INSTALLATION MANUAL FOR
SR-5400C STANDALONE INTEGRATED MEDIA BLOCK™

Version 19.2

October 31st, 2023

TABLE OF CONTENTS

Thank you for purchasing a GDC SR-5400C Standalone Integrated Media Block™ from GDC Technology Limited.

To ensure proper operation and to maximize value of the SR-5400C, please review this Installation Manual. It will guide you through all the features and benefits of the new SR-5400C Standalone Integrated Media Block™.

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MANUAL DISCLAIMER

This manual is made with version 19.2 and there might be slight differences depending on the software version the IMB is running. The contents, features and specifications stated in this manual are subject to change without notice due to continuous product development and improvements. In no other event shall GDC Technology Limited be liable for any loss of profit or any other commercial damages, including but not limited to special, consequential, or other damages.

FCC COMPLIANCE STATEMENT

This device installed in a Christie Series 4 projector complies with Part 15, Subpart B 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.

Note: This equipment has been tested and found to comply with the limits for a Class A - Unintentional Radiators digital device, pursuant to Part 15, Subpart B 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.

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1 INTRODUCTION

The SR-5400C Standalone Integrated Media Block™ from GDC is to be used with Christie CineLife+ Series Projector. The SR-5400C is capable of playing DCP content in **4K 3D** and up to **4K@96 fps**.

Each SR-5400C has in-built CineCache™ and supports external Enterprise Storage.

1.1 Equipment List

This section provides a suggested installation configuration of GDC SR-5400C and Enterprise Storage for reference. Please contact our sales representative to specify the accessories needed for the installation.

1.1.1 SR-5400C IMB Equipment List

The SR-5400C packaging includes the components mentioned below:

Component Name	Qty	Photo
SR-5400C Unit with projector Cover Plate	1	
RJ45 AES Audio Cable (10M)	1#	
RJ45 GPIO Cables (10M)	2#	
Network Cable	1	
RJ45 to DB25 Audio Converter	1#	

Data Cable	1*	
Power Cable	1*	

 # Subject to actual configuration. Please specify with our sales representative.
** Provided by Christie.*

1.1.2 Enterprise Storage Equipment List

The Enterprise Storage packaging includes the components mentioned below :

Component Name	Qty	Photo
Enterprise Storage unit	1	
3.5” SATA HDD	5*	
Power Cord	1	
eSATA Cable	1	
Quick Start Guide	1	

**** The number of HDD is subject to change without notice due to ongoing product development and improvement.***

2 INSTALLING THE SR-5400C IN THE PROJECTOR

This section of the manual describes the physical installation of the SR-5400C into the Projector. If the Projector does not have the GDC SR-5400C installed, follow the steps mentioned below to install the SR-5400C into the Projector.

Figure 1: SR-5400C Standalone IMB™

2.1 Installing the Power & Data Cables

Before installing the SR-5400C into the Projector, connect the power cable to the power port (for powering the IMB) & data cable to the video port (enabling communication between IMB and Projector) of the SR-5400C IMB.

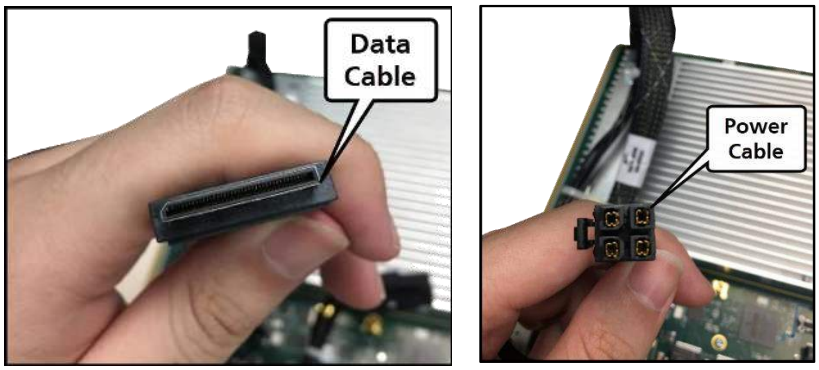

Figure 2: Data Cable (left) and Power Cable (right)

2.1.1 Installing the Power Cable

Connect the power cable to the power port on the IMB, as shown in **Figure 3**. Secure the power cable to the IMB's heat sink with cable ties, as shown in **Figure 4**.

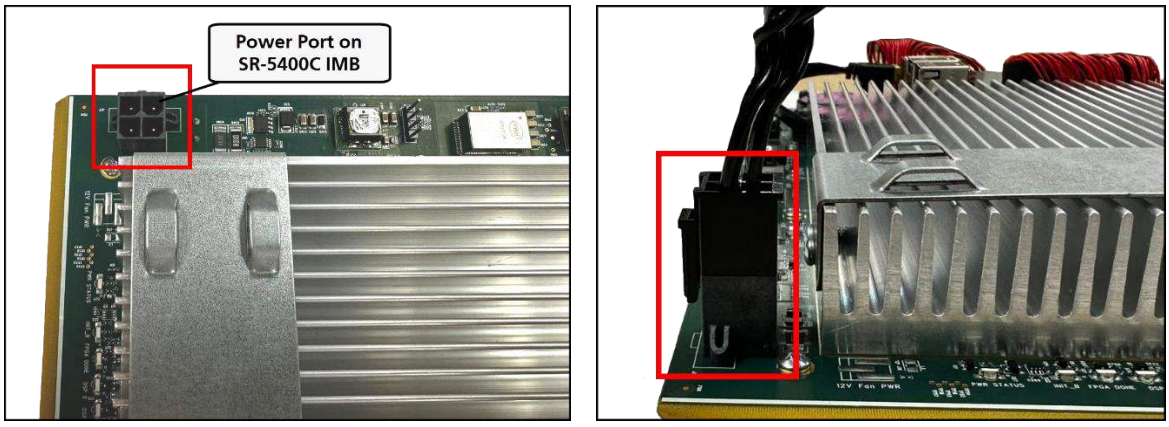

Figure 3: Connect Power Cable to Power Port

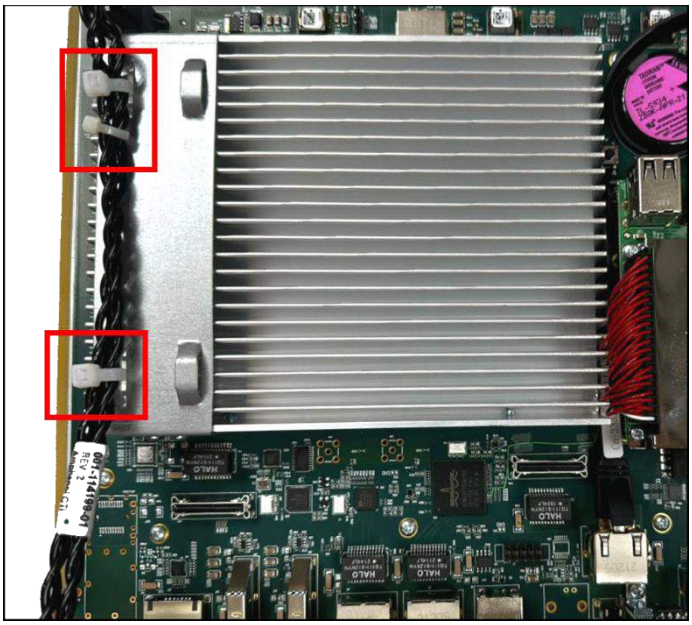

Figure 4: Secure Power Cable

2.1.2 Installing the Data Cable

Connect data cable to the video port on IMB as shown in **Figure 5.** Secure the data cable to the IMB's heat sink with a cable tie, as shown in **Figure 6.**

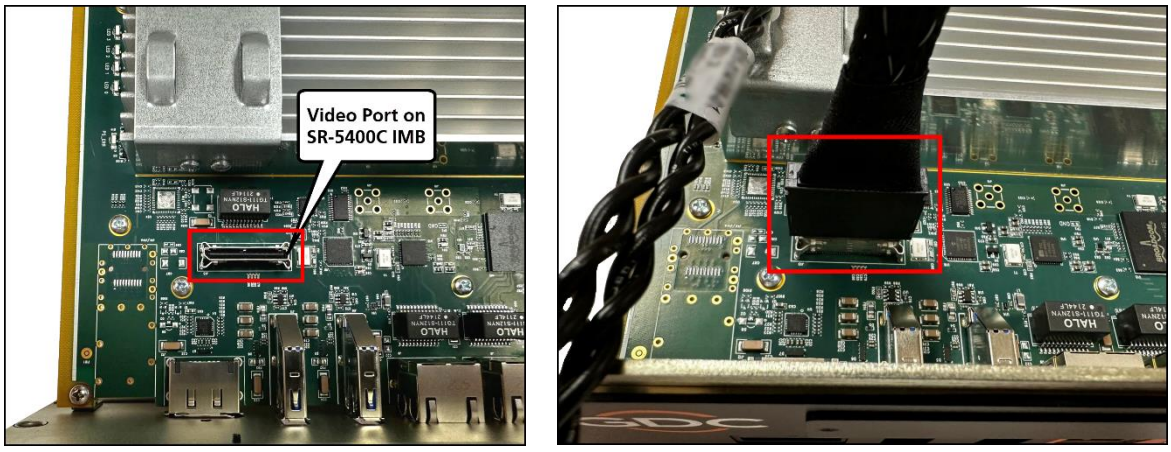

Figure 5: Connect Data Cable to Video Port

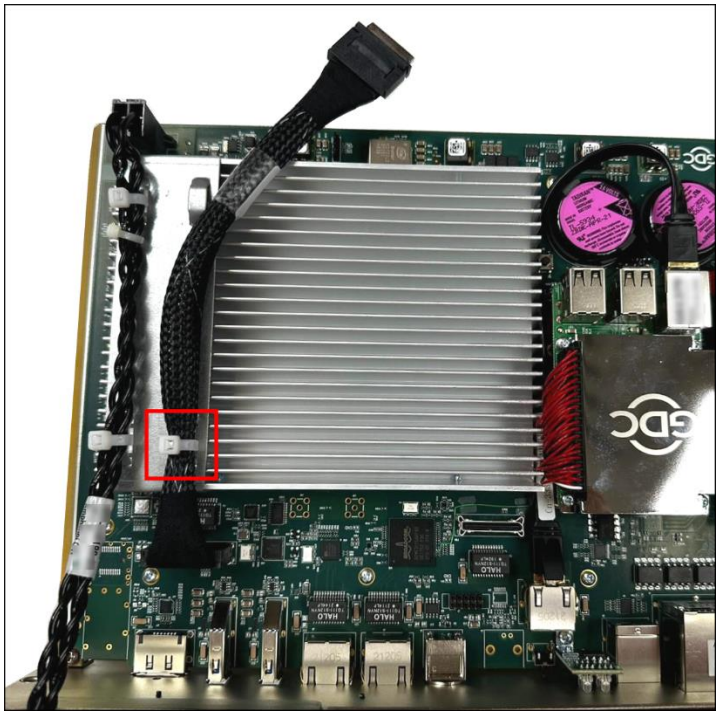

Figure 6: Secure Data Cable

Note: Hot Plugging Warning

Power OFF the projector **BEFORE** connecting the power cable from the IMB to the projector.

The projector must **NEVER** be powered ON when connecting this power cable.

2.2 Inserting the SR-5400C into the Projector

Please make sure the Projector is powered OFF prior to installing the SR-5400C IMB. **Figure 7** shows the location where the SR-5400C should be installed in a Christie projector. Ensure that the Christie security gate and placeholder faceplate in the indicated position are removed prior to installing the IMB.

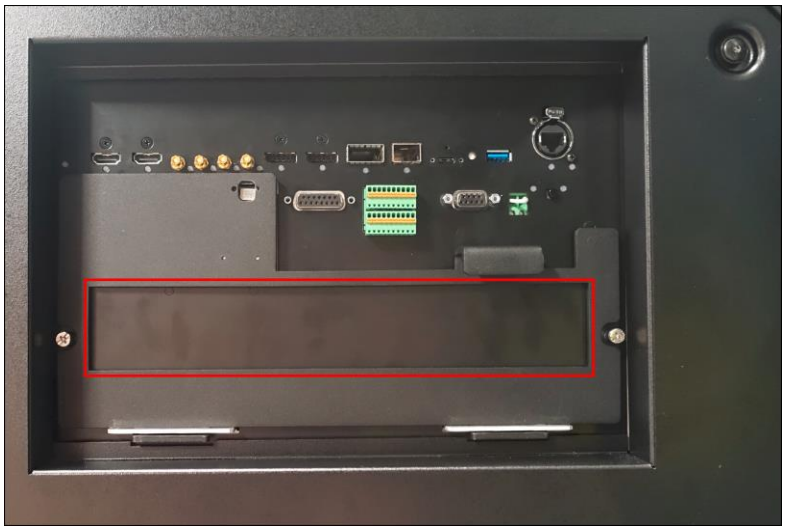

Figure 7: SR-5400C Placement in Christie Projector

The Projector card cage has two guide rails; one on the left and other on the right to guide the SR-5400C IMB during installation, as shown in **Figure 8** & **Figure 9**.

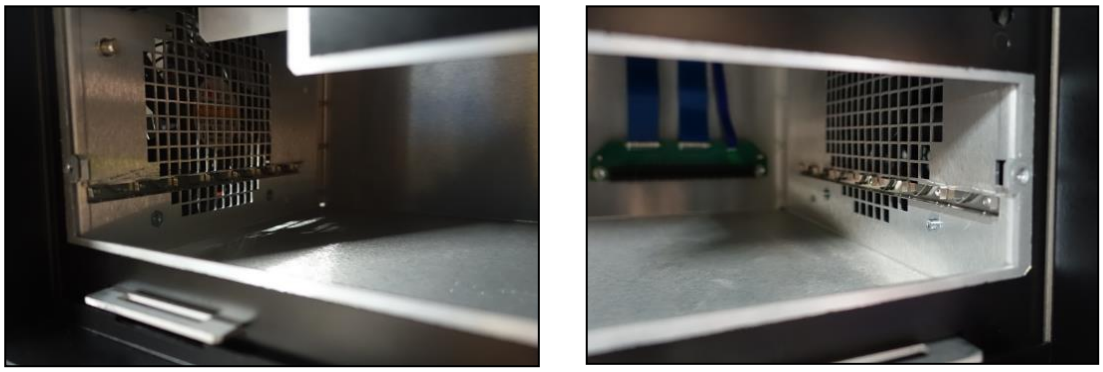

Figure 8: Left & Right Guide Rails

Figure 9: Card Cage of Projector

Insert the SR-5400C IMB as shown in **Figure 10**. The IMB should slide smoothly into the Projector on the rails provided on both sides of the Projector card cage.

Figure 10: Slide IMB into Projector

Connect the data and power cables to the ports inside the Projector after inserting the IMB halfway into the Projector.

Note: The video & power ports on the Projector are located on the ceiling of the card cage as indicated in **Figure 11**.

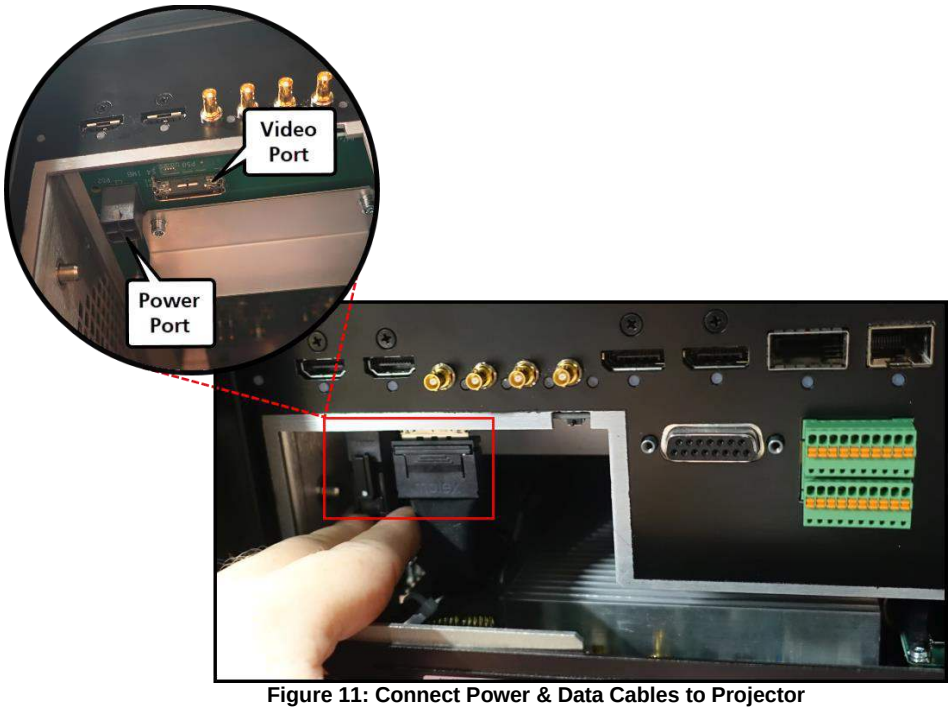

Figure 11: Connect Power & Data Cables to Projector

Check the height of the Red cable (as indicated in **Figure 12**) before sliding the IMB into the Projector. If the Red cable obstructs the installation of the IMB, please adjust its height before sliding in the IMB.

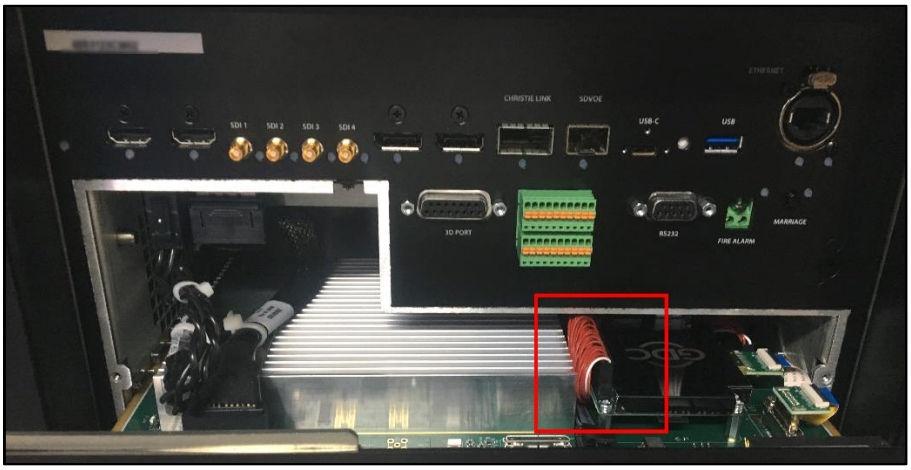

Figure 12: Height of Red Cable on IMB

After pushing the IMB completely into the projector:

- Tighten the screws at positions 1 & 2 indicated in **Figure 13**.
- Install the Christie security gate by inserting the brackets into the slots at positions 3 & 4 indicated in **Figure 13**.
- Push the security gate towards the IMB until it locks into position**.**

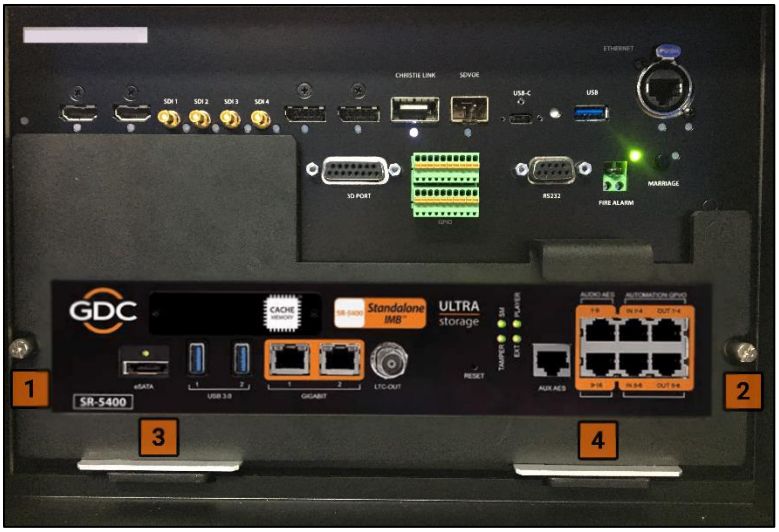

Figure 13: IMB installed in Projector

The SR-5400C IMB installation is now complete.

3 CONNECTING ENTERPRISE STORAGE WITH THE SR-5400C IMB

For more details on installation of the Enterprise Storage, please refer to 'GDC Installation Manual for Portable Storage and Enterprise Storage'.

1. After the IMB is installed, connect the external Enterprise Storage to the IMB.
2. Connect one end of the eSATA cable provided in the package to the eSATA port of the Enterprise Storage and tighten the screws as shown in **Figure 14.**
3. Connect the female end of the power cord provided within the package, to the power connector port of the Enterprise Storage as shown in **Figure 14.**
4. The other end of the power cord needs to be connected to a recommended power outlet (100 to 240V~, 63 to 47Hz, 4.5-2A)

Figure 14: Connect eSATA cable to the Enterprise Storage

5. Connect the other end to the eSATA cable to the eSATA port on the IMB and tighten the screws as shown in **Figure 15**.

Figure 15: Insert eSATA cable into SR-5400C eSATA port

3.1 Placement of the Enterprise Storage

It is recommended that the Enterprise Storage unit should be placed on the Christie projector pedestal as illustrated in **Figure 16**, such that the eSATA cable length (provided with the package) is sufficient enough to establish the connection between the IMB & Enterprise Storage.

Please ensure that the eSATA cable is not bent sharply or stressed.

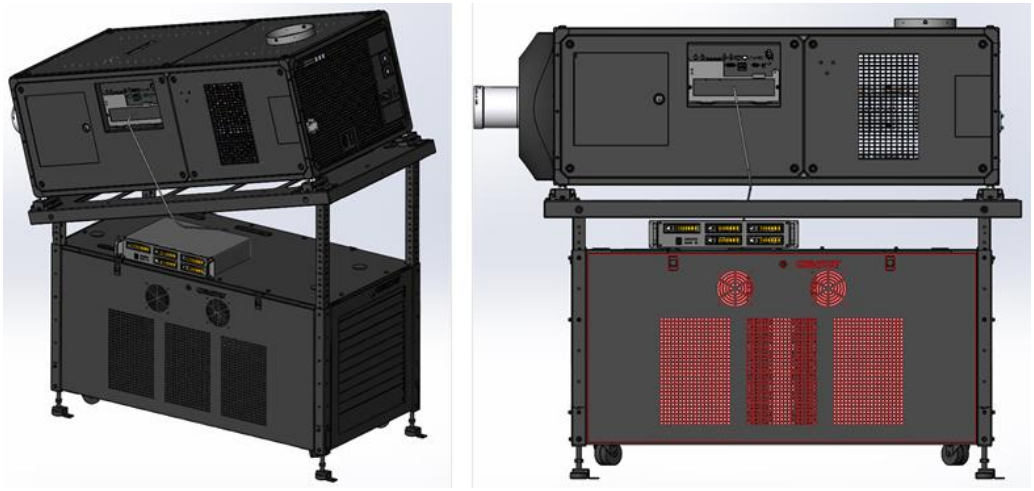

Figure 16: Enterprise Storage Placement

The Enterprise Storage installation is now complete.

4 POWER ON/OFF SEQUENCE

4.1 Power Up Sequence

Always power up the Enterprise Storage before powering up the Projector. The Enterprise Storage must be powered up first to be correctly identified by the SR-5400C IMB.

4.2 Power Down Sequence

Always power down the SR-5400C and Projector with the following steps:

1. Power down the SR-5400C by using the **Shutdown** button on the Web UI Dashboard.
2. Power down the Enterprise Storage attached to the SR-5400C.
3. Power down the Projector after the SR-5400C has powered down.

5 CONFIGURING THE SR-5400C FOR PLAYBACK

5.1 SR-5400C Web UI Access

The SR-5400C uses a web-based user interface or Web UI. The following steps show how to access the SR-5400C Web UI:

1. In order to access the Web UI of the SR-5400C, connect the **IMB Ethernet 1** network port of the IMB to a laptop or PC using a network cable. Configure the laptop or PC to the same network as the SR-5400C.

2. Open a web browser (Google Chrome™ or Mozilla Firefox™ are recommended) & enter the IP address of the SR-5400C (192.168.1.12 by default) to access the login page of the Web UI.

3. There are three levels of Users available ***(User/Technician/Maintenance***). Select the required access level and enter the corresponding password to login to the Web UI.

4. Select the preferred Web UI language by clicking on the corresponding flag icon, as shown in **Figure 18**.

Figure 17: Accessing the SR-5400C Web UI

Figure 18: SR-5400C Web UI Login Page

5.2 Clearing Marriage and Service Door Tamper Errors

After installing the SR-5400C, access the Web UI & clear the 'Marriage' & 'Service Door' Tamper errors on the IMB:

1. Go to **Configuration** → **System** → **System** section
2. Tamper status will show as follows:
   - IMB Marriage status (Divorced)
   - Service Door status (Opened)

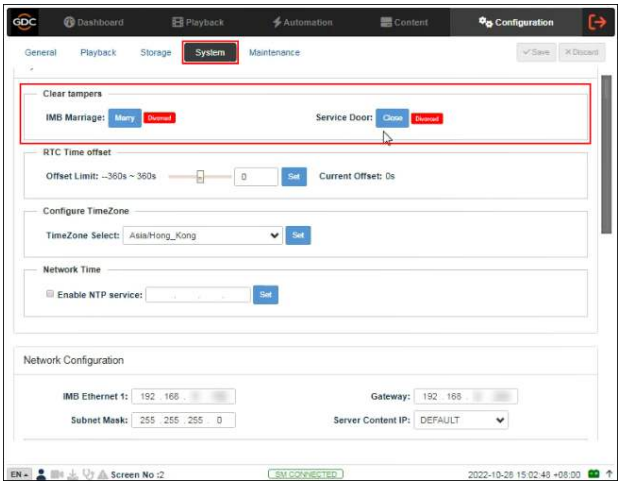

Figure 19: Tamper Status (before clearing)

3. Click on the Marry button.
4. Click on the Close button
5. Tamper status will change to:
   - IMB Marriage status (Married)
   - Service Door status (Closed)

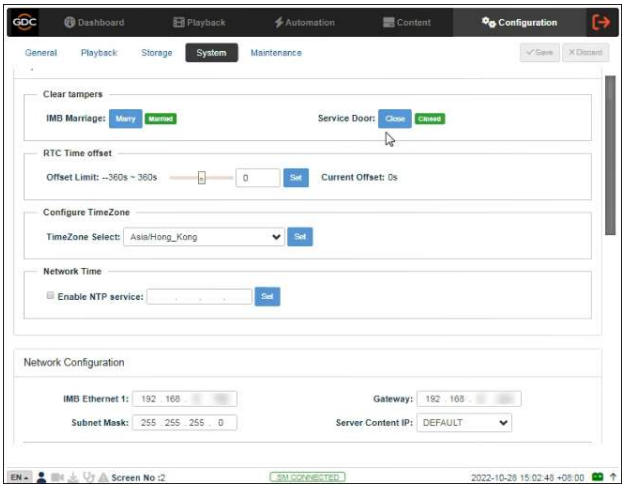

Figure 20: Tamper Status (after clearing)

5.3 IMB Network Settings

The SR-5400C IMB Network settings can be accessed from **Configuration** → **System** sub-tab.

1. Go to **Configuration** → **System** → **Network Configuration** section.
2. Connect the laptop/PC to the **ETH1** port of the SR-5400C IMB using a network cable. Configure the laptop/PC to the same network as the SR-5400C.
3. Access the SR-5400C Web UI using the default IP address of IMB Ethernet 1 interface, which is 192.168.1.12. This is the main IP address of the SR-5400C. The IMB Ethernet 1 IP Address can be changed as per the Cinema's Management network. The Subnet Mask & Gateway values need to be set as well.
4. The default IP address of the IMB Ethernet 2 interface is 169.254.100.1. The IMB Ethernet 2 IP Address can be changed as per the Cinema's Content network. The Subnet Mask value needs to be set as well.
5. The default IP address of the Host Module interface is 169.254.100.2. It specifies the IP Address of the Host Module of the SR-5400C.

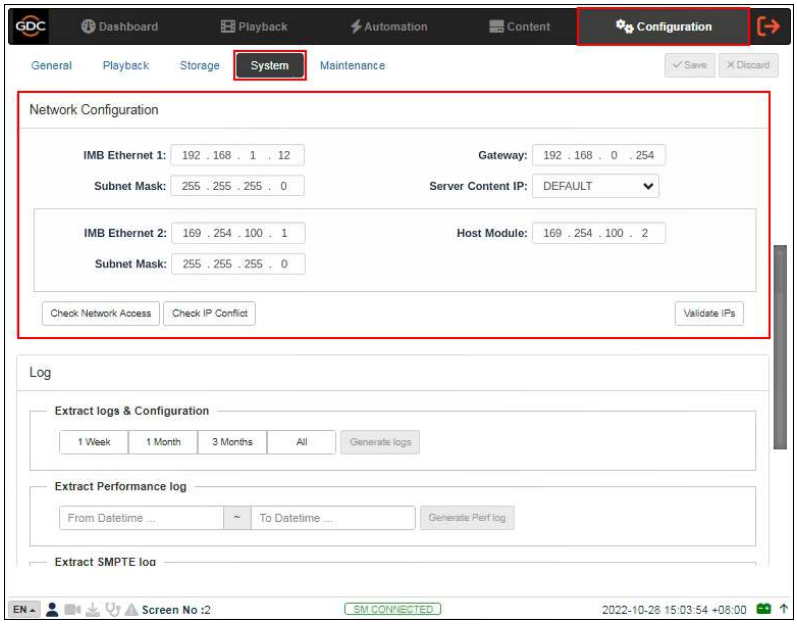

Figure 21: Network Settings on SR-5400C IMB

6. Once all the IP Addresses, Subnet Masks & Gateway values have been entered; click on the Validate IPs button to check their correctness.
7. If all IP addresses are valid, a popup window will appear as shown in **Figure 22**.
8. Click OK and then Save.

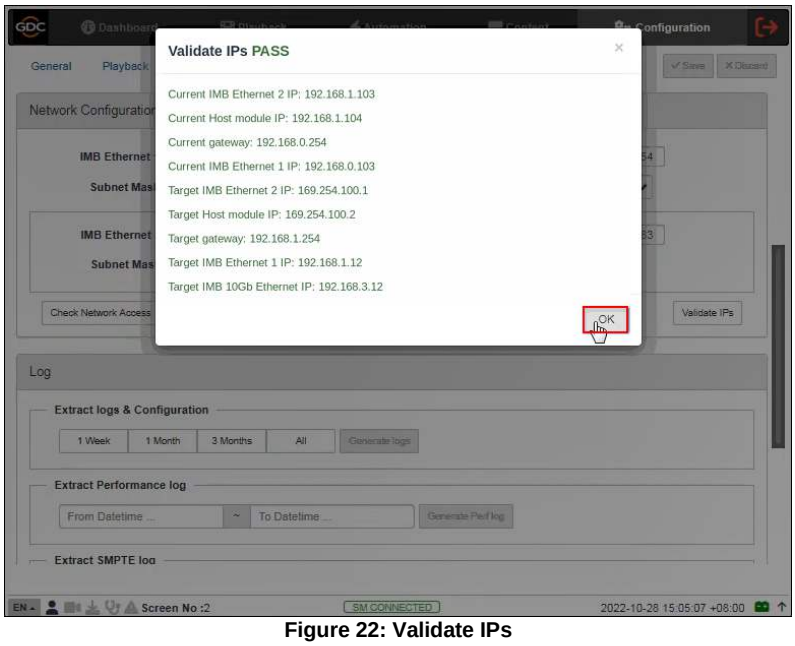

Figure 22: Validate IPs

Note: The SR-5400C IMB IPs may be changed to a Cinema-specific IP scheme, keeping in mind the following rules:

- All IP Addresses must be unique.
- The IMB Ethernet 1 and [IMB Ethernet 2 + Host Module] must be on separate subnets.
- IMB Ethernet 2 and Host Module must be on the same subnet.
- Both IMB Ethernet 2 and Host Module IPs must be configured as per the content network. Therefore, two IP Addresses must be allocated for each SR-5400C IMB on the Cinema's Content network.
- Assigned IP Addresses should not conflict with other devices in the Cinema's network.

5.4 IMB Storage Settings

The IMB Storage settings for the SR-5400C can be accessed from the **Configuration** → **Storage** sub-tab.

1. Go to **Configuration** → **Storage** → **IMB Storage** section.
2. Under **IMB Storage** section, select the Storage Type as 'Portable/Enterprise Storage'. The Enterprise Storage is now set as the Primary Storage.
3. Check Enable Secondary Storage & select 'CineCache'. The CineCache™ is now set as the Secondary Storage.
4. Click Save to save these settings.
5. Go to the **Dashboard** tab and click the **Restart** button followed by **OK** to confirm. This is to ensure all components in the IMB are able to detect the selected storage after restart.
6. The IMB will restart and use the selected options for Primary & Secondary Storage.

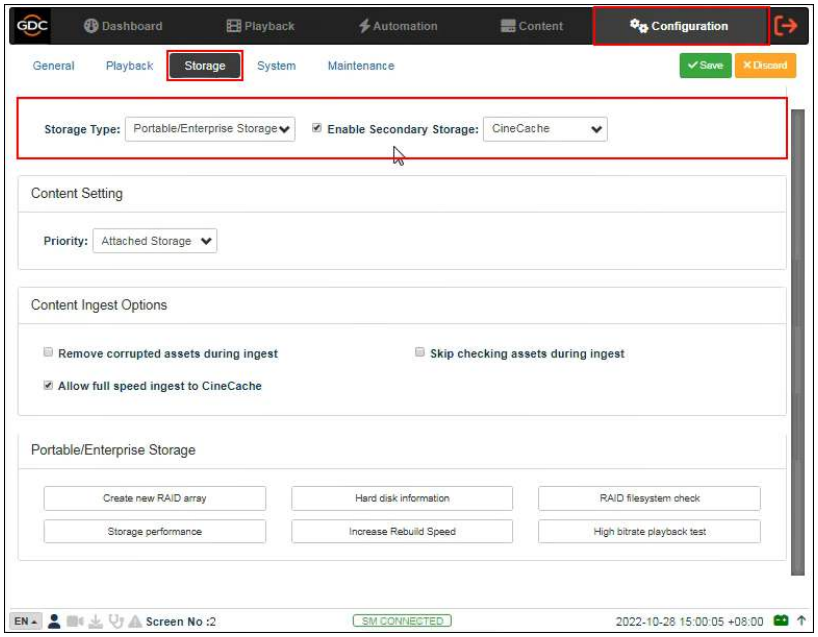

Figure 23: IMB Storage Settings

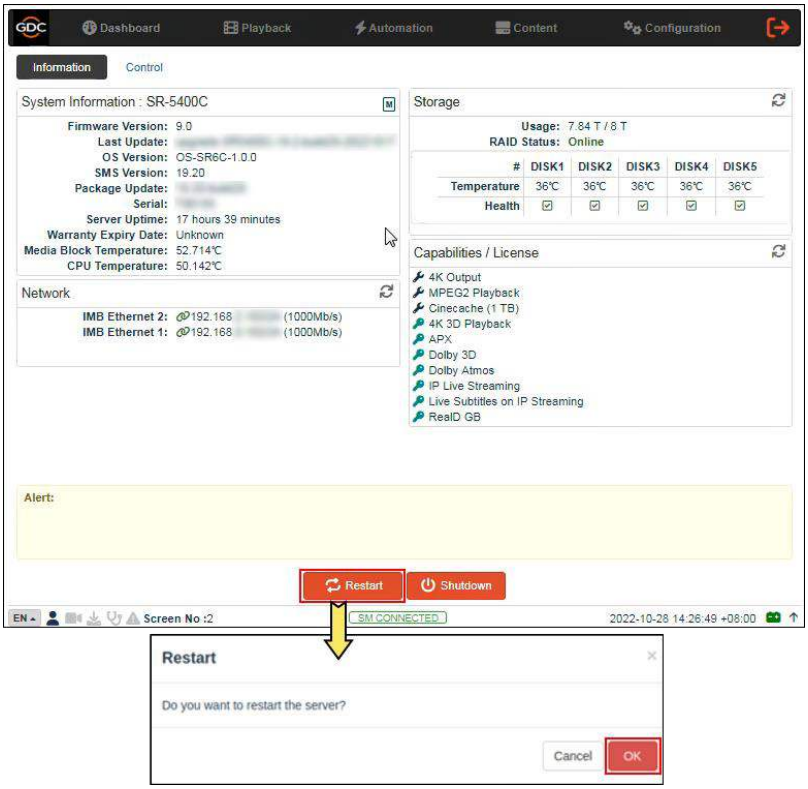

Figure 24: Restart the IMB to save Storage Settings

5.5 Audio Settings

The Audio settings for the SR-5400C IMB can be accessed from the **Configuration** → **Playback** subtab. Under the **Audio** section, the Audio Offset: value and Output Sampling Rate: can be set. Click Save to save these settings.

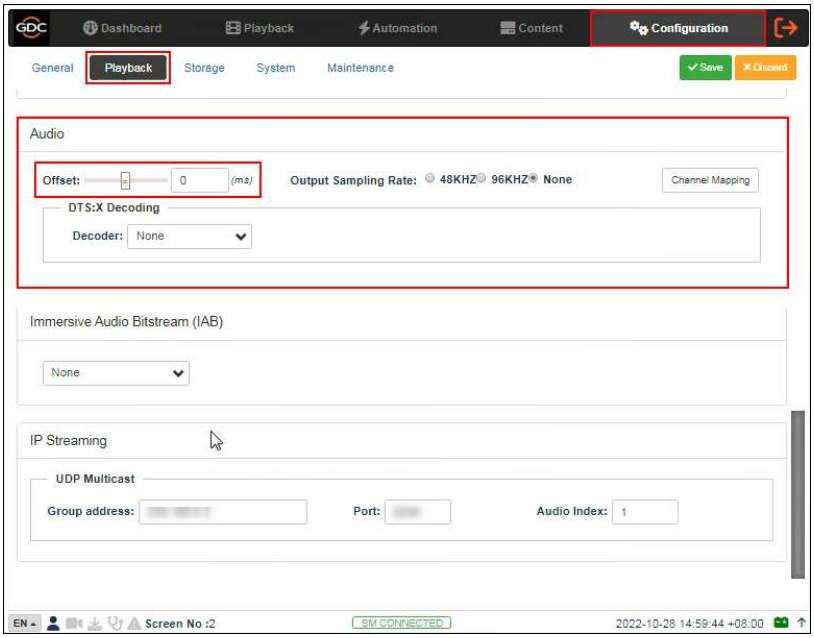

Figure 25: Audio Offset

6 CHRISTIE PROJECTOR SETUP

In order to configure a Christie CineLife+ Series Projector to work with the SR-5400C, the following steps must be taken:

1. Switch ON the Projector.
2. Log in to the 'Service' account on the Projector TPC by clicking on Login (as shown in **Figure 26**).

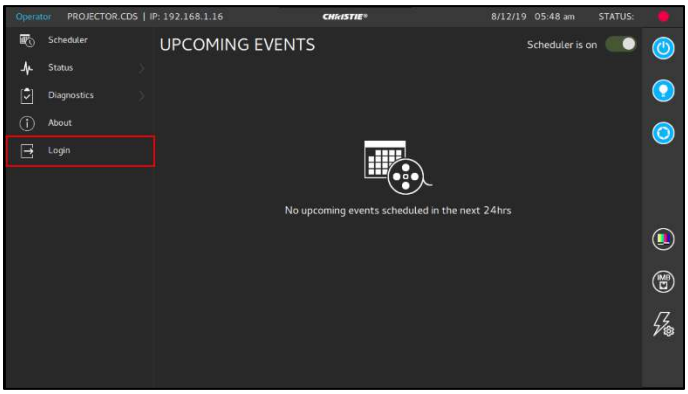

Figure 26: Login to Service Account

3. Enter Username as 'service' and the corresponding password and click the Login button (as shown in **Figure 27**).

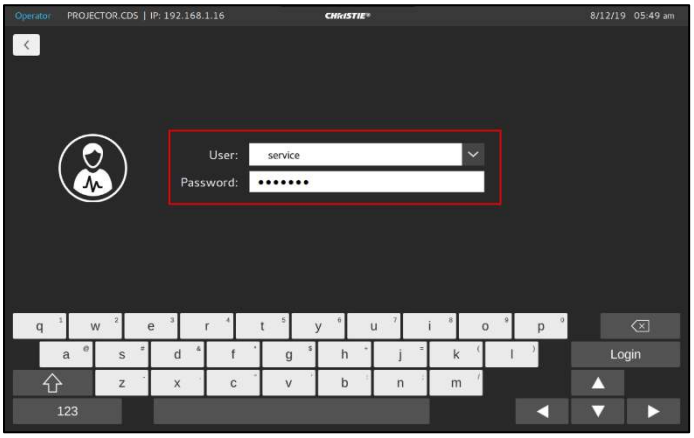

Figure 27: Type Username & Password

4. Once logged in, go to **Service Setup → Marriage Setup** (as shown in **Figure 28**).

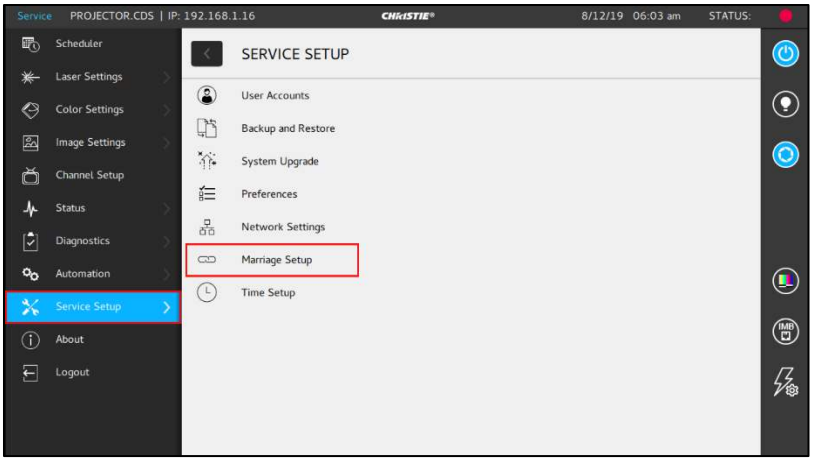

Figure 28: Marriage Setup

5. Complete the steps mentioned in the **Marriage Setup** wizard**.** Click on the 'Service Door Secure' box. Once it turns Green, click Next (as shown in **Figure 29**).

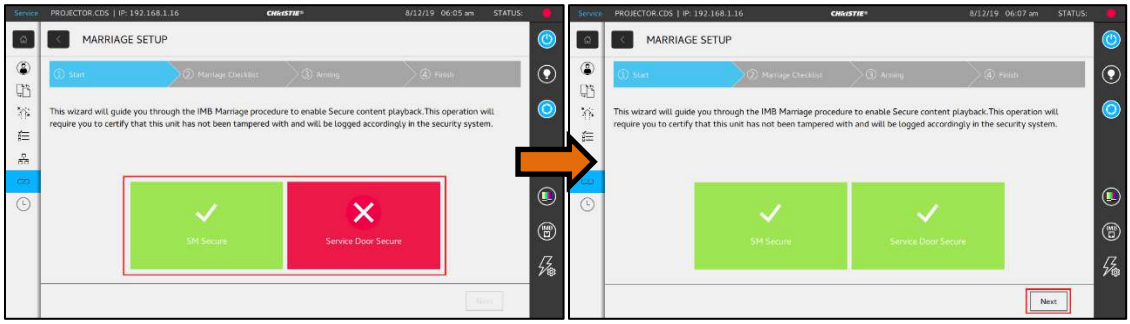

Figure 29: Service Door Secure

6. Ensure all the items on the Marriage Checklist (as shown in **Figure 30)** have been done. If yes, then click **Next**.

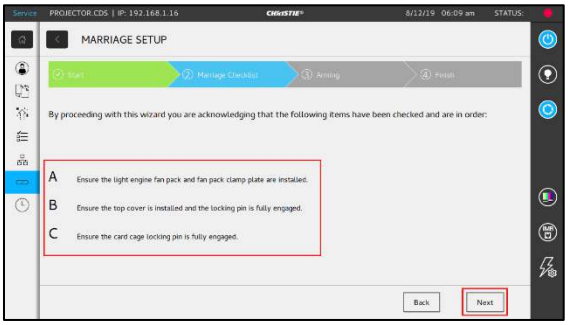

Figure 30: Marriage Checklist

7. Login by entering the Marriage account username & password & click on Login (as shown in **Figure 30).**

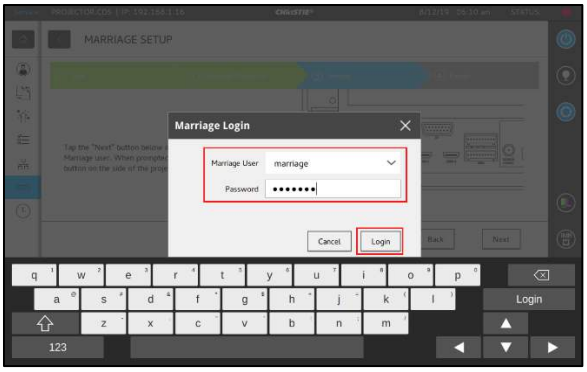

Figure 31: Login to Marriage Account

8. After logging in, a pop-up message will be displayed to press the **MARRIAGE** button on the operator panel of the Projector (as shown in **Figure 32).**

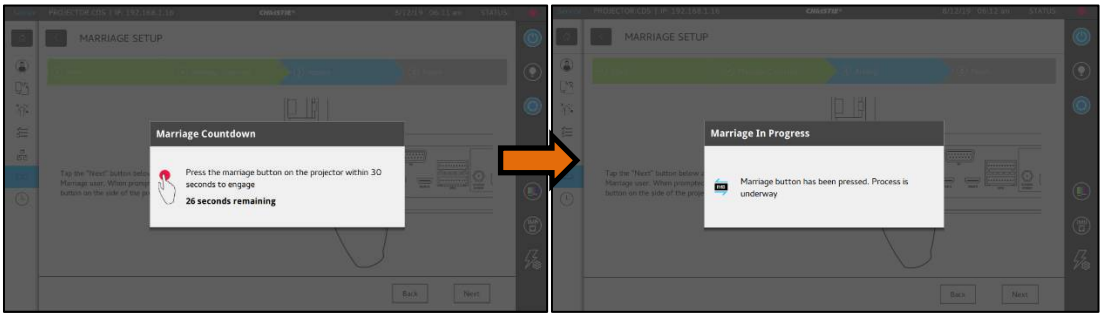

Figure 32: Press Marriage Button on Projector

9. Close the wizard once the “Marriage has been completed successfully” message is shown, by clicking on the Finish button (as shown in **Figure 33).**

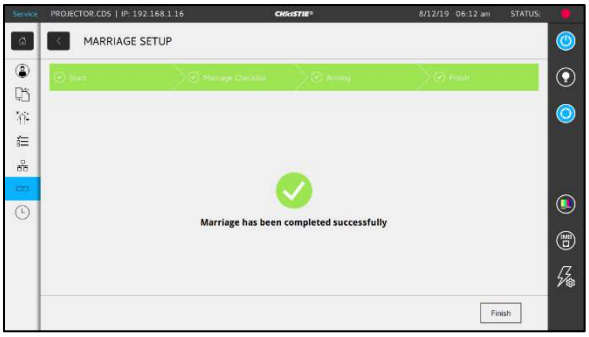

Figure 33: Marriage Successful

10. Clear the marriage & service door tampers errors on the SR-5400C IMB as well. (Refer to **Section 5.2**).

11. Go back to the main menu. Select **Service Setup** → **Preferences** (as shown in **Figure 34).**

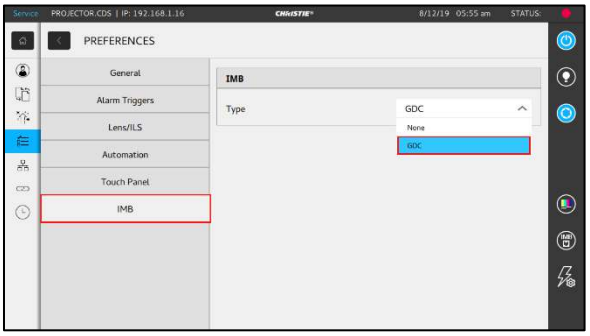

Figure 34:Preferences

12. Under the **Preferences** menu, select 'IMB'. Select 'GDC' from the Type drop-down (as shown in **Figure 38).**

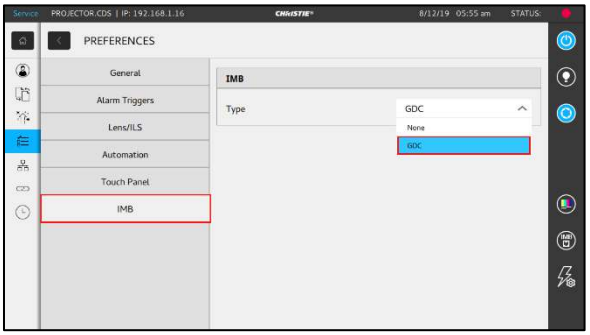

Figure 35: Select IMB Type

13. A pop-up message will be displayed (as shown in **Figure 36).** To save the IMB settings, reboot the Projector by clicking on the Reboot button.

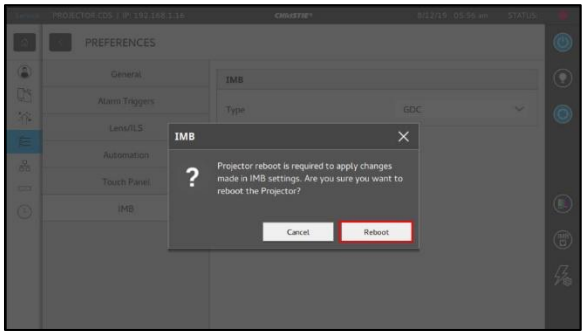

Figure 36: Reboot Projector

7 TIME ZONE SETUP ON SR-5400C

The SR-5400C IMB may or may not arrive with the local time zone set. The following steps show how to change the time zone on the Server.

1. Go to **Configuration** → **System** → **System** section.
2. Under the **Configure TimeZone** section, use the TimeZone Select: drop-down & select the applicable Region/City.
3. Click on the Set button & then Save to save this timezone setting.

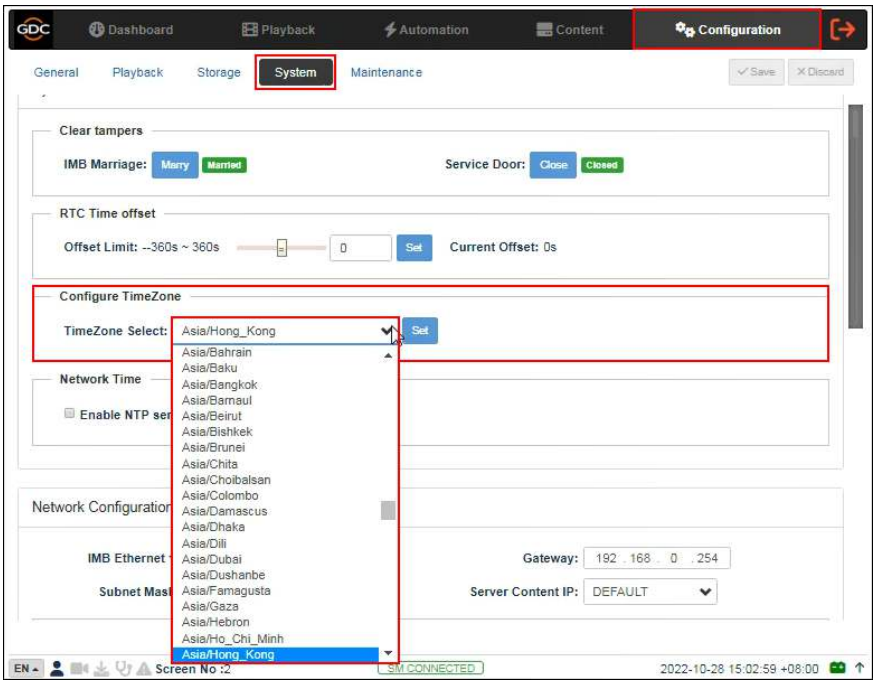

Figure 37: TimeZone setting

8 CONTENT INGEST MANAGEMENT SETUP

An ingest source must be configured before content can be ingested into the SR-5400C. This section shows the configuration for content ingest from two different source types. The same steps can be used to set up content ingest sources using other sources.

8.1 Content Ingest from USB Drive

The following steps describe the content ingestion from an external USB drive:

1. Connect the USB drive to the USB port of the SR-5400CIMB.
2. Go to **Content** → **Source** sub-tab and select the **Ingest** option.
3. Select 'USB DRIVE' from Source list.
4. Under the Details section; select the drive name assigned to the USB Disk, from the Pick a storage device: drop-down. Select the drive partition assigned to the USB Disk by the SR-5400C from the Select a partition: drop-down.
5. Click OK to mount the content ingest source and select the content to be ingested.

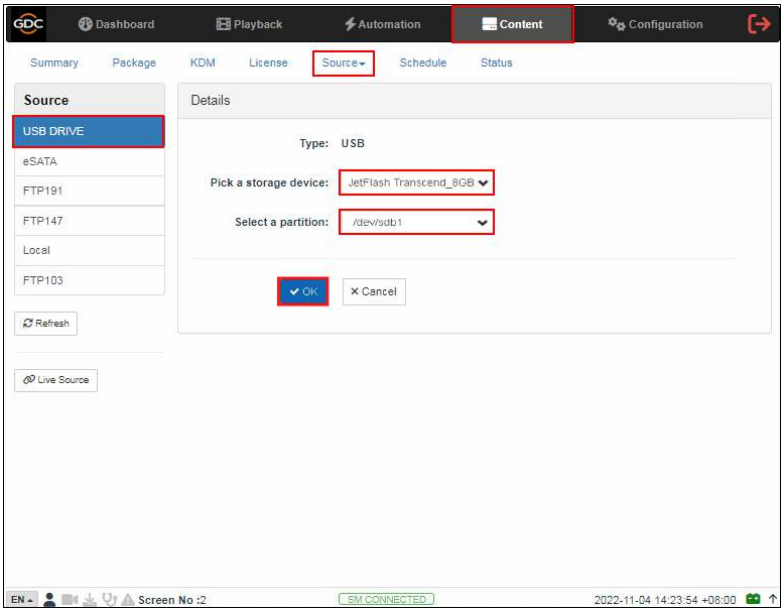

Figure 38: Select Ingest Source as USB Drive

6. Browse the content list on the left and select the directory where the package is located. The list of packages in the directory will be displayed on the right.
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. Click on Ingest button. You may choose to either ingest content to Primary Storage only using the Ingest-Primary option OR ingest content to Primary as well as Secondary Storage using the Ingest-Primary+Secondary option (provided that Secondary Storage has been enabled under **Configuration** → **Storage**).

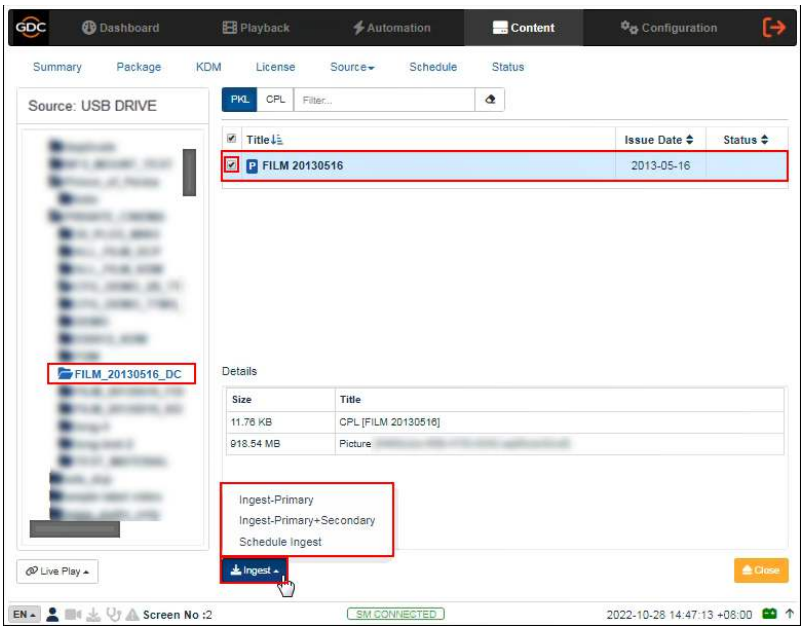

Figure 39: Ingest Content

9. The content ingest progress can be viewed from the **Status** sub-tab.

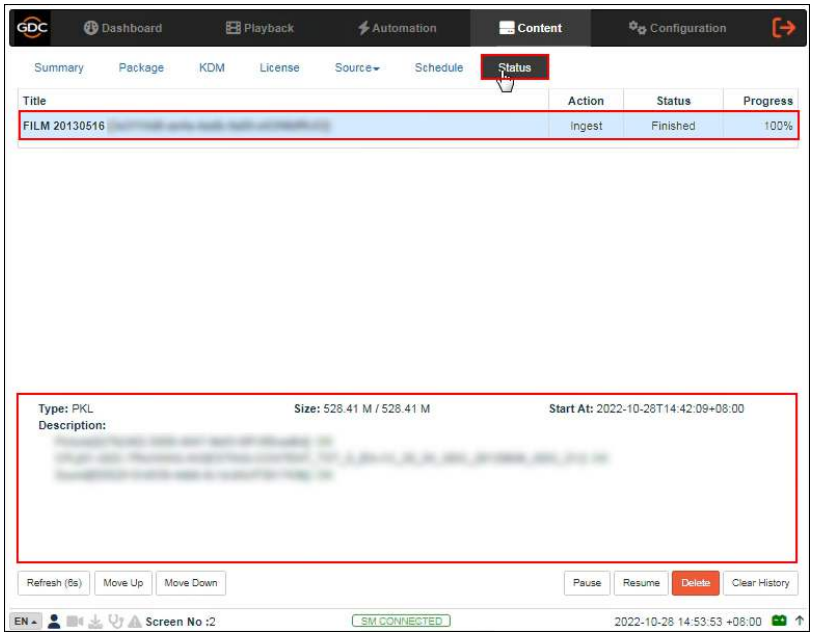

Figure 40: Status of Content Ingest

8.2 Content Ingest from FTP

Follow the steps mentioned below to setup content ingestion from an FTP server:

1. Go to **Content** → **Source** sub-tab and select the **Ingest** option.
2. Click on the Create button. Select ‘FTP’ as the source type. Enter the FTP Name. In this case, we use “Test_FTP1”.
3. Enter the respective parameters for IP Address, Port, Source Path, Username and Password.
4. Click Save to save these FTP settings.

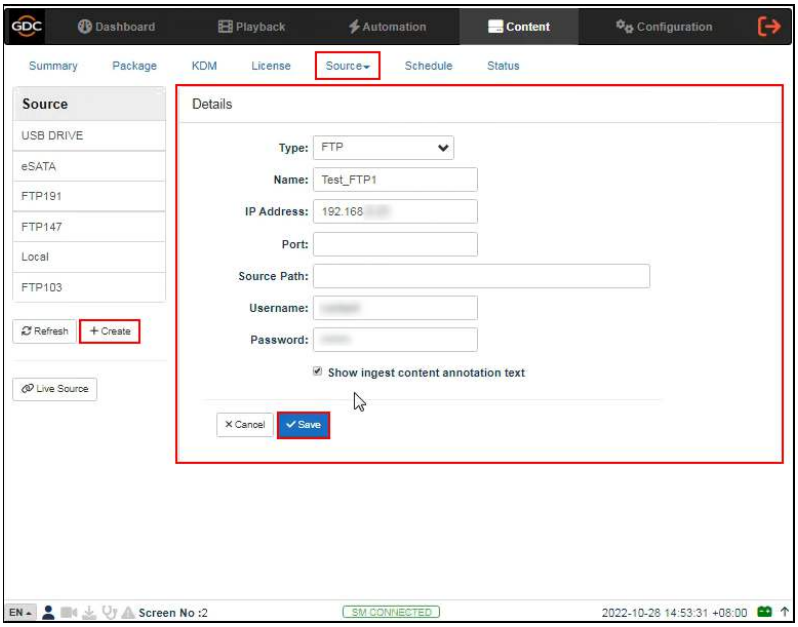

Figure 41: Select Ingest Source as FTP

5. Click Open button to connect to the FTP server and choose the content for ingest.

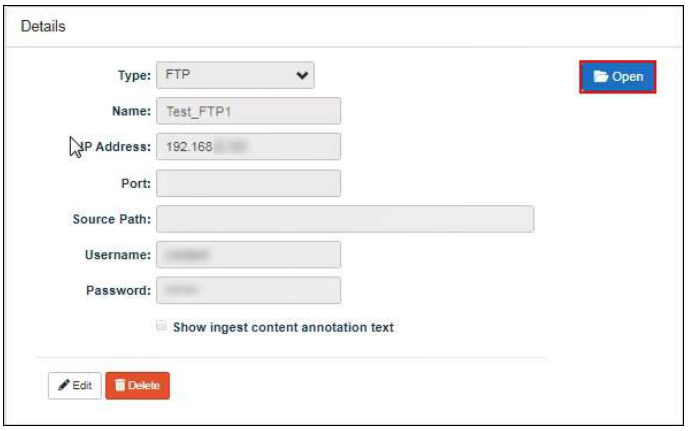

Figure 42: Open FTP Source

The steps to ingest content remain the same, as mentioned under **Section 8.1**

9 AUDIO SETUP

The SR-5400C features AES digital audio signal via two RJ45 Outputs. For compatibility with most audio processors on the market, a standard RJ45 to DB25 connector is included in the packaging (please refer to **Figure 43**).

Note: For Dolby Atmos® installations, please use the RJ45 to DB25 connector supplied with the Dolby CP850 cinema processor.

Figure 43: RJ45 → DB25 Audio Connector

A-TOP (RJ45) (Female)	Channel	DB25 (25Pin) (Female)
Pin1	AES Out 1+	24
Pin2	AES Out 1-	12
Pin3	AES Out 2+	10
Pin4	AES Out 3+	21
Pin5	AES Out 3-	9
Pin6	AES Out 2-	23
Pin7	AES Out 4+	7
Pin8	AES Out 4-	20
A-BOT (RJ45) (Female)	**Channel**	**DB25 (25Pin) (Female)**
Pin1	AES Out 5+	18
Pin2	AES Out 5-	6
Pin3	AES Out 6+	4
Pin4	AES Out 7+	15
Pin5	AES Out 7-	3
Pin6	AES Out 6-	17
Pin7	AES Out 8+	1
Pin8	AES Out 8-	14

Figure 44: RJ45 → DB25 Pinout (For traditional audio connector)

A-TOP (RJ45) (Female)	Channel	DB25 (25Pin) (Male)
Pin1	AES Out 1+	14
Pin2	AES Out 1-	2
Pin3	AES Out 2+	3
Pin4	AES Out 3+	17
Pin5	AES Out 3-	5
Pin6	AES Out 2-	16
Pin7	AES Out 4+	6
Pin8	AES Out 4-	19

Figure 45: RJ45 → DB25 pinout (For CP750/JSD80 audio connector)

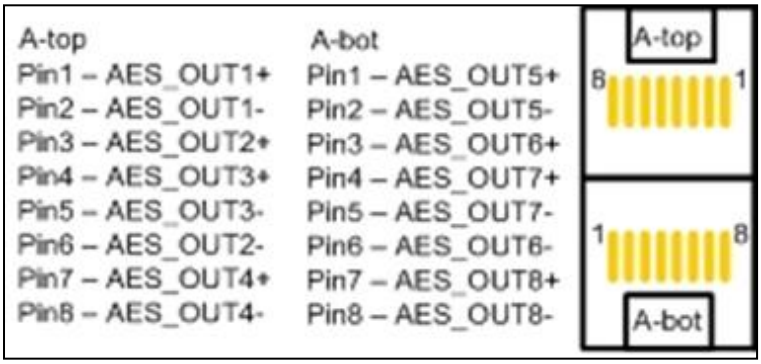

Figure 46: AES Audio RJ45 pinout

10 DOLBY ATMOS® SETUP

10.1 IMB Network Diagram with Dolby Atmos®

Only the 'Dolby Atmos Input' network port on the Dolby CP850 is used for communication with the SR-5400C. Connect this network port to the Gigabit Management switch, so that it can communicate with the IMB Ethernet 1 port on the SR-5400C. The 'Dolby Atmos Command' network port on the CP850 is not used.

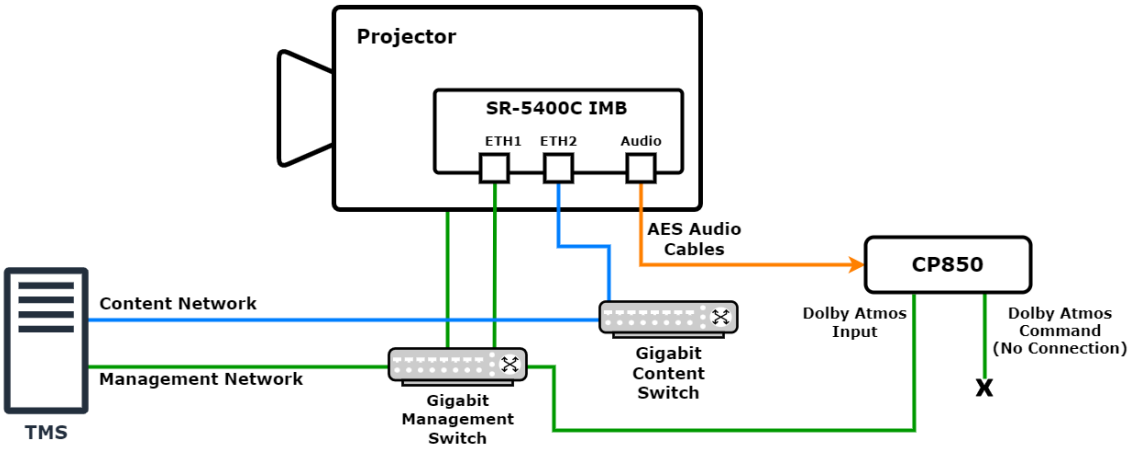

Figure 47: IMB Network Setup with Dolby Atmos®

10.2 Dolby Atmos® Configuration

Follow the steps mentioned below to setup the CP850 with the SR-5400C IMB:

1. From the SR-5400C Web UI, go to the **Configuration** → **Playback** sub-tab.

2. The IPs for 'IMB Ethernet 1' on the SR-5400C and 'Dolby Atmos Input' on the CP850 must be configured to the same subnet.

3. Under the **Immersive Audio Bitstream (IAB)** section, select the 'Dolby Atmos (External)' option. The Atmos Data IP and Atmos TLS IP settings must both be set to the 'Dolby Atmos Input' IP set on the CP850. In the example shown in **Figure 48,** the 'Dolby Atmos Input' IP on the CP850 is 192.168.1.245.
   Under the **Audio** section, the Audio Offset value must be set to '-251' ms or '-80' ms depending on the firmware version of CP850.

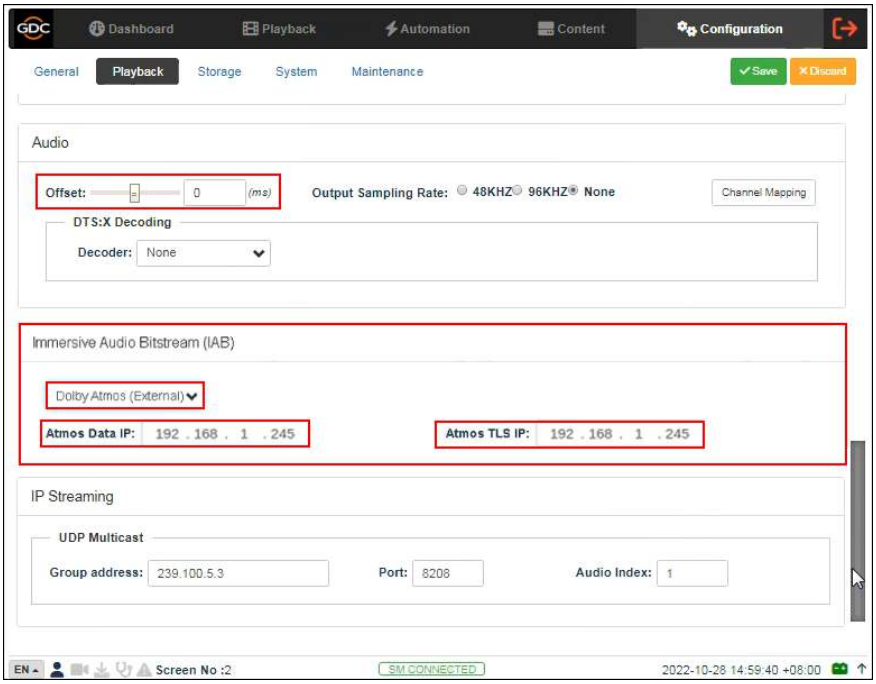

Figure 48: Audio & Dolby Atmos® Settings

The following will be shown on the web interface on the Dolby CP850 during playback of Dolby Atmos® content (refer to **Figure 49**). This can be used to determine if Dolby Atmos® playback is successful:

- Dolby Atmos content LED will turn Green.
- Screen server connected LED will turn Green.
- Atmos track information will appear under the **Dolby Atmos info** section (information will be 'n/a' if Dolby Atmos® track is not playing).
- Level monitor next to the mute button will dynamically show AES input levels.

Figure 49:Dolby CP850 Web Interface

11 SUBTITLES

To enable subtitles, please check Subtitle Overlay option under **Configuration** → **Playback** → **Subtitle** section.

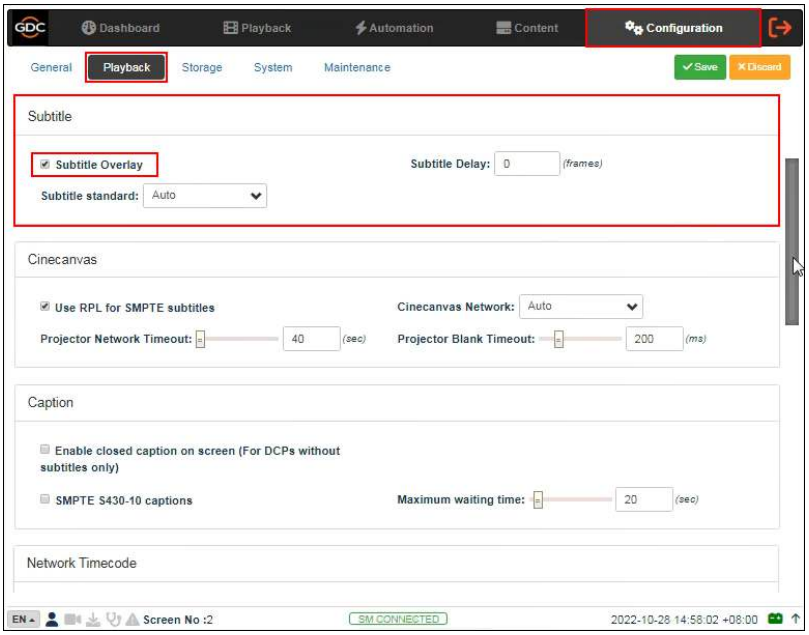

Figure 50: Subtitle settings

12 AUTOMATION SETUP

The SR-5400C is able to control external devices using its automation interface. This can be used to automate repetitive tasks for the cinema operator to prevent user error. All devices to be controlled by automation over the network must be connected to the management network of the SR-5400C.

12.1 Automation setup for Server GPIO

The SR-5400C GPIO automation device settings can be configured using the steps below:

1. Go to **Automation** → **Cue** sub-tab.
2. Under the Device column, select 'IMBGPIO'.
3. Enter the device Name, Input Min Pulse width (ms) and Output Pulse Width (ms).

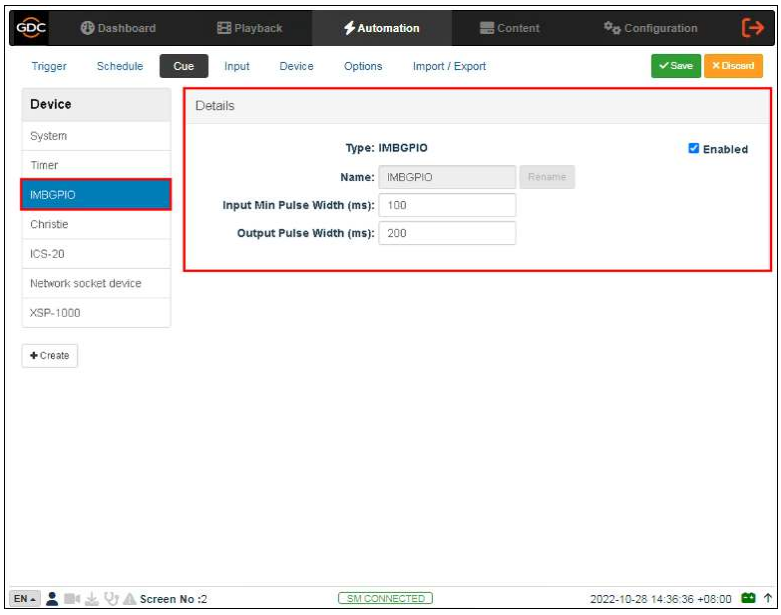

Figure 51: GPIO Device Settings

The output pulse width must be at least ***100ms***. If a different output pulse width is required, the value can be entered in the Output Pulse Width setting. Click the Save button to save any changes made.

12.2 Automation setup for Projectors

The SR-5400C supports automation for Barco, Christie and NEC projectors. Follow the steps below to configure a projector device in the server automation interface.

1. Go to **Automation** → **Device** sub-tab.
4. Under the Device column, click the Create button.
2. Select 'PROJECTOR' as the device Type. Enter the Name: of the device and click OK.
3. Enter the IP address: of the projector device
4. Set the correct Model: and Series: of the projector. The Port: number will automatically change to the default automation port number for the selected model.
5. Enter Login and Password for the projector, if required.
6. Click Save to save the settings.

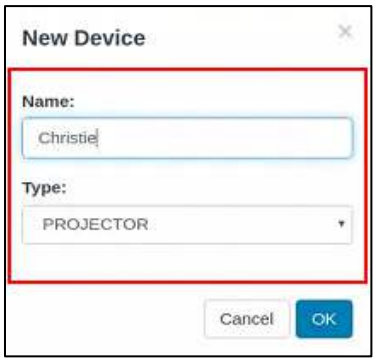

Figure 52: Add Projector Device

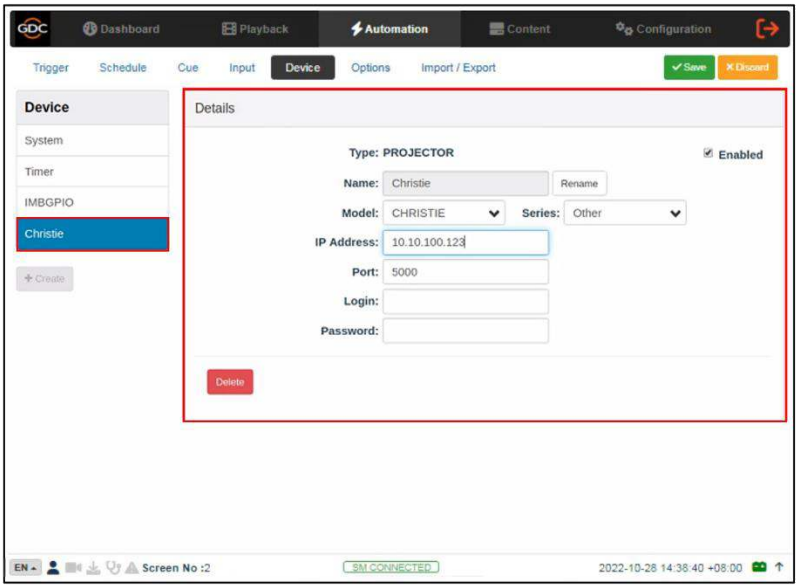

Figure 53:Projector Device Settings

12.3 Automation setup for eCNA devices

The SR-5400C supports the eCNA-10 automation system. Follow the steps below to configure an eCNA device in the server automation interface.

1. Go to **Automation** → **Device** sub-tab.
2. Under the Device column, click the Create button.
3. Select 'eCNA_IO' as the device Type. Enter the Name of the eCNA device and click OK.
4. Enter the IP address of the eCNA device.
5. The eCNA device has many cues available for automation. These cues can be enabled or disabled by selecting them after clicking the buttons in Server events, eCNA controls, eCNA status, and eCNA event report. All cues are disabled by default.
6. Click Save to save the settings.

Figure 54: Add eCNA Device

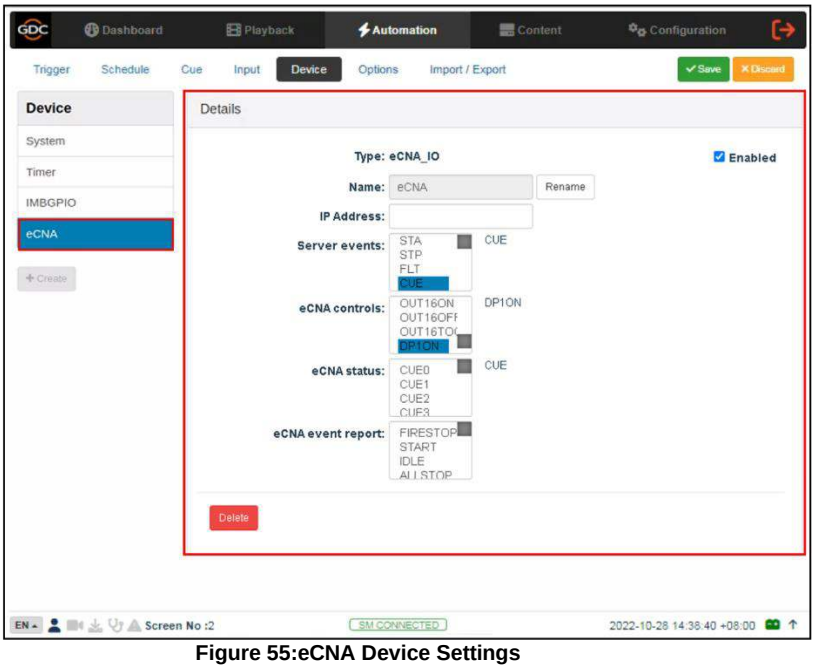

Figure 55:eCNA Device Settings

12.4 Automation setup for JNIOR devices

The SR-5400C supports the JNIOR Ethernet I/O controller device. Follow the steps below to configure a JNIOR device in the server automation interface.

1. Go to **Automation** → **Device** sub-tab.
2. Under the Device column, click the Create button.
3. Select 'JNIOR_IO' as the device Type. Enter the Name of the JNIOR device and click OK.
4. Enter the IP address of the JNIOR device.
5. The settings for Port, Login and Password are set to the default values for JNIOR device if left empty.
6. Click Save to save the settings.

Figure 56: Add JNIOR device

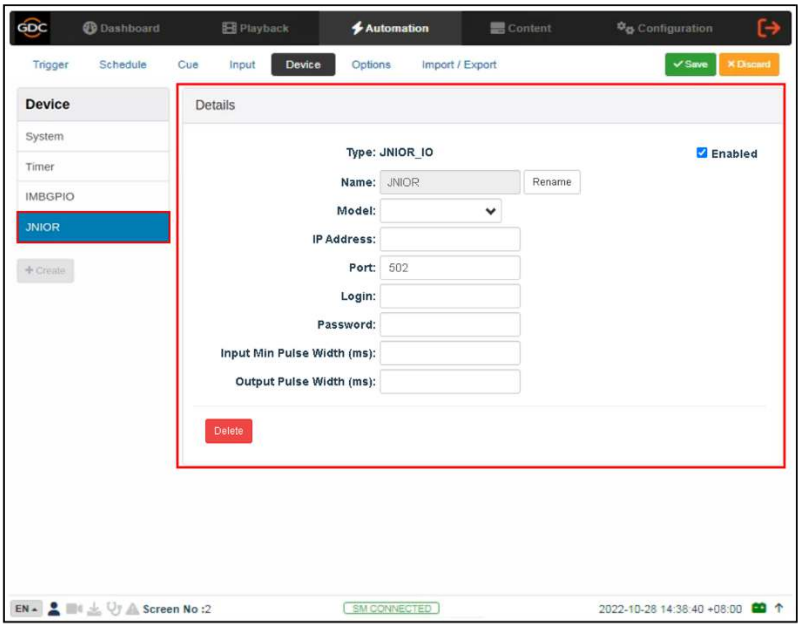

Figure 57: JNIOR Device Settings

12.5 Automation setup for Christie ACT devices

The SR-5400C supports the Christie ACT automation device. Follow the steps below to configure a Christie ACT device in the server automation interface.

1. Go to **Automation** → **Device** sub-tab.
2. Under the Device column, click the Create button.
3. Select 'ChristieACT' as the device Type. Enter the Name of the ChristieACT device and click OK.
4. Enter the IP address of the ChristieACT device.
5. The default setting for Port is displayed on the settings for the ChristieACT device. Change this value if required.
6. Default control cues will be set up for a new ChristieACT automation device. Control Cues can be added or removed by clicking the + or – buttons.
7. Click Save to save the settings.

Figure 58: Add ChristieACT device

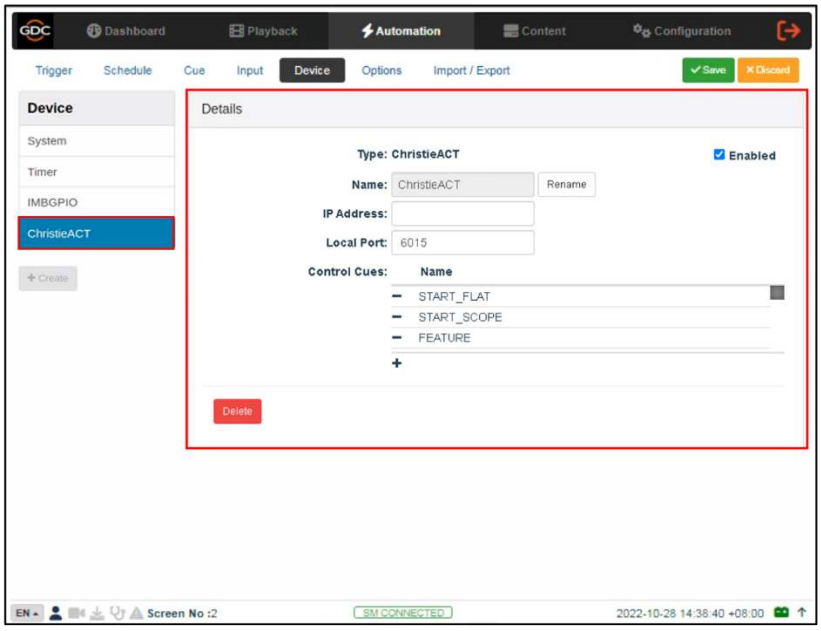

Figure 59: ChristieACT Device Settings

12.6 Automation setup for Dolby devices

The SR-5400C supports automation for the Dolby sound processors. Follow the steps below to configure a Dolby device in the server automation interface. For this example, the device refers to the Dolby CP750 cinema processor.

1. Go to **Automation** → **Device** sub-tab.
2. Under the Device column, click the Create button.
3. Select 'DolbyCP750' as the device Type. Enter the Name of the Dolby CP750 device and click OK.
4. Enter the IP Address of the Dolby CP750 device.
5. Click Save to save the settings.

Figure 60: Add Dolby Device

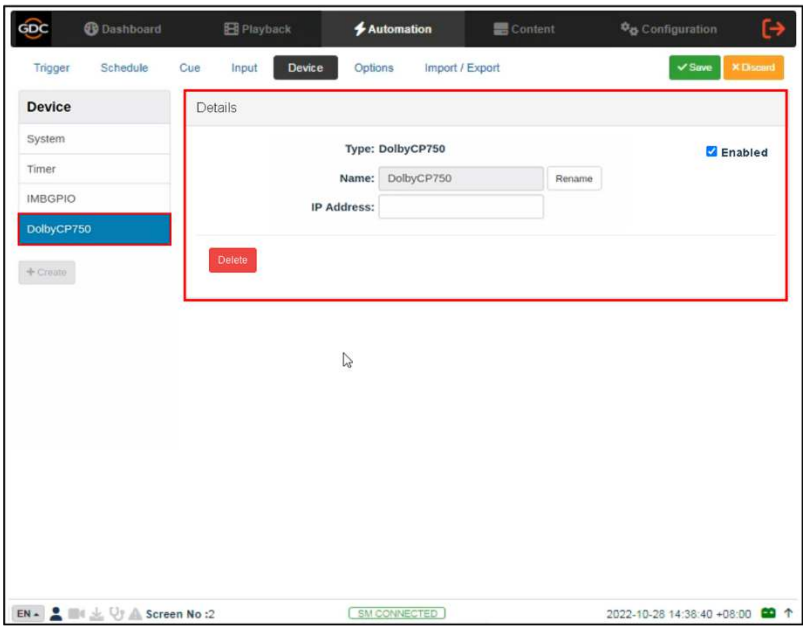

Figure 61: Dolby Device Settings

12.7 Automation setup for USL DAX devices

The SR-5400C supports automation for USL DAX sound processor. Follow the steps below to configure a USL DAX device in the server automation interface.

1. Go to **Automation** → **Device** sub-tab.
2. Under the Device column, click the Create button.
3. Select 'USL-DAX' as the device Type. Enter the Name of the USL DAX device, and click OK.
4. Enter the IP Address of the USL DAX device.
5. Click Save to save the settings.

Figure 62: Add USL DAX Device

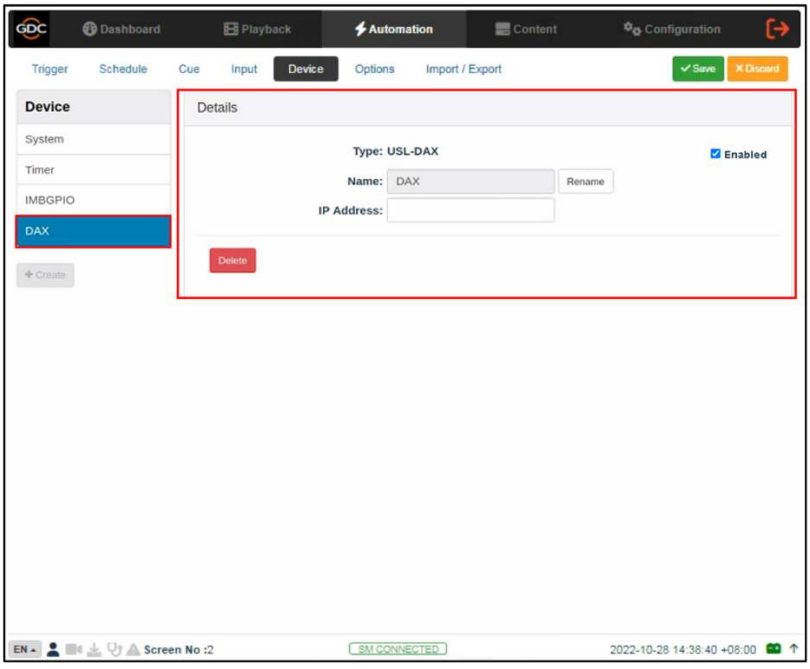

Figure 63: USL DAX Device Settings

12.8 Automation setup for USL JSD devices

The SR-5400C supports automation for USL JSD-80 and JSD-100 sound processor. Follow the steps below to configure a USL JSD device in the server automation interface.

1. Go to **Automation** → **Device** sub-tab.
2. Under the Device column, click the Create button.
3. Select 'USL-JSD' as the device Type. Enter the Name of the USL JSD device, and click OK.
4. Enter the IP Address of the USL JSD device.
5. Select the correct model ('JSD-80' or 'JSD-100') of the device the server is connected to.
6. Click Save to save the settings.

Figure 64: Add USL JSD Device

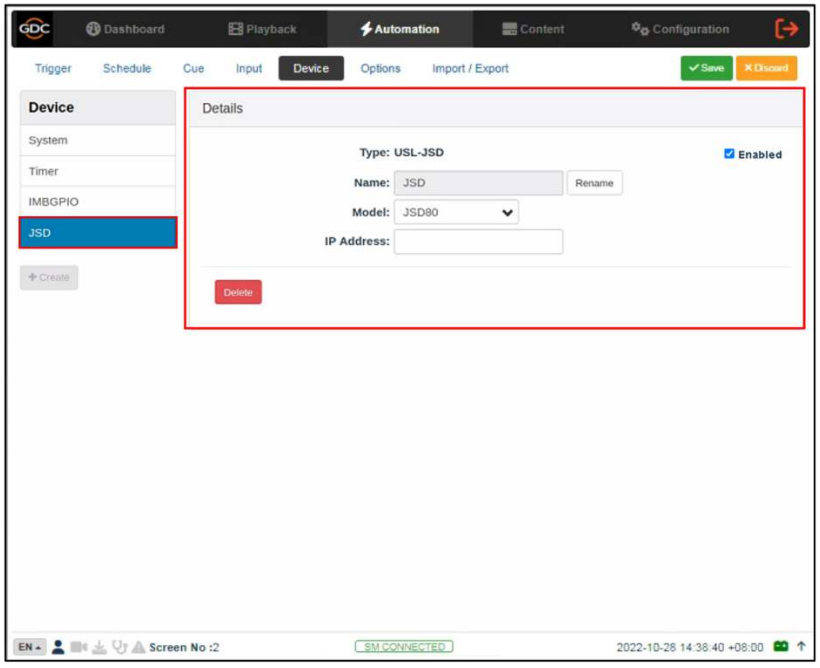

Figure 65: USL JSD Device Settings

13 COMPONENT ENGINNERING TA-10 SETUP

The Component Engineering TA-10 can be used for theater automation with the SR-5400C. It requires that the TA-10 be wired in a particular configuration. A wiring diagram can be seen in **Figure 66.**

The TA-10 is connected to the SR-5400C using the server's GPIO input/output port. Configure event labels with the GPIO device to trigger the TA-10.

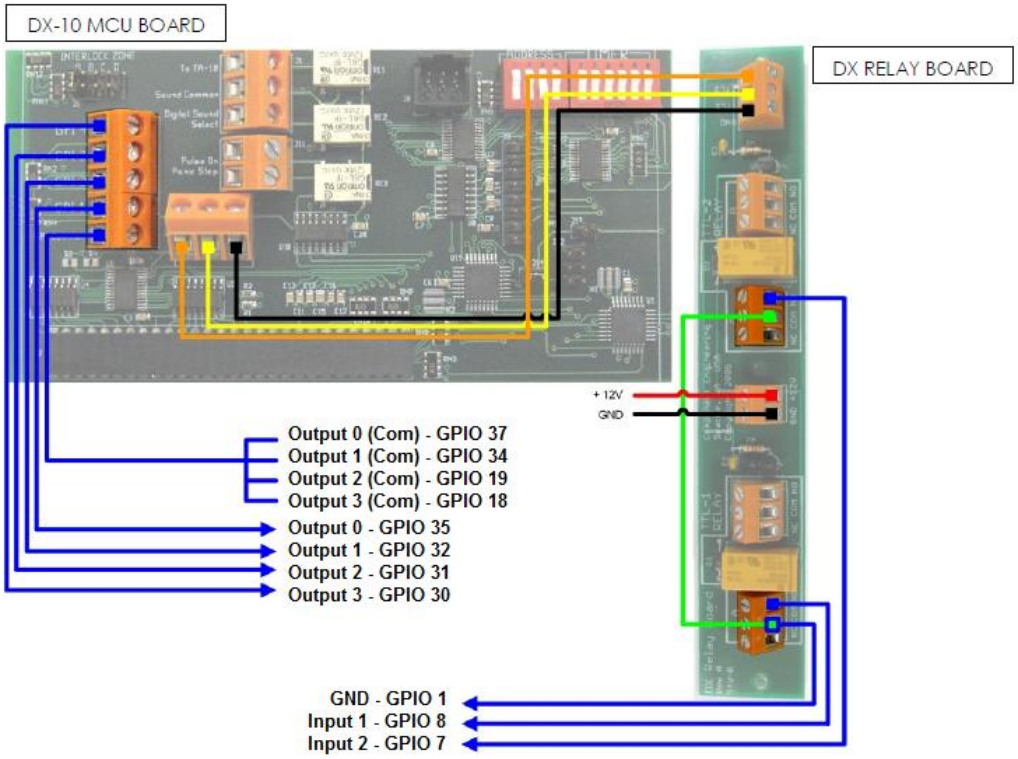

Figure 66: Component Engineering TA-10 wiring diagram

14 TESTING PROCEDURES FOR QC AFTER INSTALLATION

After the installation has been completed; it is necessary to test the following to ensure that the SR-5400C has been properly installed:

1. Test the video playback capabilities of the SR-5400C.
2. Test the audio playback capabilities of the SR-5400C and verify that all the channels are working. Also check for any static noises.
3. Test the server's ability to activate automation cues using test cues for lights, curtains, sound and fire alarm.
4. Test the remote access capabilities of the server, including: Theater Management System (TMS) access and network connectivity.

15 APPENDIX

15.1 AES Audio and GPIO Pinout

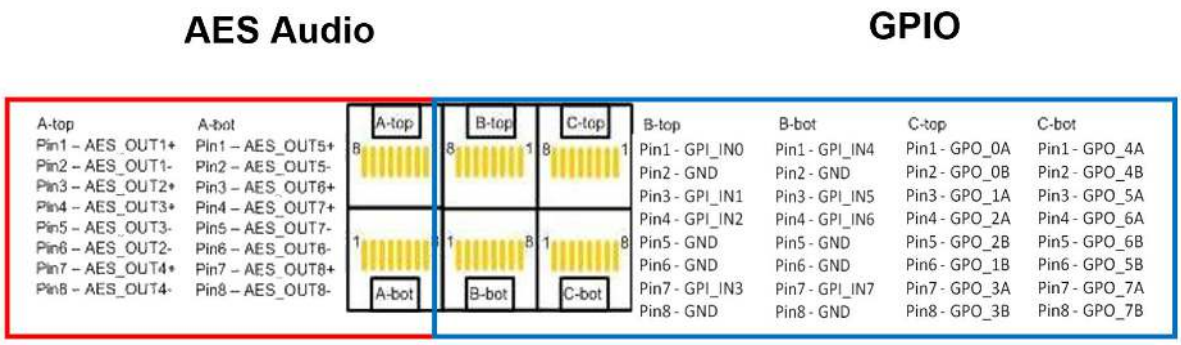

Figure 67: AES audio and GPIO pinout

15.2 GPIO Power Details

GPIO Input Details

- Vin High min level is 3.5 Volts
- Vin Low max level is 1.5 Volts
- Iin min -20 uA
- Iin max +20 uA
- (Essentially no current flows; this is a voltage sensing device)
- The GPI inputs have a 5.62K Ohm resistor pull-up to an isolated 5 Volts. Shorting the pins would send an input high (“dry contact”)

GPIO Output Details

- Outputs use a solid-state relay
- Max voltage across relay contacts GPO_nA and GPO_nB = 200 Volts
- Relay ON-resistance: Min = 6 / Typ = 10 / Max = 15 ohms
- Relay Current limit: Min = 300 / Typ = 360 / Max = 460 mA
- Relay output power dissipation (continuous) = 600 mW

GDC Technology manufacturing facility is ISO 9001:2015 certified.