Configuring the JNIOR for use with the Barco Alchemy Module

Last updated: December 4, 2019

The following information describes how to use the JNIOR with the Barco Alchemy module. Please contact INTEG via e-mail at support@integpg.com or via phone at 724-933-9350 with any questions.

****You must have Barco Alchemy software version 1.2.1.5 or greater****

Barco Alchemy module

Integrated Cinema Media Processor (ICMP) - Option for Series 2 projectors

Overview

The Barco Alchemy makes an Ethernet connection to the JNIOR and can interact with the JNIOR two ways –

1) **Sending relay output control commands to the JNIOR and monitoring JNIOR digital inputs**

   For this method, all you need to do on the JNIOR is the set the JNIOR IP address using the JNIOR Support Tool. The rest of the configuration is done on the Barco Alchemy. This method is described in **Section 1** of this document.

2) **Sending commands to the JNIOR to execute macros on the JNIOR**

   To execute macros on the JNIOR you must load the INTEG Cinema program on your JNIOR using the JNIOR Support Tool and configure your macros using the JNIOR Support Tool. You then configure the Barco Alchemy to send commands to the JNIOR to execute the macros on the JNIOR. This method is described in **Section 2** of this document.

Section 3 of this document shows some examples of using the JNIOR commands in a Barco Alchemy play list.

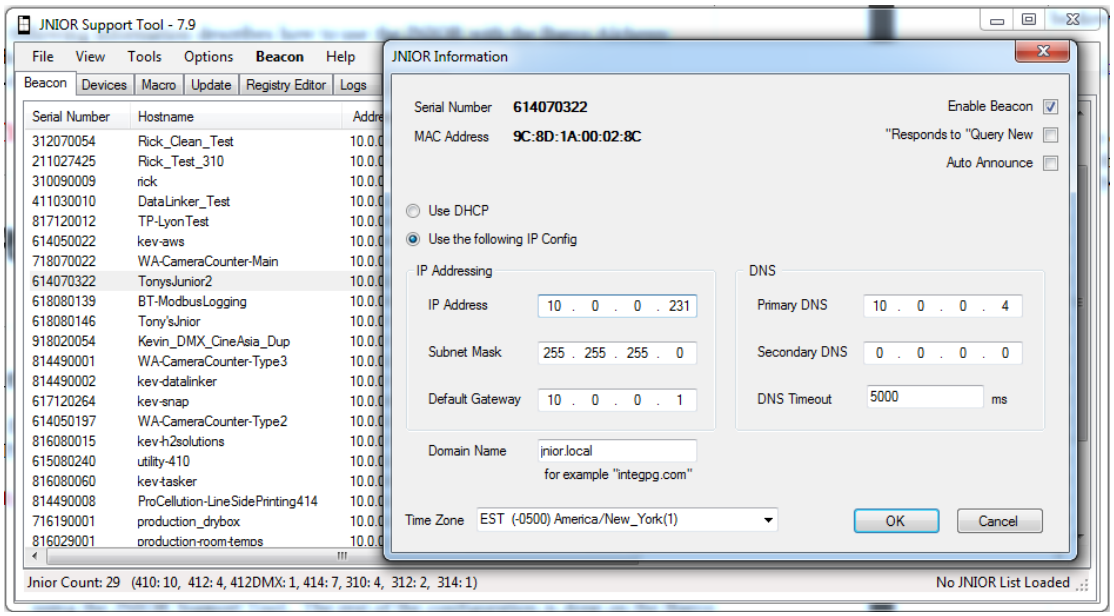
Section 4 of this document contains some troubleshooting tips.

Section 1 – Interacting with the JNIOR Inputs and Outputs

The Barco Alchemy makes an Ethernet connection to the JNIOR so you must configure an IP address on the JNIOR. This can be done using the JNIOR Support Tool which can be downloaded from the INTEG website at the following link.

https://integpg.com/jnior-support-tool/

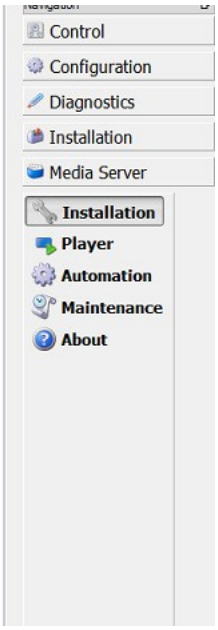
Please connect your JNIOR to the Ethernet network, launch the JNIOR Support Tool and go to the Beacon tab. Your JNIOR should be displayed on the Beacon tab. Right click on your JNIOR and select Configuration and enter the IP configuration for your JNIOR.



Example Alchemy IP Configuration Scheme

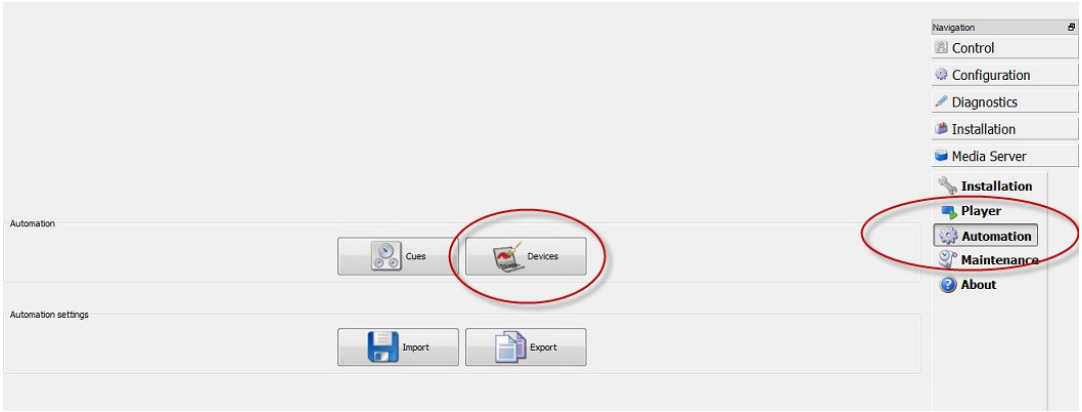
The Barco Alchemy requires multiple IP addresses. It is very important that you configure the Barco Alchemy correctly so that it can properly communicate with the JNIOR.

Below is an example of a Barco Alchemy configuration scheme. In this example, the JNIOR would communicate with the IP scheme of 172.20.21.xxx

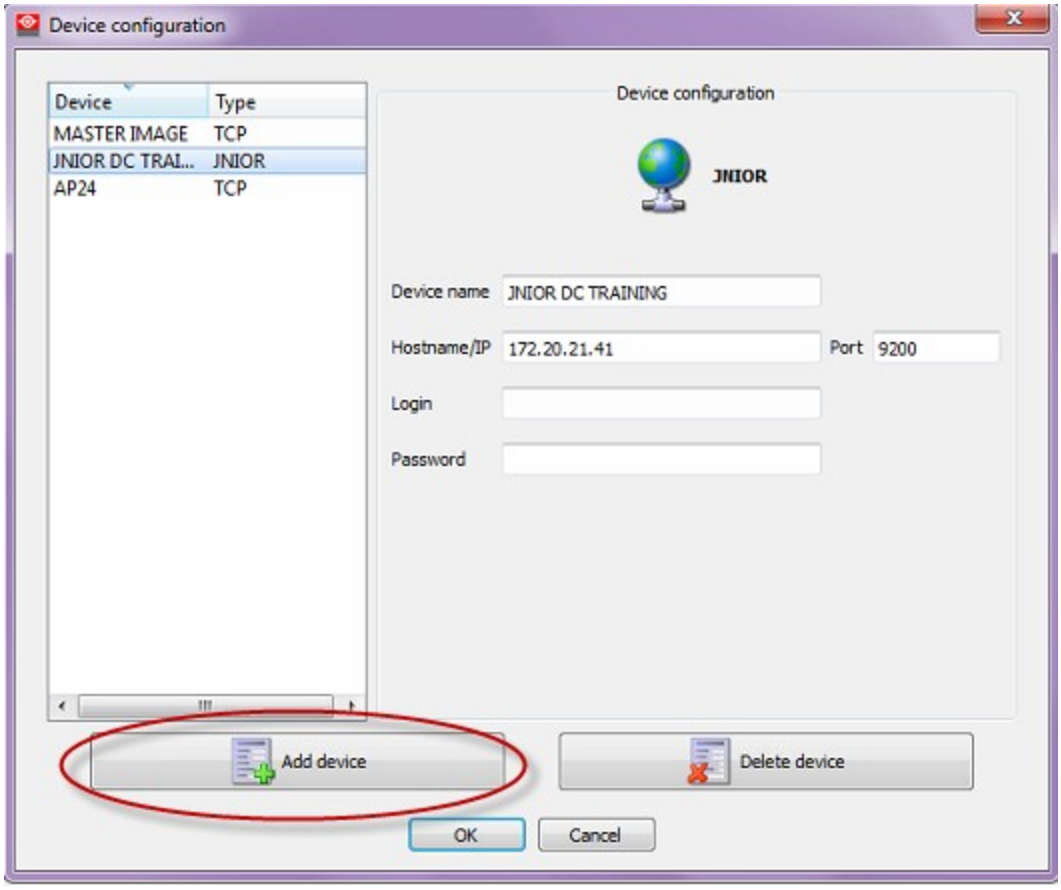


Adding the JNIOR Device

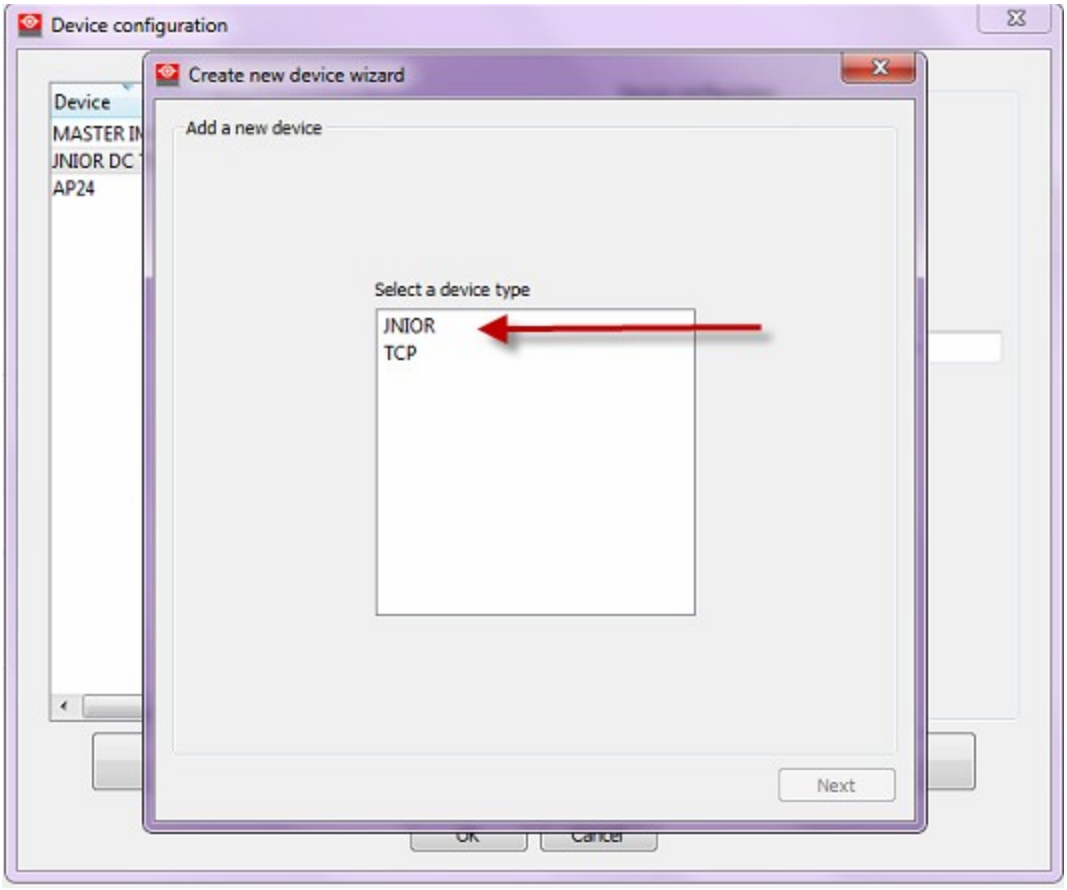
To add the JNIOR as an available device to work with the Barco Alchemy, click on the Automation button on the right side of the menu under Media Server. You will see the following screen. Click on Devices.



You will then click on Add Device



You will be given an option to select the JNIOR as a device type.



Click on JNIOR and then click on Next.

You will get the following pop-up window to enter your JNIOR information.

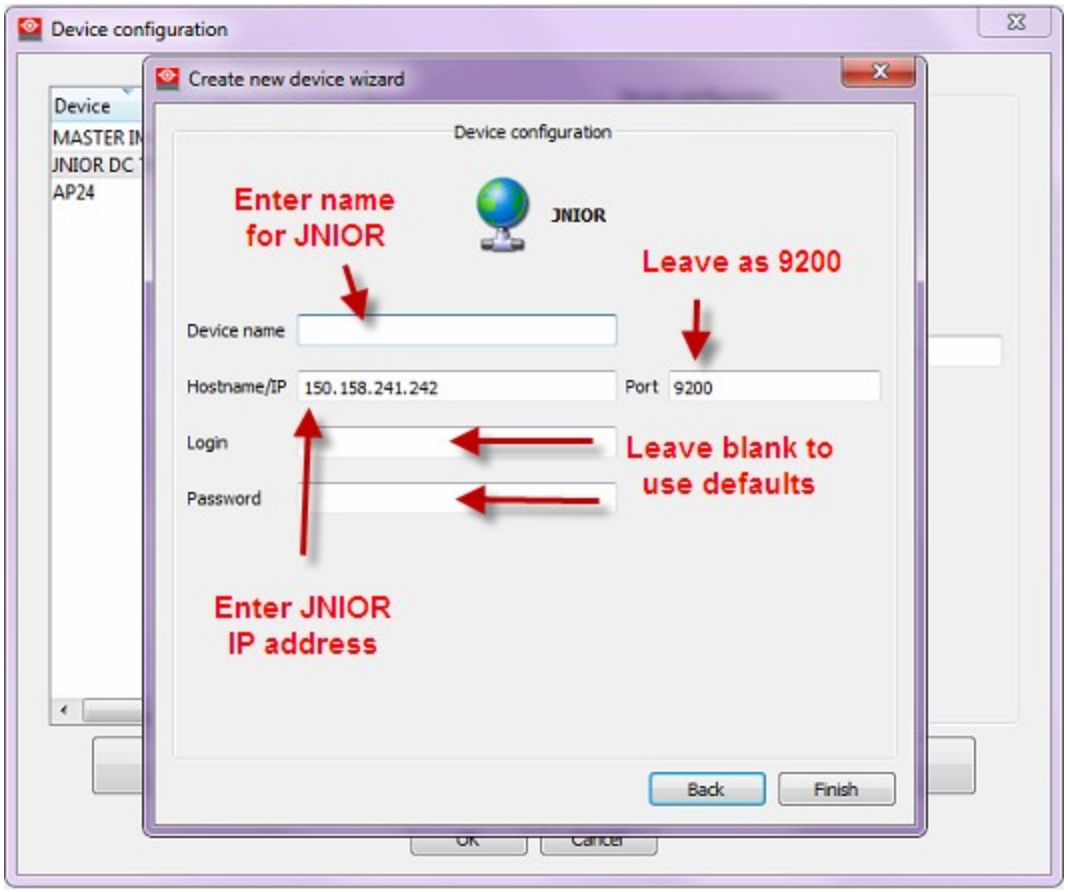
Device Name – any name you want to give to the JNIOR

Hostname/IP – must be the IP address of the JNIOR

Port – recommended to leave as 9200 (default JNIOR protocol port)

Login – leave blank (default username ‘jnior’ will be used)

Password – leave blank (default username ‘jnior’ will be used)



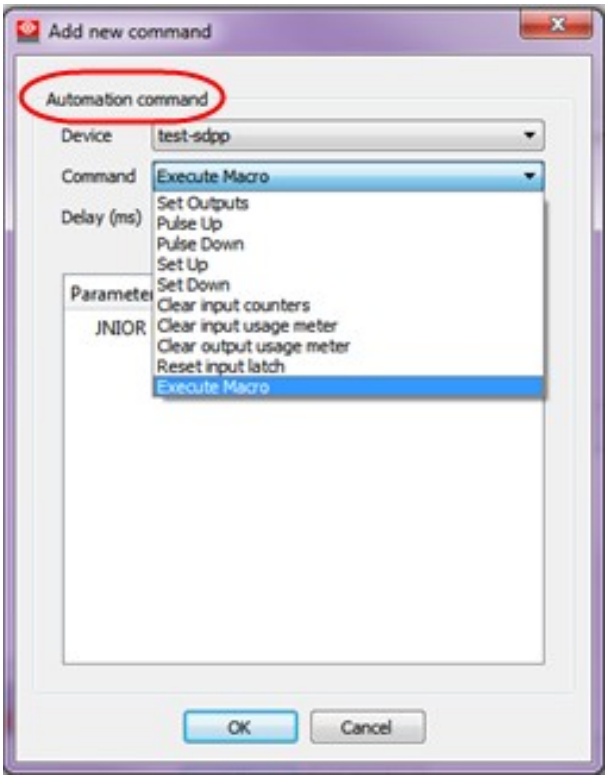
Controlling the JNIOR Relay Outputs

The Barco Alchemy has a set of built-in commands to control the JNIOR relay outputs. The commands that will be used are:

Set Outputs
Pulse Up
Pulse Down
Set Up
Set Down

The other commands, Clear Input Counters, Clear Input Usage Meter, Clear Output Usage Meter and Reset Input Latch are not being used at this time.

The **Execute Macro** command is described in section 2 of this document.

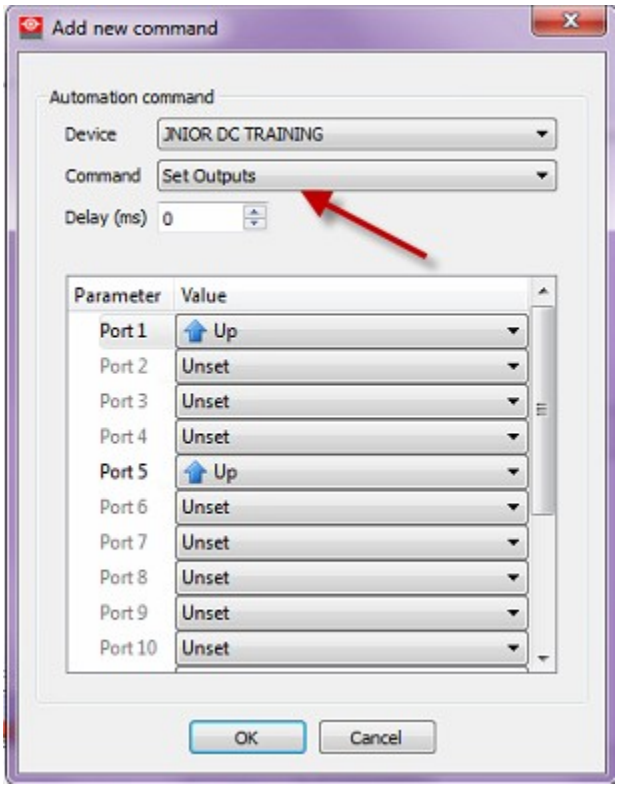


Set Outputs Command

This command allows you to 'set' (turn ON or OFF) 1 or more relays at the same time.

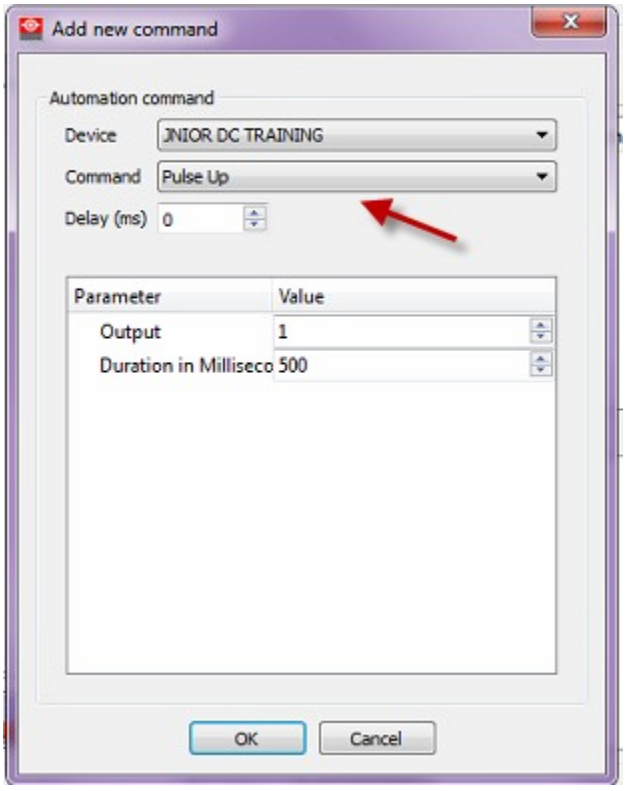
Up = JNIOR Relay is ON and normally open contact is closed
Down = JNIOR Relay is OFF and normally open contact is open

NOTE: Each command has the ability to enter a 'delay' of X number of milliseconds. This is the delay BEFORE the command is executed.



Pulse Up Command

This command allows you to control one (1) JNIOR Relay Output and turn it from OFF to ON for a fixed number of milliseconds. (a pulse ON)

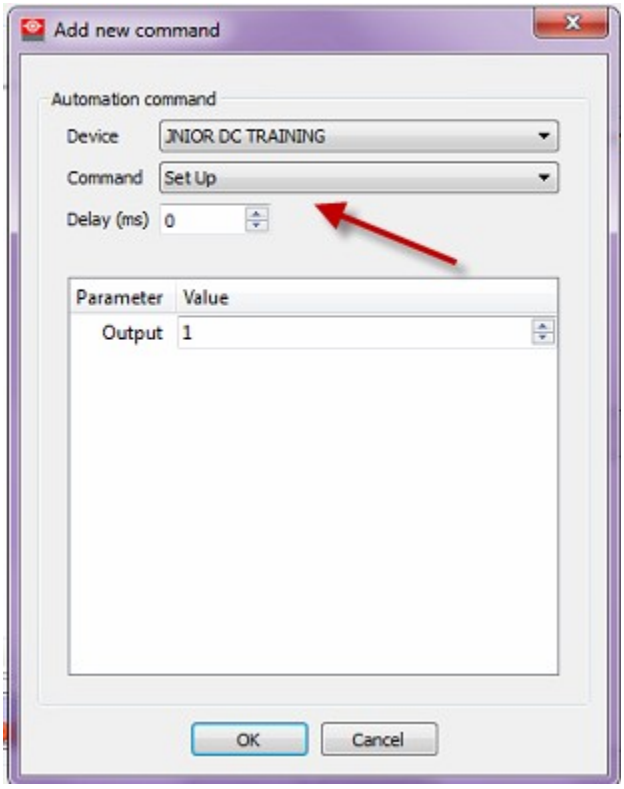


Pulse Down Command

This command allows you to control one (1) JNIOR Relay Output and turn it from ON to OFF for a fixed number of milliseconds. (a pulse OFF)

Set Up Command

This command allows you to control one (1) JNIOR Relay Output and turn it from OFF to ON and it will stay ON (latch) until controlled again.



Set Down Command

This command allows you to control one (1) JNIOR Relay Output and turn it from ON to OFF and it will stay OFF (latch) until controlled again.

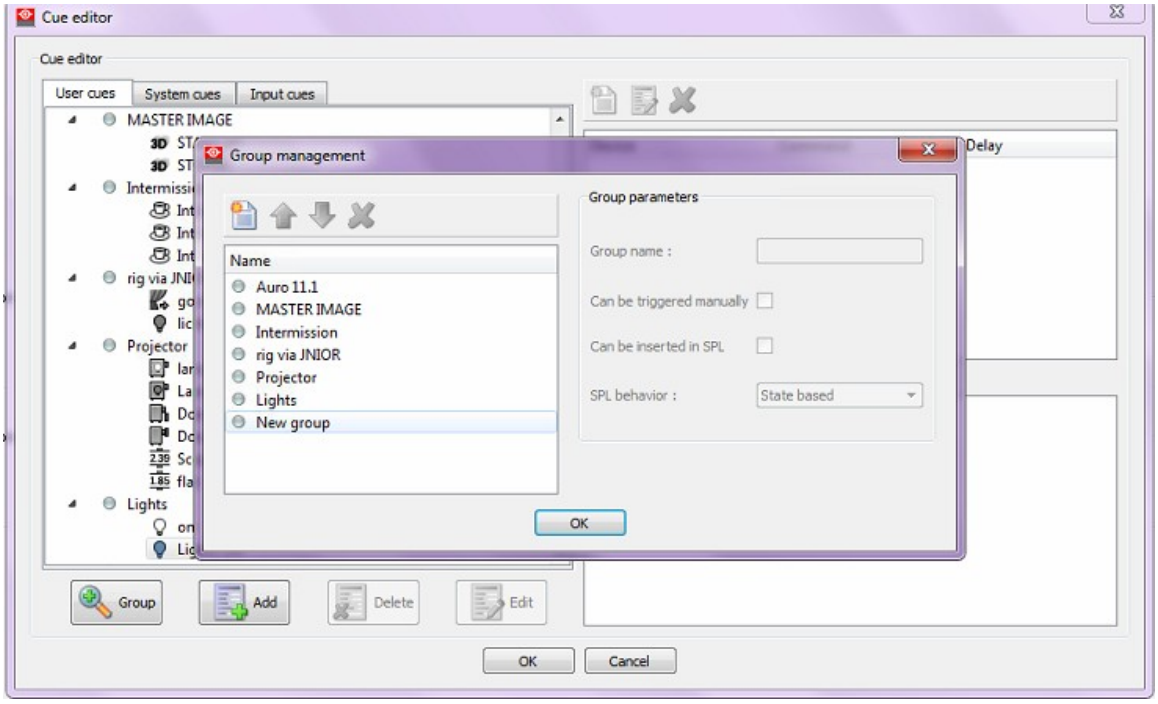
Building User Cues

The following describes how to add the JNIOR relay output control functions to the Barco Alchemy so that they can be used in a play list.

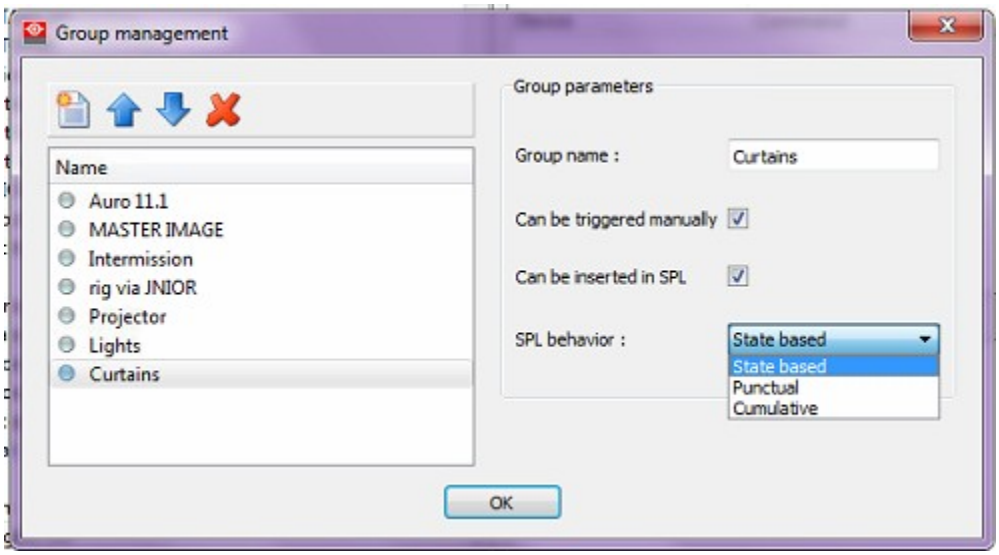
The commands in the Barco Alchemy are put into ‘groups’ and each group can have certain parameters.

From the Cue Editor, go to the User Cues tab and you can manage your groups.

Clicking on the Add button will create a new group as shown below.



You can give your group a name (Curtains in the example picture below). You can also set the Group Parameters.



Below is a description of the Group Parameters as part of the User Cues.

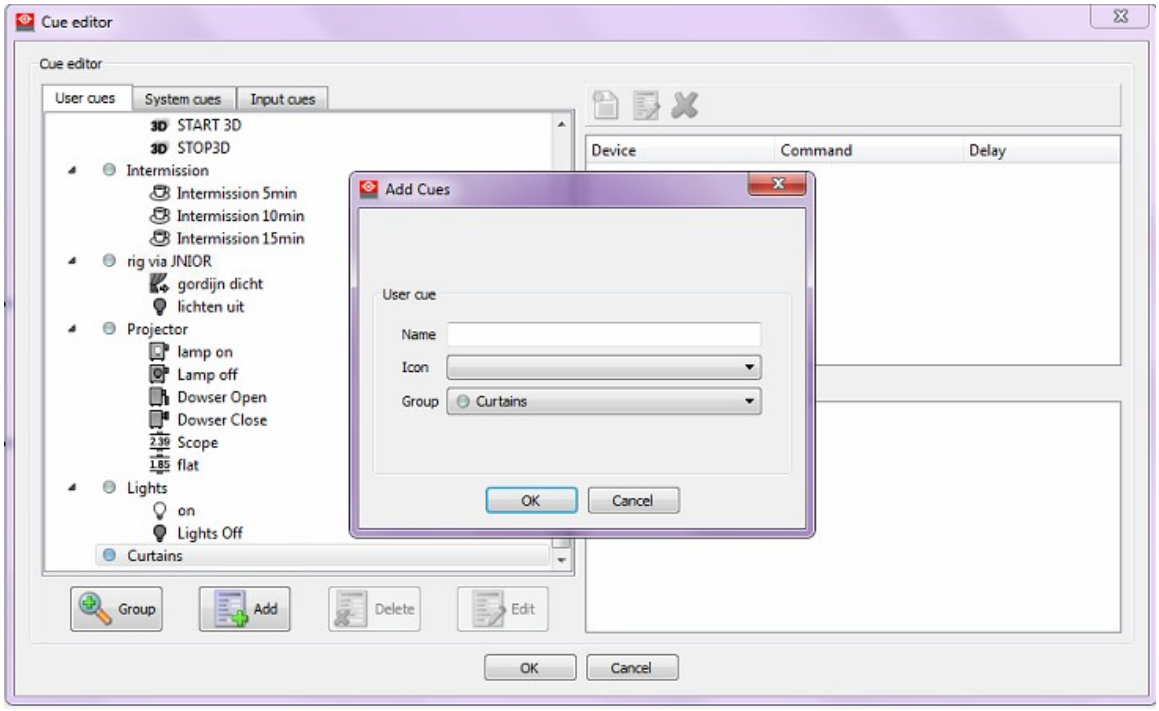
User Cues

A user cue type must be defined in a group of cues (e.g. Light, Projection lamp, etc.) in order to present the cues to end users with additional settings.

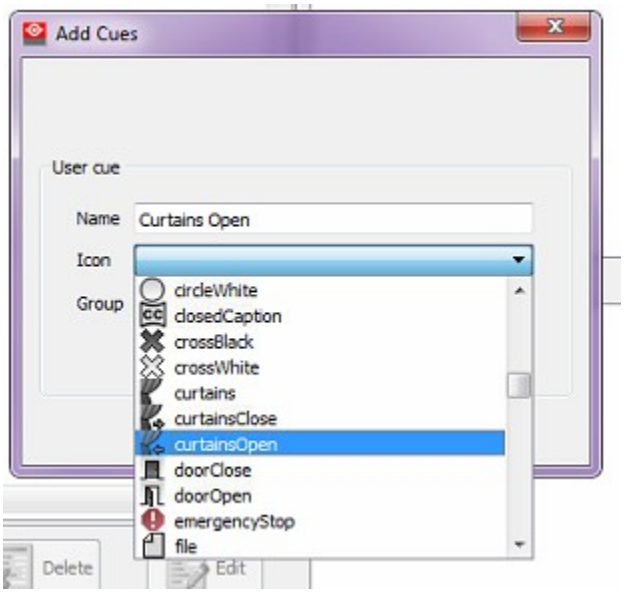
Group Name	Name of the group in the Web Commander or Commander app application
Can be triggered manually	"Checked" means the end user can trigger the manually. "Unchecked" means that the cue only can be triggered via a SPL.
Can be inserted in SPL	"Checked" means the end user can use (insert) the cues of this group in a Show play list via Web Commander or Commander app. "Unchecked" means the end user cannot use the cues of this group in a Show play list via Web Commander or Commander app.
SPL Behavior	This option affects the behavior of Cues during positioning in a show: • State based: Only the last Cue is executed. • Punctual: All previous Cues before the positioning are ignored. • Cumulative: All previous Cues before the positioning are accumulated and executed.

NOTE: The default SPL Behavior is "Punctual".

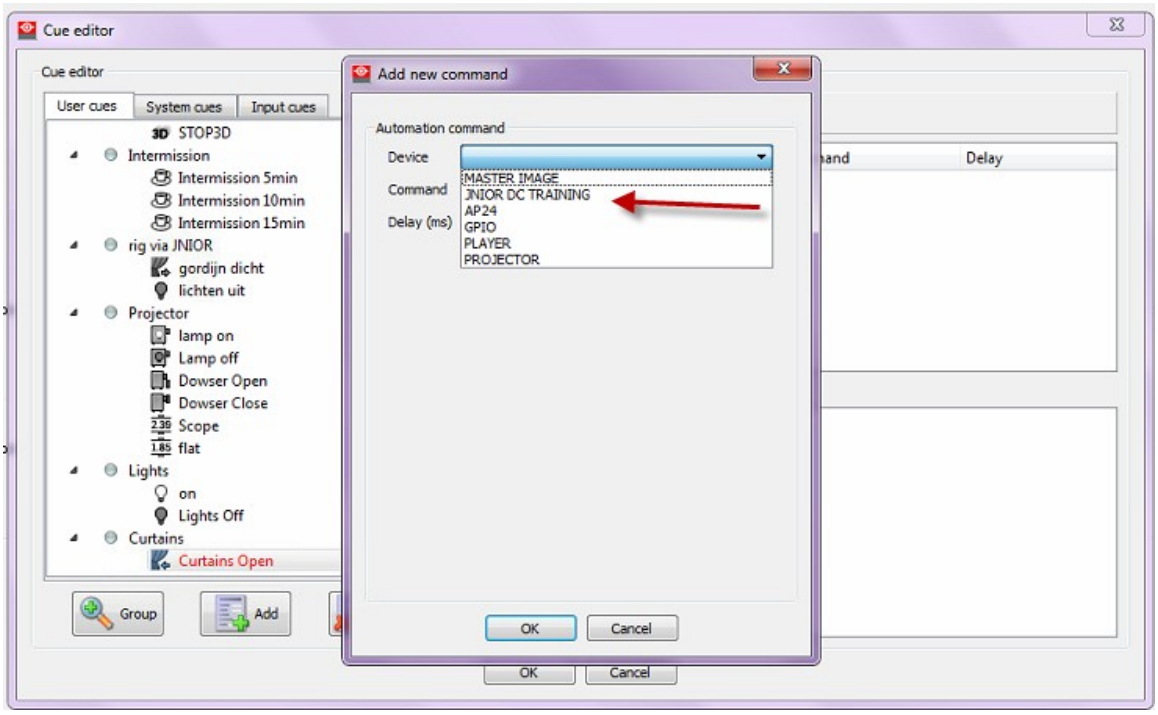
After you have created your Group, you can then add ‘cues’ to each group.



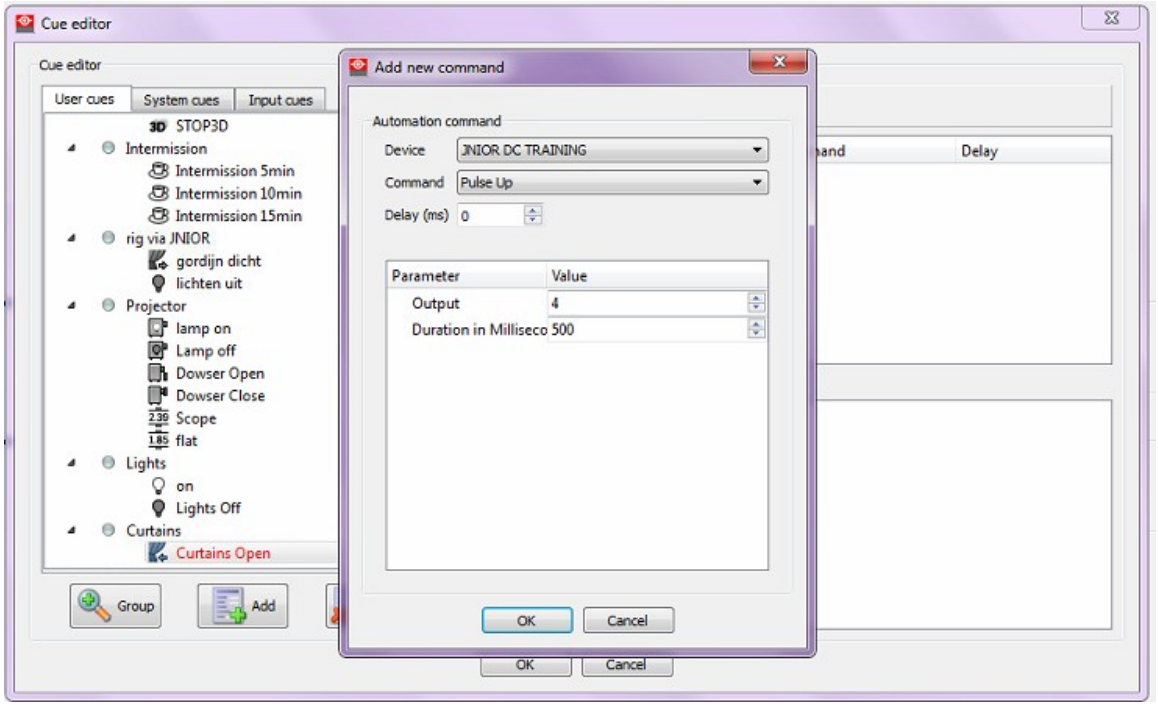
The cues must be given a name (Curtains Open in this example) and you must also select an icon.



Next you configure your Cue command. The command must be associated with a 'device', the JNIOR for our purposes.



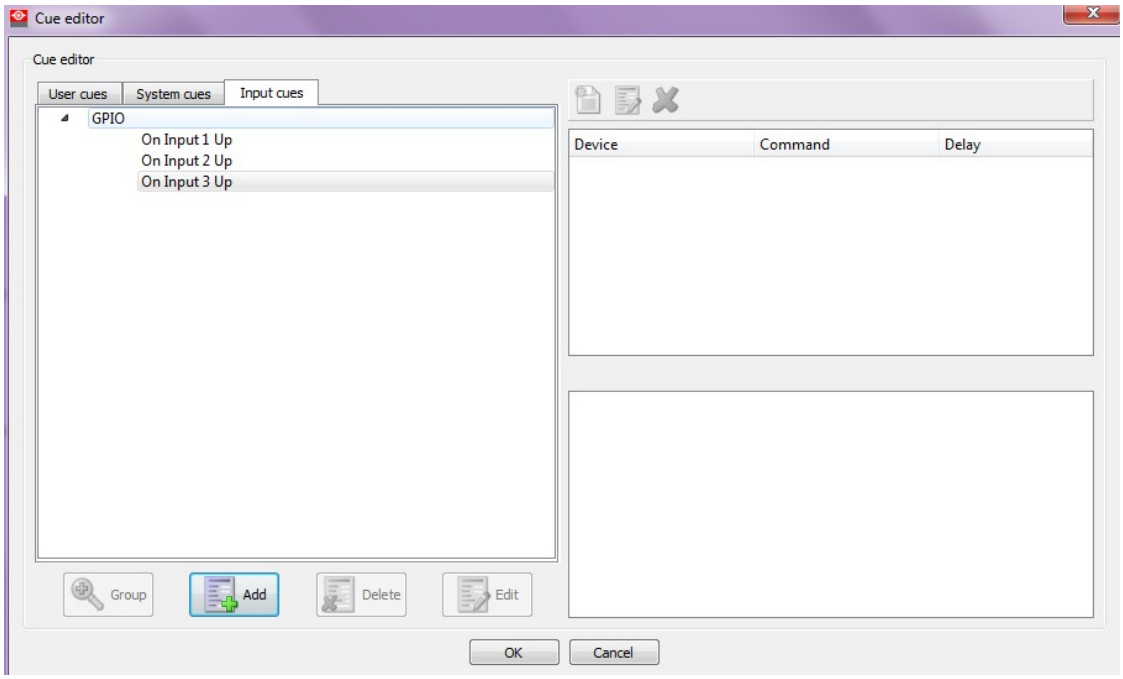
Then you select one of the available Commands (Pulse Up shown below) and configure the Command (pulse relay output 4 for 500 milliseconds in the example below).



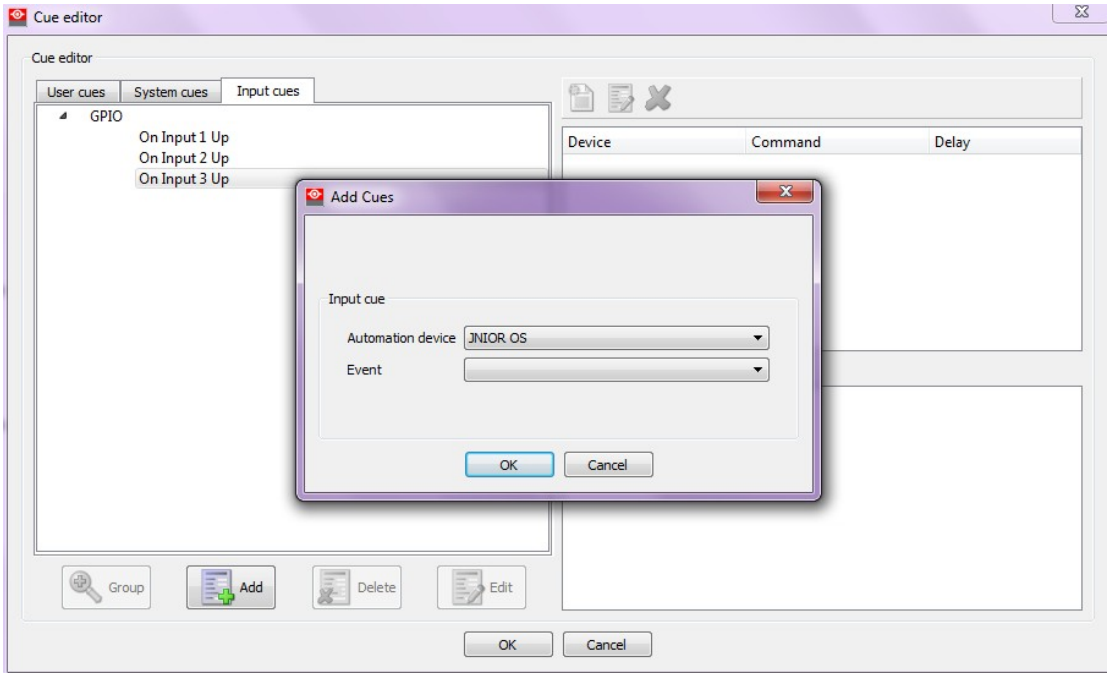
Monitoring the JNIOR Digital Inputs

The JNIOR digital inputs can be monitored by the Barco Alchemy and act as triggers to change the mode of the server (Play, etc.) and call an automation cue (macro of automation cues) on the ICMP. The digital inputs and functions are configured in the Cue Editor on the Input Cues tab.

On the Input Cues tab you have the ability to add two kinds of input cues: GPI or virtual inputs from the JNIOR

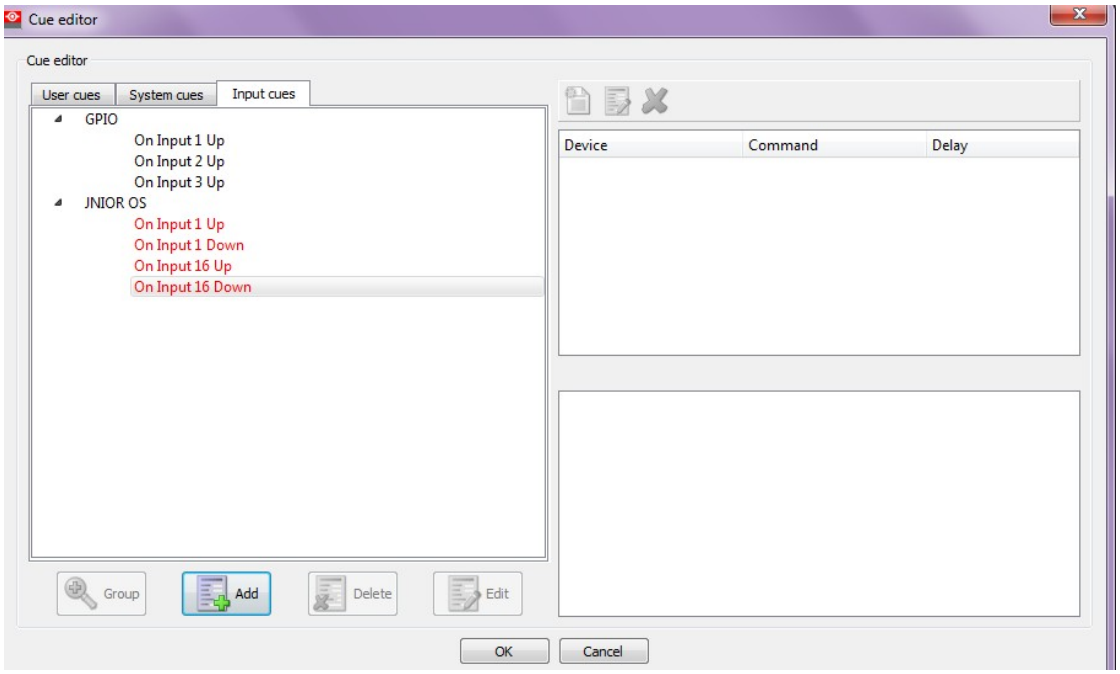


For the JNIOR, you add “JNIOR inputs” by selecting the Automation device: JNIOR OS

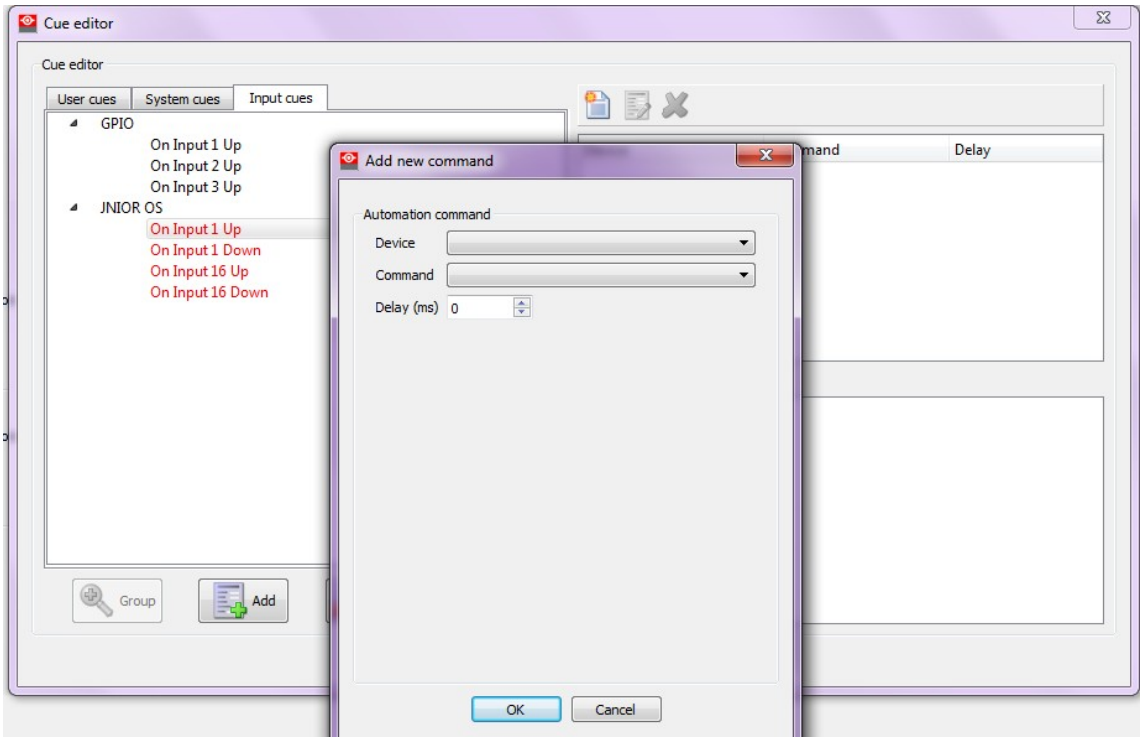


You then select an Event and you have 32 events possible:

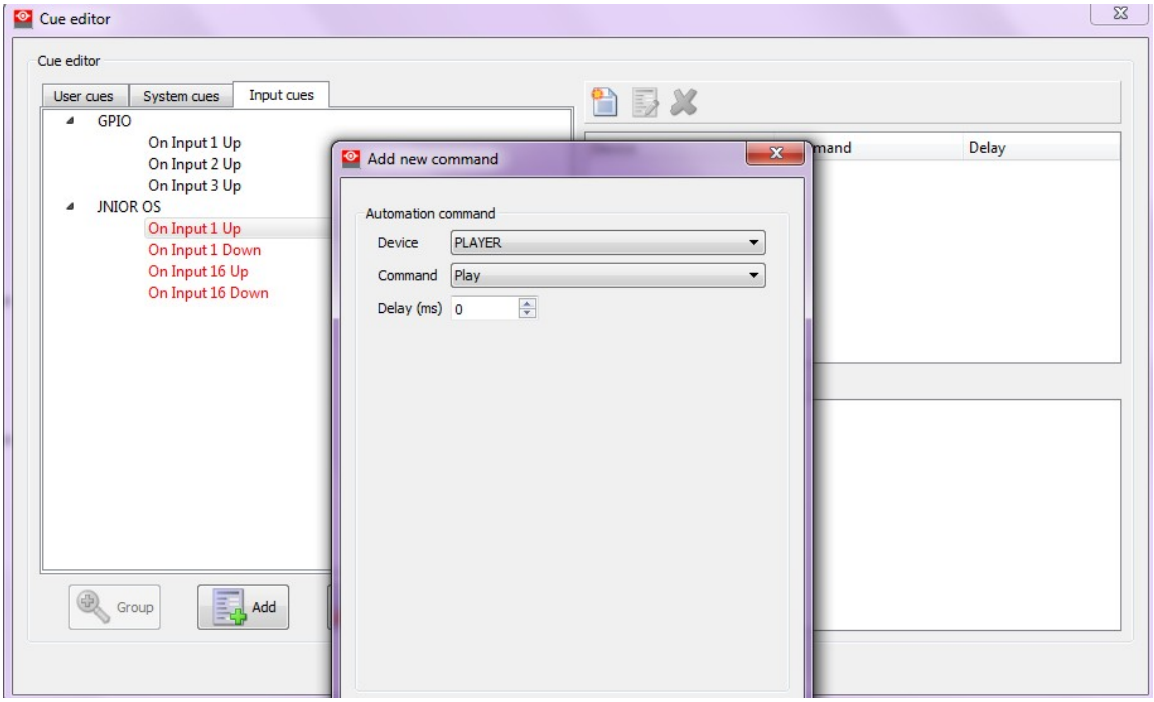
a. 16 inputs Up
b. 16 inputs down



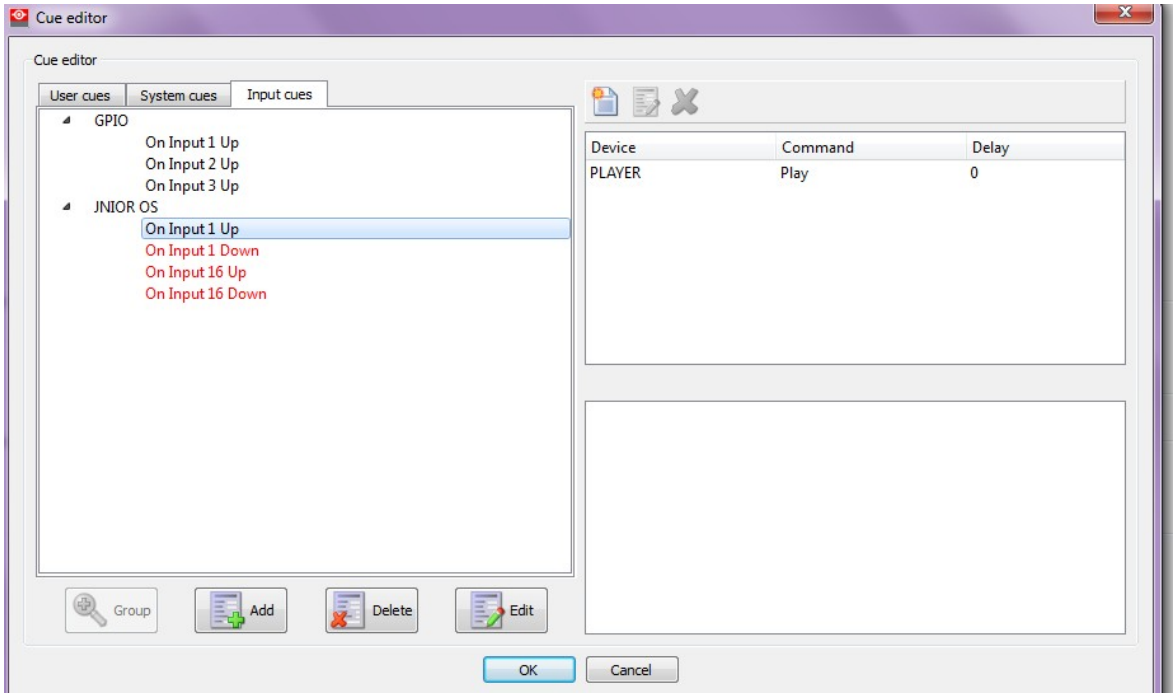
Next you add an action (command) to an input cue



You first select the Device (e.g. Player) and then select the command (e.g. Play)



For the following configuration, when JNIOR digital input 1 goes ‘up’ (from ‘off’ to ‘on’), the Player will receive the Play command.



Section 2 – Triggering Macros on the JNIOR

In addition to controlling individual relays on the JNIOR, you can send commands from the Barco Alchemy to the JNIOR and have the JNIOR execute macros stored on the JNIOR.

To execute macros on the JNIOR, the INTEG Cinema program will have to be installed.

NOTE: There are two different versions of the Cinema program and you must install the appropriate version for your JNIOR type:

JNIOR Series 3 – Models 310 and 312 – utilize Cinema.JNIOR
JNIOR Series 4 – Models 410 and 412 – utilize Cinema.JAR

Installing the Cinema Program

The Cinema program is installed using the JNIOR Support Tool. The JNIOR Support Tool can be downloaded from the INTEG website at the following link. Please download the file and double click on it to install.

http://www.integpg.com/jnior-support-tool/

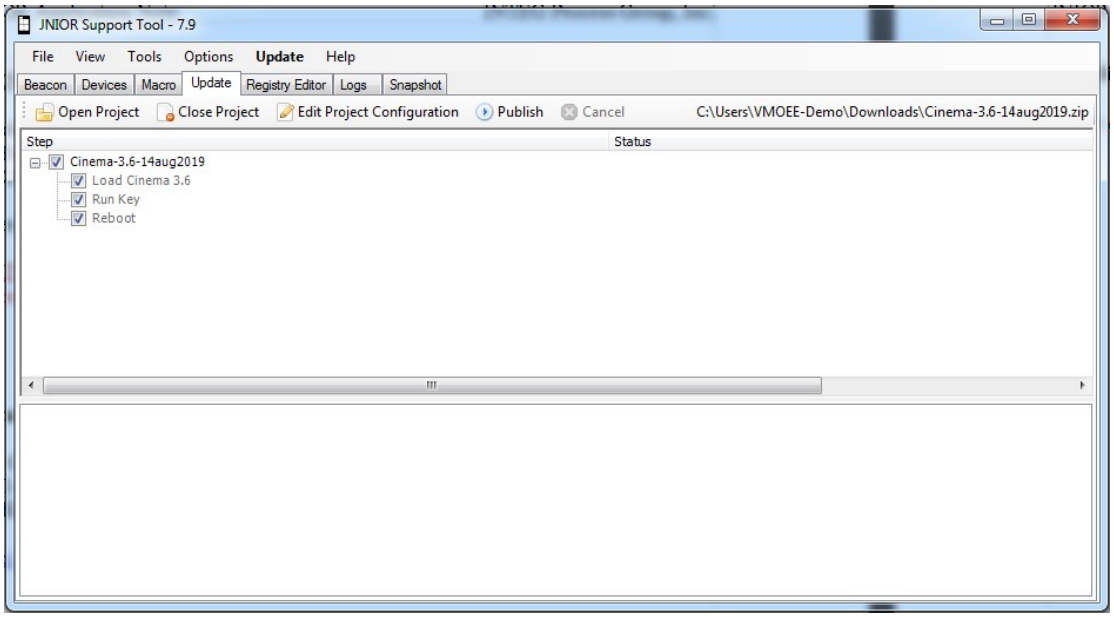
The latest Cinema 'update project' can be found near the bottom of our Cinema downloads page at the following link.

Cinema.Jar Download

Please download the zip file, but do NOT unzip it. Go to the Update tab in the JNIOR Support Tool and click on the Open Project link and then navigate to where you saved the update project. The JNIOR Support Tool will unzip the project. Then click Publish Update to JNIOR and select your JNIOR.

NOTE: If this is the first time you are installing the Cinema program on your JNIOR, it is recommended that you leave all the steps checked and then you can configure the Cinema program for your application. If you have already installed the Cinema program, then you only want the first and last steps checked so that the Update project does not change any of your current configuration items. Please see the examples below.

Updating Cinema.Jar



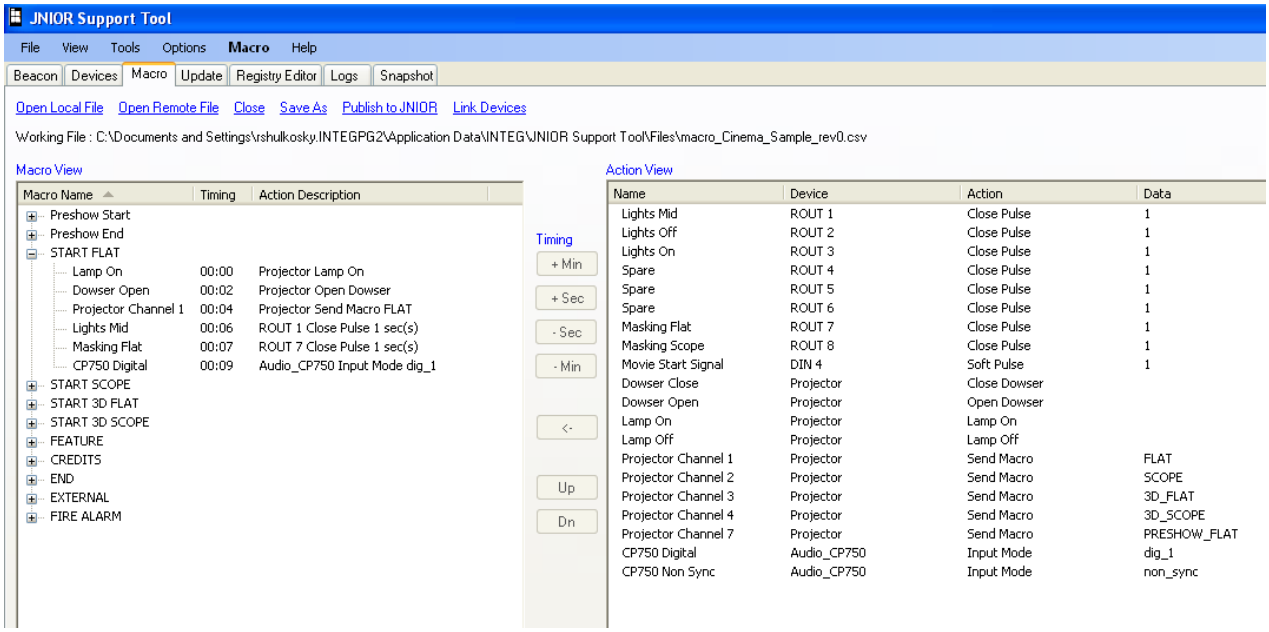
The Bacro Alchemy will send ‘Execute Macro’ commands to the JNIOR through the same connection utilized for controlling the JNIOR relay outputs and monitoring digital inputs. This connection was previously described in this document.

The JNIOR can contain many ‘macros’ and up to 200 different ‘actions’that can be utilized in the JNIOR macros.

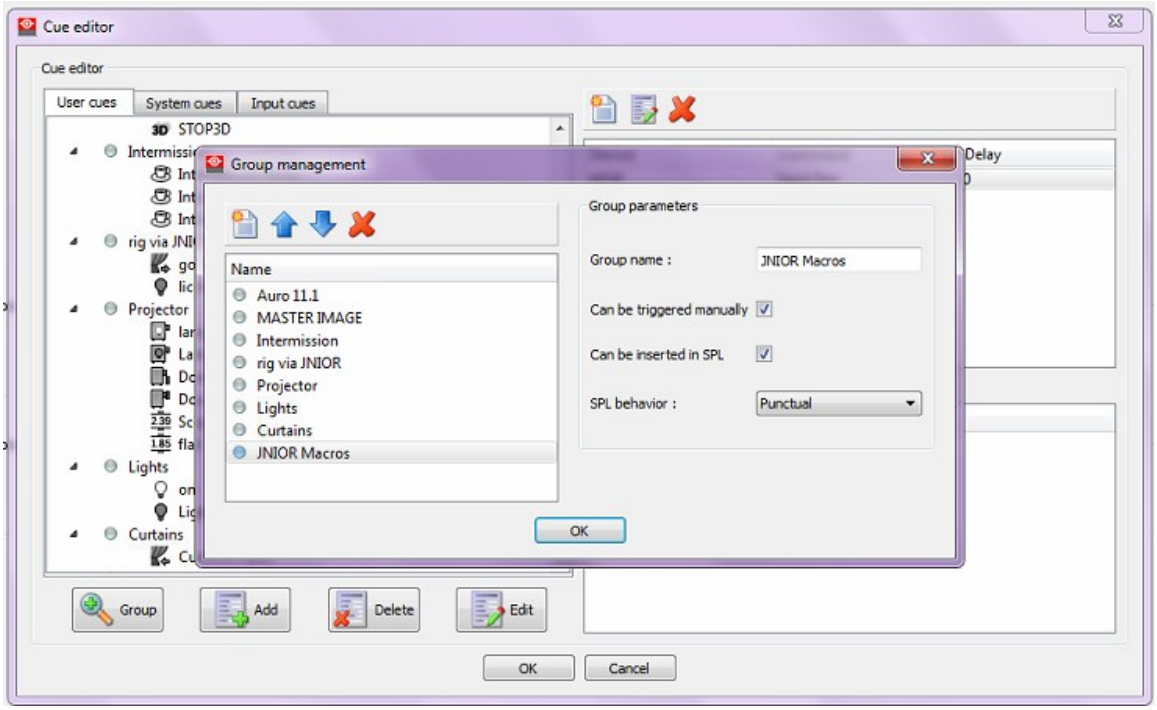
The ‘actions’ can contain commands to control the JNIOR relays and commands that are sent to ‘devices’ that are controlled by the JNIOR via anEthernet connection and/or a serial connection. The devices can include:

- Digital cinema projectors
- LCD projectors
- Sound processors
- Scalars
- Digital cinema server
- Any Ethernet device via custom commands (ASCII or HEX commands)
- Any serial device via custom commands (ASCII or HEX commands)

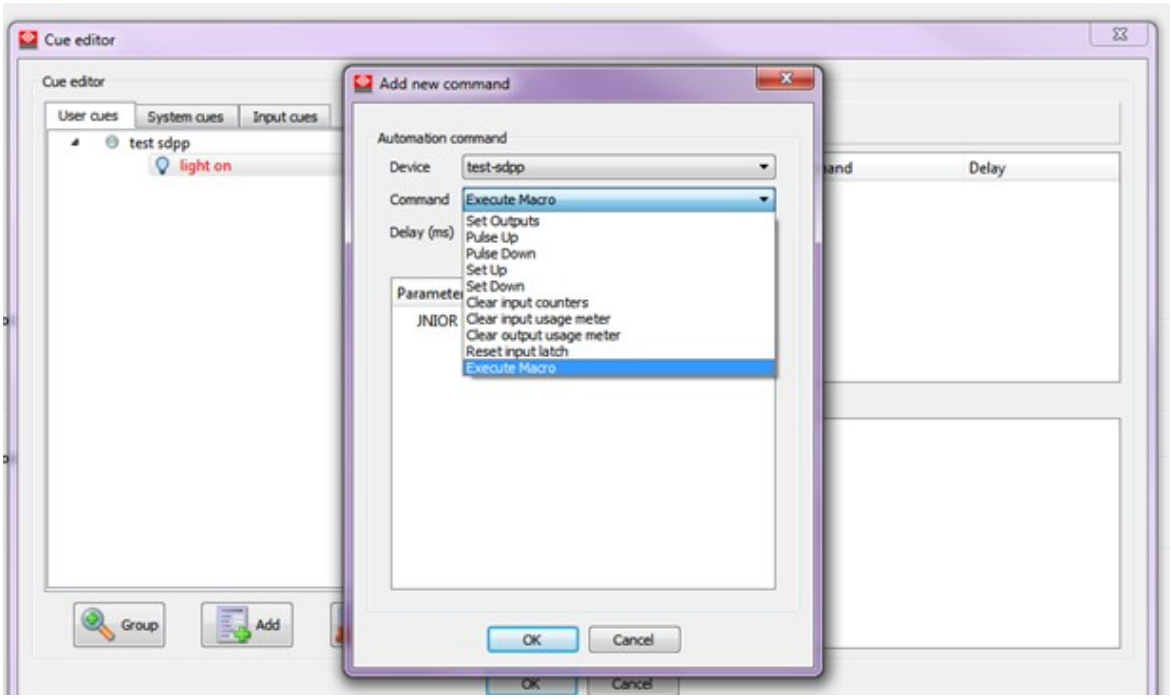
Below is a picture of a typical macro file containing multiple macros and controlling multiple devices.


JNIOR Support Tool
File View Tools Options Macro Help
Beacon Devices Macro Update Registry Editor Logs Snapshot
Open Local File Open Remote File Close Save As Publish to JNIOR Link Devices
Working File : C:\Documents and Settings\rshulkosky.INTEGPG2\Application Data\INTEG\JNIOR Support Tool\Files\macro_Cinema_Sample_rev0.csv
Macro View
Macro Name Timing Action Description
Preshow Start
Preshow End
START FLAT
Lamp On 00:00 Projector Lamp On
Dowser Open 00:02 Projector Open Dowser
Projector Channel 1 00:04 Projector Send Macro FLAT
Lights Mid 00:06 ROUT 1 Close Pulse 1 sec(s)
Masking Flat 00:07 ROUT 7 Close Pulse 1 sec(s)
CP750 Digital 00:09 Audio_CP750 Input Mode dig_1
START SCOPE
START 3D FLAT
START 3D SCOPE
FEATURE
CREDITS
END
EXTERNAL
FIRE ALARM
Timing
+ Min
+ Sec
- Sec
- Min
<-
Up
Dn
Action View
Name Device Action Data
Lights Mid ROUT 1 Close Pulse 1
Lights Off ROUT 2 Close Pulse 1
Lights On ROUT 3 Close Pulse 1
Spare ROUT 4 Close Pulse 1
Spare ROUT 5 Close Pulse 1
Spare ROUT 6 Close Pulse 1
Masking Flat ROUT 7 Close Pulse 1
Masking Scope ROUT 8 Close Pulse 1
Movie Start Signal DIN 4 Soft Pulse 1
Dowser Close Projector Close Dowser
Dowser Open Projector Open Dowser
Lamp On Projector Lamp On
Lamp Off Projector Lamp Off
Projector Channel 1 Projector Send Macro FLAT
Projector Channel 2 Projector Send Macro SCOPE
Projector Channel 3 Projector Send Macro 3D_FLAT
Projector Channel 4 Projector Send Macro 3D_SCOPE
Projector Channel 7 Projector Send Macro PRESHOW_FLAT
CP750 Digital Audio_CP750 Input Mode dig_1
CP750 Non Sync Audio_CP750 Input Mode non_sync

You can create a new Group to contain the commands for executing JNIOR macros.



After you create the group, you then click on the Add new command button and get a window to select the Execute Macro command.

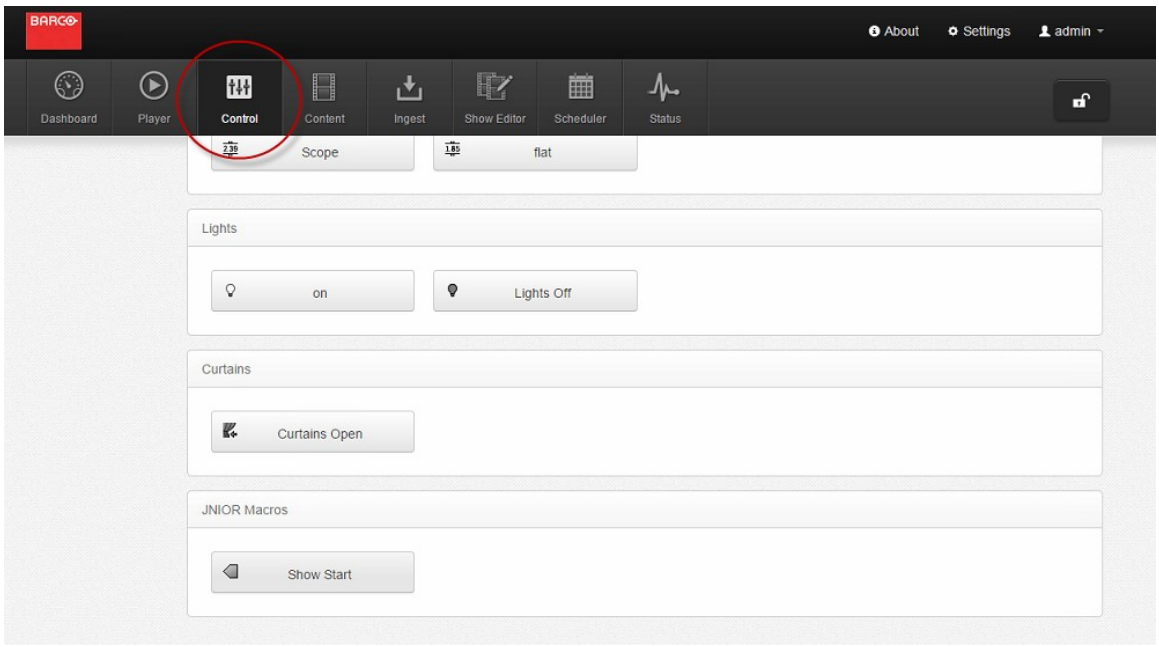


After you select the “Execute Macro” command, you will get a window where you can enter the name of the macro stored on the JNIOR to be executed.

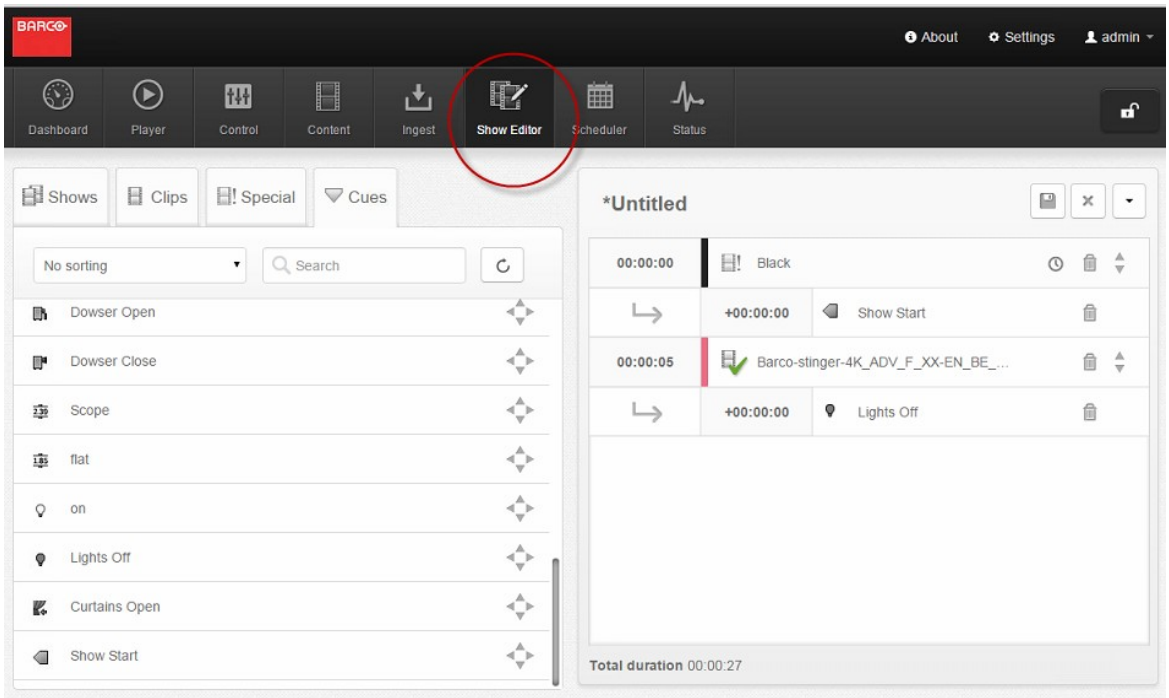
You can then build this command into your playlist on the Alchemy.

Section 3 – Building a Play List Using the JNIOR Commands

By clicking on the Control button, you can see your groups and the commands in each group.



From the Show Editor button, you can drag your commands into your play list. You can have commands for controlling relays and executing macros on the JNIOR.

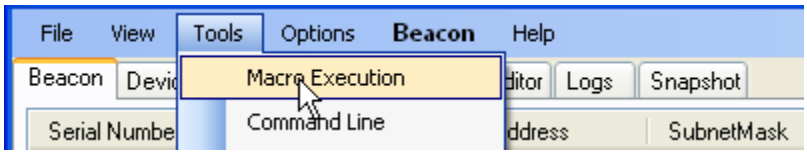


Section 4 – Testing and Troubleshooting Tips

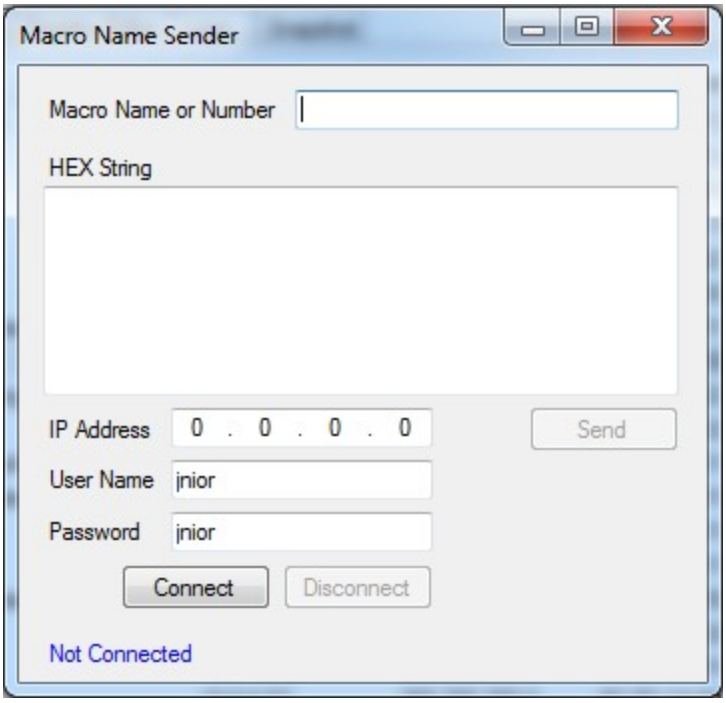
The following are some general tips that can be used to help test and troubleshoot your Barco Alchemy – JNIOR digital cinema system.

Testing a macro on the JNIOR

You can trigger a macro on the JNIOR without using the Barco Alchemy server to make sure your macro is configured and working properly. The Macro Execution tool can be launched by 'right-clicking' on your JNIOR in the Beacon tab and selecting Macro Execution or by going to the Tools pull down at the top and selecting Macro Execution.



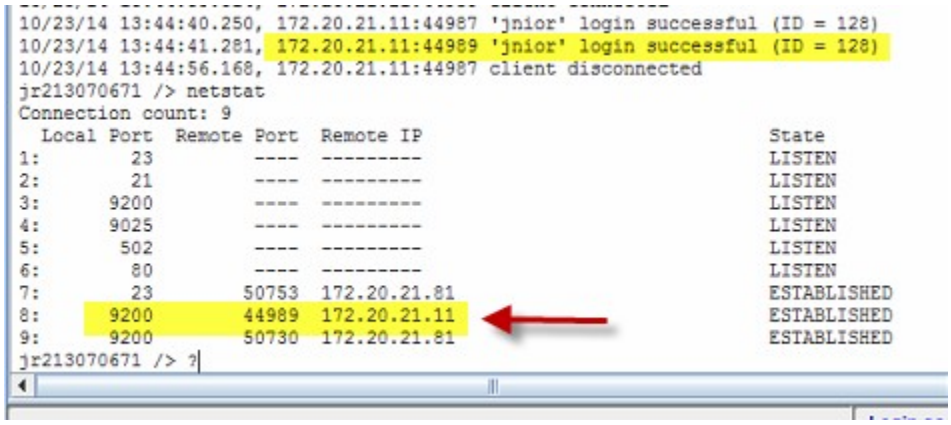
The Macro Execution tool is shown below. Type the name of your macro in the box (it is NOT case sensitive) and then click on the Connect button and the Send button. The Macro Execution tool will send the execute macro command to the JNIOR.



There are a variety of logs on the JNIOR. One of the logs is called jniorsys.log. When the Barco Alchemy makes the standard JNIOR connection to port 9200, the connection will be logged in jniorsys.log

To look at the log, open a Telnet (Command Line) window to the JNIOR and type:

cat jniorsys.log

The content of the log will be displayed. In the screen picture below, you can see where the Barco Alchemy connected and successfully logged in.

You can also use the netstat command to verify that the Barco Alchemy is connected as also shown in the screen picture below.