PRIME CAMIO User Guide Version 4.10.9





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Table of Contents

Using PRIME in the CAMIO Workflow	4
CAMIO Licensing	4
Publishing to CAMIO	5
Configure the CAMIO Server:	5
Template Preparation	6
Publish a single scene	7
Publish a Project	8
Configuring Channels for ISQ Playback	9
Creating ISQ Channels for Playback	10
Load Behavior	10
Configuring ISQ Macro buttons	10
Installing the CAMIO Endpoint	12
CAMIO Renderer	14
CAMIO Preview Frame	14
Media Engine Workflow	
Supported Scene Designs	14
Scene Design Limitations	17



Using PRIME in the CAMIO Workflow

In order to understand how PRIME integrates into the CAMIO workflow, it's important to first understand the differentiation between content types in PRIME. On a PRIME system that will be used to play content to air, a user may configure one or more output video channels. These channels correspond to physical or virtual outputs (for example SDI, NDI, GPU, and so forth) and will appear in the PRIME playout window. These output channels may or may not have a visible preview.

PRIME scenes (PBX files) and messages (PBM files) are played on these output channels. These files are the most robust of scene types in the PRIME environment.

A user may also configure one or more clip players. Each clip player controls clip playback (typically PPC files) to a specific layer within an output channel. For example, a clip player may be configured to play content on layer -5 of output channel 1. Since layers are stacked based upon their relative numeric value, this means that any content on layer -4 or higher will always be on top of the content being played back on this clip player.

In the case of a dedicated clip player, an output channel is still required, but the expectation is that only the clip player itself will be used to render content on that output. The actual parent (output) channel will likely not be visible in the user interface to avoid confusion for an operator.

Put more simply:

- Output Channels: PRIME scene and message playback.
- **Clip Players**: PRIME clip playback.

CAMIO Licensing

PRIME can be leveraged in the CAMIO workflow as long as licenses are configured appropriately. There are two main licensing and functionality types.

- **Playout**: When CAMIO is licensed on a PRIME system configured for playout, this means that the PRIME application will be used to play graphic scenes and/or clips. The exact configuration depends on what is exposed to ISQ; see page 7.
- **Render**: When CAMIO is licensed on a PRIME system configured for rendering, this means that the PRIME application will instead be used to generate thumbnails for use in news room applications (e.g. particularly the LUCI plugin).



Publishing to CAMIO

Configure the CAMIO Server:

From the Runtime User Interface select the menu Config->Settings->CAMIO. Press the "Add" button to configure CAMIO Server(s):

Prime Settings				×
Provide the second seco	CAMIO			
i Browsers	Server	Context	Folder	
lange Startup Scenes	▶ 10.10.26.31	NEWS	/Messages	
😼 Quality Control				
Language				
Logging				
BXF				
CAMIO	Add Delete			
	Default CAMIO	0.26.31/NEWS/Messages		~
	Default Virtual Channel A			
	Auto Upload Clips			
	1		OK Cancel	Apply

• Auto Upload Clips: Any Clip added to the Common Clips folder or Project Clips folder, gets automatically uploaded to the default CAMIO server.



Select CAMIO Destin	ation	×
CAMIO Server		
Address	10.10.26.31	Test Connection
	Successfully pinged server	
Upload Destinatio	n	
Context	NEWS	Refresh List
		1
Scenes	/Messages ~	
Clips	/ ~]
Images	/ ~]
Login		
Username	admin]
Password	admin]
		OK Cancel

Template Preparation

Clips and Graphic Templates can have replaceable elements that will show up in the ChyronHego NRS plugin. To define which elements will show up add them to the **"Automation ID Editor"** found in the Designer. Drag and drop from the scene tree the elements you want to exposed to the NRS plugin for producers to be able to fulfill.

Note: These elements will also now be shown in the Play List as well.



Automation ID Editor				×
💢 Remove 🁔 🥼				
ld	Description	Bindings	Order	
'Name Text	Enter the Persons Name:	A Name.Text	1	
Title Text	Enter the Persons title:	a ^A Title.Text	2	

- \circ $\$ Id: This is the ID automation will use to identify this item.
- **Description:** This is a user-friendly description and is also used in the NRS Plugin (LUCI) as the label for the replaceable item.
- **Order:** Used by legacy automation commands.

Publish a single scene

Right click on a scene or clip and select "Upload to CAMIO". Select the CAMIO server from the list of available servers defined in the above configuration:



Publish a Project

Click the Project Icon in the upper left-hand corner of the Runtime user Interface and select "CAMIO Upload" menu. Select the CAMIO server from the list of available servers.

Fi	le View Tool	s Co	onfig Help	
	Project News De	emo	~	Scene Scene
	New	- 1		
	Open	- 1		
	Publish			Clear
,	Unpublish			
	Camio Upload	•	10.10.26	6.31/NEWS/Messages (Default)
_				



Configuring Channels for ISQ Playback

CAMIO and ISQ communicate to PRIME via the ChyronHego "Data Engine". This is transparent to the end user. To enable CAMIO and ISQ to communicate to PRIME you must enable the "CAMIO" connection in PRIME's Automation Configuration dialog.



Note: The Port & Encoding fields are empty. This is expected and normal.



Creating ISQ Channels for Playback

This section refers to the PRIME Playout devices

Select the CAMIO connection from the Automation Settings dialog. Disable the connection then click the "Edit" button to show the ISQ Channels configuration dialog:

Edit Car	mio Connection					×
周	🛃 Add iSQ Chan	nel				Automatically Launch iSQ Service
~	Enabled	🕑 ISQ 1	×	SQ 2	×	
	Output	Program	~	Output 1	~	
	Туре	Graphics		Graphics		
	Load Behavior	Update, Load	\sim	Update, Load	~	
		Load, Update Update, Load				OK Cancel

By default, no output video channels or clip players are exposed.

Not all channels and/or clip players need to be exposed to the playout or preview services for use in the news room workflow.

Load Behavior

- Load, Update: Graphic (scene) will Load into the channel first and then the Replaceable Updates are applied
- Update, Load: Graphic (scene) is read (opened) and Replaceable Updates are applied before it's Loaded into the channel
 - Update, Load gives better performance, as fewer changes are sent to the render engine

Configuring ISQ Macro buttons

Use the Automation Rules Engine to configure the 10 available ISQ Macro buttons. Select the "CAMIO Connection from the list of connections then select the "Rules" from the toolbar. Double click on the rule to open up the available behaviors to add.



utoma	ation Settings							
	tions III Intelliger	at Interface ISSUE VML	WP LIDD Stream Gen	oric UDCD DOD			t 🤗 Rular 💚 Dalat	- Dirah
onnec			- obristieani					
Туре	Name	Port	Encoding	Enable On St	artup Status			
0	Camio Connection				🙁 Disabled: I	Endpoint 🛛 🔞 iSC		
CII	Intelligent Interface	1 49528	Unicode (UTF-8)	~	🗾 Waiting Fo	or Connection		
PBUS	PBus 1		Western Furonean (Win	do	🛐 Configura	tion Required		
_			· · · · · · · · · · · · · · · · · · ·					
VDCP.	VDCP 1		Western European (Win	do 🗸	😢 Connectio	on Error: The port '0	COM1' does not exist.	
_								
og 🗎	🕯 Copy 🔚 Save 🛛	Clear						
	Connectio	ons Command	Resp	onse Durati				
'Camio	Connection' Rules				*			
			A -					
⊉ <u>A</u> dd	Rule Change Rule	i <u>D</u> elete G import €						
Rule Tit	le	Pattern						
Macro (01	execute-macro1						
Macro ()2	execute-macro2						
Macro (03	execute-macro3						
Macro ()4	execute-macro4						
Macro (05	execute-macro5						
Macro (06	execute-macro6						
Macro (07	execute-macro7						
Macro (8	execute-macro8						
Macro (10	execute-macro9						
Macro 1	10	execute-macro10						

Ignore All Unmatched Rules Respond Immediately (Before Processing)



Add Rul	ehange Rule 🤿 Delete 🕼 Import 🏈 Export 🥪 Beset	
Configure	Rule	
litle:	Macro 01	
Pattern:	execute-macro1	
Customize	e behavior by dragging operations from the right column to the left.	
🤤 E	iehavior	ion iics it ence
imple Pro	tocol ed Character Count: 1 v	Cours Cours

Installing the CAMIO Endpoint

The CAMIO Endpoint should be installed by default with the full PRIME installer. If not, you will need to install it by running the PRIME full installer and checking the option during the PRIME full install setup.

Alternatively, attempting to enable the CAMIO connection in PRIME will first verify that the ChyronHego Data Engine and CAMIO Endpoint services are installed. If not found, PRIME will prompt the user and offer the option of running the installer.

During the CAMIO Endpoint setup, enter the CAMIO server host name or IP Address in the field below.



ChyronH	ego CAMIO Endpoint Beta Setup
Tomcat : Please	Server Attributes configure the Tomcat server attributes
	CAMIO Host Name:
Advanced In:	staller

If successful, you should see the new ChyronHegoCAMIOEndpoint service in the Services section of the Task Manager as seen below.

Task Manager — [) ×	<			
<u>F</u> ile <u>O</u> ptions <u>V</u> iew												
Processes	Performance	App history	Startup	Us	rs Deta	ails	Services					
Name	^		PID		Descripti	on			Status		Group	^
CDPUse	rSvc_9d689		8996		Connect	ed D	evices Pla	atform User Serv	Running		Unistac	1
CertPro	pSvc				Certificat	e Pro	pagatio	n	Stopped		netsvcs	
Chyron	HegoCAMIOEn	dpoint	6240		ChyronHego CAMIO Endpoint			Running				
🔍 Chyron	HegoDataEngin	e	4248		ChyronHego Data Engine		Running					
🔍 ClickTol	RunSvc		4500		Microsoft Office Click-to-Run Service			Running				
🔍 ClipSVC					Client Lie	ense	Service	(ClipSVC)	Stopped		wsappx	
COMSy	sApp				COM+ S	yster	n Applica	ation	Stopped			
×			2522									*
Fewer <u>d</u> etails Open Services												



CAMIO Renderer

This section refers to the CAMIO PRIME Preview Render Application that runs on the separate CAMIO Render device.

CAMIO PRIME is the PRIME software configured to generate previews within the NRS plugin.

The ChyronHego Dongle will show the "Device Type" as "CAMIO Renderer". When set, the PRIME application will serve as a Preview Renderer ONLY. Many features within the PRIME software will be disabled or unavailable. When launched the splash screen will show a "CAMIO PRIME Renderer".

Configuration of the Renderer remains the same, however the playout configuration window will be limited to devices of type Render Output (instead of options like GPU, NDI, Application Window, etc.). The CAMIO Connection under automation requires no additional setup on the Renderer system type. The number of channels exposed for rendering will exactly match the playout configuration and the connection will automatically be enabled by default.

Note: Render channels are divided between graphics and clips. For example, if the user configures eight Render Output channels in the Playout Configuration, then the first four will be designated as graphics and the last four will be for clips. Consequently, a minimum of two channels is required to support rendering previews for both graphics and clips.

CAMIO Preview Frame

The last frame of the effect in.

Media Engine Workflow

Media Engine enhances the PRIME and CAMIO workflow by rendering scenes as clips using replaceable information from LUCI. This workflow does have some scene design limitations users should be aware of.

Supported Scene Designs

Media Engine will support PRIME scenes constructed in a linear fashion where timeline actions trigger other timeline actions via keyframes.



Timeline		Keyframe	×
Default Effect In second third f	our 🛛 Effect Out 👒 Add Action	Name Keyframe 2	Frame 00:00:00.15 🜩
Action 🗼 🔖 🎼 Triggered By (1)	🕨 🔲 🔀 📢 🕪 🕅 Keyfr	Triggers second.Play()	~
Animation	0:00 1:00 2:00 3:0	✓ Properties	
✓ Image 1	\diamond	Name Value In	Out
♦ Opacity <u>100.0</u>		PositionX 274 Linear	
♦ ♦ PositionX <u>274.0</u>	$\diamond \diamond$	PositionY 167.1 Linear	
♦ ♦ PositionY <u>920.1</u>	$\diamond \diamond$	Triggers second.Pl	
♦ ♦ PositionZ <u>0.0</u>	\$		
Triggers <u>second.Play()</u>	\$		

It is recommended that the Effect In and Effect Out scene events are hooked up to timeline actions. This will flag in and out points of the clip being rendered.

~	Scene	
	Version	3.1.3.109
	Description	
	Keywords	
	Style	
	Message ID	
	Channel	Default \vee
	Layer	1
	Effect In	Effectin.Play() 🗸
	Effect Out	EffectOut.Play() ~

Clip commands can be triggered directly from the Effect In event or from a timeline keyframe.

Version	3.5.9.300	Timeline	
Description		Default Effect In 👒 Add Action	
Keywords		Action 🍺 🔖 🎼 Triggered By (0)	
Style		Animation	• • • • • • • • • • • • • • • • • • •
Message ID		V Clip 1	
Channel	Default \checkmark	 Opacity <u>100.0</u> PositionX <u>960.0</u> 	
Layer	1	OPositionY 540.0	
Effect In	Clip1.Play() ~	Ocommand Play	
Effect Out	×		

Conditional evaluations are supported in the Media(Video) render workflow with limitations. A condition evaluation can be set to trigger on the Effect In Event. For the Media(Video) animation to render correctly, all objects that are evaluated in the condition must have their value set at frame zero (before the animation begins to render).

For example a conditional evaluation could be used to determine which action should be triggered either "1 Line In" or "2 Line In", by evaluating if the text object "Text 2" is empty or not.



If changes are applied to the value of "Text 2" from being empty to containing some text value, while the scene is playing or being played, then the conditional evaluation may not be correct as the state of the object cannot be pre determined during rendering.

Conditional evaluations can be triggered from a keyframe with limitations. The trigger conditional evaluation keyframe, must be set to frame zero of an action that is triggered in the Effect In Events.



Base scenes that are referenced in a parent scene will render in the Media(Video) render workflow. The longest Effect In duration of either the parent scene or the base scene will be honored. If the Effect In duration is longer than the requested duration defined in LUCI, then the Effect Out will not be rendered. If the Effect In triggers another Action and their combined duration is longer than the defined duration in LUCI then the second animation will render in its entirety. In turn the delivered media will be longer than the duration defined in LUCI then the second animation will render in its entirety. In turn the delivered media will be longer than the duration defined in LUCI.



Scene Design Limitations

Conditional evaluations will only be honored for the Effect In and Effect Out Events, it does not extend to the Preview In Event. A conditional evaluation can be triggered from the Effect Out Event. However, any variables in that condition should be set before the Media(Video) animation begins to render. No variables in the condition should be updated or changed while the animation is rendering.

If a Conditional statement changes or updates their values while the scene is playing, or is played then the conditional evaluation may not be correct because the state of an object cannot be pre determined during rendering. This is especially applicable to any scene using a data object. All scene objects that are data bound, must have their values set at frame zero of the Effect In Event. Any data updates applied after frame zero will not be applied during the render.

Conditional evaluations are only supported for a keyframe, when the keyframe is set to frame zero of an action triggered by the Effect In Event. Any condition set to trigger on a keyframe past frame zero, or an action that is not triggered in the Effect In Event will not be supported.

The Media(Video) render workflow does not support any conditions that require evaluation of external data, including the evaluation of an external scene. For example, evaluating if another scene is on output.

Auto Follow source mode is only evaluated for the first frame of the Effect In Action. If autofollow expressions (including position and size) are evaluated after the initial keyframe then the render will not evaluate. For example if the source object's position or size changes during the animation, then autofollow will not evaluate on the target object.



ABOUT US

Chyron is ushering in the next generation of storytelling in the digital age. Founded in 1966, the company pioneered broadcast titling and graphics systems. With a strong foundation built on over 50 years of innovation and efficiency, the name Chyron is synonymous with broadcast graphics. Chyron continues that legacy as a global leader focused on customer-centric broadcast solutions. Today, the company offers production professionals the industry's most comprehensive software portfolio for designing, sharing, and playing live graphics to air with ease. Chyron products are increasingly deployed to empower OTA & OTT workflows and deliver richer, more immersive experiences for audiences and sports fans in the arena, at home, or on the go.

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