XPression™

User Guide

Version 3.1

Live Production Technology™

XPression • User Guide

- Ross Part Number: **3500DR-001-3.1**
- Release Date: July 18, 2011. Printed in Canada.
- Software Issue: **3.1**

The information contained in this Guide is subject to change without notice or obligation.

For the most recent information, refer to the XPression Online Help.

Copyright

© 2011 Ross Video Limited. All rights reserved.

Contents of this publication may not be reproduced in any form without the written permission of Ross Video Limited. Reproduction or reverse engineering of copyrighted software is prohibited.

Patents

This product is protected by the following US Patents: 4,205,346; 5,115,314; 5,280,346; 5,561,404; 7,034,886; 7,508,455; 7,602,446; 7,834,886; 7,914,332. This product is protected by the following Canadian Patents: 2039277; 1237518; 1127289. Other patents pending.

Notice

The material in this manual is furnished for informational use only. It is subject to change without notice and should not be construed as commitment by Ross Video Limited. Ross Video Limited assumes no responsibility or liability for errors or inaccuracies that may appear in this manual.

Trademarks

- ROSS is a registered trademark of Ross Video Limited.
- Ross, ROSS, ROSS®, and XPression™, are registered trademarks of Ross Video Limited.
- Microsoft® and Windows® are registered trademarks of Microsoft Corporation.
- Intel® is a registered trademark of Intel Corporation.
- All other product names and any registered and unregistered trademarks mentioned in this guide are used for identification purposes only and remain the exclusive property of their respective owners.

Important Regulatory and Safety Notices to Service Personnel

Before using this product and any associated equipment, refer to the "Important Safety Instructions" listed below so as to avoid personnel injury and to prevent product damage.

Products may require specific equipment, and /or installation procedures be carried out to satisfy certain regulatory compliance requirements. Notices have been included in this publication to call attention to these Specific requirements.

Symbol Meanings

Protective Earth — *This symbol identifies a Protective Earth (PE) terminal, which is provided for connection of the supply system's protective earth (green or green/yellow) conductor.*

The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the product. Failure to heed this information may present a risk of damage or injury to persons or equipment.

Warning — *The symbol with the word "**Warning**" within the equipment manual indicates a potentially hazardous situation, which if not avoided, could result in death or serious injury*

Caution — *The symbol with the word "**Caution**" within the equipment manual indicates a potentially hazardous situation, which if not avoided, may result in minor or moderate injury. It may also be used to alert against unsafe practices.*

Notice — *The symbol with the word "**Notice**" within the equipment manual indicates a situation, which if not avoided, may result in major or minor equipment damage or a situation, which could place the equipment in a non-compliant operating state.*

Warning Hazardous Voltages — *The lightning flash with arrowhead symbol within an equilateral triangle is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of shock to persons.*

ESD Susceptibility — *This symbol is used to alert the user that an electrical or electronic device or assembly is susceptible to damage from an ESD event.*

Important Safety Instructions

1) Read these instructions.

2) Follow all instructions and heed all warning.

3) Refer all servicing to qualified service personnel.

4) The equipment's AC appliance inlets are the means to disconnect the product from the AC Mains and must remain readily operable for this purpose.

5) Parts of the equipment's power supplies can still present a safety hazard even when the product is in the "OFF" state. To avoid the risk of electrical shock and to completely disconnect the apparatus from the AC Mains, remove all power supply cords from the product's AC appliance inlets prior to servicing.

6) The product chassis is to be rack mounted only. To ensure safe operation and maintain long-term system reliability, proper installation requires that the front and back area of the chassis remain clear of obstructions so as not to restrict airflow.

Warning 7) Indoor Use: To reduce the risk of fire or electric shock, do not expose this apparatus to rain or moisture.

Warning 8) This apparatus when equipped with multiple power supplies can generate high leakage currents. To reduce the risk of electric shock to operator and service personnel the following requirements must be met:

a) The equipment is to be installed in a restricted access area.

A restricted access area is one where access can only be gained by SERVICE PERSONS or by USERS who have been instructed about the reasons for the restrictions applied to the location and about any precautions that shall be taken; and

access is through the use of a TOOL or lock and key, or other means of security, and is controlled by the authority responsible for the location

b) the building installation shall provide a means for connection to protective earth and;

c) the product's protective earth terminal is connect to facility's protective earth using a 1.5mm2 (14AWG) conductor and a #8 1.5mm2 ring terminal and;

d) a SERVICE PERSON shall check whether or not the socket-outlet from which the equipment is to be powered provides a connection to the building protective earth.

Caution 9) This apparatus contains a Lithium battery, which if replaced incorrectly, or with an incorrect type, may cause an explosion. Replace only with the same type recommended by the manufacturer. Dispose of used batteries according to the manufacturer's instruction by qualified service personnel.

EMC Notices

US

FCC Part 15

This equipment has been tested and found to comply with the limits for a class A Digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a Commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

Notice Changes or modifications to this equipment not expressly approved by Ross Video Ltd. could void the user’s authority to operate this equipment.

CANADA

This Class “A” digital apparatus complies with Canadian **ICES-003**.

Cet appareil numerique de la classe “A” est conforme a la norme **NMB-003** du Canada.

EUROPE

This equipment is in compliance with the essential requirements and other relevant provisions of **CE Directive 93/68/EEC**.

INTERNATIONAL

This equipment has been tested to **CISPR 22:1997** along with amendments **A1:2000** and **A2:2002** and found to comply with the limits for a Class A Digital device.

Notice This is a Class A product. In domestic environments, this product may cause radio interference, in which case the user may have to take adequate measures.

Warranty and Repair Policy

Ross Video Limited (Ross) warrants its XPression systems to be free from defects under normal use and service for the following time periods from the date of shipment:

- **XPression Server** — 12 months
- **XPression Software Upgrades** — 12 months free of charge
- **System and Media hard drives** — 12 months

If an item becomes defective within the warranty period Ross will repair or replace the defective item, as determined solely by Ross.

Warranty repairs will be conducted at Ross, with all shipping FOB Ross dock. If repairs are conducted at the customer site, reasonable out-of-pocket charges will apply. At the discretion of Ross, and on a temporary loan basis, plug in circuit boards or other replacement parts may be supplied free of charge while defective items undergo repair. Return packing, shipping, and special handling costs are the responsibility of the customer.

This warranty is void if products are subjected to misuse, neglect, accident, improper installation or application, or unauthorized modification.

In no event shall Ross Video Limited be liable for direct, indirect, special, incidental, or consequential damages (including loss of profit). Implied warranties, including that of merchantability and fitness for a particular purpose, are expressly limited to the duration of this warranty.

This warranty is TRANSFERABLE to subsequent owners, subject to Ross' notification of change of ownership.

Extended Warranty

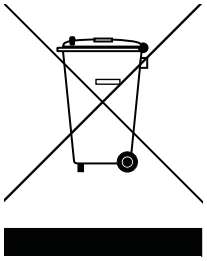
For customers that require a longer warranty period, Ross offers an extended warranty plan to extend the standard warranty period by one year increments. For more information about an extended warranty for your XPression system, contact your regional sales manager.

Environmental Information

The equipment that you purchased required the extraction and use of natural resources for its production. It may contain hazardous substances that could impact health and the environment.

To avoid the potential release of those substances into the environment and to diminish the need for the extraction of natural resources, Ross Video encourages you to use the appropriate take-back systems. These systems will reuse or recycle most of the materials from your end-of-life equipment in an environmentally friendly and health conscious manner.

The crossed-out wheeled bin symbol invites you to use these systems.



If you need more information on the collection, reuse, and recycling systems, please contact your local or regional waste administration.

You can also contact Ross Video for more information on the environmental performances of our products.

Company Address

Ross Video Limited	Ross Video Incorporated	Ross Video Europe
8 John Street	P.O. Box 880	Sumatralaan 45
Iroquois, Ontario	Ogdensburg, New York	Gateway D
Canada, K0E 1K0	USA 13669-0880	Hilversum, Noord-Holland 1217 GP

General Business Office: (+1) 613 • 652 • 4886
Fax: (+1) 613 • 652 • 4425

Technical Support: (+1) 613 • 652 • 4886
After Hours Emergency: (+1) 613 • 349 • 0006

E-mail for Technical Support: techsupport@rossvideo.com
E-mail for General Information: solutions@rossvideo.com
Website: http://www.rossvideo.com

Contents

Introduction 1

About This Guide 1-1
Documentation Conventions 1-1
Getting Help 1-1
Contacting Technical Support 1-2

User Interface Overview 2

The Layout Interface 2-2
The Sequencer Interface 2-3

System Setup 3

Set Preferences 3-2
Configure an AJA Video FrameBuffer 3-11
Configure a Black Magic Design FrameBuffer 3-16
Configure a Matrox FrameBuffer 3-20
Configure an XPression AVI Recorder 3-23
Configure an XPression RossLinq Connector . 3-25
Configure an XPression Virtual Input 3-27
Configure an XPression Virtual Output 3-29
Change the Order of Video Inputs / Outputs ... 3-30
Delete a Video Input / Output 3-31
Configure an Audio Device 3-32
Delete an Audio Device 3-34
Configure Video Preview and Audio Monitor. 3-35
Configure GPI for RS232 3-36
Configure GPI for TCP/IP 3-38

Scenes 4

Create a Project 4-2
Create a Scene 4-4
Create a Custom Size Scene 4-5
Duplicate a Scene 4-7
Delete a Scene 4-8
Create a Scene Group 4-9
Duplicate a Scene Group 4-10
Delete a Scene Group 4-11
Create a Roll/Crawl from a Scene Group 4-12
Customize a Scene Group Roll/Crawl 4-15

Text 5

Create a Text Object 5-2
Publish Template Links 5-4
Use Tabs in a Text Object 5-5
Align Text Objects to Build a Table 5-7
Apply a Material to a Text Object 5-11

Widgets 6

Add a Realtime Clock Display to a Scene 6-2
Customize the Time Format of a Widget 6-4
Rename a Widget 6-6
Add a Timer Display to a Scene 6-7
Add a Counter Display to a Scene 6-11
Customize the Counter Format of a Widget 6-13
Add a Text List to a Scene 6-16

DataLinq™ 7

Start the DataLinq Server 7-2
Connect XPression to a DataLinq Server 7-8
Link a Text Object to a DataLinq Data Source .. 7-9

Shapes 8

Create a Quad Object 8-2
Create a Sphere Object 8-5
Create a Cube Object 8-8
Create a Cylinder Object 8-12
Create a Torus Object 8-16
Set the Culling Mode for a Cube Object 8-19
Import a 3D Model into a Scene 8-20
Group Scene Objects 8-23
Position an Object 8-24

Lights 9

Add a Directional Light Source to a Scene 9-2
Add a Point Light Source to a Scene 9-4
Add a Spot Light Source to a Scene 9-7

Cameras 10

Add a Perspective Camera to a Scene 10-2
Add an Orthographic Camera to a Scene 10-4

Materials 11

Create a 2D Texture Material 11-2
Create a Video Material 11-4
Create a Live Source Material 11-7
Create a Window Capture Material 11-9

Fonts 12

Add a Private Font to a Project 12-2
Apply a Material to a Font 12-4

Animations 13

Add Continuous Animation to an Object 13-2
Add Keyframe Animation to an Object 13-5
Trigger Clips and Audio 13-8
Create Animation with Multiple Controllers .. 13-10
Copy Keyframes to Animate an Object 13-12

Sequences 14

Create a Sequence 14-2
Modify Template Content 14-3
Control Sequence Playout 14-5
Playout a Sequence in Manual Mode 14-7
Playout a Sequence in Automatic Mode 14-8
Create a Roll/Crawl from a Take Item Group 14-10
Customize a Take Item Group Roll/Crawl..... 14-12

Output 15

Preview Output in a Virtual Output 15-2
Render Output to an AVI File 15-3

Appendix A: Keyboard Shortcuts A

Menu Shortcuts A-2
Toolbar Shortcuts A-2
Scene Manager Shortcuts A-2
Object Manager Shortcuts A-3
Text Objects Shortcuts A-3
Keyframe Editor Shortcuts A-4
Sequencer Shortcuts A-4
Material Manager Shortcuts A-4

Introduction

XPression is a full featured broadcast graphics application with the necessary tools to create stunning graphics and animations that will meet the requirements set by today's graphics and animation designers.

About This Guide

This user guide describes the two main sections of XPression: an editor section and a sequencer section. The toolbar contains two buttons to switch between these sections. The layout section serves to create scenes with graphics and animations. The sequence section serves to set scenes in a sequence list and to play out the scenes. Both sections contain a number of dockable and non-dockable windows; to be used in the process of creating scenes, templates, and animations.

If, at any time, you have a question pertaining to the installation or operation of XPression, please contact us at the numbers listed in the section "**Contacting Technical Support**" on page 1–2. Our technical staff are always available for consultation, training or service.

For More Information on...

- XPression system hardware, refer to the Maintenance Guide.

Documentation Conventions

Special text formats are used in this guide to identify parts of the user interface, text that a user must enter, or a sequence of menus and submenus that must be followed to reach a particular command.

Bold text	Bold text is used to identify a user interface element such as a dialog box, menu item, or button. For example: In the **3D Model Files** section, use the **Mode** list to select the folder used to store 3D model files.
`Courier text`	Courier text is used to identify text that a user must enter. For example: Enter `localhost` when the DataLinq server is running of the same computer as XPression.
>	Menu arrows are used in procedures to identify a sequence of menu items that you must follow. For example, if a step reads "**Display** > **Widgets**," you would click the **Display** menu and then click **Widgets**.

Getting Help

The XPression Online Help system is accessed by selecting **Help Topics** from the **Help** menu in any component of XPression. Alternatively, press the **F1** key while working in a window or dialog box. Online Help opens in an Help Viewer window.

The Online Help system contains the following navigation tabs to locate information contained in Online Help topics and the ***User Guide***:

- **Contents** — table of contents
- **Index** — keyword reference
- **Search** — full text search
- **Favorites** — preferred information storage and access

The XPression Online Help system displays, by default, the **Contents** pane. To access the **Index** or **Search** panes, click the **Index** or **Search** button on the top toolbar in the Online Help system.

The ***XPression Maintenance Guide*** and ***XPression User Guide*** are also supplied as print-ready PDF files. From the desktop, use the following commands to open a guide PDF in Adobe® Reader® for viewing or printing:

- ***Maintenance Guide***
  Start > **All Programs** > **XPression Studio** > **Help** > **XPression Maintenance Guide**
- ***User Guide***
  Start > **All Programs** > **XPression Studio** > **Help** > **XPression User Guide**

Contacting Technical Support

At Ross Video, we take pride in the quality of our products, but if problems occur, help is as close as the nearest telephone.

Our 24-hour Hot Line service ensures you have access to technical expertise around the clock. After-sales service and technical support is provided directly by Ross Video personnel. During business hours (eastern time), technical support personnel are available by telephone any time. After hours and on weekends, a direct emergency technical support phone line is available. If the technical support person who is on call does not answer this line immediately, a voice message can be left and the call will be returned shortly. This team of highly trained staff is available to react to any problem and to do whatever is necessary to ensure customer satisfaction.

- **Technical Support:** (+1) 613-652-4886
- **After Hours Emergency:** (+1) 613-349-0006
- **E-mail:** techsupport@rossvideo.com
- **Website:** http://www.rossvideo.com

User Interface Overview

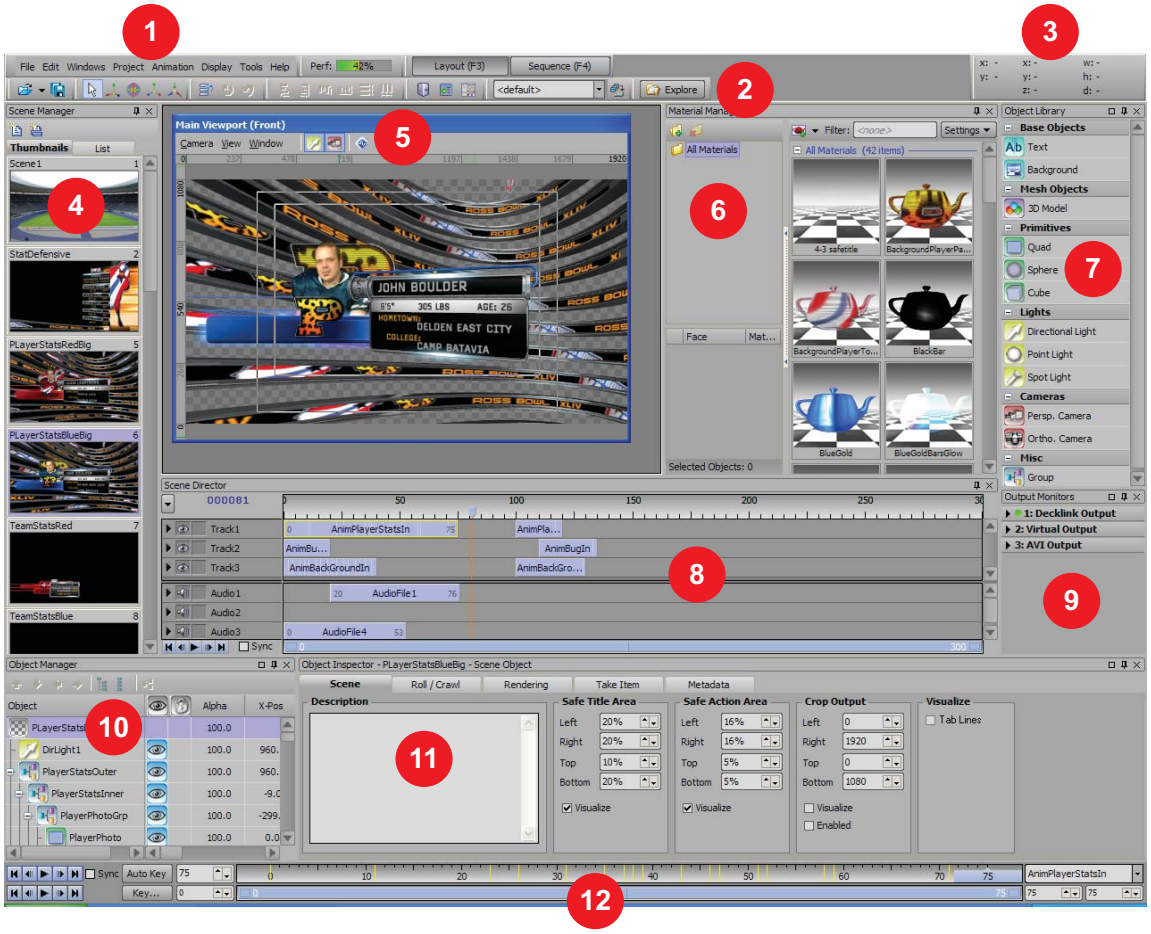
The XPression interface is made up of two sections: an layout section, and a sequencer section. Both sections contain specific windows, as well as common windows. The layout section is the interface used to create and edit graphics and animations. The sequencer section is used output graphics and animations placed on a sequence timeline.

The following topics are discussed in this section:

- The Layout Interface
- The Sequencer Interface

The Layout Interface

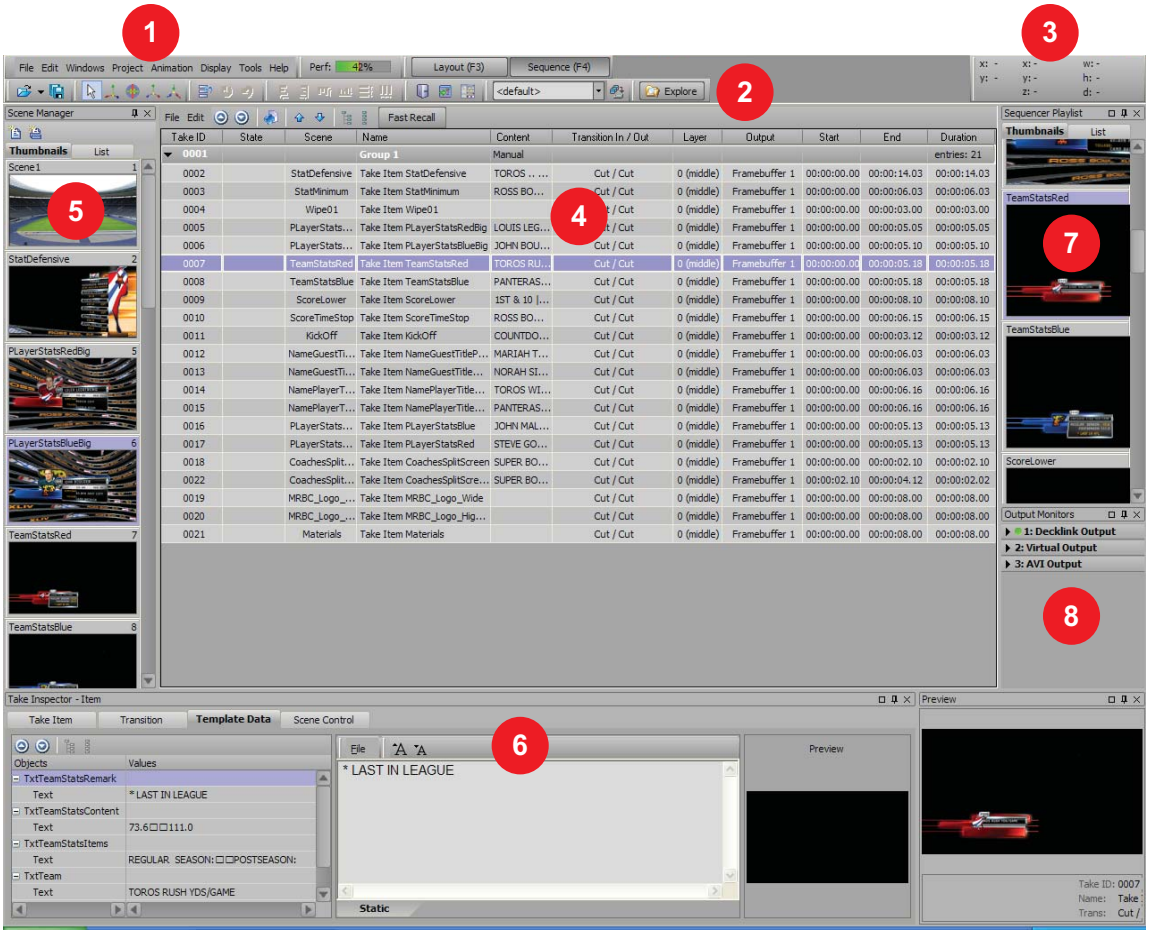
The following screen capture displays the main elements of the XPression Layout section user interface. Descriptions of individual elements are contained in the legend below the diagram.



1) **Menu Bar** — use this menu bar to access the File, Edit, Windows, Projects, Animation, Display, Tools, and Help menus.
2) **Toolbar** — use this toolbar to quickly access XPression tools.
3) **Position** — this section displays various position values related to the Main viewport.
4) **Scene Manager** — use this window to view and manage the scenes and scene groups contained in a project.
5) **Main Viewport** — use this window as an editor to design scenes using objects from the Object Library.
6) **Material Manager** — use this window to view, apply, and manage the materials in a project.
7) **Object Library** — use this window to select the objects with which to build scenes.
8) **Scene Director** — use this window to create and manage tracks for animation controllers and audio files.
9) **Output Monitors** — use this window to select the output framebuffer. Each output framebuffer contains seven layers, and each layer can contain a scene. The hierarchical order for scene visibility runs from +3 to -3, with layer +3 being the top layer and layer -3 the lowest layer.
10) **Object Manager** — use this window to view and manage the objects contained in a scene.
11) **Object Inspector** — use this window to edit the properties of a selected object. The tabs displayed in this window depend on the type of object selected.
12) **Animation Controller** — use the controller in this window to playback individual animations.

The Sequencer Interface

The following screen capture displays the main elements of the XPression Sequence section user interface. Descriptions of individual elements are contained in the legend below the diagram.



1) **Menu Bar** — use this menu bar to access the File, Edit, Windows, Projects, Animation, Display, Tools, and Help menus.
2) **Toolbar** — use this toolbar to quickly access XPression tools.
3) **Position** — this section displays various position values related to the Main viewport.
4) **Sequencer** — use this window to view and control a list of scenes or scene groups to be played in the order from top to bottom. A list is built by adding scenes from the Scene Manager.
5) **Scene Manager** — use this window to view and manage the scenes and scene groups contained in a project.
6) **Take Inspector** — use this window to edit the properties of a selected group or take item.
7) **Sequencer Playlist** — use this window to view a list of all scenes and or scene groups in the sequencer.
8) **Output Monitors** — use this window to select the output framebuffer. Each output framebuffer contains seven layers, and each layer can contain a scene. The hierarchical order for scene visibility runs from +3 to -3, with layer +3 being the top layer and layer -3 the lowest layer.

System Setup

Before you start using XPression to create projects, XPression needs to be configured for your environment. In addition to describing how to set preferences for XPression, this section also describes how to configure GPIs, video framebuffers, audio devices, video preview, and audio monitor.

The following topics are discussed in this section:

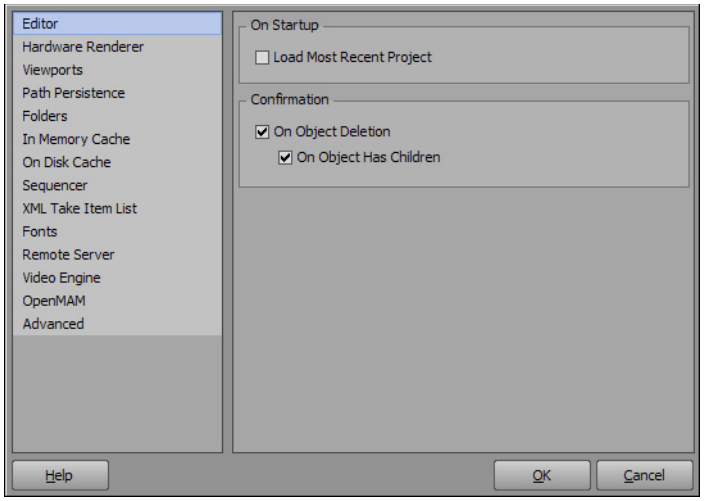
- Set Preferences
- Configure an AJA Video FrameBuffer
- Configure a Black Magic Design FrameBuffer
- Configure a Matrox FrameBuffer
- Configure an XPression AVI Recorder
- Configure an XPression Virtual Output
- Change the Order of Video Inputs / Outputs
- Delete a Video Input / Output
- Configure an Audio Device
- Delete an Audio Device
- Configure Video Preview and Audio Monitor
- Configure GPI for RS232
- Configure GPI for TCP/IP

Set Preferences

1. In **XPression**, use the **Edit** menu to select **Preferences**.

   The **Preferences** dialog box opens.

2. Click the **Editor** panel to set project preferences for the Editor section of XPression.



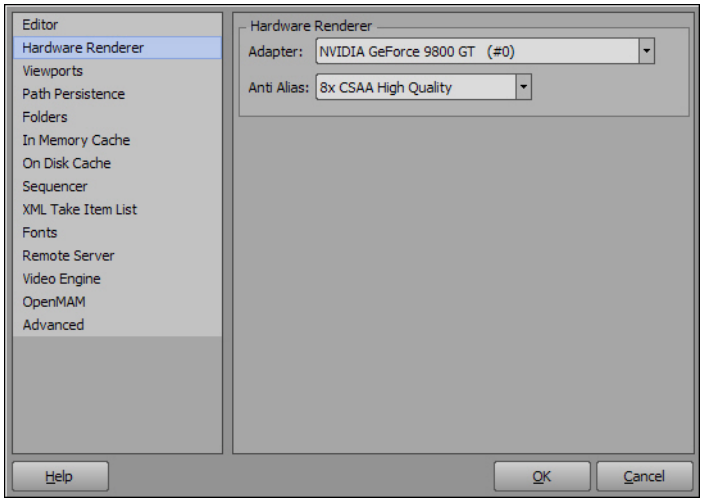
   a. In the **On Startup** section, select the **Load Most Recent Project** check box to automatically load the last opened project after starting XPression.

   b. In the **Confirmation** section, select the **On Object Deletion** check box to display a Confirmation dialog box and request confirmation when deleting an object from a project.

   c. In the **Confirmation** section, select the **On Object Has Children** check box to display a Confirmation dialog box and request confirmation when child objects belong to the object selected for deletion.

✶ Deleting an object also deletes any related child objects.

3. Click the **Hardware Renderer** panel to select the graphics device used by XPression to render scenes to output framebuffers.

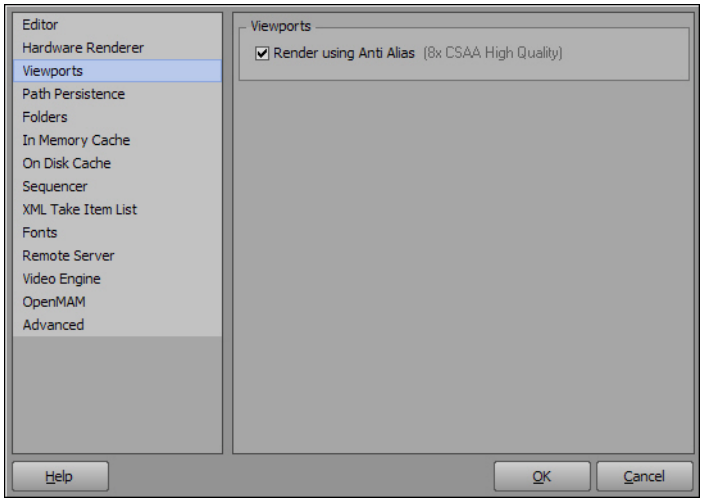


   a. Use the **Adapter** list to select the graphics device installed in the XPression computer.

   b. Use the **Anti-Alias** list to select the Multi-sampling value used to control the visual quality of rendered output.

The higher the multi-sampling value, the smoother the rendered the graphic edges. The <none> option is equal to 1x multi-sampling. For most situations, set the multi-sampling value according to the best quality/performance ratio, usually around 8x.

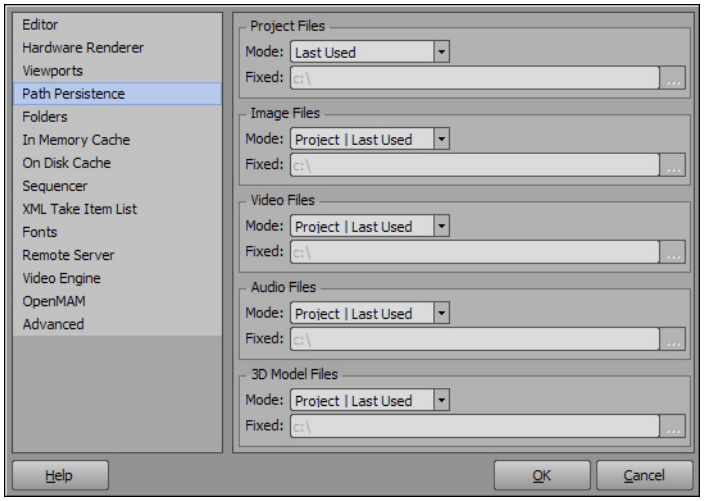
4. Click the **Viewports** panel to set the visual quality of scenes rendered to XPression viewports.



a. Select the **Render Using Anti-Alias** check box to use the multi-sampling value selected from the **Anti Alias** list in the **Hardware Renderer** panel to control the visual quality of scenes rendered to viewports. The higher the Multi-sampling value, the smoother graphic edges are rendered in a viewport.

   This check box is only available when the multi-sampling value set in the Hardware Renderer panel is higher than **<none>**.

5. Click the **Path Persistence** panel to set the folder locations used by XPression to search for and store XPression resources and files.



a. In the **Project Files** section, use the **Mode** list to select the folder to open after selecting **Open** from the **File** menu. The available options are as follows:

   - **Last Used** — open the folder last used to save an XPression project file.
   - **Fixed** — open the folder specified in **Fixed** box.

     Enter the full path to the project folder in the **Fixed** box, or click **Browse (...)** to the right of the box to use the **Browse for Folder** dialog box to select the project folder.

b. In the **Image Files** section, use the **Mode** list to select the folder used to store image files. The available options are as follows:

- **Project | Last Used** — first search for image files in the folder set as the project folder, and if no image files are found, then look in the folder lasted used by XPression.
- **Last Used** — search for image files in the folder that was last used by XPression.
- **Fixed** — search for image files in the folder specified in **Fixed** box.

  Enter the full path to the image folder in the **Fixed** box, or click **Browse (...)** to the right of the box to use the **Browse for Folder** dialog box to select the image folder.

c. In the **Video Files** section, use the **Mode** list to select the folder used to store video files. The available options are as follows:

- **Project | Last Used** — first search for video files in the folder set as the project folder, and if no video files are found, then look in the folder lasted used by XPression.
- **Last Used** — search for video files in the folder that was last used by XPression.
- **Fixed** — search for video files in specified in **Fixed** box.

  Enter the full path to the video folder in the **Fixed** box, or click **Browse (...)** to the right of the box to use the **Browse for Folder** dialog box to select the video folder.

d. In the **Audio Files** section, use the **Mode** list to select the folder used to store audio files. The available options are as follows:

- **Project | Last Used** — first search for audio files in the folder set as the project folder, and if no audio files are found, then look in the folder lasted used by XPression.
- **Last Used** — search for audio files in the folder that was last used by XPression.
- **Fixed** — open the folder specified in **Fixed** box.

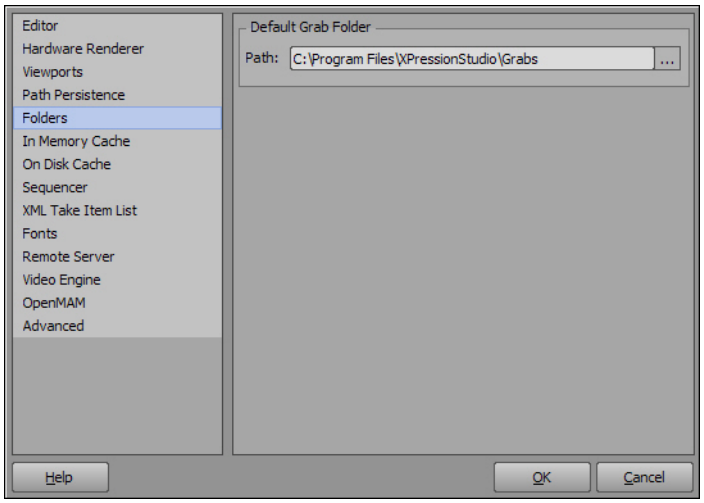
  Enter the full path to the audio folder in the **Fixed** box, or click **Browse (...)** to the right of the box to use the **Browse for Folder** dialog box to select the audio folder.

e. In the **3D Model Files** section, use the **Mode** list to select the folder used to store 3D model files. The available options are as follows:

- **Project | Last Used** — first search for 3D model files in the folder set as the project folder, and if no 3D model files are found, then look in the folder lasted used by XPression.
- **Last Used** — search for 3D model files in the folder that was last used by XPression.
- **Fixed** — open the folder specified in **Fixed** box.

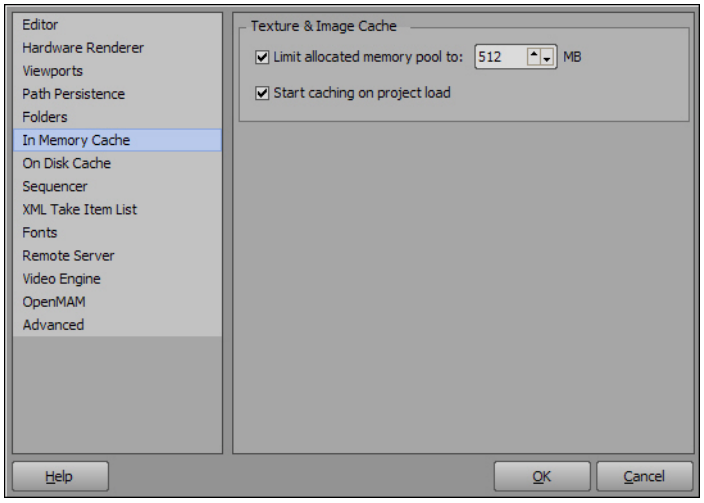
  Enter the full path to the 3D model folder in the **Fixed** box, or click **Browse (...)** to the right of the box to use the **Browse for Folder** dialog box to select the 3D model folder.

6. Click the **Folders** panel to set the folder used by XPression to store files created by the Input Grabber.



a. Enter the full path to the folder in which to save files created using the Input Grabber in the **Path** box, or click **Browse (...)** to the right of the box to use the **Browse for Folder** dialog box to select the grab folder.

7. Click the **In Memory Cache** panel to set the folder locations used by XPression to store cache files in memory.

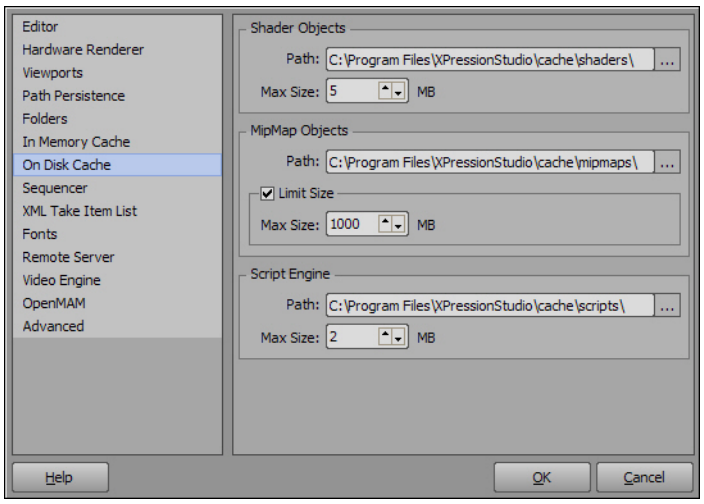


a. In the **Texture & Image Cache** section, select the **Limit allocated memory pool to** check box to limit the total size of texture and image files stored in the cache folder.

   Enter or select the size limit in MB for the total of all the cache files stored in the cache folder.

b. Select the **Start caching on project load** check box to start caching texture and image files when a project starts loading.

8. Click the **On Disk Cache** panel to set the folder locations used by XPression to store cache files on disk.



a. In the **Shader Objects** section, use the **Path** box to enter the full path to the folder in which to cache shader object files or click **Browse (...)** to the right of the box to use the **Browse for Folder** dialog box to select the cache folder.

b. In the **Max Size** box, enter or select the size limit in MB for the total of all the cache files stored in the cache folder.

c. In the **MipMap Objects** section, use the **Path** box to enter the full path to the folder in which to cache MipMap object files or click **Browse (...)** to the right of the box to use the **Browse for Folder** dialog box to select the cache folder.

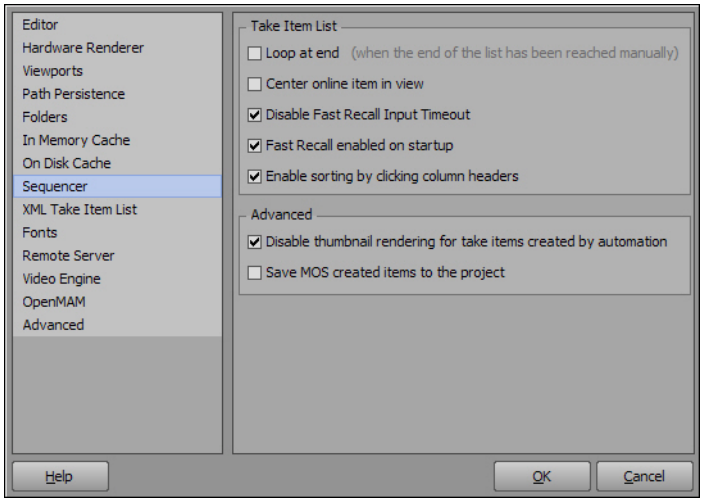
d. Select the **Limit Size** check box to limit the total size of MipMap object files stored in the cache folder.

In the **Max Size** box, enter or select the size limit in MB for the total of all the cache files stored in the cache folder.

e. In the **Script Engine** section, use the **Path** box to enter the full path to the folder in which to cache script engine files or click **Browse (...)** to the right of the box to use the **Browse for Folder** dialog box to select the cache folder.

f. In the **Max Size** box, enter or select the size limit in MB for the total of all the cache files stored in the cache folder.

9. Click the **Sequencer** panel to control sequence lists.



a. In the **Take Item List** section, select the **Loop At End** check box to automatically loop a sequence list when the end is reached manually.

b. Select the **Center Online In View** check box to position the active scene in a sequence list in the middle of the view, provided the sequence list extends the size of the view.

c. Select the **Disable Fast Recall Input Timeout** check box to turn off the user entered input timeout for Take IDs in the sequencer.

d. Select the **Fast Recall enabled on startup** check box to automatically enable fast recall in the sequencer on startup.

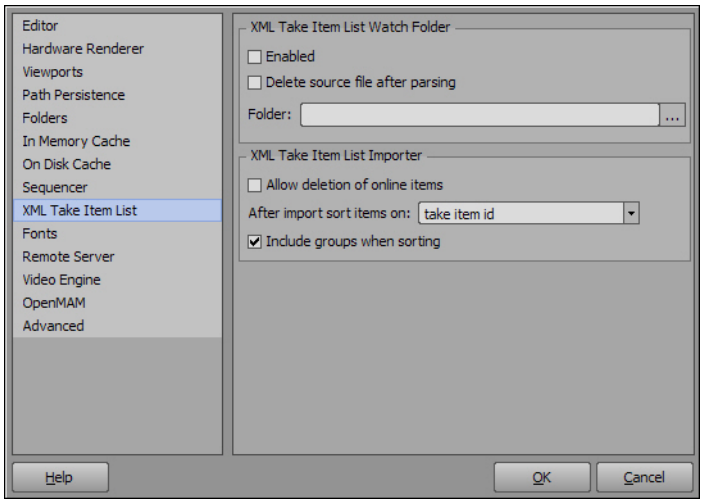
e. Select the **Enable sorting by clicking column headers** check box to sort the information in the columns of the sequencer by heading.

f. Select the **Don't move to the next take item until all pause events are taken** check box to play all pause events before moving to the next take item in the sequencer.

g. In the **Advanced** section, select the **Disable thumbnail rendering for take items created by automation** check box to disable displaying scene thumbnails in the Sequencer Playlist.

h. Select the **Save MOS created items to the project** check box to save MOS items in the sequencer.

10. Click the **XML Take Item List** panel to configure the path and settings for XML Take Items.



a. In the **XML Take Item List Watch Folder** section, select the **Enabled** check box to use XML Take Items from a folder.

b. Select the **Delete source file after parsing** check box to delete XML Take Items after they are parsed from the selected folder.

c. Enter the full path to the folder in the **Folder** box, or click **Browse (...)** to the right of the box to use the **Browse for Folder** dialog box to select the folder.

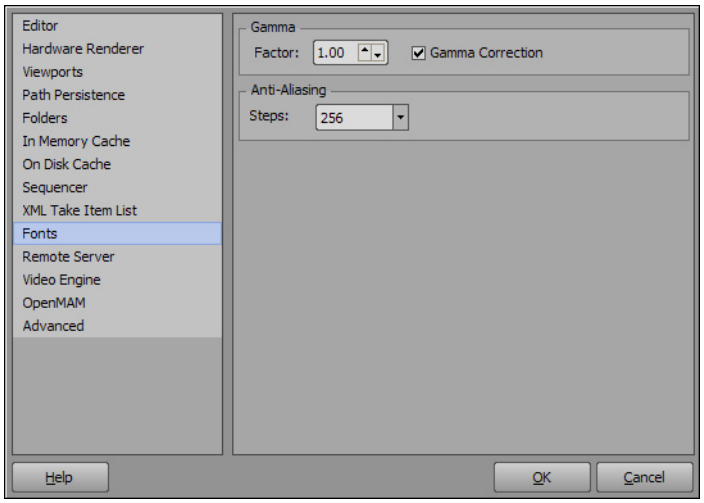
d. In the **XML Take Item List Importer** section, select the **Allow deletion of online items** check box to enable the removal of take items that are currently active on an output.

e. Use the **After import sort items on** list to sort the imported take items. The available options are as follows:

- **<do not sort>** — do not sort the take items.
- **take item id** — sort the take items by ID.
- **take item state** — sort the take items by state.
- **take item scene name** — sort the take items by scene name.
- **take item name** — sort the take items by name.
- **take item layer** — sort the take items by layer.
- **take item framebuffer** — sort the take items by framebuffer.

f. Select the **Include groups when sorting** check box to import the XML Take Items according to the groups that the items have been assigned.

11. Click the **Fonts** panel to control gamma correction and anti-aliasing for fonts.



a. In the **Factor** box, enter or select the gamma correction value.

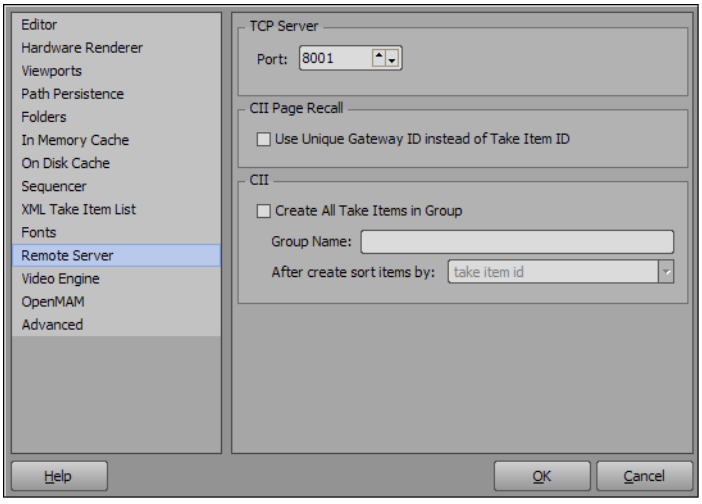
The gamma correction value influences the degree of transparency used to anti-alias font edge steps. Changes to this factor are visible after re-rendering characters (e.g. changing font size).

b. Select the **Gamma Correction** check box to apply gamma correction when changing the font factor.

c. In the **Anti-Aliasing** section, use the **Steps** list to select the anti-alias size step to use when rendering fonts.

An anti-alias step size of 256 is the recommended setting.

12. Click the **Remote Server** panel to configure the TCP server and the CII settings.



a. In the **TCP Server** section, enter or select the port number for the remote server.

b. In the **CII Page Recall** section, select the **Use Unique Gateway ID instead of Take Item ID** to recall a page using a Unique Gateway ID.

c. In the **CII** section, select the **Create All Take Items in Group** check box to create the CII Take Items in a specific group.

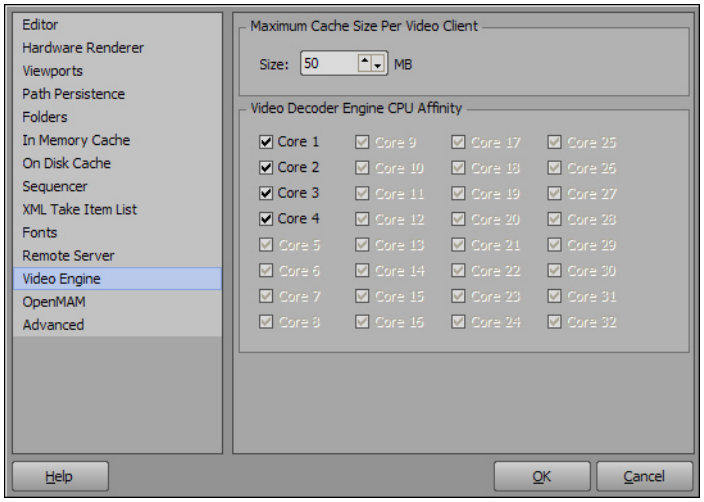
d. Enter a group name for the CII Take Items in the **Group Name** box.

e. Use the **After create sort items by** list to sort the imported take items. The available options are as follows:

- **<do not sort>** — do not sort the take items.
- **take item id** — sort the take items by ID.
- **take item state** — sort the take items by state.

- **take item scene name** — sort the take items by scene name.
- **take item name** — sort the take items by name.
- **take item layer** — sort the take items by layer.
- **take item framebuffer** — sort the take items by framebuffer.

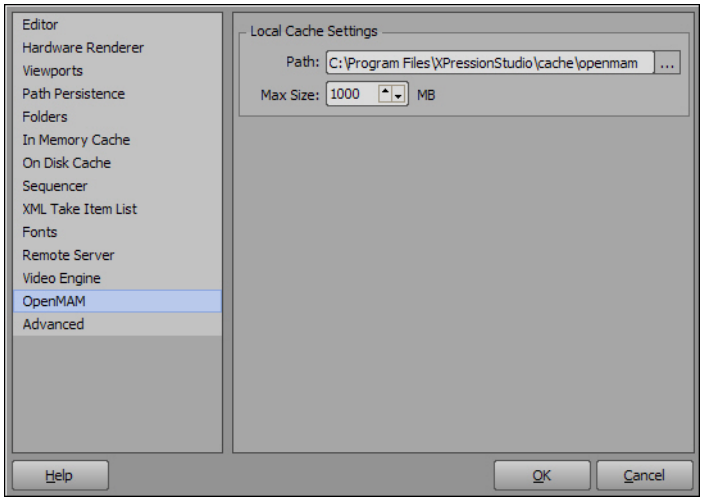
13. Click the **Video Engine** panel to configure the cache size and select the CPU core of the video clients.



a. In the **Maximum Cache Size Per Video Client** section, enter or select the maximum cache size in MB per video client.

b. In the **Video Decoder Engine CPU Affinity** section, select the CPU core of the video client.

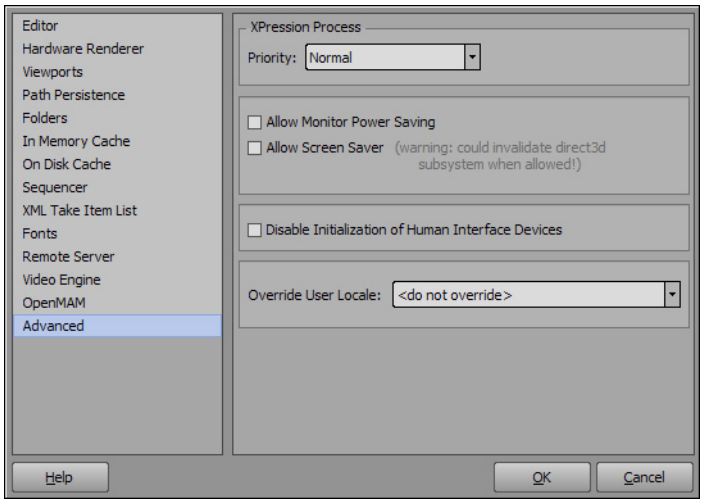
14. Click the **OpenMAM** panel to configure the cache settings for items retrieved from remote asset management systems.



a. In the **Local Cache Settings** section, enter the full path to the folder in the **Path** box, or click **Browse (...)** to the right of the box to use the **Browse for Folder** dialog box to select the folder.

b. In the **Max Size** box, enter or select the maximum size limit in MB for the total of all the cache files stored in the cache folder.

15. Click the **Advanced** panel to manage screen settings.



a. In the **XPression Process** section, use the **Priority** list to select the CPU usage priority for XPression. The available CPU usage priorities are as follows:

- **Normal** — evenly distribute the CPU time between system processes with the similar priority.
- **High** — give XPression preference and allocate the majority of the CPU time to XPression.
- **Real-Time** — allocate all CPU time to XPression.

✶ Use the Real-Time CPU usage priority with caution, as this priority may cause other applications running on the XPression computer to freeze.

b. Select the **Allow Monitor Power Saving** check box to allow the monitor to run into sleep mode.

c. Select the **Allow Screen Saver** check box to allow the screen saver to run. A screen saver may compromise output performance. For maximum performance, clear this check box to stop the screen saver from running on the XPression computer.

d. Select the **Disable Initialization of Human Interface Devices** check box to ignore a 3Dconnexion 3D mouse connected to an XPression system.

e. Use the **Override User Locale** list to select a place to override the local settings.

16. Click **OK**.

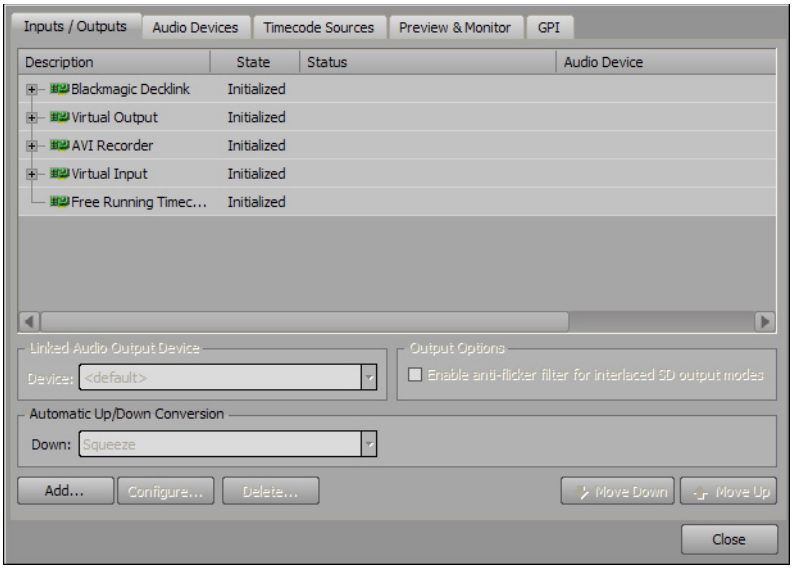
The **Preferences** dialog box closes.

Configure an AJA Video FrameBuffer

1. In **XPression**, use the **Edit** menu to select **Hardware Setup**.

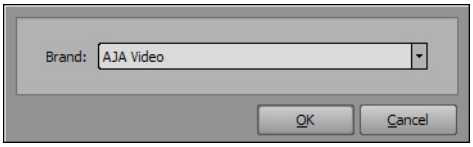
   The **Hardware Setup** dialog box opens.

2. Click the **Inputs / Outputs** tab.



3. Click the **Add**.

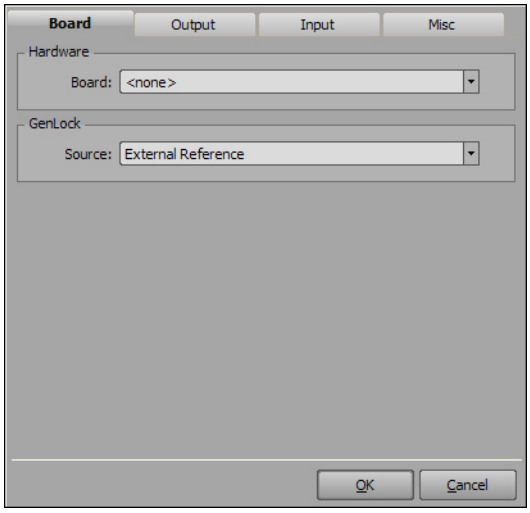
   The **Add New FrameBuffer Board** dialog box opens.



4. Select **AJA Video** from the **Brand** list.
5. Click **OK**.

   The **AJA Video - Framebuffer Setup** dialog box opens.

6. Click the **Board** tab to configure hardware and genlock settings.

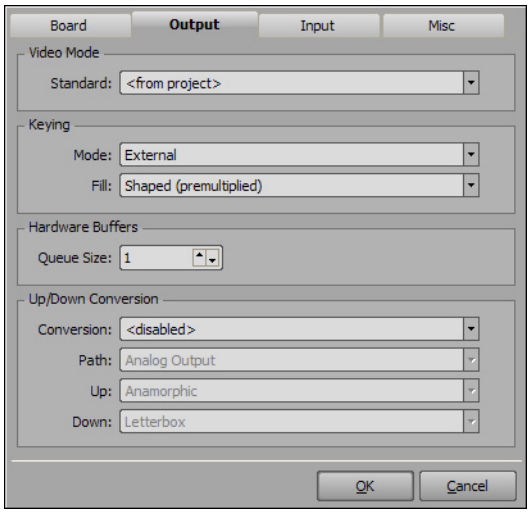


   a. In the **Hardware** section, use the **Board** list to select the installed XENA 2KE card to configure.

   b. In the GenLock section, use the Source list to select the source of the genlock signal with which to synchronize XPression. The available genlock signal sources are as follows:

      - **External Reference** — Synchronize with a genlock signal received from an external application through the GenLock In port of the XPression computer. Ross Video recommends using an external reference for the genlock signal source.
      - **Input 1** — Sync to Video In 1 source signal.
      - **Input 2** — Sync to Video In 2 source signal.
      - **Free Running** — Do not synchronize XPression with an external source.

7. Click the **Output** tab to configure output settings.



a. In the **Video Mode** section, use the **Standard** list to select the video format in which to output an XPression project. The available video formats are as follows:

   - **<dynamic>** — automatically switch to the output video format to the video format of the currently loaded project.

     The project video format is ignored when a specific output video format is selected, and the selected video format is used to playout scenes.
   - **PAL, 720x576, 25 frames/second**
   - **NTSC, 720x486, 29.97 frames/second**
   - **HD 1080i, 1920x1080, 25 frames/second**
   - **HD 1080i, 1920x1080, 29.97 frames/second**
   - **HD 1080p, 1920x1080, 23.976 frames/second**
   - **HD 720p, 1280x720, 59.94 frames/second**

b. In the **Keying** section, use the **Mode** list to select how graphics are output to a video stream. The available modes are as follows:

   - **External** — Output the key and fill graphics as separate video signals. Graphics mixing occurs in an external keyer/mixer.
   - **Internal** — Key and fill graphics are mixed internally and output as a single video signal from the framebuffer. In this mode the framebuffer functions as the keyer/mixer.

c. When **External** is selected in the **Mode** list, use the **Fill** list to select the method used to process fill graphics before output. The available processing methods are as follows:

   - **Shaped (premultiplied)** — Multiply/shape the fill signal color information by the luminance information in the key signal.
   - **Unshaped** — Output fill and key signals “as is”.

d. In the **Hardware Buffers** section, use the **Queue Size** box to enter or select the number of frames to buffer in memory before sending to the output.

   Use this setting to avoid buffer under runs, which may cause frame skipping. Larger queue sizes ensure smooth playout of generated graphics, but add delay to the output.

e. In the **Up/Down Conversion** section, use the **Conversion** list to enable or disable output conversion to a predefined signal.

f. Use the **Path** list to select the source display on the output.

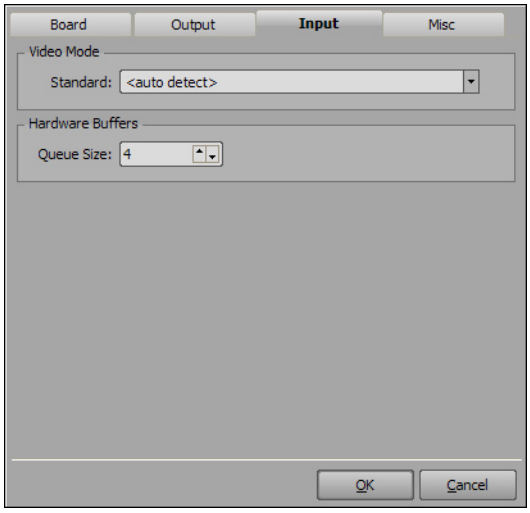
g. Use the **Up** list to select the format for up converted output. The available output formats are as follows:

   - **Anamorphic** — Display a full-screen image.
   - **Pillar box 4:3** — Display a 4:3 image in the center of the screen with black sidebars.
   - **Zoom 14:9** — Display a 4:3 image zoomed to fill a 14:9 image with black sidebars.
   - **Letterbox** — Display an image zoomed to fill full screen.
   - **Zoom Wide** — Display an image zoomed and horizontally stretched to fill full screen.

h. Use the **Down** list to select the format for down converted output. The available output formats are as follows:

   - **Letterbox** — Display a reduce image with black bars added to the top and bottom of the image area with the aspect ratio preserved.
   - **Crop** — Crop the image to fit the new screen size.
   - **Anamorphic** — Display a 16:9 image in a 4:3 box.

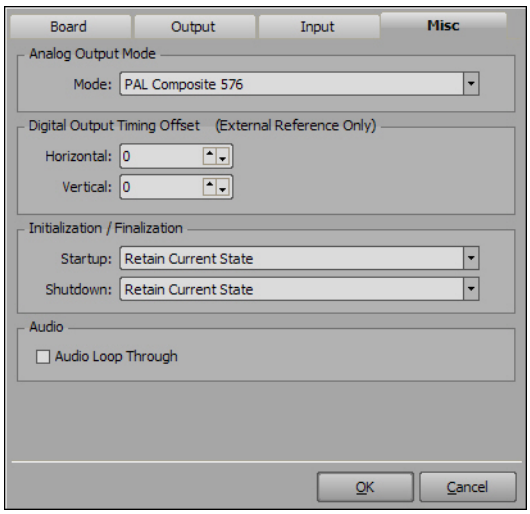
8. Click the **Input** tab to configure input settings.



   a. In the **Video Mode** section, use the **Standard** list to select the analog video format in which to receive video.

   b. In the **Hardware Buffers** section, use the **Queue Size** box to enter or select the number of frames to buffer in memory before sending to XPression.

9. Click the **Misc** tab to configure analog, timing, startup, shutdown, and audio settings.



   a. In the **Analog Output Mode** section, use the **Mode** list to select the video format in which to output an analog video signal.

   b. In the **Digital Output Timing Offset** section, use the **Horizontal** box to enter or select the number of nanoseconds for horizontal timing offset with regards an external reference.

   c. In the **Vertical** box, enter or select the number of lines for vertical delay timing offset with regards an external reference.

   d. In the **Initialization / Finalization** section, use the **Startup** list to select the video state at startup. The available states are as follows:

      - **Retain Current State** — Retain resources to use once again.
      - **Clear Framebuffers** — Clear all framebuffers from the output framebuffer.

   e. Use the **Shutdown** list to select the video state at shutdown. The available states are as follows:

      - **Retain Current State** — Retain resources to use once again.

- **Clear Framebuffers** — Clear all framebuffers from the output framebuffer.

f. In the **Audio** section, select the **Audio Loop Through** check box to enable embedded audio loop through.

10. Click **OK**.

The configured AJA Video framebuffer board is added to the **Inputs / Outputs** tab of the **Hardware Setup** dialog box.

11. In the **Hardware Setup** dialog box, click **Close**.

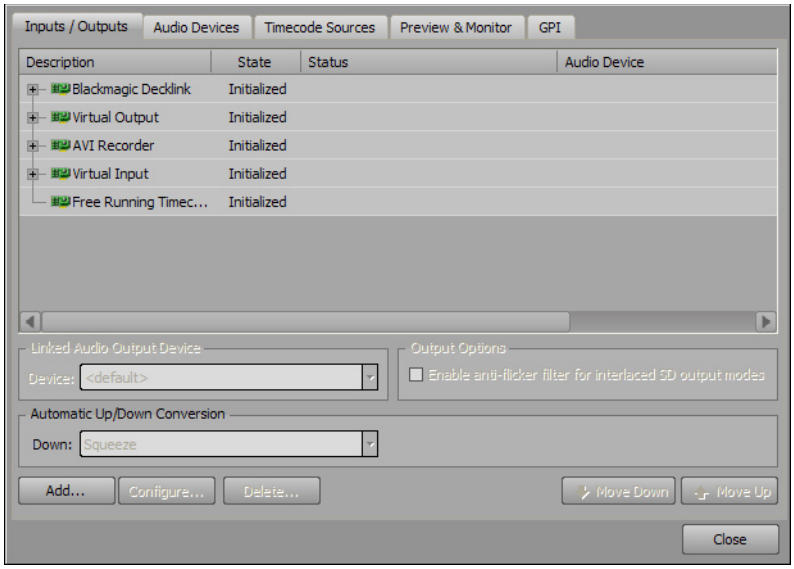
The **Hardware Setup** dialog box closes.

Configure a Black Magic Design FrameBuffer

1. In **XPression**, use the **Edit** menu to select **Hardware Setup**.

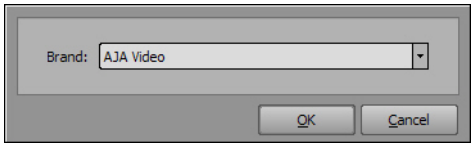
   The **Hardware Setup** dialog box opens.

2. Click the **Inputs / Outputs** tab.



3. Click the **Add**.

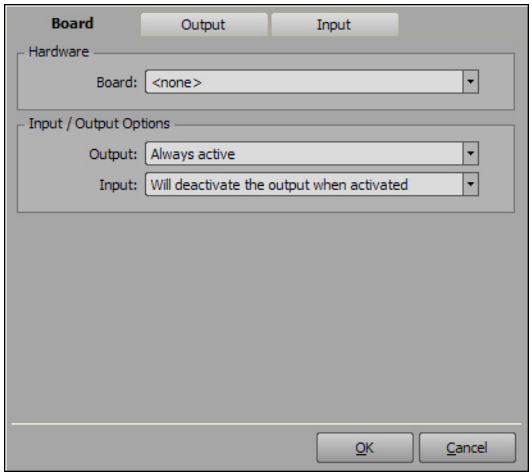
   The **Add New FrameBuffer Board** dialog box opens.



4. Select **Blackmagic Design** from the **Brand** list.
5. Click **OK**.

   The **Blackmagic Design - Framebuffer Setup** dialog box opens.

6. Click the **Board** tab to configure hardware settings.



   a. In the **Hardware** section, use the **Board** list to select the installed DeckLink Studio card to configure.

   b. In the **Input / Output Options** section, use the **Output** list to select when to activate video output from the Blackmagic Design framebuffer. The options are as follows:

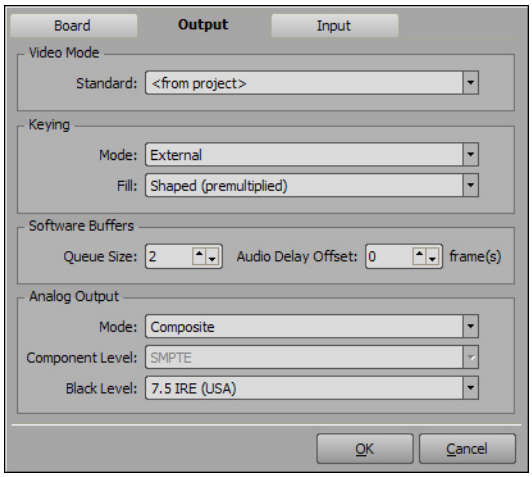
      - **Always Active** — Always output video.
      - **Active on Use Only** — Only output video when the card is in use.

   c. Use the **Input** list to select when to activate video input through the Blackmagic Design framebuffer. The available options are as follows:

      - **Will Deactivate the Output When Activated** — automatically deactivate the output when the input is activated.
      - **Can Only be Activated When the Output is Not Active** — input can only be activated when the output is not active.
      - **Always disabled** — disable the input to prevent it from deleting other inputs.

✶ Input grabbing may compromise output performance.

7. Click the **Output** tab to configure output settings.



a. In the **Video Mode** section, use the **Standard** list to select the video format in which to output an XPression project.

b. In the **Keying** section, use the **Mode** list to select how graphics are output to a video stream. The modes are as follows:

- **External** — Output the key and fill as separate video signals. Graphics and video mixing occurs in an external keyer/mixer.
- **Internal** — Key and fill are mixed internally. Graphics and video are output as a single video signal from the framebuffer. In this mode the framebuffer functions as the keyer/mixer.
- **Off** — Only output a video signal. In this mode, graphics are excluded from the output.

c. When **External** is selected in the **Mode** list, use the **Fill** list to select the method used to process fill graphics before output. The available processing methods are as follows:

- **Shaped (premultiplied)** — Multiply/shape the fill signal color information by the luminance information in the key signal.
- **Unshaped** — Output fill and key signals “as is”.

d. In the **Software Buffers** section, use the **Queue Size** box to enter or select the number of frames to buffer in memory before sending to the output.

Use this setting to avoid buffer underruns, which may cause frame skipping. Larger queue sizes ensure smooth playout of generated graphics, but add delay to the output.

e. In the **Analog Output** section, use the **Mode** list to select the type of analog video signal to output. The available output video signals are as follows:

- **Composite** — output a single video signal that combines luminance and chroma.
- **Component** — output three channels (Y, R-Y, and B-Y).
- **S-Video** — output a video signal that carries the video data as two separate signals (brightness and color), unlike composite video which carries the entire set of signals through a signal line.

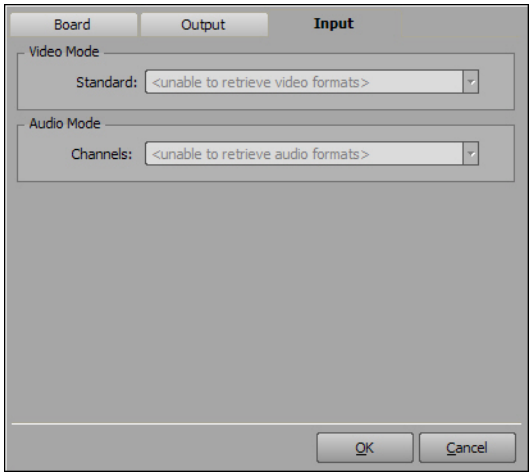
f. When **Component** is selected in the **Mode** list, use the **Component Level** list to select the output component analog level. The available levels are as follows:

- **SMPTE** — use this level for monitoring component analog video.
- **Betacam** — use this level for output to Sony Betacam SP decks.

g. Use the **Black Level** list to select the default black level analog video signal. The available levels are as follows:

- **7.5 IRE (USA)** — standard black level for all NTSC countries except Japan.
- **0.0 IRE (Japan)** — standard black level for Japan.

8. Click the **Input** tab to configure input settings.



   a. In the **Video Mode** section, use the **Standard** list to select the analog video format in which to receive video.

9. Click **OK**.

   The configured Blackmagic Design framebuffer board is added to the **Inputs / Outputs** tab of the **Hardware Setup** dialog box.

10. In the **Hardware Setup** dialog box, click **Close**.

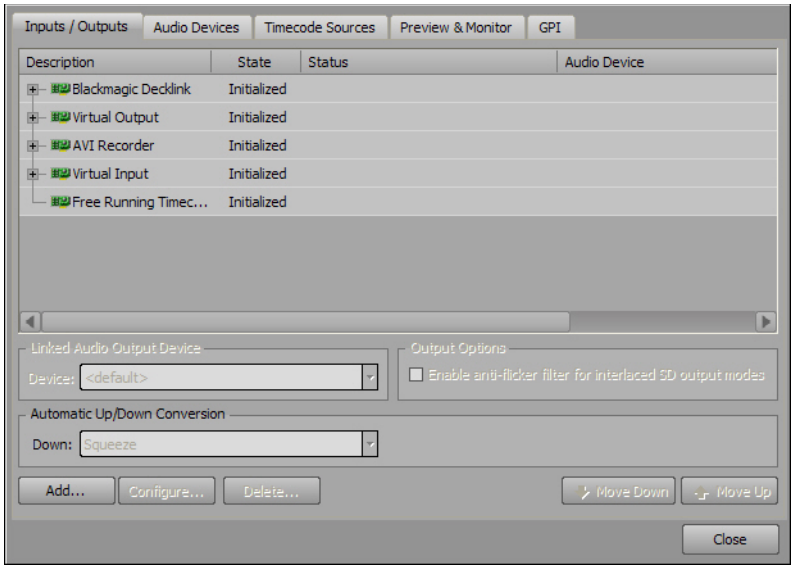
    The **Hardware Setup** dialog box closes.

Configure a Matrox FrameBuffer

1. In **XPression**, use the **Edit** menu to select **Hardware Setup**.

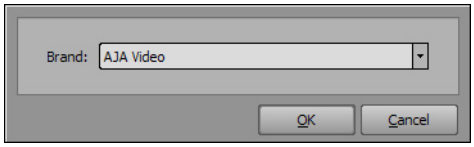
   The **Hardware Setup** dialog box opens.

2. Click the **Inputs / Outputs** tab.



3. Click the **Add**.

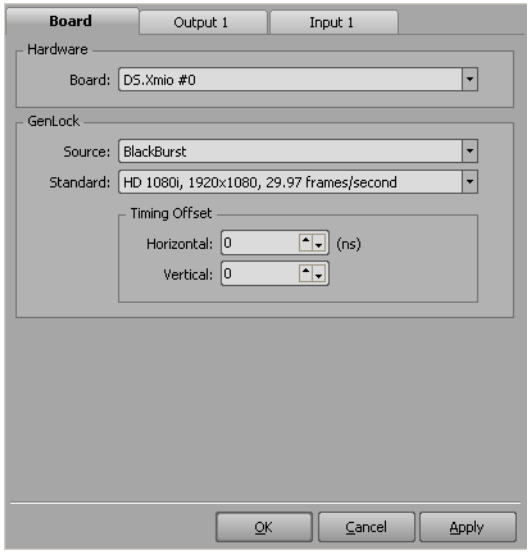
   The **Add New FrameBuffer Board** dialog box opens.



4. Select **Matrox** from the **Brand** list.
5. Click **OK**.

   The **Matrox XMIO - Framebuffer Setup** dialog box opens.

6. Select the **Board** tab to choose and configure an installed X.mio2 card.



Steps

a. In the **Hardware** section, use the **Board** list to select the installed X.mio2 card to configure.

b. In the **GenLock** section, use the **Source** list to select the source of the genlock signal with which to synchronize XPression. The available genlock signal sources are as follows:

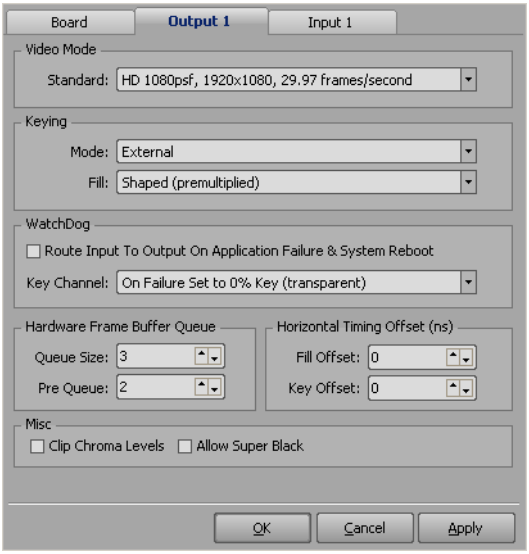
- **Internal** — generate internal sync on the video card for all output channels.
- **Blackburst** — sync to analog black.
- **SDI Input 1** — sync to SDI Input 1 source signal.
- **SDI Input 2** — sync to SDI Input 2 source signal.
- **SDI Input 3** — sync to SDI Input 3 source signal.
- **SDI Input 4** — sync to SDI Input 4 source signal.

c. Use the **Standard** list to select the format of the incoming genlock signal.

d. In the **Timing Offset** section, use the **Horizontal** box to enter or select the number of nanoseconds for horizontal timing offset with regards an external reference.

e. In the **Vertical** box, enter or select the number of lines for vertical delay timing offset with regards an external reference.

7. Select an **Output** tab to configure the parameters of the selected output.



a. In the **Video Mode** section, use the **Standard** list to select the video format for the output.

b. In the **Keying** section, use the **Mode** list to select a keying mode for the output. The available modes are as follows:

- **External** — select to output video and alpha channels.
- **Internal** — select to key XPression scenes to the associated input.

c. Use the **Fill** list to select the fill mode. The available fill options are as follows:

- **Shaped (premultiplied)** — select to use an additive key to cut precise holes for the fill.
- **Unshaped** — select to use a multiplicative key based on the gradient values of the alpha.

d. In the **Watchdog** section, select the **Route Input To Output On Application Failure & System Reboot** check box to route the input to an output in the event of application failure or a system reboot.

e. Use the **Key Channel** list to select a transparent or opaque key channel. The available key channels are as follows:

- **On Failure Set to 0% Key (transparent)** — select to set the key channel to transparent in the event of failure.
- **On Failure Set to 100% Key (opaque)** — select to set the key channel to opaque in the event of failure.

f. In the **Hardware Frame Buffer Queue** section, use the **Queue Size** box to enter or select the framebuffer queue size. The framebuffer queue size can be between two and seven.

g. Use the **Pre Queue** box to enter or select the pre-queue size. The pre-queue size can be between one and six.

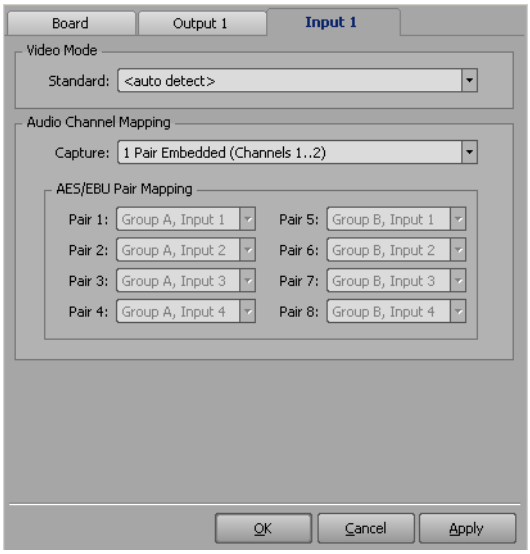
h. In the **Horizontal Timing Offset (ns)** section, use the **Fill Offset** box to enter or select the offset of the fill.

i. Use the **Key Offset** box to enter or select the offset of the key.

j. In the **Misc** section, select the **Clip Chroma Levels** check box to limit the chroma levels in the output.

k. Select the **Allow Super Black** check box to enable Super Black in the output.

8. Select an **Input** tab to configure the parameters of the selected input.



a. In the **Video Mode** section, use the **Standard** list to select the video format for the input.

b. In the **Audio Channel Mapping** section, use the **Capture** list to select the audio type for the input.

c. In the **AES/EBU Pair Mapping** area, use the **Pair** lists to define the mapping of the AES/EBU inputs.

9. Click **OK**.

   The configured Matrox framebuffer board is added to the **Inputs / Outputs** tab of the **Hardware Setup** dialog box.

10. In the **Hardware Setup** dialog box, click **Close**.

    The **Hardware Setup** dialog box closes.

Note:

- A maximum of two inputs and two outputs can be configured for the Matrox framebuffer.

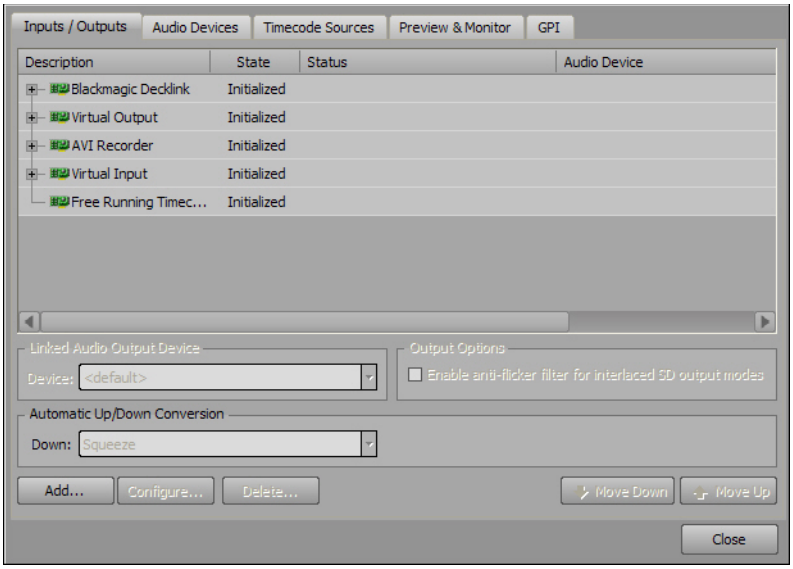
Configure an XPression AVI Recorder

The XPression AVI Recorder is used to render scenes or scene groups and save the output as an AVI file. Before using this functionality, the AVI Recorder must be configured as a video output in the Hardware Setup dialog box.

1. In **XPression**, use the **Edit** menu to select **Hardware Setup**.

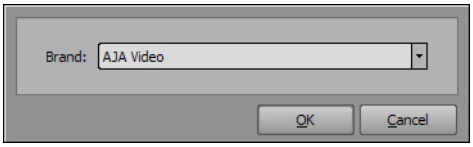
   The **Hardware Setup** dialog box opens.

2. Click the **Inputs / Outputs** tab.



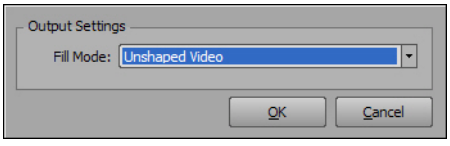
3. Click the **Add**.

   The **Add New FrameBuffer Board** dialog box opens.



4. Select **XPression AVI Recorder** from the **Brand** list.
5. Click **OK**.

   The **AVI Recorder - Setup** dialog box opens.



6. Use the **Fill Mode** list to select the method used to process fill graphics before output. The available processing methods are as follows:

   - **Unshaped Video** — Output fill and key signals “as is”.
   - **Shaped Video (premultiplied fill)** — Multiply/shape the fill signal color information by the luminance information in the key signal.

7. Click **OK**.

   An XPression Virtual Output is added to the **Inputs / Outputs** tab of the **Hardware Setup** dialog box.

8. In the **Hardware Setup** dialog box, click **Close**.

   The **Hardware Setup** dialog box closes.

For More Information on...

- rendering output to an AVI file, refer to the procedure "**Render Output to an AVI File**" on page 15–3.

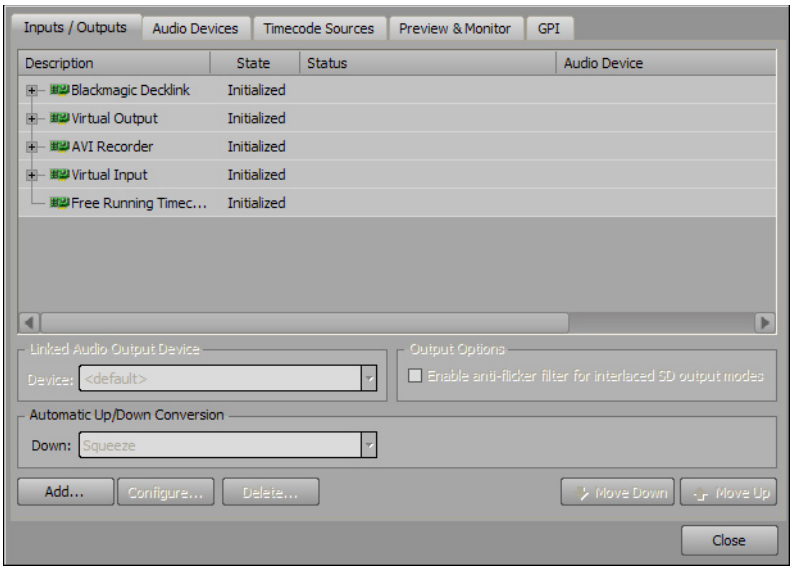
Configure an XPression RossLinq Connector

The RossLinq feature allows you to connect XPression directly to the media-store channels of CrossOver over ethernet. Have XPression render images and graphics into the media-store channels of CrossOver without using any of the video input BNC on CrossOver.

1. In **XPression**, use the **Edit** menu to select **Hardware Setup**.

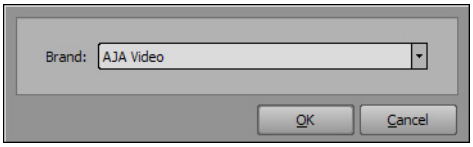
   The **Hardware Setup** dialog box opens.

2. Click the **Inputs / Outputs** tab.



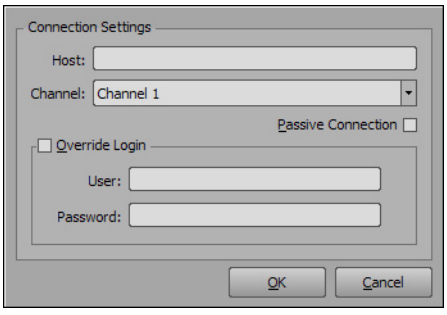
3. Click **Add**.

   The **Add New FrameBuffer Board** dialog box opens.



4. In the **Brand** list, select **XPression RossLinq Connector** from the **Brand** list.
5. Click **OK**.

   The **Rosslinq - Setup** dialog box opens.



6. Enter the IP address of the CrossOver switcher in the **Host** box.
7. In the **Channel** box, enter the Media-Store channel (**1** or **2**) on CrossOver that you want to upload images to.

   Media-Store channels 3 and 4 are for alpha channels only. If you load an image or animation with an embedded alpha channel, the switcher automatically places the alpha channel in the paired Media-Store channel.

8. Click **OK**.

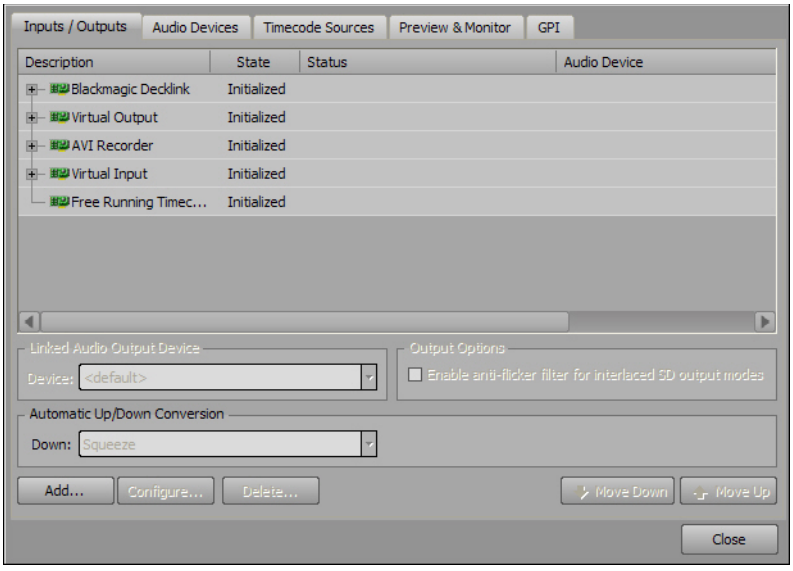
Configure an XPression Virtual Input

The XPression Virtual Input enables XPression to create Live Source materials without a physical input card installed in the XPression computer.

1. In **XPression**, use the **Edit** menu to select **Hardware Setup**.

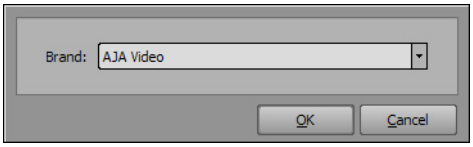
   The **Hardware Setup** dialog box opens.

2. Click the **Inputs / Outputs** tab.



3. Click the **Add**.

   The **Add New FrameBuffer Board** dialog box opens.



4. Select **XPression Virtual Input** from the **Brand** list.
5. Click **OK**.

   An XPression Virtual Input is added to the **Inputs / Outputs** tab of the **Hardware Setup** dialog box.

6. In the **Hardware Setup** dialog box, click **Close**.

   The **Hardware Setup** dialog box closes.

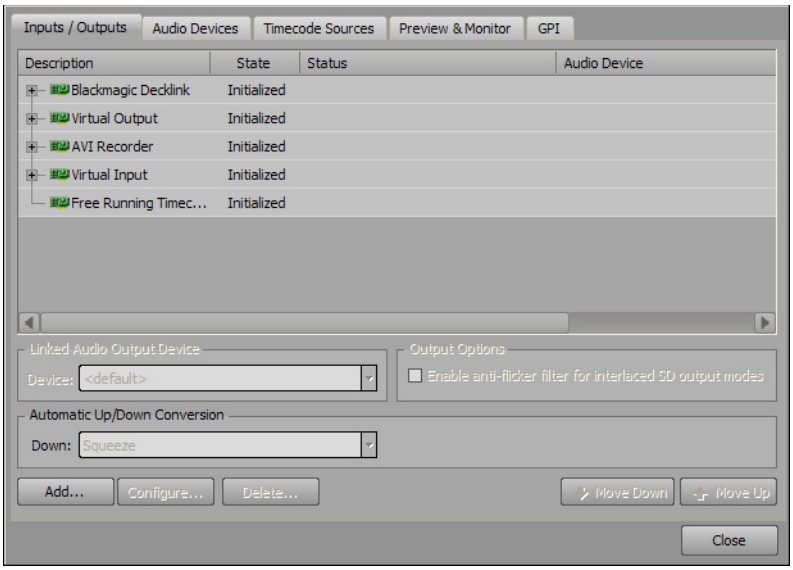
Configure an XPression Virtual Output

The XPression Virtual Output enables XPression software to run without any framebuffer cards installed in the XPression computer. In this case, the Virtual Output is used to display output in a window on the XPression computer.

1. In **XPression**, use the **Edit** menu to select **Hardware Setup**.

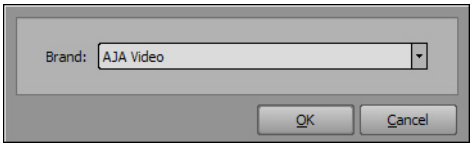
   The **Hardware Setup** dialog box opens.

2. Click the **Inputs / Outputs** tab.



3. Click the **Add**.

   The **Add New FrameBuffer Board** dialog box opens.



4. Select **XPression Virtual Output** from the **Brand** list.
5. Click **OK**.

   An XPression Virtual Output is added to the **Inputs / Outputs** tab of the **Hardware Setup** dialog box.

6. In the **Hardware Setup** dialog box, click **Close**.

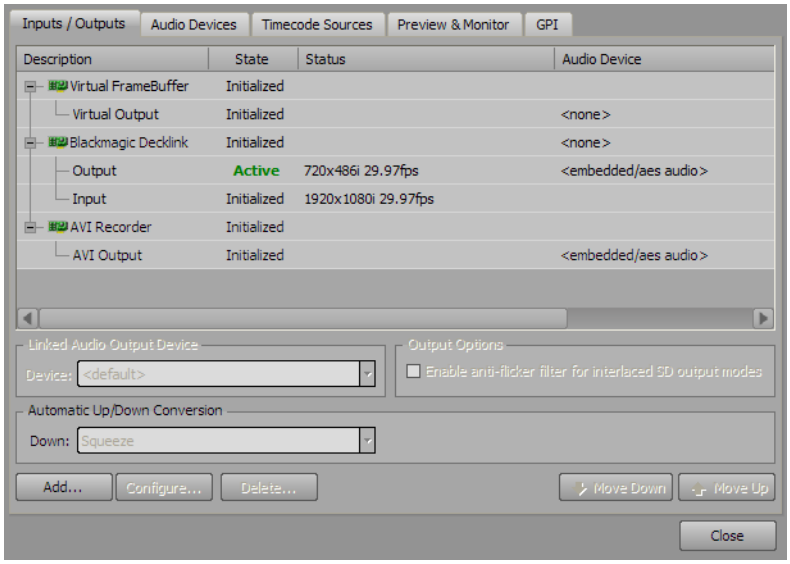
   The **Hardware Setup** dialog box closes.

Change the Order of Video Inputs / Outputs

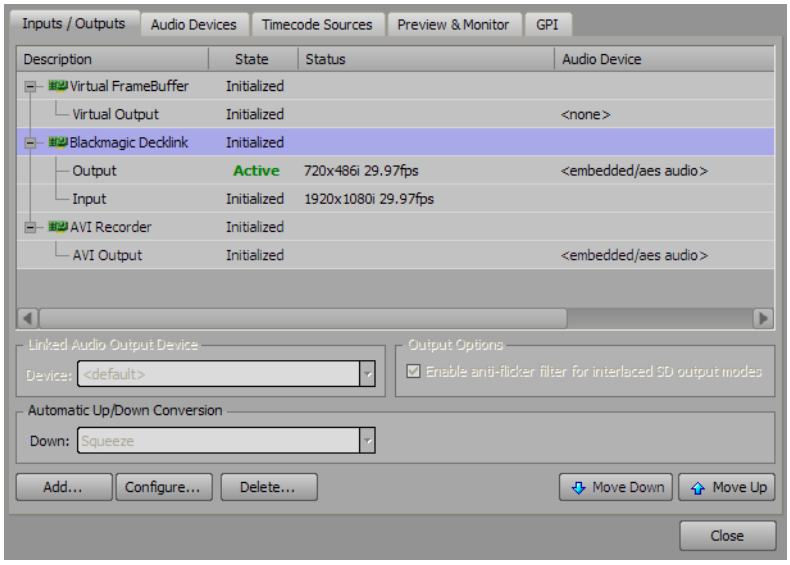
1. In **XPression**, use the **Edit** menu to select **Hardware Setup**.

   The **Hardware Setup** dialog box opens.

2. Click the **Inputs / Outputs** tab.



3. In the **Inputs / Outputs** list, select the **Framebuffer Board**, **Virtual Output**, or **AVI Recorder** to move in the list.



4. At the bottom of the dialog box, click **Move Down** to move the selected device down one position in the **Inputs / Outputs** list, or **Move Up** to move up one position in the list.

   The **Move Up** button is not available when the selected device is positioned at the top of the list. The **Move Down** button is not available when the selected device is positioned at the bottom of the list.

5. Click **Close**.

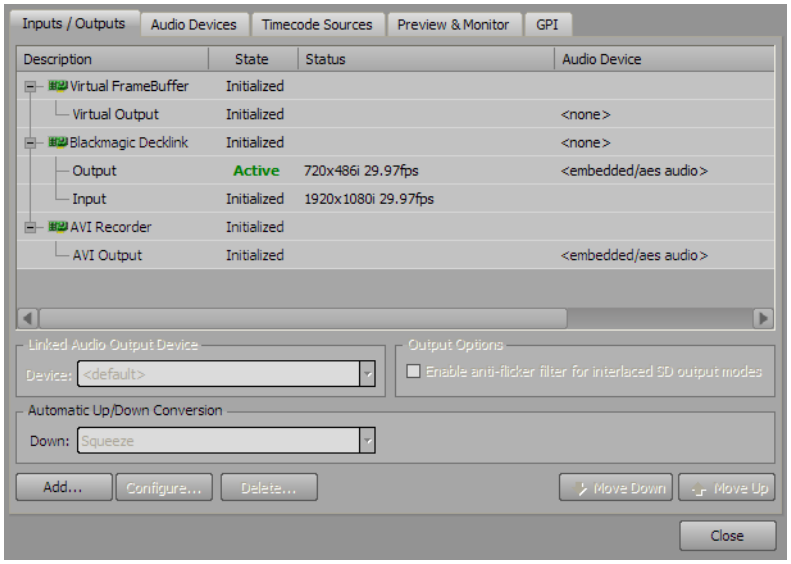
   The **Hardware Setup** dialog box closes.

Delete a Video Input / Output

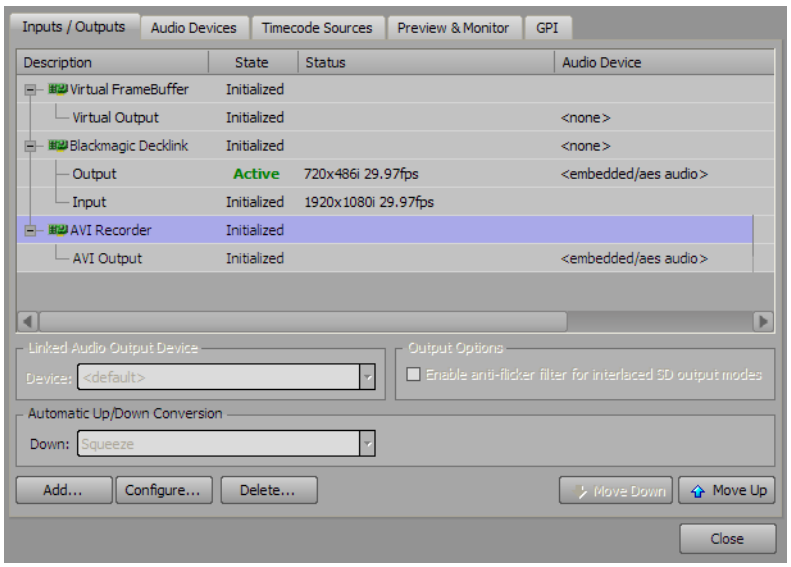
1. In **XPression**, use the **Edit** menu to select **Hardware Setup**.

   The **Hardware Setup** dialog box opens.

2. Click the **Inputs / Outputs** tab.



3. In the **Inputs / Outputs** list, select the **Framebuffer Board**, **Virtual Output**, or **AVI Recorder** to delete.



4. Click **Delete** at the bottom of the dialog box.

   A **Warning** dialog box opens.

5. Click **Yes**.

   The selected video device is deleted from **Inputs / Outputs** list.

6. Click **Close**.

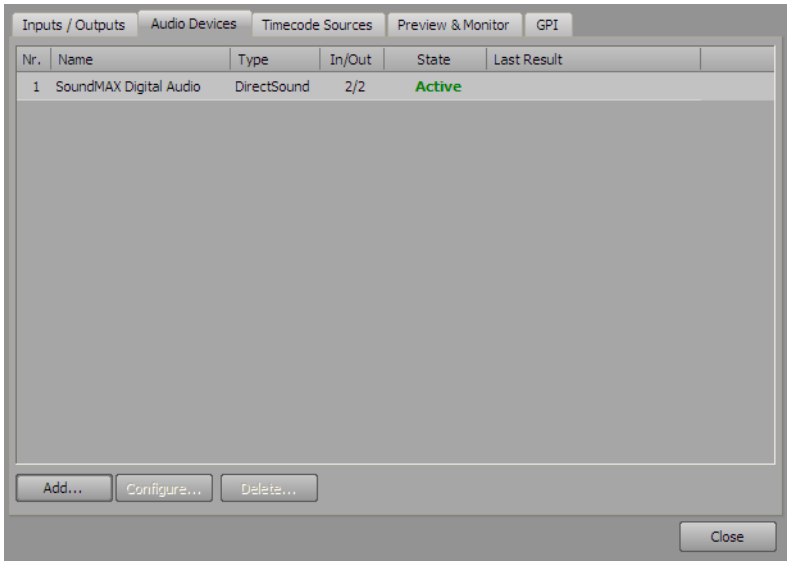
   The **Hardware Setup** dialog box closes.

Configure an Audio Device

1. In **XPression**, use the **Edit** menu to select **Hardware Setup**.

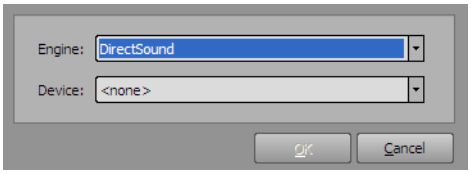
   The **Hardware Setup** dialog box opens.

2. Click the **Audio Devices** tab.



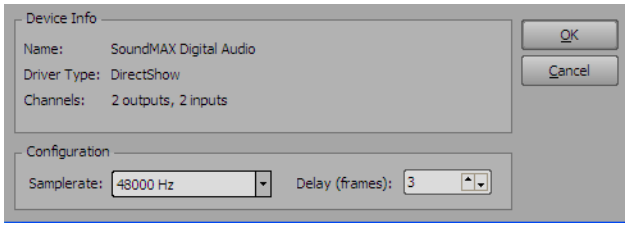
3. Click the **Add**.

   The **Add Audio Device** dialog box opens.



4. Use the **Engine** list to select engine used to produce audio.
5. Use the **Device** list to select the sound card to output audio.
6. Click **OK**.

   The **Audio Engine Setup** dialog box opens.



7. In the **Configuration** section, use the **Sample Rate** list to select the sample rate for the audio signal.

   The selected sample rate defines the number of samples per second taken from analog signal to make a digital signal. A sample rate of 48 kHz is the recommended setting.

8. In the **Delay (frames)** box, enter or select the number of frames to delay the audio signal.

✶ XPression delays video 6 frames when used as material.

9. Click **OK**.

   The configured audio device is added to the **Audio Devices** tab of the **Hardware Setup** dialog box.

10. In the **Hardware Setup** dialog box, click **Close**.

    The **Hardware Setup** dialog box closes.

Note:

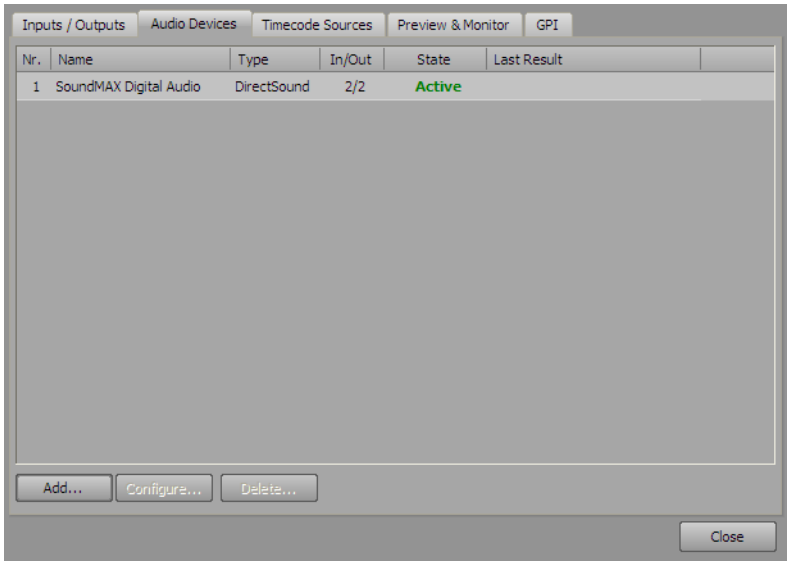
- Adding an audio device is not required to output embedded or AES audio.

Delete an Audio Device

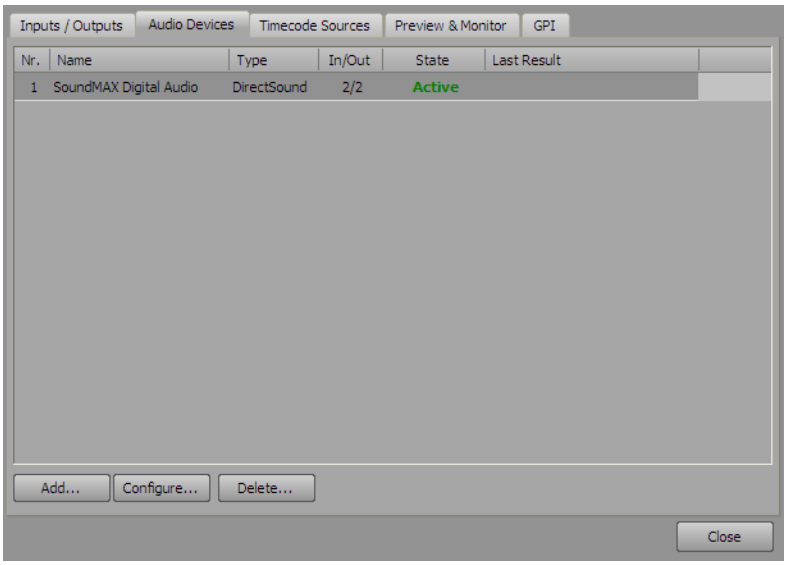
1. In **XPression**, use the **Edit** menu to select **Hardware Setup**.

   The **Hardware Setup** dialog box opens.

2. Click the **Audio Devices** tab.



3. In the **Audio Devices** list, select the **Audio Device** to delete.



4. Click **Delete** at the bottom of the dialog box.

   A **Warning** dialog box opens.

5. Click **Yes**.

   The selected audio device is deleted from **Audio Devices** list.

6. Click **Close**.

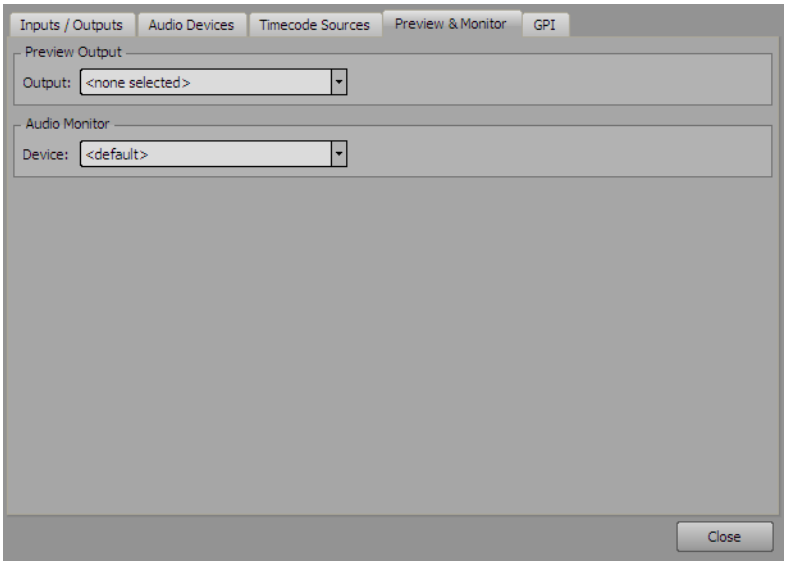
   The **Hardware Setup** dialog box closes.

Configure Video Preview and Audio Monitor

1. In **XPression**, use the **Edit** menu to select **Hardware Setup**.

   The **Hardware Setup** dialog box opens.

2. Click the **Preview & Monitor** tab.



3. In the **Preview Output** section, use the **Output** list select the video output device on which to preview video. All framebuffers can be used to preview video.

   When **<none selected>** is the selected preview output, video preview is only possible within XPression.

4. In the **Audio Monitor** section, use the **Device** list to select the audio output device from which to monitor audio.

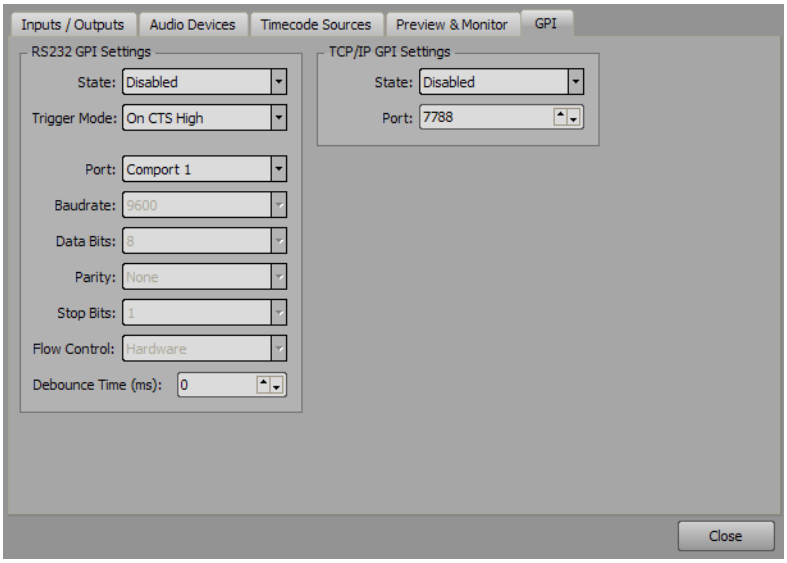
5. Click **Close**.

   The **Hardware Setup** dialog box closes.

Configure GPI for RS232

1. Ensure that a USB-232 dongle is installed and assigned to a Communication port before configuring GPI for RS-232.
2. In **XPression**, use the **Edit** menu to select **Hardware Setup**.

   The **Hardware Setup** dialog box opens.
3. Click the **GPI** tab.



4. In the **RS232 GPI Settings** section, select **Enable** from the **State** list. Select **Disabled** to turn off GPI.

   When enabled, GPI (General Purpose Interface) is used to control functions of XPression in sequencer mode. GPI can trigger the state of the next take of scenes and scene groups from top to bottom of a sequence.
5. Use the **Trigger Mode** list to select the method used to trigger GPI. The available triggers are as follows:
   - **On CTS High** — trigger GPI when the XPression computer receives a Clear-To-Send signal through an RS232 (serial) connection.
   - **On DSR High** — trigger GPI when the XPression computer receives a Data-Set-Ready signal through an RS232 (serial) connection.
   - **On Smart Command** — trigger GPI when the XPression computer receives a command through a TCP/IP network connection.
6. Use the **Port** list to select the Communication port that receives GPI signals.
7. Use the **Baudrate** list to select the communication speed for GPI signals.
8. Use the **Data Bits** list to select the number of bits used to represent one character of data for GPI signals.
9. Use the **Parity** list to select the method used to check for lost data in a GPI signal.
10. Use the **Stop Bits** list to select the number of bits used to indicate the end of a byte in a GPI signal.
11. Use the **Flow Control** list to select the data transmission rate controller for a GPI signal.

    When using CTS or DSR GPIs, the flow control must be set to **Hardware**. When using Smart GPIs, the flow control can be set to **Hardware** or **None**, but it must be set the same in both XPression and the transmitting device.
12. In the **Debounce Time** box, enter or select the amount of milliseconds between sequential GPI pulses.
13. Click **Close**.

    The **Hardware Setup** dialog box closes.

For More Information on...

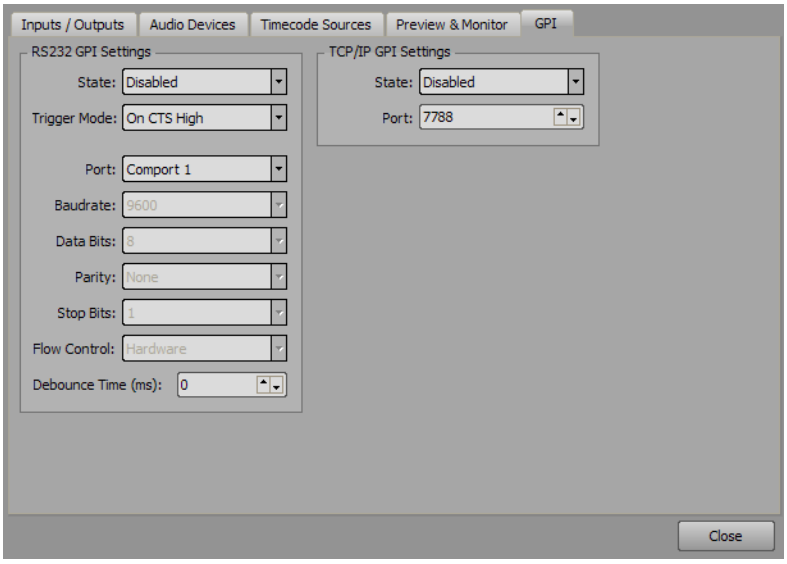
- configuring and working with GPIs, refer to the ***GPI White Paper*** available from Ross Video.

Configure GPI for TCP/IP

1. In **XPression**, use the **Edit** menu to select **Hardware Setup**.

   The **Hardware Setup** dialog box opens.

2. Click the **GPI** tab.



3. In the **TCP/IP GPI Settings** section, select **Enable** from the **State** list. Select **Disabled** to turn off GPI.

   When enabled, GPI (General Purpose Interface) is used to control functions of XPression in sequencer mode. GPI can trigger the state of the next take of scenes and scene groups from top to bottom of a sequence.

4. In the **Port** box, enter or select the communication port that receives GPI signals.

5. Click **Close**.

   The **Hardware Setup** dialog box closes.

For More Information on...

- configuring and working with GPIs, refer to the ***GPI White Paper*** available from Ross Video.

Scenes

Within in an XPression project, scenes are the containers that hold all of the objects and animations you build to form your graphical creation.

The following topics are discussed in this section:

- Create a Project
- Create a Scene
- Duplicate a Scene
- Delete a Scene
- Create a Scene Group
- Duplicate a Scene Group
- Delete a Scene Group
- Create a Roll/Crawl from a Scene Group
- Customize a Scene Group Roll/Crawl

Create a Project

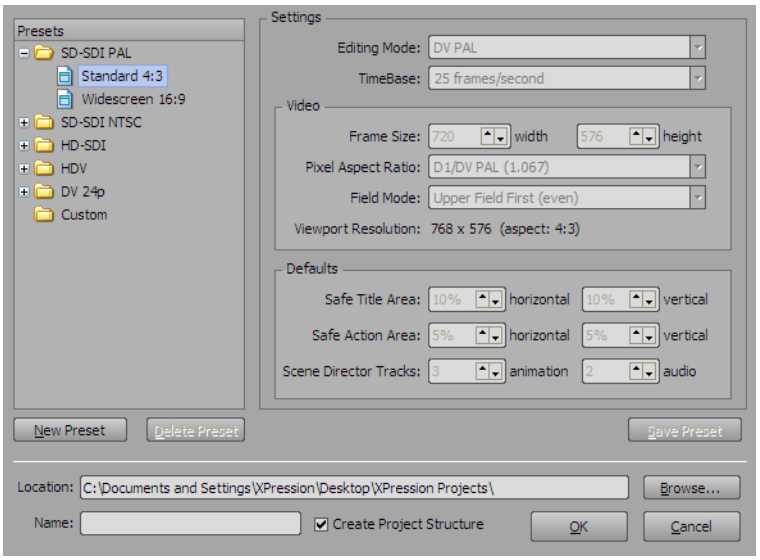
1. In **XPression**, use the **File** menu to select **New**.

   The **Confirm** dialog box opens.

2. Select one of the following options for the current project:

   - **Yes** — save changes to the current project, then close the project.
   - **No** — close the project without saving changes.
   - **Cancel** — continue working on the project.

   After selecting **Yes** or **No**, the **New Project** dialog box opens.



3. In the **Presets** tree view, expand any video format node to view the available settings presets for the selected video format.

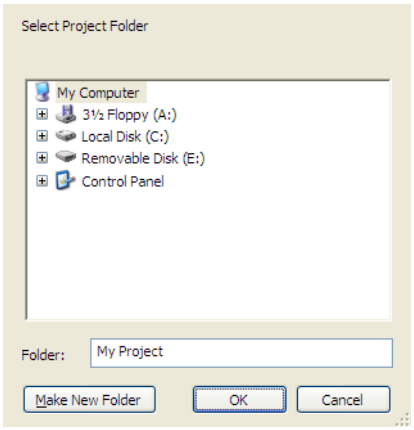
   The available settings presets are displayed for the selected video format.

4. Select a setting preset to define video format setting for the new project.

   The settings in the selected preset are displayed in the **Settings** section.

5. Click **Browse** to the right of the **Location** box to select a folder in which save the new project.

   The **Browse for Folder** dialog box opens.



6. In the **Folder** tree view, locate and select a folder in which save the new project.
7. Click **OK**.

In the **New Project** dialog box, the full pathname of the selected folder is displayed in the **Location** box.

8. Enter in the **Name** box a name for the new project.

   Project names may only contain letters, numbers, spaces, hyphens, or underscores. Project files are saved with the extension .xpf.

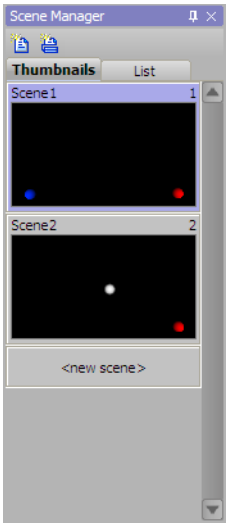
9. Select the **Create Project Structure** check box to automatically create folders within the project folder to store project items (audio, video, dedicated fonts, images. models, etc.).

10. Click **OK**.

    The new project is saved in the project folder and the **New Project** dialog box closes.

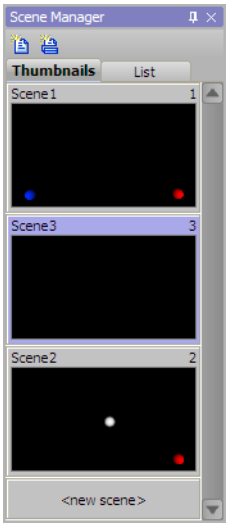
Create a Scene

1. In the **Scene Manager** window, select the scene or scene group below which to add a new scene.



2. Click the **New Scene** button in the toolbar.

   A new scene is added to the **Scene Manager** window below the scene or scene group selected in the scene list.



3. In the title bar of the new scene, right-click the scene name and select **Rename** from the shortcut menu.

   The scene name is selected for editing.

4. Enter a new name for the scene.

5. Press the **Return** key to save the new scene name.

   The scene title bar displays the entered name.

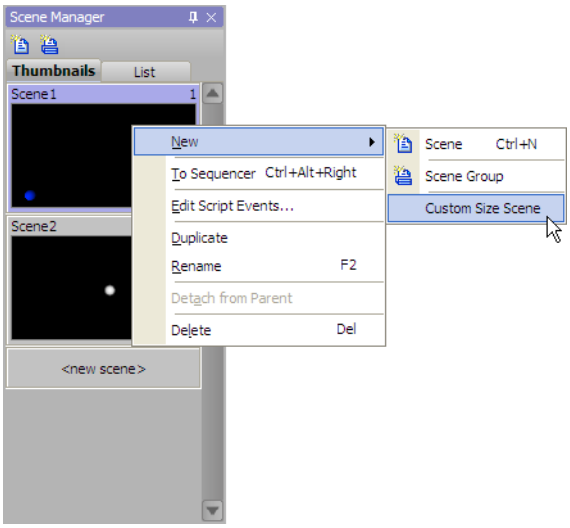
For More Information on...

- adding text objects to a scene, refer to the procedure "**Create a Text Object**" on page 5–2.
- adding text objects to a scene, refer to the procedure "**Create a Quad Object**" on page 8–2.
- adding text objects to a scene, refer to the procedure "**Create a Sphere Object**" on page 8–5.
- adding text objects to a scene, refer to the procedure "**Create a Cube Object**" on page 8–8.
- adding text objects to a scene, refer to the procedure "**Import a 3D Model into a Scene**" on page 8–20.

Create a Custom Size Scene

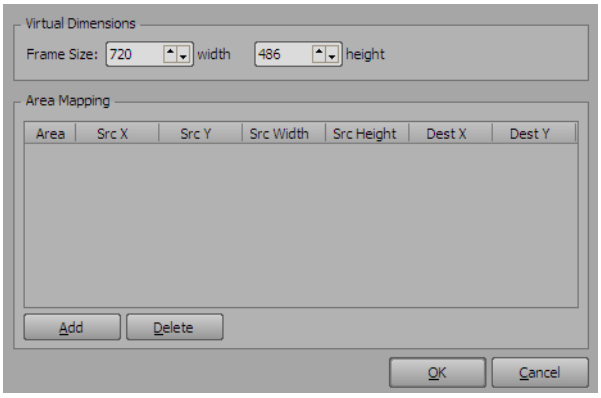
1. In the **Scene Manager** window, right-click the scene or scene group below which to add a new scene.

   The shortcut menu opens.



2. Select **New** > **Custom Size Scene** from the shortcut menu.

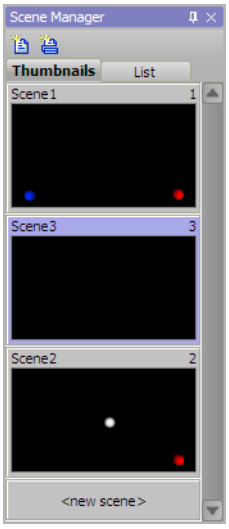
   The **New Scene** dialog box opens.



3. In the **Virtual Dimensions** section, use the **Width** box to enter or select the width in pixels of the new scene.
4. In the **Height** box, enter or select the height in pixels for the new scene.

5. Click **OK** to create a new scene with the defined settings and close the New Scene dialog box.

   A new scene is added to the **Scene Manager** window below the scene or scene group selected in the scene list.



6. In the title bar of the new scene, right-click the scene name and select **Rename** from the shortcut menu.

   The scene name is selected for editing.

7. Enter a new name for the scene.

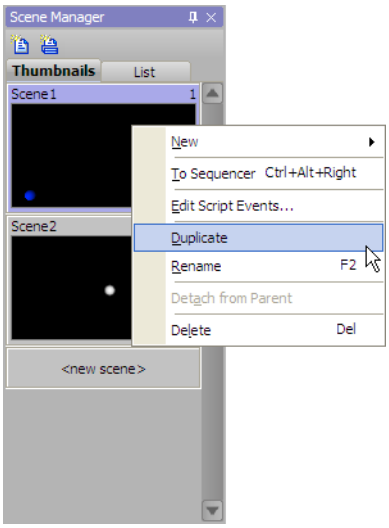
8. Press the **Return** key to save the new scene name.

   The scene title bar displays the entered name.

Duplicate a Scene

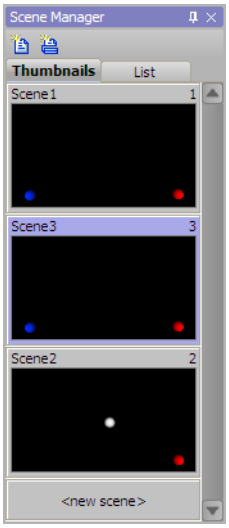
1. In the **Scene Manager** window, right-click the scene to duplicate.

   The shortcut menu opens.



2. Select **Duplicate** from the shortcut menu.

   A new scene is added to the **Scene Manager** window below the scene selected to duplicate.



3. In the title bar of the new scene, right-click the scene name and select **Rename** from the shortcut menu.

   The scene name is selected for editing.

4. Enter a new name for the scene.

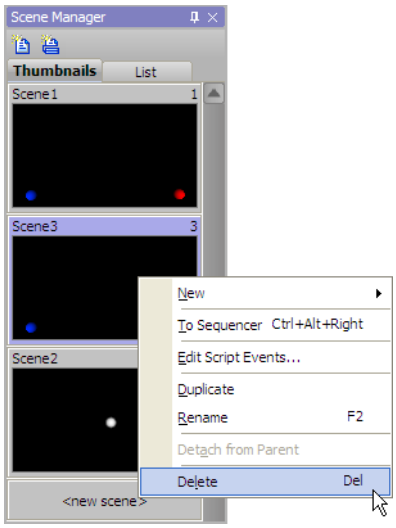
5. Press the **Return** key to save the new scene name.

   The scene title bar displays the entered name.

Delete a Scene

1. In the **Scene Manager** window, right-click the scene to delete.

   The shortcut menu opens.

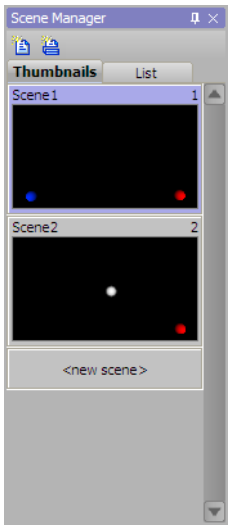


2. Select **Delete** from the shortcut menu.

   The **Warning** dialog box opens

3. Click **Yes**.

   The selected scene is deleted from the **Scene Manager** window.

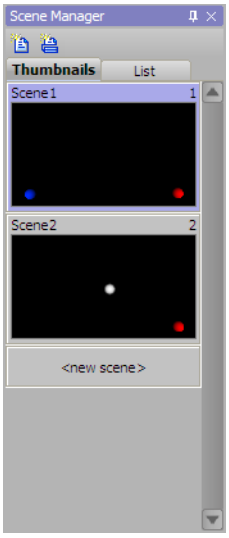


✶ Deleting a scene also deletes all of the objects contained in the scene.

Create a Scene Group

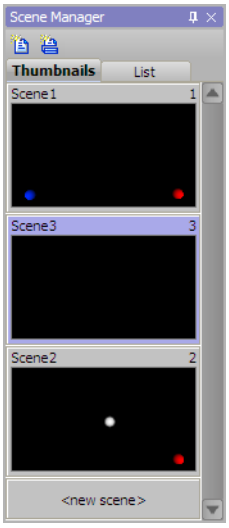
A scene group is a collection of scenes that when played out, displays a vertical rolling credits effect or a horizontal crawling ticker effect.

1. In the **Scene Manager** window, select the scene or scene group above which to add a new scene group.



2. Click the **New Scene Group** button in the toolbar.

   A new scene group is added to the **Scene Manager** window above the scene or scene group selected in the scene list.



3. In the title bar of the new scene group, right-click the scene group name and select **Rename** from the shortcut menu.

   The scene group name is selected for editing.

4. Enter a new name for the scene group.

5. Press the **Return** key to save the new scene group name.

   The scene group title bar displays the entered name.

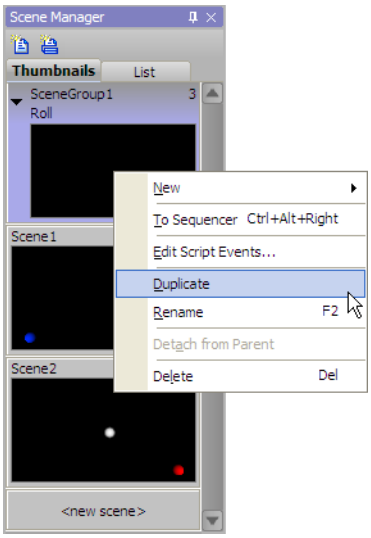
For More Information on...

- rendering output to an AVI file, refer to the procedure "**Create a Roll/Crawl from a Scene Group**" on page 4–12.

Duplicate a Scene Group

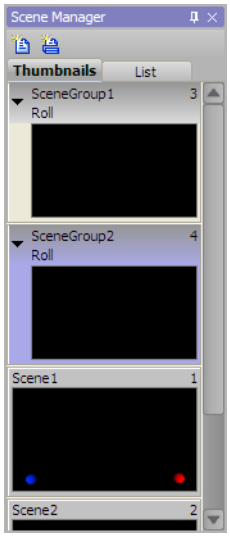
1. In the **Scene Manager** window, right-click the scene group to duplicate.

   The shortcut menu opens.



2. Select **Duplicate** from the shortcut menu.

   A new scene group is added to the **Scene Manager** window below the scene group selected to duplicate. All of the scenes contained in the original scene group are duplicated in the new scene group.



3. In the title bar of the new scene group, right-click the scene group name and select **Rename** from the shortcut menu.

   The scene group name is selected for editing.

4. Enter a new name for the scene group.

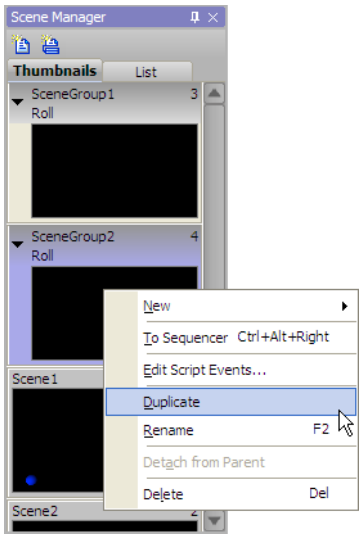
5. Press the **Return** key to save the new scene group name.

   The scene group title bar displays the entered name.

Delete a Scene Group

1. In the **Scene Manager** window, right-click the scene group to delete.

   The shortcut menu opens.



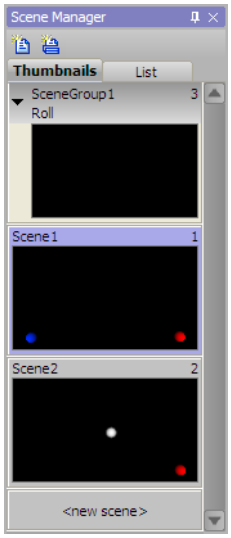
2. Select **Delete** from the shortcut menu.

   The **Warning** dialog box opens

✶ Deleting a scene group also deletes all of the scenes contained in the scene group.

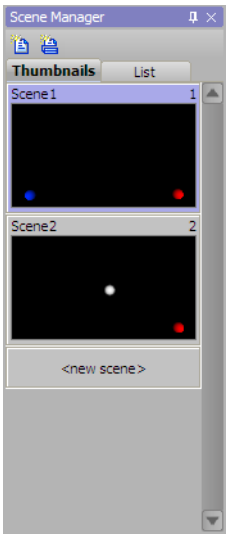
3. Click **Yes**.

   The selected scene group is deleted from the **Scene Manager** window.



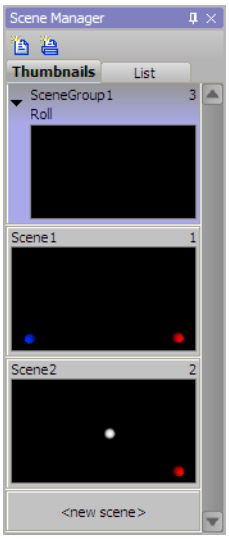
Create a Roll/Crawl from a Scene Group

1. Create a new XPression project or open an existing XPression project to add a roll/crawl effect.
2. In the **Scene Manager** window, select the scene or scene group above which to add a new scene group.



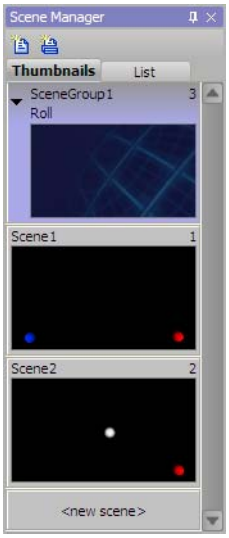
3. Click the **New Scene Group** button in the toolbar.

   A new scene group is added to the **Scene Manager** window above the selected scene or scene group. By default, new scene groups are configured to play a Roll (bottom to top) effect.



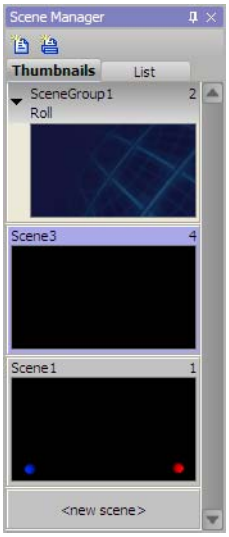
4. Add objects to the scene group scene that need to be seen for the entire duration of the roll/crawl effect.

   For example, add objects to the scene group scene that comprise the background for a roll/crawl effect.



5. Click the **New Scene** button in the toolbar to add the first scene for the roll/crawl effect.

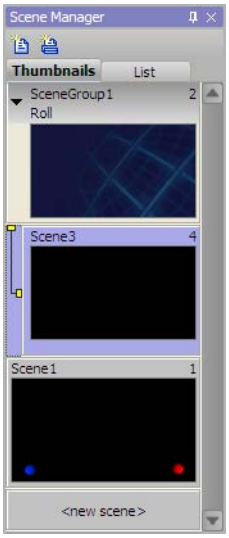
   A new scene is added below the scene group.



6. On the new scene, click and hold the left mouse button.
7. Drag the selected scene on top of the scene group scene.

8. Release the left mouse button.

   The new scene is added to scene group. Scenes contained in a scene group are indented and connected to the scene group by a leader line.



9. Add objects to the scene that are to move as part of the roll/crawl effect.

   For example, add a text object to the scene to represent the first line of text for a set of credits played by the roll/crawl effect.

10. Add additional scenes to the scene group as required.

    Duplicating the first scene added to a scene group is a quick way to add the scenes required for a roll/crawl effect. Scene duplication enables object reuse and object alignment to be maintained between scenes.

11. Add objects to and/or edit existing objects in the scenes that were added to the scene group.

    For example, each scene could contain a text object that represents one line of text in a set of credits played by the roll/crawl effect.

12. If the position of a scene in the scene group needs to be changed, click on the scene and drag it the required position in the scene group.

13. Double-click the scene group to playout the defined roll/crawl effect.

    The selected scene group is sent to the default output.

14. Press the **Spacebar** to start the scene group playout.

    The defined roll/crawl effect plays out through the default output.

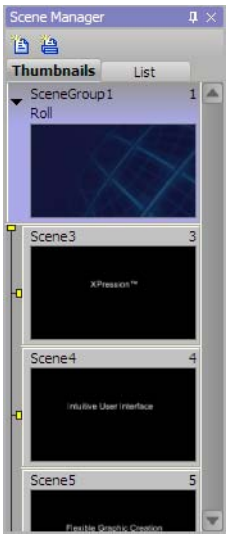
For More Information on...

- duplicating scenes, refer to the procedure "**Duplicate a Scene**" on page 4–7
- customizing a scene group roll/crawl effect, refer to the procedure "**Customize a Scene Group Roll/Crawl**" on page 4–15 or the Online Help for the **Scene Group** tab of the **Object Inspector**.

Customize a Scene Group Roll/Crawl

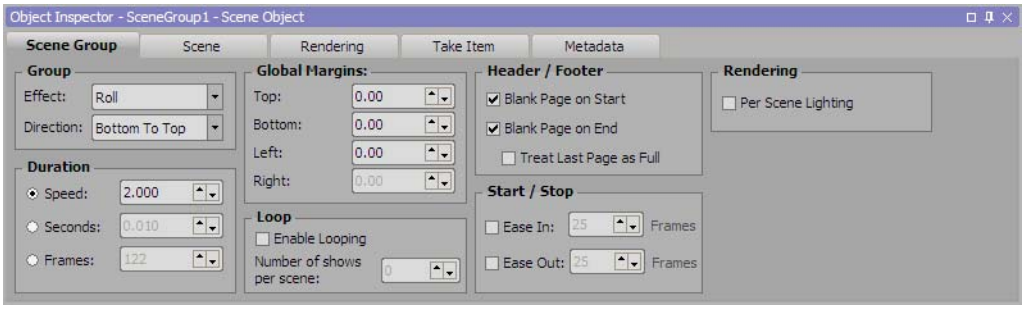
1. In the **Scene Manager** window, select the scene group to customize.

   The selected scene group and the objects contained in it are listed in the **Object Manager** window.



2. In the **Object Inspector - Scene Object** window, click the **Scene Group** tab.

   The **Scene Group** tab opens with the properties for the selected scene group.



3. Use the properties in the **Group** section to set roll/crawl effect properties for a scene group.

Properties

Effect — use this list to select the roll/crawl effect with which to playout scenes in a scene group. The available effects are as follows:

- **Roll** — move scene objects vertically.
- **Crawl** — move scene objects horizontally.

Direction — use this list to select the direction for the selected roll/crawl effect. The available directions depend on the selected **Effect**, and are as follows:

Roll Effect	Crawl Effect
• **Bottom To Top**	• **Right To Left**
• **Top To Bottom**	• **Left To Right**

4. Use the properties in the **Duration** section to set the playout duration for the selected roll/crawl effect.

Properties

Speed — select this option to define the roll/crawl effect playout duration in pixels per second. Use the box to the right of this option to enter or select the number of pixels per second to playout a roll/crawl effect.

Seconds — select this option to define the roll/crawl effect playout duration in seconds. Use the box to the right of this option to enter or select the number of seconds in which to playout a roll/crawl effect.

Frames — select this option to define the roll/crawl effect playout duration in frames. Use the box to the right of this option to enter or select the number of frames in which to playout a roll/crawl effect.

5. Use the properties in the **Global Margins** section to set the spacing between scenes displayed in a roll/crawl effect.

Properties

Top — in this box, enter or select the size in pixels of the margin placed above objects in a scene. This margin is used to control vertical spacing between consecutive scenes played out in a roll effect. This box is only available when **Roll** is selected from the **Effect** list.

Bottom — in this box, enter or select the size in pixels of the margin placed below objects in a scene. This margin is used to control vertical spacing between consecutive scenes played out in a roll effect.

Left — in this box, enter or select the size in pixels of the margin placed to the left of objects in a scene. This margin is used to control horizontal spacing between consecutive scenes played out in a crawl effect.

Right — in this box, enter or select the size in pixels of the margin placed to the right of objects in a scene. This margin is used to control horizontal spacing between consecutive scenes played out in a crawl effect. This box is only available when **Crawl** is selected from the **Effect** list.

6. Use the properties in the **Loop** section to set the number of times to playout a roll/crawl effect.

Properties

Enable Looping — select this check box to loop the playout of a roll/crawl effect. Clear this check box to only playout the roll/crawl effect one time.

Number of Shows Per Scene — in this box, enter or select the number of times to loop the playout of a roll/crawl effect. Enter `0` to infinitely loop the playout.

This box is only available when the Enable Looping check box is selected.

7. Use the properties in the **Header/Footer** section to set the type of page with which to start and end a roll/crawl effect.

Properties

Blank Page on Start — select this check box to start the roll/crawl effect with a blank page before displaying the scenes in the roll/crawl effect. Clear this check box to start the roll/crawl effect with the first scene in the scene group.

Blank Page on End — select this check box to end the roll/crawl effect with a blank page after displaying the scenes in the roll/crawl effect. Clear this check box to end the roll/crawl effect with the last scene in the scene group.

Treat Last Page as Full — select this check box to display the last scene in a roll/crawl effect as a full page.

8. Use the properties in the **Start/Stop** section to control the start and end playout speed of a roll/crawl effect.

Properties

Ease In — select this check box to slow the playout speed at the start of a roll/crawl effect.

Frames — in this box, enter or select the number of frames at which to return a roll/crawl effect to normal playout speed.

Ease Out — select this check box to slow the playout speed at the end of a roll/crawl effect.

Frames — in this box, enter or select the number of frames from the end of a roll/crawl effect at which to slow the playout speed.

9. Use the property in the **Rendering** section to control lighting for a roll/crawl effect.

Property

Per Scene Lighting — select this check box to use a different lighting source for each scene in a roll/crawl effect. Clear this check box to use the lighting source in the first scene of the scene group for all of the other scenes in the roll/crawl effect.

10. Double-click the scene group to preview the customized roll/crawl effect.

    The selected scene group is sent to the default output.

11. Press the **Spacebar** to start the scene group playout.

    The customized roll/crawl effect plays out through the default output.

Text

In XPression, text can be linked to various sources and formatted using defined styles.

The following topics are discussed in this section:

- Create a Text Object
- Publish Template Links
- Use Tabs in a Text Object
- Align Text Objects to Build a Table
- Apply a Material to a Text Object

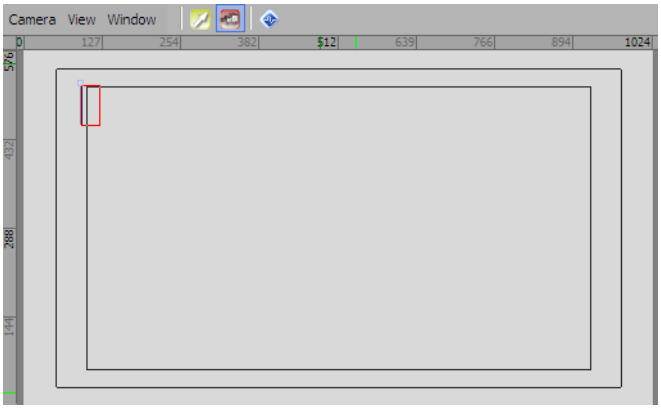
Create a Text Object

1. In the **Scene Manager** window, select the scene or scene group to add a text object.

   The selected scene or scene group is displayed in the active **Viewport**.

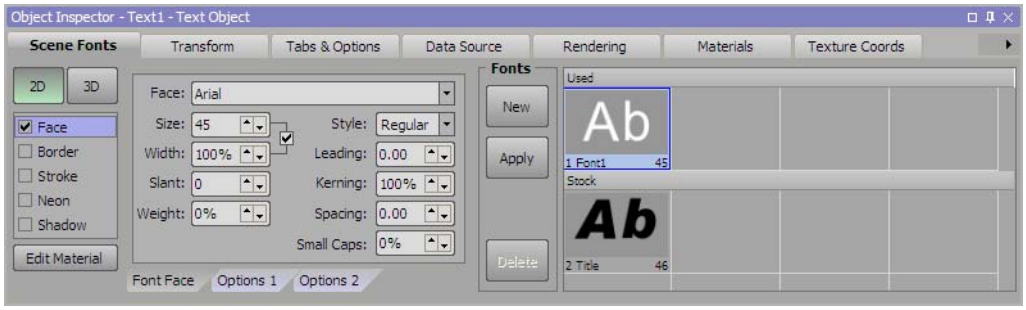
2. In the **Base Objects** section of the **Object Library** window, click the **Text** button.

   A new text object is added to the upper left corner of the active **Viewport**.



3. In the **Object Inspector - Text Object** window, click the **Scene Fonts** tab.

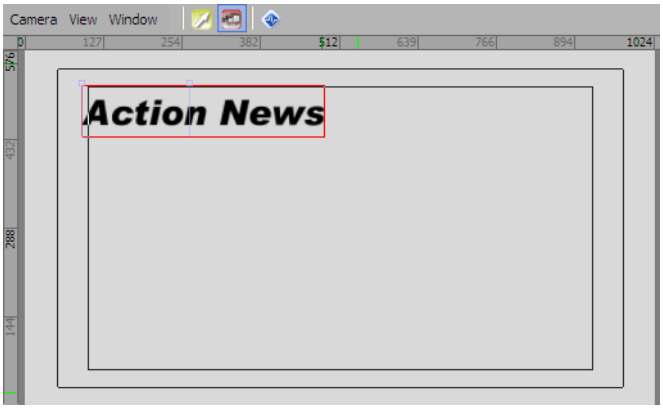
   The **Scene Fonts** tab opens.



4. Select a font for the text object from the **Used** or **Stock** font list.

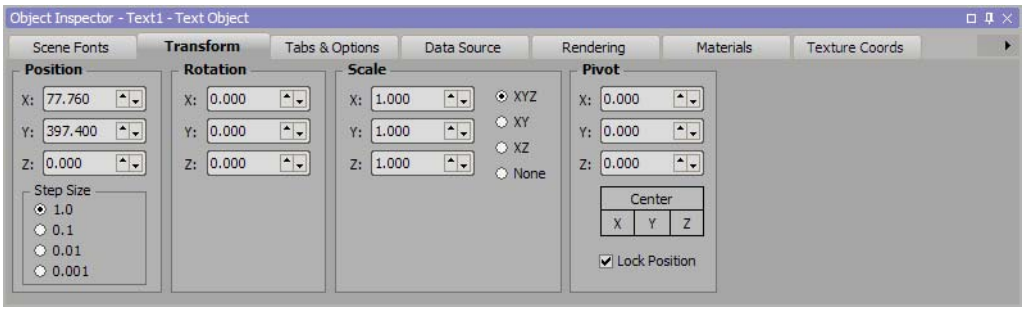
5. Type the text for the text object.

   The entered text is displayed in the text object.



6. To move the text object to a new position in the **Viewport**, place the cursor on the text object, press the **Ctrl** key, then click and drag the text object to a new position.

The settings on the **Transform** tab of the **Object Inspector - Text Object** window can be used to precisely position a text object.



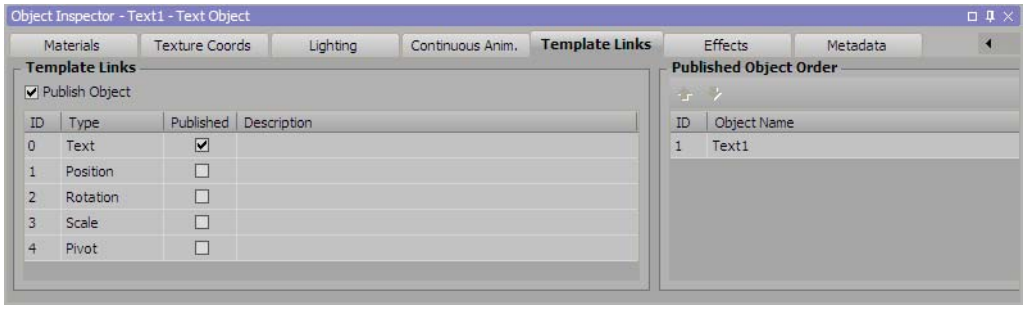
For More Information on...

- fonts, refer to the section "**Fonts**" on page 12–1.

Publish Template Links

1. Add a text object to a scene.
2. Select the new text object.
3. In the **Object Inspector - Text Object** window, click the **Template Links** tab.

   The **Template Links** tab opens.



   The **Template Links** tab lists the attributes associated with the selected object that can be published to the **Template Data** section in the **Sequencer**, where they are used in output mode to replace the template values.

4. In the **Template Links** section, select the **Publish Object** check box to publish the selected object.

   The object attribute information available for publishing and automation is listed below the **Publish Object** check box.

5. Select the check box in the **Published** column for each object attribute to publish.

   Text objects are published by default. This default can be disabled in the Project Properties.

6. If required, use the  and  button in the **Published Object Order** section to change the position of a selected object in the publishing hierarchy.

   The publishing hierarchy determines the order in which the published parameters are listed in the **Take Inspector - Group** window. Objects higher in the hierarchy are displayed higher in the list of published parameters.

For More Information on...

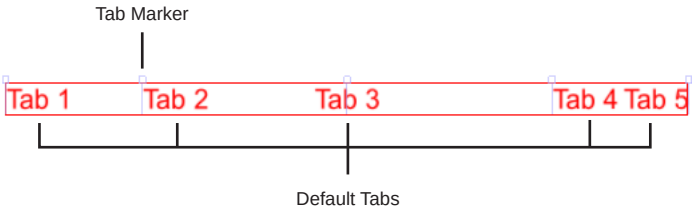
- adding a text object to a scene, refer to the procedure "**Create a Text Object**" on page 5–2.
- modifying template content for playout, refer to the procedure "**Modify Template Content**" on page 14–3.

Use Tabs in a Text Object

Tab are used to align text at set positions.

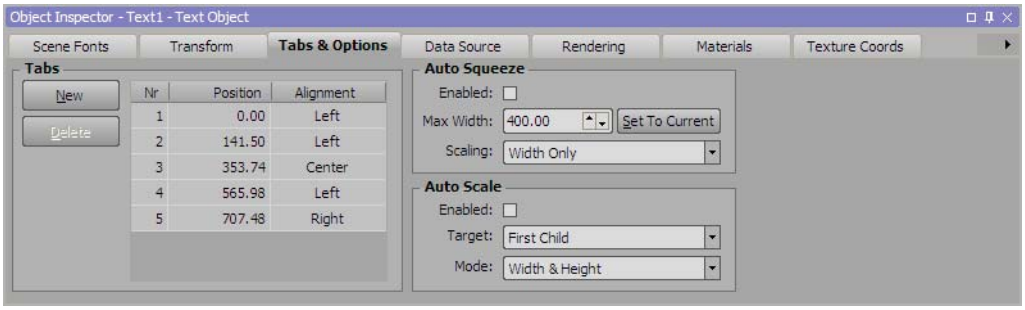
1. Add a text object to a scene.
2. Enter some text in the new text object, then press the **Tab** key.

   After the entered text, the cursor is positioned at the tab that follows the text. By default, five tabs are set for a text object. In a text object, tab positions are marked by a vertical line with an square on top.



3. To edit the tabs set for a text object, click the **Tabs & Options** tab in the **Object Inspector - Text Object** window.

   The **Tabs & Options** tab opens.



   The **Tabs** section lists the five default tab positions.

4. Use the **Tabs** section to edit, add, or delete tabs.
   a. To edit the position of a tab, click in the **Position** column and enter or select a new tab position in pixels.

      The text associated with the edited tab automatically moves to the new tab position.

   b. To edit the alignment of a tab, click in the **Alignment** column and select a new text alignment for the tab.

      The text associated with the edited tab automatically move to match the new text alignment set for the tab. The first tab sets the justification of a text object when no other tab are used.

   c. To add a new tab, click **New**.

      The new tab is added to the end of the tab list. Edit the values in the **Position** and **Alignment** columns to modify the new tab.

   d. To delete a tab, select the tab to delete in the tab list then click **Delete**.

      After a tab is deleted, text is reformatted to align with the remaining tabs.

5. Use the **Auto Squeeze** section to set the size settings of the text object.
   a. Select the **Enabled** check box to scale the text content within the maximum width of the text object.
   b. In the **Max Width** box, enter or select the maximum width of the text object.
   c. Click **Set To Current** to set the maximum width to the current width of the text object.

d. Use the **Scaling** list to select the scaling condition of the auto squeeze. The available scaling options are as follows:

- **Width Only** — select to apply auto squeeze to the width of the text object.
- **Height & Width** — select to apply auto squeeze to the height and width of the text object.

6. Use the **Auto Scale** section to set the scaling of the children to the parent text object.

a. Select the **Enabled** check box to scale children according to the auto squeeze settings of the selected text object.

b. Use the **Target** list to select the children to scale according to the auto squeeze configuration of the parent text object. The available target options are as follows:

- **First Child** — scale the first child according to the auto squeeze configuration of the parent text object.
- **Children** — scale the children according to the auto squeeze configuration of the parent text object.

c. Use the **Mode** list to select the scaling condition of the auto scale. The available mode options are as follows:

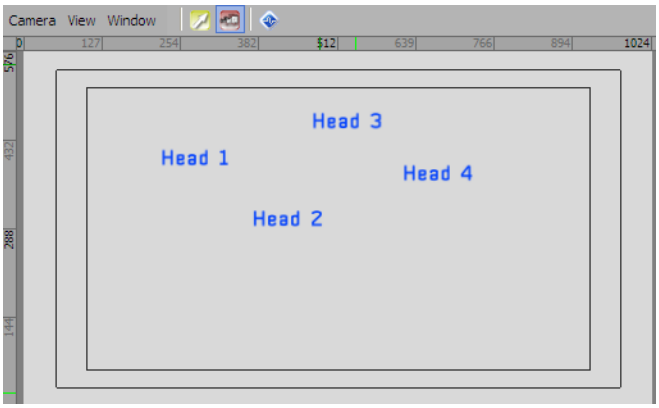
- **Width & Height** — select to apply auto scale to the width and height of the first child or children.
- **Width Only** — select to apply auto scale to the width of the of the first child or children.
- **Height Only** — select to apply auto scale to the height of the of the first child or children.

For More Information on...

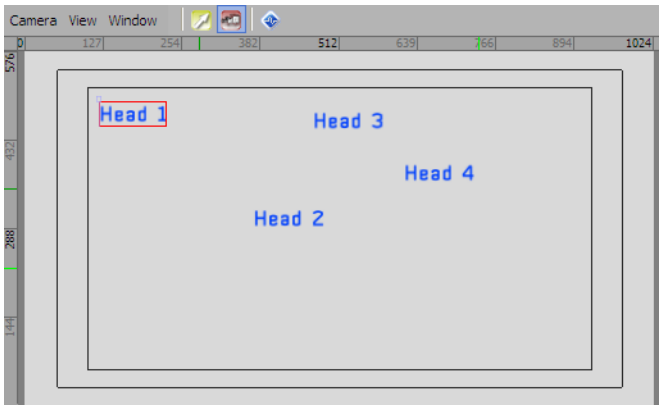
- adding a text object to a scene, refer to the procedure "**Create a Text Object**" on page 5–2.

Align Text Objects to Build a Table

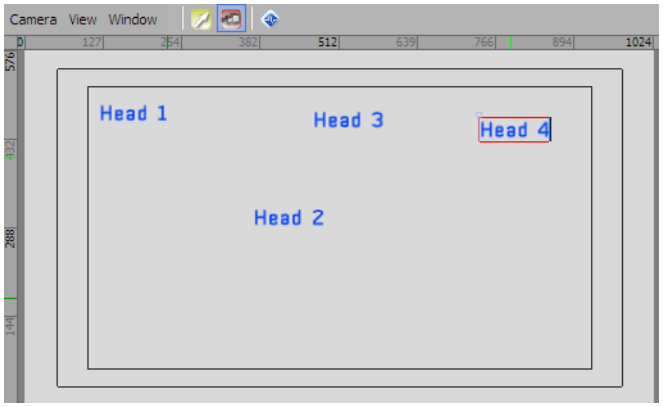
1. In the **Scene Manager** window, select the scene or scene group to add a table.
2. Create a text object for each column heading in the table.



3. Position the text object of the first column heading in the scene to set the top left corner of the table.

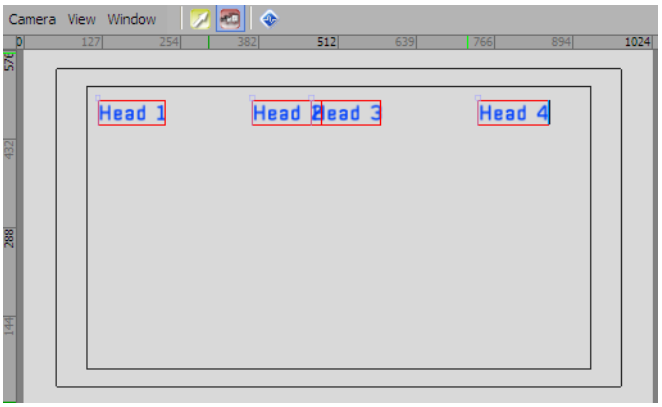


4. In relation to the first column heading text object, position the text object of the last column heading to set the table width.

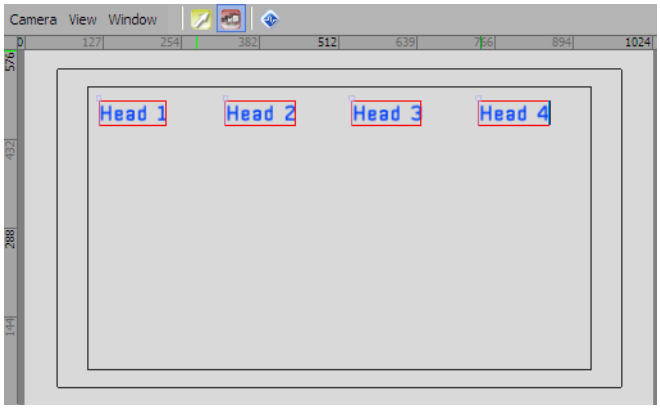


5. Use the **Selection** tool to select the text object of the first column heading.
6. Shift-click each of the remaining column heading text objects.
7. Click the **Align Bottom Edges** button in the toolbar.

   The bottom edges of all the column headings are aligned with the first column heading.

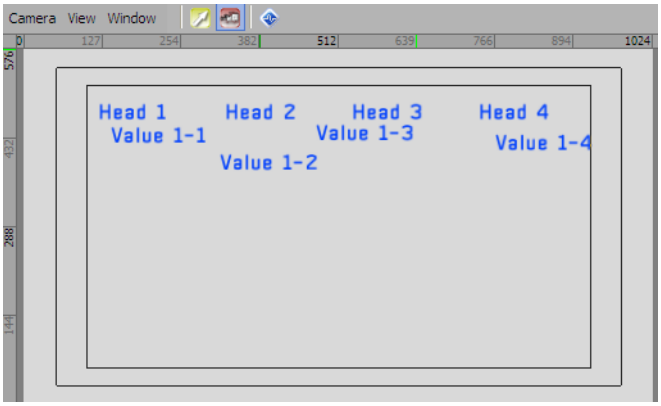


8. Click the **Distribute Objects Horizontally** button in the toolbar.

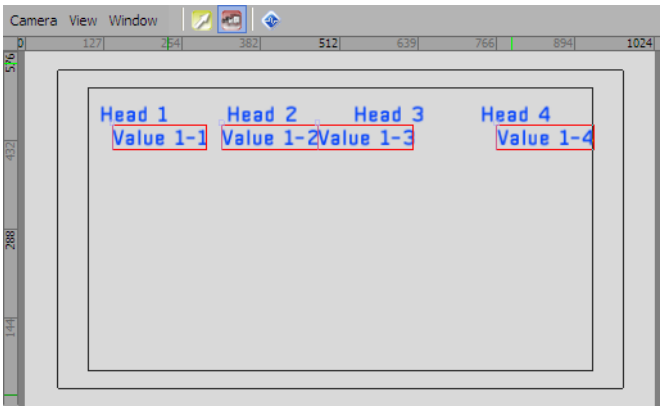


The column heading text objects are evenly distributed between the first and last column heading.

9. Below the column heading text objects, create a text object for each column value in the first row of the table.

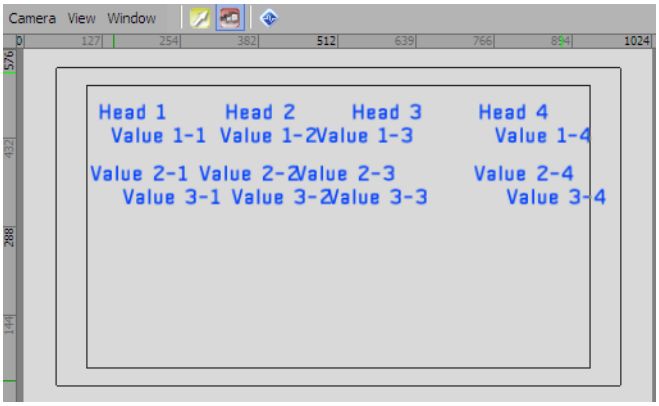


10. Use the **Selection** tool to select the text object of the first column value.
11. Shift-click each of the remaining column value text objects.
12. Click the **Align Bottom Edges** button in the toolbar.



The bottom edges of all the column values are aligned with the first column value.

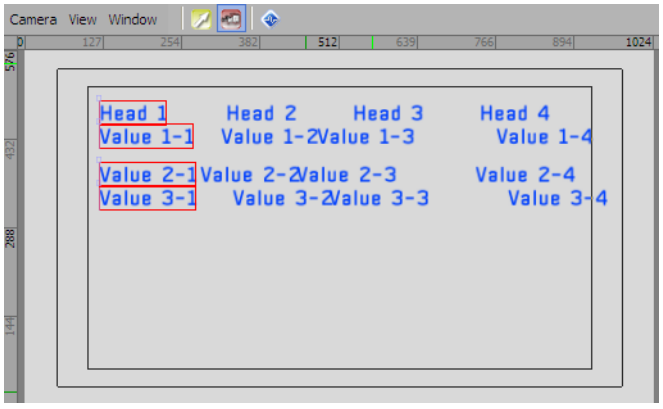
13. To create additional table rows, repeat steps 9 to 12.



14. Use the **Selection** tool to select the text object of the first column heading.

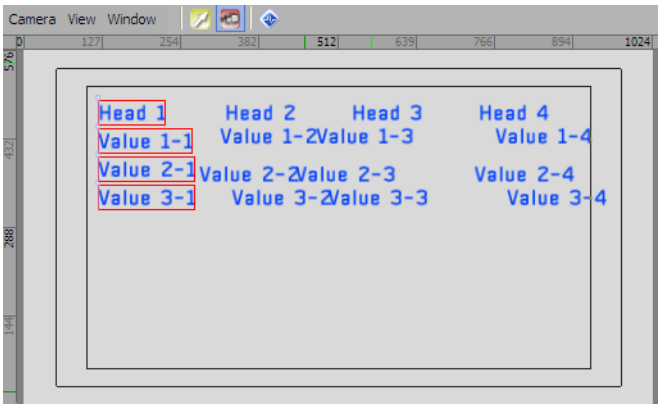
15. Shift-click each of the remaining text objects in the first column of the table.

16. Click the **Align Left Edges** button in the toolbar.



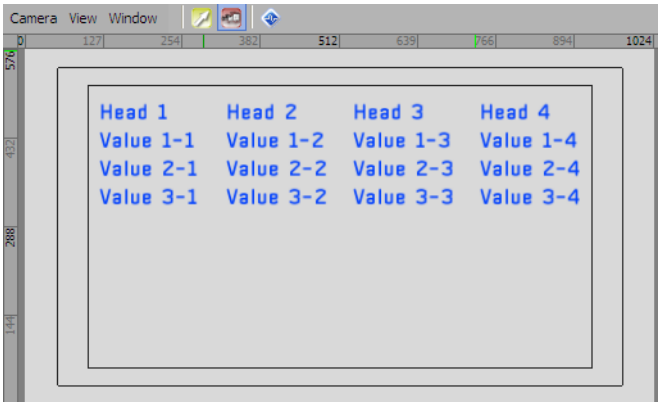
The left edges of all the text objects in the first column of the table are aligned with the first column heading.

17. Click the **Distribute Objects Vertically** button in the toolbar.



All the text objects in the first column of the table are evenly distributed between the column heading and the last table row.

18. For each of the remaining table columns, repeat steps 14 to 17.

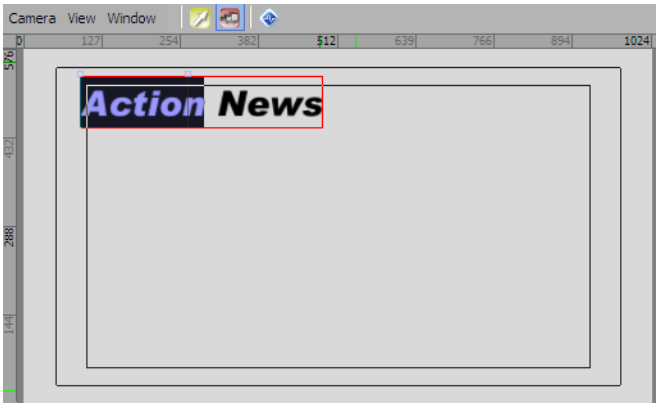


For More Information on...

- creating text objects, refer to the procedure "**Create a Text Object**" on page 5–2.

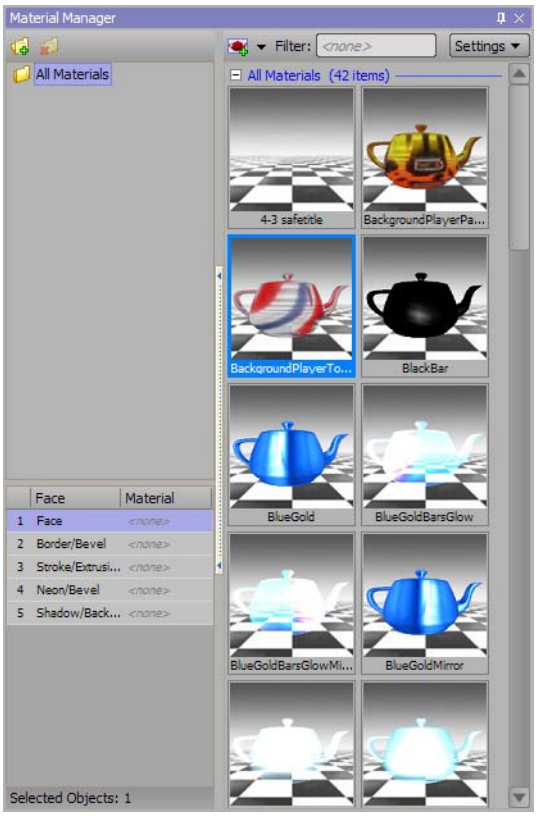
Apply a Material to a Text Object

1. Select the characters in the text object to apply a material.



2. Use the **Display** menu to select **Material Manager**.

   The **Material Manager** window opens.



   The **Material Manager** contains text materials and materials, which can be applied to text and other objects.

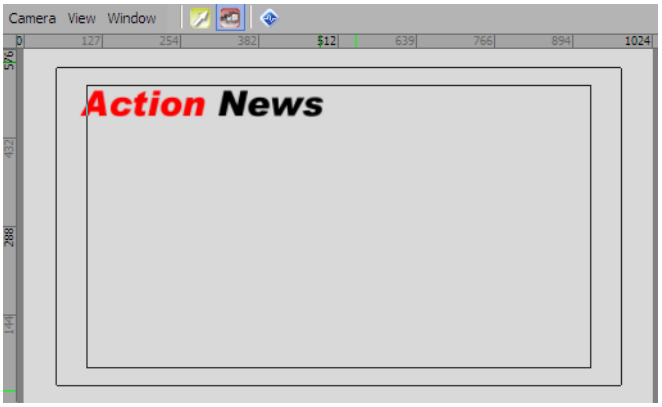
3. In the **Face** column, select one or more text elements to apply a material.

   After selecting the initial text element, Shift-click another element to select all elements between the two selections or Ctrl-click individual elements to add them to the original selection.

4. Select the thumbnail of the material to apply to the selected text.

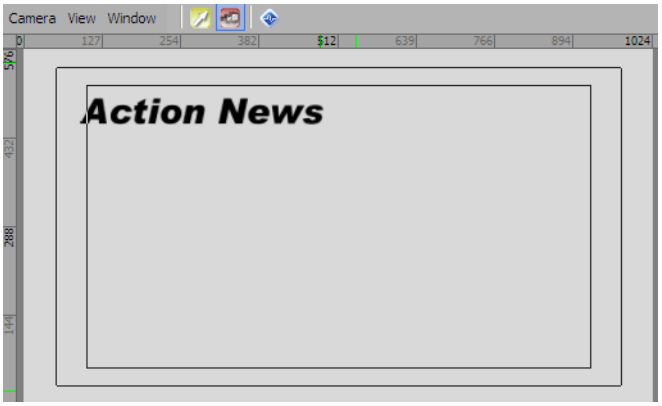
5. Double click the thumbnail to apply the selected material to the selected text.

   The selected text elements of the selected text are updated with the selected material. The applied material does not affect the text font style.



6. To remove an applied material from a text element, Right-click the text element name in the **Face** column and select **Unbind** from the shortcut menu.

   The selected text element reverts to the material used by the text font style.



For More Information on...

- how to add a text object to a scene, refer to the procedure "**Create a Text Object**" on page 5–2.

Widgets

XPression widgets are used to generate clocks, timers, and counters for scenes.

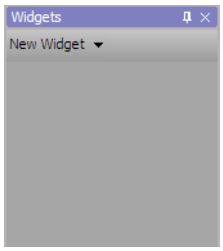
The following topics are discussed in this section:

- Add a Realtime Clock Display to a Scene
- Customize the Time Format of a Widget
- Rename a Widget

Add a Realtime Clock Display to a Scene

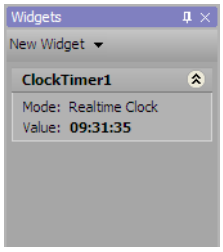
1. In **XPression**, use the **Display** menu to select **Widgets**.

   The **Widgets** window opens.

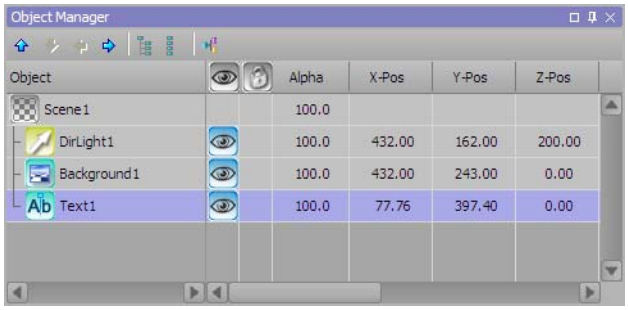


2. In the **Widgets** window, select **New Widget > Clock Timer**.

   A realtime clock widget is added to the **Widgets** window.

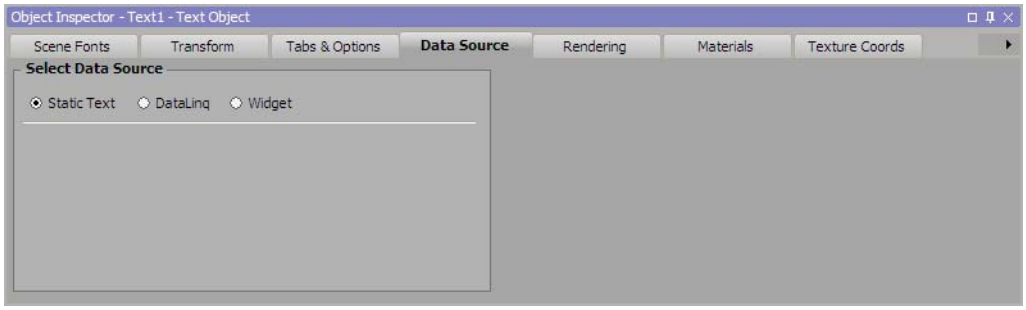


3. Add a text object to a scene.
4. In the **Object Manager** window, select the text object for the realtime clock widget.



5. Click the **Data Source** tab in the **Object Inspector - Text Object** window.

   The **Data Source** tab opens.



6. Select the **Widget** option.

   A **Widget** list is displayed below the options.

7. Use the **Widget** list to select a realtime clock widget, for example **ClockTimer1**. Since widget names can be modified, the names of realtime clock widgets vary between XPression systems.

   A **Warning** dialog box opens.

8. Click **Yes**.

   The text in the selected text object is replaced with the time of day generated by the selected realtime clock widget.

9. Double-click the scene containing the text object linked to the realtime clock widget.

   The selected scene is sent to the default output, and the clock in linked text object starts running.

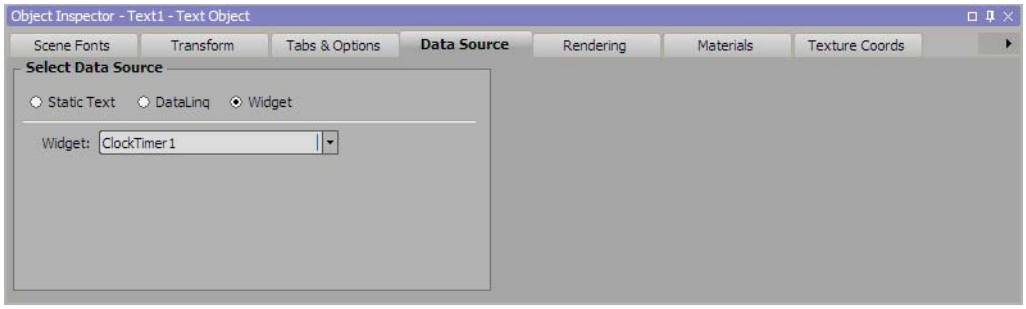
For More Information on...

- adding a text object to a scene, refer to the procedure "**Create a Text Object**" on page 5–2.
- customizing the time displayed by a widget, refer to the procedure "**Customize the Time Format of a Widget**" on page 6–4.

Customize the Time Format of a Widget

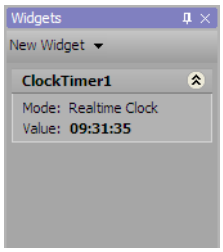
1. In a scene, select a text object that is associated with a realtime clock widget.
2. Click the **Data Source** tab in the **Object Inspector - Text Object** window.

   The **Data Source** tab opens.



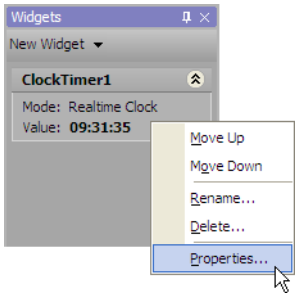
3. In the **Select Data Source** section, note the name of the widget associated with the selected text object.
4. From the **Display** menu, select **Widgets**.

   The **Widgets** window opens.



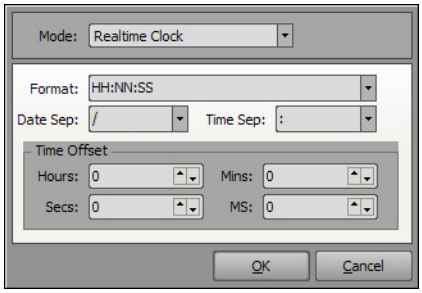
5. In the **Widgets** window, right-click the widget associated with the selected text object.

   The shortcut menu opens.



6. Select **Properties** from the shortcut menu.

   The **Widget Properties (Realtime Clock, Timer)** dialog box opens



7. In the **Format** list, select or type the time format in which to display the current time and/or date. The available time formats are as follows:

   - **HH:NN** — 16:35
   - **HH:NN:SS** — 16:35:40
   - **HH:NN:SS.ZZZ** — 16:35:40.765
   - **HH:NN AM/PM** — 04:35 PM
   - **HH:NN:SS AM/PM** — 04:35:40 PM
   - **HH:NN:SS.ZZZ AM/PM** — 04:35:40.765 PM
   - **DD-MM-YY** — 27-11-09
   - **DD-MM-YY HH:NN** — 27-11-09 16:35
   - **DD-MM-YY HH:NN:SS** — 27-11-09 16:35:40
   - **DD/MM/YY** — 11/27/09
   - **DD/MM/YY HH:NN** — 11/27/09 16:35
   - **DD/MM/YY HH:NN:SS** — 11/27/09 16:35:40

   The characters used to separate the date and time strings can be changed for each time format.

8. Use the **Date Sep** list to select the character displayed between the elements of a date string.
9. Use the **Time Sep** list to select the character displayed between the elements of a time string.
10. In the **Time Offset** section, use the **Hours** box to enter or select the number of hours to offset the time displayed by a widget from the current local time.
11. In the **Mins** box, enter or select the number of minutes to offset the time displayed by a widget from the current local time.
12. In the **Secs** box, enter or select the number of seconds to offset the time displayed by a widget from the current local time.
13. In the **MS** box, enter or select the number of milliseconds to offset the time displayed by a widget from the current local time.
14. Click **OK**.

    The new settings are saved, and the **Widget Properties** dialog box closes.

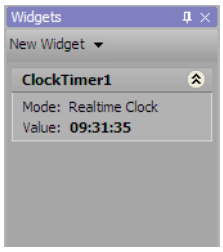
15. Double-click the scene containing the text object linked to the realtime clock widget.

    The selected scene is sent to the default output, and the customized clock in the liked text object starts running.

Rename a Widget

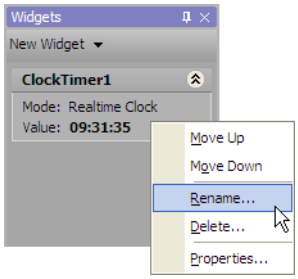
1. From the **Display** menu, select **Widgets**.

   The **Widgets** window opens.



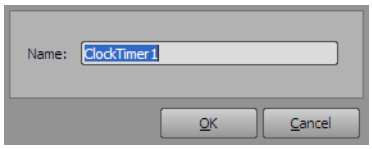
2. In the **Widgets** window, right-click the widget to rename.

   The shortcut menu opens.



3. Select **Rename** from the shortcut menu.

   The **Rename Widget** dialog box opens.



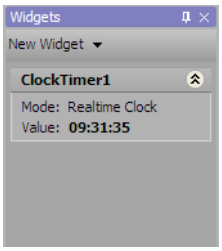
4. In the **Name** box, enter a new name for the selected widget.
5. Click **OK**.

   The selected widget is updated with the new name.

Add a Timer Display to a Scene

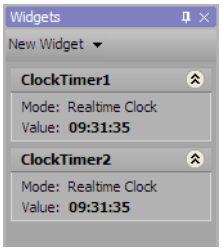
1. In **XPression**, use the **Display** menu to select **Widgets**.

   The **Widgets** window opens.



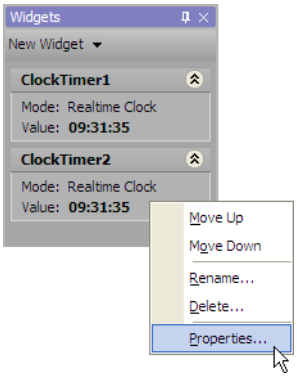
2. In the **Widgets** window, select **New Widget > Clock Timer**.

   A clock timer widget is added to the **Widgets** window.



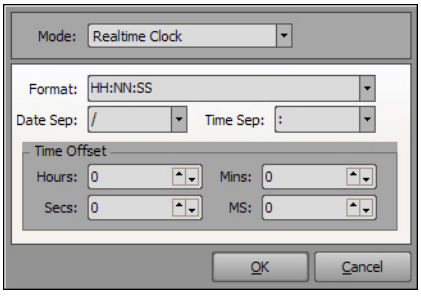
3. In the **Widgets** window, right-click the widget associated with the selected text object.

   The shortcut menu opens.



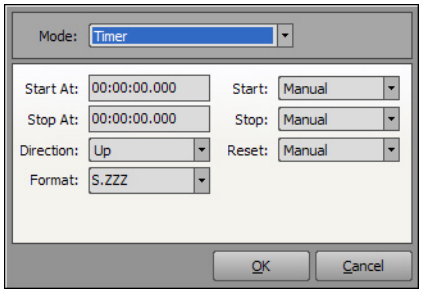
4. Select **Properties** from the shortcut menu.

   The **Widget Properties (Realtime Clock, Timer)** dialog box opens



5. Use the **Mode** list to select **Timer**.

   The **Widget Properties** dialog box displays the settings for a timer.



6. In the **Start At** box, enter the hours, minutes, seconds, and hundredths of seconds of the time from which to start the timer. The a maximum start time is 23:59:59.999.

7. In the **Stop At** box, enter the hours, minutes, seconds, and hundredths of seconds of the time at which to stop the timer. The a maximum stop time is 23:59:59.999.

8. Use the **Direction** list the select the timer direction. The available directions are as follows:

   - **Up** — increase the time value from the time set in the Start At box until the timer is stopped.
   - **Down** — decrease the time value from the time set in the Start At box until the timer is stopped.

9. In the **Format** list, select or type the time format used by the widget to display the current time value. The available time formats are as follows:

   - **S** — 16545
   - **SSS** — 16545
   - **S.ZZZ** — 16545.765
   - **SSS.ZZZ** — 16545.765
   - **HH:NN** — 04:35
   - **HH:NN:SS** — 04:35:40
   - **HH:NN:SS.ZZZ** — 04:35:40.765
   - **NN:SS** — 35:40
   - **NN:SS.ZZZ** — 35:40.765

10. Use the **Start** list to select the method used to start the timer. The available methods are as follows:

    - **Manual** — in the Widget window, click the Start button associated with the timer widget to start the timer.
    - **When Online** — start the timer when the scene goes online.
    - **Ctrl + 1** — press the Ctrl and 1 key at the same time to start the timer.
    - **Ctrl + 2** — press the Ctrl and 2 key at the same time to start the timer.
    - **Ctrl + 3** — press the Ctrl and 3 key at the same time to start the timer.
    - **Ctrl + 4** — press the Ctrl and 4 key at the same time to start the timer.
    - **Ctrl + 5** — press the Ctrl and 5 key at the same time to start the timer.
    - **Ctrl + 6** — press the Ctrl and 6 key at the same time to start the timer.
    - **Ctrl + 7** — press the Ctrl and 7 key at the same time to start the timer.
    - **Ctrl + 8** — press the Ctrl and 8 key at the same time to start the timer.
    - **Ctrl + 9** — press the Ctrl and 9 key at the same time to start the timer.

11. Use the **Stop** list to select the method used to stop the timer. The available methods are as follows:

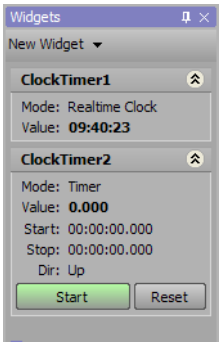
- **Manual** — in the Widget window, click the Stop button associated with the timer widget to stop the timer.
- **When Offline** — stop the timer when the scene goes offline.
- **Ctrl + 1** — press the Ctrl and 1 key at the same time to stop the timer.
- **Ctrl + 2** — press the Ctrl and 2 key at the same time to stop the timer.
- **Ctrl + 3** — press the Ctrl and 3 key at the same time to stop the timer.
- **Ctrl + 4** — press the Ctrl and 4 key at the same time to stop the timer.
- **Ctrl + 5** — press the Ctrl and 5 key at the same time to stop the timer.
- **Ctrl + 6** — press the Ctrl and 6 key at the same time to stop the timer.
- **Ctrl + 7** — press the Ctrl and 7 key at the same time to stop the timer.
- **Ctrl + 8** — press the Ctrl and 8 key at the same time to stop the timer.
- **Ctrl + 9** — press the Ctrl and 9 key at the same time to stop the timer.

12. Use the **Reset** list to select the method used to reset the timer. The available methods are as follows:

- **Manual** — in the Widget window, click the Reset button associated with the timer widget to reset the timer to the start time set for the timer widget.
- **When Online** — reset the timer when the scene goes online.
- **When Offline** — reset the timer when the scene goes offline.
- **Ctrl + 1** — press the Ctrl and 1 key at the same time to reset the timer.
- **Ctrl + 2** — press the Ctrl and 2 key at the same time to reset the timer.
- **Ctrl + 3** — press the Ctrl and 3 key at the same time to reset the timer.
- **Ctrl + 4** — press the Ctrl and 4 key at the same time to reset the timer.
- **Ctrl + 5** — press the Ctrl and 5 key at the same time to reset the timer.
- **Ctrl + 6** — press the Ctrl and 6 key at the same time to reset the timer.
- **Ctrl + 7** — press the Ctrl and 7 key at the same time to reset the timer.
- **Ctrl + 8** — press the Ctrl and 8 key at the same time to reset the timer.
- **Ctrl + 9** — press the Ctrl and 9 key at the same time to reset the timer.

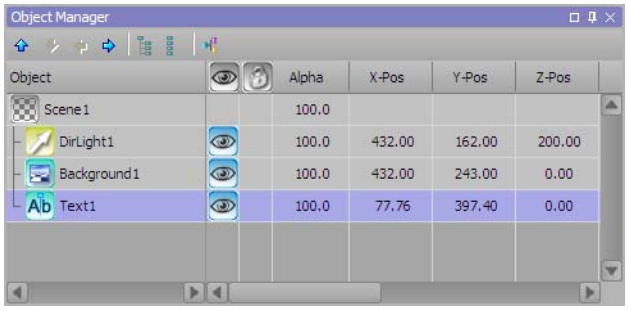
13. Click **OK**.

    The new settings are saved, and the updated widget is displayed in the **Widget** window.



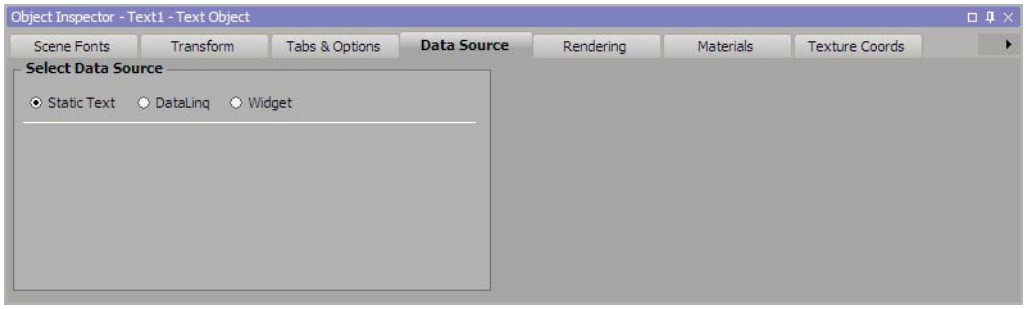
14. Add a text object to a scene.

15. In the **Object Manager** window, select the text object for the clock timer widget.



16. Click the **Data Source** tab in the **Object Inspector - Text Object** window.

    The **Data Source** tab opens.



17. Select the **Widget** option.

    A **Widget** list is displayed below the options.

18. Use the **Widget** list to select a timer widget, for example **ClockTimer2**. Since widget names can be modified, the names of timer widgets vary between XPression systems.

    A **Warning** dialog box opens.

19. Click **Yes**.

    The text in the selected text object is replaced with a time generated by the selected timer widget.

20. Double-click the scene containing the text object linked to the timer widget.

    The selected scene is sent to the default output, and the linked text object displays the timer.

21. Use the start method set in step 10 to start the timer.

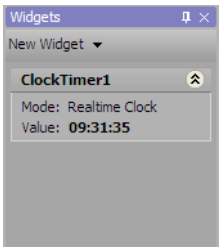
For More Information on...

- adding a text object to a scene, refer to the procedure "**Create a Text Object**" on page 5–2.

Add a Counter Display to a Scene

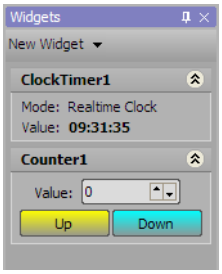
1. In **XPression**, use the **Display** menu to select **Widgets**.

   The **Widgets** window opens.

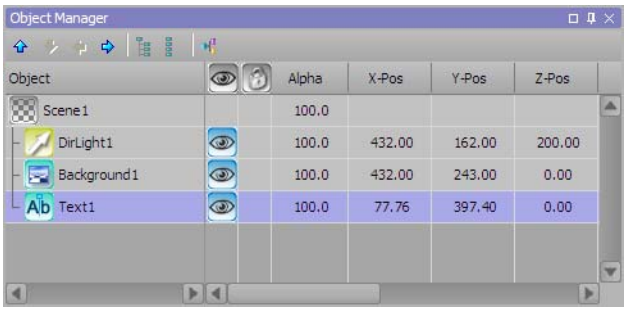


2. In the **Widgets** window, select **New Widget > Counter**.

   A counter widget is added to the **Widgets** window.

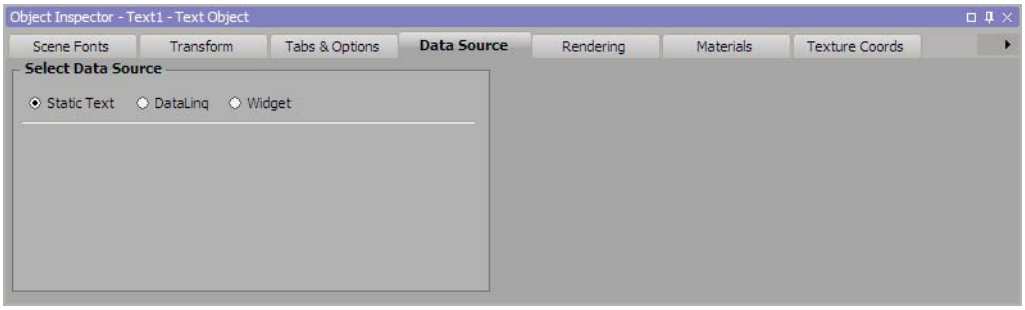


3. In the **Value** box, enter or select the number at which to start the counter.
4. Add a text object to a scene.
5. In the **Object Manager** window, select the text object for the counter widget.



6. Click the **Data Source** tab in the **Object Inspector - Text Object** window.

   The **Data Source** tab opens.



7. Select the **Widget** option.

   A **Widget** list is displayed below the options.

8. Use the **Widget** list to select a counter widget, for example **Counter1**. Since widget names can be modified, the names of counter widgets vary between XPression systems.

   A **Warning** dialog box opens.

9. Click **Yes**.

   The text in the selected text object is replaced with the starting number set for the counter in step 3.

10. Double-click the scene containing the text object linked to the counter widget.

    The selected scene is sent to the default output, and the linked text object displays the counter starting number.

11. In the **Widget** window, click the **Up** button associated with the timer widget increase the counter value. To decrease the counter value, click the **Down** button associated with the timer widget

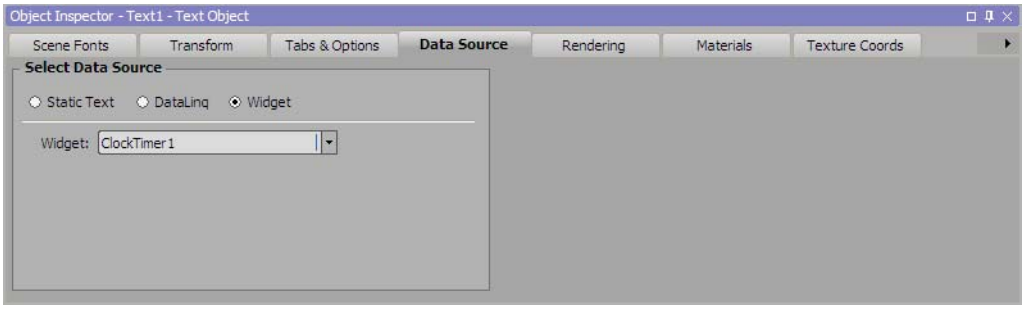
For More Information on...

- adding a text object to a scene, refer to the procedure "**Create a Text Object**" on page 5–2.
- customizing the counter displayed by a widget, refer to the procedure "**Customize the Time Format of a Widget**" on page 6–4.

Customize the Counter Format of a Widget

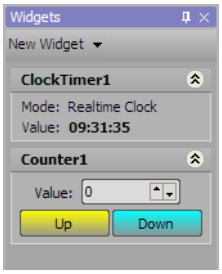
1. In a scene, select a text object that is associated with a counter widget.
2. Click the **Data Source** tab in the **Object Inspector - Text Object** window.

   The **Data Source** tab opens.



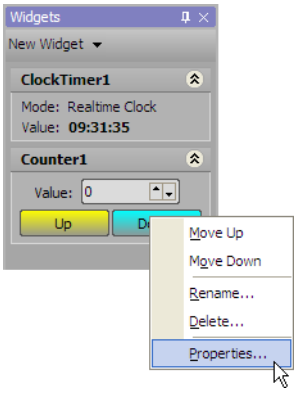
3. In the **Select Data Source** section, note the name of the widget associated with the selected text object.
4. From the **Display** menu, select **Widgets**.

   The **Widgets** window opens.



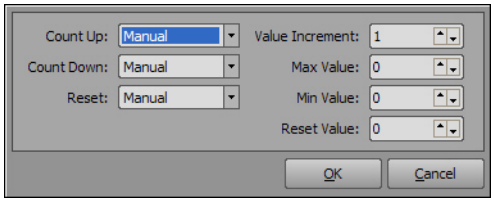
5. In the **Widgets** window, right-click the widget associated with the selected text object.

   The shortcut menu opens.



6. Select **Properties** from the shortcut menu.

   The **Widget Properties (Counter)** dialog box opens



7. Use the **Count Up** list to select the method used to increase the counter value. The available methods are as follows:

   - **Manual** — in the Widget window, click the Up button associated with the counter widget to increase the counter value.
   - **When Online** — increase the counter value when the scene goes online.
   - **Ctrl + 1** — press the Ctrl and 1 key at the same time to increase the counter value.
   - **Ctrl + 2** — press the Ctrl and 2 key at the same time to increase the counter value.
   - **Ctrl + 3** — press the Ctrl and 3 key at the same time to increase the counter value.
   - **Ctrl + 4** — press the Ctrl and 4 key at the same time to increase the counter value.
   - **Ctrl + 5** — press the Ctrl and 5 key at the same time to increase the counter value.
   - **Ctrl + 6** — press the Ctrl and 6 key at the same time to increase the counter value.
   - **Ctrl + 7** — press the Ctrl and 7 key at the same time to increase the counter value.
   - **Ctrl + 8** — press the Ctrl and 8 key at the same time to increase the counter value.
   - **Ctrl + 9** — press the Ctrl and 9 key at the same time to increase the counter value.

8. Use the **Count Down** list to select the method used to decrease the counter value. The available methods are as follows:

   - **Manual** — in the Widget window, click the Down button associated with the counter widget to decrease the counter value.
   - **When Offline** — decrease the counter value when the scene goes offline.
   - **Ctrl + 1** — press the Ctrl and 1 key at the same time to decrease the counter value.
   - **Ctrl + 2** — press the Ctrl and 2 key at the same time to decrease the counter value.
   - **Ctrl + 3** — press the Ctrl and 3 key at the same time to decrease the counter value.
   - **Ctrl + 4** — press the Ctrl and 4 key at the same time to decrease the counter value.
   - **Ctrl + 5** — press the Ctrl and 5 key at the same time to decrease the counter value.
   - **Ctrl + 6** — press the Ctrl and 6 key at the same time to decrease the counter value.
   - **Ctrl + 7** — press the Ctrl and 7 key at the same time to decrease the counter value.
   - **Ctrl + 8** — press the Ctrl and 8 key at the same time to decrease the counter value.
   - **Ctrl + 9** — press the Ctrl and 9 key at the same time to decrease the counter value.

9. Use the **Reset** list to select the method used to reset the counter. The available methods are as follows:
   - **Manual** — in the Widget window, click the Reset button associated with the counter widget to reset the counter to the set starting value.
   - **When Online** — reset the counter when the scene goes online.
   - **When Offline** — reset the counter when the scene goes offline.
   - **Ctrl + 1** — press the Ctrl and 1 key at the same time to reset the counter.
   - **Ctrl + 2** — press the Ctrl and 2 key at the same time to reset the counter.
   - **Ctrl + 3** — press the Ctrl and 3 key at the same time to reset the counter.
   - **Ctrl + 4** — press the Ctrl and 4 key at the same time to reset the counter.
   - **Ctrl + 5** — press the Ctrl and 5 key at the same time to reset the counter.
   - **Ctrl + 6** — press the Ctrl and 6 key at the same time to reset the counter.
   - **Ctrl + 7** — press the Ctrl and 7 key at the same time to reset the counter.
   - **Ctrl + 8** — press the Ctrl and 8 key at the same time to reset the counter.
   - **Ctrl + 9** — press the Ctrl and 9 key at the same time to reset the counter.
10. In the **Value Increment** box, enter or select the amount to change the counter value when the counter value is increased or decreased.
11. In the **Max Value** box, enter or select the number at which the counter stops increasing the counter value.
12. In the **Min Value** box, enter or select the number at which the counter stops decreasing the counter value.
13. Click **OK**.

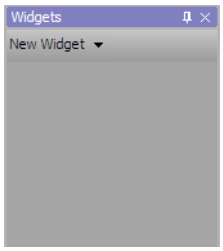
    The new settings are saved, and the **Widget Properties** dialog box closes.
14. Double-click the scene containing the text object linked to the counter widget.

    The selected scene is sent to the default output, and the linked text object displays the counter starting number.
15. Use the increment methods set in steps 7 and 8 to change the counter value.

Add a Text List to a Scene

1. In **XPression**, use the **Display** menu to select **Widgets**.

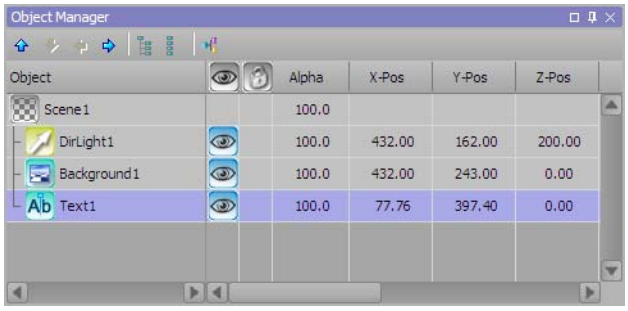
   The **Widgets** window opens.



2. In the **Widgets** window, select **New Widget > Text List**.

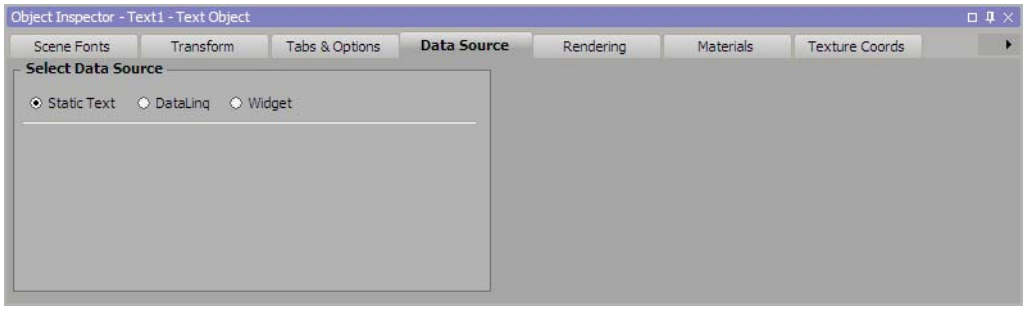
   A text list widget is added to the **Widgets** window.

3. Add a text object to a scene.
4. In the **Object Manager** window, select the text object for the text list widget.



5. Click the **Data Source** tab in the **Object Inspector - Text Object** window.

   The **Data Source** tab opens.



6. Select the **Widget** option.

   A **Widget** list is displayed below the options.

7. Use the **Widget** list to select a text list widget, for example **TextList1**. Since widget names can be modified, the names of text list widgets vary between XPression systems.

   A **Warning** dialog box opens.

8. Click **Yes**.

   The selected scene is sent to the default output.

For More Information on...

- adding a text object to a scene, refer to the procedure "**Create a Text Object**" on page 5–2.

DataLinq™

DataLinq enables live templates to be automatically filled with external data from XML files, RSS feeds, SMS servers, Text files, or any ODBC data source; like Access, MS SQL, Interbase, Firebird, or MySQL.

The XPression DataLinq Server software runs on either the XPression system itself, or one or more other computer systems to gather data from external sources and make it available to XPression systems. XPression systems use the XPression DataLinq Manager to connect to one or more DataLinq Servers (**Figure 7.1**). The XPression DataLinq Manager enables objects in an XPression project to link to any of the external data sources gathered by the connected DataLinq Servers.

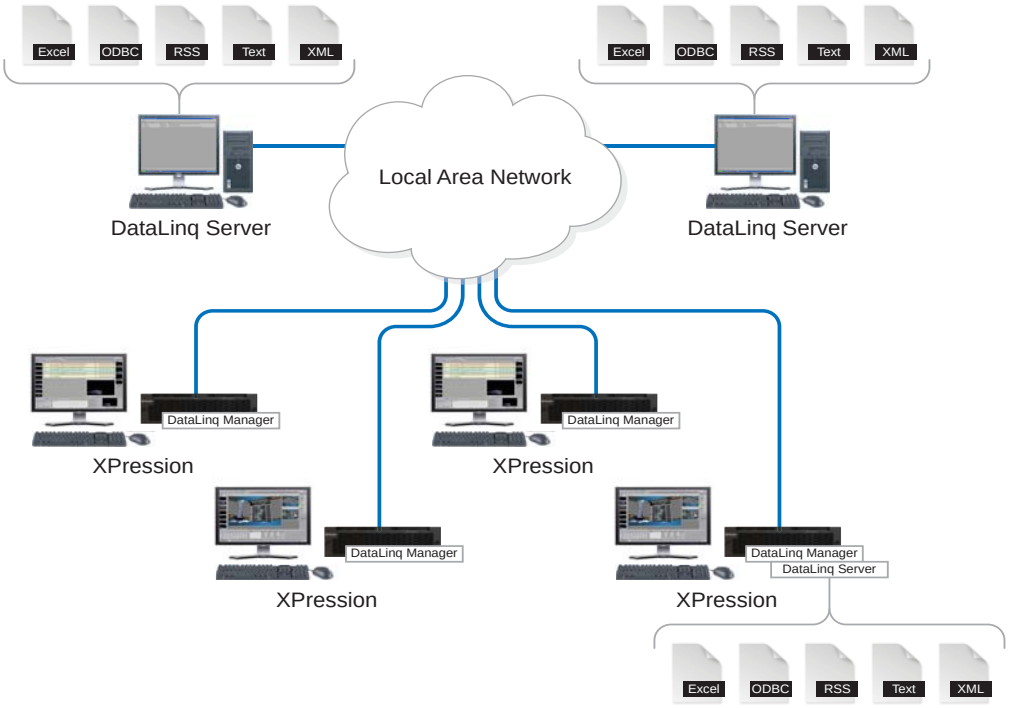


***Figure 7.1** DataLinq Connections to External Data Sources*

The following topics are discussed in this section:

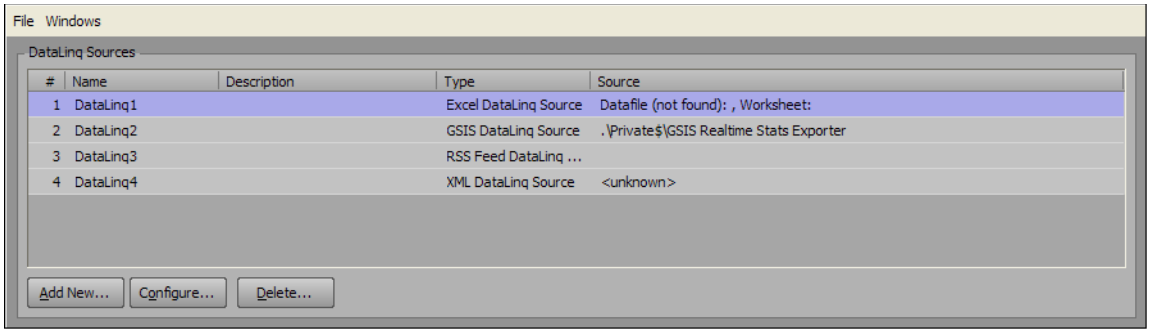
- Start the DataLinq Server
- Connect XPression to a DataLinq Server
- Link a Text Object to a DataLinq Data Source

Start the DataLinq Server

1. Use one of the following methods to start the DataLinq Server.

   - Double-click the **XPression DataLinq Server** icon on the desktop.
   - Use the **Start** menu to select **All Programs** > **XPression** > **XPression DataLinq Server**.

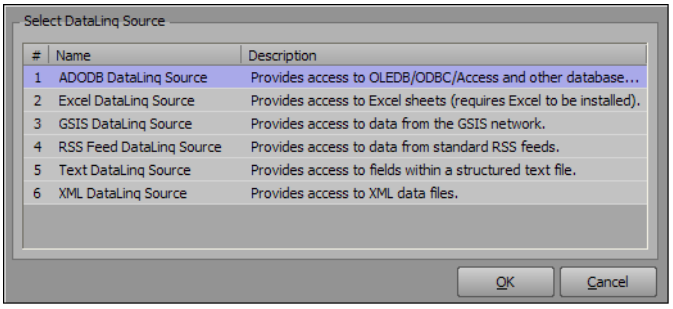
   The **XPression DataLinq Server** window opens.



   The port number used by the DataLinq Server to communicate with other XPression clients is displayed in the window title bar.

2. Click **Add New**.

   The **Add DataLinq Source** dialog box opens.



3. From the list of DataLinq sources, select the type of external data source to access. The available types of DataLinq sources are as follows:

   - **ADODB DataLinq Source** — access data contained in OLEDB, ODBC, Access, and other database sources.
   - **Daktronics** — access data from the Daktronics sports feed database.
   - **Excel DataLinq Source** — access data contained in Excel files stored on disk.
   - **GSIS DataLinq Source** — access data from the NFL Game Statistics & Information System.
   - **RSS Feed DataLinq Source** — access data through a RSS (Really Simple Syndication) feed. RSS feeds use a standard format to publish frequently updated works; such as, news headlines, blog entries, audio, and video.
   - **Text DataLinq Source** — access data contained in delimited text files stored on disk.
   - **XML DataLinq Source** — access data contained in XML files stored on disk.

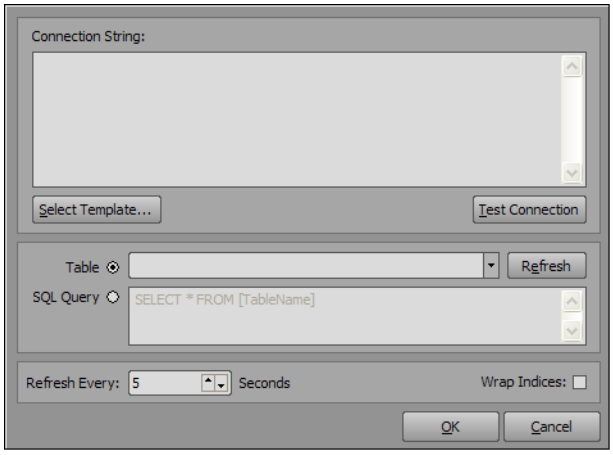
4. Click **OK**.

   The dialog box that opens to define data source settings depends on the selected data source.

5. Configure the selected DataLinq source.

ADODB DataLinq Source

The **ADODB Linq - Configuration** dialog box opens.



a. Enter in the **Connection String** box the connection string of the DataLinq Source, or click **Templates** to select an existing connection string.

b. Click **Test Connection** to view the status of the connection string.

c. Select the **Table** option and use the list to select a table from the connected database.

d. Select the **SQL Query** option and modify the string to query the database.

e. Click **Refresh** to update the data retrieved from the database.

f. Enter or select a time in seconds in the **Refresh Every** box to update the data retrieved from the database.

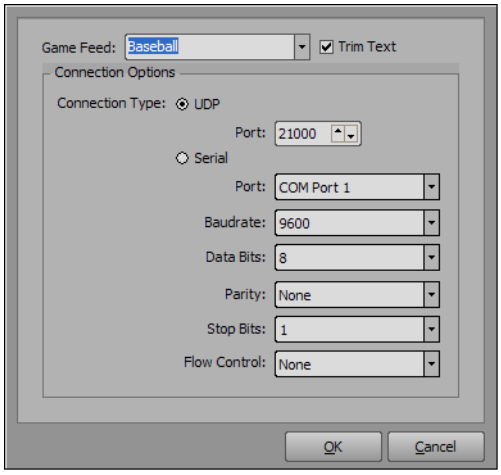
g. Select the **Wrap Indices** check box to wrap the indices above the record count within record count limits. This check box should be selected when using looping queries.

h. Click **OK**.

The **ADODB DataLinq - Configuration** dialog box closes and the new DataLinq Source is added to the **DataLinq Sources** section of the **XPression DataLinq Server** window.

Daktronics DataLinq Source

The **Daktronics Linq - Configuration** dialog box opens.



a. Use the **Game Feed** list to select a Daktronics sports feed. The available sports feeds are as follows:

- **Baseball**
- **Basketball**
- **Football**
- **Hockey**
- **Soccer**
- **Volleyball**

b. Select the **Trim Text** check box to trim the text.

c. In the **Connection Options** section, use the **Connection Type** options to select the connection to the Daktronics device:

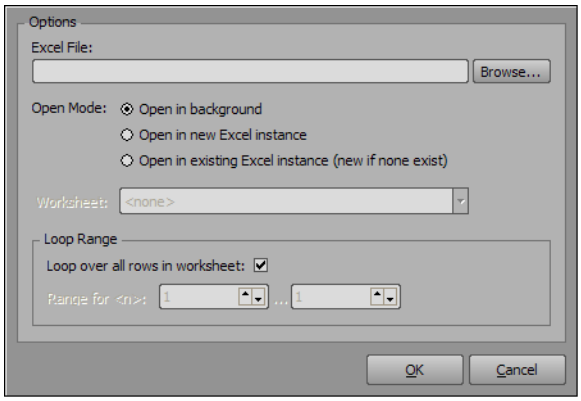
- **UDP** — select this option to use a UDP port as the connection type and configure the following:
  - **Port** — enter or select the UDP port number for the Daktronics device.
- **Serial** — select this option to use a serial port as the connection type and configure the following:
  - **Port** — enter or select the serial port number for the Daktronics device.
  - **Baudrate** — use the list to select the communication speed for the signals.
  - **Data Bits** — use the list to select the number of bits used to represent one character of data for the signals.
  - **Parity** — use the list to select the method used to check for lost data in a signal.
  - **Stop Bits** — use the list to select the number of bits used to indicate the end of a byte in a signal.
  - **Flow Control** — use the list to select the data transmission rate controller for a signal.

d. Click **OK**.

The **Daktronics Linq - Configuration** dialog box closes and the new DataLinq Source is added to the **DataLinq Sources** section of the **XPression DataLinq Server** window.

Excel DataLinq Source

The **Excel Linq - Configuration** dialog box opens.



a. Enter in the **Filename** box the full pathname of the Excel file that contains the data for the Datalinq source, or click **Browse** (...) to use the **Open** dialog box to locate and open the Excel file.

b. Use the **Open Mode** setting to select the method used by the DataLinq server to open the selected Excel file for data access. The available modes are as follows:

- **Open in background** — select this option to open the Excel file in the background, without starting an instance of the Excel program.
- **Open in new Excel instance** — select this option to open the Excel file in a new instance of the Excel program.

- **Open in existing Excel instance** — select this option to open the Excel file in an existing instance of the Excel program. A new instance of the Excel program is started when there is no existing instance of the Excel program.

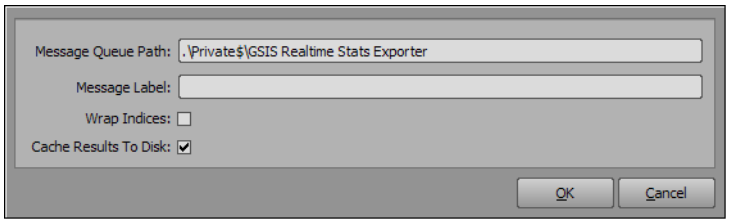
c. Use the **Worksheet** list to select the worksheet in the Excel file that contains the data for the DataLinq source.

d. Click **OK**.

The **Excel Linq - Configuration** dialog box closes and the new DataLinq Source is added to the **DataLinq Sources** section of the **XPression DataLinq Server** window.

GSIS DataLinq Source

The **GSIS Linq - Configuration** dialog box opens.



a. In the **Message Queue Path** box, enter the full pathname of the message queue folder.

✶ It is essential that the **Message Queue Path** matches the information sent from GSIS

b. In the **Message Label** box, enter a name for the message queue.

c. Select the **Wrap Indices** check box to wrap the indices above the record count within record count limits. This check box should be selected when using looping queries.

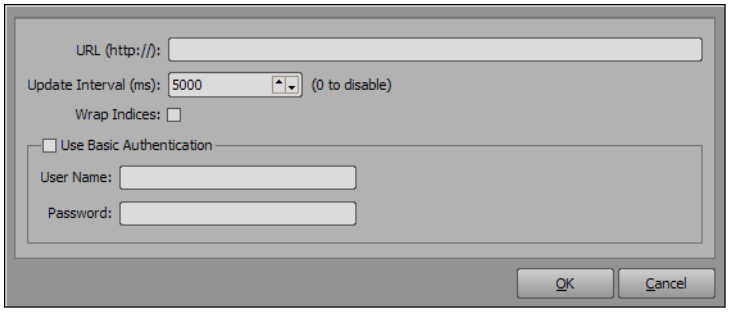
d. Select the **Cache Results To Disk** check box to cache query results to disk. This check box should be selected when using looping queries.

e. Click **OK**.

The **GSIS Linq - Configuration** dialog box closes and the new DataLinq Source is added the **DataLinq Sources** section of the **XPression DataLinq Server** window.

RSS Feed DataLinq Source

The **RSS Linq - Configuration** dialog box opens.



a. In the **URL** box, enter the URL used to access the RSS feed.

b. In the **Update Interval** box, enter or select the number of milliseconds to wait between RSS feed update checks.

c. Select the **Wrap Indices** check box to wrap the indices above the record count within record count limits. This check box should be selected when using looping queries.

d. Select the **Use Basic Authentication** check box to set a username and password for the DataLinq Source.

e. In the **User Name** box, enter a username for the basic authentication.

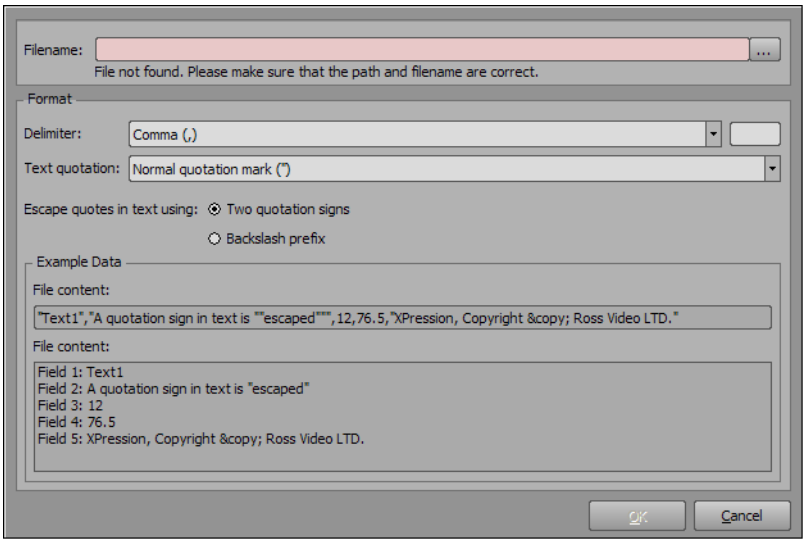
f. In the **Password** box, enter a password for the basic authentication.

g. Click **OK**.

The **RSS Linq - Configuration** dialog box closes and the new DataLinq Source is added the **DataLinq Sources** section of the **XPression DataLinq Server** window.

Text DataLinq Source

The **Text Source - Setup** dialog box opens.



a. Enter in the **Filename** box the full pathname of the text file that contains the data for the Datalinq source, or click **Browse** (...) to use the **Open** dialog box to locate and open the text file.

b. In the **Format** section, use the **Delimiter** list to select the character used divide the data values on each line in the text file. The available telemeters are as follows:

- **Comma (,)**
- **Colon (:)**
- **Semicolon (;)**
- **Tab**
- **None**
- **Other**

When **Other** is selected delimiter, enter the delimiter character to use in the box to the right of this list.

c. Use the **Text Quotation** list to select the character used in the text file to enclose quotations. The available characters are as follows:

- **Normal Quotation Mark (“)**
- **Apostrophe (‘)**

d. Use the **Escape Quotes in Text Using** setting to select the method used treat quotation marks in the text file as a regular characters. The available modes are as follows:

- **Two Quotation Marks** — select this option to treat two quotation marks (““) as a single quotation mark (“) character with no special meaning.
- **Backslash Prefix** — select this option to treat backslash character followed by a quotation mark (\“) as a single quotation mark (“) character with no special meaning.

HTML character entity references are converted to the correct symbol, such as &copy (©) and &reg (®).

e. Click **OK**.

The **Text Linq - Configuration** dialog box closes and the new DataLinq Source is added the **DataLinq Sources** section of the **XPression DataLinq Server** window.

XML DataLinq Source

The **XML Linq - Configuration** dialog box opens.

a. Enter in the **Filename** box the full pathname of the XML file that contains the data for the Datalinq source, or click **Browse** (...) to use the **Open** dialog box to locate and open the XML file.

b. Select the **Wrap Indices** check box to wrap the indices above the record count within record count limits. This check box should be selected when using looping queries.

c. Click **OK**.

The **XML Linq - Configuration** dialog box closes and the new DataLinq Source is added the **DataLinq Sources** section of the **XPression DataLinq Server** window.

6. In the **Name** column of the **XPression DataLinq Server** window, click a DataLinq Source name to select the DataLinq name.

7. Enter a new name for the selected DataLinq source.

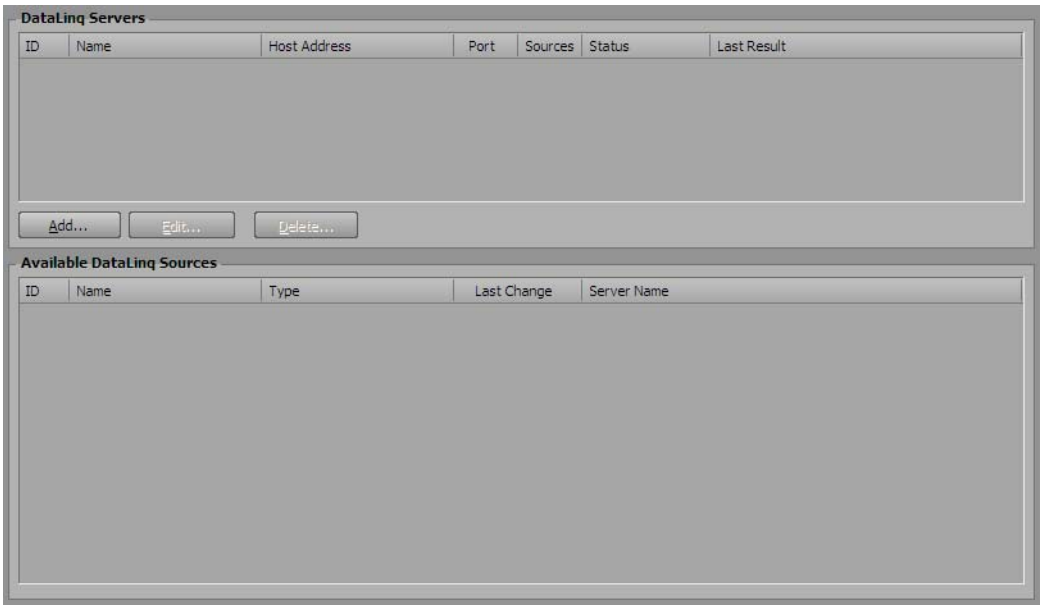
For More Information on...

- connecting to a DataLinq Server from XPression, refer to the procedure "**Connect XPression to a DataLinq Server**" on page 7–8.
- creating a text object from a DataLinq source, refer to the procedure "**Link a Text Object to a DataLinq Data Source**" on page 7–9.

Connect XPression to a DataLinq Server

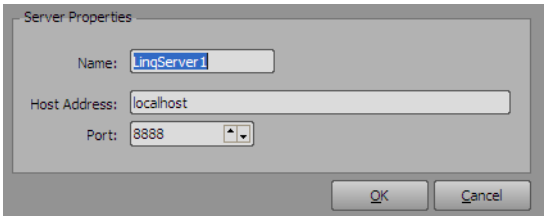
1. In the **Editor** window, select **Project** > **DataLinq Manager**.

   The **XPression DataLinq Manager** dialog box opens.



2. Click **Add**.

   The **DataLinq Server - Properties** dialog box opens.



3. In the **Name** box, enter a name for the new DataLinq server connection.
4. In the **Host Address** box, enter a the IP address of the computer running the DataLinq server to which to connect. Enter `localhost` when the DataLinq server is running of the same computer as XPression.
5. In the **Port** box, enter or select the port number used to communicate with the computer running the DataLinq server. The default port number is 8888.
6. Click **OK**.

   The defined DataLinq server connection is added to the **DataLinq Servers** section of the **XPression DataLinq Manager** dialog box. The DataLinq sources made available by the new DataLinq server connection are listed in the **Available DataLinq Sources** section.

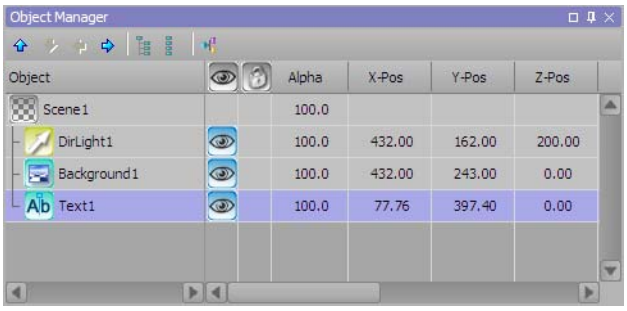
7. To connect to additional DataLinq servers, follow steps 2 to 6.

For More Information on...

- running a DataLinq server and configuring DataLinq sources, refer to the procedure "**Start the DataLinq Server**" on page 7–2
- creating a text object from a DataLinq source, refer to the procedure "**Link a Text Object to a DataLinq Data Source**" on page 7–9.

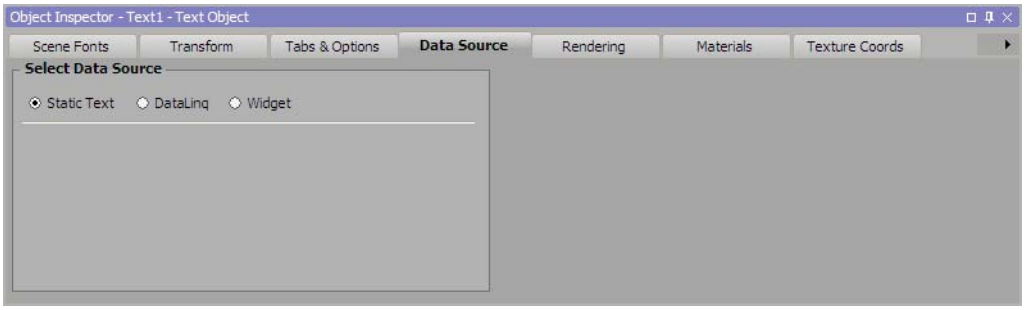
Link a Text Object to a DataLinq Data Source

1. Add a text object to a scene.
2. In the **Object Manager** window, select the text object for the DataLinq.



3. Click the **Data Source** tab in the **Object Inspector - Text Object** window.

   The **Data Source** tab opens.

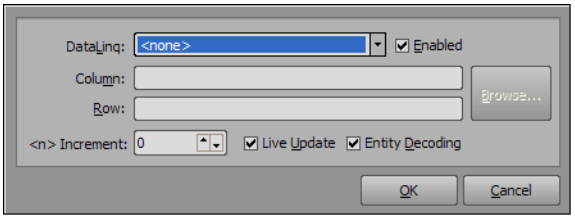


4. Select the **DataLinq** option.

   DataLinq information and a **Set** button are displayed below the options.

5. Click **Set**.

   The **Set DataLinq Properties** dialog box opens.



6. Select the **Enabled** check box to enable DataLinq property configuration for the text object.
7. Use the **DataLinq** list to select the DataLinq source that contains the data for the text object to display.
8. Click **Browse** to use the **Select DataLinq Field** dialog box to select the column and row that contain the text object data, or use the **Column** and **Row** boxes to enter the names of the column and row that contain the text object data.
9. Use the **<n> Increment** box to select or enter a value other than `0` when the <n> increment differs from the number of templates.
10. Select the **Live Update** check box to immediately update an online text object with changes from the associated DataLinq source changes when the scene is on-air.
11. Select the **Entity Decoding** check box to translate HTML character entity reference codes into the correct corresponding characters.

For example, the HTML character entity reference code `&copy;` is translated into the © character for a text object.

12. Click **OK**.

Data from the selected DataLinq source is displayed by the selected text object.

For More Information on...

- adding a text object to a scene, refer to the procedure "**Create a Text Object**" on page 5–2.
- running a DataLinq server and configuring DataLinq sources, refer to the procedure "**Start the DataLinq Server**" on page 7–2.
- connecting to a DataLinq Server from XPression, refer to the procedure "**Connect XPression to a DataLinq Server**" on page 7–8.

Shapes

The shapes available in XPression to build a graphic creation include quads, spheres, cubes, and 3D models imported from external 3D applications.

The following topics are discussed in this section:

- Create a Quad Object
- Create a Sphere Object
- Create a Cube Object
- Set the Culling Mode for a Cube Object
- Import a 3D Model into a Scene
- Group Scene Objects
- Position an Object

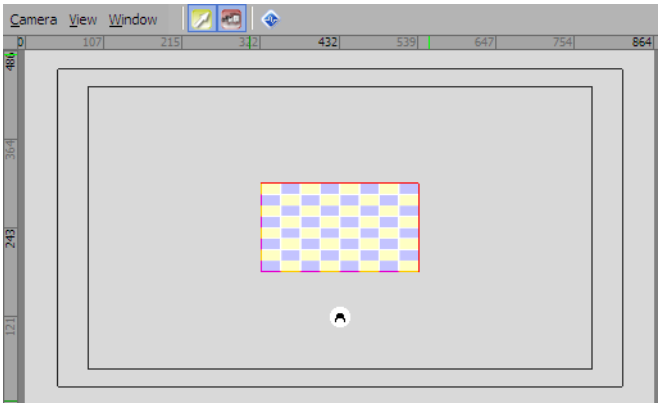
Create a Quad Object

1. In the **Scene Manager** window, select the scene or scene group to add a quad object.

   The selected scene or scene group is displayed in the active **Viewport**.

2. In the **Primitives** section of the **Object Library** window, click the **Quad** button.

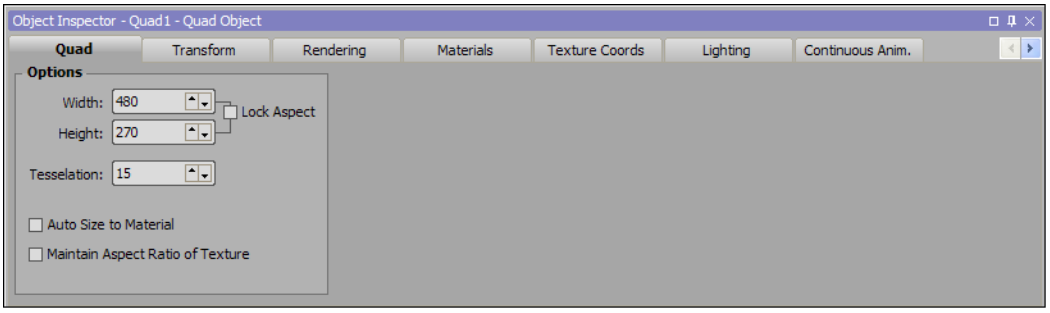
   A new quad object is added to the center of the active **Viewport**.



   The new quad object is invisible until a material applied to it.

3. In the **Object Inspector - Quad Object** window, click the **Quad** tab.

   The **Quad** tab opens.

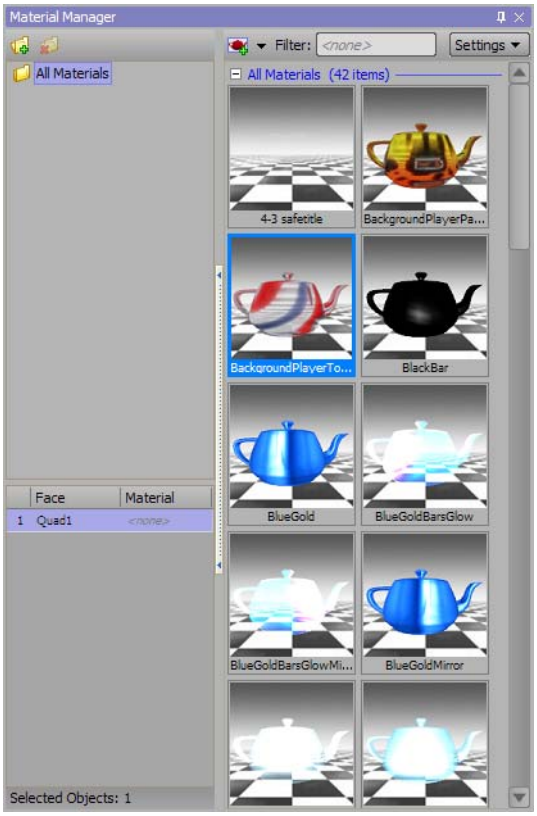


4. In the **Options** section, use the **Width** box to enter or select a value in pixels to set the width of the quad object.
5. In the **Height** box, enter or select a value in pixels to set the height of the quad object.

   Select the **Lock Aspect** check box to maintain the aspect ratio between the width and height of a quad object when changing the value in the **Width** or **Height** box.

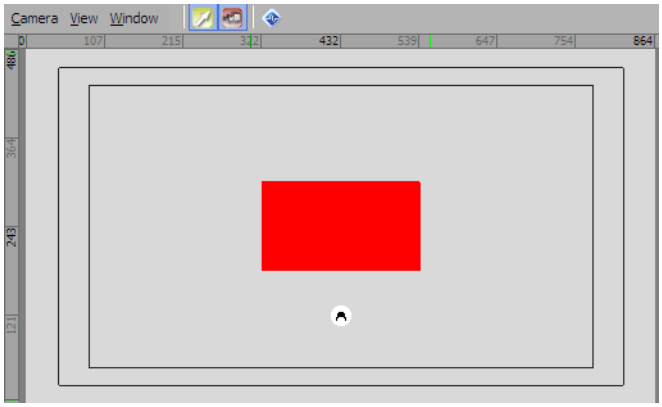
6. Use the **Display** menu to select **Material Manager**.

   The **Material Manager** window opens.



7. Double-click the thumbnail of the material to apply to the quad object.

   The surface of the quad object is covered with the selected material.

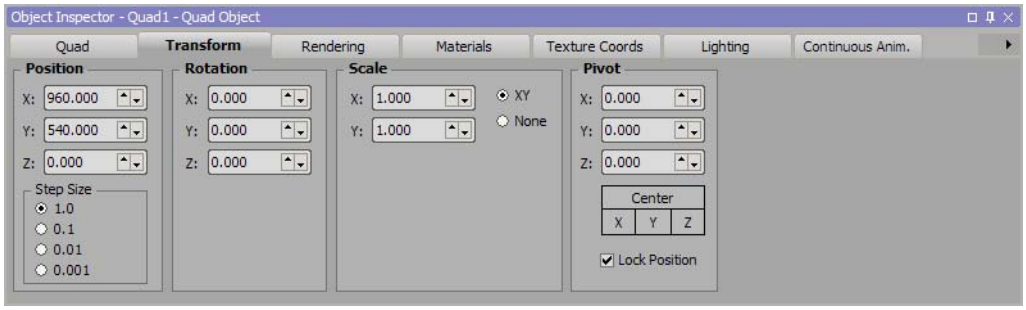


8. To remove the material from a quad object, Right-click the quad object name in the **Face** column and select **Unbind** from the shortcut menu.

   Without a material, quad objects are displayed as a wire frame mesh.

9. To move the quad object to a new position in the **Viewport**, place the cursor on the quad object, press the **Ctrl** key, then click and drag the quad object to a new position.

   To precisely position the quad object, use the settings on the **Transform** tab of the **Object Inspector - Quad Object** window.



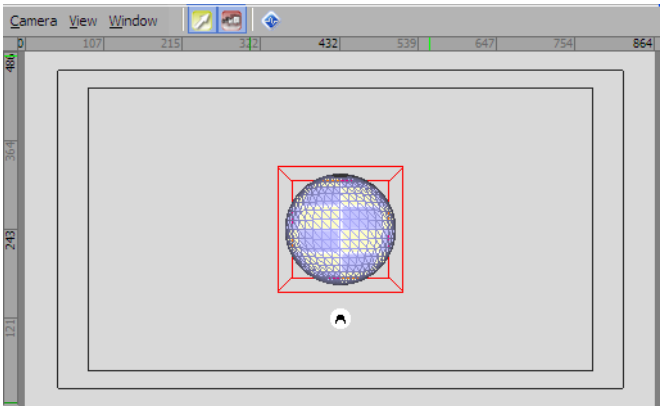
Create a Sphere Object

1. In the **Scene Manager** window, select the scene or scene group to add a sphere object.

   The selected scene or scene group is displayed in the active **Viewport**.

2. In the **Primitives** section of the **Object Library** window, click the **Sphere** button.

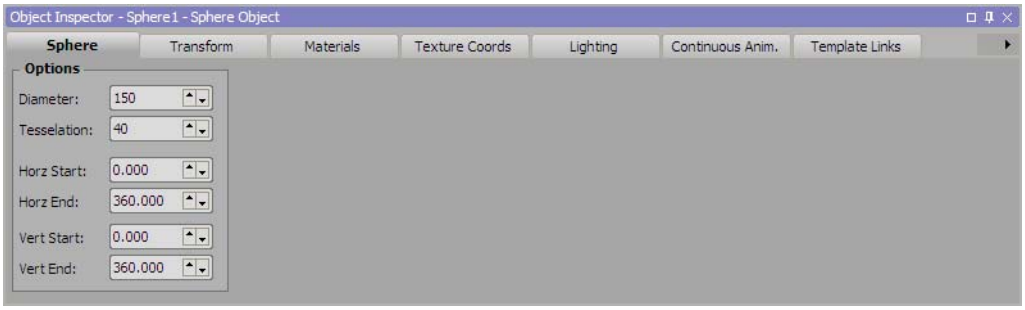
   A new sphere object is added to the center of the active **Viewport**.



   The new sphere object is invisible until a material applied to it.

3. In the **Object Inspector - Quad Sphere** window, click the **Sphere** tab.

   The **Sphere** tab opens.



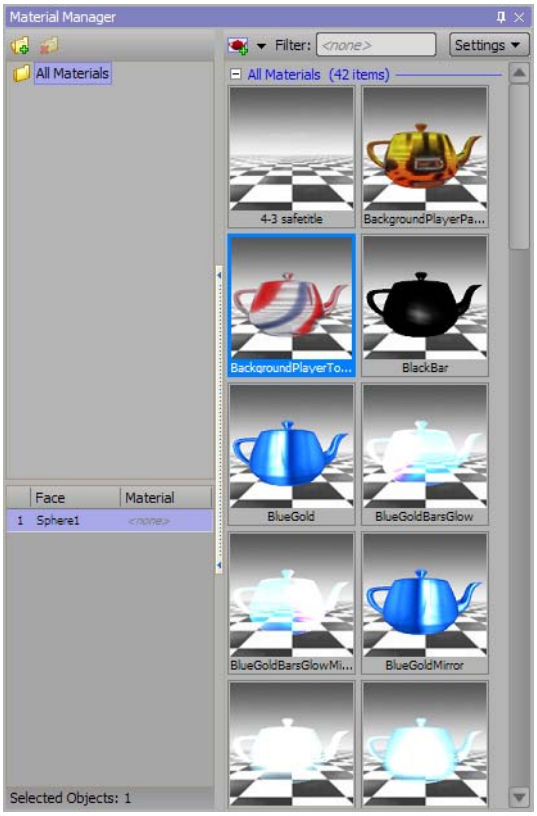
4. In the **Options** section, use the **Diameter** box to enter or select a value in pixels to set the diameter of the sphere object.

5. In the **Tesselation** box, enter or select the number of vertices used to construct the sphere object.

   The number of vertices used to construct a sphere object is directly related to the quality and smoothness of the sphere object. More vertices equals a higher quality sphere object with a smoother surface, but may compromise output performance.

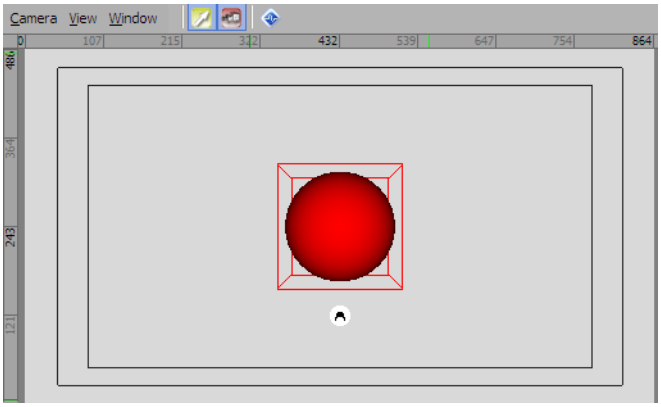
6. Use the **Display** menu to select **Material Manager**.

   The **Material Manager** window opens.



7. Double-click the thumbnail of the material to apply to the sphere object.

   The surface of the sphere object is covered with the selected material.

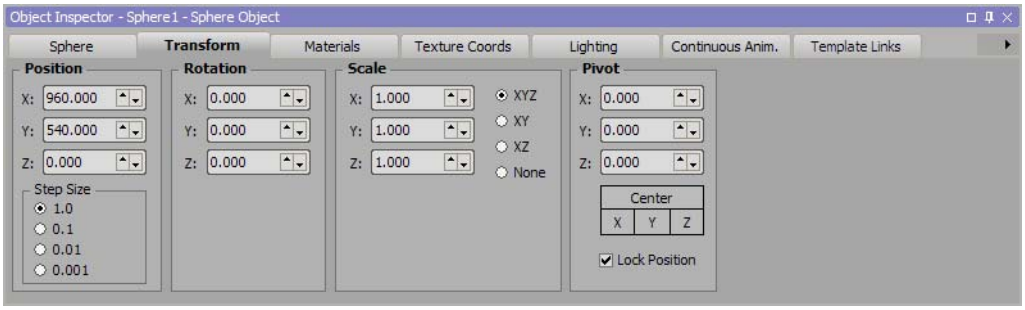


8. To remove the material from the sphere object, Right-click the sphere object name in the **Face** column and select **Unbind** from the shortcut menu.

   Without a material, sphere objects are displayed as a wire frame mesh.

9. To move the sphere object to a new position in the **Viewport**, place the cursor on the sphere object, press the **Ctrl** key, then click and drag the sphere object to a new position.

   To precisely position a sphere object, use the settings on the **Transform** tab of the **Object Inspector - Sphere Object** window.



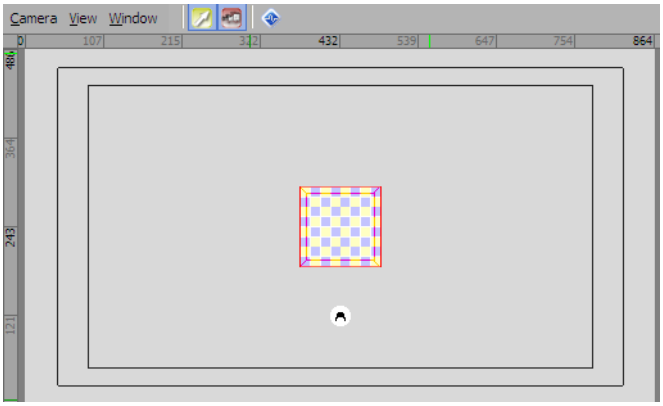
Create a Cube Object

1. In the **Scene Manager** window, select the scene or scene group to add a cube object.

   The selected scene or scene group is displayed in the active **Viewport**.

2. In the **Primitives** section of the **Object Library** window, click the **Cube** button.

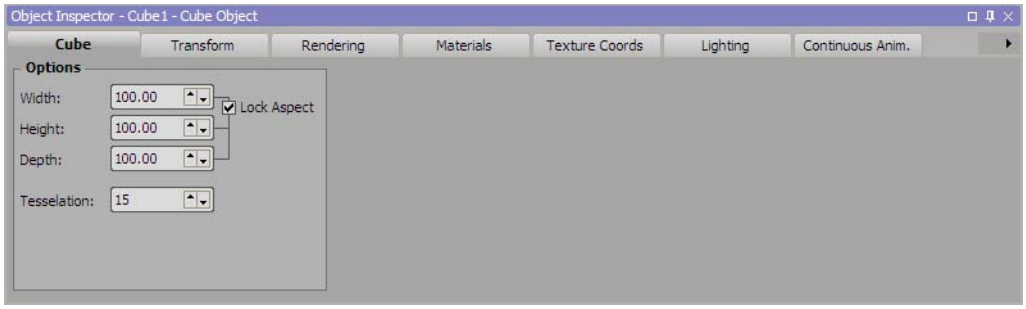
   A new cube object is added to the center of the active **Viewport**.



   The new cube object is invisible until a material applied to it.

3. In the **Object Inspector - Cube Object** window, click the **Cube** tab.

   The **Cube** tab opens.

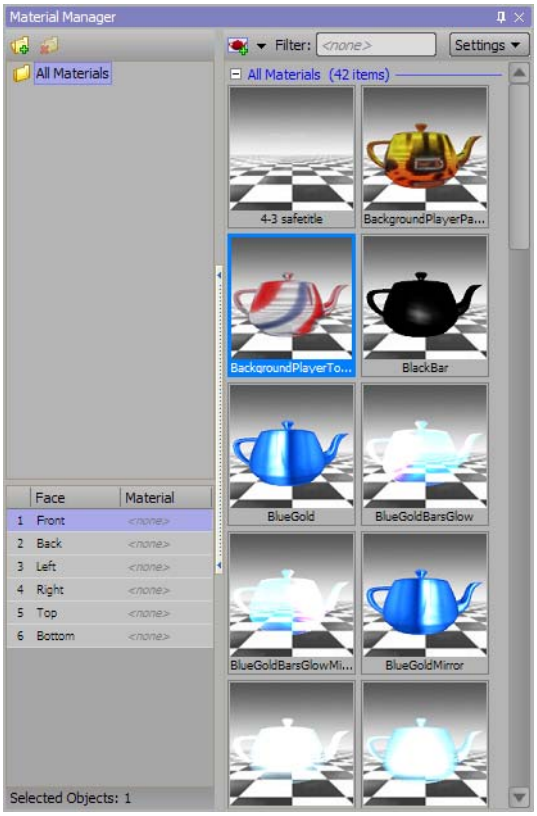


4. In the **Options** section, use the **Width** box to enter or select a value in pixels to set the width of the cube object.
5. In the **Height** box, enter or select a value in pixels to set the height of the cube object.
6. In the **Depth** box, enter or select a value in pixels to set the depth of the cube object.

   Select the **Lock Aspect** check box to maintain the aspect ratio between the width, height, and depth of a cube object when changing the value in the **Width**, or **Height**, or **Depth** box.

7. Use the **Display** menu to select **Material Manager**.

   The **Material Manager** window opens.

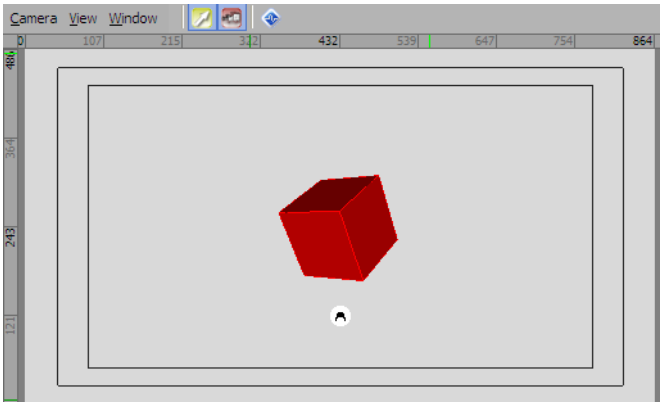


8. In the **Face** column, select one or more cube faces to apply a material.

   After selecting the initial cube face, Shift-click another face to select all faces between the two selections or Ctrl-click individual faces to add them to the original selection.

9. Double-click the thumbnail of the material to apply to the cube object.

   The selected cube faces are covered with the selected material.

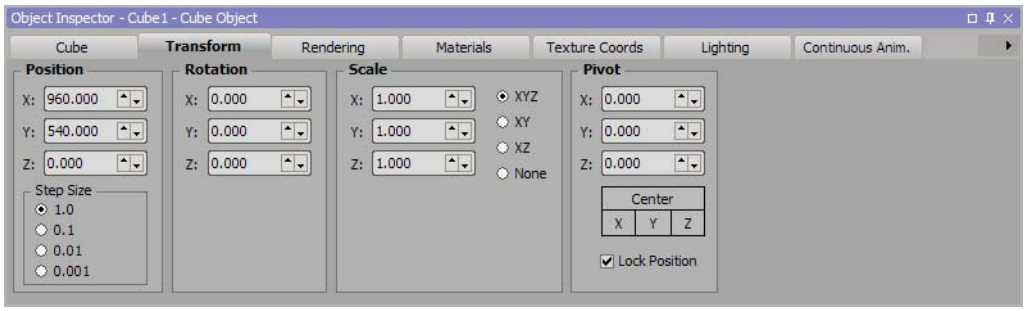


10. To remove the material from a cube face, Right-click the cube face in the **Face** column and select **Unbind** from the shortcut menu.

    Without a material, cube faces are displayed as a wire frame mesh.

11. To move the cube object to a new position in the **Viewport**, place the cursor on the cube object, press the **Ctrl** key, then click and drag the cube object to a new position.

To precisely position a cube object, use the settings on the **Transform** tab of the **Object Inspector - Cube Object** window.



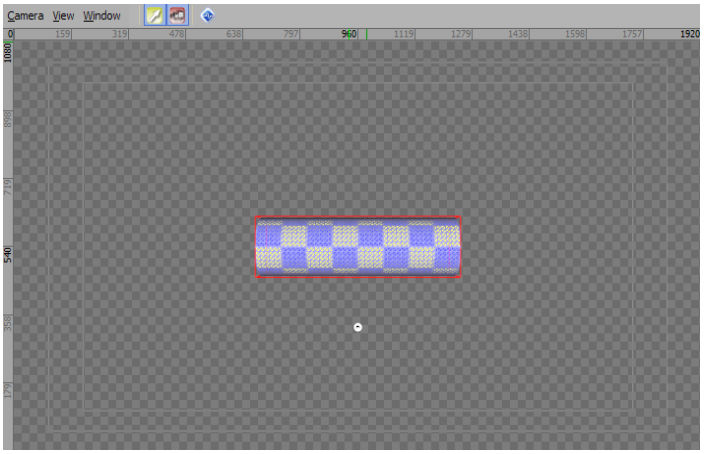
Create a Cylinder Object

1. In the **Scene Manager** window, select the scene or scene group to add a cylinder object.

   The selected scene or scene group is displayed in the active **Viewport**.

2. In the **Primitives** section of the **Object Library** window, click the **Cylinder** button.

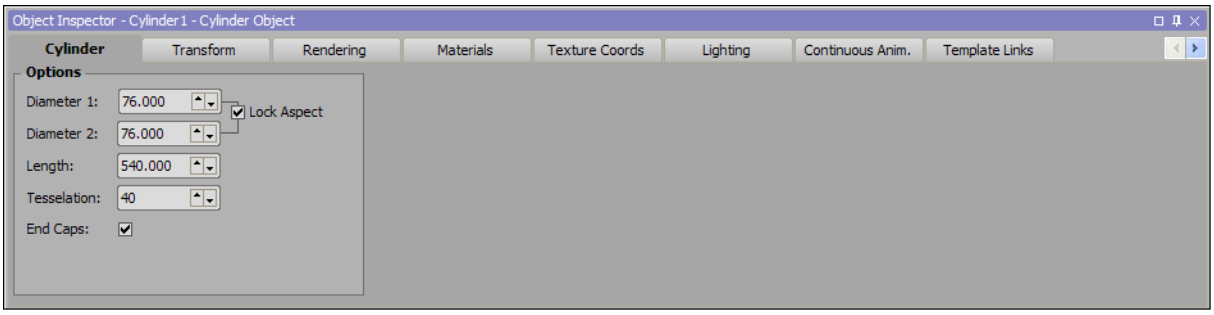
   A new cylinder object is added to the center of the active **Viewport**.



   The new cylinder object is invisible until a material is applied to it.

3. In the **Object Inspector - Cylinder Object** window, click the **Cylinder** tab.

   The **Cylinder** tab opens.



4. In the **Options** section, use the **Diameter 1** and **Diameter 2** box to enter or select a value in pixels to set the diameters of the cylinder object.

   Select the **Lock Aspect** check box to maintain the aspect ratio between the diameters of a cylinder object when changing the value in the **Diameter 1** or **Diameter 2** box.

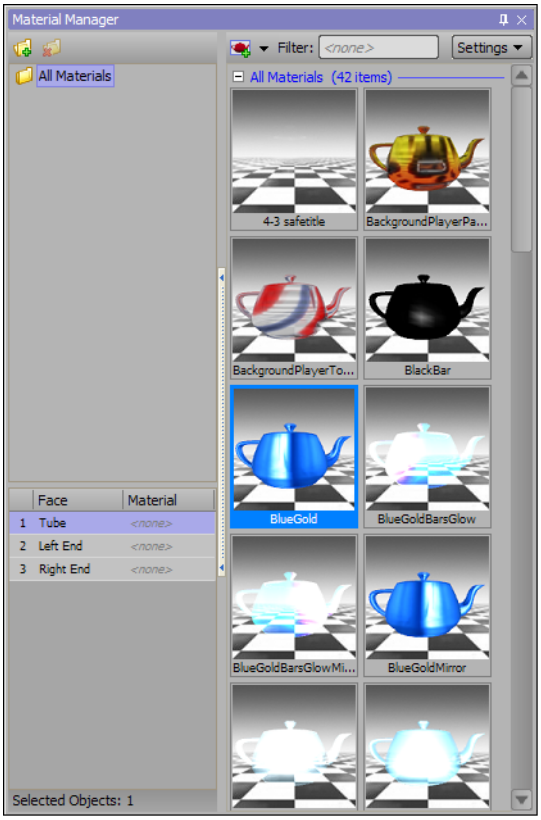
5. In the **Length** box, enter or select a value in pixels to set the length of the cylinder object.

6. In the **Tesselation** box, enter or select a number of vertices to construct the cylinder object.

7. Select the **End Caps** check box to add a Face to the ends of the cylinder object.

8. Use the **Display** menu to select **Material Manager**.

   The **Material Manager** window opens.

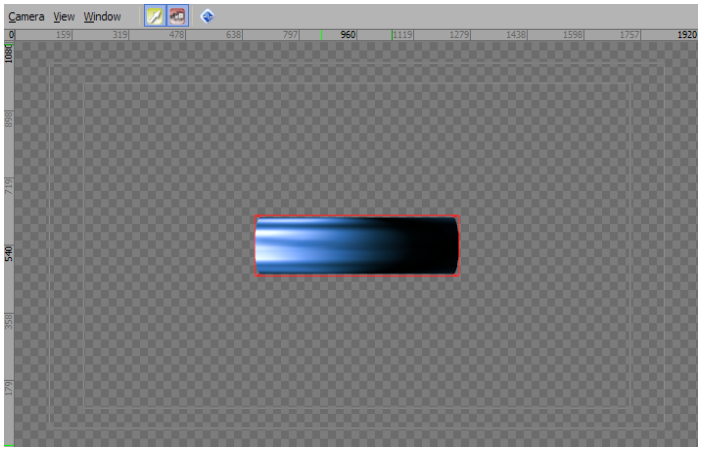


9. In the **Face** column, select one or more cylinder faces to apply a material.

   After selecting the initial cylinder face, Shift-click another face to select all faces between the two selections or Ctrl-click individual faces to add them to the original selection.

10. Double-click the thumbnail of the material to apply to the cylinder object.

    The selected cylinder faces are covered with the selected material.

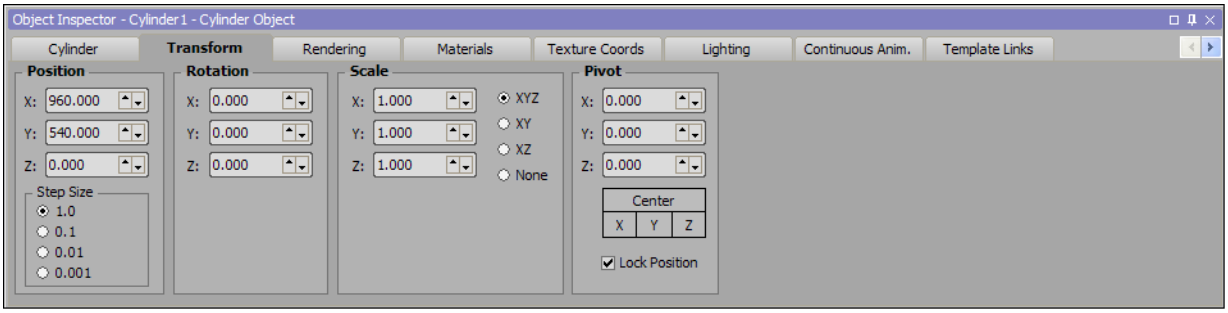


11. To remove the material from a cylinder face, Right-click the cylinder face in the **Face** column and select **Unbind** from the shortcut menu.

    Without a material, cylinder faces are displayed as a wire frame mesh.

12. To move the cylinder object to a new position in the **Viewport**, place the cursor on the cylinder object, press the **Ctrl** key, then click and drag the cylinder object to a new position.

    To precisely position a cylinder object, use the settings on the **Transform** tab of the **Object Inspector - Cylinder Object** window.



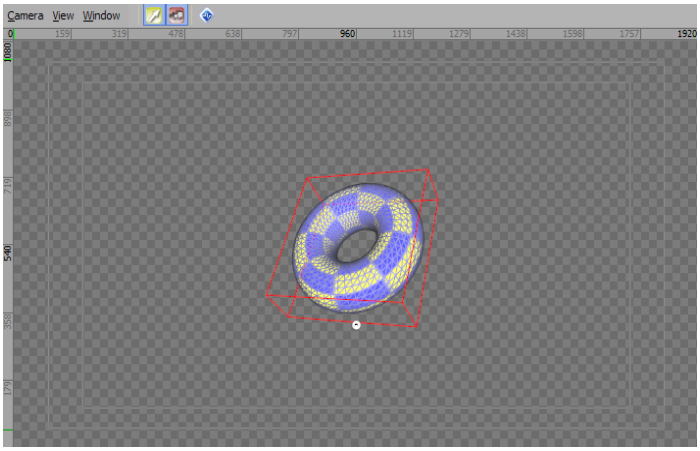
Create a Torus Object

1. In the **Scene Manager** window, select the scene or scene group to add a torus object.

   The selected scene or scene group is displayed in the active **Viewport**.

2. In the **Primitives** section of the **Object Library** window, click the **Torus** button.

   A new torus object is added to the center of the active **Viewport**.



   The new torus object is invisible until a material applied to it.

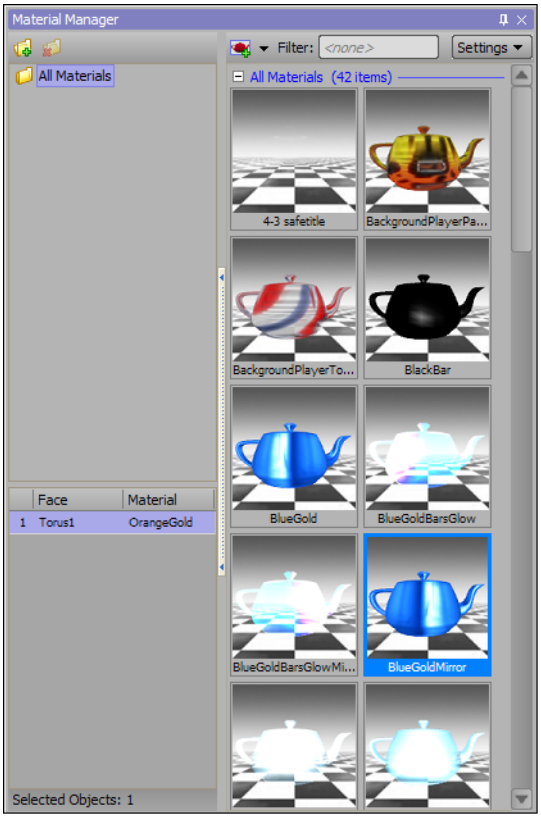
3. In the **Object Inspector - Torus Object** window, click the **Torus** tab.

   The **Torus** tab opens.

4. In the **Options** section, use the **Main Diameter** box to enter or select a value in pixels to set the diameter of the center of the torus object.
5. In the **Tube Diameter** box, enter or select a value in pixels to set the diameter of the tube of the torus object.
6. In the **Tesselation** box, enter or select a number of vertices to construct the torus object.

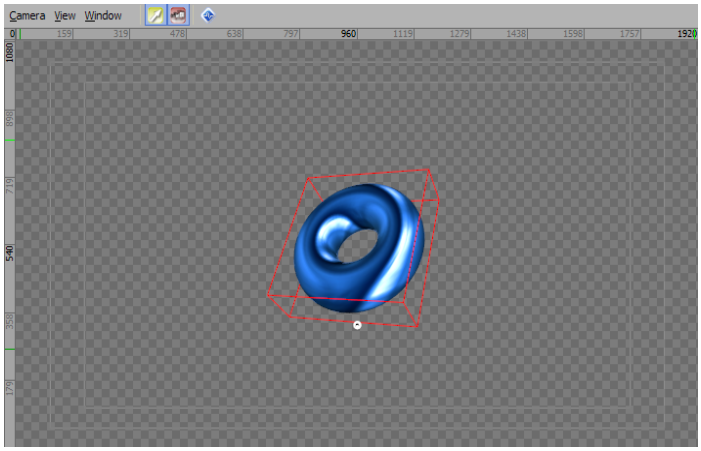
7. Use the **Display** menu to select **Material Manager**.

   The **Material Manager** window opens.



8. Double-click the thumbnail of the material to apply to the torus object.

   The torus face is covered with the selected material.

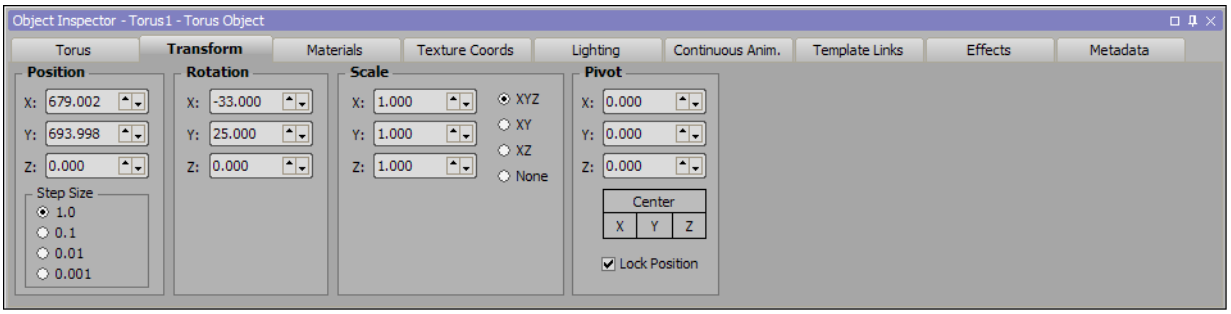


9. To remove the material from a torus face, Right-click the torus face in the **Face** column and select **Unbind** from the shortcut menu.

   Without a material, the torus face is displayed as a wire frame mesh.

10. To move the torus object to a new position in the **Viewport**, place the cursor on the torus object, press the **Ctrl** key, then click and drag the torus object to a new position.

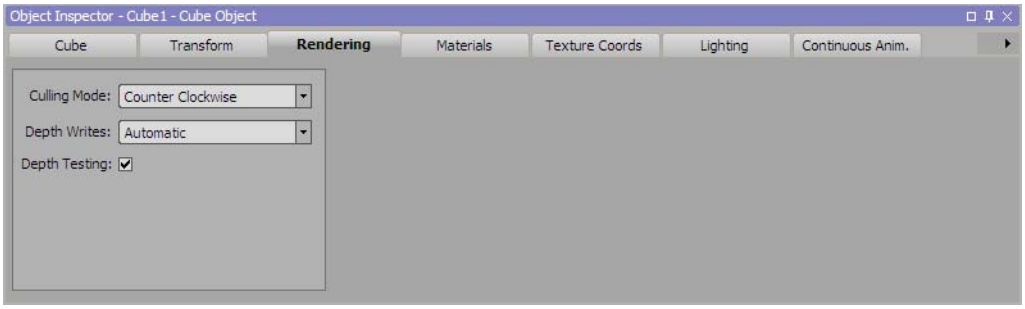
    To precisely position a torus object, use the settings on the **Transform** tab of the **Object Inspector - Torus Object** window.


Object Inspector - Torus1 - Torus Object
Torus
Transform
Materials
Texture Coords
Lighting
Continuous Anim.
Template Links
Effects
Metadata
Position
X: 679.002
Y: 693.998
Z: 0.000
Step Size
1.0
0.1
0.01
0.001
Rotation
X: -33.000
Y: 25.000
Z: 0.000
Scale
X: 1.000
Y: 1.000
Z: 1.000
XYZ
XY
XZ
None
Pivot
X: 0.000
Y: 0.000
Z: 0.000
Center
X
Y
Z
Lock Position

Set the Culling Mode for a Cube Object

1. Add a cube object to a scene.
2. Select the new cube object.
3. Click the **Rendering** tab in the **Object Inspector - Cube Object** window.

   The **Rendering** tab opens.



4. Use the **Culling Mode** list to select the culling mode for the selected cube object. The available culling modes are as follows:

   - **None** — do not cull back faces of a cube. This mode renders all faces of a cube object, even the faces that are not visible.
   - **Clockwise** — cull the back faces of a cube object that have clockwise vertices. In this mode, material is applied to the inside of a cube object.
   - **Counter Clockwise** — cull the back faces of a cube object that have counter clockwise vertices. In this mode, material is applied to the outside of a cube object.

   The **Clockwise** and **Counter Clockwise** culling modes decrease the time required to render a scene.

5. Use the **Depth Writes** list to control whether or not to render the hidden parts of a cube object. The available options are as follows:

   - **Enabled** — do not display the hidden parts of a cube object.
   - **Disabled** — display the hidden parts of a cube object.
   - **Automatic** — use the set rendering method to control determine whether or not to display the hidden parts of a cube object.

6. Select the **Depth Testing** check box to use depth values to determine whether an object is displayed on top or behind other objects.
7. Clear this check box to disable depth testing and use the render order of an object to determine whether an object is displayed on top or behind other objects.

For More Information on...

- how to add a cube object to a scene, refer to the procedure "**Create a Cube Object**" on page 8–8.

Import a 3D Model into a Scene

1. In the **Scene Manager** window, select the scene or scene group to add a 3D model object.

   The selected scene or scene group is displayed in the active **Viewport**.

2. In the **Primitives** section of the **Object Library** window, click the **3D Model** button.

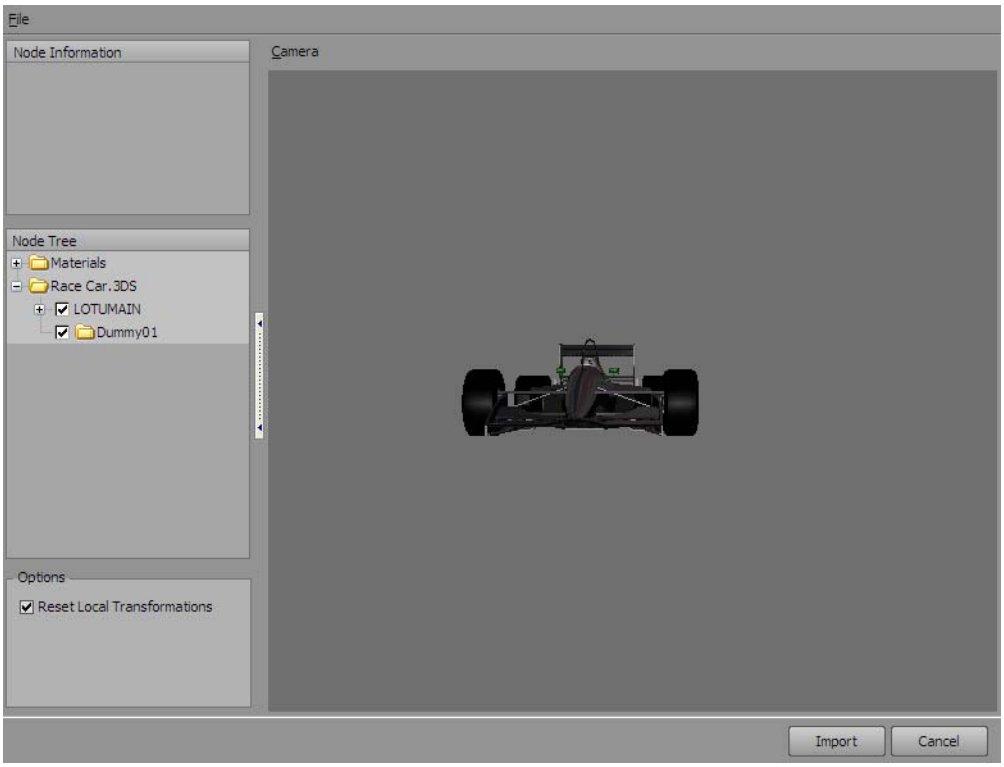
   The **Open** dialog box opens.

3. Use the **Open** dialog box to locate and select the 3D model file to import into the current scene.

   3D model files are created using 3D applications outside of XPression.

4. Click **Open**.

   The **XPression Model Importer** dialog box opens.



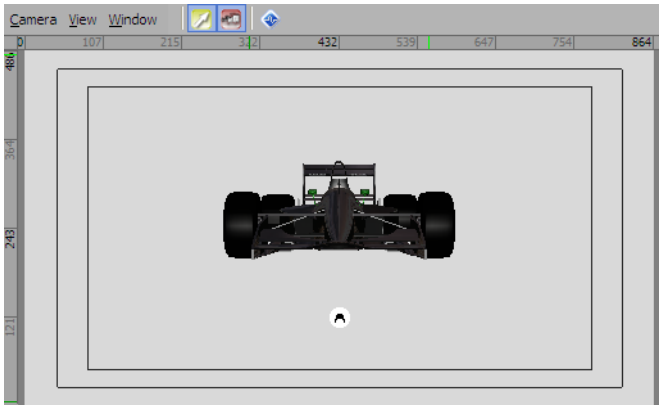
5. In the **Node Tree** section, expand the 3D model folder.

   The components of the 3D model are displayed.

6. Clear the check box to the left of each component to not import.

7. Click **Import**.

   The 3D model is imported into XPression and placed at the center of the active **Viewport**.

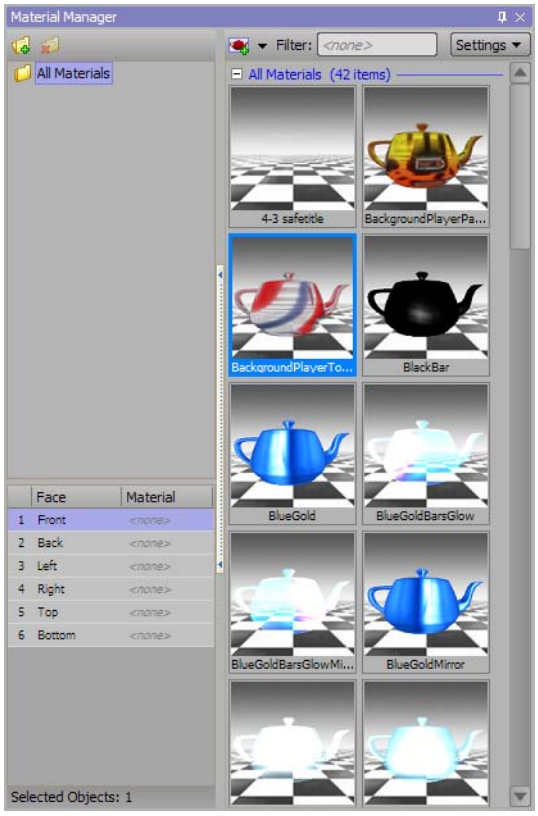


8. In the **Viewport**, select the 3D model.

   The selected 3D model is highlighted. Depending on how the 3D model was built, clicking on the 3D model selects the entire 3D model or just a component of the 3D model.

9. Use the **Display** menu to select **Material Manager**.

   The **Material Manager** window opens.

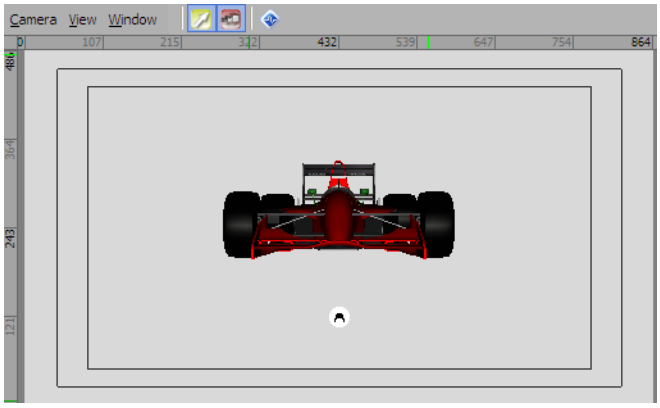


10. In the **Face** column, select one or more of the elements from the selected 3D model or component to apply a material.

    After selecting the initial element, Shift-click another element to select all elements between the two selections or Ctrl-click individual elements to add them to the original selection.

11. Double-click the thumbnail of the material to apply to the 3D model or component.

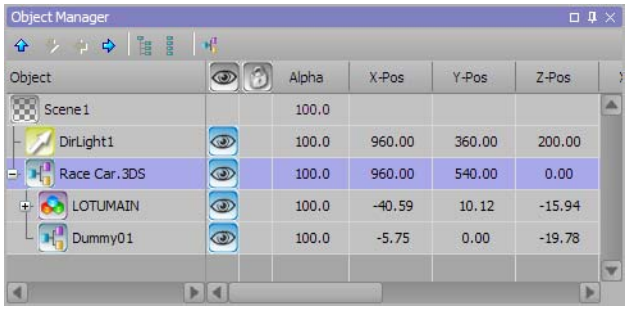
The selected elements are updated with the selected material.



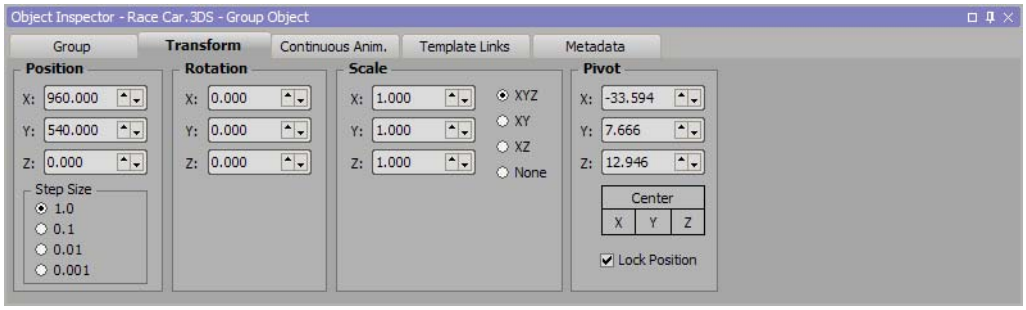
12. To remove an applied material from an element, Right-click the element name in the **Face** column and select **Unbind** from the shortcut menu.

    All material is removed from the selected element.

13. To move the 3D model object to a new position in the **Viewport**, select the main 3D Object in the **Object Manager**, press the Ctrl key, then click and drag the 3D model object to a new position.



To precisely position the 3D model object, use the settings on the **Transform** tab of the **Object Inspector - Model 3D Object** window.



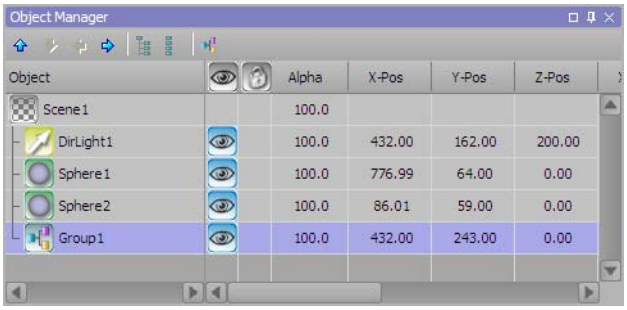
Group Scene Objects

1. In the **Scene Manager** window, select the scene or scene group to add a group object.

   The selected scene or scene group is displayed in the active **Viewport**.

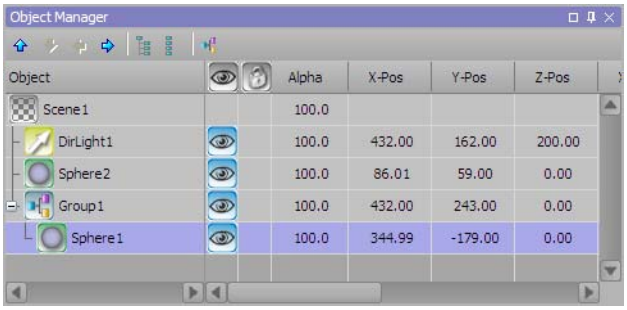
2. In the **Misc** section of the **Object Library** window, click the **Group** button.

   A new group object is added to **Object Manager** window as part of the scene displayed in the active **Viewport**.



3. In the **Object** column of the **Object Manager** window, click and hold the left mouse button on an object to add to the new group object.
4. Drag the selected object to the new group object.
5. Release the left mouse button.

   The selected object is added to the new group object. Objects contained in a group object are indented and connected to the group object by a leader line.



   The **Right** and **Left Arrow** buttons in the toolbar can also be used to move an object into and out of groups.

6. To select a group object, click the group object in the **Object** column of the **Object Manager** window.

   The order of objects in a group is changed by clicking and dragging the object to reorder, or using the **Arrow** buttons in the toolbar to move the object to reorder.

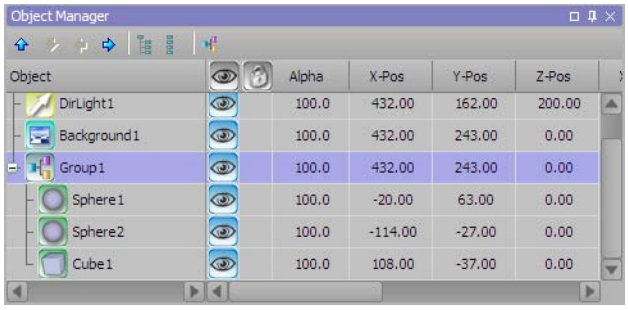
For More Information on...

- positioning group object in a scene, refer to the procedure "**Create a Text Object**" on page 5–2.

Position an Object

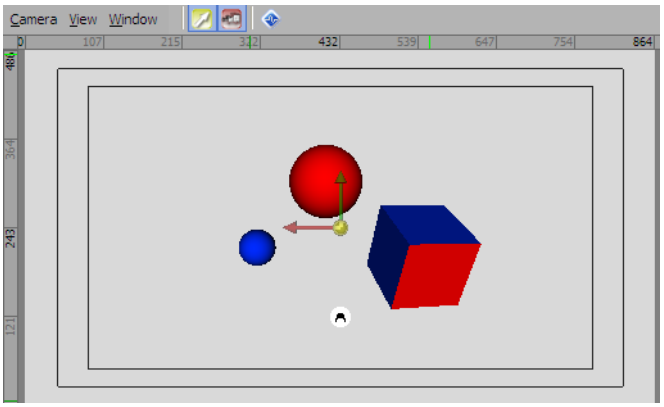
In addition to the **Object Inspector Transform** tab, the **Move Tool** and **Rotate Tool** can be used to position objects.

1. In the **Object Manager** window, select a group or object group to move or rotate.



2. To move the selected object, click the **Move Tool** in the **Editor** window toolbar.

   The **Move Tool** axis is displayed at the pivot point of the selected group object.

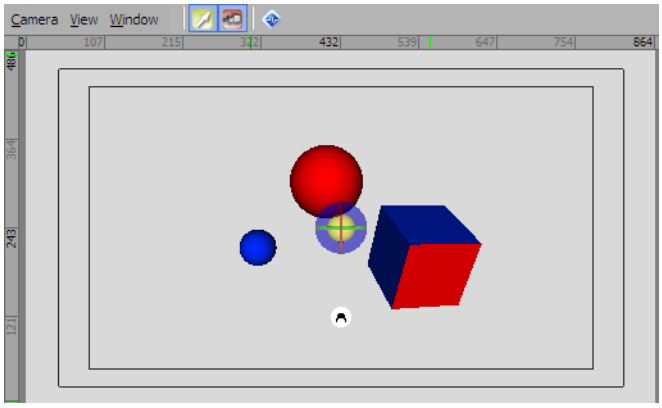


3. Use the **Move Tool** as follows to move the selected object:

   - Click and drag the **Red** (X), **Green** (Y), or **Blue** (Z) axis displayed at the object pivot point to move the object along the selected axis.
   - Click and drag the **Yellow** center of the axis displayed at the object pivot point to move the object horizontally and/or vertically in the scene.

4. To rotate the selected object, click the **Rotation Tool** in the **Editor** window toolbar.

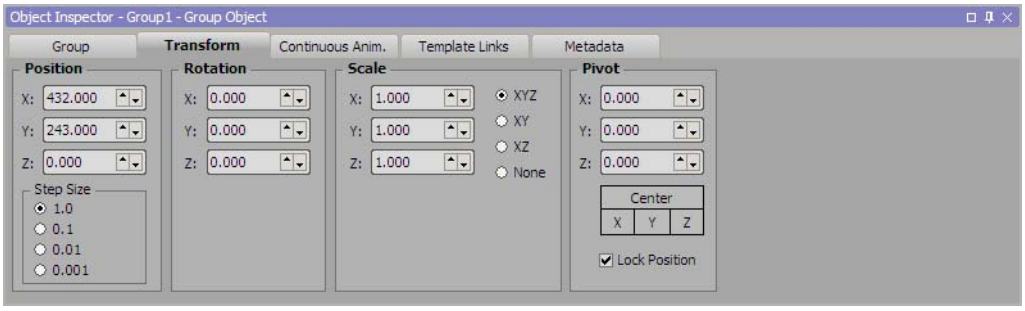
   The **Rotation Tool** axis is displayed at the pivot point of the selected object.



5. Use the **Rotate Tool** as follows to move the selected group object:

   - Click and drag the **Red** (X), **Green** (Y), or **Blue** (Z) axis ring displayed at the object pivot point to rotate the object around the selected axis.
   - Click and drag the **Yellow** center of the axis rings displayed at the object pivot point to rotate the object about the scene.

6. To precisely position a group object, use the settings on the **Transform** tab of the **Object Inspector - Group Object** window.



For More Information on...

- how to add a group object to a scene, refer to the procedure "**Group Scene Objects**" on page 8–23.

Lights

The objects in an XPression scene are made visible by the light emitted by directional, point, and spot light objects.

The following topics are discussed in this section:

- Add a Directional Light Source to a Scene
- Add a Point Light Source to a Scene
- Add a Spot Light Source to a Scene

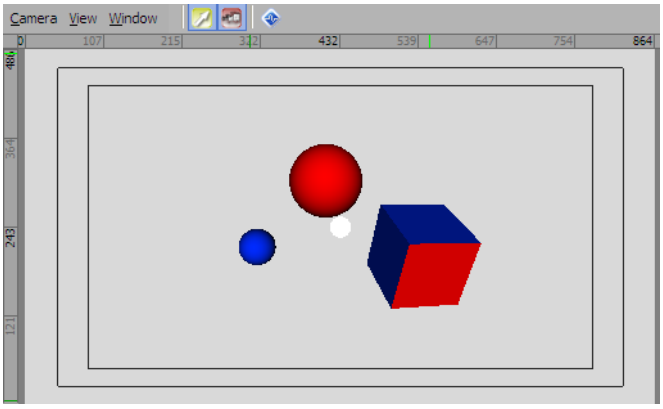
Add a Directional Light Source to a Scene

1. In the **Scene Manager** window, select the scene or scene group to add a directional light source.

   The selected scene or scene group is displayed in the active **Viewport**.

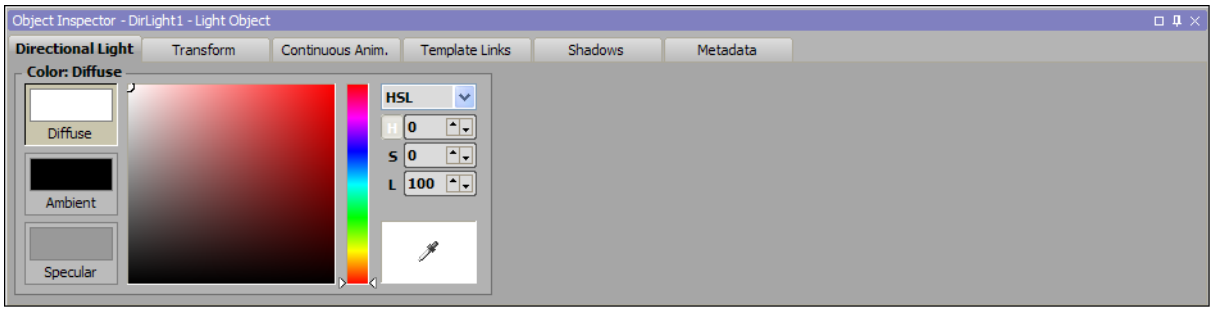
2. In the **Primitives** section of the **Object Library** window, click the **Directional Light** button.

   A new directional light object (center dot) is added to the center of the active **Viewport**.



3. In the **Object Inspector - Light Object** window, click the **Directional Light** tab.

   The **Directional Light** tab opens.



4. Click **Diffuse** to set the color of light projected by the directional light object.

   The diffuse color is set using the color controls to the right.

5. Use the **Color Mode** list at the far right to select the color definition mode. The available modes are as follows:

   - **HSL** — define color by setting hue, saturation, and lightness values.
   - **RGB** — define color by setting red, green, and blue values.

6. Use the selected color definition mode to set the diffuse color.

HSL Color Selection Mode

a. Select the **H** option, then use one of the following methods to set the hue value for the new color:

   - Place the slider along the hue scale to set the hue value.
   - In the box to the right of the **H** option, enter or select the hue value (0 to 359).

   After setting the **H** value, the **S** and **L** color values can be set by clicking a color in the **Color Box**.

b. Select the **S** option, then use one of the following methods to set the saturation value for the new color:

- Place the slider along the saturation scale to set the saturation value.
- In the box to the right of the **S** option, enter or select the saturation value (0 to 100).

After setting the **S** value, the **H** and **L** color values can be set by clicking a color in the **Color Box**.

c. Select the **L** option, then use one of the following methods to set the lightness value for the new color:

- Place the slider along the lightness scale to set the lightness value.
- In the box to the right of the **L** option, enter or select the lightness value (0 to 100).

After setting the **L** value, the **S** and **H** color values can be set by clicking a color in the **Color Box**.

To select a color on the screen as the new color, click and drag the eye dropper icon to a color on the screen then release the mouse button. The **H**, **S**, and **L** color values are set to match the color selected from the screen.

RGB Color Selection Mode

a. Select the **R** option, then use one of the following methods to set the red value for the new color:

- Place the slider along the red scale to set the red value.
- In the box to the right of the **R** option, enter or select the red value (0 to 255).

After setting the **R** value, the **G** and **B** color values can be set by clicking a color in the **Color Box**.

b. Select the **G** option, then use one of the following methods to set the green value for the new color:

- Place the slider along the green scale to set the green value.
- In the box to the right of the **G** option, enter or select the green value (0 to 255).

After setting the **G** value, the **R** and **B** color values can be set by clicking a color in the **Color Box**.

c. Select the **B** option, then use one of the following methods to set the blue value for the new color:

- Place the slider along the blue scale to set the blue value.
- In the box to the right of the **B** option, enter or select the blue value (0 to 255).

After setting the **B** value, the **R** and **G** color values can be set by clicking a color in the **Color Box**.

To select a color on the screen as the new color, click and drag the **Dropper Tool** to a color on the screen then release the mouse button. The **R**, **G**, and **B** color values are set to match the color selected from the screen.

7. Click **Ambient** to set the color of the light from other sources that blends with the directional light.

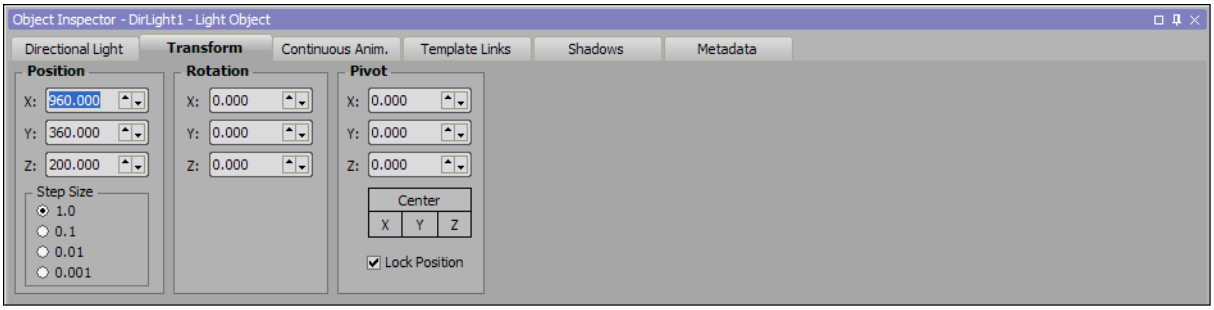
Follow steps 5 and 6 to set the ambient color for the directional light object.

8. Click **Specular** to set the color of light emitted by an object on which the directional light shines.

Follow steps 5 and 6 to set the ambient color for the directional light object.

9. To move the directional light to a new position in the **Viewport**, place the cursor on the directional light object, press the **Ctrl** key, then click and drag the directional light object to a new position.

To precisely position the directional light object, use the settings on the **Transform** tab of the **Object Inspector - Light Object** window.



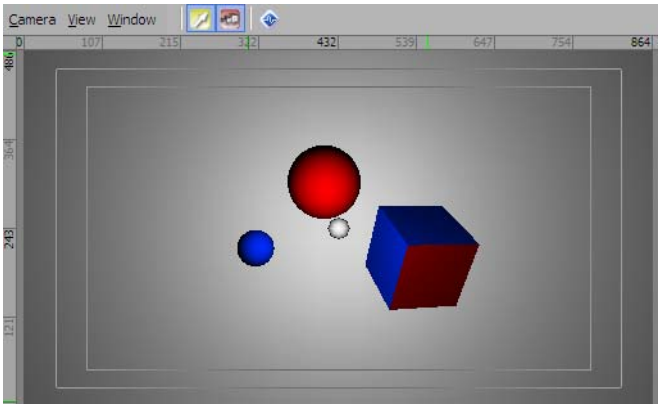
Add a Point Light Source to a Scene

1. In the **Scene Manager** window, select the scene or scene group to add a point light source.

   The selected scene or scene group is displayed in the active **Viewport**.

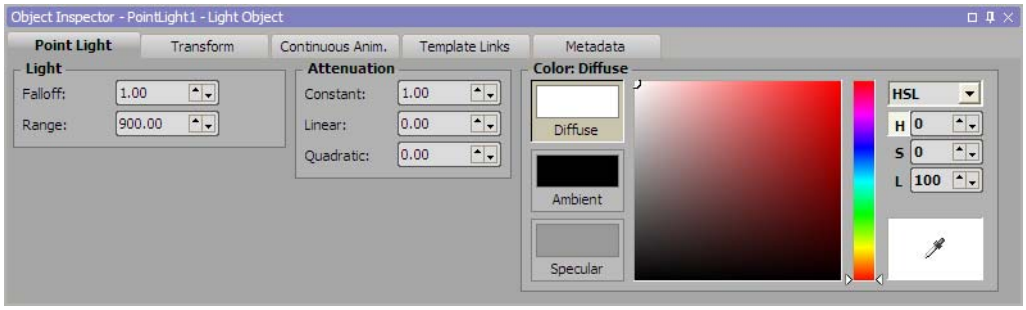
2. In the **Primitives** section of the **Object Library** window, click the **Point Light** button.

   A new point light object (center dot) is added to the center of the active **Viewport**.



3. In the **Object Inspector - Light Object** window, click the **Point Light** tab.

   The **Point Light** tab opens.



4. In the **Light** section, use the **Falloff** box to enter or select the intensity of light as it spreads out from the point light object.
5. In the **Range** box, enter or select the overall size in pixels that is lit by the point light object.
6. In the **Attenuation** section, use the **Constant** box to enter or select the constant attenuation factor for the gradual loss in intensity for the point light object. The default value is 1.
7. In the **Linear** box, enter or select the linear attenuation factor times the distance between the light and the vertex being illuminated. The default value is 0.
8. In the **Quadratic** box, enter or select the quadratic attenuation factor times the square of the distance between the light and vertex. The default value is 0.
9. In the **Color** section, click **Diffuse** to set the color of light projected by the point light object.

   The diffuse color is set using the color controls to the right.

10. Use the **Color Mode** list at the far right to select the color definition mode. The available modes are as follows:
    - **HSL** — define color by setting hue, saturation, and lightness values.
    - **RGB** — define color by setting red, green, and blue values.

11. Use the selected color definition mode to set the diffuse color.

HSL Color Selection Mode

a. Select the **H** option, then use one of the following methods to set the hue value for the new color:

- Place the slider along the hue scale to set the hue value.
- In the box to the right of the **H** option, enter or select the hue value (0 to 359).

After setting the **H** value, the **S** and **L** color values can be set by clicking a color in the **Color Box**.

b. Select the **S** option, then use one of the following methods to set the saturation value for the new color:

- Place the slider along the saturation scale to set the saturation value.
- In the box to the right of the **S** option, enter or select the saturation value (0 to 100).

After setting the **S** value, the **H** and **L** color values can be set by clicking a color in the **Color Box**.

c. Select the **L** option, then use one of the following methods to set the lightness value for the new color:

- Place the slider along the lightness scale to set the lightness value.
- In the box to the right of the **L** option, enter or select the lightness value (0 to 100).

After setting the **L** value, the **S** and **H** color values can be set by clicking a color in the **Color Box**.

To select a color on the screen as the new color, click and drag the eye dropper icon to a color on the screen then release the mouse button. The **H**, **S**, and **L** color values are set to match the color selected from the screen.

RGB Color Selection Mode

a. Select the **R** option, then use one of the following methods to set the red value for the new color:

- Place the slider along the red scale to set the red value.
- In the box to the right of the **R** option, enter or select the red value (0 to 255).

After setting the **R** value, the **G** and **B** color values can be set by clicking a color in the **Color Box**.

b. Select the **G** option, then use one of the following methods to set the green value for the new color:

- Place the slider along the green scale to set the green value.
- In the box to the right of the **G** option, enter or select the green value (0 to 255).

After setting the **G** value, the **R** and **B** color values can be set by clicking a color in the **Color Box**.

c. Select the **B** option, then use one of the following methods to set the blue value for the new color:

- Place the slider along the blue scale to set the blue value.
- In the box to the right of the **B** option, enter or select the blue value (0 to 255).

After setting the **B** value, the **R** and **G** color values can be set by clicking a color in the **Color Box**.

To select a color on the screen as the new color, click and drag the eye dropper icon to a color on the screen then release the mouse button. The **R**, **G**, and **B** color values are set to match the color selected from the screen.

12. Click **Ambient** to set the color of the light from other sources that blends with the point light.

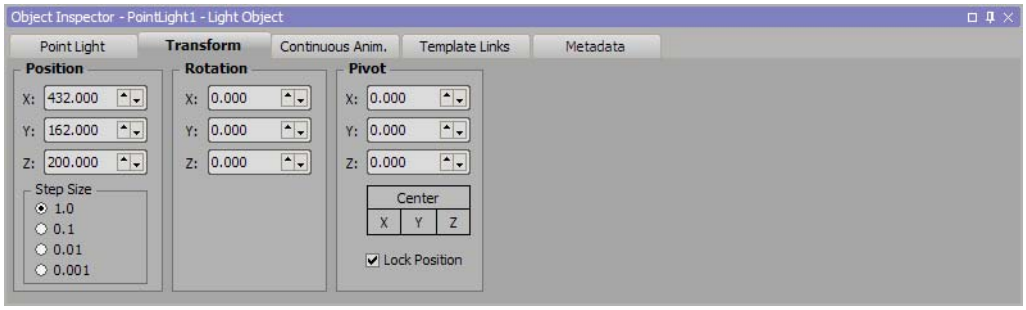
Follow steps 10 and 11 to set the ambient color for the point light object.

13. Click **Specular** to set the color of light emitted by an object on which the point light shines.

Follow steps 10 and 11 to set the ambient color for the point light object.

14. To move the point light to a new position in the **Viewport**, place the cursor on the point light object, press the **Ctrl** key, then click and drag the point light object to a new position.

    To precisely position the point light object, use the settings on the **Transform** tab of the **Object Inspector - Light Object** window.



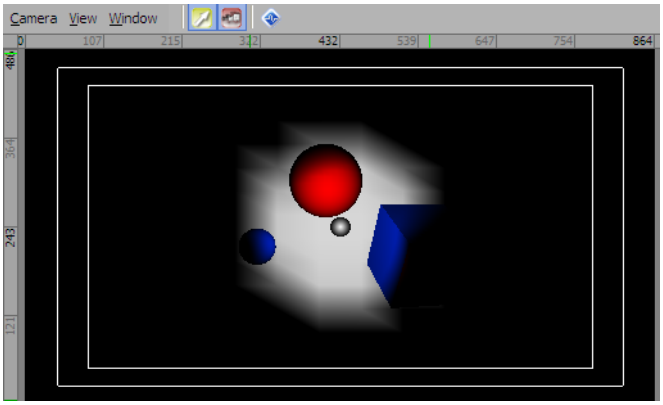
Add a Spot Light Source to a Scene

1. In the **Scene Manager** window, select the scene or scene group to add a spot light source.

   The selected scene or scene group is displayed in the active **Viewport**.

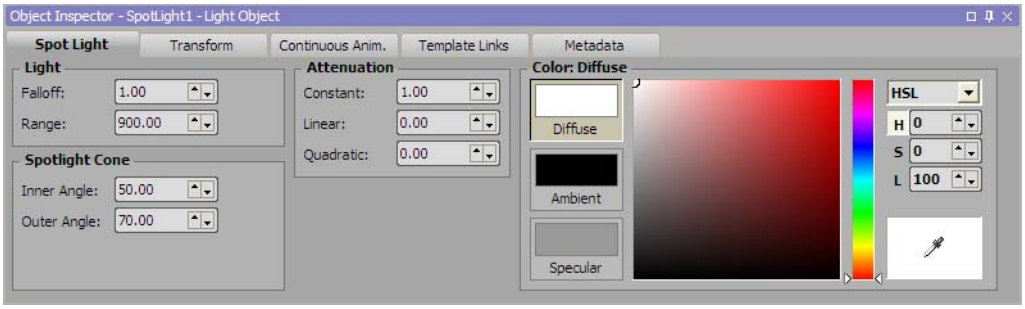
2. In the **Primitives** section of the **Object Library** window, click the **Spot Light** button.

   A new spot light object (center dot) is added to the center of the active **Viewport**.



3. In the **Object Inspector - Light Object** window, click the **Spot Light** tab.

   The **Spot Light** tab opens.



4. In the **Light** section, use the **Falloff** box to enter or select the intensity of light as it spreads out from the spot light object.
5. In the **Range** box, enter or select the overall size in pixels that is lit by the spot light object.
6. In the **Spotlight Cone** section, use the **Inner Angle** to enter or select the size in degrees of the inner light (beam) emitted from the spot light object. Inner angle values range from 0 to 180 degrees.
7. In the **Outer Angle** box, enter or select the size in degrees of the outer light (blur light) emitted from the spot light object. Outer angle values range from 0 to 180 degrees.

   In order to display the entire the outer angle, this value must be less than the value set for the Range box in the Light section.

8. In the **Color** section, click **Diffuse** to set the color of light projected by the spot light object.

   The diffuse color is set using the color controls to the right.

9. Use the **Color Mode** list at the far right to select the color definition mode. The available modes are as follows:

   - **HSL** — define color by setting hue, saturation, and lightness values.
   - **RGB** — define color by setting red, green, and blue values.

10. Use the selected color definition mode to set the diffuse color.

HSL Color Selection Mode

a. Select the **H** option, then use one of the following methods to set the hue value for the new color:

- Place the slider along the hue scale to set the hue value.
- In the box to the right of the **H** option, enter or select the hue value (0 to 359).

After setting the **H** value, the **S** and **L** color values can be set by clicking a color in the **Color Box**.

b. Select the **S** option, then use one of the following methods to set the saturation value for the new color:

- Place the slider along the saturation scale to set the saturation value.
- In the box to the right of the **S** option, enter or select the saturation value (0 to 100).

After setting the **S** value, the **H** and **L** color values can be set by clicking a color in the **Color Box**.

c. Select the **L** option, then use one of the following methods to set the lightness value for the new color:

- Place the slider along the lightness scale to set the lightness value.
- In the box to the right of the **L** option, enter or select the lightness value (0 to 100).

After setting the **L** value, the **S** and **H** color values can be set by clicking a color in the **Color Box**.

To select a color on the screen as the new color, click and drag the eye dropper icon to a color on the screen then release the mouse button. The **H**, **S**, and **L** color values are set to match the color selected from the screen.

RGB Color Selection Mode

a. Select the **R** option, then use one of the following methods to set the red value for the new color:

- Place the slider along the red scale to set the red value.
- In the box to the right of the **R** option, enter or select the red value (0 to 255).

After setting the **R** value, the **G** and **B** color values can be set by clicking a color in the **Color Box**.

b. Select the **G** option, then use one of the following methods to set the green value for the new color:

- Place the slider along the green scale to set the green value.
- In the box to the right of the **G** option, enter or select the green value (0 to 255).

After setting the **G** value, the **R** and **B** color values can be set by clicking a color in the **Color Box**.

c. Select the **B** option, then use one of the following methods to set the blue value for the new color:

- Place the slider along the blue scale to set the blue value.
- In the box to the right of the **B** option, enter or select the blue value (0 to 255).

After setting the **B** value, the **R** and **G** color values can be set by clicking a color in the **Color Box**.

To select a color on the screen as the new color, click and drag the eye dropper icon to a color on the screen then release the mouse button. The **R**, **G**, and **B** color values are set to match the color selected from the screen.

11. Click **Ambient** to set the color of the light from other sources that blends with the spot light.

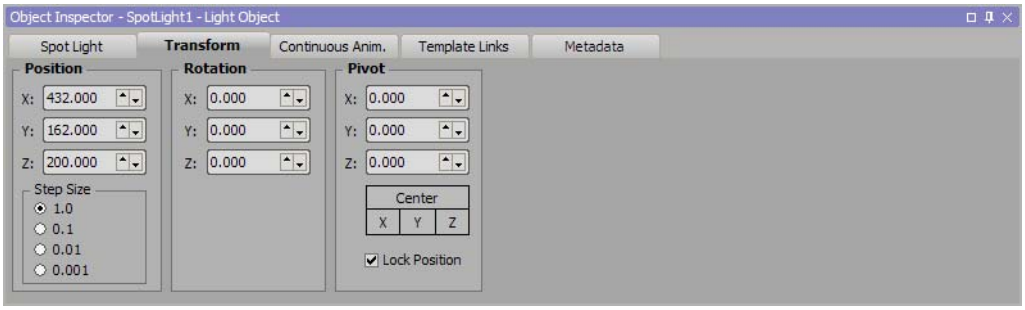
Follow steps 9 and 10 to set the ambient color for the spot light object.

12. Click **Specular** to set the color of light emitted by an object on which the spot light shines.

Follow steps 9 and 10 to set the ambient color for the spot light object.

13. To move the spot light to a new position in the **Viewport**, place the cursor on the spot light object, press the **Ctrl** key, then click and drag the spot light object to a new position.

    To precisely position the spot light object, use the settings on the **Transform** tab of the **Object Inspector - Light Object** window.



Cameras

The point of view for an XPression scene is set by a camera object.

The following topic is discussed in this section:

- Add a Perspective Camera to a Scene
- Add an Orthographic Camera to a Scene

Add a Perspective Camera to a Scene

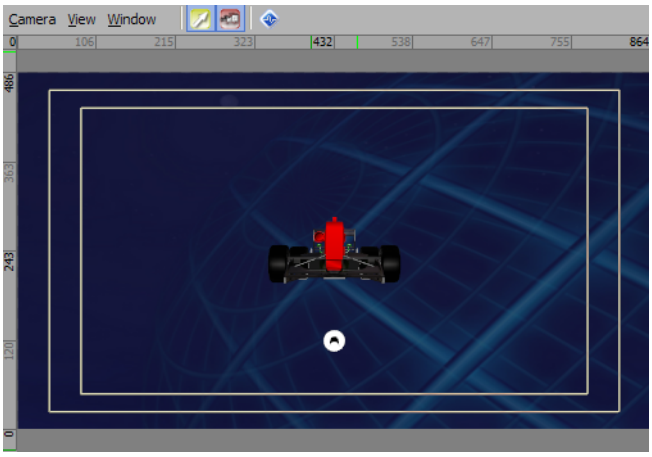
A perspective camera provides the possibility to view the scene from a different angle.

1. In the **Scene Manager** window, select the scene or scene group to add a perspective camera object.

   The selected scene or scene group is displayed in the active **Viewport**.

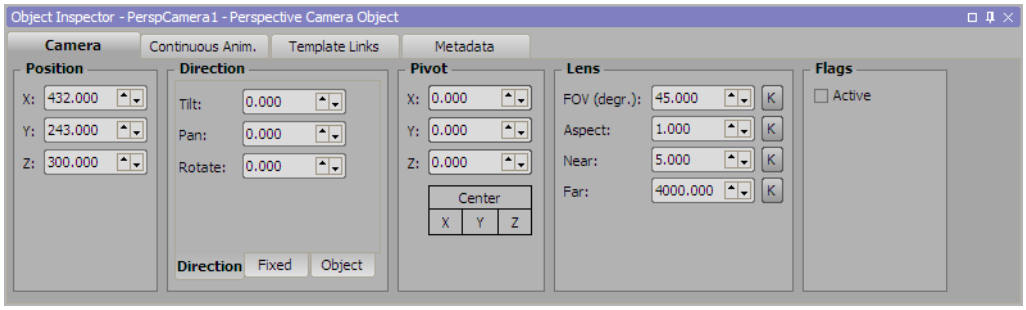
2. In the **Cameras** section of the **Object Library** window, click the **Persp. Camera** button.

   A new perspective camera object is added to the center of the active **Viewport**.



3. In the **Object Inspector - Perspective Camera Object** window, click the **Camera** tab.

   The **Camera** tab opens.



4. In the **Position** section, enter coordinates in the **X**, **Y**, and **Z** boxes to set the position of the perspective camera object in scene.

5. In the **Direction** section, click one of the following tabs to set the direction of view for the perspective camera object:

   - **Direction** — set the direction of view by setting the orientation of the perspective camera object.
   - **Fixed** — set the direction of view by pointing the perspective camera object at a fixed point.
   - **Object** — set the direction of view by pointing the perspective camera object at an object in the scene.

6. Use the selected **Direction** tab to set the direction of view for the perspective camera object.

Direction

Use the settings in this section to set the direction that the camera observes by orienting the perspective camera object.

a. In the **Tilt** box, enter or select the degrees to rotate the perspective camera object upwards or downwards, around the X axis. Positive angles point the perspective camera object view upwards, while negative angles point the perspective camera object view downwards.

b. In the **Pan** box, enter or select the degrees to rotate the perspective camera object to the right or left, around the Y axis. Positive angles point the perspective camera object view to the right, while negative angles point the perspective camera object view to the left.

c. In the **Rotate** box, enter or select the degrees to twist the perspective camera object to the right or left, around the Z axis. Positive angles twist the perspective camera object view to the right, while negative angles twist the perspective camera object view to the left.

Fixed

Use the settings in this section to set the fixed point to always face the perspective camera object.

a. In the **X** box, enter or select the X coordinate in pixels of the fixed point to face the perspective camera object.

b. In the **Y** box, enter or select the Y coordinate in pixels of the fixed point to face the perspective camera object.

c. In the **Z** box, enter or select the Z coordinate in pixels of the fixed point to face the perspective camera object.

d. In the **Rotate** box, enter or select the degrees to twist the view of perspective camera object to the right or left, around the Z axis. Positive angles twist the perspective camera object view to the right, while negative angles twist the perspective camera object view to the left.

Object

Use this section to select the object to always face the perspective camera object.

a. Use the **Object** list to select the object to face the perspective camera object.

7. In the **Flags** section, select the **Active** check box.

   The new perspective camera object is set as the active camera object for the scene. Only one camera object can be active in a scene at any time.

8. Double-click the scene containing the perspective camera object.

   The selected scene is sent to the default output, and displayed using the active perspective camera object.

Add an Orthographic Camera to a Scene

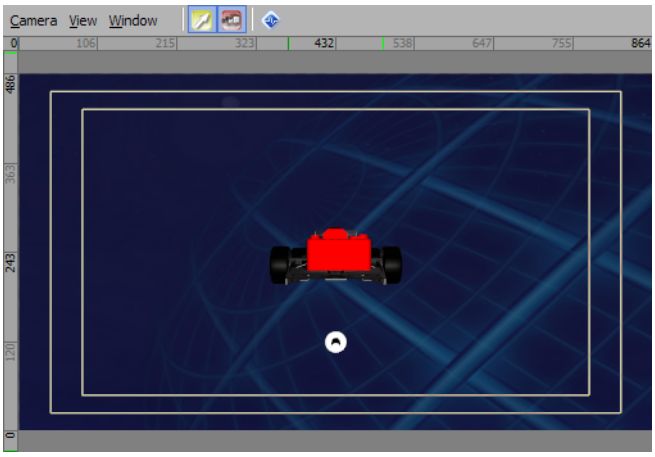
The view from an orthographic camera results in a flat display (no perspective) of the scene.

1. In the **Scene Manager** window, select the scene or scene group to add an orthographic camera object.

   The selected scene or scene group is displayed in the active **Viewport**.

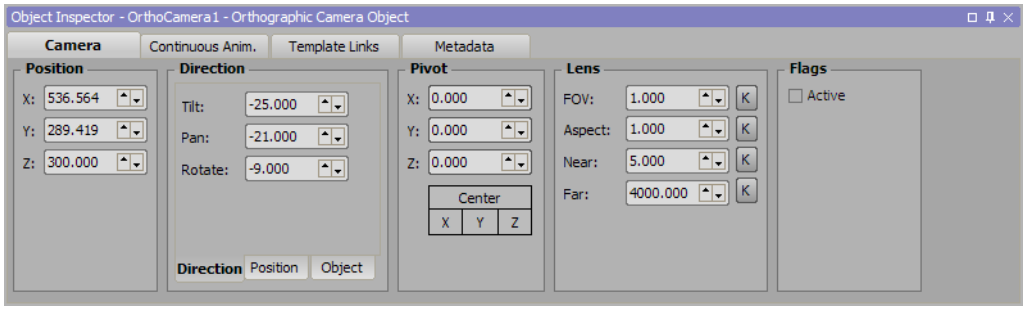
2. In the **Cameras** section of the **Object Library** window, click the **Ortho. Camera** button.

   A new orthographic camera object is added to the center of the active **Viewport**.



3. In the **Object Inspector - Orthographic Camera Object** window, click the **Camera** tab.

   The **Camera** tab opens.



4. In the **Position** section, enter coordinates in the **X**, **Y**, and **Z** boxes to set the position of the orthographic camera object in scene.

5. In the **Direction** section, click one of the following tabs to set the direction of view for the orthographic camera object:

   - **Direction** — set the direction of view by setting the orientation of the orthographic camera object.
   - **Fixed** — set the direction of view by pointing the orthographic camera object at a fixed point.
   - **Object** — set the direction of view by pointing the orthographic camera object at an object in the scene.

6. Use the selected **Direction** tab to set the direction of view for the orthographic camera object.

Direction

Use the settings in this section to set the direction that the camera observes by orienting the orthographic camera object.

a. In the **Tilt** box, enter or select the degrees to rotate the orthographic camera object upwards or downwards, around the X axis. Positive angles point the orthographic camera object view upwards, while negative angles point the orthographic camera object view downwards.

b. In the **Pan** box, enter or select the degrees to rotate the orthographic camera object to the right or left, around the Y axis. Positive angles point the orthographic camera object view to the right, while negative angles point the orthographic camera object view to the left.

c. In the **Rotate** box, enter or select the degrees to twist the orthographic camera object to the right or left, around the Z axis. Positive angles twist the orthographic camera object view to the right, while negative angles twist the orthographic camera object view to the left.

Position

Use the settings in this section to set the position to face the orthographic camera object.

a. In the **X** box, enter or select the X coordinate in pixels of the position to face the orthographic camera object.

b. In the **Y** box, enter or select the Y coordinate in pixels of the position to face the orthographic camera object.

c. In the **Z** box, enter or select the Z coordinate in pixels of the position to face the orthographic camera object.

d. In the **Rotate** box, enter or select the degrees to twist the view of orthographic camera object to the right or left, around the Z axis. Positive angles twist the orthographic camera object view to the right, while negative angles twist the orthographic camera object view to the left.

Object

Use this section to select the object to always face the orthographic camera object.

a. Use the **Object** list to select the object to face the orthographic camera object.

7. In the **Flags** section, select the **Active** check box.

   The new orthographic camera object is set as the active camera object for the scene. Only one camera object can be active in a scene at any time.

8. Double-click the scene containing the orthographic camera object.

   The selected scene is sent to the default output, and displayed using the active orthographic camera object.

Materials

In XPression, materials are used to define the look and style of objects in a scene.

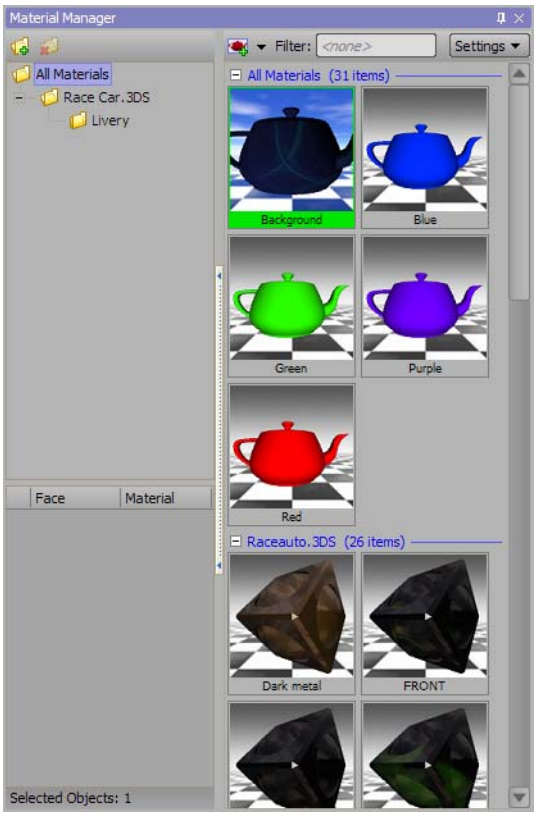
The following topics are discussed in this section:

- Create a 2D Texture Material
- Create a Video Material
- Create a Live Source Material
- Create a Window Capture Material

Create a 2D Texture Material

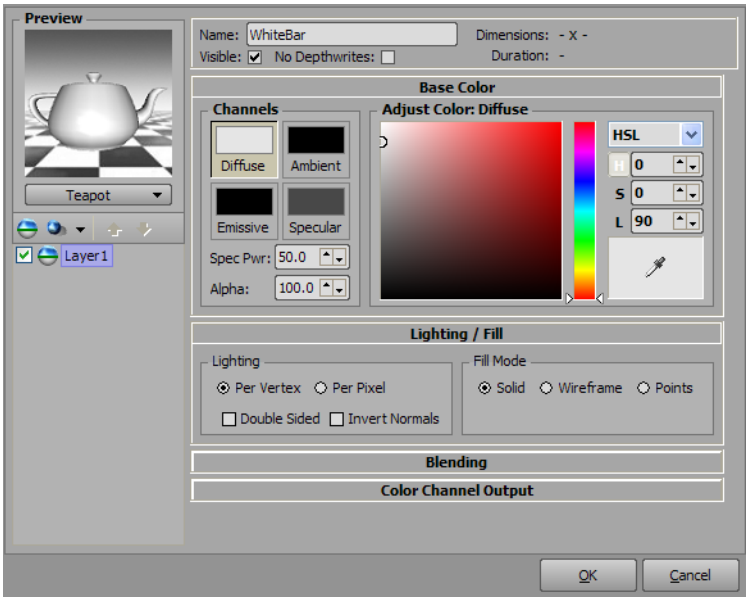
1. In XPression, select **Display** > **Material Manager**.

   The **Material Manager** window opens. To prevent the **Material Manager** window from getting covered by other windows, click the **Pin** button in the window title bar.



2. In the **Material Manager** window, click the **Create New Material** button in the toolbar.

   The **Material Editor** dialog box opens.



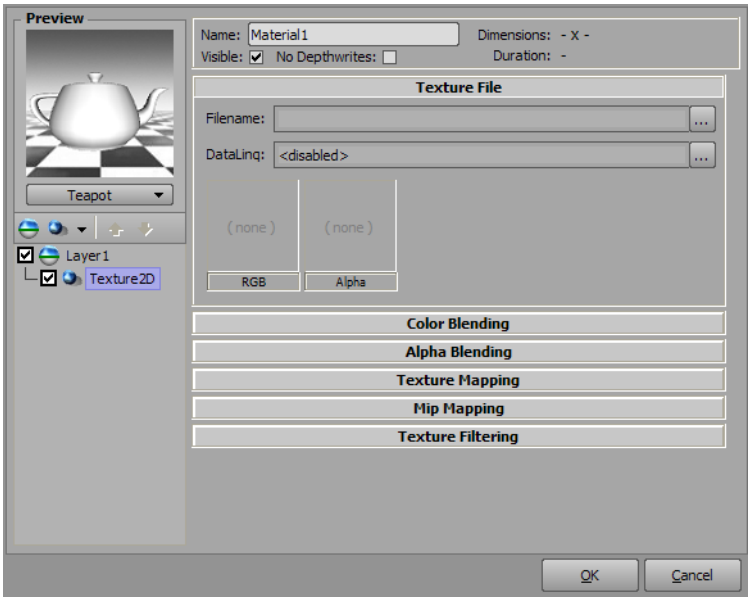
3. Enter in the **Name** box a name for the new material.

4. In the **Preview** section, select **Texture 2D** from the **Shader** list.

   A Texture 2D shader is added to the material.

5. In the **Tree View**, select the new **Texture2D** shader.

   The **Texture File** section opens.



6. Enter in the **Filename** box the full path to the image file to use as a texture, or click **Browse** to use the **Texture Explorer** dialog box to select the image file.

   The **RGB** thumbnail displays the selected image file.

7. Click **OK**.

   The new material is added to the **Material Manager**, and is ready to be applied to text, background, quad, sphere, or cube objects.

✶ When a 2D texture material is applied to a new quad object, the quad is resized to the texture image of the 2D texture material. When applied to an existing quad, the texture image of the 2D texture material is resized to fit the quad.

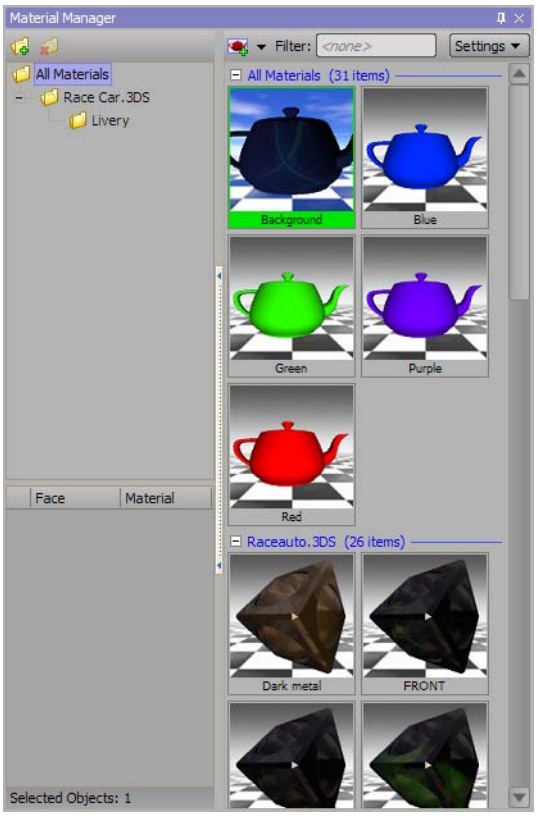
For More Information on...

- how to apply a material to a text object, refer to the procedure "**Apply a Material to a Text Object**" on page 5–11.
- how to apply a material to a quad object, refer to the procedure "**Create a Quad Object**" on page 8–2
- how to apply a material to a sphere object, refer to the procedure "**Create a Sphere Object**" on page 8–5
- how to apply a material to a cube object, refer to the procedure "**Create a Cube Object**" on page 8–8

Create a Video Material

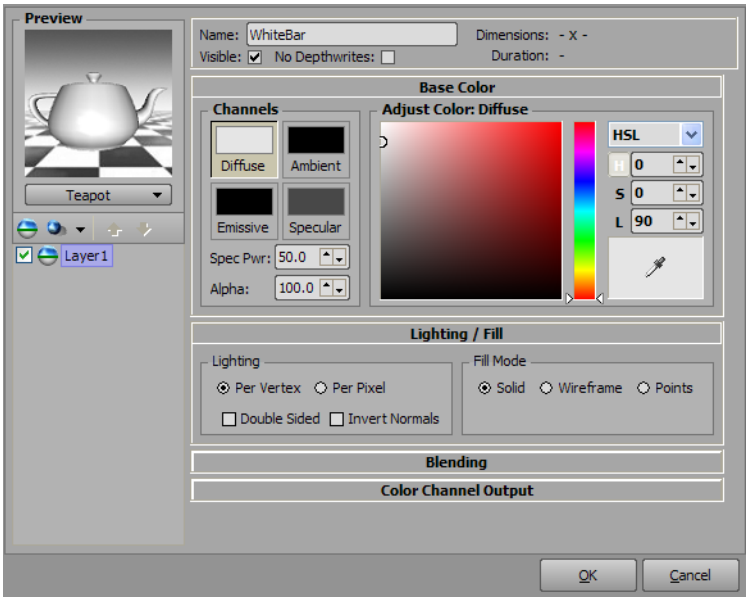
1. In XPression, select **Display** > **Material Manager**.

   The **Material Manager** window opens.To prevent the **Material Manager** window from getting covered by other windows, click the **Pin** button in the window title bar.



2. In the **Material Manager** window, click the **Create New Material** button in the toolbar.

   The **Material Editor** dialog box opens.



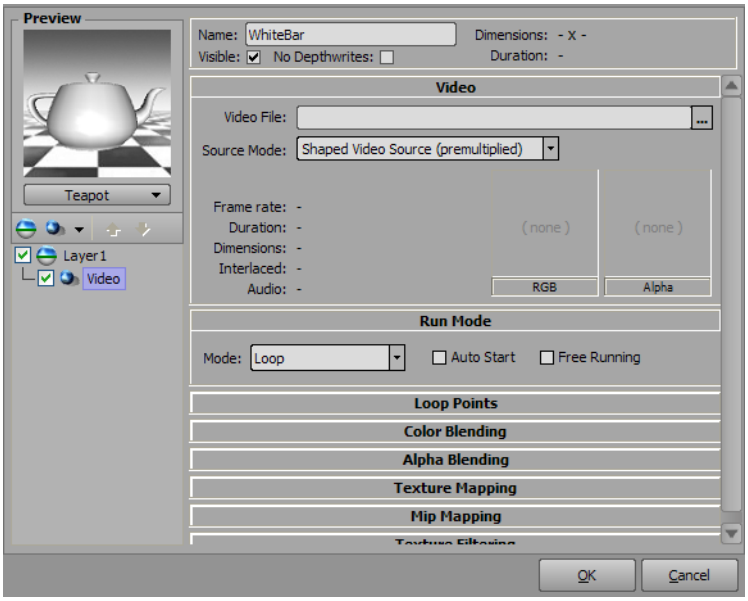
3. Enter in the **Name** box a name for the new material.

4. In the **Preview** section, select **Video** from the **Shader** list.

   A Video shader is added to the material.

5. In the **Tree View**, select the new **Video** shader.

   The **Video** and **Run Mode** sections open.



6. In the **Video** section, enter the full path to the video file in the **Video File** box, or click **Browse** to use the **Open** dialog box to select the video file.

7. Use the **Source Mode** list to select the mode used by the video source to define transparency. The available modes are as follows:

   - **Shaped Video Source (premultiplied)** — the video file uses a shaped key, where the key alpha cuts a hole based on the monochrome value of the alpha. Shades of gray are translated into either white or black, giving the key a hard edge.
   - **Unshaped Video Source** — the video file uses an unshaped key, where the key alpha cuts a hole based on the gradient values of the alpha. Shades of gray are translated into transparency levels, giving the key a soft edge.

8. In the **Run Mode** section, use the **Mode** list to select the play mode for the video file. The available play modes are as follows:

   - **Stopped** — display the first frame in the video file, but do not play the video file.
   - **Play Once** — only play the video file once, then display the last frame in the video file.
   - **Loop** — continuously play the video file from start to finish.
   - **Ping Pong** — continuously play the video file back and forth.

9. Select the **Auto Start** check box to enable the video to start immediately when the scene comes on-air.

   The start time of the video file may also be controlled from the **Scene Director** by dragging the video material to a **Scene Director** track.

10. Click **OK**.

    The new material is added the **Material Manager**, and is ready to be applied to text, background, quad, sphere, or cube objects.

✶ When a video material is applied to a new quad object, the quad is resized to the video file played by the video material. When applied to an existing quad, the video file of the video material is resized to fit the quad.

For More Information on...

- how to apply a material to a text object, refer to the procedure "**Apply a Material to a Text Object**" on page 5–11.
- how to apply a material to a quad object, refer to the procedure "**Create a Quad Object**" on page 8–2
- how to apply a material to a sphere object, refer to the procedure "**Create a Sphere Object**" on page 8–5
- how to apply a material to a cube object, refer to the procedure "**Create a Cube Object**" on page 8–8
- how to apply a material to a cube object, refer to the procedure "**Create a Cube Object**" on page 8–8
- controlling Scene Director tracks, refer to the procedure "**Add Keyframe Animation to an Object**" on page 13–5

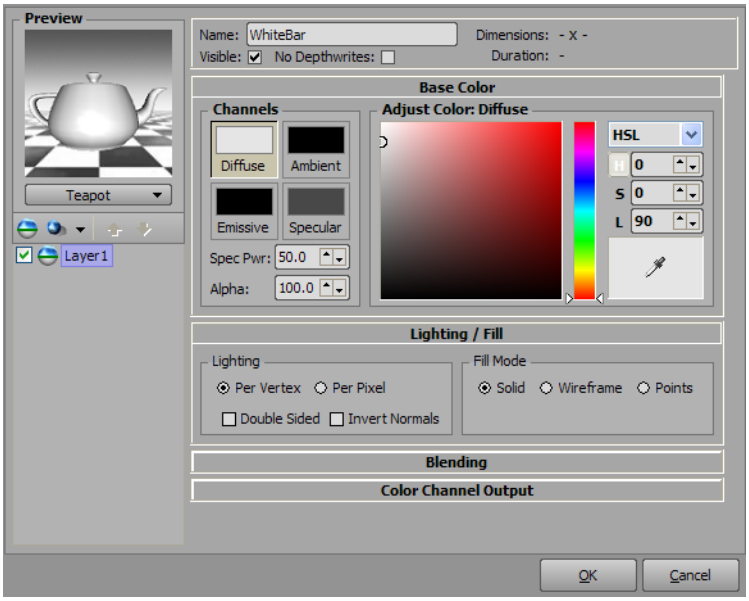
Create a Live Source Material

1. In XPression, select **Display** > **Material Manager**.

   The **Material Manager** window opens.To prevent the **Material Manager** window from getting covered by other windows, click the **Pin** button in the window title bar.

2. In the **Material Manager** window, click the **Create New Material** button in the toolbar.

   The **Material Editor** dialog box opens.



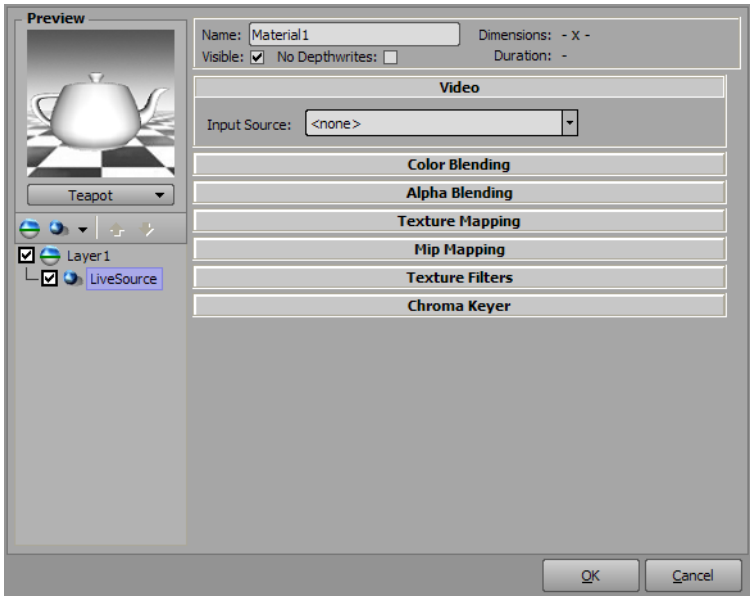
3. Enter in the **Name** box a name for the new material.

4. In the **Preview** section, select **Live Source** from the **Shader** list.

   A Live Source shader is added to the material.

5. In the **Tree View**, select the new **LiveSource** shader.

   The **Video** section opens.



6. In the **Video** section, use the **Input Source** list to select the source from which to capture live video.

7. Click **OK**.

   The new material is added the **Material Manager**, and is ready to be applied to text, background, quad, sphere, or cube objects.

✶ When a live source material is applied to a new quad object, the quad is resized to the input source streamed by the live source material. When applied to an existing quad, the input source of the live source material is resized to fit the quad.

For More Information on...

- how to apply a material to a text object, refer to the procedure "**Apply a Material to a Text Object**" on page 5–11.
- how to apply a material to a quad object, refer to the procedure "**Create a Quad Object**" on page 8–2
- how to apply a material to a sphere object, refer to the procedure "**Create a Sphere Object**" on page 8–5
- how to apply a material to a cube object, refer to the procedure "**Create a Cube Object**" on page 8–8

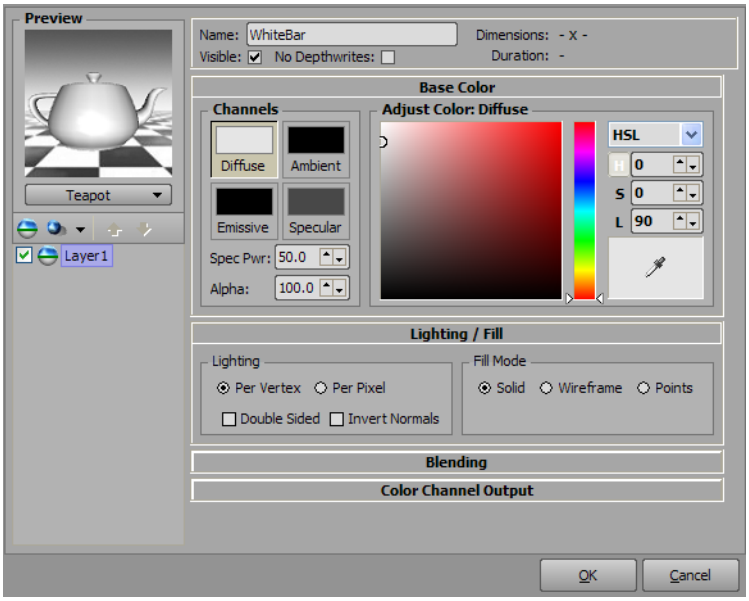
Create a Window Capture Material

1. Outside of XPression, start Windows Internet Explorer.
2. Position the **Windows Internet Explorer** window on the screen so that it and the **XPression** window are visible at the same time.
3. In the **Windows Internet Explorer** window, navigate to the web site for the window capture material.
4. In XPression, select **Display** > **Material Manager**.

   The **Material Manager** window opens.To prevent the **Material Manager** window from getting covered by other windows, click the **Pin** button in the window title bar.

5. In the **Material Manager** window, click the **Create New Material** button in the toolbar.

   The **Material Editor** dialog box opens.



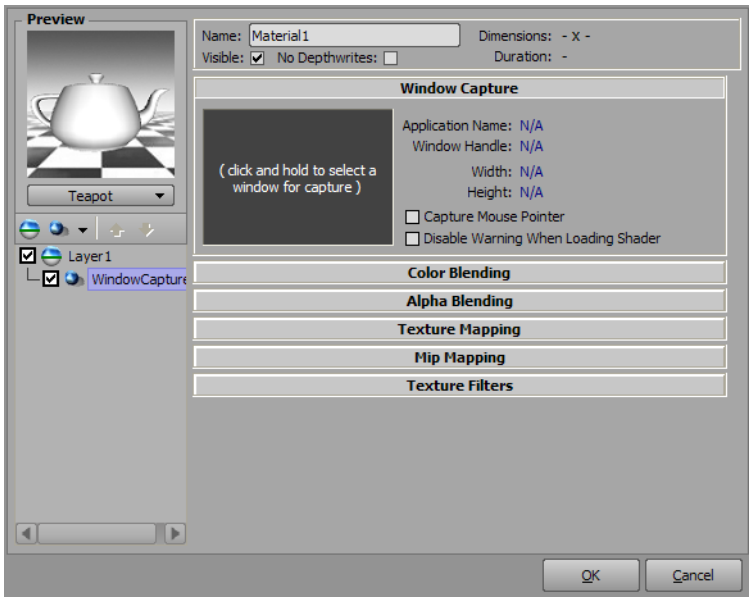
6. Enter in the **Name** box a name for the new material.

7. In the **Preview** section, select **Window Capture** from the **Shader** list.

   A Window Capture shader is added to the material.

8. In the **Tree View**, select the new **WindowCapture** shader.

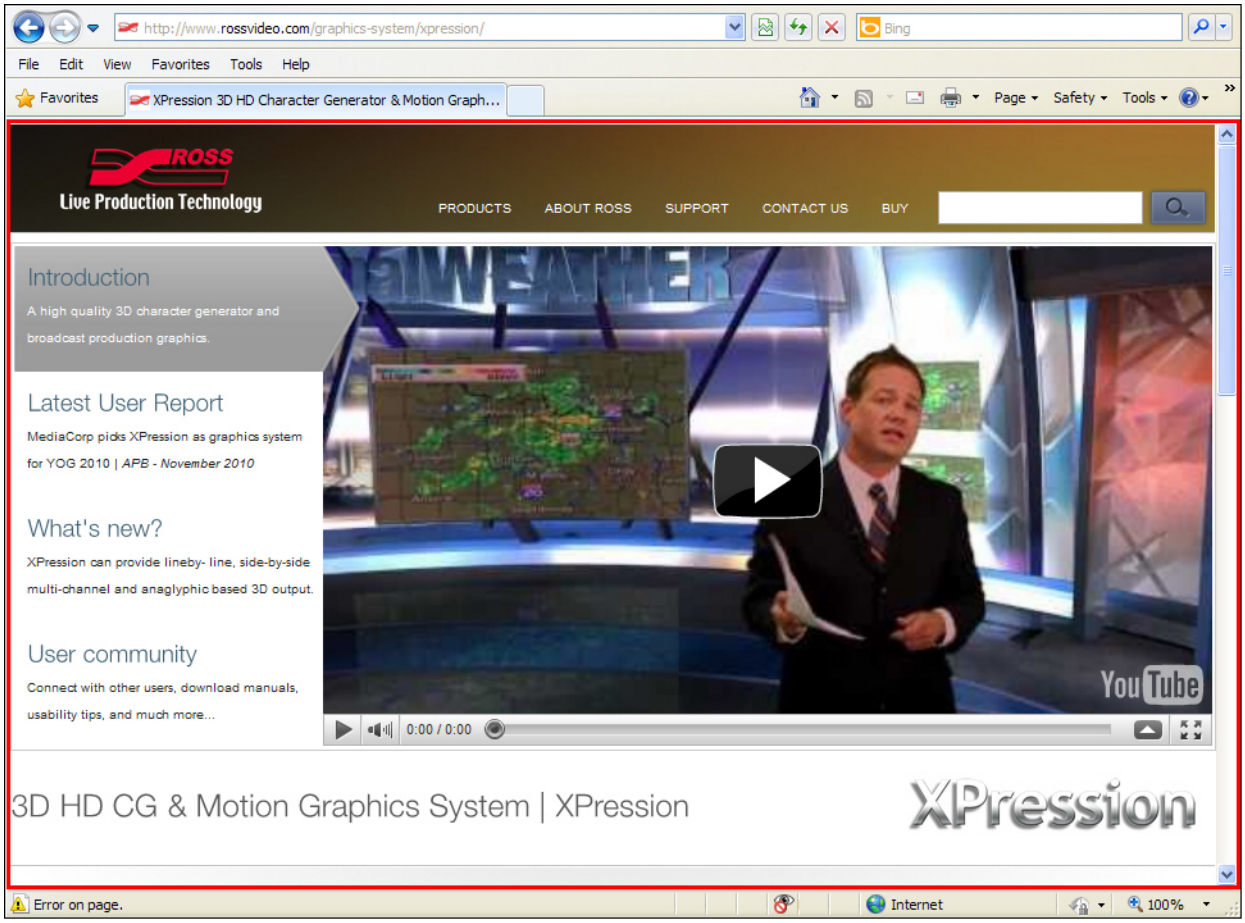
   The **Window Capture** section opens.



9. On the **Preview** thumbnail in the **Window Capture** section, click and hold the left mouse button.

10. Position the mouse pointer over the content in the **Windows Internet Explorer** window to capture for the window capture material.

    A red box highlights the selected content.



11. When the required content is highlighted, release the left mouse button.

    A snapshot of the selected content is displayed in the **Preview** thumbnail.

✶ For objects that use the window capture material to display the selected content, the **Windows Internet Explorer** window containing the selected content must remain open while the objects are online. Closing the **Windows Internet Explorer** window removes the content from the online objects. Also, to not compromise the output, ensure that no other window covers the captured window.

12. Select the **Capture Mouse Pointer** check box to display the mouse pointer along with the content from the captured window.

13. Select the **Disable Warning When Loading Shader** check box to hide the **Warning** dialog box when loading the Window Capture shader.

14. Click **OK**.

    The new material is added the **Material Manager**, and is ready to be applied to text, background, quad, sphere, or cube objects.

✶ When a window capture material is applied to a new quad object, the quad is resized to the window captured by the window capture material. When applied to an existing quad, the captured window of the window capture material is resized to fit the quad.

For More Information on...

- how to apply a material to a text object, refer to the procedure "**Apply a Material to a Text Object**" on page 5–11.
- how to apply a material to a quad object, refer to the procedure "**Create a Quad Object**" on page 8–2
- how to apply a material to a sphere object, refer to the procedure "**Create a Sphere Object**" on page 8–5
- how to apply a material to a cube object, refer to the procedure "**Create a Cube Object**" on page 8–8

Fonts

In XPression, fonts are used to define the look and style of text objects in a scene.

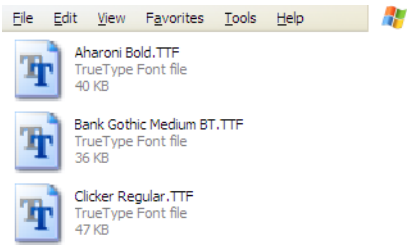
The following topics are discussed in this section:

- Add a Private Font to a Project
- Apply a Material to a Font

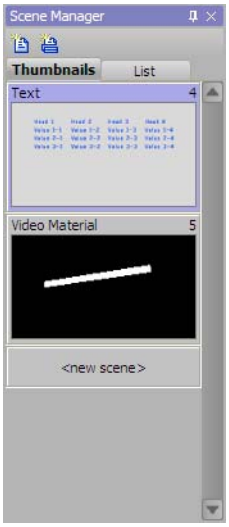
Add a Private Font to a Project

The fonts installed in the Windows system font directory are available to all XPression projects. Private fonts are kept in a Fonts folder within an XPression project folder, and are only available to that project.

1. In XPression, click the **Explorer** Explore button to open the project folder.
2. In the project folder, create a new folder named **Fonts**.
3. For each private font to add to the project, copy the associated True Type Font file into the new **Fonts** folder.

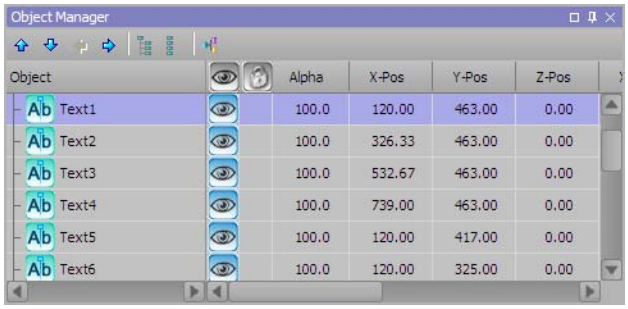


4. In XPression open the project that contains the added private fonts.
5. In the **Scene Manager** window, select a scene or scene group that contains a text object.



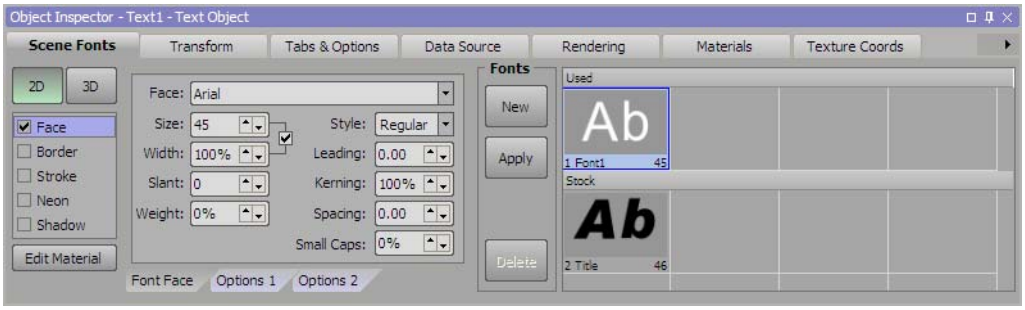
The objects contained in the selected scene or scene group are listed in the **Object Manager**.

6. In the **Object Manager** window, select a text object.



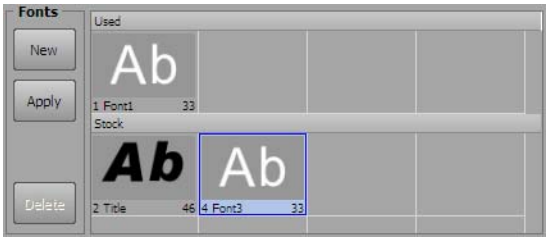
7. In the **Object Inspector - Text Object** window, click the **Scene Fonts** tab.

   The **Scene Fonts** tab opens.

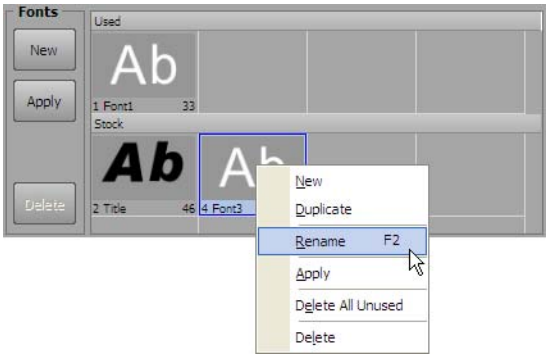


8. In the **Fonts** section, click **New**.

   A new font is added to the **Stock** list.



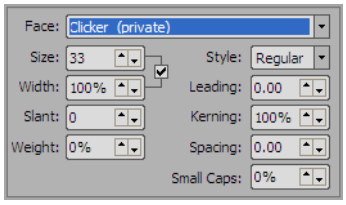
9. Right-click the new font and select **Rename** from the shortcut menu.



10. Enter a name for the new font.

11. Select the **Face** check box.

    The **Font Face** tab opens.



12. Use the **Face** list to select a private font face, indicated by the **(private)** tag following the font face name, for the new font.

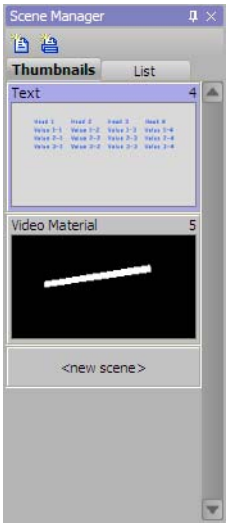
    The new font is ready to be applied to text objects.

For More Information on...

- how to apply a font to a text object, refer to the procedure "**Create a Text Object**" on page 5–2

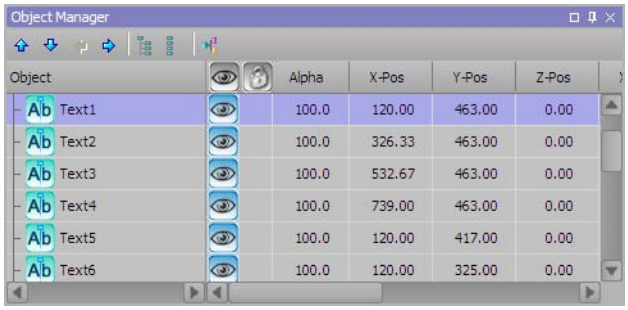
Apply a Material to a Font

1. In the **Scene Manager** window, select a scene or scene group that contains a text object.



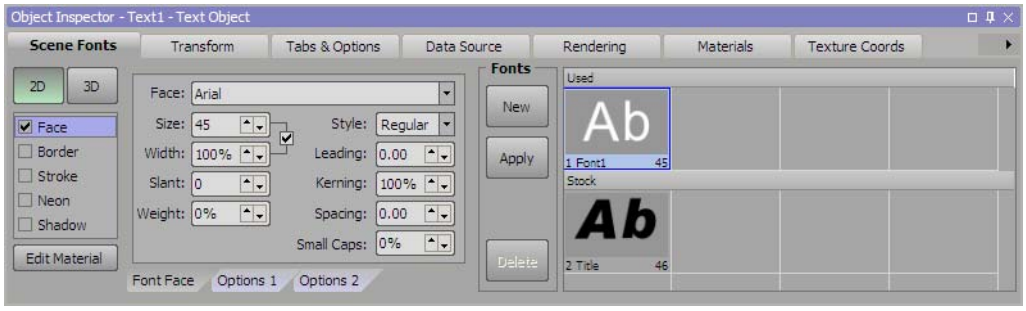
   The objects contained in the selected scene or scene group are listed in the **Object Manager**.

2. In the **Object Manager**, select a text object.

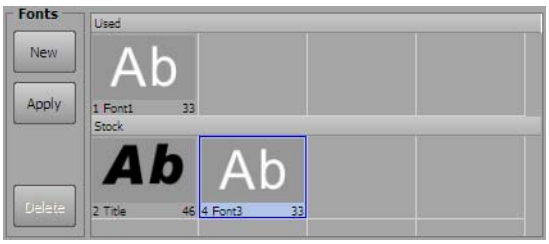


3. In the **Object Inspector - Text Object** window, click the **Scene Fonts** tab.

   The **Scene Fonts** tab opens.



4. In the **Used** or **Stock** list, select the font to apply a material.

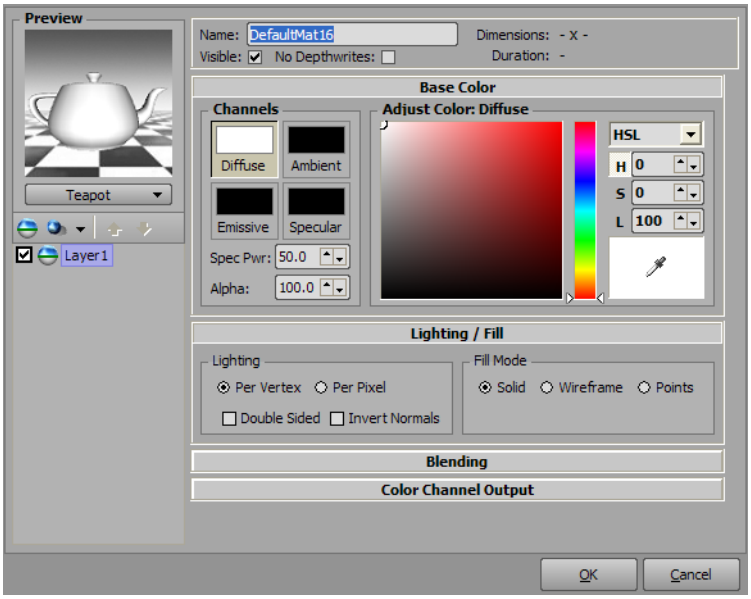


5. Select a font attribute to apply a material. Font attributes are as follows

2D Fonts	3D fonts
Face	**Face**
Border	**Bevel**
Stroke	**Extrusion**
Neon	**Back Bevel**
Shadow	**Back Face**

6. Click **Edit Material**.

   The **Material Editor** dialog box opens.



7. Use the **Material Editor** to edit the material of the selected font attribute.
8. Click **OK**.

   The edited material is applied to the font attribute to change the style of the selected font. Materials applied to fonts in this manner are not displayed in the **Material Editor**.

✶ All of the text objects in the project that were created with the edited font are changed to match the new style of the font.

For More Information on...

- how to create a 2D texture material to a scene, refer to the procedure "**Create a 2D Texture Material**" on page 11–2.
- how to create a video material, refer to the procedure "**Create a Video Material**" on page 11–4.
- how to create a live source material, refer to the procedure "**Create a Live Source Material**" on page 11–7.
- how to create a window capture material, refer to the procedure "**Create a Window Capture Material**" on page 11–9.

Animations

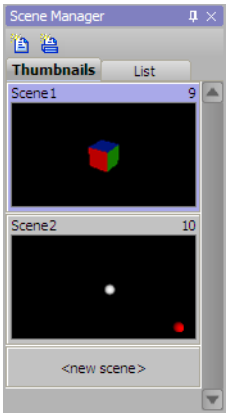
Continuous animation and keyframe animation are the methods used in XPression to add movement to objects in a scene.

The following topics are discussed in this section:

- Add Continuous Animation to an Object
- Add Keyframe Animation to an Object
- Trigger Clips and Audio
- Create Animation with Multiple Controllers
- Copy Keyframes to Animate an Object

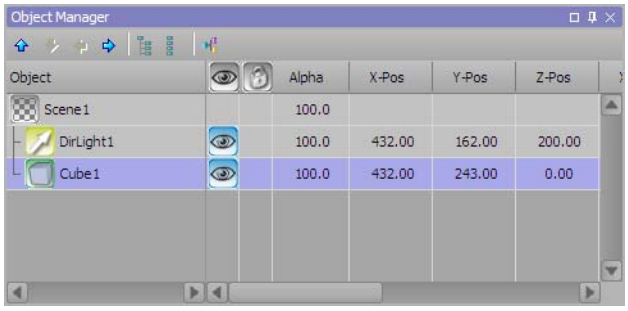
Add Continuous Animation to an Object

1. In the **Scene Manager** window, select a scene or scene group that contains an object to animate.



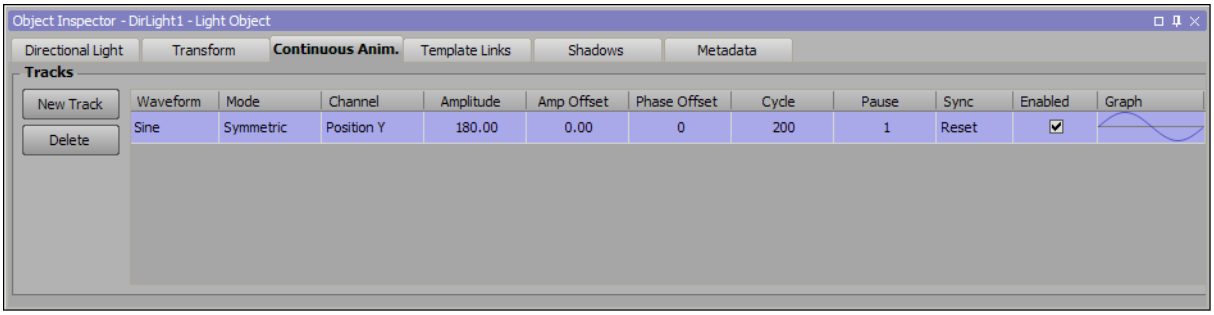
   The objects contained in the selected scene or scene group are listed in the **Object Manager**.

2. In the **Object Manager** window, select an object to animate.



3. Click the **Continuous Anim** tab in the **Object Inspector** window.

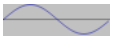
   The **Continuous Anim** tab opens.



4. Click **New Track**.

   A new continuous animation track is added the **Tracks** table.

5. In the **Waveform** column, use the list to select the continuous animation movement for the object. The available movement options are as follows:

   - **Sine** — 
   - **Cosine** — 
   - **Triangle** — 
   - **Square** — 
   - **Sawtooth** — 
   - **Random** — 

   The selected wave form is displayed in the **Graph** column.

6. In the **Mode** column, use the list to select the mode used to continue the animation when it reaches the set **Amplitude** value. The available modes are as follows:

   - **Symmetric** — the amplitude value is copied after reaching the set value end.
   - **Asymmetric** — the animation flips over to the starting position after reaching the set amplitude value.

7. In the **Channel** column, use the list to select the channel to animate. The available channels are as follows:

   - **Position X** — move the object along the X axis.
   - **Position Y** — move the object along the Y axis.
   - **Position Z** — move the object along the Z axis.
   - **Rotation X** — rotate the object around the X axis.
   - **Rotation Y** — rotate the object around the Y axis.
   - **Rotation Z** — rotate the object around the Z axis.
   - **Scaling X** — scale the object along the X axis.
   - **Scaling Y** — scale the object along the Y axis.
   - **Scaling Z** — scale the object along the Z axis.
   - **Pivot X** — pivot the object along the X axis.
   - **Pivot Y** — pivot the object along the Y axis.
   - **Pivot Z** — pivot the object along the Z axis.
   - **Alpha** — fade the alpha channel of the object in and out. The key fades translucency until it disappears.

8. In the **Amplitude** column, use the box to enter or select the degree of movement for an object.

   For example, a value of 180 set for **Rotation Z** rotates an object 180 degrees around the Z axis.

9. In the **Amp Offset** column, use the box to enter or select the vertical starting point for the Amplitude setting.

10. In the **Phase Offset** column, use the box to enter or select the horizontal starting point for the Amplitude setting.

11. In the **Cycle** column, use the box to enter or select the speed of the animation cycle.

12. In the **Pause** column, use the box to enter or select the amount of frames to pause before the next animation cycle.

13. In the **Sync** column, use the list to select the method used to start a continuous animation track. The available options are as follows:

    - **Reset** — start a continuous animation track at the starting point of the animation.
    - **Clock** — base the start of a continuous animation track on the clock. Select this method to synchronization a continuous animation track with previous animations.

14. In the **Enabled** column, select the check box to enable the continuous animation track. Clear this check box to turn off the continuous animation track.

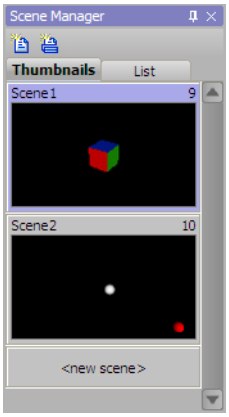
15. To add additional continuous animation tracks to an object, repeat steps **4** to **14**.

16. Double-click the scene containing the animated object.

    The selected scene is sent to the default output and the object continuous animation tracks start running to animate object. To preview continuous animations in the active **Viewport**., click the **Show or Hide Continuous Animations and Other Effects**  button in the **Viewport** toolbar.

Add Keyframe Animation to an Object

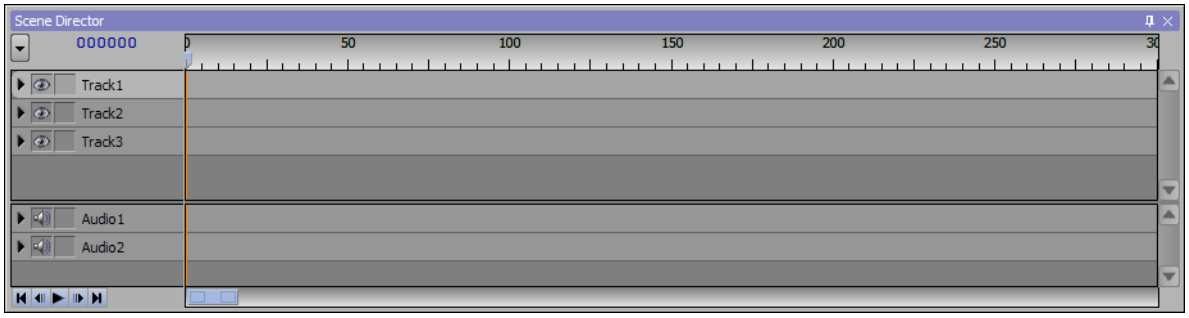
1. In the **Scene Manager** window, select a scene or scene group that contains an object to animate.



   The objects contained in the selected scene or scene group are listed in the **Object Manager** window.

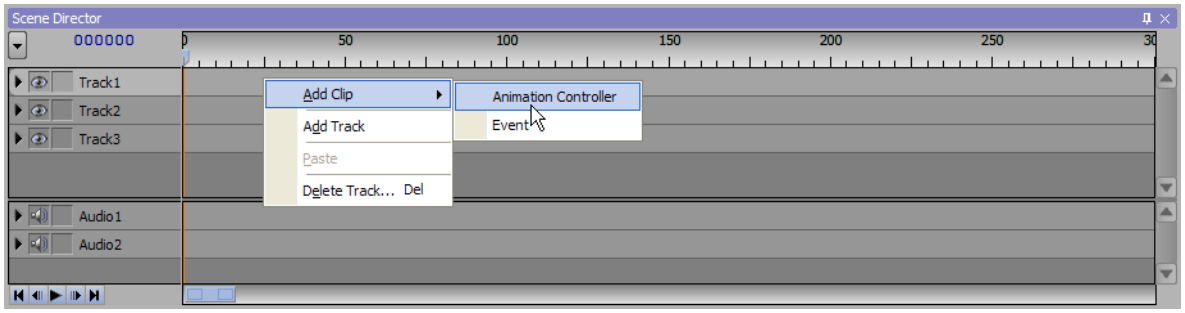
2. In XPression, select **Animation > Scene Director**.

   The **Scene Director** window opens.

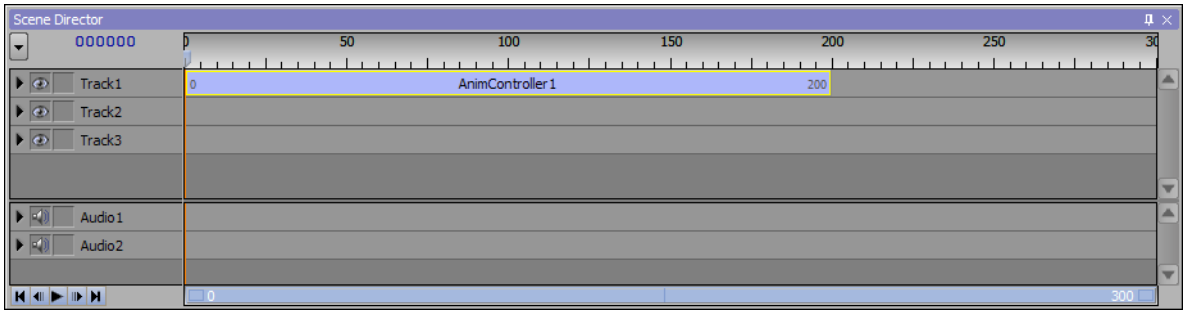


3. Place the pointer in the **Timeline** area to the right of an empty track, and move it to the position to start the new animation controller.

4. Right-click and select **Add Clip > Animation Controller** from the shortcut menu.



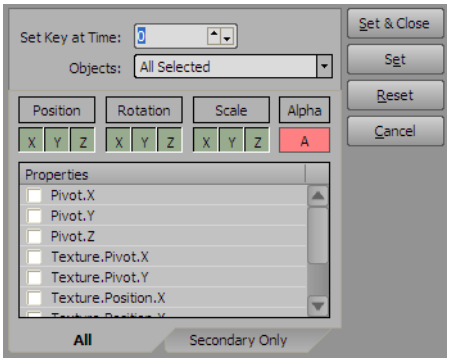
An animation controller is added the selected track.



5. Double-click the new animation controller to select as the active animation controller for animating objects in the current scene.
6. In the **Animation Controller** window at the bottom of the **Editor**, use the **Total Range** box to enter or select the number of key frames in the animation.

7. In the **Working Range Start** box, enter or select the key frame for the start of the key frame scale.
8. In the **Working Range End** box, enter or select the key frame for the end of the key frame scale.
9. In active **Viewport**, position the object to animate at the start position of the animation.
10. Press the **Ctrl** and **K** key at the same time.

    The **Set Keyframe** dialog box opens.



    The attributes highlighted in green (Position, Rotation, and Scale) are captured. Red highlighted attributes (Alpha) are not captured.

11. In the **Set Key at Time** box to enter or select the key frame for the start position of the animation.
12. Click **Set & Close**.

    The set key frame is marked by a vertical line on the **Key Frame Scale** in the **Animation** window and in the active animation controller.

13. In active **Viewport**, position the object to animate at the next position in the animation.
14. Press the **Ctrl** and **K** key at the same time.

    The **Set Keyframe** dialog box opens.

15. In the **Set Key at Time** box to enter or select the key frame for the next position in the animation.
16. Click **Set & Close**.

    The set key frame is marked by a vertical line on the **Key Frame Scale** in the **Animation** window.

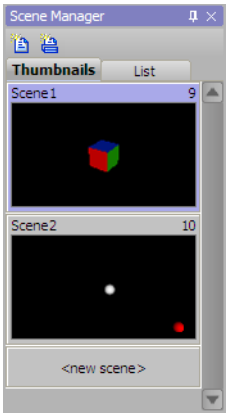
17. To add object position to the animation, repeat steps **13** to **16**.
18. Double-click the scene containing the animated object.

    The selected scene is sent to the default output.
19. Click the **Play** ▶ button.

    The defined animation starts playing in the default output.

Trigger Clips and Audio

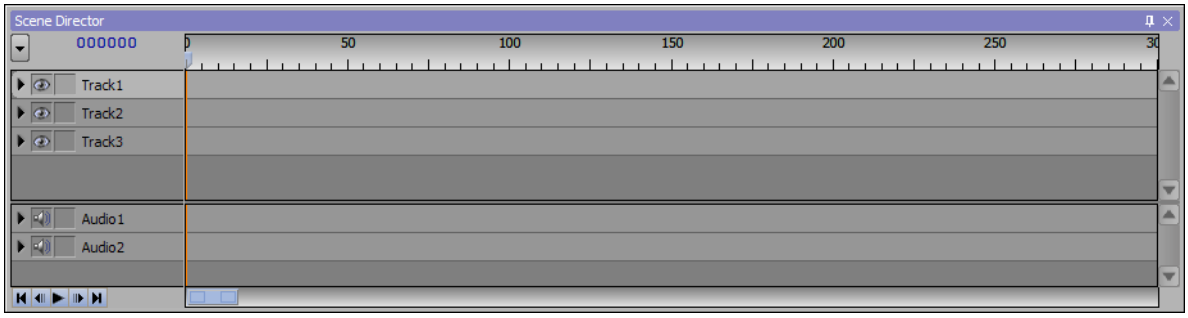
1. In the **Scene Manager** window, select a scene or scene group that contains an object to animate.



   The objects contained in the selected scene or scene group are listed in the **Object Manager** window.

2. In XPression, select **Animation > Scene Director**.

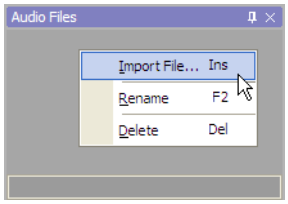
   The **Scene Director** window opens.



3. In the **Editor**, select **Display > Audio Files**.

   The **Audio Files** window opens.

4. In **Audio Files** window, right-click and select **Import File** from the shortcut menu.

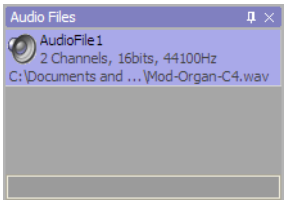


   The **Open** dialog box opens.

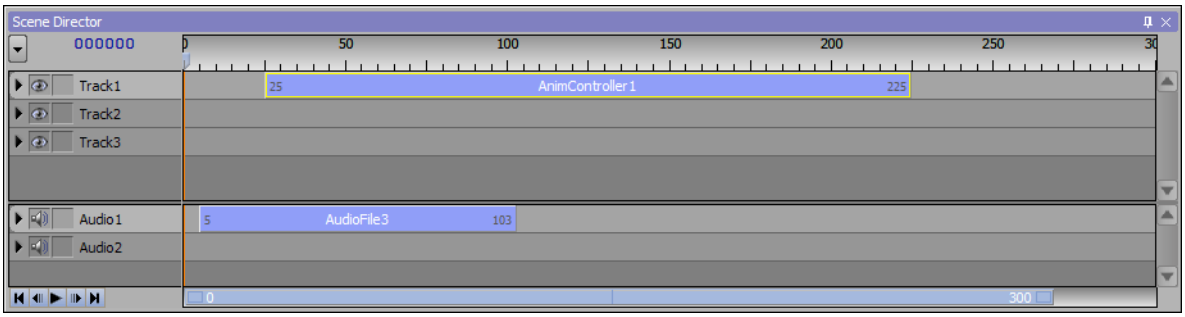
5. In the **Open** dialog box, locate and select a Waveform Audio File Format (.WAV) audio file to import into the project.

6. Click **Open**.

   The selected .WAV audio file is added the **Audio Files** window.



7. Drag the .WAV audio file from the **Audio Files** window onto an audio track in the **Scene Director**.



8. In **Scene Director**, click and drag the audio track into the required position.

9. Click the **Play** button.

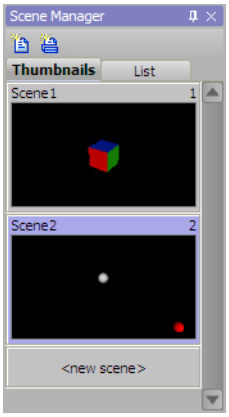
   The defined animation starts playing in the default output.

For More Information on...

- creating a keyframe animation for an object, refer to the procedure "**Add Keyframe Animation to an Object**" on page 13–5

Create Animation with Multiple Controllers

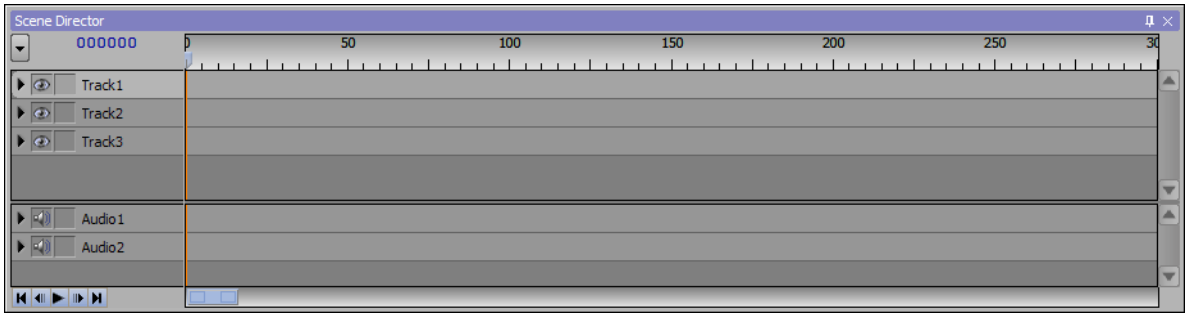
1. In the **Scene Manager** window, select a scene or scene group that contains two or more objects to animate.



   The objects contained in the selected scene or scene group are listed in the **Object Manager** window.

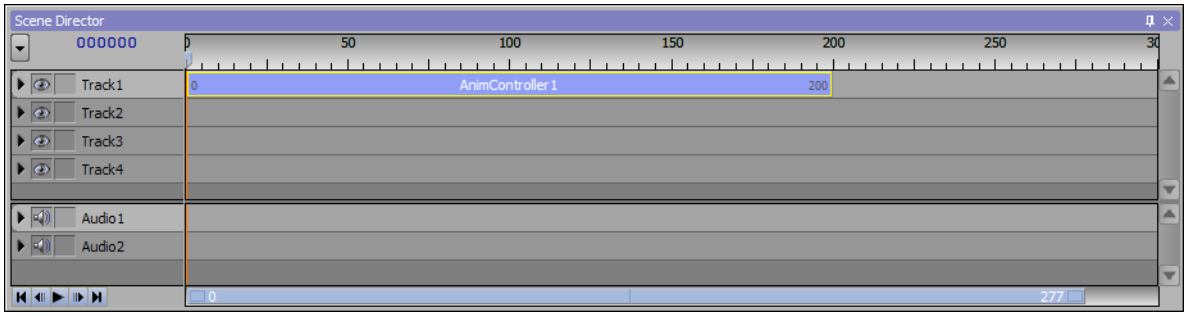
2. In XPression, select **Animation > Scene Director**.

   The **Scene Director** window opens.



3. Select an object to animate.

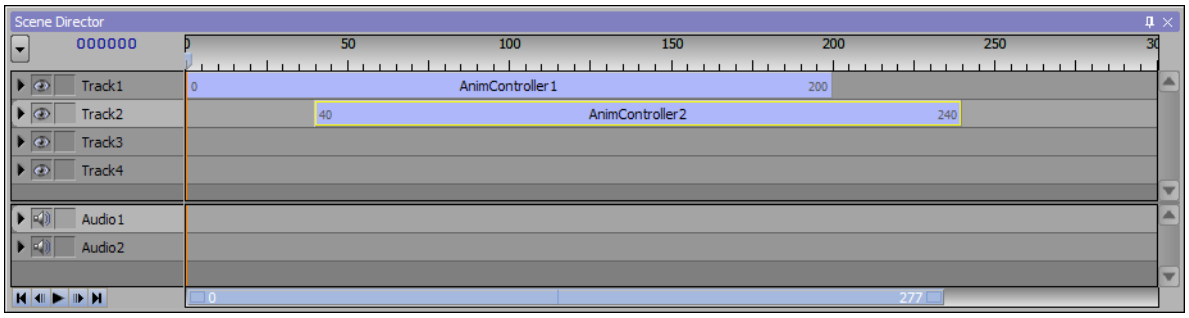
4. In the **Scene Director**, right-click in an empty track and select **Add Clip > Animation Controller** from the shortcut menu to add an animation controller to the selected track.



5. Use the new animation controller to animate the selected object in the current scene.

6. Select a second object to animate.

7. In the **Scene Director**, right-click in an empty track and select **Add Clip > Animation Controller** from the shortcut menu to add an animation controller to the selected track.



8. Use the new animation controller to animate the selected object in the current scene.
9. In the two tracks, click and drag the animation controllers to set the relative timing for the associated objects.

   Both objects move at the same time where the two animation controllers overlap on the timeline.
10. Click the **Play** button.

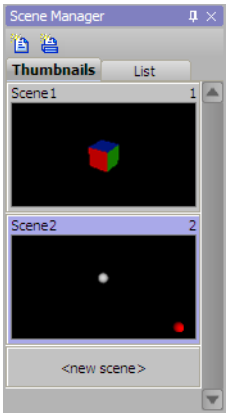
    The defined animations start playing in the default output.

For More Information on...

- creating a keyframe animation for an object, refer to the procedure "**Add Keyframe Animation to an Object**" on page 13–5

Copy Keyframes to Animate an Object

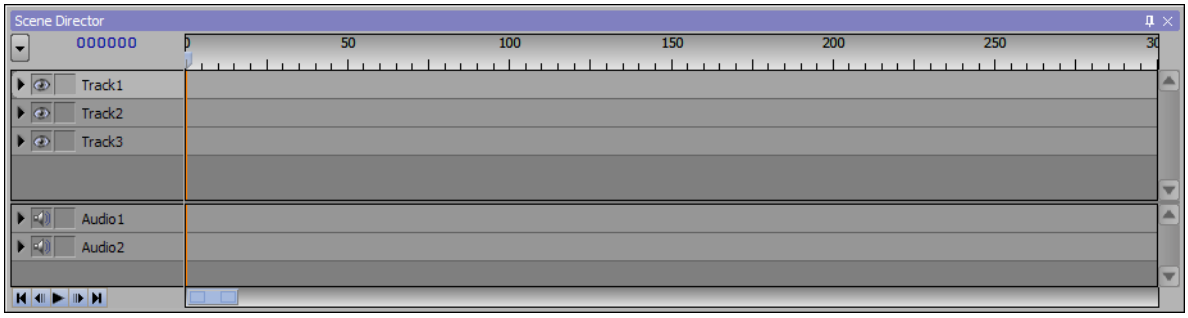
1. In the **Scene Manager** window, select a scene or scene group that contains two or more objects to animate.



   The objects contained in the selected scene or scene group are listed in the **Object Manager**.

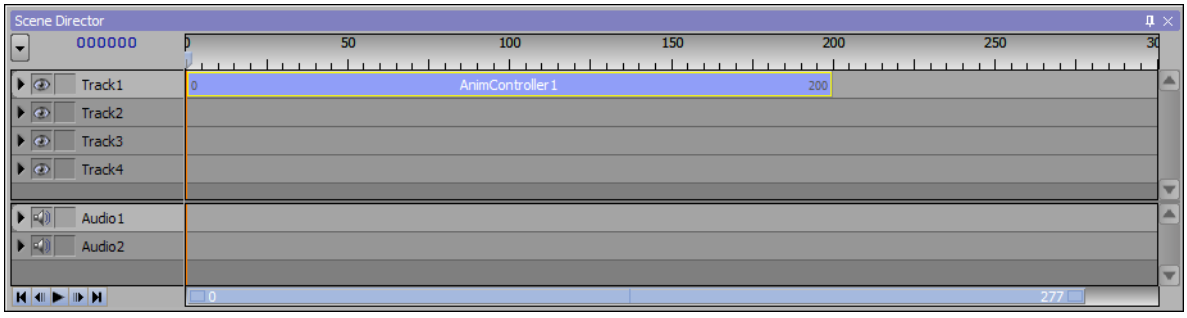
2. In XPression, select **Animation > Scene Director**.

   The **Scene Director** window opens.



3. Select an object to animate.

4. In the **Scene Director**, right-click in an empty track and select **Add Clip > Animation Controller** from the shortcut menu to add an animation controller to the selected track.

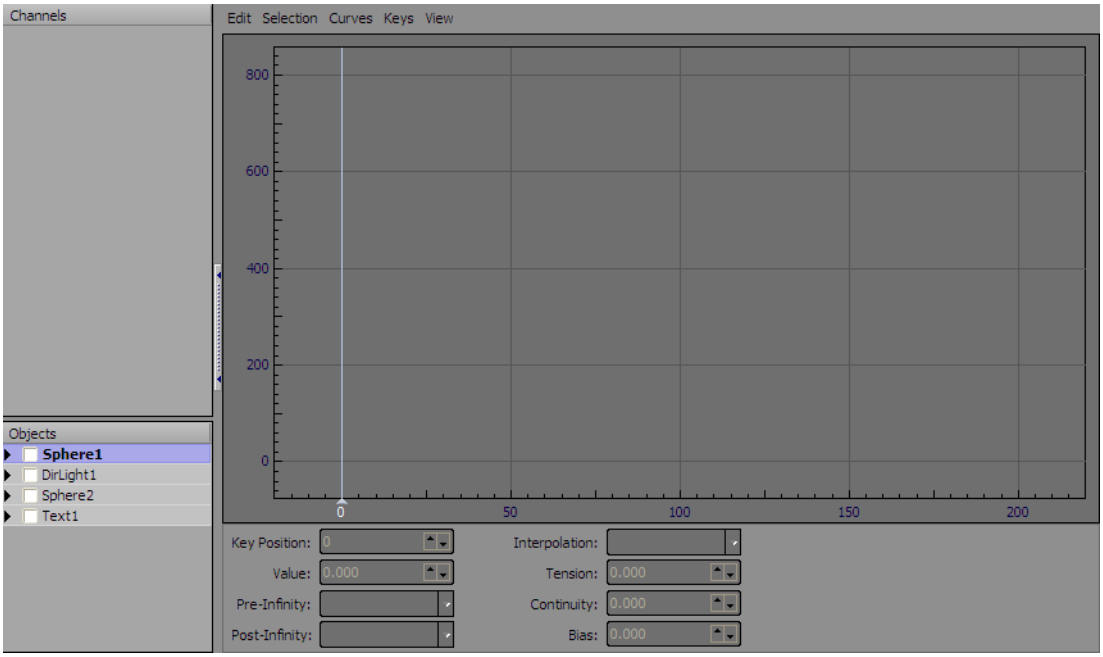


5. Select the new animation controller.

6. Create a keyframe based animation for selected object.

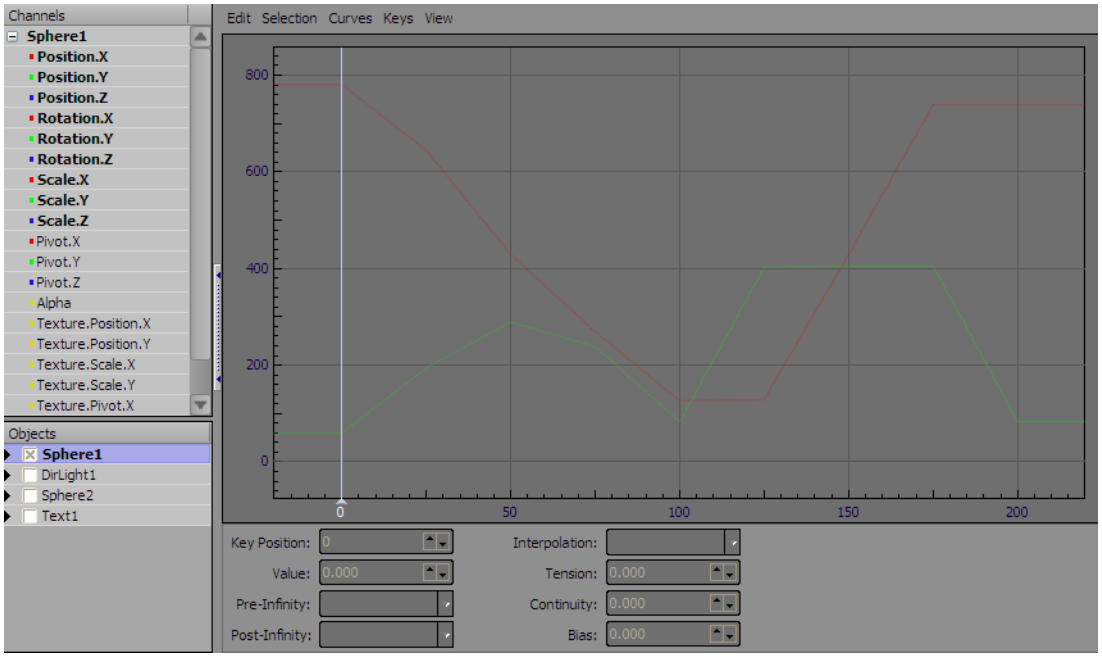
7. In the **Editor**, select **Animation > Key Graph Editor**.

   The **Key Graph Editor** window opens.



8. In the Objects list, double-click the name of the object displayed in **bold** face type.

   The selected object is added to the **Channels** list.



9. If required, expand the object added to the **Channels** list.

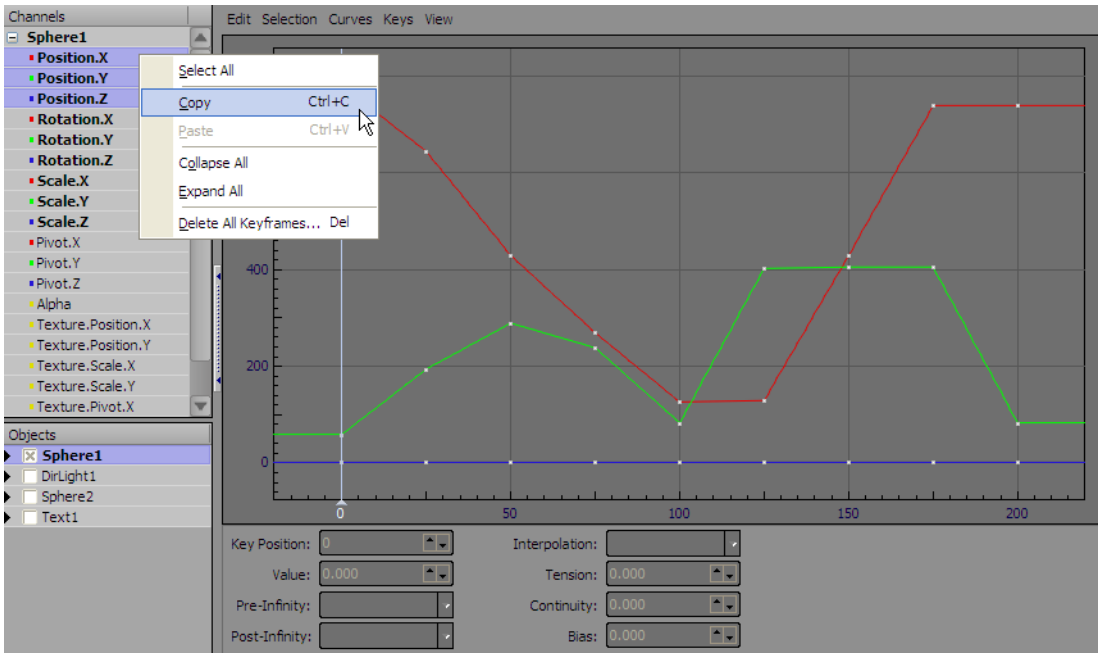
   The object channels are displayed below the expanded object.

10. Select one or more of the object channels displayed in **bold** face type.

    Only the object channels displayed in **bold** face type can be copied to another object.

11. On the selected object channels, right-click and select **Copy** from the shortcut menu.

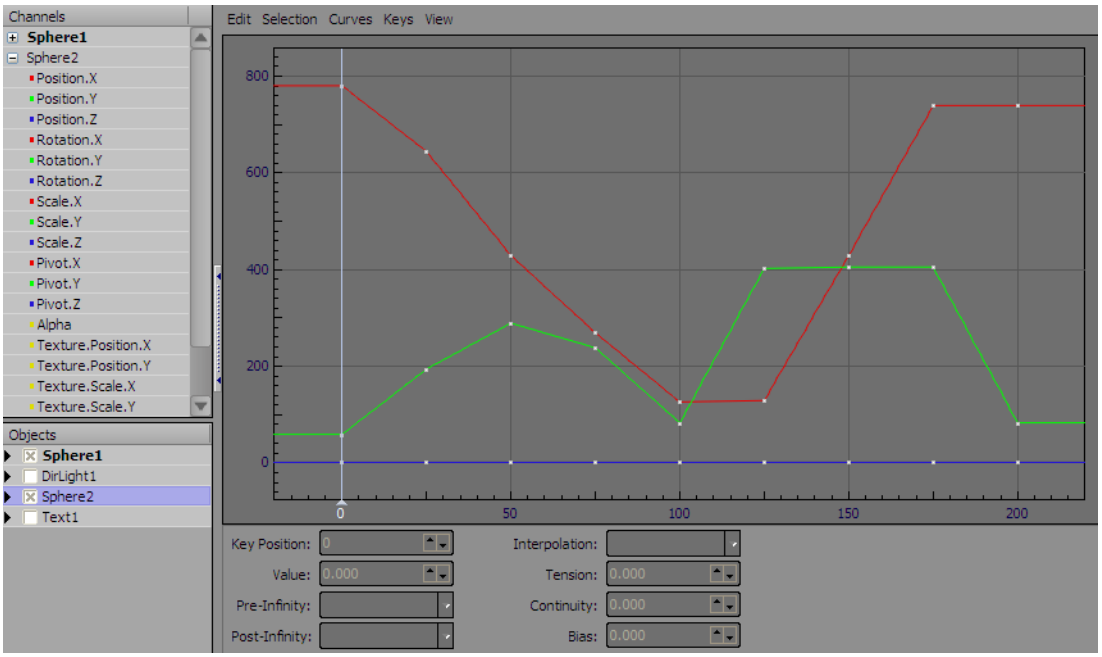
    The values of the selected channels are copied for each keyframe of the select object.



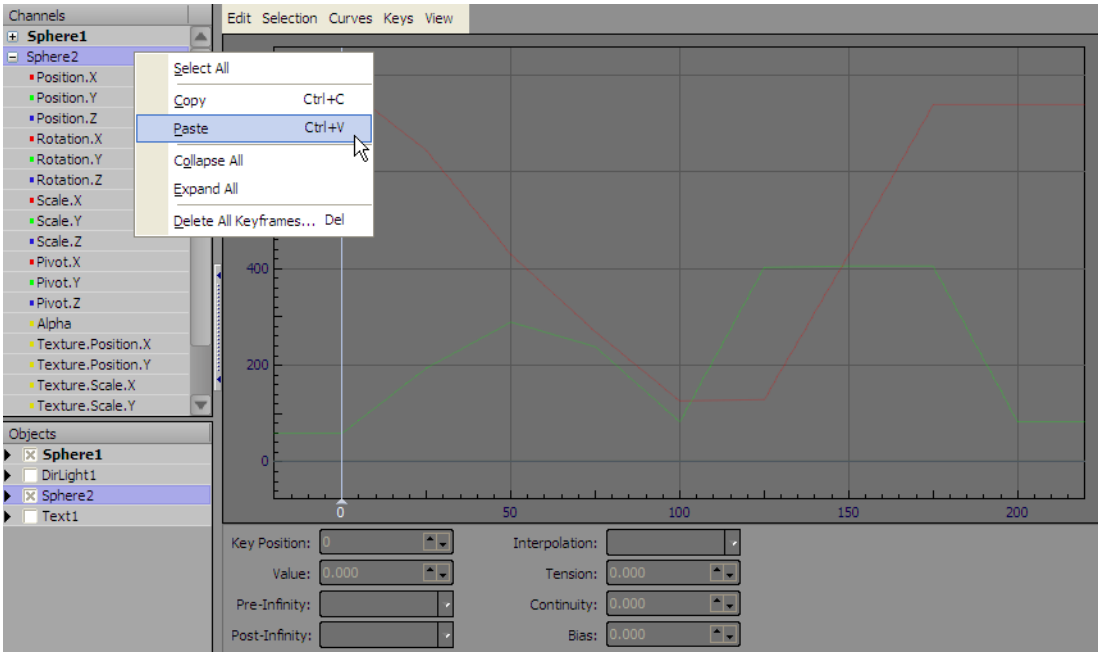
12. Collapse the object in the **Channels** list.

13. In the **Objects** list, double-click the object to which to copy the keyframes and object channels.

    The selected object is added to the **Channels** list.



14. In the **Channels** list, right-click the new object and select **Paste** from the shortcut menu.



The copied keyframes and object channel values are pasted into the selected object. The updated object channels are displayed in **bold** face type.

15. If required, edit the keyframes copied to the object.

    a. In the **Channels** list, select the channel to edit for an object.

       The **Graph** displays the keyframes for the selected object channel. Each white square in the **Graph** represents a keyframe.

    b. In the **Graph**, select the keyframe to edit.

    c. To move the selected keyframe vertically in the **Graph**, hold down the **CTRL** key then click and drag the keyframe up or down. To move the selected keyframe horizontally in the **Graph**, hold down the **CTRL** + **Shift** keys then click and drag the keyframe to the right or left.

    d. Use the displayed properties to set the required values for the selected keyframe.

       The properties of the selected keyframe are displayed below the **Graph**.

    e. For each keyframe that requires editing, repeat steps b and d.

16. Close the **Key Graph Editor** window.

17. Click the **Play** button.

    The edited animation starts playing in the default output.

For More Information on...

- creating a keyframe animation for an object, refer to the procedure "**Add Keyframe Animation to an Object**" on page 13–5

Sequences

XPression uses the Sequencer to playout the scenes in a project.

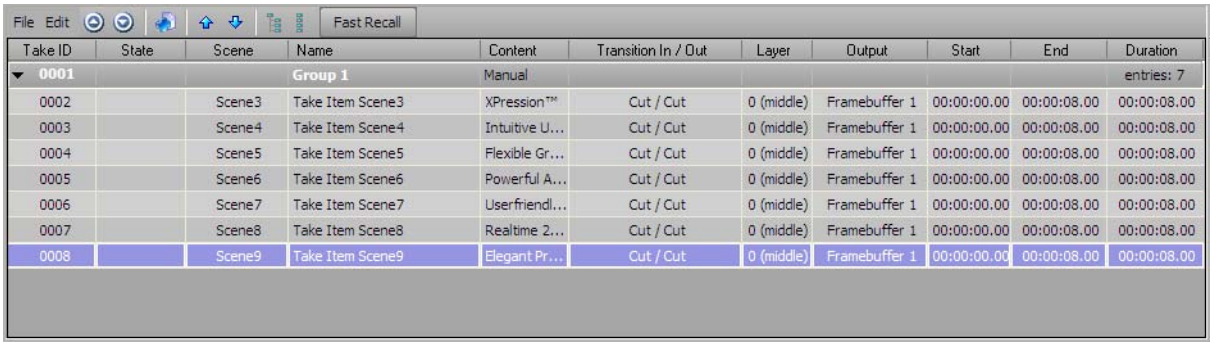
The following topics are discussed in this section:

- Create a Sequence
- Modify Template Content
- Control Sequence Playout
- Playout a Sequence in Manual Mode
- Playout a Sequence in Automatic Mode
- Create a Roll/Crawl from a Take Item Group
- Customize a Take Item Group Roll/Crawl

Create a Sequence

1. Use XPression to create a number of scenes or scene groups from which to build a sequence.
2. Click **Sequence** at the top of the window to use the **Sequencer** to place scenes or scene groups on a sequence timeline for playout.
3. In the **Scene Manager**, click and drag the scenes or scene groups to playout into the **Sequencer**.

   Each scene or scene group added to the Sequencer list is given a Take ID and becomes a take item.



Take ID	State	Scene	Name	Content	Transition In / Out	Layer	Output	Start	End	Duration
0001			Group 1	Manual						entries: 7
0002		Scene3	Take Item Scene3	XPression™	Cut / Cut	0 (middle)	Framebuffer 1	00:00:00.00	00:00:08.00	00:00:08.00
0003		Scene4	Take Item Scene4	Intuitive U...	Cut / Cut	0 (middle)	Framebuffer 1	00:00:00.00	00:00:08.00	00:00:08.00
0004		Scene5	Take Item Scene5	Flexible Gr...	Cut / Cut	0 (middle)	Framebuffer 1	00:00:00.00	00:00:08.00	00:00:08.00
0005		Scene6	Take Item Scene6	Powerful A...	Cut / Cut	0 (middle)	Framebuffer 1	00:00:00.00	00:00:08.00	00:00:08.00
0006		Scene7	Take Item Scene7	Userfriendl...	Cut / Cut	0 (middle)	Framebuffer 1	00:00:00.00	00:00:08.00	00:00:08.00
0007		Scene8	Take Item Scene8	Realtime 2...	Cut / Cut	0 (middle)	Framebuffer 1	00:00:00.00	00:00:08.00	00:00:08.00
0008		Scene9	Take Item Scene9	Elegant Pr...	Cut / Cut	0 (middle)	Framebuffer 1	00:00:00.00	00:00:08.00	00:00:08.00

4. To reorder take items in the Sequencer list, click and drag a take item to a new position in the list.

   Toolbar tools, shortcut menu commands, and keyboard shortcuts can also be used to reorder take items.
5. Organize take items by adding a take item group to the Sequencer list. A group can be configured to automatically playout the take items contained in the group.

   a. Click the **Create a New Group** button in the toolbar.

      A take item group is added to the Sequencer.

   b. Click in the **Name** column for the group to enter a new name for the group.

   c. Click and drag take items from the Sequencer list into the new group.
6. Highlight take items by adding color to the Sequencer list.

   a. Select one or more take items and/or take item groups to highlight with a colored background.

   b. Right-click and select the **Color** command.

      The **Color** menu opens.

   c. Select a highlight color from the **Color** menu.

      The background of the selected take items in the Sequencer list is shaded with the selected color. Coloring the background of a take item group also colors each take item in the group.

For More Information on...

- creating scenes, refer to the procedure "**Create a Scene**" on page 4–4.
- controlling sequence playout, refer to the procedure "**Control Sequence Playout**" on page 14–5.

Modify Template Content

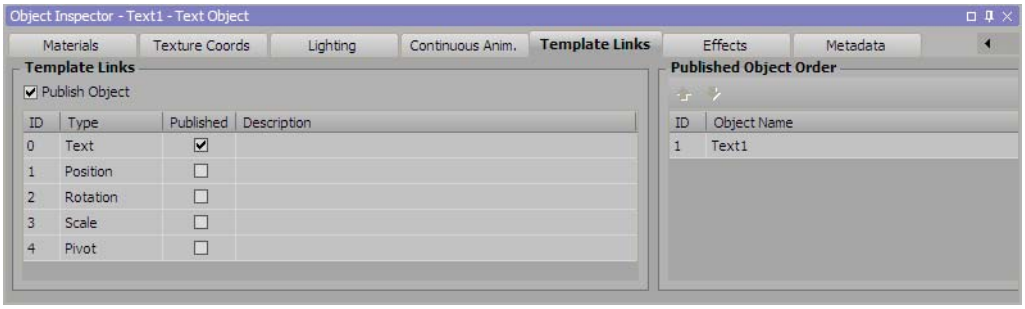
1. In XPression, use the **Scene Manager** window to select a scene or scene group that contains objects to use as a template in a sequence.

   The objects contained in the selected scene or scene group are listed in the **Object Manager** window.

2. In the **Object Manager**, select an object to use as a template.

3. Click the **Template Links** tab in the **Object Inspector** window.

   The **Template Links** tab opens.



4. In the **Template Links** section, select the **Publish Object** check box.

   The table in the **Template Links** section lists the attributes of the selected object that can be published to the **Sequencer**. The values of published attributes can be changed for playout through the **Sequencer**.

5. In the **Published** column, select the check boxes associated with the object attributes to publish.

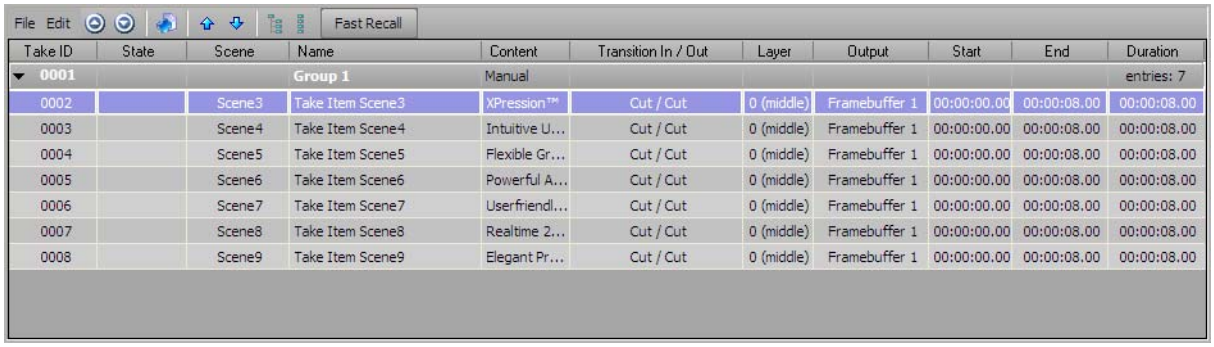
   Text objects are published by default with the text attributed selected as replaceable.

6. Note the name of the template object.

7. Click **Sequence** at the window to use the **Sequencer** to place the scene or scene group containing the template object on a sequence timeline for playout.

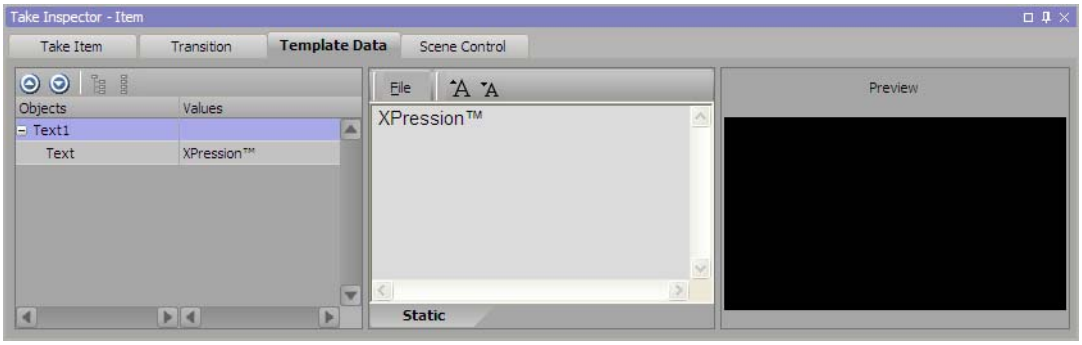
8. Add the template object scene or scene group to the **Sequencer**.

9. In the **Sequencer**, select the take item created for the template object scene or scene group.



10. Click the **Template Data** tab in the **Take Inspector - Item** window.

    The **Template Data** tab opens.



11. In the **Objects** column, expand the template object.

    The attributes published for the template object are displayed.

12. Select the attribute to set a value for playout.

    The box to the right displays the value of the select attribute.

13. In the box, enter a new value for the attribute.

14. In the **Sequencer**, double-click the template object take item.

    The selected take item plays out through the default output using the entered attribute values.

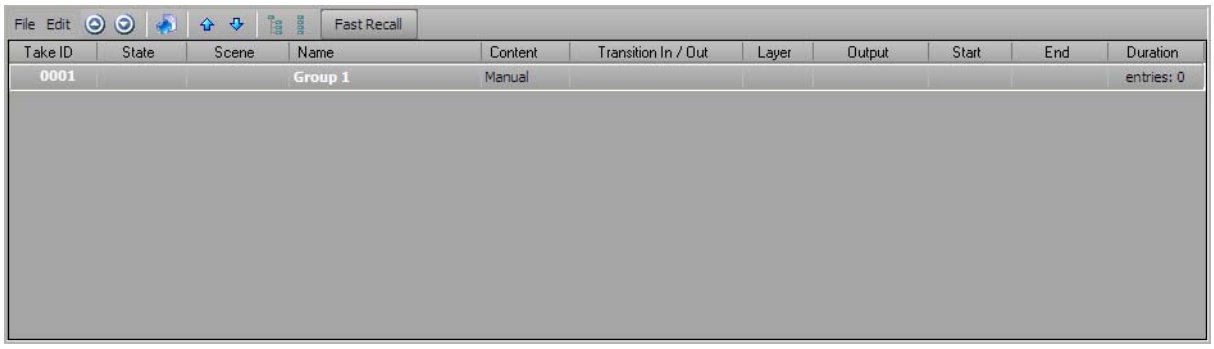
15. To stop playout, right-click the template object take item and select **Take Offline** from the shortcut menu.

For More Information on...

- creating sequences, refer to the procedure "**Create a Sequence**" on page 14–2.
- controlling sequence playout, refer to the procedure "**Control Sequence Playout**" on page 14–5.

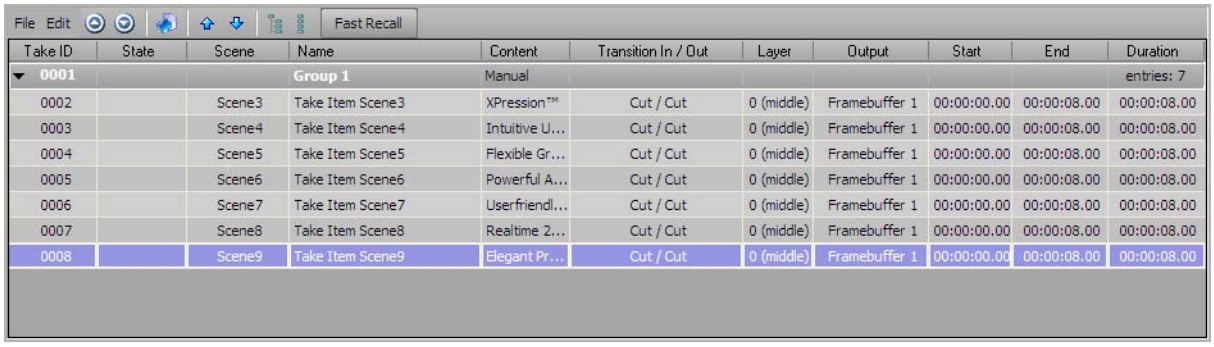
Control Sequence Playout

1. In the **Sequencer**, click the **Create a New Group** button in the toolbar to create a take item group to contain the scenes or scene groups to playout.

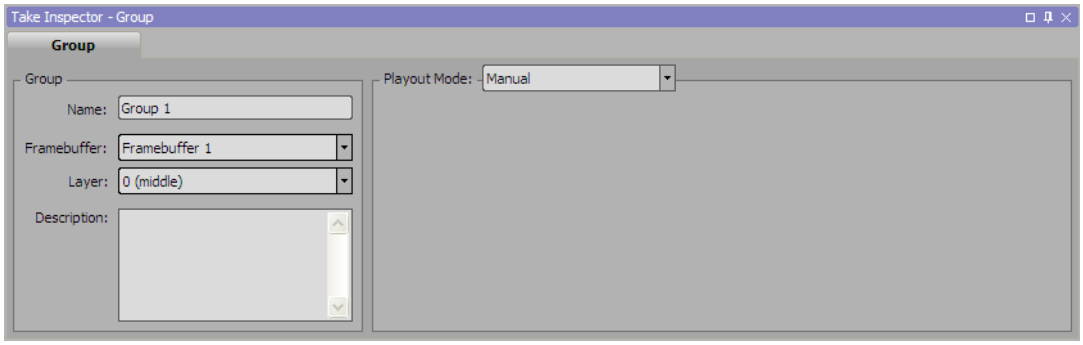


2. In the **Scene Manager**, click and drag the scenes or scene groups to playout into the new take item group in the **Sequencer**.

   The selected scene or scene groups are added to the take item group as take items.



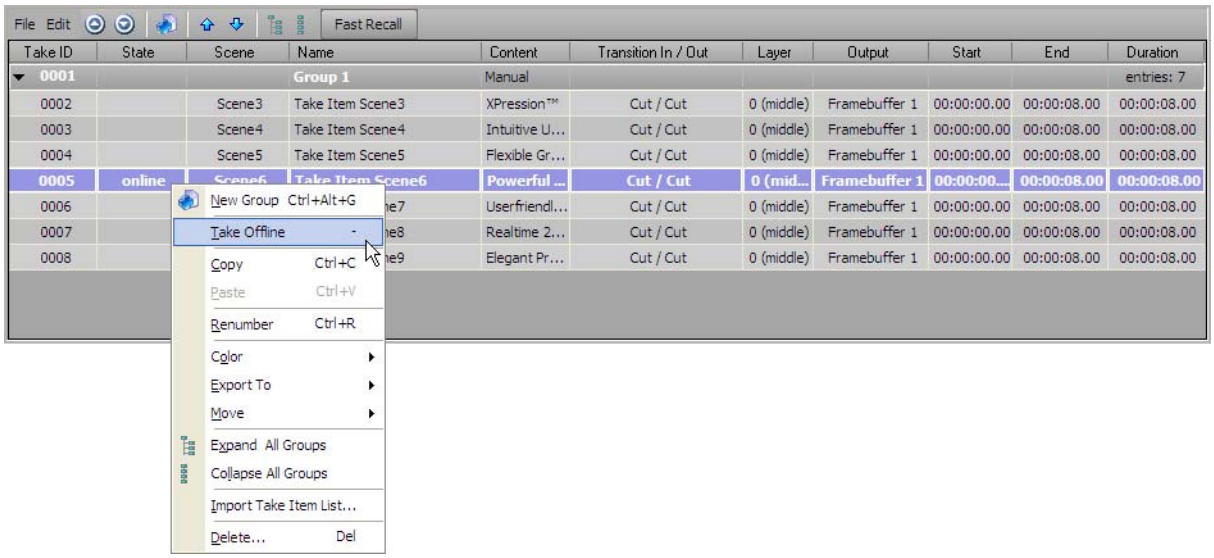
3. To reorder a take item in a take item group, click and drag a take item to a new position in the group.
4. Select the take item group that contains the take items to playout.
5. In the **Take Inspector - Group** window, select **Manual** from the **Playout Mode** list.



6. In the **Sequencer**, double-click a take item to playout the selected take item.

   The selected take item plays out through the default output, and the **State** changes to **online** for take items or **Active** for take item groups.

7. To stop playout of an online or Active take item, right-click the take item and select **Take Offline** from the shortcut menu.



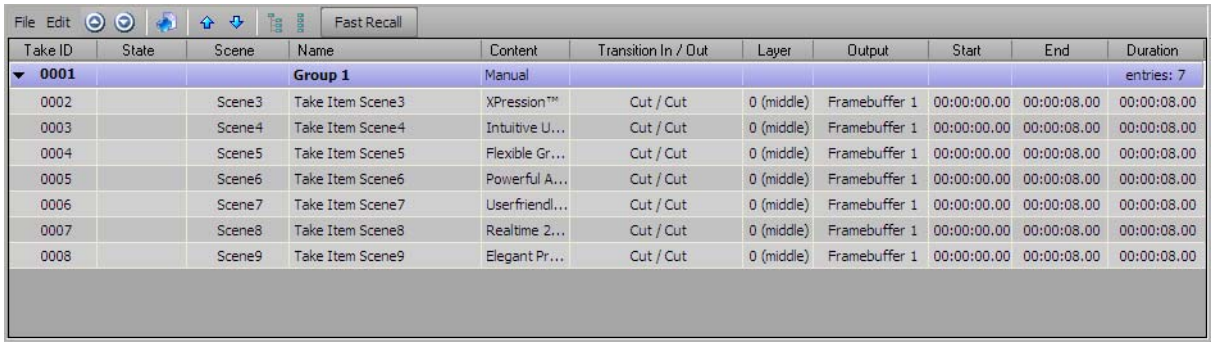
Keyboard Control

The keyboard number pad can also be used to control the playout of a sequence. The following keyboard shortcuts are available in the Sequencer:

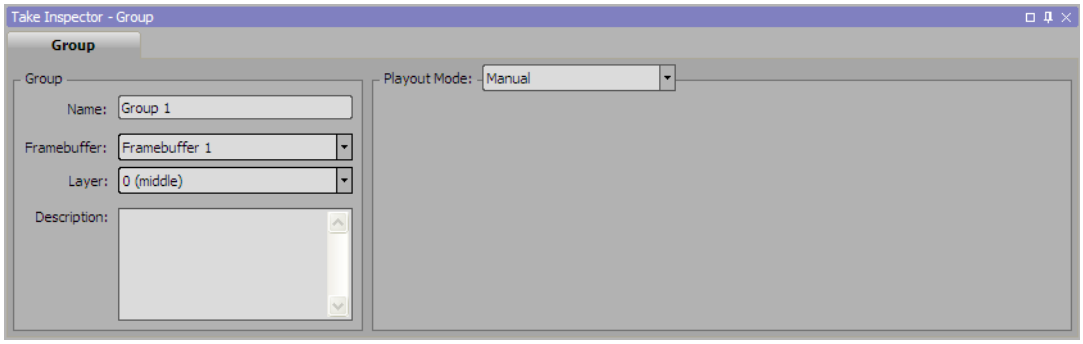
- **Cursor Up Arrow** — select the previous take item in the sequence.
- **Cursor Down Arrow** — select the next take item in the sequence.
- **Ctrl-Home** — select the first take item in the sequence.
- **Ctrl-End** — select the last take item in the sequence.
- **Number Pad +** — playout the selected take item and select the next take item in the sequence.
- **Number Pad -** — skip the currently selected item and select next take item in the sequence.
- **Number Pad Enter** — playout the selected take item. This shortcut requires the **Fast Recall** button to be enabled.

Playout a Sequence in Manual Mode

1. In the **Sequencer**, select the take item group that contains the take items to playout.



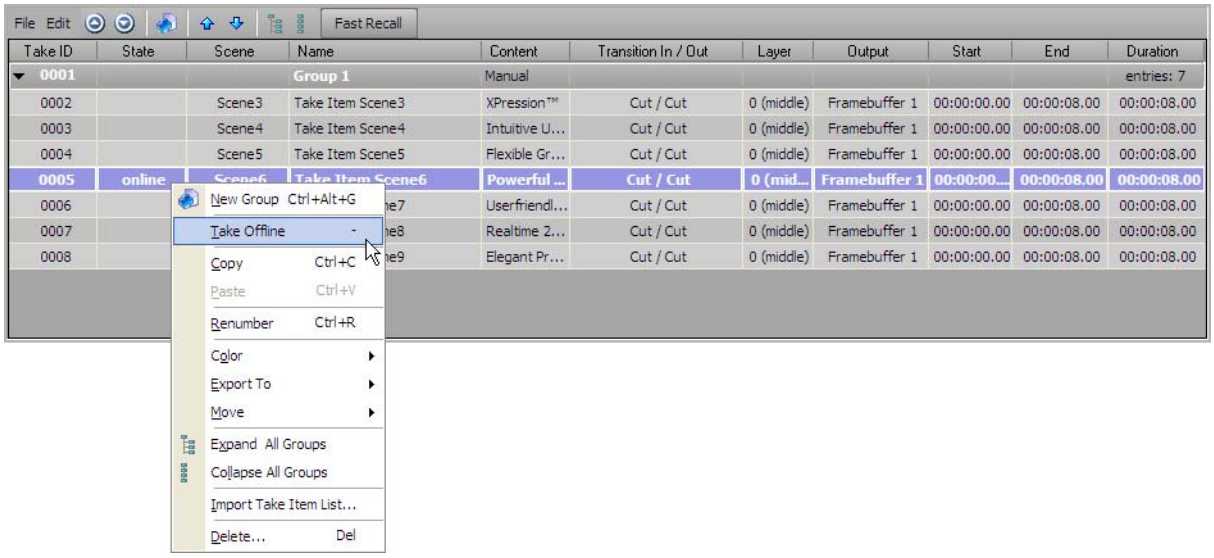
2. In the **Take Inspector - Group** window, select **Manual** from the **Playout Mode** list.



3. In the **Sequencer**, double-click the take item group that contains the take items to playout.

   The selected take item group plays out through the default output, and the **State** changes to **Active**.

4. To stop playout of an **Active** take item, right-click the take item and select **Take Offline** from the shortcut menu.

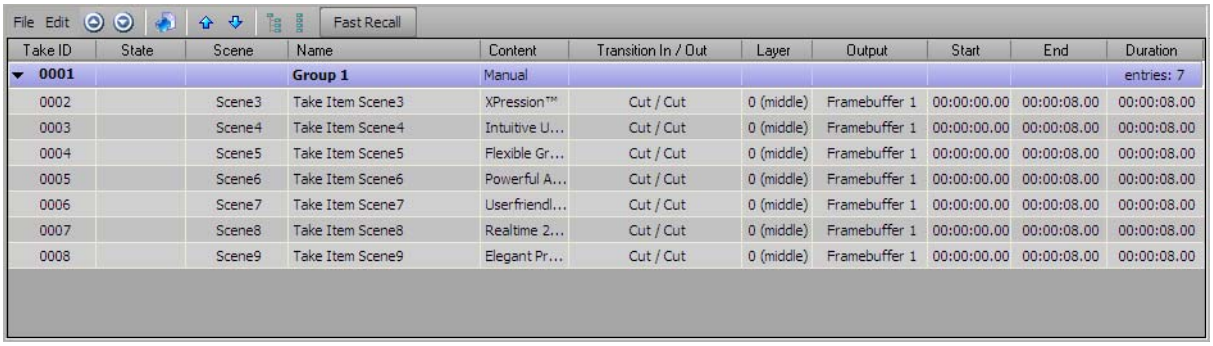


For More Information on...

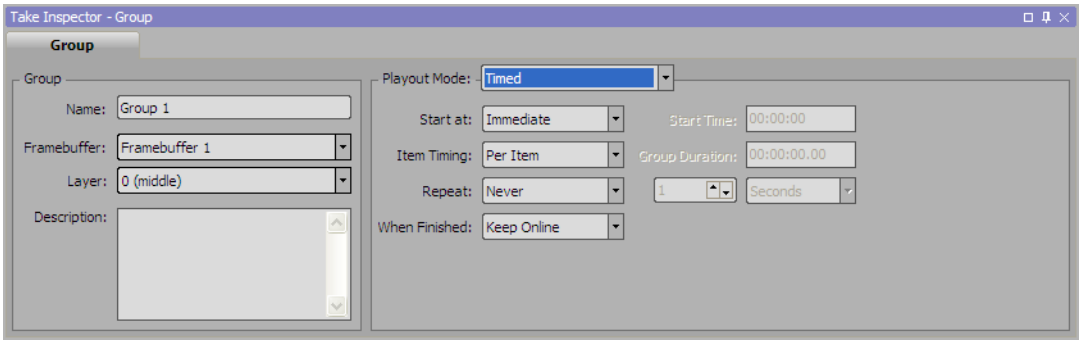
- creating sequences, refer to the procedure "**Create a Sequence**" on page 14–2.
- controlling sequence playout, refer to the procedure "**Control Sequence Playout**" on page 14–5.

Playout a Sequence in Automatic Mode

1. In the **Sequencer**, select the take item group that contains the take items to playout.



2. In the **Take Inspector - Group** window, select **Timed** from the **Playout Mode** list.



3. Use the **Start At** list to set the playout start time for the take item group. The available options are as follows:
   - **Immediate** — start playout immediately upon selecting a take item group for playout.
   - **Clock Time** — start playout at the time set in the **Start Time** box after selecting a take item group for playout.
4. Use the **Item Timing** list to select the item level on which to base playout duration. The available options are as follows:
   - **Per Item** — use the playout durations set for the items in the item group. The playout duration for the item group equals the total of all the item durations.
   - **Per Group** — set a playout duration for the entire item group. The duration is set in the **Group Duration** box.
5. Use the **Repeat** list to set the number of times to repeatedly playout the item group. The available options are as follows:
   - **Never** — do not repeat playout, only playout the item group once.
   - **When Done** — repeat the playout of an item group when the playout ends. With this option, playout continually repeats until it is manually stopped.
   - **After** — repeat the playout of an item group after the time set using the **Time Value** box and **Time Unit** list. With this option, playout continually repeats until it is manually stopped.
   - **Every** — repeat the playout of an item group at a time interval set using the **Time Value** box and **Time Unit** list.
6. Use the **When Finished** list to set the action to complete after finishing the playout of the take item group. The available options are as follows:
   - **Keep Online** — leave the take item group status as Active, making the group available for immediate playout.
   - **Take Offline** — change the take item group status to Offline.

7. In the **Sequencer**, double-click the take item group that contains the take items to playout.

   The selected take item group plays out through the default output, and the **State** changes to **Active**.

For More Information on...

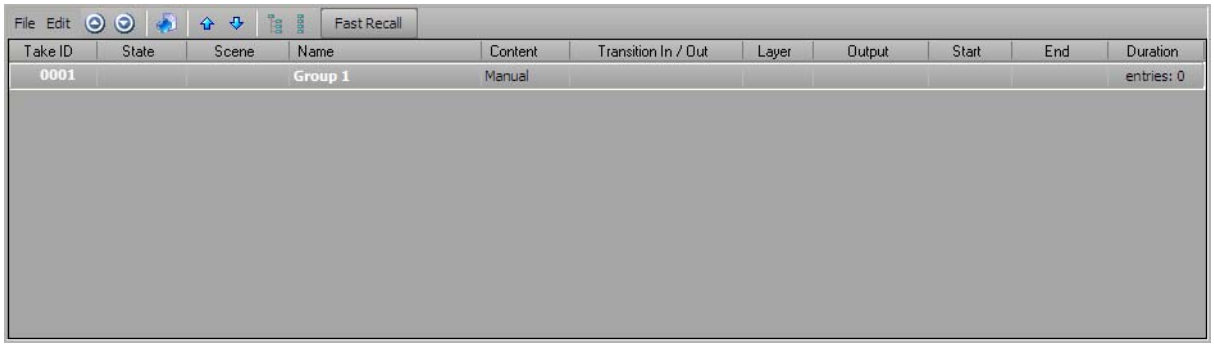
- creating sequences, refer to the procedure "**Create a Sequence**" on page 14–2.
- controlling sequence playout, refer to the procedure "**Control Sequence Playout**" on page 14–5.

Create a Roll/Crawl from a Take Item Group

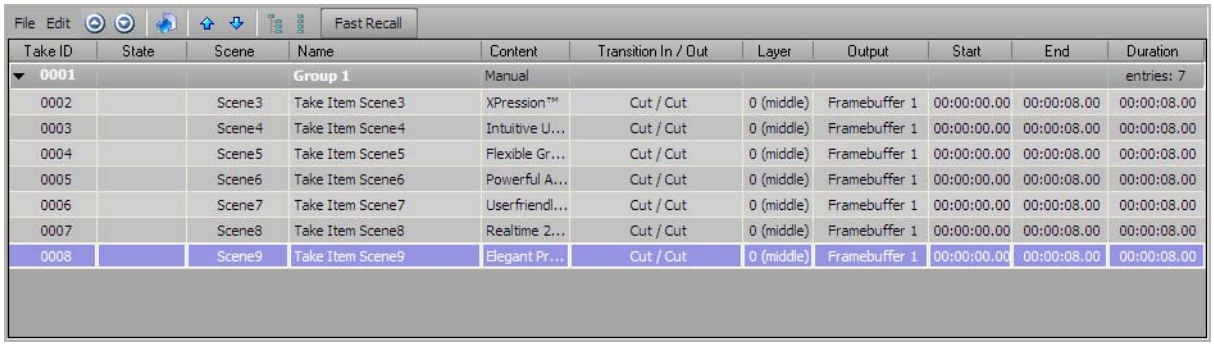
1. Create a new XPression project or open an existing project to add a roll/crawl effect.
2. Create one or more scenes or scene groups to contain the objects displayed by the roll/crawl effect.
3. Select a scene and scene objects to it that are to move as part of the roll/crawl effect.

   For example, add a text object to a scene to represent the first line of text for a set of credits to be played by the roll/crawl effect.
4. Add objects to additional scenes as required.

   For example, each scene contains a text object that represents one line of text in a set of credits played by the roll/crawl effect.
5. Click **Sequence** at the top of the window to use the **Sequencer** to place scenes or scene groups on a sequence timeline for playout.
6. In the **Sequencer**, click the **Create a New Group** button in the toolbar to create a take item group to contain the scenes or scene groups that comprise the roll/crawl effect.

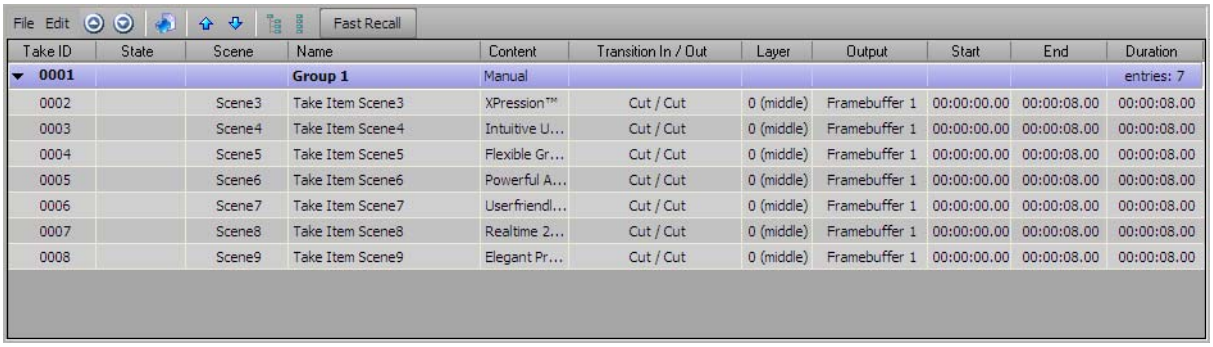


7. In the **Scene Manager**, click and drag the scenes or scene groups for the roll/crawl effect into the new take item group in the **Sequencer**.

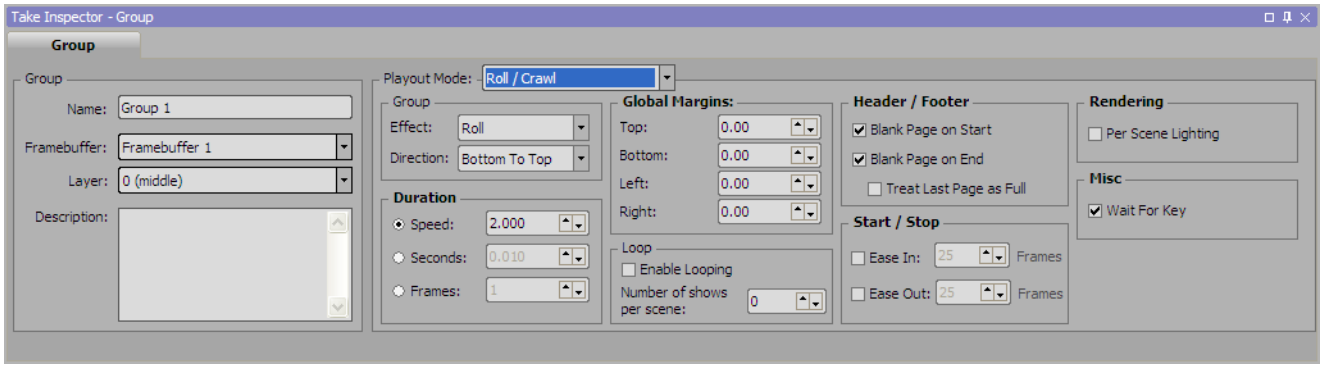


8. To reorder take items in the roll/crawl effect, click and drag a take item to a new position in the take item group.

9. Select the take item group that contains the roll/crawl effect.



10. In the **Take Inspector - Group** window, select **Roll/Crawl** from the **Playout Mode** list.



11. In the **Sequencer**, double-click the take item group that contains the roll/crawl effect to playout the defined roll/crawl effect.

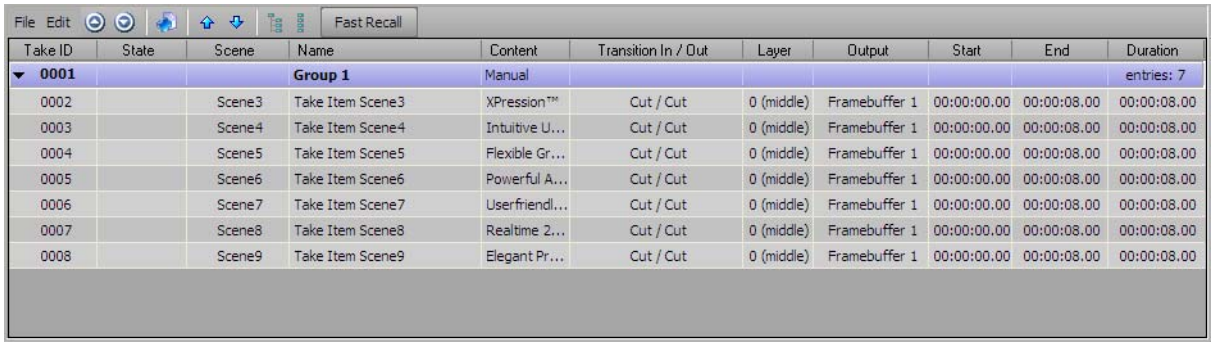
    The selected take item group plays out through the default output, and the **State** changes to **Active**.

For More Information on...

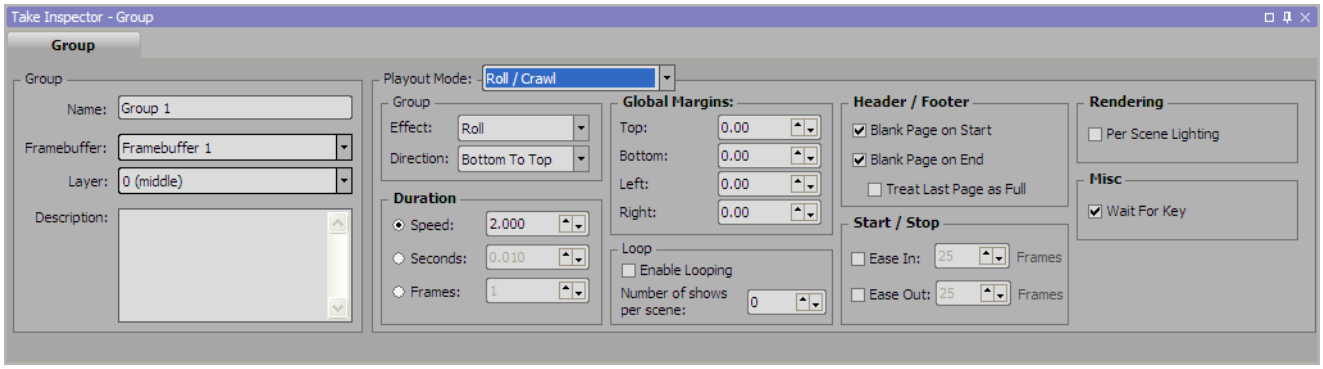
- customizing a sequence roll/crawl effect, refer to the procedure "**Customize a Take Item Group Roll/Crawl**" on page 14–12.
- controlling sequence playout, refer to the procedure "**Control Sequence Playout**" on page 14–5.

Customize a Take Item Group Roll/Crawl

1. In the **Sequencer**, select the take item group the contains the roll/crawl effect to customize.



The properties of the selected take item group are displayed in the **Take Inspector - Group** window.



2. Use the properties in the **Group** section to set roll/crawl effect properties for a take item group.

Properties

Effect — use this list to select the roll/crawl effect with which to playout take items in a take item group. The available effects are as follows:

- **Roll** — move take items vertically.
- **Crawl** — move take items horizontally.

Direction — use this list to select the direction for the selected roll/crawl effect. The available directions depend on the selected **Effect**, and are as follows:

Roll Effect	Crawl Effect
• **Bottom To Top**	• **Right To Left**
• **Top To Bottom**	• **Left To Right**

3. Use the properties in the **Duration** section to set the playout duration for the selected roll/crawl effect.

Properties

Speed — select this option to define the roll/crawl effect playout duration in pixels per second. Use the box to the right of this option to enter or select the number of pixels per second to playout a roll/crawl effect.

Seconds — select this option to define the roll/crawl effect playout duration in seconds. Use the box to the right of this option to enter or select the number of seconds in which to playout a roll/crawl effect.

Frames — select this option to define the roll/crawl effect playout duration in frames. Use the box to the right of this option to enter or select the number of frames in which to playout a roll/crawl effect.

4. Use the properties in the **Global Margins** section to set the spacing between take items displayed in a roll/crawl effect.

   ### Properties

   Top — in this box, enter or select the size in pixels of the margin placed above take items. This margin is used to control vertical spacing between consecutive take items played out in a roll effect.

   Bottom — in this box, enter or select the size in pixels of the margin placed below take items. This margin is used to control vertical spacing between consecutive take items played out in a roll effect.

   Left — in this box, enter or select the size in pixels of the margin placed to the left of take items. This margin is used to control horizontal spacing between consecutive take items played out in a crawl effect.

   Right — in this box, enter or select the size in pixels of the margin placed to the right of take items. This margin is used to control horizontal spacing between consecutive take items played out in a crawl effect.

5. Use the properties in the **Loop** section to set the number of times to playout a roll/crawl effect.

   ### Properties

   Enable Looping — select this check box to loop the playout of a roll/crawl effect. Clear this check box to only playout the roll/crawl effect one time.

   Number of Shows Per Scene — in this box, enter or select the number of times to loop the playout of a roll/crawl effect. Enter `0` to infinitely loop the playout.

   This box is only available when the Enable Looping check box is selected.

6. Use the properties in the **Header/Footer** section to set the type of page with which to start and end a roll/crawl effect.

   ### Properties

   Blank Page on Start — select this check box to start the roll/crawl effect with a blank page before displaying the take items in the roll/crawl effect. Clear this check box to start the roll/crawl effect with the first take item in the take item group.

   Blank Page on End — select this check box to end the roll/crawl effect with a blank page after displaying the take items in the roll/crawl effect. Clear this check box to end the roll/crawl effect with the last take item in the take item group.

   Treat Last Page as Full — select this check box to display the last take item in a roll/crawl effect as a full page.

7. Use the properties in the **Start/Stop** section to control the start and end playout speed of a roll/crawl effect.

   ### Properties

   Ease In — select this check box to slow the playout speed at the start of a roll/crawl effect.

      Frames — in this box, enter or select the number of frames at which to return a roll/crawl effect to normal playout speed.

   Ease Out — select this check box to slow the playout speed at the end of a roll/crawl effect.

      Frames — in this box, enter or select the number of frames from the end of a roll/crawl effect at which to slow the playout speed.

8. Use the property in the **Rendering** section to control lighting for a roll/crawl effect.

   ### Property

   Per Scene Lighting — select this check box to use a different lighting source for each take item in a roll/crawl effect. Clear this check box to use the lighting source in the first take item of the take item group for all of the other take items in the roll/crawl effect.

9. Double-click the take item group to playout the customized roll/crawl effect.

   The selected take item group is sent to the default output.

Output

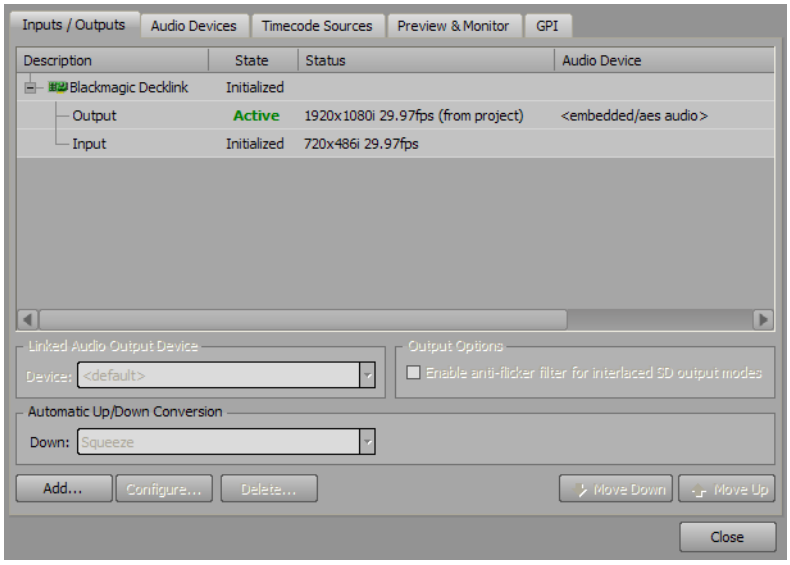
The output of an XPression project can be sent to various locations, including being saved in an Audio Video Interleave format (.AVI) video file.

The following topic is discussed in this section:

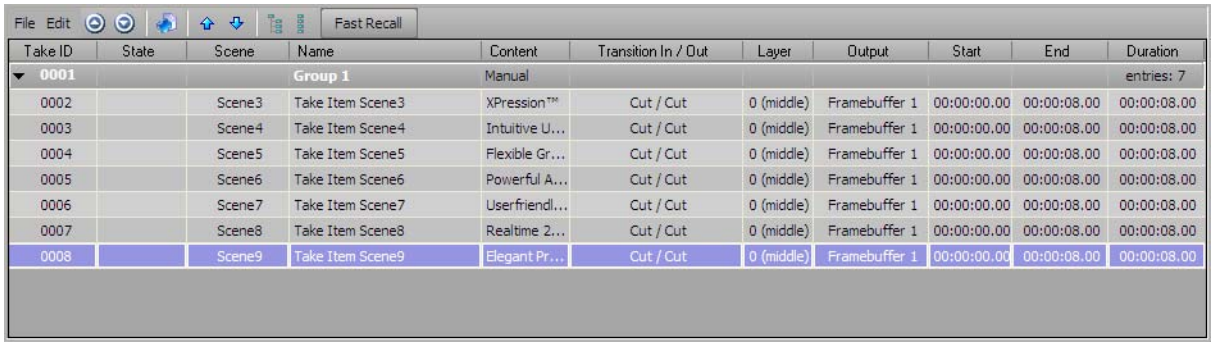
- Preview Output in a Virtual Output
- Render Output to an AVI File

Preview Output in a Virtual Output

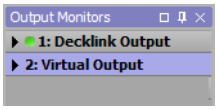
1. Use the **Hardware Setup** dialog box to configure an XPression Virtual Output.



2. Use XPression to create a scene or scene group.
3. Click **Sequence** at the top of the window to use the **Sequencer** to place the new scene or group on a sequence timeline for playout.
4. In the **Scene Manager**, click and drag the scene or scene group to output into the **Sequencer**.



5. In the **Output Monitors** window, note the framebuffer number of the **Virtual Output** output monitor.



6. Use the list in the **Output** column of the **Sequencer** to select the framebuffer number of the **Virtual Output** for the scene or scene group to output.
7. Double-click the scene or scene group in the **Sequencer** to take it “online”.

   The **XPression Virtual Output** window opens to display the output of the selected scene or scene group.

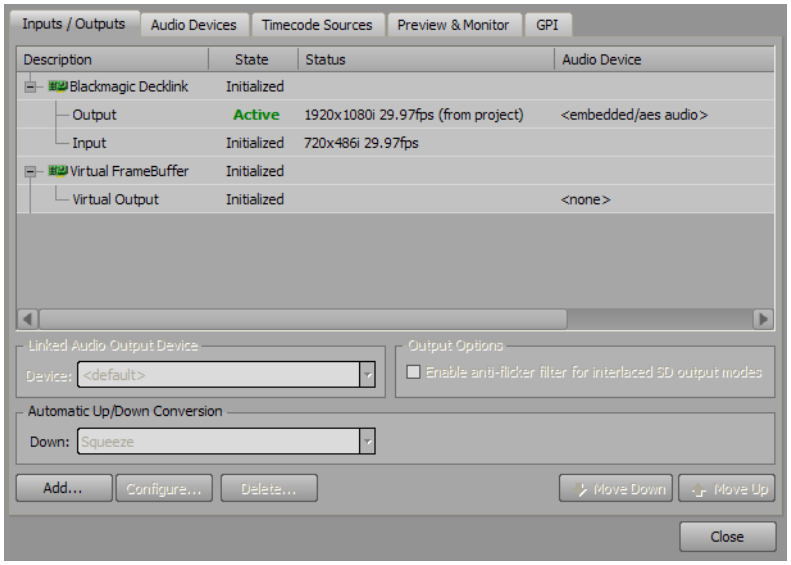
   Right-click the output in the **XPression Virtual Output** window and select **Full Screen** to use full screen display.

For More Information on...

- configuring an XPression Virtual Output, refer to the procedure “**Configure an XPression Virtual Output**” on page 3–29.
- creating scenes, refer to the procedure “**Create a Scene**” on page 4–4.

Render Output to an AVI File

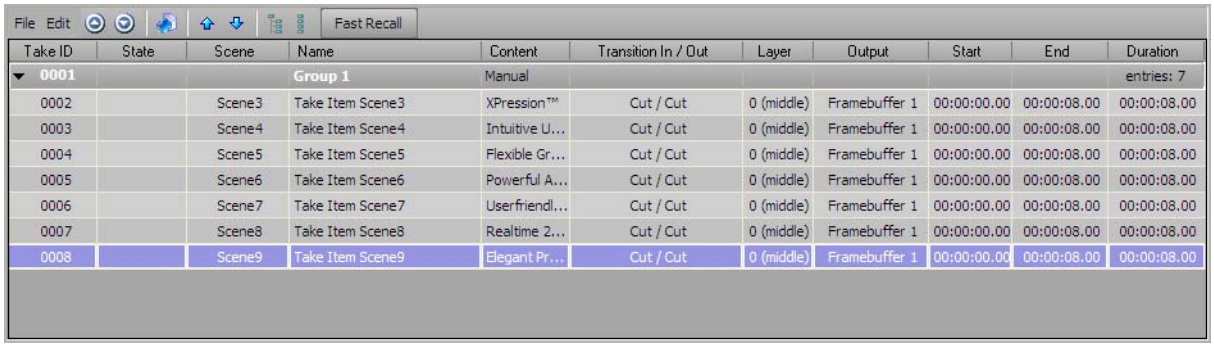
1. Use the **Hardware Setup** dialog box to configure an XPression AVI Recorder.



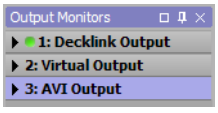
2. Use the XPression to create a scene or scene group to output to an Audio Video Interleave format (.AVI) video file.

3. Click **Sequence** at the top of the window to use the **Sequencer** to place the new scene or group on a sequence timeline for playout.

4. In the **Scene Manager**, click and drag the scene or scene group to output to an AVI file into the **Sequencer**.



5. In the **Output Monitors** window, note the framebuffer number of the **AVI Output** output monitor.



6. Use the list in the **Output** column of the **Sequencer** to select the framebuffer number of the **AVI Output** for the scene or scene group to output.

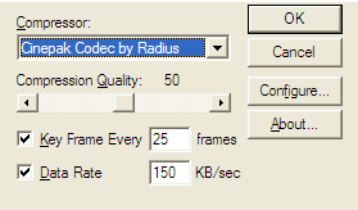
7. Double-click the scene or scene group in the **Sequencer** to take it “online”.

   The **Export AVI As** dialog box opens.

8. Locate and select a folder in which to save the AVI file, then enter a name for the AVI file in the **File Name** box.

9. Click **Save**.

   The **Video Compression** dialog box opens.



10. Use the **Compressor** list to select the video compressor with which to output the AVI file.
11. Based on the selected video compressor, use the available controls to configure video compression settings.
12. Click **OK**.

    The **AVI Recorder - Preview** window opens to display the output being rendered to the selected AVI file. Depending on the selected scene or scene group, rendering an AVI file may take some time to complete.

For More Information on...

- configuring an XPression AVI Recorder, refer to the procedure "**Configure an XPression AVI Recorder**" on page 3–23.
- creating scenes, refer to the procedure "**Create a Scene**" on page 4–4.

Appendix A: Keyboard Shortcuts

Use the keyboard shortcuts to perform various functions in XPression..

The following topics are discussed in this section:

- Menu Shortcuts
- Toolbar Shortcuts
- Scene Manager Shortcuts
- Object Manager Shortcuts
- Text Objects Shortcuts
- Keyframe Editor Shortcuts
- Sequencer Shortcuts
- Material Manager Shortcuts

Menu Shortcuts

Menu	Keyboard Shortcut	Function
File	CTRL + ALT + N	New project
	CTRL + O	Open project
	F9	Revert project
	CTRL + S	Save project
	CTRL + ALT + S	Save project as...
	CTRL + SHIFT + ALT + S	Increment and save project
Edit	CTRL + Z	Undo
	CTRL + SHIFT + Z	Redo
	CTRL + Q	Select object tool
	CTRL + W	Move object tool
	CTRL + E	Rotate object tool
	CTRL + R	Scale object tool
	CTRL + T	Pivot object tool
Windows	F12	Set main viewport as active
Project	CTRL + ALT + E	Display project path in Windows Explorer
Animation	CTRL + SHIFT + C	Open Animation Controller
	CTRL + D	Open Scene Director
	CTRL + SHIFT + K	Open Keyframe Editor
	CTRL + ALT + L	Open Clip Info window
	CTRL + K	Open Set Keyframe window
Display	CTRL + M	Display Material Manager
	CTRL + ALT + W	Display Widgets pane
	CTRL + ALT + O	Display Object Library
	CTRL + ALT + A	Display Audio Files pane
	CTRL + ALT + B	Display Object toolbar
Tools	CTRL + SHIFT + U	Force engine unlock
	CTRL + ALT + I	Display Input Grabber
Help	F1	Display Online Help

Toolbar Shortcuts

Keyboard Shortcut	Function
CTRL + ALT + M	Display DataLinq Manager

Scene Manager Shortcuts

Keyboard Shortcut	Function
CTRL + N	Create new scene

Object Manager Shortcuts

Keyboard Shortcut	Function
CTRL + SHIFT + G	Insert new group object
CTRL + UP ARROW	Move object up in object tree
CTRL + DOWN ARROW	Move object down in object tree
CTRL + LEFT ARROW	Move object left in object tree
CTRL + RIGHT ARROW	Move object right in object tree
CTRL + I	Toggle object visibility
CTRL + L	Lock object
F2	Rename object
DEL	Delete object

Text Objects Shortcuts

Keyboard Shortcut	Function
CTRL + L	Locked lines
CTRL + NUMPAD +/-	Adjust character spacing (adjusts kerning when characters are selected)
CTRL + NUMPAD +/-	Adjust kerning for selected characters
CTRL + ALT + UP ARROW	Move line up (moves single character if one is selected)
CTRL + ALT + DOWN ARROW	Move line down (moves single character if one is selected)
CTRL + ALT + LEFT ARROW	Move line left (moves single character if one is selected)
CTRL + ALT + RIGHT ARROW	Move line right (moves single character if one is selected)
CTRL + HOME	Move cursor to first character of text object
CTRL + END	Move cursor past last character of text object
CTRL + LEFT ARROW	Move cursor to previous word
CTRL + RIGHT ARROW	Move cursor to next word
CTRL + SHIFT + LEFT ARROW	Select previous word
CTRL + SHIFT + RIGHT ARROW	Select next word
SHIFT + HOME	Select to beginning of line
CTRL + SHIFT + HOME	Select to begininng of text object
SHIFT + END	Select to end of line
CTRL + SHIFT + END	Select to end of text object
CTRL + NUMPAD KEYS	Set current font by ID
CTRL + TAB	Selects next text object
CTRL + SHIFT + TAB	Selects previous text object
CTRL + ALT + TAB	Selects next object
CTRL + SHIFT + ALT + TAB	Selects previous object

Keyframe Editor Shortcuts

Keyboard Shortcut	Function
SPACE	Play animation
CTRL + A	Select all keyframes
RIGHT ARROW	Move Time Locator forwards
LEFT ARROW	Move Time Locator backwards
HOME	Jump to first keyframe
END	Jump to end of animation
CTRL + RIGHT ARROW	Jump to next keyframe
CTRL + LEFT ARROW	Jump to previous keyframe
CTRL + HOME	Jump to first keyframe
CTRL + END	Jump to last keyframe

Sequencer Shortcuts

Keyboard Shortcut	Function
UP ARROW	Select previous take item
DOWN ARROW	Select next take item
CTRL + UP ARROW	Move selected take item up the list
CTRL + DOWN ARROW	Move selected take item down the list
HOME	Select first take item
END	Select last take item
CTRL + PAGE UP	Select previous take item
CTRL + PAGE DOWN	Select next take item
CTRL + SHIFT + PAGE UP	Select previous template data field
CTRL + SHIFT + PAGE DOWN	Select next template data field
ALT + PAGE UP	Select previous scene template
ALT + PAGE DOWN	Select next scene template
ALT + INSERT	Transfers scene from take item list
ALT + DELETE	Removes scene from take item list
ALT + F*n* KEY	Set selected take item online to framebuffer represented by the F*n* key
CTRL + F*n* KEY	Remove selected take item from the framebuffer represented by the F*n* key

Material Manager Shortcuts

Keyboard Shortcut	Function
CTRL + M	Open Material Manager
ENTER	Open selected material in the Material Editor