

INSTALLATION MANUAL PAA20+ V 2.0



P R O Y E C S O N S. A. Ronda Guglielmo Marconi 4 Parque Tecnológico 46980 Paterna (Valencia) Spain Tel. (+34) 963 311 423 Fax (+34) 963 307 182 proyecson@proyecson.com



Imprint

All rights reserved

© Copyright by Proyecson S.A.

Ronda Guglielmo Marconi 4.

Parque Tecnológico.

46980 Paterna (Valencia)

Spain

Printed in Spain.

Oct 2021.

This operating manual even in extracts may only be reprinted or otherwise copied with special, written permission from Proyecson S.A.

Editor responsible for the contents: Proyecson S.A.

Editing and layout:

Proyecson S.A.

Ronda Guglielmo Marconi 4

Parque Tecnológico

46980 Paterna (Valencia)

Spain

www.proyecson.com

proyecson@proyecson.com



TABLE OF CONTENTS

1. SAFETY
1.1 GENERAL
1.2 INSTALLATION
1.3 PROPER USE
2. INTRODUCTION
3. FEATURES
4. FRONTAL PANEL11
5. REAR PANEL
6. CONNECTION PROCEDURE
6.1 CONNECTION TO DOLBY DSS SERVERS
6.2 CONNECTION TO DOREMI DCP SERVERS OVER ETHERNET
6.3 CONNECTION TO DOREMI DCP SERVERS USING SERIAL PORT
6.4 CONNECTION TO GDC SERVERS OVER ETHERNET16
6.5 CONNECTION TO GDC SERVERS USING THE SERIAL PORT17
6.6 CONNECTION TO QUBE XP-D SERVER USING THE SERIAL PORT18
6.7 CONNECTION TO DATASAT DC20 SERVER USING SERIAL PORT19
6.8 CONNECTION TO BARCO ALCHEMY (ICMP) OVER ETHERNET20
6.9 CONNECTION TO IMS SERVERS OVER ETHERNET21
6.10 CONNECTION TO CHRISTIE IMB S2 SERVER OVER ETHERNET22
7. ADMINISTRATION OF THE PAA20+23
7.1 CONNECTING WITH THE PAA20+23
7.2 PAA20+ WEB ADMIN INTERFACE24
8. SERVERS CONFIGURATION43
8.1. DOLBY DSS SERVERS CONFIGURATION43
8.2 DOREMI DCP AND SHOW VAULT SERIES SERVERS SET-UP47
8.2.1 Adding the PAA20+ to Doremi DCP and SV servers: Ethernet interface47
8.2.2 Adding the PAA20+ to Doremi DCP and SV servers: serial interface50
8.2.3 Setting up the output cues for Doremi DCP and SV servers (non-xml library method)
8.2.4 Setup output cues for Doremi DCP and SV servers using xml library56
8.2.5 Setup the input cues using PAA20+ xml library61
8.3 DOREMI, DOLBY AND NEC IMS SERIES SERVERS SET-UP65
8.3.1 Adding the PAA20+ to Doremi, NEC and Dolby IMS servers65
8.3.3 Setting up output cues for Doremi, Dolby and NEC IMS servers with xml lib70

8.3.4 Setting up input cues for Doremi, Dolby and NEC IMS servers with xml lib74
8.4 BARCO ALCHEMY ICMP SERVER SET-UP77
8.4.1 Adding the PAA20+ to Barco Alchemy ICMP servers: Ethernet interface77
8.4.3 Setting up the output cues for Barco Alchemy ICMP servers using xml library. 84
8.4.4 Setting up the PAA20+inputs for Barco Alchemy ICMP servers87
8.5 GDC SERVER SET-UP91
8.5.1 Adding the PAA20+ to the GDC server: Ethernet interface
8.6 QUBE SERVER SET-UP
8.6.1 Adding the PAA20+ to the Qube server: serial interface
8.6.2 Configure the Qube inputs on the PAA20+102
8.7 DATASAT SERVER SET-UP104
8.8 CHRISTIE IMB S2 SERVER SET-UP105
8.8.1 Configure the Christie IMB S2 automation for the PAA20+105
9. OUTPUTS / INPUTS OF THE PAA20+109
9.1. OUTPUT 1 CONNECTOR:
9.2 OUTPUT 2 CONNECTOR:110
9.3 OUTPUT 3 CONNECTOR:111
9.4 INPUT CONNECTOR:112
9.5 EXAMPLES OF INPUT CONNECTION:113
9.5.1 INPUT WITH A NEGATIVE COMMON:113
9.5.2 INPUT WITH A POSITIVE COMMON:114
9.6 SERIAL PROT PIN-OUT115
10 FIRMWARE VERSIONS116
11. ELECTRICAL REQUIREMENTS118
12. TECHNICAL DRAWS, LABELS, DIMENSIONS AND WEIGHT119
APPENDIX A: SERIAL COMMANDS FOR DOLBY120
APPENDIX B: COMMANDS FOR DOREMI AND IMS SERVERS
APPENDIX C: TABLE FOR TCP/IP CHANGES ANNOTATION124
APPENDIX D: PAA20+ TESTER AND PROGRAMMER SOFTWARE125
AP D.1 HARDWARE REQUIREMENTS
AP D.2 INSTALLATION
AP D.3 USE
AP D.3.3.1 ABSTRACT:
AP D.3.3.2 REQUIREMENTS:129
APPENDIX E: COMMANDS FOR GDC SERVERS

-



APPENDIX F: COMMANDS FOR QUBE SERVERS
APPENDIX G: QUBE AUTOMATION FILES EXAMPLES134
APPENDIX H: COMMANDS FOR BARCO ALCHEMY (ICMP) AND CHRISTIE IMB S2146
APPENDIX I: COMMANDS FOR BARCO ALCHEMY (ICMP) REMOTE PLAYER MANAGEMENT148

1. SAFETY

1.1 GENERAL

IMPORTANT: READ THIS MANUAL BEFORE INSTALLING AND OPER-ATING THE DEVICE.

- This device is for indoor use only. Do not install outdoor without an appropriate weather protection.
- Never modify or handle the mechanical or electrical safety devices installed in the product. Do not change or modify in any way the original design of the device.
- If the device does not work properly, stop at once and notify the installer service.
- In case of an eventual repair, leave it in the hands of the distributor who installed it. Always use original spare parts and accessories, which must be installed by an authorized installer.

1.2 INSTALLATION

- Installation must be done in conformity with the operating manual and the local security norms. The customer and the installer take responsibility for the non-compliance of the norms.
- This device needs a standard cord and plug according to the local security rules of the installation site. It's mandatory to maintain this cord accessible for its disconnection in case of need and in good conservation conditions. If this power supply cord is damaged, a official distributor or trained installer must replace it with a new one
- The installation must have an easy accessible main supply standard socket near the device installation place.
- Main power supply for the device must have an appropriate Protection Earth (PE) according to the local security rules, also a standard socket with PE and a power supply cord including PE line.
- Do not handle the electrical system of the device. It must be installed by an authorized technician.
- Before starting, verify the line connections, as well as the earth connection and/or differential and magneto-thermic switches. There could be an electrical discharge if you don't follow the above-mentioned procedure.
- Only tool required for the device installation is a small flat head screwdriver, for tightening and loose the rear connector screws.



1.3 PROPER USE

- Do not use this device if you have not previously received the necessary instructions of safety, use and cleaning by an expert user.
- Read and understand the operating manual of this device before using.
- Always disconnect the device before cleaning or any kind of maintenance or repair. Pull out the plug from socket (do not pull from cable). Keep cable away so as not to step on it, which could be dangerous.
- Make sure that all safety metal plates and stickers on device are easily readable. If not ask your distributor for more and attach them.
- For maintenance, repairing and cleaning works, the system must be disconnected from the main supply. Do not operate the device without having received the proper safety, use and cleaning instructions from an expert user.

2. INTRODUCTION

The Proyecson PAA20+ Automation adapter makes it easy to interface digital cinema playback equipment with existing cinema control systems, allowing thus fully automated presentations.

Input and output connections enable digital cinema equipment to control existing lighting, automation, and other old systems. The unit converts network or serial control signal from the digital cinema playback system in relay closures. It can be connected in parallel with existing film automation systems making it easy to switch between film and digital shows, even to run seamless presentations mixing both film and digital content.

The PAA20+ is compatible with most of the Digital Cinema servers in the market: Dolby, Doremi, GDC, Qube and Datasat.

The device includes 12 fully configurable dry relay outputs and 8 opto-isolated inputs that can be used for trigger individual cues. These relay closures can drive up to 10 A 250 Vac / 10A 30Vdc in normally open and closed dry contacts. Front-panel indicators are provided for all inputs and outputs, ensuring that system status is clearly visible at all times.

The powerful and user friendly web based user interface offers you the capability to fully configure the performance of the unit.

The unit is easy to install 19" rack-mounted. Rear panel connectors are provided to allow an easy wiring.

Valid for any other application not necessarily related with Digital Cinema.





3. FEATURES

PAA20+ Front Panel

LED Indicator

General purpose input, relay output status, 24V and 3.3V.

Test Buttons

Buttons for test and manually activation purposes for each input/output.

PAA20+ Rear Panel Connections

General Purpose Inputs

Eight opto-isolated low-voltage inputs, screw terminals, 24V logics.

General Purpose Outputs

Twelve high current fully configurable relay outputs, screw terminals, normally closed and normally open contacts 10A 230v max.

24v / Max: 1A output

Usable for input and output auxiliary circuits.

Serial Ports 9-PIN female D-connector.

Network Connection

RJ-45 female connector; 10Base-T.



PAA 20+



Construction		Warranty			
Industrial chassis, screw closure,		Three years limited, parts and labour;			
connectors in the back panel, 1U		see disclaimer. Specifications subject to			
19" rack-mounting.		change without notice.			
Power Requirements		Disclaimer of Warranties			
1) 100-240 VAC, 50-60 Hz		Equipment manufactured by Proyecson			
or		S.A. is warranted against defects in			
2) 24 VDC, 2 A		materials for a period of one year from			
		the date of purchase. There are no other			
Dimensions and Weight	express or implied warranties and no				
483 x 128.5 x 44 mm.		warranty of merchantability or fitness			
		for a particular purpose, or of non-			
Environmental Conditions		infringement of third-party rights			
Operating:		(including, but not limited to, copyright			
- 0°C to 40°C (32°F to 104°F)		and patent rights).			
- 20% to 80% relative humidity					
(non-condensing).					
Storage:					
5°C to 60°C (23°F to 140°F)					
- 10% to 80% relative humidity					
(non-condensing).					



4. FRONTAL PANEL



Figure 4.A

- 1. 24vdc indicator
- 2. 3.3vdc indicator
- 3. Activity indicator
- 4. Manual activation buttons and output active status leds.
 - The led indicates that the output is active.
 - Activate the outputs directly with the pushbuttons without using the server. Outputs will only remain active while keeping the button pressed.
- 5. Manual activation push button and input active status leds.
 - The led indicate that input is active.
 - Pushbuttons allow forcing inputs manual activation.
- 6. Reset button, accessible through the pinhole in the front plate.

5. REAR PANEL



Figure 5.A

- 1. Main power supply input 100 230 VAC.
- 2. Inputs connector.
- 3. Outputs connectors.
- 4. RJ45 network connection port with connection and activity leds indicator.
- 5. 9 pin female D-connector serial port.
- 6. 24VDC auxiliary power supply input.



6. CONNECTION PROCEDURE

6.1 CONNECTION TO DOLBY DSS SERVERS

The PAA20+ must be connected to a Dolby DSS100, DSS200 or DSS220 servers through port RS232.

Connect the RS232 serial port of the Dolby server to the RS232 serial port of the PAA20+ using a pin to pin male to female standard serial cable.

Configure the PAA20+, the Dolby server serial port and send/receive commands as explained throughout this manual.

See the interconnection diagram on the following picture:



Figure 6.1C

6.2 CONNECTION TO DOREMI DCP SERVERS OVER ETHERNET

The connection of the PAA20+ to any Doremi server can be done through the Ethernet port.

The PAA20+ must be added to the Doremi server as a new device and send/receive commands configured as explained throughout this manual.

See the interconnection diagram on the following picture:



Figure 6.2C



6.3 CONNECTION TO DOREMI DCP SERVERS USING SERIAL PORT

Only DCP200, DCP2K4 and ShouVault Doremi servers with 2.0.5.0 or higher software version could be connected to PAA20+ using the serial port.

It is not possible to connect the IMS1000 server with the PAA20+ using the serial port.

You need to add the PAA20+ as a serial device as explained throughout this manual. The connection diagram is in the **Figure 6.3A**:



Proyecson PAA20+

Figure 6.3A

6.4 CONNECTION TO GDC SERVERS OVER ETHERNET

The connection of the PAA20+ to any GDC server can be done through the Ethernet port.

The PAA20+ must be added to the GDC server as a new device and output/input commands configured as explained throughout this manual.

See the interconnection diagram on the following picture:



Figure 6.4A



6.5 CONNECTION TO GDC SERVERS USING THE SERIAL PORT

Only SX-2001, SX-2000A and SX-2000AR GDC servers could be connected to PAA20+ using the serial port.

It is not possible to connect the SX-3000 server with the PAA20+ using the serial port.

The PAA20+ must be added to the GDC server as a new device and output/input commands configured as explained throughout this manual.

See the interconnection diagram on the following picture:



Figure 6.5A

6.6 CONNECTION TO QUBE XP-D SERVER USING THE SERIAL PORT

The connection of the PAA20+ to a Qube XP-D server can be done using the serial port.

The PAA20+ must be added to the Qube server as a new device and output/input commands configured as explained throughout this manual.

See the interconnection diagram on the following picture:



Figure 6.6A



6.7 CONNECTION TO DATASAT DC20 SERVER USING SERIAL PORT

The connection of the PAA20+ to a Datasat DC20 server can be done using the serial port.

The PAA20+ must be added to the Datasat server as a new device and output/input commands configured as explained throughout this manual.

See the interconnection diagram on the following picture:



Figure 6.7A

6.8 CONNECTION TO BARCO ALCHEMY (ICMP) OVER ETHERNET

The connection of the PAA20+ to a Barco Alchemy (ICMP) server can be done through the Ethernet port. The physical Ethernet port used for the Alchemy to communicate with the automation devices is the same used for the projector control.

The PAA20+ must be added to Barco Alchemy (ICMP) server as a new device and output/input commands configured as explained throughout this manual.

See the interconnection diagram on the following picture:



Figure 6.8A



6.9 CONNECTION TO IMS SERVERS OVER ETHERNET

The connection of the PAA20+ to any Doremi, Dolby or NEC IMS server can be done through the Ethernet port.

The PAA20+ must be added to IMS server as a new device and send/receive commands configured as explained throughout this manual.

See the interconnection diagram on the following picture:



Figure 6.9A

6.10 CONNECTION TO CHRISTIE IMB S2 SERVER OVER ETHERNET

The connection of the PAA20+ to the Christie IMB S2 server must be done through the Ethernet port.

The PAA20+ must be added to IMB S2 server as a new device and send/receive commands configured as explained throughout this manual.

See the interconnection diagram on the following picture:





7. ADMINISTRATION OF THE PAA20+.

Before connecting the PAA20+ to the server, you need to set up the device to achieve the desired performance.

The configuration must be done through a web browser in a computer connected directly to the PAA20+ Ethernet port.

7.1 CONNECTING WITH THE PAA20+.

To connect the PAA20+ it is necessary to know the IP address of the unit you are trying to access. The device is shipped with IP 10.0.0.180 configured by default. In order to be able to set up the port in the future or to access it remotely, we strongly recommend annotating the new IP shortly it change.

If you do not know the IP but you know the subnet where it was configured, it is possible to use the PAA20+ Tester and Programmer software available at the FTP:<u>ftp://manual:proyecson@ftp3.proyecson.com/manual/paa20+</u> to search the device. The installation and use procedures for this program are described in <u>APPENDIX D: PAA20+TESTER AND PROGRAMMER</u> <u>SOFTWARE</u>.

It is possible to reset the unit to factory configuration using the reset button located in the front. If you keep the button pressed for more than tree seconds, until the "status" LED increases its blink frequency, the unit will be loaded with the factory default configuration.

To configure the Paa20+ over the Ethernet connection, follow these instructions:

- 1. Connect the PAA20+ and the PC that will be used to configure it to an Ethernet switch.
- 2. Both devices have to be connected to the same sub-network, therefore if the PAA20+ still has the factory configuration, the PC should be able to access the IP address 10.0.0.180.
- 3. Once both devices are connected and the PC is configured, it is possible to do a "ping" to check if the PAA20+ is accessible from the PC.
- 4. With the connection operative, open a browser (Firefox, Internet Explorer, Opera, etc) and point it to the PAA20+ IP address. If everything is right, PAA20+ web interface "Status" page will be shown. Please see Figure 7.2.1A.

7.2 PAA20+ WEB ADMIN INTERFACE.

The interface displays a menu in the left side of the page where you can select different options.

7.2.1 STATUS PAGE.



Figure 7.2.1A

The first and initial page of the Web Admin interface is the "Status" page. In this page you can check the state of the inputs and outputs of the device, as well as the firmware, the Ethernet stack version and the temperature inside the PAA20+ in degrees Celsius.

Outputs and inputs indicators are in green when active and in gray otherwise.



Status	Status	
Remote Control	Status	
TCP/IP Configuration	Outputs: 1 • 2 • 3 • 4 5 • 6 7 • 8 9 10 11 • 1	2
Automation Output Configuration	Inputs:	_
Firmware U _l	enya:	
	Serial Number: Paa20+ firmware:	4001
	Stack Version:	v5.20
		<i>- 1</i> ,1

7.2.2 ADVANCED ADMINISTRATION.

Figure 7.2.2A

To be granted access to other menu options you need to be authenticated using the **admin** role as you can see in the **Figure 7.2.2A**. To obtain the password for the administrator level please contact with an authorized Proyecson dealer.

Once you introduced the correct user and password in the pop-up window you will gain full control of the PAA20+.

7.2.3 REMOTE CONTROL PAGE.



Figure 7.2.3A

The remote control page allows you to switch the output relays and to remotely test the inputs.

To toggle the output relay, click on the state indicator, on the right side of the output number.

The state indicator will appear in green and If the switch is on or gray if it is off.



7.2.4 TCP/IP CONFIGURATION PAGE.

	tect/config.htm +	☆ ▼ C WR English-Spanish PAA20+ WebAdmin	
Status		nfiguration	
Remote Control	This name allows the con	figuration of the PAA20+ network settings.	
TCP/IP Configuration	CAUTION: Incorrect :	settings may cause the board to lose network	
Automation Output Configuration	Enter the new settings fo	or the board below:	
Automation Input Configuration	MAC Address:	00:04:A3:00:00:00	
Advanced Configuration	Host Name:	PAA20PLUS	
Firmware Update	IP Address:	Enable DHCP	
	Gateway:	10.0.0.129	
	Subnet Mask:	255.255.255.0	
	Primary DNS:	10.0.0.254	
	Secondary DNS:	0.0.0.0	
		Save	
	Pro	yecson [*]	I

Figure 7.2.4A

In this page you can configure the TCP/IP interface of the PAA20+. The configuration shown in the **Figure 7.2.4A** is the factory one, thus this is the configuration you will find in a brand new unit.

To change the configuration simply write a new value in the corresponding field and store it using the "save" button.

Do remember or annotate TCP parameters to ensure future connections with the device and to be able to properly configure the Digital Cinema server. In **APPENDIX C** you may find a table to annotate every TCP/IP parameters changes for future use.

Be careful when changing TCP/IP parameters. Wrong configuration could cause the lost of communication with the PAA20+. You will possibly need to reset the TCP/IP configuration to its factory default.

If you enable the DHCP option, be sure that you have a DHCP server enabled in the network were you are going to connect the PAA20+.

The MAC address is a network unique identifier of the Ethernet interface, it is not possible to be modified by the user.





7.2.5 AUTOMATION OUTPUT CONFIGURATION PAGE.

Figure 7.2.5A

The Automation Output Configuration page is the interface to set up the reception of messages from the server and the relay performance.

To store the changes of every individual relay click on the "Save" button located at the right side of the "Relay n pulse" field. Values will not be stored unless you click on "save" before leaving the page or saving other fields.

Outputs: Is the field to choose if you want to receive cue messages from either the Ethernet interface or the Serial interface or both in parallel. **Figure 7.2.5.B** shows selection tab to do so.

Outputs	Ethernet 👻 Save
Port Number	Serial Ethernet
Output Codes:	Both
Relay 1 on	61U61UM
Relay 1 off	71U71UY

Figure 7.2.5.B

If you select both interfaces you can send messages to the PAA20+ using any of the Serial or Ethernet interfaces.

Port Number: Field to input the port number in which you want or receive the messages when using the Ethernet interface.

Default port is 10001.

Output codes:

These fields set the messages that the PAA20+ will receive from the server to perform the associated actions.

See **Figure 7.2.5.A** and **Figure 7.2.5.C**, they show the top and the bottom of the Automation Output Configuration page. Every action listed in the left column is associated with the character string inside the textbox. When the PAA20+ receives a valid message followed by a valid "Message Terminator" it executes the associated action.

There are three types of actions:

- **On**: Activates de associated relay output.
- **Off**: Deactivates the associated relay output.
- **Pulse**: Activates the associated relay output for a time specified in the "T:" field.
 - \circ **T**: Pulse duration in milliseconds for the output. Value may be set from 1ms to 9999ms. Pulses shorter than 20ms do not ensure activation of the relay contact. Default value is 500ms (0.5s).

Messages in the Figures are the factory default messages, compatible with both Dolby and Doremi configuration files available at the FTP: <u>ftp://manual:proyecson@ftp3.proyecson.com/manual/paa20+</u>. To change messages, write down new ones in the associated textbox and press the save button to the right.



PAA 20+ - PROYECSON 5.A.	+					
	Relay 6 off	, 76U76U3				
	Relay 6 pulse	56U56UF	T: 500	ms	Save	
	Relay 7 on	67U67US				
	Relay 7 off	77U77U4				
	Relay 7 pulse	57U57UG	T: 500	ms	Save	
	Relay 8 on	68U68UT				
	Relay 8 off	78U78U5				
	Relay 8 pulse	58U58UH	T: 500	ms	Save	
	Relay 9 on	6906900				
	Relay 9 off	79U79U6				
	Relay 9 pulse	5905901	T: 500	ms	Save	
	Relay 10 on	6AU6AUV				
	Relay 10 off	7AU7AU7				
	Relay 10 pulse	5AU5AUJ	T: 500	ms	Save	
	Relay 11 on	6BU6BUW				
	Relay 11 off	7BU7BU8				
	Relay 11 pulse	5BU5BUK	T: 500	ms	Save	
	Relay 12 on	6CU6CUX				
	Relay 12 off	7CU7CU9				
	Relay 12 pulse	5CU5CUL	T: 500	ms	Save	
	Output Message Terminator:	<u>v</u>	Save			

Figure 7.2.5C

Output Message Terminator: This field lets you choose the message terminator for output messages.

You can choose between:

- \r "Return command", 0x0D in hexadecimal.
- \n "New line command", 0x0A in hexadecimal.
- \r\n "Enter command", a return command followed by a new line command.

The factory default message terminator is the "return" command. You may see the selection tab options in **Figure 7.2.5D**.

Relay 12 pulse	5CU5CUL	T: 500
Output Message Terminator:	Vr 💌	Save

Figure 7.2.5D

Actual firmware version limits the message length to **seven** characters in these fields.

Should you modify the factory default messages, use of the provided Dolby and Doremi server configuration files is not advisee because messages will not match.





7.2.6 AUTOMATION INPUT CONFIGURATION PAGE.

Figure 7.2.6A

The Automation Input Configuration page is the interface to setup the messages sent to the server. **Figure 7.2.6A** shows a snapshoot of the page. Values shown in the figure are factory defaults.

To store changes proceed as in the previous page.

Inputs: Field to choose if you want to send cue messages via the Ethernet interface or the Serial interface. **Figure 7.2.6B** shows selection tab to do so.

Inputs	Ethernet 💌	Save
Server IP:	Serial	
D	Ethernet	
Port Number	113200	
Innut 1	311131114	

Figure 7.2.6B

Serial interface in the server end should be configured to work at 9600bps, 8bits, 1 stop, no parity and no flow control.

Server IP: Sets the IP of the server to which the PAA20+ will send input messages.

Port Number: Sets the TCP/IP port of the server which the PAA20+ will send the messages.

Input codes:

In these fields you can set the messages that the PAA20+ will send to the server when any input is activated. This activation may come from rear input connector, frontal buttons or from the Remote Control page in the PAA20+ WebAdmin interface.

See **Figure 7.2.6A**, it shows the Automation Input Configuration page. Every input listed at the left column is associated with the character string inside the textbox in the central column. When the PAA20+ detects a valid input activation, it sends the message associated with the input using the interface selected above.

Messages in the Figures are factory default messages compatible with Dolby configuration files available in the FTP: <u>ftp://manual:proyecson@ftp3.proyecson.com/manual/paa20+</u>. To change messages, write down new ones in the associated textbox and press the save button to the right side of each one.

Server selection:

With the actual firmware version it is possible to load pre-configured messages for Doremi and Qube servers input signals.

To set the input messages for your server, use the selection tab as you can see in the **Figure 7.2.6C** and click on the "Update" button.

mput /	proprou	
Input 8	38U38UH	
Doremi 💌	Update	
Doremi Qube lessage Default ator:	\r 💌 Save	

Figure 7.2.6C



If you select a Doremi server, a popup window alerts you about the necessity of setting the Input Message Terminator to "\r\n". **Figure 7.2.6.D** shows this popup window.

CAUT		syst
ər th	Remember to set ir\n in order to work properly	
In Se	D'acord	
Por	t Number 13200	

Figure 7.2.6D

After the Doremi server selection is done, the Automation Input Configuration page look as you can see in the **Figure 7.2.6E**.

Status Automation Output Automation Output Children in the new settings for the board below: Automation Input Save Automation Input Save Onfiguration Fort Number Firmware Update Input 1 255/61.PAA20+:001A/?? Save Input 2 255/61.PAA20+:001A/? Input 3 25/516.1PAA20+:001A/? Input 4 25/516.1PAA20+:00A/? Some Input 5 Input 5 25/516.1PAA20+:00A/? Some Input 6 Input 8 25/516.1PAA20+:00A/? Some Input 8 Input 8 25/516.1PAA20+:00A/? Some Input 8 Doremi > Update Input 8	PROYECSON S.A.	+		
Status Automation Input Configuration CP/IP Configuration This page allows the configuration of the automation. Automation Output Configuration CAUTION: Incorrect settings may cause the system not to work properly. Automation Input Configuration This page allows the configuration of the board below: Firmware Update Inputs Firmware Update Server IP: Input 1 25/SIG.1PAA20+::01/N.?? Input 2 25/SIG.1PAA20+::03/N.?? Input 4 25/SIG.1PAA20+::03/N.?? Input 5 25/SIG.1PAA20+::03/N.?? Sove Input 5 Input 5 25/SIG.1PAA20+::03/N.?? Sove Input 5 Input 5 25/SIG.1PAA20+::03/N.?? Sove Sove Input 5 25/SIG.1PAA20+::03/N.?? Sove Sove Input 6 25/SIG.1PAA20+::03/N.?? Sove Input 7 SIG.1PAA20+::03/N.?? Sove Input 8 25/SIG.1PAA20+::03/N.?? Sove Input 4 25/SIG.1PAA20+::03/N.?? Sove Input 7 25/SIG.1PAA20+::03/N.?? Sove Input 4 25/SIG.1PAA20+::0				PAA20+ WebAdmin
Remote Control This page allows the configuration of the automation. TCP/IP Configuration CAUTION: Incorrect settings may cause the system not to work properly. Automation Output Configuration Enter the new settings for the board below: Automation Input Configuration Save Advanced Configuration Inputs Firmware Update Ethemel Save Firmware Update Input 1 25/SIG.1PAA20+::01/N.?? Save Input 3 25/SIG.1PAA20+::02/N.?? Save Input 4 100.01 Save Input 5 25/SIG.1PAA20+::03/N.?? Save Input 5 Input 6 25/SIG.1PAA20+::06/N.?? Save Input 6 100.01 Save Input 8 25/SIG.1PAA20+::08/N.?? Save Input 6 100.01 Save Input 8 25/SIG.1PAA20+::08/N.?? Save Input 8 100remi w Update Input Message Save	Status	Automatic	n Input Configu	ration
TCP/IP Configuration This page allows the configuration of the automation. Automation Output Configuration CAUTION: Incorrect settings may cause the system not to work properly. Automation Input Configuration Enter the new settings for the board below: Automation Input Configuration Inputs Advanced Configuration Ethernet Save Firmware Update Input 1 Efficiency ESIG1.PAA20+::01N.?? Input 2 25.SIG1.PAA20+::03N.?? Input 3 25.SIG1.PAA20+::03N.?? Save Input 4 Input 5 25.SIG1.PAA20+::06N.?? Input 6 25.SIG1.PAA20+::06N.?? Input 7 25.SIG1.PAA20+::08N.?? Input 8 25.SIG1.PAA20+::08N.?? Save Input 4 Input 8 25.SIG1.PAA20+::08N.?? Input 8 25.SIG1.PAA20+::08N.?? Input 8 25.SIG1.PAA20+::08N.?? Input 4 25.SIG1.PAA20+::08N.?? Input 8 25.SIG1.PAA20+::08N.?? Input 8 25.SIG1.PAA20+::08N.??	Remote Control			
Configuration CAUTION: Incorrect settings may cause the system not to work properly. Automation Output Configuration Enter the new settings for the board below: Automation Input Configuration Inputs Advanced Configuration Ethernel Save Firmware Update Input 1 Firmware Update Input 2 ESIG1.PAA20+::01.N.?? Save Input 3 25.SIG1.PAA20+::03.N.?? Save Input 4 Doremi V Update Input 8 25.SIG1.PAA20+::05.N.?? Save Input 5 Input 7 25.SIG1.PAA20+::05.N.?? Save Input 6 Input 8 25.SIG1.PAA20+::06.N.?? Save Input 7 Input 8 25.SIG1.PAA20+::08.N.?? Save Input 8 Input 9 Save Input 4	700 (10	This page allows the co	onfiguration of the automation.	
Automation Output Configuration Enter the new settings for the board below: Automation Input Configuration Inputs Ethemel Save Advanced Configuration Server IP: 10.0.018 Save Port Number 13200 Save Input 1 25.516.1.PAA20+::01.N.?? Save Input 2 25.516.1.PAA20+::03.N.?? Save Input 3 25.516.1.PAA20+::03.N.?? Save Input 4 25.516.1.PAA20+::05.N.?? Save Input 5 25.516.1.PAA20+::06.N.?? Save Input 6 25.516.1.PAA20+::08.N.?? Save Input 7 25.516.1.PAA20+::08.N.?? Save Input 8 25.516.1.PAA20+::08.N.?? Save Input 8 25.516.1.PAA20+::08.N.?? Save Input 8 25.516.1.PAA20+::08.N.?? Save Input 9 Save Save Input 10 Save Save Input 8 25.516.1.PAA20+::08.N.?? Save Input 4 Save Save Input 4 Save Save Input 4 Save Save	Configuration	CAUTION: Incorrec	t settings may cause the system n	ot to work properly.
Automation Input Configuration Inputs Ethemel _ Save Advanced Configuration Server IP: 10.0.18 Save Port Number 13200 Save Input 1 25.516.1.PAA20+:101.N.?? Save Input 2 25.516.1.PAA20+:103.N.?? Save Input 4 25.516.1.PAA20+:105.N.?? Save Input 5 25.516.1.PAA20+:106.N.?? Save Input 6 25.516.1.PAA20+:106.N.?? Save Input 7 25.516.1.PAA20+:108.N.?? Save Input 8 25.516.1.PAA20+:108.N.?? Save Input 7 25.516.1.PAA20+:108.N.?? Save Input 8 25.516.1.PAA20+:108.N.?? Save Input 7 25.516.1.PAA20+:108.N.?? Save Input 8 25.516.1.PAA20+:108.N.?? Save Input 8 25.516.1.PAA20+:108.N.?? Save Input 9 Save Save	Automation Output	Enter the new settings	for the board below:	
Automation input Configuration Advanced Configuration Firmware Update Input 2 ESSIG:1PAA20+::101N.?? Save Input 3 ESSIG:1PAA20+::103N.?? Save Input 4 ESSIG:1PAA20+::105N.?? Save Input 5 ESSIG:1PAA20+::105N.?? Save Input 6 ESSIG:1PAA20+::105N.?? Save Input 7 ESSIG:1PAA20+::105N.?? Save Input 8 ESSIG:1PAA20+::105N.?? Save Extended Exte	configuration	. .		
Advanced Configuration Port Number 13200 Save Input 1 25.516.1.PAA20+:101.N.?? Save Input 2 25.516.1.PAA20+:103.N.?? Save Input 3 25.516.1.PAA20+:103.N.?? Save Input 4 25.516.1.PAA20+:105.N.?? Save Input 5 25.516.1.PAA20+:105.N.?? Save Input 6 25.516.1.PAA20+:105.N.?? Save Input 7 25.516.1.PAA20+:107.N.?? Save Input 8 25.516.1.PAA20+:108.N.?? Save Input 7 25.516.1.PAA20+:108.N.?? Save Input 8 25.516.1.PAA20+:108.N.?? Save Input 9 25.516.1.PAA20+:108.N.?? Save	Automation Input Configuration	Inputs	Inconte Save	Sava
Advanced Configuration Input 1 25:SIG.1:PAA20+::101.N.?? Save Firmware Update Input 2 25:SIG.1:PAA20+::103.N.?? Save Input 3 25:SIG.1:PAA20+::103.N.?? Save Input 4 25:SIG.1:PAA20+::105.N.?? Save Input 5 25:SIG.1:PAA20+::105.N.?? Save Input 6 25:SIG.1:PAA20+::106.N.?? Save Input 7 25:SIG.1:PAA20+::107.N.?? Save Input 8 25:SIG.1:PAA20+::108.N.?? Save Input 9 25:SIG.1:PAA20+::108.N.?? Save Input 7 25:SIG.1:PAA20+::108.N.?? Save Input 8 25:SIG.1:PAA20+::108.N.?? Save Input 9 Save Save		Bort Number	13200	Save
Firmware Update Input 1 25:516,1;PA20+:10(0,7;?) Save Input 2 25:516,1;PA20+:10(0,7;?) Save Input 3 25:516,1;PA20+:10(0,1;?) Save Input 4 25:516,1;PA20+:10(0,1;?) Save Input 5 25:516,1;PA20+:10(0,1;?) Save Input 6 25:516,1;PA20+:10(0,1;?) Save Input 7 25:516,1;PA20+:10(0,1;?) Save Input 8 25:516,1;PA20+:10(0,1;?) Save Input 8 25:516,1;PA20+:10(0,1;?) Save Input 8 25:516,1;PA20+:10(0,1;?) Save Input 9 25:516,1;PA20+:10(0,1;?) Save Input 9 25:516,1;PA20+:10(0,1;?) Save Input 9 25:516,1;PA20+:10(0,1;?) Save Input 9 25:516,1;PA20+:10(0,1;?) Save Input 10 25:516,1;PA20+:10(0,1;?) Save Input 10 25:516,1;PA20+:10(0,1;?) Save Input Message Y, Y Save	Advanced Configuration	Fortivamber	25 CIC 1 DAA20	Carro
Firmware Update Input 2 [25:01,17Aa20+102,111] Jate Input 3 [25:01,17Aa20+103,17] Save Input 4 [25:01,17Aa20+105,17] Save Input 5 [25:01,17Aa20+105,17] Save Input 6 [25:01,17Aa20+105,17] Save Input 7 [25:01,17Aa20+106,17] Save Input 8 [25:01,17Aa20+106,17] Save Input 8 [25:01,17Aa20+106,17] Save Input 8 [25:01,17Aa20+106,17] Save Input 8 [25:01,17Aa20+106,17] Save Input 9 [25:01,17Aa20+106,17] Save		Input 1	25,516,1,PAA20+:101,N,77	Save
Input 3 [25:01:17:4240:1104/17] Input 4 [25:01:17:4240:1104/17] Save Input 5 [25:01:17:4240:1105/17] Save Input 6 [25:01:17:4240:1105/17] Save Input 7 [25:01:17:4240:1107/17] Save Input 8 [25:01:17:4420:1107/17] Doremi - Update Input Message V Save	Firmware Update	Input 2	25 SIG 1 PAA20+-102,4,51	Save
Input 5 25.516.1.PAA20+:105.N.?? Save Input 6 25.516.1.PAA20+:106.N.?? Save Input 7 25.516.1.PAA20+:107.N.?? Save Input 8 25.516.1.PAA20+:106.N.?? Save Input 9 Update Input Message V.		Input 4	25 SIG 1 PAA20+:://04 N 22	Save
Input 6 25.SIG.1.PAA20+:106.N.?? Save Input 7 25.SIG.1.PAA20+:107.N.?? Save Input 8 25.SIG.1.PAA20+:108.N.?? Save Doremi ~ Update Input Message V. ~ Save		Input 5	25 SIG 1 PAA20+::105 N ??	Save
Input 7 25.SIG.1.PAA20+::107.N.?? Save Input 8 25.SIG.1.PAA20+::108.N.?? Save Doremi - Update Input Message V Input 100 Message V Save Save		Input 6	25.SIG.1.PAA20+::106.N.??	Save
Input 8 25.5IG.1.PAA20+::108,N,?? Save Doremi Update Input Message V Save		Input 7	25,SIG,1,PAA20+::107,N,??	Save
Doremi v Update		Input 8	25,SIG,1,PAA20+::108,N,??	Save
Input Message V v Save		Doremi 💌	Update	
Terminder		Input Message Terminator:	Vr • Save	

Figure 7.2.6E

This "Update" button fills in the "Input n" fields with the Doremi server input messages, but does not save them. You must save every input individually to store the message string into the PAA20+ data memory.

Every time you save an Input field, the other ones return to their stored values as you can see in the example showed in **Figure 7.2.6F**, where we saved the Input 1 value. You will need to press the "Update" button each time you need to save an Input field.

			PAA2U+ WebAdmin
Status	Automatio	on Input Config	uration
Remote Control	This page allows the es		
TCD/ID	This page allows the co	oniguration of the automation.	
Configuration	CAUTION: Incorrec	t settings may cause the system	not to work properly.
Automation Output	Enter the new actions	for the board below	
Configuration	Enter the new settings	for the board below:	
Automation Input	Inputs	Ethernet 💌 Save	
Configuration	Server IP:	10.0.0.18	Save
Advanced	Port Number	13200	Save
Configuration	Input 1	25,SIG,1,PAA20+::I01,N,??	Save
Firmware Update	Input 2	32U32UB	Save
	Input 3	33U33UC	Save
	Input 4	34U34UD	Save
	Input 5	35U35UE	Save
	Input 6	36U36UF	Save
	Input 7	37U37UG	Save
	Input 8	38U38UH	Save
	Doremi 💌	Update	
	Input Message Terminator:	Save	

Figure 7.2.6F

Follow this procedure to set the Automation Input Configuration for other servers listed in the server selection tab. **Figure 7.2.6G** shows the filled in fields for a Qube XP-D server.


		P/	AA20+ WebAdmir
Status	Automatio	on Input Configu	ration
Remote Control		······································	
TCP/IP Configuration	CAUTION: Incorrec	t settings may cause the system not	to work properly.
Automation Output Configuration	Enter the new settings	for the board below:	
Automation Input Configuration	Inputs Server IP:	Ethernet Save	Save
Advanced	Port Number	13200	Save
Configuration	Input 1	(USER "projectionist" "qube")(PLAY)	Save
Firmware Update	Input 2	(USER "projectionist" "qube")(PAUS)	Save
	Input 3	(USER "projectionist" "qube")(ESTP)	Save
	Input 4		Save
	Input 5		Save
	Input 6		Save
	Input 7		Save
	Input 8		Save
	Qube 💌	Update	
	Input Message Terminator:	Vr - Save	

Figure 7.2.6G

The "Default" selection fills in the "Input n" fields to the factory default messages.

Input Message Terminator:

As in the Output page, this field let you choose the message terminator for Input messages.

You can choose between:

- \r "Return command", 0x0D in hexadecimal.
- \n "New line command", 0x0A in hexadecimal.
- \r\n "Enter command", a return command followed by a new line command.

The factory default message terminator is the "return" command.

Actual firmware version limits the message length to **thirty-four (34)** characters in the "Input codes" fields.



7.2.7 ADVANCED CONFIGURATION PAGE.

Figure 7.2.7A

Using the Advanced Configuration page it is possible to set some special features of the PAA20+. **Figure 7.2.7A** shows a snapshot of the top of this page. The advanced features in this firmware version are the "Input Link" and the "Startup State".

To store the changes proceed as in previous pages.

Input Links: This feature lets you link an input to an output without the intervention of the server. Using the selection tab in the right side of every input row, you can choose which of the four upper outputs (from relay 9 to relay 12) going to be modified.

You may see the options of the selection tab in the **Figure 7.2.7B**.



on Input	Input Links:		
	Input 1	None	- Sav
on	Input 2	None Output 9 ON	Sav
	Input 3	Output 9 OFF	Sav
e Update	Input 4	Output 9 TOGGLE	Sav
	Input 5	Output 10 ON Output 10 OFF	Sav
	Input 6	Output 10 PULSE Output 10 TOGGLE	Sav
	Input 7	Output 11 ON Output 11 OFF	Sav
	Input 8	Output 11 PULSE	Sav
	Startup State:	Output 12 ON	
		Output 12 UFF Output 12 PULSE	
	Output 1	Output 12 TOGGLE	

Figure 7.2.7B

Figure 7.2.7C shows you an example to activate a pulse in the Relay 10 when a valid input level is detected in the Input 1.

Input Links:		
Input 1	Output 10 PULSE 💌	Save
Input 2	None	Save
Innut 3	None	Save

Figure 7.2.7C

StartUp State: This feature lets you choose the state of all the relays after every boot of the PAA20+.

See **Figure 7.2.7.D**. To the right side of every Output you can choose, using a selection tab, if the relay will boot up in the active state "ON" or in the non active state "OFF". **Figure 7.2.7E** shows the options of the selection tab and **Figure 7.2.7F** an example of such.

	t/aducta htm		
PAA 20+ - PROYECSON S.A.	+		
	Input 5 Input 6 Input 7 Input 8 Startup State: Output 1 Output 2 Output 3 Output 4 Output 5 Output 5 Output 6 Output 7 Output 8 Output 9 Output 10 Output 11 Output 12	None Save None Save None Save None Save OFF Save	
	P	oyecson	



Startup State:		
Output 1	OFF 💌	Save
Output 2	OFF	Save
Output 3	OFF 👤	Save
Output 4	OFF 💌	Save
A		Cause 1

Figure 7.2.7E

Startup State:			
Output 1	ON 💌	Save	
Output 2	OFF 💌	Save	
Output 3	OFF 💌	Save	
Output 4	OFF 💌	Save	
Output 5	OFF 👤	Save	

Figure 7.2.7F



7.2.8 FIRMWARE UPDATE PAGE.

The following page is only for technical use. If you are not trained by Proyecson, please ignore.

Status	Firmware U	Jpdate
Remote Control	This page allows the con	figuration of the automation.
TCP/IP Configuration	CAUTION: Incorrect	settings may cause the system not to work properly.
Automation Output Configuration	Enter the new settings fo	or the board below:
Automation Input Configuration	EEPROM:	Navega
Advanced Configuration	Config Upload:	Navega
Firmware Update	Config Backup:	Backup
	Reset:	Reset to factory defaults
5		

Figure 7.2.8A

EEPROM: Using this field you can upload the WebAdmin interface, located in a external EEPROM.

Config Upload: This field lets you upload a previously saved configuration file *.cfg, where Outputs, Inputs and Advanced configuration options are stored.

Config Backup: Using this field you can export the actual PAA20+ configuration to an *.cfg file.

Reset: This button applies a factory default reset to the PAA20+. This action implies an IP configuration reset.



8. SERVERS CONFIGURATION

In order for the PAA20+ to carry out its function, not only is necessary to configure the device, but also the server. Regarding this aspect, the different configuration methods for compatible servers will be described further on.

8.1. DOLBY DSS SERVERS CONFIGURATION

This manual is based on the Dolby Digital Cinema system version 4.3.2. Procedure may differ slightly for other Dolby Cinema system software versions.

Follow the next steps to configure the Dolby servers DSS200, DSS100/ DSP100 and DSS220 to be operative with the PAA20+:

- 1. Go to "SYSTEM" menu
- 2. In tab "AUDITORIUM" mark the option "This automation uses serial automation" and save. This action activates the "SERIAL AUTOMA-TION" menu tab (**Figure 8.1A**)

unes 08-ago-2011			80	80	ſ	Ő	
9 🔻	monitor	control	build	content	schedule	system	0
heatre auditorium	server tools	serial autor	mation us	sers logs	audit thea	tre devices	
name		_		enable	secure time u	pdate	
Auditorium 29	s serial automat	ion		Secure tin	ne for this aud	litorium may b	e set within
automatically switch	n to 3D playback	mode		from	range.		
default 3D mode				to			
If this auditorium is no the Delete Auditorium I	longer used, it outton.	may be deleted	l by clicking	current se	cure time not available		
delete auditorium							
		O come chan			In		
		Save chai	iges 🐼 G	ancer 🕑 ne	ab		

Figure 8.1A

- 3. Select tab "SERIAL AUTOMATION" to configure the serial port server.
- 4. In the configuration box "SERIAL PORT SETTINGS" choose the following parameters (**Figure 8.1B**):
 - Data rate = 9600.
 - Data bits = 8.
 - Parity = none.
 - Stop bits = 1.
 - Flow control = none.
- 5. In the configuration box "serial command settings" write "\0D" in the configuration box "termination" if you want to use the PAA20+ factory default termination, \r. You can use the "\A" termination that corresponds to the "\n" termination in the PAA20+. Leave the configuration box "reset" in blank as you can see in the **figure 8.1B** example.

10.00								Θ
16:00 lunes 08-ago-2011			80	00	T	Q ⁰		
29 👻	monitor	control	build	content	schedule	system	0	
theatre auditorium : serial automation cues category output vype category type	3 lights V name	serial autom	serial con	ers logs	audit theat	re devices serial port se data rate data bits parity stop bits flow control	9600 Image: Second se	
						serial comma termination reset	\OD	
	(Save chan	ges 🗭 ca	ncel 💽 he	lp			
Role: manager Server mode: SMS					emove 🚯 pr	operties 📀	help 💿 log	10

Figure 8.1B

6. Save changes.



- 7. Copy in a USB drive the file "DolbySerialAutomation_v1.txt" available in the FTP: <u>ftp://manual:proyecson@ftp3.proyecson.com/manual/paa20+</u> should you choose to use the factory default output messages. We strongly recommend that the memory stick does only contain this file. Then, follow the instructions of the Dolby installation manual to import serial automation files.
- 8. Once the file is imported and the server restarted, the "SERIAL AUTOMATION" tab will be displayed as seen on **Figure 8.1C**.
- 9. Now the cues should be available in the Dolby server ready to be inserted in any show.
- 10. To modify cue name, double click on the column "name", do the modification and save changes. There is a possibility that the name doesn't appear in the "**build**" menu of the server. If such, you will need to reboot the server.

heatre	auditorium	server tools	serial auton	nation user	rs logs	audit theat	re devices	
serial autom	ation cues ——							ttings
category 0	utput 👻 type 🖡	😸 lights 🔻 🛛 nam	e	serial comm	and	add	data rate	9600 👻
category.			name		serial comma	nd	data bits	8 🗸
output	ights	ноз	name	63U63U0	Serial comma		navity	
output	🖸 other	LOB		7807805			parity	none •
output	🖸 other	P11		5 BUS BUK			stop bits	1 🔻
output	🔀 lights	L03		73U73U0			flow control	none 🔻
output	🐹 lights	P04		54U54UD				
output	💽 other	P07		57U57UG				
input	💽 other	show stop		33U33UC				
output	🐹 lights	H04		64U64UP			-carial comma	nd cottings
output	💽 other	P05		55U55UE			-senar comma	and seconds-
output	💽 other	L09		7907906			termination	/OD
output	🐹 lights	P03		53U53UC			reset	
input	💽 other	show pause		32U32UB				
output	🐹 lights	H01		61U61UM				
outout	Acthor	010		E CHE CH				

Figure 8.1C

11. To modify the cue type, click on the "type" column and make your selection between the "lights", "sound" and "other" option.

12. If you want to introduce the commands manually and do not want to use the "DolbySerialAutomation_v1.txt" file, write the corresponding commands described in "APPENDIX A: SERIAL <u>COMMANDS FOR DOLBY</u>" for every input and output of the PAA20+ or introduce your own messages and configure the PAA20+ accordingly.



8.2 DOREMI DCP AND SHOW VAULT SERIES SERVERS SET-UP.

This manual is baseed on the Doremi software version 2.0.10-0, other versions may differ.

You must add the device in the server, indicating the setup of the unit you want to control, before initiating a connection to the PAA20+.

8.2.1 Adding the PAA20+ to Doremi DCP and SV servers: Ethernet interface.

To add the PAA20+ as Ethernet device in DCP2000, DCP2K4 and ShowVault Doremi servers, follow the next steps:

- 1. Turn on the server.
- 2. Open the "Device Manager", by accessing it through the **Menu -> Doremi Labs Inc. -> Device Manager**.
- 3. Click on the icon "Add".
- 4. On the appearing pop-up window, select the device "Raw" as shown in the **Figure 8.2.1A**.



Figure 8.2.1A

- 5. Write "PAA20+" in the field "Identifier".
- 6. Write the IP of the PAA20+ in the field "Device IP".
- 7. Select TCP protocol on the drop-down tab "Protocol".
- 8. Write "10001" in the field "Port".
- 9. You may see the Device Manager window with this configuration on **Figure 8.2.1B**.
- 10. Click on "Save" to save the new device.



Figure 8.2.1B

11. You need to be authenticated as 'admin' in order to save changes and to be able to configure new devices. See **Figure 8.2.1C**.



V2×11		<u>_ 0 ×</u>
📥 Device Manager - Doremi (linema	_ 🗆 ×
Add Delete		Save X Quit
Projector	Device Type: Raw	🗷 Enabled
dolby_cp650		
PAA20+	ation Required	_ ×
The Plea	action you requested needs SuperUser pri se enter login and password below or click C o continue with your current privileges.	vileges. 20+
. Username:	admin	• 01
Password:	xololok	
		ancel
Menu _ 😇 CineLister	- Do 📥 Device Manag 🛓 Authenticat	05:17:52 PM

Figure 8.3.1C

12. Now the Paa20+ is configured and ready for the associated automation and trigger cues, to be created.

8.2.2 Adding the PAA20+ to Doremi DCP and SV servers: serial interface.

Only non-IMS servers as DCP200, DCP2K4 and ShowVault, support serial interface. To add the PAA20+ as a Serial device in the Doremi server software follow these steps:

- 1. Turn on the server.
- 2. Start the "Device Manager", accessible through **Menu -> Doremi** Labs Inc. -> Device Manager.
- 3. Click on icon "Add".
- 4. On the appearing pop-up window, select device "Serial" as shown **Figure 8.2.2A**.

V2×11				_ _ ×
📥 Device Manager - Doremi	Ciner	na		_ 🗆 ×
🕂 Add 💻 Delete		📥 Add Device 📃 🗙		<u>S</u> ave 🔀 Quit
	J 1	Select a device to add:		
Projector	De	Projector		🗷 Enabled
dolby_cp650	Γ	CSS		
		Raw		
		eCNA		Unknown
		JNior		61412
		Serial		61412
		ISE1		
		Subtitle Engine		
		RealD 3D EQ		
		<u>A</u> dd <u>C</u> ancel		
			1	
Menu _ 😅 😳 CineLister	- Do) 📥 Device Manag 📥 Add De	evice	05:33:42 PM

Figure 8.2.2A



- 5. Write "PAA20+" in the field "Identifier".
- 6. Set the Serial Setup as in Figure 8.2.2B:
 - a. Serial Port: /dev/ttyS0.
 - b. Speed: 9600.
 - c. Data: 8.
 - d. Stop bits: 1.
 - e. Parity: none.
 - f. Flow control: none.
 - g. Message Type: fixed-length.
 - h. 8 bytes in the byte length field.
- 7. Click on the icon "Save" in order to save the new device.

V2 ×11				<u>_ </u>
📥 Device Manager - Doremi (Cinema			_ 🗆 ×
Add Delete]		<u> </u>	ave 🔀 Quit
Projector	Device Type:	Serial		🗷 Enabled
PAA20+	Identifier	PAA20+		
	Serial Port Data	/dev/ttyS0	 Speed Stop bits 	9600 -
	Parity	none	Flow Control	none
	Message Type	fixed-length	▼ bytes (1 - 6	5535)
Menu 🔄 🚟 🌚 CineLister	- Do Devic	e Man		05:38:03 PM

Figure 8.2.2B

- 8. If not logged as admin you will need to be authenticated.
- 9. Now the PAA20+ is configured and ready for create the associated automation and trigger cues to be created.

8.2.3 Setting up the output cues for Doremi DCP and SV servers (non-xml library method)

Once the device is added, set up the "cues" in order to manage the PAA20+ outputs. There are two methods to do this: the first one is to add the output cues (**only valid for output cues**, not for trigger cues) following the Doremi Macro Editor Manual.

<u>R</u> eset	<u>S</u> ave			🔀 Qu
+	0		۶.	Eemov
Macro		▲ Start Time	Action	
ABRIR PALA AUDIO DIGITAL 1 AUDIO NON SYNC AUDIO U1 AUDIO U2 CERRAR PALA CREDITOS FOCO OFF FOCO ON	Comments:	GHT 1 ON	_ L X	
LAMPARA OFF LAMPARA ON LUZ 100%				

1. Create a new "Macro" using the "+" button and name it, as shown in **Figure 8.2.3A**.

Figure 8.3.3A

- 2. Click on button "Insert a new action" while the new created macro is selected.
- 3. Select "Input/Output" in the "Add a new Action" pop-up window and click on "Add". See **figure 8.2.3B**.



<mark>₩</mark> 2×11	×
🎯 Macro Editor - Doremi Cinema	
Reset Save	Quit
Add a new Action	×61
Projector	General Purpose Output
Input / Output	Send Message
A Playback	
A C Macro Control	
C Library F F L	
L	
	Send Message Send a message to a connected device.
L L P P	<u>A</u> dd <u>C</u> ancel
Automation Cue Trigger Cue	
Menu _ 😇 CineLister - Do	🧐 Macro Editor 📴 Add a new A 🔛 🛄 09: 25: 42 🗛

Figure 8.2.3B

- 4. On the "Send a Message" pop-up window write the following:
 - **Message Label**: Short description of the operation (optional).
 - Device Name: Select "PAA20+".
 - **Message Type**: Select "Text".
 - Message: Write the message in ASCII that will be sent to the PAA20+ when the macro cue gets executed. See the ASCII commands on <u>APPENDIX B: ASCII COMMANDS FOR</u> <u>DOREMI SERVER</u> if you want to use the factory default commands. You must write the codes exactly as shown in the table, otherwise the PAA20+ may not recognize them. If you want to use your own messages be careful with their length which, it's limited to 7 bytes and a \r terminator in this firmware version.
- 5. See an example of this from in the **Figure 8.2.3C**.

V2×11	
CREDITOS FOCO ON LAMPARA OFF LAMPARA ON LUZ 100% LUZ 00% LUZ 0FF PANORAMICO 2D PANORA	ge X ge X W Quit W Remove Action
Automation Cue	Macro Editor

Figure 8.2.3C

- 6. Once the required macros are added, save changes. If you are not logged as admin, you will need to authenticate in order to save them. New macros will appear in "Cinelister".
- 7. To check in advance the macros, use the "Macro Execution" program in the "Doremi Labs Inc." menu. You can see a snapshot of the "Macro Execution" program in **figure 8.2.3D**.

<u>V2</u> ×11			<u>_ </u>
Select a m	lacro		
	kecute 🔀 Qu	uit	
Menu 🔔 🖮 😳 CineLister - Do 🤯 Ex	ecute Macro	W	09:39:05 AM

Figure 8.2.3D



8. If the command is successfully received by the PAA20+, a pop-up message like the one in the **figure8.2.3E** is shown.

<u>V2</u> ×11	_			<u> </u>
	Execute Macro			
	Select Select	successfully execute	× ed I	
	() ()			
Menu _ 😇 CineListe	r - Do 😻 Execute Macr	o 🔯Info		09:42:24 AM

Figure8.2.3E

8.2.4 Setup output cues for Doremi DCP and SV servers using xml library

The second method to set-up the cues for the PAA20+ in a Doremi server is using the "PAA20V2.xml" file, available in the FTP: <u>ftp://manual:proyecson@ftp3.proyecson.com/manual/paa20+</u>, to create a cues library for the device in the server. Using this method you can use the PAA20+ **inputs and the outputs** with the Doremi server.

To do so you must follow these steps:

- Connect a PC or laptop to the same network where the Doremi server is connected. To ensure that they are in the same network you may "ping" the server from the PC.
- 2. Open a ftp client and connect to the server using the server IP. You must log in as admin using the admin password supplied by Doremi. You can see an example in **figure 8.2.4A**. For this example we used the "WinSCP" ftp client and a server with IP address 12.100.85.111.



Figure 8.2.4A



- 3. Once you are connected to the server via ftp, upload the "PAA20V2.xml" file available in the FTP: <u>ftp://manual:proyecson@ftp3.proyecson.com/manual/paa20+</u> to the "/etc/cueslib/" direct-ory in the server. You can see the "PAA20V2.xml" loaded in this folder in **figure 8.2.4A**. Now, you should be able to set-up the output cues taking the commands from this library.
- 4. The procedure to create automation cues using the library is very similar to the one that does not, but simpler, first of all open the Doremi "Marco Editor".
- 5. Then create a new "Macro" with the "+" button and name it, like in **figure 8.2.4B**.

Macro Editor - Do	oremi Cinema			Quit
+	¢		₽₿	Eemove
Macro		Start Time	Action	
3D on/off ABRIR PALA AUDIO DIGITAL 1 AUDIO NON SYNC AUDIO U1 AUDIO U2 CERRAR PALA CREDITOS FOCO OFF FOCO ON LAMPARA OFF LAMPARA ON	Macro Settings Name of the Macro: L Comments:		:	
LUZ 100% LUZ 50% LUZ OFF	Trinue Cur	÷ +	jnsert a ne	w Action

Figure 8.2.4B

- 6. Click on "Insert a new Action" button while the new created macro is selected.
- 7. Select "Library / PAA20+_V1" on the "Add a new Action" pop-up window and click on "Add". See **figure 8.2.4C**.

V2x11	×□-
Macro Editor - Doremi Cinema	
Reset Save	
Projector	Certainty
Input / Output	Dolby DFC100
C Playback	dolby_cp650
F F Macro Control	ecna
Library	jnior expansion module
Č .	jnior
L	PAA20+_V1
L P P	PAA20+_V1 Generated by Doremi Labs Macro Editor version 0.5
P P S	<u>A</u> dd <u>C</u> ancel
SCOPE 3D 1920	
Automation Cue Trigger Cue	
Menu _ 🖂 😳 CineLister - Do	🧐 Macro Editor 📴 Add a new A 👫 🔜 10:03:35 🕅

Figure 8.2.4C

- 8. On the "Library" pop-up window select the action needed and validate with the OK button as you can see in **figure 8.2.4D**. Keys for the action are these:
 - Actions from H1 to H12 activate (High) and maintain active the corresponding output.
 - Actions from L1 to L12 deactivate (Low) and maintain inactive the corresponding output.
 - Actions from P1 to P12 generate a momentary pulse (500ms) in the corresponding output.



V2×11	
🥶 Macro Editor - Doremi Cinema	_ _ X
Reset Save	🔀 Quit
📻 🤃 Library	
Action	ove
Macr L09	
L10	
CRED L11	
POCO PO1	
LUZ 5 P06	
LUZ (P07	
PANC POB	
PANC P09	
PANC	
Paus	
SCOPInsert a m	ew Action
]
Automation Cue Trigger Cue	
Menu _ @ CineLister - Do @Macro Editor @Library	10:14:57 AM

Figure 8.2.4D

- 9. On the "Send a Message" pop-up window ,**figure 8.2.4E**, write the following:
 - **Message Label**: Short description of the operation (optional).
 - Device Name: Select "PAA20+".
 - **Message Type**: Select "Text".
 - **Message**: Leave untouched, it is read from the PAA20+ library previously selected.

<mark>V2</mark> ×11		<u>- 🗆 ×</u>
🖲 Macro Editor - Dore	mi Cinema	_ 🗆 X
<u>R</u> eset	Send a Message	Quit
		move
Macro	ΡΔΔ20+	
CREDITOS		
FOCO OFF	Message type	
FOCO ON	Text	
LAMPARA OFF	Text	
LAMPARA ON	Message	
LIGHT 1 ON	Message	
LUZ 100%	51U51UA\r	
LUZ 50%		
LUZ OFF		
PANORAMICO 2D		
PANORAMICO 3D 15		
PANORAMICO 3D 15		
Pause		
SCOPE 2D	Action	
(<u>acore ao 1970</u>	<u>O</u> k <u>C</u> ancel	
Automation Cue		
Menu 🔄 🔤 😳 Cin	neLister - Do 🤯 Macro Editor 🔯 Send a Mes 🔢 🛄 10:1	19:03 AM

Figure 8.2.4E

- 10. Once the required macros are added, save changes and then use the macros in "Cinelister". If you are not logged as admin, you will need to be authenticated.
- 11. In order to check in advance the macros, use the "Macro Execution" program in the "Doremi Labs Inc." menu.



8.2.5 Setup the input cues using PAA20+ xml library

Using the XML library method it is possible to the PAA20+ inputs to send automation messages to the Doremi server. You need the "PAA20+_V1.xml" file loaded properly in the Doremi server to use this feature, in the 1,2 and 3 steps of the 8.2.4 section of this manual you may see the procedure to load the file and create the PAA20+ Library.

With this file loaded you can create trigger cues following these steps:

 Open the Doremi "Macro Editor" application and select "trigger cue" tab. This window is used to manage the trigger cues. To create a new cue click on "+" button and in the pop-up window, name it and click on accept. Example is given in **Figure 8.2.5A**.

V2×11	- 🗆 ×
🎨 Doremi Labs Macro Editor	- - ×
Reset Save	Quit
	nove
Trigger	
rpause Trigger Settings	
Name of the Trigger: rplay Comments:	
<u>Qk</u> <u>Cancel</u>	
Connect to an event	
Automation Cue Trigger Cue	
Menu 🔄 🥶 😳 Doremi Labs 😳 Doremi Labs	5:02 PM

Figure 8.2.5A

2. When the "Events" pop-up window appears, **Figure 8.2.5B**, select the "Signal" option.

<mark>V2</mark> ×11		
🈇 Doremi Labs Macro Editor		_ 🗆 X
<u>R</u> eset <u>S</u> ave]	🔀 Quit
- 4	Ŗ	<u>Eemove</u>
Trigger		
rpause	Events	×
rplay	Choose the event to add	
rrescue	General Purpose input	
	X <u>C</u> ancel	
		<u>C</u> onnect to an event
Automation Cue Trigger Cu	e	
Menu _ 🔤 😳 Doremi Labs	😇 Doremi Labs	12:56:52 PM

Figure 8.2.5B

3. In the "Signal Setup" pop-up window, select PAA20+ in the "Source device name" selection tab and press the "..." button in the "Signal name" field. **Figure 8.2.5C**.

<mark>/2</mark> x11		
🎐 Macro Editor - Doremi Cin	ema	
Reset Sa	ve	🔀 Quit
+		€ <u>R</u> emove
Trigger	Signal Setup	
Fire Trigger	Source device name	
rplay	PAA20+	
rrescue		
	Device type : Serial	
	- Signal name	
	▼	
	<u>Q</u> k <u>C</u> ancel	
	Connect	to an event
Automation Cue Trigger	Cue	
lenu 🔔 📼 🏵 CineListe	r - Do 😻 Macro Editor 💿 Signal Setup	01:42:12

Figure 8.2.5C



4. Pressing this button you will open the "Signal Library" pop-up window, you must select the "PAA20+" in the "driver" window and choose the appropriate input of the PAA20+ in the "Signal" window. Every signal matches the physical input with the same number in the device. You may see an example for the Input 4 in **Figure 8.2.5D**.

<mark>@</mark> ×11 ⊚Macro	Editor - Doremi Cinema		 <
F	Reset 🛛 🔚 Save 🖉		Quit
Trigg Fire T rplay rresc	Device Certainty dolby_cp650 Dolby DFC100 ecna jnior expansion module PAA20+_V1 Paa29+	Signal 101 102 103 104 105 106 107 108	ove
Automa	ation Cue Trigger Cue	Qk <u>C</u> ancel	

Figure 8.2.5D

5. Pressing the Ok button of the "Signal library" window you will go back to the "Signal Setup" window, but with the "Signal name" filled in with your previous chosen input selection. You can see the example for the Input 4 in **Figure 8.2.5E**. Click on the Ok button to finish the creation of the trigger cue.

<u>V2</u> ×11	_ 🗆 ×
🎯 Macro Editor - Doremi Cinema	_ 🗆 🗙
Reset Save	Quit
Trigger Fire Trigger PAA20+ IO4 IO4 IO4	move
Automation Cue Trigger Cue	
Menu 🔄 😇 CineLister - Do 👰 Macro Editor 👰 Signal Setup 👬 🛄 02:1	5:57 PM

Figure 8.2.5E

- 6. Finally in the Doremi "Macro Editor" main screen you can save the trigger cues configuration using the "Save" button. If you are not logged as admin, you will need to be authenticated.
- 7. Now, you may use the "trigger cues" in the "Cinelister" editor to activate macros during the Show execution.



8.3 DOREMI, DOLBY AND NEC IMS SERIES SERVERS SET-UP.

8.3.1 Adding the PAA20+ to Doremi, NEC and Dolby IMS servers.

This point describes how to add the PAA20+ as Ethernet device in the Doremi IMS1000, Dolby IMS2000 server, NEC NP-90MS01 and NEC NP-90MS02 servers. All these devices uses the same software, but could be little differences on the GUI. To add the device follow the next steps:

- **1.** Turn on the server.
- 2. Open the "Device Manager", by accessing it through the ADMINISTRATION -> DEVICE MANAGER.
- **3.** Point to the **New** button.
- **4.** On the appearing drop-down tab, select the "**RAW**" option as shown in the **Figure 8.3.1A**.

		1	1		
	Device Manager	OVERVIEW	ADMINISTRATION	CONTROL	MONITORING
Quick Access Links	🕂 New 😢	Delete			
🎯 Create Quick Access Links					
	JNIOR				
	RAW				
	REALD 3D EQ				
		_			
	Save Revent				

Figure 8.3.1A

5. Write "PAA20+" in the field "Identifier".

- **6.** Write the IP of the PAA20+ in the field "Device IP".
- **7.** Select TCP protocol on the drop-down tab "Protocol".
- 8. Write "10001" in the field "Port".
- **9.** You may see the Device Manager window with this configuration on **Figure 8.3.1B**.
- **10.** Click on "**Save**" to save the new device.

	Device Manager	OVERVIEW	ADMINIS	TRATION	CONTROL	MONITORING
Quick Access Links	🕂 New 😢	Delete				
€ Create Quick Access Links	PROYECTOR PAA20+	<u> </u>	Device Type: F	ław		🗹 Enabled
	CP650 Certainty		Identifier:	PAA20+		
	Subtitle Engine		V endor:	PROYECS	ON	
			Product Name:	PAA20+		
			Device IP:	10.100.85	.112	
			Protocol:	tcp		
			Port:	10001	_	
	Save Rever					

Figure 8.3.1B

- **11.** You need to be authenticated as 'admin' in order to save changes and to be able to configure new devices.
- **12.** Now the Paa20+ is configured and ready for the associated automation and trigger cues, to be created.



8.3.2 Setting up output cues for Doremi, Dolby and NEC IMS servers (non-library method)

Once the device is added, set up the "cues" in order to manage the PAA20+ outputs. There are two methods to do this: the first one is to add the output cues (**only valid for output cues**, not for trigger cues) following the Doremi Macro Editor Manual.

1. Open the "Macro Editor", by accessing it through the ADMINISTRATION -> MACRO EDITOR → .AUTOMATION CUE. to create a new "Macro" and name it, as shown in Figure 8.3.2A.

Automation Cue	OVERVIEW	ADMINISTRATION	CONTROL	MONITORING	
New 🛞	Delete	Settings Macro S Name of t	ettings he Macro: LIGHT '	1 ON	
ABRIR PALA APAGAR LAMPARA APAGAR SERVIDOR AUDIO DIGITAL CERRAR PALA ENCENDER LAMPARA FIN SESION FLAT220 FOCO OFF FOCO OFF FOCO OFF FOCO OFF FOCO OFF INICIO SESION LUZ 100% LUZ 100% LUZ 100% LUZ 50% MUSICA PANO 1020 Save		Comment	s: Cancel) Insert	

Figure 8.3.2A

- 2. Expand the "Select an action to insert" drop-down tab and select the "Send Message" option while the new created macro is selected. See figure 8.3.2B.
- **3.** Once the "Send Message" is selected, click on the "**Insert**" button.



Figure 8.3.2B

- **4.** On the "Send a Message" pop-up window write the following:
 - **Message Label**: Short description of the operation (optional).
 - Device Name: Select "PAA20+".
 - **Message Type**: Select "Text".
 - Message: Write the message in ASCII that will be sent to the PAA20+ when the macro cue gets executed. See the ASCII commands on <u>APPENDIX B: ASCII COMMANDS FOR</u> <u>DOREMI SERVER</u> if you want to use the factory default commands. You must write the codes exactly as shown in the table, otherwise the PAA20+ may not recognize them. If you want to use your own messages be careful with their length which, it's limited to 7 bytes and a \r terminator in this firmware version.
- 5. See an example of this from in the Figure 8.3.2C.





Figure 8.3.2C

- **6.** Once the required macros are added, save changes. If you are not logged as admin, you will need to authenticate in order to save them. New macros will appear in "Cinelister".
- To check in advance the macros, use the "MACRO EXECUTION" program in the "CONTROL." menu. You can see a snapshot of the "Macro Execution" program in figure 8.3.2D.

Macro Execution	OVERVIEW	ADMINISTRATION	CONTROL	MONITORING	LC
Refresh					
Execute a saved auto	mation cue macro	in one single click.			
Macro List					
VOLUMEN 6.4					
VOLUMEN 7					
PIANO 1920					
SCOPE 1920					
PAUSA					
APAGAR SERVIDOR					
FLAT220					
LIGHT 1 ON					

Figure 8.3.2D

8. If the command is successfully received by the PAA20+, a pop-up message is shown.

8.3.3 Setting up output cues for Doremi, Dolby and NEC IMS servers with xml lib.

The second method to set-up the cues for the PAA20+ in a these servers is using the "PAA20V2.xml" file, available in the FTP: <u>ftp://manual:proyecson@ftp3.proyecson.com/manual/paa20+</u>, to create a cues library for the device in the server. Using this method you can use the PAA20+ **inputs and the outputs** with the Doremi server.

To do so you must follow these steps:

- 1. Connect a PC or laptop to the same network where the Doremi server is connected. To ensure that they are in the same network you may "ping" the server from the PC.
- 2. Open a ftp client and connect to the server using the server IP. You must log in as admin using the admin password supplied by Doremi. You can see an example in **figure 8.3.3A**. For this example we used the "WinSCP" ftp client and a server with IP address 12.100.85.111.

cueslib - root@12.100.85.111 - WinSCP	×
	Default 🔹 👹 🗸
Local Mark Files Commands Session Options Remote Help	
📃 Desktop 🔹 😪 😓 🗸 🖄 😰 🚼	• 🚘 🗢 → → 🗈 🔼 🚮 🙆 皆
C:\Users\v.alfonso\Desktop\PAA20+V2\DOREMI	/doremi/etc/cueslib
Image: Second secon	Name Ext + C+ crianty.xml Collary Def00.xml Dolby DFC100.xml dolby_cp650.xml ecna.xml jnior expansion module.xml jnior.xml MasterImage.xml PAA20V2.xml QSC.xml
0 R of 19 170 R in 0 of 1	0 P of 150 KiP in 0 of 9
■ E2 Bename 17 E4 Edit 13 E5 Copy 13 E6 Move A E7 Create Directory Y	F8 Delete Per F9 Properties 🖡 F10 Quit
	🗎 SFIP-3 🚽 1:51:10 📈

Figure 8.3.3A



- 3. Once you are connected to the server via ftp, upload the "PAA20V2.xml" file available in the FTP: <u>ftp://manual:proyec-son@ftp3.proyecson.com/manual/paa20+</u> to the "/etc/cueslib/" direct-ory in the server. You can see the "PAA20V2.xml" loaded in this folder in **figure 8.3.3A**. Now, you should be able to set-up the output cues taking the commands from this library.
- Open the "Macro Editor", by accessing it through the ADMINISTRA-TION -> MACRO EDITOR -> AUTOMATION CUE. to create a new "Macro" and name it, as shown in Figure 8.3.3B.

Automation Cue	OVERVIEW	ADMINISTRATION	CONTROL	MONITORING		
🗭 New 🛞	Delete 🧔	Settings Macro S Name of t	ettings he Macro: LIGHT ⁻	1 ON		
ABRIR PALA APAGAR LAMPARA APAGAR SERVIDOR AUDIO DIGITAL		Comment	s: Cancel			
CERRAR PALA ENCENDER LAMPARA FIN SESION FLAT220 FOCO OFF FOCO ON HDMI 16 9 HDMI SCOPE INICIO SESION LUZ 0% LUZ 10% LUZ 50% LUZ 50% MUSICA						
Save Rever					NIS811	

Figure 8.3.3B

5. Expand the "Select an action to insert" drop-down tab and select the "Library" option while the new created macro is selected. See **Figure 8.3.3C**.



Figure 8.3.3C

- 6. On the pop-up window select have to select:
- Driver: PAA20V2.
- Action: The action you want to activate on the PAA20+.
 - Actions from H1 to H12 activate (High) and maintain active the corresponding output.
 - Actions from L1 to L12 deactivate (Low) and maintain inactive the corresponding output.
 - Actions from P1 to P12 generate a momentary pulse (500ms) in the corresponding output.
- Message Label: The text you want.
- Device Name: PAA20+
- Message Type: Text.
- Message: The one corresponding to the Action selected. Do not modify.

See **figure 8.3.3D** as an example.




Figure 8.3.3D

- 7. Click on the "Ok" button and then on the "Save" button. The macro is created.
- 8. Once the required macros are added, save changes. If you are not logged as admin, you will need to authenticate in order to save them. New macros will appear in "Cinelister".
- 9. To check in advance the macros, use the "MACRO EXECUTION" program in the "CONTROL." menu. You can see a snapshot of the "Macro Execution" program in figure 8.3.3E.



Figure 8.3.3E

8.3.4 Setting up input cues for Doremi, Dolby and NEC IMS servers with xml lib.

Using the XML library method it is possible to the PAA20+ inputs to send automation messages to the IMS servers. You need the "PAA20V2.xml" file loaded properly in the server to use this feature, in the 1,2 and 3 steps of the 8.2.8 section of this manual you may see the procedure to load the file and create the PAA20+ Library.

With this file loaded you can create trigger cues following these steps:

8. Open the "Macro Editor", by accessing it through the ADMINISTRA-TION -> MACRO EDITOR → TRIGGER CUE. This window is used to manage the trigger cues. To create a new cue click on "+ New" button and in the pop-up window, name it and click on accept. Example is given in Figure 8.3.4A.

Trigger Cue	OVERVIEW	ADMINISTRATION	CONTROL	MONITORING	
New 👀	Delete 🔅	Settings Name of Comment	Settings the Trigger: play s: Cancel		
Save Rever	t	e c		nt 💌 Add	

Figure 8.3.4A

9. When the "Connect to an event" drop-down, **Figure 8.3.4B**, select the "Signal" option.



Trigger Cue	OVERVIEW	ADMINISTRATION	CONTROL	MONITORING	
🕀 New 😣	Delete 🔅	Settings			
Trigger		A ctio	п		
rplay SAI APAGAR SERVIDC SAI PAUSA	R				
Save Rever		Cor Ger Sigr	onnect to an even mect to an event meral Purpose Inpu mal	nt 🚽	

Figure 8.3.4B

10. In the "Signal Setup" pop-up window, select PAA20V2 in the "Driver" selection tab and select the desired input of the PAA20+ in the "Signal" drop-down menu. Every signal matches the physical input with the same number in the device. You may see an example for the Input 1 in **Figure 8.3.4C**.

Trigger Cue	OVERVIEW	ADMINISTRATION	CONTROL	MONITORING	
Trigger SAI APAGAR SERVIC SAI PAUSA	Delete 🔅	• Settings	Signal Set Source dev Any Signal name 101 Oniver: Signal	up ce name: x rom list. PAA20V2 101	
Save Rev	ert	SI SI	Ok Ok	Cancel	

Figure 8.3.4C

- 11. Pressing the Ok button of the "Signal setup" window you will go back to the "Trigger cue" window. Click on the "Save" button to finish the creation of the trigger cue.
- 12. Now, you may use the "trigger cues" in the "Cinelister" editor to activate macros during the Show execution.



8.4 BARCO ALCHEMY ICMP SERVER SET-UP.

8.4.1 Adding the PAA20+ to Barco Alchemy ICMP servers: Ethernet interface.

This point describes how to add the PAA20+ as Ethernet device in the Barco Alchemy ICMP servers. To set up the automation devices in an Alchemy server it is mandatory to use the Barco Communicator software, it is not possible to do it using the Alchemy server GUI or Barco Commander:

- **1.** Turn on the server projector and, therefore, the server.
- **2.** Use the Barco Communicator software to connect to the Barco projector and log in as "Service Technician".
- 3. Click on the "Devices" button on MEDIA SERVER→ AUTOMATION menu Figure 8.4.1A.

Environment selection Hotgetion Image: Control Control Control Control Image: Control Media Image: Control Image: Control Image: Control I	Communicator 5.2.1 Environment status		TEST		BARCO
Connection P Ethernet 10 . 0 . 12 . 139 C Serial jdev/tzy50	rn/rement selection σ	Automation -	Cues Cues		surgation © Control © Configuration © Disposition © Disposition © Installation © Media Server © Installation © Payor © Automation © About
	Connection F Ethernet Serial /dev/tty50 Connect Disconnect				Maintenance
Service Technician Connected - 10.0.12.139 - DP2K-6E	&	Service Technician	Connected - 10.0.12.139 - DP2K-6E	• •	I3:59

Figure 8.4.1A

4. In the "Device configuration" pop-up window click on the "Add device" button. **Figure 8.4.1B**.

Devio	:e 🗸	Туре	Device configuration
cp65(D	ТСР	🤶 тср
			Device name [cp650 Hostname/IP [10.0.12.239 Port 61412]
			Login text
			☐ Maintain connection
•			×
		🔜 Add d	vice 🗾 Delete device
			OK Cancel

Figure 8.4.1B

5. In the "Add new device" pop-up window, select the **TCP** device type and click on the "Next" button. **Figure 8.4.1C**.

• Create new devi	ce wizard	8
⊢ Add a new device —		
	Select a device type	
	JNIOR	
	1	
		Next
		_

Figure 8.4.1C



6. In the "Device Configuration" window set the name, IP address and port for the PAA20+ device. The **Figure 8.4.1D** shows the factory IP configuration for the PAA20+. Click on the "Finish" button.

 Create new device wizard 	8				
Device con	figuration				
2	тср				
Device name PAA20+					
Hostname/IP 10.0.0.180	Port 10001				
Login text					
Maintain connection					
Back Fingsh					
Figure 8.4.1D					

7. The PAA20+ device is now configured, ready to add cues and triggers. Figure 8.4.1E

Device configuration	8
Device \bigtriangledown Type cp650 TCP PAA20+ TCP	Device configuration
	Device name PAA20+ Hostname/IP 10.0.0.180 Port 10001 Login text Maintain connection
دا ع Add device	e Delete device

Figure 8.4.1E

8.4.2 Setting up the output cues for the Barco Alchemy server.

Once the device is added, set up the "cues" in order to manage the PAA20+ outputs. To add some cues manually follow these steps:

- **1.** Using the Barco Communicator software connect to the projector as Service Technician.
- Click on the "Cues" button on MEDIA SERVER→ AUTOMATION menu.
- **3.** In the "Cue editor" pop-up window it is possible to create a group of cues to simplify the cues organization. To do it, click on the "Group" button. **Figure 8.4.2A**.

Cue editor User cues System cues Input cues		3	
Projector	Device	Command	Delay
Plat Plat Prest 03 Prest 05 Prest 05 Prest 07 Prest 09 Prest 09	PROJECTOR	Turn Lamp On	0
Sroup Add Delete	Edit		

Figure 8.4.2A



4. In the "Group Management" pop-up window click on the new group icon and fill the "Group Name" with the name you want for the PAA20+ cues group. In the example we used the name "PAA20". Then click on the "Ok" button. Figure 8.4.2.B.

Group management	8		
Name Projector Server Audio PAA20	Group parameters Group name : PAA20 Can be triggered manually 反 Can be inserted in SPL 反 Advanced		
ок			
Figure 8.4.2B			

5. Select the PAA20 group and click on the "Add" button, in the "Add cues" pop-up window write the name of the cue in the "Name" field, select the icon and the group as you can see in the **Figure 8.4.2C**.

• Cue editor			8		
User cues System cues Input cues					
- D Preset 02	Device	Command	Delay		
Preset 07 Preset 08 Preset 09 Preset 10 Vinnute Vinnute	• Add C	lues	8		
Volumen 3.5 Volumen 4.0 Volumen 4.5 Volumen 5.0 Volumen 5.5	User cue				
Volumen 6.0 Volumen 6.5 Volumen 7.0 Volumen 7.5	Icon	Automation	•		
Group Add Delete		OK Cano	cel		
Eigure 8.4.2C					

Figure 8.4.20

6. The cue is created, now you have to associate commands to it. Select the cue and click on the "Add action" icon. **Figure 8.4.2D**.

• Cue editor		8			
Cue editor					
Cue ealtor System cues Input cues J> Preset 03 J> Preset 05 J> Preset 05 J> Preset 05 J> Preset 06 J> Preset 07 J> Preset 07 J> Preset 08 J> Preset 08 J> Preset 09 J> Preset 09 J> Preset 00 Volumen 3.5 Volumen 3.5 Volumen 4.0 Volumen 5.5 Volumen 5.5 Volumen 5.5 Volumen 7.0 Volumen 7.0 Volumen 7.0 Volumen 7.0	Device Command	Delay			
🔍 Group 🔜 Add 🗾 Delete	Edit				
OK Cancel					
Figure 8.4.2D					

7. In the pop-up window select the PAA20+ from the "Device" selection tab, the "Send Text" option from the "Command" selection tab and write the ASCII text string command in the text field. See the ASCII commands on <u>APPENDIX H: COMMANDS FOR BARCO ALCHEMY</u> (ICMP) AND CHRISTIE IMB S2 if you want to use the factory default commands. After that click on the "Ok" button.

• Add new command 🛛 ⊗
Automation command Device PAA20+ Command Send Text Delay (ms) 0
Parameter Value
Text 51U51UA\0D
OK Cancel
Figure 8 4 2F



8. Create all the cues you need and click "Ok" on the "Cue editor" window to save the cue settings. **Figure 8.4.2F**.

Cue editor			6
Cue editor User cues System cues Input cues D Preset 05 D Preset 06 D Preset 08 D Preset 08 D Preset 08 D Preset 0 D Volume 1.5 Volume 4.0 Volume 4.0	Device PAA20+	Command Send Text	Delay 0
Volumen 4.3 Volumen 5.0 Volumen 5.5 Volumen 6.0 Volumen 6.5 Volumen 7.0 Volumen 7.5 PAA20 P1 P2 P3	Parameter Text	Value 53U53UC\0D	
Group Add Delete Edit	Cancel		
Figure	8.4.2F		

9. Once you have all the cues created and saved, it is possible to add any cue to your shows or trigger it manually as a standard output cue.

8.4.3 Setting up the output cues for Barco Alchemy ICMP servers using xml library

There is another way to set-up the cues for the PAA20+ in a Barco ICMP server, using the "PAA20p_Alchemy_V01.xml" file available in the FTP: <u>ftp://manual:proyecson@ftp3.proyecson.com/manual/paa20+</u> to create the PAA20+ device, cue group and cue library in the server. Using this method you can use the PAA20+ **outputs** with the Barco Alchemy ICMP server.

To do so you must follow these steps:

- **1.** Download the "PAA20p_Alchemy_V01.xml" file from the ftp site.
- **2.** Connect with the projector devices using the Barco Communicator software.
- **3.** Log in as "Service Technician".
- **4.** In "Media server -> Automation" menu click on the "Import" button.
- **5.** Using the pop-up explorer, select the "PAA20p_Alchemy_V01.xml" file as you can see in the **Figure 8.4.3A**.



Figure 8.4.3A



6. The new cues, groups and devices, described in the xml file will appear in a pop-up window as you can see in **Figure 8.4.3B**.



7. Click on the "Merge" button of the pop-up window to add these cues, groups and devices to the existing automation file. A confirmation pop-up window will appear, click on the "OK" button. **Figure 8.4.3C**.



8. Once you have all the cues saved, it is possible to replace the standard cue names imported from the .xml file for your own names and add any cue to your shows or trigger it manually, as a standard output cue. Figure 8.4.3D

User cues System cues	Input cues		🛍 🛃 🗶 🧭	,	
Preset 06		_	Device	Command	Delay
Preset 07			PAA20+	Send Text	0
J Preset 08					
Dreset 10					
Volumen 3.5					
Volumen 4.0		1			
Volumen 4.5					
Volumen 5.0			1		
Volumen 6.0					
Volumen 6.5			Parameter	Value	
Volumen 7.0			Tavk		
Volumen 7.5			lext	5505500(00	
B PAA20					
P1					
PZ D3		_			
		_			
🔍 Group 🔤 Add	🗾 Delete	🛃 Edit			

Figure 8.4.3D



8.4.4 Setting up the PAA20+inputs for Barco Alchemy ICMP servers.

IMPORTANT: This chapter only applies for PAA20+ devices with firmware version 4.3.3 or higher. If you want to use this functionality and your device has a lower version, please upgrade it.

Barco Alchemy (ICMP) server has a set of ASCII control messages we can use to control certain playback or automation functions. These messages and their description can be found on the **APPENDIX I: COMMANDS FOR BARCO ALCHEMY (ICMP) remote player management** of this document.

Using the "Automation Input Configuration" menu it is possible to send these commands to the Alchemy from the PAA20+ every time we have a Input activation (via front panel button, rear input connector or web interface).

Figure 8.4.4A shows the way to set these messages and TCP/IP options:

		ΡΑΑ	20+ WebAdmi
Status	Automation	n Input Configura	ation
Remote Control	This page allows the confi	iguration of the automation.	
TCP/IP Configuration	CAUTION: Incorrect s	ettings may cause the system not to	work properly.
Automation Output	Enter the new settings for	r the board below:	
	Inputs	Ethernet ~ Save	
Automation Input Configuration	Server IP:	10.0.12.139	Save
Advanced Configuration	Port Number	43748	Save
Firming the data	Input 1	PLAYER.Play;	Save
Firmware Opdate	Input 2	PLAYER.Pause;	Save
	Input 3	PLAYER.Stop;	Save
	Input 4	PLAYER.Emergency Stop;	Save
	Input 5	35U35UE	Save
	Input 6	36U36UF	Save
	Input 7	37U37UG	Save
	Input 8	38U38UH	Save
	Doremi ~	Update	
	Input Message Terminator:	~ Save	

Figure 8.4.4A

Set the different fields in this way:

- Inputs: Etheret
- Server IP: Write the control network IP for the Barco projector. For this example 10.0.12.139.
- Port Number: 43748. It's mandatory tu use this port for the Alchemy.
- Input x: Write the ASCII command you want to send to the Alchemy server every time the associated input becomes active. It's mandatory that the messages matches with the ones from the **Apendix I** table.
- Input Message Terminator: It's possible to choose any of the four message terminators, but is recommended to use the "blank" one.

In the **Figure 8.4.4A** example, every time become activated the:

- Input 1: The PAA20+ will send a message to the Alchemy to start the playing of the player loaded content.
- Input 2: The PAA20+ will send a message to the Alchemy to pause the current playback.
- Input 3: The PAA20+ will send a message to the Alchemy to stop the current playback.
- Input 4: The PAA20+ will send a message to the Alchemy to activate the Emergency State with it's related actions.

Emergency Stop special case:

The Emergency Stop action definition is this: "Sets an error, forces the manual mode, stops the player and triggers automation events associated with Emergeny Stop".

This Emergency Stop could be used when you have a Fire or Emergency trigger in the theatre. It's a good practise to follow these steps:

- Connect the Fire or Emergency line from the Alarm system to one of the Inputs of the PAA20+, in the Figure 8.4.4A example we have used the "Input 4".
- Set the Input, Server IP, Port Number and Input Message terminator as explained. Click on it's "Save" button every time you change the seeting.



- Write the message "PLAYER.Emergency Stop;" in the text input field of the Input you have connected to the Alarm system and click "Save" button.
- Use the Barco Communicator software to connect to the Barco projector with the Alchemy server we want to send the control messages.
- Log in as Service Technician.
- Go to the "Media server -> Automation -> Cues" menu of the Barco Communicator.
- Once in the "Cue editor", go to "System Cues" tab and, if it's not yet created, click on the "Add" button to create the Emergency Stop cue.
- In the "Add Cues" pop-up window, choose the "On Emergency Stop" from the "Event" selection bar as you can see in the **Figure 8.4.4B** picture and click "OK".



• Then, every time the Alchemy receives the message < PLAYER.Emergency Stop; > on its 43748 port, this On Emergency Stop cue will be fired and every action you set on it will be also executed.

- For example we can create these actions:
 - Stop the playback:



• Send the message < $53U53UC \ge to the PAA20+$:



• Send a mute command to the CP650 audio processor:



• It is possible to add as many actions as you need.



8.5 GDC SERVER SET-UP.

This manual is based on three different GDC software versions:

- 7.7b -rc17 and older versions.
- 7.8.2 and higher for the SX-2001A and SX-2000A servers.
- 9.0 and higher for the SX-2000AR servers.

Before initiating a connection to the PAA20+, this must be first added as a new server device.

8.5.1 Adding the PAA20+ to the GDC server: Ethernet interface.

To add the PAA20+ as an Ethernet device in the GDC server follow these common steps to all software versions:

- 1. Turn on the server.
- 2. The server boots showing the SMS screen, **Figure 8.5.1A**.



Figure 8.5.1A



	Maintenance A	ccess	$\overline{\Sigma}$	

	7	8	9	
	4	5	6	
	1	2	3	
	0		Del	
		Enter		
G·D·C				

Figure 8.5.1B

4. The "Maintenance" screen is shown in the **Figure 8.5.1.C**.

Use startup/shutdown pass Playlist menu password pro Skip non-playable composi	word otected tion playlist	Reset TimeCo Enable playba Show ingest c	ode at end of clip ick resumption content annotation	n text	
Settings	ASI Packet	204	Date Format	MM/DD/YYYY	$\overline{\Sigma}$
Subtitle Delay 0 frames	Font Size	12	Language	English	$\overline{\Sigma}$
Password Change User Password	Change Te	echnician Password	Change Ma	intenance Pass	word
Password Change User Password Setup	Change Te	echnician Password	Change Ma	intenance Pass	word
Password Change User Password Setup SNMP Setup	Change Te	echnician Password utomation	Change Ma	iintenance Pass	word
Password Change User Password Setup SNMP Setup eneral] CineCanvas Assist.	Change Te	utomation	Change Ma	intenance Pass	word

Figure 8.5.1C



5. Click on the "Automation" button to go to the Automation screen, **Figure 8.3.1D**.

Ev	ent Label	FIRE_ALARM		Add	Delete	Edit
_	Device	Action		 		
1	System 🔤	Primitive:	Pause			$\overline{\Delta}$
	Add Del	ste			Schedule	Execute
ctio	ns Inputs De	evices Startup	& Error			
	$\mathbf{D} \cdot \mathbf{C}$			Save		Close

Figure 8.5.1D

6. Select "Devices" tab to access the "Devices" screen, **Figure 8.5.1E**.

	System	Add Edit Delete
Device Type		Search devices on network
ystem Settings		
Status	Enabled	h.
ions Inputs D	evices Startup & Error	

Figure 8.5.1E

7. Click on the "Add" button to configure the PAA20+. Write down PAA20+ in the "Name" field and select and select "NETWORKSOCKET" on the "Type" selection tab. Save setting pressing the OK button. **Figure 8.5.1F**.

Name		
PAA20+		
Туре		
NETWORKSOCKET	k	$\overline{\Sigma}$

Figure 8.5.1F

- 8. Once the PAA20+ is added, you need to configure the network and the cues in the "Devices" screen. To configure the network you need to fill in these fields:
 - **IP address**: The IP of the PAA20+, configured in WebAdmin interface. The PAA20+ factory default is 10.0.0.180. The PAA20+ must be in the server's sub-network.
 - **Port**: The TCP/IP port used by the PAA20+ to listen the server messages. It can be configured on the PAA20+ using the WebAdmin interface. The PAA20+ factory default is port 10001.
 - **Local Port**: The server TCP/IP port used to listen to PAA20+ messages. It can be configured in the PAA20+ using the WebAdmin interface. By default is port 13200.
 - **Status**: Selection tab used to Enable or Disable the communication with the configured device.
 - **Transport**: Must be set to TCP.



- **Linefeed Type**: Sets the message termination character. Selection tab only available in GDC software versions higher than 7.8.0, for older versions the message termination character is set to **LF** by default. Options:
 - **CR**: Carriage Return, Hex 0D (\r).
 - **LF**: Line Feed, Hex 0A (n).
 - **CRLF**: Carriage Return + Line Feed (Intro, r).

If you have a GDC software version lower than 7.8.0, you must set the "Output Message Terminator" to \n on the PAA20+ WebAdmin to ensure the PAA20+ message reception

Figure 8.5.1G shows the device network settings to connect to a factory default PAA20+ for a 7.7b -rc17 and older versions for the GDC software:

	PAA20+	Add	Edit Delete
Device Type	NETWORKSOCKET	Search dev	rices on network
Network and Contr	ol Cues Settings		
IP Address	10.0.0.180	*	Status Enabled
Port	10001		Transport
Local Port	13200		2
Control Cues			

Figure 8.5.1G

Figure 8.5.1H shows the device network settings to connect a factory default PAA20+ for a 7.8.0 and higher GDC software versions:

Nombre del dispositi	vo PAA20+	Agregar	Editar Eliminar
Tipo de dispositivo	NETWORKSOCKET	Search	h devices on network
Network and Control	Cues Settings		
PAddress	10.0.0 180		Status Enabled Z
Port	10001		Linefeed Type
Local Port	13200		
Control Cues	Edi	it Control Cues	
ciones Entradas	Dispositivos Options		

Figure 8.5.1H

- 9. Set the PAA20+ cues:
 - To set the cues for the PAA20+ using a GDC software version older than 7.8.0, click on the "+" button on the right side of the "Control Cues" selection tab and write the cue string in the "Enter new string" form (Figure 8.5.11), then press the "Enter" button. Repeat this step for every cue you want to add.

51UA								
1	2 3	4	5	6	7	8	9	0
q	ve	r	t	у	u	r	o	р
а	s	d	f (,	h	j	ĸ	1
z	x	c	r	•	n	m	/	
@				Space			%	
	BackSpac	e	Caps		Ente	r	Car	ncel

Figure 8.5.1I



• These older software versions, allows you to see the cues created for the PAA20+ expanding the "Control Cues" selection tab, as shown in **Figure 8.5.1J**.

Device Name	PAA20+	Add Edit Delete
Device Type	NETWORKSOCKET	Search devices on network
-Network and Contr	ol Cues Settings	
IP Address	10.0.0.180	Status Enabled
Port	10001	Transport TCP UDP
Local Port	13200	
Control Cues	5BU5BUK	⊻ • •
	52U52UB 53U53UC	
	54U54UD	
	55U55UE	
	56U56UF	
	57U57UG	
Actions Inputs		
	5415411	
DC	SRUSBUK	Class
I D C	BOBOK	Close

Figure 8.5.1J

- To remove any created cue, select it using this selection tab an press the "-" button located on the right side of this selection tab.
- To set the cues for the PAA20+ using a GDC software 7.8.0 and higher, click on the "edit control cues" button and write the cue name and value in the showing "Edit Control Cues" screen, Figure 8.5.1K.

Edit	Control Cues	
	Name	Value
2	FOCO ON	54U54UD
3	LUCES 0%	51U51UA
4	LUCES 100%	53U53UC
5	LUCES 50%	52U52UB
6	P6	56U56UF
7	P7	57U57UG
8	P8	58U58UH
9	P9	5905901
	Add Remove	Ok

Figure 8.5.1K

- Chick on the "Add" button to add new cues and on the "Remove" button to remove existing ones. Once the cues are created, click on the "Ok" button to return to the previous window.
- **IMPORTANT**: When setting the input cues, the "Name" field must have the same character string as the "Value" field.
- Valid message strings are listed in <u>APPENDIX E: COMMANDS</u> <u>FOR GDC SERVERS</u>.
- 10. Click on the "Save" button to store all the settings for the "Devices" screen.
- 11. Once the PAA20+ is added in the GDC server, it can be used to create actions or inputs in the server automation system, in the same way it could be done with other automation devices. You can see an example of a PAA20+ action in the **Figure 8.5.1L**.

Ev	ent Label	LUZ100%		Add	Delete	Edit
_	Device	Action				
1	PAA20+	Event:	51U51UA			$\overline{\Delta}$
	10321022 Store 1	ete			Schedule	Execute
	Add Del					
ctio	Add Del	evices Startu	ip & Error			

Figure 8.5.1L



8.6 QUBE SERVER SET-UP.

This manual is based on the 2.5.5.7 Qube software version, other versions may differ.

Up to this version the PAA20+ is only compatible with the Qube XP-D servers using serial interface connection.

To perform Qube servers automation configuration it is mandatory to modify some Qube system files, you must modify this files carefully to prevent system failure. It is recommended to backup these files before modification.

You need "Support" privileges to modify the automation and system files. If you need the Support user password contact your Qube dealer.

8.6.1 Adding the PAA20+ to the Qube server: serial interface.

To add the PAA20+ as a serial device in the GDC server software follow these steps:

- 1. Turn on the server.
- 2. Log out and log in as Support.
- 3. Open the folder C:\Program Files\Qube Cinema\XP. **Figure 8.6.1A**.

Den XP				_ 🗆 ×
File Edit View Favorites Tools Help				
🔇 Back 🔹 🕥 🖌 🎓 Search 💫 Fold	lers 🛄 🕇			
Address 🗁 C:\Program Files\Qube Cinema\XP				💌 🔁 Go
Folders ×	Name 🔺	Size	Туре	Date Modified
rouess → → → → → → → → → → → → → → → → → →	Mama Mama Mama Man Main Main Main Main Main Main Main Main Main Man Main Man Man	1,098 K8 3 K8 1,666 K8 3 7 K8 3 7 K8 3 7 K8 4 K8 4 K8 4 K8 1 1 K8 5 K8 5 K8 1 1 4 K8 1 1 3 K8 6 K8 1 3 3 K8 6 K8 5 1 3 K8 1 3 5 K8 1 5 K8	Pie Folder Fie Folder Fie Folder Application Extension XSD File Application Extension Application Extension Application Extension Application Extension Application Extension XML Document XXXXX XXXXX XXXX XXXX XXXX XXXX XXXX XXX XXX	1/3/2013 6:33 AM 1/3/2013 6:33 AM 1/3/2013 6:33 AM 1/3/2013 6:33 AM 1/3/2013 6:33 AM 1/3/2013 6:33 AM 7/18/2012 3:26 AM 7/18/2012 3:26 AM 7/18/2012 3:26 AM 1/3/2013 5:45 AM
⊞	cpl.xsd Dalapathi.exe	8 KB 136 KB	XSD File Application	5/10/2009 8:00 A№ 7/18/2012 3:27 A№
QuickTime	Dalapathi.exe.config	2 KB	CONFIG File	1/3/2013 5:45 AM

Figure 8.6.1A

4. Backup the following files:

- AutomationCues.xml
- AutomationDevices.xml
- 5. Download the PAASERIES.xml available in the FTP: <u>ftp://manual:proyecson@ftp3.proyecson.com/manual/paa20+</u>, and copy it in the XP folder.
- 6. Edit the **AutomationDevices.xml**, this file contains the definitions and settings for all the devices the Qube server can handle. To add the PAA20+ insert this text as a device tag:

<Device name="PAASERIES" class="Qube.Automation.StreamDevice.Serial" enable="true">

<Configuration>

```
<Key name="File" value="PAASERIES.xml" />
```

```
<Key name="Settings" value="COM1,9600,n,8,1" />
```

</Configuration>

</Device>

 Edit the AutomationCues.xml, this file contains the definitions of the output automation cues used by the Qube Software to control external devices and internal actions. Adding new cues for the PAA20+ could be done inserting new cue tags such as the next example:

```
<Cue name="NameOfTheCue">
```

<Actions>

<InvokeMethod name="Name" device="PAASERIES"/>

</Actions>

</Cue>

8. On the previous example xml code, you have to change the **"NameOfTheCue"** field for the character string that will be shown on the Qube Graphical User Interface (GUI) as the name of the automation cue. You have to change the **"Name"** attribute on the third line for the name associated to the output number and type according to the table in <u>APPENDIX F: COMMANDS FOR QUBE SERVERS</u>.



- 9. Repeat steps 7 and 8 for every cue you want to add. Once all the cues are added, save the XML file.
- 10. Edit the **Dalapathi.exe.config** file found in the same folder and change the ASCIIProtocolSerial baudrate value from "COM1,115200,n,8,1" to "COM1,9600,n,8,1":
 - Original line:

<add key="ASCIIProtocolSerial" value="COM1,115200,n,8,1"/> <!--Portname,baudrate,parity,databits,stopbits-->

• Modified line:

<add key="ASCIIProtocolSerial" value="COM1,9600,n,8,1"/> <!--Portname,baudrate,parity,databits,stopbits-->

- 11. After saving the modified files, logout from Windows session and login again. Check on "logs" menu "qube" tab on Qube GUI the PAASERIES device should have been added successfully.
- 12. After performing these steps, automation cues can be selected on the Qube GUI.

On **APPENDIX G: QUBE AUTOMATION FILES EXAMPLES** you can see an example of the xml automation files extracted from a Qube XP-D server.

8.6.2 Configure the Qube inputs on the PAA20+.

It is possible to send some commands to a Qube XP-D server to control the loaded show: Play, Pause and Stop. Using the WebAdmin interface of the PAA20+ it is possible to configure three inputs to activate each trigger of the Qube server. The **Figure 8.6.2A** shows the "Automation Input Configuration" screen:

Remote Control	This page allows the co	onfiguration of the automation.	
CP/IP Configuration	CAUTION: Incorrec	t settings may cause the system r	not to work properly
Automation Output	Enter the new settings	for the board below:	
Automation Input	Inputs	Serial Save	
Configuration	Server IP:	10.0.0.129	Save
dvanced	Port Number	13200	Save
Configuration	Input 1	31U31UA	Save
irmware Update	Input 2	32U32UB	Save
	Input 3	33U33UC	Save
	Input 4	34U34UD	Save
	Input 5	35U35UE	Save
	Input 6	36U36UF	Save
	Input 7	37U37UG	Save
	Input 8	38U38UH	Save
	Doremi 💌	Update	
	Doremi Qube Default	Vr 💌 Save	

Figure 8.6.2A

Select Qube from the pull down menu. Click then the Update Button. Items 1 through 3 will be automatically filled in with the default values. Click on each Save button for every input you want to configure. You will need to update this form for every default input you want to set.



Figure 8.6.2B shows the inputs 1, 2 and 3 configured for the PLAY, PAUSE and STOP functions of the Qube server:

	Automatio	in Input Conniguna	nuon
Remote Control	This page allows the co	onfiguration of the automation.	
rCP/IP Configuration	CAUTION: Incorrect	t settings may cause the system not to	work prope
Automation Output Configuration	Enter the new settings	for the board below:	
Automation Input	Inputs	Serial Save	
Configuration	Server IP:	10.0.0.129	Save
dvanced	Port Number	13200	Save
configuration	Input 1	(USER "projectionist" "qube")(PLAY)	Save
irmware Update	Input 2	(USER "projectionist" "qube")(PAUS)	Save
	Input 3	(USER "projectionist" "qube")(ESTP)	Save
	Input 4		Save
	Input 5		Save
	Input 6		Save
	Input 7		Save
	Input 8		Save
	Qube 💌	Update	
	Input Message Terminator:	V - Save	

Figure 8.6.2B

8.7 DATASAT SERVER SET-UP.

THE PAA20+ IS COMPATIBLE WITH THE DATASAT DC20 SERVER USING SERIAL INTERFACE, BUT THE SERVER SET-UP WILL BE AVAILABLE IN FUTURE VERSIONS OF THIS MANUAL.

IF YOU NEED INFORMATION ABOUT HOW TO SET-UP A DATASAT SERVER, PLEASE CONTACT PROYECSON AT THE ADDRESS: proyecson@proyecson.com.



8.8 CHRISTIE IMB S2 SERVER SET-UP.

For using the Proyecson PAA20+ automation adapter with the Christie IMB S2 server it is not necessary to configure it as an automation device.

It could by done using the "Serial String" type of the "IMB Automaiton" device.

8.8.1 Configure the Christie IMB S2 automation for the PAA20+.

- Login with manager or service privileges on the projector GUI.
- Open the "*Menu -> Christie IMB → System"* window. **Figure 8.8.1A**.



Figure 8.8.1A

- On the System window, select the "*Automation"* menu.
- Once in the automation menu, select the "Macros" tab. Figure 8.8.1B.



Figure 8.8.1B

- To create a Macro click on the "Add" button of the "Macros" tab.
- A virtual keyboard pop-up window called "Enter Macro Name" will appear, write then name of your new macro and click on the "Enter" button. Figure 8.8.1C.



Figure 8.8.1C



 Once the macro is created, click on the "Add" button of the "Macro Activities" menu to associate an action to the new macro. Figure 8.8.1D.

System C	k						CH	KISTIE
System								20
Devices	Add	Remove				Can	cel	Save
R Macros	Сору	Run Macro	Mac	ro Activitie	s			
Input Cues	FIRE_ALARM	1		♣	Add		Edit	Remove
Global Triggers	-		Devid	ce D	escriptio	n		
General Storage	IMB Network	Automation	Audio	Licenses	Status	Multi P	rojector	Dolby Atmo

- Fill up the appearing "Activity Properties" pop-up window:
 - Automation Device: IMB Automation.
 - *Activity type*: Serial String Output.
 - Serial String: ASCII string to send to the PAA20+. It is possible to use the factory string described on the <u>APPENDIX H: COMMANDS</u> <u>FOR BARCO ALCHEMY (ICMP) AND CHRISTIE IMB S2</u>. or to configure your own string following the procedure described in this manual.
 - *IP Address*: TCP/IP IP address of the PAA20+ to send the serial string commands. Factory default is 10.0.0.180/24 but it is possible to change it using the PAA20+ web GUI.
 - Port: TCP/IP port to sent the serial string commands. Factory default is 10001 but it is possible to change it using the PAA20+ web GUI.
- After that click on the "Accept" button to confirm. Figure 8.8.1E.

O s	ystem C	k				CHł	EISTIE
System	n						20
De	vices	Add	Remove			Cancel	Save
	Activ	ity Propertie	s				
Innu	Auto	mation Device		Serial String			emove
mpa	IMB	Automation		51U51UA\0D			
Global	Acti	vity Type		IP Address		Port	to 10.0
	Seria	al String Output		10.0.0.180		10001	
					Accept	Cancel	
General	Storage	IMB Network	Automati	on Audio Licens	ses Status	Multi Projector	Dolby Atmos
M the	enu		MB	Service VI	NC 🔒 1	© ? ∰®	10:50:14
			Figu	ure 8.8.1	1E		

- Repeat the previous two steps for every Action you want to include in every macro.
- Click on the "*Save*" button of the "*System*" window to save the Marcros configuration. **Figure 8.8.1F**.

O Syst	tem O	k	Les								CH	KISTIE
System												20
Device	es	1	Add	Remov	е					Ca	ancel	Save
Raci	os		Сору	Run Mac	ro	Mac	ro Acti	vities	3			
Input Cu	Jes		FIRE_ALARM	1			÷		Add		Edit	Remove
Global Tric	qers	-				Devic	e		Descr	iption		
		-				IMB Automation Send string: 51U51UA\0D to 10.0					0D to 10.0	
General St	orage	IN	1B Network	Automa	tion	Audio	Licen	ses	Status	Multi	Projector	Dolby Atmos
Men	u			MB	M	Servi	ce V	NC	B 1	0	9 3 8	10:51:39

Figure 8.8.1F


9. OUTPUTS / INPUTS OF THE PAA20+

The contacts order in the connectors and the internal circuitry of the PAA20 $\,+\,$ outputs as shown on the following schemes and pictures:

9.1. OUTPUT 1 CONNECTOR:



OUTPUT 1 CONNECTOR

Figure 9.1B

9.2 OUTPUT 2 CONNECTOR:

OUTPUT 2 CONNECTOR









9.3 OUTPUT 3 CONNECTOR:

OUTPUT 3 CONNECTOR



Figure 9.3B

9.4 INPUT CONNECTOR:

INPUT CONNECTOR





Picture 9.4B



9.5 EXAMPLES OF INPUT CONNECTION:

Digital inputs are divided in two groups; each group shares a common independent cable. The first group includes inputs I1 through I4 and in the second one inputs from I5 to I8.

9.5.1 INPUT WITH A NEGATIVE COMMON:



Figure 9.5.1A



9.5.2 INPUT WITH A POSITIVE COMMON:

Picture 9.5.2A



9.6 SERIAL PROT PIN-OUT.

Serial port connector is a DB9 Female.

Voltage levels in the TX and RX pins are RS232 compliant.



Figure 9.6A.

PIN	FUNCTION				
1	N/C				
2	ТХ				
3	RX				
4	N/C				
5	GND				
6	N/C				
7 N/C					
8	N/C				
9	N/C				
Tabl	e 9.6A				

10 FIRMWARE VERSIONS

• **PAF 0.1**:

- Fully compatible with Dolby servers using serial port.
- Fully compatible with the Doremi servers automation using serial port and Ethernet connection.
- $_{\odot}~$ Fully compatible with the Qube XP-D and Datasat DC-20 servers automation using serial port. \bigstar
- $\circ~$ Fully compatible with GDC ~ servers automation using Ethernet connection.

• PAF 1.0:

- Individual time setting for all the relay pulse outputs.
- Different message terminators for inputs and outputs.
- Remote update function.
- Tester and Programmer software.

PAF 1.1:

- \circ Serial number and firmware version visible in the WebAdmin.
- First Production Version Release.

• PAF 1.1b:

- $_{\odot}~$ It is possible to configure output pulses up to 65 s.
- **Known issue**: Backup/Upload doesn't work.

• PAF 4.2.x:

 \circ GUI redesigned.



- $\circ~$ It is possible to select the rising/falling edge detection for the inputs.
- $\circ~$ New button to "Reboot the device" in the "Firmware Upgrade" menu.
- $\circ\,$ It is possible to check the input/output status via ASCII commands.
- **Known issue**: Backup/Upload doesn't work.
- PAF 4.3.x:
 - Ethernet connection improved to communicate with Barco ICMP
 - Fix a bug in the Backup/Upload function.

11. ELECTRICAL REQUIREMENTS

Power Requeriments 100-240 VAC, 50-60 Hz Alternative 24VDC, 35 W

• 35 W



12. TECHNICAL DRAWS, LABELS, DIMENSIONS AND WEIGHT



Example of device identification and power requirements label:

http://www.cinemanext.com TF: +34.96.3311423	ema €
MOD: PAA20+ Power Supply: \sim 100-240 V	4-0-21-37-020
Frecuency: 50 / 60 Hz DC Power Supply: === 24Vdc Output voltage: === 24 Vdc, 1A	Power: 35W YEAR: 2021

	1	-	1		1
Category	Туре	Name	Command	Action	I/O hard
Input	Other	Play	31U31UA	Start Show	Input 1
Input	Other	Pause	32U32UB	Pause Show	Input 2
Input	Other	Stop	33U33UC	Stop Show	Input 3
Output	Lights	P01	51U51UA	Pulse	Output 1
Output	Lights	P02	52U52UB	Pulse	Output 2
Output	Lights	P03	53U53UC	Pulse	Output 3
Output	Lights	P04	54U54UD	Pulse	Output 4
Output	Other	P05	55U55UE	Pulse	Output 5
Output	Other	P06	56U56UF	Pulse	Output 6
Output	Other	P07	57U57UG	Pulse	Output 7
Output	Other	P08	58U58UH	Pulse	Output 8
Output	Other	P09	59U59UI	Pulse	Output 9
Output	Other	P10	5AU5AUJ	Pulse	Output 10
Output	Other	P11	5BU5BUK	Pulse	Output 11
Output	Other	P12	5CU5CUL	Pulse	Output 12
Output	Lights	H01	61U61UM	On	Output 1
Output	Lights	H02	62U62UN	On	Output 2
Output	Lights	H03	63U63UO	On	Output 3
Output	Lights	H04	64U64UP	On	Output 4
Output	Other	H05	65U65UQ	On	Output 5
Output	Other	H06	66U66UR	On	Output 6
Output	Other	H07	67U67US	On	Output 7
Output	Other	H08	68U68UT	On	Output 8
Output	Other	H09	69U69UU	On	Output 9
Output	Other	H10	6AU6AUV	On	Output 10
Output	Other	H11	6BU6BUW	On	Output 11

APPENDIX A: SERIAL COMMANDS FOR DOLBY



Output	Other	H12	6CU6CUX	On	Output 12
Output	Lights	L01	71U71UY	Off	Output 1
Output	Lights	L02	72U72UZ	Off	Output 2
Output	Lights	L03	73U73U0	Off	Output 3
Output	Lights	L04	74U74U1	Off	Output 4
Output	Other	L05	75U75U2	Off	Output 5
Output	Other	L06	76U76U3	Off	Output 6
Output	Other	L07	77U77U4	Off	Output 7
Output	Other	L08	78U78U5	Off	Output 8
Output	Other	L09	79U79U6	Off	Output 9
Output	Other	L10	7AU7AU7	Off	Output 10
Output	Other	L11	7BU7BU8	Off	Output 11
Output	Other	L12	7CU7CU9	Off	Output 12

Category	Name	Command	Action	I/O hard
Output	P01	51U51UA\r	Pulse	Output 1
Output	P02	52U52UB\r	Pulse	Output 2
Output	P03	53U53UC\r	Pulse	Output 3
Output	P04	54U54UD\r	Pulse	Output 4
Output	P05	55U55UE\r	Pulse	Output 5
Output	P06	56U56UF\r	Pulse	Output 6
Output	P07	57U57UG\r	Pulse	Output 7
Output	P08	58U58UH\r	Pulse	Output 8
Output	P09	59U59UI\r	Pulse	Output 9
Output	P10	5AU5AUJ\r	Pulse	Output 10
Output	P11	5BU5BUK\r	Pulse	Output 11
Output	P12	5CU5CUL\r	Pulse	Output 12
Output	H01	61U61UM\r	On	Output 1
Output	H02	62U62UN\r	On	Output 2
Output	H03	63U63U0\r	On	Output 3
Output	H04	64U64UP\r	On	Output 4
Output	H05	65U65UQ\r	On	Output 5
Output	H06	66U66UR\r	On	Output 6
Output	H07	67U67US\r	On	Output 7
Output	H08	68U68UT\r	On	Output 8
Output	H09	69U69UU\r	On	Output 9
Output	H10	6AU6AUV\r	On	Output 10
Output	H11	6BU6BUW\r	On	Output 11
Output	H12	6CU6CUX\r	On	Output 12
Output	L01	71U71UY\r	Off	Output 1
Output	L02	72U72UZ\r	Off	Output 2

APPENDIX B: COMMANDS FOR DOREMI AND IMS SERVERS.



Output	L03	73U73U0\r	Off	Output 3
Output	L04	74U74U1\r	Off	Output 4
Output	L05	75U75U2\r	Off	Output 5
Output	L06	76U76U3\r	Off	Output 6
Output	L07	77U77U4\r	Off	Output 7
Output	L08	78U78U5\r	Off	Output 8
Output	L09	79U79U6\r	Off	Output 9
Output	L10	7AU7AU7\r	Off	Output 10
Output	L11	7BU7BU8\r	Off	Output 11
Output	L12	7CU7CU9\r	Off	Output 12

APPENDIX C: TABLE FOR TCP/IP CHANGES ANNOTATION.

DATE	DHCP y/n	IP Address	Gateway	Subnet Mask	DNS



APPENDIX D: PAA20+ TESTER AND PROGRAMMER SOFTWARE.

The Tester and Programmer software for the PAA20+ is a utility to tests the input and output capabilities of the device and to update the firmware.

The software may be downloaded from this link:

ftp://manual:proyecson@ftp3.proyecson.com/manual/paa20+

AP D.1 HARDWARE REQUIREMENTS.

- PC or Laptop with Ethernet connection.
- Windows XP or higher.

AP D.2 INSTALLATION

The program is an executable that does not need installation. You only need to copy the PAA20TP.exe and TFTPClient.dll files inside a folder in your PC and execute then the former one. You can see these files inside a folder in the **Figure AP.DA**.

🖥 Ejecutable Tester &	Programm	er		
Archivo Edición Ver	Favoritos	Herramientas	Ayuda	
Nombre 🔺		Tamaño	Тіро	Fecha de modificación
PAA20TP.exe		33 KB	Aplicación	21/09/2011 12:06
🔊 TFTPClient.dll		13 KB	Extensión de la apli	21/09/2011 11:29

Figure AP.DA

AP D.3 USE.

The interface of the program is shown in the **Figure AP.DB**. It is divided in three parts: Programming, Detection and Test.

etection —	Pro	gram I Safe - Pr	ogram	
P Address	Host Name	MAC Address	Other Info.	
Manage				Search Devices
est		1		
	Te	est 🛛	- Message	clear List
ye.	T	est	- Message	s - Clear L

Figure AP.DB

AP D.3.1 DETECTION

The detection feature is designed to search for the PAA20+ in the same IP subnetwork you PC or Laptop is located.

To use this feature, you must have your computer IP address in the same subnet you have the PAA20+. Then press the "Search Devices" button and wait for the searching process. **Figure AP.DC** shows the program interface with a PAA20+ detected. The interface shows the IP address, the host name and the MAC address of the device.



PAA20+ Tes	ter & Programm	er		
Programming File	Prog	gram	gram	Browse
Detection				
IP Address	Host Name	MAC Address	Other Info.	
Manage]			Search Devices
iP	Te	est	- Message	es - Clear List

Figure AP.DC

If you select the PAA20+ in the detection list and press the "Manage" button, the WebAdmin page for this device will be opened in your default web browser.

If you double click on a PAA20+ detected, the IP fields of "Programming" and "Test" will be filled with this device IP. **Figure AP.DD** continues with the example started in previous step.

PAA20+ Test	er & Programme	r		_ 🗆 🗙
Programming -				
File				Browse
IP 10.0.0.1	30 Progr	am 🛛 🗖 Safe - Pr	ogram	
Detection				
IP Address	Host Name	MAC Address	Other Info.	
10.0.0.180	PAA20PLUS	00-50-C2-E9-67-		
Manage				Search Devices
Test		12		
IP 10.0.0.18) Tes	it	- M	1essages - Clear List
1				

Figure AP.DD

AP D.3.2 TEST

The Test feature was first designed only for input/output test proposes during quality test in factory, but now is available for the end user to check the PAA20+ correct functioning.

To use the Test feature you must be in the same subnetwork of the PAA20+, once the device IP is in the IP field you can press the "Test" button to check the activation and deactivation of the outputs. When pressed, a sequence of ON/OFF messages are sent to the PAA20+ from output 1 to output 12.

Configure the output interface as Ethernet, Port Number as 10001 and Output Message Terminator as \r on the PAA20+ WebAdmin interface.

In addition, if the "Server IP" address on the "Automation Input Configuration" page of the PAA20+ WebAdmin matches with the IP address of your PC and the "Input Message Terminator" is set to "\r\n", you will be able to check the inputs of the PAA20+. Pressing each button of the PAA20+ inputs on the front side of the device, a message will be shown in the "Tester & Programmer software" as you can see in the **Figure AP.DE**.

Programming - File IP 10.0.0.1	30 Proc	ram	rogram		Browse
Detection					
IP Address	Host Name	MAC Address	Other Info.		
10.0.0.100		00-00-02-09-07-			
	1				
Manage				Se	arch Devices
Test					
IP 10.0.0.18) Те	st		- Messages -	Clear List
Input 1 has be	en activated				
Input 2 has be Input 3 has be	en activated en activated				
Input 4 has be	en activated				
Input 5 has be	en activated				
Input 6 has be	en activated				
uuuu k Das Dei					
Input 8 has be	en activated				

Figure AP.DE



AP D.3.3 PROGRAMMING

The programming feature is only for Proyecson's certified personal. If you are not trained by Proyecson do not use this feature.

AP D.3.3.1 ABSTRACT:

PAA20+ firmware is composed by three modules:

- 1. Bootloader: it manages the device boot and let the upgrade by Ethernet.
- 2. Main program: Once bootloader finishes, The PAA20+ program starts and works normally (.hex file)
- 3. Website: Web pages saved in an external memory which the user can config and test the device. (.bin file)

The writing order in the different memories of the device is the one in the previous list.

The only way

AP D.3.3.2 REQUIREMENTS:

The following tools are needed to do it:

- 1. A computer connected directly to the device and configured at the same subnetwork. (The IP in the BootLoader PAA20+ will be always 10.0.0.180)
- 2. An Ethernet cable.
- 3. *.hex y *.bin needed files to upgrade.

Category	Name	Command	Action	I/O hard
Output	P01	51U51UA	Pulse	Output 1
Output	P02	52U52UB	Pulse	Output 2
Output	P03	53U53UC	Pulse	Output 3
Output	P04	54U54UD	Pulse	Output 4
Output	P05	55U55UE	Pulse	Output 5
Output	P06	56U56UF	Pulse	Output 6
Output	P07	57U57UG	Pulse	Output 7
Output	P08	58U58UH	Pulse	Output 8
Output	P09	59U59UI	Pulse	Output 9
Output	P10	5AU5AUJ	Pulse	Output 10
Output	P11	5BU5BUK	Pulse	Output 11
Output	P12	5CU5CUL	Pulse	Output 12
Output	H01	61U61UM	On	Output 1
Output	H02	62U62UN	On	Output 2
Output	H03	63U63UO	On	Output 3
Output	H04	64U64UP	On	Output 4
Output	H05	65U65UQ	On	Output 5
Output	H06	66U66UR	On	Output 6
Output	H07	67U67US	On	Output 7
Output	H08	68U68UT	On	Output 8
Output	H09	69U69UU	On	Output 9
Output	H10	6AU6AUV	On	Output 10
Output	H11	6BU6BUW	On	Output 11
Output	H12	6CU6CUX	On	Output 12
Output	L01	71U71UY	Off	Output 1
Output	L02	72U72UZ	Off	Output 2

APPENDIX E: COMMANDS FOR GDC SERVERS.



Output	L03	73U73U0	Off	Output 3
Output	L04	74U74U1	Off	Output 4
Output	L05	75U75U2	Off	Output 5
Output	L06	76U76U3	Off	Output 6
Output	L07	77U77U4	Off	Output 7
Output	L08	78U78U5	Off	Output 8
Output	L09	79U79U6	Off	Output 9
Output	L10	7AU7AU7	Off	Output 10
Output	L11	7BU7BU8	Off	Output 11
Output	L12	7CU7CU9	Off	Output 12
Input	I01	31U31UA		Input 1
Input	102	32U32UB		Input 2
Input	103	33U33UC		Input 3
Input	104	34U34UD		Input 4
Input	105	35U35UE		Input 5
Input	106	36U36UF		Input 6
Input	107	37U37UG		Input 7
Input	108	38U38UH		Input 8

Category	Name	Command	Action	I/O hard
Output	Pulse1	51U51UA	Pulse	Output 1
Output	Pulse2	52U52UB	Pulse	Output 2
Output	Pulse3	53U53UC	Pulse	Output 3
Output	Pulse4	54U54UD	Pulse	Output 4
Output	Pulse5	55U55UE	Pulse	Output 5
Output	Pulse6	56U56UF	Pulse	Output 6
Output	Pulse7	57U57UG	Pulse	Output 7
Output	Pulse8	58U58UH	Pulse	Output 8
Output	Pulse9	59U59UI	Pulse	Output 9
Output	Pulse10	5AU5AUJ	Pulse	Output 10
Output	Pulse11	5BU5BUK	Pulse	Output 11
Output	Pulse12	5CU5CUL	Pulse	Output 12
Output	On1	61U61UM	On	Output 1
Output	On2	62U62UN	On	Output 2
Output	On3	63U63UO	On	Output 3
Output	On4	64U64UP	On	Output 4
Output	On5	65U65UQ	On	Output 5
Output	On6	66U66UR	On	Output 6
Output	On7	67U67US	On	Output 7
Output	On8	68U68UT	On	Output 8
Output	On9	69U69UU	On	Output 9
Output	On10	6AU6AUV	On	Output 10
Output	On11	6BU6BUW	On	Output 11
Output	On12	6CU6CUX	On	Output 12
Output	Off1	71U71UY	Off	Output 1
Output	Off2	72U72UZ	Off	Output 2

APPENDIX F: COMMANDS FOR QUBE SERVERS.



Output	Off3	73U73U0	Off	Output 3
Output	Off4	74U74U1	Off	Output 4
Output	Off5	75U75U2	Off	Output 5
Output	Off6	76U76U3	Off	Output 6
Output	Off7	77U77U4	Off	Output 7
Output	Off8	78U78U5	Off	Output 8
Output	Off9	79U79U6	Off	Output 9
Output	Off10	7AU7AU7	Off	Output 10
Output	Off11	7BU7BU8	Off	Output 11
Output	Off12	7CU7CU9	Off	Output 12
Input	I01			Input 1
Input	I02			Input 2
Input	103			Input 3
Input	I04			Input 4
Input	105			Input 5
Input	106			Input 6
Input	107			Input 7
Input	108			Input 8

APPENDIX G: QUBE AUTOMATION FILES EXAMPLES.

AutomationDevices.xml:

```
<?xml version="1.0" encoding="utf-8" ?>
- < Devices xmlns="http://schemas.qubecinema.com/Automation/Devices/2008-
    01-26">
- <Device name="sp" class="Qube.Automation.StreamDevice.TCP" enable="true">
- <Configuration>
 <Key name="File" value="CP650.xml" />
 <Key name="Address" value="10.0.0.132" />
 <Key name="Port" value="61412" />
 <Key name="KeepAlive" value="OFF" />
   </Configuration>
   </Device>
- <Device name="PAASERIES" class="Qube.Automation.StreamDevice.Serial"</p>
    enable="true">
- <Configuration>
 <Key name="File" value="PAASERIES.xml" />
 <Key name="Settings" value="COM1,9600,n,8,1" />
   </Configuration>
   </Device>
- <Device name="projector" class="Qube.Automation.Barco.TCP, Barco"</p>
    enable="true">
- <Configuration>
 <Key name="File" value="Barco.dll" />
 <Key name="Address" value="10.0.0.129" />
 <Key name="Port" value="43728" />
 <Key name="KeepAlive" value="OFF" />
   </Configuration>
   </Device>
 <Device name="Me" class="Qube.Automation.SMS, Dalapathi" enable="true" />
   </Devices>
```



AutomationCues.xml:

```
<?xml version="1.0" encoding="utf-8" ?>
_ <Cues xmlns="http://schemas.qubecinema.com/Automation/Cues/2008-01-</pre>
    26">
- <Cue name="Encender Lampara">
- <Actions>
 <InvokeMethod name="Pause" device="Me" />
 <InvokeMethod name="LampOn" device="projector" />
 <Sleep duration="30" />
 <InvokeMethod name="Play" device="Me" />
    </Actions>
    </Cue>
- <Cue name="Apagar Lampara">
- <Actions>
 <InvokeMethod name="LampOff" device="projector" />
 <Sleep duration="2" />
 <InvokeMethod name="ShutterClose" device="projector" />
    </Actions>
    </Cue>
- <Cue name="Abrir Pala">
- <Actions>
 <InvokeMethod name="ShutterOpen" device="projector" />
 <Sleep duration="3" />
    </Actions>
    </Cue>
- <Cue name="Cerrar Pala">
- <Actions>
 <InvokeMethod name="ShutterClose" device="projector" />
    </Actions>
    </Cue>
- <Cue name="PANORAMICO 2D">
- <Actions>
 <InvokeMethod name="ShutterClose" device="projector" />
 <InvokeMethod name="Pause" device="Me" />
- <InvokeMethod name="ExecuteMacro" device="projector">
 <Parameter name="MacroName" value="PANORAMICO 2D" />
    </InvokeMethod>
 <Sleep duration="20" />
 <InvokeMethod name="Play" device="Me" />
 <InvokeMethod name="ShutterOpen" device="projector" />
    </Actions>
```

```
</Cue>
```

```
- <Cue name="SCOPE 2D">
_ <Actions>
 <InvokeMethod name="ShutterClose" device="projector" />
 <InvokeMethod name="Pause" device="Me" />
- <InvokeMethod name="ExecuteMacro" device="projector">
 <Parameter name="MacroName" value="SCOPE 2D" />
   </InvokeMethod>
 <Sleep duration="20" />
 <InvokeMethod name="Play" device="Me" />
 <InvokeMethod name="ShutterOpen" device="projector" />
   </Actions>
   </Cue>
- <Cue name="PANORAMICO 3D 1998">
- <Actions>
 <InvokeMethod name="ShutterClose" device="projector" />
 <InvokeMethod name="Pause" device="Me" />
- <InvokeMethod name="ExecuteMacro" device="projector">
 <Parameter name="MacroName" value="PANORAMICO 3D 1998" />
   </InvokeMethod>
 <Sleep duration="20" />
 <InvokeMethod name="Play" device="Me" />
 <InvokeMethod name="ShutterOpen" device="projector" />
   </Actions>
   </Cue>
- <Cue name="SCOPE 3D 2048">
- <Actions>
 <InvokeMethod name="ShutterClose" device="projector" />
 <InvokeMethod name="Pause" device="Me" />
- <InvokeMethod name="ExecuteMacro" device="projector">
 <Parameter name="MacroName" value="SCOPE 3D 2048" />
   </InvokeMethod>
 <Sleep duration="20" />
 <InvokeMethod name="Play" device="Me" />
 <InvokeMethod name="ShutterOpen" device="projector" />
   </Actions>
   </Cue>
- <Cue name="PANORAMICO 3D 1920">
- <Actions>
 <InvokeMethod name="ShutterClose" device="projector" />
 <InvokeMethod name="Pause" device="Me" />
- <InvokeMethod name="ExecuteMacro" device="projector">
 <Parameter name="MacroName" value="PANORAMICO 3D 1920" />
   </InvokeMethod>
```



```
<Sleep duration="20" />
 <InvokeMethod name="Play" device="Me" />
 <InvokeMethod name="ShutterOpen" device="projector" />
   </Actions>
   </Cue>
- <Cue name="SCOPE 3D 1920">
_ <Actions>
 <InvokeMethod name="ShutterClose" device="projector" />
 <InvokeMethod name="Pause" device="Me" />
- <InvokeMethod name="ExecuteMacro" device="projector">
 <Parameter name="MacroName" value="SCOPE 3D 1920" />
   </InvokeMethod>
 <Sleep duration="20" />
 <InvokeMethod name="Play" device="Me" />
 <InvokeMethod name="ShutterOpen" device="projector" />
   </Actions>
   </Cue>
- <Cue name="DIGITAL">
- <Actions>
 <InvokeMethod name="U1" device="sp" />
   </Actions>
   </Cue>
- <Cue name="NON-SYNC">
_ <Actions>
 <InvokeMethod name="NS" device="sp" />
   </Actions>
   </Cue>
- <Cue name="Volumen 3.0">
_ <Actions>
 <InvokeMethod name="Volumen 30" device="sp" />
   </Actions>
   </Cue>
- <Cue name="Volumen 3.5">
- <Actions>
 <InvokeMethod name="Volumen 35" device="sp" />
   </Actions>
   </Cue>
- <Cue name="Volumen 4.0">
_ <Actions>
 <InvokeMethod name="Volumen 40" device="sp" />
   </Actions>
   </Cue>
- <Cue name="Volumen 4.5">
```

```
- <Actions>
 <InvokeMethod name="Volumen 45" device="sp" />
   </Actions>
   </Cue>
- <Cue name="Volumen 5.0">
- <Actions>
 <InvokeMethod name="Volumen 50" device="sp" />
   </Actions>
   </Cue>
_ <Cue name="Volumen 5.5">
_ <Actions>
 <InvokeMethod name="Volumen 55" device="sp" />
   </Actions>
   </Cue>
_ <Cue name="Volumen 6.0">
- <Actions>
 <InvokeMethod name="Volumen 60" device="sp" />
   </Actions>
   </Cue>
- <Cue name="LIGHT 100%">
- <Actions>
 <InvokeMethod name="Pulse 1" device="PAASERIES" />
   </Actions>
   </Cue>
- <Cue name="LIGHT 50%">
- <Actions>
 <InvokeMethod name="Pulse 2" device="PAASERIES" />
   </Actions>
   </Cue>
- <Cue name="LIGHT 0%">
- <Actions>
 <InvokeMethod name="Pulse 3" device="PAASERIES" />
   </Actions>
   </Cue>
   </Cues>
```



AutomationTriggers.xml:

```
<?xml version="1.0" encoding="iso-8859-1" ?>
- <Triggers</p>
    xmlns="http://schemas.qubecinema.com/Automation/Triggers/2008-01-
    26"
    xmlns:actions="http://schemas.qubecinema.com/Automation/Cues/2008-
    01-26">
- <Trigger name="EmergencyStop" device="Elexol" event="OnHigh07">
_ <Actions>
 <actions:InvokeMethod name="Stop" device="Me" />
    </Actions>
    </Trigger>
- <Trigger name="Play" device="Elexol" event="OnHigh00">
_ <Actions>
 <actions:InvokeMethod name="Play" device="Me" />
    </Actions>
    </Trigger>
- <Trigger name="Pause" device="Elexol" event="OnHigh01">
- <Actions>
 <actions:InvokeMethod name="Pause" device="Me" />
    </Actions>
    </Trigger>
- <Trigger name="Stop" device="Elexol" event="OnHigh02">
- <Actions>
 <actions:InvokeMethod name="Stop" device="Me" />
    </Actions>
    </Trigger>
- <Trigger name="Toggle" device="Elexol" event="OnHigh03">
- <Actions>
 <actions:InvokeMethod name="Toggle" device="Me" />
    </Actions>
    </Trigger>
    </Triggers>
```

PAASERIES.xml:

```
<?xml version="1.0" encoding="utf-8" ?>
- <StreamDevice name="PAASERIES"</p>
    xmlns="http://schemas.qubecinema.com/Automation/StreamDevice/2008-
    01-26">
- <Method name="On 1">
- <Instructions>
 <Send>61U61UM</Send>
   </Instructions>
   </Method>
- <Method name="Pulse 1">
- <Instructions>
 <Send>51U51UA</Send>
   </Instructions>
   </Method>
- <Method name="Off 1">
- <Instructions>
 <Send>71U71UY</Send>
   </Instructions>
   </Method>
- <Method name="On 2">
- <Instructions>
 <Send>62U62UN</Send>
   </Instructions>
   </Method>
- <Method name="Pulse 2">
- <Instructions>
 <Send>52U52UB</Send>
   </Instructions>
   </Method>
- <Method name="Off 2">
- <Instructions>
 <Send>72U72UZ</Send>
   </Instructions>
   </Method>
- <Method name="On 3">
- <Instructions>
 <Send>63U63UO</Send>
   </Instructions>
   </Method>
- <Method name="Pulse 3">
```

- <Instructions>



<Send>53U53UC</Send> </Instructions> </Method> - <Method name="Off 3"> - <Instructions> <Send>73U73U0</Send> </Instructions> </Method> - <Method name="On 4"> – <Instructions> <Send>64U64UP</Send> </Instructions> </Method> - <Method name="Pulse 4"> - <Instructions> <Send>54U54UD</Send> </Instructions> </Method> - <Method name="Off 4"> - <Instructions> <Send>74U74U1</Send> </Instructions> </Method> - <Method name="On 5"> - <Instructions> <Send>65U65UQ</Send> </Instructions> </Method> - <Method name="Pulse 5"> - <Instructions> <Send>55U55UE</Send> </Instructions> </Method> - <Method name="Off 5"> - <Instructions> <Send>75U75U2</Send> </Instructions> </Method> - <Method name="On 6"> - <Instructions> <Send>66U66UR</Send> </Instructions> </Method>

```
- <Method name="Pulse 6">
- <Instructions>
 <Send>56U56UF</Send>
   </Instructions>
   </Method>
- <Method name="Off 6">
- <Instructions>
 <Send>76U76U3</Send>
   </Instructions>
   </Method>
_ <Method name="On 7">
- <Instructions>
 <Send>67U67US</Send>
   </Instructions>
   </Method>
- <Method name="Pulse 7">
_ <Instructions>
 <Send>57U57UG</Send>
   </Instructions>
   </Method>
_ <Method name="Off 7">
- <Instructions>
 <Send>77U77U4</Send>
   </Instructions>
   </Method>
- <Method name="On 8">
- <Instructions>
 <Send>68U68UT</Send>
   </Instructions>
   </Method>
- <Method name="Pulse 8">
- <Instructions>
 <Send>58U58UH</Send>
   </Instructions>
   </Method>
- <Method name="Off 8">
- <Instructions>
 <Send>78U78U5</Send>
   </Instructions>
   </Method>
- <Method name="On 9">
- <Instructions>
 <Send>69U69UU</Send>
```



</Instructions> </Method> - <Method name="Pulse 9"> - <Instructions> <Send>59U59UI</Send> </Instructions> </Method> - <Method name="Off 9"> - <Instructions> <Send>79U79U6</Send> </Instructions> </Method> - <Method name="On 10"> - <Instructions> <Send>6AU6AUV</Send> </Instructions> </Method> - <Method name="Pulse 10"> - <Instructions> <Send>5AU5AUJ</Send> </Instructions> </Method> - <Method name="Off 10"> - <Instructions> <Send>7AU7AU7</Send> </Instructions> </Method> - <Method name="On 11"> - <Instructions> <Send>6BU6BUW</Send> </Instructions> </Method> _ <Method name="Pulse 11"> - <Instructions> <Send>5BU5BUK</Send> </Instructions> </Method> _ <Method name="Off 11"> - <Instructions> <Send>7BU7BU8</Send> </Instructions> </Method>

_ <Method name="On 12">

= <Instructions> <Send>6CU6CUX</Send> </Instructions> </Method> = <Method name="Pulse 12"> = <Instructions> <Send>5CU5CUL</Send> </Instructions> </Method> = <Method name="Off 12"> = <Instructions> <Send>7CU7CU9</Send> </Instructions> </Method> </Method> </StreamDevice>


Dalapath.exe.config:

```
<?xml version="1.0" encoding="utf-8" ?>
<configuration>
```

```
<appSettings>
```

```
<add key="Database" value="Database=Qube;Server=.\SQLExpress;Integrated Security=SSPI"/>
<add key="BackupsInMediaFolder" value="true"/>
```

<add key="AutoPlay" value="false"/> <add key="AutoResume" value="false"/>

```
<add key="VMRType" value="VMR9"/>
<add key="IgnoreTitleValidity" value="advertisement"/>
<add key="TaskExecutionWhilePlayback" value="false"/>
```

```
<add key="AutomationDevicesFile" value="AutomationDevices.xml"/>
<add key="AutomationCuesFile" value="AutomationCues.xml"/>
<add key="AutomationTriggersFile" value="AutomationTriggers.xml"/>
```

```
<add key="ASCIIProtocolTCP" value="5000"/>
<add key="ASCIIProtocolSerial" value="COM1,9600,n,8,1"/> <!--Portname,baudrate,parity,databits,stopbits--
```

```
<add key="LogMode" value="default"/> <!--default, verbose-->
```

```
<add key="TCGenAudioRenderer" value="DirectSound: IDT Audio1"/> <!--Display Name of the Audio Renderer to be used for TCGen-->
```

```
<!--<add key="3DConfigFile" value="Dolby3D.config"/>-->
<!--<add key="3DConfigFile" value="RealD.config"/>-->
```

```
<add key="EthernetTimecode" value="false"/>
<add key="EthernetTimecodeOffset" value="0"/>
</appSettings>
```

```
</configuration>
```

>

APPENDIX H: COMMANDS FOR BARCO ALCHEMY (ICMP) AND CHRISTIE IMB S2.

Category	Name	Command	Action	I/O hard
Output	P01	51U51UA\0D	Pulse	Output 1
Output	P02	52U52UB\0D	Pulse	Output 2
Output	P03	53U53UC\0D	Pulse	Output 3
Output	P04	54U54UD\0D	Pulse	Output 4
Output	P05	55U55UE\0D	Pulse	Output 5
Output	P06	56U56UF\0D	Pulse	Output 6
Output	P07	57U57UG\0D	Pulse	Output 7
Output	P08	58U58UH\0D	Pulse	Output 8
Output	P09	59U59UI\0D	Pulse	Output 9
Output	P10	5AU5AUJ\0D	Pulse	Output 10
Output	P11	5BU5BUK\0D	Pulse	Output 11
Output	P12	5CU5CUL\0D	Pulse	Output 12
Output	H01	61U61UM\0D	On	Output 1
Output	H02	62U62UN\0D	On	Output 2
Output	H03	63U63U0\0D	On	Output 3
Output	H04	64U64UP\0D	On	Output 4
Output	H05	65U65UQ\0D	On	Output 5
Output	H06	66U66UR\0D	On	Output 6
Output	H07	67U67US\0D	On	Output 7
Output	H08	68U68UT\0D	On	Output 8
Output	H09	69U69UU\0D	On	Output 9
Output	H10	6AU6AUV\0D	On	Output 10
Output	H11	6BU6BUW\0D	On	Output 11
Output	H12	6CU6CUX\0D	On	Output 12
Output	L01	71U71UY\0D	Off	Output 1



		-		
Output	L02	72U72UZ\0D	Off	Output 2
Output	L03	73U73U0\0D	Off	Output 3
Output	L04	74U74U1\0D	Off	Output 4
Output	L05	75U75U2\0D	Off	Output 5
Output	L06	76U76U3\0D	Off	Output 6
Output	L07	77U77U4\0D	Off	Output 7
Output	L08	78U78U5\0D	Off	Output 8
Output	L09	79U79U6\0D	Off	Output 9
Output	L10	7AU7AU7\0D	Off	Output 10
Output	L11	7BU7BU8\0D	Off	Output 11
Output	L12	7CU7CU9\0D	Off	Output 12
Input	I01	31U31UA\0D		Input 1
Input	I02	32U32UB\0D		Input 2
Input	I03	33U33UC\0D		Input 3
Input	I04	34U34UD\0D		Input 4
Input	I05	35U35UE\0D		Input 5
Input	106	36U36UF\0D		Input 6
Input	107	37U37UG\0D		Input 7
Input	108	38U38UH\0D		Input 8

APPENDIX I: COMMANDS FOR BARCO ALCHEMY (ICMP) REMOTE PLAYER MANAGEMENT.

- PLAYER and PROJECTOR are factory defined devices in an Alchemy (ICMP) server.

Device	Command	Action	
PLAYER	PLAYER.Play;	Plays loaded show	
PLAYER	PLAYER.Pause;	Pauses current playback	
PLAYER	PLAYER.Stop;	Stops current playback	
PLAYER	PLAYER.Pause (seconds),s;	Pauses playback during "s" seconds	
PLAYER	PLAYER.Resume;	Resumes current playback	
PLAYER	PLAYER.Emergency Stop;	Sets an error, forces the manual mode, stops the player and triggers automation events associated with Emergeny Stop	
PLAYER	PLAYER.Enable Schedule;	Sets the schedule mode on	
PLAYER	PLAYER.Disable Schedule;	Sets the schedule mode off	
PROJECTOR	PROJECTOR.Close Dowser;	Close the projector dowser	
PROJECTOR	PROJECTOR.Open Dowser;	Open the projector dowser	
PROJECTOR	PROJECTOR.Turn Lamp On;	Turn the projector lamp on	
PROJECTOR	PROJECTOR.Turn Lamp Off;	Turn the projector lamp off	
PROJECTOR	PROJECTOR.Execute Macro,"M";	Executes the "M" macro on the projector.	