PRIME User Guide Version 4.10.7

January 2025



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Overview



PRIME is ChyronHego's advanced graphics playout and authoring system. It is based on ChyronHego's fast and powerful dedicated PRIME Engine (previously known as as GS2)

PRIME allows for both design and playout in a single application. This fully featured application is designed as a multi-purpose platform that is dedicated to Advanced Systems Integration.

PRIME's "Event Driven" architectural model allows users to utilize an array of capabilities for connecting and reacting to scene changes. Binding objects and Data is quick, easy and intuitive.

The "Point & Click" user interface enables advanced functionality without the usually required advanced scripting.

The power of PRIME's "Advanced Data Object," along with the Expression builder, ensures simplicity and ease of use for both Point & Click Acquisitions and the Parsing and Playout of data. PRIME also supports VB and Jscript for more advanced and complicated workflows. C# scripting is also available for an integrated development environment.

Automation for PRIME includes:

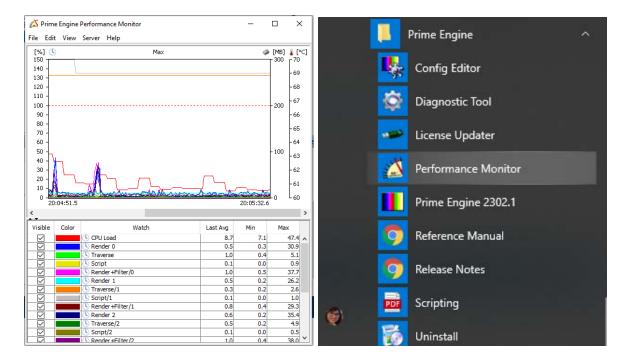
- ChyronHego's Intelligent Interface, along with an accompanying powerful Pattern matching Rules Engine
- VDCP
- PBus
- UDP server to receive broadcast requests

"Warp Technology," an advanced and unique feature in the PRIME Render Engine, allows users to create and import animated clip effects created in After Effects, 3D Studio and other 3D design tools. Additionally, PRIME Render Engine can map real time updateable content into the effect in design or during runtime.



Performance

PRIME is accompanied by a utility tool for measuring the application and system performance. This tool is called the **PRIME Engine Performance Monitor** and is located on the Start menu inside the Prime Engine folder





PRIME Startup | non-NVIDIA Warning

Chyron Prime only supports NVIDIA based graphics cards and is required to run as intended.

On Startup, Prime will automatically detect if a NVIDIA Graphic Card is running Prime. If it detects this is not the case, PRIME will display a warning message similar to this along with the following three options.

Â	Prime may not run o NVIDIA is the only o			
	Please select one of	the following of	ptions to proceed.	
	Abort: Exit Prime			
	Retry: Restart Prime			
	Ignore: Run Prime o	n current graph	ics card (Not Reco	ommended)

- Abort Exits the Chyron Prime Application
- **Retry** Forces Prime to run on NVIDIA GPU by applying program settings within the NVIDIA Control Panel.
 - If Retry fails to apply the settings, the following message will display: Failed to apply NVIDIA settings. Please check that NVIDIA GPU and drivers are installed. The application will now close.
- **Ignore** Runs Prime on the currently detected non-NVIDIA based graphics card. This is not recommended and could cause Prime to run incorrectly.



PRIME Startup Screen

🔄 Startup Configuration		×
Branding	CG	Clip Player
LT	Mantis	Offline
Renderer	Switcher	Touch Screen
Video Walls		
Prompt On Startup		Cancel

PRIME offers a selection of pre configured playout configurations.

The default is set to 8 predefined buttons that will always exist on the startup page.

This page uses the configuration directory sub folder that exists in the users "Config->Settings->Root Settings Directory".

Users can define their own configurations which will be added to the list.

To add your own configuration button to the startup page modify the Playout Configuration and then save it. It will auto populate the Startup Selection screen.

To Delete a Configuration button you can right click on a button or remove the configuration file from the directory.



Runtime User Interface

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The main **Runtime User Interface** in PRIME is used for playout. PRIME can be configured for both a fully functional **preview** and program. Both the preview and program both have proxies.

 Preview 1
 Output 1

 2
 Play
 Control Panel

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 2
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 Control Panel

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 Control Panel

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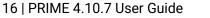
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 Dotted 1
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 3
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 </t

Channel Proxy Visibility

Enable and disable visibility of:

- Control Panel
- Proxy Output





Audio Meters

For each configured Channel (Preview & Program)

Playing the preview to air, regardless of its state, will default it back to its default state to ensure proper operation.

During Scene Design, each scene is assigned an output channel which may be any negative or positive value. The channel number determines the compositing output order. Each channel may only have a single scene assigned to it. If a scene on output is occupying Channel 1 and a preview scene assigned to Channel 1 is played to air, it will "Effect out" the current scene on Channel 1. Additionally, multiple scenes from preview may be moved to output in a single take.

In the image below, there are 3 scenes loaded into preview. Each scene is in a different layer: Layer 1, Layer 2 and Layer 3.

ChannelBox Prime MX 1.0.0.449	
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2 2992	
Layer 1	
Layer 2	
Layer 3	
•	
Automation Monitor Workflow Manitor Scenes Messages Images Clips	For Arts Frie

Users may choose to take all three scenes to air as a composite or select scenes individually.

ChannelBox Prime MX 1.0.0.449	the second s			Statement of the local division of the local		- 0 -×-
File View Config Tools Help						CHYRONHEGO
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For example, here all three scenes have been taken to air while another scene is loaded into layer 1.



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If the scene that is now loaded into layer 1 is sent from preview to air, it will bump off the existing scene on output that was assigned layer 1.

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Project Train the Trainer Scene Sc	*						🕘 In Bypass 🔛 Editor
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Preview Load Behavior options allows for Multiple Scenes, Single Scene Per Layer or Single Scene only.

Output Layer assignments are properties of the scene.

Scene Properties						
Name Lower Third I Enabled						
Description						
Message Id	1000					
Layer	1					



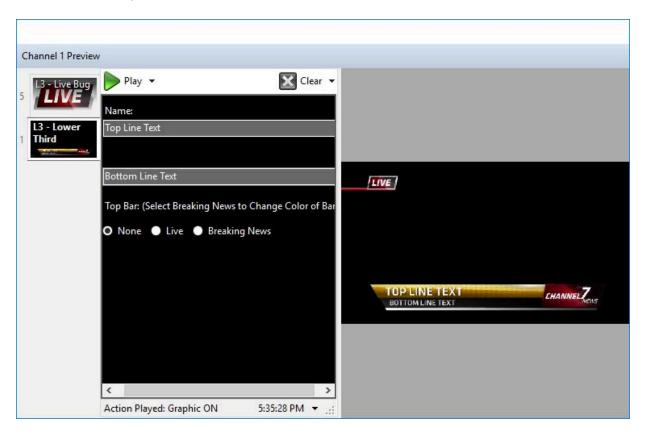
Preview Scenes

Output channels can have "Previews". Multiple scenes can be loaded into a preview channel.



Multiple scenes can be played to air simultaneously.

Scenes can be fully previewed in the preview channel. No matter what the state is of the scene in the preview channel the scene will revert to the "Default" state when played to air. In the example below two scenes are loaded into preview. One scene is in layer 5 and the other scene is in layer 1. These two scenes can be played to air individually or as a group. They can be cleared individually or all.









Preview / Program Display Options

For each configured Preview and Program channel you can choose to hide or show a proxy output, control panel and audio meters. Use the drop down arrow in the proxy windows upper right hand corner to check or uncheck desired selection

Control Panel Visible:

Output 1											
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t la	Scene Playing	3			3:04:14	РМ 🧮 🔻					





Control Panel / Replaceable Panel Toggle

To toggle between a control panel (this requires a control panel resource has been added the loaded scene, and applicable control panel objects), and replaceables panel (required replaceable objects added to the parent scene) then click on the control panel / Replaceable toggle icon in the bottom right of the control panel region.



Control panels allow for more complex and custom designs.

A replaceable panel is more limited and restrictive than a control panel. Replaceable panel support:

- Order: Enable / Disable II (Intelligent Interface for W commands)
- EX: Enable / Disable External Updates
- Databound: Enable / Disable
- ID: Read only. Updates to this alphanumeric value must be made to the scene in Prime designers replaceables.
- Description: Read only. Updates to this alphanumeric value must be made to the scene in Prime designers replaceables.
- Value: This is an editable field. For a value update to take effect, click enter.

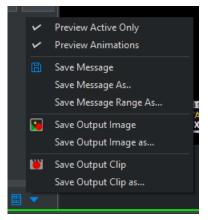
ID, Description and Value columns can be rearranged, by dragging on the column header.

The selection of either control panel or replaceable panel will hold true for each individual preview/program channel.



Previewing Animations and Save Options

The dropdown in the lower right-hand corner allows for the following



- **Preview Active Only:** When enabled, only the selected scene will show in the Preview. Otherwise, the preview will be a composite of all loaded scenes.
- **Preview Animations:** With this option enabled you can preview any animations that will occur within the scene. With this option disabled all animations will cut to the final keyframe and show the last state.
- **Save Message:** This option will save the scene as a "Template Data Message" and show up in the "Messages" browser. Refer to the section on Messages.
- Save Message As: Same as "Save Message" but prompts the user for a message name
- Save Message Range As: This option is primarily intended to be used with II & EX commands workflow. An individual message range can be saved to span over multiple message numbers. For example 100-199. If an II command is received for any message between 0-99 then a message will load with the settings applied from the message range. This elevates saving out 99 separate messages. Message Range will save in Messages folder 100-199.pbm

🔚 Save Message F	Range As	×
Scene Name	L3Anchor	
Message Range	100	- 199
		OK Cancel

If a II/EX is received, and an individual message exists between a message range, then the individual message will load, not the message range message.



- **Save Output Image:** Saves the proxy image to file. The file location is in a sub folder of the projects "Image" folder named "Captures". Ex: *I:\PRIME\Projects\News\Images\Captures*.
- Save Output Image As: Save As dialog prompts the user to save the image file type, location, and region of interest. Currently supported formats are .tif, .jpg and .png Region of interest must be predefined within the scene properties in Prime Scene Designer prior to saving out the image in Editor or Playout.
- Save Output Clip: Saves the proxy scene as a clip file. The file location is in a sub folder of the project's "Clips" folder named "Captures". Ex: I:\PRIME\Projects\News\Captures. Save output clip, will adhere to the last clip resolution set with Save Output clip as.
- Save Output Clip As: Save As dialog prompts the user to save the clip file name, output type, location and region of interest (cropped clip render). Currently supported formats are Quicktime Animation GTC, Motion JPEG, DNxHD, DNxHR, Web M. Region of interest must be predefined within the scene properties in Prime Scene Designer prior to saving out the image in Editor or Playout.

Rendered clips using "Save Output Clip" will only honor the Effect In. If an action within the scene is triggered within the Effect In, this will be honored in the render. The Effect Out will not be rendered, unless it is triggered by the Effect In.



Scenes vs Messages

Scenes:

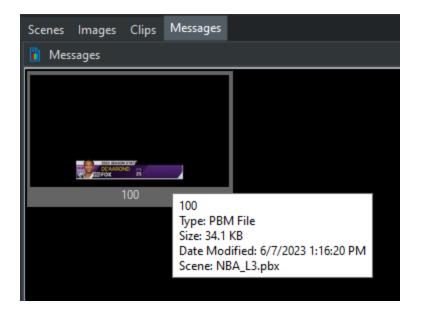
Scenes are saved to the file system as .pbx files and comprise of all the elements of a scene. Scenes are defined as "Templates" or "Base Messages".

Messages:

Messages are a subset of scenes and are much smaller in size that contain a reference to the parent Scene file. Messages use the .pbm file extension. Messages are defined as "Template Data Messages", "Automation files. See the separate section "Messages" for detailed information on creating and editing scene Messages.

Scenes and Messages can have their own independent browsers.

In the Messages browser, if you hover over the thumbnail you will get various metadata including the parent scene name.





Projects

Opening a New Project

To open a new project:

- From the Main User Interface, select **File** from the top menu bar.
- Then select **New Project** to open a new PRIME project.

OR

- Click the **Project** icon on the top left-hand size of the Main User Interface,
- From the drop-down menu, select **New** to open a new PRIME project.333

Note: PRIME supports projects on a network drive but PRIME does NOT support search capabilities for projects over the network due to the Microsoft Search API

Opening a Pre Existing Project

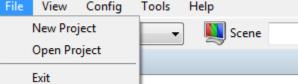
To open a preexisting project:

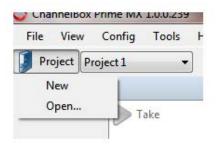
- From the Main User Interface, select **File** from the top menu bar.
- Then select **Open Project** to open a new PRIME project.

OR

- Click the **Project** icon on the top left hand size of the Main User Interface,
- Select **Open** to open a preexisting project.

ile	View	Config	Tools	Help		
N	ew Proj	ject		- 🔊	Scene	
0	pen Pro	oject				
Ex	at					
		Sile	8	Config	Contraction and and and and and and and and and an	3
		File	View	Config	lools	
		D.	in at D	·	and the second	۲ ۲
open	а		oject Pr	oject 1	•	۲
Dpen IOT si Searci	ıpport	N	oject Pr lew)pen		ake	۲]







• The **Select Project** panel will be displayed. From here, the user may navigate to the preexisting project and open it.

lect Project	C:\					P	
SRecycle	Audio	Browse	Chyron	ChyronHego	Clips	Data	Documents and Settings
Fonts	gs2	Images	Ilog	Messages	Models	MSOCache	New Project 1
Panels	PerfLogs	Program Files	Program File (x86)	s ProgramData	Recovery	Scenes	Scripts
System Volume	Users	Windows					

When saving scenes, if PRIME sees assets from folders outside the project PRIME, PRIME will prompt users to import the asset.

Save: Import External Assets		1.00		
Target	External File Path	Operation	Progress	
🗹 📾 Image1.File	ŀ∖Tom.jpg	CopyRedirect		
Don't ask me again (alwa	ys leave assets in their original locations)		Import	ncel Close



Removing a Project

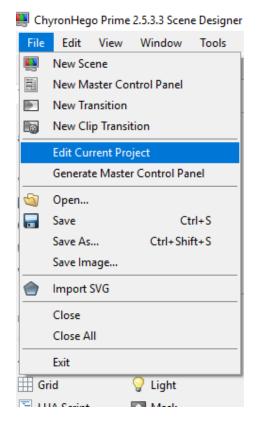
- From the **Designer** User Interface, click the "Project" icon from the top menu bar.
- Then select Remove Project to Remove PRIME project. This will NOT delete the project.
- •

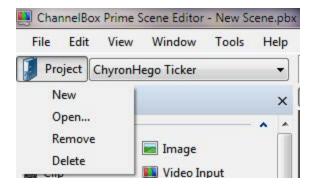
Deleting a Preexisting Project

• Select Delete Project to Delete PRIME project and all the files associated with it.

Editing a Pre Existing Project

- From the Designer User Interface, click the menu File-Edit Current Project
- This allows you to edit the Project Description, Project Parameters, Expressions, Conditions and C# code.

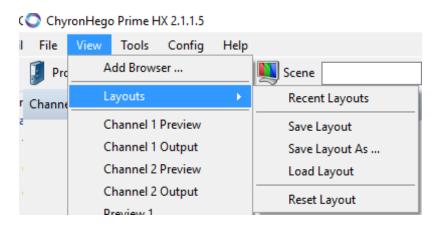




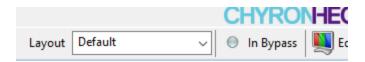


Layouts

PRIME uses Windows docking panes which allows users to add/remove/position and size all of the available window panes. Layouts can be saved and loaded.



There is also a quick layout loader on the left top of the main Runtime user interface:



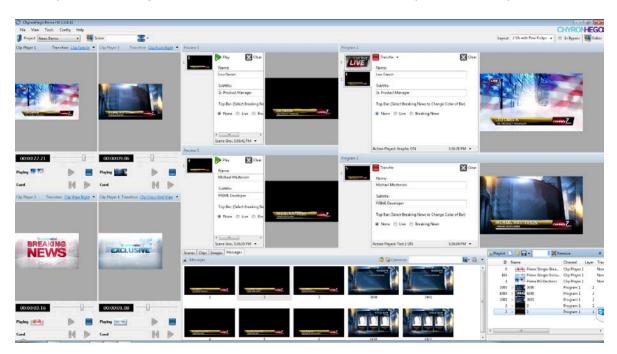
In the Prime settings dialog, there is a setting to automatically save the changes that are made to the layout. This setting is available in both the main application form and the designer form. This is not a global setting. If the **"Auto Save Layout"** checkbox is checked in the main application form, there is no guarantee it will be checked in the designer form and vice versa.



Prime Settings

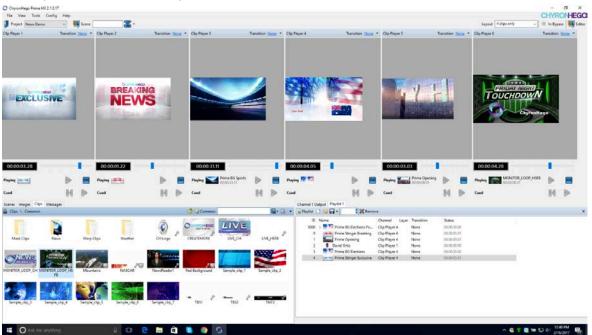
🛷 General	General
 Appearance Browsers Startup Scenes Clips Quality Control Language Logging BXF CAMIO HubDrive 	 Prompt Before Closing Prompt Administrator Warning On Startup Export Settings Import Settings Status In Circuit On Startup Show Bypass Indicator Show SDI Input Indicators Layout Auto Save Layout Playout Use Numeric Keypad Entry Track Recall Per Channel Graphics Clip Players





This layout shows 2 graphic channels with previews, 4 clip players and a playlist

This layout shows 6 clip players and a take list





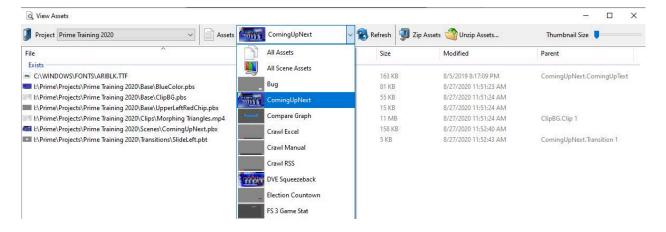
Tools

Application Scripting

Application scripts run the entire time the application is open as opposed to Scene Scripting which only runs while that scene is open. The scripting window is language is C# and has access to the entire PRIME API. Refer to the separate document "API Scripting Guide".

Zip & Unzipping Assets

Prime offers a built in Asset Viewer to view assets per scene or per project. Select column heading (File, Type, Size Modified, Parent) to sort assets by ascending or descending order.



Additionally, users can zip or unzip these assets using the built in Zip/Unzip tool.



Settings

The various configuration settings determine the behavior and appearance of PRIME. To access:

In the top menu bar, select **Config** and select the desired item to configure:

- Settings
- Automation
- Devices
- Keyboard Shortcuts
- Playout Configuration
- Content Distribution
- Import Configs
- Export Configs

Settings Configuration

Selecting **Settings** from the **Config** drop down menu allows the user to change various aspects of PRIME.



General

😤 Prime Settings	×
General	Theme
Playout	ChyronDark
🗄 Control Panel	
Se Appearance	General
📁 Folders	Prompt Before Closing
🈚 Startup Scenes	
Lips	Prompt Administrator Warning On Startup
Cuality Control	Prompt For Playout Configuration
S Language	Start Minimized
Logging BXF	
BXF	Status
	Show Bypass Indicator
	Show SDI Input Indicators
Scripting	
- <i>company</i>	Layout
	Auto Save Layout
	Always Show Both the Preview and Program Channel
	OK Cancel Apply

- **Prompt Before Closing** If checked, PRIME will confirm with the user whether or not PRIME is to be closed.
- **Prompt Administrator Warning on Startup** To run out of process VB,JScripts Prime needs to be started with Administrator privileges.
- Import/Export Settings Allows users to export a series of settings into a zip file allowing users to import them on a target machine elsewhere. Any files in the source machines "Common" folder will be extracted to the target machines "Common Folder" only if a Common folder is defined on the target machine.



顰 Zip Files		_		<
🙀 Add Files 🛭 🙀 Add Folder 🛛] Open Folder on Completion $_{\mp}$			
✓ All Items	Group by: File Type 🕤			
Name	Location	Туре	Size	
✓ Settings				
✓ Application Settings.xml	C:\ChyronHego\Prime	XML Document	11 KB	
🗹 📋 Automation.xml	C:\ChyronHego\Prime	XML Document	75 KB	
Category Layouts.xml	C:\ChyronHego\Prime	XML Document	2 KB	
🗹 📋 Channel Settings 2.xml	C:\ChyronHego\Prime	XML Document	8 KB	
Clip Folder Watcher.xml	C:\ChyronHego\Prime	XML Document	62 B	
Colors.xml	C:\ChyronHego\Prime	XML Document	229 B	
🗹 📋 Editor Settings.xml	C:\ChyronHego\Prime	XML Document	8 KB	
🔽 📋 Logger Settings.xml	C:\ChyronHego\Prime	XML Document	1 KB	
Plugin Settings.xml	C:\ChyronHego\Prime	XML Document	54 B	
✓ XPL File				
🗹 📄 1 CH.xpl	I:\Prime\Projects\Common\Layouts	XPL File	9 KB	
CH.xpl	I:\Prime\Projects\Common\Layouts	XPL File	10 KB	
ZFB + 2Clip.xpl	I:\Prime\Projects\Common\Layouts	XPL File	12 KB	
🗹 📄 2FB.xpl	I:\Prime\Projects\Common\Layouts	XPL File	2 KB	

13 Files	Export Selected	Cancel	

- **Status** if the system is run in downstream mode and an external bypass panel is installed, the following options may be configured
 - Show Bypass Indicator Show an icon on the main Runtime user interface toolbar
 - Show SDI input Indicator Show an icon on the main Runtime user interface toolbar
- Layouts Auto Save Layout option automatically saves the changes that are made to the layout
- Always Show Both the Preview and Program Channel



- If setting is checked, both preview and program channel controls will be made visible when a channel is activated.
- If setting is not checked, only the visible section of the channel will be activated and the user can hide either or both.

*Enabled (checked) by Default.



Playout

🔁 Prime Settings		×
 Prime Settings General Playout Control Panel Appearance Folders Startup Scenes Clips Quality Control Language Logging BXF LVE Uploader CAMIO HubDrive Scripting 	KeyPad Entry Image: Constraint of the Decement KeyPad Entry Image: Entry	×
	Skip Preview In for Program	bly

Numeric Keypad Entry

When **Numeric Keypad Entry** is enabled numeric and alphanumeric values can be applied to the keypad entry field in the Runtime interface.



Users can use Numeric Keypad playout mode for either Clips or Graphics. For Graphics the order of precedence will be: Scenes then Messages. Channel selectors will appear on the main toolbar. Shortcut keys can be assigned to select the "Active" channel. *See Shortcut Key Manager for configured shortcut keys.*

Scenes, Messages or Clips will load to the active channel i.e whichever channel has focus. This means that the scene's default Channel will not be honored if the Channel property is set in Designer. See Scene Properties for more information

Track Recall Per Channel - (applicable when operating PRIME with a multi channel graphics or clip player system). When selected, the Keypad Entry field will populate the text value of the



next numeric or alphanumeric graphic (scene, message) or clip for the selected channel. When unchecked, multiple channels share the same value for recall.

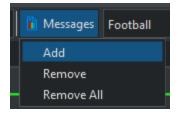
Allow Recall Box Focus - When checked, operator can tab or mouse click into the recall box to open a scene or message. When unchecked, Recall Box is only accessible via Numpad keys.

Messages

Show Folder Selector - When this is enabled, Messages folder selection will be visible in Prime playout UI.



Click on Messages Icon to add or remove messages folders.



Numeric keypad entry will apply to the selected message folder. Select from drop down to change selected folder.

🞁 Messages	Football	~	100	Output 1
	Messages			Messages
	Basketball		Messag	es\Basketball
	Football		Messa	iges\Football



Preview Load Behavior

Preview		
Load Behavior	Multiple Scenes	v
	Multiple Scenes	
	Single Scene Per Layer	
	Single Scene Only	

Multiple Scenes: Infinite number of scenes/messages can be loaded in preview regardless of layer assignment.

Single Scene Per Layer: Only one scene per layer can be loaded per preview channel. A scene with the same layer assignment will displace the other.

Single Scene Only: Only one can be loaded in preview regardless of layer assignment.

Skip Preview In for Program - When checked, Preview in Event animations state will be skipped on Program Channel. This results in consistent effect in behavior in case where scene is played directly to Program Channel.

Example use case: In Preview in Event a clip is set to cue frame 30, at its revealed state. But when the same scene is played to air, the clip should play from frame zero.



Control Panel

🚰 Prime Settings			
🐐 General 🕨 Playout	Text Box Entry		
Control Panel	Preview Update	On Enter Key/On Lost Focus	~
 Appearance Folders 	Program Update	On Enter Key/On Lost Focus	~
🍄 Startup Scenes	Cache		
Lips Quality Control	✓ Enabled		

Cache

When checked, an initial load of a Control Panel will be stored in cache. Any future loads of the control panel will load faster.

*Disabling cache is recommended for any control panel utilizing complex scripting or event triggers on load.



Appearance

🔁 Prime Settings				×
 General Playout Control Panel Appearance Folders Startup Scenes Clips 	Browser Appearance Font Text Color Back Color	Use Theme Colors Segoe UI, 9.00	AaBbYyZz	
 Quality Control Language Logging BXF LIVE Uploader CAMIO HubDrive Scripting 	Selected Text Color Selected Back Color Highlight	 □ Use Theme Colors ☑ Active Channel ☑ Active Program or Preview 	AaBbYyZz	
	Text Color Back Color		AaBbYyZz OK Cancel Ap	nly

Browser: Allows users to customize the appearance of all browsers in the PRIME application

Highlight: Allows users to customize the appearance of the active channels and active Preview or Program



File View To	ools Config Hel	p					
Project Prime	e Demo 2020	🗸 🔟 Scer	ne 100 FB1 FB2				
FB1				FB2			•
Lower Third 1 2-Line	Transfer Top Text	X Cle	ar	1 106	Transfer Top Text	X Clear	
	< Scene Playing	3:03:19 PM 👻	VAME TEXT TO* BAR		< Scene Playing	> 3:04:37 PM ~	Tou Burre
	Automation Monit	or Darameters		1			Clips Edit Scene Messages Images
	py Events 🥡 Clear E		pearance		×	Messages	cips carscelle messages images
Time	Event S	cene D	escription			100 100 106	



Folders

General	Common Folder	
Playout	I:\Prime\Projects\Common	
Control Panel		10172
Appearance Folders	Root Project Directory	
Startup Scenes	I:\Prime\Projects	
Clips Quality Control	Root Settings Directory	
3 Language	I:\Prime\Settings	
Logging BXF	Camio Folder	
CAMIO	I:\CAMIO4	
HubDrive		
	File Operations	
	File Operations Synchronize Renames When Applicable	
	Synchronize Renames When Applicable	

Common Folder – ChyronHego *STRONGLY* suggests the use of a "Common" folder. This stops the need for assets to be stored multiple times in multiple directories.

Root Project Folder- Define the root folder for all your projects.

Each browser has a shortcut button to browse the common folder.

Root Settings Folder - Defines the folder location of all the configurations, layouts etc. This is tied to the startup screen.



Startup Configuration	R	×
Branding	CG	Clip Player
u	Mantis	Offline
Renderer	Switcher	Touch Screen
Video Walls		
Prompt On Startup		Cancel

CAMIO Folder - This folder location will contain all the Project folders. These Project folders contain their associated assets (MOS Messages, CRD files and replaceable assets).

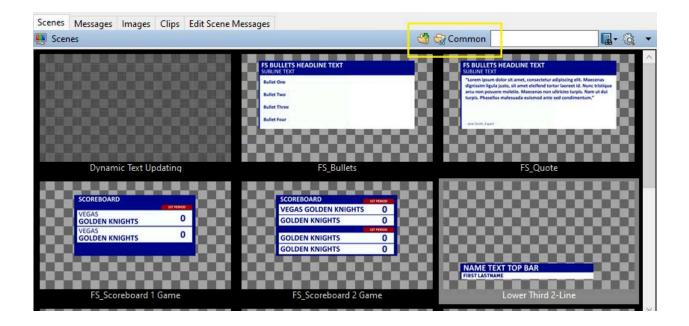
The PRIME messages in the "Message" folder can be called up in PRIME playout.

The CAMIO Context MUST match the PROJECT Name.

Example: Context: News 5PM PRIME Project: News 5PM







Startup Scenes

Scenes can be set to load or play when the PRIME application starts.

I Prime Settings				×
General	Startup Scenes			
 Browsers Startup Scenes Clips Quality Control Language Logging BXF CAMIO HubDrive 	Project Prime Demo 2020	Scene 1	Command Play Scene	Channel Program 1
	<		ОК Са	ncel Apply



Clips

Prime Settings

 General Appearance Browsers Startup Scenes Clips Quality Control Language Logging BXF 	Power Clip Metadata Read Clip Metadata from File Name Tags Image: Clip Generate Unique Clip Name Reset Next Image: Clip File Name Tag Image: Name Image: Name
EXF CAMIO HubDrive	Power Clip Defaults
	OK Cancel Apply

Read Clip Metadata from file Name Tags:

PRIME has the ability to add metadata to the associated clip metadata file when the clip is imported using the "Folder Watcher" application. The metadata is part of the command line



 \times

Supported File Name Tags When this option is enabled, metadata will be read from the clip file name. Metadata tags take the form: TAG1-VALUE1_TAG2-VALUE2 ... Supported Tags: Group: GP, text value Name: NA, text value. Description: DS, text value. Keywords: KW, text value. Expiration: EX, text value Hold Last Frame: HF, integer value: 0 disabled, 1 enabled. Camio Virtual Channel: CVC, text value. Capture Frame: TF, integer value. Loop In: LI, integer value. Loop Out: LO, integer value. Loop Enabled: LE, integer value: 0 disabled, 1 enabled.



Quality Control

📱 Prime Settings				×
🎲 General	Quality Control			
	Name	Fore Color	Back Color	
Srowsers	Complete			
쵫 Startup Scenes	In Progress			
S Clips	Not Started			
👩 Quality Control	Not Sure			
Language				
Logging				
BXF				
CAMIO				
S HubDrive				
	Add	Delete	Reset Default	s
	Only publish	scenes marked	Complete	\sim
		ОК	Cancel	Apply

The **Quality Control** settings allow the user to define **Quality Control** states." These allow users to see the state of scenes. This comes into play in the distribution of scenes and their associated assets. See **Asset Viewer** also.

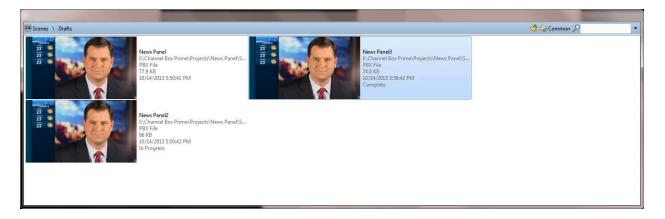
To view **Quality Control** states, select **Details View** from the **Scene Browser**. This allows the **Quality Control** field to appear in the scene list. From there, a state may be set as defined in the **Quality Control Settings** section.



nes Scene		Images	Clips	Fonts	udio	Scripts						🗳 🤤 Common 🔎
ame	5		Path						Туре	File Size	Last Modified	Quality Control
T	Drafts		I:\Chanr	nel Box Pr	ime\P	ojects\Ne	ews Panel\	Scenes\Dr	File folder		9/18/2015 8:33:07 PM	
	News Pa	inel	I:\Chanr	nel Box Pr	ime\P	ojects\Ne	ews Panel\	Scenes\N	PBX File	192.6 KB	9/6/2015 9:03:09 AM	
												Complete
												In Progress
												Not Started

Scenes \ Drafts				3	Common 🔑	
Name	Path	Туре	File Size	Last Modified	Quality Control	
News Panel2	E\Channel Box Prime\Projects\Nev	vs Panel/Scenes/Dr PBX File	66 KB	10/14/2015 5:50:42 PM	In Progress	ľ
News PaneB	E\Channel Box Prime\Projects\Nev	vs Panel/Scenes/Dr PBX File	74.6 KB	10/14/2015 5:50:42 PM	Complete	

In the **Icon** view, the quality control may be viewed, but not edited.





Language

👔 Prime Settings		×
 General Appearance Browsers Startup Scenes Clips Quality Control Logging BXF CAMIO HubDrive 	Language 교교의 (Arabic) Deutsch (German) English (English) español (Spanish) français (French) 가그가 (Hebrew) 문국립 (Hindi) italiano (Italian) 日本語 (Japanese) 한국익 (Korean) pyccкий (Russian) svenska (Swedish) svenska (Swedish)	Apply

Language Settings allow the user to select from the available list of languages. Once a language is selected, the PRIME User Interface will switch languages.

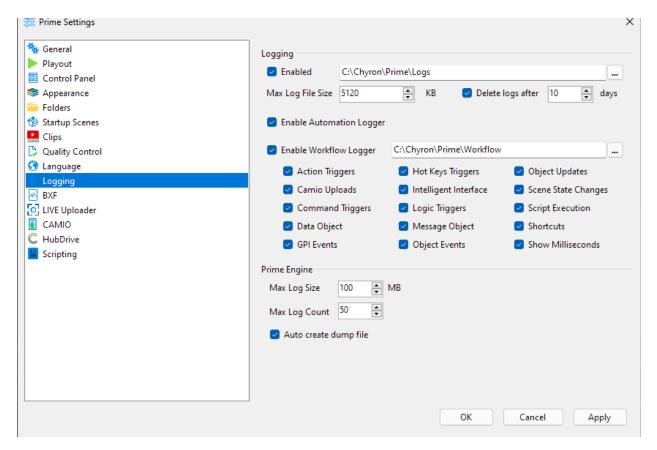


Not all language translations are guaranteed to be accurate



Logging

Logging Settings enable the user to configure logging for the main PRIME application.



The Workflow Logger will log specific events in the application

The workflow logging is useful for viewing the order of events that happen with a scene or scenes. The workflow log window can be viewed from the main Runtime user interface.

You can select which events will be logged in the Workflow Monitor.



Automation Mo	nitor Workflow Monitor			
Workflow 🖹 🤇	Copy Events 💿 Clear Events	🔝 Edit Appearance		×
Time	Event	Scene	Description	
2:00:24 PM	ActionPlayed	FS - Fullscreen Image	Panel ON	
2:00:26 PM	SceneState	FS - Fullscreen Image	Loaded	
2:00:26 PM	SceneState	FS - Fullscreen Image	Playing	
2:00:29 PM	ObjectEvent	FS - Fullscreen Image	Button 1.Click event raised	
2:00:29 PM	ActionPlayed	FS - Fullscreen Image	Panel ON	
2:00:29 PM	ActionPlayed	FS - Fullscreen Image	Flares	
2:00:32 PM	ObjectEvent	FS - Fullscreen Image	Button 2.Click event raised	
2:00:32 PM	ActionPlayed	FS - Fullscreen Image	Graphic OFF	
<				>

Only check the Auto create dump file checkbox when asked to do so by ChyronHego service.

The Scene Logger

Scenes have a logger built into them. Clicking the log bar will show the current Scene Logger:

Program 1	
1 RollCrawl	Transfer Clear
	S Could not load font: HelveticaNeue LT 77 BdCn 😵 7:01:57 PM 👻



🔞 6 Errors 🕂 0 Warnings 🔒 6 Messages	
Scene Loaded	6:54:58 PM 📩
Scene Playing	6:54:58 PM
Action Played: Default	6:54:58 PM
Action Played: Start	6:54:59 PM
🔞 Could not load font: HelveticaNeue LT 77 BdCn	6:54:59 PM
🔞 Could not load font: HelveticaNeue LT 77 BdCn	6:54:59 PM 😑
🔞 Could not load font: HelveticaNeue LT 77 BdCn	6:55:02 PM
🔞 Could not load font: HelveticaNeue LT 77 BdCn	6:55:02 PM
🔞 Could not load font: HelveticaNeue LT 77 BdCn	6:55:11 PM
😣 Could not load font: HelveticaNeue LT 77 BdCn	6:55:11 PM 👻
😂 Could not load font: HelveticaNeue LT 77 BdCn) 🝪 6:55:11 PM 👻

BXF

See the section that explains the BXF object as a scene resource

🔋 Prime Settings	X
 General Appearance Browsers Startup Scenes Clips Quality Control Language Logging BXF CAMIO HubDrive 	As Run Configuration Enable BXF As Run Logging Output Directory As Run Channel Properties Name Description As Run Device Device Name As Run Default Length Frame Margin 15
	OK Cancel Apply



CAMIO

Apply your CAMIO Server settings here.

I Prime Settings				>	×
@ General		Server	Context	Folder	
O Appearance		Server	Context	Toldel	
Srowsers					
🧔 Startup Scenes					
QL Clips					
Quality Control					
Language					
S Logging					
BXF					
Kamio					
G HubDrive					
	-	Add Delete			
	Default	CAMIO			
	Deruun				
	Default	t Virtual Channel A			
		to Upload Clips			
		to opioad clips			
			ОК	Cancel Apply	
			OK	Арру	



Hub Drive

🛐 Prime Settings		×
 ☞ General ☑ Appearance 	🚱 Not Connected	Refresh Status
Appearance Browsers	Synced Folders	
🔹 Startup Scenes		
🛞 Clips		
😼 Quality Control		
Language		
S Logging		
BXF		
R CAMIO		
S HubDrive		
	Show Status Bar Menu	
	OK Ca	ancel Apply



Scripting

🔁 Prime Settings	
 Prime Settings General Playout Control Panel Appearance Folders Startup Scenes Clips Quality Control Language Logging BXF LIVE Uploader CAMIO 	Scripts Allow C# Scripts Allow VB Scripts Allow Javascripts Extended Host Functions
C HubDrive ≌ Scripting	

These settings allow Prime to function in Sandbox mode when unchecked. In addition it allows users to preview animations, without running/executing scripts. If a scene is loaded that utilizes a script, and Prime script settings is disabled, then Prime will log warning that the script can not compile and execute.

Hardware/Playout Configuration

Refer to the separate **PRIME_Playout Configuration Guide**

Subchannels

Subchannels are smaller defined areas of a larger output channel. Each subchannel is defined by its resolution and its "X" and "Y" position within the larger output channel.

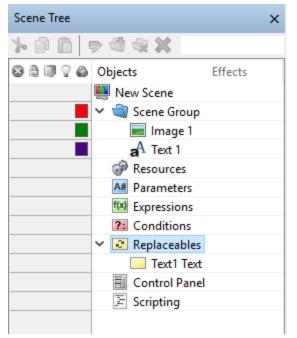
Each subchannel can have its own preview and output in the main Runtime user interface.

You can have independent scene browsers for each subchannel that only shows scenes with the exact same resolution as the subchannel itself to ensure only scenes designed for that resolution can be played.



Replaceables-Automation ID's

Object properties that can be "Replaced" by automation are added to this list. A Node in the Scene tree "Resources" section will display the "Replaceables Automation ID Editor". Objects are required to be exposed in the Replaceable Editor for Update In/Out to execute; including for manual playback. Add items here



Configuration

Automation Configuration is documented in the

"PRIME Automation Guide."

Preparing the Scene for Automation (The Replaceables-Automation List)

Commands that update scene objects can be connected in the following manner:

- By the scene Object name
- By the Control Panel name
- By the ID name from the automation list

Scene Object Name: The name of the object from the Scene Tree



Control Panel Name: The name of the control Panel from the Control Panel section of the Scene Tree

Control Panel
 Location Text

Replaceables-Automation List: The name of the ID from the Automation ID Editor



Replaceable Ed	litor					
💢 Remove 🤺	₽ 4					
ID	Description	Bindings	Order	Auto Erase	External Update	Character Limit
Name Text	Enter a persons name	A Name.Text	1		\checkmark	
Title Text	Enter a persons title	a Title.Text	2		\checkmark	
Logo File	Choose a logo	🔙 Logo.File	3			

- 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.
- o Bindings: Object(s) Properties bound
- **Order:** Used by legacy commands that expect the data in the order they are given in the command. The "W" command is a good example: W\100\200\A\B\C\\
- **Auto Erase:** Should the default value of this property be erased when viewed or loaded.
- External Update: When checked, the replaceable is marked to send and receive X and R commands respectively. Each replaceable is identified by is Bindings descriptor. Referencing the picture above a X command would be sent as follows

X\1****\Locator L3\Name.Text\Title.Text\Logo.File\\

The automation system would respond with an R Command

R\1\Melville, NY\Joe Smith\Smith_Joe.jpg

See the Prime Automation Guide for more.

 Character Limit: Enforce a maximum number of characters when applying data supplied to this replaceable. For example, with a character limit of 5 a replaceable that received the value "ChyronHego" would only be updated with the truncated value "Chyro"

To enter items into the Automation List, drag any property or keyframe into the list. Each item in the list can be bound to multiple properties.

To get a keyframe into the list drag the keyframe from the Keyframe property window NOT the keyframe from within the Timeline.



Keyframe				×
Name Ke Triggers	eyframe 1		Frame	00:00:00.00
✓ Properties				
Name	Value	In	Out	
Opacity	100	Linear	Linear	

💥 Remove	e 🎓 🦊		
ld	Bindings	Order	
LIVE	aA Text1.Text	1	
Locator	A Text2.Text	2	
Opacity	Clip1.Action1.Keyframe1.Opacity	3	
FrontFace	Cube1.File	4	

In this example, there are two properties bound to ID# 1

Automation	n ID Editor	×
💢 Remove	1	
ld	Bindings	Order
LIVE	aA Text1.Text	1
Locator	a Text2.Text	2
Opacity	Clip1.Action1.Keyframe1.Opacity	3
FrontFace	Cube1.File	4
1	📷 Image1.File; Image2.File	5

Note: Some scenes may contain Objects and Replaceable IDs that share the same name and are completely unrelated. In this case, the Object name will take precedent when a P/UPDATE command is received.



Devices Configuration

The **Devices Settings** panel provides the ability to add and edit an external device, as well as display a log of device activity once the connection is live. PRIME allows for either a **GPI** or **X-keys** device to be used.

Device Se	ttings			
Devices	GPI 🍈 X-Keys	👿 Edit 💥 Delete	📀 Enable 🛞 Disable	
Туре	Name	Enable On Startup	Status	
n	GPI1	~	O Disabled	
۹	X-Keys 1	~	③ Disabled	
l		-		
		🥡 Clear Log		
Time	Device	Messag	e	

The following parameters are displayed in the **Device Settings** panel:

- **Type -** Displays a **GPI** or **X-Keys** symbol as the type of device.
- Name The name given to the device.
- **Enable on Startup -** If enabled, then the device will be enabled every time that PRIME is started.
- Status Displays Enabled, Disabled or Waiting for Connection as the current status of the device.

To configure the **Automation Log**:

- Select the Automation Log drop-down menu to either Copy or Save the log.
- Enable **Show Data** to show the data from the Automation Log.
- Select **Clear Log** to clear the displayed data from the Automation Log.
- Each log item will display the time of event, the connection in use and a message.

To edit a device setting, do one of the following:

- Click the item in the **Devices** list, and then click the **Edit** icon. The Device panel for the item will open.
- Double-click the item in the **Devices** list. The Device panel for the item will open.



• Right-click the item in the **Devices** list, and then click **Edit** on the drop-down menu. The Device panel for the selected item will open.

To delete a device, do one of the following:

- Click on the item in the **Devices** list, and then click **Delete** icon.
- Right-click the item in the **Devices** list, and then click **Delete** on the drop-down menu.

To enable a device, do one of the following:

- Click on the item in the **Devices** list, and then click **Enable** icon.
- Right-click the item in the **Devices** list, and then click **Enable** on the drop-down menu.



GPI In

Up to 16 GPI inputs may be configured in PRIME. To add a GPI connection:

1. Select the **GPI** icon located on the top toolbar of the **Device Settings** panel.

Hardware: Unde		cical Pills					
		Bounce (ms) 10	×			
						8	
Selected Pin (0)	1				1		
Rise			Fall				
Execute:	Nothing	Ψ.	Execute:	Nothing		*	

- Enable on Startup Check the Enable on Startup check box to automatically enable the GPIs upon PRIME startup.
- The **Board Index** specifies the GPI number. Enter the desired **Board Index**, using the spin box.
- **Bounce** specifies the minimum amount of time, in milliseconds, between triggers. This prevents accidental triggering due to unintended multiple button pushes, which could be caused, for example, by a dirty switch. The default **Bounce** setting is **10 ms.** To change the setting, enter a new setting or select using the spin box.

To configure GPI Pins:

- Select the desired pin to be configured by clicking the corresponding box. Note that the Selected Pin (0) group box label will reflect the number of the selected pin. Pins are numbered from left to right as follows:
 - **0** through **7** in the top row
 - 8 through 15 in the bottom row



- An action can be executed on both the Rise, i.e., when the GPI button is pressed, and the Fall, i.e., when the GPI button is released. To set Rise and/or Fall actions:
 - a. Check/uncheck the **Rise** and/or **Fall** checkboxes to enable or disable GPI execution when the button is pressed (**Rise**) and/or released (**Fall**).
 - b. From the Execute drop-down, select an action to execute when the button is pressed (Rise) and/or released (Fall). The available actions are as follows: Clear Channel, Select Channel, Cue Clip, Pause Clip, Play Clip, Stop Clip, Jog Clip (Fast Forward), Jog Clip (Rewind), Load Playlist, Play Playlist, Stop Playlist.
 - c. From the Channel drop-down, select the Channel and Layer to which the action should apply when the button is pressed (Rise) and/or released (Fall).

Depending upon the action that is selected from the **Execute** drop-down, additional information may be requested. In the previous figure, **Play Playlist** is selected as the action to be executed when the GPI button is released. The **Select Playlist** enable check box and **Select Playlist** drop-down are also displayed, in addition to the **Channel** enable check box and **Channel/Layer** selection drop-down.

To clear all pins:

• Select **Clear Pins** located on the top of the GPI configuration dialog.

For GPI Out see "GPI Out" in the "Resources" section!



X-Keys

X-keys® are a programmable keyboard that can be customized. To add an X-keys connection:

- Select the X-Keys icon located on the top toolbar of the Device Settings panel.
- Select the corresponding X-keys model to be configured using the dropdown menu located next to **Device Layout** label. Once selected, the X-keys model name will be displayed.
 - o X-keys can be purchased through the X-keys website: http://xkeys.com/
- The white boxes represent the buttons in the X-keys layout. Click a box that is to be assigned a function to be executed. The box will become highlighted.
- Using the drop-down located in the **Selected Key** group box, select the desired function to be assigned to the highlighted key.
 - If a function regarding a Clip or Playlist is chosen (Ex: "Cue Clip" or "Load Playlist"), then option to specify a Clip or Playlist as well as the Channel will appear.

Selected Key	
Execute:	Cue Clip ·
Select Clip	10
Channel	Channel 1, Layer 1

• Click Accept Changes to finalize your selection.

To clear all X-keys configurations:

• Click the **Clear Keys** button located on the top toolbar.



Import and Export Configs

PRIME Playout > Config Import Configs Export Configs

Сог	nfig Help	
	Playout Configuration	
	Automation Devices	
A	Keyboard Shortcuts	
	Settings	
	Import Configs Export Configs	

Prime export's configuration files as a single zip file. By default will include: Settings, PSK, DSK, Auto, WXPL, Config and WXEL configuration files. User can deselect items as desired. This method is ideal for replicating on additional prime devices, performing backups, and providing Chyron support necessary config files for assistance.



Import Process

- Select Import Configs
- Choose a PRIME exported configuration zip file
- Choose all or desired config files to import
- Click Import Selected
- Restart PRIME for new configuration files to take effect

📔 Import	Configs					_		×
Source								
Source								
Zip File	C:\Users\ChrisAmodei\Desl	ctop\Configs_4.9.101.147.zip						
All Ite	ms					Group by	Folder	~
Name		Destination	Туре	Size	Status			
Setti	ngs							
V	Application Settings.xml	C:\Chyron\Prime	xmlfile	3 KB				
	Automation.xml	C:\Chyron\Prime	xmlfile	2 KB				
	Category Layouts.xml	C:\Chyron\Prime	xmlfile	255 B				
Image: A state of the state	Colors.xml	C:\Chyron\Prime	xmlfile	143 B				
	Designer Shortcuts.dsk	C:\Chyron\Prime	DSK File	698 B				
Image: A state of the state	Editor Settings.xml	C:\Chyron\Prime	xmlfile	2 KB				
Image: A state of the state	Logger Settings.xml	C:\Chyron\Prime	xmlfile	595 B				
	Playout Shortcuts.psk	C:\Chyron\Prime	PSK File	481 B				
¹	Plugin Settings.xml	C:\Chyron\Prime	xmlfile	54 B				
Image: A state of the state	QueryProperties.xml	C:\Chyron\Prime	xmlfile	732 B				
🗹 Layo	uts							
N	Auto.wxel.auto	C:\Chyron\Prime\Layouts	AUTO File	2 KB				
	Params.wxel	C:\Chyron\Prime\Layouts	WXEL File	1 KB				
	CG.wxpl.auto	C:\Prime\Settings\Layouts	AUTO File	1 KB				
	Auto.wxel.auto	l:\Prime\Projects\Common\Layouts	AUTO File	2 KB				
Conf	figurations							
Image: A mage: A ma	Branding.config	C:\Prime\Settings\Configurations	CONFIG File	2 KB				
	CG.config	C:\Prime\Settings\Configurations	CONFIG File	2 KB				
Image: A main and A	Clip Player.config	C:\Prime\Settings\Configurations	CONFIG File	2 KB				
	LT.config	C:\Prime\Settings\Configurations	CONFIG File	2 KB				
Image: A marked and a mar Namked and a marked and and a marked an	Mantis.config	C:\Prime\Settings\Configurations	CONFIG File	2 KB				
Image: A marked and a mar Marked and a marked and and a marked an	Offline.config	C:\Prime\Settings\Configurations	CONFIG File	2 KB				
Image: A marked and a mar Marked and a marked and and a marked an	Renderer.config	C:\Prime\Settings\Configurations	CONFIG File	2 KB				
	Switcher.config	C:\Prime\Settings\Configurations	CONFIG File	2 KB				
Image: A state of the state	Touch Screen.config	C:\Prime\Settings\Configurations	CONFIG File	2 KB				
✓ 🗋	Video Walls.config	C:\Prime\Settings\Configurations	CONFIG File	2 KB				
24 53-							Calast	_
24 Files						Import	Selecte	



Export Process

- Select Export Configs
- Choose all or certain configuration files to export
- Click Export Selected and save zip file

🗣 Zip	Files				-	· 🗆	×
Add File	es 🍃 Add Folder 🛛 Op	en Folder on Completion					
✓ All Ite	ems				G	roup by	Folder 🗡
Name		Location	Type	Size	Status		
✓ Setti	ings						
Z	Application Settings.xml	C:\Chyron\Prime	xmlfile	10 KB			
	Automation.xml	C:\Chyron\Prime	xmlfile	27 KB			
	Category Layouts.xml	C:\Chyron\Prime	xmlfile	2 KB			
N	Colors.xml	C:\Chyron\Prime	xmlfile	298 B			
v •	Editor Settings.xml	C:\Chyron\Prime	xmlfile	9 KB			
	Logger Settings.xml	C:\Chyron\Prime	xmlfile	2 KB			
v •	Plugin Settings.xml	C:\Chyron\Prime	xmlfile	54 B			
	QueryProperties.xml	C:\Chyron\Prime	xmlfile	5 KB			
	Playout Shortcuts.psk	C:\Chyron\Prime	PSK File	2 KB			
•	Designer Shortcuts.dsk	C:\Chyron\Prime	DSK File	4 KB			
🗹 Layo	-						
- Laye							
	CG.wxpl.auto	C:\Prime\Settings\Layouts	AUTO File	9 KB			
	Auto.wxel.auto	I:\Prime\Projects\Common\Layouts	AUTO File	11 KB			
	Auto.wxel.auto	C:\Chyron\Prime\Layouts	AUTO File	11 KB			
	Params.wxel	C:\Chyron\Prime\Layouts	WXEL File	11 KB			
Con	figurations						
Image: Contract of the second seco	Branding.config	C:\Prime\Settings\Configurations	CONFIG File	8 KB			
Image: Contract of the second seco	CG.config	C:\Prime\Settings\Configurations	CONFIG File	8 KB			
Image: A state of the state	Clip Player.config	C:\Prime\Settings\Configurations	CONFIG File	10 KB			
Image: A state of the state	LT.config	C:\Prime\Settings\Configurations	CONFIG File	8 KB			
Image: A state of the state	Mantis.config	C:\Prime\Settings\Configurations	CONFIG File	8 KB			
Image: A state of the state	Offline.config	C:\Prime\Settings\Configurations	CONFIG File	7 KB			
Image: A state of the state	Renderer.config	C:\Prime\Settings\Configurations	CONFIG File	14 KB			
Image: A state of the state	Switcher.config	C:\Prime\Settings\Configurations	CONFIG File	12 KB			
Image: A state of the state	Touch Screen.config	C:\Prime\Settings\Configurations	CONFIG File	8 KB			
Image: A state of the state	Video Walls.config	C:\Prime\Settings\Configurations	CONFIG File	8 KB			
24 File	s						
					Export Selected		ancel
					export selected		uneci



Playlists

Configure Playlists

Use the "Playout Configuration" dialog to add playlists.

File View	v Tools	Config	Help
🚺 Project	News Dem	Play	out Configuration

Playlists are lists of items that can easily be played to air. Playlists can play Scenes, Images and clips all from the same list. You can have many playlists open and playing simultaneously.

There are two modes for the Playlist selectable in each individual Playlist:

- o Take List
- o Sequence

Takelist Sequence 0 0 752	Channel Layer Clip Player 1 Clip Player 1 Clip Player 1	Transition None None	Status 00:00:07.15 00:00:00.00
0 Symbol_Color_large	Clip Player 1	None	00:00:00.00
AND AND AT			
752 New Clip	Clin Dlaver 1		
	Clip Player 1	Clip Transition 1	00:00:07.15
1 > 1 XMP NFL - ATL PAT	Clip Player 1	None	00:00:00.00
2 💽 Symbol_Color_large	Clip Player 1	None	00:00:00.00
3 > 8 Ch2	Channel 2 Output 1		00:00:00.00
753 > Sample_clip_2	Clip Player 1	None	00:00:07.15

Take List

To add items to the Take List, drag and drop any item from its browser to the playlist.



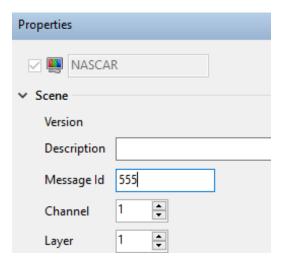
🎼 Playlist 📋 🖄 🔚 🗸 🚺 Gr	oup 💥 Remove		×
ID Name	Channel	Status	
0 > 🛛 🙋 OTS - Image	Program 1	00:00:00.00	
1 🧵 Brock Holt	Clip Player 1	00:00:00.00	
2 🐧 David Ortiz	Clip Player 1	00:00:00.00	
3 NASCAR	Clip Player 1	00:00:06.24	
4 MONITOR_LOOP	Clip Player 1	00:00:10.01	
5 CREATEMORE	Clip Player 1	00:00:08.01	
			:

ID – The ID is the number that is used to play the item to air from the keyboard. If the scene, image or clip does not have a "Message ID" associated with it the playlist will assign the next available ID. Scene and Clip "Message ID's" are assigned from the Scene property editor.

Pressing 555 and hitting the Enter key will load the NASCAR clip from the playlist.

Expanding the item by clicking on the Right error next to the ID will expand the item to show any Control Panel items for this Scene. From this view, you can trigger buttons or do text, image and clip overrides.

ID N	lame	Channel	Status	
0 >	oTS - Image	Program 1	00:00:00.00	
1	🗼 Brock Holt	Clip Player 1	00:00:00.00	
2	🟮 David Ortiz	Clip Player 1	00:00:00.00	
555	NASCAR	Clip Player 1	00:00:06.24	
4	MONITOR_LOOP	Clip Player 1	00:00:10.01	
5	CREATEMORE	Clip Player 1	00:00:08.01	





🚽 Playlist 📄 😋	🕅 🗖 🔻 🚺 🔂 Gr	oup 💥 Remove		×
ID Nam	ie	Channel	Status	^
0 🗸	🖉 OTS - Image	Program 1	00:00:00.00	
a	Button 1		OTS ON	
a	Button 2		OTS OFF	
at	I Text Box 1		OTS Line 1	
at	I Text Box 2		OTS Line 2	
E	🖥 Combo Box 1		Breaking News	
A	Label 1		Line 1 Text:	
A	Label 2		Line 2 Text:	
A	Label 3		Crawl Text: (Lea	
	File Picker 1		I:\Prime\Project	
A	Label 4		Image:	
a	Button 3		Update	
1	🕵 Brock Holt	Clip Player 1	00:00:00.00	
2	David Ortiz	Clip Player 1	00:00:00.00	
555	NASCAR	Clip Player 1	00:00:06.24	~

Image overrides will show the Image Browser:

ab Button 3		Update	
7 🐟 🎑 Breaking News	Program 1	00:00:00.00	
8 🗸 🚺 Autohide	Program 1	00:00:00.00	
abl Text 1 Text Box	abl Text 1 Text Box		
📑 🖉 Image 1 Browser		👒 🛛 <u>I:\Prime\Projects\Sa\MLB BAL.tga</u>	

🔄 🎲 Common 🔎 Images \ Team Logos 2.5 MLB BAL MLB BOS MLB NYY MLB NYM MLB SFG MLB TOR NFL SF NHL CGY NHL CHI NHL DAL NHL NYI NHL NYR NHL TOR

Name: The name field identifies the name of the item. The item can be a clip, Image or scene.



Click on the link to show the Image Browser:

Layer: The layer a scene is played to air can be modified in this field:

ChyronHego Prime Offline 2.0.0.78						
File View Tools Config Help						
🧊 Project Samples 🗸 🖉	Scene					
Preview 1 Playlist 1						
🙀 Playlist 🗋 🖄 🔚 👻 🚺 Group 💥 Remove						
ID Name	Channel Layer	Status				
0 Mountains	Clip Player 1	00:00:23.21				
1 📀 ChyronHego Symbol	Clip Player 1	00:00:00.00				
2 B bostom	Clip Player 1	00:00:00.00				
3 📽 MLB BOS	Clip Player 1	00:00:00.01				
4 🚫 Prime Logo	Clip Player 1	00:00:00.00				
5 🗸 🐱 Auto Follow-Auto	Program 1 🛛 🚨 🚔	00:00:00.00				
abl Text 1 Text Box		bbbbbdsad sadddsadsadasj				
Action 1 Button		Play Clip				
Action 2 Button		Rewind				
A Label 1						
A Label 2		Add or remove text:				
Asset Browser 1		I:\Prime\\Food Revolution - Long.wav				
6 > Character Animati	Program 1 0	00:00:00.00				

The layer field is NOT accessible for clips.

Status: Shows the status for clips

👬 Playlist 📋 🔄 🚽 🔽 751 🔄 Group 💥 Remove						
	ID	Name	Channel	Status		
	751	New Clip	Clip Player 1	00:00:03.06		
	0	Mountains	Clip Player 1	00:00:23.21		
	752	Sample_clip_2	Clip Player 1	00:00:07.15		

Show the status for graphics: The status bar will show the duration of the effect In, then pause until the effect out is played:



Here two graphics are on air.

News Demo	- 👪 Scene	2.						CHYRONHE Layout Sequence Mode 2 0 In Bypass
654965 C	🖉 Takelist" 🗋 😂 🖬	🔹 😋 Auto Advance 🛛 🛄 🥥 Comment 🔅	Bernque					
	0 ID Name		Channel Leyer Transition	Status				
	3	L3 - Lower Third	NDI Output	00:00:05.25				
lets	111 🗸	LIVE L3 - Live Bug	NDI Output	00:00:03.00				
	4	FS - Stocks Template	NDI Output	00:00:04.00				
	5	FS - Double Ender	NDI Output	00:00:00.18				
s Left	6	FS - Bullets	NDI Output	00:00:04.00				
-	6000	FS - Headshots	Output 3 2	00:00:04.00				
e Ender								
No.								
75								
on Image								
ELC.								
ELL.								
abota aps								
aps								
aps	Channel 1 Preview	a	0m		NEI Output	Tendo -		
aps	Channel 1 Process	Play.	Class		NEI Output	Tande •	Care	[5%]
aps emplate		Pluy Graphic ON Graphic C			LIVE	Tande +	Citer I	[011]
aps		Graphic ON Graphic O			ACCURATION OF A DESCRIPTION OF A DESCRIP	Taute +	Cuer Cuer	[une]
aps emplate				own 7	LIVE	Tande +	Curr Curr	

Now the second graphic, the live bug has been played off:

To set a new appearance for the playlist click the dropdown in the upper right-hand corner

	CHYRONHEGO	Edit Playlist Appearance	×
Layout Sequencer Mode	🗸 😑 In Bypass 🛄 Editor		
		Font Segoe UI, 18.00	
	Appearance	Text Color Back Color	
Status	Close		
00:00:05.25		Preview AaBbYyZz	
00:00:03.00			
00.00.03.00		ОК	Cancel



Channel Assignment:

🔥 P	laylist [ù 🖄 🗖	🗕 🚽 🚺 Gro	oup 🎖	Ҝ Ren	nove		
	ID	Name		Char	nnel		Status	
	751		New Clip	Clip	Player	1	00:00:07.14	
	0	100	Mountains	Clip I	Player	1	00:00:23.21	
	752		Sample_clip_2	Clip I	Player	1	00:00:07.15	
	1	>	AutoFollow using E	Prog		_	00.00.00.00	
					~	Progra	m1	
						Progra	m 2	
						Clip Ou	utput 1	
						Clip Ou	utput 2	
						Clip Ou	utput 3	
						Clip Ou	utput 4	

Sequence

In Sequence mode, the Playlist will operator as a Sequencer. Items can have pauses and be run in a linear fashion sequentially.

🔥 Se	equenc	e	🗋 🗐 🗖 🖌 🕨 📒 🖉	🕥 🛛 753 💥 Remov	2	
<u>(</u>) ID	1	Name	Channel Laye	r Transition	Status
	751	5	Sample_clip_2	Clip Player 1	None	00:00:07.15
() (Symbol_Color_large	Clip Player 1	None	00:00:00.00
	752 🕡		New Clip	Clip Player 1	Clip Transition 1	00:00:00.00
(1	3	🛛 🧕 XMP NFL - ATL PAT	Clip Player 1	None	00:00:00.00
	2		Symbol_Color_large	Clip Player 1	None	00:00:00.00
(3	3	Ch2	Channel 2 Output	1	00:00:00.00
	753	3	Sample_clip_2	Clip Player 1	None	00:00:07.15

You can add Graphic scenes, Images and clips to the sequencer. Each item can have a pause associated with it.

There is a Sequence Loop toolbar selection.



Playlist as a Still Store

Simply drag images from the browser into the playlist...

Playlist	1 拱 Takelist	* 🗋 🏐 🔚 🕶 😍 Auto Advance	Comment	🖹 Remov	/e	•
1	D Name		Channel	Layer	Transition	Status
()	Buckner_John	Clip Player 1		None	00:00:05.00
1	l 🦙	Democratic Logo	Clip Player 1		None	00:00:05.00
2	2	Rankin_Bob	Clip Player 1		None	00:00:05.00
13	3	Primavera_Dianne	Clip Player 1		None	00:00:05.00
2	i 🦮	Democratic Logo	Clip Player 1		None	00:00:05.00
5		Republican Logo	Clip Player 1		None	00:00:05.00



Shortcut Key Editor

The **Shortcut Key Editor** allows the user to configure which shortcut keys correspond to which action defined in the "Description" column. Prime employs two Shortcut Key Editors. One for Playout and one for the Designer.

Shortcut keys are assigned by selecting the shortcut and pressing the keyboard key(s) you wish to have assigned to that currently selected shortcut. For each Shortcut Key Editor, assigned Shortcut keys can be saved and loaded. Playout shortcuts are saved with a .psk file extension and Designer shortcut keys are saved as a .dsk file extension.

Playout Shortcut Keys:

Shortcut key categories:

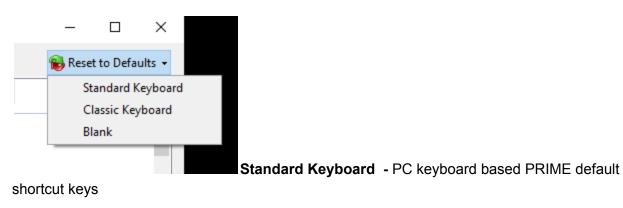
- 1.) Component these target PRIME Components more generally eg Play Preview
- 2.) Global target PRIME Components more specifically eg Play Preview 1
- 3.) **Scripts** these target Application Scripts (Tools > Application Scripting)

Compound Shortcuts - Multiple shortcuts can be set to a single shortcut key combination, which, when triggered execute all assigned functions simultaneously.

Keyboard shortcuts can be executed at anytime regardless of the focused window in the application.

Reset to Defaults

Preassigned Keyboard shortcuts can be loaded via the Reset to Defaults dropdown





Classic Keyboard - These shortcuts are designed to be used with the Chyron Classic Keyboard. Shortcuts are familiar to Lyric users. Additional documentation located in the

Chyron Classic Keyboard User Guide

Blank - no assigned shortcuts

Default shortcut key files cannot be overwritten however they can be loaded, customised and saved to a file.

Erase vs Clear Shortcuts

Erase and Clear shortcuts exist at both Global and Component levels. There are options to affect either a single scene or the entire output.

Erase: Cuts a scene(s) from Preview or Program without playing the Effect Out event.

Clear: Removes a scene(s) from Program by playing the Effect Out event. Clear shortcuts are not available for Preview outputs.

The Keyboard Shortcuts are a growing list and can be different than currently documented.



Component

	Shortcuts File I:\Prime\Projects\Commo	n\Keyboard Shortcuts\Playc 🗋 New 😋 Load 📙 Save 🛛 Clear Selected		🚯 Reset to Defaults
Global	Name	Description	Keys	
Component	Preview			^
Scripts	Erase All Scenes	Erase all scenes from Preview	Ctrl+Q	
	Erase Scene	Erase the active scene from Preview	Ctrl+Shift+Q	
	Play Preview	Play the active scene on Preview	Alt+PageUp	
	Play Scene	Play the active scene to Program	Ctrl+Alt+PageUp	
	Play, Read Next Scene	Play the active scene to Program and read the next scene to Preview	Ctrl+Enter	
	Read Previous Scene	Read the previous scene to Preview	Alt+Enter	
	Save Message	Save the message	Alt+Subtract	
	Save Message As	Save the message as a new file	Subtract	
	Save Output Image	Save an image of Preview	None	
	Program			~
	Clear All Scenes	Clear all scenes from Program	Ctrl+Alt+PageDown	
	Clear Scene	Clear the active scene from Program	Alt+PageDown	
	Erase All Scenes	Erase all scenes from Program	Ctrl+Alt+Shift+O	
	Erase Scene	Erase the active scene from Program	None	
	Save Message	Save the message	Alt+Subtract	
	Save Message As	Save the message as a new file	Subtract	
	Save Output Image	Save an image of Program	None	
	Transfer Scene	Transfer the active scene from Program	Divide	
	Channel	-		^
	Clear Scene	Clear the active Preview or Program scene	None	
	Cycle Channels	Cycle through available Channels	Multiply	
	Toggle Preview/Program	Toggle between Preview and Program for the active Channel	Ctrl+Alt+Multiply	
	Recall Box			
	Clear Recall Box	Clear the Recall Box	Decimal	- ^
	Display Next	Display the next scene in the Recall Box	Ctrl+.	
	Display Previous	Display the previous scene in the Recall Box	Ctrl+.	
	Load Scene	Load the scene to active Preview	None	
	Play Scene	Play the active scene to Program	None	
	Play To Program	Play the scene directly to Program	Ctrl+Alt+Shift+PageUp	
	Stop Scene	Stop the active scene on Program	None	
		stop the active sectic on Hogiann	None	
	Playlist			^



Global

	Shortcuts File I:\Prime\Projects\Commo	on\Keyboard Shortcuts\Playc 🗋 New 뉔 Load 閕 Save 🛛 🔝 Clear Sele	cted	🐞 Reset to Default	
) Global	Name	Description	Keys		
Component	Select Focus			^	
Scripts	Select Clip Browser	Give input focus to Clip Browser	None		
	Select Clip Player 1	Give input focus to Clip Player 1	None		
	Select Clip Player 2	Give input focus to Clip Player 2	None		
	Select Clip Player 3	Give input focus to Clip Player 3	None		
	Select Clip Player 4	Give input focus to Clip Player 4	None		
	Select Clip Player 5	Give input focus to Clip Player 5	None		
	Select Clip Player 6	Give input focus to Clip Player 6	None		
	Select Clip Player 7	Give input focus to Clip Player 7	None		
	Select Clip Player 8	Give input focus to Clip Player 8	None		
	Select Clip Recorder 1	Give input focus to Clip Recorder 1	None		
	Select Clip Recorder 2	Give input focus to Clip Recorder 2	None		
	Select Image Browser	Give input focus to Image Browser	None		
	Select Message Browser	Give input focus to Message Browser	None		
	Select Playlist 1	Give input focus to Playlist 1	None		
	Select Playlist 2	Give input focus to Playlist 2	None		
	Select Playlist 3	Give input focus to Playlist 3	None		
	Select Playlist 4	Give input focus to Playlist 4	None		
	Select Preview 1	Give input focus to Preview 1	None		
	Select Preview 2	Give input focus to Preview 2	None		
	Select Preview 3	Give input focus to Preview 3	None		
	Select Preview 4	Give input focus to Preview 4	None		
	Select Program 1	Give input focus to Program 1	None		
	Select Program 2	Give input focus to Program 2	None		
	Select Program 3	Give input focus to Program 3	None		
	Select Program 4	Give input focus to Program 4	None		
	Select Recall Box	Give input focus to recall box	F6		
	Select Scene Browser	Give input focus to Scene Browser	None		
	Graphics			^	
	Clear All Programs	Clear all scenes from all Programs	None		
	Erase All Previews	Erase all scenes from all Previews	Alt+Q		
	Erase All Programs	Erase all scenes from all Programs	Ctrl+Alt+Q		
	Play All Scenes	Diav all scenes in all Dreviews to all Drograms	None		

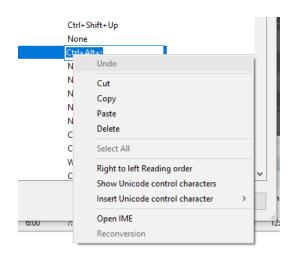


Designer Shortcut Keys

Shortcuts File C:\ChyronHego\Prime\Desi	gner Shortcuts.dsk 📄 New 🔄 Load 📙 Save 🔛 Clear Se	elected 🔀 Reset to Defaults
Name	Description	Keys
Modes		*
Activate Canvas Mode	Activates canvas mode	F10
Activate Control Panel Mode	Activates control panel mode	F11
S Activate Scripting Mode	Activates scripting mode	F12
Canvas		· · · · · · · · · · · · · · · · · · ·
🔲 Align Bottom Edges	Align Bottom Edges	None
Align Bottom Safe Title	Align Bottom Safe Title	Ctrl+Shift+Down
Align Horizontal Centers	Align Horizontal Centers	None
📙 Align Left Edges	Align Left Edges	None
Align Left Safe Title	Align Left Safe Title	Ctrl+Shift+Left
📇 Align Right Edges	Align Right Edges	None
Align Right Safe Title	Align Right Safe Title	Ctrl+Shift+Right
Align Top Edges	Align Top Edges	None
🖳 Align Top Safe Title	Align Top Safe Title	Ctrl+Shift+Up
🕒 Align Vertical Centers	Align Vertical Centers	None
Clear Guides	Clear all ruler guides	Ctrl+Alt+;
📅 Distribute Bottom Edges	Distribute Bottom Edges	None
🕸 Distribute Horizontal Centers	Distribute Horizontal Centers	None
🛯 Distribute Right Edges	Distribute Right Edges	None
🖶 Distribute Top Edges	Distribute Top Edges	None
Distribute Vertical Centers	Distribute Vertical Centers	None
Find	Find	Ctrl+F
Lock Guides	Toggle guide lock	Ctrl+Alt+Shift+;
↔ Move	Move	W
New Guide	Create a new ruler quide	Ctrl+G
		OK Cancel Apply

To set the "Keys" field back to "None", right click and select "Clear Selected"

Right click for unicode options





The keyboard arrow keys functions as follows when the scene tree or scene object in the canvas is selected:

- Arrow Keys will change value by 1 unit in the direction of the arrow
- Shift + Arrow Keys will change value by **10 units** in the direction of the arrow
- Ctrl + Arrow Keys will change value by .1 units in the direction of the arrow

The Transform Spinner controls will work as follows:

- Right click drag or mouse wheel will change the value by 1 unit
- Shift + Right click drag or mouse wheel will change the value by 10 units
- Control + Right click drag or mouse wheel will change the value by .1 unit

To set the "Keys" field back to "None", right click and select "Clear Selected"



Parameters

Scene Parameters are available to ONLY the scene. Project parameters are global to all scenes in the project. Application Parameters, defined in the Application Logic section, are available to all scenes in all projects.

Drag and drop any attribute or keyframe into an existing parameter will bind that parameter to that attribute. Drag keyframes from the keyframe editor to bind these properties

Parameters / Express	ons Logic Bindings						
	🛛 🕂 Add 💥 Remove 🛛 🗁 Link Parameter 👻 🍋 🕶 🔚 Save						
Expressions	Name		Туре		Value	Bindings	
	Application Parameter 1	~	String	~			
	Application Parameter 2	~	String	~			
	Application Parameter 3	~	String	~			
	Application Parameter 4	~	String	~			
	Application Parameter 5	~	String				
	Application Parameter 5		Jung				

Parameters / Expressior	15 Logic Bindings					
And Parameters	🕂 Add 渊 Remove 🛛 💳 Link Parameter 👻 🛅 🖬 Save					
ted Expressions	Name		Туре		Value	Bindings
	Parameter 1	٩I	String	~		Text1.Text
	Parameter 2	4	String	~		Image1.File
	Parameter 3	~	String '	~		Text2.Action1.Keyframe2.PositionX
	Parameter 4	4	String '	~		

Each Parameter has a "Type" field that defines the parameter type.

Parameters / Expression	ns Logic Bindings			
Marameters	🕂 Add 🔀 Remove 🔚 Link Parameter 🔸 🚞	🝷 🔚 Save		
🔞 Expressions	Name		Туре	Bindings
	Parameter 1	~	String 🗸 🗸	Text1.Text
Parameter 4 String V Boolean ByteArray Color	Image1.File			
	Parameter 1 Parameter 2 Parameter 3 Parameter 4 Param			
	Parameter 4	Ý	String 🗸 🗸	
			Boolean	
			DateTime	
Timeline				
Default Action 1	Add Action			Action 1
'			Integer	
Action 🤍 强 🖏 T	riggered By (0) 🕨 🔲 🛛 😽 😽 刘	Keyframe	Long	e Zoom 🏓 💳 👎 🥕 »
Animation	Parameter 1 String Text1.Text Parameter 2 String Text1.Text Parameter 3 String Text2.Action1.Keyframe2.PositionX Parameter 4 String Text2.Action1.Keyframe2.PositionX Parameter 4 String Text2.Action1.Keyframe2.PositionX DateTime Boolean ByteArray Color DateTime Double Float Integer Action 1 Integer Long E Zoom Zoom String String String String			

PRIME will determine the type automatically when users drag and drop the parameter. If users add parameters manually then the type needs to be set by the user.



Master Control Panels

Master Control Panels are panels users create that, unlike scene control panels, are not tied to any specific scene. Controls and Resources can be either hooked up in the user interface or execute Java Script code for more sophisticated control.

To Create - Select File > New Master Control Panel (Ctrl + M)

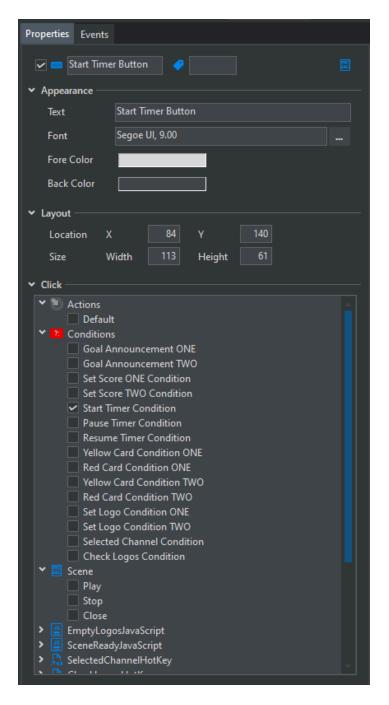
Click and/or drag Controls or Resources from the "Toolbox" to the Master Control Panel Canvas.

Gryron Prime 4.10.0.89 (PE 231	2.0.6) Master Control Editor - MatchP	MCP.mcp			2	o ×
Ele Edit View Window Jo	sla <u>C</u> orfig <u>H</u> elp					Chyron
Project New Project					Leyout Default*	· IN Playout
Toolbox Scenes Darctions		Matter Control Panel		Properties Events		
Controls		a a a a a a a a a a a a a a a a a a a		V R BeckGround		1.5
Check Bos Check Bos Data Trans Picture Data Trans Picture Data Trans (Up Data) Partice Up Data)	Better Color Folder Sector Fo	Selected Channel: Program Suit Timer Button Resume Timer Button Team One Team Two Resume Second	Preview Set Loge	Appeares Int Int	х <u>ла</u>	
Scene live X () C C III III III III	Birds	HILOW CAND RED CAND. YELLOW CAND RED CAND.				
Added bird Affect Added bird Affect	nvišcijat višcijat nativečjakat ogo Okoč ogo Okoč ogo Okoč ogo Okoč ogo Okoč obel okat ner Buštan ner Buštan NEO Okoč obel Label Label Subtan	Conditions Condit	Trigger 📾 Property Operators 📧 📰 🐼 💷 🔀 🧏 🤸 Evolutie Charloton Replacemen(SOAL ONer)	Advance 21 (21) / / / (21) (Detallocity) (Viend) Accessibilitions Accessibili	(Collection) Default Sign Left Sign Set (room) Tile Stave	



Bind a Button using the "Properties panel" of the control.

In this example, the button is bound to a Condition.



You can continue to bind as many commands to the button as needed.

Bindings can be made similar to Control Panels. Please navigate to the <u>Scene Control Panel</u> section of this User Guide for more details.

➤ Bindings -			
🕂 Add 🗸	🖉 Edit 🗙 Remove		
Mode	Object	~	
Object			~
Property		~	

Load a Scene - To load a scene, add a Property item to a Condition and type a line such as: Playout.Channels(0).LoadScene("123"). This would load scene 123 on the first channel

Play a Scene - To play a scene, add a Property item to a Condition and type a line such as: Playout.GetChannel("Program").PlayScene("123"). This would play scene 123 on a channel named Program

Stop a Scene - To stop a scene, add a Property item to a Condition and type a line such as: Playout.ActiveChannel.StopScene("123"). This would stop scene 123 on the active channel

Close a Scene - To close a scene, add a Property item to a Condition and type a line such as: Playout.GetChannel("Program").CloseScene("123"). This would close scene 123 on a channel named Program

Active Channel - To access the active channel use the ActiveChannel property of the Playout object.

For example: Playout.ActiveChannel.LoadScene("123") would load scene "123" on the active channel

Get Channel - To access a channel by name or by number, use the GetChannel method of the Playout object.

For example: Playout.GetChannel("Program").LoadScene("123") would load scene "123" on the channel named "Program".

Playout.GetChannel(1).LoadScene("123") would load scene "123" on the first channel



Help

Open Log Folder

🔵 🗢 📕 🕨 Compu	ter → Local Disk (C:) → Chyror	Line > Davis	-Dev & Leve & 2015 07 1	00.00 52.07			+ + Search 2015-07-28 09_52_07	_	-
				18 09_32_07					
Organize 🔻 Include	in library ▼ Share with ▼	Burn N	ew folder	1			8≕ ▼		
🙀 Favorites	Name		Date modified	Туре	Size				
💻 Desktop 强 Downloads 📃 Recent Places	2015-07-28 09_52_07		7/28/2015 10:02 AM	Log File		4 KB			
G Libraries □ □ □ □ □ □ □ □ □ □ □ □ □									
Videos Computer									
🗣 Network									
1 item									

All log files will be located in this folder



Show Current Log

:\2015-07-28 09 52 07.loc				
ind		🖉 🚳 Auto Foll	w	
Time	Level	Category	Message	
9:52:55.148 AM	Info	PowerBox	Intelligent Interface 1: Incoming connection (Intelligent Interface 1) disabled on port 49528	
9:59:44.828 AM	Info	DeviceMan	New Chyron.Framework.Application.Devices.Gpi.GpiDevice added: GPI1	
09:59:45.524 AM	Info	DeviceMan	New Chyron.Framework.Application.Devices.XKeys.XKeysDevice added: X-Keys 1	
10:02:07.555 AM	Info	ChannelSe	Unable to determine driver version.	
10:02:07.743 AM	Info	ChannelSe	Channels set	
10:02:07.752 AM	Info	ChannelSe	Suspend Drawing	
10:02:07.753 AM	Info	ChannelSe	Start generating Channel Controls for new layout	
10:02:09.733 AM	Info	ChannelSe	Resume Drawing	
10:02:09.808 AM	Info	ChannelSe	Done generating Channel Controls for new layout	
10:02:09.826 AM	Info	ChannelSe	Start updating the BNC connectors [VideoOut,VideoIn,KeyOut,VideoIn,Genlock]	
10:02:09.858 AM	Info	ChannelSe	Done updating the BNC connectors	
.og Entry				
Time				
Level				
e .				
Category				

The current log will be loaded into the "ChyronHego Log Viewer".



Designer

Design for specific licensed options

You can enable/disable software features to match your playout license. This gives you the ability to target systems that are licensed differently.

Ø Designer Licensing						×
🔄 Load ि Save					k 🖓 Set t	o Current License
Packages 💽 CG 🚫 E	Branding 🧕 Clip Server	📰 Video Walls 💿 T	ouch Screen	臔 LT 🖶 Mantis		X Clear All
 ✓ TextImages ✓ Clips ✓ VideoInput ✓ HardMaskCrop ✓ SceneControlPanels ✓ SoftMask ✓ RollsCrawls ✓ TimersClocks ✓ Character 	 ✓ AutoFollow ✓ AutoSpacing ✓ BindingLogic ✓ Transitions ✓ 3dObjects ✓ DataObject ✓ MessageObject ✓ InlineText ✓ Scripting 	 ✓ Model ✓ RenderToTexture ✓ Blur ✓ Shader ✓ Plugin MasterControlPanels Warp Lua Table 	☐ Touch ☐ Ancillary[☑ Lidia ☐ Bxf ☐ Hdr ☐ ClipConti			
					ОК	Cancel

The toolbar has some quick pick shortcuts based on PRIMES use case pricing model. Select the options you would like to enable. You can load/save these settings.

Live Mode

The Designer can be output to any of the defined outputs in the Playout Configuration.

This allows for Realtime output previews. Select from the list of outputs. The currently selected output is "Program".



File

New Scene

Use the selected scene whenever a new scene is created. Useful to have a base scene and its elements when new scenes are created.



New Base Scene

Create a "Base Scene" to be referenced by normal scenes. Refer to the *Resource object* "Base Scene".

New Master Control Panel

Opens up a new Master Control Panel canvas

Application Logic

See the separate "Application Logic" Section for more details.

Save as CAMIO File

.CRD files are currently generated when 'Saving to CAMIO' from the Prime Designer. This process automatically exports the file into the Chyron CAMIO Context and Folder defined by the CAMIO export settings in Prime.

To permit users to have more control over the upload process, and to prevent on-air content being accidentally overwritten, users can manually upload the .crd file using CAMIO Asset Manager.

In addition, users using the CAMIO Render Engine outside of a CAMIO environment, with the Chyron Media Engine API requires a .crd file in order to specify jobs to be rendered.

Import FBX

Allows for importing FBX models.

Import SVG

Refer to the Polygon object.

Import AE

Allows importing of After Effects Projects.

Refer to the "PRIME_After_Effects_Guide" for details.



Editor Settings

General

😤 Editor Settings	
General Canvas	General
Control Panel	New Scene 🗸
 Scene Tree Actions 	
🚞 Project	Layout
A] Text	Auto Save Layout
	Default Region of Interest
	$ \leftarrow 0 \qquad \qquad$
	Thumbnail
	Height 144

New Scene

Optional to define a default scene whenever New scene (ctrl + N) is created .

Layout

Auto Save Layout enabled will save all layout changes to the currently loaded layout. With this setting disabled, you must manually save any layout changes to the specified .wxel file.

Default Region of Interest

Define numeric values for Top, Left, Bottom and Right for the default region of interest guideline that will be displayed for each new scene. (0,0,0,0 is fullscreen)



Thumbnail

Default height of thumbnail image

Canvas Settings

🔁 Editor Settings		×
 General Canvas Control Panel Scene Tree Actions Project Text 	General General Show Control Manipulators Show Bounding Box Title Bar Show Bounding Box while Dragging Show Bounding Box when Selected	 Show Highlight Always Show Text Bounding Boxes Show Non-Rendered Scene Objects Show Region of Interest
	Colors Background Ruler Guides	Region of Interest
	Safe Title Show Safe Title Show 4x3 Safe Title Percent 20.0 Color	Grid Show Grid Size 72 72 🕶 Color
	Checkerboard Show Checkerboard Size 30 Color	Align Text Align Use Text Bounds ~ Round Canvas Position
	Copy/Paste Paste Mode Renumber Parent Only Reset to Defaults Reset Canvas Settings	
		OK Cancel Apply

General

Allows for visual control of selected objects.

Color

Allows setting background color, region of interest color, ruler guide color.



Safe Title

Allows for visual control of the canvas safe title guides.

Ruler Guides

Creating Guides

By default, objects will snap to ruler guides. You can adjust snapping settings in the Tools menu.

You can also lock all guides from the Tools menu. This can be handy when you have lots of objects in your scene and you don't want to accidentally select a ruler guide.

To begin creating a ruler guide, open the designer. Next, open the tools menu and choose "Create Guide." This will open the Guide Form, from which you can define the dimension and position of your new guide. The default shortcut to open this form is Ctrl+Alt+G.

Alternatively, you can create guides by dragging them onto the designer canvas. First, make sure you are in the designer and that rulers are shown (Tools > Rulers/Ctrl+R). Then, click on a ruler and drag your mouse onto the canvas. A new guide will be created and placed wherever you drop it.

Deleting Guides

To delete a guide, simply drag it onto a ruler and it will automatically be deleted. To delete all guides, go to Tools > Clear Guides.

If you want to hide all of the guides temporarily, you can go to Tools > Show Guides to toggle them off and on.

Align (Smart Guides)

Determines if the built-in alignment tools (Smart Guides) should align text objects by its bounding box or the bounds of the text itself.

Copy/Paste Mode

Renumber Parent only: When you copy and paste a group, only the pasted parent will autoincrement the suffix number value of the group name.

Renumber Parent and Children: When you copy and paste a group, the pasted parent as well as all children objects will autoincrement the suffix number value of their node name.



Control Panel Settings

Editor Settings	>	×
Canvas	Default Control Panel Size	
Control Panel	Width 400	
Actions	Height 600	
Properties		
Project		
a A Text		
	OK Cancel Apply	

Scene Tree

ػ Editor Settings				
 General Canvas Control Panel Scene Tree Actions Project Text 	Search Display Results	Filter Filter Highlight	~	

Filter

With filter selected, only objects that meet the search criteria in the scene tree search bar will be displayed in the scene tree.

Highlight

With highlight selected, all objects in the scene tree will remain visible, and those that meet the search criteria of the scene tree search bar will be highlighted.



Action Settings

Editor Settings					×
🛐 General	Timeline 🗹 Move Cursor wit	h Keyframe			
Control Panel	Animations				
 Actions Project 	Background Default State	Show \checkmark Default \checkmark			
a Text	Show Expanded	When Keyframes Present When Selected			
	Keyframes	-			
	Default Interpolation				
	✓ Auto Default Key Properties	frame			
	Show Properties	Opacity, PositionX, PositionY			$\hat{}$
	Behavior	Empty ~			
	Save Video Format	DNxHD 220			~
	Default Location	C:\ChyronHego\Prime\Output			
	Copy/Paste Paste Mode	Paste In Existing Actions $$			
			ОК	Cancel	Apply

Timeline

Move Cursor with Keyframe:

Animations

Background:



Parent

	-	🕅 Key
I	V 1 0:00	11 1:00
	Ξ	Z
	Ξ	Ξ
	▶ ■ H	0:00

Hide

Default Action 1 👒 Add Action		
Action 🗼 🔖 🏟 Triggered By (0)	-	🕅 Key
Animation	7 1 0:00	11 1:00
 ✓ Text 1 ◇ Opacity <u>100.0</u> ◇ ▷ PositionX <u>640.0</u> ◇ ▷ PositionY <u>515.6</u> 	2 2 2	8

Show

Default Action 1 👒 Add Action		
Action 🗼 🔖 哧 Triggered By (0)	-	Key
Animation	7 1 0:00	11 1:00
✓ Text 1	2	8

Default State: Expanded or collapsed

Show Expanded when Keyframes Present:

Show Expanded when Selected:



Keyframes

Default Interpolation: Sets the default keyframe behavior.

Show Gridlines: Show or hide canvas gridlines

Auto Default Keyframes: Adds keyframes to the "Default" action when keyframes are created in other Actions. Example: add "PositionX" into the setting then create a new action and you will see "PositionX" in the timeline. Add as many properties as you need. Separate them by commas. "PositionX,PositionY,ScaleX".

Default Ease Length: When a new "ease" keyframe is added, set the default ease to some value.

Properties

Show Properties: Define which properties you would like to be automatically added to the Timeline Editor when a new action is created.

Behavior

Never: If a second object of the same type is added to the Action the properties listed will not show.

Empty: Remove properties defined in the "Show Properties" that have no keyframes.

Selected: Shows the properties with or without keyframes from the selected

object.

Always: Always show the properties when the object has no keyframes.

Save

Video Format: Select the video format when saving actions to a clip file. Right clicking on the Action tab allows users to record the animation to file.

Action is saved using first output channel and certain restrictions apply based resolution of the Output Channel

4K Support. Only DNxHR codes supports resolution higher than 1080p Interlace Support. DNxHD does not support.

Save Action to Clip will only honor auto follow source mode on the first frame of the selected 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.

Default Location: Set the folder where Action clips will be stored

Copy/Paste

Paste Mode Create New Actions:

Paste in Existing Actions:

Node Coloring

Enable color coding in the scene tree will also color code the shaded areas above/

To enable Node Coloring right click on the toolbar left of the Scene Node where the "Lock" icon is located.



	Scene Tree X T X Z Z Z Z Z Z Z Z Z Z Z Z Z Z Z Z Z	»
	New Scene 3	
Scene Tree X	Orange Gold Olive	
Disabled Disabled Disabled Disabled Disabled Projection Light Enabled Node Color S Effects Node Grid Lines Icr	Sea Green Green Teal Blue Indigo Purple Pink	

Timeline					
Default 🛛 Action 1 👒 Add Action					
Action 🧼 🔖 🎼 Triggered By (0)) Þ			Keyfram	e Keyframe
Animation	V	1:00	2:00	1	4:00
✓ Text 1	\diamond				
♦ Dpacity <u>0.0</u>	\diamond			\$	
PositionX <u>352.8</u>					
PositionY <u>273.1</u>					
✓ Image 1	Ζ			Z	
Opacity <u>100.0</u>					
♦ PositionX <u>1028.0</u>	Ξ			Ξ	
♦ PositionY <u>540.0</u>				Ξ	
♦ PositionZ <u>0.0</u>				Ξ	



Project Settings

Editor Settings		Х
 Canvas Control Panel Actions Properties Project Text 	General ☑ Suggest importing assets outside the project folder on save	
	OK Cancel Appl	y

Text Settings

😂 General 💂 Canvas	Text			
🗄 Control Panel	Default Style 🗛 Museo Sans 900 49.pfs	~		
🖲 Actions 🚞 Project	Enable Tab Key to Cycle Text Objects			
Text				
		ОК	Cancel	Apply

Default Style

Select from the list of Styles (Refer to the "Text" section on Styles). This style will be the default style each time a new text object is added to your scene.

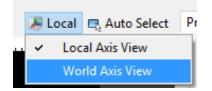
Enable Tab Key to Cycle Text Objects

With this option enabled the tab key will cycle to the next text object in the scene tree and automatically places focus in the properties text field. This allows you to quickly and easily update text fields within your scene in Prime Designer. Focus must be on either the Scene Tree, Canvas or Text Editor for this feature to function. Shift Tab cycles to previous text objects.



Canvas Properties

Axis Mode



Toggles between Local and World Axis View modes.

World Axis View: When you move an object using this coordinate system, you are moving it relative to the space of the viewport.

Local Axis View: Uses the coordinate system of the selected object.

Auto Select

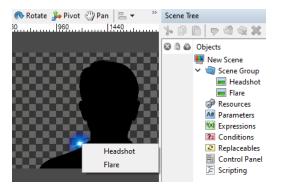
Toggles between Auto Select and Lock Selection

Auto Select: The active selection changes to where the user clicks on the Canvas.

Lock Selection: The active selection is persistent regardless of where the user clicks on the Canvas. Changing focus is done on the Scene Tree.

Selecting Overlapping Objects

Right-clicking on the Canvas at the point where two or more objects overlap will display a context menu of the overlapping objects. Objects with the same not are not distinguished in this menu.





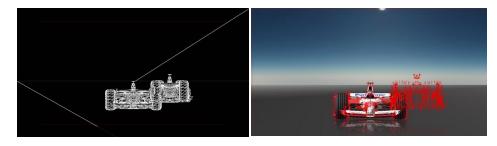
Alt+left click at the overlapping area will cycle through the overlapping objects.

Pan & Zoom

Use the "-"and "+" buttons on the slider control or your mouse wheel for zoom control.

Hold the middle mouse wheel down to pan the canvas. Zoom will "Zoom to Mouse"

Show Wireframe-Normals-Key

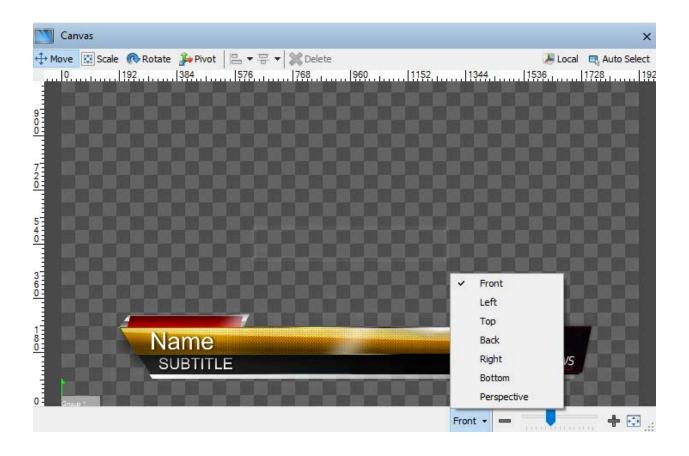


🗖 🕹 🦧

Show Bounding Box-Manipulators









Ì.															
	Canvas														×
+‡+ Ma	ove 🖸 Scal	le 🕜 Rotati	e 👍 Pivot		- 8	X Delete	1000		Later	_		1	Nocal	R Auto	Select
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9															
9-1-0-															
7															
5 4 0															
<u>0</u>															
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1 8 0											ſ	HΔ	NN	TEL	
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														TV	
0 7															
										Fr	ont +	-111	a a constante da const	···· 🕈	Ð.::

Custom Canvas Resolutions

This property is part of the "Scene/Resolution" property.



Properties			×
 ✓ Scene — ✓ Resolution 		» 🗛 f(x) 😰 📑 »	^
Format	1080i 59.94 Hz	~	
∨ Thumbna	NTSC (4x3) NTSC (16x9)		
Updat	PAL (4x3) PAL (16x9)		
Ch	720p 59.94 Hz 1080i 50 Hz 1080i 59.94 Hz 1080p 50 Hz		
V Command	1080p 59.94 Hz 2160p 50 Hz 2160p 59.94 Hz		-
	Custom		

Selecting "Custom" will bring up the following dialog:

関 Custom Re	esolution		-		×
Resolution					
Width	1920 🛓				
Height	1080				
Frame Rate	29.97p 🗸 🗸				
		ОК		Cancel	
		ÜK		Cancel	



yout Configura	ation								-		\times
	Video Channels 💽 A	Add Output 👻 🗾 Add Input	-								2
o Channels	Channel	Output 1	*	Preview 1	×	Output 2	×	Preview 2	*		⊘ ⊂
ers orders	Device	Application Window	~	Application Window	~	Application Window	~	Application Window	~	Applica	tion W
	Туре	Video Out	\sim	Video Out	~	Video Out	\sim	Video Out	\sim	Video O	ut
	Connector	Video Window 1	\sim	Video Window 2		Video Window 3	\sim	Video Window 4	\sim	Video	Windo
	Name	Channel 1 Output		Channel 1 Preview		Channel 2 Output		Channel 2 Preview		Preview	1
	Video Standard	1080i 59.94 Hz	~	1080i 59.94 Hz	~	1080i 59.94 Hz	~	1080i 59.94 Hz	~	1080i 5	9.94 H
	Video Shape	NTSC (4x3) PAL (4x3)		Unshaped		Unshaped	\sim	Unshaped	\sim	Unshap	ed
	Downstream Input	720p 50 Hz 720p 59.94 Hz		None	~	None	~	None	\sim	None	
	Audio Mode	720p 60 Hz		Disabled	~	Disabled	\sim	Disabled	\sim	Disabled	ł
	Audio Channels	1080i 50 Hz 1080i 59.94 Hz		0	~	0	~	0	\sim	2	
	Genlock Source	1080i 60 Hz 1080p 25 Hz					\sim		\sim		
	Genlock Timing (H/V)	1080p 29.97 Hz		0 • 0	*	0 • 0	*	0 🔹 0	*	0	A T
	Antialiasing	1080p 30 Hz 1080p 50 Hz		Disabled	~	Disabled	~	Disabled	~	Disabled	ł
	Preview	1080p 59.94 Hz 1080p 60 Hz				Channel 2 Preview	~		\sim	No Prev	iew
		2160p 50 Hz									
		2160p 59.94 Hz									
		2160p 60 Hz									
	_	Custom									
	<										

The Prime Scene Designer Canvas derives the starting resolution from the first output channel within Prime Playout Configuration. Any Custom resolutions set in the Playout Configuration will be enumerated in the Canvas Resolutions list automatically and vice versa.



Setting up HDR within Windows

To enable HDR for the Prime Scene Designer Canvas, your Windows Display Settings must be configured to use HDR. The monitor you will be using to display Prime Designer must be a HDR-capable monitor in order to turn on HDR in Windows.

Enable HDR in Windows 10:

- 1. Select the Windows Start Button, then select Settings > System > Display.
- 2. Choose the HDR-capable display under Rearrange your displays.
- 3. Select Windows HD Color settings
- 4. Under Display capabilities, check to make sure it says Yes next to Use HDR.
- 5. Turn on Use HDR.

Enable HDR in Windows 11:

- Select the Windows Start Button, then enter Settings. Select Settings > System > Display.
- 2. Choose the HDR-capable display at the top of Display Settings.
- 3. Scroll down to HDR under Brightness & Color and switch HDR to On.

← Settings		- o ×
	System > Display	
Find a setting Q	Select a display to change the settings for it. Drag displays to rearrange th	em.
A Home		
💻 System		
8 Bluetooth & devices	2 3	1
🗢 Network & internet		
/ Personalization	a second s	
📸 Apps		
accounts	Identify	Extend desktop to this display \sim
🔊 Time & language 🐵 Gaming	Multiple displays Choose the presentation mode for your displays	
X Accessibility	Brightness & color	
 Privacy & security Windows Update 	. Brightness Adjust the brightness of the built-in display	• •
	. Night light Use warmer colors to help block blue light	off 💽 >
	Use HDR More about HDR	On 💽 >



Prime Scene Designer HDR Canvas Setup

Once HDR is set up within Windows, please startup Prime and navigate to Playout. Select Config > Playout Configuration. The Prime Scene Designer Canvas is tied to the first output channel within Playout Configuration. Due to this, please set the first output channel to a Device type that will allow you to select HDR 10 Bit.

HLG and S-Log3 based HDR are not available for use with the Canvas. However, if your first Output Channel is set to HLG or S-Log3, the canvas will automatically use HDR 10 Bit. LUT files are not compatible with HDR or Prime's Scene Designer Canvas. HLG based channels are the only type of channel which supports LUT files as outlined in the Prime Playout Configuration User Guide.



Even if your first output video channel is set to HLG with a selected LUT file, the LUT will Not be applied and displayed on the Canvas itself. It will only be applied to the Playout Video Output Channel itself as the Canvas does not support LUTs.

	File CG	• 🗋 New 💌 🔚 Save A	s 🗙	Delete					
Video Channels	Video Channels 🕨 Ad	d Output 🔻 🚬 Add Input 👻							
Clip Players	Channel	Output 1	×						
Playlists	Device	Application Window	~						
Atlas	Туре	Video + Key Out 🗸 10 Bit	HDR	Color Range	Ontions	×			
• Bypass ExternalData	Connector	Video Window 1	~	Color	options	~			
Settings	Name	Preview		Range	HDR ~				
Advanced	Video Standard	1080i 59.94 Hz	~	Depth	10 Bit				
	Video Shape	Shaped	~	LUT					
	Downstream Input	None	~		Enabled				
	Audio Mode	Disabled	~	File					
	Audio Device				Import				
	Audio Channels	2	~		SDR Normalization				
		-		Input Range	Narrow				
	Genlock Source			Output Range	Narrow ~				
	Genlock Timing (H/V)			Interpolation	Tetrahedral				
	Antialiasing	MSAA 2x	~						
	Preview Channel	No Preview \checkmark	RTT		OK	Cancel			
	Proxy Output	Full Resolution V	H264						
	Proxy Frame Rate	Full	~						
	Playout Toolbar	Show	~						





When HDR is enabled for the first Playout Video Channel but your monitor does not have HDR enabled within Windows, the Prime Scene Designer Canvas will appear washed out like in this example.

					Chyron
Project New	Project *			tayest Default	
solbox Scenes		Control Panel Table	Properties Events		
Graphics		📄 📶 Martin 🖉 Sale 🔿 Reter 🐊 Proc. 🐞 Paris 🐘 🗢 🛫 🗢 👷 Control			
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			Size: 1920 x 1080		
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					405.17 P

Please see the Prime Playout Configuration User Guide for channel setup instructions and further HDR, HLG, and S-Log3 details.



Scene Properties

Properties Events								
🖌 💶 New Scene		📻 🎋 🏧 🗰 🔁 >						
✓ Scene								
Version	4.7.0.451							
Description								
Keywords								
Style								
Message Id								
Channel	Default	~						
Layer	1							
Effect In		~						
Effect Out		~						
Layer In		~						
Layer Out		~						
Preview In		* * *						
Update Behavior	Update Values	~						
	Auto Priority							
✓ Resolution								
Format 1080	p 29.97 Hz	~						
✓ Region of Interest —								
Size: 1920 x 1080								
Set to Graphics Bounds								
✓ Thumbnail								
Update From Canvas								
Choose File								
Use Region of Interest								
Command Sequence								
+ Add 💢 Remove								



The following scene properties are displayed:

- **Description** The user may enter a simple description of the scene
- **Keywords**: Add metadata to search for scenes
- **Style:** Can be linked to a CAMIO context and changed in LUCI. See Style Sheets for more.
- **Message Id** Messages recorded from this scene will start recording at the specified location or the next available location. When a message is read, PRIME will read in the base message and fulfill the template with the data from the message.
- Channel-On recall the scene will play to the defined channel
- Layer-On recall the scene will be positioned in the defined layer on output
- Effect In: When the scene plays use these triggers in the trigger list as the Effect In. Usually it's just an Action or Condition to effect in
- Effect Out: Execute these triggers when the scene transfers from Program to Preview
- Layer In: Triggers when a scene in Preview plays to Program replacing another scene in the same layer. This supersedes the "Effect In".
- Layer Out: Triggers when a scene in Program is played off by an incoming scene in the same layer. This supersedes the "Effect Out".
- **Preview In**: Executes when a scene is loaded into Preview. The Defined "Effect In" will still execute when the scene is played. This is useful for LUCI previews in a CAMIO workflow.
- **Update Behavior**: "Update Values" will update items on output and NOT transfer the entire scene. "Update Scene" will transfer the entire scene.
- **Auto Priority** An incoming scene takes priority over an outgoing scene. To adjust the priority, uncheck Auto Priority and change the value in the Scene Properties > Render section of the Scene Group. The default is 2000. Auto Priority will override the Z position of multiple scenes in the same channel.
- **Resolution** Set the resolution format for the scene.
- **Region of Interest** Set the Region of interest for the scene that can be used in designer to crop; save image and save clip files. (0,0,0,0 for Left, Top, Right and Bottom bounds is fullscreen resolution with no cropping applied).
 - Size: Reward only text for final size of defined region of interest
 - Set to Graphics Bounds: Selecting this button will update region of interest values to calculate the utmost bounding edges for top, left, bottom and right of all objects combined in the scene.



- **Thumbnail** Set the thumbnail that will be used in PRIME's scene browser.
 - Use Region of Interest: Enable this to crop the thumbnail to the defined region of interest in the scene.
 *This will only be applied to Prime's scene browser and does not apply to LUCI

* This will only be applied to Prime's scene browser and does not apply to LUCI thumbnails and previews.

Command Sequence:

The command sequence allows you to build a list of Trigger items to play out in a sequence:

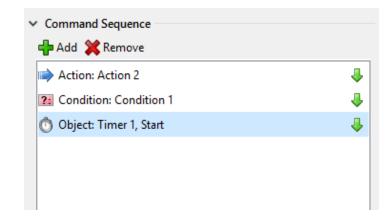
Adding a Command allows you to choose an item from the Trigger list:

The right Green arrow indicates whether the item, after being executed, will move to the next item in the list. This is called "Follow Through". Some items, like Action, can ONLY be follow through.

The Command Sequence has its own API and can be controlled by a Condition, A script or from a Control Panel

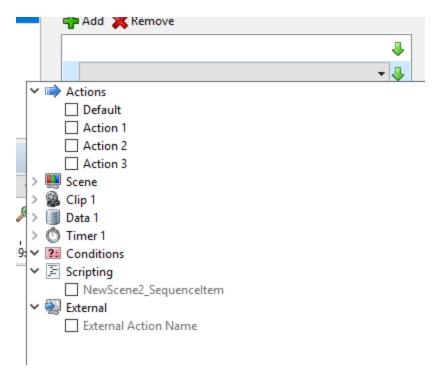
📥 Add	💢 Remov	e		





C# Script:

Scene.CommandSequence.Execute

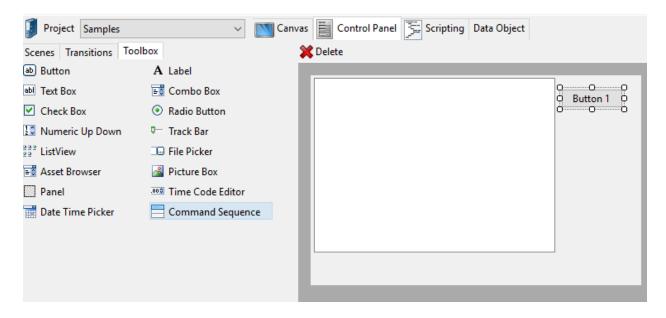


Condition:



Parameters / Expressions Conditions	
Conditions 🖶 💢 🔚 🏐 Statements	🖬 🕮 Operators = != < > Commands 🕑 Trigger 🔲 Property 💥 🗌
Condition 1 🗸 😪 Cond	lition 2
Condition 2	ext1.Text="Hello"
e	Sequence: Execute
	✓ I⇒ Actions
	Default
	Action 1
	Action 2
	Action 3
	> 🛄 Scene
	> 👺 Clip 1
< b	> III Data 1
	> O Timer 1
Timeline	V 2 Conditions
Default Action 1 Action 2 Action 3 👒 Add Action	Condition 1
	Condition 2
Action 🖻 🙀 👒 Triggered By (0) 🕨 🔳 🚺 📢 🕪	Condition2_ConditionEval
Animation 0:00 1:00 2:00 3:00 4:00	· ✓ 剩 External
Animation 0:00 1:00 2:00 3:00 4:00	External Action Name
	✓ Execute
	MoveFirst
	MoveLast

Control Panel:





Scene Events

- Before Load Executes once before a scene is loaded into either Preview or Program
- Effect In -Triggers when a scene is transferred to Program. (See Layer In)
- Effect Out Triggers when a scene is transferred from Program to Preview or Scene is closed. (See Layer Out)
- Layer In Triggers when a scene in Preview plays to Program replacing another scene in the same layer. This supersedes the "Effect In".
- Layer Out Triggers when a scene in Program is played off by an incoming scene in the same layer. This supersedes the "Effect Out".
- **Preview In** Triggers when a scene is loaded into Preview. Supersedes the Effect In for Preview.
- **Before Load** -Triggers before a scene is loaded into Program
- After Load Triggers once after a scene is loaded into either Preview or Program

Properties Events	
🖂 🜉 New Sce	ne 🏐 🥔 🌆 🕅 🖭 🎅 🎽
✓ Events	
Effect In	~
Effect Out	
Layer In	
Layer Out	
Preview In	
Before Load	
After Load	
Before Play	
After Play	
Before Update	
After Update	~
Before Stop	
After Stop	~
Before Close	
After Close	
Style Changed	×

- **Before Play** Triggers before a scene is played from Preview to Program
- After Play Triggers after a scene is played to output
- Before Update Triggers before the elements of a scene are loaded.
- After Update Triggers after the elements of a scene are loaded.
- Before Stop Triggers when a scene is taken off Program
- After Stop Triggers after a scene is taken off Program
- **Before Close** Triggers before a scene is closed. (Cleared from both Preview and Program)
- After Close Triggers after a scene is closed. (Cleared from both Preview and Program)
- Style Changed Triggers when the scene's Style Property is changed (See Style Property)



Before Load Event triggers	Initialize scene with Default Action	Initialization completes Preview In or Effect In Event triggers	Preview In effect completes After Load Event triggers	After Load Event Completes
Scene Closed	Scene Loading	~		Scene Loaded
he "Play" sequence	for Effect In	4		
Before Play Event Triggers	Before Play completes Default Action or Effect In Plays	Default Action or Effect In completes	Default or Effect in or Layer In completes After Play Event Triggers	After Play Eve Completes
Scene Loaded	Scene Playing			
The "Play" sequence Before Update Event triggers	e for Update In Before Update Event complete After Update Event triggers			
Before Update Event triggers Scene Playing	Before Update Event complete After Update Event triggers			
Before Update Event triggers	Before Update Event complete After Update Event triggers		After Stop Event Completes	
Before Update Event triggers Scene Playing The "Stop" sequence Before Stop Event	Before Update Event complete After Update Event triggers Before Stop Event completes	Completes Effect Out complete		
Before Update Event triggers Scene Playing The "Stop" sequence Before Stop Event triggers Scene Playing	Before Update Event complete After Update Event triggers Before Stop Event completes Effect Out Plays Scene Stopping	Effect Out complete ster Stop Event triggers		
Before Update Event triggers Scene Playing The "Stop" sequence Before Stop Event triggers	Before Update Event complete After Update Event triggers Before Stop Event completes Effect Out Plays Scene Stopping	Effect Out complete fter Stop Event triggers		

The "Load" sequence. Occurs only if you have a Preview.



Opening a scene directly to output will trigger Before load, After Load, Before Play and After Play.

All of the scene events handlers can be used to attach any of the other objects methods in the scene. **EX**:Timer1.Start



Events Before Load After Load Before Play After Play Before Stop After Stop Before Close After Close	 Actions Default Timer 1 Reset Start Finish E Scripting NewScenel_AfterLo
	< Þ

Example of assigning an "Effect In" and "Effect Out":



Scene Objects

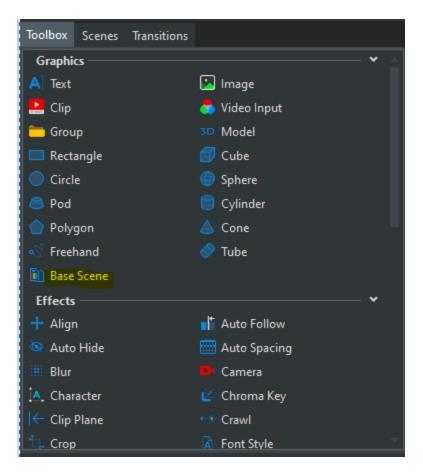
The Toolbox

Toolbox Scenes Transitions	
Graphics	~
A Text	🖸 Image
🛃 Clip	💑 Video Input
📛 Group	3D Model
Rectangle	🗊 Cube
Circle	🛑 Sphere
🚔 Pod	Cylinder
🔷 Polygon	🛆 Cone
Freehand	♂ Tube
Base Scene	
Effects	• •
+ Align	Auto Follow
🔍 Auto Hide	Auto Scale
4 Auto Size	Auto Spacing
Billboard	Blur
Camera	A, Character
Chroma Key	
Chroma Key	Clip Plane
	t. Crop
🕀 Duplicate	Font Style
Grid	S HDR
Inline Text	Java Script
💊 Light	🚺 Logic
🥃 LUA Script	Mask
🗱 Material	
🐴 Multi Style	🗾 Page Turn
A Parameters	🚔 PSD
QR Code	🕂 Render Texture
Roll	Roll Crawl
💦 Shader	🖬 Style Sheet
Table	🥢 Texture
🔀 Texture Matrix	Touch
∔ • Transform	Transition
🔢 Virtual Group	🔛 Warp
👼 XMP	
Resources	*
🗐 Ancillary Data	🜓 Audio
🛍 Base Scene	🐼 BXF
💾 C# Script	😟 Clip Player
Control Panel	🚍 Data
🖳 GPI In	👜 GPI Out
Pa Hot Key	🖆 Java Script
🔚 Keyboard Bank	
😑 Message	📑 Switcher
Table	🤳 Timer
🔂 VB Script	🗶 X-Keys



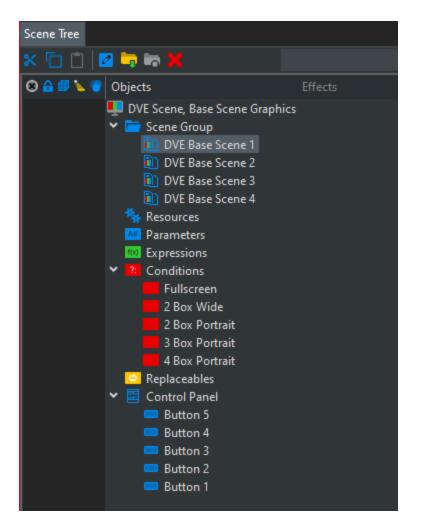
Base Scene

Base scenes can be added as objects in a scene as well as a Scene resource. (See the "Resources" section).



When Base scenes are added to scenes the Base Scene will be inserted into the current scene as a Scene child object. Control panel objects will be appended to the Control Panel.





Base Scene Actions and Conditions become available in the Triggers list and through Conditions.



Base Scene Properties

Same as a normal scene.

Properties	Events						
🗸 🚺 🖸	VE Base S	cene 1					-
> Render							
✓ Transfo	rm ——						
Positi	on X	0.0	Y	0.0	Z	0.0	
Scale	х	1.00	Y	1.00	Z	1.00	
Rotati	ion X	0.0	Y	0.0	z	0.0	
Pivot	х	0.0	Y	0.0	z	0.0	
✓ Surface							
Opaci	ty 100	0.0			,		-
✓ Base Sc	ene ——						
File		Base\DV	E Base S	Scene.pbs	;		~
✓ Preview							
🖲 Actio	ons Defau	ult Upda	ate DVE				
?: Cond	litions Fu	ullscreen	Hidde	n 2 Box	Wide,	1	
2 Box W	/ide, 2 2	Box Port	rait, 1	2 Box Po	rtrait, 2		
3 Box P	ortrait, 1	3 Box Po	ortrait, 2	2 3 Box I	Portrait	, 3	
4 Box P	ortrait, 1	4 Box Po	ortrait, 2	2 4 Box I	Portrait	, 3	
4 Box P	ortrait, 4						



Circle Object

Render Properties

Projection

- •
- Orthogonal Orthogonal projection.
- Perspective local Central projection. The mid-point of projection is affected by an object.
- Perspective Global -Central projection. The mid-point of projection is immovable in screen coordinates.

V 🗍 Cube1	
⊿ Render	
Projection	Inherit 🔹
Projection Center	Inherit Orthogonal
Light Enable	Perspective Local Perspective Global Camera
Double Side	Camera Camera Lens Orthogonal Parent Offset
Depth Function	On v

- **Camera** Projection in line with an external camera.
- Camera Lens Special kind of projection in line with an external camera. Only the lens is tracked, it means just projection. The view matrix is the identity matrix, it doesn't depend on a location or camera direction.
- **Ortho Parent Offset** Orthogonal projection. The center of coordinate system is offset by current node position in the view of parent projection and transformations.

Properties Events

Projection Center

- On Fragment is rendered if object lies close to a observer (it's Z-coordinate is smaller than Z-coordinate in depth buffer). This option ensures the correct visibility of 3D object surface and its mutual location with other objects. Default value.
- Always Fragment is rendered always independently of depth buffer.
- Never Fragment isn't rendered ever.
- **Equal** Fragment is rendered if Z-coordinate at a given point is equal to Z-coordinate from depth buffer. Appropriate for n-pass drawing of the same object.



- Less than or Equal Fragment is rendered if Z-coordinate is less or equal to Z-coordinate from depth buffer.
 The later rendered objects in case of equality in Z-coordinate overlay previous rendered objects.
- **No Write** Similar to option "ON" with difference of Stealth attribute. Object is rendered under the rule visibility, but it isn't placed in depth buffer in itself.
- Greater than or Equal Fragment is rendered if Z-coordinate is greater or equal to Z-coordinate from depth buffer.
 The later rendered objects in case of equality in Z coordinate everlay provides

The later rendered objects in case of equality in Z-coordinate overlay previous rendered objects. Use just for special purposes!

Light Enabled Double Sided Depth Function Priority Transform Properties Position: Position the object in X, Y or Z Scale: Scale the object in X, Y or Z Rotation: Rotate the object in X, Y or Z

Pivot: Move the Pivot Position of the object in X, Y or Z

Origin: Move the Origin Position of the object in X, Y or Z

Surface Properties

Opacity

Circle Properties

Angle

Visible angle in degrees from 0Ű to 360Ű. Value below 360Ű increases open angle in the circle.

Diameter

Circle diameter.

Hole

Creates a hole in the circle, making it into a ring.



Tessellation

Number vertices on the circle perimeter.

Higher tessellation makes the circle smoother but consumes more resources to render.

Alignment

- **CENTER** Open angle is centered at the top (Y+).
- **Clock Wise** Clockwise alignment. Angle starts at zero and opens clockwise.
- Counter Clock Wise Counter-Clockwise alignment. Angle starts at zero and opens counter clockwise

UV Mapping

- **Planar** UV coordinates projected linearly by a plane.
- **Polar** U is angle, V is distance from center.



Clip Object

The Clip object allows designers to playback clips within the Editor and Playout.

Supported Playback Clip Formats:

GTC is the native PRIME clip Format.

Supported formats in various wrappers include .MOV. DNxHD, DNxHR, PRO Res, XDCam, .mxf, H264, AVC Intra, DVC Pro HD, HQ, HQX, MPEG2, and MPEG4

DNx and ProRes both require a valid license for playback support. A warning prompt will display if these codecs are unlicensed.

*There maybe some exceptions for key, audio, 4K, and HD support depending on the codec's native support of those features

If your use case requires more system resources for clip playback performance, especially when using Apple ProRes based clips, please read about the Copy Threads setting within the PRIME_Playout_Configuration_Guide.

Properties Event	ts
🗸 🎦 Clip 1	
> Render	
✓ Transform —	
Position	X 960.0 Y 540.0 Z 0.0
Scale	X 1.00 Y 1.00 Z 1.00 👓
Rotation	X 0.0 Y 0.0 Z 0.0 xyz
Pivot	
Origin	X 0.50 Y 0.50 V
✓ Surface	
Size	Width 1920 Height 1080 😔 🗄 🔻
File	Width 1920 Height 1080
Opacity	100.0
✓ Clip ———	
Preview	< << ◀ ▶ ■ ⇒ ↦ > ▼
File	Drone1.mp4
Command	None 🗸 Color
Speed	
Frame 00	0:00:00.00 \$ Length 00:00:59.05 \$
Trim In 0	0:00:00.00 🗘 Trim Out 00:00:59.05 🗘
	Loop
	Hold Last Frame



The following settings may be configured on the **Clip Properties** window:

• **Name** - The user friendly name to refer to the object throughout the application.

Render Properties

The **Render** subcategory includes:

- **Projection** Projection mode. It is method how to map 3D objects to 2D screen plane.
- Orthogonal Orthogonal projection.
- **Perspective local** Central projection. The mid-point of projection is affected by an object.
- **Perspective Global** Central projection. The mid-point of projection is immovable in screen coordinates.
- **Camera** Projection in line with an external camera.
- Camera Lens Special kind of projection in line with an external camera. Only the lens are tracked, it means just projection. The view matrix is the identity matrix, it doesn't depend on a location or camera direction.
- **Ortho Parent Offset** Orthogonal projection. The center of coordinate system is offset by current node position in the view of parent projection and transformations.
- **Projection Center** Center of projection. (Position on the screen where all lines meet in infinity.)
- **Light Enabled** Enable use of lights. Applies only to object with generated normals. This feature is ignored when using shaders.
- **Double Sided** Double side visibility.
- **Depth Function-** Function for making decision whether it will write to scene according to z-buffer.
 - **OFF** Disabled writing to depth buffers. Suitable for flat object which doesn't collide with any other objects.
 - **ON** Fragment is rendered if object lies close to a observer (it's Z-coordinate is smaller than Z-coordinate in depth buffer). This option ensures the correct visibility of 3D object surface and its mutual location with other objects. Default value.
 - **ALWAYS** Fragment is rendered always independently of depth buffer.
 - **NEVER** Fragment isn't rendered ever.
 - EQUAL Fragment is rendered if Z-coordinate at a given point is equal to Z-coordinate from depth buffer. Appropriate for n-pass drawing of the same object.



- EQUAL Fragment is rendered if Z-coordinate is less or equal to Z-coordinate from depth buffer.
 The later rendered objects in case of equality in Z-coordinate overlay previous rendered objects.
- **NOWRITE** Similar to option "ON" with difference of Stealth attribute. Object is rendered under the rule visibility, but it isn't placed in depth buffer in itself.
- **GEQUAL** Fragment is rendered if Z-coordinate is greater or equal to Z-coordinate from depth buffer.

The later rendered objects in case of equality in Z-coordinate overlay previous rendered objects. Use just for special purposes!

• **Priority-** Rendering priority within a layer. The higher number the later the object gets rendered.

Use with care! Rather use Position.Z instead.

The priority change doesn't work well if objects use depth buffer.

- Texture Quality
- Texture Wrap

Transform Properties

The **Transform** subcategory allows for the manipulation of the Clip Objects **Position, Scale, Rotation** and **Pivot** along the XYZ axis.

• To keep the Scale Aspect fixed to its current dimensions, click the lock icon to Lock Aspect Scale.

,	Transform			
	Position 🔶	X 960.0 🔶	Y 540.0	Z 0.0
	Scale	X 1.00	Y 1.00	Z 1.00 🛋
	Rotation 🔶	X 0.0 🧇	Y 0.0	Z 0.0
	Pivot	X 0.0	Y 0.0	Z 0.0 -
	Origin	X 0.50	Y 0.50 -	



- Position: Position the object in X, Y or Z
- Scale: Scale the object in X, Y or Z
- **Rotation:** Rotate the object in X, Y or Z
- Pivot: Move the Pivot Position of the object in X, Y or Z
- Origin: Move the Origin Position of the object in X, Y or Z

Surface Properties

The **Surface** subcategory includes:

- Size Width
- Size Height
- Opacity

Clip Properties

The **Clip** subcategory includes:

- File Clip file name
- Command
 - o None
 - o Cue
 - o Play
 - o Stop
 - o Pause
 - o Resume
 - o Rewind
 - o Fast Forward
 - o Play Reverse
 - o End

Command		None 🗸 🗸
Frame	00	None Cue
Trim In	00	Play Stop
		Pause Resume
		Rewind Fast Forward
		Play Reverse End



- Frame Current Frame number
- Length –length of the clip file
- **Trim In** Trim the start of the clip. Marks the "In" point
- Trim Out Marks the "out point" of the clip
- **Loop** Loop the clip any number of times or indefinitely.

	Loop In	00:00:00 *	Loop Out	00:00:02.01	
		🗹 Loop	Loop Count	Indefinite	~
of	Frame	00:00:00.00 韋	Length	00:00:02.01	
	Trim In	00:00:00.00	Trim Out	00:00:02.01	
		Loop			

Configure the loop as follows:

- To enable/disable the loop, check/uncheck the check box.
- To set the number of times that the clip loops:

Enter a number: Loops the specified number of times.

Indefinite: Select Indefinite to have the loop play indefinitely.

- Loop Points: Two loop points can be set, so that the clip begins from one point and loops back to a point different from the start point of the clip and loops back from a point different from the end point of the clip.
- Loop In: Set the point back to which the clip loops, i.e., the loop start point.
- Loop Out: Set the point back from which the clip loops, i.e., the loop end point. This action is not yet available
- Hold last Frame-Pause at last frame



Clip Events

There are a few ready to use events

- Finished
- Play Finished
- Reverse Finished

Properties	Events	
Finished		•
PlayFinished		~
ReverseFinished		•

Property Changed

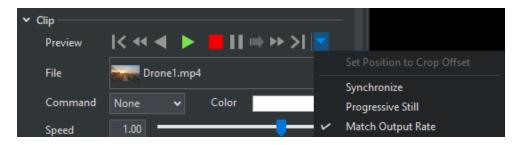
Property		Triggers
ile	\sim	•
ile	^	
rame		
leight		
loldLastFrame		
nterlaced		
ength		
ightEnable		
ocked		
ockScaleAspect		
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livotY		
ivotZ		
ositionX		
ositionY		
ositionZ		
riority		
rojection		
rojectionCenterX		
rojectionCenterY		
otationOrder		
otationX		
otationY	¥	

There are events for all the clip properties as well:



The Clip subcategory includes:

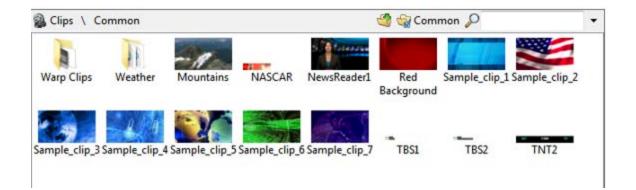
- **Preview** These controls allow you to preview clips
- Set Position to Crop Offset GTC files can be generated by cropping off all pixels that are always transparent, and embedding this crop information as metadata into the clip. Enabling this option allows this crop position to be automatically set to the Position property of the clip
- Synchronize Enable to synchronize multiple clips using the same File
- **Progressive Still** Merges two interlaced fields into one frame during pause. Only available for interlaced clips.
- Match Output Rate If enabled, automatically adjusts the playback rate of the clip to match the output rate of the channel.
 - For Playout: Match Output Rate only supports the playout of audio if the video output channel you are playing out to is set to the same frame rate as the frame rate of the clip.
 - Example 1 Clip is rendered at 50fps, Output Channel is set to 59.94. Clip will playback at 59.94 instead of 50fps but audio will not play.
 - Example 2 Clip is rendered at 50fps, Output Channel is set to 50fps.
 Clip will playback at 50fps and audio will play.



• File – Shows the clip browser starting in the "Clips" folder of the current project.



Properties	×
Clip 1	3
> Kender	
✓ Transform	
Position ♦ X 960.0 ♦ Y 540.0 Z 0.0	
Scale X 1.00 Y 1.00 Z 1.00 🛋	
Rotation 🧇 X 0.0 🔷 Y 0.0 Z 0.0	
Pivot X 0.0 Y 0.0 Z 0.0 -	
Origin X 0.50 Y 0.50 -	
✓ Surface	
Size Width 800 Height 800 🛋 🕁	
♦ Opacity 100.0	Į.
✓ Clip	
Preview 🔀 🕪 🖿 🔢 🕪 🕅	
File 🕢 CH Logo.mov	-
Command None ~	
Frame 00:00:00.00 Length 00:00:02.01	
Trim In 00:00:00.00 - Trim Out 00:00:02.01 -	

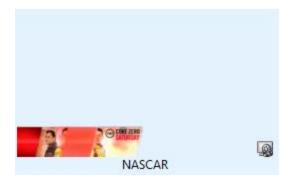




Clips with the "Warp" icon in the lower right hand corner are flagged as "Warp" clips that contain the UV Mapping information.

🖓 Clips \ Common \ Warp Clips			錔 🈪 Common 🔎				-	
cloth-v2-jpg	Cubes 1c	Cubes In Background 3	Cubes In Background	Cubes Out Background 3	Cubes Out Background	Door Hinge	Page Turn	
Page Turn Background	Page Turn Background	Pixel Polly	Pixel Polly Fields	Top Hinge	TVdemo	TVdemo2		

Clips with Key icon:





The Events subcategory includes:

• **Finished Event** - When the clip is finished perform something else available in the scene.

ents		
Finished		•
Property Chang Add 💥 Ren		
Property	Triggers	
10		

Cone Object

Cube Object

Render Properties

Projection

- Inherit
- **Orthogonal** Orthogonal projection.
- Perspective local Central projection. The mid-point of projection is affected by an object.
- **Perspective Global** Central projection. The mid-point of projection is immovable in screen coordinates.

Properties Events		
🔽 🧻 Cube 1		
⊿ Render		
Projection	Inherit 👻	
Projection Center	Inherit Orthogonal	
Light Enable	Perspective Local Perspective Global Camera	
Double Side	Camera Camera Lens Orthogonal Parent Offset	
Depth Function	On •	

• **Camera** - Projection in line with an external camera.



- Camera Lens Special kind of projection in line with an external camera. Only the lens is tracked, it means just projection. The view matrix is the identity matrix, it doesn't depend on a location or camera direction.
- **Ortho Parent Offset** Orthogonal projection. The center of coordinate system is offset by current node position in the view of parent projection and transformations.

Projection Center

- **On** Fragment is rendered if object lies close to a observer (it's Z-coordinate is smaller than Z-coordinate in depth buffer). This option ensures the correct visibility of 3D object surface and its mutual location with other objects. Default value.
- Always Fragment is rendered always independently of depth buffer.
- Never Fragment isn't rendered ever.
- **Equal** Fragment is rendered if Z-coordinate at a given point is equal to Z-coordinate from depth buffer. Appropriate for n-pass drawing of the same object.
- Less than or Equal Fragment is rendered if Z-coordinate is less or equal to Z-coordinate from depth buffer.
 The later rendered objects in case of equality in Z-coordinate overlay previous rendered objects.
- No Write Similar to option "ON" with difference of Stealth attribute.
 Object is rendered under the rule visibility, but it isn't placed in depth buffer in itself.
- **Greater than or Equal** Fragment is rendered if Z-coordinate is greater or equal to Z-coordinate from depth buffer.

The later rendered objects in case of equality in Z-coordinate overlay previous rendered objects. Use just for special purposes!



Light Enabled

Double Sided

Depth Function

Priority

Transform

Position: Position the object in X, Y or Z

Scale: Scale the object in X, Y or Z

Rotation: Rotate the object in X, Y or Z

Pivot: Move the Pivot Position of the object in X, Y or Z

Origin: Move the Origin Position of the object in X, Y or Z

Surface

Opacity:

Cube Properties

File:

Size:

Bevel



0	None:
0	Chamfer
0	Round:



Cylinder Object

Render Properties

Projection

- **Orthogonal** Orthogonal projection.
- **Perspective local** Central projection. The mid-point of projection is affected by an object.
- **Perspective Global** Central projection. The mid-point of projection is immovable in screen coordinates.
- **Camera** Projection in line with an external camera.
- Camera Lens Special kind of projection in line with an external camera. Only the lens is tracked, it means just projection. The view matrix is the identity matrix, it doesn't depend on a location or camera direction.
- **Ortho Parent Offset** Orthogonal projection. The center of coordinate system is offset by current node position in the view of parent projection and transformations.

Projection Center

- On Fragment is rendered if object lies close to a observer (it's Z-coordinate is smaller than Z-coordinate in depth buffer). This option ensures the correct visibility of 3D object surface and its mutual location with other objects.
 Default value.
- Always Fragment is rendered always independently of depth buffer.
- **Never** Fragment isn't rendered ever.
- **Equal** Fragment is rendered if Z-coordinate at a given point is equal to Z-coordinate from depth buffer. Appropriate for n-pass drawing of the same object.
- Less than or Equal Fragment is rendered if Z-coordinate is less or equal to Z-coordinate from depth buffer.

The later rendered objects in case of equality in Z-coordinate overlay previous rendered objects.

- No Write Similar to option "ON" with difference of Stealth attribute.
- •
- Object is rendered under the rule visibility, but it isn't placed in depth buffer in itself.
- **Greater than or Equal** Fragment is rendered if Z-coordinate is greater or equal to Z-coordinate from depth buffer.

The later rendered objects in case of equality in Z-coordinate overlay previous rendered objects. Use just for special purposes!



Light Enabled
Double Sided
Depth Function
Priority
Transform Properties
Position: Position the object in X, Y or Z
Scale: Scale the object in X, Y or Z
Rotation: Rotate the object in X, Y or Z
Pivot: Move the Pivot Position of the object in X, Y or Z
Origin: Move the Origin Position of the object in X, Y or Z
Surface Properties
Opacity
Set the opacity on the surface object
Cylinder Properties
Diameter
Depth

Angle

Hole

Tessellation

Alignment

- Center
- Clockwise
- Counter Clockwise

UV Mapping

- Planner
- Polar

Bevel Properties Size Cuve Scale Tessellation Back Inside



Freehand

Transform Properties

Position: Position the object in X, Y or Z
Scale: Scale the object in X, Y or Z
Rotation: Rotate the object in X, Y or Z
Pivot: Move the Pivot Position of the object in X, Y or Z
Origin: Move the Origin Position of the object in X, Y or Z

Data:

Point X-Y: 33

Data: CSV data in format: "x1,y1\nx2,y2" \n is a new line character. You can use pipe "|" character instead of new line.

Freehand:

Color: Stroke color

End Fade: Position on the stroke where to apply alpha gradient from 1 to 0.

End Length: The length of end part of the stroke which is made thinner.

Thickness: Half thickness of the stroke

Filter Step: Filter step affects finer (lower then 1.0) or coarse (higher then 1.0) sampling of input data.

Texture:

Texture: Filename of image file used as a texture on stroke. If set to empty string or undefined then no texture is used. The texture is always drawn in REPEAT mode. To shift the texture along the stroke use TextureMatrix effect and change Offset.X

Stretch: When undefined the texture is repeated over the stroke. Otherwise the parameters define range in which the texture is stretched over the stroke. The parts outside the range is not stretched.



Group Object

The default shortcut to add a group to your scene is Ctrl+G. Selecting objects in your scene tree using Ctrl and then pressing Ctrl+G will add a new group to your scene and automatically move the selected objects inside the new group. The default shortcut ungroup is Ctrl+U.

Render Properties

Projection

- Inherit inherits from the parent group. If there is no parent group, then it defaults to Perspective Global
- Orthogonal Orthogonal projection.
- **Perspective local** Central projection. The mid-point of projection is affected by an object.
- **Perspective Global** Central projection. The mid-point of projection is immovable in screen coordinates.

Properties Events				
🔽 🧻 Cube 1				
Render				
Projection	Inherit 🔹			
Projection Center	Inherit Orthogonal			
Light Enable	Perspective Local Perspective Global Camera			
Double Side	Camera Camera Lens Orthogonal Parent Offset			
Depth Function	On			

- **Camera** Projection in line with an external camera.
- Camera Lens Special kind of projection in line with an external camera. Only the lens is tracked, it means just projection. The view matrix is the identity matrix, it doesn't depend on a location or camera direction.
- Ortho Parent Offset Orthogonal projection. The center of coordinate system is offset by current node position in the view of parent projection and transformations.



Projection Center

- **On** Fragment is rendered if object lies close to a observer (it's Z-coordinate is smaller than Z-coordinate in depth buffer). This option ensures the correct visibility of 3D object surface and its mutual location with other objects. Default value.
- Always Fragment is rendered always independently of depth buffer.
- **Never** Fragment isn't rendered ever.
- Equal Fragment is rendered if Z-coordinate at a given point is equal to Z-coordinate from depth buffer. Appropriate for n-pass drawing of the same object.
- Less than or Equal Fragment is rendered if Z-coordinate is less or equal to Z-coordinate from depth buffer.
 The later rendered objects in case of equality in Z-coordinate overlay previous rendered objects.
- **No Write** Similar to option "ON" with difference of Stealth attribute. Object is rendered under the rule visibility, but it isn't placed in depth buffer in itself.
- Greater than or Equal Fragment is rendered if Z-coordinate is greater or equal to Z-coordinate from depth buffer.
 The later rendered objects in case of equality in Z-coordinate overlay previous rendered objects. Use just for special purposes!

Light Enabled Double Sided Depth Function Priority

Transform Properties

The **Transform** subcategory allows for the manipulation of the Clip Objects **Position**, **Scale**, **Rotation** and **Pivot** along the XYZ axis

Position: Position the object in X, Y or Z

Scale: Scale the object in X, Y or Z

Rotation: Rotate the object in X, Y or Z

Pivot: Move the Pivot Position of the object in X, Y or Z

Origin: Move the Origin Position of the object in X, Y or Z

Surface Properties

Opacity: Set the opacity of the children in the group



Image Object

Properties Events
🗹 💼 Image 1
> Render
✓ Transform
Position X 960.0 Y 540.0 Z 0.0
Scale X 1.00 Y 1.00 Z 1.00 🖘
Rotation X 0.0 Y 0.0 Z 0.0 xyz
Pivot X 0.0 Y 0.0 Z 0.0 -
Origin X 0.50 Y 0.50 -
✓ Surface
Size Width 428 Height 272 📼 🕁 🕶
Opacity 100.0
✓ Image
File 🔹 Team Logos\MLB BOS.tga 🗸 🗸 🔀
Color
Hide On Clear
✓ Shadow
Enabled
Color Color
Blur 10
Offset X 5.0 Y -5.0 Z 0.0

The following settings may be configured on the Image Properties window:

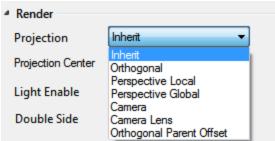
• Name – The name to be referenced throughout the scene



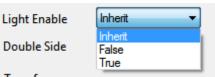
Render Properties

The **Render** subcategory includes:

- Projection -
 - **Orthogonal** Orthogonal projection.
 - **Perspective local** Central projection. The mid-point of projection is affected by a object.



- Perspective Global Central
 projection. The mid-point of projection is immovable in screen coordinates.
- **Camera** Projection in line with an external camera.
- Camera Lens Special kind of projection in line with an external camera. Only the lens are tracked, it means just projection. The view matrix is the identity matrix, it doesn't depend on a location or camera direction.
- Ortho Parent Offset Orthogonal projection. The center of coordinate system is offset by current node position in the view of parent projection and transformations.
- **Projection Center** Center of projection. (Position on the screen where all lines meet in infinity.)
- Light Enabled Enable use of lights. Applies only to object with generated normals. This feature is ignored when using shaders.



- Double Sided Double side visibility.
- **Depth Function-** Function for making decision whether it will write to scene according to z-buffer.
 - **OFF** Disabled writing to depth buffers. Suitable for flat object which doesn't collide with any other objects.
 - **ON** Fragment is rendered if object lies close to a observer (it's Z-coordinate is smaller than Z-coordinate in depth buffer). This option ensures the correct visibility of 3D object surface and its mutual location with other objects. Default value.
 - ALWAYS Fragment is rendered always independently of depth buffer.
 - **NEVER** Fragment isn't rendered ever.
 - EQUAL Fragment is rendered if Z-coordinate at a given point is equal to Z-coordinate from depth buffer. Appropriate for n-pass drawing of the same object.



- EQUAL Fragment is rendered if Z-coordinate is less or equal to Z-coordinate from depth buffer.
 The later rendered objects in case of equality in Z-coordinate overlay previous rendered objects.
- **NOWRITE** Similar to option "ON" with difference of Stealth attribute. Object is rendered under the rule visibility, but it isn't placed in depth buffer in itself.
- **GEQUAL** Fragment is rendered if Z-coordinate is greater or equal to Z-coordinate from depth buffer.

The later rendered objects in case of equality in Z-coordinate overlay previous rendered objects. Use just for special purposes!

• **Priority-** Rendering priority within a layer. The higher number the later the object gets rendered.

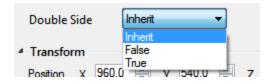
Use with care! Rather use Position.Z instead.

The priority change doesn't work well if objects use depth buffer.

- Texture Quality
- Texture Wrap

Transform Properties

The **Transform** subcategory allows for the manipulation of the Image Objects **Position**, **Scale**, **Rotation** and **Pivot** along the XYZ axis.



Position: Position the object in X, Y or Z

Scale: Scale the object in X, Y or Z

Rotation: Rotate the object in X, Y or Z

Pivot: Move the Pivot Position of the object in X, Y or Z

Origin: Move the Origin Position of the object in X, Y or Z

• To keep the Scale Aspect fixed to its current dimensions, click the lock icon to Lock Aspect Scale.

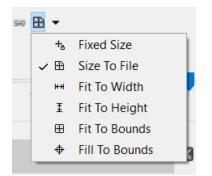


Surface Properties

The Surface subcategory includes:

✓ Surface		
Size	Width 480	Height 270 🕬 🎛 🔻
File	Width 0	Height 0
Opacity	100.0	

The red arrow button will allow you to set the Size Mode to determine what happens when the image is replaced. This option gives you many choices.



- Fixed Size: Image will use the Width and Height defined in the properties regardless of the file size
- Size To File: When the File property changes, Width and Height will be set to the File dimensions
- Fit To Width: The Width will be set to the specified Fit Bounds Width, and the Height will be calculated to maintain the aspect of the File Size
- Fit To Height: The Height will be set to the specified Fit Bounds Height, and the Width will be calculated to maintain the aspect of the File Size
- Fit To Bounds: The Size is set to fit within the Fit Bounds, while maintaining file aspect
- Fill To Bounds: The Size is set to fill within the Fit Bounds, while maintaining file aspect

Image Properties

The Image subcategory includes



∽ Image	
File	🚫 I:\\ChyronHego Symbol 32.png 🗸 🛛
Color	
	Hide On Clear

File

• Image Browser -

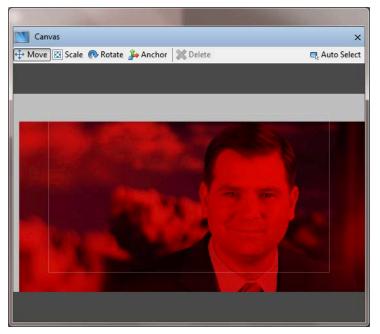
Image	属 Images				🍓 🎡 Common 🔎			-	
	Constant of the Second			-					
	Bypass	google	XMP Blank	XMP MLB - BAUTISTA	XMP MLB - JETER DEREK	XMP NBA - BOSH CHRIS	XMP NBA - BRYANT	XMP NBA - CALDERON	
k	<u>ĝ</u>		0	9		Q			
11. 00	XMP NBA -	XMP NBA -	XMP NBA -	XMP NBA	XMP NFL -	XMP NFL -			
00	JAMES	JEREBKO	NASH STEVE	-RONDO	ATL Jones	ATL PATRICK			

Selecting images from folders outside the project will prompt you to import or not import the selected image to the project.

rget	External File Path	Operation	Progress	
페 Image1.File	E∖Tom.jpg	CopyRedirect		



Color



Or use as a solid color, ramp or quad:

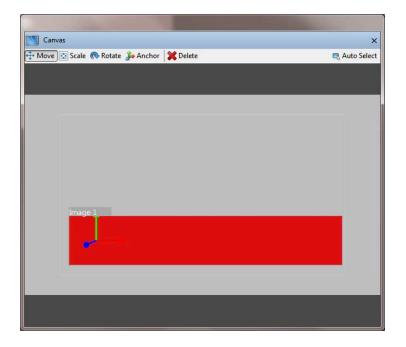




Image Properties X
Name Image 1 👽 Enabled
* Render
Projection Inherit 🔻
Projection Center X 960.0 Y 540.0
Light Enable Inherit 💌
Double Side Inherit 💌
4 Transform
Position 🕱 1153.1 🌩 🍸 293.8 🜩 Z 0.0 🜩
Scale 🕱 0.77 🜩 🖓 0.25 🜩 Z 0.25 🜩 ≏
Rotation X 0.0 🜩 Y 0.0 🜩 Z 0.0 🜩
Pivot 🗙 -765.8 🜩 🍸 0.0 🜩 Z 0.0 🜩
✓ Surface
Size Width 1920 🚔 Height 1080 🌧 🕀
Opacity 1.00
4 Image
File 🗸
Color



Canvas		×
🕂 Move 🔯 Scale 🐟 Rotate 🔑 Anchor	💥 Delete	🖳 Auto Select
		1
Image 1		



Image Properties X
Name Image 1 👽 Enabled
* Render
Projection Inherit 🔻
Projection Center X 960.0 Y 540.0
Light Enable Inherit 💌
Double Side Inherit 💌
4 Transform
Position 🕱 1153.1 🌩 🍸 293.8 🜩 Z 0.0 🜩
Scale 🕱 0.77 🜩 🖓 0.25 🜩 Z 0.25 🜩 ≏
Rotation X 0.0 🜩 Y 0.0 🜩 Z 0.0 🜩
Pivot 🗙 -765.8 🜩 🍸 0.0 🜩 Z 0.0 🜩
✓ Surface
Size Width 1920 🚔 Height 1080 🚔 🕀
Opacity 1.00 🚔
4 Image
File 🗸
Color



Canvas	×
🕂 Move 🖾 Scale 🐟 Rotate 🔑 Anchor 🔀 Delete	Relect
Image 1	

Shadow Properties

Hide on Clear

When the image is cleared make the image object Transparent.

Shadow

⊿ Shado	w
	✓ Enable
Color	00000
Blur	10
Offset	X 11.0 Y -5.0 Z 0.0

• Hide on Clear

When enabled this option will clear the image placeholder. When not enabled it will use the default color to fill the image placeholder.



Image Events

Evenits			
Properties Events			
		_	
File Changed		•	
 Property Changed 			
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Property		Triggers	
File	\sim	-	
File	^		
FinishColor			
GradientAngle			
GradientColor1			
GradientColor2			
GradientColor3			
GradientColor4			
Height			
LightEnable	_		
Locked			
LockScaleAspect			
LockSizeAspect			
Opacity			
OriginX			
OriginY			
PivotX			
PivotY Direct7			
PivotZ			
PositionX			
PositionY PositionZ			
Priority			
Projection ProjectionCenterX			
ProjectionCenterY			
RotationOrder			
RotationX			
RotationY			
RotationZ			
ScaleX			
ScaleY			
ScaleZ			
ShadowBlur			
Shadaw Calas			
Ki ShadowColor ShadowEnabled		>	×
ShadowOffsetX	~		



Model

The supported file types are .iv, .rtg, .3ds, .obj and FBX.

Polygon Object

Render Properties

Projection

- **Orthogonal** Orthogonal projection.
- **Perspective local** Central projection. The mid-point of projection is affected by an object.
- **Perspective Global** Central projection. The mid-point of projection is immovable in screen coordinates.
- **Camera** Projection in line with an external camera.
- Camera Lens Special kind of projection in line with an external camera. Only the lens is tracked, it means just projection. The view matrix is the identity matrix, it doesn't depend on a location or camera direction.
- **Ortho Parent Offset** Orthogonal projection. The center of coordinate system is offset by current node position in the view of parent projection and transformations.

Projection Center

- **On** Fragment is rendered if object lies close to a observer (it's Z-coordinate is smaller than Z-coordinate in depth buffer). This option ensures the correct visibility of 3D object surface and its mutual location with other objects. Default value.
- Always Fragment is rendered always independently of depth buffer.
- **Never** Fragment isn't rendered ever.
- Equal Fragment is rendered if Z-coordinate at a given point is equal to Z-coordinate from depth buffer. Appropriate for n-pass drawing of the same object.
- Less than or Equal Fragment is rendered if Z-coordinate is less or equal to Z-coordinate from depth buffer.
 The later rendered objects in case of equality in Z-coordinate overlay previous
 - rendered objects.
- **No Write** Similar to option "ON" with difference of Stealth attribute. Object is rendered under the rule visibility, but it isn't placed in depth buffer in itself.



 Greater than or Equal - Fragment is rendered if Z-coordinate is greater or equal to Z-coordinate from depth buffer.
 The later rendered objects in case of equality in Z-coordinate overlay previous rendered objects. Use just for special purposes!

Light Enabled Double Sided Depth Function Priority

Transform Properties

- Position: Position the object in X, Y or Z
- Scale: Scale the object in X, Y or Z
- Rotation: Rotate the object in X, Y or Z
- **Pivot:** Move the Pivot Position of the object in X, Y or Z
- Origin: Move the Origin Position of the object in X, Y or Z



Polygon Properties

DE-E	W						S
⊿ Render							
Projection	n	Inhe	rit			-	
Projection	n Cent	er X		960.0	Y [540.0	
Light Ena	ble	Inhe	rit			-	
Double Si	de	Inhe	rit			•	
Depth Fu	nction	Inhe	rit			•	
Priority		19	197				
⊿ Transform							
Position	Х	0.0	γ	0.0	z	0.0	
Scale	X	1.00	γ	1.00	z	1.00	SP)
Rotation	X	0.0	γ	0.0	Z	0.0	XYZ
Pivot	X	200.1	γ	-658.6	Z	0.0	-
⊿ Polygon —							
Data	75		30.1400	. 181.57 - 15 -751.9 66 L	4	Impoi SVG	rt
Texture							•
Color				W	/rap	Clamp	•
Depth		8.0		Q	uality	311.0	
Bevel	No	one 🔻		Si	ze	345.0	

Data

- The data section is a string representation of the data needed to display a polygon in the designer or scene.
- Data for a polygon can be directly imported from an existing SVG file by using the Import SVG button
 - Once the button is pressed and open file dialog will be presented where the use can select and SVG file.



• Once a file is selected the Import SVG dialog is shown.

I:\Prim	ne\Projects\Comm	on\Data\germany	High.svg		
🔽 Cer	nter Paths				
Index	Id	Туре	Fill	Stroke	
0	DE-TH	Path			
] 1	DE-SH	Path			
2	DE-ST	Path			
3	DE-SN	Path			
4	DE-SL	Path			
] 5	DE-RP	Path			=
6	DE-NW	Path			
] 7	DE-NI	Path			
8	DE-MV	Path			
9	DE-HE	Path			
] 10	DE-HH	Path			
] 11	DE-HB	Path			
12	DE-BB	Path			
] 13	DE-BE	Path			
1	55 BV				•

- The user can then select the polygons in the file they would like to import but selecting the check box next to the object.
- The Center Paths option will center the polygons in the scene.
- The end result will be one polygon object in the scene create from all the data in the SVG file.

Texture - Selects the texture for the polygon

Color - The color of the polygon

Wrap - Defines how the texture is wrapped on the polygon

- Clamp Clamps the texture to the polygon geometry
- Repeat Repeats the texture multiple times to fill polygon

Depth - Depth of the polygon along the Z-axis

Quality - Represents the level of detail on the edge of the polygon

Bevel - The type of bevel to apply

- None
- Chamfer

Size - The size of the bevel



Pod Object

Render Properties

Projection

- **Orthogonal** Orthogonal projection.
- **Perspective local** Central projection. The mid-point of projection is affected by an object.
- **Perspective Global** Central projection. The mid-point of projection is immovable in screen coordinates.
- **Camera** Projection in line with an external camera.
- Camera Lens Special kind of projection in line with an external camera.
 Only the lens is tracked, it means just projection.
 The view matrix is the identity matrix,
 it doesn't depend on a location or camera direction.
- Ortho Parent Offset Orthogonal projection. The center of coordinate system is offset by current node position in the view of parent projection and transformations.

Projection Center

On - Fragment is rendered if object lies close to a observer (it's Z-coordinate is smaller than Z-coordinate in depth buffer). This option ensures the correct visibility of 3D object surface and its mutual location with other objects.

Default value.

Always - Fragment is rendered always independently of depth buffer.

Never - Fragment isn't rendered ever.

Equal - Fragment is rendered if Z-coordinate at a given point is equal to Z-coordinate from depth buffer. Appropriate for n-pass drawing of the same object.

Less than or Equal - Fragment is rendered if Z-coordinate is less or equal to Z-coordinate from depth buffer.

The later rendered objects in case of equality in Z-coordinate overlay previous rendered objects.

No Write - Similar to option "ON" with difference of Stealth attribute.

Object is rendered under the rule visibility, but it isn't placed in depth buffer in itself.



Greater than or Equal - Fragment is rendered if Z-coordinate is greater or equal to Z-coordinate from depth buffer. The later rendered objects in case of equality in Z-coordinate overlay previous

rendered objects. Use just for special purposes!

Light Enabled **Double Sided Depth Function** Priority **Transform Properties** Position: Position the object in X, Y or Z Scale: Scale the object in X, Y or Z Rotation: Rotate the object in X, Y or Z **Pivot:** Move the Pivot Position of the object in X, Y or Z Origin: Move the Origin Position of the object in X, Y or Z **Surface Properties** Size X.Y and Z size Opacity Set the opacity on the surface object **Pod Properties** Top Left Top Right Bottom Left **Bottom Right Corner Shape** Skew Outline





Bevel Properties
Size
Cuve
Scale
Tessellation
Back
Inside

Rectangle Object

Render Properties

Projection

- **Orthogonal** Orthogonal projection.
- Perspective local Central projection. The mid-point of projection is affected by an object.
- Perspective Global -Central projection. The mid-point of projection is immovable in screen coordinates.
- **Camera** Projection in line with an external camera.

Properties Events		
🔽 🧻 Cube 1		
▲ Render		
Projection	Inherit 🔹	
Projection Center	Inherit Orthogonal	
Light Enable	Perspective Local Perspective Global Camera	
Double Side	Camera Lens Orthogonal Parent Offset	
Depth Function	On	

- Camera Lens Special kind of projection in line with an external camera. Only the lens is tracked, it means just projection. The view matrix is the identity matrix, it doesn't depend on a location or camera direction.
- **Ortho Parent Offset** Orthogonal projection. The center of coordinate system is offset by current node position in the view of parent projection and transformations.



Projection Center

- On Fragment is rendered if object lies close to a observer (it's Z-coordinate is smaller than Z-coordinate in depth buffer). This option ensures the correct visibility of 3D object surface and its mutual location with other objects. Default value.
- Always Fragment is rendered always independently of depth buffer.
- **Never** Fragment isn't rendered ever.
- Equal Fragment is rendered if Z-coordinate at a given point is equal to Z-coordinate from depth buffer. Appropriate for n-pass drawing of the same object.
- Less than or Equal Fragment is rendered if Z-coordinate is less or equal to Z-coordinate from depth buffer. The later rendered objects in case of equality in Z-coordinate overlay previous rendered objects.
- **No Write** Similar to option "ON" with difference of Stealth attribute. Object is rendered under the rule visibility, but it isn't placed in depth buffer in itself.
- Greater than or Equal Fragment is rendered if Z-coordinate is greater or equal to Z-coordinate from depth buffer.

The later rendered objects in case of equality in Z-coordinate overlay previous rendered objects. Use just for special purposes!



Double Sided Depth Function Priority Transform Properties Position: Position the object in X, Y or Z Scale: Scale the object in X, Y or Z Rotation: Rotate the object in X, Y or Z Pivot: Move the Pivot Position of the object in X, Y or Z Origin: Move the Origin Position of the object in X, Y or Z

Surface Properties

Light Enabled

Size Opacity:

Rectangle Properties File: Skew Tessellation Corner Shape Top Left Top Right

Bottom Left Bottom Right

Skew- Skew angle in degrees from -90Ű (left) to 90Ű (right).

Tessellation- Number vertices on the circle perimeter. Higher tessellation makes the circle smoother but consumes more resources to render. **Corner Shape-** Value -1 is flat, 0 is round, 1 is just a corner.



Sphere Object

Render Properties

Projection

- **Orthogonal** Orthogonal projection.
- Perspective local Central projection. The mid-point of projection is affected by an object.
- Perspective Global -Central projection. The mid-point of projection is immovable in screen coordinates.

Properties Events	
🔽 🧻 Cube 1	
⊿ Render	
Projection	Inherit 🔹
Projection Center	Inherit Orthogonal Perspective Local
Light Enable	Perspective Global
Double Side	Camera Camera Lens Orthogonal Parent Offset
Depth Function	On 👻

- **Camera** Projection in line with an external camera.
- Camera Lens Special kind of projection in line with an external camera.
 Only the lens is tracked, it means just projection.
 The view matrix is the identity matrix,
 it doesn't depend on a location or camera direction.
- Ortho Parent Offset Orthogonal projection. The center of coordinate system is offset by current node position in the view of parent projection and transformations.

Projection Center

- **On** Fragment is rendered if object lies close to a observer (it's Z-coordinate is smaller than Z-coordinate in depth buffer). This option ensures the correct visibility of the 3D object surface and its mutual location with other objects. Default value.
- Always Fragment is rendered always independently of depth buffer.
- Never Fragment isn't rendered ever.
- Equal Fragment is rendered if Z-coordinate at a given point is equal to Z-coordinate from depth buffer. Appropriate for n-pass drawing of the same object.
- Less than or Equal Fragment is rendered if Z-coordinate is less or equal to Z-coordinate from depth buffer.

The later rendered objects in case of equality in Z-coordinate overlay previous rendered objects.



- **No Write** Similar to option "ON" with difference of Stealth attribute. Object is rendered under the rule visibility, but it isn't placed in depth buffer in itself.
- Greater than or Equal Fragment is rendered if Z-coordinate is greater or equal to Z-coordinate from depth buffer.
 The later rendered objects in case of equality in Z-coordinate overlay previous rendered objects. Use just for special purposes!

Light Enabled

Double Sided

Depth Function

Priority

Transform Properties

Position: Position the object in X, Y or Z

Scale: Scale the object in X, Y or Z

Rotation: Rotate the object in X, Y or Z

Pivot: Move the Pivot Position of the object in X, Y or Z

Origin: Move the Origin Position of the object in X, Y or Z

Surface Properties

Opacity

Set the opacity on the surface object

Sphere Properties

File

Applies a file to the sphere

Angle

Visible angle in degrees from 0Ű to 360Ű around Y axis. Value below 360Ű increases open angle in the sphere.

Diameter

Sphere diameter.

Tessellation

Sphere degree of detail. Higher tessellation makes the sphere smoother but consumers more performance to render.



UV Mapping:

- **Absolute** Texture stretches over visible angle.
- **Relative Left** Texture is anchored at the left end and cut at the right side end.
- **Relative Right** Texture is anchored at the right side end and cut at the left side end.
- **Centered** Texture is centered to the middle of visible angle and cut at both ends.



Text Object

Properties	×
☑ aA Text 1	1
> Render	
✓ Transform	
Position ♦ X 640.0 ♦ Y 515.6 Z 0.0	
Scale X 1.00 Y 1.00 Z 1.00 🛋	
♦ Rotation ♦ X 0.0 ♦ Y 0.0 ♦ Z 0.0	
Pivot X 0.0 Y 0.0 Z 0.0 -	
✓ Surface	
Size Width 640 Height 101 🕈 🔻	
Text Width 0 Height 0	
♦ Opacity 100.0	
✓ Text	
Style AleveticaNeue LT 77 BdCn 75 (Text 1) ~	- 9
Font HelveticaNeue LT 77 BdCn	~
Size 75.0	1 1 1
B I 🗌 🏣 A	2D 🏶
Text	^
	~
Ē = \$₽	AA #

The following settings may be configured on the **Text Properties** window:

• **Name –** The name of the object that will show everywhere throughout the application.

Render Properties

Projection - It is method how to map 3D objects to 2D screen plane



- **Orthogonal** Orthogonal projection.
- Perspective local -Central projection. The mid-point of projection is affected by a object.

A Render		
Projection	Inherit 🔹	
Projection Center Light Enable Double Side	Inherit Otthogonal Perspective Local Perspective Global Camera Camera Lens Orthogonal Parent Offset	

- Perspective Global -Central projection. The mid-point of projection is
 - mid-point of projection is immovable in screen coordinates.
- **Camera** Projection in line with an external camera.
- Camera Lens Special kind of projection in line with an external camera. Only the lens are tracked, it means just projection. The view matrix is the identity matrix, it doesn't depend on a location or camera direction.
- **Ortho Parent Offset** Orthogonal projection. The center of coordinate system is offset by current node position in the view of parent projection and transformations.
- **Projection Center** Center of projection. (Position on the screen where all lines meet in infinity.)
- **Light Enabled** Enable use of lights. Applies only to object with generated normals. This feature is ignored when using shaders.
- **Double Sided -** Double side visibility.

Transform Properties

The **Transform** subcategory allows for the manipulation of the Text Objects **Position**, **Scale**, **Rotation** and **Pivot** along the XYZ axis.

Position: Position the object in X, Y or Z
Scale: Scale the object in X, Y or Z
Rotation: Rotate the object in X, Y or Z
Pivot: Move the Pivot Position of the object in X, Y or Z
Origin: Move the Origin Position of the object in X, Y or Z

• To keep the Scale Aspect fixed to its current dimensions, click the lock icon to Lock Aspect Scale.



Surface properties

The Surface subcategory includes settings for:

• Size – Sets the height and width of the bounding box. The dropdown gives the following choices:

Surface						
Size	Width	539 🜲	Height	90 🜲	▲ 🔽	
Text	Width 4	480 🌲	Height	70 🜲	C	Reset
		· · · ·		•	+ _ +	Fullscreen
Opacity	100.0 🛓		т. т.		Aa	Fit to Text

-Reset: Resets the bounding box

-Full screen: Makes the bounding box full screen **-Fit To Text:** Wraps the bounding box around the bounds of the text Example:

Text 1		
Fit	to	tovt
┍┛┛╈	10	

- Text- Read only property that shows the actual text bounds
- Opacity Sets the opacity level from 0 to 100%

Text Properties

The **Text** subcategory allows for the selection of the **Font**, **Font Size**, **Opacity** and a variety of other font attributes.

The following "In-Line" text attribute tags are available:



Text content. Text can contain special sequences starting with character \ . Sequence \ = Decrease kerning space between surrounding characters. Number of characters modifies the amount of extra kerning. Sequence \> = Increase kerning space between surrounding characters. Number of > characters modifies the amount of extra kerning. Sequence \\ = Backspace itself. Sequence \s = Non breaking space (see LineFlowPolicy). Sequence $\n =$ New line. Sequence \u XXXX = unicode character with hex value XXXX. Sequence \iu = Following text will be rendered as upper index. Sequence \il = Following text will be rendered as lower index. Sequence \in = Following text will be rendered as normal text (no index). Sequence \u0082 = Special character "BREAK ALLOWED HERE". Soft break is allowed at this positions. Sequence \c0 = Reset color to default. Sequence $\ N =$ Set color index. Values 1,2,3,4 can be used. Colors specified in BaseColorP1..P4. Sequence \t style_name ; = Set style by given style node name. For base style, leave style_name empty.

• Color Picker -



- Kerning Adjusts the spacing between characters
- Leading Adjusts the spacing between lines of text
- Space Width Sets the width of the default space character
- **Fixed Pitch** Each character will occupy the same amount of horizontal space. This is good for clocks so the text will not "breathe"
- Caps Ratio Sets text to all uppers and adjusts the ratio between capital letters



Spacing														
Kerning	0.000		1 1		1		ļ	1 1	1	1	 1	1	1	1
Leading	0.000		1 1		I		ļ		1	1	 1	1	1	1
🔷 Space Width	0.505	1	1	ı	1	1	ļ	1		1		1		1
Fixed Pitch	0.00	ļ	1	1	1	1	1			1		1		1
Caps Ratio	0.00	ļ	1	1	1	1	1			1		1		1



Note that Kerning, Leading, Fixed Pitch and Caps Ratio are all keyframeable.

Default Adjust Text	🔖 Add Action			
Action 🧼 🔖 🖬	riggered By (0)		I I II 📢	DD DI
Animation	0:00	1:00	2:00	1l 3:00
	0:00	1.00	2:00	2.00
⊿ Text1	0:00	00	2:00	5.00
Text 1 Kerning	0.00	1.00	2:00	5.00
		1.00	2:00	5.00

• Shadow and Outline (Border)



Text Shadow

adds a shadow to text

When Shadow is Enabled, Depth Function will be set to On.
 The Depth function can be overridden if desired by selecting a different Depth Function option under Render properties.

Text Outline (Border)

adds an outline to text

****Please Note** - when Shadow and Outline are enabled at the same time on the same object, Designers should limit the Outline Size to no more than 10. Anything past 10 with Shadow turned on will greatly reduce system performance.

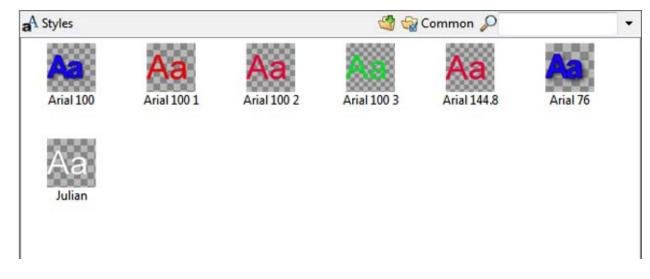
	Text Font Arial Size 100 Text B I □ TEXT
🔲 Shad	wo
Color	0000
Blur	
Offset	X 5.0 A Y 5.0 Z 0.0 A
Out Out	ine
Color	
Size	



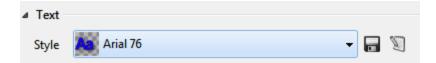
• Text Style Browser

⊿ Text –		
Style	Arial 100 (Text 1)	Ð

Text styles may be "referenced." This means that changing the style of a text affects all other text objects in the scene or project.

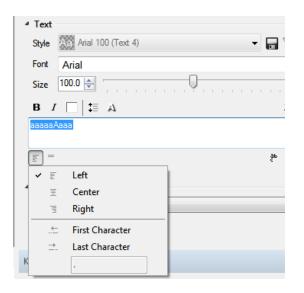


If the Style is referenced, you will see an image of the style in the Style drop down box.





• Alignments -



First Character aligns column data by the first character it finds by the defined character in the text.

Last Character aligns column data by the last character it finds by the defined character in the text.

In this example we set the First character to the comma character:

	4 Text
	Font Courier New
	Size 100 🚔
1,234 23,456 456,789	B I ■ I ■ Sadasdasd sadasdasd = Top = Middle = Bottom



• Line Flow

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Text	1111				^
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			Single I	Line	
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			Scale T	o Fit	
		*	Kern T	o Fit	

• All Caps

	B <i>I</i> [] ‡≣ A	2D	*
Text	1111		^
			\sim
	<u></u>	⊫ AA	#

When All Caps is enabled, inputted text on output will be forced to capitalization. When a user types in the same text whether it is lowercase or uppercase, Prime will not see this as two different values when Behavior is set to On Change.

e.g. hello vs Hello vs HELLO will not trigger a Transition with the Behavior set to On Change

German Language Only - When All Caps is enabled, the German letter Eszett (Sharp S) will automatically change from ß to ß if provided for by the font used.

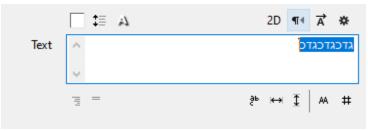


• Numbers

	B I □ I I A		2D	*	
Number	0.0 Format 0 ~				
	= =	Şь	AA	#	

• Direction

Based on the Windows language setting the "Direction" icon will appear. This allows orientation and support for Right to Left languages



• Gradients

Mode Solid	✓ Color	r 🔲				 	
			۲	н 0 🍦]• =		
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			0	L 100 🌲	%		
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and the second second			0	G 255 🚔			
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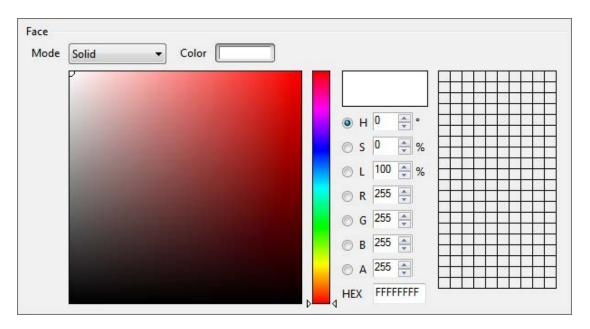
• Number Format -



Number	0.0	Format	0	~			
	= =				Şь	AA	#

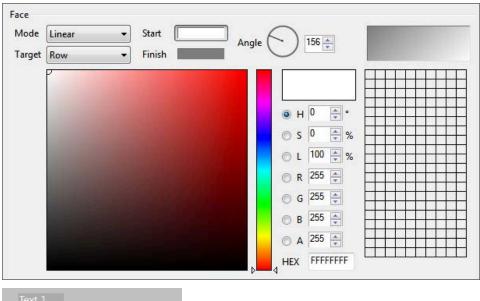
When added to keyframes the numbers will animate from their current value to the next value

• Gradients





• Linear





• Quad

Mode	Quad	▼ Top Left [Тор	Right	
Target	Row	Bottom Left	Bott	om Right	Contraction of the second
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				● H ⁰ ◆ °	
	and the second			💿 s 22 🊔 %	
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				HEX EBB7B7FF	

• Target -



+++
5235 C 2 C



3D Text

2D	
Settings	
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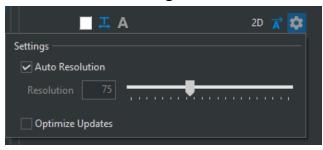




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Side Co	lor										
Back Co	olor										
🔽 Bevel											
Туре	Cham	fer			•						
Size	0.023	* *	-0-		1	1	1	1	1	1	I
Depth	0.024	×	1 1	, 0,	1	1	1	1	1	1	1



Advanced Text Settings



- **Auto Resolution** When checked, renders text at optimal resolution striking a balance between visual quality and engine output performance.
- **Optimize Updates** When enabled along with UDP setting, optimizes text data for real time rendering. Text Size updates and Transitions will not be supported with this option enabled.
 - Scene Example Use Case Enable for any text objects that are being updated frequently such as 10ths of a second on a timer to ensure updates are prioritized.

*Users must enable UDP in playout configuration in order to enable Optimize Updates for real time rendering. If UDP is not enabled and user selects optimize text for real time rendering they will see warning in UI to enable UDP.

	File CG		- 🗋 Ne	w 🔻 📙 Save As	🗙 Delete
💻 Video Channels	טוט		84	▼ UX 34	
🔛 Clip Players	SDID		34	🔶 0x22	
ݢ Clip Recorders	Insert Packet O	ount	2	A	
💽 Playlists					
🌐 Atlas	Remove Packe	t Count	4	*	
📲 External Data	TRACAB				
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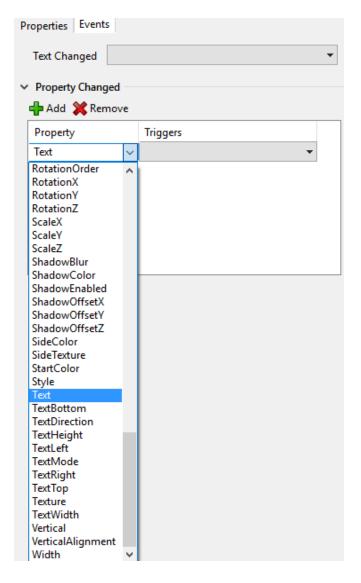


Text Events

Properties Events	
Text Changed	•

You can trigger other objects methods whenever the text changes.

All of the Text objects properties have events when these properties change:



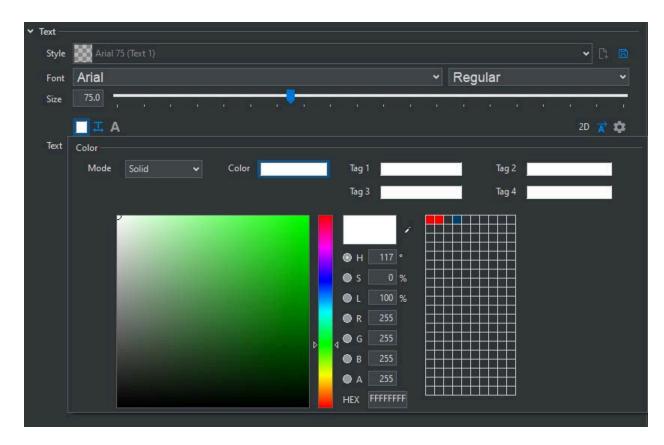


Text Tags

You can use Text Tags to change the color attributes of the text within a single text object.

Available Tags:

- Tag 0 (\c0) will reset the text color back to the text objects default color
- Tag 1 (\c1)
- Tag 2 (\c2)
- Tag 3 (\c3)
- Tag 4 (\c4)



Text Tags require "Solid" mode to be selected



⊿ Text –		
Style	Aa Arial 86 (Text 1) -	T
Font	Arial	•
Size	86.0	
B <i>I</i>	A ≣‡	20
\c1colo	or1\c2color2\c3color3\c4color4\c0defaultcolor	-
		-

🕂 Move 🖸 Scale 🐟 Rotate 🍰 Anchor 🔀 Delete



Style Tags

Style tags are effects. See the section on "Style Tags" in the effects section.



Tube Object

Transform Properties

The **Transform** subcategory allows for the manipulation of the Video Input Objects **Position**, **Scale**, **Rotation** and **Pivot** along the XYZ axis.

Position: Position the object in X, Y or Z

Scale: Scale the object in X, Y or Z

Rotation: Rotate the object in X, Y or Z

Pivot: Move the Pivot Position of the object in X, Y or Z

Origin: Move the Origin Position of the object in X, Y or Z

Data Properties

Point: Adds or removes a data point

Data: CSV data in format: "x1,y1,z1\nx2,y2" \n is a new line character. You can use pipe "|" character instead of new line.

Path Length: Limit length of the tube. Value is relative. 0 is no tube drawn, 1 is full tube drawn.

Texture Map: Type of V texture coordinate mapping.

Texture V mapping type:

ABSOLUTE - V goes from 0 to path's length. Unless the extrusion is very small, this length will probably be much larger than 1.0.

RELATIVE - V goes from 0 to 1 over the whole path.

SEGMENTED - Integer part is equal to segment's index (from 0) and fractional part goes from 0.0 to 1.0 on every segment.

Contour Properties

Aspect: Higher value makes it wider.

Rotation: Contour rotation in degrees. Useful for low tessellation settings. Applied before Aspect!

Diameter: Contour diameter (tube thickness).



Tessellation: Higher tessellation makes the contour smoother but consumes more resources to render.

Smooth: Set to checked to make the contour faceted. Set to unchecked to make it smooth.



Video Input Object

Properties	×
🔽 🔟 Vide	eo Input 1
> Render	
✓ Transform	
Position	X 960.0 Y 540.0 Z 0.0
Scale	♦ X 1.00 ♦ Y 1.00 Z 1.00 ▲
Rotation	♦ X 0.0 Y 0.0 Z <u>0.0</u>
Pivot	X 0.0 Y 0.0 Z 0.0 -
Origin	X 0.50 Y 0.50 -
✓ Surface	
Size	Width 1920 Height 1080 🛋 🕶
Opacity	100.0
✓ Video Inpu	ıt
Input Do	wnstream Input 🗸 🗸
✓ Audio	
Volume	1.00
Channels	Outputs
Inputs	1 2 3 4 5 6 7 8 1

The following settings may be configured on the Video Input Properties window:

• **Name –** The user-friendly name to refer to the object throughout the application



Render Properties

The **Render** subcategory includes:

- Projection Projection mode. It is method how to map 3D objects to 2D SCreen plane.
 - **Orthogonal** Orthogonal projection.
 - Perspective local Central projection. The mid-point of projection is affected by an object.
 - **Perspective Global** Central projection. The mid-point of projection is immovable in screen coordinates.
 - **Camera** Projection in line with an external camera.
 - Camera Lens Special kind of projection in line with an external camera.
 Only the lens are tracked, it means just projection.
 The view matrix is the identity matrix,
 it doesn't depend on a location or camera direction.
 - Ortho Parent Offset Orthogonal projection. The center of coordinate system is offset by current node position in the view of parent projection and transformations.
- **Projection Center** Center of projection. (Position on the screen where all lines meet in infinity.)
- **Light Enabled** Enable use of lights. Applies only to object with generated normals. This feature is ignored when using shaders.
- **Double Sided** Double side visibility.

Transform Properties

The **Transform** subcategory allows for the manipulation of the Video Input Objects **Position**, **Scale**, **Rotation** and **Pivot** along the XYZ axis.

Position: Position the object in X, Y or Z
Scale: Scale the object in X, Y or Z
Rotation: Rotate the object in X, Y or Z
Pivot: Move the Pivot Position of the object in X, Y or Z
Origin: Move the Origin Position of the object in X, Y or Z

• To keep the Scale Aspect fixed to its current dimensions, click the lock icon to Lock Aspect Scale.



Surface Properties

The **Surface** subcategory includes:

- Size Width
- Size Height
- Opacity

Video Input Properties

The **Video Input** subcategory allows the user to select the SDI Input.

▲ Video	Input
Input	Video Input 1
4 Audio	Downstream Input Video Input 1
	Video Input 2 Video Input 3 Video Input 4

Audio Properties

The Audio subcategory includes:

- Volume Decibel levels
- **Channels** The Audio Router is a matrix for routing inputs to outputs. The default is 1 to 1 etc.

▲ Audio		
Volume	1.00	-
Channels	Outputs	
Inputs	1 2 3 4 5 6 7 8 1 V 1 1 1 1 1 1 1 2 V 1 1 1 1 1 1 1 3 1 V 1 1 1 1 1 1 4 1 V 1 1 1 1 1 1 5 1 <td< th=""><th></th></td<>	



o Duck Audio Channels 1 & 2 example action:

Actions		Video Input
Default Duck Audio 👒 Ad	dd Action	Input Video Input 1
Action 🦻 🔖 👘 Triggere	d By (0) 🕨 🔳 🔣 📢	Audio
Animation	11 0:00 1:00 2:00	Volume 0.50 🚔
▲ Video Input 1	Image: A state of the state	Channels Outputs
Volume		1 2 3 4 5 6 7 8 1 2 3 1



Video In Events

Properties Events		
 Property Changed 		
🕂 Add 💥 Remov	e	
Property		Triggers
Input	\sim	▼
DoubleSide Enabled Height	^	
Input LightEnable Locked LockScaleAspect LockSizeAspect		
Opacity OriginX OriginY PivotX PivotY		
PivotZ PositionX PositionY PositionZ		
Priority Projection ProjectionCenterX		
ProjectionCenterY RotationOrder RotationX		
RotationY RotationZ ScaleX		
ScaleY ScaleZ Volume		
Width	~	



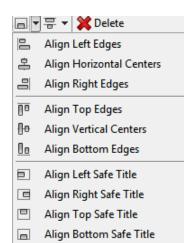
Alignment Tools

Accessible by the toolbar.

|E ▼ 등 ▼ |

Align

- Align Edges Aligns the bounding boxes.
- Align to Safe Title Aligns the bounding boxes to safe title.



Distribute

• Evenly distributes three or more selected items evenly

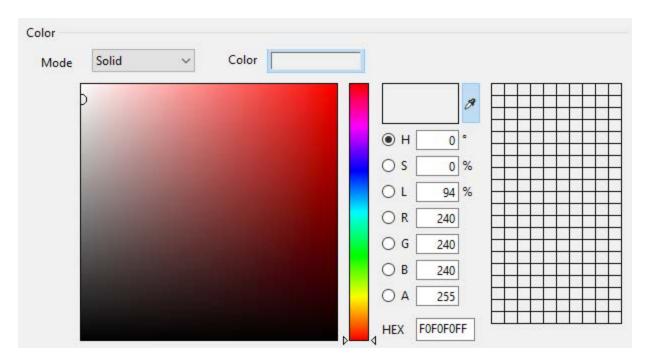
- 문	🖌 💢 Delete
þÞ	Distribute Left Edges
0¢	Distribute Horizontal Centers
۵d	Distribute Right Edges
흉	Distribute Top Edges
导	Distribute Vertical Centers
뮾	Distribute Bottom Edges



Snap to Grid

File Edit View Window	Tools	Help		
Project Samples	Se	ettings	0	Control Panel
Toolbox Scenes Transitions	A 6	sset Viewer	tale	🔊 Rotate 🔑 An
Graphics	✓ Sn	hap		
aA Text 📃 Image	Sr	пар То	> 🗸	Screen
🚳 Clip 🛛 🚺 Video I	🎲 Ke	eyboard Shortcuts	~	Safe Title
🔄 Group 🛛 🗍 Cube				Objects

Color Picker-Eye Dropper



The color picker can do RGBA or HSL or HEX.

The eye dropper is a mode when selected gives you use of the eye dropper cursor to select colors from the screen. Users can pick colors from any application running.

Color swatches are saved globally with the color picker tool.

Pressing the eye dropper toggles the mode.



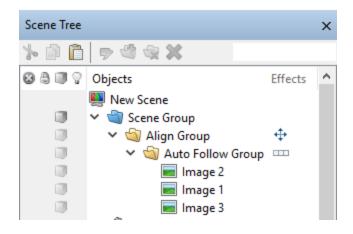
Effects

Align

The Align effect will automatically distribute all child objects dynamically at run time.

The Align effect will most likely be used with the Auto Spacing effect.

The Align effect can only be applied to Group objects

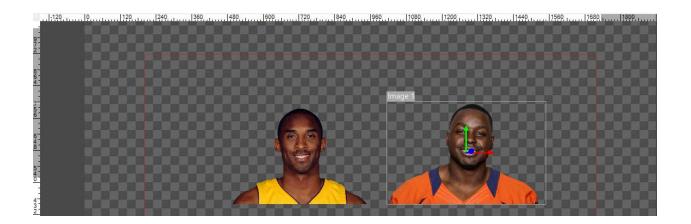




Removing an image object will create this result







Horizontal: Align children horizontally

Vertical: Align children vertically



Auto Follow

Sibling Mode

✓ Auto Follow –		
Mode	Sibling	•
Horizontal	Right	~
Vertical	None	~

The Auto Follow rules of sibling mode are NOT Master/Follower necessarily. Based on the position of the elements in the scene The Auto Follow Effect is basically an Auto Align effect. Consider the object the effect is placed on as the **following** object. It will follow any of its parents.

The "Parent" is not defined. The "Parent" is the nearest object to the Follower. The Parent object can change dynamically.

Horizontal:

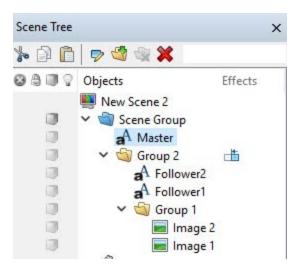
- o None:
- o Left: Follows the left edge of the nearest object maintaining distance
- \circ $\;$ Center: Follows the center position of the nearest object
- o Right: Follows the right edge of the nearest object

Vertical:

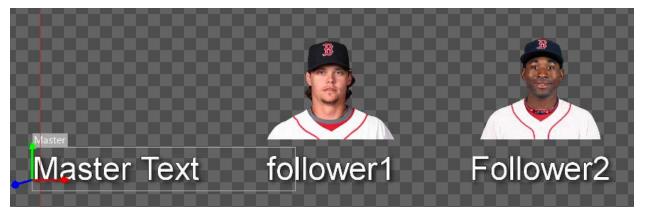
- \circ None:
- \circ Top: Follows the top
- o Middle:
- o Bottom:

In the following example the effect is placed on a group that will follow its siblings:





The result is whenever the "Master" Text is moved on the X position the follower groups, both Group1 and Group 2 will follow.



Source Mode

Different to Sibling mode, Source mode allows you to select a specific object or group that you wish to follow and size to.

- Position
 - X: Enable and select appropriate source to follow on X axis
 - Y: Enable and select appropriate source to follow on Y axis
 - X & Y source can be different
 - Source: Select source available in scene
 - Source from Base scene is not accessible
 - \circ Anchor
 - X: Select Source Origin, Left, Middle or Right
 - Y: Select Source Origin, Top, Middle or Bottom

- Target
 - X: Select Source Origin, Left, Middle or Right
 - Y: Select Source Origin, Top, Middle or Bottom
- Offset: Apply numeric value if offset is desired
- Size
 - Width: Enable and select appropriate source to size scale width
 - Height: Enable and select appropriate source to size scale height
 - Padding: Apply numeric value if padding is desired
 - Minimum: Apply numeric value of smallest width and height values you wish to size to. If source object is smaller than minimum, then minimum value will be honored.
- Advanced
 - Include Source Position
 - Include Source Scale
 - Use Parent Virtual Bounds
- Expressions: (This is Read only and not editable)
 - Visual representation for each position and size selection made, and the corresponding expression syntax, calculated value and binding.



Properties Events		
🖌 📑 Auto Follow 8		-
✓ Auto Follow		
Mode Source	~	
Target G Stat1		
✓ Position ✓ X	Υ	
	·]	
Anchor 🙏 🛏 🕂		
Target <u>↓ ⊬ +</u> + -+		
Offset 178.0	0.0	
▼ Size		
Width	Heig	
Source		
Minimum ^{0.0}	0.0	
Padding 0.0	0.0	
✓ Advanced		
 Advanced Include Source Position 		
Include Source Scale		
Use Parent Virtual Bounds		
✓ Expressions		
Expression	Value	Bindings
GName.PositionX + (GName.BoundsLeft) +		
(GName.BoundsRight - GName.BoundsLeft) + 178	727.52344	Parent.Posi



Auto Hide

The Auto Hide effect allows users to hide/show objects based on the Boolean evaluation of other objects in the scene. Ex: Hide MyImage if Text1 is empty.

Example Scene Tree where the Auto Hide effect is placed on the Image object:

Scene Tree		×			
🍃 🖻 📋 🤛 🖏 🛠					
88 10 9 6	Objects	Effects			
	🜉 New Scene				
	🛩 📹 Scene Group				
	aA Text 2				
	aA Text 1				
	🔳 Image 1	%			
	Resources				
	A# Parameters				
	f(x) Expressions				
	2: Conditions				
	🔁 Replaceables				
	Control Panel				
	🔄 Scripting				

There are three modes for Auto Hide

- Hide on Target Empty
- Hide on Target Not Empty
- Hide on Condition

Properties Ev	ents	
🗹 🗞 🗛	Hide 1	
✓ Auto Hide		
Mode	Hide On Target Empty	~
Target	Hide On Target Empty Hide On Target Not Empty	
Condition	Hide On Condition	

In the first example the Image object will hide if Text 1 is empty and in the second example the Image object will hide if Text 1 is NOT empty:

Properties Events		Properties Events		
🗹 🇞 Auto Hide 1 💼		🗹 🗞 🗛 Auto Hide 1		
✓ Auto Hide —		✓ Auto Hide		
Mode	Hide On Target Empty \checkmark	Mode	Hide On Target Not Empty \sim	
Target	a ^A Text 1 🗸 🗸	Target	aA Text 1 ∨	
Condition	Text1.Text.IsEmpty()	Condition	Not Text1.Text.IsEmpty()	

Note that the "Condition" property will always show you what the actual condition is that will be evaluated. The condition property will only be enabled when "Hide on Condition" is selected allowing the user to manually create a condition.

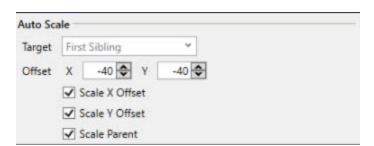


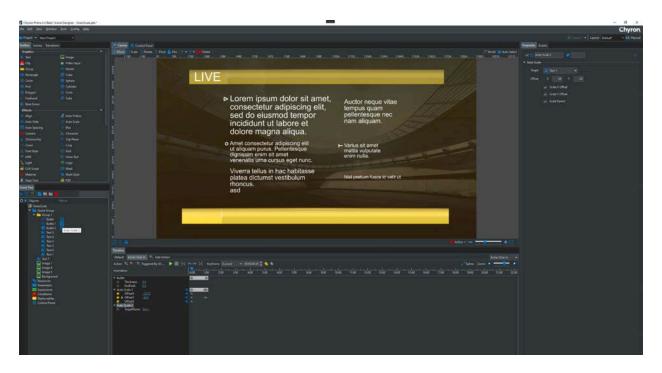
Hide on Condition allows the user to manual insert a statement that should evaluate to TRUE or FALSE is satisfy the Auto Hide condition.

Properties Even	nts	
🗹 🗞 🗛 Huto H	lide 1	
✓ Auto Hide —		
Mode	Hide On Condition	\sim
Condition	Text1.Text.IsEmpty() AND Text2.Text.IsEmpty()	

Auto Scale

The Auto Scale effect can be used to scale text within its bounds. This is a useful feature for bullet point graphics.







Auto Spacing

The "Auto Spacing" effect can only be applied to Groups. Objects within the groups will be linked.

Alignment Type

• **Tight** - Objects are tightly positioned side by side.

Additional space defined by attribute Spacing is added.

- Fixed Objects are placed at fixed pitch.
 The object size has no effect on positioning.
 The pitch is defined by attribute Spacing.
- Justified Aligns the row to the left and to the right at the same time. The margins are [0, Line Width]. The minimal spacing between objects is defined by attribute Spacing

Properties		×
V Auto	Follow 1	
Auto Follow	1	
Alignment	Tight	•
Direction	Right	•
Line Width	0	
Spacing	10 হ	

Direction

- **Horizontal** Objects are positioned horizontally from left to right. Only X coordinate is modified.
- **Up** Objects are positioned vertically from bottom to top. Only Y coordinate is modified.
- Down Objects are positioned vertically from top to bottom. Only Y coordinate is modified

Line Width- Defines maximal size of row/column.

When total size exceeds this limit then the objects are scaled down. Size of objects before pivot is not counted for the size

Spacing- The value defines pitch or additional space. See Alignment type.



Billboard

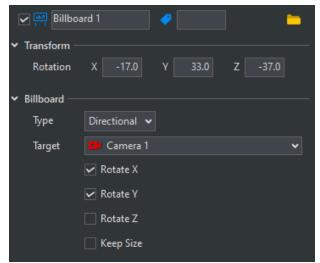
Billboard effect allows you to define the rotation of an object(s) within your scene towards a specified camera

Transform

 Rotation: Sets additional rotation which replaces rotation overridden by Billboard effect.

Billboard controls

- Туре
 - Planar: Rotates the object in the direction parallel to the camera view vector.
 - Directional (default): Rotates the object in the direction towards the camera position.



- Target: Selects target camera for billboard effect. If empty, the object is rotated towards the active camera, which is the default target for billboard effect.
 - Rotate X: If checked, rotates the object in the X-axis towards the camera (default true).
 - Rotate Y: If checked, rotates the object in the Y-axis towards the camera (default true).
 - Rotate Z: If checked, rotates the object in the Z-axis towards the camera (default false).
 - Keep size: If true, maintains the size of the object normalized regardless of how close it is to the camera. The normalized size is the size that the object appears at when its Z position is at 0, and the camera is at its default Z position (default false).



Blur

Motion Blur: Performs a blur in one direction or two opposite directions based on the desired Angle

Compound Blur: Uses Level of Detail and neighbor pixel sampling to perform a blur in all directions

Properties		×
💟 🌒 Blur 1		٩
4 Blur		
Туре	Motion Blur	
Percent	100.0	-0
Radius	10.0	
Angle		
	Both Directions	
Max Calculations	1.00 Million	



Camera

Scene cameras can be added to the scene group only. Scenes can have multiple cameras.

Properties	×	Projection
🗹 🌮 Camera 2		Perspective:
✓ Camera		Orthogonal:
Projection	Perspective \checkmark	Rotation Type
Rotation Type	XYZ ~	XYZ:
Field of View	40.0	Pan, Tilt, Roll:
Center	X 0.00 Y 0.00	Field of View
Position X	960.0 Y 530.0 Z 1399.6	Transform
Rotation X	-2.0 Y 0.0 Z 0.0	Position:
		Rotation:

All properties of the Camera effect are keyframable.



Character

The "Character Effect" allows animations to happen one character, one word or one line at a time. A character affect may be applied to a Text object only.

0000	Objects	Effects
	New Scene 1	
	4 🟐 Scene Group	
10	aA Text 1	Ch

This adds a "Character to the canvas to allow you to create a character effect. The character is only in the canvas for editing purposes.

Character 1	
A	
~~	

When the character is selected, the property editor for the character animation is displayed.

Mode

- Character Each individual character will animate
- Word Each word will animate as a group
- Line Each line will animate as a group.



✓ Character	
Preview	
Mode	Character 🗸
Animation	Character Word Line
Duration	00:00:01.00 -
	Reverse
	Random

Animation

- Total Duration Sets the duration of the animation regardless of the length of the text
- Duration Between Elements Set the time for each character.
- **Reverse** This will reverse the animation.
- Random- Elements will be animated in random order

Next Add a Transition to the Timeline Editor:

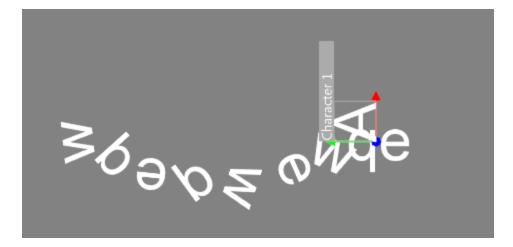
Actions	
Default Action 1	👒 Add Action
Action 🧼 🔖	📦 Triggered By (0) 🕨 🕨
Animation	♥lll 0:00 1:00 2:00
Character 1	

Next create any type of animation on "Character 1." For example, a 360 degree rotation on the Z axis:



Actions			
Default Action	1 👒 A	dd Action	
Action 🧼 🔖	👒 Trigg	gered By (0)	🕨 🛙
'			
Animation	0:00	1:00	2:00
Animation			

When this transition is played or previewed each character will rotate individually 360 degrees.



Chroma Key

The chroma key effect allows users to remove chromanace for an object.

Color		•
Gain	10.0 🜩	
Softness	8.0 🗢	
Shape	1.0 🗢	
Despill	100.0 牵	
	Matte	

Color: The target color to make transparent



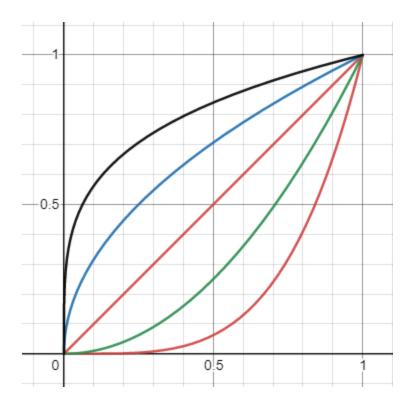
Gain: The hue threshold for the target Color. Increasing this value will make colors similar to the target Color also transparent

Softness: Sets pixels within the gain threshold to semi-transparent.

Shape: Linear to non-linear softness value adjustments

Despill: Removes some of the key color from the remaining pixels.

Matte: Shows the alpha values as grey scale. Select this option to fine tune your key.



Shows various softness shape graphs.



Clip Plane

The Clip Plane effect allows for clipping in a single direction: Left, Right, Top or Bottom.

Properties Events
Clip Plane 1
✓ Transform
Position X 960.0 Y 540.0
Rotation Z 0.0
✓ Clip Plane
Direction Left 🗸
Feather 0
Shadow 0
Center Feather

*There is a limit of 6 clipping fields in one single render path.

- Transform Allows positioning and rotation of the clip plane
- Clip Plane Select the direction of the clip plane
- Feather Applies soft edges to the clip plane

Center Feather - Centers the feather of both the fill and shadow of the parent graphic.



Crawl

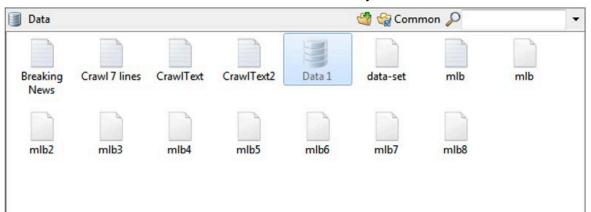
The Crawl effect will cause all objects, including any child objects, to crawl Left or Right,

Selecting the Crawl effect creates a Crawl Box. In order for an object to be seen crawling, it must be inside the Crawl Box. The Crawl Box is similar to a crop box.

The crawl effect has two modes:

- 1.) Crawl from Text file or Select a Resource Data Object (This mode is automatically entered if a file is selected)
- 2.) Crawl from data (No file selected). Data source could be a control panel text box.

The "Data File browser" will show Text files and Data Objects in the Scene resource tree.





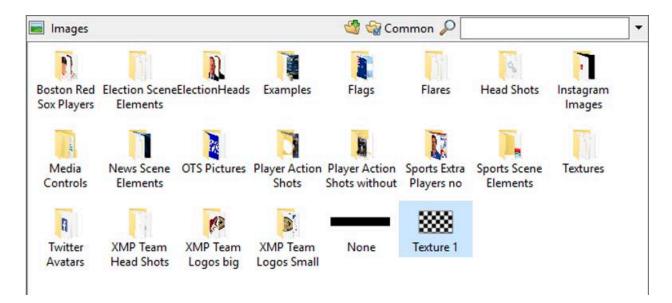
Properties		3
🔽 🦛 Craw	11	aA
Transform		
Position X	0.0 🜩 Y -35.0 🌩]
▲ Surface		
Size V	/idth 960 🚔 Height	t 135 🌻 🗎 🔻
Crawl		
Preview	00	
Command	None 👻	
Direction	Left 🔹	
Speed	5.0	montering
Spacing	50	
Left Edge	0 🚔 Right Ec	ige 0 🌻
Loop	Off 👻	
	Crawl On Change	
⊿ Data		
File		•
Spacer		

The spacer is only applied in "File Mode"

The spacer property can be an image, Text (Type text into the File drop down box) or a Render to Texture Group

With a Render to Texture Group all things can be crawled like 3D objects, Live video input etc.





Texture 1 in this example is an image, Text and a 3D spinning logo.



			-
Properties			×
🔽 🦛 Craw	11		aA
▲ Transform			
Position >	. 0.0	Y -35.0 🌲	
▲ Surface			
Size V	Vidth 960	Height 13	5 🌻 🖨 🔻
▲ Crawl			
Preview	00 0		
Command	None	•	
Direction	Left	-	
Speed	Left Right	Piere rare	an a second
Spacing	Up Down		
Left Edge	0	Right Edge)
Loop	Off	*	
	Crawl On C	hange	
⊿ Data			
File			•
Spacer			

The direction property allows crawling in 4 directions



Crawl Commands

None: The crawl will remain in its current state ✓ Data Preview Update: Crawl the data already in the associated text box Command None None **Restart:** Starts the crawl from the beginning of File Update munity.xml Restart the data Start Spacer Stop Start: Start crawling the data Pause Resume Loop Stop: Stops the crawl and clears it Clear CrawlSpacer

Pause: Pause the crawl in position

Resume: Resumes the crawl from the current position.

Clear: Clears the crawl

CrawlSpacer: Only displays the spacer in the crawl

Note: Only None, Update, and Clear will be available a data source is not present.



Crawl Events

Crawl events occur when specific conditions are met. The occurrence of an event depends on whether the crawl is associated with a text file or not.

Start of line

Occurs as the data enters the crawl box

End of line

Occurs when the data exits the crawl box

End of file

Occurs when the last piece of data has been crawled when associated with a text file.

End of data

Occurs when there is no more data to crawl from an associated text file

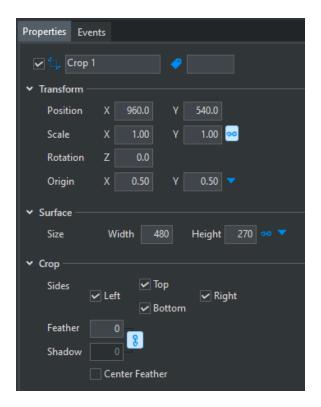
Events				
Start Of Line	•			
End Of Line	•			
End Of File				
End Of Data	•			
Property Changed Add X Remove				
Property	Triggers			
	4			



Crop

Crop is a "Crop box" that allows cropping in 4 directions: Top, Bottom, Left and Right.

Each Crop effect is made up of 4 clipping planes. There is a limit of 6 clipping fields in one single render path.



Transform - Allows positioning and scaling of the crop

- Surface Sets the surface size of the crop box
- **Crop -** Select the sides of the crop box
- Feather Applies soft edges to the crop
- Center Feather Centers the feather of both the fill and shadow of the parent graphic.

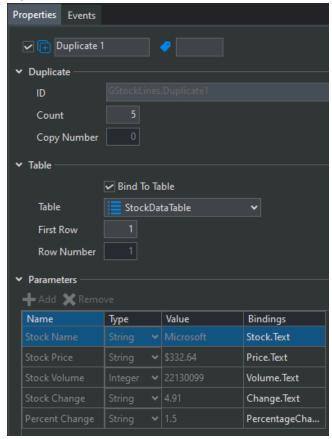


Duplicate

The Duplicate Effect's intended use is to be a quick method for building a data bound table graphic in a fraction of the time. Best practice is to apply the Duplicate Effect at the group level, where a group with contents is duplicated.

Best Practice: Use Data Object to bind to a Table Resource and then enable Bind to Table within the Duplicate Effect. Under Table - Select the same Table Resource bound to data. Data bound to Table will automatically row pop, and advance to the next row of data on each duplicate. This will save designers hours of time previously spent individually linking each cell to the corresponding data source.

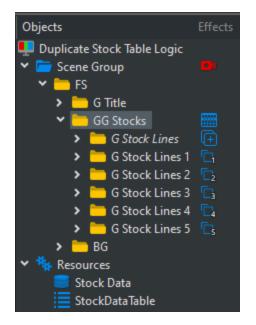
*It is recommended to make changes to the Group (parent) where the duplicate effect has been applied. If you are adding objects to the group or adding new bindings then revert the duplicate number to 1, apply changes and then increase the duplicate count to desired number to regenerate the duplicates.





ID - Name of scene tree object which contains Duplicate Effect

Count - # of times Duplicate Effect replicates the object ID within the Scene Tree



Copy Number - child Duplicate Effect identifier

Bind To Table - Drop down will display table resource available in scene

Table - Select table you want to bind to

First Row - Will display data from Table's first row

Row Number - Will display data from selected row number in table

Parameters

- Add & Remove
 - Only available if Bind to table is deselected
 *If Bind to table is selected these controls are grayed out and not active.
- **Bindings** Bind any object properties to a parameter *Bindings can be set even when Add & Remove are grayed out.



Grid

The Grid effect will subdivide or duplicate the child graphic into multiple graphics depending on the Rows and Columns properties. The segments can then be modified and animated individually using the Transform, Surface and Grid properties on the Grid effect.

A vertical or horizontal blind look can be created by setting Rows or Columns properties to 1 and the opposite property to the desired number of blinds.

The Grid effect can only be applied to a subset of objects: Image, Cube, Sphere, ... Other graphics including Clips, Video Input and Groups can still be affected by the grid effect by using a Render To Texture effect on the desired graphic, then adding a Grid effect to an Image object that has its File property set to the render to texture output

Transform and Surface properties work the same as those in Graphic objects other than they affect the individual segments created by the Grid effect.

Grid Mode – used to set whether object is Subdivided or Replicated into rows and columns

Columns – number of columns to create

Rows – number of rows to create

Spacing – used to set and animate the spacing of the segments. 1.0 is normal spacing. 0.0 is all segments on top of each other.

Mirror Rotation – used to set opposite rotation values in X and Y for half of the grid segments

Animation Mode – used to determine the order in which grid segments are animated. Currently only Linear is supported

Angle – the direction in which grid segments are animated

Grid		
Mode	Subdivide 💌	
Columns	16	
Rows	9	
Spacing	X 1.00 Y 1.00 🖃	
Mirror Rotati	on 🔲 X 📄 Y	
Animation		
Preview	Image: A start of the start	
Mode	Linear	
Angle		
Duration	00:00:00 💭	



Duration – used to add an amount of time between starting the animation of the first grid segment and the last grid segment to create a staggered animation effect. Set to 0 frames for no stagger

HDR

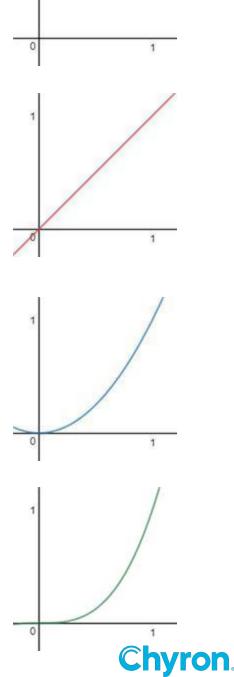
High Dynamic Range

Constant: No change in the curve just add more value to the existing range.

Linear: 1=No change. 2 would be 0 to 200% 3 would be 300% etc.

Squared: Curved Graph. Brighter areas become more bright. Darker areas are not as affected as much.

Cubed: Same as squared but with a more severe affect.



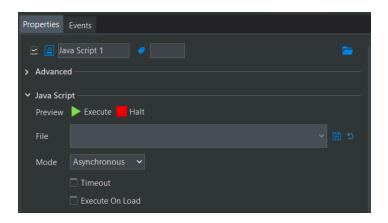
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JavaScript

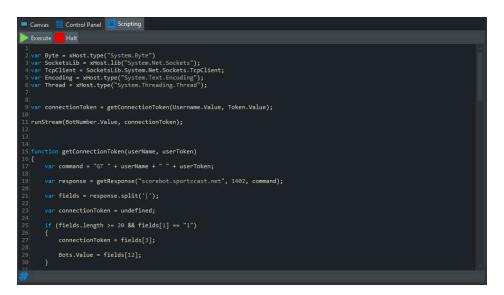
Java Script Effect can be applied to any scene Graphic Object.

Java Script Resource can be applied to the Scene, Project, and Application levels as well as Master Control Panels.

To import an existing JavaScript navigate to script file.



To add or edit a JavaScript select the edit pencil icon. This will open the Scripting panel within Prime. From here, you can Execute and Halt scripts for testing.



Press the Save icon to save any edits to the script.



✓ Java Scri	pt		
Preview	Execute Halt		
File		G	5
Mode	Asynchronous 🗸		
	Timeout		
	Execute On Load		

Mode:

- Asynchronous runs the script in the background and returns immediately to the context calling the script
- Synchronous blocks execution until the script is finished, or until the Timeout duration is elapsed

Timeout: The duration of time in seconds that scripts in Synchronous mode will execute before timing out

Execute on Load: Option to enable "Execute on Load" for Script to evaluate upon Scene load in Prime playout.

***Please Note -** Starting in 4.10.1, when Synchronous and Execute on Load are both enabled, the Script will complete before the rest of a scene is loaded.



JavaScript Local Parameters: Press Add to remove Parameters to a JavaScript Effect. Any Parameters added to the JavaScript effect will be saved with the effect itself. Option to bind any scene object to the JavaScript parameters.

Preview ≽	Execute 📕 Ha	lt		
File	Scripts\Geniu	is Sports.js		• 🖉 :
Parameters	xecute On Load	I		
Name	Туре	Value	Bindings	
Bot Number	String 🗸	0		
Away Team	String 🗸	VISITOR	Team1.Name.Te	
Home Team	String 🗸	HOME	Team2.Name.Te	
Away Score	String 🗸	6	Team1.Score.Text	
Home Score	String 🗸	30	Team2.Score.Text	
Clock	String 🗸	13:03	Time.Text	
Bots	String 🗸	0,20		
Quarter	String 👻	2nd	GameInfo.Quar	
Shot Clock	String 🗸	23	GameInfo.Shot	

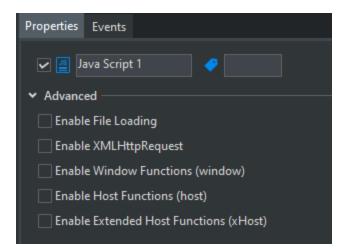
JavaScript Advanced Options: (settings are saved with the script)

Enable XMLHttp Request: Allows you to download data

Enable Window Functions: allow you to pop up windows. For example - alert, confirm, prompt and message boxes.

Enable Extended Host functions: Enable for TCP clients, and other advanced objects. Without these checked functions, Prime is kept in a Sandboxed mode.





JavaScript Keywords, Properties, and Objects

Further documentation can be found within the PRIME_JavaScript_User_Guide



Inline Text

The Inline Text effect can be added to Group objects only. When added to a group object the objects within the group will no longer be part of the composited objects in the scene tree meaning that group stands alone. The object within the group are cached in memory and can be referenced as text tags in the Text Object. Text tags start with a backslash and are terminated with a semi colon. The letter "o" is an indicator that this is an "Object" tag followed by the name of the object. This method is the same as "Style Tags". Refer to the "Style Effect".

Example: Hello\olmage1;

The benefits of this approach is the objects can be animated individually. So, a crawl can have an animated Cube for example. A crawl "Trigger" can trigger an action that animates any of the objects in the "Inline Text" group.

Light

Type: Point or Directional

Diffuse: Light color

Ambient: Ambient color applied to the material

Specular: Specular color applied to the material

Light Propert	ies		×
Name Li	ght 1	Enabled	
 Transform Position Light 		i40.0 💌 Z 750.0	A V
Туре	Point	-	
Diffuse	Point Directional		
Ambient			
Specular	-		



Logic

The Logic effect is a collection conditional and property statements which are applied to a Graphic Object. It is similar to Conditions but the statements are targeted to a parent object and its children. Logic has the flexibility to be reused in a scene saving the designer time when creating similar statements.

Logic Properties Controls

Properties Events		
🗸 🕃 Logic 1 🧪		aA
✓ Logic		
File 👰 Home Logic	~	
Evaluate		
Evaluate On Parent Changed		

- File: Shows the last loaded or saved Logic effect file (.PLE).
 - o Asset Browser Control: Load .PLE file into existing Logic effect
- **Save** (Button): Saves Logic effect to existing or new file. By default the .PLE files will be saved to the **Scripts** folder in the project directory.



- o Save
- o Save as
- o Reload From Disk: Remove changes and reloads the file.
- **Evaluate:** Applies or Evaluates Logic Effect in Designer
- Evaluate On Parent Changed: Applies the Logic effect to parent's default property changed event.
 - o The binding is internal and is not shown in Object's Events Control
 - o Example: If Logic effect is applied on Text Object. The Logic Effect will bind itself to the TextChanged Event. So whenever Text is changed on Text Object and the Logic effect statement will evaluate.

Logic Effect Parameters

Parameters are variables that can be used to store information like color, strings, integers, etc. Parameters can be accessed in conditional and property statements.

Parameter Changed Events: Logic parameters utilize Changed Events that can be used to trigger other types of commands and in methods in scene. The example below shows the



"Home Team" parameter triggers the Logic effect to evaluate when the value of the parameter value changes.

✓ Parameters			Properties Events
🖶 Add 💥 Remove			
Name	Туре	Value	✓ ?: Logic 1
Home Team	String	 New York 	✓ Events
			 Parameter Changed Add X Remove
			Parameter Triggers Home Team Logic1.Evaluate()

Evaluating Logic Effects

Similarly to Conditions, Logic effects should be told when to evaluate during playback. Evaluate commands can be accessed in event lists. This is an example of a Logic effect being evaluated on the Effect In event.

Style		
Message ID		
Channel	Default	~
Layer	1	
Effect In	Logic1.Evaluate()	~
Effect Out		~

This method of evaluating Logic effects is in addition to the **Evaluate On Parent Changed** property previously mentioned.

Logic Effect Statements Editor

• Statements can be constructed by dragging object properties from the Property Pane (similar to Conditions). Users can also type statements with the assistance of PRIME's auto-complete tool.

Users who wish to reuse a Logic file in the same scene should consider giving graphic objects the same name. For this to work, objects must be placed in separate groups.



In the example below, a scene contains objects with identical names. The objects are contained in different parent groups with a Logic effect applied to the group, and both Logic effects are using the same .PLE file.

✓ 🖭 L	ogic 1 🏾 🏸	4	✓ 🔃 Logic 2 🍼	4
+ Logic			* Logic	
File	👰 Disable Image	~ 🖬 •	File 💽 Disable Image 🗸 🗸	-
	Evaluate		Evaluate	
	Evaluate On Parent Changed		Evaluate On Parent Changed	

The statement contained in the .PLE file states that if "Text 1" is empty "Image 1" will be disabled. Since both parents groups contain child objects with identical names the applied Logic file will evaluate exact same.

Scene Tree	x Logic	Logic				
* 🖻 🛍 🦻 🖏 🗱	2 Conditions	🕂 🛟 🖏 🖓 - 🔚 🔌	Statements if dif die Comm	ands 💽 Trigger 🔲 Property		
Constraints of the second sec	💽 Logic	Logic 1 Logic 2	✓ if Text1.Text.IsEmpty() ☐ Image1.Enabled = false	* *		

Additionally, the Logic Effect can be written to address the Parent it is applied to. This would allow for the names of the objects to be unique while still giving the benefit of duplicating the Logic. In the example below the same Logic Effect is applied to 3 different text objects. As the statement uses Parent.Text the object name does not matter, the logic statement will be applied to its parent object.

Scene Tree		×	_		
⊁ 🗊 📋 🤛 🖏 🛠		» 🗆 🕹 🦨			
🐼 🗟 🝙 Objects 🜉 New Scene	Effects	Logic Parame	eters / Expressions	Statements if elif else (Commands 📀 Trigger 🔲 Property
 Scene Group a^A Text 3 a^A Text 2 a^A Text 1 	?: ?:	2: Logic	Logic Color Logic Color Logic Color	If Parent.Text=0 Parent.Color=Col Aif Parent.Text>0 Parent.Color=Col Parent.Color=Col	·
 Resources Parameters Expressions 				Parent.Color=Col	or.Red

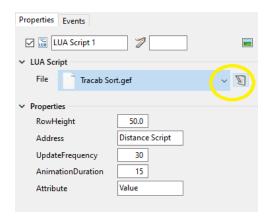


LUA

LUA scripts are scripts that run at a low level inside the render engine on a frame by frame basis unlike VB or C# scripts which run at a high level outside the render engine.

LUA Script code can be written in PRIME by adding a LUA Script Effect. They can be embedded in the scene or saved out as ". GEF Effect Files". These GEF files can be assigned to the LUA effect. The LUA property editor will show attributes defined in the LUA file; these attributes appear as properties of the LUA effect and can be keyframed on the timeline.

Effects	~
🕂 Align	📥 Auto Follow
🗞 Auto Hide	Auto Spacing
Blur	🞒 Camera
Ch Character	年 Crawl
Сгор	A Font Style
Grid Grid	🜔 HDR
🗊 Inline Text	💡 Light
?: Logic	LUA Script
🖸 Mask	Material
A Multi Style	📝 Page Turn
PSD PSD	🖾 Render Texture
1 Roll	Roll Crawl
🛅 Shader	🕜 Style Sheet
Table	I Texture
[88] Texture Matrix	Touch



The edit button allows for the script to be edited and then saved

≽ Execute 📕 Halt	Properties Even	ts		
Address = Scene.get("Address")	LUA Scr	ipt 1	2	
<pre>Attribute = Scene.get("Attribute")</pre>	✓ LUA Script			_
<pre>function compareText(a, b)</pre>	File			~ 🖬
<pre>return Scene.get(Scene.find(a, Address), Attribute) < Scene.get(Sce end</pre>	✓ Declarations	move		Save Script Effect
<pre>Events.onEveryFrame = function()</pre>	Name RowHeight	Type Double	Default Value 50	
<pre>UpdateFrequency = Scene.get(Scene.this(), "UpdateFrequency")</pre>	Address	String		
<pre>if Scene.getTime() % UpdateFrequency ~= 0 then</pre>	UpdateFreq AnimationD	Int32 Int32	30 15	
return	Attribute	String	Text	
end				
list = {}	✓ Properties			
<pre>node = Scene.firstChild(Scene.node())</pre>	RowHeight		50.0	
	Address		Distance Script	
	UpdateFrequ	iency	30	
while node do	AnimationD	uration	15	
<pre>child = Scene.find(node, Address)</pre>	Attribute Value		Value	
if shild then				



Mask

PRIME allows for two types of Masks: Layer or Group.

Mask Properties	;	
Name Mas	k1	🔽 Enabled
⊿ Mask		
Туре	Layer 🔻	
Layer Mode	Source 👻	
Channel	1	
	Show Source	
	Soft Mask	
Soft Value	Alpha 👻	
	Intensity	1
	Red	
	Green Blue	
	Alpha	
	Alphu	

Layer Masks

Consist of "Sources" and "Targets" and can be assigned a "Channel"

"Soft Mask" settings allow you to blend between both the target and the source.

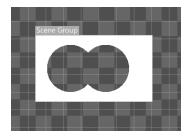
Layer Masks can be Hard (Stencil) or Soft. When Soft Mask is not checked, Hard (Stencil) Mask is being used.

****Please Note -** Designers should not use both a Soft and Hard Mask on the same Mask Channel. Mixing and matching different Mask modes will result in unintended behavior of the software. Mask modes should always match with their associated parent/sibling layers.

There is a limit of 7 concurrent masks per channel for hard masking and 127 per channel if soft is enabled.

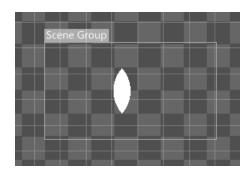
A single target can only be the masked target of 8 total layers. If more than 8 layers are used on a single target, the first 8 effects with the mask layer effect will still mask. Any layer effects after that will not mask. You can have multiple objects use the same layer

With multiple Hide Targets, any part of the source that is covered by a target will be hidden





With multiple Reveal Targets, ONLY the places where all of the targets intersect will be revealed.



Layer Mask scope:

- Global masks will affect any other Global masks. Scene masks will only affect other
- Scene masks in the same scene (or base scene)



Group Masks

Group masks will mask everything within its parent group and has no notion of "target and source".

Mode: Hide/Reveal

Properties			×
Mask 1			
✓ Mask			
Туре	Sibling	\sim	
Mode	Hide	\sim	
	Show Source		
	Soft Mask		
Soft Value	Alpha	\sim	

Soft Value:

🗹 🖸 Mask 1		
✓ Mask		
Туре	Sibling ~	
Mode	Hide \vee	
	Show Source	
Soft Value	Alpha 🗸 🗸]
	Red Green Blue Alpha Luminance	



Material

Materials can be applied to various scene objects. The material effect controls double as an editor that can be used to manipulate the current effects properties. It also has the capability of saving material effects for future use. Saved materials can then be applied later to other scene objects. A preview of the material is supplied to show the user the result of the created material effect.

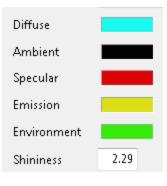
Faces

Preset



• The file that was saved or is being created. Any saved materials can be chosen from this control

Color



- Diffuse
- Emission
- Ambient
- Environment
- Specular
- Shininess



Diffuse

Diffuse lighting is used to simulate re-emission from a surface where the re-emittance isn't "ordered" (that is, the re-emitted light is diffused).

Diffuse Specular	Normal Environment Occlusion
Reflection Refra	tion
V	nabled
Texture 🌋	Koala.jpg 🗸 🗸
Intensity 0.	65
Filter	ear 🔻
Offset >	(0.00 Y 0.00
Repeat >	(1.00 Y 1.00
Wrap >	(Repeat 🔻 Y Repeat 💌
Contrast	1.00 Gamma 1.00
Saturation	1.00
LOD Bias	0.00 🔲 Invert

Texture

Intensity

Offset

Repeat

Wrap

Contrast

Gamma

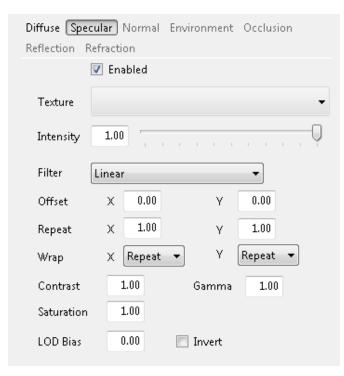
Saturation

LOD Bias

Invert

Specular

A specular highlight is the bright spot of light that appears on shiny objects when illuminated



Texture

Intensity

Offset

Repeat

Wrap

Contrast

Gamma

Saturation

LOD Bias

Invert



Normal

Diffuse Spe	ular Normal Environment Occlusion
Reflection F	efraction
	🗹 Enabled
Texture	•
Intensity	1.00
Filter	Linear 🔹
Offset	X 0.00 Y 0.00
Repeat	χ 1.00 γ 1.00
Wrap	X Repeat 🕶 Y Repeat 💌
LOD Bias	0.00 📄 Invert

Texture

Intensity

Filter

Offset

Repeat

Wrap

LOD Bias

Invert



Environment

Environment lighting adds light to the scene as if it came from a sphere surrounding the scene. The light is usually colored using an image called an *environment map*. An environment map can match the lighting (and reflections) in a scene to a real-world location, or may simply be used to add interesting variation to the scene's lighting.

Diffuse Spec	Ilar Normal Environment Occlusion
Reflection Re	fraction
[]	Enabled
Texture	-
Intensity	1.00
Filter	.inear 🔹
Offset	X 0.00 Y 0.00
Repeat	χ 1.00 γ 1.00
Wrap	X Repeat 🕶 Y Repeat 💌
Contrast	1.00 Gamma 1.00
Saturation	1.00
LOD Bias	0.00 🔲 Invert

Texture

Intensity

Filter

Offset

Repeat

Wrap

Contrast

Gamma



Saturation

LOD Bias

Invert

Occlusion

Ambient Occlusion is a sophisticated ray-tracing calculation which simulates soft global illumination shadows by faking darkness perceived in corners and at mesh intersections, creases, and cracks, where ambient light is occluded, or blocked.

Diffuse Spec	ular N	lormal	Environr	nent (Occlusio	on
Reflection R	efractio	n				
	🗸 Enat	bled				
Texture						
Intensity	1.00	, , ,	1 1	1 1		, ,
Filter	Linear				•	
Offset	Х	0.00		Y [0.00	
Repeat	Х	1.00		Y [1.00	
Wrap	х	Repeat	•	Υ [Repeat	•
Contrast	1.	00	Gan	nma	1.00	
Saturation	1.	00				
LOD Bias	0.	00	📃 Inve	ert		

Texture

Intensity

Filter

Offset

Repeat

Wrap



Gamma

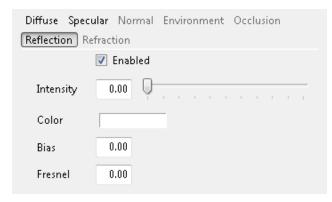
Contrast

Saturation

LOD Bias

Invert

Reflection



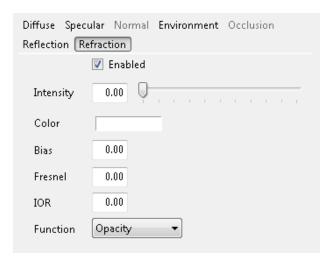
Intensity

Color

Bias

Fresnel

Refraction





Intensity
Color
Bias
IOR
Function

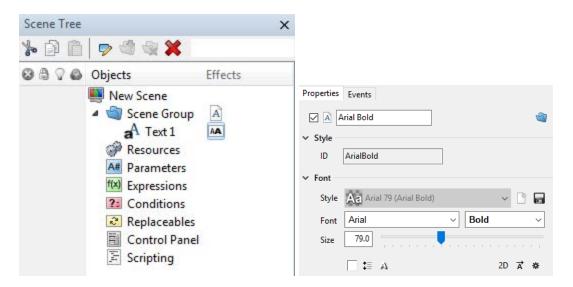
Multi Style

The Multi Style effect is a user-friendly way to allow a single text box to display two separate styles. The Multi Style effect is predicated on having existing Styles available to your scene already. Refer to the "Effects->Style" section.

In the first screen shot I have a simple scene with a single Text object, one "Style effect" placed on the Scene object, and one "Multi Style" effect placed on the Text object itself.

The second screen shot is the "Style Effect". See the "Style Effect" section in this guide.

The first text will use the style defined by the Text object itself and the second piece of text will use the style defined by the "Style Effect" placed on the scene object. As a note the "Style Effect" could have easily been placed on the text object as well.

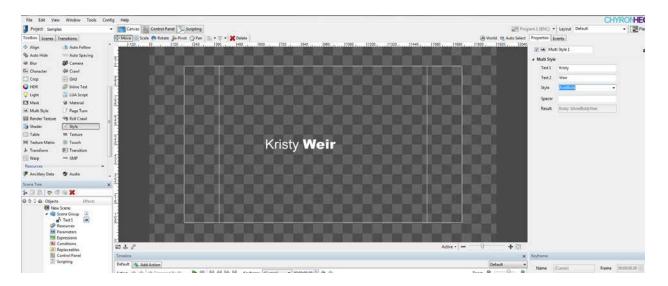




Select the Multi Style effect to show its Property Page.

Now select the style you wish to use and enter the text for each to get the desired result.

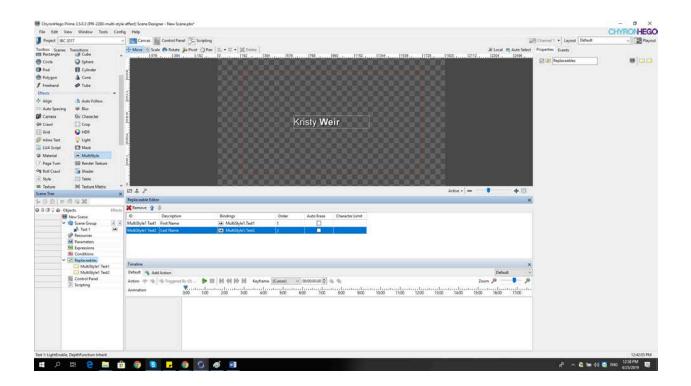
The Styles available to the Multi Style effect will enumerate in each of the "Style" drop down combo boxes.





The Multi Style Text objects function the same way as a single Text object. Each can be bound to any data source like the Data Object or XMP or as a replaceable for automation or Replaceables in LUCI.

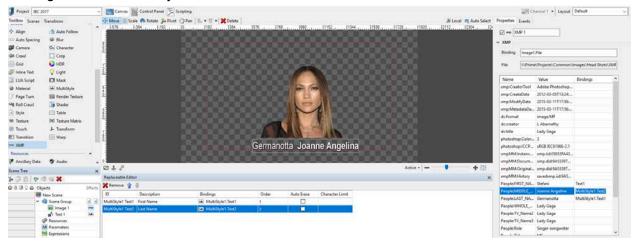
You can drag and drop each into the Replaceables for instance. Drag the Text 1 label from the Multi Select effect into the Replaceables window to expose this object to Automation.





Binding with XMP:

Binding with the Data Object



Source		Filter
🛓 XML	🗇 Back	Column
File	l:\Prime\Projects\Common\Data\XML_Examples\WorldCup_Soccer\WC_Rost	Use /
Table	message 🔨	_
	message/category	O Now
	message/heading	0.0
	message/sport	O Cust
	message/Team_Roster	
	message/Team_Roster/Listing	
	message/Team_Roster/Listing/Caps	message
	marchage/Team Poster/Listing/Club	

Binding 🔄 Tree 🔣 Cell 🚺 Column 🛛 Clear All Bindings

	✓ MultiStyle1.Text1.t	ext ~ MultiStyle1.Text2	.Text v	~
Player_ID	▼ First_Name	▼ Last_Name	 Jersy_Number 	•
78	Geert	De Vlieger	1	(
79	Eric	Deflandre	2	[
80	Glen	De Boeck	3	[
81	Eric	Van Meir	4	[
82	Nico	Van Kerckhoven	5	[
83	Timmy	Simons	6	1
84	Marc	Wilmots	7	F
85	Bart	Goor	8	1
86	Wesley	Sonck	9	F
87	Johan	Walem	10	1
88	Gert	Verheyen	11	1
89	Peter	Van Der Heyden	12	[
90	Franky	Vandendriessche	13	(
91	Sven	Vermant	14	1
<				



Page Turn

The page turn effect can be applied to any object.

Scene Tree		
h 🖗 🛍	P 🖻 🗙	
0000	Objects	Effects
	New Scene 2	
	4 🔝 Scene Group	
1	E Logo	

Transform

Position

Surface

Size

Page Turn Properties

Angle

Inner Radius

Diameter of the roll (at the start of the roll)

Outer Radius

Defines how tight the roll is. With a higher value (greater then Inner Radius) there will more space between the layers of the roll.

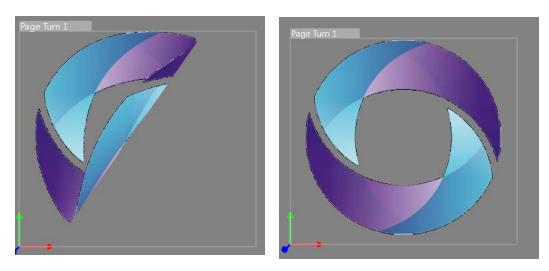
Tessellation

Number of points per width and/or height.



Factor

Value from 0 to 1 define roll process





Parameters Effect

Properties					
Paramete	ers Effect 1	•		-	
✓ Table					
	 Bind To Tabl 	e			
Table	Table 1		~		
Row Number					
Query					
	Apply	Reset			
	🗸 Apply On Cl	hange			
✓ Parameters					
🕂 Add 🗙 Rem					
Name	Туре	Value	Bindings		
Name TeamColor		Value #821010	Bindings PrimaryColorLogo.Color		
	Color 🗸				

The parameters effect is intended to be used in parallel with the table resource. Best practice is to apply the parameters effect at the group level, where a group is duplicated. For example if you have a table of statics information and have designed your template with multiple rows that are individually grouped. Apply parameters effect to Row 1 Group, and the copy/paste for additional iterations, Row 2 Group, Row 3 Group ect...

Parameters Properties

- Parameters Effect name: updatable alphanumeric text field
- Table
 - Bind to table: Drop down will display table resource available in scene
 - Row Number: Will display data from selected row number in table
 - Query: Custom Query for selecting data
 - Apply: Select to evaluate query
 - Reset: Column values will rest to default values
 - Apply on change: Enabled by default
- Parameters
 - Toolbar
 - Add & Remove
 - Only available if Bind to table is deselected
 - If Bind to table is selected these controls are grayed out and not active



• Bindings: Bind any object properties to a parameter

Туре		Value	Bindings
Color	~	#821010	
String	~	Slavia Praha	
String			Logo.f
Color	~	#FFFFFF	File
Integer	~	63	FileHeight FileWidth
	Color String String Color	Color × String × String × Color ×	Color V #821010 String V Slavia Praha String V bohem.png Color V #FFFFFF

*use semicolon between objects if binding to more than one object

🕂 Add 🗙 Remo	ve		
Name	Туре	Value	Bindings
Points	Integer 🗸	32	
BackColor	Color 🗸	#377A00	
TeamColor	Color 🗸	#005E34	PrimaryColorLogo.Color; Seperator.Color; TopB
Column 13	String 🗸		

Properties				
🗸 🔀 Paramete	rs Effect 1			-
✓ Table				
ŀ	Bind To Tal	ble		
Table	Table 1		~	
Row Number				
Query				
	Apply	Reset		
6	Apply On 🤇	Change		
✓ Parameters ——				
🕂 Add 🗙 Rem				
Name	Туре	Value	Bindings	
TeamColor	Color 🔹	#821010	PrimaryColorLogo.Color	
TeamName	String 🔹	 Slavia Praha 		
TeamLogo			Logo.File	
BackColor	Color 🔹	/ #FFFFFF		
Scored	Integer 🔹			
Allowed	Integer 💉	/ 17		



Photoshop Import

Photoshop Import feature for ChyronHego Prime

The PSD effect allows the user to import photoshop files (.psd) into prime. Photoshop layers are imported into PRIME as individual PRIME scene objects. The PSD effect can only be applied to a PRIME "Group" object. All PSD layers are imported into this PRIME "Group" object and can then be treated as native PRIME objects.

Basic usage - Add PSD effect on a group object. Select a psd file in the file box and press the 'Import button'. Import button acts as if checkboxes 'Reset Layer Position on Update' and 'Clear Group Before Update' were checked. It imports individual layers from PSD file into PRIME.

Checkboxes:

- Reset Layer Position on Update resets coordinates of layers on Canvas based on the PSD file.
- Clear Group Before Update removes all objects from the group with the selected PSD effect.
- Add Crop Effect adds crop effect to the group.

Update button usage - using the update button will not render images that were previously rendered, thus it can import the psd file quicker - this only works if you're using the same psd file multiple times. The update button will also import any new changes from the psd file.. This can be done using Import button as well, but that will automatically reset the layer coordinates and re-render all layers.

Text drop-down menu usage - if the psd file contains text layers, the drop down menu contains three ways of how to deal with text:

- 1. Image Only the text layer will be imported as an image.
- 2. Text Only the text layer will be imported as a text object.
- 3. Text With Disabled Images the text layer will be imported as a text object and it will also be rendered as an image. The image will be disabled.

When using an option where a text object is created, the basic text information from the PSD file will be transferred to PRIME if found, including: the text value, font name, font weight, font size, font color, kerning, alignment and whether the text is all caps. The positioning of the text can be a little off due to differences between PRIME and Adobe Photoshop.

PSD effect properties

File - Image browser same as in Image Object allows you to either select a file or import it into project images folder.

Currently supported PSD elements:

PSD effect is able to import psd files that use 8 bit depth color mode and RIe image compression.



PSD effect supports importing layers, masks on layers, groups, masks on groups. Supported attributes are opacity, open/closed folders, visible/invisible layers.

Text supports both basic dropped shadow and outline PSD effects. Image supports only basic dropped shadow PSD effect.

To get the best results, it is recommended to apply effects and clipping masks in Photoshop before importing.

QR Code

The QR code effect allows users to assign QR properties to specific objects like Images.

Overview

QR Code effect allows users to create a QR code from URL or plain text. Once it's created, they can bind it to an image, or a texture of a graphic object.

QR Code properties controls

- **Size:** QR Code size can be adjusted in the Surface section of the property editor.
- **Update** (Button): Updates QR Code manually.
- URL (TextBox): Contains a link to the webpage QR Code represents.
- Error Correction (ComboBox): QR Code has error correction capability to restore data if the code is dirty or damaged. Four error correction levels are available for users to choose according to the operating environment:
 - Low
 - Medium
 - Quartile
 - High

Raising this level improves error correction capability but also increases the amount of data QR Code size.

☑ 鼹 QR Co	de 1	✓
✓ Surface		
Size	Width	370 Height 370 🕶 🔻
✓ QR Code		
Preview		🗘 Update
URL		https://chyron.com/
Error Correc	tion	Medium ~
Foreground	I	
Background	ł	
File Name		https_chyron_com_
Folder		QR Codes
File		C:\Prime\Projects\Elections\Images\C
		Update File Name From URL
		🗹 Update On Change
V Binding		
-		
Target	Image1.	File
	Auto	Update Parent Size
	Relo	ad On Update



- Foreground and Background (ColorPickers): Colors can be adjusted in classic Prime Color Pickers.
- File Name (TextBox): By default generated from URL, but custom name can be used if Update File Name from URL is unchecked.
- **Folder** (TextBox): allows users to change the name of the folder which is stored in the project's Images folder.
- File (TextBox): Non Editable, shows a path to the QR Code file.
- Update File Name from URL (CheckBox): controls if File Name is generated automatically from URL
- **Update on Change** (CheckBox): Determines if QR Code should be updated on any given property change or if it has to be updated manually by pressing the Update button.

Binding controls

• **Target** (TextBox): contains a path to the property which should be overridden by QR Code.

Binding	
Target	Image1.File
	 ✓ Auto Update Parent Size ✓ Reload On Update
	C Reload on opdate

- Auto Update Parent Size (CheckBox): Controls if the target object's size should be inherited from QR Code.
- **Reload on update** (CheckBox): Determines if target object should be reloaded when QR Code is updated.

All QR code effect properties are specific to industry standard QR codes.



Render to Texture

Properties	x
🗹 🖾 Render Te	cture 1 🕥
V Surface	
Size V	Vidth 1920 Height 1080 🗎 🔻
✓ Render To Textur	e
ID	Texture 1
Resolution	Full 🗸
Render Order	
	Keep Transformation

ID- User friendly name to refer to this group. This Id will show up in the images browser as well. (The texture is also accessible under file name --render: *ID* -- or --render: *channel I ID* --)

Resolution-Texture resolution. Can be used to render smaller texture when full size would be too large.

Having smaller texture can have positive effect on performance.

The resolution of one RTT name should be consistent among all RTT effects in the scene.

- **Full** Texture resolution and antialiasing is the same as used in the main frame buffer.
- **Half** Texture resolution is 1/2 of both width and height of the main frame buffer resolution.
- **Quarter** Texture resolution is 1/4 of both width and height of the main frame buffer resolution.

Antialiasing is disabled.

Render Order- Render order of this texture among other RTTs.

Lower number is rendered first.

When undefined then the implicit order is given by depth of this effect in the scene. Do not mix explicit ordering with implicit ones at the ordering relationship is not obvious.

Keep Transformation- By default (**Off**) the transformation applied from scene root to this object is reset.

It mimics the rendering to empty frame buffer.

Set to **On** to keep position/rotation/scale transformations applied to all parent nodes.



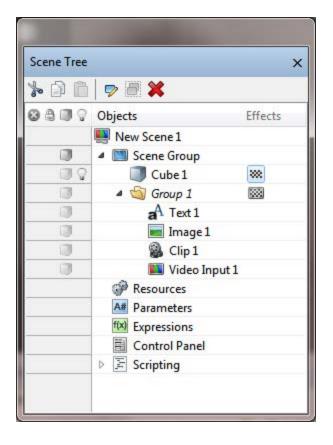
The "Render to texture" effect is a special effect that can be applied as a surface to objects.

Typically, you will apply a "Render to Texture" to a group of objects. Once a "Render to Texture effect is applied to a group the group is no longer part of the scene tree although it appears to be. This "Render to Texture" group will then be available in the "Images" folder and be used as a Material on another object.

In this scene tree example, the "Render to texture" effect is applied to Group 1.

The cube has a "Material" effect applied to it. The Material effect is the "Render to texture" and is named "Texture 1 and appears in the image browser.

Note: The Group Name of the render to texture Group will be italicized to indicate this group is a special "Render to Texture" group.





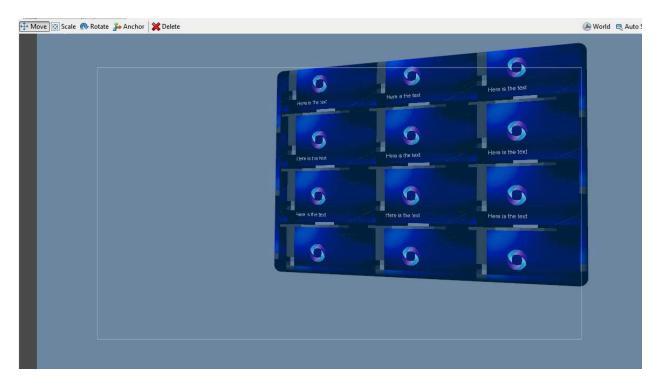
Images					🗳 🎲 Comr	non 🔎	
Elements	Headshots	MIb teams	New folder	Team Logos	ChyronHego Symbol	ChyronHego Symbol 140	ChyronHego Symbol 200
ChyronHego Symbol Clean	ChyronHego Symbol	CN Squeeze Credit -	CN Squeeze Credit -	Symbol_Color	Texture 1	Video 1	Video 2
Video 3	Video 4						



Material Prope	erties	×
	aterial 1 🛛 🗹 Enabled	
▲ Faces All ♥ Front ■ Back	Left Botton Right Top	n
•	III	F.
Texture	Enabled Texture 1.render	•
Texture Intensity		•
	Texture 1.render	Ţ
Intensity	Texture 1.render 1.00	•
Intensity Offset	Texture 1.render 1.00 X -0.14 Y 0.26	•
Intensity Offset Repeat	Texture 1.render 1.00 X -0.14 Y 0.26 X 2.99 Y 3.44	•
Intensity Offset Repeat Wrap	Texture 1.render 1.00 X -0.14 Y 0.26 X 2.99 Y 3.44 X Repeat Y Repeat	•



Example output:



Roll

Refer to the "Crawl Effect". A Roll is a vertical crawl. Crawl_Effect

Roll Crawl

The Roll Crawl effect animates an object using both the Roll and Crawl effect combined. The Roll effect is animated first followed by the crawl effect.

Ex: Text can roll up from off screen to its set position and then begin to crawl.



Properties	×
Roll Crawl 1	
✓ Transform	
Position X -387.5 Y -250.0	
✓ Surface	
Size Width 960 Height 135 🖨 🕶	
✓ Roll/Crawl	
Animate Behavior Roll Off If Fits ~	,
Roll Duration 00:00:00.15	
Roll Wait Duration 00:00:03.00	
Crawl Wait Duration 00:00:01.00	
Crawl Ease Duration 00:00:00.10	
Finish Fade Duration 00:00:00.10	
✓ Crawl	
Direction Left ~	
Speed 5.0	
Finish Offset 0	
Left Edge 0 Right Edge 0	
✓ Data	
Preview 💿 🕒 🚺 🚺 🛛	
Command None ~	
File 🗸	
Loop Off 🗸	
🗹 Update On Change	

- Animate behavior
 - o Always Crawl off-The crawl effect will always execute
 - o **Roll Off if it Fits**: Only execute the crawl effect if the text does not fit into the bounding box otherwise roll off



- **Roll Duration** The duration speed on to off and off to on
- **Roll Wait Duration** If the off effect is a roll (Roll off only if it fits mode) Wait time before next roll off begins. The Time the object is static on air.
- **Crawl Wait Duration** – If the off effect is a crawl (Based on animation behavior) Wait time before next crawl off begins. The Time the object is static on air
- Crawl Ease Duration- Ease in crawl duration
- **Finish Fade Duration** If the finish offset is greater than zero the crawl will fade offset number of pixels from the bounding box edge.

(For other property definitions see the "Crawl" effect section)



Scale to fit options

Text Uniform Scale

With the introduction of uniform scale we changed the word wrap options on Text Object's property control and extended it with the option to uniformly scale in both horizontal and vertical directions.

Text Uniform Scale Properties Control

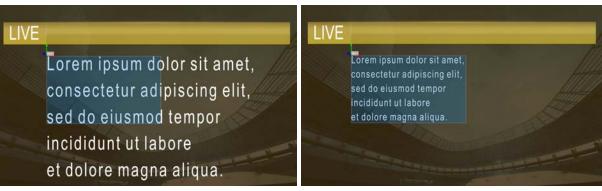
• Off - select this option to turn off any text word wrapping or scaling based on text bounding box size



- Word Wrap breaks text line into two if it is wider than text bounding box
- **Uniform Scale** when this option is selected text is scaled horizontally and vertically to fit into text bounds
 - It also sets vertical alignment to Top if it was set to First
 - Turns off Horizontal and Vertical Scale options if turned on

Example

Text before Uniform Scale is applied



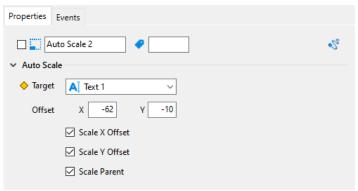
Auto Scale

Auto scale effect is a tool that works together with adjacent text objects and allows a scene graphic with auto scale effect applied to target one of the texts and position and scale itself accordingly. This is especially useful when designing bullet graphics.

Text after Uniform Scale is applied



Auto Scale Properties Control



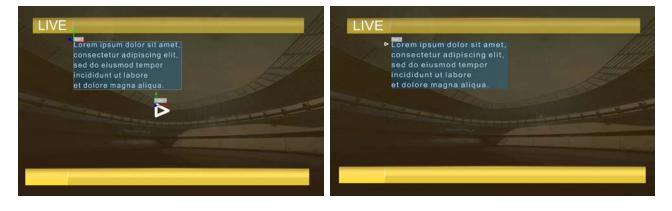
- **Target** dropdown that enables users to select from sibling text objects list (text objects in same group as an object auto scale is applied to) and specify target that an object will position and scale according to
 - By default target is first sibling text if it exists
- Offset offsets position of auto scaled object from its target
 - Default s to [-25,-25]
- Scale X Offset if enabled it scales down the Offset X value
 - True by default
- Scale Y Offset if enabled it scales down the Offset Y value
 - True by default
- Scale Parent if unchecked an object with auto scale applied will no longer scale itself according to target
 - Defaults to true



Example

A scene with Text 1 and Bullet 1 objects and no Auto Scale applied

A scene with Text 1 and Bullet 1 objects where Bullet 1 has Auto Scale



Multi Scale

Multi Scale effect was added as an extension tool for Uniform Scale effect and can be applied to group objects. If a group object contains text objects and Multi Scale effect is applied then all text objects in that group have Uniform Scale automatically enabled.

Multi Scale Properties Control

Properties Events		
Multi Scale 1		-
✓ Transform		
Position X 783.1 Y 876.6		
✓ Surface		
Size Width 668 Height 657 🕶 🔻		
✓ Multi Scale		
Horizontal Center 🗸		
Vertical Top \checkmark		
Direction V		
Font Size 75.0		
Leading 0.000		
Threshold 1.00		-
Spacing 196		· Ť
Scale Spacing		
🗹 Update Width		
🗹 Update X		

- Horizontal controls horizontal alignment for the whole text group
 - Defaults to Left with other options Center and Right



- Vertical controls vertical alignment for the whole text group
 - Defaults to Top with other options Middle and Bottom
- **Direction** allows to specify order of text objects in the group
 - Options Down and Up
- Font Size sets Font Size for all text objects in group
- Leading sets Leading on all text objects
 - Default value is 0
- **Threshold** higher the threshold is set more performance is gained but multi scale loses its precision
 - Text objects are scaled most precisely at value 0
 - Defaults to 1
- **Spacing** this property adds spacing between each text object in group
 - Defaults to 50
- Scale Spacing if enabled it scales down the Spacing value
 - Defaults to true
- **Update Width** if enabled it makes sure text objects in group are scaled horizontally according to the width of multi scale effect size
 - Defaults to true
- Update X if enabled text objects are repositioned according to multi scale effect x position changes
 - Defaults to true



Example

Group with 3 text objects without Multi Scale applied



Group after Multi Scale was applied, this example illustrates bigger spacing between text objects and horizontal alignment set to Center



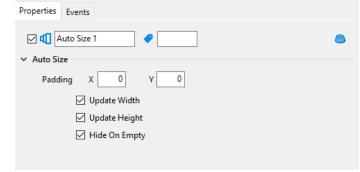


Auto Size

Auto size effect automatically calculates the size and sizes its parent object based on other sibling objects in the parent group. This effect was designed to work in conjunction with other Scale to Fit Options.

Auto Size Properties Control

- Padding this value controls the amount that is added to calculated size
 - Defaults to [0,0]
- Update Width if enabled it automatically adjusts the width of auto size parent object according to newly calculated extent of sibling objects
 - Defaults true
- Update Height if enabled it adjusts height of auto size parent object according to group extent



- Hide On Empty hides auto sized object if there is no content inside parent group
 - This can happen e.g. when all objects in group are disabled or there are empty text objects
 - Defaults to true

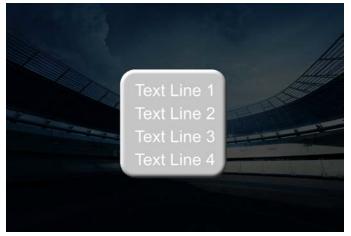


Example

Multi Scaled group of text objects and Pod object without Auto Size applied



Multi Scaled group of text objects and Pod object that has Auto Size effect applied

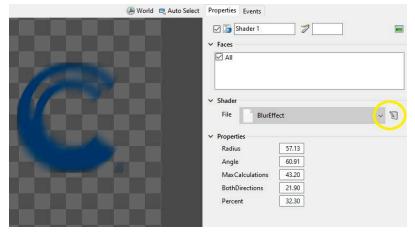




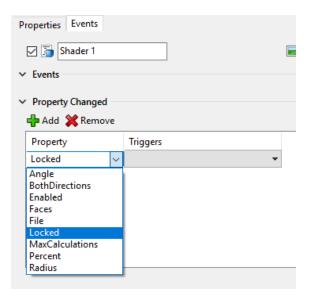
Shader

Shader effects can be added to PRIME objects. They can be loaded and saved out as ". GEF Effect Files".

The property editor will show properties defined in the Shader file. All Shader properties are keyframeable.



Property Changed Events will be included.

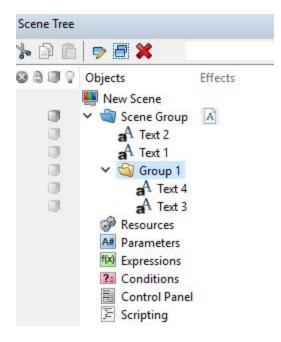




Style

The Style effect allows multiple styles to be used within a single text object. The Style effect can only be applied to a group, including the scene group or any individual text object. You can apply as many Style effects to each.

In this example, the style tag will apply to all 4 text objects



In this example the style tag applies ONLY to the Text 1 text object.



Style properties:



Properties			×
🗹 🖻 S	tyle 1		aA
 Style 			
ID	Style1		
 Font 			
Style	🙏 Franklin Gothic Heavy 106 🛛 🗸 🗸		Ð
Font	Finaldi	Aa	~
Size	151.0		
	B I 📕 🗮 A	2D	*

Id: This is the name to be used in the text string that will change the inline Style

Example: Text\tStyle 1;Text\t;Text

Results in the following



Font:

Style: This list enumerates all of the Styles available for this project. These are user created style. See the **Text Style Browser** section of the "Text Object". The Style can be edited and save here.

Style Tag Format

Backslash "t" starts the style tag notation followed by the Style Name ending with a semi-colon:

\tStyle1;

To revert the style back to the default style of the Text object leave the name blank;

\t;

Style Sheets

Style Sheet effects are a collection conditional and property statements which are applied to a parent object, in most cases this will be a parent group. When a Style Sheet is evaluated the conditional statements are applied to the parent object and each of its children. Only graphic objects and effects can be evaluated in a Style Sheet. Style Sheets run on when a scene object is updated.

Style Sheet Properties Controls

• File: Shows the last loaded or saved Style Sheet file (.pse file)

PRIME Style

Evaluate On File Changed
 Bind To Scene Style

Evaluate

🖂 📝 Style Sheet 1

Style Sheet

File

o **Asset Browser Control**: load Style Sheet files into the existing Style Sheet effect.

1 Home

-

- **Save** (Button): Saves a Style Sheet to existing or new file. By default, Style Sheets will be saved to the **Styles** folder in the project directory. The dropdown consists of the following options:
 - o Save
 - o Save As
 - o Reload From Disk: Remove changes and reloads the file.
- **Evaluate**: Evaluates Style Sheet on the active Scene
 - **o** Same functionality as the Evaluate button in the Logic window
- Evaluate On File Changed: Automatically applies the Style Sheet to the scene when the .pse file is changed
 - o This will evaluate the Style Sheet after the scene is loaded during playback.
- **Bind to Scene Style** : Binds the Style Sheet File property to scene's Style property
 - o The binding is internal and is not shown in the scene's **Style Changed Event**.
 - o If the scene's **Style** property is changed, the **Style Sheet** will load the .pse file with the same name as scene **Style** property value.
 - o See Style and Style Changed Event for more.





In the example below, a morning news broadcast uses the scene Style "Morning". Because **Bind To Scene Style** is checked, the Style Sheet automatically loads "Morning.pse". With **Evaluate On File Changed** checked, "Morning.pse" will be automatically evaluated.

	📦 🧬 🗛 🕅 🖭 🎅 🎽	🖂 🛃 Style Sheet 1 🌍	
✓ Scene		✓ Style Sheet	
Version	3.5.8.300	File Morning	v 🗖 •
Description		The Monning	. 61
Keywords		Evaluate	
Style	Morning	Evaluate On File Changed	
Message ID		☑ Bind To Scene Style	

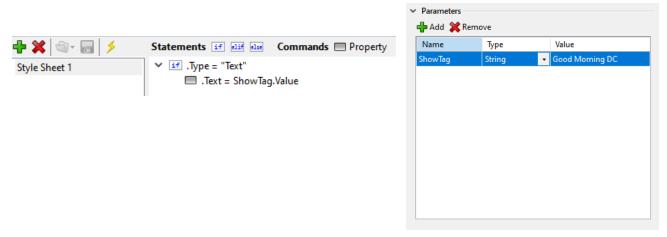
Note: **Evaluate On File Changed** and **Bind To Scene Style** are saved to the **Style Sheet** object and not to the .pse file. For instance, if "Morning.pse" was saved with **Bind To Scene Style** checked and "Morning.pse" were to be loaded with **Bind To Scene Style** unchecked, **Bind To Scene Style** would remain unchecked.



Style Sheet Parameters

Parameters are variables that can be used to store Style information like Color, string, Int, etc. Parameters can be accessed in conditional and property statements.

Notice the "ShowTag" parameter is being accessed in the property statement below.



Style Sheet Events

Parameters Change

Add Triggers to listen to Parameter Change Event for particular Style Sheet's parameter. In this case the Data Object will update when the "ShowTag" value parameter changes.

a ^A



Style Sheet Statement Editor



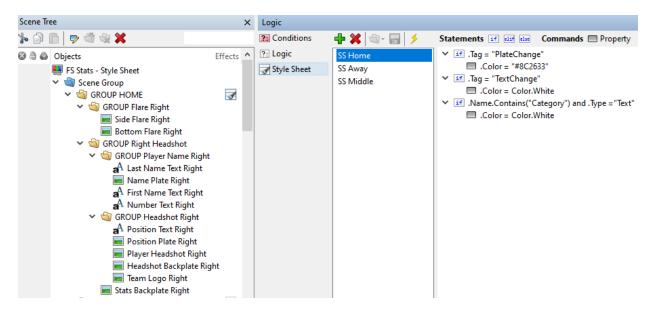
Style Sheets can be edited, added and removed using Logic pane's Style Sheet tab or in the Effects toolbox.

- The Style Sheet statement editor supports conditional (If Else) as well as property statements
 - o Triggering actions, conditions and other methods are prohibited in Style Sheets
- Style Sheets can be created using With statements:
 - o With statements begin with Dot "." (ex. ".PositionX = 30) and attempt to evaluate if an object shares the matching property, in this case PositionX.
 - o With statements are created by dragging keyframable properties from an object's Properties Pane to Style Sheet Statement Editor.
 - o With statements can also be typed but note that AutoComplete is not available in the Style Sheet Statement Editor.
- The **Type** property can be evaluated by the type of object in the statement i.e. .Type = "Text". These can be constructed by dragging the object from Graphics Toolbox to the Style Sheet Statement Editor.
- The **Name** property allow users to evaluate objects based its name. These can be dragged from the Scene Tree
- The **Tag** property has been introduced to each scene object and can be changed in the Properties tab. Tags serve as an alternative to the **Type** and **Name** properties if users wish identify objects in batches. Multiple objects can share the same tag.

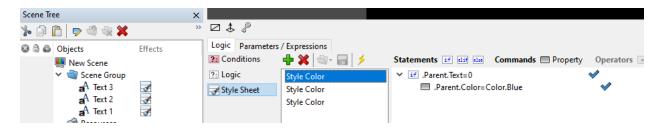
Properties Events						
⊠ a A Text 1		_ 7 _				
> Render						
✓ Transform —						
Position	X 640.0	Y 515.6	Z 0.0			
Scale	X 1.00	Y 1.00	Z 1.00 📟			
Rotation	X 0.0	Y 0.0	Z 0.0 xyz			
Pivot	X 0.0	Y 0.0	Z 0.0 -			



The following example shows a Style Sheet effect applied to a parent object, "GROUP HOME". When the Style Sheet is evaluated it will evaluate over the parent object and all of its child nodes. The property statements will be applied to the corresponding child objects in the conditional statement.



Similar to .Tag using .Parent is another method of applying the same statement to multiple objects. Using .Parent avoids addressing the object by it's name as the statement evaluates against the Parent Object that the Style Sheet is applied to.





Table

The Table effect can be used to duplicate a graphic multiple times with the purpose of binding multiple rows of a data source to the duplicated graphics.

By default, the duplicated graphics will all appear in the same location. An Auto Spacing effect, or some Lua effect with positioning logic must be placed higher in the scene tree in order to position the duplicated graphics.

Row data is populated in the duplicated graphics by using the navigation commands in the Data object (Move Next,

⊿ Table	
Preview	M 🕪 💿 🛛
Data Object	📑 Table Data 🔻
Row Count	7
Update In	
Update Out	
Animation	
Mode	Total Duration 💌
Direction	Forward
Duration	00:00:01.00 🚖

Update). If the number of rows available in the Data object is more than the Row Count property, the additional data can replace the current data in the duplicated graphics by executing a Move Next on the Data object.

Data Object - a Data object in Columns mode that contains the rows of data to duplicate

Row Count – the maximum number of graphics to duplicate.

- Update In / Update Out animations to play when new data is displayed or hidden
- Animation Mode controls animation stagger when rows are animated

Disabled - no stagger: all rows will animate at the same time

- Total Duration rows stagger animation using the Duration property as the total duration from first to last
- Duration Between Rows rows stagger animation using the Duration property as the duration between individual rows
- Direction the direction of the animation stagger
- **Duration** the duration of the animation stagger as specified in the Animation Mode property



Table Effect Example

In the example to the right, a Table effect is placed on a Group that contains 3 Text objects and 2 background Images. This Group is then duplicated 7 times as specified by the Row Count property on the Table effect. The duplicated graphics are then spaced out evenly using an Auto Spacing effect. Each individual graphic is populated with its respective row from the Data object as specified in the column binding.

6			
(‡	ŧ	NAME	SCORE
	3	RUBY	97.1
	5	TEAL	88.4
		SKY	92.9
	7	SLATE	85.0
	2	FOREST	94.3
	4	MUSTARD	78.6
	5	LILAC	82.5
-	i Hitis		

Table Test	⊿ Table
🔺 🔄 Scene Group	Preview 🙌 🕪 💿 🔀
A Score Header	
A Number Header	Data Object 📑 Table Data 👻
A Name Header	Row Count 7
🔺 🔄 Table Group 🚥	
🔺 🔄 Row Group 📃	Update In 👻
A Score Text	
A Name Text	Update Out
A Number Text	A dimension
Color Image	A Animation
Data Background	Mode Total Duration 🔻
🔳 Table Background	
 Resources 	Direction Forward
Table Data	Duration 00:00:01.00 🚔

NumberText.Text 👻	NameText.Text 🗸	ColorImage.Color 👻	ScoreText.Text
Number 🔻	Name 🔹	Color 🔻	Score
3	Ruby	#FF0000	97.1
6	Teal	#00FFFF	88.4
1	Sky	#0000FF	92.9
7	Slate	#АААААА	85.0
2	Forest	#00FF00	94.3
4	Mustard	#FFFF00	78.6
5	Lilac	#FF00FF	82.5



Texture

Textures can be applied to various scene objects. Textures use the "Images" folder.

Faces

Only one face per texture

Texture Properties

Mapping: Texture wrap in X and Y dimensions. Method of texture application outside it's dimension.

Wrap:

Clamp - Edge pixels are repeated. **Repeat** - The whole texture is repeated.

Filter: Texture filtering mode.

Point - Pixel sampling, no interpolation.

Linear - Linear interpolation.

Mipmap - TriLinear interpolation of mipmap levels during minification. Linear interpolation is used for magnification.

Mipmap Anisotropic - MIPMAP with enabled anisotropic filtering.

♥This mode helps when texture get blurred because of viewing angle or non-uniform scale.

LOD Bios

Specifies a value that is to be added to the level-of-detail parameter for the texture sampling. This parameter has effect only for mipmap texture filtering.

Value less than zero makes the image blurry. Value greater than zero makes the image sharper.

Unit

Texture unit.

File

File name which contains an image for texture.



Texture Matrix

Texture Matrix Properties

Offset: Offset defined in normalized coordinates. **Scale Factor:** Same as Pivot

Rotation: Rotation in degrees. See also Pivot attribute.

Pivot: Rotation and scale pivot. **Inverse**: Setting true makes the transformation inverse.

The inverted transformation makes it easier to understand and is similar to node transformation

Properties	;					×
☑ ⋈ [Texture	Ma	trix 1			
 Texture 	e Matrix	c —				
Offse	t	х	0.0	Y	0.0	
Scale		х	1.00	Y	1.00	69
Rotat	tion		0.0			
Pivot	:	х	0.0	γ	0.0	

Touch

🔽 💿 Touch	1	a
▲ Touch		
Hit Test	Geometry	•
	Allow Drag	

Properties

Hit Test:

- Geometry: Raise the touch event only when the object itself is touched.
- **Bounding Box:** Raise the touch event when touch is within the bounding box of the object.

Drag X: Allows the object to be dragged on X axis

Drag Y: Allows the object to be dragged on Y axis

Events

- Touch Down: Triggered on touch down
- Touch Up: Triggered on touch release (tap or slide)
- Touch Move: Triggers during drag
- Tap: Triggers on touch up (not slide).



- If the touch point is more than 3 pixels, then prime will assume this is a slide, not just a tap.
- Tap threshold can be modified through Logic condition. For example Touch1.TapThreshold = 5

Touch Setup:

Use Windows Control Panel "Tablet PC Settings" found in the "Hardware and Sound" section to configure your touch screen device.

Transform

The Transform object allows you to add an additional transform to an object. This allows you to separate the transform of your object from your animations. Using the Transform effect reduces the number of groups you'll require to achieve the same result.

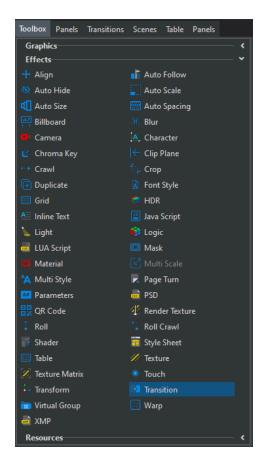
Example: Add an image to a scene and position it. Add a transform effect to the image. Create an Action that animates the transition effect Position X. Now move the Position X of the image somewhere else in the scene and play the action again. The animation is the same and is relative to the position of the image. Being relative to the object it is applied to is the importance of a separate Transform effect

Update Parent Bounds setting: Disabling this check box, prevents the parent object graphic bounds from applying any transform effect offsets. This behavior can be applied when Auto Follow Source mode and Transform effect are used together, and you want to avoid an auto follow update from effecting the Transform effect animation.



Transition

Transition effects can be used to animate graphics from one value to another. By default, the transition will occur when any child graphic default property changes (such as the Text property of a Text object, or the File property of an Image or Clip object), but can also be configured to trigger when child graphics are Enabled or Disabled, or when their Color changes.





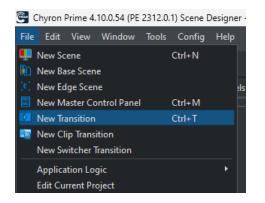
There are two types of transition that can be applied to a group or Object: File or Custom.

Properties Even	ts
🗸 🚺 Transiti	on 1 🧳 💼
✓ Transition —	
Preview	Kide < Out 🔰 In 🗲 Show
Туре	File 🗸
Behavior	On Change 🗸
File	¥
Duration	00:00:00.00 🗘
Offset	00:00:00.00 🗘
	Out On Empty
✓ Property Trigg	gers
🗸 Default Pro	perty
Enabled	
Color	
Properties Ever	nts
Properties Ever	
Properties Even	
Properties Ever	ion 1 🧳 📃 🕒
Properties Even	ion 1
Properties Even Transit Transition Preview Type	ion 1
Properties Even Properties Even Image: Transition Image: Transition Preview Type Behavior Behavior	ion 1 Hide Cut In Show Custom On Change
Properties Ever Transition Preview Type Behavior Priority	ion 1 Hide Cut In Show Custom On Change
Properties Even	ion 1 Hide Qut In Show Custom On Change Incoming
Properties Even	ion 1 Hide Cut In Show Custom On Change
Properties Even	ion 1 ✓ Hide ◆ Out > In > Show Custom ✓ On Change ✓ Incoming ✓ 00:00:00.00 ↓ Out On Empty
Properties Even	ion 1 Hide Out In Show Custom On Change Incoming Out On Empty gers
Properties Even	ion 1 Hide Out In Show Custom On Change Incoming Out On Empty gers

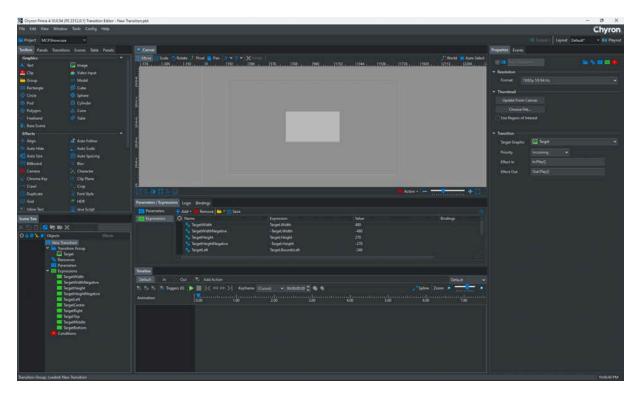


File Based Transitions

To create a new File Based Transition:



This will open the Transition Editor:



From this UI you can create transition effects. This UI begins with In and Out actions.

There is a surrogate scene tree object named "Target". The target will be replaced by the actual scene object where the transition is applied.



Transition Properties:

Properties Events		
🔽 🚺 New Transitio		📻 🎋 🏧 📖 😢
✓ Resolution		
Format 108	0p 59.94 Hz	~
✓ Thumbnail		
Update From Ca	nvas	
Choose File.		
Use Region of Int	erest	
✓ Transition ———		
Target Graphic	🖪 Target	~
Priority	Incoming 🗸	
Effect In	In.Play()	
Effect Out	Out.Play()	

You can add many scene objects to the transition, like sound effects, flares etc. so you need to define the "Target Object" The Target object can be an Image object or a text object. When the transition is applied to a scene object it will inherit the "Target Objects' properties.

Saving the transition will allow it to show up in the transition browser.



To use a created transition:

 Within a Prime Scene, apply a Transition Effect from the toolbox onto an object Select the transition effect from the Scene Tree and the **Transition Properties** panel will be shown:

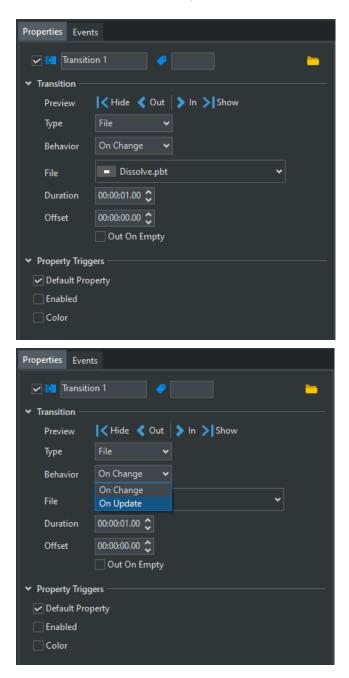
Properties Ever	nts				
🗸 🚺 Transiti	ion 1 🥏 🦳				
✓ Transition —					
Preview	Kide 🔇 Out 🛛 🕻 In 🗲 Show				
Туре	File 🗸				
Behavior	On Change 🗸				
File	~				
Duration	00:00:00.00 🗘				
Offset	00:00:00.00 🗘				
	Out On Empty				
✓ Property Trig	gers				
✓ Default Property					
Enabled					
Color					

2. Once a new transition is created it will show up in the browser.

🔽 Graphic 1	ransitions			📮 🍃 Com	imon	👷 - 🧔 -
Dissolve	SlideDissol ve2	SlideDissol ve	UpDown	UpDownDi ssolve		
				ОК	Deselect	Cancel



3. Select the previously created transition from the browser.





• Preview

- Hide hides the content being transitioned
- Out plays the specified Transition Out Action
- In plays the specified Transition In Action
- Show shows the content being transitioned
- **Behavior** sets when the transition will fire. Your choices are "On Update" or "On change:"
 - On Update will fire for each update regardless if the data is the same or different.
 - On Change will fire ONLY on an update if the new value is different than the current value.
- **Duration** may be modified from its original value. This will allow for applying the same effect on multiple objects and creating a "staggered" effect.
- Offset Creates a Duration delay prior to the Transition playing
- **Out on Empty** If checked, performs the specified Out Animation when the content is changed to an empty value
- Property Triggers
 - Default Property If checked, the transition will be triggered when any child graphic default property changes (ie, Text property for a Text object, File property for Image or Clip objects...)
 - Enabled If checked, the transition will be triggered when any child graphic Enabled property changes
 - Color If checked, the transition will be triggered when any child graphic Color property changes



Custom Transitions

Custom transitions work the exact same way as file based except they require the transition to be in an existing "Action" in the scene. Simply choose your "In Action" and "Out Action"

Properties Event	ts
🗸 🚺 Transitio	on 1 🧳 💼
✓ Transition —	
Preview	Kide 🔇 Out 🔰 In 🗲 Show
Туре	Custom
Behavior	On Change 🗸
Priority	Incoming 🗸
In Action	~
Out Action	~
Offset	00:00:00.00 🗘
	Out On Empty
✓ Property Trigg	ers
🗸 Default Prop	perty
Enabled	
Color	

- **Priority** specifies which graphic will be at the top during the transition: Incoming or Outgoing
- In Action specifies the animation(s) to play for the incoming graphic
- Out Action specifies the animation(s) to play for the outgoing graphic



Transition Event Properties

Now you can modify the properties of the transition and hook up to its internal events.

Properties Events		
🗸 🚺 Transition 1		-
✓ Events		
Before Update		~
After Update		~
Finished		~
 ✓ Property Changed → Add X Remov 		
Property	Triggers	

- Before Update event is triggered before the transition occurs
- After Update event is triggered after the transition occurs
- Finished event is triggered after the transition finishes animating



Warp

Warp Propertie	15)
Name Wa	rp 1	V Enabled	
Preview File	₩ ₩ ▶ ■	88 89 98	•
Command	None	•	
Frame	None Cue	hgth 00:00:00.00]
Trim In	Play Stop Pause Resume Rewind End	m Out 00:00:00.00	H

More information on Warp Clips can be found in the "Creating Warp Clips in After Effects CS6" user guide.

Virtual Group

This Effect is intended to be used in conjunction with AutoFollow Source Mode. A Virtual Group effect can be applied to multiple objects in a scene, regardless of how they have been physically grouped together in the scene tree, to "virtually" group them together. The benefit of this is the effect will give the calculated values for the Left, Top, Right and Bottom of all objects within the virtual group.

Example for using this effect: If you have a Full Screen graphic table, consisting of multiple rows and columns of data. The scene is constructed to animate each row individually. But the operator wants to change the amount of columns that display. Apply the virtual group effect to each text object, to create "virtual columns". Then have each virtual column row autofollow the next. The virtual group will calculate the text field in the column that is the longest, making auto follow even easier. Essentially virtual groups will do math.max calculations, using the calculated property.



 Work Scale Result Move Scale Result Nove Scale Result Privat Pan Privat Pan	O bijects Effects A TeamCity A TeamName
 StatsheaderG G Stats All Number A Number A Stat 2 A Stat 3 A Stat 4 A Stat 5 A Number A Stat 5 A Stat 6 A Stat 7 <l< th=""><th>> Player 10 👔 🛄</th></l<>	> Player 10 👔 🛄

Virtual Group Properties

Name: Naming convention must be exactly the same for any other virtual group effects that you want to reference within the same virtual group.

ID: Read only, Prime's reference name of the virtual group

Parent: Left, Top, Right and Bottom values of the object the virtual group is applied to. Width and Height of the object the virtual group is applied to.

Calculated: Left, Top, Right and Bottom values of all objects within the virtual group. Width and Height of all objects within the virtual group.

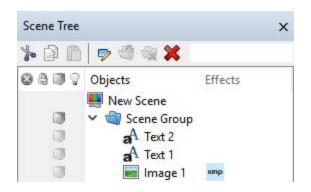
References: List of all items within the virtual group.

*Please Note - Auto Spacing does not affect Virtual Group bounds.



XMP

Adobe's Extensible Metadata Platform (**XMP**) is a **file** labeling technology that lets you embed metadata into **files** themselves during the content creation process. PRIME can bind to the data stored in Image files.



Apply the XMP effect to an image object. If the Image contains XMP metadata, the data will appear in the XMP properties window:

P	roperties				×
	🗸 xmp 🔀	P 1			
Ň					
	Binding	Image	I.File		_
	File	I:\Prim	e\Projects\News De	emo\lmages\XMP	Tear
					_
	Name		Value	Bindings	^
	xmp:Creato	orTool	Adobe Photosh		
	xmp:Create	Date	2011-04-02T15:		
	xmp:Modif	yDate	2015-03-12T19:		
	xmp:Metad	lataD	2015-03-12T19:		
	dc:format		image/tiff		
	photoshop	:Col	3		
	photoshop	:Doc	uuid:D6B75D78		
	xmpMM:Do	ocu	xmp.did:09B3E6		
	xmpMM:In	stan	xmp.iid:A1C377		
	xmpMM:O	rigin	xmp.did:09B3E6		
	xmpMM:Hi	istory	savedxmp.iid:04		
	US_Sports:F	irst	JULIO	Text1.Text	
	US_Sports:L	.ast	JONES	Text2.Text	
	US_Sports:T	۲V_N	JULIO JONES		•

Notice the "Bindings" column. This is where you can drag and drop other object properties to bind the data. All Object properties are bindable like Color, opacity, Position etc.

Users can alternatively type manually into this field to take advantage of PROME's "Auto-Complete" feature as well.

The Bindings field also allows for the use of Expressions.

See the separate "Parameters & Expressions" document.



Example using an Expression:



Using Auto-Complete:

US_Sports:LastName	JONES	Text	
US_Sports:TV_Name1	JULIO JONES	aA Text1	
		a Text2	

In this example we will bind the image color:

US_Sports:Position 201,35,63	Image1.Color





XMP LUCI Workflow

Any text, images or clip objects must be bound to a corresponding replaceable within Prime, to be visible and editable in the NRCS LUCI plug-in. In addition, for objects that are data bound to XMP, the replaceable must be flagged as databound.



In the Replacables window there is a databound column with a chain link icon. Click in the empty row space of the replaceable column to turn on the databound icon for each object that is databound to XMP.

Parameters / E	xpressions Replaceable	S		
🕂 Add 🔀 R	emove			
\$ # 🖉 🤇	D 🔊	Description	Bindings	Character Limit
≡ 1	🕜 Text1 Text		🔥 Text1.Text	
≣ 2	Image1 File		💽 Image1.File	
≡ 3	Text2 Text		A Text2.Text	

If the databound column is not flagged for each object that is databound to XMP, then the corresponding XMP data will not be visible in the LUCI plug-in.



	+			~
← → C ▲ Not secure 1	0.1.3.84/LUCI/#/editor/494b42d0-1464-4d84-8512-0	722f7496638	년 수 :	* 🛛 🌒 🗄
XmpBasicScene		٩	rime Styles: None ▼ Automation Transitions: test ▼	🛞 🕘 🛛 🗡
Text1 Text	Image1 File	a T		Ó
Text2 Text				8
Lynn 🖉		3		7
			Jennifer Lopez Midde Name: Lynn	+ 3

Example of databound XMP information visible in the LUCI plug-in

Unicode UTF-8 Region Setting for Character Accents

XMP can fail to return character accents properly if Beta: Use Unicode UTF-8 for worldwide language support is not enabled within Windows.

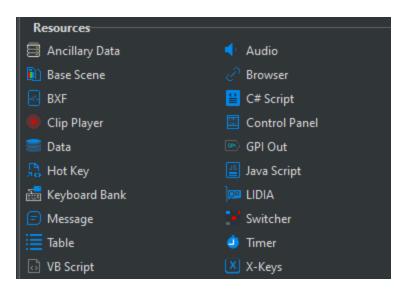
For example: without this setting turned on, cinéma would display as cinéma.

To enable this setting, go to Windows Settings > Time & language > Language & region > Administrative language settings > Change system locale..., and check Beta: Use Unicode UTF-8 for worldwide language support. Reboot the PC for the change to take effect.

🔗 Region Settings	×				
Select which language (system locale) to use when displaying text in programs that do not support Unicode. This setting affects all user accounts on the computer.					
Current system locale:					
English (United States)	\sim				
Beta: Use Unicode UTF-8 for worldwide language support OK Cance	ł				



Resources



Ancillary Data

This resource provides the ability to change the routing of ancillary data on either horizontal (HANC) or vertical (VANC) intervals. This is commonly used for branding scenarios, when you have to squeeze back with 2 video sources and want to switch ancillary data (closed captioning) from source 1 to source 2.

Select the SDI Input.

Ancillary Da	ta Properties	×
Name	Ancillary Data 1	Enabled
	Data	
Horizonta	al Default 👻	
Vertical	Video Input 1 👻	



Ancillary D	ata Properties	
Name	Ancillary Data 1	Enabled
⊿ Ancillar	y Data	
Horizont	al Default	•
Vertical	Video Input 1	-
	Default	
	Video Input 1	
	Video Input 2	
	Video Input 3	
	Video Input 4	

Both the Horizontal and Vertical Ancillary data selections are keyframeable allowing you to dynamically switch the source of your ancillary data.

Actions											
Default Swith A			-								
Action 喇 🔖	👒 Trigge	ered By (0)	🕨 🛛	B H 4	H H I	Keyframe	Keyframe	1 🔻 00:0	0:00.00 🌲		
Animation	7 1 0:00					5:00				9:00	···· 1
Ancillary Data:	1 🚫										
VerticalInput	\$										
HorizontalInp	ou 🗇										

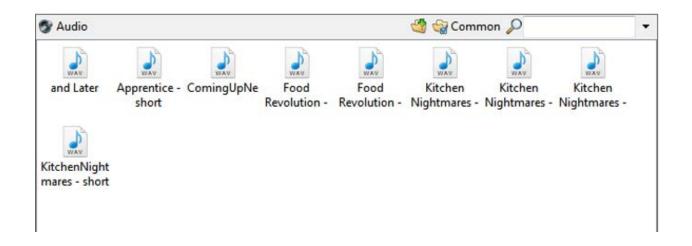
Audio

The Audio object has three modes to choose from, Audio File, Text file and Text.

Audio File

This will be a .wav file or any other supported audio file.





roperties	;	Properties	
🖉 🎯 Audi	o1 🏈		Ó
Audio Areview		Audio Preview 膨 📕	
Mode	AudioFile 👻	Mode AudioFile -	
File	-	File ComingUpNext.wav	•
Command	None	Command None	
Length	00:00:00 🔺	Length Play	
Fade Out	00:00:00 🔺	Fade Out Stop	
	🕅 Loop	🖾 Гоор	
Volume		⊿ Volume	
Volume	1.00	Volume 1.00	0
Channels	Outputs	Channels Outputs	
	12345678	1 2 3 4 5 6 7 8	
Inputs		Inputs 2 mmmmmmm	

- Commands
 - None: Do nothing
 - Play: Plays the associated audio file
 - Stop: Stops playing the associated audio file
- **Volume** Sets the volume level of any the associated audio file when played. The volume levels can be keyframed in the Timeline editor.
- **Channels** Sets the output channel(s) the associated audio file will play out to.



Finished Event:

Properties	Events	
Finished		•

Any subscribers to this event will get notified and triggered.

Text File

A .wav file will be created based on the text file. This is "Text to Speech"

Same holds true for "Text" mode.

Audio Properties		× Audio Properties		
Name Audio 1	✓ Enabled	Name Audio	1 I Enabled	
Audio		▲ Audio		
Preview 🜔 📕		Preview	> 🔳	
Mode TextFile		Mode	ext 🗸	
File		▼ Text	*	
Text			-	
		-	lone 🔻	
Command None	*]	E Length 0	0:00:01.29	
		Fade Out 0	0:00:00.00 🚔	
Length 00:00:01.2	9 🔶		Loop	
Fade Out 00:00:00.0	D 🜩	▲ Volume	Tradical Tele	
📃 Loop				7
Volume		Volume 1.0		1
Volume 1.00		- Channels	Outputs	
Volume 1.00			12345678	
	Outputs	Inputs 1		
123	4 5 6 7 8	▲ Events		
Inputs 2		+ Finished		-



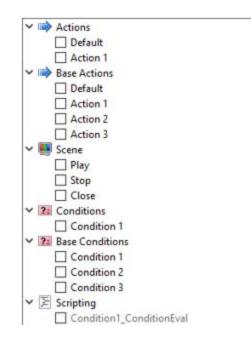
Base Scene

Base Scenes are scenes that can be referenced by other scenes. Consider Base scenes as parts and pieces that can be added to normal PRIME scenes.

This is a very powerful feature of PRIME's ability to reference scenes from within other scenes. The base scene allows for a basic building block. Example; Create a News Full Screen graphic as a base scene that all other Full Screen graphics will reference. The Base scene should contain all the graphical elements, transitions and logic that all Full Screen graphics will share. Link the base scene to all the other Standard" scenes. If you have 100 Full screen graphics, all 100 can reference the "Base Scene". Changing anything in the base scene will reflect to all 100 scenes.

You can add as many Base Scenes to a normal scene. Base Scenes can be created using the "File-> New Base Scene" menu item. Base Scenes are no different than normal scenes except they are tagged as "Base Scenes" and can be included in normal scenes.

Additionally, the communication from the standard scene to the "Base Scene" is built into PRIME's "Trigger List: The Standard scene can trigger Actions and Conditions to its "Base Scene" as seen in this Triggers list screen shot:





BXF-Broadcast Exchange Format- As Run Files

PRIME allows users to create "As Run BXF Files."

To configure the BXF Global settings, select "BXF" from the PRIME main "Settings" menu:

 General Browsers Quality Control 	As Run Configura Enable BXF Output Directo	As Run Logging	
Language	I\Channel Box Prime\BXF Messages		
a Logging	Name Description	ChyronHego Commercial As Run Log	
	As Run Device Device Name	PRIME System 1	
	As Run Default Le Frame Margin	ength 15 🔶	

- Enable BXF As Run Logging Toggle the box on/off to enable/disable BXF As Run Logging
- **Output Directory** Specify a system location to store the BXF As Run Logging files
- As Run Channel Properties: Name Specify a name for the BXF As Run channel
- As Run Channel Properties: Description Enter a short description for the BXF As Run channel
- As Run Device: Device Name Specify a name for the BXF As Run Device
- As Run Default Length: Frame Margin The default length settings allows a margin for error when the asset is played out.

Ex: If a sponsored logo is set to air for 15 seconds, it will be considered "Aired **Without** Discrepancy" if it airs for 14 seconds and 15 frames due to the Frame Margin being set to 15 frames. If the logo airs for 14 seconds and 14 frames, the BXF file will be reported as "Aired **With** Discrepancy."



To add a BXF resource to your scene and configure its Properties:

Scene Tree		×	
10 G d	🤛 🗃 🗙	Actions	×
0007	Objects Effe	Default Sponsored Logo In 🗠 Add Action	Sponsored Logo I 👻
1	New Scene 1	Action 🎲 🙀 Zoom 🖇	• 🕂 🔊 🔪
/ Scene Group		Animation 0:00 1:00 2:00	
	Sponsor Logo Resources BXF 1	Sponsor Logo BXF1	

BXF Properties	х		
Name BXF1	V Enabled		
⊿ BXF			
Туре	Primary -		
Target Object	Sponsor Logo 🔹		
Start Keyframe	Sponsored Logo In, Keyframe 1 🔹 🔻		
End Keyframe	Sponsored Logo In, Keyframe 2 🔹		
Event Notes	Sponsor Commercial		
House Number	1234		
Name	Car dealer		
Genre	Automative		
Description	Year End Sale		
Default Length	00:00:00.16 🚔		

- **Name –** Object name to be referenced throughout the scene
 - Enabled Enable/disable this object
- **Type** Map this to the type defined in your traffic system
- **Target Object –** Object in the scene this BXF refers too
 - Start/End Keyframe Start/End

keyframes that brings this on/off air

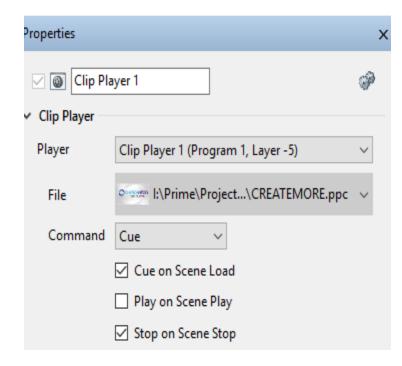
- Event Notes User friendly notes
- House Number Match the traffic system house ID
- Name Traffic system name for this House ID
- Genre Type in a genre for this House ID
- Description User friendly description
- Default Length Minimum duration on air this items is required to air

When the action to bring in the sponsored logo is played a BXF file will be created in the folder defined in the global settings.



Clip Player

The Clip Player resource allows users to have access to any "Clip Controllers" defined in the PRIME Playout Configuration:



Player: Enumerates the clip players defined in the PRIME Playout Configuration "Clip Players" section.

Each clip player has an output channel and a layer number assigned to it. (Program Channel 1, Layer -5)

File: Associates a clip to this player

Command: These commands control the clip player and can be keyframed. The Clip Players commands are automatically added to Primes "Trigger List" for access everywhere.

Cue on Scene Load: When the scene is loaded into preview cue the clip.

Play on Scene Play: When the scene is taken to air play the clip.

Stop on Scene Stop: When the scene is taken off air stop the clip

Clip Player Events:	Events			
Allows triggering items from the triggers list	✓ Property Changed Image: Add X Remove			
	Property Triggers Command V			
	AutoCue AutoPlay AutoStop			
Control Panel	Command File Locked			

A single Control Panel resource can be added to each individual scene or base scene. See <u>Scene Control Panel</u> in this user guide for more information.



Data

The Advanced Data Object is documented in the Prime Data Object Guide

GPI Out

GPI Out can be added to any scene as a resource within the scene.

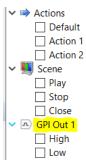
GPI Out Properties:

- Device: ID of the device. Multiple devices can be used
- **Pin:** Pin number for the out
- Mode
 - Pulse: Sends out a pulse "High to Low" or "Low to High".
 - **Manual:** Send the "High or Low" manually. Can be assigned to a keyframe or a control panel button
- Pulse Direction: Set "Low to High" or "High to Low"
- **Pulse Duration:** When Pulse mode is set to "Pulse" set the duration between the "High to Low" or "Low to High". of the pulse
- **Pulse:** Sends the pulse.



GPI Events:

- On Pulse: Event happens when GPI is pulsed
- On High: Event is raised when GPI goes to high from some other state
- On Low: Event is raised when GPI goes to Low from some other state



When the mode is set to "Manual" two commands will be available in the Triggers list, "High & Low":

Keyframe			
Name	Keyframe 1	Frame	00:00:00.00
Triggers			~

When the mode is set to "Pulse" The Triggers list will show "Pulse" only.



To trigger a GPI out from the timeline, create a keyframe in the timeline editor by clicking the "Add Keyframe" button.

From the "Keyframe Editor" select the "Triggers" combo box that will show the above (Figure 1 & Figure 2)



GPI In

GPI In resource can be applied to:

• Scene



- Application
- Project

GPI In can be added to any scene as a resource within the scene. GPI In Properties:

- Device: ID of the device. Multiple devices can be used
- **Pin:** Pin number for the in

GPI Events:

- On High: Event is raised when GPI goes to high from some other state
- On Low: Event is raised when GPI goes to Low from some other state

두 Events	Count	0
🕀 💶 Sce	ne	
🖕 🛄 GPI	In 1	
0	High	
	Low	



Hot Key

Hotkey resource can be applied to:

- Scene
- Application
- Project

Key

Select the Key(s) you wish to assign the Hot Key

Command

Select the command (action, condition, sequence ect.) you wish to trigger when the designated keyboard hotkey is pressed.

Project Prime 1	Training Y		MO No.	Layout Default*	- II Plays
loo bax Scenes :		Central Panel	Properties Events		
Crapbics Crapbi	Auto Solve A		vento vento	Noor Update Set Loniate() *** Action Update Set Loniate() *** Action *** Action **** Action ***********************************	- Tarra
Crawl	Crop Ro M Kds Illers Score Group Core Core Core Core Core Core Core Core Core Core Core Core Core Core			Movebint Movebintfunc Movebint MoveEnd	
	Conditions	Default * Add Action Default *			

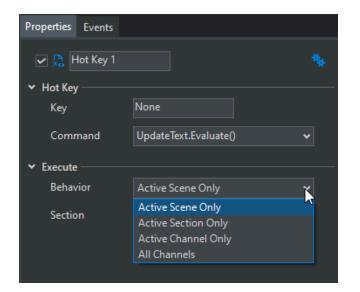
If a hot key has been assigned in multiple places all of the assigned commands will execute.

*The order of execution is the order in which they are registered in Prime. Generally this will be Application, then Project then Scene. At the scene level it will be prioritized in the order they are played to output.



Execute Behavior

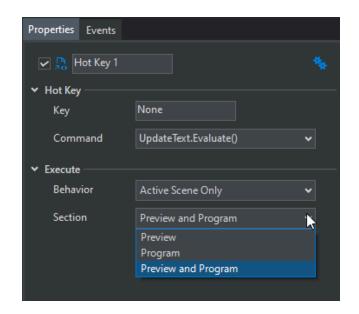
- Active Scene Only Only executes the command if the scene is the active scene
- Active Section Only Only executes the command if the scene is in the active section of the channel (Preview or Program)
- Active Channel Only Executes the command if the scene is in the active channel
- All Channels Executes the command regardless of if the scene is in the active channel or active section





Execute Section

- Preview Only executes the command when the scene is in Preview (or not Playing)
- Program Only executes the command when the scene is in Program (or Playing)
- Preview and Program Executes the command regardless of whether the scene is in Preview or Program



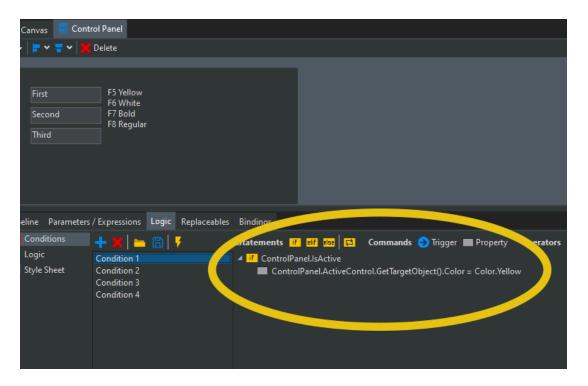
Hot Key Advanced: Control Panel Focus executes Condition with a Hotkey This feature allows an operator to tab into a control panel object (which sets the focus) and press a hotkey to run a condition.

Logic Syntax

- ControlPanel.IsActive
- ControlPanel.ActiveControl
- ActiveControl.GetTargetObject()

Example use case is the ability to change the color or weight of the text object bound to the control panel text object that has focus.





- Parent Keyword
 - This will allow for the active control property to update graphics near selected text object
 - Parent keyword is accessible in logic statements
 - For example Text1.Parent.Background.File = "abc.png" could be used to update an Image named Background that is a sibling to Text 1

Hot Key Logging:

Hot Key triggers can be enabled in Prime workflow Logger.

LIDIA

See the separate dedicated LIDIA Users guide. PRIME LIDIA.pdf



Message

The message object allows you to output messages via Serial port or by Network (Via TCP or UDP).

The "Message" property may be "keyframed" in an Action or the "Send" command can be triggered from an event. This will transmit the message out.

Properties Events		Properties Event	ts	
🖂 🖷 Message 1	Ŷ	🗸 📑 Messag	e1	Ŷ
✓ Connection				
Туре	Serial ~	✓ Connection		
Port	×	Туре	TCP/IP	~
Bits per Second	9600 ~	Address	127.0.0.1	
Data Bits	8 ~	Port	49152	
Parity	None ~	Encoding	Unicode	~
Stop Bits	One 🗸			
Handshaking	None ~		Maintain connection	
Encoding	Unicode \checkmark	✓ Data		
	Maintain connection	Header		~
✓ Data		Terminator	<cr><lf></lf></cr>	~
Header	~	Message		0
Terminator <	R> <lf></lf>			
Message	0			

Maintain Connection: When checked, the Message resource connection will open on scene load and close on scene close. It will timeout after 5 seconds if a connection cannot be established.

Properties Events							
🖂 📑 Message 1	🖂 🛱 Message 1 🔗						
✓ Connection							
Туре	UDP	~					
Address	255.255.255.255						
Port	49152						
Encoding	Unicode	\sim					
	Maintain connection						
✓ Data							
Header		\sim					
Terminator <	CR> <lf></lf>	~					
Message		0					

In UDP mode to broadcast across the entire network set the "Address" property to "255.255.255.255"

The message property supports common non-printing codes, hex values, and plain text. Codes and hex values need to be surrounded in a tag (angle brackets < and >) to



be interpreted correctly. Plain text can be written anywhere and do not require tags. If a tag is not recognizable, it will be left untouched. If necessary, angle brackets can be escaped with a leading backslash (\<).

Code examples:

- <LF> will be replaced with the line feed character
- <TAB> will be replaced with the tab character
- <EOT> will be replaced with the end of transmission character

Hex examples:

- <A> will be replaced with the line feed character
- <41> will be replaced with the A character
- <7D> will be replaced with the } character

See the user's guide for more information.

Message formatting also applies to the Header and Terminator properties found in the screenshots above.

Plugins

See the separate "PRIME Plugin User Guide".



Table

Adding a table resource to a scene will open a new table window. To toggle visibility of the dockable Table window navigate to View in the toolbar.

Table Properties

Properties Events	Properties Events						
Table 1	✓ Iable 1 the Advanced						
✓ Advanced	✓ Advanced						
Indexing 1-B	ased	~					
✓ Columns ———							
🕂 🕂 Add 🔀 Remo	ve						
Name	Туре		Default Value				
Column 1	String	~					
	String						
	Boolean						
	Integer						
	Color						
	Float						
	DateTime						
	Double						
	Long						
	TimeSpan						

- Table Name: Editable alphanumeric text field
- Advanced:
 - Index: Option for first row to begin with 1 or 0. Select from drop down 1-Based (default) or 0-Based
- Columns
 - Add Column
 - Name: Alphanumeric column name
 - Type: Select column default type. Table cell value must adhere to column type. For example String = alphanumeric, Boolean = true or false, Color = Hex or RGB value
 - Default value



Table View

Tab	le 💻 Canvas	🗧 Control P	anel		
Tab	ole 1	~ +	Add Remov		式 Import
	Name	Last Name	Age	Democrat	Republican
	Joe	Biden	80	✓	
	Donald	Trump	76		✓
3 *	Name	Surname			

*For manual entry of data, begin with creating columns in Table properties

Table Toolbar

- Add: Add row
- Remove: Remove Row
- Import: Import CSV
 - Import Comma Delimited File. Format available in Excel & Google Sheets
 - Prime will automatically pre-determine column type by analyzing the data in the column.
 - Option to "Use First Row as Column Headers"
 - Delimiter Options
 - Comma
 - Pipe
 - Semicolon
 - Tab

*.CSV files can be delimited with different characters (not just commas). This allows the user to specify the delimiter when importing a csv to a table.



Import CSV Examples

🗾 Import CSV		_	
CSV file I:\Prime\Projects	\PRIME Training 2020\Data\Spo	orts.csv	
✓ Use First Row as Column	Headers		
Delimiter Comma			
Name Comma	Default Value		
Sports Te Semicolon	~		
Sports Te Tab	~		
Sports Team 3 String	~		
		Import	Cancel
➡ Import CSV		_	
CSV file I\\Prime\Projects\[ata\NBA_COLORS_SHEET_COM	ΙΜΔισεν	
✓ Use First Row as Column			
Name	Туре	Default Value	
Tricode		*	
Location		✓	
Name		✓	
Team Color		Color [Black]	
Primary		 Color [Black] 	
Secondary	Color	 Color [Black] 	
Background	Color	 Color [Black] 	
League	String	~	
Division	String	~	
<			
		Import	Cancel

• Table View Shortcut Keys

Insert Row Above	Alt+I,R
Insert Row Below	Alt+I,B
Insert Column Left	Alt+I,C
Insert Column Right	Alt+I,O
Clear Contents	Alt+E,V
Delete Row	Alt+E,D
Delete Column	Alt+E,C
Select Row	Shift+Space
Select Column	Ctrl+Space
Cut	Ctrl+X
Copy	Ctrl+C
Paste	Ctrl+V

- Table Arrangement in Table View
 - \circ $\,$ Column can be dragged and dropped into preferred order $\,$
 - Row can be dragged and dropped into preferred order
 - Color Type: Enter a HEX, RGB value or use color picker control

āb	le 1	🗸 🕂 Add	Remove					📒 Import
	TeamColor	TeamName	TeamLogo	BackColor	Scored	Allowed	Points	
1	#821010	Slavia Praha	bohem.png	#FFFFFF	63	17	50	
2	F2E446	Viktoria Plzeň	plzen.png	#470CF7	43	18	49	
3	#FFFFFF	Sparta Praha	sparta.png	#000000	51	22	48	
4	🛤 #A9B6C9	Slovácko	slovacko.png	📃 #1100FF	26	30	35	
5	#005E34	Bohemians	bohem.png	#377A00	37	38	32	
6					-			H-
7								
8				● н 📄	153 •			
9				o s	100 %			
0								
1				• • •	37 %			
2				_ 🔍 R	0			
3			C P	[™] 🛛 G 🗍	94			
4								
5				• B	52			
6				• A 🔄	255			
*				HEX 005	E34FF			



Table Resource can be added to replaceables. This allows table data to be updated through Camio workflow and/or through Intelligent Interface commands.

- Data property for Table Resource:Replaceable = Tab-delimited Data without the Column Names Rows. Tab will used as column separator, new line will used as row separator
- JSON property for Table Resource: Replaceable = JSON Data

Data Object data sources can be ingested into the Table Resource. Please see the PRIME Data Object Guide for more information.



Script

Refer to the PRIME_API_Scripting_Guide for more

The Script Resource Object allows for C# scripting to be part of the scene. A full C# editor with intellisense (Auto Complete) becomes available. The C# Script Resource allows access to the entire PRIME API.

Timer

roperties			2
🗸 🔿 Time	er 1		Ŷ
Timer			
Preview	M 🕨 🔳	80 08	
Mode	Timer Down		•
Command	None		-
Start Time	00:01:00.00 🚖	Finish Time	00:00:00 🚔
Time	00:01:00.00 🚖		
	Loop		
	Remove		200
Target		Format	
Target		Format	
•		Format	•
Events		Format	•
Events Finished		Format	•
Events Finished Add	III Remove	Format	4
Events Finished		Format	•
< <p>Events Finished Add 300</p>	III Remove	Format	•
Events Finished Add	III Remove	Format	•



The Timer Properties panel allow users to configure:

• Modes:

Clock

Display the system Time of Day. Includes Time zone properties

Timer Up

Counts upwards to specified time

Timer Down

Counts downward from specified time

Time Countdown

Counts downward from specified future time

Date Countdown

Counts downward from specified future Date

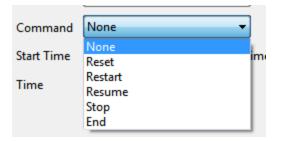
Time Countup

Counts upwards to specified time

Date Countup

Counts upwards to specified Date

Timer Commands



• Bindings - Binds the clock value to the scene object(s)

Events



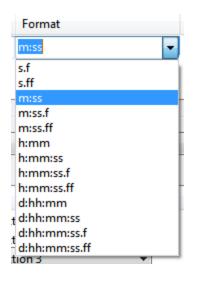
- Started
- Stopped
- Finished
- Users defined events may be added as well to the "Time Elapsed" event list

Property Changed Events

	Property Changed		
Г	🕂 Add 💥 Remov	e	
	Property		Triggers
	TotalSeconds		Script: Timer1_TotalSecondsChan
	Locked		
	Mode	~	•
	Command FinishDate FinishTime Hours Locked Loop Minutes		
	Mode Seconds		
	StartTime Time		
K	TotalHours TotalMinutes TotalSeconds		

Formats

o Days, Hours, Minutes, Seconds, Frames





Properties		×
🗸 🔿 Time	r 2	Ŷ
⊿ Timer		
Preview	H 🕨 📕 🕪 H	
Mode	Timer Down 🗸	
Command	None 🔻	
Start Time	00:01:00.00 (A) Finish Time 00:00:00.00 (A)	
Time	00:01:00.00	
	Coop	
▲ Bindings —		
👍 Add 💥	Remove	
Target	Format	
Text1.Text	m:ss	
▲ Events		
Finished		-
	D	•
Add 💥		
Time	Triggers	
00:00:45.00	Action: Action 1	
00:00:30.00	Action: Action 2	
00:00:15.00	Action: Action 3	

String literals can be applied in the format using the backslash character

So d: $D\$ will display the "4 Days" if d=4.

Bindings		
🕂 Add 💥 Remove		8
Target	Format	
Text1.Text	d:\d\a\y\s	

Or quote the text you wish to display this way:



~	Bindings				
	🖶 Add 💥 Remove			(3
	Target		Format		
	Text1.Text	\sim	m: "Minutes"	~	

• Events

- Started: Triggered when the time starts
- Stopped: Triggered when the clock stops
- Finished: Triggered at the defined finish time

Events	
Started	•
Stopped	•
Finished	•



XKeys

XKeys can be set up globally in PRIME Playout module or can be scene based.

Playout

If users configure XKeys from the Runtime user interface, these button presses will act globally regardless of any scenes being currently opened.

Lavout	ice		0.4/11/05	in K	D: 1			250			0
Layout	:: Profe	essional N	/WII/SE +	Key	Bindings	• Bo	unce	250	ms	Index	0
-											
								_			
Select	ed Key										
	ĸt	None									
Conte											
Conte				🖹 A	ccept Cha	inges					

The "Index" property allows for multiple XKeys devices to be daisy chained. If multiple devices of the same type are plugged in PRIME will allow users to target each separately by using the "Index" property.



Scene based

Key up-Down properties will expose the Triggers list for users to hook up events to the key presses

Prope	erties Ev	ents									
✓ ✓ Ev	X-Ke	y 1									X
	y Down	Action	1.Plav()							~
	у Uр										•
1										ΞX	
	X-Keys										
	Profess	ional M	WII/SE	~ I	Numbe	er :	1 🍣	<mark>!</mark> X	-Keys k	Keyboard	
				-	_	_	-	\rightarrow			
				Ľ,							
				\neg							
				-+						_	
				\neg							
				\rightarrow						_	



Scene Tree

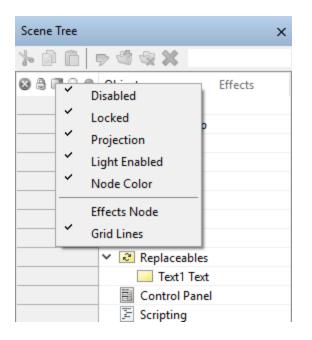
_

The Scene Tree is divided up into four sections:

- Scene elements
- The Scene Control Panel
- Scene Resources
- Scripting



The Left Column allows for toggling:

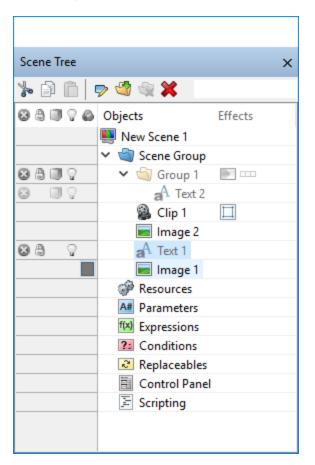


- Enable/Disable
- Lock/Unlock
- Projection Perspective choices
- Light Enabled/Disabled
- Node Coloring

Right click on the left column toolbar to hide/show these:



The Objects Column



Objects Properties

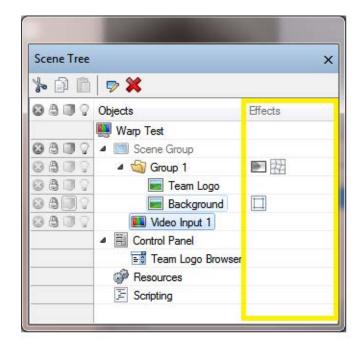
Each object has properties to the left of the object in the gray section:

- Disabled, Locked
- Locked
- Projection
- Lighting
- Node Color



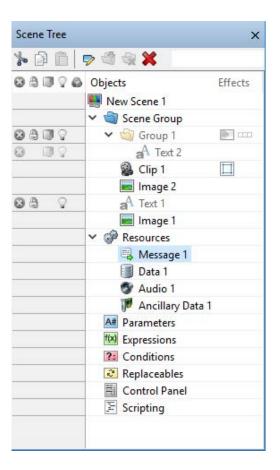
The Effects Column:

• Allows for the dragging and dropping of Effects from the Toolbox





Resources



Parameters/Expressions/Conditions/Replaceables:

See the separate sections and documents for descriptions.



Timeline Editor

The timeline editor allows the creation of Actions

Actions are groups of Animations

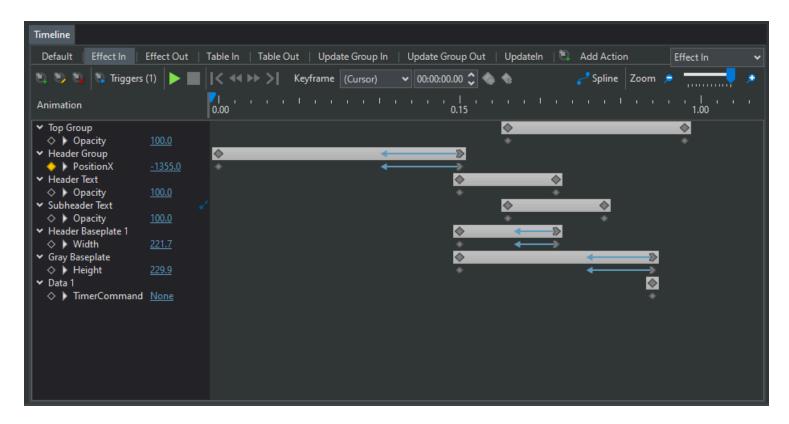
Animations consist of Animation Tracks.

An "Animation Track" is made up of Track Keyframes.

Note: **"Transitions"** are individual effects that may be applied to objects. See the "Transitions" section.

Proportional Scaling of the timeline: Select 3 or more keyframes, then hold down the Alt key and drag one

The left-hand column is a list of scene objects that can be animated by creating object animations





Default Panel In Panel Out	Video Input Panel Map Panel
Action 🧼 🔖 哧 Trigger	ed By (1) 🖿 📕 👭
Animation	0:00 1:00 2:00
🖌 Normal	\$d* 🔕
✓ 🖋 Inherit	¢ه* 🗞
a Relative	
	♦ ₫ ♦
Loop Loop	•d ♦
Advanced	e (
Bar 1 Grp	🔷 🖉
b City Headers	*
Promo Panel	*
Video Input Panel	۵۵ 🛇
Bking News Panel	¢ه 🏷
Map Panel	۵ 🖉
Panel BG	a 🗇 🔁
b Backer	🗢 🖉
Main Video In	a 🗇 🖉

Animation Track Properties

Normal:

Inherit The animation starts from or finishes in the current attribute value. It is like setting the value of the first or last keyframe to the value of the animated attribute at time the animation is started. This comes handy when you want to animate to/from defined state but the current state is unknown. Using this mode minimizes the number of animations you would have to create from all possible states.

Relative: The animation evaluates a number that is added to the current attribute value. Available for before looping only

Loop: Loops the Animation Track



Default Action

There is a setting that determines the behavior of keyframes in the Default action. The Default action will play when the scene is loaded to Preview, and will play on Program only when an Effect In event is not present. Please see the Scene Events section for more information.

Editor Settings		×
 General Canvas 	Timeline Move Cursor wit	th Keyframe
Control Panel Actions	Animations Background	Show ~
 Project a^A Text NewsTicker 	Default State Show Expanded Show Expanded	Default ~ When Keyframes Present When Selected
	Keyframes Default Interpolatior 🗹 Show Grid Lines 🗹 Auto Default Key	
	Properties Show Properties	Opacity, PositionX, PositionY
	Behavior	Empty ~
	Save Video Format Default Location	DNxHD 220 ~ C:\ChyronHego\Prime\Output
	Copy/Paste Paste Mode	Paste In Existing Actions V

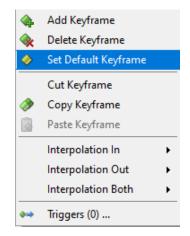
When "Auto Default Keyframe" is checked keyframes will automatically be added to the Default action as keyframes are added in other Actions.

Ex: If I create an action "Dissolve Off" for scene object "Image1", an opacity keyframe for Image1 will be added to the Default Action.



Set Default Keyframe

"Auto Default Keyframe" only sets the Default keyframe once and is not updated each time the property value is changed in other actions. Users might find it helpful to use "Set Default Keyframe". This will copy the selected keyframe value and paste it automatically to the Default action. "Set Default Keyframe" is accessible in the context menu by right-clicking on the keyframe.



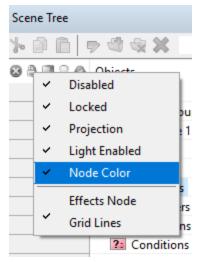
Ex. Continuing with the previous example, if I had accidentally set the opacity keyframe in "Dissolve Off" to 0, the Default action would also be 0. This might provide me with incorrect previews. Instead of copying and pasting the correct value from the "Dissolve Off" action into the "Default" action I could simply right-click on the keyframe in "Dissolve Off" and click "Set Default Keyframe"

When "Auto Default Keyframe" is disabled, at no time will keyframes be automatically added to the Default Action.



Color Coding the Timeline

Select "Node Color" from the Scene Tree



Timeline									
Default 👒 Add Action									
Action 🗼 🗼 🛸 Triggered	l By (0)			Keyframe	Keyframe 1	~ 00:00:0	00.00 ≑ 🍕	è 🐟	
Animation	7 1 0:00	1:00	2:00 3:00		5:00	6:00		8:00	
✓ Text 2									
♦ ♦ Opacity <u>0.0</u>	0				\$				
PositionX 640.0									
Operation Position Y 515.6									
✓ Text 1	Z				×				
♦ PositionX <u>640.0</u>	Ξ				Ξ				
PositionY <u>515.6</u>	Ξ				Ξ				
♦ ♦ PositionZ <u>0.0</u>	Ξ				Ξ				



Keyframe Property Values

Timeline	Timeline						
Default Change Color Action 1 👒 Add Act	Default Change Color Action 1 👒 Add Action						
Action 🍺 🔖 👘 Triggered By (0) 🕨	Action 🗼 🔖 👒 Triggered By (0) 🕨 🔳						
Animation	Animation 0:0						
◇ PositionX 960.0 ◇ PositionY 540.0 ◇ Width 1920.0 ◇ Height 1080.0 ◇ File Caster.jpg ◇ Color [245.15.214] ✓ Clip 2 ◇ PositionX 960.0 ◇ PositionX 960.0 ◇ PositionY 540.0 ◇ Width 1920.0 ◇ Height 1080.0	 ◇ PositionX ◇ PositionY ◇ PositionY ◇ Uidth ◇ Height ◇ File ◇ Color ◇ Pause ◇ Clip 2 ◇ Opacity ◇ PositionX ◇ PositionY ◇ PositionY ◇ Fast Forward ◇ Width ◇ Height ◇ Height 						

The above screen shots show keyframe navigation per track and applying property value changes from the Timeline editor.

Click on the color chicklet to open the color picker.

Click on the Thumbnail image to change the filename

Click on any Command property to select any command associated with that object

Click on any blue link to modify the objects property value.



Keyframe Interpolations:

Keyframe				X Key	frame			
Name K	Keyframe 1	F	rame 00:00:00.00	÷ N	ame Keyf	rame 1	Fran	ne 00:00:00.00 🚔
Triggers				• T	iggers			•
Properties				- P	roperties			
Name	Value	In	Out		Name	Value	In	Out
Opacity	1	Linear	Linear		Opacity	1	Linear 👻	Linear 👻
PositionX	0	Linear	Linear	F	ositionX	0	Linear	Linear
PositionY	0	Linear	Linear	F	ositionY	0	Smooth	Linear
PositionZ	0	Linear	Linear	F	ositionZ	0	Ease Bezier	Linear

See the "Timeline Triggers" section for executing triggers from the timeline.

Keyframe		_			×					
Name Triggers										
 Properti Name 	Properties Name Value In Out									
Opacity Position Position Position	Y	1 0 0 0	Linear Linear Linear Linear	Linear ▼ Hold Linear Smooth Ease Bezier						

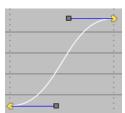
"In" interpolations can be Linear, Smooth, Ease or Bezier

"Out" interpolations can be Hold, Linear, Smooth, Ease or Bezier

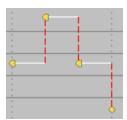




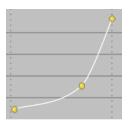
Linear: Proportional average between 2 adjacent values. This is the default interpolation unless changed in the settings.



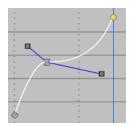
Ease: In and Out tangents are horizontal in the keyframes.



Hold: The value from the previous keyframe is kept until it is redefined by the next keyframe. The only interpolation for attributes with discrete values. This might give some animations a jumping effect, depending on the properties keyframed.



Smooth: In/Out tangents are synced to maintain a smooth continuity of a curve.



Bezier: Similar to the Smooth interpolation, with the distinction that the In/Out tangents are not synced.

NOTE: Clicking a Keyframe in the Timeline Editor with the Ctrl button down will cycle the different Keyframe types.



Keyframe Timeline Ease Editor

Timeline										
Default 👒 Add Action										
Action 🧼 👒 Triggered By (0) 🕨 🔳 🚺 📢 🙌 🏓										
Animation	 0:00	1:00	2:0	0 3:00						
✓ Image 1 ♦ ▷ PositionX 43 ♦ ▷ PositionY 83 ♦ PositionZ 0.0			-E -E							
Keyframe										
Name Keyframe 1			Frame	00:00:00.00						
Triggers				\sim						
✓ Properties										
NameValuePositionX432PositionY837PositionZ0	In	Out Ease 1.87 Ease 1.87								

When a keyframe is set to "Ease" arrows will appear in the User Interface allowing designers to modify the ease values. The same can be achieved in the Keyframe editor by entering the numeric values. The arrows allow for a nicer experience.

Dragging the arrows inward or outward will modify the numeric values in the Keyframe editor.

Default Ease value can be set in "Config->Settings->Action"

Copy/Paste Interpolation

When pasting a copied keyframe, the user can decide to paste the interpolation information only. This means the same smooth motion can be applied to different properties.

		4	Add Keyframe		-
		<	Delete Keyframe		
leyframe	Keyframe 3 🛛 🗸	\diamond	Set Default Keyframe		
11):00	1:00 2:00		Cut Keyframe		l 6:0
\bigcirc			Copy Keyframe		
0			Paste Keyframe		
۵ ا	3B		Paste Interpolation		
0			Interpolation In	•	
\$			Interpolation Out	•	
I			Interpolation Both	•	

Keyframe Spline Editor

The **Spline Editor** offers users more control over their animations. Click on "**Spline**" to toggle between the **Timeline** view and the **Spline Editor**.



Timeline															×
Default 👒 Add Action														Default	~
Action 🧼 🔿 👘 Triggered By (0) 🕨 🔳 🕅 📢 🕪 🕅	Keyfra	ame K	eyframe 1	v 00:00:00.	00 🖨 🍫 🤄	🖌 🖑 Par	n					Spline کے	Zoom 。	,	ھ 🕂
Animation		0:00	. 1 1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	111100
V Image 1		4			-			:							
 ◇ Opacity <u>100.0</u> ◇ ▷ PositionX <u>973.3</u> 	971	H													
PositionY <u>540.0</u>	966	4													
	961														
	956														
				-		> :									

≻

Only one property can be displayed at any given time. To change which property is displayed click in the region to the right of the property values.

		-	_		
Imag					<i>b</i> 1
\diamond	Opacity	100.0			
\diamond	PositionX	196.1			
\diamond	PositionY	584.3			
				790	
				130	
				563	
				336	
					: • · · · · · · · · · · · · · · · · · ·
					- F

Keyframes can be added and removed on the selected property at the selected point on the curve.

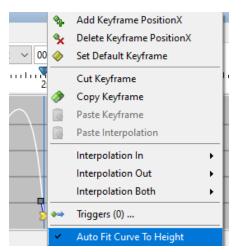
Keyframe Keyf	rame 2 🗸 🗸	00:00:02.	17 🖶 💁	🖌 🛠 🛛 🖑 Pan						Spline کسی	e Zoom		. /*
0:00	1:00	····· ¹ ····· ¹ 2:00	₹ 3:00	4:00	l 5:00	6:00	1	8:00	9:00	10:00	11:00	12:00	13:00
				Add Keyfram	e PositionX	1		1					
1026									1	1		1	
	/			-	-	-	-	1	1	1		1	
1005													
985	/:					-							
964			:	Q :									
Ť.	1			2		-						-	

The zoom tool in **Spline Editor** mode only affects the x-axis.

Auto Fit to Height

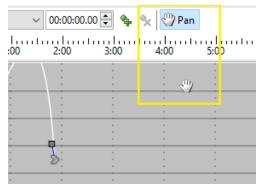
The y-axis will automatically scale to contain all keyframes in view when Auto Fit Curve toHeight is enabled.

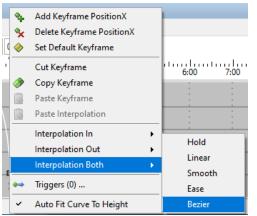




With Auto Fit to Height disabled the curve may appear outside the viewing area.

To **Pan** around the timeline on both the X and Y axis hold the middle mouse toggle wheel down and move the mouse in all directions. Pan mode can also be entered by clicking the pan icon.





Interpolation

Interpolation modes are accessed via the context menu by right-clicking on the keyframe

Interpolation Both: Sets both the In and Out interpolation of the keyframe.

Interpolation In: Sets only the In interpolation of the keyframe

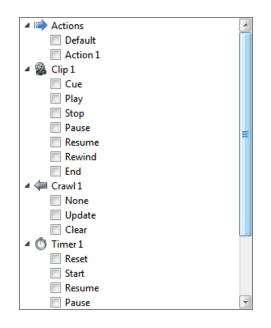
Interpolation Out: Sets only the Out interpolation of the keyframe



Triggers

The event driven model of PRIME allows users to trigger methods of any scene object. The "Triggers List" lists all objects that have commands. These commands may be triggered from any event within the scene, including a Keyframe event in the timeline. The trigger list is also available to the Control Panel controls. The trigger list is available from any "Event" list.

Trigger List



Triggered by List

In the event driven model sometimes it's difficult to determine which event triggered the condition, Action, script or any other trigger. PRIME has a "Triggered" by liust that will show you what events will trigger your Condition, Action or Script or any other Trigger.

Usually the Lighting Bolt icon on a tool bar will open the "Triggered By" list to show you what will be the trigger.

For example, in the "Condition" Editor:





Clicking on the Lightning bolt will bring up the "Triggered By" dialog showing what event will trigger "Condition1" in this example: In this example it shows that the "Text1 TextChanged" event is the event that will trigger "Condition1". Multiple events could hooked up to the same trigger.

Condition	n Triggers			×
	5 Events Count 1			
	Text Changed			
	♦ Keyframes Count 0			
	Object	Name	Frame	
		L	ОК	Cancel

For Timeline Actions there is a "Triggered by" button. The label also shows the number of events that could trigger the Action:

Timeli	ne			
Defaul	t Action 1	👒 Add A	ction	
Action	🔿 🐋 🛛	🔖 Triggered	By (0)	
Anima			V	
Anima	tion		0:00	1:00
✓ Text			0:00	1:00
		<u>640.0</u>	0:00	1:00
	:1		0:00	1:00

Timeline Triggers

Triggers can be applied to the Scene Group, Scene Objects and Resources via the Properties Pane.

To add a Trigger to a scene object, first add a keyframe to the timeline then select a Trigger or multiple Triggers from the Triggers list in the Keyframe Properties.



Timeline X	Keyframe			
Default Action 1 Action 1 Action 1 Action 1 Zoom P P Animation 0:00 1:00 2:00 		Keyframe 1 Object: Clip 1, Play		
▲ Data 1 ♦ Triggers ♂	Name Triggers	Value Object: Clip 1, Play	In Linear	Out Linear

To add Triggers to the Scene Group use the command sequence in the properties pane.

Timeline triggers can not be added to Expressions, Parameters Conditions and Replaceables

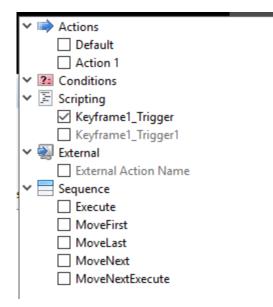
Control Panel Triggers

	⊿ Click	
	Crawl 1	
00	D Solution 1	
Charle Times	Data 1	
O Start Timer O	🔺 🕐 Timer 1	=
ÖÖ	Reset	
	Start	
	Resume	
	Pause	-

Triggering C# Scripts

C# Script functions can be triggered from the "Triggers List"





Application Logic

Application Logic is a scene that functions on application level.

Create a new or edit an existing Application Logic scene. Consider Application logic as a new scene that gets created by PRIME at startup and runs continuously while the PRIME application is running. There are a limited amount of scene resources available such as GPI out, PRIME Switcher and XKeys. Parameters, Conditions and expressions are available as well. The parameters defined here have a scope beyond Scene and Project parameters. Parameters defined here are available to all scenes in all projects.

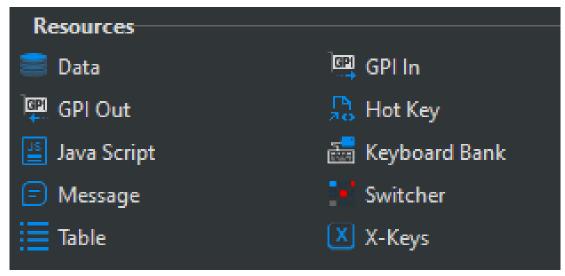
Application Logic Scene

When Prime is started, Application Logic Scene is loaded with all the events, conditions and resources inside it. Prime creates an empty Application Logic Scene by default called "Default.pal" and stores it in Prime\Settings\Logic folder.

This scene can be viewed and edited in Editor through File -> Application Logic -> Edit **Application Logic**. The user can also create a new Application Logic Scene through File -> Application Logic -> New Application Logic.

Application Logic scene currently supports **Data**, **GPI In**, **GPI Out**, **Hot Key**, **Java Script**, **Keyboard Bank**, **Message**, **Switcher**, **Table**, **and X-Keys** resources.





Resources supported by Application Logic

These resources can be used the same way they are used in a project scene. There are numerous scenarios this scene will enhance the experience of designing and working with Prime.



Examples of use cases:

Data object is created to evaluate conditions stored in Application Logic Scene.

Scene Tree		Properties	Events
* 🛅 📋 💋 🖏 🐂 💥			ata 1
Objects Default Kesources Data 1 Parameters Application Parameter 1	Effects	✓ Events → After Up Data Rea	date
 Application Parameter 2 Expressions Conditions Condition 1 Condition 2 		After Mo After Mo After Mo	

This example shows a data object, which is used to evaluate conditions to modify application parameters.

Timer Stopped

Conditions.Condition2.Evaluate()



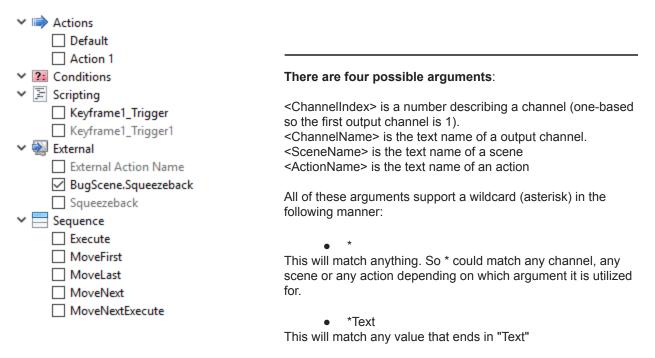
S Objects Effects	Properties Events	
 Default Resources Data 1 Message 1 	✓ Data 1 ✓ Events	
 Parameters Application Parameter 1 	After Update	~
Application Parameter 2	Data Ready Message1.Send()	~
 Expressions Conditions 	After Move Home	~
Condition 1	After Move First	~
Condition 2	After Move Next	~
	After Move Previous	~
	After Move Last	~
	After Move End	~
	After Start Of Data	~
	After End Of Data	~
	Timer Started	~
	Timer Stopped	~

In this example Data 1 object loads its content from data source and fires Data Ready event, which can be used to send a message stored in Message1 object



External Activations

External Activations are functions that activate Actions and or Conditions in other scenes on output.



 Text* This will match any value that starts with "Text"

 Text This will match any value that contains "Text" somewhere other than the start or end.

You cannot use the wildcard like this:

• *Text1*Text2*

Supported External Activation Usage for Actions or Conditions:

ActionName

This will match any action with the provided name regardless of which scene contains it; only scenes on the same channel as the scene causing this trigger will be affected. This is consistent with the original External Activation implementation.

• SceneName.ActionName

This will match any action with the provided name in a specific scene, but only on the same channel as the scene causing this trigger. This is also consistent with the original External Activation implementation.



• ChannelIndex.SceneName.ActionName

This will match any action with the provided name in the designated scene, but only on the channel indicated by the provided index.

• ChannelName.SceneName.ActionName

This will match any action with the provided name in the designated scene, but only on the channel indicated by the provided name.

The same format exists to execute Conditions:

ConditionName Scene.ConditionName Channel.Scene.ConditionName



Actual Usage Examples:

Imagine the following scenario.

- Two output channels: "Output1" and "Output2"
- Two scenes: "FirstNames" and "LastNames"
 - FirstNames has an action named "SlideOn" and "SlideOff"
 - LastNames has an action named "DissolveOn" and "DissolveOff"
- Play both scenes to both outputs

Now for crazy examples:

• SlideOn

If triggered from a scene on Output1, this will play action FirstNames.SlideOn. If triggered from a scene on Output2, no actions will be played.

• FirstNames.SlideOn

If triggered from a scene on Output1, this will play action FirstNames.SlideOn If triggered from a scene on Output 2, no actions will be played.

• *.*On

If triggered from a scene on Output1, this will play action FirstNames.SlideOn and LastNames.DissolveOn.

If triggered from a scene on Output 2, no actions will be played.

• 1.FirstNames.SlideOn

Regardless of which scene activated this trigger, this will play action FirstNames.SlideOn on Output1.

• 2.LastNames.DissolveOn

Regardless of which scene activated this trigger, this will play action LastNames.DissolveOn on Output2.

• 2.*.*On

Regardless of which scene activated this trigger, this will play FirstNames.SlideOn and LastNames.DissolveOn on Output2.

• *.FirstNames.SlideOn

Regardless of which scene activated this trigger, this will play FirstNames.SlideOn on both Output1 and Output2.

• *.*.*On

Regardless of which scene activated this trigger, this will play actions FirstNames.SlideOn, LastNames.DissolveOn on Output1 and FirstNames.SlideOn, LastNames.DissolveOn on Output2.



• Output2.FirstNames.SlideOn

Regardless of which scene activated this trigger, this will play FirstNames.SlideOn on Output2.

• Output*.FirstNames.SlideOn

Regardless of which scene activated this trigger, this will play FirstNames.SlideOn on both Output1 and Output2.



Bindings View

View All Selected Type All References Bindings Triggers Object All 🗸 🕑 🗶						
Source	Bounds To	Target	Binding	Value		
🔶 Keyframe 2	Trigger	Conditions	Conditions.CDHeadshotON.Evaluate()			
🔶 Keyframe 3	irigger 🤣	CD - Map Update	Conditions.CDMapUpdate.Evaluate()			
🔶 Keyframe 3	🔿 Trigger	2 Conditions	Conditions.CDMapUpdate.Evaluate()			
Replaceables.Asset Browser 1	🔲 Bindings	🛅 Control Panel.Asset Browser 1	ControlPanel.AssetBrowser1.File	I:\Prime\Projects\News Demo\Clips\Axis Maps\dnx 1080 1.n		
Replaceables.Asset Browser 1	🔲 Bindings	🧾 Control Panel	ControlPanel.AssetBrowser1.File	I:\Prime\Projects\News Demo\Clips\Axis Maps\dnx 1080 1.r		
Replaceables.Asset Browser 2	Bindings	🧾 Control Panel	ControlPanel.AssetBrowser2.File	I:\Prime\Projects\News Demo\Images\Head Shots\Reporter		
Replaceables.Asset Browser 2	Bindings	🛅 Control Panel.Asset Browser 2	ControlPanel.AssetBrowser2.File	I:\Prime\Projects\News Demo\Images\Head Shots\Reporter		
🕩 Text Box 1	Bindings	Ă CD Subbar	CDSubbar.Text	Subtitle		
📑 Text Box 2	Bindings	Ă CD Main Bar	CDMainBar.Text	Main Bar		
📫 Text Box 3	Bindings	🗚 CD Name	CDName.Text	PLAYER NAME		
📫 Text Box 4	💻 Bindings	A CD Subtitle	CDSubtitle.Text	Location		
TextBox1	💻 Bindings	Text Box 1	ControlPanel.TextBox1.Text	Subtitle		
TextBox1	💻 Bindings	🧮 Control Panel	ControlPanel.TextBox1.Text	Subtitle		
TextBox2	💻 Bindings	Text Box 2	ControlPanel.TextBox2.Text	Main Bar		
TextBox2	Bindings	Control Panel	ControlPanel.TextBox2.Text	Main Bar		
TextBox3	Bindings	Text Box 3	ControlPanel.TextBox3.Text	PLAYER NAME		
TextBox3	Bindings	🧮 Control Panel	ControlPanel.TextBox3.Text	PLAYER NAME		
TextBox4	Bindings	Text Box 4	ControlPanel.TextBox4.Text	Location		
TextBox4	Bindings	Control Panel	ControlPanel.TextBox4.Text	Location		
🚽 XMP 1	Binding	CD Headshot	CDHeadshot.File	I:\Prime\Projects\News Demo\Images\Head Shots\Reporte		

The Bindings view is a great tool for users to understand and visualize how properties within a scene are bound to events. This is a great diagnostic tool.

In the above example the first item reads:

Keyframe 2 references a condition named "CDHeadshotOne".

Source: The Object that has a binding

Bound To: The location of the source object binding

Target: The target object that is referenced by the binding

Binding: The target object the source is bound to

Value: The current value of the property



Events

Events are the foundation of PRIME. Almost everything in a scene, meaning all objects, may raise an event when any of their properties are changed. Most objects have events. Users may "Hook Up" any "Trigger" (Above) to any event that gets raised within a scene.

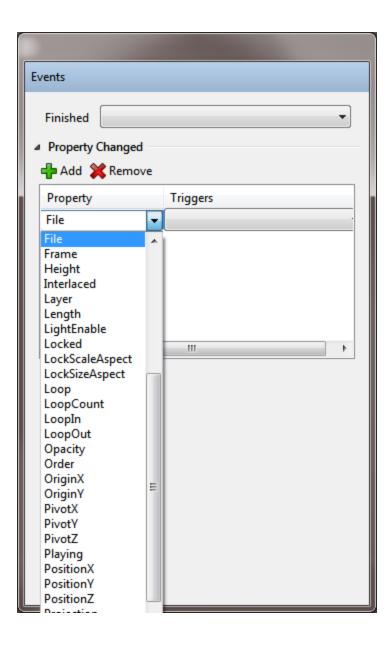
Every Object will have an Event tab. Listed there will be commonly used events in combo boxes. There will also be a list view to add as many events as the object has to offer.

Below is the "Property Changed" section of every Event page.

		Events
		Before Load
		After Load Before Play
		After Play
		Before Stop
		After Stop
		Before Close
		After Close
		Property Changed
Property Change		Add 💥 Remove
🕂 Add 💥 Rem		Property Triggers
Property	Triggers	
Opacity	Action: Action 1	
Volume	Action: Action 2	
•	III	

The following example shows the events available to a Clip Object that trigger any item(s) in the Triggers list.







In this example, if the opacity changes it will trigger Action 1. If the Volume property changes, it will trigger Action 2.

Add Remove Property Triggers Opacity Action: Action 1 Volume Action: Action 2
<



Parameters Editor

The parameters editor allows you to create, modify and delete parameters. Parameters are considered as storage locations for data. The scope of a parameters availability is either to all scenes in a Project or for the individual scene only.

Parameters, Expressions & Conditions are documented in the <u>PRIME Parameters, Expressions</u> <u>& Conditions</u>

Parameters	🕂 Add 💥 Remove	Call Carls Dawle						
-	Add Kemove		ect Pa		· 🔲 🤉	ave		(
Expressions	Name	Scope		Туре		Value	Bindings	
	Parameter 1	Scene	-	String	-	Hello	Text2.Text	
	Parameter 2	Project	-	String	-	World	Text1.Text	

Parameters are useful for binding scene objects properties. To bind any Object Property to a parameter:

1. Drag and drop the Object into the **Binding** column.

OR

2. Drag from the **Scene Tree** as in the example above. By dragging Text1 from the **Scene Tree** into the parameters **Binding** column, the default property of the Text1 object is its "Text" property. The binding is shown as "SceneName.ObjectName.ObjectProperty".



Expressions Editor

Parameters, Expressions & Conditions are documented in the <u>PRIME Parameters, Expressions &</u> <u>Conditions</u>

Project	🕂 Add 💥 Remove				
# Parameters	Name	Expression	Value	Туре	Bindings
	Expression 1	Image1.PositionX	468.323	Double	Text1.PositionX
(x) Expressions	Expression 2	Image1.PositionX +100	568.323	Double	 Text1.PositionX
	Expression 3	Image1.Opacity	100	Double	 Text1.Opacity

Expressions may be inserted into any binding that accepts a string of text.

Expression Samples:

• Set X position of one object to another:

Туре	Expression	Bind	ings
Double	Image1.Posi	tionX	Text1.PositionX

• Set X position of one object to another plus an offset:

Туре	Expression	Bindings
Double	Image1.PositionX + 100	Text1.PositionX

• Set Opacity of one object to another times a scale value:

Туре	Expression	Bindings
Double	Image1.Opacity * .5	Text1.Opacity



• Set File of one object to the modified Text of another:

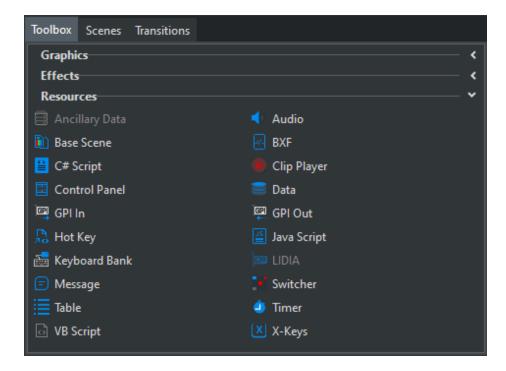
Туре	Expression	Bindings
String	"I:\Graphics\" + Text1.Text + ".png"	Image1.File



Scene Control Panel

To add a Scene Control panel to a scene or base scene:

- 1. Navigate to Toolbox > Resources > Control Panel
- 2. Single click Control panel resource



A single control panel resource can be added to each individual scene or base scene. Only one control panel is permitted per scene.

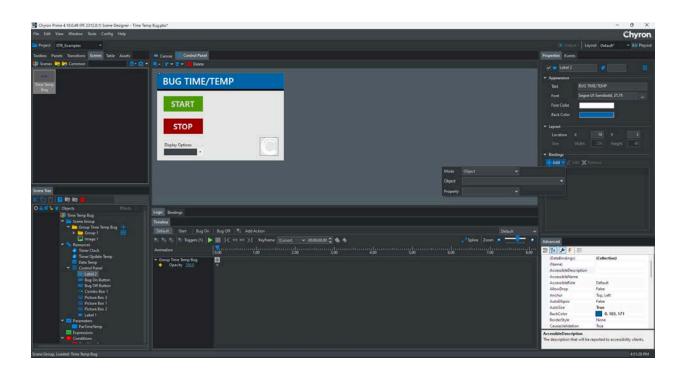
To access the Scene Control panel:

1. Navigate to View > Control Panel

The Scene Control panel allows users to design their own panel and bind the Control Panel Objects to Scene Objects. These controls are native .NET controls with a full array or properties and events. These events are bound to the C# scripting editor. The events are viewed by clicking the lightning bolt in the Control Panel Properties panel.

A simple way to bind objects is to drag and drop existing Actions from the timeline, or drag and drop existing Scene Objects from the Scene Tree to the Control Panel. This will automatically add and bind these to the Control Panel Control.







Control panel Controls have their own set of bindings

Control Panel Binding Properties

Mode - Project, Object, and Keyframe

Object - objects within the Scene Tree

Property - selected object properties

Clicking Add will create a blank placeholder Binding which allows users to manual type the Mode, Object, and Property desired.

Project.Scene Group.Camera 🗸 🗸 🗸

You can also click the dropdown next to add and select the Mode, Object, and Property.

~	Bindings		
	🗕 Add 👻	🖉 Edit 💢 Remove	
	Mode	Object ~	
	Object		
	Property	~ ·	



Selecting a target binding and clicking edit will bring up a populated dropdown UI with the Mode, Object, and Property.

 Bindings 	
🕂 Add 👻	🖉 Edit 💢 Remove
Mode	Object ~
Object	A Text 1
Property	Text ~

Selecting Project Mode allows users to select the primary project scene group and the scene group properties.

Mode	Project	\sim
Object	🚞 Scene Group	
Property		\sim
	AutoPriority	
	BlendingMode	
	Camera	
	DepthFunction	
	DoubleSide	
	DrawMode	
	Enabled	
	Layer	
	LightEnable	
🥜 Spline	Locked	
	NodeColorld	
)0 12.0	Opacity	
	PivotX	
	PivotY	
	PivotZ	
	PositionX	
	PositionY	
	PositionZ	
	PreviewOnly	
	Priority	
	Projection	
	ProjectionCenterX	
	ProjectionCenterY	
	RotationOrder	
	RotationX	
	RotationY	1
	RotationZ	
	ScaleLink	
	ScaleX	
	ScaleY	

Selecting the Keyframe Mode allows users to select an Object, Action, a specific Keyframe, and the Property that has a Keyframe.



Mode	Keyframe	\checkmark
Object	A Text 1	~
Action	Action 1	~
Keyframe	Keyframe 1	~
Property	Opacity	~

Control Panels have their own set of Properties:

Properties Eve	nts	
🕑 🗮 Contr	ol Panel	*
 Control Pane 	I	
🗹 Auto Tab I	ndex	
Theme App	olication ~	
✓ Appearance		
Text		
Font	Segoe UI, 9.00	
Fore Color		
Back Color		
✓ Layout		
Location	Х 0 Ү	0
Size	Width 400 Height	600

Auto Tab Index - sets the tabbing order for items on the control panel based on their position. The tab order is set automatically from left to right and top to bottom. To set a custom Tab Index uncheck this option and set the Tab Index using the advanced properties.



Ad	vanced		×
•	2↓ 🗉 🖋 🖾		
	Locked	False	^
>	Margin	3, 3, 3, 3	
	Maximum	100	
>	MaximumSize	0, 0	
	Minimum	0	
>	MinimumSize	0, 0	
	ReadOnly	False	
	RightToLeft	No	
>	Size	120, 23	
	TabIndex	2	
	TabStop	True	
	Tag		
	TextAlign	Left	
	ThousandsSeparator	False	
	UpDownAlign	Right	
	UseWaitCursor	False	
	Value	0	
	Visible	True	

Selecting the lightning bolt will show all the events for the control:

⊳	(DataBindings)	1
	AutoSizeChanged	
	AutoValidateChanged	
	BackColorChanged	Ξ
	BackgroundImageChange	
	BackgroundImageLayout(
	BindingContextChanged	1
	CausesValidationChanged	
	ChangeUICues	
	Click	
	ClientSizeChanged	
	ContextMenuStripChange	
	ControlAdded	
	ControlRemoved	
	CursorChanged	
	DockChanged	
	DoubleClick	
	DragDrop	
	DragEnter	
	DragLeave	1
(Da	taBindings)	



Buttons allow users to bind different types of commands within the "Properties panel" of the control. In this example, the button is bound to a Condition.

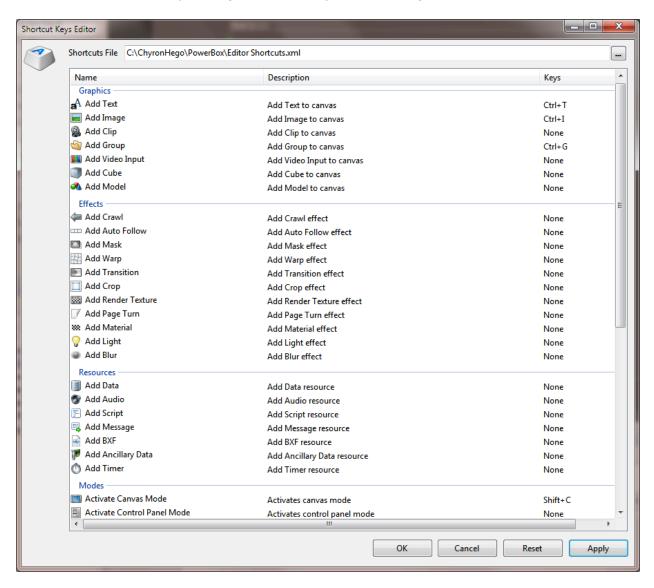
Properties Events	
V Button 1 Appearance	
Text Button 1	
Font Segoe UI, 9.00	
Fore Color	
Back Color	
✓ Layout Location X 27 Y 63	
Size Width 75 Height 25	
✓ Click	
 Actions Default Conditions Goal Announcement ONE Scene Play Stop Close External External Action Name Sequence Execute MoveFirst MoveNext MoveNextExecute MoveLast MoveEnd 	

You can continue to bind as many commands to the button as needed.



Shortcut Keys

PRIME has a Shortcut key manager for both play out and design



To assign a shortcut key select an item from the list, place your cursor in the "Keys" column and begin to press the keys on your keyboard you wish to have as the shortcut.

As the application grows the list of available functions will appear in the "Name" column.



Parameters, Expression & Conditions

Parameters, Expressions & Conditions are documented in the

"PRIME Parameters, Expressions & Conditions.pdf" file located in the PRIME Documents folder.

PRIME_Parameters_Expressions_Conditions.pdf

Replaceables

Parameters / Expre	essions	Replaceables Logic				
🕂 Add 📕 Remo	we					
\$ # 🖉 🦕		ID	Description	Value	Bindings	Character Limit
= 1 🖉 🌍		Promotion Night 1 Text			🔥 PromotionNight1.Text	
🔳 2 🥒 🌍		Start Time 1 Text		1:05	Au StartTime1.Text	
🔳 3 🛹 🤤		Matchup 1 Text		Rangers	🙏 Matchup 1. Text	
≡ 4 🥔		Date 1 Text			🙏 Date1.Text	
= 🥒		Promotion Night 2 Text			An PromotionNight2.Text	
≣ 5		Image1 File			🔛 HeadshotFile.File	
🗏 6 🖉 🌍		Start Time 2 Text		7:30	A StartTime2.Text	

Any and all properties can be set to be able to have its property value changed via automation or CAMIO using the "Replaceables" table.

- Reorder- Drag and Drop Replaceables to reorder
- Order- Used to fulfill data from the Intelligent Interface "W" command. To disable II for a replaceable object click on the numeric value. Disabling II on a replaceable will automatically renumber the replaceables list order.
- Auto Erase Used to erase the default value. Used mainly for LUCI/CAMIO
- External Updates- Used for Intelligent Interface "X"-"R" command set.
- Databound Enable any replaceable object that is getting updated from another object like dataobject, parameters, XMP.
- Show/Hide Replaceable Used to show or hide a replaceable object from Playout's Replaceable Panel and Edit Scene Messages
- ID Alphanumeric updateable field
- Description Alphanumeric updateable field. In LUCI/CAMIO Description will be the object name visible to producers in the LUCI NRCS plugin.
- Value Updateable field for object's value
- Bindings Objects that the replaceable is directly bound to.
- Character Limit Limits the number of characters allowed for text objects. This is applied in LUCI/CAMIO.



By default, All replaceables added to a scene will be visible in the replaceables panel in Prime Playout. You can choose not to have certain replaceables visible by utilizing the new Hide/Show Replaceable menu introduced in PRIME 4.9.0

Base Scene replaceables will not be visible automatically in the replaceables panel. Manually add the base scene binding object to the parent scene replaceables (preferred option) or add the base scene replaceable to the parent scene replaceable. You must enable databound on any base scene replaceable object, you intend to add to a parent scene's replaceables.

+ Align	📫 Auto Follow	2 3 0 🗈 A 🖬								
Auto Size	Auto Scale	Parameters / Expressio	Parameters / Expressions Replaceables Logic							
Billboard	Blur	🕂 Add 🔀 Remove								
Camera	📐 Character	s 🗘 # 🖉 🚱 🧬	ID	Description	Value	Bindings	Character Limit			
Scene Tree		≡ 1 ≡ 2	Base scene Clip Parent scene Text		l:\Prime\Projects\Meredith	BackgroundClipFile.Value				
× 🖸 🗍 📴 🖬 🕯	*	≣ 3	Base Scene Replaceable		hello	Text1Text.Value				
O Scene 2 Scene Grou FS Back Text 12 Resources	ground Clip	≡ 4	Base Scene Text		Nikole	Text2.Text				
Parameters Expression Conditions Replaceable	- 5 ies		Action Triggered By (0) 🕨 🔳	< 44 ▷> > Keyfrai	me (Cursor) 😽 00:00:0	10.00 🗘 🐟 🐟				
Base sc Parent : Base Sc Base Sc	scene Text ene Replaceable	Animation		0:00 1:00 2:00	3:00 4:00	5:00 6:00 7:00	8:00 9:00 10			



Effect In/Out

Effect In and Effect out are properties of the scene. The Effect in and Effect Out combo box will show the "Triggers" list.

Select an Action(s) as your effect In/Out or select a Condition to use "Conditional Transitions". (See the "Conditional transitions" section.

Other choices are available as your Effect in/out as well such as a script or External Activation (Trigger an action in another scene).

✓ Scene Version 2.0.1.16 Description	🗹 🜉 New Sce	ne 🏐 🌮 🌆 🕅 🔁
Description Message Id Channel Default Layer 1 Effect In Effect Out * Resolution Format 108 * Condition 3 Condition 1 Condition 2 Condition 1 Condition 2 Condition 3 * Thumbnail Update F * Scripting Choo * Scripting Choo * Scripting External	✓ Scene	
Message Id Channel Default Layer 1 Effect In Effect Out Actions Effect Out Action 1 Action 1 Action 2 Action 3 Format 100 Condition 3 Condition 2 Condition 2 Condition 3 Condition 3 Choo	Version	2.0.1.16
Channel Default ✓ Layer 1 ★ Effect In Effect Out Actions □ Default □ Action 1 □ Action 2 □ Action 3 Format 100 ✓ 2 Condition 1 ○ Condition 1 □ Condition 2 □ Condition 3 ♥ Scripting Choo ♥ Scripting External	Description	
Layer 1 Effect In Effect Out Actions Default Action 1 Action 2 Action 3 Format 108 2 Condition 3 Update F Choo Kesselution Choo Effect In Choo Choo Choo Choo Choo Choo Choo Choo	Message Id	
Effect In Effect Out Actions Action 1 Action 2 Action 3 Format Update F Choo Effect In Effect Out Choo Effect Out Effect Out Effect Out Choo Effect Out Effect Out Effect Out Effect Out Effect Out Choo Effect Out	Channel	Default ~
Effect Out Actions Default Action 1 Action 2 Action 3 Format 108 Thumbnail Update Fr Choo Kesolution Kesolution Choo Kesolution Kes	Layer	1
Effect Out Default Action 1 Action 2 Action 3 Format 100 Conditions Condition 1 Condition 2 Update Fi Condition 3 Scripting Choo Kernal	Effect In	-
	 ✓ Resolution Format 100 ✓ Thumbnail Update Format 	 □ Default □ Action 1 □ Action 2 □ Action 3 ✓ 2: Conditions □ Condition 1 □ Condition 2 □ Condition 3 ✓ ∑ Scripting □ NewScene_EffectIn ✓ External



Conditional Transitions

There are two types of "Conditional Transitions".

- 1.) Rules that evaluate which transition to trigger as the Effect In play based on conditions within the scene itself.
- 2.) Rules that evaluate which transitions to trigger in other scenes on output at the time the current scene plays to output.

Prime uses its "Conditional Manager" to manage the logic.

Users can select an action from the list or select a Condition to evaluate which transition to play as the effect in.

Properties Events
🗹 🜉 New Scene 🏐 🏈 🌆 🕅 📧 🗒
✓ Scene
Version
Description
Message Id
Channel Default ~
Layer 1
Effect In Condition: Condition 1
Effect Out Actions
Resolution Effect Out Text in
Format 108 Text Out
Name ONLY In Thumbnail Y 2: Conditions
Condition 1
Update Fi Condition 2
Choo Choo Choo
✓ E Scripting
✓ 🖗 External
External Action Name

Example: If the Title text is blank trigger Name ONLY Action otherwise trigger the Effect In Action.





Conditional Transitions Advanced

Functions that allow evaluating the scene that's on the output channel.

From the condition editor the following functions are available for use with Conditional Transitions:

Channel.IsSceneOnOutput(string sceneName)

Returns true if there is another scene matching the given name on the current channel; the current channel is defined as whatever channel the scene executing the expression is on. This does not match the scene responsible for executing this function.

The sceneName can include wildcards like the External Action Trigger work from earlier this year.

Channel.IsSceneAndNameOnOutput(string sceneName, string layerExpression)

Returns true if there is another scene matching the given name and layer restrictions on the current channel; the current channel is defined as whatever channel the scene executing the expression is on. This does not match the scene responsible for executing this function.

The sceneName can include wildcards like the External Action Trigger work from earlier this year.

The layerExpression behaves like the feature in Intelligent Interface (>1, 1, >=1).

Channel.lsDescriptionOnOutput(string description)

Returns true if there is another scene matching the given description on the current channel; the current channel is defined as whatever channel the scene executing the expression is on. This does not match the scene responsible for executing this function.

The description can include wildcards like the External Action Trigger work from earlier this year.

Channel.IsDescriptionAndLayerOnOutput(string description, string layerExpression)

Returns true if there is another scene matching the given description and layer restrictions on the current channel; the current channel is defined as whatever channel the scene executing the expression is on. This does not match the scene responsible for executing this function.



The description can include wildcards like the External Action Trigger work from earlier this year. The layerExpression behaves like the feature in Intelligent Interface (>1, 1, >=1).

Channel.IsLayerOnOutput(string layerExpression)

Returns true if there is another scene matching the layer restriction on the current channel; the current channel is defined as whatever channel the scene executing the expression is on. This does not match the scene responsible for executing this function.

Scene.Layer

Returns the layer of the current scene.

Scene.Loaded

Returns true if the current scene is loaded.

Scene.Playing

Returns true if the current scene is playing

Scene.Name, Scene.Description, Scene.Locked, Scene.Version, etc. have also been added.

Examples:

Create some Effect In Condtions:

Conditions	
Conditions 🕂 💢 🔚 🟐	Statements 🗊 🔠 🔤 Operators = 🗉 < > Commands 🕑 Trigger 🔲 Property 💥
Effect In Condition	 Effect In Condition If Channel.IsDescriptionOnOutput("Full Screen") Action: Back to Back Full Screens Action: FullScreen In
Conditions	
Conditions 🜵 💥 🔚 🟐 Effect In Condition	Statements if dif dir Operators = != < > Commands () Trigger Property * 2: Effect In Condition
	 If Channel.IsSceneOnOutput("Full Screen Stocks") Action: Stocks In Action: Effect In

Hook up the "Effect In" as a "Condition":



I	New Sce	ne 试 💞 👫 🕅 🔝 🗒
~	Scene	
	Version	3.0.2.5
	Description	
	Message ID	
	Channel	Default ~
	Layer	1
	Effect In	Condition: Effect In Condition 👻
	Effect Out	 Actions Default Stocks In
~	Resolution	Effect In
	Format 108	
~	Thumbnail	✓ ∑ Scripting
	Update Fi	
	Choo	✓ E Sequence
	Command Seq 🕂 Add 💥 Rer	MoveLast



Update In/Out

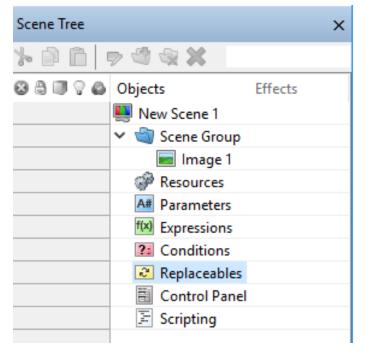
Prime will automatically apply "Update In/Out" rules if the incoming message uses the same base scene as the outgoing message.

The Transition effect applied to the object will trigger automatically.

For a two line lower third,

If Message 200 (Not Scene, but Message) is on air and its base scene is "Lower third" and message 201 is cued and uses "Lower Third" as its base message then the transition that is assigned to each of the two lines will trigger when the incoming scene 201 is played.

IMPORTANT: The "Replaceable's list will determine which scene objects transitions will be fired. Add each object to the Automation ID list that you wish to be applied to Update In/Out.



By default an incoming scene is prioritized over an outgoing scene. The Auto Priority sets the priority value for graphics automatically with respect to their position in the scene tree. To manually adjust the scene priority uncheck the Auto Priority in the Scene Properties and set the Scene Group Priority > Render > Priority value.



Properties Events			
🗹 🜉 Scoreboard T	Γable Rov 🏐 🏈 🌆 🕅 🖭 🞅 🎽		
✓ Scene			
Version	2.6.3.4		
Description			
Keywords			
Style			
Message ID			
Channel	Default \lor		
Layer	1	P	Properties Events
Effect In	EffectIn.Play() ~		🗹 🏐 Scene Group 関 🛤 🙀 🐴
Effect Out	EffectOut.Play() ~	~	✓ Render
Layer In	~		Projection Inherit ~
Layer Out	×		Projection Center X 960.0 Y 540.0
Preview In	~		Light Enable False \checkmark Depth Function Off \checkmark
Update Behavior	Update Values \checkmark		Double Side Inherit V Blending Mode Inherit V
	🗌 Auto Priority		Priority 2000 Preview Only Inherit ~

API & Scripting

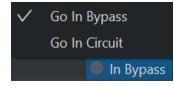
API & Scripting is documented in the PRIME_API_Scripting_Guide document.



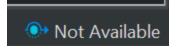
Bypass

Systems with a compatible Matrox DSXLE4 card can switch between Bypass and In Circuit directly in PRIME Playout.

When using a compatible DSXLE4 card and Matrox Hardware is selected, users can switch between In Bypass and In Circuit by clicking the Bypass menu in the bottom right hand corner of PRIME Playout.



Go In Bypass: System will not output PRIME graphics and video input will pass through Go In Circuit: System will output both graphics and video input



PRIME Bypass Not Available Scenarios

- The Bypass Device is set to None
- The Bypass Device is set to Matrox and an incompatible Matrox card has been detected
- The Bypass Device is set to External Panel but the External Bypass Panel is not detected or has thrown an error.

*Please see the PRIME Playout Configuration Guide for Bypass Configuration details. *External panel detection executes when switching to In Circuit.



Power Clips Adding and Configuring Power Clips Controllers

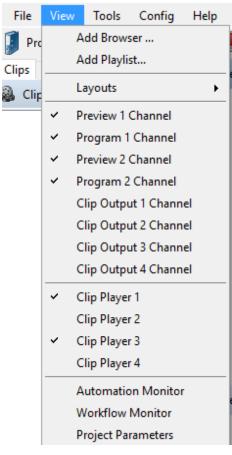
Showing the Power Clips Controllers

Power Clips are clips that are not part of individual scenes but clips that can play from the independent clip players created and configured in the "Playout Configuration"

When A clip player is added through the PRIME Playout Configuration, the player clip controller becomes accessible in the Runtime user interface menus.

Checking a clip player to view will show the Clip Player and its controls:

ChyronHego Prime Offline 2.0.0.55





Clip Player 1			Transition	None 🔻
		-	_	1
00:00:00.00				I
	84			
Playing	K			
Cued			14	

	Transition None	Ŧ
~	Show Playback Controls	
	Close	

Selecting the drop-down caret in the upper right corner allows users to select to show/hide Playback controls.

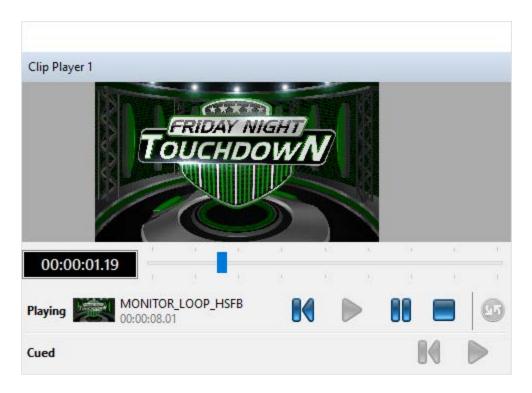
Default Transition

Assign a default transition for clips that play from this controller.

Playing Power Clips

Clips played with this controller will play to their assigned channel and layer which is defined in the Controller setup not the clip itself.





Clips can be played back by automation under various protocols or manually by dragging clips from the current Projects clip folder or the common clip folder.

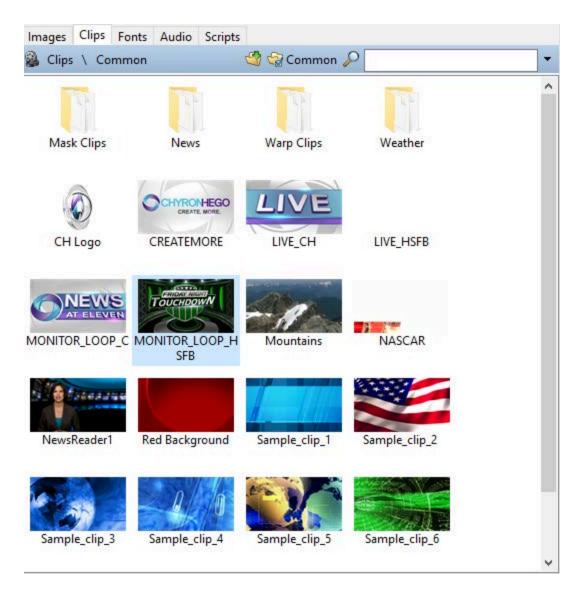
Editing the Clip Metadata

Clip files consist of two files, 1.) The actual media file such as **MyMovie.mov** and the associated side car file that contains all the metadata associated with the clip. Information stored there are settings like "Hold first Frame", "Description", Thumbnail etc.

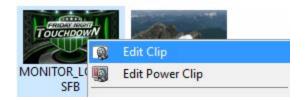
Prime Clips do NOT use a backend database, instead it uses the Windows file system as its database and the Windows Search API for searching.

Clips are stored in your Projects "Clips" sub folder or in you Projects Common Clips folder:



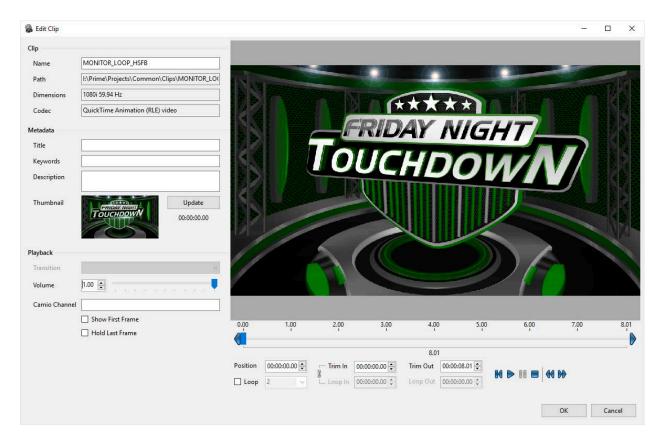


To edit your clip right click on your clip to edit all the associated meta data for the selected clip:



This will bring up the standard clip dialog:





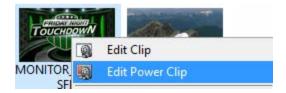
Insert all the meta data fields you require.

4-point looping is available using the clip timeline cursors.

Creating a Power Clip

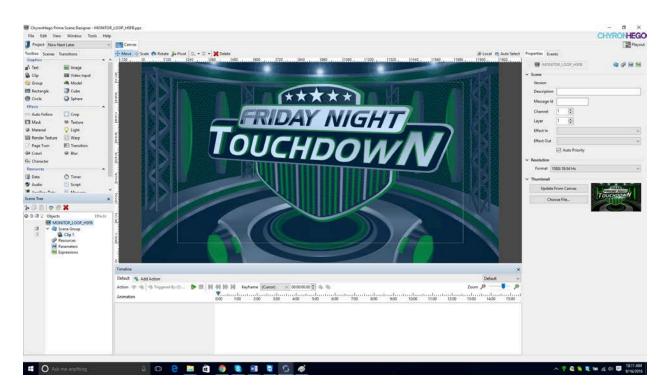
A Power Clip is the ability to add Graphics, Text and other scene elements to your clip.

Select a clip from your Clips database and select "Edit Power Clip":

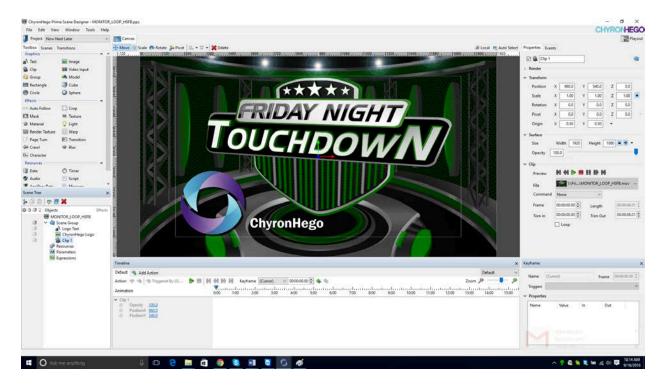


This will launch the Advanced Power Clip Editor allowing you to add more elements to the clip. As you can see a "Power Clip" is essentially a scene with the base clip at the heart of it:





In the following example we will add an image and some text to the clip. We will add an animation to animate the image and text on.





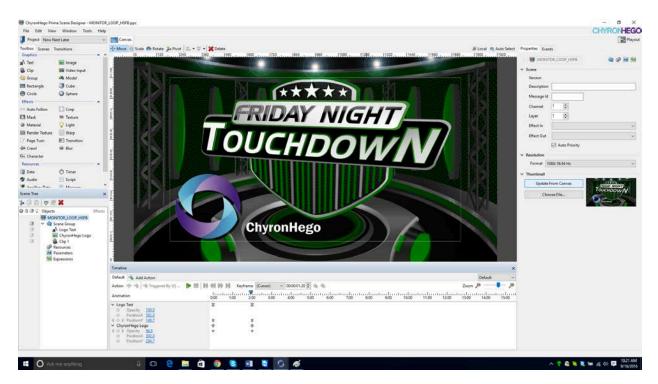
From the Timeline "Default" transition I will fade up the logo and animate the text to move on screen from screen bottom.

Timeline									×
Default 👒 Add Action								Default	~
Action 喇 🐋 🛸 Triggered By (0) 🕨 🔳	н н н н	Keyframe Keyfram	1 ~ 00:00:00.00 🜩	ար 🐟			Zoom 🎾	• — —	<i>,</i>
Animation		00 2:00 3:0	0 4:00 5:00		9:00 10:00	11:00 12:00	11111111111111111111111111111111111111	mhuntun	
✓ ChyronHego Logo	\$	\$							
♦ ♦ Opacity <u>3.0</u>	\$	\$							
 ◇ PositionX <u>392.0</u> ◇ PositionY 284.7 									
✓ Logo Text	8	Ξ							
♦ Opacity <u>100.0</u>									
PositionX 592.0 A b PositionX 105 5	-	-							
♦ PositionY <u>-106.5</u>	8	Ξ							

Save the clip.

When the clip is played the "Default" transition is played dissolving up the logo and animating the text to move into position from the bottom of the screen.

You may want to update the thumbnail associated with the clip. Select the top node from the scene tree. From the scenes property editor, you will see a "Thumbnail" section. Select "Update from Canvas".



Power Clips will have an icon in the thumbnail in the browser. This clip is a Power Clips and has key as shown in the browser by the two icons in the lower right hand corner:





To Expose the Image and text to the Playlist or CAMIO/LUCI add the items to the Automation List:

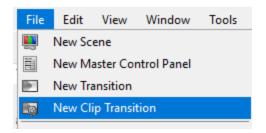
Automatio	n ID Editor			
🔀 Remove 👔 🎩				
ld	Bindings	Order		
1	🗚 Text1.Text	1		
2	Clip1.File	2		

🛃 Playlist 📋 🔄 🔚 👻 🚺 🐨 Group 💥 Remove							
ID Name	Channel Layer	Status					
0 🗸 🎆 MONITOR_LOOP	Clip Player 1	00:00:08.01					
aA Text 1		ChyronHego					
Clip 1		l:\Prime\\MONITOR_LOOP_HSFB.mov					



Creating Clip Transitions

From the Designer File menu select "New Clip transition" to open up the Clip Transition Editor



Select Your "In" or "Out" transition from the Scene Group

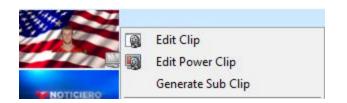


The Time line Editor allows you to keyframe your effects



Your transition can now be applied to a Clip using the "Edit Clip" menu





Select your clip transition from the "Transitions drop down menu.

S Edit Clip								×
Clip								
Name	Sample_clip_2		k			-		
Path	l:\Prime\Projects\Samples\Clips\Sample_clip_2 .c	+ *, 7	Jy T,	x _			-	
Dimensions	1080i 59.94 Hz	XXL	TYL				1	
Codec	GTC				-			
Metadata		× + ;		and the second s		1	1	
Title		×	1				-	
Keywords				301				
Description				10 -	4			
Thumbnail	Update 00:00:00.00				g			
Playback			100					
Volume	1.00							
Transition	~							F
Camio Channel	E Clip Transitions \ Common	🗳 🤮 Common 🔑						
	Icons Clip Transition Clip1			4.00	5.00	6.00	7.00	7.15
				7.15 n Out 00:00:07.15 🔹 ip Out 00:00:07.15 🖨	H > II =	44 PP		
						ОК	Can	:el



Creating a Sub-Clip

Right click on a clip and select the "Generate Sub-clip" menu item to bring up the clip editor

Stature -	
	Edit Clip
	Edit Power Clip
NewsRead	Generate Sub-clip
	Cut
0/	Сору
3 CK	Paste
Sample_cl	Rename
	Delete
	Open File Location
	New Folder
TBS2	Refresh
	Properties

Generate Sub-	-clip	- 🗆 X
Clip		
Name	NewsReader1 1	
Path	I:\Prime\Projects\Common\Clips\NewsReader1.	
Dimensions	1080i 59.94 Hz	
Codec	GTC	
Metadata		
Title		
Keywords		
Description		
Thumbnail	Update 00:00:00.00	
Playback		
Transition		
Volume	1.00 🔄	
Camio Channe	el 🗌	
	Show First Frame	0.00 1.00 2.00 3.00 4.00 5.00 6.00 7.00 8.00 9.00 10.00 11.00 12.00 13.00 14.00 15.00 16.00 17.00 18.00 19.00 20.16
	Hold Last Frame	· •
		20.16 Position 00:00:00:00 ⊕ Trim In 00:00:00:00 ⊕ Trim Out 00:00:20.16 ⊕ Loop 2 ∨ Loop In 00:00:00:00 ⊕ Loop Out 00:00:00 ⊕ ₩ ▶ ₩ ■ ₩ ▶
		OK Cancel

Set new In and Out points to generate the new sub clip



Searching for Clips

Primes Search functionality uses the Windows Desktop Search API used in Windows Explorer.

Note: PRIME does NOT support search capabilities for projects on mapped drives due to the Microsoft Search API

The Browser search box:

🚳 Clips	🗳 🦙 Common 📔	🖬 - 🍇 🛛

Searches can be saved and edited:



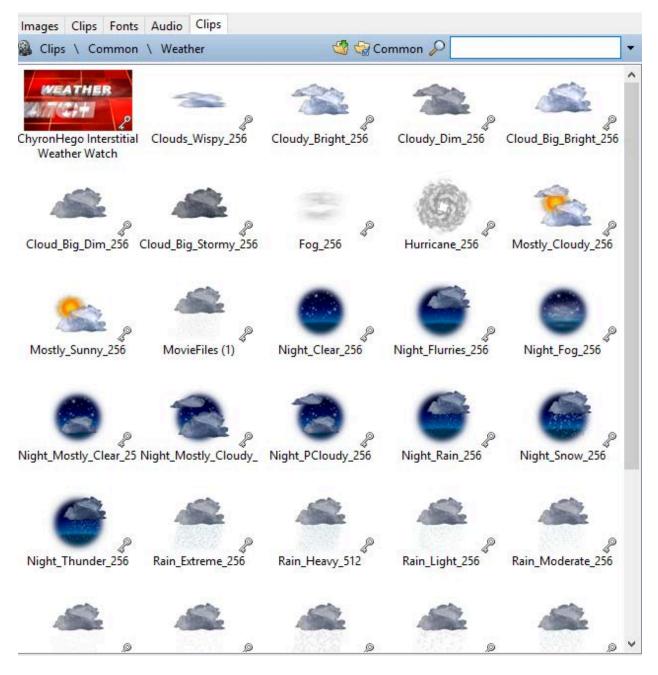
Edit/Save Searches

Clips: Edit Searches	_	\times
🖶 Add 💥 Remove		
Name Query		

If you type into the Search Field Prime will search the following fields;

Name, File Path, Description and Keywords.





Now type in "Rain" results in: (any file that has "Rain" in the Name, File Path, Description or Keyword will show up as a result of the search)





Advanced Searching

Click the magnifying glass icon to launch the advanced search dialog

Advanced Search					
Properties	Condition		Value		
Accessed	✓ is	~	Tuesday , Nov	ember 08, 2016	
Accessed					
Attributes		AND	OR	NOT	Add
Computer					
Created					
File description					
File version					
Folder path					
Frame height					
Frame rate					
Frame width					
Hold last frame					
tem type					
Length					
Location					
Modified					
Name					
Owner					
Shared with				Search	Cancel
Show first frame					

The advanced search allows searching on all the fields associated with clips

For extended search and filtering capabilities use the extended windows search terms

Microsoft Generic Search Query



Microsoft Image Search terms:

Microsoft Video Search terms:

Examples of extended search terms: System.FileDescription System.Title System.Video.FrameWidth System.Video.FrameHeight System.Video.FrameRate System.Keywords Prime.HoldLastFrame System.Video.FrameWidth:>10

Archiving Clips

Clip files consist of two files, 1.) The actual media file such as MyMovie..mov and the associated side car file that contains all the metadata associated with the clip. Information stored there are settings like "Hold first Frame", "Description", Thumbnail etc.

Right click on a clip:

- Set the destination for the archive.
- Add a prefix or suffix to the clip file.
- Move the Media file. This option moves the actual clip file otherwise just the associated metadata file is moved to the archive folder.



9	Edit Clip			
	Edit Power Clip			
	Generate Sub Clip			
2	Cue			
\triangleright	Play			
	Stop			
X	Clear			
ß	Asset Viewer			
	Camio Upload 🔹 🕨			
	Content Distribution			
	Quality Control			
	Archive Selected			
Ţ	Zip Selected			
	Cut			
	Сору			
	Paste			
	Rename	-		
	Delete			
	Open File Location			
	New Folder			
	Refresh			
	Properties			
Arc	hive Selected Clip Files			
D	estination		 	
- E	Prime\Projects\Elections\	Clips		
	Add Prefix			

I:\Prime\Projects\Elections\Clips		
Add Prefix		
Add Suffix		
🗹 Move Media File 🛛 🎯		
Clip Name 001	ОК	Cancel

×



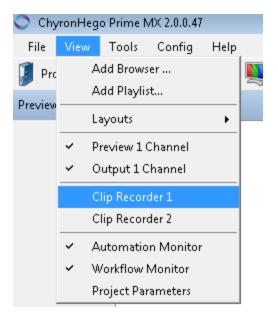
Clip Recorder

Adding and Configuring Power Clips Recorders

To add Clip Recorders, view the PRIME Playout Configuration Guide

View the Clip Recorder

Once Clip Recorders are added in the PRIME Playout Configuration they will become accessible in the "View" menu





Clip Recorder 1				
	Doremi Labs		100	
	Test pattern generator			
	HDG 20			
	Doremi Labs			
	Test pattern generator			
	HDG 20			
	18:25:48:06			
	Doremi Labs			
00:00:00.00				
Location I:\Prime\Projects\New Project 1		Input	Input 1	•

Clip Record functions:

- Quick Record- Starts recording immediately from the selected input.
- **Record-**Brings up the record dialog allowing users to enter meta data to be associated with the clip and select clip compression.



Record Clip (Clip ightary Recordi	ng Stop Recording and Save Compression JPEG -
Path Name	I:\Prime\Projects\New Project 1\Clips
Keywords	Chyronhego
Description	5Pm news
	Show First Frame Done

- Frame Grab-Grab a single frame of video input
- Stop-Stops recording the Quick Record

Clip Convertor

See the separate document on the Clip convertor/Watch folders.



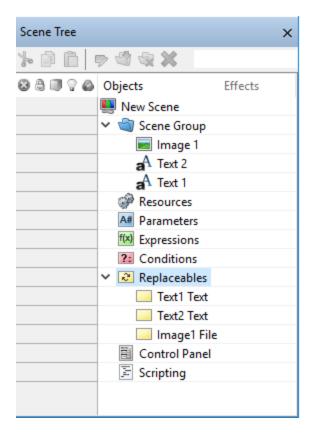
CAMIO

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 "**Replaceable 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.

Replaceable Fields





Auto Erase

Replaceable Editor				
🗙 Remove 👔 🗍				
ID	Description	Bindings	Order	Auto Erase
Text1 Text	Enter the Persons Name:	aA Text1.Text	1	
Text2 Text	Enter the Persons Title:	aA Text2.Text	2	
lmage1 File	Select an Image for this person:	💼 Image1.File	3	

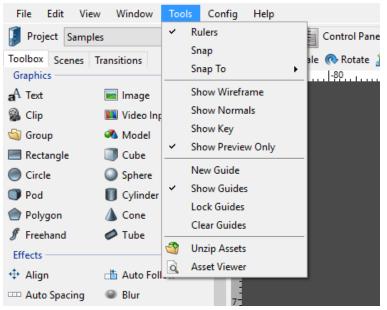
- o **Id:** This is the ID automation will use to identify this item.
- Description: This is a user-friendly description and is also used in the NRS Plugin (LUCI) as the label for the replaceable item.
- Order: Used by legacy automation commands.
- **Auto Erase:** The data in this field will be erased in LUCI when the template is selected.

LUCI Preview Only

The "Preview Only" option allows for scene elements to be visible in LUCI templates and Previews. Any Scene object that has "Preview Only" marked as "True" will be visible in LUCI but will NOT be visible on the Playout machines. This option can be toggled On/Off from the "Tools" menu. When set to "Inherit" the setting will inherit from its parent. This way an entire group can be "Preview Only" by setting the Groups "Preview Only" setting to True.

	— D	×
	CHYRONHE	GO
	Program 👻 Layout Default 🗸 🕎	layout
🕭 World 🛛 🗨 Auto Select	Properties Events	
920	🗹 📾 Image 1	1
	✓ Render	
	Projection Inherit ~	
	Projection Center X 960.0 Y 540.0	
	Light Enable Inherit V Depth Function Inherit	\sim
	Double Side Inherit V Blending Mode Inherit	\sim
	Texture Quality 1.0 Texture Wrap Clamp	\sim
	Priority 2000 Preview Only Inherit	\sim
	Transform Only show graphic when rendered for MOS Page	review
	Position X 960.0 Y 540.0 Z 0.0	
	Scale X 1.00 Y 1.00 Z 1.00	ð





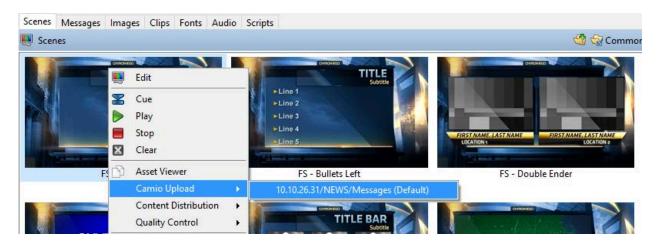
🜉 ChyronHego Prime 3.1.1.0 Scene Designer - New Scene 3.pbx*



Publishing

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.

🚺 Project News Demo 🗸 🔊 Scene 🔤 🗧 🗸	
New	
Open	
Publish +	Clear
🐻 Unpublish 🕨	
Camio Upload 10.10.26.31/NEWS/Messages (Default)	



CAMIO Playback

This section refers to the PRIME Playout devices

Configure the CAMIO Server:

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

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



🛐 Prime Settings						×
Provide a construction of the construction of	САМЮ					
	Server	Cont	text	Folder		
🈫 Startup Scenes	• 10.10.26.31	NEWS	S	/Messages		
Quality Control						
Language						
Logging						
BXF						
	Add Dele Default CAMIO [Default Virtual Channel [0.10.26.31/NEWS/Messages				>
				ОК	Cancel A	pply

Configuring for Playback Control:

Add an XML connection in the Automation Settings: This connection will receive playback commands from the CAMIO playback device controller (ISQ).

Automation Settings						
Connec	Connections 👜 Intelligent Interface 🏧 XML 🥮 UDP Stream 🖤 Generic 🚥 VDCP 🚥 PBus 🛤 EAS 🛛 🕼 Edit 豰 Rules 💥 Delete 🔗 Enable 🛞 Disable					
Туре	Name	Port	Encoding	Enable On Startup	Status	
XML	XML TCP Connection 1	49529	Unicode (UTF-8)	~	茎 Listening	



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".

The CAMIO Renderer Automation Connection:

This connection will automatically be added and enabled. No Configuration required but is useful for diagnosis purposes to view the command stream.

Automation Settings						
Connections 📟 Intelligent Interface 🦉 XML 🤓 UDP Stream 🖏 Generic 🚥 VDCP 🚥 PBus 🛤 EAS 🔯 Edit 🆏 Rules 💥 Delete 🧭 Enable 🛞 Disable						
Туре	Name	Port	Encoding	Enable On Startup	Status	
0	Camio Connection	49530	Unicode (UTF-8)	~	Z Listening	

Configure the CAMIO Renderer End Point:



LIVE

Uploading to LIVE

Configure Live Uploader

In Prime Settings > Live Uploader select Add to create a new connection Profile.

Name: Alphanumeric value of your choosing

Bucket Details

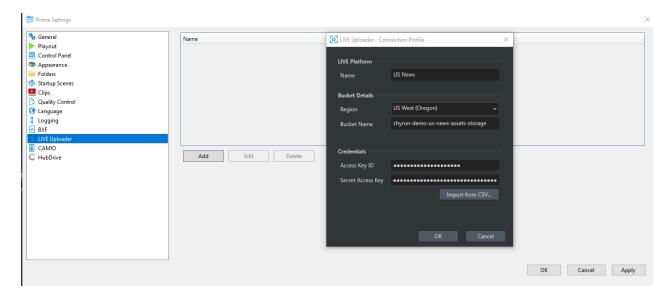
Region: Select the region where the S3 Bucket is hosted

Bucket Name: Populate with S3 Bucket name provided to the admin of your Live environment.

Credentials

Access Key ID: Populate with Key ID provided to the admin of your Live environment

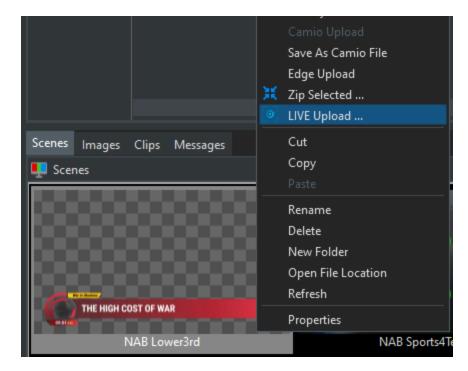
Secret Access Key: Populate with Secret Access Key provided to the admin of your Live environment.



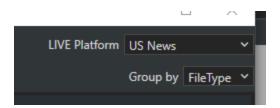


Upload a single scene

Right click on a scene or clip and select "Live Upload".



Select the Live Platform from the list of available configured Live environments, in the top right hand corner.





IVE Uploader					- 0	×
Add Files 🔓 Add Folder				LIVE Platto	rm US News	~
✓ All Items					Group by F	ileType 🗡
Name	Folder	Туре	Size Status			
Adobe Acrobat Document						
VAB Lower3rd.pbx	I:\Prime\Projects\LPP\Scenes	Adobe Acrobat Document	52 KB			
CPF File						
Project.cpf	I:\Prime\Projects\LPP	CPF File	1 KB			
✓ PBT File						
🗹 泣 Dissolve.pbt	I:\Prime\Projects\LPP\Transitions	PBT File	19 KB			
✓ 🖃 UpDown.pbt	I:\Prime\Projects\LPP\Transitions	PBT File	7 КВ			
DownUp.pbt	I:\Prime\Projects\LPP\Transitions	PBT File	7 КВ			
V PNG File						
🗹 🛥 🛛 AFT Time Bar.png	I:\Prime\Projects\LPP\Images	PNG File	3 KB			
🗹 — AFT TAB.png	l:\Prime\Projects\LPP\Images	PNG File	2 KB			
🗹 🚽 AFT TickerBar.png	l:\Prime\Projects\LPP\Images	PNG File	2 KB			
🗹 — BoxMatte.png	l:\Prime\Projects\LPP\Images	PNG File	3 KB			
🗹 — AFT Bar.png	l:\Prime\Projects\LPP\Images	PNG File	3 KB			
MOV File						
🗹 🖨 BUG -AFTERNOON.mov	I:\Prime\Projects\LPP\Clips	MOV File	49 MB			
V PSE File						
🗹 📗 AFTERNOON.pse	I:\Prime\Projects\LPP\Styles	PSE File	821 B			
✓ TrueType font file						
ROBOTO-BOLD.TTF	I:\Prime\Projects\LPP\Fonts	TrueType font file	166 KB			
ROBOTO-BLACKITALIC.TTF	I:\Prime\Projects\LPP\Fonts	TrueType font file	173 KB			
14 Files						
				Upload Sel	ected Ca	ancel

Select Add Files to add additional files.

Select Add Folder to add additional folders

To begin the upload process select "Upload Selected".



Display Matrix Display Port (GPU) Output

See the separate document: Display Matrix Configuration.

PRIME System Types

- Unlicensed The dongle is not licensed. Contact ChyronHego
- **Designer** PRIME Designer is enabled. Playout is disabled.
- Playout MX Licensed for the lower cost hardware platform
- Playout HX Licensed for the highest performance platform
- Switcher
- CAMIO Renderer Exclusively used by the CAMIO Renderer to provide previews in ChyronHego CAMIO News System Plugin



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.

CONTACT SALES

EMEA • North America • Latin America • Asia/Pacific +1.631.845.2000 • sales@chyron.com

