NEXIO

NXOS and PlayList

Tutorial

LEITCH®

Preface

NEXIO™ NXOS™ and PlayList™ Tutorial

Purpose

This tutorial provides operating instructions for the NXOS and PlayList applications. The guide can also be used as a convenient reference tool for all application and user interface functions.

Audience

This tutorial is written for operators and technicians responsible for the operation of the NXOS and PlayList applications. The guide also includes advanced sections applicable to a system administrator.

Copyright

Trademarks

Notice

Information in this tutorial is subject to change without notice or obligation.

Revision History

Table P-1. Revision History

Draft	Date	Revision History
A	March 2004	Initial draft

Chapter 1
Introduction

Overview

This tutorial provides hands-on operating instructions for the NEXIO **NXOS** and **PlayList** applications.

- NXOS is a standard application that is pre-installed on every NEXIO server system.
- PlayList is an optional application that requires a dongle for proper operation.

All features and functions of both applications are covered.

How to Use This Tutorial

Use this tutorial as a step-by step guide for learning how to operate the NXOS and PlayList applications.

- Read the "**NXOS Orientation**" and "**PlayList Orientation**" chapters first. These will familiarize you with all of the system's windows, features and functions.
- Next, follow the steps in the "**Using NXOS**" and "**Using PlayList**" chapters to practice each mode and function.

As you read each chapter, it is recommended that you have a server system available so that you can try each procedure. Please note:

- **Hyperlinks** — You will find numerous blue hyperlinks throughout the text. To assist you with navigating the sections and locating the information quickly, simply click a hyperlink to jump to the section.

- **Table of Contents** — For PDF and on-line versions of this tutorial, the Table of Contents is fully hyperlinked.

- **Index** — Use the Index as a good first step in locating information quickly. Multi-level index marks are provided. In the PDF and on-line versions, the index is fully hyperlinked.

In This Tutorial

The following chapters are included in this tutorial:

- Chapter 1, "Introduction" outlines the tutorial, introduces each product and provides technical support numbers. Instructions for login are also provided.

- Chapter 2, "NXOS Orientation" introduces you to all aspects of the NXOS user interface.

- Chapter 3, "PlayList Orientation" introduces you to all aspects of the PlayList Window.

- Chapter 4, "Using NXOS" provides step-by-step instructions for all basic NXOS functions.

- Chapter 5, "Using PlayList" provides step-by-step instructions for all basic PlayList functions.

- Chapter 6. "Traffic Functions" outlines various methods for working with traffic files and filters.

- Chapter 7, "Advanced Operations" covers advanced procedures typically performed by the System Administrator.

Prerequisites

As a prerequisite for using this tutorial, ensure that one of the following NEXIO servers is available for your use:

- NX4000TXS Shared Storage Transmission Server

- NX4000ITS Integrated Storage Transmission Server

Ensure that a keyboard, mouse and VGA monitor are connected to the NEXIO server. Most important, ensure that a video source is connected to the server, and that audio/video monitoring is connected to the server's outputs. This will allow you to record (ingest) material, and verify audio and video playback.

Finally, check with your System Administrator that a password and User ID have been set up for you.

About NXOS

The NXOS application is the built-in operating system for all NEXIO servers. With NXOS, you can digitize clips from a VTR (connected via RS-422), encode content from live sources such as a network or satellite feed, and create "sub-clips" from parent clips.

All content is stored in MediaBase, the server's own information database. With MediaBase, you can sort your clips with a variety of standard and custom "views," and instantly play back clips with the system's Channel Control Windows.

Refer to the "NXOS Orientation" chapter for full details.

About PlayList

PlayList is an option to the NXOS application that runs *within* NXOS itself — it does not have a separate desktop icon. Playlist provides clip playout capability on as many as four NEXIO channels simultaneously. Its comprehensive features give customers a flexible and convenient automation system for use in basic playout, commercial insertion, backup and emergency playout configurations.

You can add clips to PlayList directly from MediaBase, by ID, or from an imported traffic list. GPI trigger and timed event playout capabilities are also included.

Refer to the "PlayList Orientation" chapter for full details.

For Technical Assistance

Leitch is committed to providing round-the-clock, 24-hour service to our customers around the world for Server, Video Processing and Distribution products. If you require assistance with the NXOS or PlayList applications, contact information is listed below:

- **Phone**: +1 (818) 843-7004
- **Toll Free**: +1 (888) 843-7004
- **Fax**: +1 (818) 450-2199
- **Email**: service.servers@leitch.com
- **Website**: www.leitch.com

Logon

Use the following steps to log on to the NXOS and Playlist application:

1. When you start the NEXIO server, the LLM (Low Level Module) automatically initializes and the **Logon Dialog** appears. However, if the server is *already* on, double-click the **Nexio Startup** shortcut on the desktop.

Figure 1-1. Nexio Startup Shortcut

The **Logon Dialog** appears, as shown in the sample below:
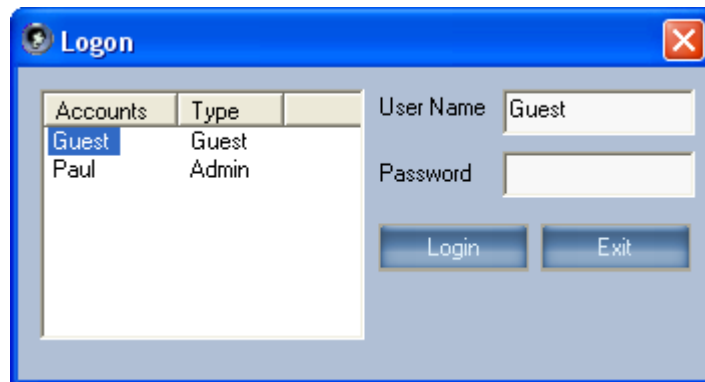

Figure 1-2. Logon Dialog

2. Under the "Accounts" column, click your name (User ID), enter your password and then click **Login**. Passwords are case sensitive.

3. The NXOS **Main Screen** appears. If you need to logout or change users, from the Main Screen's Menu Bar, click **File > Logout** to display the **Logon Dialog**.

📝 Note

If you don't already have a password and User ID, ask your System Administrator to set them up for you.

4. Repeat step 2 to change users, or click **Exit** to log off.

5. Please continue with Chapter 2, "NXOS Orientation."

NXOS Orientation

In This Chapter

This chapter provides a comprehensive introduction to the NXOS user interface. Each section is designed to familiarize you with all windows, functions and buttons.

The following topics are discussed:

- NXOS Main Screen
- Menu Bar
- NXOS Tool Bar
- MediaBase Tree
- Message Bar
- Channel Control Window
- Transport Menu
- Function Section
- Channels Menu
- Audio Section
- Compression Settings
- MediaBase Window
- Digitize Window
- TapeBase Window
- GPI Window

◆LEITCH.

NXOS Main Screen
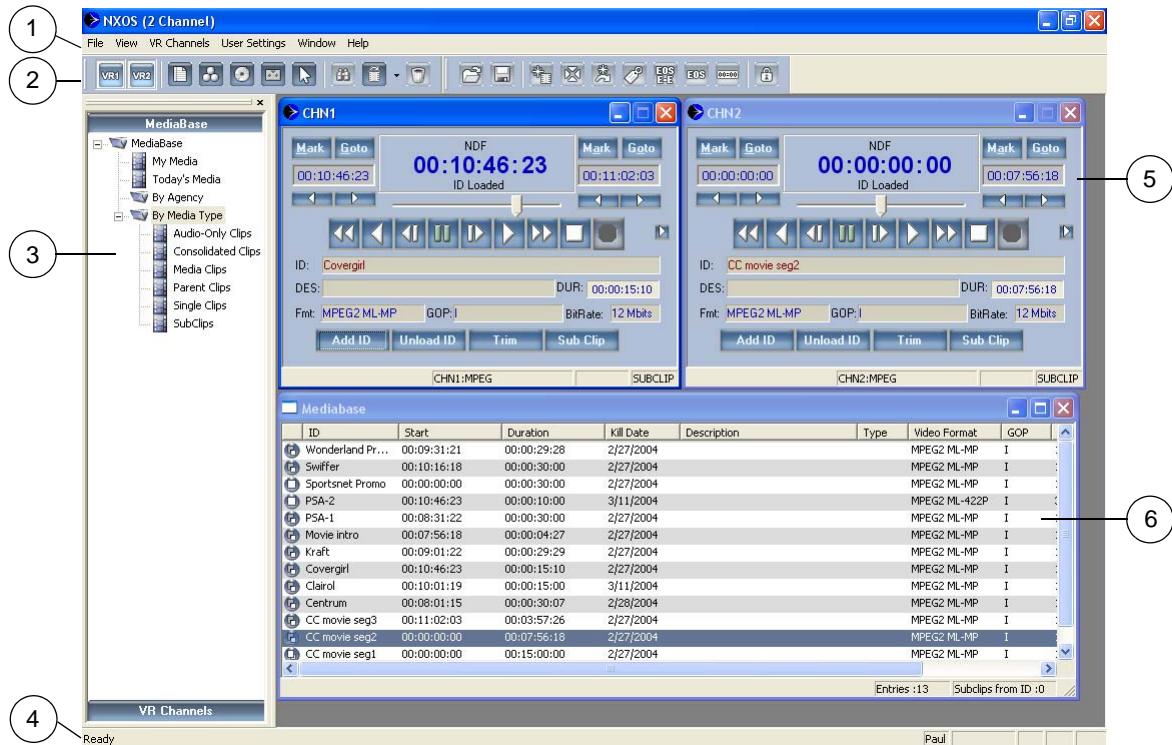
The figure below illustrates the NXOS **Main Screen**:

Figure 2-1. NXOS Main Screen

1)	Menu Bar	3)	MediaBase Tree	5)	Channel Control Window
2)	Tool Bar	4)	Message Bar	6)	MediaBase Window

Descriptions of each section are provided below.

1) The **Menu Bar** provides direct access to NXOS and PlayList commands and dialogs. Refer to the "Menu Bar" section for complete information.

2) The **Tool Bar** provides single-click access to common functions. Two bars are provided (one each for NXOS and PlayList), and each can be displayed or hidden. Refer to the "NXOS Tool Bar" section for details.

3) The **MediaBase Tree** allows you to view clips in the database using a variety of convenient text-based "views." Refer to the "MediaBase Tree" section for information.

4) The **Message Bar** provides text-based help for **Tool Bar** buttons. Refer to the "Message Bar" section for details.

5) The **Channel Control Window** enables you to digitize live sources, play and trim clips, review clip properties and generate subclips. Depending on your server's configuration, up to four windows are available — one for each server channel. Refer to the "Channel Control Window" section for complete information.

6) The **MediaBase Window** shows all clips in the database. Clips can be sorted by column, and the columns themselves can be enabled, disabled, sized and moved. Refer to the "MediaBase Window" section for more information.

Menu Bar

The figure below illustrates the **Menu Bar**:

File   View   Mediabase   User Settings   Window   Help

Figure 2-2. MediaBase Menu Bar

The **Menu Bar** provides direct access to MediaBase and Playlist functions. Note that the **MediaBase** label *changes* depending on the window that is selected:

• When any MediaBase view is selected, the bar appears as shown above.

• When a Channel Control Window is selected, the label changes to "**Channels**." See the "Channels Menu" section for details.

• When a Playlist Window is selected, the label changes to "**Playlist**." Refer to the "Using PlayList" chapter for **Playlist Menu** details.

• When the TapeBase Window is selected, the label changes to "**TapeBase**." Refer to the "TapeBase Window" the section for details.

Following are descriptions of all MediaBase menus.

File Menu
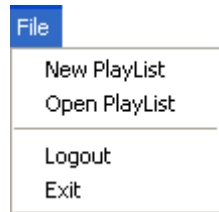
The **File Menu** is shown below:

Figure 2-3. File Menu

- Click **File > New PlayList** to open a new PlayList Window.
- Click **File > Open PlayList** to display the **Open Dialog**, where you can open a PlayList that was saved to disk.
- Click **File > Logout** to display the **Logon Dialog**, where you can change users or exit the program.
- Click **File > Exit** to close the application.

View Menu

The **View Menu** is shown below:

Figure 2-4. View Menu

- Click **View > Toolbar** to show or hide the NXOS **Tool Bar**. The PlayList Tool Bar (if visible) is not affected.

- Click **View > Status Bar** to show or hide the **Status Bar** for the currently selected window — either for the **MediaBase**, **Channel Control**, **PlayList** or **Digitize** Window. When enabled, the bar appears at the bottom of the selected window.

- Click **View > Side Bar** to show or hide the **MediaBase Tree**.

- Click **View > Digitize Window** to show the **Digitize Window**. See the "Digitize Window" section for information.

- Click **View > GPI Setup** to show the **GPI Window**. Refer to the "GPI Window" section for details.

- Click **View > Playlist > New Playlist** to open a new PlayList Window. Refer to Chapter 3, "PlayList Orientation" for information.

- Click **View > Remaining Space** to display the **Space Remaining Dialog**, as shown in the sample below.
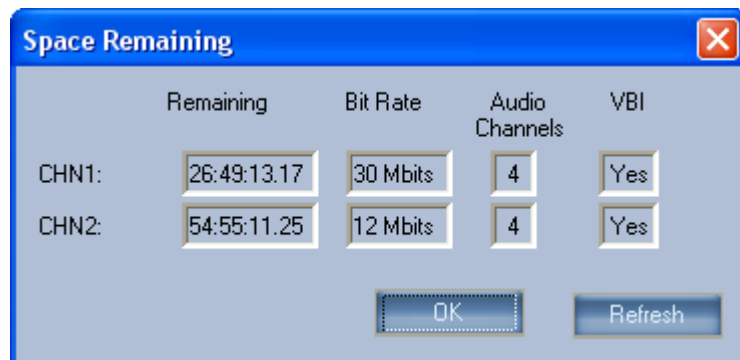

Figure 2-5. Space Remaining Dialog

One status line is shown for each channel in your system, including data on space remaining, bit rate, audio and VBI.

- Click **View > TapeBase** to display the **TapeBase Window**. Refer to the "TapeBase Window" section for details.

- Click **View > VR Channel > [Channel Name]** or press **F9** through **F12** to show the selected Channel Control Window. One line appears in the sub-menu for each channel in your system. This function is typically used to bring a hidden (or closed) channel to the foreground.

MediaBase Menu
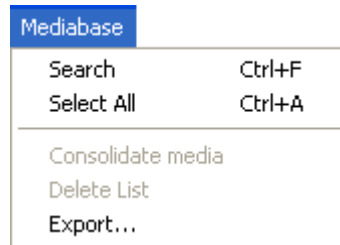
The **MediaBase Menu** is shown below:

Figure 2-6. MediaBase Menu

- Click **MediaBase > Search** (or press **Ctrl + F**) to display the **Find Dialog**, which allows you to search the MediaBase.
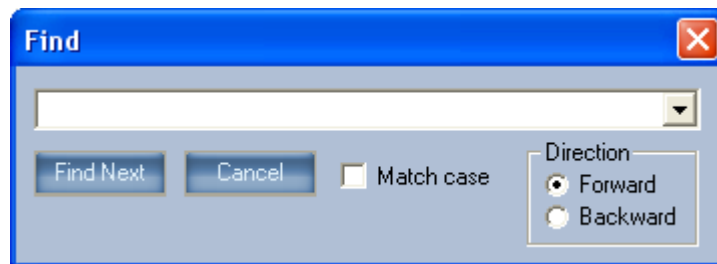

Figure 2-7. Find Dialog

Enter the text that you wish to locate, select the desired options and click **Find Next**.

- Click **MediaBase > Select All** (or press **Ctrl + A**) to highlight all clips in the MediaBase.

- Click **MediaBase > Export** to display the **Save MediaBase As Dialog**, in which you can save the contents of the MediaBase to disk in XML format.

Note that **Consolidate Media** and **Delete List** are advanced functions for administrative use only. In Chapter 7, refer to the "Consolidating Clips" and "Deleting Clips" sections for details.

◆LEITCH.

User Settings Menu
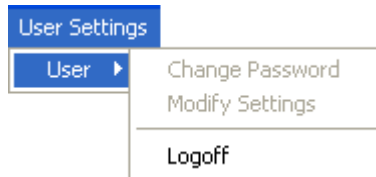
The **User Settings Menu** is shown below:

Figure 2-8.

- Click **User Settings > User > Logoff** to display the **Logon Dialog** in which you can log out or change users.

Note that **Change Password** and **Modify Settings** are advanced functions for administrative use only. Refer to the "Advanced Operations" chapter for details.
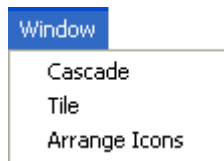
Window Menu

The **Window Menu** is shown below:

Figure 2-9. Window Menu

- Click **Window > Cascade** to cascade all open windows visible in the Main Screen.
- Click **Window > Tile** to tile all open windows visible in the Main Screen. MediaBase windows are resized as required.
- Click **Window > Arrange Icons** to arrange any minimized window icons at the bottom of the Main Screen.

Help Menu

The **Help Menu** is shown below:

Figure 2-10. Help Menu

- Click **Help > About VROS** to display the **About Dialog** which lists program, version, copyright, memory and disk space information.

NXOS Tool Bar
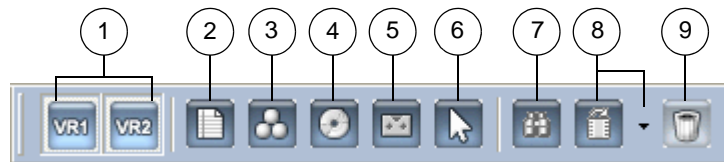
The figure below illustrates the NXOS **Tool Bar**:

Figure 2-11. NXOS Tool Bar

1)	Channel	4)	Digitize	7)	Search
2)	New PlayList	5)	TapeBase	8)	Load
3)	MediaBase	6)	GPI Setup	9)	Delete List

Descriptions of each button are provided below:

1) Click the **Channel** button to open the selected Channel Control Window (if closed), or bring a hidden window to the foreground. One button is provided for each channel.

2) Click the **New PlayList** button to open a new (empty) PlayList Window. Refer to Chapter 3, "PlayList Orientation" for details.

3) Click the **MediaBase** button to open the MediaBase Window (if closed), or bring it to the foreground if hidden. Refer to the "MediaBase Window" section for more information.

4) Click the **Digitize** button to display the Digitize Window. See the "Digitize Window" section for details.

5) Click the **TapeBase** button to show the TapeBase Window. See the "TapeBase Window" section for details.

6) Click the **GPI Setup** button to display the GPI Window. Refer to the "GPI Window" section.

7) Click the **Search** button to display the **Find Dialog**, in which you can search the MediaBase. The MediaBase Window must be selected for the button to be active.

8) Click **Load** to load and play a highlighted clip in the MediaBase Window. As a prerequisite, select the desired output channel with the pull-down arrow (to the right of the **Load** button). Clicking **Load** *immediately* overrides any clip playing in that channel.

9) Click **Delete List** to display the **Delete List Window**, which enables users with "admin" priveleges to delete clips based on an imported list. In Chapter 7, refer to the "Using the Delete List Window" section for details.

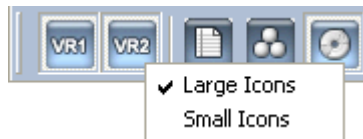To change the size of the icons, right-click anywhere on the Tool Bar to display the **Tool Bar Pop-up Menu**:

Figure 2-12. Tool Bar Pop-up Menu

Click the desired icon size.

📝 **Note**

Tool Tip help is available for all Tool Bar buttons.

MediaBase Tree

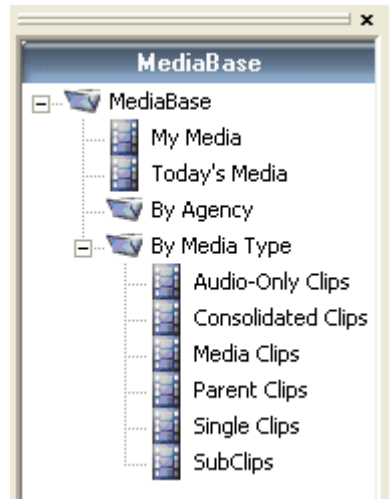The figure below illustrates the **MediaBase Tree**:

Figure 2-13. MediaBase Tree

The MediaBase Tree offers many different views into the MediaBase. Double-click any line in the tree to display a window containing only that category of clips, such as **Audio-Only** or **SubClips**. Double-click the **MediaBase** line at the top to display the *entire* MediaBase Window.

MediaBase windows are populated automatically, based on various criteria at the time of ingest or subclip creation. For example:

- Clips ingested *today* appear in the "**Today's Media**" folder.
- Clips ingested by the *logged-in user* appear in the "**My Media**" folder.
- If the "Agency" field is completed (in a clip's **Properties Dialog**), a folder for each listed agency appears under the "**By Agency**" folder.

Please note:

- Clips may reside in one or more windows.
- Click and drag the top edge of the tree to un-dock it from the left edge of the screen, and place it anywhere on screen.
- The tree can be re-sized by clicking and dragging its edges.

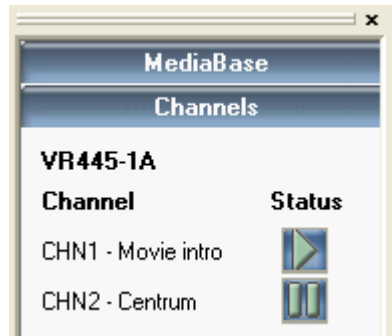- Click the **Channels** button at the bottom of the tree to display channel status:

Figure 2-14. Channel Status

Message Bar

The left-hand edge of the **Message Bar** displays help text when selected Menu Bar items are chosen, as shown in the sample below. The right-hand edge of the bar also shows the current logged in user.
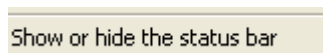

Show or hide the status bar

Figure 2-15. Message Bar Help Text (sample)

Channel Control Window

The **Channel Control Window** is your main interface for ingesting live material. A sample window is shown below:

Figure 2-16. Channel Control Window

1)	Mark In Section	4)	Transport Control Section	7)	Function Section
2)	Timecode Section	5)	Audio Button		
3)	Mark Out Section	6)	Data Section		

Descriptions of each section and button are provided below:

1) The **Mark In Section** provides controls for marking and trimming the clip's inpoint.

   - Click **Mark** to mark an inpoint on the fly.

   - Click **Goto** to search to the marked inpoint.

   - Click inside the **Timecode** field, and enter an entry point or a "goto" point. Numbers shift left as you enter them.

   - Click ◀ to subtract one frame from the marked inpoint. Click ▶ to add one frame to the marked inpoint.

2) The **Timecode** section displays the clip's timecode position, format (DF or NDF), and the percentage of playback speed.

- Click and drag the **Shuttle** control to shuttle the clip forwards and backwards. The direction and speed are shown as you move the control

- When you release the Shuttle control, it springs back to center (pause mode).

3) The **Mark Out Section** provides controls for marking and trimming the clip's outpoint. Controls are identical to those in the Mark In Section — except the outpoint is affected.

4) The **Transport Control Section** provides VTR-like controls:

Click **Rewind** to shuttle the clip at full-speed reverse.

Click **Reverse** to play at one times play speed, in reverse.

Click **Step Left** to jog backwards by the current "jog interval." See the "Transport Menu" section for details.

Click **Pause** to stop clip playback on a freeze frame.

Click **Step Right** to jog forwards by the current "jog interval." See the "Transport Menu" section for details.

Click **Play** to play the clip at one times play, forward.

Click **Fast Forward** to shuttle the clip at full-speed forward.

Click **Stop** to stop clip playback and display input video (EE mode).

The **Record** button is half red, half yellow when a new clip is record-enabled. To record, click and hold the left mouse button, then tap the right mouse button.

The **Record** button turns full red when the channel is recording. The button is grayed-out when the channel is in playback mode.

5) Click the **Audio** button to open and close the window's **Audio Section**. Refer to the "Audio Section" below for details.

6) The **Data Section** displays clip information, including ID, description, format, GOP structure and bitrate.

- • To playback a clip, drag and drop a clip into the **ID** field — *directly* from any MediaBase window.

- • You can also click **Load ID**, and add a clip by name from the **Load ID Dialog**. See the "Load ID" section for details.

- • When you click **Add ID** to record a clip, the information in the **New ID Dialog** is used to populate the fields in the Data Section. See the "Add ID" section for details.

7) The **Function Section** includes four buttons used to create new clip IDs, playback clips, trim and create subclips. Refer to the "Function Section" below for details.

> **✎ Note**
>
> If you drag and drop an MPEG clip into a channel configured for DV (and vice-versa), you will get a warning dialog.

Transport Menu

Right-click the **Step Left** or **Step Right** button to display the **Transport Pop-up Menu**:
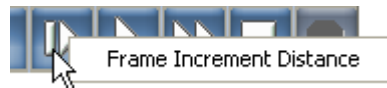
Figure 2-17. Transport Pop-up Menu

- • Click **Frame Increment Distance** to display the **Frame Increment Distance Dialog**.
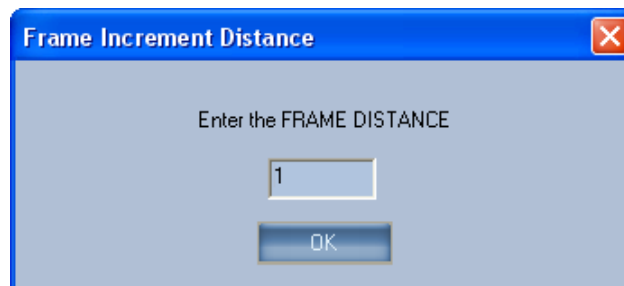

Figure 2-18. Frame Increment Distance Dialog

Enter the desired interval (in frames) and click **OK**. When **Step Left** or **Step Right** is clicked, the clip jogs by the selected interval.

Function Section

The **Function Section** includes four buttons and a check box that are used to record, playback, trim and create subclips.

Figure 2-19. Function Section

Each button is described below. Refer to the "Add ID," "Load ID," "Trim," "Sub Clip," or "SDTI" sections for details.

Add ID

The "**Add ID**" function creates a new clip ID for recording, but does *not* create the actual media. Material is added to the ID when you click **Record**.

To create a new ID, click **Add ID**. The **New ID Dialog** appears:

Figure 2-20. New ID Dialog

- Fields are provided for clip name (**ID**), an optional description, kill date and agency. The **ID** field is required.

- If the "**Open Ended**" check box is enabled and you leave the duration at 00:00:00:00, the clip will be open ended. Open-ended recordings end when they are stopped manually.

- If you enter a duration in the **DUR** field, duration will be obeyed, even if **Open Ended** is checked.

- To change the clip's format, GOP structure and bit rate, click **Compression Settings** to display the **Compression Settings Dialog**. Refer to the "Compression Settings" section for details.

- When all desired settings have been entered, click **OK** to create the "empty" ID, in preparation for recording.

Load ID

To load a clip for playback using its ID, click **Load ID** to display the **Load ID Dialog**:
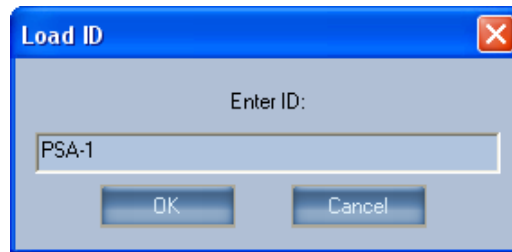
Figure 2-21. Load ID Dialog

Enter the desired clip name and click **OK**. The entry is case-sensitive. Please note:

- Once the clip is loaded, the **Load ID** button changes to **Unload ID**. Click **Unload ID** to unload the clip from the channel.

- To unload the current clip, you can also drag and drop a clip into the ID field, replacing the current one.

Trim

The Trim function is used to trim unwanted frames from the beginning and end (head and tail) of a clip or subclip. Note:

- When you trim a parent clip or a single clip, the trim process is *permanent*. The unwanted frames are deleted from the server.

> • When you trim a subclip, the "pointers" to the original frames on the parent clip are *moved* — rather than deleted.

To prepare a clip for trimming, the trim mode must be enabled. Right click the **Trim** button to display the **Trim Pop-up Menu**:
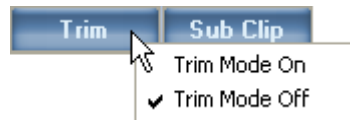

Figure 2-22. Trim Pop-up Menu

With the clip enabled for trimming, shuttle or jog the clip to the desired inpoint or outpoint, and then **Mark** the point. Depending on the selected point, the **Mark In**, **Mark Out**, or **Duration** field appears red as shown in the sample below:

Figure 2-23. Marked Outpoint in Trim Mode

To mark a point, you can also enter a timecode in the inpoint or outpoint field, click **Goto**, and then click **Mark**.

To complete the trim procedure, click **Trim**. When the **Warning Dialog** appears, click **Yes**.

If you do not want to trim the clip, you have several options:

- • Disable the trim mode.
- • Unload the clip.
- • Load a different clip.

Sub Clip

A subclip is a *portion* of an existing ID (parent clip) with its own MediaBase entry. A subclip is defined by "pointers" that reference frames on the parent clip, and thus, no additional media is stored on the server. You can make subclips from parent clips or other subclips.

The "**Auto ID Options**" setting in the **Channels Menu** affects how subclips are named. See the "Auto ID Options" section for details.

To create a subclip, load a clip into a Channel Control Window, mark a new inpoint and outpoint (as required), and click **Sub Clip** to display the **Create SubClip Dialog**.
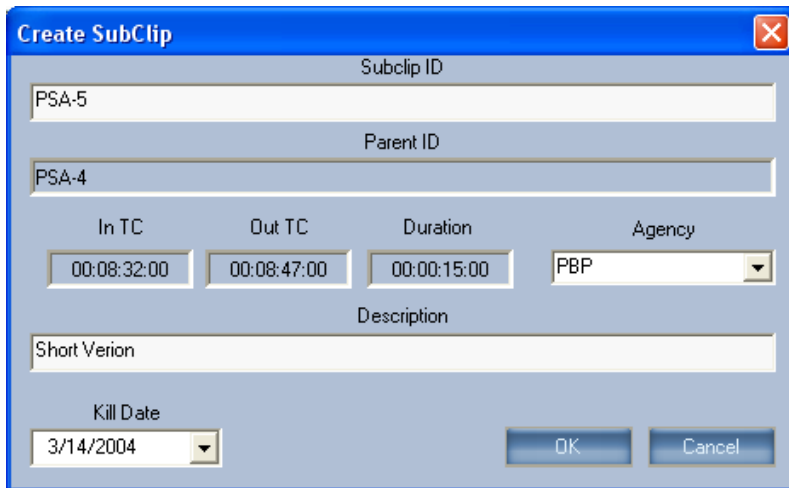
Figure 2-24. Create SubClip Dialog

Your new marked points are automatically entered in the **In TC** and **Out TC** fields, and the new **Duration** is also shown.

Change the new ID (if desired), enter an optional description, and click **OK** to create the subclip. The subclip is entered in the MediaBase and is now available for playout. Please note:

- A special "subclip" icon denotes the subclip in the MediaBase.
- You can create an unlimited number of subclips from the original parent.
- Subclips can be deleted or trimmed in the normal manner.
- A parent ID can not be deleted (or trimmed) until all of its associated subclips have been deleted.

◆LEITCH.

SDTI

> **📝 Note**
>
> An SDTI stream can only be
> ingested when the server
> channel is set to DV. Contact
> your System Administrator for
> assistance with channel format.

When the channel is set to DV, enable the **SDTI** check box to ingest an SDTI stream and automatically convert it to DV format. An SDTI source (such as a SDTI compatible tape deck) is required. Several models of SDTI decks are supported. Please contact Leitch Technical Support for details. Please note:

- 1x and 4x normal speed transfers are supported for DV25.
- 1x normal speed transfer is supported for DV50.

Transfer speeds must be selected at the SDTI tape deck itself.

Channels Menu

The **Channels Menu** enables you to set a variety of Channel Control Window options.

Figure 2-25. Channels Menu

- Click **Channels > MarkIn Offset** to set a frame value that is *subtracted* from the marked inpoint. The **Mark In Offset Dialog** appears:
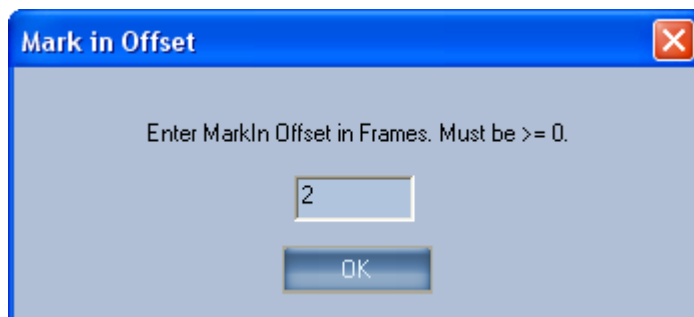
Figure 2-26. Mark In Offset Dialog

Enter a value greater than 0 frames and click **OK**. For example, if you click **Mark** at 01:04 and there is an offset of 3, the marked value will be 01:01.

- Click **Channels > MarkOut Offset** to set a frame value that is *subtracted* from the marked outpoint. Enter the desired value in the **Mark Out Offset Dialog** and click **OK**.

- Click **Channels > Compression Settings** to display the **Compression Settings Dialog**. Refer to the "Compression Settings" section for details.

- Click **Channels > Auto ID Options** to display the **Auto ID Options Sub-menu**. This menu allows you to assign automatic names to subclips. See the "Auto ID Options" section below for details.

- Click **Channels > Record Termination Warning** to enable or disable the record termination warning. When disabled, recording stop immediately when the **Space Bar** is pressed. When enabled, pressing the **Space Bar** while a channel is recording displays a **Warning Dialog**:
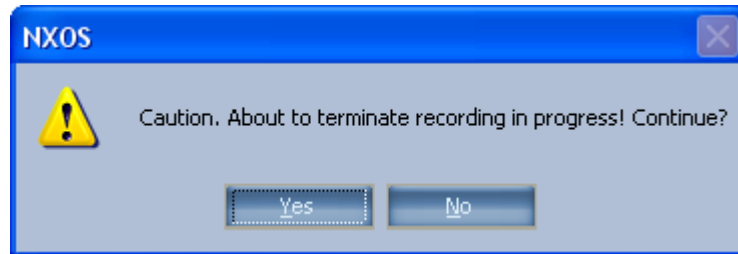
Figure 2-27. Record Termination Warning

Auto ID Options

The **Auto ID Options Sub-menu** determines how subclips are named.

Figure 2-28. Auto ID Options Sub-menu

- Enable the **Auto ID Increment** function to assign an automatic name to each new subclip. This name appears in the **SubClip ID** field (in the **Create SubClip Dialog**).

- Disable the **Auto ID Increment** function to assign your own ID to the new subclip.

The "automatic" ID is based on two factors: the original clip name and the current **ID Length**. To change the ID length, click the **ID Length = [n]** field. The **AutoIncrement ID Length Dialog** appears:
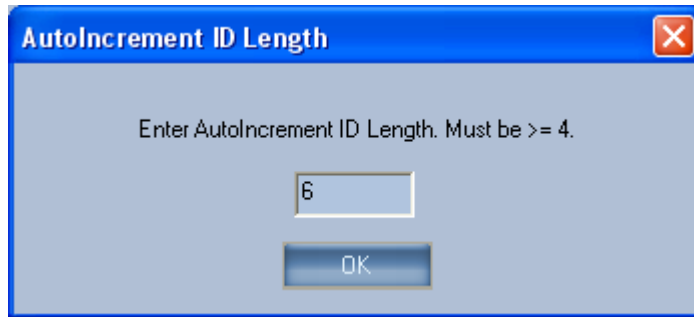

Figure 2-29. AutoIncrement ID Length Dialog

Enter the new auto ID length (greater than 4 characters) and click **OK**.

For example, if the ID length is set to 4, the fourth character in the "parent" clip name will automatically increment. If the ID length is set to 5, the fifth character will increment.

Following are two examples:

- ID length = 4. Parent clip name = PSA1. New auto subclip name = PSA2.
- ID length = 7. Parent clip name = America. New auto subclip name = Americb.

Audio Section

In the Channel Control Window, click the **Audio** button to open and close the window's **Audio Section**. When open, audio input and output levels can be set and monitored, and various functions can be set.

Figure 2-30. Channel Control Window with Open Audio Section

Please note the following important points:

- **Format** — Each video channel has four-channel AES/EBU or embedded audio capability. Four VU meters are always shown.

- **Levels** — Output levels are displayed when a clip is playing or paused. Input levels (EE) are displayed when the channel is empty (clips unloaded), in record mode or stopped.

- **Sliders** — The triangular "sliders" are used to adjust input and output levels. Click and drag the desired slider, and note that the readout below the meter adjusts accordingly.

A variety of right-click functions are also available as discussed below in the following sections:

- [Channel Reference, Latency and Background]

- [Unity and Gang]

📝 **Note**

Audio input configuration, sample rates and "slider" activation are set with the VR Manager. Contact your System Administrator for assistance with audio channel setup.

Channel Reference, Latency and Background

To change the reference scale for all four channels, right-click the "db" scale to display the **Audio Reference Pop-up Menu**.
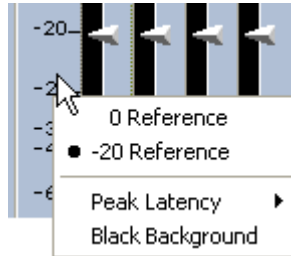
Figure 2-31. Audio Reference Pop-up Menu

- Click **0 Reference** to set the reference scale to 0db.
- Click **-20 Reference** to set the reference scale to -20db.

Note that changes to the scale have no effect on audio levels.

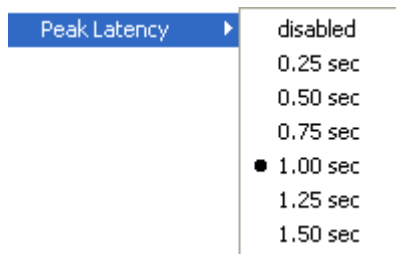To change the meter's peak latency, click **Peak Latency** to display the **Peak Latency Sub-menu**.

Figure 2-32. Peak Latency Sub-menu

Select the time interval that you want peak levels to hold on the channel's meters.

To change the background of the meters to black, enable the **Black Background** option.
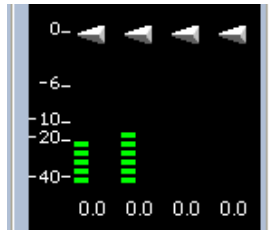
Figure 2-33. Meters with Black Background

To set them back again, un-check the option.

Unity and Gang

Right-click inside any VU meter bar to display the **Unity Pop-up Menu**. The meter in which you clicked will be affected.
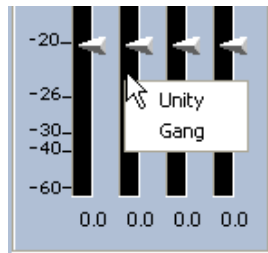
Figure 2-34. Unity Pop-up Menu

- Click **Unity** to return the selected channel (or ganged channels) to unity gain.
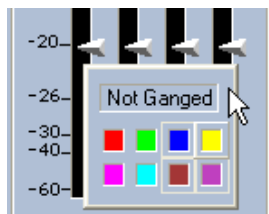- Click **Gang** to display the **Gang Pop-up Menu**.

Figure 2-35. Gang Pop-up Menu

Click a color for the first channel that you want to gang, then repeat the procedure — choosing the *same color* for additional channels that you wish to "connect" to the first. Ganged channels adjust as one, as shown in the sample below:
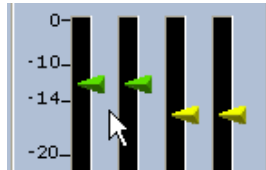
Figure 2-36. Ganged Channels

Note that if you set up an offset between un-ganged channels and then gang them together, the offset is maintained.

- To un-gang a channel, right-click a meter to display the **Unity Pop-up Menu**, click **Gang** to display the **Gang Pop-up Menu**, and then click **Not Ganged**.

Compression Settings

Typically, a facility standardizes on one video format and its associated compression settings, and then retains those settings for almost all recordings. However, if the settings need to be changed, the **Compression Settings Dialog** is used.

The **Compression Settings Dialog** can be accessed from two different system windows:

- When digitizing from a live source, from the **Channel Control Window** click **Add ID** to display the **New ID Dialog**. Then click **Compression Settings**.

- When digitizing from tape, on the **Tool Bar** click the **Digitize** icon to display the **Digitize Window**. Then click **Compression Settings**.

A sample **Compression Settings Dialog** is shown below:
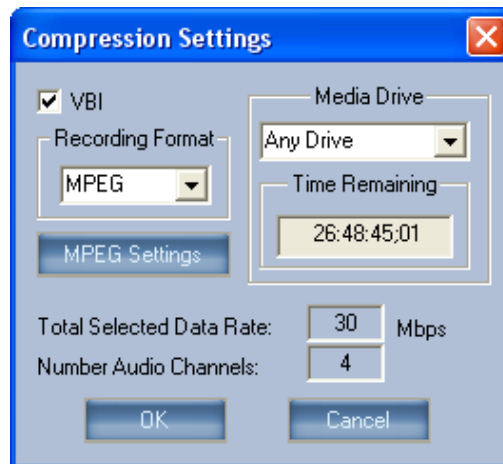
Figure 2-37. Compression Settings Dialog

In the dialog, you can enable or disable VBI, select a drive and view time remaining on the server.

- If the channel's codec is set to DV format, you can choose between **DV25** and **DV50** recording format.

- If the channel's codec is set to MPEG format, you can change settings by clicking the **MPEG Settings** button to display the **MPEG Settings Dialog**.
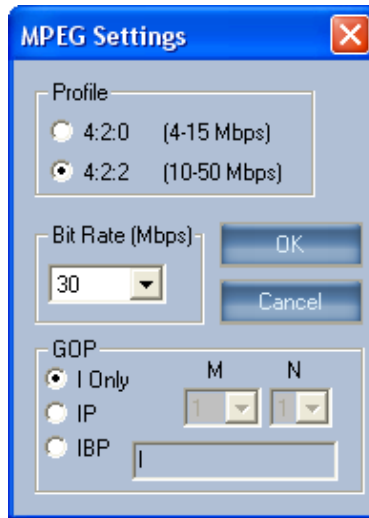

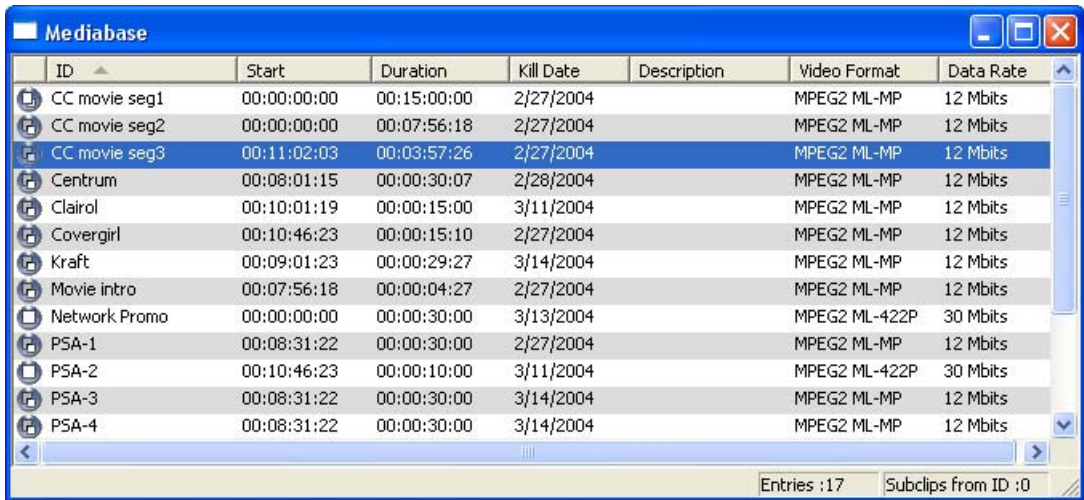**Figure 2-38.** MPEG Settings Dialog

📝 **Note**

The codec's recording format (DV or MPEG) cannot be changed by the user. Contact your System Administrator for assistance with channel format.

In the dialog, select a profile, bit rate and GOP structure and click **OK**. Consult with one of your facility's video engineers if you need assistance with MPEG settings.

- All new settings will be reflected in the **New ID Dialog**, and will be applied to the new recording.

MediaBase Window

The figure below illustrates a sample **MediaBase Window**:

Figure 2-39. MediaBase Window

The MediaBase Window displays the entire inventory of clip and subclip IDs available for playback on the server. Using the window, you can:

- Customize the appearance of the MediaBase, sort by column and rearrange the order of columns. Refer to the "MediaBase View" section for details.

- Browse clips and subclips on the server. See the "MediaBase Browse" section for information.

- View and change a clip's properties (ID, Description, Agency, Kill Date, Type and User Fields). See the "MediaBase Properties" section for information.

- Manage the database by deleting IDs that are no longer required. This function can only be performed by the System Administrator and users with "delete" privileges. Refer to the "Advanced Operations" chapter for details.

MediaBase View

This section describes how you can "read" the MediaBase Window, sort and rearrange the columns, and customize the fields shown. The following topics are discussed:

- Icons
- Sort and Arrange Columns
- Customize MediaBase Fields

Icons

The first column in any MediaBase Window displays an icon that visually identifies the type of clip. Please note:

- The icon column cannot be moved or hidden.
- Tool-tip help is provided when you mouse over the icons.

Icon descriptions are listed below:

Table 2-1. MediaBase Window Icons

Icon	Description
	Audio Only — This clip contains audio plus data, but no video. The clip can be loaded in a Channel Control Window, but cannot be used in a PlayList.
	Clip Sync — The playout of the clip is synchronized with another clip using the Clip Sync application. This type of clip is currently not implemented.
	Consolidated With Macros — A clip consolidated with macros plays back without any black between the separate subclips. This clip type can be played in a Channel Control Window, but not in a PlayList.
	Consolidated Without Macros — A clip consolidated without macros plays back with black between the separate subclips. The length of black depends on the time between subclips on the parent clip. This clip type can be played in a Channel Control Window, but not in a PlayList.
	Crawl — A Crawl is a special "title" file for NewsFlash use. It cannot be used by NXOS or PlayList.

Table 2-1. MediaBase Window Icons *(Continued)*

Icon	Description
	Edit ID — Same as a Single clip, but the clip has been ingested (or manipulated) by either NewsFlash, Instant Online or BrowseCutter. This type of clip is currently not implemented.
	Empty Container — This clip type is used by the RunDown Manager as a placeholder for video that will be ingested at a later time. The clip is an ID only with no media. This type of clip is currently not implemented.
	Hidden — The Hidden subclip type is currently not implemented.
	Media — Information to be provided.
	NewsFlash Project File — This type of clip cannot be used by NXOS or PlayList.
	Parent — A Parent clip contains audio and video plus data, but the clip acts as the "parent" source to one or more subclips.
	Protected Project — Information to be provided.
	RGB — Information to be provided.
	Roll — A Roll is a special "title" file for NewsFlash use. It cannot be used by NXOS or PlayList.
	Single — A Single clip contains audio and video plus data. The clip has no associated subclips.
	Sliding — This clip indicates a looped duration-based recording. The clip has the same properties as a Single clip, but when the assigned duration is reached, the recording loops back and overwrites the media from the inpoint forward. This type of clip is currently not implemented.
	Still — A Still is a single-frame graphic file for NewsFlash use. It cannot be used by NXOS or PlayList.

Table 2-1. MediaBase Window Icons *(Continued)*

Icon	Description
	Subclip — A Subclip contains only metadata "pointers," but contains no media. When played to air, the pointers reference start and stop points on the associated Parent clip.
	User — Information to be provided.

Sort and Arrange Columns

The following functions can be used to customize the view:

- To sort the MediaBase by any column heading (such as **ID** or **Kill Date**) click the desired column heading. Clicking again changes the sort order from ascending (▲) to descending (▼), as indicated by the arrow in the heading itself.

- To rearrange a column, click and drag a column heading to the new desired location.

- To change the column width, place your cursor between column headings until the double-headed arrow appears. Click and drag the edge to the desired width.

- A MediaBase entry appearing in red text indicates that the clip's kill date has been reached (or has past).

Customize MediaBase Fields

To change the fields that are shown in the MediaBase, right-click any column heading to display the **Select Fields Dialog**:
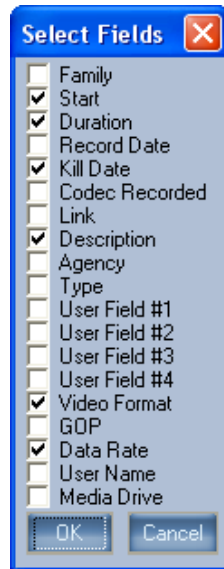
Figure 2-40. Select Fields Dialog

Check the fields that you want to appear in the MediaBase Window, un-check those that you do not want to appear — and click **OK**.

Descriptions of each field are listed in the table below:

Table 2-2. MediaBase Fields

Field	Description
ID	A unique 32 character string used to identify (and reference) each clip on the server.
Description	A (maximum) 255 character text description of the associated material.
Duration	The duration of the clip or subclip, in timecode format.
Kill Date	The date on (or after) which the spot should no longer be aired. When a clip reaches its kill date, an alarm appears in the PlayList.
Start	The timecode of the clip's first frame of material.

Table 2-2. MediaBase Fields *(Continued)*

Field	Description
Family	This column identifies the parent of a subclip.
Agency	A 15 character description of the Agency that created the commercial. The names of Agencies in use appear in the pull-down Agency menu in the New ID Dialog, and new ones can also be entered in the Properties Dialog.
Type	A five character field used to categorize clips, such as COM, PGM, PROMO, PSA, NET, etc.
Record Date	The date and time when the clip was recorded. This value cannot be changed once a clip is recorded.
Codec Recorded	The codec (channel) on which the clip was recorded.
Link	Indicates a linked clip for the ClipSync application, in which a clip loaded in one channel automatically loads plays back a linked clip in another channel.
User Fields 1-4	Four user-definable fields of information, entered in a clips Properties Dialog.
Video Format	The video format of the recording (MPEG or DV). If MPEG, the profile is also shown.
GOP	The complete GOP structure for an MPEG clip.
Data Rate	The bitrate for the associated DV or MPEG clip.
User Name	The name of the user that recorded the clip.
Media Drive	The name of the drive on which the media is stored.

Note that the MediaBase view, including the names and arrangements of columns, is stored by user name. In this manner, each user can have his or her own "custom" MediaBase View, which is recalled when you log on to the system.

MediaBase Browse

To browse (or preview) clips in the MediaBase:

⚠ **Caution**

Before you browse clips on a channel, ensure that the channel is not being used on air.

- Ensure that your audio/video monitoring is properly set up to monitor one of the server's channels.

- In the **Tool Bar**, select the desired output channel with the pull-down arrow (to the right of the **Load** button).

- In the MediaBase Window, highlight the clip that you want to browse. You can also use the Find Dialog to help you locate clips. Refer to the "MediaBase Menu" section for details.

- In the Tool Bar, click **Load** to load and play the highlighted clip.

Remember that clicking **Load** *immediately* overrides any clip playing in that channel.

MediaBase Properties

Each clip (and subclip) has as associated **Clip Properties Dialog** that contains all clip information, thumbnail images of keyframes plus user fields. There are two ways to display a clip's Properties Dialog:

- Double-click any clip in the MediaBase Window.

- Right-click any clip to display the **Clip Pop-up Menu**:
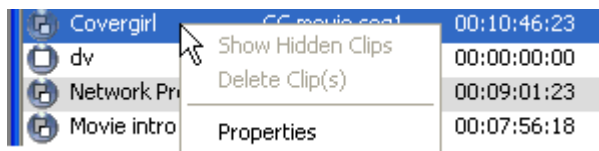
Figure 2-41. Clip Pop-up Menu

Then click **Properties** to display the Properties Dialog for the selected clip. The information presented in the dialog is both fixed and changeable, and all information can appear in the MediaBase Window fields (depending on which fields are enabled in the **Select Fields Dialog**).

Note that the "**Show Hidden Clips**" and "**Delete Clip(s)**" functions can only be performed by the System Administrator and users with "delete" privileges. See Chapter 6, "Advanced Operations" for details.

⬦LEITCH.

A sample **Clip Properties Dialog** is shown below:
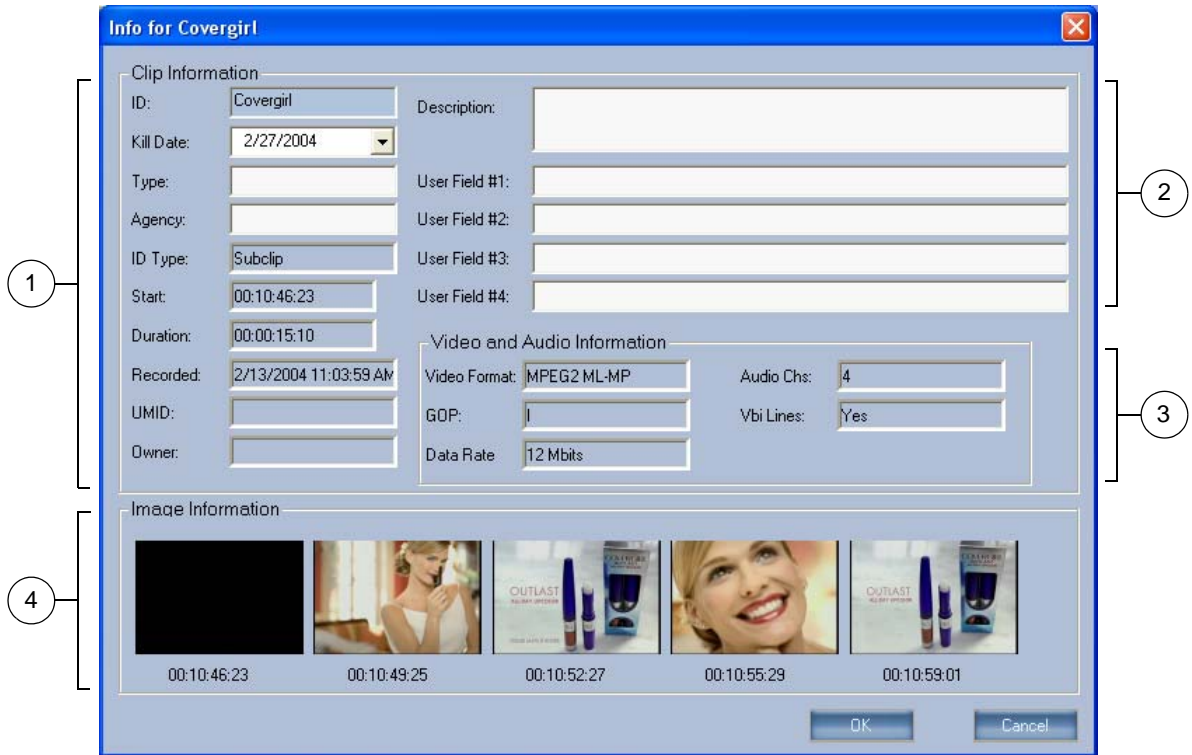
Figure 2-42. Clip Properties Dialog

1)	Clip Information Section	3)	A/V Information Section	4)	Image Information Section
2)	User Fields Section				

Descriptions of each section are listed below:

1) The **Clip Information Section** displays both fixed and changeable data obtained at the time of recording or subclip creation:

   • Fixed fields include **Start** and **Duration**, **Date Recorded**, **UMID**, plus the **Owner** (user) that recorded the clip.

   • Changeable fields include **ID**, **Kill Date**, **Type** and **Agency**. Type new information as required and click **OK**. If you change the **ID**, however, you will be asked to confirm the change.

2) The **User Fields Section** displays user-defined fields, including the clip **Description** (up to 255 characters), and four **User Fields**. Type new information as desired and click **OK**.

3) The **A/V Information Section** displays video and audio clip information obtained at the time of recording (or subclip creation), including **Video Format**, **GOP** structure, **Data Rate**, **Audio Channels** and **VBI Lines**.

4) The **Image Information Section** displays five "thumbnail" images (also called "picons") that were grabbed from five locations evenly spaced throughout the clip — from the inpoint to the outpoint. The associated timecodes are shown. Note that if you generate a subclip from a parent clip, the picons change accordingly for the new subclip.

Digitize Window

The **Digitize Window** is your interface for controlling an external VTR that is connected to the server via RS-422 (serial) protocol. Although multiple VTRs can be connected to the server, only one can be controlled at a time through the Digitize Window.

Using transport controls similar to those found in a Channel Control Window, the Digitize Window allows you to digitize tape segments and store them on the server. Once digitized, the information appears in the MediaBase and the TapeBase Windows.

There are three ways to display the **Digitize Window**:

- On the **Menu Bar**, click **View > Digitize Window**.
- On the **Tool Bar**, click the **Digitize** icon.
- Within the **TapeBase Window**, double-click an entry. Refer to the "TapeBase Window" section for details.

A sample **Digitize Window** is shown below:

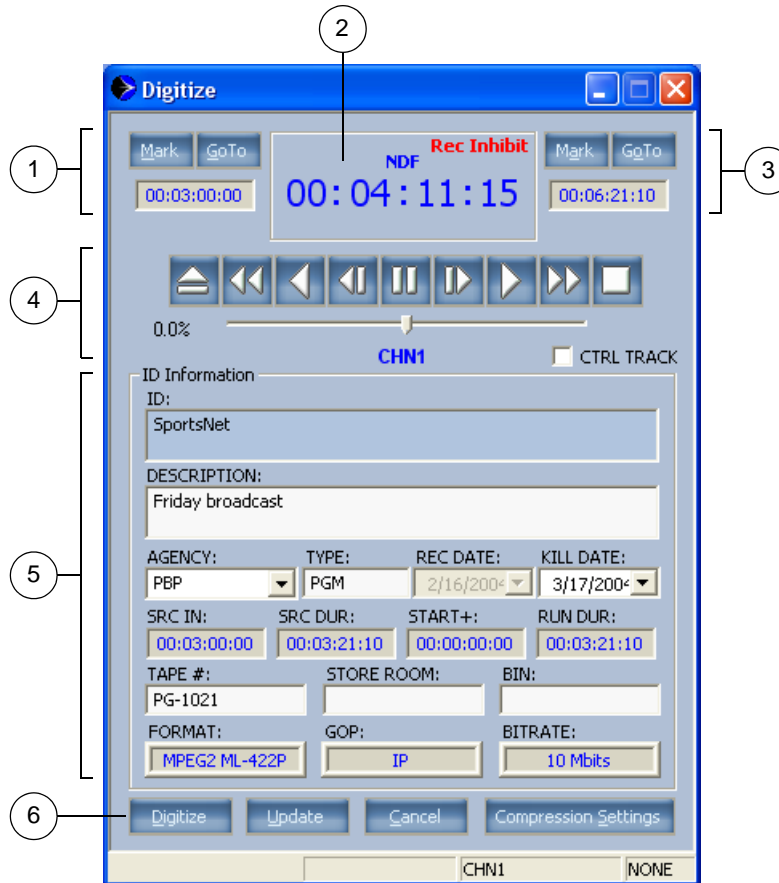**Figure 2-43.** Digitize Window

1)	Mark In Section	3)	Mark Out Section	5)	ID Information Section
2)	Timecode Section	4)	Transport Control Section	6)	Function Section

Descriptions of each section and button are provided below:

1) The **Mark In Section** provides controls for marking (or entering) the point along the tape at which you want to start digitizing.

- Click **Mark** to mark an inpoint on the fly.

- Click **Goto** to search to the marked inpoint.

- Click inside the **Timecode** field, and enter an entry point or a "goto" point. Numbers shift left as you enter them.

2) The **Timecode** section displays the tape segment's position, format (DF or NDF), and status messages specific to the VTR such as **Rec Inhibit** and **Local**.

3) The **Mark Out Section** provides controls for marking (or entering) the point at which you want to stop digitizing. Controls are identical to the Mark In Section, except the outpoint is affected.

4) The **Transport Control Section** provides VTR-like controls:

 Click **Eject** to eject the tape cassette.

 Click **Rewind** to shuttle the tape at full-speed reverse.

 Click **Reverse** to play at one times play speed, in reverse.

 Click **Step Left** to jog the tape backwards by one frame.

 Click **Pause** to stop tape playback on a freeze frame.

 Click **Step Right** to jog forwards by one frame.

 Click **Play** to play the tape at one times play, forward.

 Click **Fast Forward** to shuttle the tape at full-speed forward.

 Click **Stop** to stop tape playback.

- Click and drag the **Shuttle** control (or "slider") to shuttle the tape forwards and backwards. At the left, the speed indicator shows the percentage of normal play speed.

O LEITCH.

When you release the control, it remains at its current direction and speed until changed (or until overridden by another transport control).

• Enable the **CTRL TRACK** check box to use control track pulses to position the tape. Disable the check box to use timecode, for frame-accurate tape positioning.

• Enable the **SDTI** check box to digitize an SDTI stream and automatically convert it to DV format. You will be asked to confirm your selection.

An SDTI compatible tape deck is required. Several models of SDTI decks are supported. Please contact Leitch Technical Support for details.

Note that 1x and 4x normal speed transfers are supported for DV25, and 1x normal speed transfer is supported for DV50. Transfer speeds must be selected at the SDTI tape deck itself.

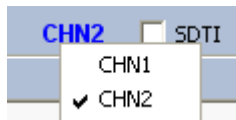• Right-click the channel label to display the **Channel Select Pop-up Menu**:

> ## Note
> An SDTI stream can only be digitized when the server channel is set to DV. Contact your System Administrator for assistance with channel format.

Figure 2-44. Channel Select Pop-up Menu

Select the channel to which you want to digitize. Once selected, the channel label changes — both in the Transport Control Section and at the bottom of the window.

5) The **ID Information Section** provides text fields for the digitized clip's ID, Description, Agency, Type, Kill Date, Tape #, Store Room and Bin. Four additional timecode fields are provided:

• The **SRC IN** field is identical to the timecode field in the **Mark In** section.

• The **SRC DUR** field is the difference between the marked inpoint and outpoint, but if you enter a timecode in the SRC DUR field, the outpoint is recalculated.

• The **START+** field is currently not implemented.

• The **RUN DUR** field is currently not implemented.

> ## Note
> Press **TAB** (and **SHIFT + TAB**) to move between timecode fields. **TAB** works in place of the **Enter** key to accept a timecode value.
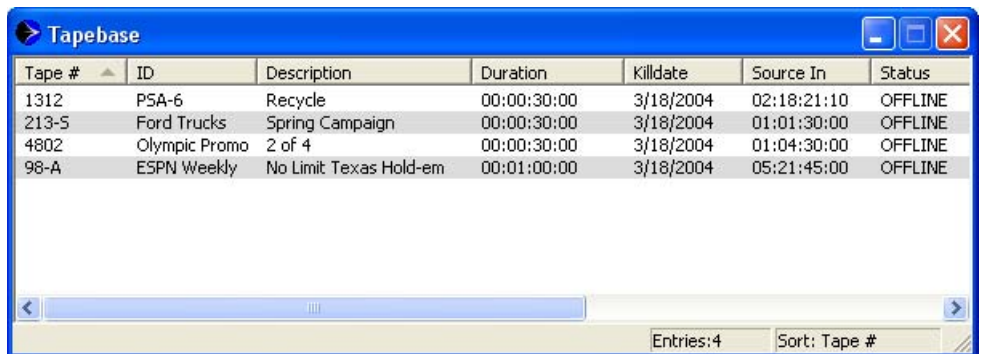
- The Format, GOP and Bitrate fields reflect the current compression settings, as defined within the **Compression Settings Dialog**. Refer to the "Compression Settings" section for details.

6) The **Function Section** includes four buttons used to start the digitizing, update the TapeBase, change compression or cancel.

   - Click **Digitize** to start the digitizing process. The button lights red when the mode is active. If the VTR is not connected, a warning dialog appears.

   - Click **Update** to create an entry in the **TapeBase Window** based on the timecode marks and associated data in the Digitize Window. The TapeBase entry can be used to digitize (or re-digitize) the material at a later time. Refer to the "TapeBase Window" section for additional information.

   - Click **Cancel** to halt the digitizing process.

   - Click **Compression Settings** to change the video compression settings for the segment to be digitized. The **Compression Settings Dialog** appears. Refer to the "Compression Settings" section for details.

TapeBase Window

The **TapeBase Window** provides a convenient way for users to re-digitize material that has been removed from the server. Typically, with limited room on the RAID set, a facility will delete spots that have reached their kill dates to make room for new material. The masters will then be stored in a tape vault. If an old clip is needed again, the TapeBase knows the original tape's location in the vault, along with the clip's original marks.

To re-digitize the clip, locate it in the TapeBase, locate the physical tape in the vault, load it in the tape deck and double-click the desired TapeBase entry. The original marks are recalled to the Digitize Window — click **Digitize** to load it back to the server.

The figure below illustrates a sample **TapeBase Window**:

Figure 2-45. TapeBase Window

Columns are provided for ID, Description, Duration, Source In, Agency, Type, Kill Date, Tape #, Store Room and Bin (every field in the associated **Digitize Window**).

Please note:

- The **Status** field indicates the clip's status in relation to the RAID set (for example, **Offline**, **Online**, etc.).

- To sort the TapeBase by any column heading (such as **ID** or **Kill Date**) click the desired heading. Clicking again changes the sort order from ascending (▲) to descending (▼) order.

- Double-click any line to recall that data to the **Digitize Window**, enabling you to digitize the selected tape segment.

- **SHIFT + Click** and **CTRL + Click** selection methods function in the normal manner for making multiple selections.

TapeBase Menu

When the **TapeBase Window** is active, the **Menu Bar** changes to show the **TapeBase Menu**:
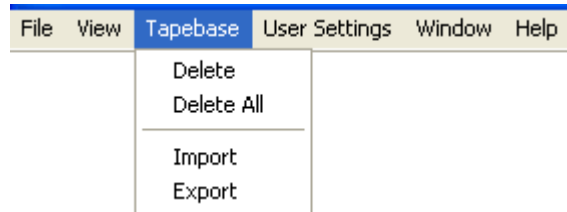

Figure 2-46. TapeBase Menu

Note that the *identical* menu can be displayed by right-clicking on any column heading in the TapeBase Window. Using the menu, you can:

- Click **Delete** (or press the **Delete** key) to delete a highlighted segment in the list. You will be asked to confirm your choice.

- Click **Delete All** to delete all segments in the list. You will be asked to confirm your choice.

- Click **Import** to display the **Import TapeBase File Dialog**, from which you can import a TapeBase file that was saved to disk. This function allows you to transfer TapeBase files from server to server, if required.

- Click **Export** to display the **Export TapeBase File Dialog**, from which you can save a TapeBase file to disk.

⊙LEITCH.

GPI Window

The **GPI Window** provides up to five tabs — one for each channel in your system and one "global" tab that pertains to all GPI (General Purpose Interface) channels. Using the channel tabs, you can control 16 discreet GPI input signals and eight discreet GPI output signals.

The figure below illustrates one of the four identical **GPI Channel Tabs**:
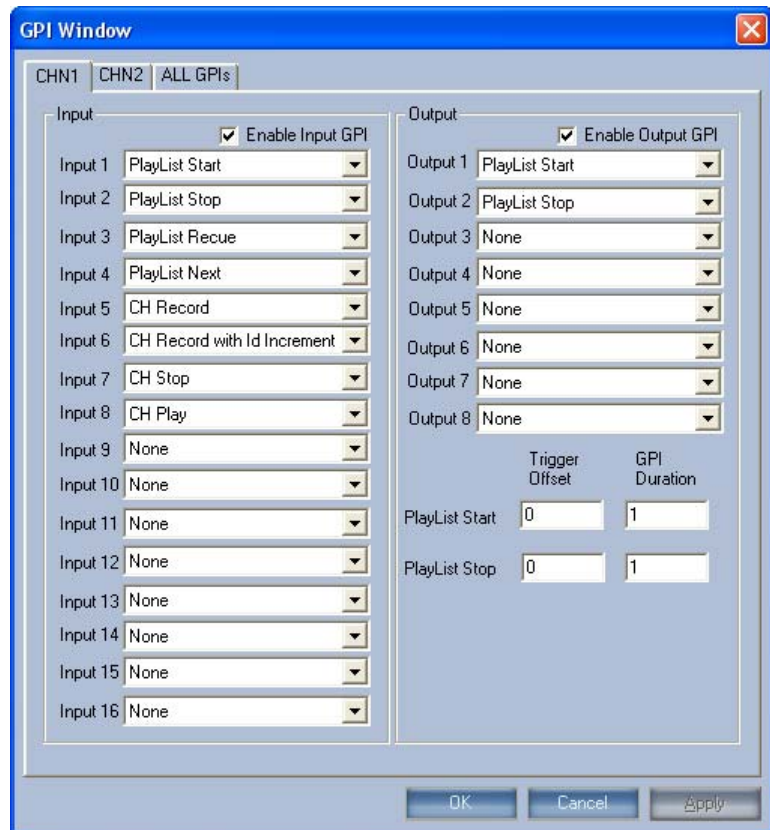

Figure 2-47. GPI Channel Tab

With each **GPI Channel Tab**, you can:

- Assign up to 16 GPI input signals to perform various channel or PlayList functions — **PlayList Start**, **PlayList Stop**, **PlayList Recue**, **PlayList Next**, **CH Record**, **CH Record with ID Increment**, **CH Stop** and **CH Play**.

For example, the master control operator can press a button that triggers a GPI to start, stop or recue a PlayList.

- Assign a PlayList action to control up to eight GPI output signals. PlayList actions include **PlayList Start** and **PlayList Stop**. For example, when a PlayList stops, a GPI could be used to trigger the master control switcher to cut back to the network.

- Check or un-check the **Enable Input GPI** check box to enable or disable all input GPIs for that channel.

- Check or un-check the **Enable Output GPI** check box to enable or disable all output GPIs for that channel.

- Assign a single GPI to perform different tasks on different channels. For example, GPI #1 stops a PlayList on Channel 1 and starts a PlayList on Channel 2.

- Set a **Trigger Offset** value (in frames) for the "PlayList Start" and "PlayList Stop" functions. These values let you shift the triggers in relation to the PlayList, for example, if you wanted to bring in a logo prior to (or after) the start of the PlayList. Trigger and pulse duration ranges are listed below:

Table 2-3. GPI Trigger and Pulse Duration Ranges (in frames)

Value	Trigger Offset	GPI Duration
PlayList Start	0 to 160	0 to 10
PlayList Stop	-160 to +160	0 to 10

Note

Refer to the Leitch Server's "Installation Manual" for details on GPI installation and pinouts.

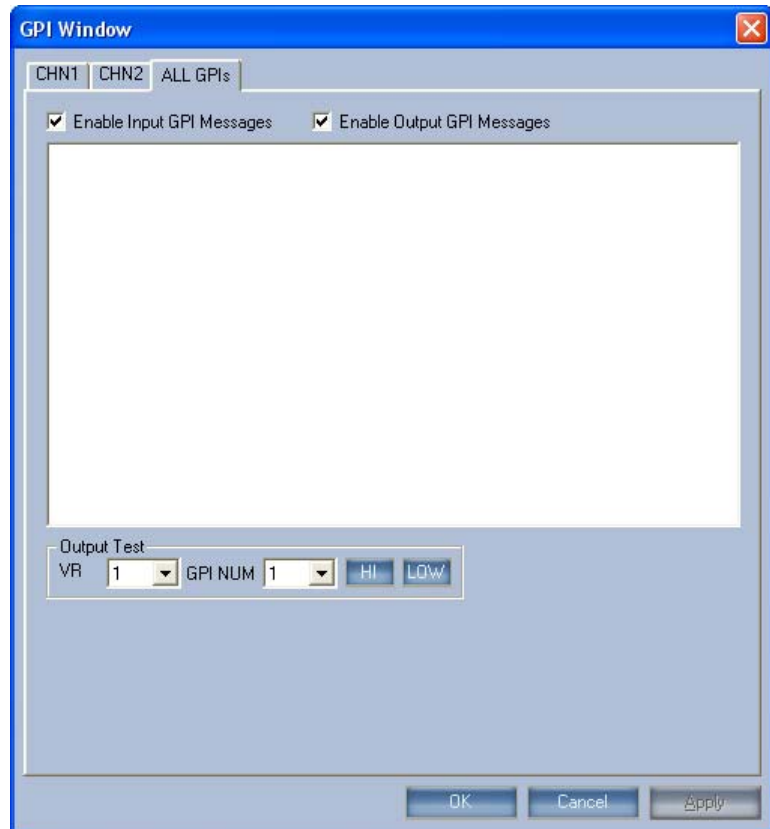The figure below illustrates the **ALL GPIs Tab**:

Figure 2-48. ALL GPIs Tab

The **ALL GPIs Tab** is a test application designed to monitor and check GPI input and output signals and messages.

No operator controls are provided.