

DoStudio Authoring Edition – EX

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Version 2.3

*NetBlender Press*

DoStudio Authoring Edition 2.3  
By The NetBlender Press Team

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## ***Introduction***

This manual introduces you to NetBlender's DoStudio Authoring (DSA), which is a complete Blu-ray Disc authoring application.

The information in this manual is designed for beginning to intermediate users, especially users who are unfamiliar with a few or all of the concepts of Blu-ray Disc authoring. Don't be fooled by the simple and straightforward nature of the application, however. DSA is a powerful, BD-ROM specification compliant authoring system with full AACS support, BDCMF formatting, BD-J support, and more. The power of DSA lies in its ease-of-use.

This manual assumes that the author has a fundamental understanding of the graphics formats used for Blu-ray Disc menus such as PSDs, PNGs and the like. It also assumes that the author is reasonably skilled in the use of Adobe Photoshop, or has access to someone who does. Blu-ray disc menus are graphics-intensive and much of the success of your Blu-ray project will depend on the quality of your graphic design.

## **Terminology**

This manual uses some terminology that is commonplace in Blu-ray parlance but may seem peculiar or confusing if you are new to Blu. This manual also uses some terminology that is specific to DoStudio. We explain a few of them here before you get too far.

### *Subpath Segments*

A list of HDMV Menu Subsegments.

### *HDMV Menu Subsegments*

HDMV Menu based Segment Lists that can be applied to any Playlist.

### *Movie object*

A collection of HDMV commands that controls the navigation of your disc.

# Chapter 1: Using HDMV Menus

DSA EX can reference HDMV menus (.pes files) in the same way that DSA can reference subtitle and audio files. Each HDMV menu reference can be associated with a language if you choose. This allows you to create an HDMV menu per language.

HDMV Menus are grouped by HDMV Menu Segments. To create a HDMV Menu Segment right mouse click on the Subpath Segments node in the Playlist Tab and select “Add HDMV Menu SubSegment” from the context menu. To add an HDMV menu to the SubSegment, right mouse click on the HDMV Menu Set node and click Add HDMV Menu. Within the HDMV Menu Segment you can add one or more HDMV menus to an HDMV Menu Set.

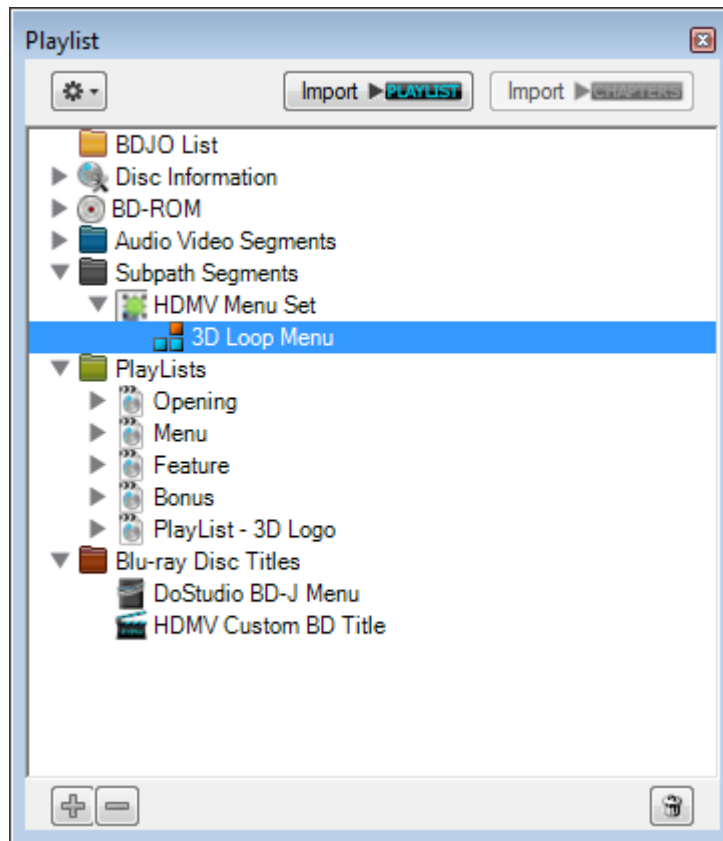


Figure 1 - A HDMV Menu in the Playlist

## ***HDMV Menu Properties***

Selecting the HDMV Menu node in the Playlist tree will present you with the HDMV Menu properties.

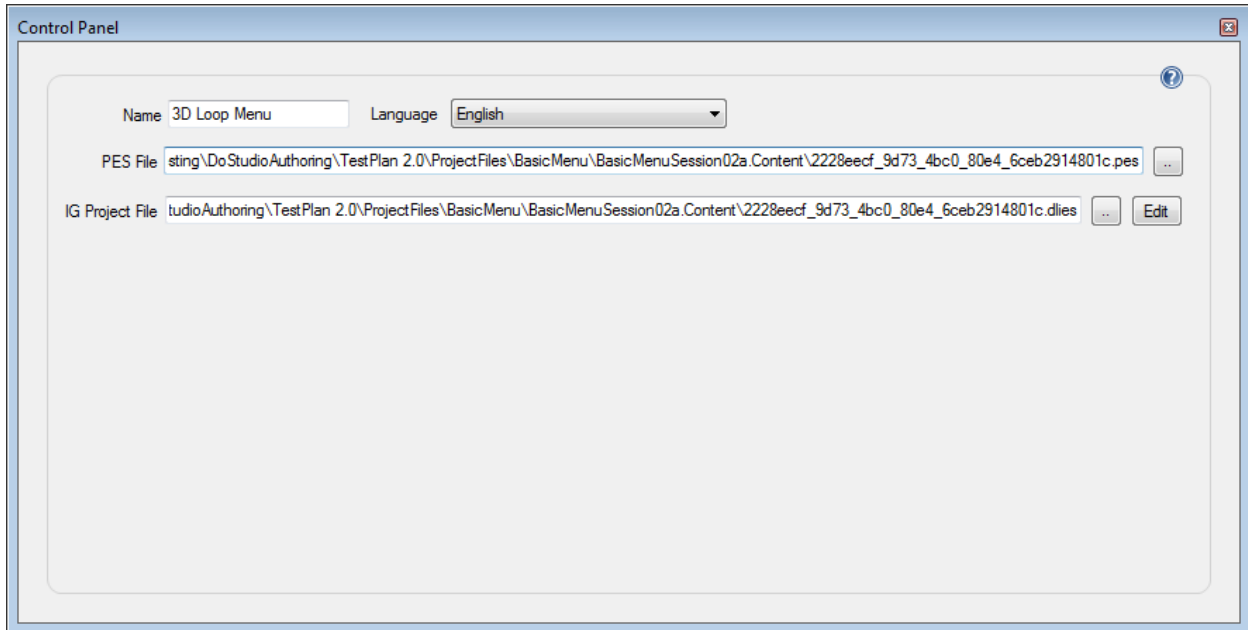


Figure 2 - HDMV Menu Properties

### **Language**

The language can be used to tell the Blu-ray player which HDMV menu to use based on the player's language settings. This is optional.

### **PES File**

This is the HDMV menu file. You will create this file using the IG Editor.

### **IG Project File**

This is the project file for the IG Editor. When you click edit it will launch the IG Editor. From within the IG editor you can then export the PES file. DSA will automatically update the PES file based on your exported file.

## ***Adding your HDMV Menu Segments to a Playlist***

A HDMV Menu Segment can be added to any 2D or 3D playlist. Simply select the playlist then drag the HDMV Menu Segment to playlist. The HDMV Menu Segment will expand across all Segments in your playlist automatically.

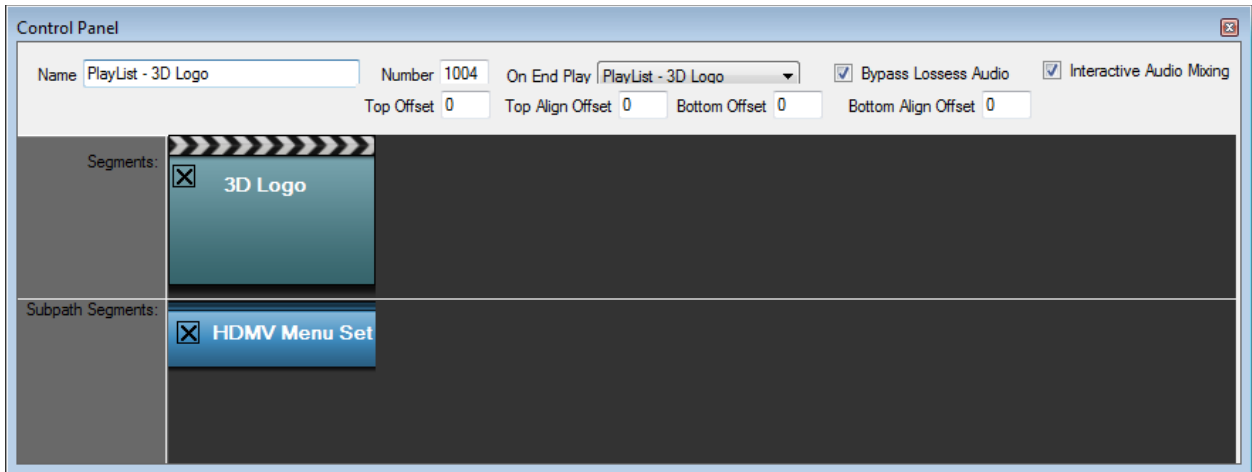


Figure 3 - Playlist with a HDMV Menu Segment

## Chapter 2: Using the Movie Object Editor Tab

Once the PES files are created you might need to use the Movie Object Editor to create your own Movie Objects. To get started click on the Blu-ray Disc Titles node in the Playlist tab. Then click on the Movie Object Editor tab.

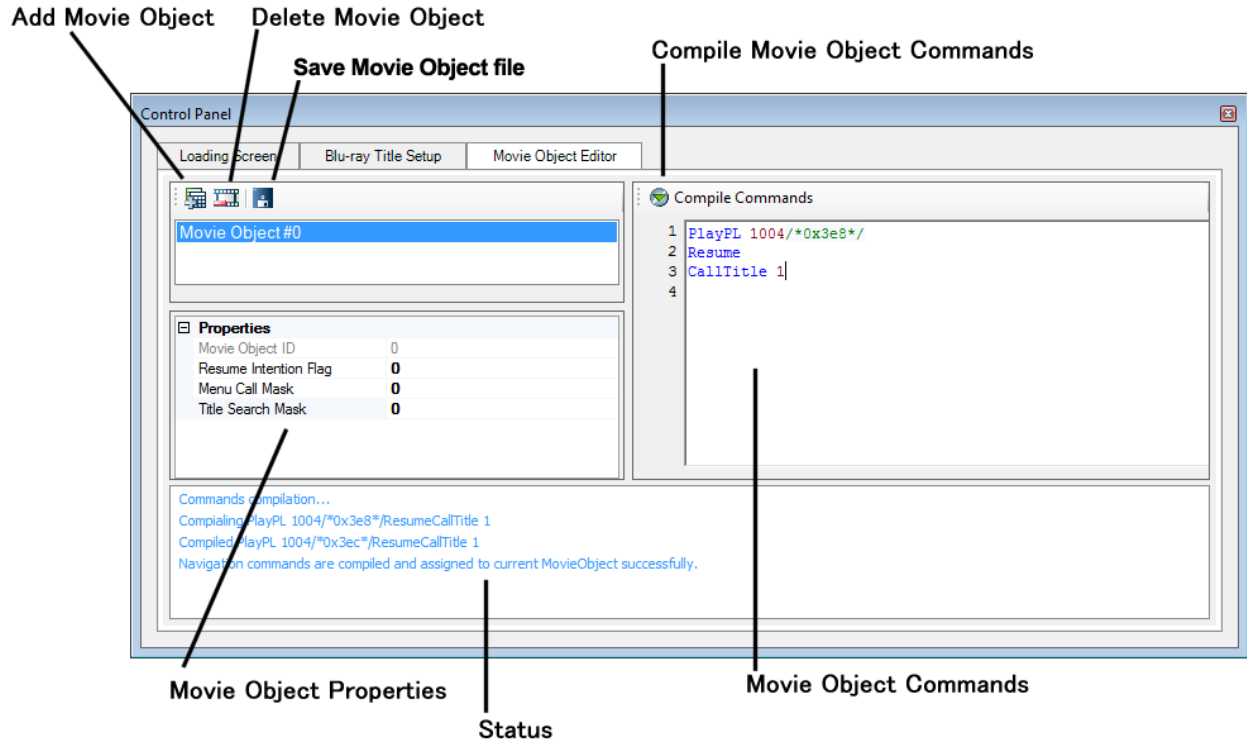


Figure 4 - HDMV Editor Layout

## Chapter 3: Setting up a BD title that references Movie Object Numbers

All DoStudio projects contain the DoStudio BD-J menu title by default. If your disc is not going to use the BD-J menu system, and instead use HDMV menus created with the IG editor, you will need to disable the Dostudio BD-J menu title, and add your own BD titles that reference the movie objects you have created.

### *Disabling the DoStudio BD-J menu title*



Figure 5 – Disabling the DSA BD-J menu

Select the DoStudio BD-J menu title in the playlist tree to display its properties in the Control Panel. Click the check-box that says “Disable DSA BD-J Menu”. When this box is checked, DoStudio will not create any BD-J files when you compile your project.

### *Adding BD Titles*

You will need to add BD Titles that reference the movie objects that you have created. To add a BD Title, right-click on the Blu-ray Disc Titles folder in the Playlist tree and select “Add BD Title” from the context menu. A new BD title will appear in the tree.

## ***BD Title Properties***

You will see a timeline view in the Control Panel.

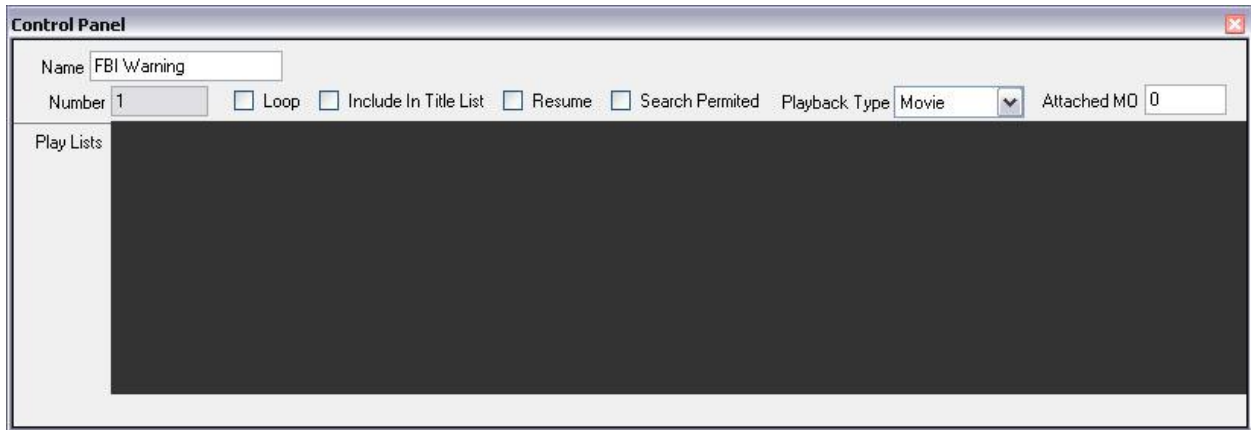


Figure 6 – A BD Title that references Movie Object 0

### **Name**

You can rename the title by typing a new name in this field.

### **Number**

You will notice that each BD Title has a unique number. Each new title has a number that is one higher than the previous title. If you delete a title, all of the titles below it in the tree are re-numbered so the title numbers remain sequential.

### **Loop, Include in Title List, Resume, Search Permitted Playback type**

These settings are used if you are creating a simple play-only BD Title. Please see the section “Setting up a Play-only HDMV title” for details. These settings are not used if you reference a movie object.

### **Attached MO**

This setting determines the Movie Object that is referenced by the BD Title. Each Movie object has a unique ID starting at the number 0. Simply enter the numeric ID of the Movie Object in this field. You will find the Movie Object ID in the Movie Object properties (see previous section).

## **Chapter 4: Setting up a Play-only HDMV title**

DoStudio allows you to quickly setup a play-only BD Title without requiring you to author your own Movie Objects. When you use this feature, DoStudio automatically sets up the required movie objects when you compile. This feature is useful for quickly creating review discs, dailies, or simple video loops. This feature is not suitable for discs that require branching or complex menu navigation.

## Add the BD title

Right-click on the Blu-ray Disc Titles folder in the Playlist tree and select “Add BD Title” from the context menu. A new BD title will appear in the tree.

## Add Playlists to the BD Title

You can add one or more Playlists to the BD Title by dragging them from the Playlist tree to the BD Title timeline. If you add more than one Playlist, the playlists will play in order from left to right.

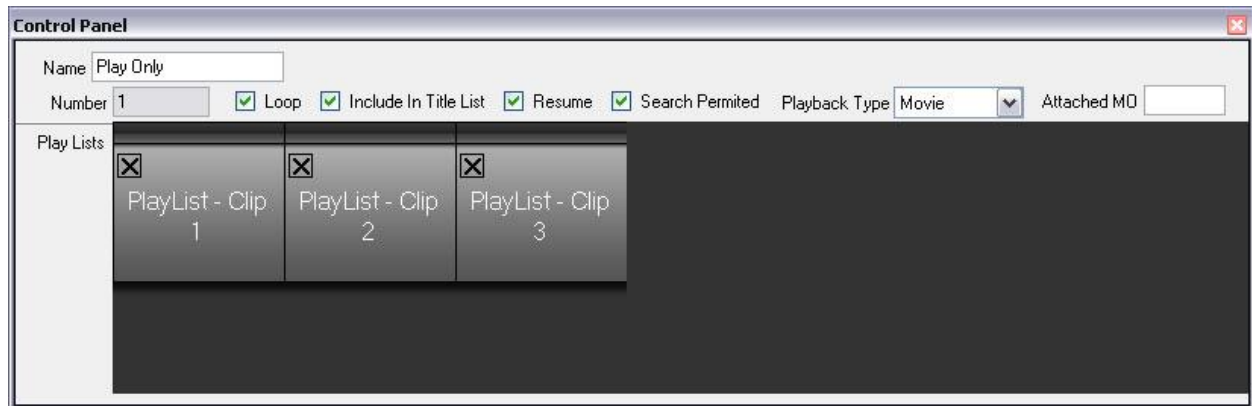


Figure 7 – A Play-Only BD Title that contains three Playlists

## BD Title Properties

### Name

You can rename the title by typing a new name in this field.

### Number

You will notice that each BD Title has a unique number. Each new title has a number that is one higher than the previous title. If you delete a title, all of the titles below it in the tree are re-numbered so the title numbers remain sequential.

### Loop

Click this box if you would like the video to loop to the beginning of the first Playlist. If you do not select loop, the player will simply stop playback when it reaches the end of the Title.

### Include in Title List

Checking this box includes the title in the Disc title list.

### Resume

Checking this box sets the resume intention flag to “true” thus allowing playback of the title to resume at the point it was playing.

### Search Permitted

Checking this box sets the Title Search flag to “True.”

### Playback Type

Use the combo box to select Movie or Interactive.

### Attached MO

This field should be left blank when creating a Play-only HDMV title. If you reference a Movie Object in this field, DSA will remove the playlists from the BD Title timeline.

## Chapter 5: The Blu-ray Title Setup

The Blu-ray title setup allows you to specify the First Play and Top Menu titles in your project. Click the Blu-ray Titles node in the Playlist tree then select the Blu-ray Title Setup tab in the Control Panel. In the section called “BD Title Information”, use the combo boxes to choose the First Play and Top Menu titles.

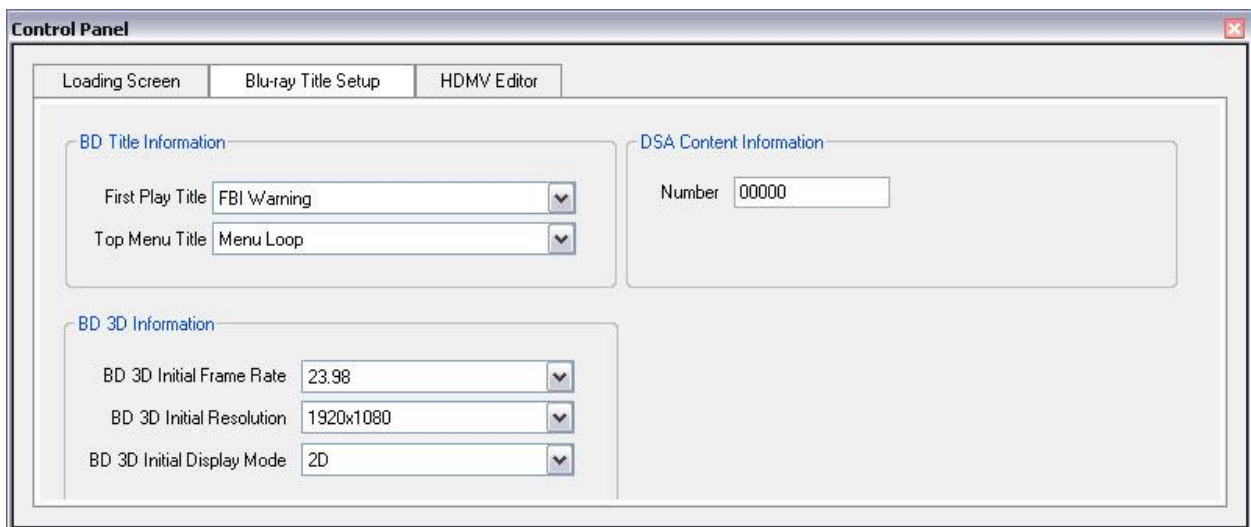


Figure 8 – The BD Title Setup parameters in the Control Panel

## Chapter 6: HDMV Navigation commands

The following commands will be used to author navigation in your HDMV project. Each command is identified as a Movie Object command, or an IG button command.

**Nop** No command.

(Nop commands are useful as label placeholders)

**GoTo** Jumps to a specified command label.

**Break** Stops executing commands in the current command list.

**JumpObject** Discards the current movie object and branches to the specified movie object. Resuming playback of the previous movie object with the Resume command is not possible after executing a JumpObject command.

**JumpTitle** Discards the current title and branches to the specified title. Resuming playback of the previous title with the Resume command is not possible after executing a JumpTitle command.

**CallObject** Suspends playback of the current movie object and branches to the specified movie object. Resuming playback of the previous movie object with the Resume command is possible after executing a CallObject command.

**CallTitle** Suspends playback of the current title and branches to the specified title. Resuming playback of the previous title with the Resume command is possible after executing a CallObject command.

**Resume** Resumes playback of the previously suspended movie object.

**PlayPL** Plays the specified PlayList. Only available as a movie object command.

**PlayPLatPI** Plays the specified PlayItem. Only available as a movie object command.

**PlayPLatMk** Plays a PlayList from the specified PlayListMark. Only available as a movie object command.

**TerminatePL** Terminates the current PlayList. Only available as a button command.

**LinkPI** Branches to the specified PlayItem. Only available as a button command.

**LinkMK** Branches to the specified PlayListMark. Only available as a button command.

**StillOn** Pauses playback of presentation graphics. Only available as a button command.

**StillOff** Resumes playback of presentation graphics. Only available as a button command.

**Set** Performs an operation using a “source” and a “destination” operand, assigning the result to the destination operand.

**Move** (Source) □ Destination  
Stores a value (GPR, PSR, or immediate) in a GPR.

**Swap** (Source) □ Destination  
Exchange the value of two GPRs.

**Add** (Source) + (Destination) □ Destination  
Addition

**Sub** (Destination) – (Source) □ Destination  
Subtraction

**Mul** (Source) \* (Destination) □ Destination  
Multiplication

**Div** (Destination) / (Source) □ Destination  
Division

**Mod** (Destination) % (Source) □ Destination  
Modulus

**Rnd** Random(Source) □ (Destination)  
Generates a random number between “1” and (Source)

**And** (Source) & (Destination) □ Destination  
Bitwise AND

**Or** (Source) | (Destination) □ Destination  
Bitwise OR

**Xor** (Source) ^ (Destination) □ Destination  
Bitwise Exclusive OR

**Bit Set 1** □ <bit number = Source> of Destination  
Sets the specified bit of the Destination to “1”

**Bit Clear 0** □ <bit number = Source> of Destination

Sets the specified bit of the Destination to “0”

**Shift Left** (Destination) Shifted by <count = Source> □ Destination

Moves the Destination left by the specified number of bits

**Shift Right** (Destination) Shifted by <count = Source> □ Destination

Moves the Destination right by the specified number of bits

**SetSystem** Sets system values for stream numbers, the Navigation Timer, and button parameters.

**SetStream** Sets the current Primary audio, PG TextST, Angle, and Interactive Graphics streams to be presented.

**SetNVTimer** Sets the initial time (0-300 seconds) and starts the Timer. When the Timer reaches “0,” a Jump operation to the specified Movie Object is executed.

**SetButtonPage** Set selected Button ID and/or set Page ID.

**EnableButton** Sets the specified Button to its Normal state, if currently Disabled. Commonly used to specify the topmost Button in a Button Overlap Group (BOG). If the specified Button is in the same Button Overlap Group as the current Button, then commands after the EnableButton command continue to be executed.

**DisableButton** Disables the specified Button. If the specified button is the current button, then commands after the DisableButton command continue to be executed. If no new Button has been selected before the end of the command sequence, the Page’s Default Selected Button is selected.

**SetSecondaryStream** Sets the current Secondary video, Secondary audio, and PiP PG TextST streams to be presented.

**Pop up Menu Off** Immediately displays the OutEffect of the current Page if present, and then removes the Interactive Graphics display.

## Table of Commands

The Table below provides an overview of all HDMV Navigation Commands available and restrictions on where they can be used

Command	Brief Description	Movie Object	IG Editor
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Nop	No Operation	YES	Yes
GoTo	Jumps to another Command	YES	YES
Break	Terminate execution of Commands	YES	YES
Jump	Object Jump to Movie Object	YES	YES
Jump	Title Jump to Title	YES	YES
Call	Object Suspend playback and jump to Movie Object	YES	YES
Call	Title Suspend playback and jump to Title	YES	YES
Resume	Resume suspended playback	YES	YES
Play	PL Start playback of a PlayList	YES	NO
Play	PLatPI Start playback of a PlayList at PlayItem	YES	NO
Play	PLatMK Start playback of a PlayList at PlayList Mark	YES	NO
Terminate	PL Terminate playback of current PlayList	NO	YES
Link	PI Change playback position to PlayItem	NO	YES
Link	MK Change playback position to PlayListMark	NO	YES
BC	Binary Compare	YES	YES
EQ	Equals	YES	YES
NE	Not Equals	YES	YES
GE	Greater Than or Equal to	YES	YES
GT	Greater Than	YES	YES
LE	Less Than or Equals to	YES	YES
LT	Less Than	YES	YES
Move	Copy value to GPR	YES	YES
Swap	Swap values between two GPRs	YES	YES
Add	Add value to GPR	YES	YES
Sub	Subtract value from GPR	YES	YES
Mul	Multiply value to GPR	YES	YES
Div	Divide value to GPR	YES	YES
Mod	Modulus value to GPR	YES	YES
Rnd	Store Random number in GPR	YES	YES
And	Binary AND to GPR	YES	YES
Or	Binary OR to GPR	YES	YES
Xor	Binary XOR to GPR	YES	YES
Bit	Set Set bit in GPR	YES	YES
Bit	Clear Clear bit in GPR	YES	YES
Shift	Left Zeros are shifted into low order bit in GPR	YES	YES
Shift	Right Zeros are shifted into high order bit in GPR	YES	YES
SetStream	Set Audio, PG, Text subtitle, Angle and IG streams	YES	YES
SetNVTimer	Set Navigation Timer	YES	YES
SetButton	Page Set Button ID and/or Page ID	YES	YES
Enable	Button Set Button to "normal" state	NO	YES
Disable	Button Set Button to "disabled" state	NO	YES

SetSecondaryStream	Set Secondary Video, Secondary Audio and PiP, Subtite Text	YES	YEs
PopUpMenu	Off Turn off pop up menu	NO	YES
Still	On Hold playback	NO	YES
Still	Off Restart playback after Hold	NO	YES
SetOutputMode	Set Output Mode	YES	NO
SetStreamSS	Set Audio, PG, Text subtitle, Subtitle Alignment, Angle and IG Stream	YES	YES