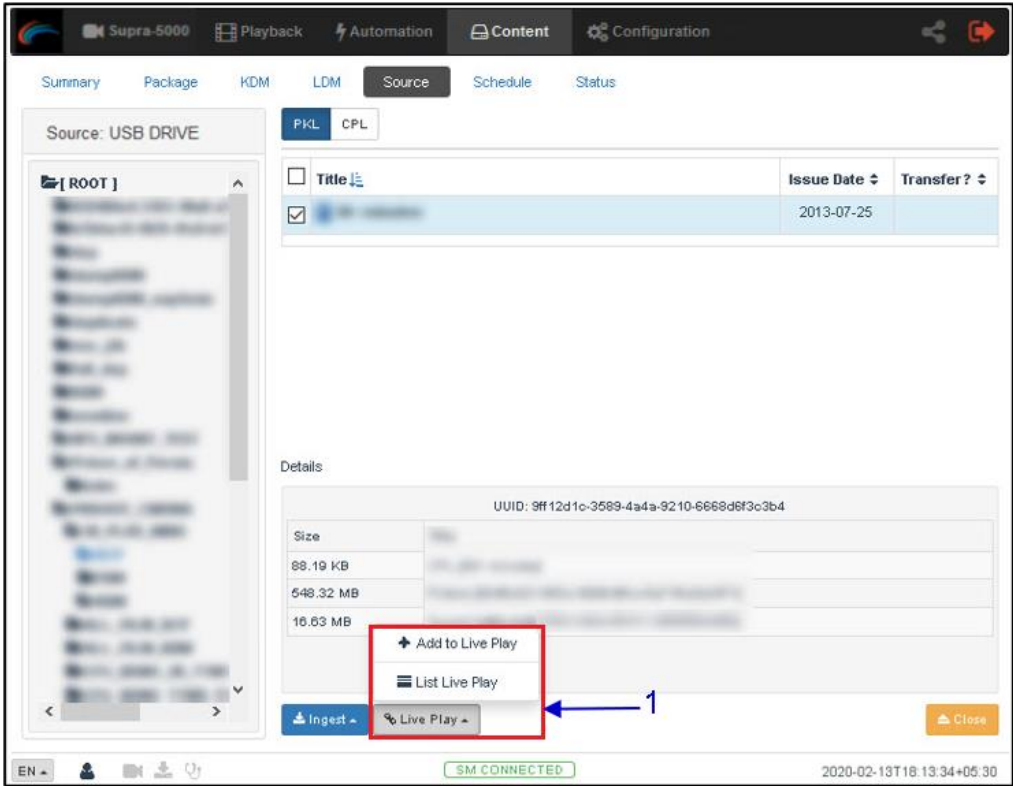


Figure 105:

SN	Name	Function Description
1	[Live Play]	<p>Two options are available when the Live Play button is clicked:</p> <ol style="list-style-type: none">Add to Live Play: Add the selected content as a Live Play SourceList Live Play: A pop-up window will be shown to display the list of Live Play Sources.

Live Source

file:///media/usbplay/0c3031-0ace-43b5-ba61-002596715146/02k
TransferIDPONGEBCED_TLRD_3_2N4H_WT_1_2H_PC_20141017_DLA_KP_DW

Close

Table 45

4.5.5.3 Ingesting KDMs

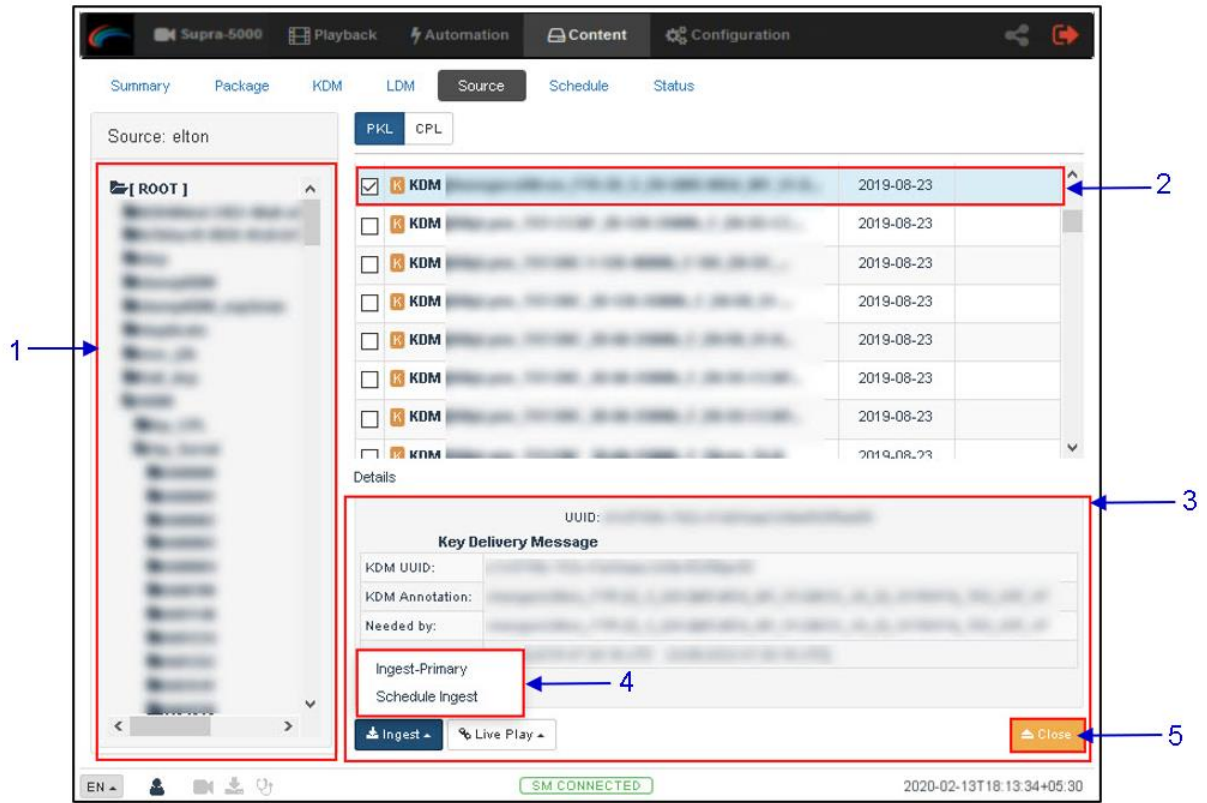


Figure 106:

SN	Function Description
1	Browse the selected source and select the directory where the KDM is located. The list of KDMs in the directory will be displayed in the top right section of the screen.
2	Select the KDM you wish to ingest, using the checkbox on the left of that particular entry from the displayed list. You can also select multiple KDMs.
3	Information about the selected KDM, including <i>Needed by CPL</i> and <i>Stated Validity</i> are shown in this section.
4	Click on the Ingest button and select the Ingest-Primary option to queue downloading of the KDM. To check on the download status of the ingested KDM, go to the Status tab.
5	When done selecting the KDM(s), click on the Close button.

Table 46

Please Note: As mentioned in **Section 4.5.3**, KDM files (.kdm) can also be directly from the Web UI using the **Upload** option under the **KDM** sub-tab.

4.5.6 Content → Schedule

The **Schedule** sub-tab shows the scheduled content ingest and verification tasks.

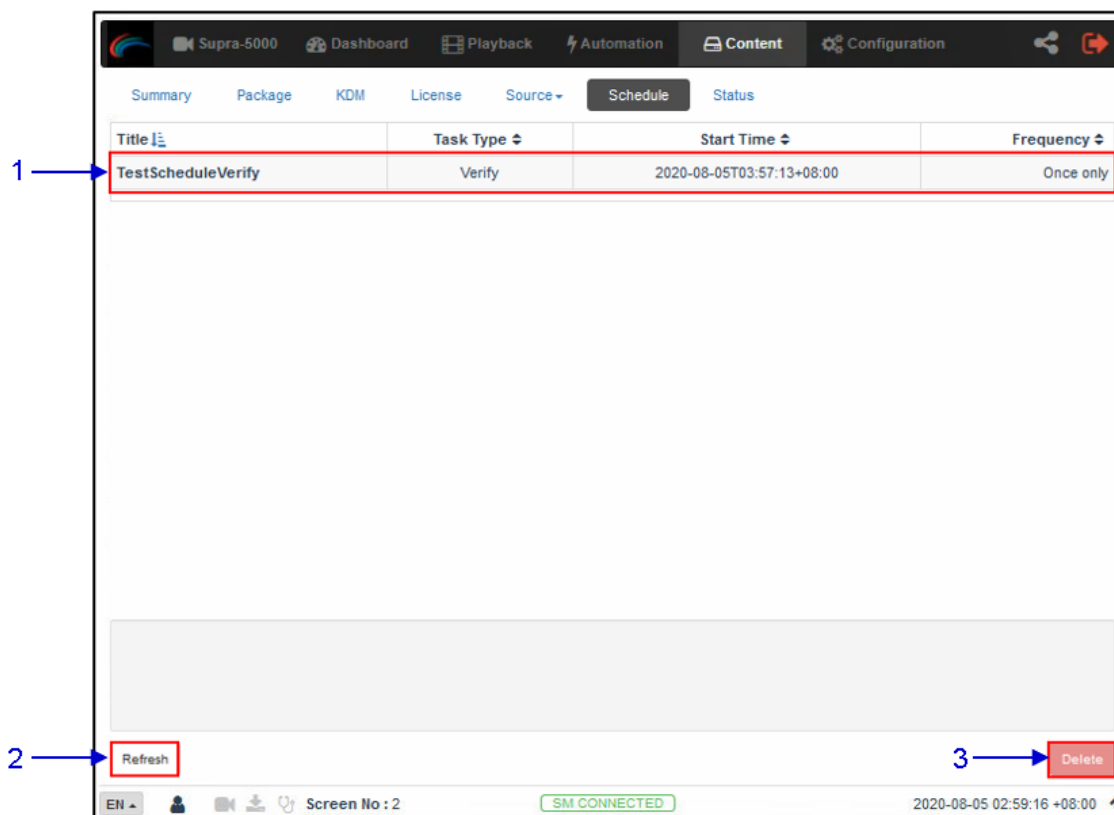


Figure 107:

SN	Name	Function Description.
1	[Schedule]	Displays a list of scheduled content ingest tasks.
2	[Refresh]	Click Refresh to refresh the list of schedules.
3	[Delete]	Click Delete to delete a selected schedule.

Table 47

4.5.7 Content → Status

The **Status** sub-tab shows content ingest and verification status.

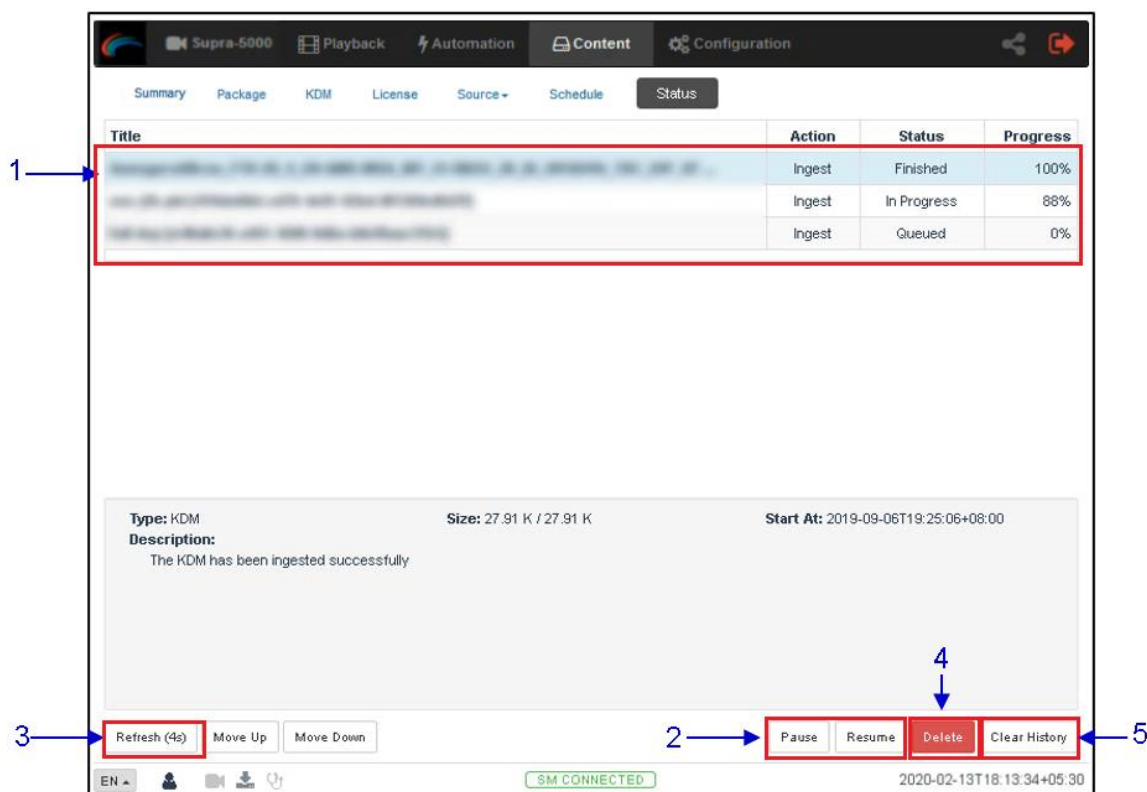


Figure 108:

SN	Name	Function Description
1	[Status]	Displays the list of content ingest, delete and verify tasks.
2	[Pause]	Press Pause to temporarily stop the download of the selected package(s) or CPL(s). When the Pause button is clicked, the Resume button will be enabled and can be used to resume the download of the selected package(s) or CPL(s).
3	[Refresh]	Click Refresh to refresh the list of the package(s) or CPL(s).
4	[Delete]	Click Delete to delete the selected action. If the <i>Action</i> status is "In Progress", the Delete button will cancel the action as well
5	[Clear History]	Click Clear History to clear all the finished actions from the displayed list.

Table 48

4.6 Configuration (for advanced users)

The **Configuration** tab can be used to change the DCMB settings and configure aspects of DCMB's operation. The settings under the **Configuration** tab have been divided into six categories: *General*, *Playback*, *Storage*, *System*, *Maintenance* and *Image*.

4.6.1 Configuration → General

The **General** sub-tab can be used to configure general options for the DCMB.

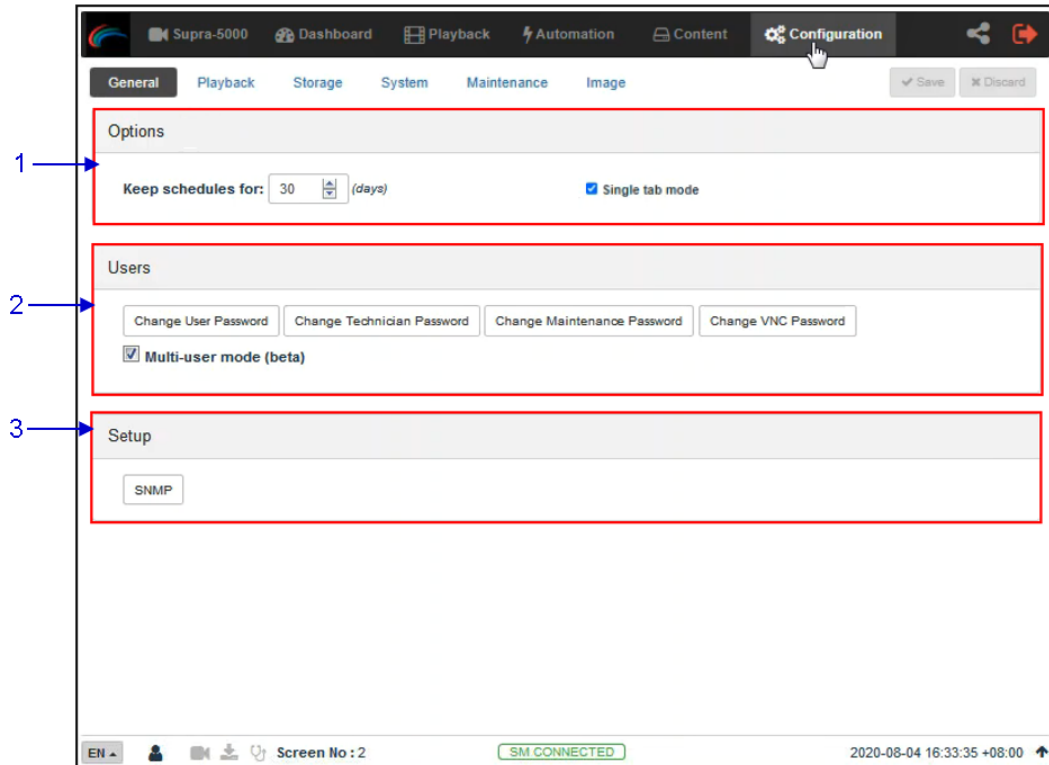


Figure 109:

SN	Name	Function Description
1	[Options]	
	Keep schedules for	Set the number of days that expired schedules are kept for.
	Single tab mode	<p>When this option is enabled, the Supra Command Center web interface can be accessed from within the DCMB Web UI when the Supra-5000 tab is clicked.</p> <p>When this option is disabled, the Supra Command Center web interface will open in a separate browser tab when the Supra-5000 tab is clicked.</p>

2	[Users]	
	Change User Password	Change the password for the 'User' level.
	Change Technician Password	Change the password for the 'Technician' level.
	Change Maintenance Password	Change the password for the 'Maintenance' level.
	Change VNC Password	Change the password for remote VNC login
3	Multi-user mode	<p>Enabling this option allows multiple users with the same access level to concurrently log in to the Web UI.</p> <p>NOTE: Multi-user mode may not cater to all conditions. Users are advised to use this feature with care.</p>
	[Setup]	
	SNMP	<p>Set up SNMP monitoring and reporting. (Please refer to Section 4.6.1.1 for more details).</p> <p>Click Save to save the settings or Close to cancel the changes.</p>

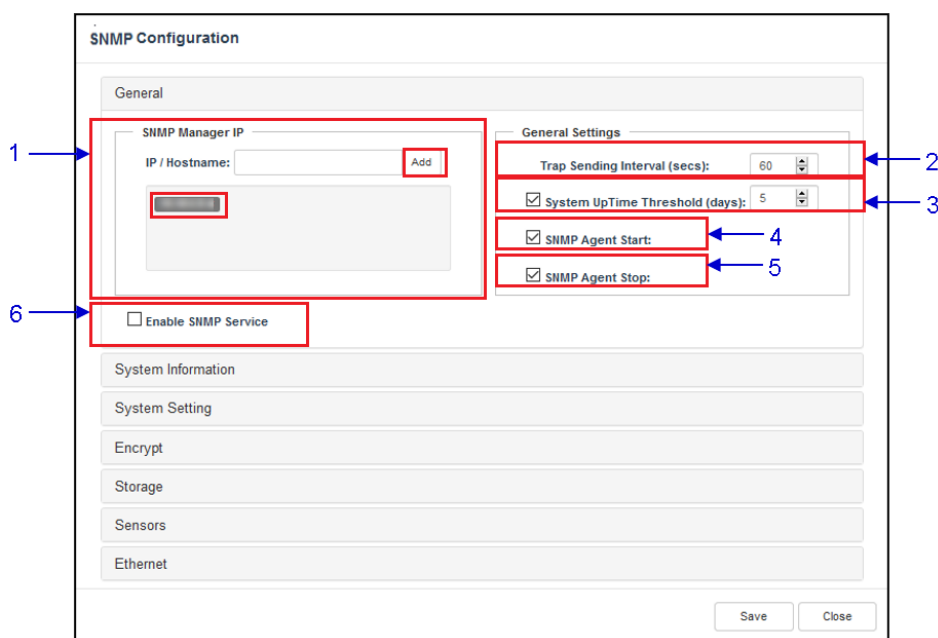
Table 49

4.6.1.1 SNMP Configuration

The **SNMP Setup** is an option that enables the use of SNMP to monitor the DCMB. The SNMP interface contains many useful SNMP traps and is easy to configure.

When the SNMP button is clicked, an SNMP configuration pop-up window is shown with the following sections: **General**, **System Information**, **System Setting**, **Encrypt**, **Storage**, **Sensors** and **Ethernet**. Click on a particular section to expand it and view the corresponding options.

4.6.1.1.1 SNMP Configuration → General



The image shows the 'SNMP Configuration' window with the 'General' tab selected. The window is divided into two main sections: 'SNMP Manager IP' on the left and 'General Settings' on the right. Below these is a list of expandable sections: System Information, System Setting, Encrypt, Storage, Sensors, and Ethernet. At the bottom are 'Save' and 'Close' buttons. Numbered callouts point to specific elements: 1 points to the 'SNMP Manager IP' section header; 2 points to the 'Trap Sending Interval (secs):' field; 3 points to the 'System UpTime Threshold (days):' field; 4 points to the 'SNMP Agent Start:' checkbox; 5 points to the 'SNMP Agent Stop:' checkbox; 6 points to the 'Enable SNMP Service' checkbox; and an unlabeled callout points to the 'Add' button next to the IP/Hostname field.

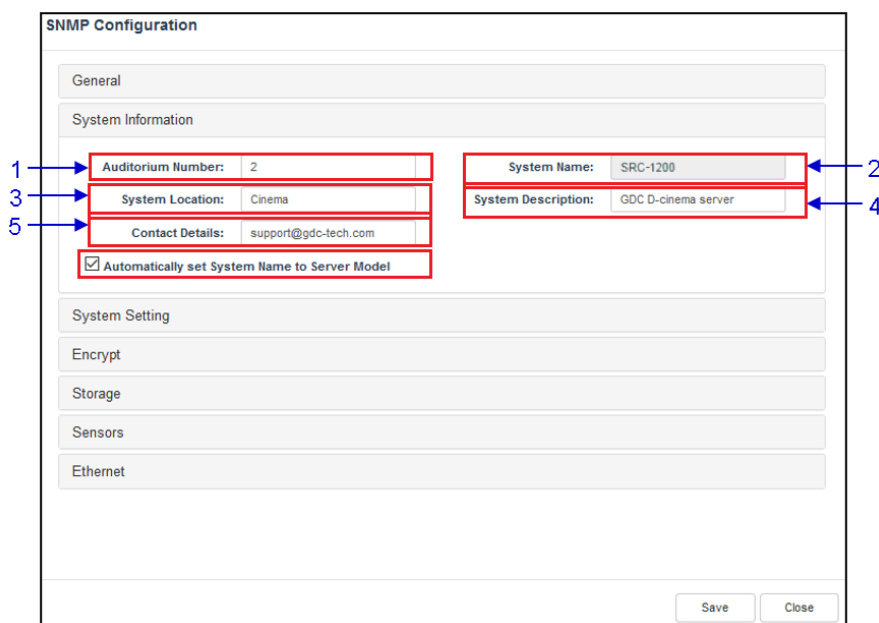
Figure 110:

SN	Name	Function Description
1	[SNMP Manager IP]	Indicate the IP address of the SNMP Manager where traps are to be sent. To add an SNMP Manager, Enter the IP Address of the SNMP Manager and click Add . Click the X next to the IP address to remove it.
2	[Trap Sending Interval]	Indicate the time interval (in <i>seconds</i>) after which a trap should be resent to the SNMP Manager. The trap will continue to be resent only as long as the error condition exists.

3	[System UpTime Threshold]	<p>Indicate the threshold time in days.</p> <p>NOTE: When Trap is On, a trap will be sent if the System UpTime exceeds the threshold value.</p>
4	[SNMP Agent Start]	<p>Check SNMP Agent Start to activate the Trap. Un-check the SNMP Agent Start to deactivate the Trap.</p> <p>NOTE: When Trap is On, a trap is sent when the SNMP Agent is started.</p>
5	[SNMP Agent Stop]	<p>Check SNMP Agent Stop to activate the Trap. Un-check the SNMP Agent Stop to deactivate the Trap.</p> <p>NOTE: When Trap is On, a trap is sent when the SNMP Agent is stopped.</p>
6	[Enable SNMP Service]	<p>Enable or disable SNMP monitoring and reporting.</p> <p>Click Save to save the settings or Close to cancel the changes.</p>

Table 50

4.6.1.1.2 SNMP Configuration → System Information



The image shows a web-based configuration interface for SNMP. The 'System Information' section is highlighted with a red border. It contains the following fields:

- Auditorium Number:** 2 (indicated by arrow 1)
- System Location:** Cinema (indicated by arrow 3)
- Contact Details:** support@gdc-tech.com (indicated by arrow 5)
- ☒ Automatically set System Name to Server Model
- System Name:** SRC-1200 (indicated by arrow 2)
- System Description:** GDC D-cinema server (indicated by arrow 4)

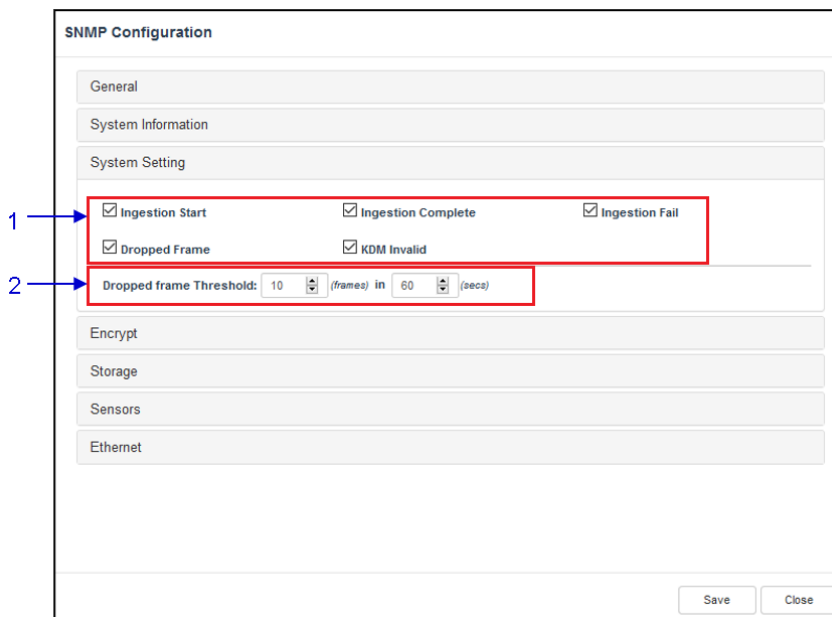
Below the System Information section are tabs for System Setting, Encrypt, Storage, Sensors, and Ethernet. At the bottom right are 'Save' and 'Close' buttons.

Figure 111:

SN	Name	Function Description
1	[Auditorium Number]	The auditorium where the projector is installed. This value will be displayed when SNMP information is queried.
2	[System Name]	<p>The name of the Server. This value will be displayed when SNMP information is queried.</p> <p>This will be automatically set to the server model if the Automatically set System Name to Server model option is enabled.</p>
3	[System Location]	The location where the projector is installed. This value will be displayed when SNMP information is queried.
4	[System Description]	A brief description of the DCMB. This value will be displayed when SNMP information is queried.

Table 51

4.6.1.1.3 SNMP Configuration → System Setting



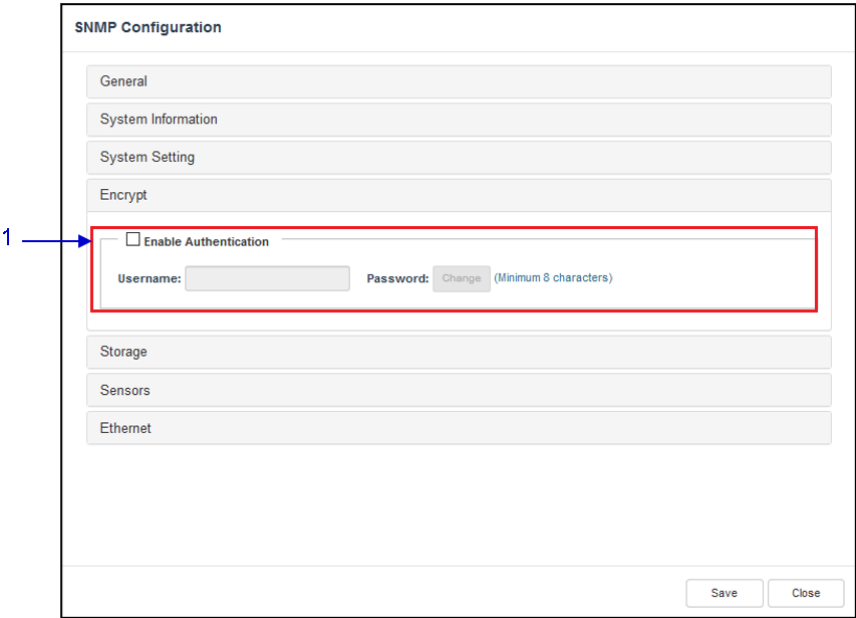
The image shows a screenshot of the 'SNMP Configuration' window, specifically the 'System Setting' tab. The window has a sidebar on the left with tabs: General, System Information, and System Setting (selected). The main area contains several sections: 'General' (with checkboxes for Ingestion Start, Ingestion Complete, Ingestion Fail, Dropped Frame, and KDM Invalid), 'Dropped frame Threshold' (with a dropdown menu set to 10, a unit selector set to (frames) in, and a dropdown menu set to 60, a unit selector set to (secs)), 'Encrypt', 'Storage', 'Sensors', and 'Ethernet'. At the bottom right are 'Save' and 'Close' buttons. Two blue arrows point to the 'General' section: arrow 1 points to the 'Ingestion Start' checkbox, and arrow 2 points to the 'Dropped frame Threshold' section.

Figure 112:

SN	Name	Function Description
1	[Ingestion Start]	When this option is checked, an SNMP trap will be generated when a DCP ingest starts.
	[Ingestion Complete]	When this option is checked, an SNMP trap will be generated when a DCP ingest is completed.
	[Ingestion Fail]	When this option is checked, an SNMP trap will be generated when a DCP ingest fails.
	[Dropped Frame]	When this option is checked, an SNMP trap will be generated when the playback has dropped frames
	[KDM Invalid]	When this option is checked, an SNMP trap will be generated when we try to play a playlist containing CPL without a valid KDM
2	[Dropped Frame Threshold]	Set a threshold limit based on the number of frames dropped in the specified period (in seconds)

Table 52

4.6.1.1.4 SNMP Configuration → Encrypt



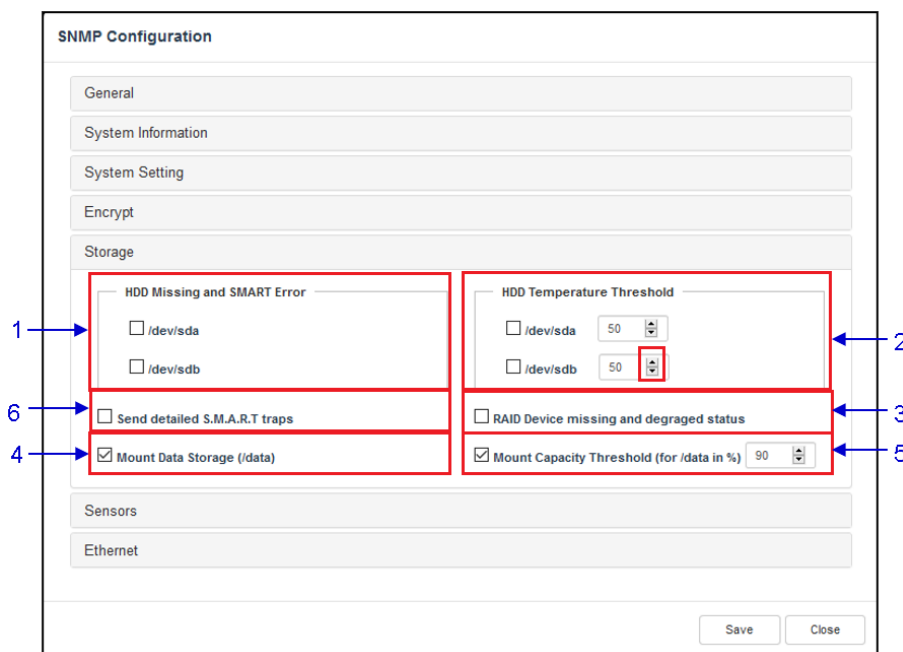
The screenshot shows the 'SNMP Configuration' window with the 'Encrypt' tab selected. A red box highlights the 'Enable Authentication' section, which includes a checkbox, a 'Username' input field, a 'Password' input field with a 'Change' button, and a '(Minimum 8 characters)' note. A blue arrow with the number '1' points to the checkbox. Other tabs visible include General, System Information, System Setting, Storage, Sensors, and Ethernet. 'Save' and 'Close' buttons are at the bottom right.

Figure 113:

SN	Name	Function Description
1	[Enable Authentication]	<p>Allows the user to enable SNMP Authentication by providing a Username. The default Password can be changed using the Change button.</p> <p>NOTE: The new password should be at least 8 characters long.</p>

Table 53

4.6.1.1.5 SNMP Configuration → Storage



The screenshot shows the 'SNMP Configuration' window with the 'Storage' tab selected. The window contains several sections: General, System Information, System Setting, Encrypt, Storage, Sensors, and Ethernet. The 'Storage' section is expanded, showing two main areas: 'HDD Missing and SMART Error' and 'HDD Temperature Threshold'. Callout 1 points to the '/dev/sda' checkbox in the 'HDD Missing and SMART Error' section. Callout 2 points to the 'HDD Temperature Threshold' section. Callout 3 points to the 'RAID Device missing and degraded status' checkbox. Callout 4 points to the 'Mount Data Storage (/data)' checkbox. Callout 5 points to the 'Mount Capacity Threshold (for /data in %)' dropdown menu. Callout 6 points to the 'Send detailed S.M.A.R.T traps' checkbox.

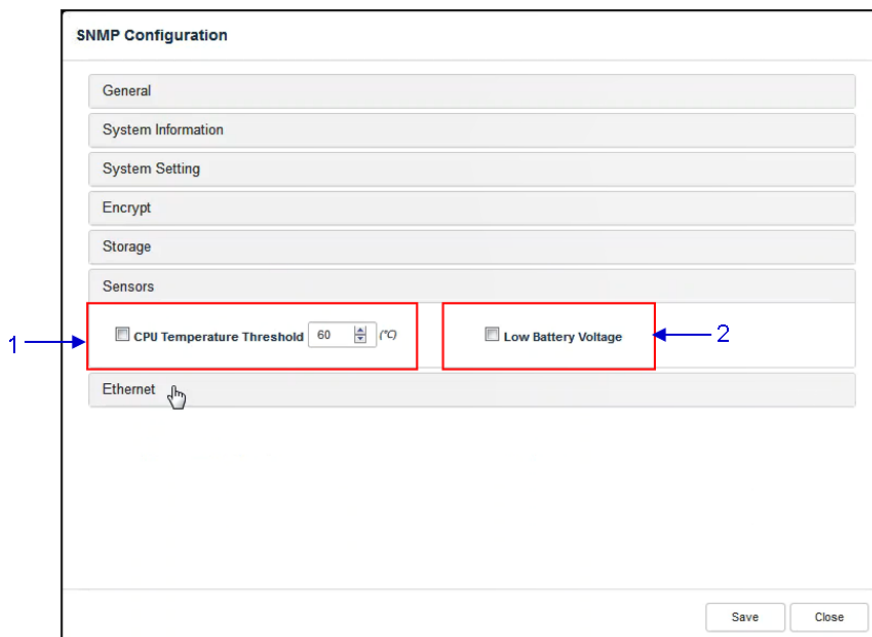
Figure 114

SN	Name	Function Description
1	[HDD Missing and SMART Error]	<p>Check the corresponding storage devices to activate the Trap.</p> <p>NOTE: When Trap is On, a trap will be sent to the SNMP Manager if the system cannot detect the specified device.</p>
2	[HDD Temperature Threshold]	<p>Set the desired threshold temperature for the respective storage device by using the [▲] and [▼] buttons.</p> <p>Check the corresponding storage devices to activate the Trap.</p> <p>NOTE: When Trap is On, a trap will be sent to the SNMP Manager when the threshold temperature is reached.</p>
3	[RAID Device missing and degraded status]	<p>Check RAID Device missing and degraded status to activate the Trap.</p> <p>NOTE: When Trap is On, a trap will be sent if the RAID Device is missing or degraded.</p>
4	[Mount Data Storage]	<p>Check Mount Data Storage to activate the Trap.</p> <p>NOTE: When Trap is On, a trap will be sent if the data storage is not mounted on the system.</p>

5	[Mount Capacity Threshold (for data in %)]	Set the mount capacity threshold value for data (in percentage) NOTE: When Trap is On, a trap will be sent if the mount capacity threshold value is reached.
6	[Send detailed S.M.A.R.T. traps]	Enables the sending of SNMP traps when specific hard disk S.M.A.R.T. attributes change

Table 54

4.6.1.1.6 SNMP Configuration → Sensor



The screenshot shows the 'SNMP Configuration' window with the 'Sensors' tab selected. Two red boxes highlight the configuration options: 'CPU Temperature Threshold' (labeled with a blue arrow and '1') and 'Low Battery Voltage' (labeled with a blue arrow and '2'). The 'CPU Temperature Threshold' box contains a checkbox, a text field with '60', a unit dropdown set to '°C', and a 'Trap' checkbox. The 'Low Battery Voltage' box contains a checkbox and a 'Trap' checkbox. Other tabs visible include General, System Information, System Setting, Encrypt, Storage, and Ethernet. 'Save' and 'Close' buttons are at the bottom right.

Figure 115:

SN	Name	Function Description
1	[CPU Temperature Threshold]	<p>Set the threshold temperature required for the CPU sensors by typing in the field or using an on-screen keyboard.</p> <p>Check CPU Temperature Threshold to activate the Trap.</p> <p>NOTE: When Trap is On, a trap is sent if the CPU temperature exceeds the maximum threshold temperature.</p>
2	[Low Battery Voltage]	<p>Check Low Battery Voltage to activate this trap.</p> <p>NOTE: When Trap is On, a trap is sent if the IMB battery voltage falls below the minimum voltage limit.</p>

Table 55

4.6.1.1.7 SNMP Configuration → Ethernet

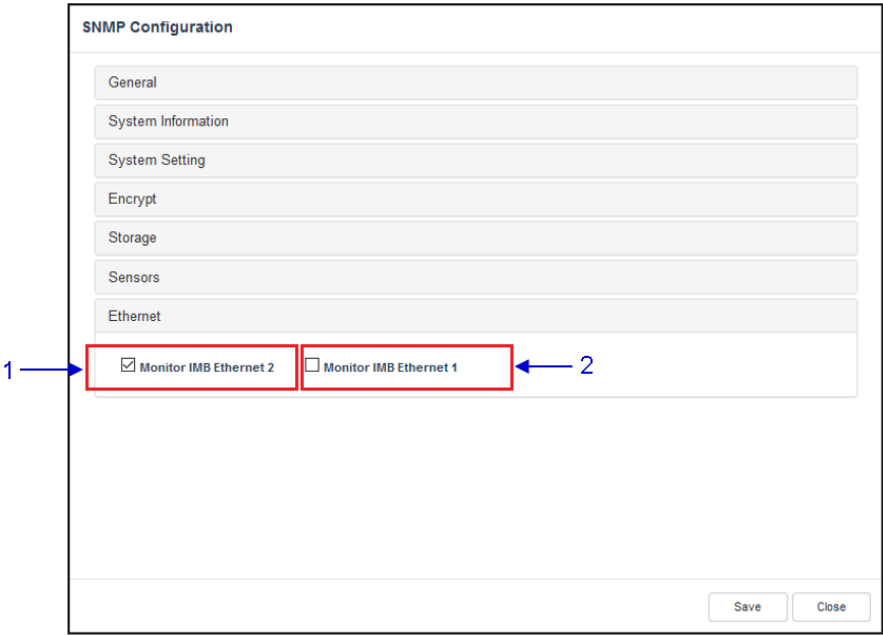


Figure 116:

SN	Name	Function Description
1	[Monitor IMB Ethernet 2]	Enables sending an SNMP trap if the system detects that the selected network interface is down.
2	[Monitor IMB Ethernet 1]	Enables sending an SNMP trap if the system detects that the selected network interface is down.

Table 56

4.6.2 Configuration → Playback

The **Playback** sub-tab can be used to configure video, audio, subtitle and other playback-related settings on the DCMB.

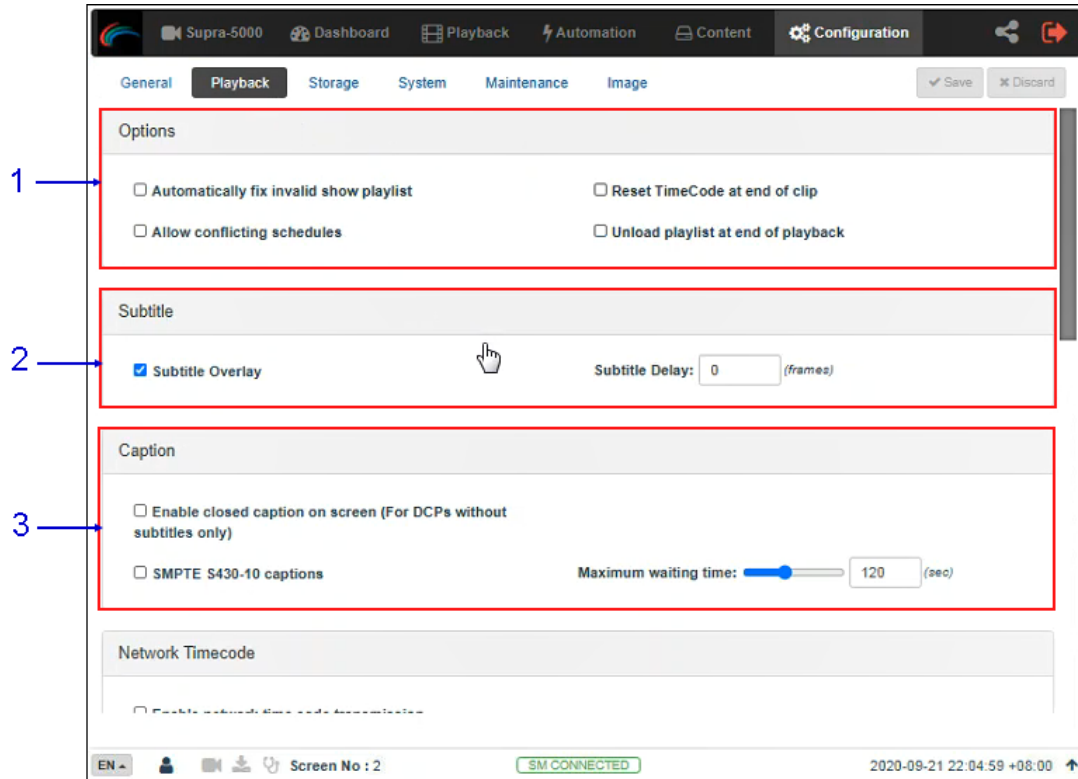


Figure 117:

SN	Name	Function Description
1	[Options]	
	Automatically fix invalid show playlist	If this option is enabled, non-playable CPLs in a show playlist will be skipped during playback.
	Allow conflicting schedules	Enabling this option allows addition of schedules with overlapping start or end times.
	Reset TimeCode at end of clip	Enabling this option resets the timecode (LTC) to '0' at end of each CPL.
	Unload playlist at end of playback	Enabling this option will automatically unload the SPL at the end of playback.

2	[Subtitle]	
	<p>Subtitle Overlay</p> <p>When this option is enabled, subtitles are displayed using server rendering. When this option is disabled, Cinecanvas is used for subtitle display.</p> <p>Subtitle Delay:</p> <p>Enter the Subtitle Delay in number of frames. Entering a negative number will advance the subtitles by that number of frames.</p>	
3	[Caption]	
	<p>Enable closed caption on-screen (For DCPs without subtitles only)</p> <p>Enabling this option will allow closed captions to be displayed on-screen, if the CPL doesn't have any subtitles.</p> <p>SMPTE S430-10 captions</p> <p>Enable communication with a closed caption device that supports SMPTE 430-10 (USL CCE-100, etc.)</p> <p>NOTE: The closed caption device must be configured to connect to the DCMB.</p> <p>Maximum waiting time</p> <p>Specifies the maximum time to wait for the closed caption device to report it is ready, before starting playback.</p>	

Table 57

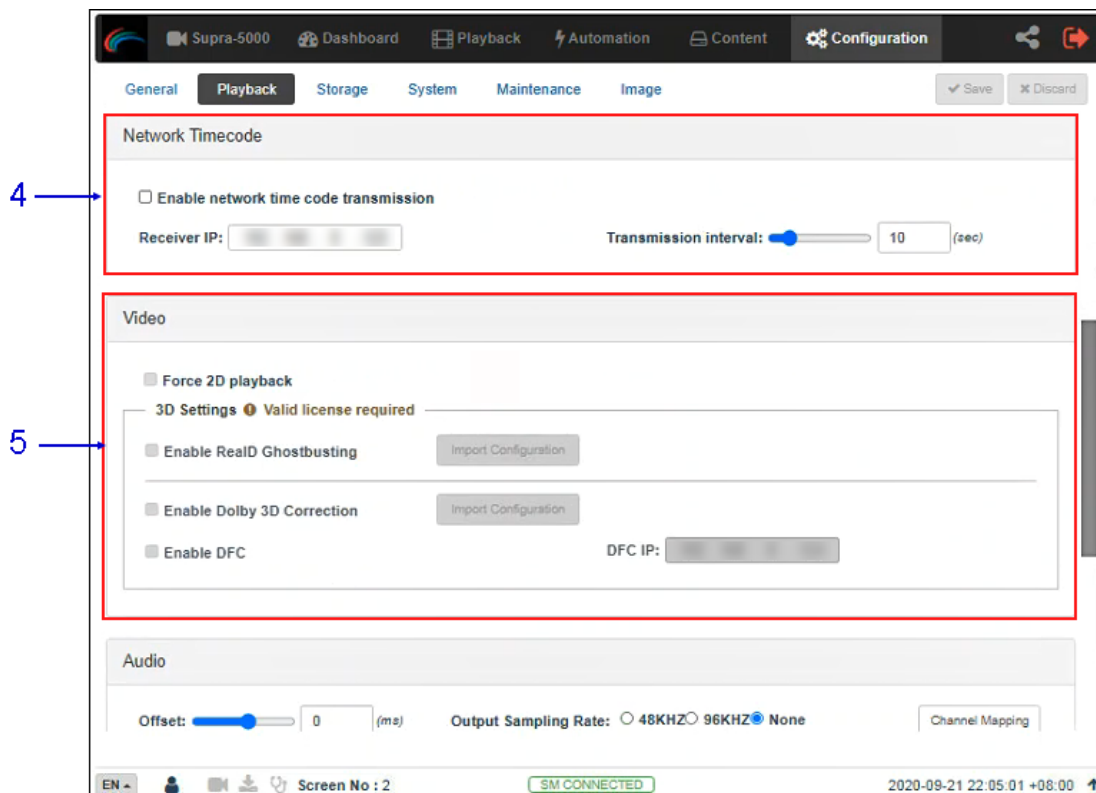


Figure 118:

4	[Network timecode]	
	<p>Enable network time code transmission</p> <p>Receiver IP</p> <p>Transmission interval</p>	<p>Activate transmission of playback time-code over UDP.</p> <p>Enter the IP of the receiver of time-code transmission of UDP.</p> <p>Indicates the time interval between transmissions</p>
5	[Video]	
	<p>Force 2D playback</p> <p>Enable RealD Ghostbusting/ Enable Dolby 3D Correction/ Enable DFC</p>	<p>Force 2D playback for 3D content. A valid license is required to enable this option.</p> <p>RealD Ghostbusting, Dolby 3D Color Correction and DFC are calibration functions for corresponding 3D technologies.</p> <p>Valid license(s) are required to enable these options.</p>

Table 58

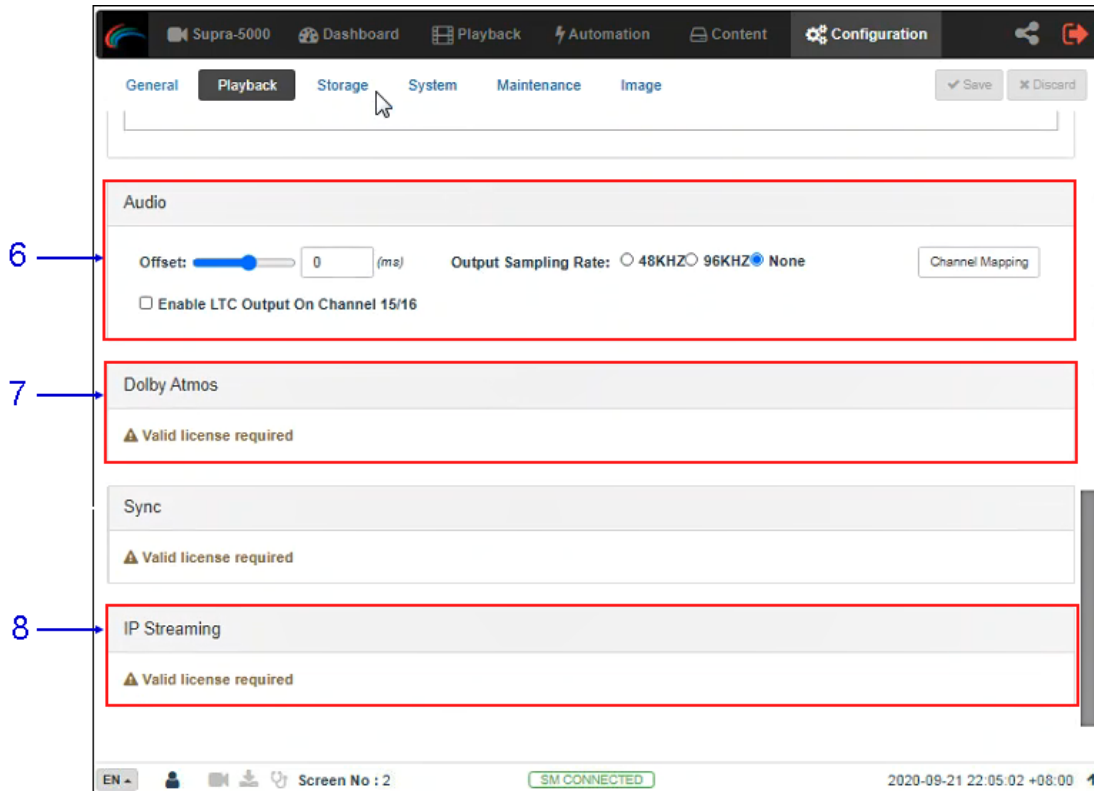


Figure 119:

6	<div data-bbox="438 1066 519 1098" data-label="Section-Header"> <h3>[Audio]</h3> </div> <table border="1"> <tr> <td data-bbox="461 1176 537 1203">Offset</td><td data-bbox="680 1167 1395 1251">Specify an audio delay during playback. A negative audio delay will cause audio to be played ahead of the video. A positive audio delay will cause audio to be played behind the video.</td></tr> <tr> <td data-bbox="368 1312 630 1341">Output Sampling Rate</td><td data-bbox="680 1306 1395 1524">Changes the audio output sampling rate. Output audio sampling rate can be fixed at 48kHz or 96kHz for all content or it can match the content's audio sampling rate (option 'None'). If the output sampling rate is set to a fixed value (48kHz or 96kHz), content audio is re-sampled if it does not match the output sampling rate. Use the Audio Channel Mapping interface to map content audio channels to different audio output channels.</td></tr> <tr> <td data-bbox="396 1585 602 1614">Channel Mapping</td><td data-bbox="680 1579 1170 1635">Refer to Section 4.6.2.1 for details related to Audio Channel Mapping.</td></tr> <tr> <td data-bbox="368 1696 630 1751">Enable LTC Output on Channel 15/16</td><td data-bbox="680 1690 1276 1747">Enables LTC output on Channel 15/16 which would be needed for supporting 4D devices.</td></tr> </table>	Offset	Specify an audio delay during playback. A negative audio delay will cause audio to be played ahead of the video. A positive audio delay will cause audio to be played behind the video.	Output Sampling Rate	Changes the audio output sampling rate. Output audio sampling rate can be fixed at 48kHz or 96kHz for all content or it can match the content's audio sampling rate (option 'None'). If the output sampling rate is set to a fixed value (48kHz or 96kHz), content audio is re-sampled if it does not match the output sampling rate. Use the Audio Channel Mapping interface to map content audio channels to different audio output channels.	Channel Mapping	Refer to Section 4.6.2.1 for details related to Audio Channel Mapping.	Enable LTC Output on Channel 15/16	Enables LTC output on Channel 15/16 which would be needed for supporting 4D devices.
Offset	Specify an audio delay during playback. A negative audio delay will cause audio to be played ahead of the video. A positive audio delay will cause audio to be played behind the video.								
Output Sampling Rate	Changes the audio output sampling rate. Output audio sampling rate can be fixed at 48kHz or 96kHz for all content or it can match the content's audio sampling rate (option 'None'). If the output sampling rate is set to a fixed value (48kHz or 96kHz), content audio is re-sampled if it does not match the output sampling rate. Use the Audio Channel Mapping interface to map content audio channels to different audio output channels.								
Channel Mapping	Refer to Section 4.6.2.1 for details related to Audio Channel Mapping.								
Enable LTC Output on Channel 15/16	Enables LTC output on Channel 15/16 which would be needed for supporting 4D devices.								

7	[Dolby Atmos]	<p>Configure the DCMB to work with a Dolby sound processor with Dolby Atmos.</p> <p>A valid license is required to enable Dolby Atmos support on the DCMB.</p> <p>Check Enable to enable Dolby Atmos support.</p> <p>Set the Atmos Data IP and Atmos TLS IP according to network requirements.</p>
8	[IP Streaming]	<p>A valid license is required to enable IP Streaming on the DCMB.</p>

Table 59

4.6.2.1 Audio → Channel Mapping

Using the **Channel Mapping** option, audio output from the DCMB can be re-mapped to appear on different audio channels.

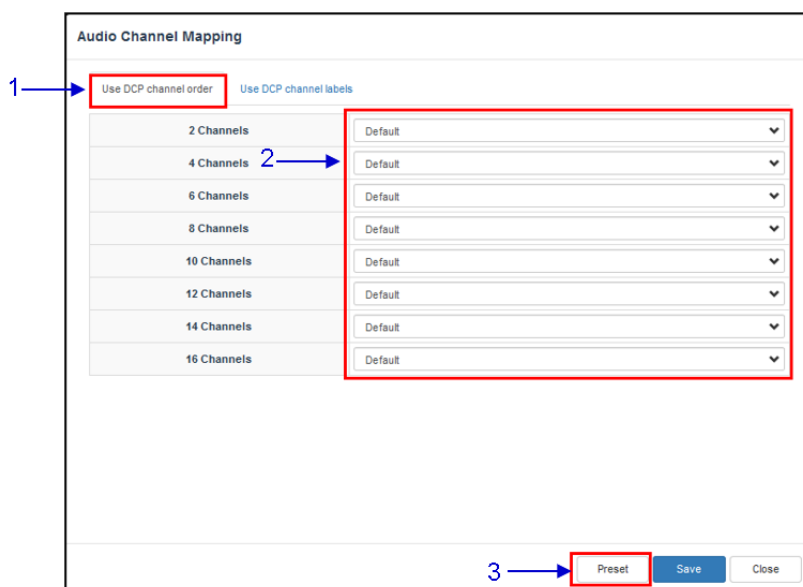


Figure 120:

SN	Function description
1	Audio output based on the number of audio channels in the audio track of the DCP can be configured in this tab.
2	The preset for the number of audio channels in the audio track can be changed here.
3	Use the Preset button to configure audio presets. Refer to Section 4.6.2.1.1 for details

Table 60

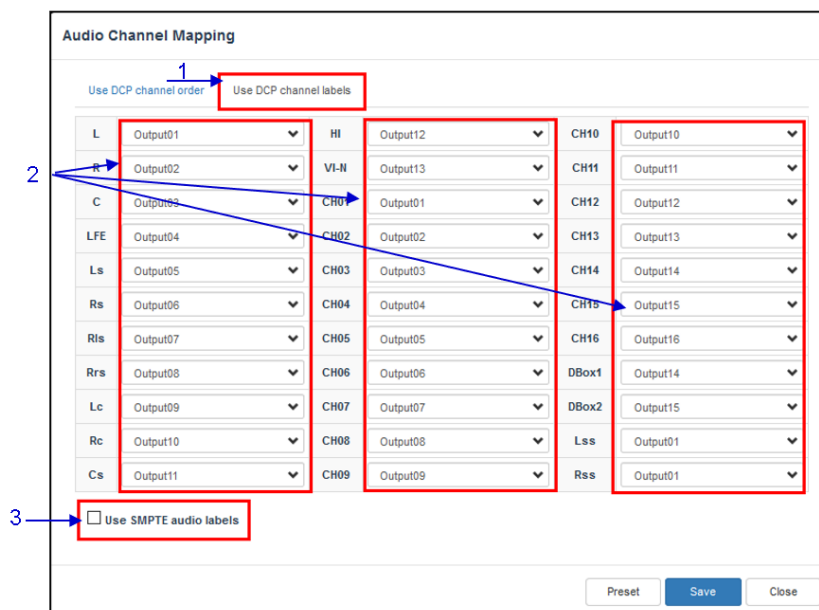


Figure 121:

SN	Function description
1	Audio output based on SMPTE audio channel configuration labels can be configured in this tab,
2	Audio output for individual SMPTE audio channel labels can be changed here.
3	Check the Use SMPTE audio labels checkbox to route audio output based on SMPTE audio channel configuration labels.

Table 61

4.6.3 Configuration → Storage

The **Storage** sub-tab can be used to configure the storage settings on the DCMB.

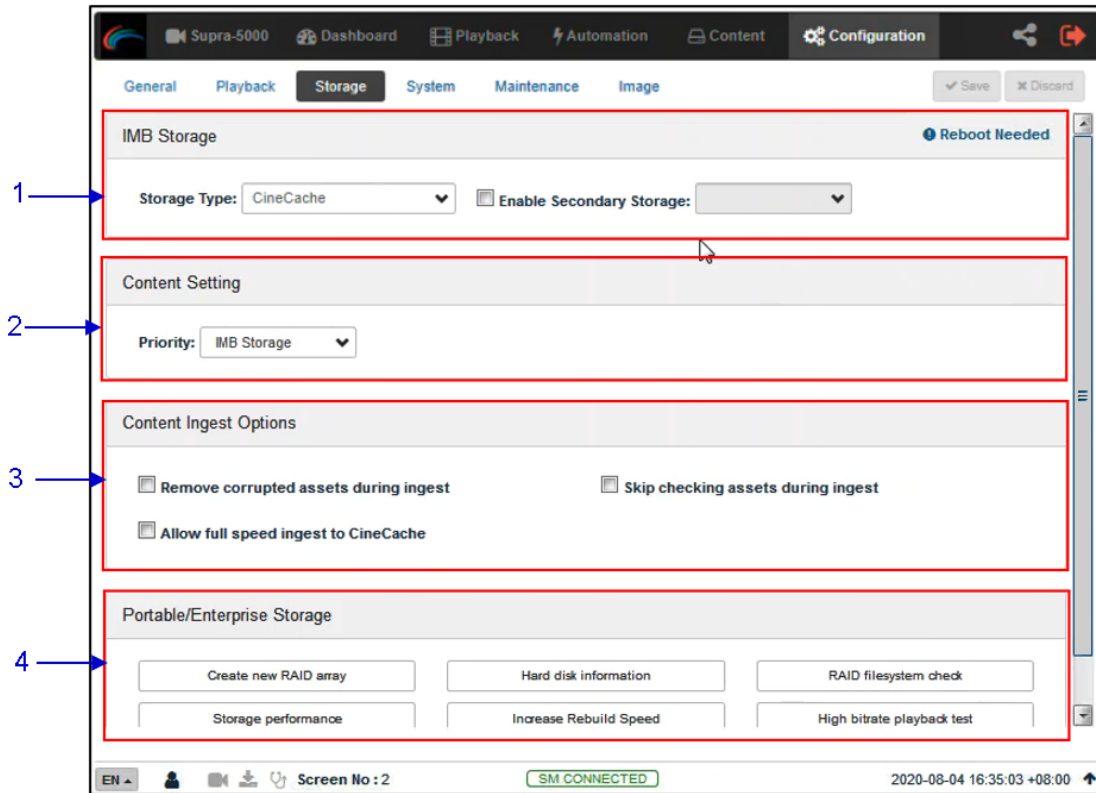


Figure 123:

SN	Name	Function Description
1	[IMB Storage]	
	Storage Type	<p>Configure the primary storage for the DCMB.</p> <ul style="list-style-type: none"> CineCache™: Select this option to use the built-in CineCache™ as storage. Please Note: This is only available on DCMB with Cinecache™ installed. NAS: Configure a Network-Attached Storage (NAS) as data storage. Please contact Espedeo Holdings Ltd. for more information regarding qualified NAS models. <p>NOTE: A reboot is needed after the Storage Type is changed.</p>

2	<div data-bbox="438 195 625 226" data-label="Section-Header">[Content Setting]</div> <table> <tr> <td data-bbox="345 247 667 917"> <div data-bbox="449 268 544 300" data-label="Section-Header">Priority</div> </td><td data-bbox="667 247 1421 917"> <p>Set the storage priority used for playback</p> <ul style="list-style-type: none"> • Attached Storage: Playback will use attached storage (live play) for playback. If there are issues with live play, playback will fall back to local storage. <p>This setting should be selected for centralized playback with the SCL Servers*.</p> <ul style="list-style-type: none"> • IMB Storage: Playback will use local storage for playback. <p>NOTE: For the GDC Cinema Automation 2.0 (CA 2.0) setup with Centralized Playback, please choose 'CineCache' as the primary storage in Storage Type along with Priority as 'Attached Storage'.</p> <p>For a non-CA 2.0 setup, please choose either 'CineCache' or 'NAS' as the primary storage in Storage Type along with the Priority as 'IMB Storage'.</p> </td></tr> </table>	<div data-bbox="449 268 544 300" data-label="Section-Header">Priority</div>	<p>Set the storage priority used for playback</p> <ul style="list-style-type: none"> • Attached Storage: Playback will use attached storage (live play) for playback. If there are issues with live play, playback will fall back to local storage. <p>This setting should be selected for centralized playback with the SCL Servers*.</p> <ul style="list-style-type: none"> • IMB Storage: Playback will use local storage for playback. <p>NOTE: For the GDC Cinema Automation 2.0 (CA 2.0) setup with Centralized Playback, please choose 'CineCache' as the primary storage in Storage Type along with Priority as 'Attached Storage'.</p> <p>For a non-CA 2.0 setup, please choose either 'CineCache' or 'NAS' as the primary storage in Storage Type along with the Priority as 'IMB Storage'.</p>				
<div data-bbox="449 268 544 300" data-label="Section-Header">Priority</div>	<p>Set the storage priority used for playback</p> <ul style="list-style-type: none"> • Attached Storage: Playback will use attached storage (live play) for playback. If there are issues with live play, playback will fall back to local storage. <p>This setting should be selected for centralized playback with the SCL Servers*.</p> <ul style="list-style-type: none"> • IMB Storage: Playback will use local storage for playback. <p>NOTE: For the GDC Cinema Automation 2.0 (CA 2.0) setup with Centralized Playback, please choose 'CineCache' as the primary storage in Storage Type along with Priority as 'Attached Storage'.</p> <p>For a non-CA 2.0 setup, please choose either 'CineCache' or 'NAS' as the primary storage in Storage Type along with the Priority as 'IMB Storage'.</p>						
3	<div data-bbox="438 940 540 972" data-label="Section-Header">[Caption]</div> <table> <tr> <td data-bbox="345 993 667 1894"> <div data-bbox="386 1031 633 1087" data-label="Section-Header">Remove corrupted assets during ingest</div> </td><td data-bbox="667 993 1421 1894"> <p>With this option enabled, any corrupted assets encountered during ingestion are removed.</p> </td></tr> <tr> <td data-bbox="345 1087 667 1894"> <div data-bbox="381 1140 638 1197" data-label="Section-Header">Skip checking assets during ingest</div> </td><td data-bbox="667 1087 1421 1894"> <p>With this option enabled, the Digital Cinema Package assets will not be checked for integrity during download.</p> <p>This option will reduce ingestion time but decrease the reliability of the ingestion.</p> </td></tr> <tr> <td data-bbox="345 1197 667 1894"> <div data-bbox="373 1331 646 1388" data-label="Section-Header">Allow full speed ingest to CineCache</div> </td><td data-bbox="667 1197 1421 1894"> <p>With this option enabled, content ingest to the <u>CineCache</u> will take place at full speed.</p> <p>NOTE: This option should ONLY be used when 'CineCache' is chosen as the primary storage in Storage Type and the Priority is set to '<i>Attached Storage</i>' (for centralized playback with SCL Servers).</p> <p>In case, the Storage Type chosen is '<i>Portable/Enterprise Storage</i>', content ingest will take place at normal speed.</p> </td></tr> </table>	<div data-bbox="386 1031 633 1087" data-label="Section-Header">Remove corrupted assets during ingest</div>	<p>With this option enabled, any corrupted assets encountered during ingestion are removed.</p>	<div data-bbox="381 1140 638 1197" data-label="Section-Header">Skip checking assets during ingest</div>	<p>With this option enabled, the Digital Cinema Package assets will not be checked for integrity during download.</p> <p>This option will reduce ingestion time but decrease the reliability of the ingestion.</p>	<div data-bbox="373 1331 646 1388" data-label="Section-Header">Allow full speed ingest to CineCache</div>	<p>With this option enabled, content ingest to the <u>CineCache</u> will take place at full speed.</p> <p>NOTE: This option should ONLY be used when 'CineCache' is chosen as the primary storage in Storage Type and the Priority is set to '<i>Attached Storage</i>' (for centralized playback with SCL Servers).</p> <p>In case, the Storage Type chosen is '<i>Portable/Enterprise Storage</i>', content ingest will take place at normal speed.</p>
<div data-bbox="386 1031 633 1087" data-label="Section-Header">Remove corrupted assets during ingest</div>	<p>With this option enabled, any corrupted assets encountered during ingestion are removed.</p>						
<div data-bbox="381 1140 638 1197" data-label="Section-Header">Skip checking assets during ingest</div>	<p>With this option enabled, the Digital Cinema Package assets will not be checked for integrity during download.</p> <p>This option will reduce ingestion time but decrease the reliability of the ingestion.</p>						
<div data-bbox="373 1331 646 1388" data-label="Section-Header">Allow full speed ingest to CineCache</div>	<p>With this option enabled, content ingest to the <u>CineCache</u> will take place at full speed.</p> <p>NOTE: This option should ONLY be used when 'CineCache' is chosen as the primary storage in Storage Type and the Priority is set to '<i>Attached Storage</i>' (for centralized playback with SCL Servers).</p> <p>In case, the Storage Type chosen is '<i>Portable/Enterprise Storage</i>', content ingest will take place at normal speed.</p>						

4	[Portable/Enterprise Storage]	
		<p>The following actions can be performed:</p> <ul style="list-style-type: none">• Create new RAID array• Hard disk information• RAID filesystem check• Storage performance• Increase Rebuild Speed• High bitrate playback test <p>(Refer to Section 4.6.3.1 for more details on the above-listed actions)</p>

Table 63

* SCL or Streaming Content Library Servers, which are used in the GDC Cinema Automation 2.0 environment.

4.6.3.1 Actions of Portable/Enterprise Storage

4.6.3.1.1 Create a new RAID array

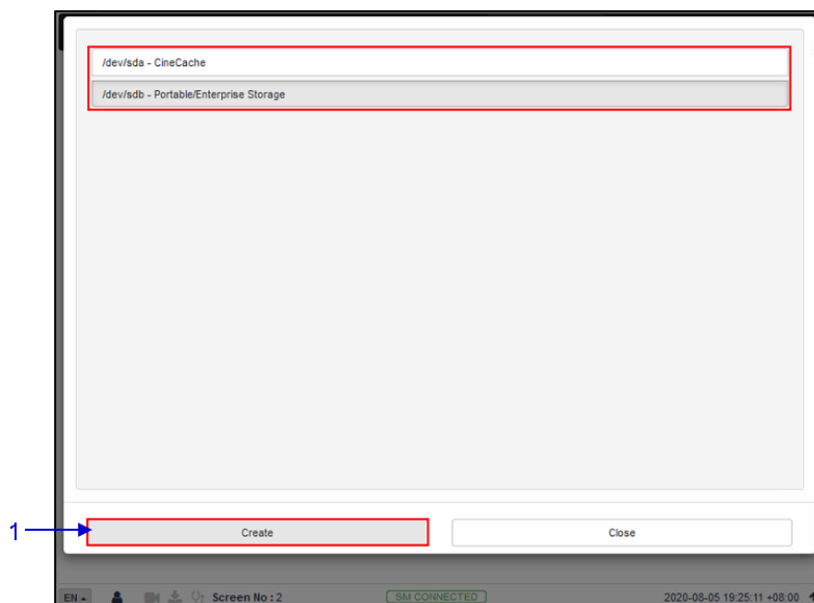


Figure 124:

SN	Name	Function Description
1	[Create new RAID array]	<p>Clicking on the Create new RAID array option opens a pop-up window. Select the drive name and click on Create.</p> <p>The RAID creation process will be initiated and the progress will be shown.</p> <p>Once complete, click on Close to return to the Storage sub-tab.</p>

Table 64

4.6.3.1.2 Hard Disk Information

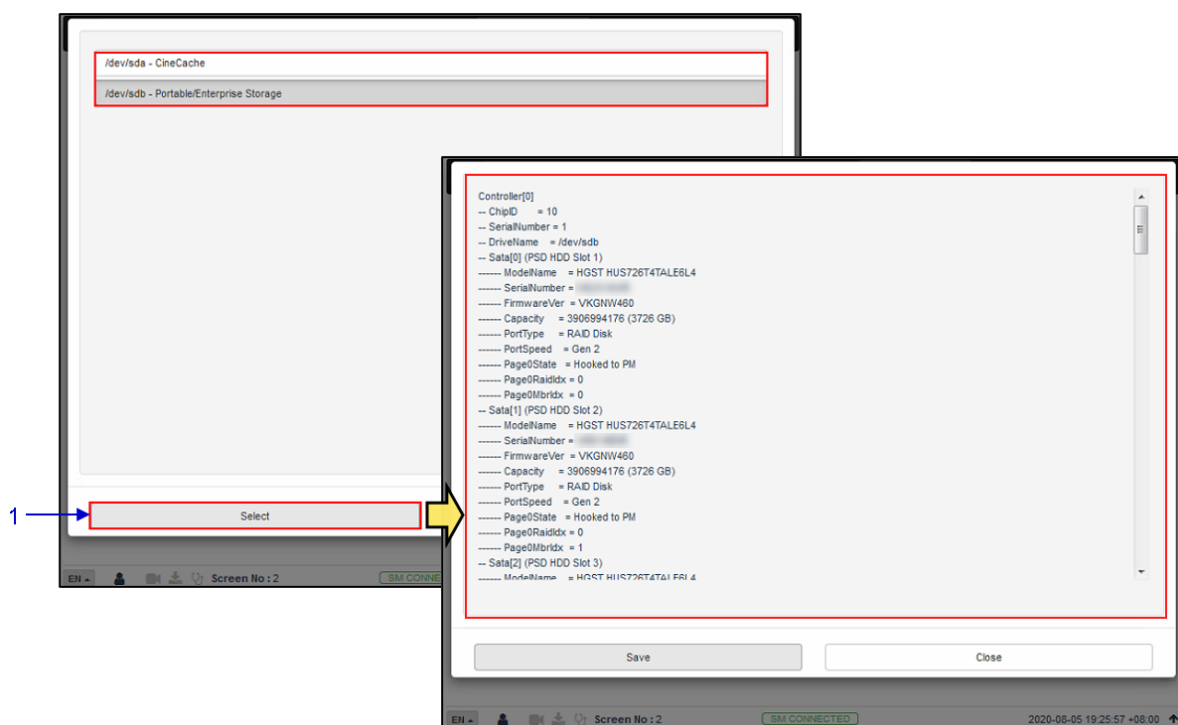


Figure 125:

SN	Name	Function Description
1	[Hard disk information]	<p>Clicking on the Hard Disk information option opens a pop-up window. Select the disk and click on Select.</p> <p>Information about the selected disk will be displayed on-screen.</p> <p>Click on Save to save the results to the local computer/laptop (in the form of a .txt file). Click on Close to return to the Storage menu.</p>

Table 65

4.6.3.1.3 RAID filesystem check

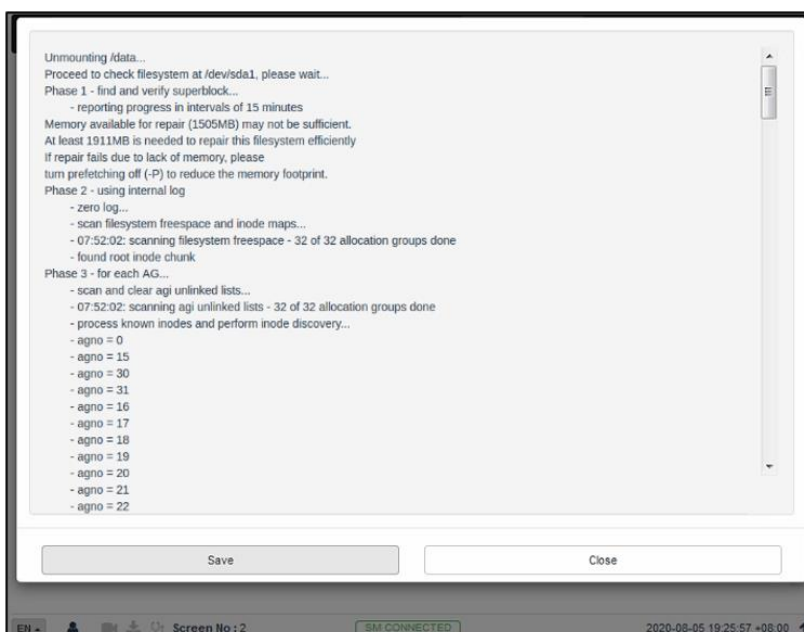


Figure 126:

SN	Name	Function Description
1	[RAID Filesystem check]	<p>Clicking on the RAID Filesystem check option opens a pop-up window and the file system check process will be initiated.</p> <p>Information about the filesystem check progress will be displayed on-screen.</p> <p>Click on Save to save the results to the local computer/ laptop (in the form of a .txt file). Click on Close to return to the Storage menu.</p>

Table 66

4.6.3.1.4 Storage Performance

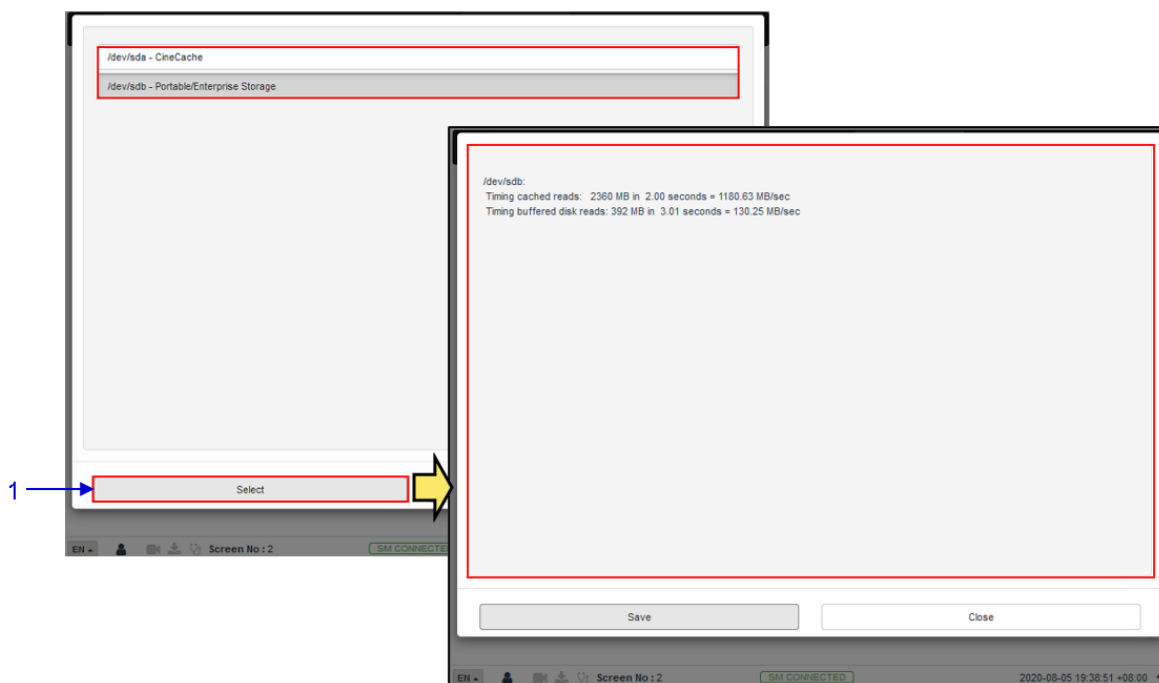


Figure 127

SN	Name	Function Description
1	[Storage performance]	<p>Clicking on the Storage Performance option opens a pop-up window.</p> <p>Select the disk and click on Select. Information about the hard disk performance will be displayed on-screen.</p> <p>Click on Save to save the results to the local computer/laptop (in the form of a .txt file). Click on Close to return to the Storage menu.</p>

Table 67

4.6.3.1.5 Increase Rebuild Speed

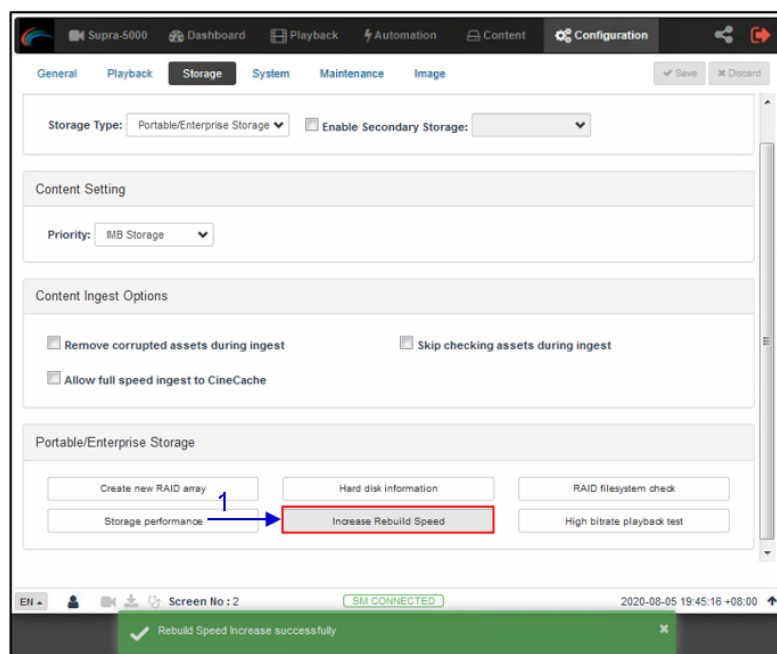


Figure 128

SN	Name	Function Description
1	[Increase Rebuild Speed]	<p>If the RAID array is being rebuilt during playback, the rebuild speed will slow down significantly.</p> <p>To resume the highest rebuild speed after playback is finished, click on Increase Rebuild Speed.</p> <p>This will immediately set the RAID array to rebuild at the highest speed.</p>

Table 68

4.6.3.1.6 High bitrate playback test

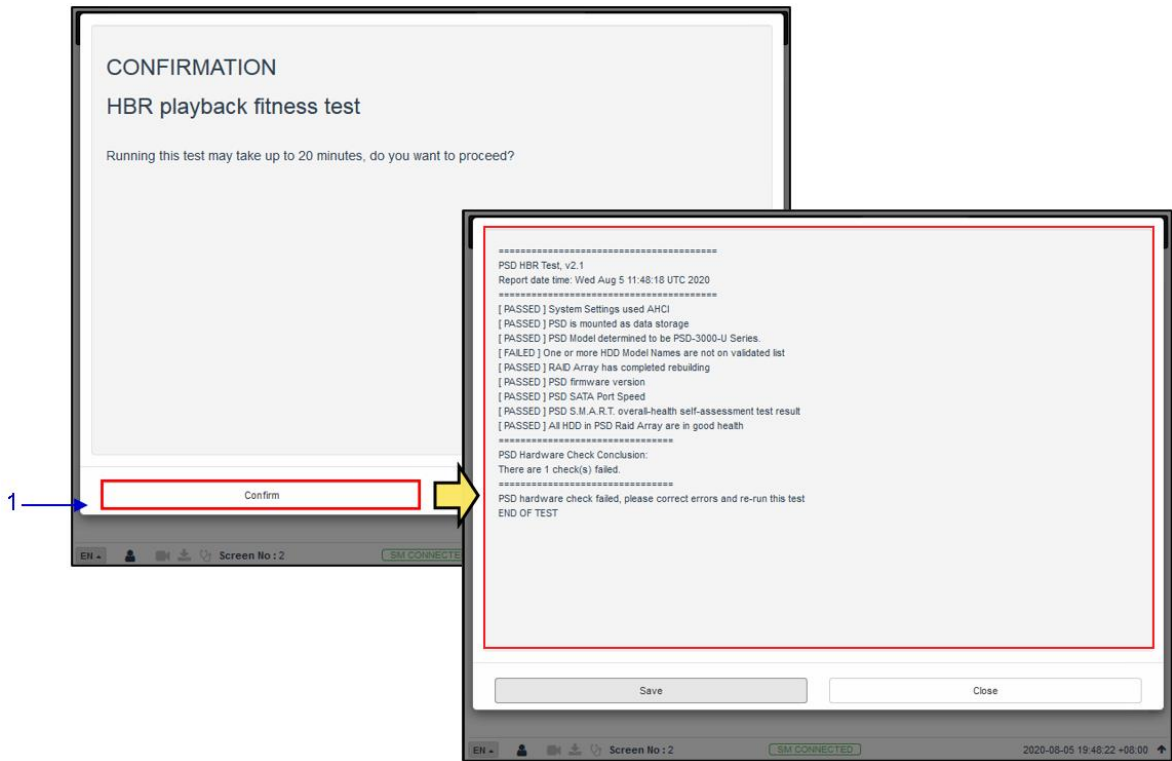


Figure 129:

SN	Name	Function Description
1	[High bitrate playback test]	<p>Clicking on the High bitrate playback test option opens a pop-up window.</p> <p>Click on Confirm to initiate the test. The progress will be displayed on-screen.</p> <p>Once complete, click on Save to save the results to the local computer/ laptop (in the form of a .txt file). Click on Close to return to the Storage menu.</p>

Table 69

4.6.4 Configuration → System

The **System** sub-tab can be used to configure the system settings on the DCMB.

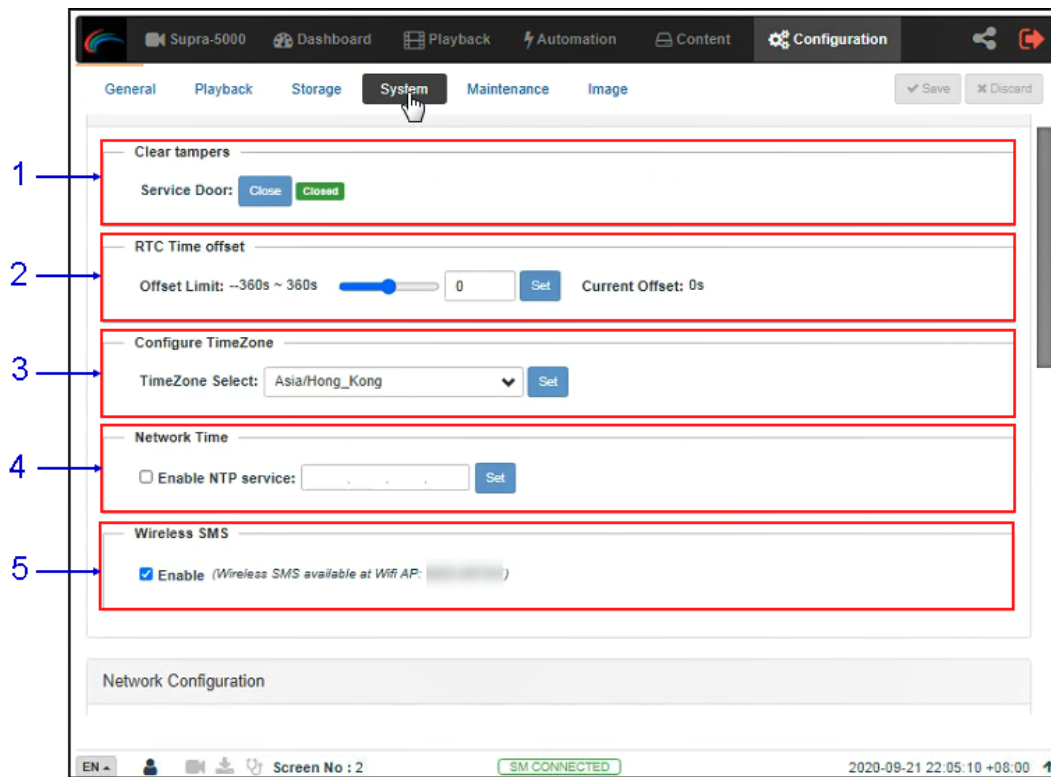


Figure 130:

SN	Name	Function Description
1	[Clear tampers]	
	Service Door	<p>Displays the Service Door tamper status of the DCMB.</p> <p>Click the Close button to clear the Service Door tamper.</p> <p>NOTE: The DCMB will not allow playback unless this tamper is cleared.</p>
2	[RTC Time offset]	
	Offset Limit	<p>Make adjustments to the time on the DCMB.</p> <p>In accordance with DCI specifications, the DCMB allows a time offset from <u>-360s to +360s i.e., plus or minus 6 minutes, per calendar year.</u></p>

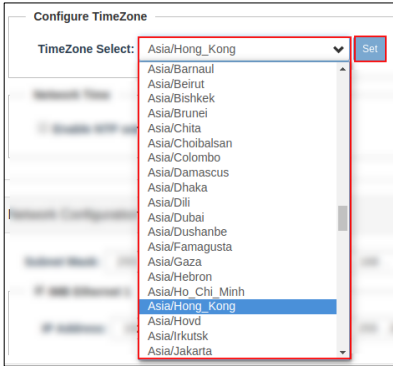
3	<p>[Configure TimeZone]</p> <div data-bbox="428 279 620 304"> <p>TimeZone Select</p> </div> <div data-bbox="695 279 1369 333"> <p>Select a specific area/country from the dropdown list and click on the Set button to configure the timezone.</p> </div> <div data-bbox="834 363 1224 726">  </div>
---	--

Table 70

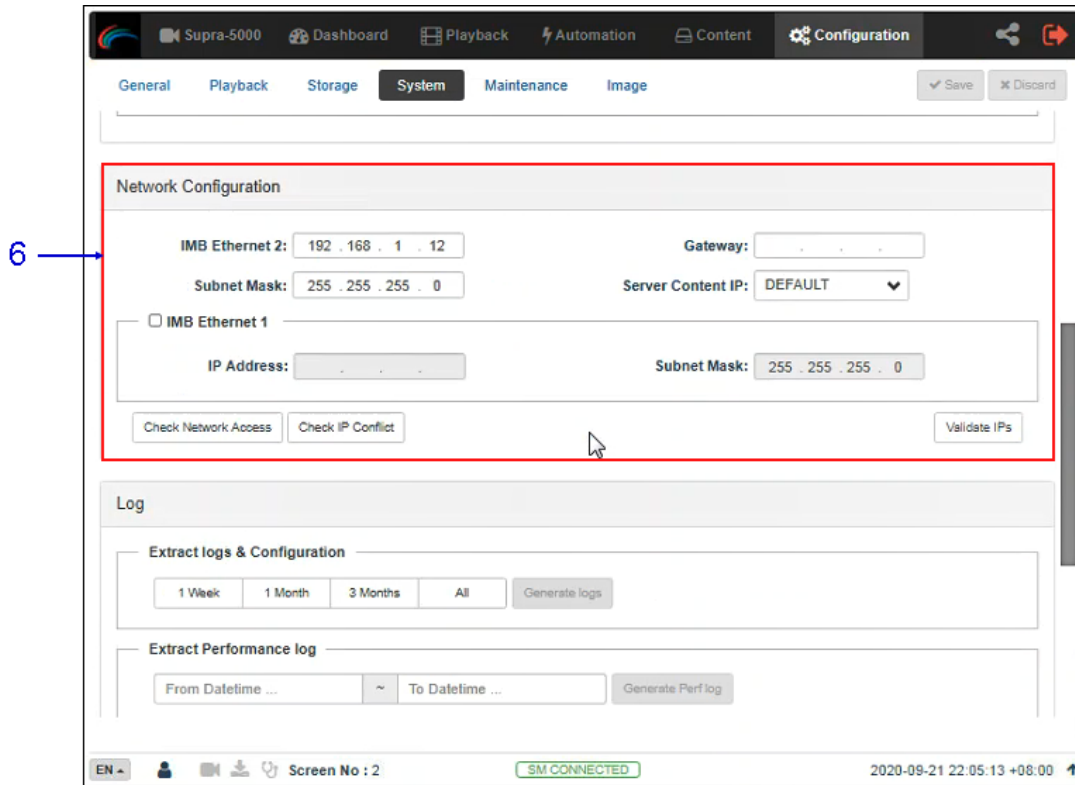



Figure 131:

SN	Name	Function Description
6	[Network Configuration]	
	Subnet Mask	Specify the subnet mask.
	Gateway	Specify the network gateway for the DCMB.
	IMB Ethernet 2	This is the main IP address of the DCMB. The DCMB Web UI can be accessed using this IP address.
	IMB Ethernet 1	Enable this to set up a secondary network on the DCMB. This is usually connected to a Content network. When it is checked, the IP address, Subnet Mask, Server Content IP can be set.
	Validate IP's	After setting the above network configurations, click Validate IP's to check the correctness of the IPs entered. A pop-up opens displaying the result. <div data-bbox="844 1717 1201 1885">  </div>

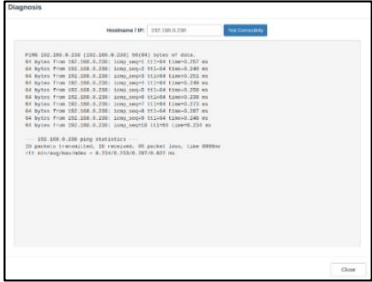
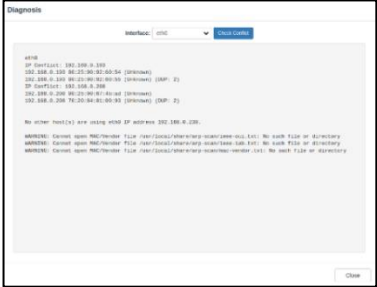
	<p>Check Network Access</p>	<p>Click to open the pop-up window. Enter the Hostname / IP and click Test Connectivity.</p> 
	<p>Check IP Conflict</p>	<p>Click to open the pop-up window. Select Interface from dropdown "eth0" or "eth1" and click Check Conflict.</p> 

Table 71

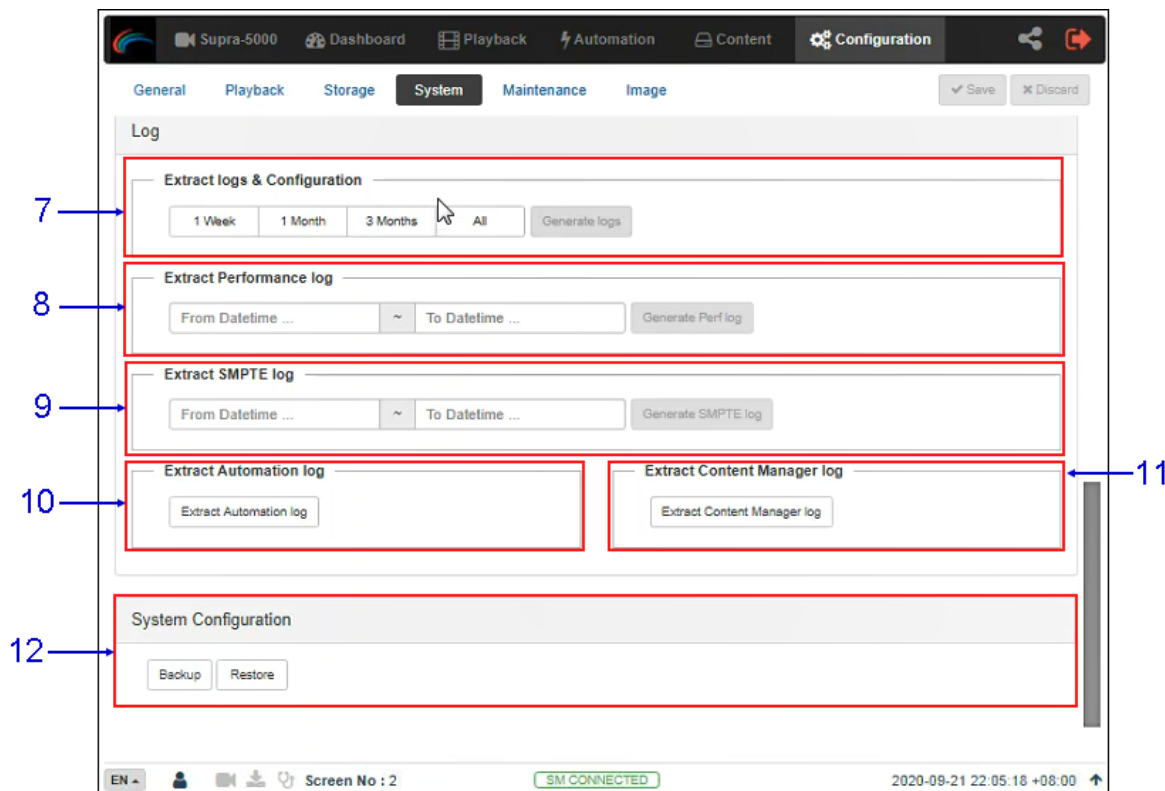


Figure 132:

SN	Name	Function Description
7	[Extract logs and configuration]	<p>This allows the operator to extract debug logs from the DCMB for analysis by Espedeo personnel.</p> <p>Time duration includes <i>1 Week, 1 Month, 3 Months and All</i>.</p> <p>After selecting the time duration, the Generate logs button will be enabled. A pop-up window will be shown to display the log extraction progress.</p> <p>After log generation, a pop-up window will be shown to save or open the extracted file.</p>
8	[Extract Performance Log]	<p>This allows the operator to extract performance logs from the DCMB.</p> <p>After selecting the Date/Time, the Generate Pref Log button will be enabled. A pop-up window will be shown to display the log extraction progress.</p> <p>After log generation, a pop-up window will be shown to save or open the extracted file.</p>

9	[Extract SMPTE Log]	<p>This allows the operator to extract SMPTE audit logs from the DCMB.</p> <p>After selecting the Date/Time, the Generate SMPTE Log button will be enabled. A pop-up window will be shown to display the log extraction progress.</p> <p>After log generation, a pop-up window will be shown to save or open the extracted file.</p>
10	[Extract Automation Log]	<p>Extract automation logs from the DCMB.</p> <p>After clicking the Extract Automation Log button, a pop-up window will be shown to save the file.</p>
11	[Extract Content Manager Log]	<p>Extract Content Management logs from the DCMB.</p> <p>After clicking the Extract Content Manager Log button, a pop-up window will be shown to save the file.</p>
11	[System Configuration]	
	<p>Backup</p> <p>Restore</p>	<p>Backup and Restore options are available.</p> <p>The Backup option saves the DCMB configuration to a backup file. A pop-up window will be shown to save the configuration file.</p> <p>The Restore option will restore the DCMB configuration from a backup file. Users can upload the configuration files.</p>

Table 72

4.6.5 Configuration → Maintenance

The **Maintenance** sub-tab can be used to install software upgrades for the DCMB. Warranty information is also displayed under this sub-tab.

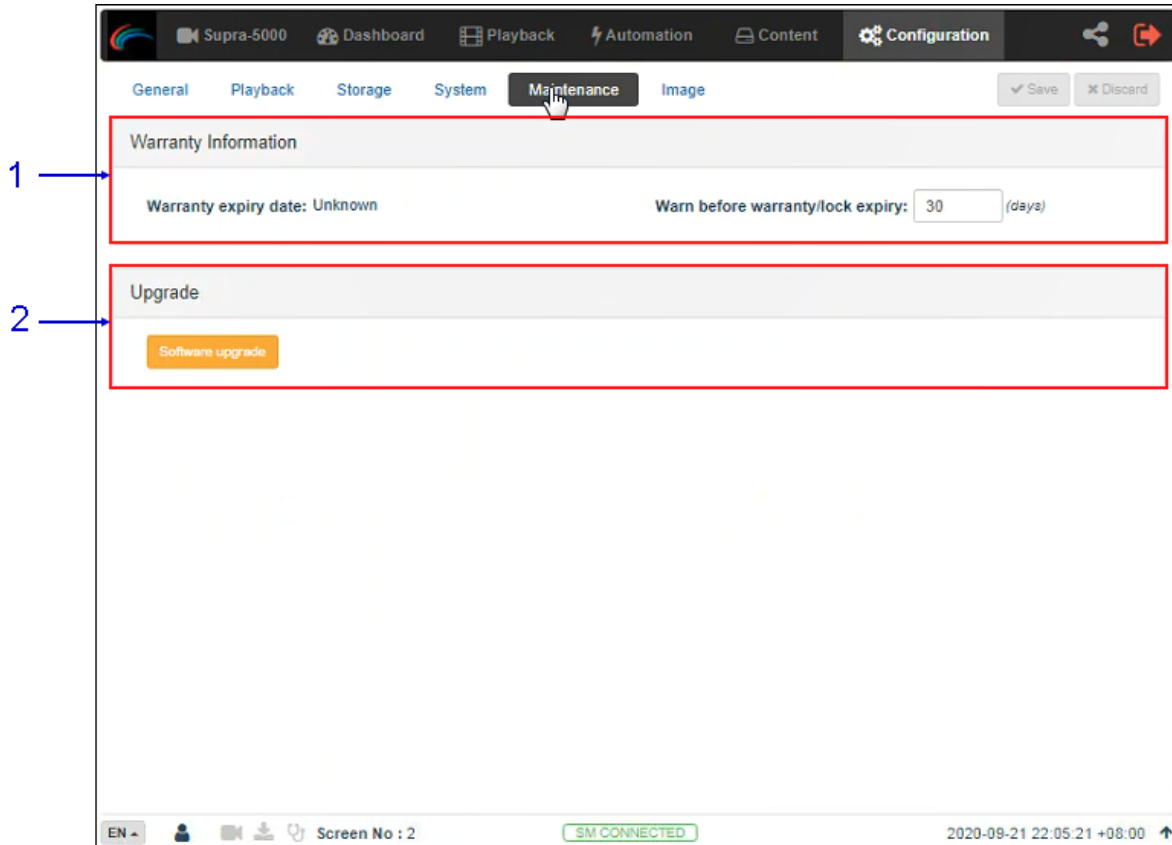


Figure 133:

SN	Name	Function Description
1	[Warranty Information]	
	Warranty expiry date	The warranty expiry date is shown.
	Warn before warranty/lock expiry	The number of days in advance to issue a warning before warranty/lock expiry can be set.
2	[Upgrade]	
	Software Upgrade	When this button is clicked, a pop-up window will be shown with an option to choose and upload any Espedeo issued upgrade files. Refer to Section 4.6.5.1 for more information on how to perform a software upgrade on the DCMB.

Table 73

4.6.5.1 Maintenance → Software Upgrade

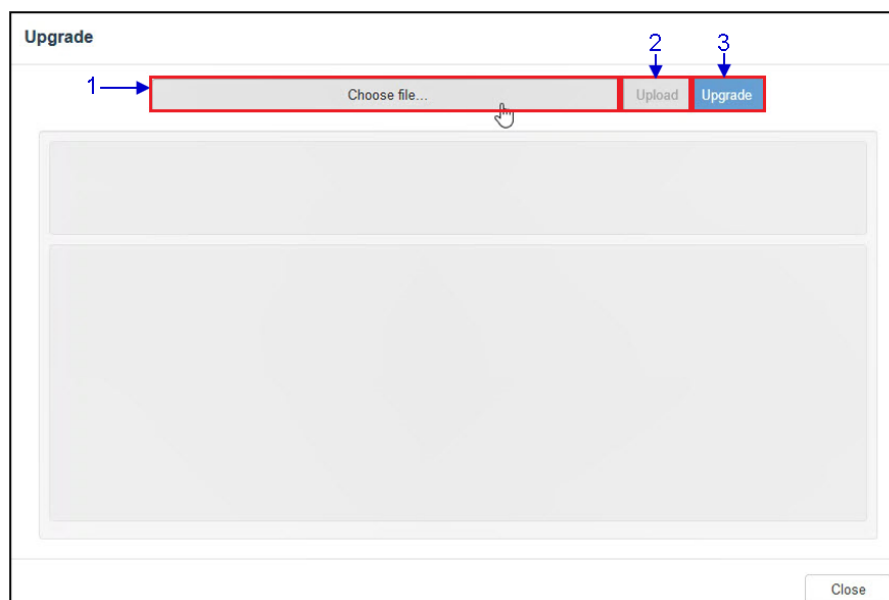
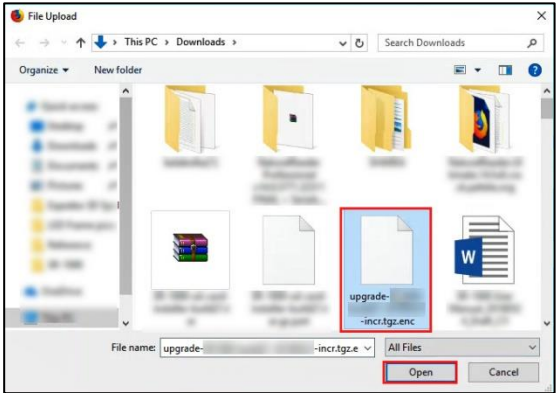
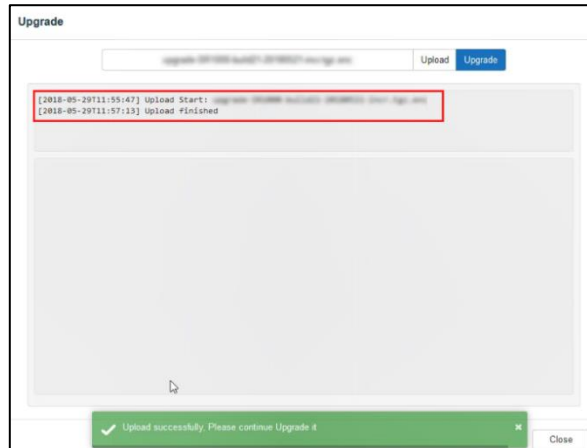


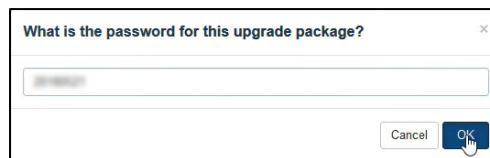
Figure 134:

SN	Description
1	<p>To initiate the DCMB software upgrade process, the relevant upgrade file needs to be downloaded to the laptop which is being used to access the DCMB Web UI.</p> <p>Upon clicking on the Software Upgrade button, the Upgrade screen will be displayed. Click on Choose file to select the upgrade file from the folder where it has been downloaded and click on Open.</p> 

- 2 Once the upgrade file has been selected, the Upload button will be enabled. Click on the **Upload** button to upload the file to the DCMB. The console window will display the status of the file upload, as shown. An *'Upload Successful'* message will be shown after the file upload is complete.



- After the upload is complete, click on the **Upgrade** button to begin the upgrade process. A pop-up window will be shown asking for the password for the upgrade package.



Please contact Espedeo Holding Ltd. in case you do not know the password for the upgrade file.
Click on the **OK** button, after entering the correct password.

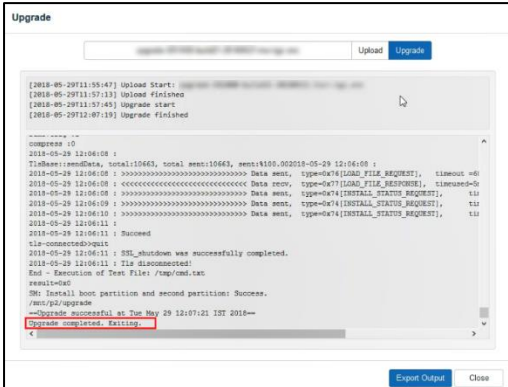
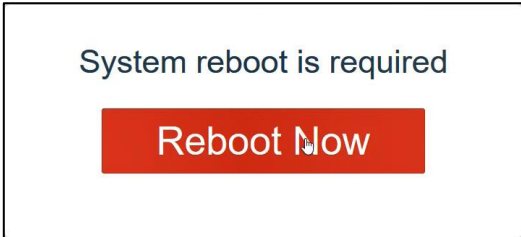
4	<p>The Upgrade process will be initiated. The console window will display the progress of the upgrade process. Once the upgrade is complete, the console window will display the “<i>Upgrade completed</i>” message. The Export Output option can be used to export and download the console logs in the form of a .txt file.</p> 
5	<p>To complete the software upgrade process, the DCMB needs to be rebooted. A pop-up message will be displayed which allows the user to reboot the system, by clicking on the Reboot Now button.</p> 

Table 74

4.6.6 Configuration → Image

The **Image** sub-tab can be used to set up test patterns, configure 3D settings, set masking and configure settings related to color processing and color correction for the projector. These options are to be used during the initial setup and calibration of the Supra-5000 projector.

CAUTION: The options present under the **Image** sub-tab are NOT intended to be used by normal users/operators and they should refrain from changing any settings present under this tab. These settings are meant to be used specifically by personnel who are authorized/certified to install the projector, for the initial setup and calibration.

4.6.6.1 Image → Image Source

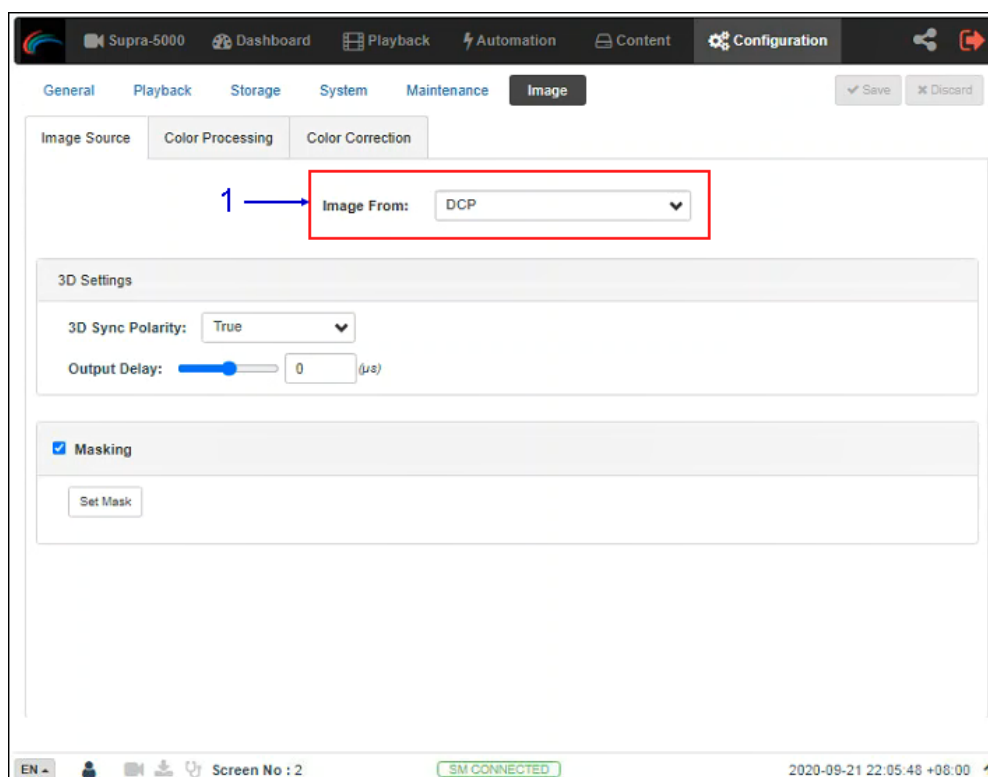


Figure 135:

SN	Name	Function Description
1	[Image From:]	<p>Allows the user to select the image source for the projector. This drop-down has two options:</p> <ul style="list-style-type: none"> DCP Test Pattern <p>The DCP option should be selected for playback of compliant DCP content, during the normal operation of the projector.</p>

		<p>The Test Pattern option should be selected during projector setup when the output of the projector needs to be tested.</p> <p>Refer to Section 4.6.6.1.1 for details on selecting a test pattern as the image source for the projector.</p>
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Table 75

4.6.6.1.1 Selecting a Test Pattern

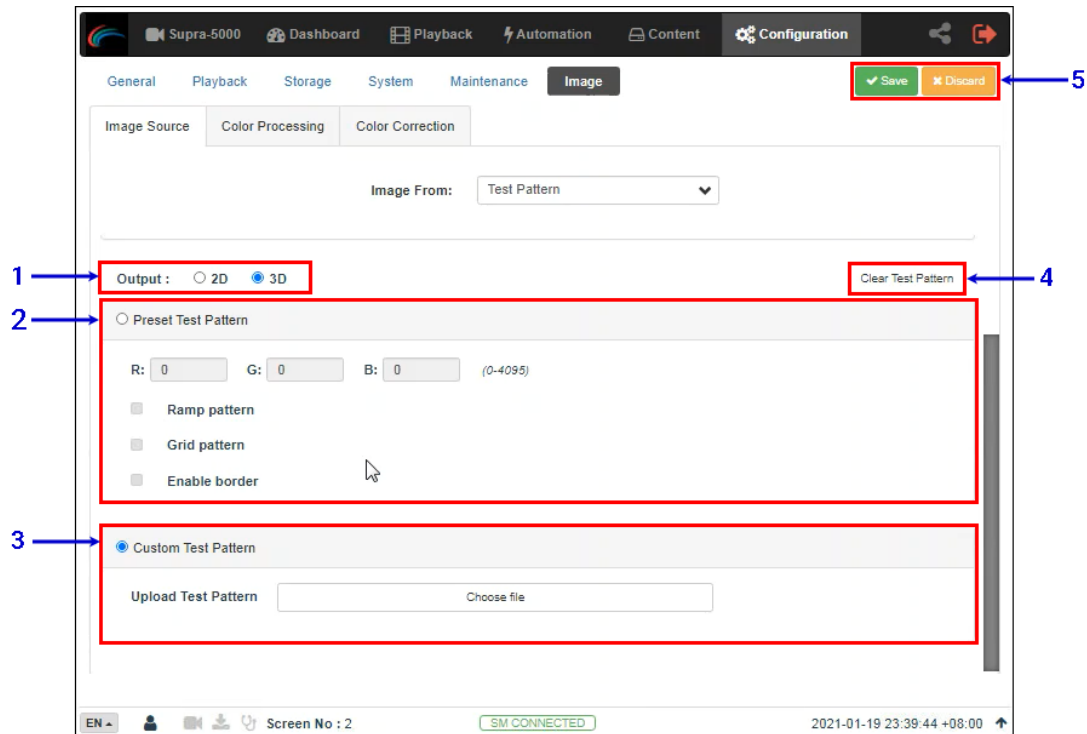


Figure 136

SN	Function Description	
1	[Output:]	Allows the user to switch the projector to '2D' or '3D' mode when the test pattern is being displayed.
2	[Preset Test Pattern]	<p>R: G: B:</p> <p>When enabled, a preset test pattern will be created based on the color values entered and options selected by the user</p> <p>These values define the color of the test pattern displayed. Each field accepts a 12-bit number within the range of <u>0 to 4095</u>.</p>

	<p>Ramp pattern</p> <p>Based on the values entered in the R: G: B: fields, a test pattern with the corresponding color will be created.</p> <p>Click on the Save button without selecting any additional test pattern to generate a plain screen with RGB value entered.</p> <p>Grid pattern</p> <p>This option can be checked to display a ramp pattern that will be generated horizontally across the screen, based on the RGB values entered. The RGB value of the left corner of the screen will be '0:0:0' and that of the right corner of the screen will be the RGB values entered.</p> <p>Enable border</p> <p>This option can be checked to display a White grid pattern on top of the selected test pattern.</p> <p>This option can be checked to display a White border on top of the selected test pattern.</p> <p>NOTE: The Ramp Pattern, Grid Pattern and Enable border options can be enabled/disabled in any desired combination and will be superimposed on the color test pattern displayed on the projector screen.</p>
3	[Custom Test Pattern]
	<p>Upload Test Pattern</p> <p>Allows the user to upload a custom test pattern file from the PC/Laptop being used to access the Web UI.</p> <p>Click on the Choose file button to browse and select the custom test pattern file from the folder where it has been stored. Once selected, click Open.</p> <p>For more details regarding custom test pattern files; contact your vendor.</p>
4	<p>[Clear Test Pattern]</p> <p>Click on the Clear Test Pattern button to clear the test pattern displayed on-screen.</p>
5	<p>[Save / Discard]</p> <p>Click on the Save button to apply the configured preset/test pattern and project it on-screen.</p> <p>Click on the Discard button to discard the changes.</p>

Table 76

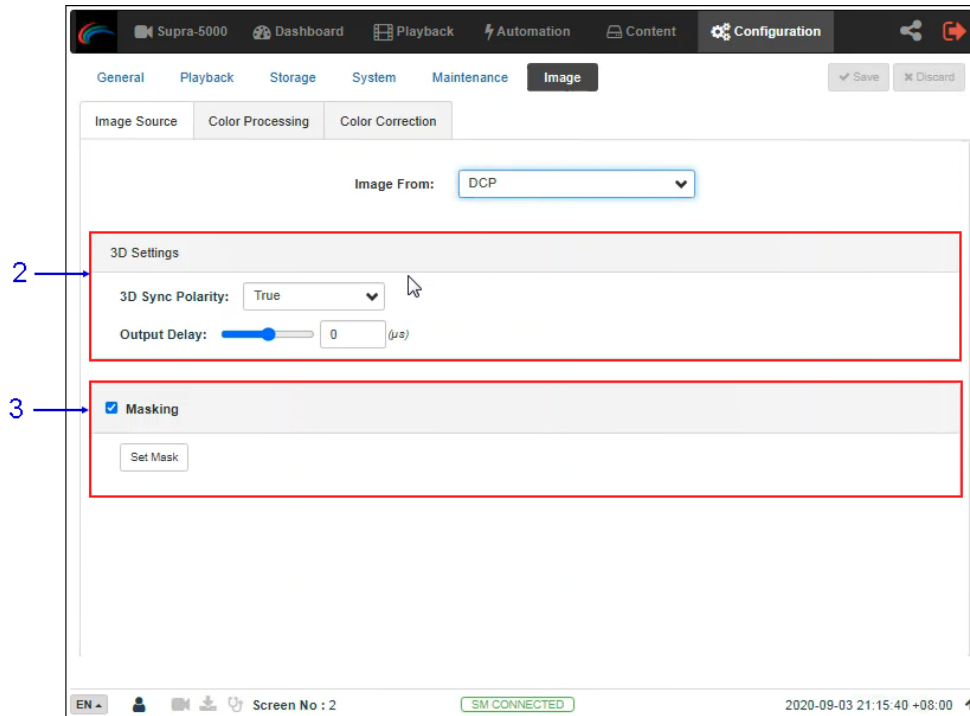


Figure 137:

SN	Function Description	
2	[3D Settings]	
	<p>3D Sync Polarity:</p> <p>Indicates the polarity of the L/R output reference signal. The L/R output reference signal provides an external reference to the start of dark time for each displayed frame as well as specifies which frame of eye data (Left or Right) is being displayed.</p> <p>NOTE: To set up the PM-2000B 3D System with the Supra-5000 Projector, the 3D Sync Polarity value should be set to “True”.</p> <p>Output Delay:</p> <p>Indicates the output reference delay value. The output delay shifts the output reference signal which results in the best 3D viewing with the least possible crosstalk between eyes.</p> <p>NOTE: To set up the PM-2000B 3D System with the Supra-5000 Projector, the Output Delay value should be set to “-120μs”.</p>	

3	<div data-bbox="440 195 550 224" data-label="Section-Header"><p>[Masking]</p></div> <div data-bbox="440 279 550 308" data-label="Section-Header"><p>Set Mask</p></div> <div data-bbox="646 273 1385 331" data-label="Text"><p>Allows the user to set the masking for the projected image. To enable masking, select the Masking checkbox and click the Set Mask button.</p></div> <div data-bbox="709 369 1330 709" data-label="Image"></div> <div data-bbox="646 747 1385 871" data-label="Text"><p>To adjust the screen masking, drag the adjustment points to the desired coordinates or curvature. You can also click on a particular adjustment point and enter the corresponding 'X and Y' or 'Curve' values. Click on the Reset All button to reset all the adjustment points.</p></div> <div data-bbox="646 907 1312 961" data-label="Text"><p>Click on the Save button to apply the masking to the projected image.</p></div> <div data-bbox="646 989 1385 1152" data-label="Text"><p>NOTE: The screen masking adjustments which are done from the Masking section (Configuration → Image → Image Source) will not override or be saved to the Screen file of the currently selected Macro. These masking adjustments will be lost as soon as the user selects the same or a different Macro from the Macro Settings section of the Supra Command Center.</p></div>
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Table 77:

4.6.6.2 Image → Color Processing

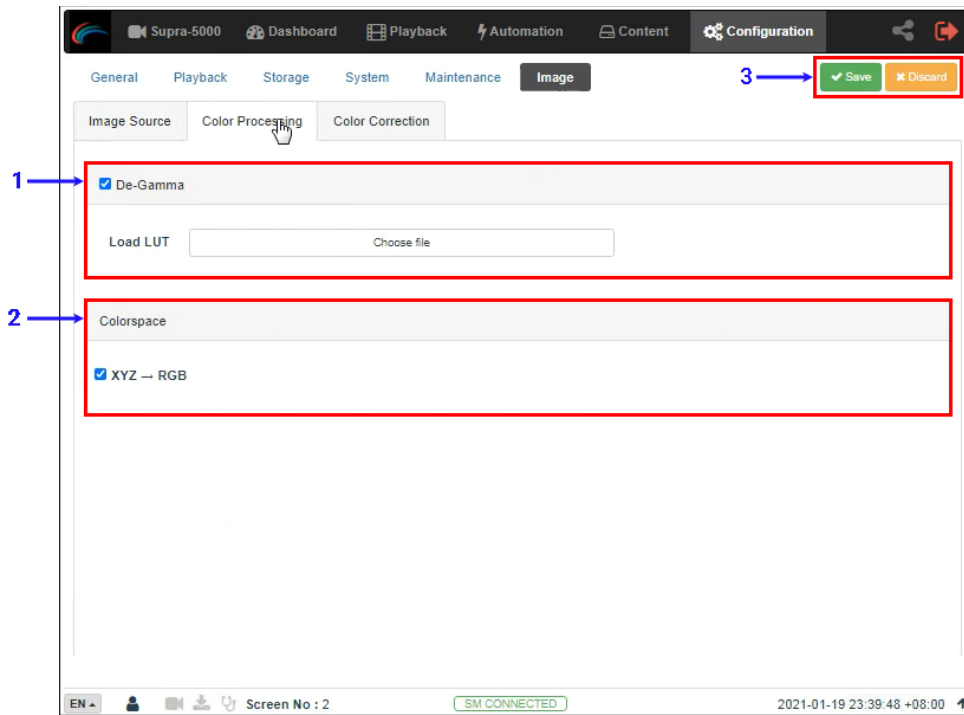


Figure 138:

SN	Function Description	
1	[De-Gamma]	
	Load LUT	<p>This option should be enabled for DCP playback whereas this option should remain unchecked during projector setup when test patterns are used to calibrate the projector.</p> <p>When the De-Gamma option is enabled, the gamma curve from the last loaded LUT will be applied. If no LUT file has ever been uploaded, then the default LUT will be applied.</p> <p>Alternately, the user can upload a custom Look Up Table (LUT) file to change the Gamma curve file from the laptop being used to access the DCMB Web UI.</p> <p>Click on the Choose file button to browse and select the custom LUT file from the folder where it has been stored. Once selected, click Open.</p> <p>Please contact Espedeo Holdings Ltd. for more details regarding custom LUT files.</p>

2	[Colorspace]	
	XYZ → RGB	<p>This option should be enabled when the image source is XYZ. If not, then this option should remain unchecked.</p> <p>Since DCPs are usually XYZ, this option should be enabled for DCP playback whereas this option should remain unchecked during projector setup when test patterns are used to calibrate the projector.</p>
3	[Save / Discard]	<p>Click on the Save button to save the changes to the color processing options.</p> <p>Click on the Discard button to discard the changes.</p>

Table 78

4.6.6.3 Image → Color Correction

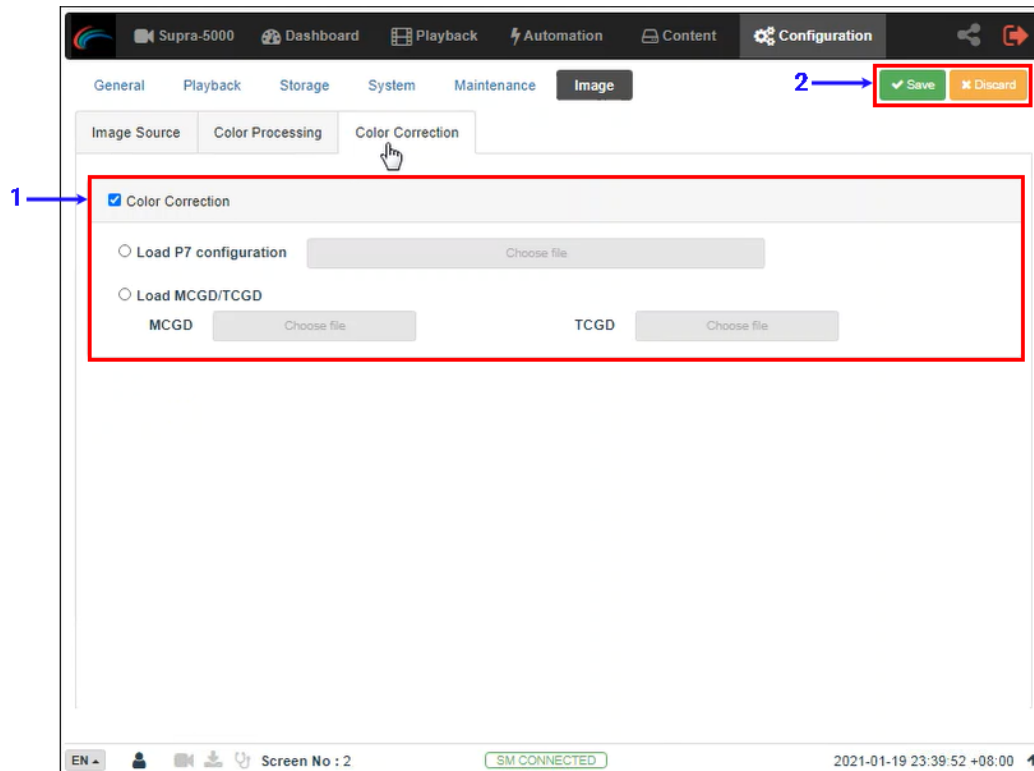


Figure 139:

SN	Function Description	
1	[Color Correction]	
	<p>Load P7 Configuration</p> <p>Load MCGD/TCGD</p>	<p>This option can be enabled/disabled as required during projector setup when test patterns are used to calibrate the projector whereas this option should remain enabled during DCP playback.</p> <p>When the Color Correction option is enabled; the user can choose to upload either of the files mentioned below, from the laptop being used to access the DCMB Web UI:</p> <ul style="list-style-type: none"> A custom <u>P7 Configuration</u> file with the desired color correction values OR The <u>MCGD</u> (Measured Color Gamma Data) and <u>TCGD</u> (Target Color Gamma Data) files allow the system to calculate the color correction values needed. <p>Click on the Choose file button to browse and select the custom configuration file from the folder where it has been stored. Once selected, click Open.</p>

		<p>If the Color Correction option is enabled and a custom P7 Configuration file OR MCGD/TCGD files are not selected, then the last loaded P7 Configuration OR MCGD/TCGD files will be applied for color correction.</p> <p>Please contact Espedeeo Holdings Ltd. for more details regarding custom P7 Configuration and MCGD/TCGD files.</p>
2	[Save / Discard]	<p>Click on the Save button to save the changes to the color processing options.</p> <p>Click on the Discard button to discard the changes.</p>

Table 79

5. Error Handling and Troubleshooting

Table 80 lists all the fault codes related to the Espedeo Supra-5000 that can be shown under the "Equipment Information" section of the Home screen. You can get detailed information related to a particular Fault Code, using the **Diagnostic → Query Error Code** function (refer to **Section 3.2.5**):

Code	Module	Fault Description	Possible Cause	Solution
80001	DCMB	The ddp1 color wheel failure.	The color wheel is functioning abnormally.	<ol style="list-style-type: none"> 1. Check whether the color wheel drive cable (J42) on the DCMB and the color wheel feedback cable (J31) on the backplane are loose. 2. Check whether the diffuser wheel module of the light source (color wheel adapter board connection cable and diffuser wheel motor speed) works properly. 3. Restart the projector.
80002	DCMB	The ddp1 rotation speed of the color wheel is too low.	The rotation speed of the color wheel is too low.	Check whether the color wheel model matches the system or the color wheel is abnormal.
80003	DCMB	The ddp1 rotation speed of the color wheel is too high.	The rotation speed of the color wheel is too high.	Check whether the color wheel model matches the system or the color wheel is abnormal.
81001	DCMB	The ddp1 system module initialization failure.	The system module initialization has failed.	Restart the projector or replace the DCMB board.
81002	DCMB	The ddp1 system monitor initialization failure.	The system monitoring module initialization has failed.	Restart the projector or replace the DCMB board.
81003	DCMB	The ddp1 circuit initialization failure.	The ddp1 circuit initialization has failed.	Restart the projector or replace the DCMB board.
81004	DCMB	The ddp1 color wheel sequence failure.	The color wheel could not be enabled.	Check whether the color wheel drive cable (J42) on the DCMB and the color wheel feedback cable (J31) on the backplane are loose.
81005	DCMB	The ddp1 DMD initialization failure.	The DMD initialization has failed.	Check whether the DCMB ddp1 DMD flat cable (J43 and J44) is loose.
81006	DCMB	The ddp1 DMD/ASIC incompatibility failure.	The DMD does not match the system.	Check whether the DCMB ddp1 DMD model or software matches the system.
81007	DCMB	The ddp1 Current DCP does not support 6: 2 frame rate.	The current DCP only supports 4: 2 frame rate.	The projector has automatically corrected the 3D frame rate to 4: 2.
82001	DCMB	The ddp1 DAD2000 failure.	The DAD2000 could not be enabled.	Check the DCMB ddp1 DMD flat cable (J43 and J44) or restart the projector.
82002	DCMB	The ddp1 EEPROM failure.	The EEPROM read/write operation is abnormal.	<ol style="list-style-type: none"> 1. Check whether the DMD control firmware version is correct. 2. Replace the DCMB board.
83001	DCMB	The ddp1 serial communication failure.	The ddp1 has failed to communicate with the PIB board.	<ol style="list-style-type: none"> 1. Restart the projector 2. Check whether the flat cable (J47) from the backplane (CON2) to the DCMB board is loose or replace the flat cable. 3. Replace the PIB board.

90001	DCMB	The ddp2 color wheel failure.	The color wheel is functioning abnormally.	1. Check whether the color wheel drive cable (J42) on the DCMB and the color wheel feedback cable (J31) on the backplane are loose. 2. Check whether the diffuser wheel module of the light source (color wheel adapter board connection cable and diffuser wheel motor speed) is functioning properly. 3. Restart the projector.
90002	DCMB	The ddp2 rotation speed of the color wheel is too low.	The rotation speed of the color wheel is too low.	Check whether the color wheel model matches the system or the color wheel is abnormal.
90003	DCMB	The ddp2 rotation speed of the color wheel is too high.	The rotation speed of the color wheel is too high.	Check whether the color wheel model matches the system or the color wheel is abnormal.
91001	DCMB	The ddp2 system module initialization failure.	The system module initialization has failed.	Restart the projector or replace the DCMB board.
91002	DCMB	The ddp2 system monitor initialization failure.	The system monitoring module initialization has failed.	Restart the projector or replace the DCMB board.
91003	DCMB	The ddp2 circuit initialization failure.	The ddp2 circuit initialization has failed.	Restart the projector or replace the DCMB board.
91004	DCMB	The ddp2 color wheel sequence failure.	The color wheel could not be enabled.	Check whether the color wheel drive cable (J42) on the DCMB and the color wheel feedback cable (J31) on the backplane are loose.
91005	DCMB	The ddp2 DMD initialization failure.	The DMD initialization has failed.	Check whether the DCMB ddp2 DMD flat cable (J45 and J46) is loose.
91006	DCMB	The ddp2 DMD/ASIC incompatibility failure.	The DMD does not match the system.	Check whether the DCMB ddp2 DMD model or software matches the system.
91007	DCMB	The ddp2 Current DCP does not support 6: 2 frame rate.	The current DCP only supports 4: 2 frame rate.	The projector has automatically corrected the 3D frame rate to 4: 2.
92001	DCMB	The ddp2 DAD2000 failure.	The DAD2000 could not be enabled.	Check the DCMB ddp2 DMD flat cable (J45 and J46) or restart the projector.
92002	DCMB	The ddp2 EEPROM failure.	The EEPROM read/write operation is abnormal.	1. Check whether the DMD control firmware version is correct. 2. Replace the DCMB board.
93001	DCMB	The ddp2 serial communication failure.	The ddp2 failed to communicate with the PIB board.	1. Restart the projector 2. Check whether the flat cable (J47) from the backplane (CON2) to the DCMB board is loose or replace the flat cable. 3. Replace the PIB board.
20000	Light Source	Undefined alarm and error.		
20001	Light Source	The phosphor motor internal rotation speed_Low.	1. The phosphor motor drive of the PIB board is faulty. 2. The phosphor motor is faulty.	1. Replace the PIB board. 2. Replace the light engine (phosphor motor).
20002	Light Source	The phosphor motor internal rotation speed_Too low.	1. The phosphor motor drive of the PIB board is faulty. 2. The cable is not properly connected. 3. The phosphor motor is faulty.	1. Replace the PIB board. 2. Replace the cable between the backplane and the color wheel adapter board. 3. Replace the light engine (phosphor motor).
20003	Light Source	The phosphor motor internal rotation speed_High.	1. The phosphor motor drive of the PIB board is faulty. 2. The phosphor motor is faulty.	1. Replace the PIB board. 2. Replace the light engine (phosphor motor).

20004	Light Source	The phosphor motor internal rotation speed_Too high.	1. The phosphor motor drive of the PIB board is faulty. 2. The cable is not properly connected. 3. The phosphor motor is faulty.	1. Replace the PIB board. 2. Replace the cable between the backplane and the color wheel adapter board. 3. Replace the light engine (phosphor motor).
20005	Light Source	The phosphor motor external rotation speed_Low.	1. The phosphor motor drive of the PIB board is faulty. 2. The speed sensing feedback is faulty. 3. The phosphor motor is faulty.	1. Replace the PIB board. 2. Replace the phosphor motor speed detection board. 3. Replace the color wheel adapter board. 4. Replace the light engine.
20006	Light Source	The phosphor motor external rotation speed_Too low.	1. The phosphor motor drive of the PIB board is faulty. 2. The speed sensing feedback is faulty. 3. The cable is not properly connected. 4. The phosphor motor is faulty.	1. If the speed is 0, check the cable first. 2. Replace the PIB board. 3. Replace the phosphor motor speed detection board. 4. Replace the color wheel adapter board. 5. Replace the light engine.
20007	Light Source	The phosphor motor external rotation speed_High.	1. The phosphor motor drive of the PIB board is faulty. 2. The speed sensing feedback is faulty. 3. The phosphor motor is faulty.	1. Replace the PIB board. 2. Replace the phosphor motor speed detection board. 3. Replace the color wheel adapter board. 4. Replace the light engine.
20008	Light Source	The phosphor motor external rotation speed_Too high.	1. The phosphor motor drive of the PIB board is faulty. 2. The speed sensing feedback is faulty. 3. The phosphor motor is faulty.	1. Replace the PIB board. 2. Replace the phosphor motor speed detection board. 3. Replace the color wheel adapter board. 4. Replace the light engine.
20009	Light Source	The phosphor motor rotation speed_Low.	1. The phosphor motor drive of the PIB board is faulty. 2. The speed sensing feedback is faulty. 3. The phosphor motor is faulty.	1. Replace the PIB board. 2. Replace the phosphor motor speed detection board. 3. Replace the color wheel adapter board. 4. Replace the light engine.
20010	Light Source	The phosphor motor rotation speed_Too low.	1. The phosphor motor drive of the PIB board is faulty. 2. The speed sensing feedback is faulty. 3. The phosphor motor is faulty.	1. Replace the PIB board. 2. Replace the phosphor motor speed detection board. 3. Replace the color wheel adapter board. 4. Replace the light engine.
20011	Light Source	The phosphor motor rotation speed_High	1. The phosphor motor drive of the PIB board is faulty. 2. The speed sensing feedback is faulty. 3. The phosphor motor is faulty.	1. Replace the PIB board. 2. Replace the phosphor motor speed detection board. 3. Replace the color wheel adapter board. 4. Replace the light engine.
20012	Light Source	The phosphor motor rotation speed_Too high	1. The phosphor motor drive of the PIB board is faulty. 2. The speed sensing feedback is faulty. 3. The phosphor motor is faulty.	1. Replace the PIB board. 2. Replace the phosphor motor speed detection board. 3. Replace the color wheel adapter board. 4. Replace the light engine.
20013	Light Source	The phosphor motor temperature_Low	The projection room temperature is below 0°C.	Check the projection room temperature and ensure that the indoor temperature is higher than 0°C.
20014	Light Source	The phosphor motor temperature_Too low	The phosphor wheel NTC may be open-circuited or damaged.	Remove and re-insert the phosphor wheel NTC cable.

20015	Light Source	The phosphor motor temperature_High	<ol style="list-style-type: none"> 1. The projection room temperature is higher than 35°C. 2. The air inlet or air outlet of the projector is blocked. 3. The filter of the projector is clogged. 	<ol style="list-style-type: none"> 1. Check the projection room temperature. 2. Check whether there are obstacles at the air inlet or air outlet. 3. Check and replace the air inlet filter.
20016	Light Source	The phosphor motor temperature_Too high	<ol style="list-style-type: none"> 1. The projection room temperature is much higher than 35°C. 2. The air inlet or air outlet of the projector is blocked. 3. The filter of the projector is clogged. 4. The system fan is faulty. 	<ol style="list-style-type: none"> 1. Check the projection room temperature. 2. Check whether there are obstacles at the air inlet or air outlet. 3. Check and replace the air inlet filter. 4. Check and replace the faulty system fan.
20017	Light Source	The phosphor motor drive_Startup failure	The PIB laser control module is abnormal or suspended.	Reset the PIB laser control module or restart the whole machine.
21001	Projector	FAN1 rotation speed_Low.	<ol style="list-style-type: none"> 1. The fan power cable is damaged. 2. The fan is blocked. 3. The fan drive on the PIB board is faulty. 4. The fan extension cable is faulty. 5. The service life of the fan has ended. 	<ol style="list-style-type: none"> 1. Check whether the fan power cable is damaged. If yes, repair or replace the fan. 2. Check whether the fan is blocked. Ensure that the fan can rotate freely. 3. Locate the problem with other fans. If the fault phenomenon occurs only with the current fan, replace the fan. If not, replace the PIB board. 4. Replace the fan extension cable. 5. Replace the fan.
21002	Projector	FAN1 rotation speed_High.	<ol style="list-style-type: none"> 1. The fan power cable is damaged. 2. The fan is blocked. 3. The fan drive on the PIB board is faulty. 4. The fan extension cable is faulty. 5. The service life of the fan has ended. 	<ol style="list-style-type: none"> 1. Check whether the fan power cable is damaged. If yes, repair or replace the fan. 2. Check whether the fan is blocked. Ensure that the fan can rotate freely. 3. Locate the problem with other fans. If the fault phenomenon occurs only with the current fan, replace the fan. If not, replace the PIB board. 4. Replace the fan extension cable. 5. Replace the fan.
21003	Projector	FAN2 rotation speed_Low.	<ol style="list-style-type: none"> 1. The fan power cable is damaged. 2. The fan is blocked. 3. The fan drive on the PIB board is faulty. 4. The fan extension cable is faulty. 5. The service life of the fan has ended. 	<ol style="list-style-type: none"> 1. Check whether the fan power cable is damaged. If yes, repair or replace the fan. 2. Check whether the fan is blocked. Ensure that the fan can rotate freely. 3. Locate the problem with other fans. If the fault phenomenon occurs only with the current fan, replace the fan. If not, replace the PIB board. 4. Replace the fan extension cable. 5. Replace the fan.
21004	Projector	FAN2 rotation speed_High.	<ol style="list-style-type: none"> 1. The fan power cable is damaged. 2. The fan is blocked. 3. The fan drive on the PIB board is faulty. 4. The fan extension cable is faulty. 5. The service life of the fan has ended. 	<ol style="list-style-type: none"> 1. Check whether the fan power cable is damaged. If yes, repair or replace the fan. 2. Check whether the fan is blocked. Ensure that the fan can rotate freely. 3. Locate the problem with other fans. If the fault phenomenon occurs only with the current fan, replace the fan. If not, replace the PIB board. 4. Replace the fan extension cable. 5. Replace the fan.

21005	Projector	FAN3 rotation speed_Low.	<ol style="list-style-type: none"> 1. The fan power cable is damaged. 2. The fan is blocked. 3. The fan drive on the PIB board is faulty. 4. The fan extension cable is faulty. 5. The service life of the fan has ended. 	<ol style="list-style-type: none"> 1. Check whether the fan power cable is damaged. If yes, repair or replace the fan. 2. Check whether the fan is blocked. Ensure that the fan can rotate freely. 3. Locate the problem with other fans. If the fault phenomenon occurs only with the current fan, replace the fan. If not, replace the PIB board. 4. Replace the fan extension cable. 5. Replace the fan.
21006	Projector	FAN3 rotation speed_High.	<ol style="list-style-type: none"> 1. The fan power cable is damaged. 2. The fan is blocked. 3. The fan drive on the PIB board is faulty. 4. The fan extension cable is faulty. 5. The service life of the fan has ended. 	<ol style="list-style-type: none"> 1. Check whether the fan power cable is damaged. If yes, repair or replace the fan. 2. Check whether the fan is blocked. Ensure that the fan can rotate freely. 3. Locate the problem with other fans. If the fault phenomenon occurs only with the current fan, replace the fan. If not, replace the PIB board. 4. Replace the fan extension cable. 5. Replace the fan.
21007	Projector	FAN4 rotation speed_Low.	<ol style="list-style-type: none"> 1. The fan power cable is damaged. 2. The fan is blocked. 3. The fan drive on the PIB board is faulty. 4. The fan extension cable is faulty. 5. The service life of the fan has ended. 	<ol style="list-style-type: none"> 1. Check whether the fan power cable is damaged. If yes, repair or replace the fan. 2. Check whether the fan is blocked. Ensure that the fan can rotate freely. 3. Locate the problem with other fans. If the fault phenomenon occurs only with the current fan, replace the fan. If not, replace the PIB board. 4. Replace the fan extension cable. 5. Replace the fan.
21008	Projector	FAN4 rotation speed_High.	<ol style="list-style-type: none"> 1. The fan power cable is damaged. 2. The fan is blocked. 3. The fan drive on the PIB board is faulty. 4. The fan extension cable is faulty. 5. The service life of the fan has ended. 	<ol style="list-style-type: none"> 1. Check whether the fan power cable is damaged. If yes, repair or replace the fan. 2. Check whether the fan is blocked. Ensure that the fan can rotate freely. 3. Locate the problem with other fans. If the fault phenomenon occurs only with the current fan, replace the fan. If not, replace the PIB board. 4. Replace the fan extension cable. 5. Replace the fan.
21009	Light Source	PCS fan rotation speed_Low.	<ol style="list-style-type: none"> 1. The fan power cable is damaged. 2. The fan is blocked. 3. The fan drive on the PIB board is faulty. 4. The service life of the fan has ended. 	<ol style="list-style-type: none"> 1. Check whether the fan power cable is damaged. If yes, repair it. 2. Check whether the fan is blocked. Ensure that the fan can rotate freely. 3. Replace the PIB board. 4. If the PCS fan is determined to be faulty; the light engine module may need to be returned to the factory for processing. Please contact customer service personnel.
21010	Light Source	PCS fan rotation speed_High.	<ol style="list-style-type: none"> 1. The fan power cable is damaged. 2. The fan is blocked. 3. The fan drive on the PIB board is faulty. 4. The service life of the fan has ended. 	<ol style="list-style-type: none"> 1. Check whether the fan power cable is damaged. If yes, repair it. 2. Check whether the fan is blocked. Ensure that the fan can rotate freely. 3. Replace the PIB board. 4. If the PCS fan is determined to be faulty; the light engine module may need to be returned to the factory for processing. Please contact customer service personnel.

21011	Light Source	BLD fan rotation speed_Low.	<ol style="list-style-type: none"> 1. The fan power cable is damaged. 2. The fan is blocked. 3. The fan drive on the PIB board is faulty. 4. The service life of the fan has ended. 	<ol style="list-style-type: none"> 1. Check whether the fan power cable is damaged. If yes, repair or replace the fan. 2. Check whether the fan is blocked. Ensure that the fan can rotate freely. 3. Replace the PIB board. 4. Replace the fan.
21012	Light Source	BLD fan rotation speed_High.	<ol style="list-style-type: none"> 1. The fan power cable is damaged. 2. The fan is blocked. 3. The fan drive on the PIB board is faulty. 4. The service life of the fan has ended. 	<ol style="list-style-type: none"> 1. Check whether the fan power cable is damaged. If yes, repair or replace the fan. 2. Check whether the fan is blocked. Ensure that the fan can rotate freely. 3. Replace the PIB board. 4. Replace the fan.
21013	Projector	FAN1 rotation speed_Too low.	<ol style="list-style-type: none"> 1. The fan power cable is damaged. 2. The fan is blocked. 3. The fan drive on the PIB board is faulty. 4. The fan extension cable is faulty. 5. The service life of the fan has ended. 	<ol style="list-style-type: none"> 1. Check whether the fan power cable is damaged. If yes, repair or replace the fan. 2. Check whether the fan is blocked. Ensure that the fan can rotate freely. 3. Locate the problem with other fans. If the fault phenomenon occurs only with the current fan, replace the fan. If not, replace the PIB board. 4. Replace the fan extension cable. 5. Replace the fan.
21014	Projector	FAN1 rotation speed_Too high.	<ol style="list-style-type: none"> 1. The fan power cable is damaged. 2. The fan is blocked. 3. The fan drive on the PIB board is faulty. 4. The fan extension cable is faulty. 5. The service life of the fan has ended. 	<ol style="list-style-type: none"> 1. Check whether the fan power cable is damaged. If yes, repair or replace the fan. 2. Check whether the fan is blocked. Ensure that the fan can rotate freely. 3. Locate the problem with other fans. If the fault phenomenon occurs only with the current fan, replace the fan. If not, replace the PIB board. 4. Replace the fan extension cable. 5. Replace the fan.
21015	Projector	FAN2 rotation speed_Too low.	<ol style="list-style-type: none"> 1. The fan power cable is damaged. 2. The fan is blocked. 3. The fan drive on the PIB board is faulty. 4. The fan extension cable is faulty. 5. The service life of the fan has ended. 	<ol style="list-style-type: none"> 1. Check whether the fan power cable is damaged. If yes, repair or replace the fan. 2. Check whether the fan is blocked. Ensure that the fan can rotate freely. 3. Locate the problem with other fans. If the fault phenomenon occurs only with the current fan, replace the fan. If not, replace the PIB board. 4. Replace the fan extension cable. 5. Replace the fan.
21016	Projector	FAN2 rotation speed_Too high.	<ol style="list-style-type: none"> 1. The fan power cable is damaged. 2. The fan is blocked. 3. The fan drive on the PIB board is faulty. 4. The fan extension cable is faulty. 5. The service life of the fan has ended. 	<ol style="list-style-type: none"> 1. Check whether the fan power cable is damaged. If yes, repair or replace the fan. 2. Check whether the fan is blocked. Ensure that the fan can rotate freely. 3. Locate the problem with other fans. If the fault phenomenon occurs only with the current fan, replace the fan. If not, replace the PIB board. 4. Replace the fan extension cable. 5. Replace the fan.

21017	Projector	FAN3 rotation speed_Too low.	<ol style="list-style-type: none"> 1. The fan power cable is damaged. 2. The fan is blocked. 3. The fan drive on the PIB board is faulty. 4. The fan extension cable is faulty. 5. The service life of the fan has ended. 	<ol style="list-style-type: none"> 1. Check whether the fan power cable is damaged. If yes, repair or replace the fan. 2. Check whether the fan is blocked. Ensure that the fan can rotate freely. 3. Locate the problem with other fans. If the fault phenomenon occurs only with the current fan, replace the fan. If not, replace the PIB board. 4. Replace the fan extension cable. 5. Replace the fan.
21018	Projector	FAN3 rotation speed_Too high.	<ol style="list-style-type: none"> 1. The fan power cable is damaged. 2. The fan is blocked. 3. The fan drive on the PIB board is faulty. 4. The fan extension cable is faulty. 5. The service life of the fan has ended. 	<ol style="list-style-type: none"> 1. Check whether the fan power cable is damaged. If yes, repair or replace the fan. 2. Check whether the fan is blocked. Ensure that the fan can rotate freely. 3. Locate the problem with other fans. If the fault phenomenon occurs only with the current fan, replace the fan. If not, replace the PIB board. 4. Replace the fan extension cable. 5. Replace the fan.
21019	Projector	FAN4 rotation speed_Too low.	<ol style="list-style-type: none"> 1. The fan power cable is damaged. 2. The fan is blocked. 3. The fan drive on the PIB board is faulty. 4. The fan extension cable is faulty. 5. The service life of the fan has ended. 	<ol style="list-style-type: none"> 1. Check whether the fan power cable is damaged. If yes, repair or replace the fan. 2. Check whether the fan is blocked. Ensure that the fan can rotate freely. 3. Locate the problem with other fans. If the fault phenomenon occurs only with the current fan, replace the fan. If not, replace the PIB board. 4. Replace the fan extension cable. 5. Replace the fan.
21020	Projector	FAN4 rotation speed_Too high.	<ol style="list-style-type: none"> 1. The fan power cable is damaged. 2. The fan is blocked. 3. The fan drive on the PIB board is faulty. 4. The fan extension cable is faulty. 5. The service life of the fan has ended. 	<ol style="list-style-type: none"> 1. Check whether the fan power cable is damaged. If yes, repair or replace the fan. 2. Check whether the fan is blocked. Ensure that the fan can rotate freely. 3. Locate the problem with other fans. If the fault phenomenon occurs only with the current fan, replace the fan. If not, replace the PIB board. 4. Replace the fan extension cable. 5. Replace the fan.
21021	Light Source	PCS fan rotation speed_Too low.	<ol style="list-style-type: none"> 1. The fan power cable is damaged. 2. The fan is blocked. 3. The fan drive on the PIB board is faulty. 4. The service life of the fan has ended. 	<ol style="list-style-type: none"> 1. Check whether the fan power cable is damaged. If yes, repair it. 2. Check whether the fan is blocked. Ensure that the fan can rotate freely. 3. Replace the PIB board. 4. If the PCS fan is determined to be faulty; the light engine module may need to be returned to the factory for processing. Please contact customer service personnel.
21022	Light Source	PCS fan rotation speed_Too high.	<ol style="list-style-type: none"> 1. The fan power cable is damaged. 2. The fan is blocked. 3. The fan drive on the PIB board is faulty. 4. The service life of the fan has ended. 	<ol style="list-style-type: none"> 1. Check whether the fan power cable is damaged. If yes, repair it. 2. Check whether the fan is blocked. Ensure that the fan can rotate freely. 3. Replace the PIB board. 4. If the PCS fan is determined to be faulty; the light engine module may need to be returned to the factory for processing. Please contact customer service personnel.

21023	Light Source	BLD fan rotation speed_Too low.	1. The fan power cable is damaged. 2. The fan is blocked. 3. The fan drive on the PIB board is faulty. 4. The service life of the fan has ended.	1. Check whether the fan power cable is damaged. If yes, repair or replace the fan. 2. Check whether the fan is blocked. Ensure that the fan can rotate freely. 3. Replace the PIB board. 4. Replace the fan.
21024	Light Source	BLD fan rotation speed_Too high.	1. The fan power cable is damaged. 2. The fan is blocked. 3. The fan drive on the PIB board is faulty. 4. The service life of the fan has ended.	1. Check whether the fan power cable is damaged. If yes, repair or replace the fan. 2. Check whether the fan is blocked. Ensure that the fan can rotate freely. 3. Replace the PIB board. 4. Replace the fan.
22001	Light Source	The light source temperature_Low.	1. The projection room temperature is below 0°C. 2. The Laser NTC is faulty.	1. Check the projection room temperature and ensure that the indoor temperature is higher than 0°C. 2. If the temperature value does not change, replace the NTC connection cable.
22002	Light Source	The light source temperature_Too low.	The laser NTC may be open-circuited or damaged.	If the temperature value does not change, replace the NTC connection cable.
22003	Light Source	The light source temperature_High.	1. The projection room temperature is higher than 35°C. 2. The air inlet or air outlet of the projector is blocked. 3. The filter of the projector is clogged. 4. The system fan is faulty.	1. Check the projection room temperature. 2. Check whether there are obstacles at the air inlet or air outlet. 3. Check and replace the air inlet filter. 4. Check and replace the faulty system fan.
22004	Light Source	The light source temperature_Too high.	1. The projection room temperature is much higher than 35°C. 2. The air inlet or air outlet of the projector is blocked. 3. The filter of the projector is clogged. 4. The system fan is faulty. 5. The NTC is short-circuited.	1. Check the projection room temperature. 2. Check whether there are obstacles at the air inlet or air outlet. 3. Check and replace the air inlet filter. 4. Check and replace the faulty system fan. 5. Replace the NTC connection cable.
23001	LDM	The LDM temperature_Low.	1. The projection room temperature is below -10°C. 2. The temperature sensor is damaged.	1. Check the projection room temperature and ensure that the indoor temperature is higher than 0°C. 2. Replace the power supply.
23002	LDM	The LDM temperature_Too low.	1. The projection room temperature is below -10°C. 2. The temperature sensor is damaged.	1. Check the projection room temperature and ensure that the indoor temperature is higher than 0°C. 2. Replace the power supply.
23003	LDM	The LDM temperature_High.	The temperature of the internal devices of the power supply is higher than 80°C and lower than or equal to 90°C.	1. Check the projection room temperature. 2. Check whether there are obstacles at the air inlet or air outlet. 3. Check and replace the air inlet filter. 4. Check whether the fan is damaged.
23004	LDM	The LDM temperature_Too high.	1. The temperature of the internal devices of the power supply is higher than 90°C, which lasts longer than 10s.	1. Check the projection room temperature. 2. Check whether there are obstacles at the air inlet or air outlet. 3. Check and replace the air inlet filter. 4. Check whether the fan is damaged.
23005	LDM	The LDM current_Low.	/	/
23006	LDM	The LDM current_High	1. The laser is short-circuited. 2. The power supply is damaged.	Replace the power supply.

23007	LDM	Power communication_No response for a long period.	1. The cable connection of the communication port is loose. 2. The power supply is damaged.	1. Check the cable connection of the communication port by removal and re-insertion. 2. Check whether the communication cable is damaged. 3. Replace the power supply.
23008	LDM	Power drive_Warning.	NO	/
23009	LDM	Power drive_Error.	NO	/
23010	LDM	Warning_Power temperature low.	1. The projection room temperature is below -10°C. 2. The temperature sensor is damaged.	1. Check the projection room temperature and ensure that the indoor temperature is higher than 0°C. 2. Replace the power supply.
23011	LDM	Warning_Power temperature high.	The temperature of the internal devices of the power supply is higher than 80°C and lower than or equal to 90°C.	1. Check the projection room temperature. 2. Check whether there are obstacles at the air inlet or air outlet. 3. Check and replace the air inlet filter. 4. Check whether the fan is damaged.
23012	LDM	Warning_Power fan rotation speed low.	There is no fan for the power supply.	/
23013	LDM	Warning_Power fan rotation speed high.	There is no fan for the power supply.	/
23014	LDM	Warning_Laser current low.	/	/
23015	LDM	Warning_Laser current high.	1. The laser is short-circuited. 2. The power supply is damaged.	Replace the power supply.
23016	LDM	Warning_Laser open-circuit.	/	/
23017	LDM	Warning_Laser overcurrent.	1. The laser is short-circuited. 2. The power supply is damaged.	
23018	LDM	Warning_Abnormal 24 V standby device.	No 24 V voltage output.	/
23019	LDM	Warning_24 V output undervoltage.	No 24 V voltage output.	/
23020	LDM	Warning_24 V output overvoltage.	No 24 V voltage output.	/
23021	LDM	Warning_AC input undervoltage.	Mains connection error. The input voltage is lower than 180 V AC.	Measure the AC input voltage to the projector and the voltage at the socket connected to the power supply using a multimeter.
23022	LDM	Warning_AC input overvoltage.	Mains connection error. The input voltage is higher than 264 V AC.	Measure the AC input voltage using a multimeter.
23023	LDM	Warning_Abnormal 12 V standby device.	1. The RLD is short-circuited. 2. A 12 V constant-voltage module is damaged.	1. Unplug the RLD connector, supply the AC power again and check whether the alarm is cleared. 2. Replace the power supply.
23024	LDM	Warning_12 V output undervoltage.	1. 12 V overcurrent. 2. Two 12 V constant-voltage modules of the power supply are damaged simultaneously.	1. Unplug the 12 V output port connector, supply the power and test whether the output port voltage is between 11.4 V and 12.6 V using a multimeter. 2. Check whether the total current output by two connectors exceeds 30 A using a clamp meter or an oscilloscope. 3. Replace the power supply.
23025	LDM	Warning_12 V output overvoltage.	The internal 12 V constant-voltage module of the power supply is damaged.	Replace the power supply.
23026	LDM	Warning_Abnormal 5 V standby device.	No 5 V voltage output.	Replace the power supply.

23027	LDM	Warning_5 V output undervoltage.	No 5 V voltage output.	Replace the power supply.
23028	LDM	Warning_5 V output overvoltage.	No 5 V voltage output.	Replace the power supply.
23029	LDM	Warning_Preset voltage low.	NO	/
23030	LDM	Warning_Preset voltage high.	NO	/
23031	LDM	Warning_Abnormal AC power interruption.	The AC power is interrupted abnormally during the laser-on period.	1. Check whether the power supply voltage is normal. 2. Check whether the AC cable is connected properly. 3. Replace the power supply.
23032	LDM	Error_Abnormal constant-voltage source.	Power failure causes 18 V constant voltage to exceed 30 V.	Replace the power supply.
23033	LDM	Error_Power temperature too low.	NO	/
23034	LDM	Error_Power temperature too high.	1. The projection room temperature is higher than 35°C. 2. There are obstacles at the air inlet and air outlet. 3. The filter is clogged by dust. 4. The fan is damaged.	1. Check the projection room temperature. 2. Check whether there are obstacles at the air inlet or air outlet. 3. Check and replace the air inlet filter. 4. Check whether the fan is damaged.
23035	LDM	Error_24 V output undervoltage.	No 24 V voltage output	Replace the power supply.
23036	LDM	Error_24 V output overvoltage.	No 24 V voltage output	Replace the power supply.
23037	LDM	Error_AC input undervoltage.	Mains connection error. The input voltage is lower than 180 V AC.	Measure the input voltage using a multimeter.
23038	LDM	Error_AC input overvoltage.	Mains connection error. The input voltage is higher than 264 V AC.	Measure the input voltage using a multimeter.
23039	LDM	Error_12 V output undervoltage.	/	/
23040	LDM	Error_12 V output overvoltage.	The internal 12 V constant-voltage module of the power supply is damaged.	Replace the power supply.
23041	LDM	Error_5 V output undervoltage.	No 5 V voltage output.	Replace the power supply.
23042	LDM	Error_5 V output overvoltage.	/	Replace the power supply.
24001	Light Source	The light source TEC drive_Startup failure.	1. The TEC drive board is faulty. 2. The cable is faulty.	1. Replace the TEC drive board. 2. Replace the TEC connection cable.
24002	Light Source	The light source TEC drive_Not running.	The TEC drive board is faulty.	If the problem persists after powering off and on again, replace the TEC driver board.
24003	Light Source	The light source TEC cold surface temperature_Low.	1. The TEC driver board is faulty and cannot be controlled. 2. If the temperature value does not change, the NTC is faulty.	1. Replace the TEC drive board. 2. Replace the light engine.
24004	Light Source	The light source TEC cold surface temperature_Too low.	1. The TEC driver board is faulty and cannot be controlled. 2. The internal NTC of the RLD may be open-circuited or damaged.	1. Replace the TEC drive board. 2. Replace the light engine.

24005	Light Source	The light source TEC cold surface temperature_High.	<ol style="list-style-type: none"> 1. The projection room temperature is higher than 35°C. 2. The air inlet or air outlet of the projector is blocked. 3. The filter of the projector is clogged. 4. The system fan is faulty. 5. If the temperature value does not change, the NTC is faulty. 	<ol style="list-style-type: none"> 1. Check the projection room temperature. 2. Check whether there are obstacles at the air inlet or air outlet. 3. Check and replace the air inlet filter. 4. Check and replace the faulty system fan. 5. Replace the light engine.
24006	Light Source	The light source TEC cold surface temperature_Too high.	<ol style="list-style-type: none"> 1. The projection room temperature is higher than 35°C. 2. The air inlet or air outlet of the projector is blocked. 3. The filter of the projector is clogged. 4. The system fan is faulty. 5. If the temperature value does not change, the NTC is faulty. 	<ol style="list-style-type: none"> 1. Check the projection room temperature. 2. Check whether there are obstacles at the air inlet or air outlet. 3. Check and replace the air inlet filter. 4. Check and replace the faulty system fan. 5. Replace the light engine.
24007	Light Source	The light source TEC hot surface temperature_Low.	<ol style="list-style-type: none"> 1. The NTC thermistor is damaged. 2. The projection room temperature is below 0°C. 	<ol style="list-style-type: none"> 1. Check whether the NTC cable and plug are damaged. 2. Check whether the projection room temperature is below 0°C. 3. Replace the light engine.
24008	Light Source	The light source TEC hot surface temperature_High.	<ol style="list-style-type: none"> 1. The projection room temperature is higher than 35°C. 2. The air inlet or air outlet of the projector is blocked. 3. The filter of the projector is clogged. 4. The RLD radiator is faulty. 5. The system fan is faulty. 6. If the temperature value does not change, the NTC is faulty. 	<ol style="list-style-type: none"> 1. Check the projection room temperature. 2. Check whether there are obstacles at the air inlet or air outlet. 3. Check and replace the air inlet filter. 4. Replace the red laser radiator. 5. Check and replace the faulty system fan. 6. Replace the light engine.
24009	Light Source	The light source TEC voltage_Low.	The power module is abnormal.	Check the power module output.
24010	Light Source	The light source TEC voltage_High.	The power module is abnormal.	Check the power module output.
24011	Light Source	The light source TEC communication_No response for a long period.	The TEC drive board is faulty.	Replace the TEC drive board.
25001	Projector	Laser control module alarm.	The PIB laser module detects the fan, temperature or phosphor motor exception.	<ol style="list-style-type: none"> 1. Check and locate the abnormal component (fan, temperature, phosphor motor, etc.) for which the alarm is reported. 2. Check whether the software version of the PIB laser control module is correct. 3. Replace the PIB board.
25002	Projector	Laser control module error.	The PIB laser module detects the fan, temperature or phosphor motor exception.	<ol style="list-style-type: none"> 1. Check and locate the abnormal component (fan, temperature, phosphor motor, etc.) for which the error is reported. 2. Check whether the software version of the PIB laser control module is correct. 3. Replace the PIB board.
25003	Projector	Laser control module communication_No response for a long period.	The PIB laser control module is abnormal or suspended.	<ol style="list-style-type: none"> 1. Reset the PIB laser control module or restart the whole machine. 2. Replace the PIB board.

25004	Projector	Filter detection exception.	1. The filter is not properly installed. 2. The filter detection switch is abnormal.	1. Re-install the filter. 2. Replace the detection switch.
25005	Projector	Air inlet temperature_Low.	1. The projection room temperature is below 0°C. 2. If the temperature value does not change, the air inlet NTC is faulty.	1. Check the projection room temperature and ensure that the indoor temperature is higher than 0°C. 2. Replace the air inlet NTC.
25006	Projector	Air inlet temperature_Too low.	1. The projection room temperature is below 0°C. 2. If the temperature value does not change, the air inlet NTC is faulty.	1. Check the projection room temperature and ensure that the indoor temperature is higher than 0°C. 2. Replace the air inlet NTC.
25007	Projector	Air inlet temperature_High.	1. The projection room temperature is higher than 35°C. 2. The air inlet or air outlet of the projector is blocked. 3. The filter of the projector is clogged. 4. The system fan is faulty. 5. If the temperature value does not change, the NTC is faulty.	1. Check the projection room temperature. 2. Check whether there are obstacles at the air inlet or air outlet. 3. Check and replace the air inlet filter. 4. Check and replace the faulty system fan. 5. Replace the air inlet NTC.
25008	Projector	Air inlet temperature_Too high.	1. The projection room temperature is higher than 35°C. 2. The air inlet or air outlet of the projector is blocked. 3. The filter of the projector is clogged. 4. The system fan is faulty. 5. If the temperature value does not change, the NTC is faulty.	1. Check the projection room temperature. 2. Check whether there are obstacles at the air inlet or air outlet. 3. Check and replace the air inlet filter. 4. Check and replace the faulty system fan. 5. Replace the air inlet NTC.
25009	Projector	Air outlet temperature_Low.	The air outlet NTC may be open-circuited or damaged.	Replace the air outlet NTC.
25010	Projector	Air outlet temperature_Too low.	The air outlet NTC may be open-circuited or damaged.	Replace the air outlet NTC.
25011	Projector	Air outlet temperature_High.	1. The projection room temperature is higher than 35°C. 2. The air inlet or air outlet of the projector is blocked. 3. The filter of the projector is clogged. 4. The system fan is faulty. 5. If the temperature value does not change, the NTC is faulty.	1. Check the projection room temperature. 2. Check whether there are obstacles at the air inlet or air outlet. 3. Check and replace the air inlet filter. 4. Check and replace the faulty system fan. 5. Replace the air outlet NTC.

25012	Projector	Air outlet temperature_Too high.	<ol style="list-style-type: none"> 1. The projection room temperature is higher than 35°C. 2. The air inlet or air outlet of the projector is blocked. 3. The filter of the projector is clogged. 4. The system fan is faulty. 5. If the temperature value does not change, the NTC is faulty. 	<ol style="list-style-type: none"> 1. Check the projection room temperature. 2. Check whether there are obstacles at the air inlet or air outlet. 3. Check and replace the air inlet filter. 4. Check and replace the faulty system fan. 5. Replace the air outlet NTC.
25013	Projector	Lens temperature_Low.	<ol style="list-style-type: none"> 1. The projection room temperature is below 0°C. 2. If the temperature value does not change, the NTC is faulty. 	<ol style="list-style-type: none"> 1. Check the projection room temperature and ensure that the indoor temperature is higher than 0°C. 2. Replace the lens NTC.
25014	Projector	Lens temperature_Too low.	<ol style="list-style-type: none"> 1. The lens NTC may be open-circuited or damaged. 2. The projection room temperature is below -5°C. 	<ol style="list-style-type: none"> 1. Replace the lens NTC. 2. Ensure that the projection room temperature is higher than -5°C.
25015	Projector	Lens temperature_High.	<ol style="list-style-type: none"> 1. The projection room temperature is higher than 35°C. 2. The air inlet or air outlet of the projector is blocked. 3. The filter of the projector is clogged. 4. The system fan is faulty. 5. If the temperature value does not change, the NTC is faulty. 	<ol style="list-style-type: none"> 1. Check the projection room temperature. 2. Check whether there are obstacles at the air inlet or air outlet. 3. Check and replace the air inlet filter. 4. Check and replace the faulty system fan. 5. Replace the lens NTC.
25016	Projector	Lens temperature_Too high.	<ol style="list-style-type: none"> 1. The projection room temperature is higher than 35°C. 2. The air inlet or air outlet of the projector is blocked. 3. The filter of the projector is clogged. 4. The system fan is faulty. 5. If the temperature value does not change, the NTC is faulty. 	<ol style="list-style-type: none"> 1. Check the projection room temperature. 2. Check whether there are obstacles at the air inlet or air outlet. 3. Check and replace the air inlet filter. 4. Check and replace the faulty system fan. 5. Replace the lens NTC.
25017	Light Source	PCS temperature_Low.	<ol style="list-style-type: none"> 1. The projection room temperature is below 0°C. 2. If the temperature value does not change, the NTC is faulty. 	<ol style="list-style-type: none"> 1. Check the projection room temperature and ensure that the indoor temperature is higher than 0°C. 2. Replace the PCS NTC.
25018	Light Source	PCS temperature_Too low.	<ol style="list-style-type: none"> 1. The PCS NTC may be open-circuited or damaged. 2. The projection room temperature is below -5°C. 	<ol style="list-style-type: none"> 1. Replace the PCS NTC. 2. Ensure that the projection room temperature is higher than -5°C.
25019	Light Source	PCS temperature_High.	<ol style="list-style-type: none"> 1. The projection room temperature is higher than 35°C. 2. The air inlet or air outlet of the projector is blocked. 3. The filter of the projector is clogged. 4. The PCS fan is faulty. 	<ol style="list-style-type: none"> 1. Check the projection room temperature. 2. Check whether there are obstacles at the air inlet or air outlet. 3. Check and replace the air inlet filter. 4. Check and replace the faulty system fan. 5. Replace the PCS NTC.

25020	Light Source	PCS temperature_Too high.	<ol style="list-style-type: none"> 1. The projection room temperature is higher than 35°C. 2. The air inlet or air outlet of the projector is blocked. 3. The filter of the projector is clogged. 4. The PCS fan is faulty. 	<ol style="list-style-type: none"> 1. Check the projection room temperature. 2. Check whether there are obstacles at the air inlet or air outlet. 3. Check and replace the air inlet filter. 4. If the PCS fan is determined to be faulty; the light engine module may need to be returned to the factory for processing. Please contact customer service personnel.
25021	Light Engine	Optical prism temperature_Low.	<ol style="list-style-type: none"> 1. The projection room temperature is low. 2. If the temperature value does not change, the NTC is faulty. 	<ol style="list-style-type: none"> 1. Check the projection room temperature and ensure that the indoor temperature is higher than 0°C. 2. Replace the optical prism NTC.
25022	Light Engine	Optical prism temperature_Too low.	<ol style="list-style-type: none"> 1. The optical prism NTC may be open-circuited or damaged. 2. The projection room temperature is below -5°C. 	<ol style="list-style-type: none"> 1. Replace the optical prism NTC. 2. Ensure that the projection room temperature is higher than -5°C.
25023	Light Engine	Optical prism temperature_High.	<ol style="list-style-type: none"> 1. The projection room temperature is higher than 35°C. 2. The air inlet or air outlet of the projector is blocked. 3. The filter of the projector is clogged. 4. The system fan is faulty. 5. If the temperature value does not change, the NTC is faulty. 	<ol style="list-style-type: none"> 1. Check the projection room temperature. 2. Check whether there are obstacles at the air inlet or air outlet. 3. Check and replace the air inlet filter. 4. Check and replace the faulty system fan. 5. Replace the optical prism NTC.
25024	Light Engine	Optical prism temperature_Too high.	<ol style="list-style-type: none"> 1. The projection room temperature is higher than 35°C. 2. The air inlet or air outlet of the projector is blocked. 3. The filter of the projector is clogged. 4. The system fan is faulty. 5. If the temperature value does not change, the NTC is faulty. 	<ol style="list-style-type: none"> 1. Check the projection room temperature. 2. Check whether there are obstacles at the air inlet or air outlet. 3. Check and replace the air inlet filter. 4. Check and replace the faulty system fan. 5. Replace the optical prism NTC.
25025	Light Engine	DMD1 temperature_Low.	<ol style="list-style-type: none"> 1. The projection room temperature is below 0°C. 2. If the temperature value does not change, the NTC is faulty. 	<ol style="list-style-type: none"> 1. Check the projection room temperature and ensure that the indoor temperature is higher than 0°C. 2. Replace the NTC (on the light engine) of the DMD1 radiator.
25026	Light Engine	DMD1 temperature_Too low.	<ol style="list-style-type: none"> 1. The DMD NTC may be open-circuited or damaged. 2. The projection room temperature is below -5°C. 	<ol style="list-style-type: none"> 1. Replace the DMD NTC. 2. Ensure that the projection room temperature is higher than -5°C.
25027	Light Engine	DMD1 temperature_High.	<ol style="list-style-type: none"> 1. The projection room temperature is higher than 35°C. 2. The air inlet or air outlet of the projector is blocked. 3. The filter of the projector is clogged. 4. The system fan is faulty. 5. If the temperature value does not change, the NTC is faulty. 	<ol style="list-style-type: none"> 1. Check the projection room temperature. 2. Check whether there are obstacles at the air inlet or air outlet. 3. Check and replace the air inlet filter. 4. Check and replace the faulty system fan. 5. Replace the NTC (on the light engine) of the DMD1 radiator.

25028	Light Engine	DMD1 temperature_Too high.	<ol style="list-style-type: none"> 1. The projection room temperature is higher than 35°C. 2. The air inlet or air outlet of the projector is blocked. 3. The filter of the projector is clogged. 4. The system fan is faulty. 5. If the temperature value does not change, the NTC is faulty. 	<ol style="list-style-type: none"> 1. Check the projection room temperature. 2. Check whether there are obstacles at the air inlet or air outlet. 3. Check and replace the air inlet filter. 4. Check and replace the faulty system fan. 5. Replace the NTC (on the light engine) of the DMD1 radiator.
25029	Light Engine	DMD2 temperature_Low.	<ol style="list-style-type: none"> 1. The projection room temperature is below 0°C. 2. If the temperature value does not change, the NTC is faulty. 	<ol style="list-style-type: none"> 1. Check the projection room temperature and ensure that the indoor temperature is higher than 0°C. 2. Replace the NTC (on the light engine) of the DMD2 radiator.
25030	Light Engine	DMD2 temperature_Too low.	<ol style="list-style-type: none"> 1. The DMD NTC may be open-circuited or damaged. 2. The projection room temperature is below -5°C. 	<ol style="list-style-type: none"> 1. Replace the DMD NTC. 2. Ensure that the projection room temperature is higher than -5°C.
25031	Light Engine	DMD2 temperature_High.	<ol style="list-style-type: none"> 1. The projection room temperature is higher than 35°C. 2. The air inlet or air outlet of the projector is blocked. 3. The filter of the projector is clogged. 4. The system fan is faulty. 5. If the temperature value does not change, the NTC is faulty. 	<ol style="list-style-type: none"> 1. Check the projection room temperature. 2. Check whether there are obstacles at the air inlet or air outlet. 3. Check and replace the air inlet filter. 4. Check and replace the faulty system fan. 5. Replace the NTC (on the light engine) of the DMD2 radiator.
25032	Light Engine	DMD2 temperature_Too high.	<ol style="list-style-type: none"> 1. The projection room temperature is higher than 35°C. 2. The air inlet or air outlet of the projector is blocked. 3. The filter of the projector is clogged. 4. The system fan is faulty. 5. If the temperature value does not change, the NTC is faulty. 	<ol style="list-style-type: none"> 1. Check the projection room temperature. 2. Check whether there are obstacles at the air inlet or air outlet. 3. Check and replace the air inlet filter. 4. Check and replace the faulty system fan. 5. Replace the NTC (on the light engine) of the DMD2 radiator.
25033	Light Source	Diffusor motor temperature_Low.	<ol style="list-style-type: none"> 1. The projection room temperature is below 0°C. 2. If the temperature value does not change, the NTC is faulty. 	<ol style="list-style-type: none"> 1. Check the projection room temperature and ensure that the indoor temperature is higher than 0°C. 2. Replace the diffusor motor sensing board (on the light source).
25034	Light Source	Diffusor motor temperature_Too low.	<ol style="list-style-type: none"> 1. The diffusor motor NTC may be open-circuited or damaged. 2. The projection room temperature is below -5°C. 	<ol style="list-style-type: none"> 1. Replace the diffusor motor NTC. 2. Ensure that the projection room temperature is higher than -5°C.

25035	Light Source	Diffusor motor temperature_High.	<ol style="list-style-type: none"> 1. The projection room temperature is higher than 35°C. 2. The air inlet or air outlet of the projector is blocked. 3. The filter of the projector is clogged. 4. The system fan is faulty. 5. If the temperature value does not change, the NTC is faulty. 	<ol style="list-style-type: none"> 1. Check the projection room temperature. 2. Check whether there are obstacles at the air inlet or air outlet. 3. Check and replace the air inlet filter. 4. Check and replace the faulty system fan. 5. Replace the diffusor motor sensing board (on the light source).
25036	Light Source	Diffusor motor temperature_Too high.	<ol style="list-style-type: none"> 1. The projection room temperature is higher than 35°C. 2. The air inlet or air outlet of the projector is blocked. 3. The filter of the projector is clogged. 4. The system fan is faulty. 5. If the temperature value does not change, the NTC is faulty. 	<ol style="list-style-type: none"> 1. Check the projection room temperature. 2. Check whether there are obstacles at the air inlet or air outlet. 3. Check and replace the air inlet filter. 4. Check and replace the faulty system fan. 5. Replace the diffusor motor sensing board (on the light source).
11000	PIB	The projector model does not match the light source.	<ol style="list-style-type: none"> 1. The PIB board is misused, such as the mix-up of the leased version and the sales version. 2. The light source is misused, such as the mix-up of the leased version and the sales version. 	<ol style="list-style-type: none"> 1. Replace the PIB board that matches the leased or sales version of the whole machine. 2. The light source is misused and may need to be returned to the factory for processing. Please contact customer service personnel.
11002	PIB	The playback type does not match the macro mode.	<ol style="list-style-type: none"> 1. 3D video source is played over the 2D macro. 2. 2D video source is played over the 3D macro. 3. Other operations resulting in the mismatch of playback types and macros are performed. 	<ol style="list-style-type: none"> 1. Select the matching 2D or 3D macro of the projector according to the DCP type (2D or 3D video source) played by the server; that is, the 2D video source should be played over the 2D macro and the 3D video source should be played over the 3D macro. 2. If the server's playback type is HDMI, set the projector macro to HDMI.
25095	Projector	The filter needs to be cleaned.	The filter has not been cleaned for more than 180 days.	<ol style="list-style-type: none"> 1. Turn off the projector and then power it off. Remove the filter assembly. It is recommended to replace the filter with a new one directly. 2. After cleaning the filter, log in to the UI and choose Maintenance > Maintenance Cycle Management and click Confirm Maintenance for the Filter Cleaning option.
31001	Lens Driver	Vertical limit failed.	Two vertical limit switches are triggered simultaneously.	Check whether two vertical limit switches (identified as Up and Down) on the lower side of the lens bracket are installed correctly and whether the switch devices are normal.
31002	Lens Driver	Horizontal limit failed.	Two horizontal limit switches are triggered simultaneously.	Check whether two horizontal limit switches (identified as Left and Right) on the right side of the lens bracket are installed correctly and whether the switch devices are normal.
32001	Lens	Lens installation error.	The lens is not installed at the specified position.	<ol style="list-style-type: none"> 1. Check whether the lens is installed in place. 2. Check whether the Zoom socket on the lens bracket is connected correctly and whether the socket is loose or disconnected.
32002	Lens Driver	Driver initialization error.	The driver board hardware or software is faulty.	<ol style="list-style-type: none"> 1. Restart the projector. 2. Check whether the software version of the lens driver board is correct. Try to update or upgrade to the new software version. 3. Replace the lens driver board with a new one.

32003	Lens Driver	Communication failure.	1. The lens driver board is damaged. 2. The connection cable falls off or is damaged.	1. Check whether the control cable of the lens drive board (identified as Lens Ctrl) is loose and whether the connection position is correct. 2. Replace the lens driver board with a new one.
33001	Lens Driver	Lens data uninitialized.	No lens data is found.	Log in to the UI as the administrator. Choose Administrator Settings > Select Lens and select the correct lens type.
56001	LDM	The voltage is lower than 10.5 V.	1. The 12 V tributary of the power module is faulty. 2. The 12 V load of the power module is faulty.	1. Replace the power module. 2. Disconnect the 12 V load of the power module (DCMB, PIB, TEC driver board, etc.) and check whether the 12 V power supply resumes being normal. If yes, then the 12 V load is faulty. In this case, check and identify other faulty loads. If not, then replace the power module.
56002	LDM	The voltage is lower than 10 V.	1. The 12 V tributary of the power module is faulty. 2. The 12 V load of the power module is faulty.	1. Replace the power module. 2. Disconnect the 12 V load of the power module (DCMB, PIB, TEC driver board, etc.) and check whether the 12 V power supply resumes being normal. If yes, then the 12 V load is faulty. In this case, check and identify other faulty loads. If not, then replace the power module.
56003	LDM	The voltage is higher than 13.5 V.	The 12 V tributary of the power module is faulty.	Replace the power module.
56004	LDM	The voltage is higher than 14 V.	The 12 V tributary of the power module is faulty.	Replace the power module.
57001	PIB	The voltage is lower than 4.5 V.	The 5 V tributary of the PIB board is faulty.	Replace the PIB board.
57002	PIB	The voltage is lower than 4.4 V.	The 5 V tributary of the PIB board is faulty.	Replace the PIB board.
57003	PIB	The voltage is higher than 5.5 V.	The 5 V tributary of the PIB board is faulty.	Replace the PIB board.
57004	PIB	The voltage is higher than 5.6 V.	The 5 V tributary of the PIB board is faulty.	Replace the PIB board.
58001	PIB	The voltage is lower than 3.135 V.	The 3.3 V tributary of the PIB board is faulty.	Replace the PIB board.
58002	PIB	The voltage is lower than 3.0 V.	The 3.3 V tributary of the PIB board is faulty.	Replace the PIB board.
58003	PIB	The voltage is higher than 3.465 V.	The 3.3 V tributary of the PIB board is faulty.	Replace the PIB board.
58004	PIB	The voltage is higher than 3.6 V.	The 3.3 V tributary of the PIB board is faulty.	Replace the PIB board.
71101	DCMB	Heartbeat packet lost.	1. The DCMB board is not started. 2. The DCMB board is faulty.	1. Wait patiently for the DCMB board to fully start. 2. Try to replace and check the DCMB board. If the fault phenomenon occurs with only the DCMB board, replace the DCMB board.
71102	DCMB	Heartbeat packet lost for a long period.	1. The DCMB board is not started. 2. The DCMB board is faulty.	1. Wait patiently for the DCMB board to fully start. 2. Try to replace and check the DCMB board. If the fault phenomenon occurs with only the DCMB board, replace the DCMB board.

71103	DCMB	IMB-APP initialization failure.	1. The DCMB board is not started. 2. The DCMB board is faulty.	1. Wait patiently for the DCMB board to fully start. 2. Try to replace and check the DCMB board. If the fault phenomenon occurs with only the DCMB board, replace the DCMB board.
71104	DCMB	DCMB initialization failure.	1. The DCMB board is not started. 2. The DCMB board is faulty.	1. Wait patiently for the DCMB board to fully start. 2. Try to replace and check the DCMB board. If the fault phenomenon occurs with only the DCMB board, replace the DCMB board.
71105	DCMB	IMB channel switching failure.	1. The DCMB board is not started. 2. The DCMB board is faulty.	1. Wait patiently for the DCMB board to fully start. 2. Check whether the software version of the DCMB board is correct. 3. Try to replace and check the DCMB board. If the fault phenomenon occurs with only the DCMB board, replace the DCMB board.
71106	DCMB	Video playback failure.	1. The DCMB board is not started. 2. The DCMB board is faulty.	1. Wait patiently for the DCMB board to fully start. 2. Check whether the software version of the DCMB board is correct. 3. Try to replace and check the DCMB board. If the fault phenomenon occurs with only the DCMB board, replace the DCMB board.
71107	DCMB	Test pattern playback failure.	1. The DCMB board is not started. 2. The DCMB board is faulty.	1. Wait patiently for the DCMB board to fully start. 2. Check whether the software version of the DCMB board is correct. 3. Try to replace and check the DCMB board. If the fault phenomenon occurs with only the DCMB board, replace the DCMB board.
71108	DCMB	Failed to obtain DCMB version.	1. The DCMB board is not started. 2. The DCMB board is faulty.	1. Wait patiently for the DCMB board to fully start. 2. Check whether the software version of the DCMB board is correct. 3. Try to replace and check the DCMB board. If the fault phenomenon occurs with only the DCMB board, replace the DCMB board.

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