# **PRIME User Guide** Version 5.1

March 2025



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## Overview

# Please note that the PRIME User Guide is always in progress.

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:

- gRPC
- 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.



# **PRIME First Time Startup**

#### **Prime Application Security Warning**

After installation Prime, the Prime application can be found at C:\Program Files\Chyron\Prime 5.0.0\Chyron.Prime.Application.exe if not available on your Desktop.

Chyron Prime's full functionality requires running the software with full administrative privileges.

In order to permanently run Prime with administrative privileges, please do the following:

- Windows 10: Right click on the Chyron Prime executable shortcut and go to properties
- Windows 11: Right click on the Chyron Prime executable shortcut and select more options, then Properties





- Navigate to the Compatibility tab
- Under Settings, turn on Run this program as an administrator
- On the bottom right Select Apply and then OK to exit

Security	Details	Previou	s Versions
General	Shortcut	Со	mpatibility
this program isn' nning the compa	t working correctly o tibility troubleshoote	n this version of er.	Windows, ti
Run compatibili	ty troubleshooter		
ow do I choose c	ompatibility settings	manually?	
compatibility mod	le		
Run this prog	ram in compatibility	mode for:	
Windows 8		$\sim$	
Settings			
Reduced cold	or mode		
8-bit (256) color	$\sim$		
Run in 640 x	480 screen resolutio	on	
Disable fullsc	reen optimizations		
Run this prog	ram as an administ	rator	
Register this	program for restart		
Use legacy di	splay ICC color mar	nagement	
Change hi	gh DPI settings		
5	0 0		
읒 Change set	tings for all users		



If Prime is not launched with administrative privileges, the following functionality will not work as a result:

- Out-of-process JScript/VBScript execution will not have access to the Prime API and may fail.
- Advanced Keyboard will not receive key presses for LED Keys.

Prin	ne Application Security Warning	×	
Р	rime has not been launched with administrator privileges.Following functionality will not work as a	a result:	
	<ul> <li>Out-of-process JScript/VBScript execution will not have access to the Prime API and may fail.</li> <li>Advanced Keyboard will not receive key presses for LED Keys.</li> </ul>		
R	estart the application as administrator to restore full functionality.		
	Show this warning on startup	ж	
	Loading Application Settings		
	Copyright © ChyronHego 2024   All rights reserved.	Ch	nyro



#### 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.

Prime may not run o	orrectly on an	unsupported Intel	graphics card.		
 NVIDIA is the only g	raphics card su	pported in Prime.			
Please select one of t	the following or	ptions to proceed.			
Abort: Exit Prime					
Retry: Restart Prime to run on NVIDIA graphic card (if available)					
Ignore: Run Prime or	n current graph	nics 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.



### **Migrate Settings**

Prime 5.0 has a new default settings folder location. Due to this, If previous Prime 3 or 4 settings are detected, Prime will ask if the user would like to migrate those settings.



Prime settings new default location can be found in I:\Prime\Settings

If a user does not have an I: drive present on the system, Prime will default back to C:\Prime\Settings

I:\Prime\Settings includes the following:

- Playout Configurations
- Layouts
- Shortcuts
- Settings Files
  - ApplicationSettings
  - EditorSettings
  - PluginSettings



If you choose Do Not Migrate, the previous settings from Prime 3 or 4 will not be used and the software will ask you to create a new Prime Root Folder and Project Name.

Prime Startup Setting	js		×
Prime Root Folder			
I:\Prime			
Create New Project	New Project		
Root Settings Folder Root Projects Folder Common Folder	I:\Prime\Settings I:\Prime\Projects I:\Prime\Projects\Common		
		ОК	

Prime Root Folder - User defined Root Folder location in which Prime will save and attempt to open all New and Existing Projects from

Create New Project - Name of the New Project you would like to create

#### **Default Prime 5.0 Folder Locations unless redefined by the user:**

Root Settings Folder - I:\Prime\Settings Root Projects Folder - I:\Prime\Projects Common Folder - I:\Prime\Projects\Common



### Select Language

🛇 Select Language		×	
Language Use System Language (English) آلعربية (Arabic) Deutsch (German) English (English) español (Spanish) français (French) प्रटार्ग्य (Hebrew) हिन्दी (Hindi) italiano (Italian) 日本語 (Japanese) 한국어 (Korean) português (Portuguese) русский (Russian) svenska (Swedish)			
Do not show again	ОК	Cancel	
Copyright © C	hyronHego 2024   All rights	reserved.	Chyron.

Please select your Language of choice.

Once in the Prime software, if you should need to change your language selection, please navigate to Playout Mode > Config > Settings > Language. Please see the <u>Language section</u> of this document for more details.



### **Startup Configuration**

Startup Configuration		×
Branding	CG	Clip Player
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.



# Prime Playout | Runtime User Interface

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.

🔁 File View Tools Config Help	Chyron Prime 50.201.63 (PE	23140.2)	
Project Prime Training Y 0000 Program Output 1			Layout Default 💙 🏏 Designer
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15 Services	HEADER GOES HERE	1 LastName -12 12 -12 HEAT	ER GOES HERE
20 Wearables 25 Pad	HA Prove	1 LattNome -12 -12 -12	
	UN Convert	1 LastName -12 -12 -12	
	200 peoplates	1 LastName -12 -12 -12	
	Pad Pad	1. LastName -12 -12 -12	
		1 LastName -12 -12 -12	
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		1 Lathare -12 -12 -12	
		1 LastName -12 12 12	
Base Scene "FsHiader": Action Played: EffectIN451:56 PM		Scene Playing 4 S1:SS PM	
Workflow Logger Automation Monitor	Somes in	sages Clips Messages	
Workflow 😨 Copy Events 😰 Clear Events 🔤 Edit Appearance	Scenes	\ Demo	Common 📄 👘
lone [foret ]kore [becopten ]		fabeloan fabeloan fabeloan	I SACON
			the first Augustus



### **Channel Proxy Visibility**

File Yiew Iools Config Help	Chyron Prime 5.0.201.63 (PE 2314.0.2)
Project Prime Training ~ 0000 Program Output 1	
Preview	Program
Play HEADER GOES HERE SUBHEADER 40% IPhone 15% Services 20% Wearables 25% IPad	CI Control Panel Proxy Output Audio Meters Close
Base Scene "FsHeader": Action Played: EffectIN	4:51:56 PM 📃 🔻 Scene Playing



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.

File View	Tools Config Help				Chyron Prime 5.0.201.63 (PE 23	14.0.2)	Ü	- 0 X
Project Prier	ne Training 🛛 👻	Program					Layout Default	👻 🐦 Designer
Preview								
Layer 3 Layer 2 Layer 1	Play *	- Last Name Last Name	K Clas +			Switch		
	Base Scene "Lillane": Acto		Chyron	PERIATINAM PROLATINAM				
Workflow Logger	Automation Monitor Edi	t Scene Messages			Scenes Imag	es Clips Messages		

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



For example, here all three scenes have been taken to air while another scene is loaded into layer 1.





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.

😥 File Yiew Tools Config Help		Chyron Prime 3.0.201.63 (PE 2314.0.2)		🗉 – o x
Project Prime Training * Ticker Up	d Program			Layout Default* 🛛 👻 Designer
Preview				
	× Cree	Loyn 2 Loyn 2 Except	Chur -	
	11 · · · ·	Scene Playing	10.06.39 FRA 🛄 🗢	

Preview Load Behavior options allows for Multiple Scenes, Single Scene Per Layer or Single Scene only.

Output Layer assignments are properties of the scene.





#### **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.

Preview							1.00
UL_LIVE_BUG	▶ Play ✔		🗙 Clear 🗸				
L3Anchor	Top Story	-					
	First	Last Name					
	@Social_Media			UVE TEX SAIDA DEAC			
	First	Last Name					
	@Social_Media						
					TOP STORY		
				Chyron 10:20P	FIRST LAST NAME	FIRST LAST NAME	
	Base Scene "L3Base": Ac	tion Played: Time 10:2	20:17 PM 🧮 🔻				
		Dista					



Play and Play All

These two scenes can be played to air individually or as a group.



Clear and Clear All They can be cleared individually or all.

P	review		
	UL_LIVE_BUG	Play 🗸	🗙 Clear 🗸
3			Clear All
	L3Anchor		
1	Spen   Project States	Top Story	
		First Last Name	



#### **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:

I3Anchor       Tansfer <ul> <li>Clear</li> <li>Prox</li> <li>Aud</li> <li>Clear</li> <li>Prox</li> <li>Aud</li> <li>Clear</li> <li>Prox</li> <li>Aud</li> <li>Clear</li> <li>Prox</li> <li>Prox</li> <li>Aud</li> <li>Clear</li> <li>Prox</li> <li>Prox</li> <li>Aud</li> <li>Clear</li> <li>Prox</li> <li>Prox</li> <li>Aud</li> <li>Clear</li> <li>Prox</li> <li>Prox</li></ul>	
Top Story          First       Last Name         © Social_Media       Ess Scene "L3Base"; Action Played: Time       1049:45 PM         Base Scene "L3Base"; Action Played: Time       1049:45 PM          Top STORY       FIRST LAST NAME       FIRST LAST NAME         Top STORY       FIRST LAST NAME       FIRST LAST NAME         Top STORY       FIRST LAST NAME       FIRST LAST NAME         Churchell       FIRST LAST NAME       FIRST LAST NAME	rol Panel
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Base Scene "L3Base": Action Played: Time 10:49:45 PM  COURSES  Top STORY  Tensfer  Tensfer Te	
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TOP STORY Chyron 10:50P FIRST LAST NAME SOCIAL MEDIA FIRST LAST NAME SOCIAL MEDIA	
TOP STORY Chyron FIRST LAST NAME SOCIAL MEDIA FIRST LAST NAME SOCIAL MEDIA	
TOP STORY         Chyron       FIRST LAST NAME         ✓ @SOCIAL_MEDIA	
First Last NAME       First Last NAME         Social Media       Social Media	
First Last NAME       First Last NAME         Social Media       Social Media	
TOP STORY         Chyron       FIRST LAST NAME         FIRST LAST NAME       FIRST LAST NAME         Social Media       FIRST LAST NAME	
Chyron 10:50P FIRST LAST NAME FIRST LAST NAME Social Media Social Media	
Chyron 10:50P FIRST LAST NAME FIRST LAST NAME S @SOCIAL_MEDIA SOCIAL_MEDIA	
Chyron 10:50P FIRST LAST NAME S @SOCIAL_MEDIA FIRST LAST NAME S @SOCIAL_MEDIA	
Chyron 10:50P FIRST LAST NAME S @SOCIAL_MEDIA SOCIAL_MEDIA	



### **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	lange 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.



After a Message or Message Range is saved, a visual indicator will appear in the Playout Channel's Toolstrip for five seconds and then go back to normal.

-5 FsPieChart	▶ Play		X Clear
	head	er goes here 👻	
	Sales		
	40	Phone	
	15	Services	
	20	Wearables	
	25	Tablet	
	Message 7 save	d	4:30:00 PM 🗮 🔻
Message	≥ 600-699	saved	4:30:25 PM 🧮 🔻

Users can also log saved messages by enabling the Message Save option within the Workflow Logger. Please see the <u>Logging Settings</u> of this guide to enable this option.

- 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 Designer 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 Designer 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**

#### **Creating a New Project**

To create a new project:

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





# Hard Drive / Network Drive Best Practices and Recommendations

PRIME supports mapped network drives for Prime Projects, however PRIME does NOT support search capabilities for projects over a network due to the Microsoft Search API.

It is highly recommended to use a local high speed drive for Prime and Prime Engine. An NVME, high speed RAID, or SSD based hard drive provides the best performance capabilities for real time playback.

Using a network based drive has its pros and cons. Network drives are great for centralizing storage; however, depending on its network I/O bandwidth capability, it can greatly hinder Prime and Prime Engine's real time performance.



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

Select Project		-		$\times$
Computer • I:\ • Prime • Projects	٩			•
Common Prime Training				
	OK		Cancel	
L				





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



ave: Import External Assets							
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	Cancel 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.
   File Edit View Window Tools C



File

New

Open... Delete

Remove

Remove All

Project Prime Training

View Tools Config

Help

×


# 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	×
<ul> <li>Prime Settings</li> <li>General</li> <li>Playout</li> <li>Control Panel</li> <li>Appearance</li> <li>Folders</li> <li>Startup Scenes</li> <li>Clips</li> <li>Quality Control</li> <li>Logging</li> <li>BXF</li> <li>LVE Uploader</li> <li>CAMIO</li> <li>HubDrive</li> <li>Scripting</li> </ul>	Theme ChyronDark General Prompt Before Closing Prompt Administrator Warning On Startup Prompt For Playout Configuration Start Minimized Status Status Show Bypass Indicator Show SDI Input Indicators Layout Auto Save Layout Always Show Both the Preview and Program Channel
	OK Cancel Apply





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 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.

Q View Assets								- 🗆 ×
Project Prime Training 2020 ~	Assets	-	ComingUpNext	~	🛞 Refresh	🗐 Zip Assets	🔮 Unzip Assets	Thumbnail Size 🔋
File		P	All Assets		Size		Modified	Parent
Exists			All Scene Assets					
C:\WINDOWS\FONTS\ARIBLK.TTF		2			163 K	В	8/5/2019 8:17:09 PM	ComingUpNext.ComingUpText
I:\Prime\Projects\Prime Training 2020\Base\BlueColor.pbs			Bug		81 KB		8/27/2020 11:51:23 AM	
I:\Prime\Projects\Prime Training 2020\Base\ClipBG.pbs		1 Sector	ComingUnNext		55 KB		8/27/2020 11:51:24 AM	
I:\Prime\Projects\Prime Training 2020\Base\UpperLeftRedChi	ip.pbs	-almu			15 KB		8/27/2020 11:51:24 AM	
I:\Prime\Projects\Prime Training 2020\Clips\Morphing Triang	les.mp4		Compare Graph		11 ME	В	8/27/2020 11:51:24 AM	ClipBG.Clip 1
al:\Prime\Projects\Prime Training 2020\Scenes\ComingUpNex	ct.pbx		Crawl Excel		158 K	В	8/27/2020 11:52:40 AM	
I:\Prime\Projects\Prime Training 2020\Transitions\SlideLeft.pl	bt	-	crom breer		5 KB		8/27/2020 11:52:43 AM	ComingUpNext.Transition 1
		. <u> </u>	Crawl Manual					
			Crawl RSS					
		ma	DVE Squeezeback					
		-	Election Countown					
			FS 3 Game Stat					

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



# **Prime Playout 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:

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

# **Settings Configuration**

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

😤 Prime Settings	×
General  Playout Control Panel  Appearance Folders Clips Clips Clips Cuality Control Clanguage Logging KF CLUE Uploader ECAMIO CHubDrive Scripting	Theme ChyronDark General Prompt Before Closing Prompt Administrator Warning On Startup Prompt For Playout Configuration Start Minimized Status Status Show Bypass Indicator Show SDI Input Indicators
	<ul> <li>Auto Save Layout</li> <li>Always Show Both the Preview and Program Channel</li> <li>OK Cancel Apply</li> </ul>



#### General

#### Theme

ChyronDark - Sets Prime's UI/UX to Dark theme Standard - Sets Prime's UI/UX to Light theme

#### General

**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.

**Prompt for Playout Configuration –** Shows the Prime Startup Configuration Screen pop up upon startup of Prime. Turning this off will Startup Prime in the last chosen Configuration.

Start Minimized – Starts Prime in a minimized state within the Windows Environment

#### Status

Show Bypass Indicator - shows the bypass indicator in the status bar of the playout window

Show SDI Input Indicators - shows the SDI Input Indicators in the status bar of the playout window

#### Layout

Auto Save Layout - automatically saves the current layout when changes are made (ie the layout should look the same when the application is restarted)

Always Show Both the Preview and Program Channel - if both the Preview and Program panels of a channel are not visible in the layout, and one is made visible, then the other will also be made visible



## 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.

Zip Fi	iles		_		×
🛃 Add F	Files 🍓 Add Folder 🛛 🗸	Open Folder on Completion $_{\mp}$			
✓ All Ite	ms		Group b	oy: File Ty	ype ~
Name		Location	Туре	Size	
✓ Setti	ngs				
✓ 🗋	Application Settings.xml	C:\ChyronHego\Prime	XML Document	11 KB	
<ul> <li>I</li> </ul>	Automation.xml	C:\ChyronHego\Prime	XML Document	75 KB	
<ul> <li>Image: Image: Ima</li></ul>	Category Layouts.xml	C:\ChyronHego\Prime	XML Document	2 KB	
<ul> <li>Image: A set of the set of the</li></ul>	Channel Settings 2.xml	C:\ChyronHego\Prime	XML Document	8 KB	
<ul> <li>Image: Image: Ima</li></ul>	Clip Folder Watcher.xml	C:\ChyronHego\Prime	XML Document	62 B	
<ul> <li>Image: A set of the set of the</li></ul>	Colors.xml	C:\ChyronHego\Prime	XML Document	229 B	
<ul> <li>Image: A set of the set of the</li></ul>	Editor Settings.xml	C:\ChyronHego\Prime	XML Document	8 KB	
<ul> <li>Image: A set of the set of the</li></ul>	Logger Settings.xml	C:\ChyronHego\Prime	XML Document	1 KB	
✓ 🗋	Plugin Settings.xml	C:\ChyronHego\Prime	XML Document	54 B	
XPL	File				
<ul> <li>I</li> </ul>	1 CH.xpl	I:\Prime\Projects\Common\Layouts	XPL File	9 KB	
✓ 🗋	2CH.xpl	I:\Prime\Projects\Common\Layouts	XPL File	10 KB	
✓ 🗋	2FB + 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		×
<ul> <li>Prime Settings</li> <li>General</li> <li>Playout</li> <li>Control Panel</li> <li>Appearance</li> <li>Folders</li> <li>Startup Scenes</li> <li>Clips</li> <li>Clips</li> <li>Quality Control</li> <li>Language</li> <li>Logging</li> <li>BXF</li> <li>LVE Uploader</li> <li>CAMIO</li> <li>HubDrive</li> <li>Scripting</li> </ul>	KeyPad Entry   Image: Track Recall Per Channel   Image: Track Recall Box Focus   Messages   Allow Recall Box Focus    Messages   Image: Show Folder Selector   Image: Image	×
	Load benavior     Single Scene Per Layer       Program       Skip Preview In for Program         OK         Cancel         Apply	у

## 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.

脂 Messages	Football	~	100	Output 1
	Messages			Messages
	Basketball		Messages	\Basketball
	Football		Messag	es\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	Control Panel			
Playout	Enabled			
Control Panel				
S Appearance	Text Box Entry			
🧁 Folders	Preview Update	On Key Press	~	
🍄 Startup Scenes	Program Undate	On Enter Key/On Lost Focus	~	
P Clips	og.an opdate	on enter key/on Eost rocus		

#### Enabled

Enables and Disables the Control Panels / Replaceables Panel in Playout

When unchecked (Disabled), Playout will deactivate the Control Panel option



## **Text Box Entry**

Specifies when changes to control panel text boxes should be applied to an output.

Preview and Program Update allow for the following options: On Key Press - immediately when a key is pressed On Enter Key/On Lost Focus - only when Enter is pressed, or the control loses focus



## Appearance

🔁 Prime Settings				×
<ul> <li>General</li> <li>Playout</li> <li>Control Panel</li> <li>Appearance</li> <li>Folders</li> <li>Startup Scenes</li> <li>Clips</li> <li>Quality Control</li> <li>Language</li> <li>Logging</li> <li>BXF</li> <li>LIVE Uploader</li> <li>CAMIO</li> <li>HubDrive</li> </ul>	Browser Appearance Font Text Color Back Color Selected Text Color Selected Back Color Highlight	Use Theme Colors Segoe UI, 9.00 Use Theme Colors	AaBbYyZz AaBbYyZz	
Scripting	Text Color Back Color	Active Channel  Active Program or Preview	AaBbYyZz OK Cancel 4	Apply

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 T	fools Config I	Help						
Project Prim	ne Demo 2020	~ 🚺	Scene	100 FB1 FB2				
FB1			' I	<b>_</b>	FB2			•
Lower Third 2-Line	Top Text	X	Clear	VAME TEXT "0" 3AR Fait lation	1 <b>106</b>	Transfer Top Text	Clear	GU Davis
	< Scene Plaving	3:03:19 PM	> 1 <del>-</del>			< Scene Plaving	3:04:37 PM -	
Workflow Monitor	Automation Mo	nitor Daramator			1		Scoper Message	Cline Edit Scene Messager Imager
Workflow	py Events 3 Clea	ar Events 🛛 🚮 Edi	it Appear	rance		×	Messages	Clips Edit Scene Messages Images
Time	Event	Scene	Descr	ription			100 100 100 106	101 101



#### Folders

📚 Prime Settings	×
<ul> <li>General</li> <li>Playout</li> <li>Control Panel</li> </ul>	Common Folder I:\Prime\Projects\Common
<ul> <li>Appearance</li> <li>Folders</li> <li>Startup Scenes</li> </ul>	Root Project Folder I:\Prime\Projects
Clips Quality Control	Root Settings Folder
LIVE Uploader	Camio Folder
C HubDrive Scripting	File Operations  Synchronize Renames When Applicable
	OK Cancel Apply

\*Each folder's file path has a shortcut button to quickly set the desired folder location.

**Common Folder** – ChyronHego 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.

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

**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.







Scenes	Messages	Images	Clips	Edit Scer	ne Messages			
🛄 Scen	ies					🗳 🎲 Co	ommon	🖬 - 🍇 🔹
					FS BULLETS HEADLINE TEXT SUBLINE TEXT Bullet One Bullet Two Bullet Two Bullet Three Bullet Four		FS BULLETS HEADLINE SUBLINE FLAT "Corem iguum dolor sit amet, diginisismi Ripala junto, sit amet arru non posoere moletica. Ma turpis. Phaseflus malesuada en -ametismis Jaen	CRAT consectatur adipiscing elit. Maccenas celfend tortor basevet id. Nunc tristigue cerans non ultricise turpis. Nam ut dui dumod ante sed condimentum."
	Dynami	c Text Up	dating		FS_Bullets	202	FS	5_Quote
8	SCOREBOARD VEGAS GOLDEN KNI VEGAS GOLDEN KNI	GHTS GHTS	0		SCOREBOARD THRMO VEGAS GOLDEN KNIGHTS O GOLDEN KNIGHTS O GOLDEN KNIGHTS O			
	FS_Scor	eboard 1	Game		GOLDEN KNIGHTS 0	88	NAME TEXT TOP B	AR Third 2-Line

# Startup Scenes

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

🍇 General 🕨 Playout	Startup Scenes + Add 🗙 Remove				
Control Panel Appearance Folders Statum Scener	Project Prime Training	Scene L3 Super	Command Play	Channel Program	
Clips     Quality Control     Language					



# Clips

🟂 Prime Settings	×
<ul> <li>General</li> <li>Playout</li> <li>Control Panel</li> <li>Appearance</li> <li>Folders</li> <li>Startup Scenes</li> <li>Clips</li> <li>Quality Control</li> <li>Language</li> <li>Logging</li> <li>BXF</li> <li>LIVE Uploader</li> <li>CAMIO</li> <li>HubDrive</li> <li>Scripting</li> </ul>	Power Clip Metadata   Read Clip Metadata from File Name Tags   Generate Unique Clip Name   Reset Next   Clip File Name Tag   Name   Power Clip Defaults   Show First Frame   Hold Last Frame
	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.

When clip files are imported into Prime (ie, when .ppc files are generated when a new clip file is placed into the Clips folder of a project), and this option is enabled, then the file name will be parsed for these metadata tags.

If found, the metadata values will be set in the .ppc automatically



#### Generate Unique Clip Name:

# Generate Unique Clip Name

When enabled, a unique clip name will automatically be generated whenever a PPC file is created. The name will start at the specified number and skip any file name collisions that could occur. This name will not affect the backing media file, only the PPC.

**Chyron** 

## **Clip File Name Tag**



# **Quality Control**

😤 Prime Settings			×
Seperal	Quality Control		
Playout	Name	Fore Color	Back Color
Control Panel	Complete		
🧇 Appearance	In Progress		
🧁 Folders	Not Started		
🎲 Startup Scenes	Not Statted		
Page 1 Clips			
D Quality Control			
😚 Language			
Logging			
BXF			
O LIVE Uploader			
CAMIO			
C HubDrive			
Scripting			
	Add	Delete Reset De	faults
	Only publish scenes	marked Complete	~
		OK Canc	el 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.

Scenes Messages Images Clips			
💶 Scenes \ Demo		🤤 🦙 Common	🏩 - 🧟 -
Name	Path 🔺 Type	Last Modified Quality Control Description Keywords	Layer
FsPieChart	l:\Prime\Projects PBX File	10/4/2024 10:18 F Complete	-5
Leaderboard	l:\Prime\Projects PBX File	10/4/2024 6:37 Pl	
		Complete In Progress Not Started	

👧 - 🚓 -
HEL MAY []
Layer
-5



### Language

🔁 Prime Settings	×
<ul> <li>General</li> <li>Playout</li> <li>Control Panel</li> <li>Appearance</li> <li>Folders</li> <li>Startup Scenes</li> <li>Clips</li> <li>Quality Control</li> <li>Language</li> <li>Logging</li> <li>BXF</li> <li>LIVE Uploader</li> <li>CAMIO</li> <li>HubDrive</li> <li>Scripting</li> </ul>	Use System Language (English)           목고y의! (Arabic)           Deutsch (German)           English (English)           español (Spanish)           français (French)           가그가 (Hebrew)           문국립 (Hindi)           italiano (Italian)           日本語 (Japanese)           한국 억 (Korean)           portugués (Portuguese)           русский (Russian)           svenska (Swedish)

**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.





# Logging

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

<ul> <li>General</li> <li>Playout</li> <li>Control Panel</li> <li>Appearance</li> <li>Folders</li> <li>Startup Scenes</li> <li>Clips</li> </ul>	Logging Enabled C:\Program Max Log File Size 5120 Enable Automation Logge	nData\Chyron\Prime\Logs	logs after 10 🐑 days		
Quality Control Language Logging BXF CJ LIVE Uploader CAMIO C HubDrive Scripting	<ul> <li>Enable Workflow Logger</li> <li>Action Triggers</li> <li>Camio Uploads</li> <li>Command Triggers</li> <li>Data Object</li> <li>GPI Events</li> </ul>	Hot Keys Triggers     Intelligent Interface     Logic Triggers     Message Object     Message Save	Object Events     Object Updates     Scene State Changes     Script Execution     Shortcuts	Show Milliseconds	
	Prime Engine Max Log Size 100 👻 Max Log Count 50 😨 Auto create dump file	МВ			

Beginning in 5.0, the Default locations for Prime Logs will be the following

## Prime Logs Location:

C:\ProgramData\Chyron\Prime\Logs

#### Workflow Logger Log Location:

C:\ProgramData\Chyron\Prime\Logs\Workflow



#### 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.

Automation Mor	hitor Workflow Monitor			
Workflow 🖹 C	opy 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	
<				>

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

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	Transfer Clear
	😵 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		2
<ul> <li>General</li> <li>Playout</li> <li>Control Panel</li> <li>Appearance</li> <li>Folders</li> <li>Startup Scenes</li> <li>Clips</li> <li>Quality Control</li> </ul>	As Run Configuration   Enable BXF As Run Logging  Output Directory  As Run Channel Properties  Name	
Language     Logging     EXF	Description	
CAMIO CAMIO CHubDrive	As Run Default Length	
Scripting	Frame Margin 15	
	OK Cancel	Apply



# Chyron LIVE Uploader

See the section that explains LIVE Uploader so users can Upload their graphics from Prime to Chyron LIVE.

😤 Prime Settings			×
<ul> <li>General</li> <li>Playout</li> <li>Control Panel</li> <li>Appearance</li> <li>Folders</li> <li>Startup Scenes</li> </ul>	Name		
Clips Quality Control Language Logging BXF LIVE Uploader			
CAMIO C HubDrive Scripting	Add	Edit Delete	
		ОК	Cancel Apply



# CAMIO

Apply your CAMIO Server settings here.

😤 Prime Settings						×
🏇 General		Server	Context		Folder	_
Playout						
🧮 Control Panel						
🧇 Appearance						
🦮 Folders						
🎲 Startup Scenes						
Para Clips						
🔁 Quality Control						
🔇 Language						
Logging						
BXF						
O LIVE Uploader						
						_
C HubDrive		Add Delete				
E Scripting						
	Defaul	t CAMIO				
	Defaul	t Virtual Channel A				
	🗌 Au	to Upload Clips				
			OK	Ca	ncel Apply	/



# Hub Drive

📚 Prime Settings		×
🐐 General	📀 Not Connected	Refresh Status
Playout	Surrend Felders	
E Control Panel	Synced Polders	
Se Appearance		
🥃 Folders		
😚 Startup Scenes		
Lips		
Quality Control		
🔇 Language		
Logging		
BXF		
O LIVE Uploader		
CAMIO	Show Status Bar Menu	
C HubDrive		
Scripting		
	OK Cance	el Apply



# 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 Edito	r					
💢 Remove 👔 ,	l.					
ID	Description	Bindings	Order	Auto Erase	External Update	Character Limit
Name Text	Enter a persons name	aA Name.Text	1		$\checkmark$	
Title Text	Enter a persons title	<b>a</b> 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.
- 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	1		
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	*	③ Disabled	
۹	X-Keys 1	~	③ Disabled	
Device	.og - 📄 Advanced	🧃 Clear Log		
Time	Device	Messag		

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.

2					
	Poard Index	up Bounce (m	a) 10 💌		
	board midex 0		s) 10 💌		
	Selected Pin (0)				
	Rise		🕅 Fall		
	Execute: Nothing	ng v	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:
  - 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).

Add X-Keys Device Layout Professional MWII/SE 
Clear Keys

Selected Key
Evecute:
Nothing

Accept Changes

OK
Cancel

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
	Accept Changes

• 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





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 Customer Success the 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								
Zip File	C:\Users\ChrisAmodei\Desk	ctop\Configs_4.9.101.147.zip						
All Ite	All Items							
Name		Destination	Туре	Size	Status			
Setti	ngs							
<b>N</b> (1)	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				
<b>V</b>	Colors.xml	C:\Chyron\Prime	xmlfile	143 B				
	Designer Shortcuts.dsk	C:\Chyron\Prime	DSK File	698 B				
Image: Contract of the second seco	Editor Settings.xml	C:\Chyron\Prime	xmlfile	2 KB				
<b>v</b> 1	Logger Settings.xml	C:\Chyron\Prime	xmlfile	595 B				
	Playout Shortcuts.psk	C:\Chyron\Prime	PSK File	481 B				
A      A  A     A	Plugin Settings.xml	C:\Chyron\Prime	xmlfile	54 B				
A      A  A     A	QueryProperties.xml	C:\Chyron\Prime	xmlfile	732 B				
🗹 Layo	uts							
<b>N</b>	Auto.wxel.auto	C:\Chyron\Prime\Layouts	AUTO File	2 KB				
<b>N</b>	Params.wxel	C:\Chyron\Prime\Layouts	WXEL File	1 KB				
<b>v</b> "	CG.wxpl.auto	C:\Prime\Settings\Layouts	AUTO File	1 KB				
<b>N</b>	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 mage: A ma	Clip Player.config	C:\Prime\Settings\Configurations	CONFIG File	2 KB				
	LT.config	C:\Prime\Settings\Configurations	CONFIG File	2 KB				
Image: A mage: A ma	Mantis.config	C:\Prime\Settings\Configurations	CONFIG File	2 KB				
Image: A state of the state	Offline.config	C:\Prime\Settings\Configurations	CONFIG File	2 KB				
Image: A state of the state	Renderer.config	C:\Prime\Settings\Configurations	CONFIG File	2 KB				
	Switcher.config	C:\Prime\Settings\Configurations	CONFIG File	2 KB				
Image: A marked and and and and and and a	Touch Screen.config	C:\Prime\Settings\Configurations	CONFIG File	2 KB				
✓ 🗋	Video Walls.config	C:\Prime\Settings\Configurations	CONFIG File	2 KB				
24 Files						Impo	rt Selecte	d

### **Export Process**

- Select Export Configs
- Choose all or certain configuration files to export



• Click Export Selected and save zip file

瑋 Zip	🗣 Zip Files — 🗆 🗙									
Add File	Add Files 🆙 Add Folder 🛛 Open Folder on Completion									
✓ All Ite	✓ All Items Group by Folder ➤									
Name		Location	Туре	Size	Status					
✓ Setti	ings									
<b>Z</b>	Application Settings.xml	C:\Chvron\Prime	xmlfile	10 KB						
<b>•</b>	Automation.xml	C:\Chvron\Prime	xmlfile	27 KB						
Image: Contract of the second seco	Category Layouts.xml	C:\Chyron\Prime	xmlfile	2 KB						
Image: Contract of the second seco	Colors.xml	C:\Chyron\Prime	xmlfile	298 B						
Image: Contract of the second seco	Editor Settings.xml	C:\Chyron\Prime	xmlfile	9 KB						
	Logger Settings.xml	C:\Chyron\Prime	xmlfile	2 KB						
Image: Contract of the second seco	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	outs									
<b>v</b> 🗅	CG.wxpl.auto	C:\Prime\Settings\Lavouts	AUTO File	9 KB						
<b>•</b>	Auto.wxel.auto	I:\Prime\Projects\Common\Layouts	AUTO File	11 KB						
<b>v</b> •	Auto.wxel.auto	C:\Chyron\Prime\Layouts	AUTO File	11 KB						
Image: Contract of the second seco	Params.wxel	C:\Chyron\Prime\Layouts	WXEL File	11 KB						
Con	figurations									
Image: Second	Branding.config	C:\Prime\Settings\Configurations	CONFIG File	8 KB						
Image: Second	CG.config	C:\Prime\Settings\Configurations	CONFIG File	8 KB						
Image: Second	Clip Player.config	C:\Prime\Settings\Configurations	CONFIG File	10 KB						
Image: Second	LT.config	C:\Prime\Settings\Configurations	CONFIG File	8 KB						
Image: Second	Mantis.config	C:\Prime\Settings\Configurations	CONFIG File	8 KB						
Image: A start and a start	Offline.config	C:\Prime\Settings\Configurations	CONFIG File	7 KB						
Image: A start and a start	Renderer.config	C:\Prime\Settings\Configurations	CONFIG File	14 KB						
✓ 🗎	Switcher.config	C:\Prime\Settings\Configurations	CONFIG File	12 KB						
□	Touch Screen.config	C:\Prime\Settings\Configurations	CONFIG File	8 KB						
	Video Walls.config	C:\Prime\Settings\Configurations	CONFIG File	8 KB						
24 File	S									
					Export Selected		Cance	4		



# Playlists

# **Configure Playlists**

Use the "Playout Configuration" dialog to add playlists.



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
- Sequence

Playlist 1			
Playlist 1 🔝 Sequence* 📋 瞕	- 🗎 🖌 🕨		🖪 Comment 🔀 Remove
🟮 🗋 🕐 🛛 🚺 Takelist	annel	Layer Transition	Status
🕲 🗆 🔿 🔄 🗸 💽 Sequence	gram		00:00:02.06 🗘
Aa Title			Sales
🗛 Name 1			Phone
Percent 1			40
🗛 a Name 2			Services
Percent 2			15
🗛 a Name 3			Wearables
Percent 3			20
🗛 Name 4			Tablet
Percent 4			25
2 > 🚺 Layer 3	Program	3	00:00:02.09
3 🗙 💳 FsTextAli	Program	-5	00:00:00.00

### Takelist

Allows scenes, messages, clips and images to be arranged in order to be played out manually. Each item is Loaded, Played, and Cleared using Enter or Spacebar keys. Items can be cleared using Escape key. The Takelist also includes an Auto Advance option that causes the next item to be automatically loaded and selected when the current item is played. Items can be selected by ID number using the Numpad + Enter.





## Sequence

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

Allows scenes, messages, clips and images to be arranged in order to be played out sequentially. Clicking Play or pressing Enter or Spacebar on the sequence will start at the first item or the selected item and play each item according to the Duration set on each item. If an item does not have Duration enabled, then the sequence will wait for manual input to advance. The sequence can be set to pause for user input on an item by enabling the Trigger item.

To add items to the	e Take List,	drag and dr	op any item	from its bro	owser to the playlist.
---------------------	--------------	-------------	-------------	--------------	------------------------

Playlist	Playlist 1								
Playlist	Playlist 1 💷 Takelist* 📋 🚞 🗟 🗸 🕑 Auto Advance 🔢 🚺 💷 Comment 💢 Remove								
1	ID	Na	me		Channel	Layer Transit	ion Statu	IS	
8		>		FsPieChart	Program		00:0	0:02.06 🗘	
	2	>		Layer 3	Program	3	00:0	0:02.09	
	3	>		FsTextAli	Program	-5	00:0	0:00.00	
	4			FsClip	Program	-5	00:0	0:00.00	
	5		5	FsFreeha	Program	-5	00:0	0:00.00	
	6		441	Fslmage	Program	-5	00:0	0:04.00	
	7			FsPrimat	Program	-5	00:0	0:02.00	
	8	>		FsText	Program	-5	00:0	0:00.00	

**Disable -** Disables the item from the Takelist and Sequence. Disabled items will be skipped

**Trigger -** Causes the sequence to be paused on this item, and waits for trigger to resume (Enter or Spacebar). Trigger is only applicable in Sequence mode.

**Duration -** Sets a duration for the item to be played. Sequence is only applicable in Sequence mode.

**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.

Properties						
NASCAR						
✓ Scene						
Version						
Description						
Message Id	555					
Channel	1					
Layer	1					

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.

🖐 Playlist	🗋 🖄 🔚 🗕 🚺 Gr	oup 💥 Remove		×
ID	Name	Channel	Status	
0	> 🛛 🙋 OTS - Image	Program 1	00:00:00.00	
1	Rock 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	🕽 🟐 🔚 🔻 🚺 🙆 Gi	roup 💥 Remove		×
ID	Name	Channel	Status	^
0	🗸 🛛 🙋 OTS - Image	Program 1	00:00:00.00	
	ab Button 1		OTS ON	
	Button 2		OTS OFF	
	abl Text Box 1		OTS Line 1	
	abl Text Box 2		OTS Line 2	
	📑 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		lmage:	
	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		Clear this Text
	📑 🖉 Image 1 Browser		🐚 🗄 🐚 🐚 🐚 🐚 🐚 🐚 🐚 🐚 🐚

🗳 🍓 Common 🔎 Images \ Team Logos 6.5 MLB BAL MLB BOS MLB NYY MLB TOR NFL SF NHL CGY MLB NYM MLB SFG NHL CHI NHL DAL NHL NYI NHL NYR NHL TOR

Click on the link to show the Image Browser:



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

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 🔒 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 🗸 ど Auto Follow-Auto.	Program 1 🧧 🖨	00:00:00.00
abl Text 1 Text Box		bbbbbdsad sadddsadsadasj
ab Action 1 Button		Play Clip
ab Action 2 Button		Rewind
A Label 1		
A Label 2		Add or remove text:
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 🟐 Gr	oup 💥 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.



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	- ×
		Appearance Font	Segoe UI, 18.00
Status	Appearance	Text Color Back Color	
00:00:05.25	Close	Preview	AaBbYyZz
00:00:03.00			OK Cancel



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## **Channel Assignment:**

<b>i 1</b>	laylist	🗋 🖄 🗖	🗕 🚽 🔄 Gro	oup 🆇	Rem	ove		
	ID	Name		Chan	inel		Status	
	751		New Clip	Clip F	Player 1		00:00:07.14	
	0	500	Mountains	Clip F	Player 1	l	00:00:23.21	
	752		Sample_clip_2	Clip F	Player 1	l	00:00:07.15	
	1	>	AutoFollow using E	Progr	am 1		00.00.00.00	
					~	Progra	m 1	
						Progra	m 2	
						Clip Ou	utput 1	
						Clip Ou	utput 2	
						Clip Ou	utput 3	
						Clip Ou	utput 4	

# **Playlist as a Still Store**

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

Playlist	1	🥁 Takelist*	🗋 🔄 🖬 🔻 🕑 Auto Advance	🥃 Comment 🔰	Remo	/e	*
3	ID	Name		Channel	Layer	Transition	Status
(	0		Buckner_John	Clip Player 1		None	00:00:05.00
·	1	<b>***</b>	Democratic Logo	Clip Player 1		None	00:00:05.00
	2		Rankin_Bob	Clip Player 1		None	00:00:05.00
	3		Primavera_Dianne	Clip Player 1		None	00:00:05.00
4	4	<b>1</b> 77	Democratic Logo	Clip Player 1		None	00:00:05.00
	5	***	Republican Logo	Clip Player 1		None	00:00:05.00



# **Playlist Transitions**

The transition column is only active for clips or images, not scenes. It allows you to browse to clip transition files (.pct).

**Transition** – The transition column is only active for clips or images, not scenes. It allows you to browse to clip transition files (.pct). When a Playlist ID is played, the selected Transition will play.

Playlist 1	images (	w page turns* 🌓 🚞 🛗 🔪	Auto Ad	vance		Comment	🗙 Remove	<b>T</b>
0	ID Na	me	Channel	Layer	Transition	Status		
	1	ARC	Clip Player 1		page turn	00:00:0	5.00	
	2	background1	Clip Player 1		page turn	00:00:0	5.00	
	3	background2	Clip Player 1		page turn	00:00:0	5.00	
	4	ae fs stocks	NDI	1		00:00:0	2.10	
	5	Fall Vacations	Clip Player 1		None	00:00:1	1.13	
					$\left\{ \right\}$			



# 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



**Standard Keyboard** - PC keyboard based PRIME default

shortcut keys



**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

Sedit Shortcut Keys			- 🗆 X
	Shortcuts File I:\Prime\Projects\Commo	n\Keyboard Shortcuts\Playc 🗋 New 🟐 Load 📕 Save 🛛 🔯 Clear Selected	🛞 Reset to Defaults 👻
🕘 Global	Name	Description	Keys
Component 🗇	Preview		<b>^</b>
😤 Scripts	Erase All Scenes	Erase all scenes from Preview	Ctrl+O
	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	-	<b>^</b>
	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	-	<b>^</b>
	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		<b>^</b>
	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
	Playlist	, <u>j</u>	<b>^</b> v
	L		
			OK Cancel Apply



## Global

Sedit Shortcut Keys				– 🗆 X
	Shortcuts File I:\Prime\Projects\Comm	on\Keyboard Shortcuts\Playc 🗋 New 🇠 Load 📙 Save 🛛 🔝 Clear Sele	cted	🐞 Reset to Defaults 👻
🕒 Global	Name	Description	Kevs	^
Component	Select Focus			<b>^</b>
😤 Scripts	Select Clip Browser	Give input focus to Clin 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 Plavlist 1	None	
	Select Playlist 2	Give input focus to Plavlist 2	None	
	Select Playlist 3	Give input focus to Plavlist 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			<b>^</b>
	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	Diavrall comes in all Draviews to all Drograms	None	*
			ОК	Cancel Apply



# **Designer Shortcut Keys**

C Reset to Default	Selected	hortcuts.dsk [ New Load 🛱 Save 🛛 🗙 Clear	hortcuts File I:\Prime\Settings\Designer Si
	Keys	Description	Name
8			File
	Ctrl+W	Close the selected Scene	Close
	Ctrl+Shift+W	Close all Scenes	Close All
	None	Import AE	Import AE
	None	Import FBX	Import FBX
	None	Import SVG	Import SVG
	Ctrl+M	Create a new Master Control Panel	New Master Control Panel
	Ctrl+N	Create a new Scene	New Scene
	Ctrl+T	Create a new Transition	New Transition
	Ctrl+O	Open	Open
	Ctrl+S	Save	Save
	Ctrl+Shift+S	Save As	Save As
8			Modes
	F10	Activates canvas mode	Activate Canvas Mode
	F11	Activates control papel mode	Activate Control Panel Mode
	F12	Activates scripting mode	Activate Scripting Mode
日		12 222000	Canyas
_			
	None	Align Bottom Edges	Align Bottom Edges
	Ctrl+Shift+Down	Align Bottom Safe Title	Align Bottom Safe Title
	None	Align Horizontal Centers	Align Horizontal Centers
	None	Align Left Edges	Align Left Edges
	Ctrl+Shift+Left	Align Left Safe Title	Align Left Safe Title
	None	Align Right Edges	Align Right Edges
	Ctrl+Shift+Right	Align Right Safe Title	Align Right Safe Title
	None	Align Top Edges	<ul> <li>Align Top Edges</li> </ul>
	Ctrl+Shift+Up	Align Top Safe Title	Align Top Safe Title
	None	Align Vertical Centers	Align Vertical Centers
	Ctrl+Q	Clear Canvas	Clear Canvas
	Ctrl+Alt+;	Clear all ruler guides	Clear Guides
	None	Distribute Bottom Edges	Distribute Bottom Edges
	None	Distribute Horizontal Centers	Distribute Horizontal Centers
	None	Distribute Left Edges	Distribute Left Edges
	None	Distribute Right Edges	Distribute Right Edges
	None	Distribute Top Edges	Distribute Top Edges
	None	Distribute Vertical Centers	Distribute Vertical Centers
	Ctrl+Alt+Shift+;	Toggle guide lock	Lock Guides
	w	Move	Move
	Ctrl+Alt+G	Create a new ruler guide	New Guide

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

Left click and select a Key text, then right click on the key text 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"



# **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.



Beginning in Prime 5.0, some Advanced options have now been exposed within the base properties of certain Controls



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



# **Playout Help**

Help
Show Current Log
Open Log Folder
License Updater
Documents Folder
User Guide
gRPC Documentation
License Agreement
About

# **Show Current Log**

Opens the current log

# **Open Log Folder**

2024-10-04 21_53_41	× +					– 🗆 X
$\leftarrow \rightarrow \checkmark$ C	Q >	ProgramData > Chyron > Prime	> Logs > 2024-10-04	21_53_41	Search 2024-10-	04 21_53_41 Q
⊕ New ~ 🔏 🗘		ⓒ 前 ↑↓ Sort ~ ■ View ~				📑 Details
A Home		Name	Date modified	Туре	Size	
Callery		2024-10-04 21_53_41	10/5/2024 12:56 AM	Text Document	170 KB	
Desktop	•					
J. Downloads	Â					
	7					
Pictures	*					
1 item						

All PRIME log files will be located in this folder



## **License Updater**

Launches the ChyronHego License Updater

## **Documents Folder**

Opens the offline PRIME Documents folder installed with your version

## **User Guide**

Opens this User Guide

## gRPC Documentation

Opens a local file within Chrome to the new gRPC API Definitions.

Each time you relaunch Prime, the gRPC Prime API Documentation will take 6 seconds or so to launch the first time.

For more information regarding gRPC, please see the PRIME Automation User Guide.

Swagger.	Select a definition	Prime API V1 V	] #
gRPC Prime API 1 0AS 3.0 /primeGrpcDocumentation.jcon			
Asset Provides functionality for managing assets.			
gRPC /Asset/GetAssetDetail Retrieves details of an asset for a given ID.			~
gRPC /Asset/ListAssets Lists all assets either from the current or requested project.			$\sim$
gRPC /Asset/AssetExists Checks if an asset exists.			$\sim$
gRPC /Asset/ValidateAsset Verifies whether all assets referenced by an asset exist or if any are missing.			$\sim$
<b>Project</b> Provides functionality for managing projects and project parameters.			
gRPC /Project/GetCurrentProject Gets a current project. If no current project is selected, an empty response is return	ned.		~
gRPC /Project/SetCurrentProject Updates the current project. If the target project is not found, no changes are applied	ed.		$\sim$
gRPC /Project/SubscribeToCurrentProjectChange Notification is triggered when the current project is changed.			$\sim$
gRPC /Project/GetProject Retrieves a project with a given ID.			$\sim$
gRPC /Project/ListProjects Lists all projects that satisfy the selection criteria.			~



## **License Agreement**

Opens the ChyronHego Software License Agreement

## About

Displays the PRIME CG and Prime Engine versions currently running





# **Prime Scene Designer**

Scene Designer is the primary design application designers will use to create 2D and 3D graphics available in Prime Playout Mode.



## Prime Title Bar

File Edit View Window Tools Config Help	Chyron Prime 5.0.101.33 (PE 2314.0.2) Scene Designer - New Scene 1.plox*	Œ	- o x
🐤 Project 🛛 Prime Training 🛛 👻 🖳 New Scene 1* 🗡		Program Layout Default*	Playout

**Application Menus** 

- File
- Edit
- View
- Window
- Tools
- Config
- Help



#### Version Identifier

- The Chyron Prime version currently being ran
- Chyron Prime Engine version currently installed and being ran
- File Name the canvas is currently focused on

## Release Notifications

When a New Release is available, the Notifications Icon will display a Green Circle. Click on the Release Notifications Icon to display the latest available versions.

- Latest Bug Fix Version: latest bugfix build based on the version currently running
- Latest Prime Version: shows the latest Minor version available based on the Major Version you are running

-	-	đ	×		
5.0 Bug	şfix V	ersion: 5	5.0. <u>1</u>		
Latest Prime 5 Version: 5.1.0					
Download Area					
	5.0 Bug t Prime ! iload Are	 2 5.0 Bugfix V t Prime 5 Ver 10ad Area	5.0 Bugfix Version: 5     t Prime 5 Version: 5.1		

#### • Newest Prime Version:

Newest Major Version Available (Users may need to purchase New Licensing in order to download and run this version)

• **Download Area** - Links directly to the main Download Area

\*If no updates are available, only the Download Area link will be present



Clicking on any one of the release notifications will open up your Windows default internet browser and link you directly to that release in the Chyron Download Area.

The Chyron Download Area, also known as the Chyron DA, allows users to download the Chyron Products they are licensed for, read through the latest release notes, download Qualified NVIDIA drivers, as well as download additional files.



## **Prime Projects**



The creating and opening of Projects is covered at the beginning of this guide.

## **Designer Tabs**

Quickly and easily navigate between multiple files at once.

🚞 Project	Prime Training	g v	📮 New Scene 1* 🗙	🔃 New Base Scene	📃 New Master Control Panel
🖳 New S	icene 1* $ imes$	削 New Bas	e SeeneNew Scene Nev	Master Control Panel	IS N

To re-organize tabs, drag and drop the tabs next to each other by utilizing the drop indicator line. Reorganizing the tabs on the Project Bar will automatically reorder your open files within the Window menu.



## Designer Tab Shortcut Keys

Quick access shortcut keys are available for Tabs. Please see the Designer Shortcut Keys section of this document to learn how to access and modify shortcut key bindings.

Ctrl + Tab will tab / cycle through Tabs from left to right Ctrl + Shift + Tab will tab / cycle through Tabs from right to left

Quick Access Next Tab Previous Tab

Cycle through Scenes Left to Right Cycle through Scenes Right to Left Ctrl+Tab Ctrl+Shift+Tab



## 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".



# 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  믅 Save					Set to Current Lice	ense
Packages 💽 CG 🚫	Branding 🚳 Clip Server	Video Walls 💿 T	ouch Screen  🁿 l	.T 🗖 Mantis	💥 Clea	r All
<ul> <li>TextImages</li> <li>Clips</li> <li>VideoInput</li> <li>HardMaskCrop</li> <li>SceneControlPanels</li> <li>SoftMask</li> <li>RollsCrawls</li> <li>TimersClocks</li> <li>Character</li> </ul>	<ul> <li>AutoFollow</li> <li>AutoSpacing</li> <li>BindingLogic</li> <li>Transitions</li> <li>_3dObjects</li> <li>DataObject</li> <li>MessageObject</li> <li>InlineText</li> <li>Scripting</li> </ul>	<ul> <li>✓ Model</li> <li>✓ RenderToTexture</li> <li>✓ Blur</li> <li>✓ Shader</li> <li>✓ Plugin</li> <li>MasterControlPanels</li> <li>Warp</li> <li>Lua</li> <li>Table</li> </ul>	☐ Touch ☐ AncillaryData ☑ Lidia ☐ Bxf ☐ Hdr ☐ ClipControllers	5		
					OK 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.



# **File Menu**

#### **New Scene**

Create a New Scene (.pbx). Useful to have a base scene and its elements when new scenes are created.

#### **New Base Scene**

Create a new Base Scene (.pbs) to be referenced by normal (.pbx) scenes.

**New Master Control Panel** Create a new Master Control Panel (.mcp)

New Transition Create a New Transition (.pbt)

New Clip Transition Create a New Clip Transition (.pct)

**New Switcher Transition** Create a New Switcher Transition (.pst)

File	Edit	View	Window	Tools	Config	Help
Ļ	New Sc	ene			Ctrl+N	
1	New Ba	ise Scen	e			
	New Ma	aster Co	ntrol Panel		Ctrl+M	
Þ	New Tra	ansition			Ctrl+T	
	New Cli	ip Trans	ition			
	New Sw	vitcher 1	ransition			
	Applica	tion Log	gic			×
	Edit Cu	rrent Pro	oject			
-	Open				Ctrl+O	
	Open R	ecent				×
B	Save				Ctrl+S	
	Save As				Ctrl+Shift	+S
	Save Im	iage				
	Save As	: Camio	File			
×.	Import	FBX				
₹ <b>≜</b>	Import	SVG				
ž	Import	AE				
	Edit Me	ssages				
	Close				Ctrl+W	
	Close A	.11			Ctrl+Shift	+W
	Exit					

**Application Logic** Create and Edit Application Logic (.pal) See the separate "Application Logic" Section for more details.

#### **Edit Current Project**

Edits the current project in the scene editor. This allows for custom resource objects to be loaded when the project is selected.

**Open** Open a File



**Open Recent** Open a Recently Opened File

Save the File

Save As Save the File as a different file name

Save Image Captures an image of the current state of the canvas

### 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.

**CAMIO Upload** Upload your scene directly to CAMIO. Please see the CAMIO

Import FBX

Allows for importing FBX models. Refer to the Model object. (.fbx)

### Import SVG

Allows for importing SVG files. Refer to the Polygon object. (.svg)

Import AE

Allows importing of After Effects Projects when using the AE\Prime Exporter. (.json) Refer to the "PRIME\_After\_Effects\_Guide" for details.



**Edit Messages** 

Shows the Edit Scene Messages window. This allows for visualizing and editing the messages built off of a Scene in a table view.

**Close** Closes the File you have selected/focused

Close All Close all opened files

**Exit** Exits the Prime Designer Application, but not Playout or Prime Engine



# **Designer Settings**

### General

蔲 Designer Settings	
General	General
Control Panel Scene Tree	New Scene 🗸
<ul> <li>Actions</li> <li>Project</li> </ul>	Layout
A Text	Auto Save Layout
	Default Region of Interest
	$ \leftarrow 0 \qquad \stackrel{\frown}{\checkmark} \qquad \begin{array}{c} 0 \\ \downarrow \end{array} \qquad \rightarrow   \qquad 0 \\ \hline 0 \hline \hline 0 \\ \hline 0 \\ \hline 0 \hline \hline 0 \\ \hline 0 \hline \hline 0 \\ \hline 0 $
	Thumbnail
	Height 360

#### 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**

🟂 Designer Setting	32		×
General Canvas Control Panel Scene Tree Actions Project Text	<ul> <li>General</li> <li>Show Control Manipulators</li> <li>Show Bounding Box Title Bar</li> <li>Show Bounding Box while Dragging</li> <li>Show Bounding Box when Selected</li> </ul>	<ul> <li>Show Highlight</li> <li>Always Show Text Bounding Boxes</li> <li>Show Non-Rendered Scene Objects</li> <li>Show Region of Interest</li> </ul>	
	Colors Background	Region of Interest	
	Safe Title	Grid	
	🗹 Show Safe Title	Show Grid	
	Show 4x3 Safe Title	Size 72 72 🥶	
	Percent 20.0 Color	Color	l
	Checkerboard	Align	
	Show Checkerboard	Text Align Use Bounding Bo: ~	
	Size 30	Round Canvas Position	
	Color		
	Copy/Paste		
	Dasta Mada - Donumbar Darant Only	OK Cancel App	oly

## 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**

🔁 Designer Settings						
춣 General 🔲 Canvas	Default Con	trol Panel Size				
Control Panel	Width	400				
<ul><li>Scene Tree</li><li>Actions</li></ul>	Height	600				
Project A Text	Control Pla	cement				
	Direction	Top to Bottom $$				
		Left to Right				
		Top to Bottom				

Default Control Panel Size - Default size of new Control Panels

**Control Placement -** When new Controls are added to a Control Panel, this determines the direction in which they are placed.

## Left to Right Example:



## Top to Bottom Example:




### Scene Tree

🛬 Editor Settings			
<ul> <li>General</li> <li>Canvas</li> <li>Control Panel</li> <li>Scene Tree</li> <li>Actions</li> <li>Project</li> <li>Text</li> </ul>	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**

ػ Designer Setting	gs			×
🞏 General	Timeline			
Canvas	✓ Move Cursor with Keyframe			
Scene Tree	Always Show Cursor			
Actions				
Project	Animations			
icxt	Background Parent ~			
	Default State Default			
	Show Expanded when Selected			
	Keyframes			
	Default Linear			
	Default Ease			
	Length			
	Show Grid Lines			
	Auto Default Keyframe			
	Properties			
	Show Opacity, PositionX, PositionY			
	Properties			•
	Behavior Empty ~			
	Save			
	Video Format DNxHD HQ			~
	Default Clips\Captures			
	Location			
	Copy/Paste			
	Paste Mode Paste In Existing Action: >			
		OK	Cancel	Apply

### Timeline

Move Cursor with Keyframe - moves the playhead and cursor to the keyframe

Always Show Cursor - always shows or hides the vertical timeline playhead cursor line



### Animations

Background:

### Parent

Default Action 1 👒 Add Action		
Action 🗼 🙀 👒 Triggered By (0) 🕨 🔳 📗	e ee d	🕨 🕅 🛛 Key
Animation	<b></b> 0:00	1.00
✓ Text 1	Ξ	Z
♦ Opacity <u>100.0</u>		
♦ PositionX <u>640.0</u>	Ξ	Ξ
♦ PositionY <u>515.6</u>	Ξ	Ξ

### Hide

D	efault Action 1 👒 Add Action		
A	tion 🗼 🔖 哧 Triggered By (0)		🕅 Key
Aı	nimation	<b>7</b> 1 0:00	11 1:00
~	Text 1           ◇         Opacity         100.0           ◇         ▷         PositionX         640.0           ◇         ▷         PositionY         515.6	2 2 2	8

### Show

	Key
<b>7</b> 1 0:00	11 1:00
2	2
► =   H	



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** 

### **Project Settings**





### **Text Settings**

🔁 Designer Settin	gs	×
ᡷ General	Text	
📮 Canvas		
🗄 Control Panel	Default Style A 2 Arial 75 pfs	
🗄 Scene Tree		
Actions	Capita Tab Kay to Grale Tast Objects	
营 Project		
A Text		

### **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.



### Scene Tree 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.





Timeline			
Default 🛛 Action 1 👒 Add Action			
Action 🍺 🔖 📦 Triggered By (0	) Þ		Keyframe Keyframe
Animation	<b>7</b>	1:00 2:00	3:00 4:00
✓ Text 1	$\diamond$		$\diamond$
♦ Dpacity 0.0	$\diamond$		$\diamond$
PositionX <u>352.8</u>			
Operation Position Y 273.1			
✓ Image 1	Σ		X
Opacity <u>100.0</u>			
♦ PositionX <u>1028.0</u>	Ξ		E
♦ PositionY <u>540.0</u>			E
♦ PositionZ <u>0.0</u>			Ξ



# **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







Canvas	×
↔ Move 🖸 Scale 《 Rotate 争 Pivot 🛛 🖶 🖛 🐺 🗸 🗶 Delete	🔑 Local 🛛 🖳 Auto Select
	1,
0 Front -	-



### **Custom Canvas Resolutions**

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



Selecting "Custom" will bring up the following dialog:

関 Custom Re	esolution		_		$\times$
Resolution					
Width	1920 🛓				
Height	1080 🔺				
Frame Rate	29.97p 🗸 🗸				
		OK		Control	
		OK		Cancel	



### **Playout Configuration:**

🎆 Playout Configurat	ion								_	
	Video Channels 💽 Ada	d Output 👻 🚬 Add Input	•							2
🗾 Video Channels	Channel	Output 1	×	Preview 1	×	🗹 Output 2	\$	Preview 2	×	🗹 Out
Clip Players							_			
Clip Recorders	Device	Application Window	~	Application Window	~	Application Window	_	Application Window	~	Application Wind
Playlists	Туре	Video Out	$\sim$	Video Out	$\sim$	Video Out	1	Video Out	$\sim$	Video Out
	Connector	Video Window 1	$\sim$	Video Window 2	$\sim$	Video Window 3	/	Video Window 4	$\sim$	Video Window
	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 59.94 Hz
	Video Shape	NTSC (4x3) PAL (4x3)		Unshaped	$\sim$	Unshaped	1	Unshaped	$\sim$	Unshaped
	Downstream Input	720p 50 Hz		None	$\sim$	None	/	None	~	None
	Audio Mode	720p 59.94 Hz 720p 60 Hz		Disabled	~	Disabled	/	Disabled	~	Disabled
	Audio Channels	1080i 50 Hz 1080i 59.94 Hz		0	~	0	/	0	~	2
	Genlock Source	1080i 60 Hz			$\sim$		/		$\sim$	
	Genlock Timing (H/V)	1080p 29.97 Hz		0	*		•	0 🔹 0	*	0
	Antialiasing	1080p 30 Hz 1080p 50 Hz		Disabled	~	Disabled	/	Disabled	~	Disabled
	Preview	1080p 59.94 Hz			$\sim$	Channel 2 Preview	/		$\sim$	No Preview
		2160p 50 Hz								
		2160p 59.94 Hz								
		2160p 60 Hz								
		Custom								
	<		_							>
								OK Can	cel	Apply

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.

	System > Display	
Find a setting Q	Select a display to change the settings for it. Drag displays	to rearrange them.
A Home		
System		
8 Bluetooth & devices	2	3 1
💎 Network & internet		
🖌 Personalization	The second second	
R Apps		
Accounts	Ide	ntify Extend desktop to this display ~
<ul> <li>Time &amp; language</li> <li>Gaming</li> </ul>	Multiple displays Choose the presentation mode for your displays	
X Accessibility	Brightness & color	
<ul> <li>Windows Update</li> </ul>	. 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	0n 💽 >



### 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	<ul> <li>New</li> <li>Save As</li> </ul>	i 🗙	Delete		
Video Channels	Video Channels 🕨 Ad	d Output 👻 🚬 Add Input 👻				
Clip Players	Channel	Output 1	×			
Playlists	Device	Application Window	~			
Atlas	Туре	Video + Key Out \vee 10 Bit	HDR	Color Bange	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		2
	Audio Device				Import	
					SDR Normalizati	ion
	Audio Channels	2		Input Range	Narrow	
	Genlock Source			Output Range	Narrow	
	Genlock Timing (H/V)			Interpolation	Tetrahedral \vee	
	Antialiasing	MSAA 2x	~			
	Preview Channel	No Preview 🗸	RTT		OK	Cancel
	Proxy Output	Full Resolution ~	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.

File Edit	View Window Tool	s Coefig Help	Chyron Prime \$0.201.73 (PE 2314.0.2) Scene Designer - New Scene.plax		6	- o x
Project Pro		New Scene >			part Layout Default	👻 🗰 Payout
Toolbox Scene	es Transitions		Control Basel 🔤 Carinas	Properties Events		
Graphics			Mont Scale S Rate S Rate L Prot P V V V Color	Sal Call Mana Second		
A Text	🔛 Image			Y Scene		
📇 Cip	Video Input	н: -		Version		
Group	10 Model			Description		
Circle	Cube Schere			Keywords		
Pod	Cylinder	6				
🙆 Polygan				Mercaneld		
Freehand						
E Base Scene				Channel	Deput.	
Utects				Laye		
+ Align	🚽 Auto Follow	9 B		Direct In		
Auto Hide	Auto Scale			Effect Out		
💶 Auto Size	🚍 Auto Specie					
Bilboard				Layer Out		
Canters	A, Character			Preview In		
Chroma Key	y Clip Plane			Update Behavior	Update Values	
Duelicate	Font Style				😪 Auto Priority	
Gid			2 3 30 🗱 🖂 🗰 Athle - 👘 🕂 🕂 🖓	✓ Resolution		
Scene Inee						
× D-CH	1 kg kg 32		Default * Add Action Default *	· Region of Interest		
00000	Olgecta Itali New Scene Scene Group		2, 5 5 5 5 jogen (1) ▶	10 10 10 100		
	Resources Parameters Expressions					
	Conditions			* Thombnail		
	Keplaceables			Update From Car	wet.	
				Use Region of Inte		
				A Comment Service		
				+ Add Kemoue		
Scene Group Lea	wheth New Grane					

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



# **Scene Properties**

Properties Events	
🔽 具 New Scene	👝 🙀 🔤 📴 »
✓ Scene	
Version	5.0.201.73
Description	
Keywords	
Style	
Message Id	
Channel	Default 🗸
Layer	1
Effect In	·
Effect Out	·
Layer In	<b>~</b>
Layer Out	·
Preview In	~ <b>`</b>
Update Behavior	Update Values 🗸
	🖌 Auto Priority
✓ Resolution ———	
Format 1080	0p 59.94 Hz ✓
✓ Region of Interest –	
Size: 1920 x 1080	
Set to Graphics Bou	nds
✓ Thumbnail	
Update From Car	nvas
Choose File	
Use Region of Inte	erest
Add Memory	



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**: Only applies when the scene is playing on Output and the same scene (or message based on same) is cued to played next
  - **Update Values**: On playback of the cued scene, the cued scene updates the replaceable values of the playing scene without replacing the playing scene from the output
  - o **Replace Scene**: On playback of cued, the playing scene is fully replaced by the cued scene. Layer In and Layer Out will be used if defined. Otherwise, Effect In



and Effect Out will be used.

- **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).
  - o 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 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





### C# Script:

Scene.CommandSequence.Execute



### Condition:





### 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
- **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)

roperties	Events						
M 💼 🛛				-	***	f(x) 2	: 📀 »
<ul> <li>Events -</li> </ul>							
Effect In							~
Effect O	ut [						~
Layer In							~
Layer Ou	ıt [						~
Preview	In [						~
Before L	oad						~
After Loa	ad [						~
Before P	lay						~
After Pla	у [						~
Before U	pdate [						~
After Up	date						~
Before St	top						~
After Sto	p [						~
Before C	lose						~
After Clo	ose						~
Style Ch	anged						~
<ul> <li>Property</li> </ul>	y Change	ed ———					
🕂 Add	🗙 Rem						
Proper	ty		Triggers				



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
ne "Play" sequence	for Effect In		-	
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	Ť		
Before Update Event triggers Scene Playing	Before Update Event comple After Update Event trigger	After Update Event Completes		
Before Update Event triggers Scene Playing he "Stop" sequence	Before Update Event comple After Update Event trigger	After Update Event Completes		
Before Update Event triggers Scene Playing he "Stop" sequence Before Stop Event triggers	Before Update Event comple After Update Event trigger Before Stop Event completes Effect Out Plays	After Update Event Completes	After Stop Event Completes	
Before Update Event triggers Scene Playing he "Stop" sequence Before Stop Event triggers Scene Playing	Before Update Event comple After Update Event trigger Before Stop Event completes Effect Out Plays Scene Stopping	After Update Event Completes Effect Out complete After Stop Event triggers	After Stop Event Completes	
Before Update Event triggers Scene Playing he "Stop" sequence Before Stop Event triggers Scene Playing he "Close" sequence	Before Update Event comple After Update Event trigger Before Stop Event completes Effect Out Plays Scene Stopping Ce	After Update Event Completes Effect Out complete After Stop Event triggers	After Stop Event Completes	
Before Update Event triggers Scene Playing he "Stop" sequence Before Stop Event triggers Scene Playing he "Close" sequence Before Close Event triggers	Before Update Event comple After Update Event trigger Before Stop Event completes Effect Out Plays Scene Stopping Ce Before Close Event comple After Close Event trigger	After Update Event Completes Effect Out complete After Stop Event triggers Scene Stopped	After Stop Event Completes	

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	<ul> <li>Actions</li> <li>Default</li> <li>Timer 1</li> <li>Start</li> <li>Reset</li> <li>Start</li> <li>Resume</li> <li>Pause</li> <li>Finish</li> <li>E Scripting</li> <li>NewScenel_AfterLooperation</li> </ul>
	• • • • • • • • • • • • • • • • • • •

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



# **Scene Objects**

The Toolbox





### **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						
Image: A state of the state	)VE Base S	cene 1					-
> Render							
✓ Transfo	rm ——						
Positi	on X	0.0	Y	0.0	Z	0.0	
Scale	x	1.00	Y	1.00	Z	1.00	
Rotat	ion X	0.0	Y	0.0	Z	0.0	
Pivot	х	0.0	Y	0.0	Z	0.0	
✓ Surface							
Opaci	ity 100	).0					-
✓ Base Sc	ene ——						
File		Base\DV	E Base S	Scene.pbs			•
✓ Preview	,						
🖲 Actic	ons Defau	ult Upda	ate DVE				
2: 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 F	ortrait	, 3	
4 Box P	ortrait, 1	4 Box Po	ortrait, 2	2 4 Box F	Portrait	, 3	
4 Box Portrait, 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.

Cube 1		
A Render		
Projection	Inherit 🔹	
Projection Center	Inherit Orthogonal	
Light Enable	Perspective Local Perspective Global	
Double Side	Camera Camera Lens	
Depth Function	Orthogonal Parent Offset	

- **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 Designer 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	Events							
🖃 🛄 Clip 1 👘 👘								
> Render	> Render							
▼ Transform								
<ul> <li>Position</li> </ul>	• X	960.0	♦ Y	540.0	◆ Z	0.0		
Scale	Х	1.00	Y	1.00	Z	1.00		
Rotation	n X	0.0		0.0	Z	0.0		
Pivot	Х	0.0		0.0	Z	0.0		
Origin	X	0.50		0.50				
✓ Surface								
Size	W	idth 19	920	Height	1080	🕶 🅀 '	•	
File	W	idth 19		Height				
Opacity	100	).0						
✔ Clip —								
Preview	ŀ	< •• •	►	<b>- 11</b> -	⇒ ►►	·>   <mark>▼</mark>		
File		BG.	mov				、	•
Comma	ind P	Play				~	Color	
Speed		1.00						
Frame	00:00	0:06.54 🗘	Lenc	ıth [		0.00 🗘		
Trim In		):00.00 🗘	Trim	Out		0.00 🗘		
	□ Lo	ор						
	⊐ Ho	old Last Fr	ame					
✓ Audio —								
I Mute	ed							
Volume		.00						•
Channe				Out	puts			
Inputs	1 $1 \checkmark$	2 3 4	5 6	5 7 8	9 10		3 14 15 16	



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 East 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		•
PlayFinis	hed	•
ReverseF	inished	•

#### Property Changed

Property		Triggers	
File	$\sim$		
File	~		
Frame			
Height			
HoldLastFrame			
Interlaced			
Length			
LightEnable			
Locked			
LockScaleAspect			
LockSizeAspect			
Loop			
LoopCount			
Loopln			
LoopOut			
Opacity			
OriginX			
OriginY			
PivotX			
PivotY			
PivotZ			
PositionX			
PositionY			
PositionZ			
Priority			
Projection			
ProjectionCenterX			
ProjectionCentery			
RotationOrder			
Rotation			
Notation1	*		

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.





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

Clips \ C	Clips \ Common \ Warp Clips 👌 🍪 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.

9	ed ove Triggers	•
	- <b>M</b>	•



# **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 Compare
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



- None:
- Chamfer:
- 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





<b>Bevel Properties</b>
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	
Double Side	Camera Camera Lens Orthogonal Parent Offret	
Depth Function	On	1

- **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 Eve	nts								
🖌 💽 Image	:1		•						-
> Render —									
➤ Transform —									
Position	X 9	60.0	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	•				
V Surface —									
Size	Width	192	0	Height	1080	🗠 🕀	•		
Eile	Wide	102	<u> </u>	Usiaht	1000				
rile o ii			<u> </u>	Height		<u>'</u>			_
Opacity	100.0								-
✓ Image ——									
File	chyran C	hyron_1	080.p	ng				~	×
			1						
Color									
	Hide	On Cle	ar						
✓ Shadow —									
Enabled									
	88	88							
		] _							,

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 Priority Orthogonal Parent Offset
     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 impored when using shadors.
  - 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.

*	Transform								
	Position	Х	960.0	Y	540.0	Z	0.0		
	Scale	Х	1.00	Y	1.00	Z	1.00		
	Rotation	Х	0.0	Y	0.0	Z	0.0		
	Pivot	Х	0.0	Y	0.0	Z	0.0		
	Origin	Х	0.50	Y	0.50				



## **Surface Properties**

The **Surface** subcategory includes:

~	Surface —		
	Size	Width 1920	Height 1080 🕶 🕀 🔻
	File	Width 1920	Height 1080
	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



#### File

• Image Browser -

mage	📕 Images				🍏 🎲 Common 🔎				-
_	types ™ to Don + D + through			-					
	Bypass	google	XMP Blank	XMP MLB - BAUTISTA	XMP MLB - JETER DEREK	XMP NBA - BOSH CHRIS	XMP NBA - BRYANT	XMP NBA - CALDERON	
		0	0						
li	XMP NBA -	XMP NBA -	XMP NBA -	XMP NBA	XMP NFL -	XMP NFL -			
<u> </u>	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.

Save: Import External Assets			COMPANY OF A DESCRIPTION OF	
Target	External File Path	Operation	Progress	
🗹 📻 Image1.File	Ŀ∖Tom.jpg	CopyRedirect		
Don't ask me again (alway)	ys leave assets in their original locations)		Import	Close



#### 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
▲ Image
File 🗸
Color



Canvas		×
🕂 Move 🔯 Scale 🐟 Rotate 🔑 Anchor	💥 Delete	🖳 Auto Select
Image 1		
		1100



Image Properties X
Name Image 1 👽 Enabled
* Render
Projection Inherit 🔻
Projection Center X 960.0 Y 540.0
Light Enable Inherit 💌
Double Side Inherit 💌
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 🚖 🛛 0.0
✓ Surface
Size Width 1920 🚔 Height 1080 🚔 🕀
Opacity 1.00
4 Image
File
Color



Canvas	×
🕂 Move 🖾 Scale 🐟 Rotate 🔑 Anchor 🗱 Delete	🖳 Auto Select
•	
Image 1	

**Shadow Properties** 

## Hide on Clear

When the image is cleared make the image object Transparent.

#### Shadow

	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**





# 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**

Properties Events
🖌 🖕 Polygon 1 🔗 📄
✓ Render
Projection Inherit 🗸
Projection Center X 960.0 Y 540.0
Light Enable Inherit 🗸 Depth Function Inherit 🗸
Double Side Inherit 🗸 Blending Mode Inherit 🗸
Priority 2000 Preview Only Inherit 🗸
✓ 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 V
✓ Polygon
Data Import SVG
Texture V
Color Wrap Clamp 🗸
Depth 0.0 Quality 0.5
▼ Bevel
Size X 0.0 Y 0.0 😁
Curve 0.00
Scale 1.00
Tessellation 10
Back
✓ Inside



#### 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.

Import SVG					
File I:\Prim	ne\Projects\Comm	on\Data\germany	High.svg		
🔽 Cer	nter Paths				
📝 Index	Id	Туре	Fill	Stroke	*
<b>V</b> 0	DE-TH	Path			
1	DE-SH	Path			
V 2	DE-ST	Path			
3	DE-SN	Path			
<b>V</b> 4	DE-SL	Path			
5	DE-RP	Path			=
<b>V</b> 6	DE-NW	Path			
7	DE-NI	Path			
<b>V</b> 8	DE-MV	Path			
9	DE-HE	Path			
<b>V</b> 10	DE-HH	Path			
<b>V</b> 11	DE-HB	Path			
12	DE-BB	Path			
<b>V</b> 13	DE-BE	Path			-
treat 4 4	05.0%				Import Cancel

- 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.

**Chyron** 

## 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 Tessellation

<b>Bevel Properties</b>
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		
Double Side	Camera Camera Lens Orthogonal Parent Offset		
Depth Function	On v		



- 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

## 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.
- **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		
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 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 Events	
✓ AT Text 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 xyz	
Pivot X 0.0 Y 0.0 Z 0.0 V	
✓ Surface	
Size Width 640 Height 101 🕶 🔻	
Text Width 0 Height 0 💠	
♦ Opacity 100.0	
✓ Text	
Style 🗛 Arial 75 (Text 1)	
Size 75.0	
🗖 🎞 A 2D 🛣 🏟	
Text	
E = ■ ■ ₩ <b>2 AA #</b>	

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.
- Perspective Global -Central projection. The mid-point of projection is immovable in screen coordinates.

✓ Render ————————————————————————————————————		
Projection	Inherit 🗸	
Projection Cen	Inherit Orthogonal	
Light Enable	n Perspective Local	rit 🗸
Double Side	n Camera	it 🗸
Priority	Camera Lens Camera Center	it 🗸
M Transform	Orthogonal Parent Offset	

- **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	480 🛋	Height	70	•	C	Reset
		···· •			•	+ <b>_</b> +	Fullscreen
Opacity	100.0 📮		т. т.	1 I		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		
E it	to	toyt
┍┖╢╸	10	IEXI

- 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			1 1		 1	1	1	
Leading	0.000			1	1 1	1 1		1 1	1 1	 1	1	1	
🔷 Space Width	0.505	1	1	1	1	1	ļ	1			I	1	
Fixed Pitch	0.00	Ţ	1	1	1	1	1	1			1	1	
Caps Ratio	0.00	Ţ	1	1	1	- 1	- 1	- 1			1	1	



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

Actions	
Default Adjust Text 👒 A	dd Action
Action 🍺 🔖 哧 Trigger	ed By (0) 🕨 🔳 🔣 📢 🕪 🕅
Animation	0:00 1:00 2:00 3:00
⊿ Text1	le 🔷 🔶
Kerning	♦ ♦
Leading	



## **Text Shadow**

adds a shadow to text

 When Shadow is Enabled, Depth Function will be set to On.
 The Depth function can be changed 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 □ I I A
🔲 Shac	low
Color	0000
Blur	
Offset	X 5.0 A Y 5.0 Z 0.0 A
📃 Outl	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:



• Line Flow





	B <i>I</i> []‡≣ A			2D	*
Text	1111				^
					~
	<u> </u>		ą	AA	#
			Single	Line	
			Word	Wrap	
			Scale	To Fit	:
		× .	Kern	To Fit	

• All Caps

	B <i>I</i>	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 □ = A	2D	*
Number	0.0 Format 0 ~		
	= =	g⊨ AA	#

## • Direction

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



## • Gradients

Face Mode Solid ▼ Color		
and the second	● H 0 🐳 °	
and the second se	⊙ s 0 🚔 %	
and the second se	🗩 L 100 🊔 %	
and the second se	🔿 R 255 🌲	
and in case of the local division of the loc	🕞 G 255 🌲	
	🕞 🖪 💈 🊔	
	🔿 A 255 🌲	
	HEX FFFFFFF	

• 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

Mode Solid	Color				111
		● H 0	•		
		© s 0	\$%	$\pm$	
		© L 100	€%		
		© R 255	*		
		⊙ G 255	×		
		© B 255	×		
		⊘ A 255	*		
		HEX FFF	FFFFF		



• Linear





Quad

Mode	Quad	Top Left	Top Right	
arget	Row	Bottom Left		<b>T</b> T
	0			
			H □ ★ •     H □ ★ +     H □ ★ +     H □ ★ +     H □ ★ +     H □ ★ +     H □ ★ +     H □ ★ +     H □ ★ +     H □ ★ +     H □ ★ +     H □ ★ +     H □ ★ +     H □ +	
			⊙ s 22 🛬 %	
			© L 92 ♣ %	
			© R 235 🛓	
			🔿 G 183 🚔	
			© B 183 ਦ	
			⊙ A 255 ਦ	
			HEX EBB7B7FF	

• Target -



lode	Quad	•	Top Left	Тор	Right				
arget	Row	-	Bottom Left	Bot	tom Right	P			
	Character					-		TTTT	TT
	Row								
	Object						╵┝┿┿		
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					O L 92	÷ %			
					© R 23	5 🌲			
					⊙ G 18	3 🌲			
					© B 18	3 🌲			
					Δ 25	5 🛋			
					U A				



# **3D Text**

Mode		
2D	3D	
Settings -	0.50	
Quality	0.30	





Characte	er										
Depth	0.	26		0,	1	1		1	1	1	1
Side Co	lor										
Back Co	olor										
🔽 Bevel											
Туре	Cham	fer			•	]					
Size	0.023	* *	-0		1	1	1	1	1	1	1
Depth	0.024	*	1 1	, 0,	1	I	1	I	1	1	I



# **Advanced Text Settings**



- Auto Resolution When checked, renders text at optimal resolution striking a balance between visual guality 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		
🔘 Clip Recorders	Insert Packet C	ount	2	<b></b>	
💽 Playlists			-	<b>T</b>	
🌐 Atlas	Remove Packe	t Count	4	T T	
📲 External Data	TRACAB				
😓 Settings	Enabled				
🔆 Advanced		107.0.0.1			
	Address	127.0.0.1			
	UDP Port	9006		*	
	Signal Port	49001		A V	
	UDP				
	🗹 Enabled				
	Address				
	Port	21416		* *	
	Cesium				
	Enabled				Run Cesium Target Co



#### **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)	D
Font	Arial	•
Size	86.0	 1 1
<b>B</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	×
Video 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 Input	
Input Downstream Input ~	
✓ Audio	
Volume 1.00	
Channels Outputs	

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.

<ul> <li>Video Input</li> </ul>				
Input	Video Input 1			
4 Audio	Downstream Input Video Input 1			
Volum	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	$ \begin{array}{cccccccccccccccccccccccccccccccccccc$



o Duck Audio Channels 1 & 2 example action:

Actions		▲ Video Input
Default Duck Audio 👒 Ad	d Action	Input Video Input 1
Action 🍺 🔖 👘 Triggered	d By (0) 🕨 🔲 🔣 📢	Audio
Animation	0:00 1:00 2:00	Volume 0.50 🚔
4 Video Input 1		Channels Outputs
a video input i		1 2 3 4 5 6 7 8
Volume		
		2
		3
		6
		7
		8



# Video In Events

Properties Even	ts	
✓ Property Chan	aed	
	.g	
Te Add 💥 Ke	move	
Property		Triggers
Input	$\sim$	<b>•</b>
DoubleSide	~	
Enabled		
Height	_	
LightEnable		
Locked		
LockScaleAspe	ct	
LockSizeAspec	t	
Opacity		
OriginX		
OriginY		
PivotX		
PivotY		
PivotZ		
PositionX		
Position7		
Priority		
Projection		
ProjectionCent	terX	
ProjectionCent	terY	
RotationOrder		
RotationX		
RotationY		
Rotation2		
ScaleX		
Scale7		
Volume		
Width	~	



# **Alignment Tools**

Accessible by the toolbar.

| 문 ▼ 문 ▼ |

# Align

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



Align Bottom Safe Title

# Distribute

• Evenly distributes three or more selected items evenly

- 문 🔻	Delete
þþ	Distribute Left Edges
Ø¢	Distribute Horizontal Centers
Ø	Distribute Right Edges
恴	Distribute Top Edges
ᇢ	Distribute Vertical Centers
뮾	Distribute Bottom Edges



# **Snap to Grid**

File Edit View Window	Tools	Help			
Project Samples	Se	ettings		Control Panel	
Toolbox Scenes Transitions	A	sset Viewer	cale	🕐 Rotate 🔑 And	
Graphics	✓ Sr	nap			
aA Text 📃 Image	Si	nap To	> -	Screen	
🚳 Clip 🛛 🔣 Video	1 🧊 К	eyboard Shortcuts	~	Safe Title	
🔄 Group 🛛 🗍 Cube			~	Objects	

# **Color Picker-Eye Dropper**

olor			<b>C</b> 1					
Mode	Solid	~	Color					
Þ						8		
						0		
- 1					Osl	0 %		
						94 %		
						240		
						240		
					OB	240		
					O A [	255		
					HEX	FOFOFOFF		

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
  - 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 Event	s		
🗸 📫 Auto Fo	llow 8		-
✓ Auto Follow –			
	C		
Mode	Source	<b>*</b>	
Target			
✓ Position ——			
✓ X		ΠY	
Source 🛅 🤇	SName 🔹	· ·	
Anchor 🗸			
Target 🔔			
Offset 178.0	)	0.0	
✓ Size			
		📃 Heigl	
Source			
Minimum	0.0	0.0	
Deddier			
Padding	0.0	0.0	
✓ Advanced —			
🖌 Include Sour	ce Position		
Include Sour	ce Scale		
Use Parent Vi	irtual Bounds		
✓ Expressions —			
Expression		Value	Bindings
GName.Positio	nX +		
(GName.Bound (GName.Bound	IsLeft) + IsRiaht -	727.52344	Parent.Posi
GName.Bound	sLeft) + 178		

# 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		x
🏷 🗊 🗋 🕯	> 🖄 😪 🗶 👘	
88000	Objects	Effects
	🜉 New Scene	
	🛩 📹 Scene Group	
	aA Text 2	
	aA Text 1	
	🔳 Image 1	<b>%</b> 8
	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 Eve	nts	
🗹 🗞 🗛 Huto H	Hide 1	
✓ Auto Hide —		
Mode	Hide On Target Empty	$\sim$
Target	Hide On Target Empty Hide On Target Not Empty Hide On Condition	
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 Ever	nts
🗹 🇞 Auto Hide 1		🗹 🗞 🗛 Huto H	fide 1 💼
✓ Auto Hide		✓ Auto Hide	
Mode Hide On Target Empty	$\sim$	Mode	Hide On Target Not Empty $\sim$
Target 🔒 Text 1	$\sim$	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 Events		
🗹 🗞 🗛 Hide 1		
✓ Auto Hide		
Mode Hid	e On Condition	$\sim$
Condition Text	1.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 🚖	

## 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	0
4 Blur	
Туре	Motion Blur 💌
Percent	100.0
Radius	10.0 🚖
Angle	
	V Both Directions
Max Calculations	1.00 A 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 ~	Rotation Type
Rotation Type	XYZ ~	XYZ:
Field of View	40.0	Pan Tilt Roll
Center	X 0.00 Y 0.00	
✓ Transform		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	
	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
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	Note: Add Action
Action 🧼 🔖	👒 Triggered By (0) 🕨
Animation	♥
Character 1	

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



1 👒 A	dd Action	
👒 Trigg	gered By (0)	🕨 [
0:00	1:00	2:00
	$\diamond$	
\$	\$	
	1 A	1 ♣ Add Action ➡ Triggered By (0) 1 0:00 1:00 ♦ ♦

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 Event	ts	
Clip Pla	ine 1 🧳	
✓ Transform —		
Position	X 960.0 Y	540.0
Rotation	Z 0.0	
✓ Clip Plane —		
Direction L	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 Even	ts	
Crawl 1	✓	<b>A</b> ]
➤ Transform —		
Position		
✓ Surface ——		
Size	Width 960 Height 135 🕶 🔻	
✓ Crawl ——		
Direction	Left 🗸	
Speed	5.0 .	
Spacing	50 Spacer Offset 0	
Buffer Size	100 Finish Offset 0	
Сгор	 	
⊢ (		
✓ Data		
Preview	∋ ⊜ 🥱 🔲 🗰 🗱	
Command	None 🗸	
File		~
Spacer	~	
Loop	Off v	
	✔ Update On Change	

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 Event	ts	
✓ ←      Crawl 1	A	
✓ Transform —		
Position		
✓ Surface ——		
Size	Width 960 Height 135 ∞ 🔻	
✓ Crawl		
Direction	Left 🗸	
Speed	Left Right	
Spacing	50 Spacer Offset 0	
Buffer Size	100 Finish Offset 0	
Crop		
✓ Data ———		
Preview		
Command	None 🗸	
File	~	
Spacer	~ ☑	
Loop	Off 🗸	
	✔ Update On Change	

The direction property allows crawling in 2 directions



# **Crawl Commands**

None: The crawl will remain in its current state	∨ Data		
Update: Crawl the data already in the	Preview	€ G   IÞ Þ ■	88 80 🛛 🛛
associated text box	Command	None 🗸	
. <b>Restart:</b> Starts the crawl from the beginning of the data	File	None Update Restart	munity.xml ~
Start: Start crawling the data	Spacer	Start Stop Pause	~
Stop: Stops the crawl and clears it	Loop	Resume Clear CrawlSpacer	2
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

Properties Events	
✓ ← € Crawl 1	A
✓ Events	
Start of Line	~
End Of Line	~
End Of File	~
End Of Data	~
Finished	~
Buffer Empty	~
V Property Changed	
Add X Remove	
Property	Triggers



# 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

Properties Events	
Grid 1	
✓ Transform	
Position X 0.0 Y 0.0 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 🔻	
✓ Surface	
Opacity 100.0	ļ
✓ Grid	
Mode Subdivide 🗸	
Columns 16	
Rows 9	
Spacing X 1.00 Y 1.00 🕶	
Mirror Rotation X Y	
✓ Animation	
Preview 🕨 📕	
Mode Linear ~	
Angle 🕞 🛛	
Duration 00:00:00 🗘	

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

**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.





## **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.

Java Script —				
Preview 🕨	Execute 📕 H	alt		
File 🦉	Scripts\Geni	us Sports.js		• 🖉 💈
🛩 E	xecute On Loa	d		
Parameters —				
🕂 Add 🔀 Ren	nove			
Name	Туре	Value	Bindings	
Bot Number	String 💊	• 0		
Away Team	String 🔹	<ul> <li>VISITOR</li> </ul>	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 Properti	es		×
Name Lig	ght 1	V Enabled	i.
⊿ Transform			[manual]
Position	X 960.0 🔶 Y	540.0 🌲 Z 7	50.0 🌲
⊿ Light			
Туре	Point	-	
Diffuse	Directional		
Ambient			
1000	-		



## 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 💥 R	emove		
Name	Туре	Value	
Home Team	String	<ul> <li>New York</li> </ul>	✓ Events
			<ul> <li>Parameter Changed</li> <li>Add X Remove</li> </ul>
			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.

	ogic 1	4	C C 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			
's 🛱 🛅 🗩 🖏 😪 🗙	<b>?</b> Conditions	🕂 🙀 🔄 🔚 🔌	Statements if elif else Commands	s 🕤 Trigger 🔲 Property
🖓 🖨 🙆 Objects Effects	?: Logic	Logic 1	✓ if Text1.Text.IsEmpty()	4
<ul> <li>New Scene</li> <li>Scene Group</li> <li>Group 2</li> <li>Image 1</li> <li>A Text 1</li> <li>Group 1</li> </ul>	Style Sheet	Logic 2	Image1.Enabled = false	V
Text 1				

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 Tre	e	×					
10	🛅 🔛 🖏 🛠	>>					
888	Objects	Effects	Logic Parameters	/ Expressions			
	New Scene		?: Conditions	🕂 💥 🖘 🔚 🗲	Statements if elif else	Commands 🕑 Trigger	Property
	🗸 📹 Scene Group		?: Logic	Logic Color	✓ if Parent.Text=0		$\checkmark$
	aA Text 3	?:	🚽 Style Sheet	Logic Color	Parent.Color=C	olor.White	<
	aA Text 2	?:		Logic Color	✓ elif Parent.Text>0		
	aA Text 1	?:			Parent.Color=C	olor.Green	
	Resources				✓ else		
	A# Parameters				Parent.Color=C	olor.Red	
	f(x) Expressions						



## 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
Cn Character	Crawl
Сгор	A Font Style
III 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	🗱 Texture
[88] Texture Matrix	Touch

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





## 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	1

#### 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			
Туре	Sibling	$\sim$	
Mode	Hide	$\sim$	
	Show Source		
	✓ Soft Mask		
Soft Value	Alpha	$\sim$	

## Soft Value:

🗹 🚺 Mask 1		
✓ Mask		
Туре	Sibling	$\sim$
Mode	Hide	$\sim$
	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
<b>V</b> E	nabled
Texture 🌋	Koala.jpg 🗸 🗸
Intensity 0.	65
Filter	ear 🔻
Offset X	( 0.00 Y 0.00
Repeat X	( 1.00 Y 1.00
Wrap X	(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	X 1.00 Y 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 Spece	lar Normal Environment Occlusion	
Reflection Re	iraction	
8	Enabled	
Texture	•	•
Intensity	1.00	
Filter	inear 🔹	
Offset	X 0.00 Y 0.00	
Repeat	χ 1.00 γ 1.00	
Wrap	X 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 Nori	mal Envi	ronment	Occlusio	in
Reflection R	efraction				
l	📝 Enable	d			
Texture					
Intensity	1.00	р. т. т.	1 1 1		, ,
Filter	Linear			•	
Offset	X 0	.00	γ	0.00	
Repeat	× 1	.00	Υ	1.00	
Wrap	X Rep	oeat 🔻	Y	Repeat	•
Contrast	1.00	]	Gamma	1.00	
Saturation	1.00	]			
LOD Bias	0.00		Invert		

### Texture

Intensity

Filter

Offset

Repeat

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Wrap





Gamma

Contrast

Saturation

LOD Bias

Invert

### Reflection



### Intensity

Color

Bias

#### Fresnel

#### Refraction





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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.

Multi Style 1					
•					
d;Weir					

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 message/sport	⊖ Cust
	message/Team_Roster	
	message/Team_Roster/Listing/Caps	message

Binding 🔄 Tree 🔣 Cell 📳 Column 🛛 Clear All Bindings

~	MultiStyle1.Text1.text 🗸 🗸	MultiStyle1.Text2.Text 🗸 🗸	~	
Player_ID 👻	First_Name 🔹	Last_Name 🔹	Jersy_Number 🔹	
78	Geert	De Vlieger	1	(
79	Eric	Deflandre	2	٦
80	Glen	De Boeck	3	[
81	Eric	Van Meir	4	[
82	Nico	Van Kerckhoven	5	[
83	Timmy	Simons	6	١
84	Marc	Wilmots	7	F
85	Bart	Goor	8	P
86	Wesley	Sonck	9	F
87	Johan	Walem	10	١
88	Gert	Verheyen	11	١
89	Peter	Van Der Heyden	12	[
90	Franky	Vandendriessche	13	(
91	Sven	Vermant	14	N
<				



# Page Turn

The page turn effect can be applied to any object.

Scene Tree		
<b>%</b> 🖗 🗎	🔊 🗗 💥	
0000	Objects	Effects
	New Scene 2	
	4 🔝 Scene Group	
0	E Logo	1
	chill Deserves	

## 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	rs Effect 1	✓		-
✓ Table				
	Bind To Tabl	e		
Table	Table 1		~	
Row Number				
Query				
	Apply	Reset		
	Apply On Cl	hange		
<ul> <li>Parameters —</li> </ul>				
✓ Parameters — → Add X Rem				
✓ Parameters Add X Rem Name	ove Type	Value	Bindings	
<ul> <li>✓ Parameters</li> <li>→ Add X Rem</li> <li>Name</li> <li>TeamColor</li> </ul>	ove <b>Type</b> Color <b>v</b>	<b>Value</b> #821010	Bindings PrimaryColorLogo.Color	
<ul> <li>✓ Parameters</li> <li>→ Add X Rem</li> <li>Name</li> <li>TeamColor</li> <li>TeamName</li> </ul>	Type Color v String v	Value #821010 Slavia Praha	Bindings PrimaryColorLogo.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

🕂 Add 🗙 Remo	ve		
Name	Туре	Value	Bindings
TeamColor	Color 🗸	#821010	
TeamName	String 🗸 🗸	Slavia Praha	
TeamLogo	String 🗸 🗸		Logo.f
BackColor	Color 🗸	#FFFFFF	File
Scored	Integer 🗸	63	FileHeight

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

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

Properties				
Parameter	rs Effect 1			-
	Bind To Tal	ble		
Table	Table 1		~	
Row Number				
	Apply	Recet		
r		Channe		
Ľ		change		
✓ Parameters —				
🕂 Add 🗙 Rem				
Name	Туре	Value	Bindings	
TeamColor		✓ #821010	PrimaryColorLogo.Color	
TeamName	String 💉			
TeamLogo			Logo.File	
BackColor	Color			
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.

• Foreground and Background (ColorPickers): Colors can be adjusted in classic Prime Color Pickers.

☑ 器 QR C	ode 1	
✓ Surface		
Size	Width	370 Height 370 👓 🔻
V QR Code		
Preview		🗘 Update
URL		https://chyron.com/
Error Corr	ection	Medium ~
Foregrour	nd	
Backgrou	nd	
File Name		https chyron com
Folder		OR Codes
Fil		
File		C:\Prime\Projects\Elections\Images\C
		Update File Name From URL
		Update On Change
✓ Binding —		
Target	1	51-
larget	image1.	riie
	🗹 Auto	Update Parent Size
	Reloa	ad On Update

- 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	✓ Binding	
•	Target (TextBox): contains a path to the	Target	Image1.File
	property which should be overridden by		🗹 Auto Update Parent Size
	QR Code.		🗹 Reload On Update
-	Auto Undate Darant Size (Check Day):		

- 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	×
🗹 🖾 Render Te	xture 1 🔄
✓ Surface	
Size \	Vidth 1920 Height 1080 📤 🔻
✓ Render To Texture	e
ID	Texture 1
Resolution	Full ~
Render Order	0
	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							



naterial Prope	erties	
Name Ma	aterial 1 🔍 E	nabled
All Front Back	Left Right Top	Bottom
•	III	۴.
	Enabled	
Texture	Texture 1.render	-
Texture Intensity	1.00 Texture 1.render	•
Texture Intensity Offset	Texture 1.render           1.00           X           -0.14	
Texture Intensity Offset Repeat	Texture 1.render         1.00         X         -0.14         Y         0.2         X         2.99         Y         3.4	→ 5 ↓ 4 ↓
Texture Intensity Offset Repeat Wrap	Texture 1.render         1.00         X       -0.14         Y       0.2         X       2.99         Y       3.4         X       Repeat         Y       Repeat	
Texture Intensity Offset Repeat Wrap Contrast	Texture 1.render         1.00         X       -0.14         Y       0.21         X       2.99         Y       3.4         X       Repeat       Y         1.54       Gamma	<ul> <li>▼</li> <li>6</li> <li>4</li> <li>▼</li> <li>peat</li> <li>0.63</li> </ul>
Texture Intensity Offset Repeat Wrap Contrast Saturation	X       -0.14       Y       0.21         X       2.99       Y       3.4         X       Repeat       Y       Regional         1.54       Gamma       1.43       Image: Constraint of the second	<ul> <li>↓</li> <li>↓</li></ul>

Example output:



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## 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 2
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

Properties [	Events	
Aut	to Scale 2	S
✓ Auto Scal	e	
🔶 Target	A Text 1	
Offset	X -62 Y -10	
	☑ Scale X Offset	
	☑ Scale Y Offset	
	☑ Scale Parent	

- **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.

Properties Events	5
🗹 🗹 Multi Sci	ale 1 🔷 👝
✓ Transform	
Position	X 783.1 Y 876.6
✓ Surface	
Size	Width 668 Height 657 🕶 🔻
✓ Multi Scale	
Horizontal	Center ~
Vertical	Тор 🗸
Direction	Down ~
Font Size	75.0
Leading	0.000
Threshold	1.00
Spacing	196
	✓ Scale Spacing
	☑ Update Width
	☑ Update X

### **Multi Scale Properties Control**

- 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		×
🖂 🖪	tyle 1	a <sup>A</sup>
<ul> <li>Style</li> </ul>		
ID	Style1	
<ul> <li>Font</li> </ul>		
Style	🙏 Franklin Gothic Heavy 106 🛛 🗸 🗸 🗸	. 1
Font	Altraidi	Aa 🗸
Size	151.0	1 1 1
	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

Text 1		
Text	CentText	

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

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.

	📹 🧬 м 😥 🎅 🎽	Style Sheet 1	7	
✓ Scene		✓ Style Sheet		
Version Description	3.5.8.300	File Morr	ning	~ 🖬 •
Keywords		Evalu	uate	
Style	Morning	🗹 Evaluate	e 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.

Properties Events		
Style Sheet 1	7	aA
✓ Events		
✓ Parameter Events		
🖶 Add 💥 Remove		
Parameters	Triggers	
ShowTag	Data1.Update()	


#### Style Sheet Statement Editor

Logic	
?: Conditions	🕂 💥 🖘 🔚 🗲 👘
?: Logic	Away Style Sheet
😽 Style Sheet	Home Style Sheet

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 Eve	ents		
⊠ <b>a</b> 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.

Scene Tre	e	×						
<b>%</b> 🕅 (	🗎   🤛 🖏 🛸	*	⊠ \$ \$					
88	Objects	Effects	Logic Paramet	ters / Expressions				
	🜉 New Scene		?: Conditions	- 🕂 💥 🖘 🗐 🖇	۶	Statements if elif else	Commands 🔲 Property	Operators =
	🗸 🏐 Scene Group		?: Logic	Style Color		✓ if .Parent.Text=0		<
	aA Text 3	-3	🚽 Style Sheet	Style Color		.Parent.Color=C	Color.Blue	<b>~</b>
	aA Text 2	3		Style Color				
	aA Text 1	3						



## 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	<b></b>
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.

#	NAME	SCORE
3	RUBY	97.1
6	TEAL	88.4
1	SKY	92.9
7	SLATE	85.0
2	FOREST	94.3
4	MUSTARD	78.6
5	LILAC	82.5

Table Test	⊿ Table
🖌 🔄 Scene Group	Preview 🙌 🕪 🙆 🔀
A Score Header	
A Number Header	Data Object 📑 Table Data 👻
A Name Header	Row Count 7
🔺 뉔 Table Group 🚥	
🔺 🔄 Row Group 📃	Update In 👻
A Score Text	
A Name Text	Update Out
A Number Text	A designation
Color Image	Animation
Data Background	Mode Total Duration 👻
🔳 Table Background	
A Presources	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		#AAAAAA		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**

#### Properties х **Texture Matrix Properties** Offset: Offset defined in normalized 🔽 🐼 Texture Matrix 1 coordinates. Texture Matrix Scale Factor: Same as Pivot Rotation: Rotation in degrees. See Х Offset 0.0 γ 0.0 also Pivot attribute. 1.00 Scale х 1.00 γ **Pivot**: Rotation and scale pivot. Rotation 0.0 Inverse: Setting true makes the transformation inverse. Pivot х 0.0 γ 0.0 The inverted transformation makes Inverse it easier to understand and is similar to node transformation

## Touch

🔽 💿 Touch	1	<b></b>
▲ 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 🗸	
Denario.		
File		
Duration	00:00:00.00 🗘	
Offset	00:00:00.00 🗘	
	Out On Empty	
✓ Property Trigg	gers	
🗸 Default Pro	perty	
Enabled		
Color		
	<u></u>	
Properties Ever	nts	
Properties Ever	ion 1 🧳	<b>-</b>
Properties Ever	ion 1 🧳	-
Properties Ever	nts ion 1	•
Properties Ever Transition Preview Type	ion 1  Hide Cut In Show  Custom	•
Properties Even	ion 1  Hide Cut In Show  Custom  On Change	-
Properties Ever Transition Preview Type Behavior Priority	ion 1  Hide  Out  Incoming  Incoming	•
Properties Ever Transition Transition Preview Type Behavior Priority In Action	ion 1  Hide  Out  Incoming  Incoming  Incoming  Incoming  Incoming  Incoming  Incoming  Incoming  Incoming Inco	•
Properties Ever Transition Preview Type Behavior Priority In Action Out Action	ion 1  Hide Qut > In > Show  Custom On Change Incoming	
Properties Ever Transition Preview Type Behavior Priority In Action Out Action Offset	ion 1  Hide  Out  Incoming  Custom  Cu	
Properties Ever Transition Preview Type Behavior Priority In Action Out Action Offset	ion 1  Hide  Out  Incoming  Custom  Cu	
Properties Even	ion 1  Hide Out IN IN Show  Custom  On Change  Incoming  Out On Empty  Detres	
Properties Ever	ion 1  Hide Out IN IN Show  Custom  On Change  Incoming  O0:00:00.00  Out On Empty  gers  perty	
Properties Ever Transition Preview Type Behavior Priority In Action Out Action Offset Property Trige Default Pro	ints ion 1 I I I I I I I I I I I I I I I I I I I	



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#### **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		4 <sub>6</sub> 🗛 📧 😰
✓ 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 Even	ts
🖌 🚺 Transitio	on 1 🧳 💼
✓ Transition —	
Preview	Kide 🔇 Out 🔰 In 🗲 Show
Туре	File 🗸
Behavior	On Change 🗸
File	~
Duration	00:00:00 🛟
Offset	00:00:00.00 🗘
	Out On Empty
✓ Property Trigg	ers
🗸 Default Prop	perty
Enabled	
Color	

2. Once a new transition is created it will show up in the browser.

Graphic Transitions			<b>-</b>	🧓 Common		<b>क</b> - ¢	•
Graphic Transitions	ol SlideDissol ve	UpDown	UpDownDi ssolve	Common		<u>2</u>	
				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		~
<ul> <li>✓ Property Changed</li> <li>→ Add X Remov</li> </ul>		
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	5		1
Name Wa	rp 1	<b>V</b> Enabled	
Preview File			•
Frame Trim In	None Cue Play Stop Pause Resume Rewind	hgth 00:00:00.00 ↓ m Out 00:00:00.00 ↓	Ŧ

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.



Scene Tree	Canvas 🗧 Control Panel Table	Properties
* 🔁 📋 🛛 🖙 🖛 🖊	📲 Move 🔟 Scale 🌖 Rotate 🔔 Pivot 🦉 Pan 📪 🕶 🌹 Delete 🥼 💭 World 🧮 Auto Select	
Objects Effects	ACRAMENTO KINGS	<ul> <li>✓ Virtual Group</li> <li>ID VIS Col2</li> <li>✓ Parent</li> <li>(© 140)</li> <li>(© 140)</li> <li>(© 237)</li> </ul>
A Name A Stat 3 A Stat 2 A Stat 3 Stat 4 A Stat 5 Player 2 A Number A Number A Number A Number A Stat 1 A Stat 2 A Stat 3 A Stat 4 A Stat 2 A Stat 3 A Stat 4 A Stat 5 Player 3 Player 3 Player 3 Player 7 Player 8 Player 9 Player 10 Player 9 Player 10 Player 10 Player 5 Player 5 Player 5 Player 5 Player 10 Player 10 Pla	40       BARNES       PF       6-8       225       30       N. CAROLINA         3 DAVIS       SG       6-4       201       25       MISSISSIPPI         8       DELLAVEDOVA       PG       6-3       200       32       ST. MARY'S         35       DOZIER       SG       6-6       205       26       SOUTH CAROLINA         17       EDWARDS       SF       6-7       203       22       PEPPERDINE         23       ELLIS       SG       6-6       175       23       ALABAMA         5       FOX       PG       6-3       185       25       KENTUCKY         22       HOLMES       C       6-10       235       29       BOWLING GREEN         9       HUERTER       SG       6-7       198       24       MARYLAND         25       LEN       C       7-1       250       29       MARYLAND	Width 97 Height 18  Calculated  Ke 140 498 91 316  Width 176 Height 499  References  Player1.Name Player3.Name Player5.Name Player5.Name Player3.Name Player3.Nam
✓ Nesources Table 1	2 2 0 22 1 +	

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	Properties >				
	🗹 xmp 🕅	P 1			
~					
	Binding	Image	1.File		
	File	l:\Prim	e\Projects\News De	emo\lmages\XMP	Tear
	Name		Value	Bindings	^
	xmp:Creato	rTool	Adobe Photosh		
	xmp:Create	Date	2011-04-02T15:		
	xmp:Modify	yDate	2015-03-12T19:		
	xmp:Metad	ataD	2015-03-12T19:		
	dc:format		image/tiff		
	photoshop:	Col	3		
	photoshop:	Doc	uuid:D6B75D78		
	xmpMM:Do	ocu	xmp.did:09B3E6		
	xmpMM:Instan		xmp.iid:A1C377		
	xmpMM:Origin		xmp.did:09B3E6		
	xmpMM:History		savedxmp.iid:04		
	US_Sports:F	irst	JULIO	Text1.Text	
	US_Sports:L	.ast	JONES	Text2.Text	
	US_Sports:T	V_N	JULIO JONES		<b>v</b>

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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 / Expres	ssions Replaceables			
🕂 Add 📜 Remov	/e			
≎# < ⊊	D	Description	Bindings	Character Limit
≡ 1	P Text1 Text		Text1.Text	
≡ 2	Image1 File		🔛 Image1.File	
3	P 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.



LUCI	× +				~	L	
← → C ▲ Not secure	10.1.3.84/LUCI/#/editor/494b42d	I0-1464-4d84-8512-d722f7496638			⊮ ☆ <b>*</b>		<b>)</b> :
XmpBasicScene			Prime Styl	les: None 👻 Automation Transit	ions: test 🔻	۲	×
Text1 Text		Image1 File					Ó
Text2 Text							8
Lynn 🖉 🔗							₽
			Jenn Midde I Lynn	hifer Lopez Name:		hi	÷)

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 Cancel			



# 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 Data Properties ×				
Name	Ancillary Data 1	📝 Enabled		
▲ Ancillary Data				
Horizont	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	ncilary Da	ta Input	🗞 Add Act	tion							
Action 喇 🔖	📦 Trigg	ered By (0)	🕨 🛛	B   H 4	<b>H H I</b>	Keyframe	Keyframe	1 🔻 00:0	0:00.00 🌲	🐟	
Animation	<b></b> 0:00	1:00	2:00		4:00	5:00	6:00	1	8:00	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.





Properties	>	Properties	
🗸 🎯 Audi	01 🔗	Audio 1	Ŷ
Audio Preview		Preview	
Mode	AudioFile 👻	Mode AudioFile -	
File		File ComingUpNext.wav	•
Command	None	Command None	
Length	00:00:00:00	Length Play	
Fade Out	00:00:00.00 *	Fade Out UUUUUUUUUUUUUUUUUUUUUUUUUUUUUUUUUUU	
⊿ Volume		⊿ Volume	
Volume	1.00	Volume 1.00	Q
Channels	Outputs	Channels Outputs	
Inputs			
Inputs		1 2 3 4 3 6 7 8 Inputs 1 2 7 7 7 8	

- 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	<b></b>

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	X Audio Properties X
Name Audio 1	Name Audio 1  Enabled
Text         •           Command         None           Length         00:00:01.29 *           Fade Out         00:00:00.00 *           E Loop         E Loop	Command None ▼ Length 00:00:01.29 ☆ Fade Out 00:00:00 ♥ □ Loop ▲ Volume
<ul> <li>✓ Volume</li> <li>Volume</li> <li>1.00 ↓</li> <li>Channels</li> <li>Outputs</li> <li>1 2 3 4 5 6 7 8</li> <li>Inputs</li> <li>1 ♥ ♥ ♥ ♥ ♥ ♥ ♥ ♥</li> </ul>	Volume 1.00 Channels Outputs 1 2 3 4 5 6 7 8 Inputs 1 2 2 2 2 1 1 1 1 Events Finished T



### **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:

Power Box Settings	As Run Configuration       Image: Configuration       Image: Configuration       Image: Configuration       Image: Configuration	X
Quality Control	Output Directory I:\Channel Box Prime\BXF Messages	
🕹 Logging	Name     ChyronHego       Description     Commercial As Run Log	
	As Run Default Length Frame Margin 15	
2	OK Cancel Apply	ÿ

- 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	>	<
<u>} 0 0</u>	P 🖉 💥	Actions X
0000	Objects Effects	Default Sponsored Logo In 👒 Add Action Sponsored Logo I 👻
	New Scene 1	Action 🎲 🔖 Zoom 🔎 🗍 🖉 🥍
	Scene Group	Animation 0:00 1:00 2:00 3:00 4:00
	Resources	Sponsor Logo     Image: Sponsor Logo       BXF1
	BXF1	

BXF Properties	×		
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
    - 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

too

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:**

Allows triggering items from the triggers list

Events		
<ul> <li>Property Changed</li> <li>Add X Remover</li> </ul>	/e	
Property		Triggers
Command	$\sim$	-
AutoCue AutoPlay AutoStop		
Command		
File Locked		



## **Control Panel**

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

Fevents Count 0
🕀 💶 Scene
🖕 🖳 GPI In 1
🔲 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	e Training 🛛 👻					Layout Default*	- In Playout
Toolbox Scenes		Control Panel			Properties Events		
Bolbox         Scanet           Graphics         A           A         Text           Bactengie         Rectengie           Rectengie         Cole           Pod         Pod           Pod         Pod           Base Scome         Effects           # Auto Hode         Auto Hode           Base Scome         Effects           # Algon         Auto Size           # Baboand         Babboand	Transitions	More Science Jeans   Det Star Part   Part	■ Petere   195:	 78	Properties Levels w See Heat Key T w Heat Key Key Command w Execute Behavior Section	Hone Lipster Fort Lowards) · · · · · · · · · · · · · · · · · · ·	Norm
Chroma Key Crawl Scent Time Cont Time Cont C	Clip Plane Cop Spitz Spitz New Score Score Group A Test 1	2 2 2 2 2 2 2 2 2 2 2 2 2 2	temants 🖬 😂 😂 Commands 🕐 Tigger 🗰 Projecty - Operators 🖬 🛤 📢 📦 Bott Tori e Tecning Ment'	F. Ather		Movefunt MoveNextExec MoveExet MoveEnd MoveEnd	
(	Image 1     Insecurces     Hot Key 1     Parameters     Expressions     Condition     Condition	Tendine Default PL Add Action					

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	\$P	🗸 🗟 Messag	e1	ŵ
✓ 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 v			
Handshaking	None ~		Maintain connection	
Encoding	Unicode $\checkmark$	✓ Data		
	Maintain connection	Header		~
✓ Data		Terminator	<cr><lf></lf></cr>	~
Header	~	Message	-	2
Terminator <	·R>≺LF> ✓			
Message	9			

**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		Ŷ
✓ Connection		
Туре	UDP	$\sim$
Address	255.255.255.255	
Port	49152	
Encoding	Unicode	$\sim$
	Maintain connection	
✓ Data		
Header		$\sim$
Terminator <	CR> <lf></lf>	~
Message		2

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				
Table 1				
Advanced				
Indexing 1-B	ased	~		
Add Kemo	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			Properties	
Tak	ole 1	~ 🕂	Add 🔀 Remov		骂 Import	Table	e 1
	Name	Last Name	Age	Democrat	Republican		
	Joe	Biden	80	✓		> Advanced	
2	Donald	Trump	76		✓	✓ Columns –	
	Name	Surname				📥 Add 🧡	Remove
						Nerra	Tura
						Name	іуре
						Name	String
						Last Name	String
						Age	Integer
						Democrat	Boolean
						Republican	Boolean

\*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

nport CSV				×
CSV file I:\Prime\Projects\F	PRIME Training 2020\Data\Sport	s.csv		
✓ Use First Row as Column H	leaders			
Delimiter Comma 🔽 🗸				
Name Comma	Default Value			
Sports Te	~			
Sports Te Tab	~			
Sports Team 3 String	~			
		Import	Cano	el
		_		×
Timport CSV		_		×
SV file I:\Prime\Projects\Da	ta\NBA_COLORS_SHEET_COMN	 1A.csv		×
<ul> <li>➡ Import CSV</li> <li>CSV file I:\Prime\Projects\Da</li> <li>✓ Use First Row as Column H</li> </ul>	ta\NBA_COLORS_SHEET_COMN eaders	— IA.csv		× 
	ta\NBA_COLORS_SHEET_COMN eaders Type	IA.csv Default Value		
SV file I:\Prime\Projects\Da CSV file I:\Prime\Projects\Da ✓ Use First Row as Column H Name Tricode	ta\NBA_COLORS_SHEET_COMN eaders Type String ~	– IA.csv Default Value		× 
SV file I:\Prime\Projects\Da ✓ Use First Row as Column H Name Tricode Location	ta\NBA_COLORS_SHEET_COMN eaders Type String ~ String ~	IA.csv Default Value		
SV file I:\Prime\Projects\Da     SV file I:\Prime\Projects\Da     Vse First Row as Column H     Name     Tricode     Location     Name	ta\NBA_COLORS_SHEET_COMN eaders Type String ~ String ~ String ~	 IA.csv Default Value		
S Import CSV CSV file I:\Prime\Projects\Da ✓ Use First Row as Column H Name Tricode Location Name Team Color	ta\NBA_COLORS_SHEET_COMN eaders Type String ~ String ~ String ~	IA.csv Default Value Color [Black]		
SV file I:\Prime\Projects\Da     SV file I:\Prime\Projects\Da     Vame     Tricode     Location     Name     Team Color     Primary	ta\NBA_COLORS_SHEET_COMN eaders Type String ~ String ~ String ~ Color ~ Color ~	A.csv Default Value Color [Black] Color [Black]		
Secondary	ta\NBA_COLORS_SHEET_COMN eaders Type String ~ String ~ String ~ Color ~ Color ~ Color ~	IA.csv Default Value Color [Black] Color [Black] Color [Black]		
Secondary     Background     Secondary     Background     Secondary     Secondary     Secondary     Secondary     Secondary	ta\NBA_COLORS_SHEET_COMN eaders Type String ~ String ~ String ~ Color ~ Color ~ Color ~ Color ~	A.csv Default Value Color [Black] Color [Black] Color [Black]		
Secondary     Background     League	ta\NBA_COLORS_SHEET_COMN eaders Type String ~ String ~ String ~ Color ~ Color ~ Color ~ Color ~ Color ~ String ~	A.csv Default Value Color [Black] Color [Black] Color [Black]		
Secondary Background League Division Li\Prime\Projects\Da Location Lo	ta\NBA_COLORS_SHEET_COMN eaders Type String String String Color Color Color Color String String String	A.csv Default Value Color [Black] Color [Black] Color [Black] Color [Black]		
Secondary Background League Division	ta\NBA_COLORS_SHEET_COMN eaders Type String String Color Color Color Color Color Color String String Color	A.csv Default Value Color [Black] Color [Black] Color [Black] Color [Black]		
Secondary Background League Division Li\Prime\Projects\Da Location Locatio	ta\NBA_COLORS_SHEET_COMN eaders Type String ~ String ~ String ~ Color ~ Color ~ Color ~ Color ~ String ~ String ~	A.csv Default Value Color [Black] Color [Black] Color [Black]		

• 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
Сору	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

Tab	le 1	🗸 🕂 Add	Remove					📇 Import
	TeamColor	TeamName	TeamLogo	BackColor	Scored	Allowed	Points	
	#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								$\square$
7								
8				● н 📑	53 •			
9	1000				00 %			
10					00 76			
11				• •	37 %			
12				_ 🔍 R 📃	0			
13			C	<sup>1</sup> ● G □	94			
14					50			
15					52			
16				🗕 A 🔍	255			
				HEX 005	E34EE			



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			3
🗸 🔿 Time	r1		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		
🕂 Add 💥 Target	Remove	Format	
•	III		•
Events			
Finished			•
🕂 Add 🞇	Remove		1.04
Time	Triggers		



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				
🖶 Add 💥 Remove				
Property	Triggers			
TotalSeconds Locked	Script: Timer1_TotalSecondsChan			
Mode 🗸	· •			
Command FinishDate FinishTime Hours Locked Loop Minutes				
Mode Seconds StartTime				
Time				
Ki TotalHours TotalMinutes				
TotalSeconds				

#### Formats

o Days, Hours, Minutes, Seconds, Frames





Das 1/1	and the second sec	
Properties		×
🗸 🔘 Time	r 2	Ŷ
⊿ Timer		
Preview	H 🕨 🗏 H H	
Mode	Timer Down 👻	
Command	None	
Start Time	00:01:00.00 👻 Finish Time 00:00:00.00 🔍	
Time	00:01:00.00	
	C Loop	
▲ Bindings	_	
Add 💥	Remove	
Target	Format	
Text1.Text	m:ss	
▲ Events		
Finished		•
🕂 Add 🙀	Remove	
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			(	2
	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.

Layout : 🔊	Professional MWII/SE 🗸	C Key Bindings 🔹	Bounce 250	ms Index	: 0
Selected Ke	≅y				
Selected Ke	ey None				
Selected Kr Context	ey None				~
Selected Ke Context	ey None	Accept Chan	ges		~

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

Properties Ev	rents							
✓ X-Ke ✓ Events	y 1							X
Key Down	Action1.	Play()						~
Key Up								~
							ΠX	
X-Keys						-		
Profess	ional MW	II/SE 🗸	Numbe	er :	1 😌	! X-Key:	s Keyboard	



# Scene Tree

Scene Tree			×					
🎭 🗊 💼 🔛 🗳 🎕 💥 👘								
88 10 9 6	Objects	Effects						
	🜉 New Scene 1							
	🗙 📹 Scene Group							
	🗙 🔄 Group 1							
	aA Text 2							
	🚳 Clip 1	$\square$						
	🔳 Image 2							
	aA Text 1							
	📰 Image 1							
	Resources							
	A# Parameters							
	f(x) Expressions							
	2: Conditions							
	Replaceables							
	Control Panel							
	Scripting							

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	Vide	o Inpu	t Pan	el M	lap Pa	anel
Action 🧼 🔖	👒 Trigge	red By	r <b>(1)</b>	. 1			
Animation		_	₹ 0:00		1:00		2:00
<ul> <li>♂ Norma</li> <li>✓ ♥</li> <li>✓ Inherit</li> <li></li></ul>	e	8 8 8 8 8 8 8 8	<ul> <li></li> <li><th></th><th></th><th></th><th></th></li></ul>				
Advan	ced	90 <sup>4</sup> 90 <sup>4</sup>		1	۵ ۵	E E	
Bar 1 Grp		**			٨	E	
b City Headers		¢0*			٨	Z	
Promo Panel		<b>\$</b> 0					Ζ
Video Input Par	nel	<b>\$</b> 0	٨				
Bking News Par	nel	¢0*	۲				
Map Panel		<b>م</b> ور	۲				
Panel BG		¢0*	٨	Ξ	B		
b Backer		¢٥*	٨	X			
Main Video In		¢0*	٨	X			

## **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			×
<ul> <li>General</li> <li>Canvas</li> </ul>	Timeline	h Keyframe	
Control Panel	Animations	Chow	
<ul> <li>Project</li> <li>Text</li> <li>NewsTicker</li> </ul>	Default State           Image: Show Expanded           Image: Show Expanded	Default ~ When Keyframes Present When Selected	
	Keyframes Default Interpolation I Show Grid Lines I Auto Default Key	Ease v	
	Properties Show Properties	Opacity, PositionX, PositionY	<u> </u>
	Behavior	Empty ~	*
	Save Video Format Default Location	DNxHD 220 C:\ChyronHego\Prime\Output	~ 
	Copy/Paste Paste Mode	Paste In Existing Actions 🗸	OK Cancel Apply

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

Timeline										
Default 👒 Add Action										
Action 🔶 🐋 📑 Triggered	By (0)		M 44 M		Keyframe	Keyframe 1	~ 00:00:	00.00 ≑ 🍕	🕨 🧇	
Animation	<b>9</b> 0:00	1:00	2:00	3:00	4:00	. I 5:00	6:00	7:00	8:00	••••••••••••••••••••••••••••••••••••••
✓ Text 2	$\diamond$					<b>(</b>				
♦ Dpacity 0.0	$\diamond$					0				
PositionX <u>640.0</u>										
PositionY <u>515.6</u>										
✓ Text 1	Z					2				
♦ 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 Co	olor Action 1	👒 Add Ac	Default	t Change C	olor	Action 1 👒	Add Action
Action	🔿 🔖	Triggered By	(0) 🕨	Action	🖻 🔿 👘	Trig	ggered By (0)	
Animat	ion			Animat	tion			0:0
$\diamond$	PositionX	960.0		$\diamond$	PositionX	~	None	
$\diamond$	PositionY	540.0		ò	PositionY		Cue	
$\diamond$	Width	<u>1920.0</u>		$\diamond$	Width		Play	
$\diamond$	Height	<u>1080.0</u>		$\diamond$	Height			
$\diamond \flat$	File	📲 <u>caster.jpg</u>		$\diamond$	File		Stop	
$\triangleleft \diamond$	Color	[245,15,21	41	$\triangleleft \diamond$	Color		Pause	•
<ul> <li>Clip 2</li> </ul>	2			🗸 Clip	2		Resume	
$\diamond$	Opacity	<u>100.0</u>		$\diamond$	Opacity			
$\diamond$	PositionX	<u>960.0</u>		$\diamond$	PositionX		Rewind	
$\diamond$	PositionY	<u>540.0</u>		$\diamond$	PositionY		Fast Forward	
<b>\$</b>	Width	<u>1920.0</u>		$\diamond$	Width		End	
$\diamond$	Height	1080.0		$\diamond$	Height	_	ena	
$\diamond$	Command	None			Command	Nor	<u>ne</u>	

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			×	Keyframe			
Name	Keyframe 1	Fi	rame 00:00:00.00 🚔	Name Keyf	rame 1	Fr	ame 00:00:00.00
Triggers (			•	Triggers			
Propertie	s			Properties			
Name	Value	In	Out	Name	Value	In	Out
Opacity	1	Linear	Linear	Opacity	1	Linear	🚽 Linear 🛛 👻
PositionX	0	Linear	Linear	PositionX	0	Linear	Linear
PositionY	0	Linear	Linear	PositionY	0	Smooth	Linear
PositionZ	0	Linear	Linear	PositionZ	0	Ease Bezier	Linear

See the "Timeline Triggers" section for executing triggers from the timeline.

Keyframe				×		
Name Ke	Name Keyframe 1 Frame 00:00:00.00					
<ul> <li>Properties</li> <li>Name</li> </ul>	Value	In	Out			
Opacity	1	Linear	🕶 Linear 🖃			
PositionX	0	Linear	Hold	1		
PositionY	0	Linear	Linear			
PositionZ	0	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 👒	Default 👒 Add Action						
Action 🧼	👒 🛸 Tri	ggered By	r (0) 🏮		нн		
Animation	ľ	<b></b> 0:00	1:00	 2:0		3:00	
<ul> <li>✓ Image 1</li> <li>♦ Posit</li> <li>♦ Posit</li> <li>♦ Posit</li> </ul>	ionX <u>43</u> ionY <u>83</u> ionZ <u>0.0</u>		$\leftarrow$	-5 -5			
Keyframe							
Name	Keyframe 1			Frame	00:00:0	0.00	
Triggers						$\sim$	
✓ Propertie	5						
Name PositionX PositionY PositionZ	Value 432 837 0	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		-
		<b>A</b>	Delete Keyframe		
leyframe	Keyframe 3 🛛 🗸	$\diamond$	Set Default Keyframe		
t ):00	1:00 2:00		Cut Keyframe		l 6:0
	←	<i>&gt;</i>	Copy Keyframe		
0			Paste Keyframe		
÷ ا	s ← _ 2		Paste Interpolation		
ø			Interpolation In	•	
\$	۵ ۵		Interpolation Out	•	
	$\diamond$ $\diamond$		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 喇 🐋 📑 Triggered By (0) 🕨 🔳 🚺 📢 🕪 🕅	Keyfran	ne Key	frame 1 🕓	/ 00:00:00	.00 🖨 🍫	😪 🖑 Pa	in					Spline کسی	Z <mark>o</mark> om ,	,	🤛 🔎
Animation		<b>7</b>	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
✓ Image 1	971	<u>e</u>													
<ul> <li>◊ PositionX 973.3</li> <li>◊ PositionY 540.0</li> </ul>	966	_		$\backslash$											
	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.

✓ Image	ge 1			
$\diamond$	Opacity	100.0		° :
< ♦	PositionX	196.1	1017	
$\diamond$	PositionY	584.3		
			790	
				$\therefore$ $\land$ $\vdots$ $\mid$
			560	:
			303	
			336	÷

Keyframes can be added and removed on the selected property at the selected point on the curve.

Keyfra	me Keyf	irame 2 🚿	/ 00:00:02	2.17 🖨 🎕	• 🗙 🖑 Pa	an				Spline حسح	Zoom	P	
	0:00	 1:00	2:00	. 🕅	4:00	. t l t. 5:00	 . I	8:00	1	10:00	11:00	12:00	13:00
	1			8-0	Add Keyfra	me PositionX						:	-
1026	:		/	$\rightarrow$									
1005		/											
985		/:											
964	*												

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			×
	<b>5</b> Events Count 1			
	Conditions			
	🦾 🗹 Text Changed			
	♦ Keyframes Count 0			
	Object	Name	Frame	
		[	OK	Cancel

For Timeline Actions there is a "Triggered by" button. The label also shows the number of events that could trigger the Action:

Tir	meline	2			
De	efault	Action 1	👒 Add A	ction	
Ac	tion	🖻 🐋 🖡	🔖 Triggered	By (0)	
Ar	nimati	on		<b>7</b> 0:00	1:00
~	Text 1				
	$\diamond$	PositionX	<u>640.0</u>		
		D 242 37	545.6		
	$\diamond$	PositionY	<u>010.0</u>		



# **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     Zoom       Action     Image: Common series of the series o	Name Keyframe 1 Triggers Object: Clip 1, Play Properties
Triggers d <sup>e</sup>	Name Value In Out
	Triggers Object: Clip 1, Play Linear 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**





# **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	
× ⊡ □ Z □ ► × ×	🖌 🚍 Data 1	
P Default	✓ Events	
Resources	After Update	~
→ Data 1 → Parameters	Data Ready Conditions.Condition1.Evaluate()	~
Application Parameter 1	After Move Home	~
Expressions	After Move First	~
Conditions	After Move Next	~
Condition 2	After Move Previous	~
	After Move Last	~
	After Move End	~
	After Start Of Data	~
	After End Of Data	*
	Timer Started Conditions.Condition2.Evaluate()	~
	Timer Stopped	*

This example shows a data object, which is used to evaluate conditions to modify application parameters.


S Cobjects Effects	Properties Events	
<ul> <li>Default</li> <li>Resources</li> <li>Data 1</li> <li>Message 1</li> </ul>	✓ Data 1 ✓ Events	
Am Parameters     Application Parameter 1	After Update	~
Application Parameter 2	Data Ready Message1.Send()	~
<ul> <li>Expressions</li> <li>Conditions</li> </ul>	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**

				□ ×
Bindings				
View All Selected Type All R	eferences Bindings	s Triggers Object All 🗸 😋 🗙		
Source	Bounds To	Target	Binding	Value
🔶 Keyframe 2	🔿 Trigger	2 Conditions	Conditions.CDHeadshotON.Evaluate()	<u>^</u>
🔶 Keyframe 3	🔿 Trigger	CD - Map Update	Conditions.CDMapUpdate.Evaluate()	
🔶 Keyframe 3	🔿 Trigger	R Conditions	Conditions.CDMapUpdate.Evaluate()	
Replaceables.Asset Browser 1	Bindings	📆 Control Panel.Asset Browser 1	ControlPanel.AssetBrowser1.File	l:\Prime\Projects\News Demo\Clips\Axis Maps\dnx 1080 1.m
Replaceables.Asset Browser 1	Bindings	Control Panel	ControlPanel.AssetBrowser1.File	l:\Prime\Projects\News Demo\Clips\Axis Maps\dnx 1080 1.m
Replaceables.Asset Browser 2	Bindings	Control Panel	ControlPanel.AssetBrowser2.File	I:\Prime\Projects\News Demo\Images\Head Shots\Reporter F
Replaceables.Asset Browser 2	Bindings	Control Panel.Asset Browser 2	ControlPanel.AssetBrowser2.File	I:\Prime\Projects\News Demo\Images\Head Shots\Reporter F
🖵 Text Box 1	Bindings	A CD Subbar	CDSubbar.Text	Subtitle
🖵 Text Box 2	Bindings	A CD Main Bar	CDMainBar.Text	Main Bar
🕩 Text Box 3	Bindings	A 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	l:\Prime\Projects\News Demo\Images\Head Shots\Reporter H
				. <u>R</u>
<				

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 Chang	ed	🖶 Add 💥 Remove
🕂 Add 💥 Rem	nove	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.

roperty Triggers pacity Action: Action 1 olume Action: Action 2	Property Change Add X Rem	<b>ed</b> ove	
ppacity Action: Action 1 olume Action: Action 2	Property	Triggers	
	Opacity Volume	Action: Action 1 Action: Action 2	
	٠	III	
	<		



## **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 parameter's availability can be set to either Scene, Project, or Application.

- Scene Parameters are only available to objects in the parent 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.

**Disable -** disables the parameter in the Parameters and Scene Tree windows.

**Scope** - You can change the scope type by selecting the scope button next to the disable button for each added parameter.



Parameters, Expressions & Conditions are documented in the <u>PRIME Parameters</u>, <u>Expressions</u> & <u>Conditions</u>

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

 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".





Dragging and dropping 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 / Expressio	ns Logic Bindings			
A# Parameters	🕂 Add 🔹 💥 Remove   🗁 Link Parameter 🔹   🚞 👻 🔚 Sar	ve		
(IN) Expressions	😢 🖳 Name	Value	Bindings	
	🛄 💩 Parameter 1		Text1.Text	
	💶 💩 Parameter 2		Image1.File	
	💶 💩 Parameter 3		Text2.Action1.Keyframe2.PositionX	
	具 💩 Parameter 4			
	🛄 💩 Parameter 5			

### Туре

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. Users can set the type by clicking on the abc text next to Parameter and choosing from the variety of options.





## **Expressions Editor**

Parameters, Expressions & Conditions are documented in the PRIME Parameters, Expressions & Conditions

Parameters / Expressio	ns Logic Bindings			
Arameters	🕂 Add 🔻 💢 Remove 📄 🔻 🔚 Save			
(x) Expressions	🛞 Name	Expression	Value	Bindings
	🗤 Expression 1	Image1.PositionX	960	Text1.PositionX
	鞼 Expression 2	Image1.PositionX+100	1060	Text1.PositionX
	txpression 3	Image1.Opacity	100	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	itionX	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

Toolbox	Scenes	Transitions		
Graphi	ics			-
Effects	;			<
Resou	rces –			<b>*</b>
📑 Ancil	lary Data		🕩 Audio	
阗 Base	Scene		M BXF	
<mark></mark> C# S	cript		Clip Player	
🗄 Cont	rol Panel		📑 Data	
🖳 GPI I	n		彈 GPI Out	
Hot I	Key		≚ Java Script	
📩 Keyb	oard Bank	¢	💴 lidia	
🗐 Mess	age		- Switcher	

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

You can also add a new Control Panel by clicking Add Control Panel in the CP Panel itself





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.

Chyron Prime 4.10.0.49 (PE 2312.0.1) Scene Designer - Time	• Temp Bugpter*	- 0 ×
File Edit View Window Rols Config Help		Chyron
Project DTR_Examples +		Default Layout Default - The Playout
Teolbes Panels Transitions Scenes Table Assets	Canuas 20 Control Panel	Properties Events
🛄 Scenes 🦛 🚧 Common 👘 👘		
	BUG TIME/TEMP	• Аррининсе
Eng Eng		Text BUG TIME/TEMP
	START	Fort Segue UI Semibold, 21.75
		Back Color
	STOP	* Local
	Bisplay Options	
		* Bindings
		Add.X 2 Lift X Lenne
	Kate Coast v	
Current		
x 10 11 12 10 10 1		
O & Corects Effects		
Time Jemp Bug	logi bidingi	
<ul> <li>Scene Group</li> <li>Group Time Temp Sug</li> </ul>	Tradie	
> Geoup 1	where we again again again to an Anno Martin and Anno Martin and Anno Martin and Anno Martin and Anno Martin a	
Resources		Advanced
Timer Update Temp	500 1.00 2.00 1.00 4.00 1.00 6.00 7.00 B	(Datalindings) (Collection)
Data Temp     Control Panel	Calcely 100 - Calcely 100	(Name)
Later 2		AccessibleDescription
Bug On Button		AccessibleRole Default
Combo Sos 1		AllowDrop False
Picture Box 3		Anchor Top, Left
Picture Box 1		Autobigs: Palse
Picture Box 2		BackColor 0.103, 171
✓ I Pasameters		BorderStyle None
Par Time Temp		CausesValidation True
Conditions		AccessibleDescription The description that will be reported to accessibility clients
		and the part and an or opening it accounty count.
Scene Group, Loaded: Time Temp Bug		



Control panel Controls have their own set of bindings

Bindings	
🕂 Add 🔻 🖉 Edit 💥 Remove	
Target	
Text1.Text	

### **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.

<ul> <li>Bindings</li> </ul>	
🕂 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	
C 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 Events	
Control Panel	**
✓ Appearance	
Font Segoe UI, 9.00	
Fore Color	
Back Color	
✓ Layout	
Location X 0 Y 0	
Size Width 400 Height 600 🕂	
✓ Control Panel	
🖌 Auto Tab Index	
Theme Application 🗸	
Background Image	
Image Select Image	
Layout Tile 🗸	

**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		×
•	<b>≜↓</b> 🗉 🖋 🖾		
	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:

8 🛃 💉 🖻		
(DataBindings)		*
AutoSizeChanged		
AutoValidateChanged		
BackColorChanged		Ξ
BackgroundImageChange	E	
BackgroundImageLayout	(	
BindingContextChanged		
CausesValidationChanged	1	
ChangeUICues		
Click		
ClientSizeChanged		
ContextMenuStripChange		
ControlAdded		
ControlRemoved		
CursorChanged		
DockChanged		
DoubleClick		
DragDrop		
DragEnter		
DragLeave		Ŧ
<b>(DataBindings)</b> The data bindings for the con	trol.	



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	
Button 1	
Text Button 1	
Font Segoe UI, 9.00	
Fore Color	
Back Color	
V Layout	
Size Width 75 Height 25	
Size Width 12 Height 22	
<ul> <li>Actions <ul> <li>Default</li> <li>Conditions</li> <li>Goal Announcement ONE</li> </ul> </li> <li>Scene <ul> <li>Play</li> <li>Stop</li> <li>Close</li> <li>External</li> <li>External Action Name</li> </ul> </li> <li>Sequence <ul> <li>Execute</li> <li>MoveFirst</li> <li>MoveNext</li> <li>MoveNextExecute</li> <li>MoveLast</li> <li>MoveEnd</li> </ul> </li> </ul>	

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



# **Shortcut Keys**

	01				-l !
PRIME has a	Snortcut key	/ manager for	both play	y out and	aesign

orceus rice is (Filme (Seconds (Designer)		Selected	Reset to Default
Name	Description	Keys	
ile			Ξ
Close	Close the selected Scene	Ctrl+W	
Close All	Close all Scenes	Ctrl+Shift+W	
Import AE	Import AE	None	
Import FBX	Import FBX	None	
Import SVG	Import SVG	None	
New Base Scene	Create a new Base Scene	Ctrl+Shift+B	
New Master Control Panel	Create a new Master Control Panel	Ctrl+M	
New Scene	Create a new Scene	Ctrl+N	
New Transition	Create a new Transition	Ctrl+T	
Open	Open	Ctrl+O	
Save	Save	Ctrl+S	
Save As	Save As	Ctrl+Shift+S	
Modes			E
Activate Canvas Mode	Activates canvas mode	F10	
Activate Control Panel Mode	Activates control panel mode	F11	
Activate Scripting Mode	Activates scripting mode	F12	
anvas			E
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	

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.

## Replaceables

Parameters / Expressions Replaceables Logic									
🕂 Add 📕 Remove									
🗘 # 🖉 🤤 🗞	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	A Matchup1.Text					
🗏 4 🥔 🥜 🕅	Date 1 Text			A Date 1. 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	21021	Image: Comparameters / Expressions     Replaceables     Logic       + Add M Remove							
Auto Size	Auto Spacing	Parameters / Expression								
Billboard	📕 Blur	🕂 Add 📕 Remove								
🚔 Camera	🏊 Character	÷ 🗘 🗱 🖉 🖓	ID	Description	Value	Bindings	Character Limit			
Scene Tree		≡ 1 ≡ 2	Base scene Clip Parent scene Text		l:\Prime\Projects\Meredit	BackgroundClipFile.Value				
🗶 🔁 🗋 🔝 🖬 🗰 🖊		≡ 3	Base Scene Replaceable		hello	Text1Text.Value				
Objects		≡ 4	Base Scene Text		Nikole	A Text2.Text				
New Scene 2 Scene Group PS Background Clip A Text 12 Resources Parameters C Spressions		Timeline								
Conditions		Default 🔪 Add A	ction							
Parent scene Text		Action 🦻 🗞 🌹 Tr Animation	Action 🤝 🖎 🐉 Triggered By (0) 🕨 📕 🛛 🗧 🕹 🖘 🔪 Keyframe (Cursor) 🔍 00000000 🗘 🐟 🖘 Animation							
Base Scene Re Base Scene Tex	rt									



# 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).

Properties Events	
🔽 具 New Scene	👝 🎋 🚾 🔞 🖸 »
✓ Scene	
Version	5.0.201.78
Description	
Keywords	
Style	
Message Id	
Channel	Default 🗸
Layer	1 🗘
Effect In	~
Effect Out	✓ ♥ Actions
Layer In	Action 1
Layer Out	☐ Action 2 ▼ 📮 Scene
Preview In	Play
Update Behavior	Close
	External Action Name
✓ Resolution ———	✓
Format 1080	Execute     MoveFirst
✓ Region of Interest —	MoveNext
	MoveEnd
Size: 1920 x 1080	
Set to Graphics Bour	
✓ Thumbnail	
Update From Can	vas



## **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.





**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.IsDescriptionOnOutput(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.

### Channel.Resolution (Channel.Resolution.Width and Channel.Resolution.Height)

Gets the resolution of the channel as defined by the playout configuration which is available in Logic and return the correct Width and Height of the channel

### 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 Conditions:



**Chyron** 

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Hook up the "Effect In" as a "Condition":



# 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 $\vee$	
Layer	1	Properties Events
Effect In	EffectIn.Play() ~	$\square \textcircled{a}$ Scene Group $\blacksquare \mathbf{a}^{\mathbf{A}} \mathbf{a}^{\mathbf{A}} \mathbf{a}^{\mathbf{A}}$
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 ~ Blending Mode Inherit ~
	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 🔻
00:00:00.00		 	1 1
Playing	84	88 E	0
	00	00 0	
Cued			

	Transition None	•
~	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											x
Default 👒 Add Action										Default	~
Action 喇 🐋 📑 Triggered By (0) 🕨 🔳 🕷	H 🖶 H	Keyframe Keyfram	e 1 🗸 00:00:00.00	-					Zoom	<i>&gt;</i>	
Animation	0:00 1:	00 2:00 3:0	ltlt 00 4:00	5:00 6:00	7:00	8:00 9:00	10:00	11:00 1	2:00 13:00	14:00	15:00
✓ ChyronHego Logo	\$	\$									
♦ Departing 3.0 Departing 202.0	\$	\$									
<ul> <li>PositionX 292.0</li> <li>PositionY 284.7</li> </ul>											
✓ Logo Text	X	×									
♦ Opacity <u>100.0</u> ♦ Desiries ¥ 503.0											
♦ PositionY -106.5	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:

Automation ID Editor							
💢 Remove	🔀 Remove 👔 🎩						
ld	ld Bindings Order						
1	🗚 Text1.Text	1					
2	Clip1.File	2					

<b>i </b>	🛃 Playlist 📋 🔄 🔚 👻 🚺 🐨 Group 💥 Remove							
	ID	Name	Channel	Layer	Status			
	0	V MONITOR_LOOP	Clip Player 1	l	00:00:08.01			
		<b>a</b> A 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 Timeline 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.

🚳 Edit Clip						( <del>)</del>		×
Clip								
Name	Sample_clip_2		k			-		
Path	l:\Prime\Projects\Samples\Clips\Sample_clip_2 .c	+ *, ;	Jy T.	x /		100	-	
Dimensions	1080i 59.94 Hz	XX	TYL				1	1
Codec	GTC				-			
Metadata		* *	Xy A	100m		1	1	-
Title		×	1					1
Keywords				301				
Description		1			-			
Thumbnail	Update 00:00:00.00			$\bigcirc$	g			
Playback		The state	100					
Volume	1.00	-		-	11			
Transition	×							1
Camio Channel	E Clip Transitions \ Common	🍓 🤮 Common 🔎	▼	1				
	Icons Clip Transition Clip1			4.00	5.00	6.00	7.00	7.15
	1			7.15 n Out 00:00:07.15 - ip Out 00:00:07.15 -		<b>60 PD</b>		
						ОК	Cano	cel



## **Creating a Sub-Clip**

Right click on a clip and select the "Generate Sub-clip" menu item to bring up the clip editor

States	
	Edit Clip
	Edit Power Clip
NewsRead	Generate Sub-clip
	Cut
$\rho/$	Сору
3 CH	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 ⊕ Loop In 00:00:00:00 ⊕ Loop In 00:00:00:00 ⊕ Loop Out 00:00:00:00 ⊕ Loop Out 00:00:00:00 ⊕
		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

Common 🔄			Q •		
Advanced Search					
Properties	Condition		Value		
Accessed	✓ is	~	Tuesday , Nov	vember 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					
Item 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.



	Edit Clip
	Edit Power Clip
	Generate Sub Clip
2	Cue
	Play
	Stop
×	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
1	
	Add Drofix
	Add Prenx



Х



## **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 Lahs			
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 ) Start Record	ng Stop Recording and Save Compression JPEG -
Path Name	I:\Prime\Projects\New Project 1\Clips
Keywords	Chyronhego
Description	5Pm news
	Show First Frame Hold Last Frame   Done   Done

- Frame Grab-Grab a single frame of video input
- **Stop-**Stops recording the Quick Record

## **Clip Converter**

See the separate document on the Clip converter/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	
Image1 File	Select an Image for this person:	📷 Image1.File	3	
magerrie	Select an image for this person.	in agen ne	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.

— ①	X
CHYRONHE	GO
📰 Program 👻 Layout Default 🗸 🗐	ayout
Norld R Auto Select Properties Events	
920	<b>)</b>
✓ 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 Pre-	eview
Position X 960.0 Y 540.0 Z 0.0	
Scale X 1.00 Y 1.00 Z 1.00	





🜉 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.

File	View	Tools	Config	Help		
🚺 Pi	roject Ne	ws Dem	2	$\sim$	Scene Scene	
I	New					
	Open					
	Publish		- 1			Clear
5	Unpublish	I	•			
	Camio Upl	oad I		10.10.26	5.31/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 Destir	nation		×
CAMIO Server			
Address	10.10.26.31	Test Connection	
	Successfully pinged server		
Upload Destination	on		
Context	NEWS ~	Refresh List	
Scenes	/Messages ~		
Clips	/ ~		
Images	/ ~		
Login			
Login			
Username	admin		
Password	admin		
	0	K Cancel	



🛐 Prime Settings						×			
General	CAMIO								
Job Drowsers	Server	Cont	text	Folder					
😻 Startup Scenes	▶ 10.10.26.31		S	/Messages					
Quality Control									
Language									
Logging									
BXF									
	Add Dele Default CAMIO [ Default Virtual Channel [	e 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).

Automa	Automation Settings							
Connec	tions 👜 Intelligent Interf	ace 🕎 XML 🕎	UDP Stream ण Generic (	VDCP VDCP PBUS PBus	EAS EAS EAS Edit 👹 Rules	💢 Delete 🕜 Enable 🛞 Disable		
Туре	Name	Port	Encoding	Enable On Startup	Status			
XML	XML TCP Connection 1	49529	Unicode (UTF-8)	*	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.

Automa	Automation Settings								
Connec	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)	~	🟅 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.





O LIVE Uploader							- 0	×
Add Files 🛛 🔽 Add Folder						LIVE Platform	JS News	~
✓ All Items							Group by FileT	ype ~
Name	Folder	Туре	Size	Status				
Adobe Acrobat Document								
✓ 📖 NAB 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								
🗹 🏠 Dissolve.pbt	I:\Prime\Projects\LPP\Transitions	PBT File	19 KB					
✓ 🖃 UpDown.pbt	I:\Prime\Projects\LPP\Transitions	PBT File	7 KB					
DownUp.pbt	I:\Prime\Projects\LPP\Transitions	PBT File	7 KB					
V PNG File								
🗹 🛶 🛛 AFT Time Bar.png	l:\Prime\Projects\LPP\Images	PNG File	3 KB					
AFT TAB.png	l:\Prime\Projects\LPP\Images	PNG File	2 KB					
AFT TickerBar.png	I:\Prime\Projects\LPP\Images	PNG File	2 KB					
Matte.png	I:\Prime\Projects\LPP\Images	PNG File	3 KB					
M — AFT Bar.png	I:\Prime\Projects\LPP\Images	PNG File	3 KB					
MOV File								
🗹 💪 BUG -AFTERNOON.mov	I:\Prime\Projects\LPP\Clips	MOV File	49 MB					
SE 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 Selected	Cance	el

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.

## **Performance Monitor**

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





# **ABOUT US**

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

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