#### Using the JNIOR with the Dolby Digital Cinema Server

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The following is an explanation of how to utilize the JNIOR with the Dolby Digital Cinema Server.

Please contact INTEG via e-mail at <u>JNIORsales@integpg.com</u> or via phone at 724-933-9350 extension 20 with any questions. Please visit our website at <u>www.integpg.com</u> for software updates, manuals and to download the JNIOR Support Tool.

### Overview

The Dolby cinema server works with both the JNIOR Model 310 and Model 312. The Model 310 has 8 digital inputs and 8 relay outputs. The Model 312 has 4 digital inputs and 12 relay outputs. The Dolby can also work with a 4 Relay Output Expansion Module attached to either the JNIOR Model 310 or 312.

The Dolby makes a SERIAL connection to the JNIOR. You connect the Dolby to the JNIOR using a straight through serial cable. Please connect the cable to the AUX SERIAL port along the top edge of the JNIOR.

Even though the Dolby communicates to the JNIOR via a serial connection, you can still connect the JNIOR to the Ethernet network to utilize all the other features of the JNIOR. To do this, you must configure an IP address in the JNIOR. This can be done using the JNIOR Support Tool. Please connect your JNIOR to the Ethernet network 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.

rial Number Hostname	> IP Address	SubnetMask	MAC Address	OS Version	Last Announced
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JNIOR Informatio	<b>an</b>				
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O Use DHCP					
<ul> <li>Use the following IF</li> </ul>	<sup>2</sup> Config				
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IP Address	192 . 168 . 1 . 201	Primary DNS	0.0.	0.0	
Subnet Mask	255 . 255 . 255 . 0	Secondary D	NS 0.0.	0.0	
Default Gateway	0.0.0.0	DNS Timeoul	5000	ms	
Domain Name					

In order for the Dolby to interact with the JNIOR, one of two programs must be running on the JNIOR. Please note, <u>only one</u> of these programs should be running. You do not need both programs running and having both programs running may cause a problem because they will both try to control the AUX Serial port. If you really need both programs running for some reason, then you will have to configure one program to use the other serial port on the JNIOR (the RS232 port). Please contact INTEG for the details on how to do this.

One of the following programs must be running on the JNIOR to work with the Dolby:

1. Serial Control (or Serial Control PLUS on newer JNIORs)

#### 2. Cinema.JNIOR

If you just want to control the outputs on the JNIOR and use the JNIOR inputs to control the Dolby server, then you only need the **Serial Control** program.

If you want to control individual outputs on the JNIOR and run macros on the JNIOR, then you will need the **Cinema.JNIOR** program.

# 1 - Using the Serial Control Program

The Serial Control program will allow you to control the outputs on the JNIOR and use the inputs on the JNIOR to control the Dolby. Serial Control is preloaded on every JNIOR shipped. A new version called Serial Control PLUS is loaded with newer JNIOR Operating Systems and is available for installation via an update project on the INTEG website. The difference between the 2 programs is Serial Control PLUS allows you to make a serial connection and Ethernet connection to the JNIOR. You can send the same ASCII commands via either the serial connection or the Ethernet connection to control the JNIOR.

#### JNIOR Configuration – Starting the Serial Control application

You will have to enable the Serial Control program on your JNIOR. It is not running by default. Once you enable the program, it will always run on boot up.

The easiest way to enable the Serial Control program is via the JNIOR Web page. To use the main JNIOR web page, the JNIOR must have its IP address configured so that it can be connected to via the Ethernet network. Please see the JNIOR Getting Started Manual for more details on configuring the JNIOR IP address using the JNIOR Support Tool.

Once the JNIOR is connected to the Ethernet network, launch the main JNIOR web page by typing the JNIOR IP address in your browser address line or right clicking on your JNIOR in the Beacon tab. After the JNIOR web page is loaded, go to the Applications tab and check the box for Serial Control. Reboot the JNIOR and the program will be running.

			JNIOR			
I/O Control	Configuration	Registry Editor	Command Line	Applications	About	
The and RS-2	external 4 Relay Ou	t expansion modules t	is the user with a way hrough an R5-232 cor t port. Please consult	nection using the A	Auxiliary Serial (	port or the
🔤 Seri	al to Ethernet C	onverter				
bride	e connecting serial (	devices to the Etherne	olication provides the u et vial the Auxiliary Sei rial To Ethernet Manua	rial port or the RS-2	232 port. The	AUX serial
The cont			es the user with the a nding emails. These t			
Sav NOTES:	1. In order to run make the nece a time via the	essary configuration ch Command Line tab or	d Serial to Ethernet Cc aanges to use differer a telnet session. Jlication on the JNIOR	t serial ports and s	tart the progra	
						Login as Different User

From the Registry Editor tab in the JNIOR Web page, you can click on AppData – Serial Control folder to see the default Serial Control settings. The following shows the registry keys for the Serial Control PLUS program.

I/O Control Configuration Reg	try Editor Command Line Applications About	
	Add Key         Edit Key         Delete Folder         Delete Key         Refree	sh
AppData/ Cinema/ SERIAL_CONTROL/ \$Quit \$Started Baud DataBits DataBits DataBits FlowControl FlowControl Name OutgoingTerminationSt PacketSize Parity SendCounts SerialPort SerialPort StopBits TcpPort Version	<ul> <li>AppData/SERIAL_CONTROL/\$Quit = false</li> <li>AppData/SERIAL_CONTROL/\$Started = Mon May 07 23:42:24 EST 2012</li> <li>AppData/SERIAL_CONTROL/Baud = 9600</li> <li>AppData/SERIAL_CONTROL/DataBits = 8</li> <li>AppData/SERIAL_CONTROL/EmbeddedBaseVersion = v.1.5.103.1509</li> <li>AppData/SERIAL_CONTROL/FlowControl = 0</li> <li>AppData/SERIAL_CONTROL/IncomingTerminationString = \r</li> <li>AppData/SERIAL_CONTROL/Name = SERIAL CONTROL</li> <li>AppData/SERIAL_CONTROL/OutgoingTerminationString = \r</li> <li>AppData/SERIAL_CONTROL/PacketSize = 1024</li> <li>AppData/SERIAL_CONTROL/PacketSize = 1024</li> <li>AppData/SERIAL_CONTROL/SendCounts = false</li> <li>AppData/SERIAL_CONTROL/SendCounts = false</li> <li>AppData/SERIAL_CONTROL/StopBits = 1</li> <li>AppData/SERIAL_CONTROL/TcpPort = 9202</li> <li>AppData/SERIAL_CONTROL/Version = 4.1.109.809</li> </ul>	

#### **Dolby Configuration – with Serial Control**

Please use the following instructions in conjunction with the Dolby documentation and the JNIOR Serial Control manual when using the Serial Control program on the JNIOR.

- A) On the Dolby, you must first set the Dolby serial port to communicate with the JNIOR using the default serial port settings for the JNIOR AUX SERIAL port. The default settings for the AUX port when using the Serial Control program are:
  - 9600 Baud 8 bits no parity no flow control 1 stop bit

Please set the Dolby to match these settings. You may have to disconnect the serial cable between the JNIOR and the Dolby to reset this port on the Dolby and JNIOR.

Г

B) In the Dolby, there is a termination character. The Dolby default is \0A. You must change this to \0D to match the JNIOR. (The JNIOR displays \r in its Registry Key which is the ASCII representation of the HEX characters \0D.)

hedule	system	ø			ration to efault JNIOR ontrol settings
add	serial port se data rate data bits parity stop bits flow control	ttings 9600 V 8 V even V 1 V hardware V	Change to 'no parity' and 'no flow control'	-serial port set data rate data bits parity stop bits flow control	9600 V 8 V none V 1 V
	serial comma termination reset	20/5) (200564C×	Change to \0D	serial comma termination reset	

#### **Dolby Serial Automation – Outputs**

After you have configured the Dolby serial port settings, you will then enter the commands listed in the Serial Control Manual to meet your needs.

The basic commands are:

c1	- closes output 1
o1	- opens output 1
c1p=1000	- pulses output 1 closed for 1000 milliseconds

Where the number 1 can be replaced with 2 through 8 to represent the first 8 outputs.

For outputs 9 - 12 in the JNIOR Model 312 or when using a 4 Relay Output Expansion Module, the number 1 is replaced with +1 through +8 to represent outputs 9 - 16. For example, c+3p=1000 would pulse output 11 for 1000 milliseconds.

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serial automation cues			-	2.000
category output - type	😸 lights 🔻 name	e	serial command	
category type	sound	name	serial co	mmand
	other			
-				
	Inter the an	nronriate A	SCII command	

#### **Dolby Serial Automation – Inputs**

You can trigger events on the Dolby by monitoring JNIOR digital inputs. When a JNIOR digital input goes from low to high (off to on), the JNIOR will send the following text to the Dolby:

IN1=1 when input 1 goes on IN1=0 when input 1 goes off

The number 1 above can be replaced with 2 through 8 to represent the 8 JNIOR inputs.



## 2 - Using the Cinema.JNIOR Program

The Cinema.JNIOR program will allow you to control the outputs on the JNIOR, use the inputs on the JNIOR to control the Dolby and allow you to run macros on the JNIOR. The macros can be configured to control JNIOR outputs, control external devices, such as projectors, and send text to the Dolby to start, stop or pause the Dolby server.

Cinema.JNIOR is NOT preloaded on the JNIOR before it is shipped. A JNIOR 'update' project that works with the JNIOR Support Tool can be downloaded from the Cinema area of our website. The Cinema.JNIOR manual is also available on our website where you download the software.

Please download the Cinema.JNIOR update zip file from our website, but do not unzip it. Go to the Update tab in the JNIOR Support Tool and select Open Project and navigate to where you saved the Cinema.JNIOR zip file and select it. The JNIOR Support Tool will unzip the file. Click Publish Update to JNIOR and select your JNIOR.

**NOTE:** Cinema.JNIOR requires a JNIOR Operating System (OS) greater than 3.4, so you will probably have to update your JNIOR OS. An OS update project is available in the JNIOR Downloads section of our website.

#### JNIOR Configuration – Configuring a Cinema Server Client

After you have installed Cinema.JNIOR, you will need to enable a Cinema Server Client. The Dolby will act as a Cinema Server Client within the Cinema.JNIOR program. Open the main JNIOR Web page and go to the Registry Editor tab, click on the AppData folder, then the Cinema folder and finally CinemaServerClient folder. Please modify the Cinema Server Client configuration to match the configuration highlighted in yellow in the picture below.

I/O Control Configuration Regist	try Editor Command Line Applications About
	Add Key         Edit Key         Delete Folder         Delete Key         Refresh
Cinema/     Squit     Started     Started     CinemaServerClient/     CinemaServerClient/     Method     OutgoingTerminatic     PauseDelay     SendAck     SendCounts     SendDateStamp	AppData/Cinema/CinemaServerClient/IncomingTerminationString = 'r         AppData/Cinema/CinemaServerClient/Method = serial         AppData/Cinema/CinemaServerClient/OutgoingTerminationString = 'r         AppData/Cinema/CinemaServerClient/PauseDelay = -1         AppData/Cinema/CinemaServerClient/SendAck = false         AppData/Cinema/CinemaServerClient/SendAck = false         AppData/Cinema/CinemaServerClient/SendAck = false         AppData/Cinema/CinemaServerClient/SendDateStamp = false         AppData/Cinema/CinemaServerClient/SendDateStamp = false         AppData/Cinema/CinemaServerClient/SendDateStamp = false         AppData/Cinema/CinemaServerClient/TcpPort = -1         AppData/Cinema/CinemaServerClient/TcpPort = -1         AppData/Cinema/CinemaServerClient/UnsolicitedIoAlerts = true

You will also have to modify the Serial settings for the Cinema Server Client. Please change the Serial Port registry key to AUX (as highlighted in yellow below). Also, the default baud rate for the Cinema Server Client is 19200. You can either change the Dolby to be 19200 or change the JNIOR to be 9600. Either baud setting will work as long as they match on the JNIOR and the Dolby.

I/O Control Configuration Regist	ry Editor Command Line Applications About
	Add Key         Edit Key         Delete Folder         Delete Key         Refresh
	AppData/Cinema/CinemaServerClient/Serial/Baud = 19200       NOTE: Baud must match         AppData/Cinema/CinemaServerClient/Serial/FlowControl = 0       NOTE: Baud must match         AppData/Cinema/CinemaServerClient/Serial/FlowControl = 0       Dolby         AppData/Cinema/CinemaServerClient/Serial/PacketSize = 1024       AppData/Cinema/CinemaServerClient/Serial/Parity = 0         AppData/Cinema/CinemaServerClient/Serial/Serial/SerialPort = AUX       AppData/Cinema/CinemaServerClient/Serial/StopBits = 1

**NOTE:** In order for the above settings to take effect, you will have to reboot the JNIOR. Please do not disconnect the power to the JNIOR to reboot. After you make your changes, the JNIOR will take up to 1 minute to save the changes to permanent memory. To reboot the JNIOR, please go to the About tab in the JNIOR Web page and click on the Reboot button so all settings will be saved properly.

#### **Cinema.JNIOR Configuration – Devices and Macro Files**

The details on how and why to use a Devices file and Macro file are described in detail in the Cinema.JNIOR Users Manual. The following provides a brief overview.

#### **Devices File**

You do not need a devices file to use Cinema.JNIOR with the Dolby server. You only need a Devices file if you are going to control an external device such as a digital projector. In order to control one or more projectors or other 'devices', you must configure your devices file. Below is a sample devices file for controlling a projector.



NOTE: After you have created your devices, you must click on the Save As and then click on Publish to JNIOR to load the devices file to your JNIOR.

You may or may not have to restart Cinema.JNIOR after you upload your devices file. The JNIOR Support Tool may try to restart the program or the Cinema.JNIOR may try to ingest the new file. It all depends on the version of software you are running. To be safe, you can reboot the JNIOR.

#### Macro File

The macro file stores the macros to be executed on the JNIOR. You can create a variety of macros to control the digital projector, JNIOR outputs, other devices and to send data to the Cinema Server Client.



**NOTE:** After you have created your macros, you must click on the Save As and then click on Publish to JNIOR to load the macro file to your JNIOR.

You may or may not have to restart Cinema.JNIOR after you upload your macro file. The JNIOR Support Tool may try to restart the program or the Cinema.JNIOR may try to ingest the new file. It all depends on the version of software you are running. To be safe, you can reboot the JNIOR.

#### **Dolby Configuration**

There are a few differences in the Dolby configuration when using the Cinema.JNIOR program. As noted above, the default baud rate for the Cinema Server Client is 19200. Please make sure the Dolby and JNIOR match.

#### **Dolby Serial Automation – Outputs**

When controlling individual outputs, the commands are the same when using Cinema.JNIOR except that the command must start with :: (double colon). For example, if your house lights low signal is connected to output 1, then you would enter the command ::c1p=1000 and this would close output 1 for 1 second (1000 milliseconds).

All the commands are listed in Appendix B of the Cinema.JNIOR Manual.

# NOTE: All ASCII commands used to control outputs directly must start with :: (colon, colon) when using the Cinema.JNIOR program. The Serial Control program does not need the ::

Instead of controlling outputs individually, you can also 'trigger' a macro on the JNIOR by typing the following command in the 'serial command' box:

run macro\_name Where 'macro\_name' is the name of the macro on the JNIOR

For example, enter the command run test in the Dolby to have the JNIOR run the macro named test

#### NOTE: Do NOT use the :: in front of the run command The run command must be entered in the Dolby in lower case letters.

#### **Dolby Serial Automation – Inputs**

You can trigger events on the Dolby by monitoring JNIOR digital inputs. When a JNIOR digital input goes from low to high (off to on), the JNIOR will send the following text to the Dolby:

IN1=1 when input 1 goes on

IN1=0 when input 1 goes off

You can also trigger events on the Dolby by receiving ASCII text from a JNIOR macro using the 'digital cinema server client' send action.

**NOTE:** The JNIOR does not send the :: in front of these commands so do NOT enter the :: in the Dolby set-up.

# Sample Pictures of the Dolby Configuration

ategory out	put 🔻 type	lights 🕶 name	serial command	add	data rate	19200 -
category	type	name	se	erial command	data bits	8 🔻
utput	🚺 lights	Lights UP	::c1p=1000		parity	none 🔻
utput	🔕 other	PreShow Proj ON	::c6			
utput	💽 other	Masking SCOPE	::c5p=1000		stop bits	1 •
utput	🖸 other	Masking FLAT	::c4p=1000		flow control	none 💌
utput	🖸 other	PreShow Proj OFF	::06			
nput	other 🖸	show stop	🝸 IN2=1 🕎			
tugtu	😽 lights	Lights LOW	::c3p=1000			
urput	♣ lights	Lights MID	∷c2p-1000	uses a JNIOR digital input to control the Dolb	serial comma termination reset	
/pe: PNG F ze: 245 KB		Ĩ <u></u>		Server		

				serial port settings
category ou	tput 👻 type 🔛 I	ights 🕶 name	serial command add	d data rate 9600 🔻
category	type	name	serial command	data bits 8 🔻
output	💽 other	Rekl. Boern	run 4	parity none -
output	😹 lights	Lys 0%	::C2P=500	
output	💿 other	Start 35mm	::C8P=1000	stop bits 1 🔻
output	😹 lights	stop rekl.	run 5	flow control none 🔻
input	💽 other	show pause	PAUSE - Using a JNIO	R Macro
output	😹 lights	Lys 50%	::C1P=500 to send the	ΡΑψ\$Ε
output	😸 lights	Lys op	C3P=3000 text to the	Dolby
output	🗿 other	Rekl. Loop	run 2	rserial command settings-
input	💿 other	show start	PLAY	
output	💿 other	Rekl. Stop	run 5	termination \OD
output	💿 other	Rekl. Voksne	run 3	reset
			er macro number 3 on the un with the macro name	