



CyberLink

# PowerDirector™

Superior Video Editing Tools for Speed and Simplicity

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# CHAPTER 1: INTRODUCTION

Ever thought about directing your own movie? How about having all the creative controls and being in charge of the entire editing and post-production process? Well, today's computing technology has made all this possible for anyone who has recording devices, capture devices, a computer, and of course, the sensational new software application, PowerDirector.

Admittedly, video editing software is not without its drawbacks. Since the advent of computers and its incredible growth in usage and processing speed power, video editing software applications have taken off to astronomical heights. Yet, a great inherent limitation, such as requiring a huge amount of disk space because of the raw video data it captures, still remains. This is why many still choose to edit with analog devices.

What makes PowerDirector the megastar of its industry in one quick flash is its ability to save precious producing time because of its Smart Video Rendering Technology (SVRT). Say goodbye to raw video data, which is usually captured in .AVI format, and say hello to plenty of hard drive space and MPEG. No additional compression nor decompression is required when producing scenes that do not contain effects, which saves you huge amounts of time compared to our competitors that compress and decompress the entire movie regardless! Add to this wonderful features that include adding up to six titles per clip, capturing directly from DV camcorders, six audio streams per clip, picture-in-pictures (adding video or images to an existing video clip), a huge collection of transitions and titles effects, master audio files, watermarks, and much more, and there is absolutely nothing left to be desired.

# The Digital Video Universe

Profit outlooks and shrinking demand in the technology industry notwithstanding, the digital video revolution is well underway. There are still home videos to be edited, videos to be distributed, and full length movies to be produced. In previous generations, video editing and recording was accomplished through analog means by video professionals who had access to high-priced machinery and video equipment. Thus, many of those who wished to edit home footage or videos, if they were lucky enough to have it recorded in the first place, never had the chance to display their creative prowess when it came to video editing unless it involved enrolling in film schools and obtaining access to production studios.

When the computer descended upon our lives and immersed itself in our world, it was only a matter of time until processing speeds were incredibly fast and disk space was vast enough to begin editing video at home with software applications that didn't require expensive video specialists, equipment or any other gadgets.

And coinciding with the computer industry's major influence was the birth of the DV (digital video) format, an international standard intended for consumer use, back in 1995.

## The DV Format: A Brief History

Like a seamless emergence and natural coalescence with desktop video editing, the advent and proliferation of DV camcorders were sure to spark continued interest in the infinite possibilities of digital video. What began back in 1995 and a DV format agreement reached by a consortium of companies that included Hitachi, Ltd., Sony Corp, Sharp Corporation, Thompson Multimedia, Mitsubishi Electric Corporation, Victor Corporation of Japan (JVC), Matsushita Electric Industrial Corp. (Panasonic), Philips Electronics, Sanyo Electric Co. Ltd., and Toshiba Corporation, is still being ironed out until this day in terms of a consensual format.

The frontrunners at the time and still are until this day, are Sony and Matsushita (Panasonic), which beat out the competition with their consumer releases hitting the market first. Soon after though, the format wars began with professional DV variants such as DVCAM (Sony) and DVCPRO (JVC) despite the DV format agreement. Luckily, the basic DV format is still intact, but other factors were altered (i.e. tape type, track pitch and width) so we are still left with backward-compatible formats or incompatible formats between models from differing companies. Hopefully, this won't impact or trickle down to the consumer segment anytime soon.

What exactly is the DV format then? To start with, it has a 5:1 compression ratio and its compression technology is quite similar to MPEG (e.g. DVD format).

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**Tips:** For more information on MPEG, refer to "What Is MPEG?" on page 99.

---

The difference is that it relies more on intraframe compression where each compressed frame will depend entirely on itself and not on data from preceding or following frames like MPEG. However, the DV format does incorporate the use of adaptive interfield compression where two extremely similar interlaced fields of a frame will be compressed together to save space.

The analog generation is slowly witnessing its demise. There is still room left for analog technology though, but as the DV format perfects its compression technology and enhances their non-linear editing (NLE) friendliness, the analog generation will soon be outdated, fainting memories from a bygone era. Add to this the continued popularity of video editing software and the uncompromising blazing speed of computer processing power, and the perfect union between DV recording and editing couldn't be any more natural or fitting.

## **FireWire**

In the early courting stages of video editing software and DV format recording, there had to be an intermediary between the two technologies to make it a success, because as you know from analog transference, there is always data lost from the original source. FireWire, or IEEE-1394, is this unerring technology when it comes to data loss, as in "lossless" transfer. A serial data transfer protocol and interconnection (bi-directional) system, FireWire transmits digital video (DV) offering a higher transfer rate and incorporating the use of hot-plugging technology (i.e. connecting and disconnecting without shutting down the host computer). Please refer to "FireWire Adapter Cards" on page 7 and "IEEE 1394 Cable" on page 10 for more information.

# System Requirements

- Windows 98SE, ME, 2000, XP

## Hardware Requirements

- Authoring: Pentium II 450 or above
- Video capture devices (optional)
  - capture cards (PCI, USB, FireWire, TV tuner)
  - DV camcorder
  - analog camcorders: 8mm, V8, Hi8, VHS-C
  - digital camera
  - PC camera
  - VCR
- Playback
  - Internet Streaming: Pentium 266 with MMX Technology, Microsoft Windows Media Player 7.0, IE 5.0
  - Desktop Slide Show: Pentium 266 with MMX Technology



# CHAPTER 2: GENERAL VIDEO SETUP

This chapter has been provided for users to give general information on video capture devices setup information. For definitive procedures and information, refer to your video capture devices' user's manual or the latest PowerDirector compatibility list at [www.gocyberlink.com](http://www.gocyberlink.com).

## Capture Device Interfaces

Audio and video adapter cards come in various sizes and shapes utilizing these following capture interfaces:

- **PCI (Peripheral Components Interface):** The most economical and effective device interface type, PCI and its associated cards offer input rates at more than 30 frames per second, which matches the MPEG output rate.
- **USB (Universal Serial Bus):** Users can connect USB devices to computers through USB ports without turning the power off. Although this is very convenient, the bandwidth is lower than other devices. The quality is often jeopardized by its lower transmission rate.
- **IEEE 1394:** The fastest DV transference device interface, also known as Sony iLink or FireWire, is increasing in popularity because of its superior DV quality and lossless transmission. The adapter card comes with 4 pin or 6 pin slots. The transmission rate can go up to 400MB and be adopted up to 63 devices.

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**Note:** Before you begin encoding video files, be sure to: 1) Properly connect your assorted hardware to your PC through the video ports. 2) Turn on all necessary devices.

---

# Video Capture Devices

These types of hardware peripherals transfer video content from analog camcorders or VCRs into your computer. There are many styles of video capture devices that include the Peripheral Component Interface (PCI) interface devices, Universal Serial Bus (USB) (as pictured below) video capture device, and other general capture cards.



Video Capture Device with USB Interface

Depending on the video capture card, some have special Audio/Video (A/V) In and Out ports (pictured below).



- 1 Monitor
- 2 A/V out
- 3 TV
- 4 A/V in



- 1 Composite Video
- 2 Line in
- 3 S-Video
- 4 Line out
- 5 TV

Other cards will come with S-Video and Composite ports (designed for receiving video content as pictured above).



- 1 S-Video
- 2 Composite 2
- 3 Composite 1

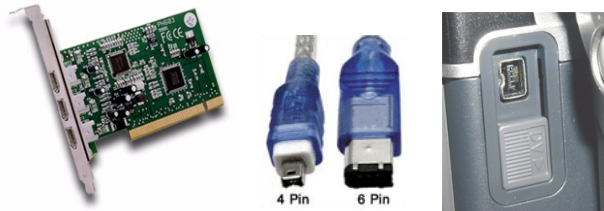
Pictured above is a basic capture card for video content that incorporates the S-Video and Composite ports and requires you to plug the audio cable directly into your sound card.

## TV Tuner Cards

TV tuner cards, occasionally indistinguishable from capture devices, receive the television radio frequency (RF) signal directly and demodulate NTSC, PAL, or SECAM signals. Some capture devices include a TV port, while other true TV tuner devices may only support TV capture but not video capture capability.

## FireWire Adapter Cards

Nearly all camcorders use 4-pin IEEE 1394 connectors. PCI interface cards may use either 4-pin or 6-pin connectors. The diagrams below display a 4-pin and 6-pin connector for PCI interface cards and a 4-pin connector for a DV camera.



## Sound Cards

Sound cards are responsible for the audio aspect of your computer and control the quality of sound during computer playback when editing or transferring output to other devices.

Like video capture cards, they come in all shapes and sizes. Some computers may have built-in audio ports while some have multiple ports for:

- a microphone input jack
- speakers
- headphones
- output jacks
- line-in cables

PowerDirector supports both 16-bit ISA bus sound cards and 32-bit PCI bus sound cards. Refer to your sound card user's guide for more details.

## Graphics Cards

In order to guarantee minimal graphic quality, your graphic card must be capable of displaying at least High Color (16 bit) and a 1028x760 resolution or above. Almost all current PCI and AGP video cards support this basic requirement.

# Cables & Connectors

Listed below are various cables that you will need to establish connections. The first two cable formats are discussed in "Video Signal Formats" on page 12.

## Analog Cables

**S-Video Cable**



**Composite (RCA) Video Cable**



**Audio Y-Adapter Cable**



**RCA-to-RCA Stereo Cable**



Sometimes referred to as a mini jack to RCA stereo cable, it carries audio signals to your computer from an array of audio equipment.

This cable carries audio signals to your computer from an array of audio equipment.

Below are diagrams for the composite and S-Video ports:



Composite port



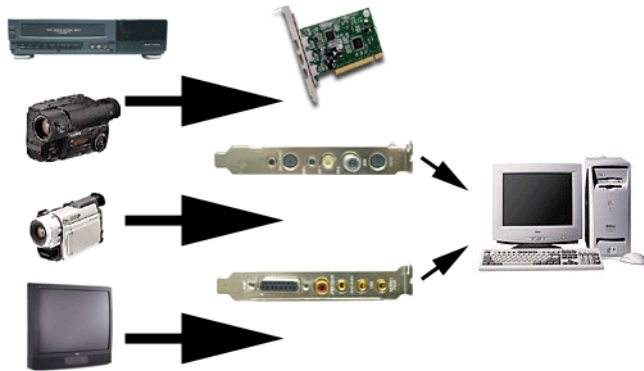
S-Video port

## IEEE 1394 Cable

IEEE1394/FireWire cables may measure up to 32 feet long or as short as 8 inches. 6-pin connectors are for devices that transfer power from the FireWire bus, while 4-pin heads for camcorders and other iLink appliances transfer data only. Nearly all computers use a 6-pin connector for their 1394 interface. You need a 6-pin or 4-pin configuration to connect a computer to a DV camcorder. A 4-pin to 4-pin configuration would be used for transferring between two DV camcorders. For more information on FireWire, please refer to "FireWire" on page 3.



## Installing Primer



## Bringing Video In

As pictured above, the video source will have to be connected properly to your capture devices, or sound cards before beginning. Refer to your hardware peripheral's manual for more information on installation.

---

**Note:** Capture and sound cards come in various sizes and shapes. Some capture cards have built-in TV tuners and/or Audio In capability.

---

# Video Signal Formats

Today, the predominant signal formats are as follows: television, S-Video, and Composite. They are connected through video ports by televisions, camcorders, most VCRs, and other consumer electronics.

## Television Signal Format

This format is the general NTSC or PAL signals your TV receives through a normal cable or TV antenna.

## Composite Video Signal Format

Used for less expensive types of video devices, it produces a single video signal, like for instance, for VHS camcorders or VCRs.

## S-Video Signal Format

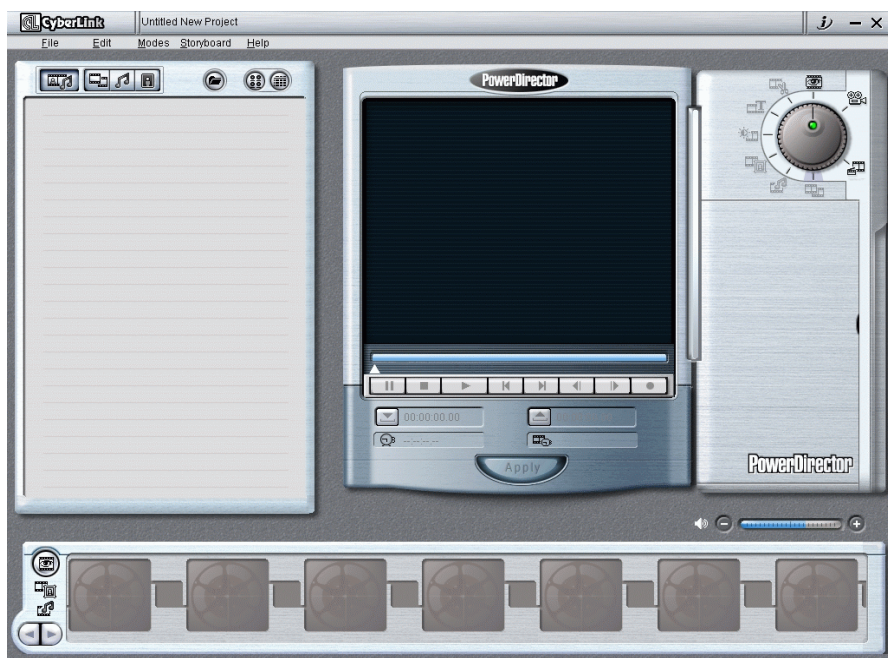
This format produces separate video signals resulting in better quality and is used with video devices such as S-VHS, Hi-8 camcorders or Hi-8 VCR.

## Digital Video Format





Unlike analog video formats listed above, digital video (DV) is completely digital and offers a wider range of colors, video and audio.



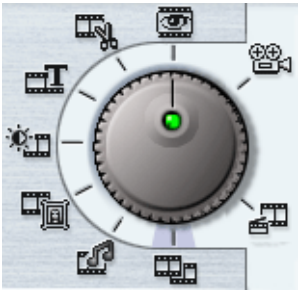
# CHAPTER 3: A VISUAL OVERVIEW












# Main Controls

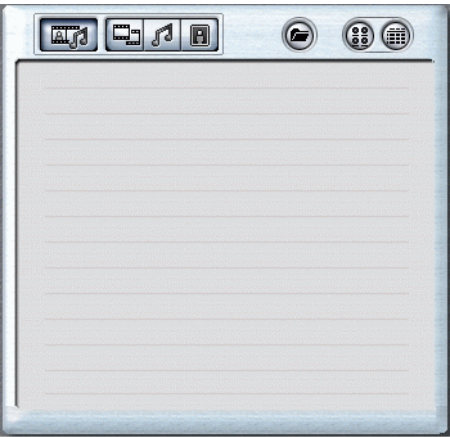
Icon	Description
	Activates i-Power on the Web for resources
	Minimizes PowerDirector
	Exits PowerDirector
	Adjusts volume








# Modes Wheel



Icon	Description
	Switches to the default Preview Mode
	Switches to Capture Mode
	Switches to Trim Mode
	Switches to Titles Mode
	Switches to Color Mode
	Switches to Picture-in-Picture Mode
	Switches to Audio Mode
	Switches to Transitions Mode
	Switches to Produce Movie

# Library



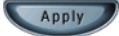


Icon	Description
	Shows all media files
	Shows all video files
	Shows all audio files
	Shows all image files
	Imports media files
	Displays Library media files as large icons
	Displays Library media files with file details

# Preview Window








Icon	Description
	Plays file
	Pauses file
	Stops playing file
	To start of file
	To end of file
	Moves to next frame

Icon	Description
	Moves to previous frame
	Records file (if applicable depending on mode)
	Applies clip to Storyboard (if applicable)

---





# Storyboard



Icon	Description
	Plays your movie (preview before producing)
	Activates Master Watermark mode
	Activates Master Audio mode
	Scrolls Storyboard left
	Scrolls Storyboard right

# Capture Mode



Icon	Description
	Captures audio source only
	Captures video and audio source (if applicable)
	Captures DV source
	Setup for sources or profile

## DV Capture Mode



### Icon

### Description



Denotes total captured time from DV



Seeks tape's timecode



Shuttles DV tape



Marks in for beginning of batch task









Marks out for beginning of batch task



Records/captures video/audio content










Stops recording file



Icon	Description
	Switches to Batch Capturing
	Switches back to Instant Capturing
	Adds new batch capturing task
	Removes batch capturing task
	Starts selected batch capturing task(s)
	Takes snapshot

---

# Trim Mode



Icon	Description
	Marks in for beginning of trimmed clip
	Marks out for end of trimmed clip
	Denotes current time slider position
	Total time of trimmed clip
	Resets mark in position
	Resets mark out position
	Takes snapshot

Icon	Description
	Reverts to clip's original trim effects
	Clears all trim effects

---



# Titles Mode



Icon	Description
	Marks in for beginning of title effect
	Marks out for end of title effect
	Adds new title to clip
	Removes title from clip
	Sets font options
	Reverts to clip's original title effects
	Clears all title effects




# Color Mode



Icon	Description
	Reverts to clip's original color effects
	Clears all color effects

# Picture-in-Picture Mode



Icon	Description
	Selects image color to be filtered
	Reverts to clip's original picture effects
	Clears all picture effects

# Audio Mode



Icon	Description
	Adds new audio file to clip
	Removes audio file from clip
	Trims audio file
	Volume mixing for user-defined audio file
	Reverts to clip's original audio effects
	Clears all audio effects

# Transitions Mode



Icon	Description
------	-------------



Reverts to clip's original transition effects



Clears all transition effects





# CHAPTER 4: THE BASICS

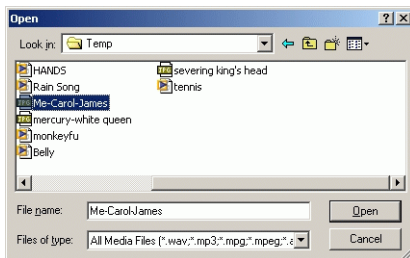
It's time to get started with the basics before your mesmeric and uninhibited effects are added. The ensuing sections will outline how to begin by importing your media files into the PowerDirector Library and previewing these files. Later, you will get accustomed to the Storyboard, your menus and then wrap things up with choosing your specific Preferences.

## Importing into the Library

The first step in almost all video editing software applications is to import media files into the software application itself. This area of the software application where the imported files reside is the Library.



- 1 After you have started the PowerDirector application, click **Import Media** or go through the menu and choose **File > Import > Media Files**.

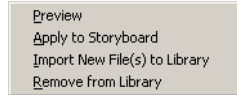


- 2 Select the files to be imported by clicking. To select multiple files, press <SHIFT> while clicking to select continuous files or press <CTRL> while clicking to select discontinuous files.
- 3 Click **Open**.

- 4 To **Show Video, Audio, Images** or **All**, click the appropriate icon in the top left corner.



- 5 The files will appear in the Library. Click **Large Icons** or click **Details** to change the view to a text view along with some of its associated file properties.
- 6 You may also right-click on a specific file for a menu. Select one of the options to **Preview**, **Apply to Storyboard**, **Import New File(s) to Library**, or **Remove from Library**;



To preview your imported files, go to "Previewing your Library Files" on page 33 for more information.

# Previewing your Library Files

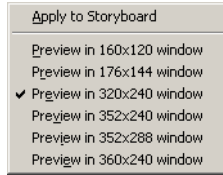
Previewing Library files simply plays your original files like any other Media Player.

- 1 After you have imported your files into the Library, begin previewing by dragging the files into the Preview window or double-click on them. The mode will instantly switch to Preview.



- 2 Click **Play** to begin playing your file if it's a video or audio clip.
- 3 You may also skip directly to the **Start** of the file or to the **End**.
- 4 Other common commands are **Pause**, **Stop**, **Next Frame** and **Previous Frame**. The best way to utilize the Next Frame and Previous Frame commands are during the Pause and Stop modes. However, you may click them during playback, which will then switch into Pause mode.
- 5 Drag and release the **Time Slider** to navigate quicker when previewing your file.

- 6 You may also right-click on the Preview window for a shortcut menu. Select one of the preview options or **Apply to Storyboard**.



- 7 If you are satisfied with your file and don't require any further manipulation, click **Apply** and the file will be applied to your Storyboard. Be sure to set your preferences for applying to the Storyboard. Go to "Preferences" on page 40 for more information.



# Storyboard Functions

When you produce, you are producing all the clips on your Storyboard. If you don't have any files applied onto the Storyboard, you can't produce your movie! Thus, the Storyboard is the most important facet and area of your entire pre-production.

Keep in mind that not all files have to be manipulated, for files may be directly applied or dragged onto the Storyboard immediately after it is imported into your Library. Go to "Importing into the Library" on page 31 for more information.

- 1 Now that your files have been imported into the Library and have previewed it, you can directly drag the media files into the Storyboard without further manipulation and produce your own movie. A red line will appear so as to convey where the dragged file will be placed.

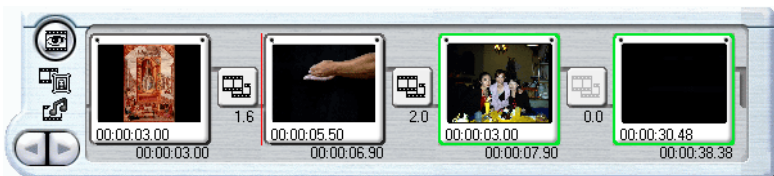


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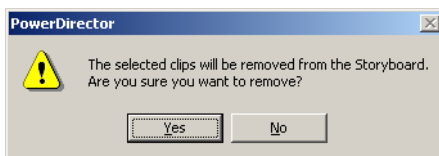
**Note:** Audio files may not be applied individually onto the Storyboard unless it is for the Master Audio or as an audio supplement to an existing clip.

---

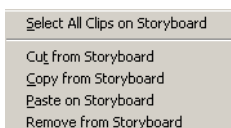
- 2 To move multiple clips on the Storyboard, simple hold down the <SHIFT> key while clicking the clips you want to move together. The clips will be highlighted. Now, drag and release onto the new position.



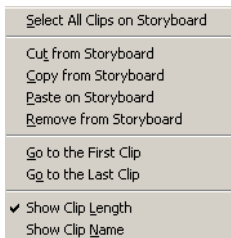
- 3 To remove clips from the Storyboard, simply click it and drag it out of the Storyboard or press <DELETE> on your keyboard when highlighted. A dialog box will appear for you to confirm your removal. Click **Yes**.



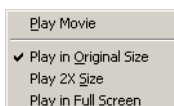
- 4 To preview or to manipulate a clip from the Storyboard, select it by double-clicking and it will appear in the Preview window. Go to "Previewing your Library Files" on page 33 for more information.
- 5 You may also right-click on a specific clip in the Storyboard for a menu. Select one of the options that will include cutting, copying or pasting clips on the Storyboard.



- 6 Click anywhere other than a clip on the Storyboard and a more diverse menu will be displayed that will include Storyboard display and also **Go to** options. Select one.



- 7 Click **Play Movie** to view clips on your Storyboard before producing. You may select your options under **Edit > Preferences > Preview**. Go to "Preferences" on page 40 for more information. Or, you may right-click on the Play Movie icon to call up a shortcut menu that will allow you to set the window size during your movie playback.



---

***Note:** Playing the movie is not the final step in your movie-making process and is only a preview of your production. Remember to produce your movie!*

---

- 8** During the movie playback, press <ESC> on your keyboard to quit or double-click.
- 9** Two other icons are located on the Storyboard. For more information on **Master Watermark** or **Master Audio**, go to "Master Watermark" on page 77 and "Master Audio" on page 72 for more information.
- 10** If you are satisfied with all your clips and your movie, click **Produce Movie** on the Modes Wheel. Refer to "Producing Your Movie" on page 79.

# Menu Selections

Below are brief descriptions of various functions. For more information, please follow their links.

## File Menu

- If you want to create a new project, choose **New**. Choose **Open** to open an existing project.
- **Save** your project here or choose **Save As...** to rename the project. Type in the project's name and click **OK**.
- The **Capture** commands are the same as the Modes Wheel but goes directly into one of the three capture modes: **Audio**, **Video** or **DV**. Go to "Capturing Content" on page 45 for more information.
- The **Import** command serves the same function as **Import Media** in importing media files to your project's Library. You may also **Import Files From Another Project**. Select another project and click **Open** to import another project's media files. Refer to "Importing into the Library" on page 31 for more details.
- Choose **Export > Produce Movie** to produce your movie. Go to "Producing Your Movie" on page 79 for more information.
- **Project Properties** is for adding more information for your movie. You might want to fill out **Keyword**, which is suitable for database searches, or any other fields.
- Choose **Exit** to close PowerDirector.

New...	Ctrl+N
Open...	Ctrl+O
Save	Ctrl+S
Save As...	
Capture	▶
Import	▶
Export	▶
Project Properties...	
Exit	

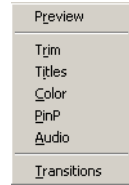
## Edit Menu

- The first four commands are if a clip is selected from the Storyboard: **Cut**, **Copy**, **Paste** or **Delete**.
- Select a file from the Library and choose **Remove from Library**. This file will only be removed from this project's Library.
- For **Preferences**, go to "Preferences" on page 40.

Cut from Storyboard
Copy on Storyboard
Paste on Storyboard
Delete from Storyboard
Remove from Library
Preferences

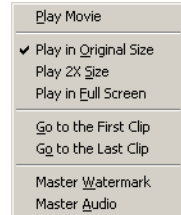
## Modes Menu

- Select a clip and then any one of the Modes. Go to the individual sections for more details on specific Modes.



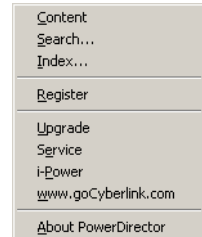
## Storyboard

- Before playing your movie, you may set the size you want to play it in. After you set it, and before your final production, you might want to play your movie first.
- Select the **Go to** functions to navigate faster to the first and last clips on your Storyboard.
- Select **Master Watermark** to add a watermark or **Master Audio** to add an audio file for your movie. Go to "Master Watermark" on page 77 and "Master Audio" on page 72 for more information.



## Help

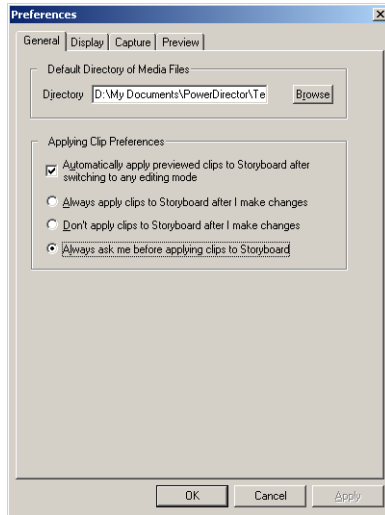
- Here you will find any help you might need that will include **Content**, **Search...**, and **Index...**
- You may also **Register**, **Upgrade**, and go to **i-Power** for resources or **CyberLink's** home web site.



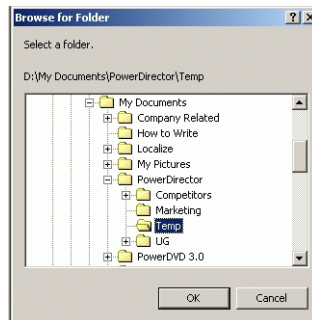
# Preferences

When using PowerDirector, we give you the luxury of deciding the processes and routines of how files are applied to the Storyboard, how captured files are stored, the display of file information, previewing options and a host of others.

## General Preferences



- 1 The first option here is for users to select a default media **Directory** for all their files. Type in the directory path or click **Browse** and search for the directory. Click **OK** after you select the proper directory.

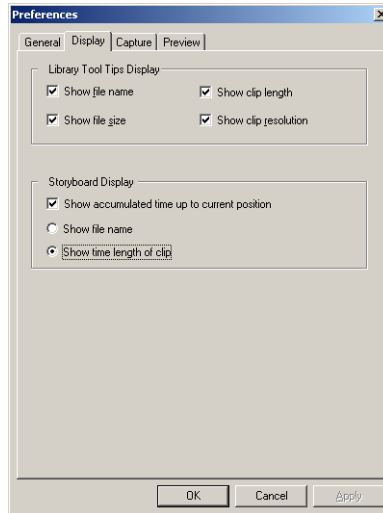


- 2 For the **Applying Clip Preferences** section, select one of the options. The first option is the fastest method and saves time from clicking Apply. The second option forces users to always click Apply after they make changes if

they want to apply. The last option is if you would like PowerDirector to remind you if you would like to apply the changes that you have just made.

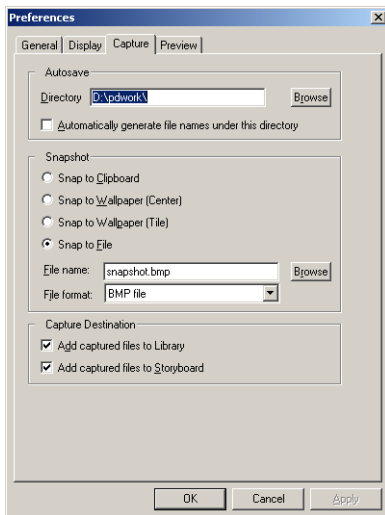
- 3 In the last section, PowerDirector will automatically apply any file/clip to the Storyboard after you switch out of the Preview Mode and into any other mode. Check it to activate.
- 4 Click **OK** or another tab to set more preferences.

## Display Preferences



- 1 The **Library Tool Tips Display** determines how all your media files' tool tips are displayed in the Library. Check and uncheck the selections to show or hide the desired information.
- 2 The **Storyboard Display** is the next section. Check and uncheck to **Show accumulated time up to current position** if you would like to see a running total for your entire movie. The last selection is to choose either **Show file name** or **Show time length of clip**. You may not choose both.
- 3 Click **OK** or another tab to set more preferences.

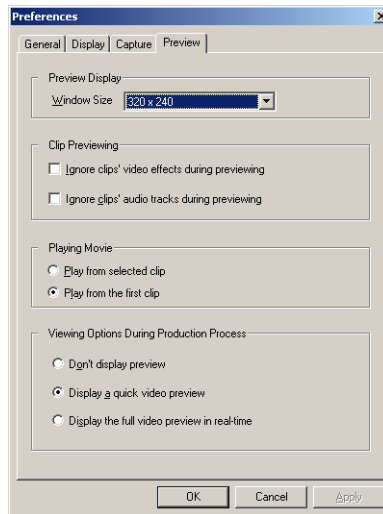
## Capture Preferences



- 1 The first selection is **Autosave**. Choose a directory by clicking **Browse** and selecting a proper directory to save all your captured files under. If you want PowerDirector to **Automatically generate file names under this directory**, click it and captured files will automatically be saved. Otherwise, after each capture, a dialog box will appear for you to name the new captured file.
- 2 The next selection is for snapshots that you have captured from your video content in the Capture or Trim Modes.
  - **Snap to Clipboard** captures the image onto your Windows' clipboard.
  - **Snap to Wallpaper (Center)** will capture the image, place the image centered on your desktop in its original size, and save it automatically in your default Windows' System folder.
  - **Snap to Wallpaper (Tile)** will capture the image, place the image on your desktop in its original size following a tile format, and save it automatically in your default Windows' System folder.
  - **Snap to File** will capture the image directly into a folder you have selected. For this selection, you may input the file name by clicking on **Browse** and choosing a directory first. After you have found the directory and inputted a name, click **Save**. Change the file format by clicking on the drop-down menu and selecting.
- 3 The last section is the **Capture Destination**. Check the selections if you would like to automatically add the recently captured files to the Library, Storyboard, or both.

- 4 Click **OK** to exit Preferences.

## Preview Preferences



- 1 To set the **Window Size** for your Preview window, click on the drop-down menu and select.
- 2 When you are editing clips from the Storyboard, you may decide to reserve system resources by ignoring video effects or audio tracks during previewing or in when modifying in any of the Modes. In the **Clip Previewing** area, simply click to select which option you want to ignore. Be sure to check out "System Requirements" on page 4.
- 3 Whenever you click Play Movie on the Storyboard, you may wish to **Play from selected clip** or **Play from first clip**. Select one.
- 4 During the actual **Production Process**, you may choose which type of display is utilized. The **Don't display preview** selection saves the most system resources. For the **Display a quick video preview**, not every frame will be displayed. Check **Display the full video preview in real-time** if you want to watch the entire movie's preview.

---

***Note:** There is no audio during the Production Process.*

---





## CHAPTER 5: CAPTURING CONTENT

PowerDirector allows you to capture almost anything under the sun provided that you have a capture card or other assortment of adapter cards in transferring data into your hard drive. Listed below are video capture devices that may assist you in making the best possible movie out there:

- capture card (PCI, USB, FireWire, TV tuner)
- DV camcorder
- analog camcorder: 8mm, V8, Hi8, VHS-C
- digital camera
- PC camera
- VCR

Just make sure you have all the proper hardware and drivers installed before you begin.

# Capturing Video and Audio

Now you are ready to capture video or audio footage from practically anything digital or analog stored in your library and transforming it into digital footage with special effects directly authored from PowerDirector.

This section will cover video capture devices that are input through your adapter cards via video ports such as Video In or S-Video and also audio capture devices through ports such as Audio In. However, this section won't include capturing from a DV camcorder. Please refer to "Capturing from DV Camcorders" on page 50 for more information.

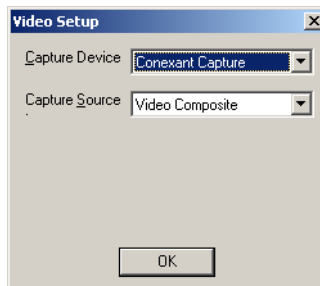
Make sure your devices are installed properly with the proper drivers. Refer to their respective user's guide for more information.



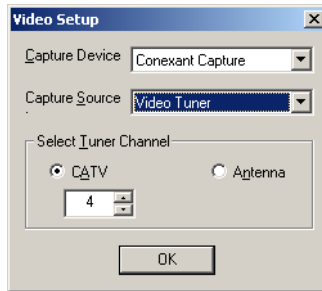
- 1 Start PowerDirector.
- 2 Click the **Capture Mode** located on the Modes Wheel.
- 3 Depending on the content you would like to capture (audio or video), click the appropriate **Capture** icon (either video or audio or both).



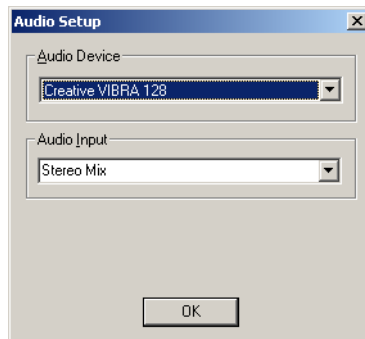
- 4 If you clicked **Video Capture**, you may modify the **Video Setup** by clicking on it. A dialog box will appear.



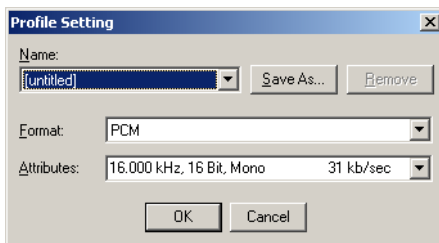
- 5 Click on the **Capture Device** drop-down menu to select the appropriate video capture device installed on your system.
- 6 Select the correct **Capture Source**. Usually, all the sources will have ports located on the capture card. Make sure the connections are secure.
- 7 If you selected **Video Tuner**, you may then select either **CATV** if you have a cable connected or **Antenna**. Select a channel.



- 8 Click **OK**.
- 9 Now, modify the **Audio Setup** by clicking on it either in Video or Audio Capture mode. A dialog box will appear.



- 10 Click on the **Audio Device** drop-down menu to select the appropriate audio capture device installed on your system.
- 11 For the **Audio Input**, select the right input source (selections here will depend on your sound card manufacturer). Click **OK**.
  - If you have an audio CD in your CD-ROM or DVD-ROM drive, select the **Audio CD** for the Audio Input and a new drop-down menu will appear to select the audio track. Click **OK** when you are done.
- 12 Click **Profile Setup** and a dialog box will appear.



- 13 Click a **Name** (i.e. profile) or change your **Attributes** by clicking on the drop-down menu and choosing another one.
- 14 Click **Save As** to save the new profile. Name the new profile and click **OK**. To Remove, select a profile and click **Remove**. After you are done, click **OK**.

---

***Note:** If the video display is blank after you have selected to capture video, be sure your video device is functioning properly. Other possibilities may be that the connections aren't set up properly or you selected the wrong input settings.*

---

- 15 Click the **Time Limit** box (optional) to set and then enter the time length.
- 16 Click the **Size Limit** to (optional) set the maximum file size of your recorded video content.



- 17 If you are in the Video Capture mode, you may click **Snapshot** to capture still images from your video content. To set your preferences, go to "Capture Preferences" on page 42 for more information.



- 18 Depending on your device, turn it on, press Play or activate any other function so that your external capture device will begin capturing or playing content that PowerDirector is able to record. When ready, click PowerDirector's **Record**.

---

***Note:** For example, a PC camera would not have to be activated after its power is turned on, for it will begin capturing content automatically.*

---



---

***Note:** An audio CD, on the other hand, does not need to be played. Just click Record and PowerDirector will begin playing and recording it.*

---



- 19 Click PowerDirector's **Stop** function after finishing your capture. The file will now be saved automatically, or appear in your Library or Storyboard. Go to "Capture Preferences" on page 42 for more information.

---

**Info:** *Because of the inherent limitations of the Windows operating system in handling files over 2 GB, PowerDirector will automatically save and chunk your video files into 600 MB files if the file's size is over this limit.*

---

# Capturing from DV Camcorders

Whether your DV is playing video or filming special moments, PowerDirector captures in real-time. With the astounding FireWire transfer protocol, you can capture crystal clear digital video and audio from your DV camcorder and transfer data without any quality loss whatsoever. Refer to "FireWire Adapter Cards" on page 7 for more information.

Capturing from a DV camcorder differs in two respects. As you might well be aware of, DV camcorders come with two main modes. The first mode is to record live content and is referred to as the **Camera** mode for most brands. The alternative mode is the **VCR** mode (for most brands) where you may play back your previously recorded content and navigate through the DV tape. The degree of controlling your DV camcorder with PowerDirector differ in these two DV modes.

---

***Note:** Before starting PowerDirector, make sure all devices are installed properly with the proper drivers, your DV camcorder is turned on, is in the correct mode, and the FireWire cables are hooked up properly. Refer to the respective user's guide for more information.*

---

## Capturing from DV Camera Mode

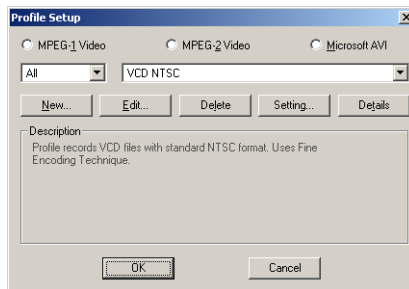
When your DV camcorder is in the Camera mode, PowerDirector may only **Record** into your hard drive, for it will simply capture what your DV camcorder is aimed at or what it is recording. For other commands in the Camera mode, you will have to rely on your DV camcorder's controls.



- 1 Start PowerDirector.
- 2 Click the **Capture Mode** located on the Modes Wheel.
- 3 Click the **DV** icon. If you're DV camcorder is hooked up properly along with the FireWire cables, turned on, and in the **Camera** mode (this will depend on your DV camcorder's designation), a live shot from your DV camcorder should be displayed in PowerDirector's Preview window.



- 4 Select a **Profile** by clicking on it. For more information on selecting profiles, go to "Producing Your Movie" on page 79 for more information. Click **OK**.



- 5 Click the **Time Limit** box (optional) to set it and then input the maximum recording time in minutes and seconds.
- 6 Click the **Size Limit** box (optional) to set it and then input the maximum recording size in MB.
- 7 To begin real-time capture, click PowerDirector's **Record** button.
- 8 Click **Stop** after finishing your capture. The file will now be automatically added to the Library or Storyboard according to your preferences. To set your preferences, go to "Capture Preferences" on page 42.

## Capturing from DV VCR Mode

When your DV camcorder is in VCR mode, PowerDirector has a high degree of control. All navigational functionality may be controlled by PowerDirector including playing, seeking, pausing, stopping and of course, recording content directly from the DV tape. After capturing content from your DV tape with PowerDirector, you may apply all the special effects you wish, which have made PowerDirector a powerhouse in the arena of video editing. Finally, when it is time to produce, PowerDirector provides the luxury of writing your new movie directly onto your DV tape! Please refer to "Producing Your Movie" on page 79 for more information on producing.



- 1 Start PowerDirector.

- 2 Click the **Capture Mode** located on the Modes Wheel.

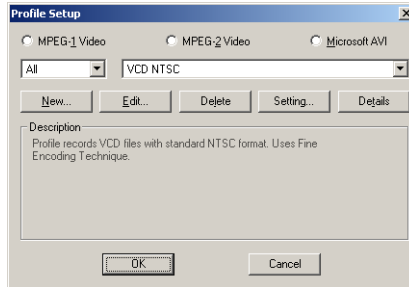


- 3 Click the **DV** icon. Make sure you're DV camcorder is hooked up properly along with the FireWire cables, is turned on, and in the **VCR** mode (this will depend on your DV camcorder's designation). The display you are viewing in PowerDirector's Preview window should be exactly as your DV camcorder screen.





- 4 Select a **Profile** by clicking on it. For more information on selecting profiles, go to "Producing Your Movie" on page 79 for more information. Click **OK**.



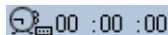
- 5 To seek to the proper time, drag and release the **Shuttle** icon. Located to its immediate left is the timecode area for the DV tape.

---

***Note:** If the DV tape's timecode is incorrect, then click **Seek Tape** to verify the timecode.*

---

- 6 You may also navigate with the **Play**, **Next** and **Previous Frame**, **Start**, **End**, **Pause**, and **Stop** buttons. Refer to #4 on page 33 for more information on the aforementioned commands.
- 7 Click the **Time Limit** box (optional) to set it and then input the maximum recording time in minutes and seconds.
- 8 Click the **Size Limit** box (optional) to set it and then input the maximum recording size in MB.
- 9 To begin real-time capture, click **Play** on your camcorder and then click PowerDirector's **Record** button when you're ready. The total recording time will be displayed above the DV tape's timecode area.



- 10 Click **Stop** after finishing your capture. The captured file may appear directly in your Library or Storyboard depending on preferences. Go to "Capture Preferences" on page 42 for more information.

# Batch Capturing from DV Camcorders

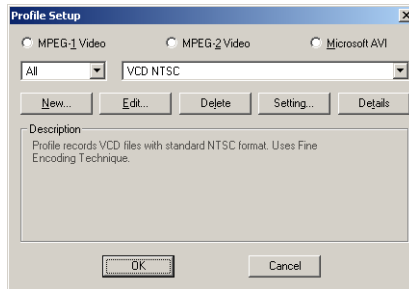
When you are in the DV VCR mode, you may select precise scenes you want to convert. After selecting a few scenes, you may convert them with one click as part of a whole batch of files. Batch capturing is efficient and saves huge amounts of time.

- 1 Start PowerDirector.
- 2 Click the **Capture Mode** located on the Modes Wheel.
- 3 Click the **DV** icon. Make sure you're DV camcorder is hooked up properly along with the FireWire cables, is turned on, and in the **VCR** mode (this will depend on your DV camcorder's designation). The display you are viewing in PowerDirector's Preview window should be exactly identical to your DV camcorder screen.
- 4 Click **Batch Capturing**.





- 5 Select a **Profile** by clicking on its immediate right. For more information on selecting profiles, go to "Producing Your Movie" on page 79 for more information. Click **OK**.



- 6 To shuttle (fast forward/rewind) to the proper time, drag and release the **Shuttle** icon.



- 7 Click **Seek Tape** to locate the exact timecode position of the DV tape.

---

***Note:** Depending on the specific DV tape, there may be identical timecodes for many different scenes on a DV tape (e.g. 00:01:20). This is attributed to the resetting of timecodes performed by the author. When seeking tape with PowerDirector, it will only seek to the first timecode.*

---



- 8 You may also navigate with the **Play**, **Next** and **Previous Frame**, **Rewind**, **Fast Forward**, **Pause**, and **Stop** functions of PowerDirector. Refer to #4 on page 33 or use your DV camcorder's navigational buttons.
- 9 When you have found the beginning of the segment that you would like to trim, click **Mark In**. Navigate to the end of the segment and click **Mark Out**.



- 10 After they are set, click the **Add New Task** icon and this batch task will appear in the batch box or click **Remove Task** to delete.

Mark In	Mark Out
00:00:56:14	00:01:03:07



- 11 Repeat the Mark In and Mark Out steps to add more tasks. To begin conversion, select the specific task(s) and click **Start Selected Task(s)**. Or, select multiple tasks by keeping <SHIFT> or <CTRL> depressed as you click on different tasks.

- 12** The batch captured files may appear directly in your Library or Storyboard depending on preferences. Go to "Capture Preferences" on page 42 for more information.



# CHAPTER 6: TRIMMING VIDEO AND ADJUSTING COLOR

## Trim Mode

Generally, after your media files are imported into your library, the next step is to trim your video clips or set the time limit for image files. Before production, this step is very important in eliminating unwanted portions of your video clip and to place more focus on the essential plot of your movie.

---

***Note:** After you have modified your file in this mode, a red line will be displayed in the Modes Wheel to indicate this.*

---

---

***Note:** Your original media files will not be manipulated in any way when trimming files that have been imported into the Library or after it is applied to the Storyboard.*

---

- 1 Select a video clip from the Library by double-clicking on the selected file or dragging it into the Preview window. Refer to "Importing into the Library" on page 31 for more information on importing.
- 2 To trim files that have already been applied to the Storyboard, simply select the particular clip by double-clicking and it will be displayed in the Preview window.
- 3 Click the **Trim Mode** located on the Modes Wheel and a dialog box will appear. Click **OK** so that it is automatically applied on the Storyboard.









---

***Note:** Whenever the mode switches from Preview to another mode for the first time, a dialog box will appear to notify you that the file will be added to the Storyboard automatically.*



---

- 4 Before setting your trim positions, you may play your file. Go to "Previewing your Library Files" on page 33 for more information on navigation during playback.
-  5 Drag and release the **Time Slider** to find the exact time positions and quicken your search. You may also **Play, Rewind, Fast Forward, Pause**, jump to the **Start** or **End** of the file, and go to the **Next** or **Previous Frame**.
- 6 To capture the frame as a new image file, click **Snapshot**. Go to "Capture Preferences" on page 42 for more information.
-   7 Click on the **Mark In** and **Mark Out** icons to set your trimming positions at the **Time Slider** position or set them during playback. Or, you may also utilize the Time Slider and directly drag the **Mark In** and **Mark Out** sliders to the position where you would like to begin your trim.



- 8 After your Mark In and Mark Out positions have been set, their times will be displayed to the right of each respective icon along with the time length for this new clip in the bottom right area. The other time slot on the bottom left indicates the current position of the Time Slider.



-   9 To reset, click **Reset Mark In** or **Reset Mark Out**.
- 10 To **Resize** your view, select one of the options from the drop-down menu.
  - **Stretch:** This option will stretch your media file to fill out the screen but will not keep the aspect ratio.

- **Crop:** This keeps the aspect ratio of your media file and if larger than the Preview window, it will crop off the sides.
- **1:1 Fit:** This will fit your media file into the Preview window but unlike Stretch, it will keep the aspect ratio of the media file and won't crop the image.
- **1:1 Fill:** This will fill out the Preview window with the original size but will crop the image.

---

***Note:** The resize function will not alter your original file but will affect your Storyboard clip.*

---



- 11** Click **Revert** to return to the original trim (if the clip had already been trimmed) or click **Clear** to start from scratch.
- 12** When you are satisfied with your trim, click **Apply** and your trim will be applied to your Storyboard. Be sure to set your preferences for applying to the Storyboard. Go to "Preferences" on page 40 for more information.

## Trim Mode for Image Files

Naturally, image files don't need to be trimmed. The time duration of the appearance of the image file may be set along with the image's resize if desired.

- 1** Once your image files have been imported into the Library, double-click on an image file or drag it in order to display it in the Preview window. Refer to "Importing into the Library" on page 31 for more information on importing.
- 2** To modify files that have already been applied to the Storyboard, simply select the particular clip by double-clicking and it will be displayed in the Preview window.
- 3** Click on the **Trim Mode** from the Modes Wheel and a dialog box will appear. Click **OK** so that it is automatically applied on the Storyboard.
- 4** To **Resize**, select one of the options from the drop-down menu.
  - **Stretch:** This option will stretch your media file to fill out the screen but will not keep the aspect ratio.
  - **Crop:** This keeps the aspect ratio of your media file and if larger than the Preview window, it will crop off the sides.
  - **1:1 Fit:** This will fit your media file into the Preview window but unlike Stretch, it will keep the aspect ratio of the media file and won't crop the image.
  - **1:1 Fill:** This will fill out the Preview window with the original size but will crop the image.

- 5 Enter the time for the image to appear in the **Duration** box by using the arrows or inputting a numeral.



- 6 Click **Revert** to revert to the original trim.



- 7 Or click **Clear** to start over.

- 8 Click **Apply** when complete. Be sure to set your preferences for applying to the Storyboard. Go to "Preferences" on page 40 for more information.

# Color Mode

Before applying your clips, you may want to adjust your clips' colors that include its brightness, contrast, hue, saturation, and sharpness levels. Go to "Glossary" on page 101 for more information on hue and saturation.

---

**Note:** After you have modified your file in this mode, a red line will be displayed in the Modes Wheel to indicate this.

---

- 1 Select a video clip or an image from the Library by double-clicking on the selected file or dragging it into the Preview window. Refer to "Importing into the Library" on page 31 for more information on importing.
- 2 To modify files that have already been applied to the Storyboard, simply select the particular clip by double-clicking and it will be displayed in the Preview window.
- 3 Click the **Color Mode** located on the Modes Wheel and a dialog box will appear. Click **OK** so that it is automatically applied on the Storyboard.



---

**Note:** Whenever the mode switches from Preview to another mode for the first time, a dialog box will appear to notify you that the file will be added to the Storyboard automatically.

---

- 4 Drag the sliders to the right to increase and left to decrease the color levels. This does not apply for Sharpness, where you may only increase its levels by dragging right.



- 5** Click **Revert** to revert to the original clip's effect or click **Clear** to start over.
- 6** Click **Apply** when you are finished. Be sure to set your preferences for applying to the Storyboard. Go to "Preferences" on page 40 for more information.



# CHAPTER 7: ADDING TITLES AND TRANSITIONS

## Titles Mode

Generally, at the beginning of every movie or show, text is involved to convey the title, starring and supporting actors, and other information for all those involved and whom made the movie possible. When a movie or show wraps up, the full spate of credits will be rolled out too.

For smaller movie productions, you may want to inform viewers with textual effects instead of just visual effects. PowerDirector allows you to add up to six titles for any clip. So, get ready to begin communicating literally like you never have before.

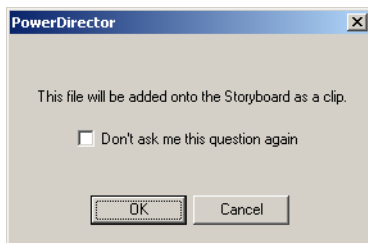
---

**Note:** After you have modified your file in this mode, a red line will be displayed in the Modes Wheel to indicate this.

---

- 1 Select a video clip from the Library by double-clicking on the selected file or dragging it into the Preview window. Refer to "Importing into the Library" on page 31 for more information on importing.
- 2 To add titles to files that have already been applied to the Storyboard, simply select the particular clip by double-clicking and it will be displayed in the Preview window.

- 3 Click on the **Titles Mode** on the Modes Wheel and a dialog box will appear. Click **OK** so that it is automatically applied on the Storyboard.



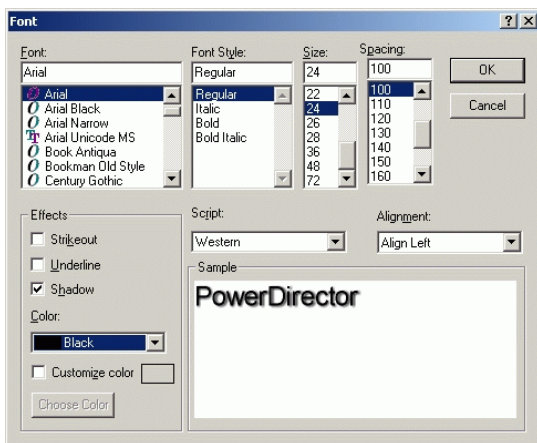

---

**Note:** Whenever the mode switches from Preview to another mode for the first time, a dialog box will appear to notify you that the file will be added to the Storyboard automatically.

---



- 4 Click the **Fonts** icon to set your font format. There are a host of options here including Spacing, Color, Font Style, and Alignment. After you are finished, click **OK**.



- 5 Click on the **Add Title** icon. A cursor on the first line of the Titles box will appear for you to begin typing. Press <Enter> to skip to the next line if you wish.

- 6 After inputting your text, click outside of the box. The title will be displayed in the Titles box along with the Preview window.



- 7 To select a suitable **Title Effect**, select a title first and then click on the drop-down menu to select. An instant preview will be shown in the Preview window.
- 8 Drag the **Effect Length** slider to determine the length of time for the effect. By increasing the effect's length (dragging right), which are represented by the two orange bars, the **Hold Time** (i.e. only the text without effects), which is represented by the blue bar, will be decreased.




---

**Note:** Each chosen title effect vary in terms of duration length.

---

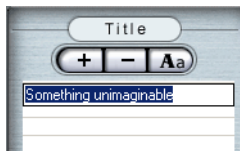


- 9 To minimize the duration of an entire title effect (i.e. you don't want the title effect to last the entire duration of the clip), click and drag the **Mark In** and **Mark Out** sliders located on the outside edge and above the orange bars. Or, position the Time Slider at a designated point and then click Mark In or Mark Out.

- 10 To place a title at a certain area of the screen, simply click on it in the Preview window and drag.



- 11 Click **Revert** to return to the original titles and their associated effects or click **Clear** to start from scratch.
- 12 Repeat the above steps to add more titles.
- 13 To edit or removing titles, click on a title in the Titles box. To edit, click twice and a cursor will appear in the box. Begin editing.



- 14 To remove, select an existing title and then click **Remove Title**.
- 15 You may hide titles by unchecking **Show All Titles** or checking to show all.
- 16 After you are satisfied with all your titles, click **Apply** to apply it to the Storyboard. Be sure to set your preferences for applying to the Storyboard. Go to "Preferences" on page 40 for more information.

# Transitions Mode

Usually appearing naked to the human eye, transitions are a great mood enhancer in movies or full-length feature shows and videos. Generally, scene-from-scene, simple fades or a direct cut to the next scene is used. To further enhance your video, you may want to try one of the many transitional effects PowerDirector has provided.

Before you begin, be sure that there are at least two video clips or images that have been applied in the Storyboard.

---

**Note:** After you have modified your file in this mode, a red line will be displayed in the Modes Wheel to indicate this.

---



- 1 Click a transition icon located anywhere between two clips from the Storyboard.
- 2 Or, you may select a clip from the Storyboard and then click on the **Transitions Mode** from the Modes Wheel.

---

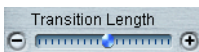
**Note:** Transitions may not be applied to the last clip on the Storyboard.

---

- 3 To preview a transitional effect before you apply, place your cursor above a given transition in the Library.
- 4 Select a transition by clicking on it twice or dragging to the appropriate point between the selected clip and the clip immediately proceeding it on the Storyboard. You may also drag the transition from the Library to the Modes Panel. The chosen transition will now appear in the Modes Panel.



- 5 Input the **Transition Length** located in the Modes Panel numerically or drag the slider to increase and decrease. The length will vary depending on your clips' duration.



---

**Note:** Keep in mind that the length you set will be equally divided amongst the two slides. If you set ten seconds, five seconds of the transitional effect will be allotted to the end of the first media file while five seconds will be allotted to the beginning of the succeeding media file.

---

---

**Tips:** Don't forget that many of the transitional effects are so radical, that they will literally "swallow" up some of your clip's content. Consequently, be sure that your clips have ample time in the beginning and in the end so as not to interfere with your clip's content and that the transition length is not set too long.

---



- 6 Click **Revert** to revert to the original transition effect or click **Clear** to clear all transitions.
- 7 When you are finished with your selection, click **Apply** to apply it to the Storyboard. Be sure to set your preferences for applying to the Storyboard. Go to "Preferences" on page 40 for more information.



# CHAPTER 8: ADDING AUDIO AND PICTURES

## Audio Mode

As all amateur or seasoned video professionals know, the soundtrack of your movie is incredibly important to set the mood and atmosphere of your movie. For exciting scenes, a musical score with a fast beat will serve to outline the hastiness and recklessness of the occasion. For tender moments, a beautifully scored song touching on romance and playing with your emotions like a concert violinist will go a long way in making your post-production a worthy undertaking.

---

**Note:** After you have modified your file in this mode, a red line will be displayed in the Modes Wheel to indicate this.

---

- 1 Select an audio file from the Library by double-clicking on the selected file or dragging it into the Preview window. Refer to "Importing into the Library" on page 31 for more information on importing.
- 2 To add audio to clips that have already been applied to the Storyboard, simply select the particular clip by double-clicking and it will be displayed in the Preview window.
- 3 Click on the **Audio Mode** on the Modes Wheel.



---

**Note:** Whenever the mode switches from Preview to another mode for the first time, a dialog box will appear to notify you that the file will be added to the Storyboard automatically.

---

- 4 If your original file or clip contains audio, it will be displayed in the uppermost line.




---

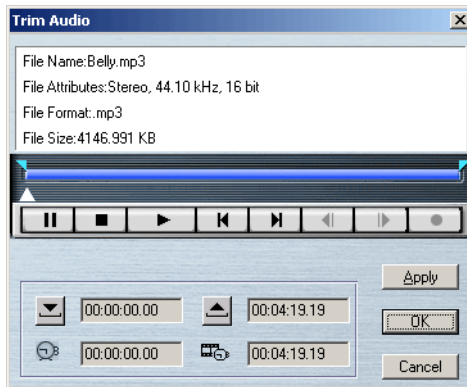
**Note:** You are not allowed to trim the audio portion of the original video file.

---



- 5 To add more audio files to a certain clip, drag them from the Library into the **User-Defined** box or you may click the **Add Audio** icon. A flashing message will appear in the User-Defined box to show you where you should drag the audio file to. Four user-defined audio files are allowed, which will be displayed below the original file.

- 6 To trim the audio, select a particular file and click **Trim Audio**.



- 7 Trimming controls are very similar to trimming other media files. Please refer to #5 on page 58 for more information. Click **Apply** and then **OK** when you are finished trimming your audio clip.
- 8 If you want the audio clip to **Fade In** or **Fade Out**, click the corresponding option.
- 9 Adjust the volume by dragging on the **Volume Mixing** to increase or decrease after you have selected the audio file. Drag to the farthest left to mute it. Keep in mind that this volume will be combined with the original clip's audio volume (if applicable).
- 10 Select an audio clip (not including the original) and click **Repeat Selected Audio File** so that the audio file will repeat to the end of the video clip or the end of the image file's duration.



- 11** If you want to remove a file, click an audio file and then click **Remove Audio**.



- 12** Click **Revert** to return to the original clip's audio effects (if the clip had employed audio clips previously) or click **Clear** to start from scratch.



- 13** Click **Apply** when you are finished to apply it to the Storyboard. Be sure to set your preferences for applying to the Storyboard. Go to "Preferences" on page 40 for more information.

# Master Audio

To further accentuate the audio aspect of your movie production, you may wish to apply a musical score that will act as the background audio for your entire movie. The controls and options for the master audio file is very similar to the normal Audio Mode where you add files to various clips.

---

**Caution:** *If you utilize Master Audio in your movie, SVRT will be disabled when producing.*

---



- 1 Click **Master Audio** located on the Storyboard's very left. The entire Storyboard will be highlighted.



- 2 The Master Audio controls will be displayed below the Modes Wheel in the Modes Panel. Drag an audio file from the Library into the designated box.



- 3 Click **Trim Audio** to begin trimming your Master Audio file. Trimming controls are very similar to trimming other media files. Please refer to #5 on page 58 for more information. Click **Apply** and then **OK** when you are finished trimming your audio clip.
- 4 If you want the audio clip to **Fade In** or **Fade Out**, click the corresponding option.

- 5 Adjust the volume by dragging on the **Volume Mixing** to increase or decrease after you have selected the audio file.
- 6 To **Repeat Master Audio**, click to check the box so that it will repeat until the end of the entire movie.
- 7 Click **Revert** to return to the original Master Audio file or click **Clear** to start from scratch.



# Picture-in-Picture Mode

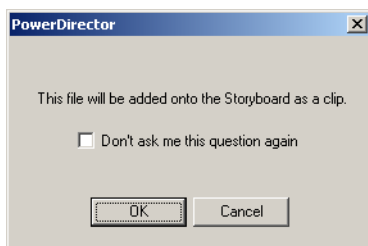
For any of your existing video clips or image clips on the Storyboard, you may add a still image or video to the background. Set the transparency level depending on your preferences.

---

**Note:** After you have modified your file in this mode, a red line will be displayed in the Modes Wheel to indicate this.

---

- 1 First, select the default picture or video clip from the Library by double-clicking on the selected file or dragging it into the Preview window. The file will be displayed. Refer to "Importing into the Library" on page 31 for more information on importing.
- 2 Or, you may select a clip that has already been applied to the Storyboard by simply selecting the particular clip and it will be displayed in the Preview window.
- 3 Click the **Picture-in-Picture (PinP)** Mode located on the Modes Wheel and a dialog box will appear. Click **OK** so that it is automatically applied on the Storyboard.

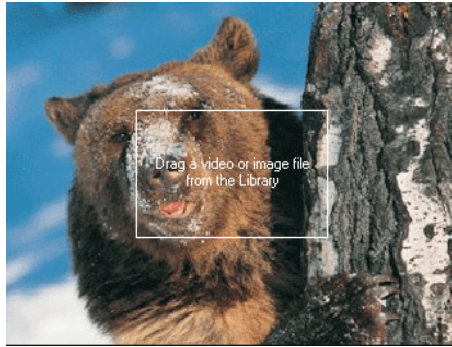


---

**Note:** Whenever the mode switches from Preview to another mode for the first time, a dialog box will appear to notify you that the file will be added to the Storyboard automatically.

---

- 4 A message will flash in the Preview window. Select the second “picture” from the Library in the form of an image or video file by dragging it there.




---

***Note:** If you already have a PinP file applied to the original clip, a dialog box will appear to ask you in replacing your original file after you have dragged the new file to the Preview window. Click OK.*

---



- 5 Click and drag the points located on the edge of the file to enlarge or decrease its size. Keep in mind that the **Keep Aspect Ratio** is checked as the default. If you do not want to retain its width-to-length size ratio intact, uncheck it.
- 6 Drag the **Transparency** slider to make the picture more or less transparent.
- 7 Click **Revert** to return to the original clip’s PinP file and its associated modifications or click **Clear** or press <DEL> on your keyboard to start from scratch.
- 8 Click **Apply** when you are finished to apply it to the Storyboard. Be sure to set your preferences for applying to the Storyboard. Go to "Preferences" on page 40 for more information.

## Applying Image Color Filters

Only for image files in the PinP Mode, you may want to apply a color filter so that a specific color of the image file will blend the background of the image with the foreground of the original file. This is not applicable for video files.



- 1 With the image file selected in the PinP Mode, click **Eyedropper** to apply the color filter.
- 2 A dialog box will appear. Now, position the **Eyedropper** tool over the color you want to filter out and then click once to select it. The color box on the left displays the current color the Eyedropper is positioned over. The right box displays the color that was last filtered. Click **OK**.



- 3 Now, check **Apply Color Filter** by clicking in the box. To disable this function, uncheck by clicking it again.
- 4 Click **Apply** when you are finished. Be sure to set your preferences for applying to the Storyboard. Go to "Preferences" on page 40 for more information.

# Master Watermark

There are times when you wish to add an image that will serve as a visual background throughout the movie, which will usually represent the party that has created the movie or owns the rights to it. This is a watermark. It may also be a TV station logo or the movie title.

---

**Caution:** *If you utilize Master Watermark in your movie, SVRT will be disabled when producing.*

---



- 1 Click **Master Watermark** located on the Storyboard's left side. The entire Storyboard will be highlighted.



- 2 The steps here are extremely to the PinP Mode. Go to #4 on page 75 for the rest of the steps.
- 3 You do not need to click Apply in this mode. Just switch out of the mode and your Master Watermark will be set or save your project.
- 4 To **Apply Color Filter**, go to "Applying Image Color Filters" on page 75 for more information.





# CHAPTER 9: PRODUCING YOUR MOVIE

The time has finally arrived for you to produce your own movie. After all your hard work of importing media files into your Library, previewing them, manipulating them, and applying them to the Storyboard, the production of your grand masterpiece is imminent. This chapter will cover MPEG-1, MPEG-2, Windows Media and Microsoft AVI formatted video types.

Editing and producing MPEG files and clips is what makes PowerDirector a powerhouse in video editing software applications.

---

***Info:** MPEG is an acronym short for the Moving Picture Experts Group which belongs to the family of ISO/IEC standards (International Organization for Standardization and International Electrotechnical Commission). It is a compression technology for digital video and audio signals intended for consumer distribution. Please refer to "What Is MPEG?" on page 99 for more information.*

---

Many video editing software applications waste valuable time when decompressing MPEG files into uncompressed AVI format before the editing process. During editing, this process places unnecessary burden on your hard disk by requiring a huge amount of disk space when working with uncompressed AVI format. After it's all said and done, when you are ready to produce into MPEG format, valuable time is wasted again in compressing your movie!

Not so with PowerDirector's proprietary technology, **SVRT** (Smart Video Rendering Technology). If your files are originally MPEG, editing will be in MPEG format and thus when producing, invaluable time and hard disk space is preciousely saved when only the edited video portions need to be rendered. This is "smart video rendering".

# Producing MPEG-1 Movies

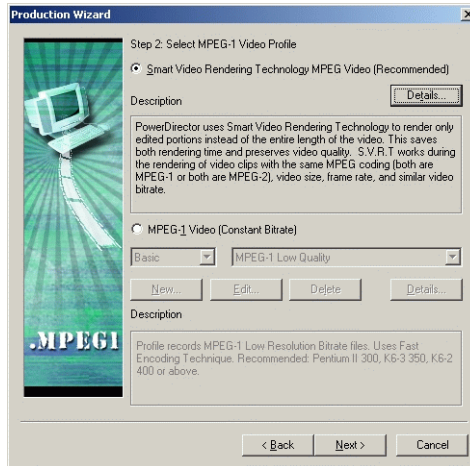
As mentioned in the previous section, MPEG is the standard format this generation for compressed multimedia files with high quality. After you are satisfied with your all special effects, trims, audio, etc., and wish to produce a file in compressed MPEG format, you are ready for the final stage of your post-production process. Refer to "What Is MPEG?" on page 99 for more information.



- 1 Clips should be applied to the Storyboard.
- 2 Click **Produce Movie** located on the Modes Wheel.
- 3 Select **MPEG-1**. Click **Next**.



- 4 We recommend that you select the default **Smart Video Rendering Technology (SVRT)** selection to save time. Refer to "Glossary" on page 101 for more information on this selection's properties.




---

**Note:** If the SVRT is grayed out, it might be that your movie is utilizing Master Audio or Master Watermark or does not possess any MPEG files. SVRT is used optimally with MPEG files.

---

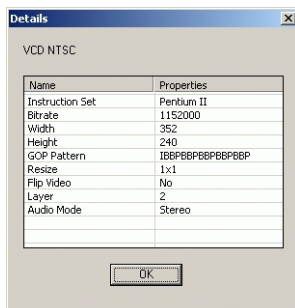
- 5 If you are an advanced user, you may click the second selection **MPEG-1 Video (Constant Bitrate)**.
- 6 If you picked the second selection, click on the left drop-down menu and choose the group of profiles you want to display, which will include Basic, Advanced, Custom, or All.
- 7 After selecting a group, select the specific profile. Profile properties will be displayed immediately below the chosen profile including the recommended processing speeds of your system. If you want better resolution or quality but at the expense of hard disk consumed, choose the higher quality or higher bitrate profiles.

---

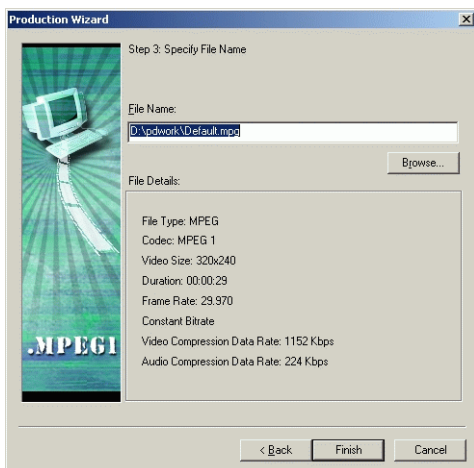
**Tips:** If you will be making your own VCDs (burning at a later time), choose a VCD profile. For more information on television standards such as NTSC and PAL, refer to "NTSC and PAL" on page 100.

---

- 8 Click **Details** for more specific information concerning a profile.



- 9 To create your own profile, go to "Creating Custom MPEG Profiles" on page 86.
- 10 Click **Next**.
- 11 For the last step, choose a file name or click **Browse** to look for the correct directory. After finding the directory and typing in the new file name, click **Save**.



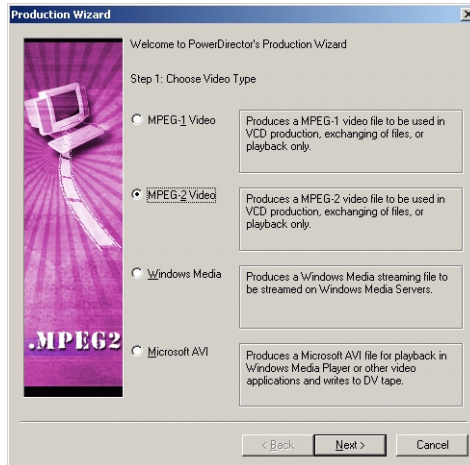
- 12 Check your **File Details**. Click **Finish**.
- 13 During the production, there are viewing options you may set. Go to "Preview Preferences" on page 43 for more information. You may also click **Abort** during production.
- 14 Save your project if you haven't already by choosing **File > Save**. Enter the file name and click **Save**.

# Producing MPEG-2 Movies

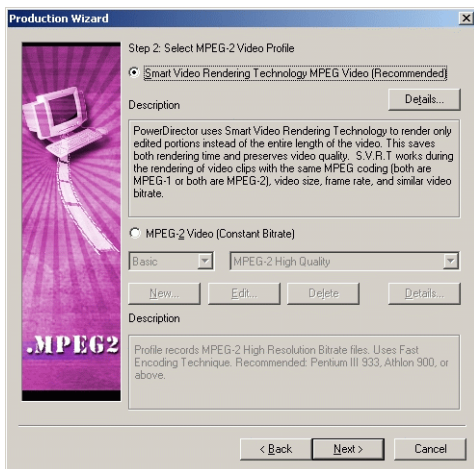
As mentioned in the previous section, MPEG is the standard format this generation for compressed multimedia files with high quality. After you are satisfied with your all special effects, trims, audio, etc., and wish to produce a file in compressed MPEG format, you are ready for the final stage of your post-production process. Refer to "What Is MPEG?" on page 99 for more information.



- 1 Clips should be applied to the Storyboard.
- 2 Click **Produce Movie** located on the Modes Wheel.
- 3 Select **MPEG-2**. Click **Next**.



- 4 We recommend that you select the default **SVRT** selection to save time. Refer to "Glossary" on page 101 for more information on this selection's properties.




---

**Note:** If the SVRT is grayed out, it might be that your movie is utilizing Master Audio or Master Watermark or does not possess any MPEG files. SVRT is used optimally with MPEG files.

---

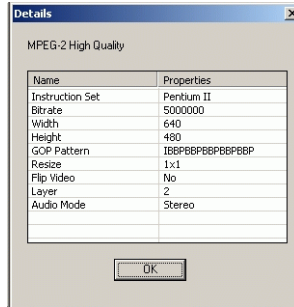
- 5 If you are an advanced user, you may click the second selection **MPEG-2 Video (Constant Bitrate)**.
- 6 If you picked the second selection, click on the left drop-down menu and choose the group of profiles you want to display, which will include Basic, Advanced, Custom, or All.
- 7 After selecting a group, select the specific profile. Profile properties will be displayed immediately below the chosen profile including the recommended processing speeds of your system. If you want better resolution or quality but at the expense of hard disk consumed, choose the higher quality or higher bitrate profiles.

---

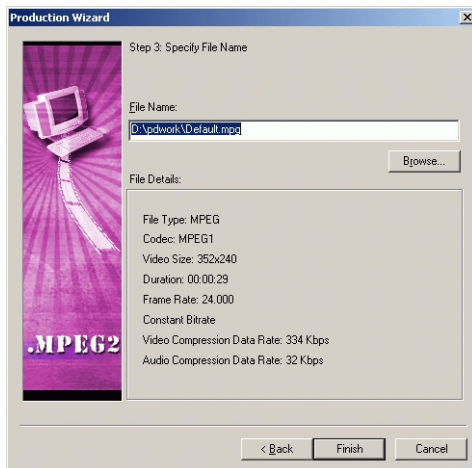
**Note:** If you will be making your own DVDs (burning at a later time), choose a DVD profile.

---

- 8 Click **Details** for more specific information concerning a profile.



- 9 To create your own profile, go to "Creating Custom MPEG Profiles" on page 86.
- 10 Click **Next**.
- 11 For the last step, choose a file name or click **Browse** to look for the correct directory. After finding the directory and typing in the new file name, click **Save**.



- 12 Check your **File Details**. Click **Finish**.
- 13 During the production, there are viewing options you may set. Go to "Preview Preferences" on page 43 for more information. You may also click **Abort** during production.
- 14 Save your project if you haven't already by choosing **File > Save**. Enter the file name and click **Save**.

# Creating Custom MPEG Profiles

- 1 While in the Producing Movie process, after you have chosen MPEG as your video type and selected **MPEG-1/2 Video (Constant Bitrate)**, select an existing MPEG profile that is closely associated with your new profile. Then, click **New** in order to create a new MPEG profile.

- 2 Type in a profile name and edit the description. For information on the Profile Properties, go to "Glossary" on page 101 for more information.

- 3 Click on the **Video** tab.

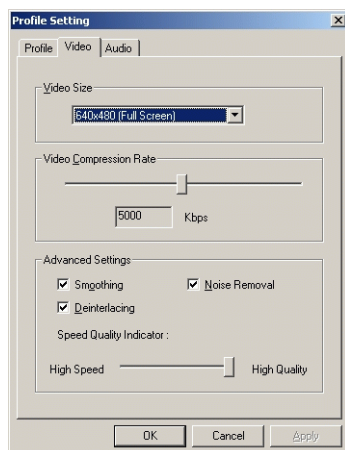
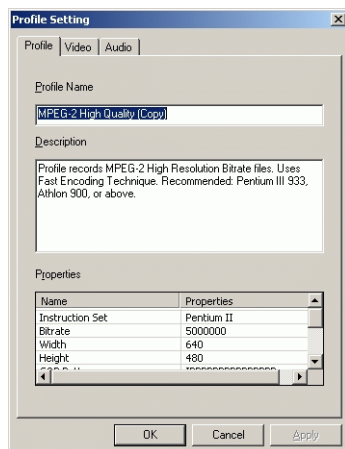
- 4 Select a **Video Size** by clicking on the drop-down menu.

- 5 Drag the slider to set your **Video Compression Rate**. The higher the kbps, the less the compression with better quality, but more disk space will be consumed.

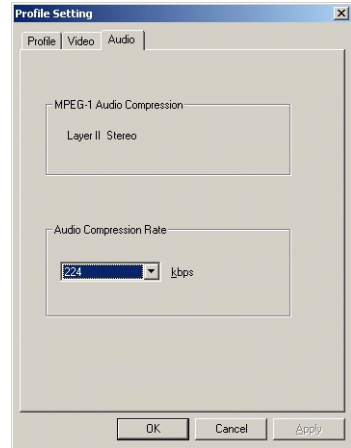
- 6 Some **Advanced Settings** may be checked as default depending on the profile you are copying from:

- **Smoothing:** Check for a smoother image if you find video content is too fine and on the grainy side.
- **Noise Removal:** This removes video artifacts such as white noise from video signals.
- **Deinterlacing:** Combines two interlaced fields into a single frame and render them at 30 frames per second (fps). Deinterlacing is done to remove artifacts and improve the quality of encoded video.

- 7 Drag the **Speed Quality Indicator** to the left for higher speed but which will sacrifice quality or to the right for better quality but at a slower speed.



- 8 Click on the **Audio** tab.
- 9 The default MPEG Audio Compression setting will be Layer II stereo. For the **Audio Compression Rate**, like its Video counterpart, the higher the kbps, the less the compression with better quality, but more disk space will be consumed.
- 10 Click **OK**.
- 11 To select your new profile, select **Custom** from the profile group menu and then select the profile.
- 12 To edit existing profiles, select the right custom profile and click **Edit**. Click **Delete** after you have selected the custom profile you wish to delete.
- 13 Return to the production process.



# Producing Windows Media Movies

Streaming technology has grown by leaps and bounds since its increasing usage from the last decade by providing a medium that is controlled by the content provider and therefore is free of copyright issues. And it's only getting started.

---

**Info:** *Streaming utilizes video scaling, compression techniques, and network protocols in order to transmit files from a Web server (where the streaming file is stored) to the client (your hard drive). The concept of streaming is relatively easy: the file is broken up into data packets, compressed, and sent over the Internet in a stream, or a series of related packets, along with the audio data if applicable.*

*The client must have a player in order to decompress the packets, display the video data, and send audio data to the speakers via the sound card. The player will first buffer the packets, meaning the packets are downloaded and stored in a buffer before playback begins. This ensures smooth playback in case of breaks or interference due to instable Internet connections. Thus, the client and its player does not have to wait for the entire file to download in order to begin playing the individual data packets.*

---

Windows Media is a proprietary streaming audio/video format typically used to download and play files or to stream content. It is the main streaming format used for Microsoft's Windows Media Player.

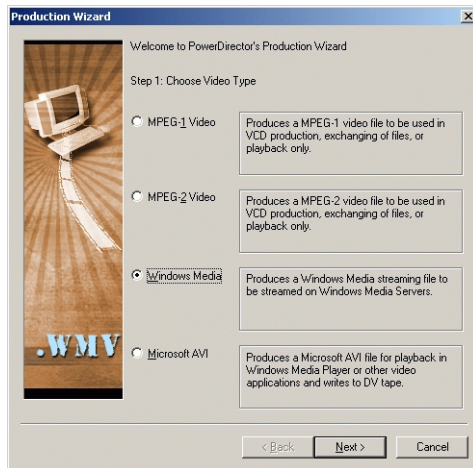
The Windows Media profiles are best for streaming content across bandwidths where you, the presenter, would like as many flexible selections as possible. Profiles range from the more basic Internet connection speeds to full-fledged broadband, audio only, and profiles containing single to multiple video streams.

After you are satisfied with your all special effects, trims, audio, etc., and wish to produce a file in compressed streaming Windows Media format, you are ready for the final stage of your post-production process.

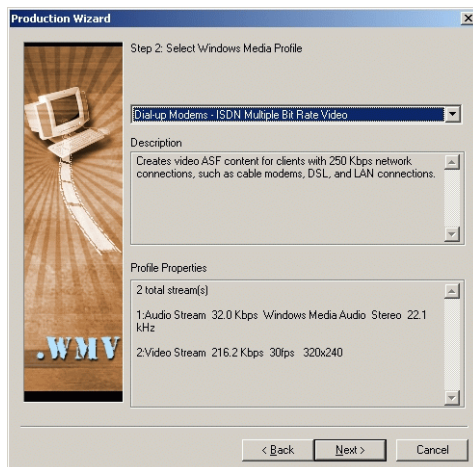


- 1 Click **Produce Movie** located on the Modes Wheel.

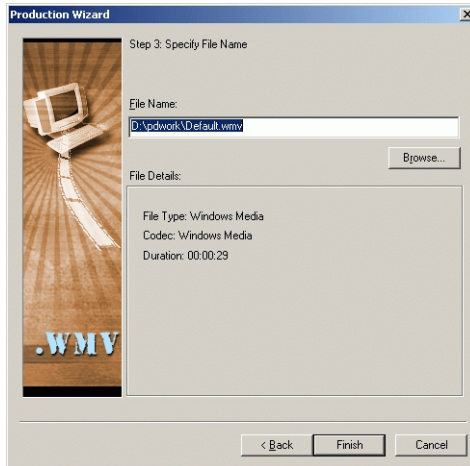
- 2 There will be a brief description of each format to the right of each selection. After making the **Windows Media** selection, click **Next**.



- 3 Now select a profile depending on what type of connection speed you will be utilizing when streaming your file to your audience. Click on the drop-down menu and select a profile. Profile descriptions and properties will be displayed immediately below the chosen profile. Go to "Glossary" on page 101 for more details. Click **Next**.



- 4 For the last step, choose a file name or click **Browse** to look for the correct directory. After finding the directory and typing in the new file name, click **Save**.



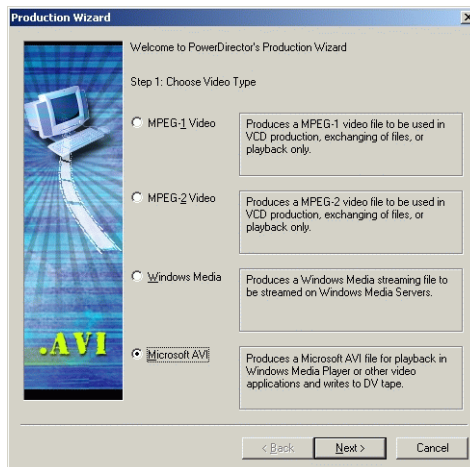
- 5 Check your **File Details**. Click **Finish**.
- 6 Save your project if you haven't already by choosing **File > Save**. Enter the file name and click **Save**.

# Producing Microsoft AVI Movies

PowerDirector has the robust feature of writing directly to your DV tape in AVI format when producing. This will include all your manipulation, modifications and special effects and is just another way of making your production more mobile and timeless. You may also produce in uncompressed AVI format to your hard drive.

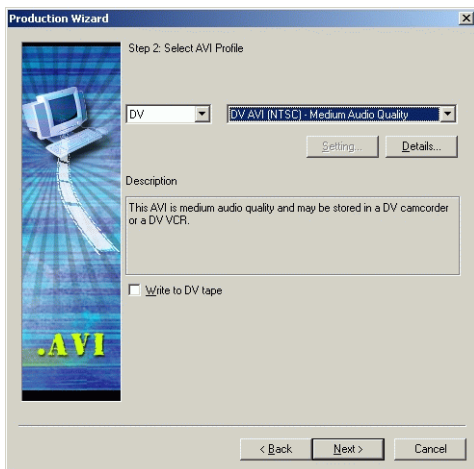


- 1 Click **Produce Movie** located on the Modes Wheel.
- 2 There will be a brief description of the Microsoft AVI format located to the right of the selection. Select it and click **Next**.

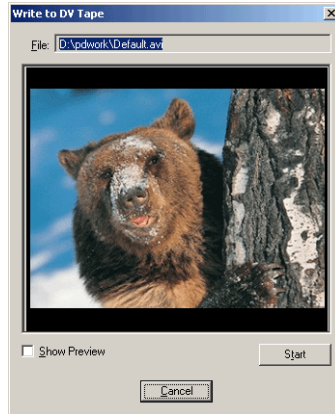


- 3 For the **Profile** field, click on the left drop-down menu to display the profile group. The **DV** group consists of DV format profiles. Refer to "The DV Format: A Brief History" on page 2 for more information. For more

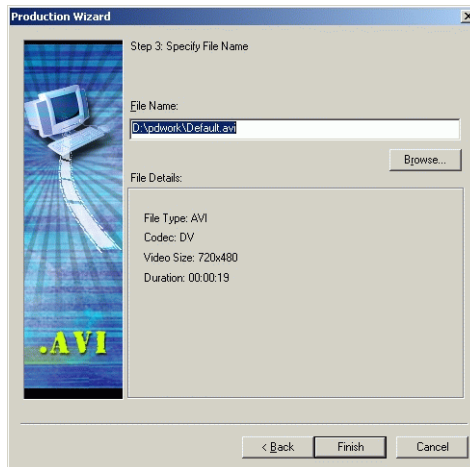
information on television standards such as NTSC and PAL, refer to "NTSC and PAL" on page 100.



- 4 The **Windows** group is the uncompressed AVI format that will take up a large amount of hard disk but is used for editing by some video editing software applications and also writing to VHS tapes or for TV broadcast.
- 5 After selecting the profile group, select the specific profile with the right drop-down menu. Profile properties will be displayed immediately below the chosen profile. Click **Details** for more information on a specific profile.
- 6 To adjust and modify a Windows AVI profile, go to "Setting AVI Profiles" on page 93.
- 7 If your FireWire connection is ready, your DV camcorder is on, and your DV tape is in place, check **Write to DV Tape** to directly write your entire production onto your camcorder's tape. Click **Next**.
  - If you decided to Write to DV Tape, after your movie is produced (hard disk version), the DV Tape dialog box will be displayed. Click **Show Preview** to preview when writing and then click **Start**. Click **Close** after it is complete.



- 8 For the last step, enter a file name or click **Browse** to look for the correct directory. After finding the directory and typing in the new file name, click **Save**.



- 9 Check your **File Details**. Click **Finish**.
- 10 Save your project if you haven't already by choosing **File > Save**. Enter the file name and click **Save**.

## Setting AVI Profiles

You may set the parameters of default Windows AVI profiles. For more information on the individual settings, go to "Glossary" on page 101 for more information.

- 1 While in the Producing Movie process, after you have chosen Microsoft AVI as your video type, select an existing AVI profile to set.

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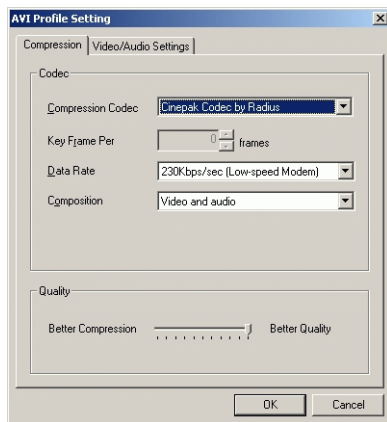
***Note:** You may not set DV profiles.*

---

- 2 Click **Setting**.

- 3 The **Compression** tab is the default. Select a **Compression Codec** by clicking on the drop-down menu. Refer to "codec" on page 101 for more information.

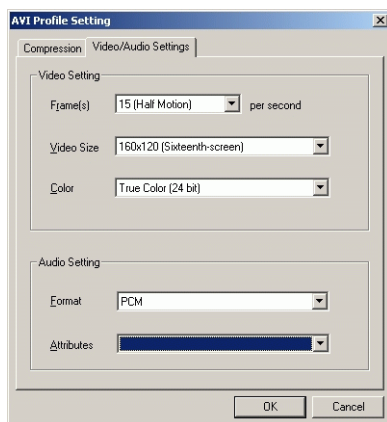
- 4 The **Key Frame** is unavailable to be set. It is defined as a frame in a video sequence that does not require information from a previous frame for decompression. The more the key frames, the better the quality but at the expense of disk space.



- 5 Click on the **Data Rate** drop-down menu and select one. The higher kbps, the better quality but at the expense of hard disk consumed.
- 6 Select the **Composition** if you only prefer video or audio.
- 7 Drag the slider to set your **Quality**.

- 8 Click on the **Video/Audio Settings** tab. Go to "Glossary" on page 101 for more information on specific terms.

- 9 Select a **Frames x per second** by clicking on the drop-down menu. The more motion you have in your video content, the higher the frame rate setting should be. The standard TV frame rate (e.g. NTSC) is 30.



- 10 Select a **Video Size** by clicking on the drop-down menu.
- 11 Select a **Color** by clicking on the drop-down menu.
- 12 For the **Audio Setting**, click on the drop-down menu for **Format** and **Attributes** and select for each one. **PCM** is the default. Go to "PCM" on

page 103 for more information. For the attributes, the higher the Hz, the better quality but at the expense of hard disk space.

- 13** Click **OK**.
- 14** Return to the production process.





# CHAPTER 10: TECHNICAL SUPPORT

Before asking CyberLink Corp. for technical support, please refer to this user's guide or online help for more information. You may also contact your local distributor/dealer. If your problem is still not resolved, the following sections provide ways to obtain technical support.

## Web Support

Solutions to your problem are available 24 hours a day at our Web sites in Taiwan, USA, or Japan:

[www.gocyberlink.com](http://www.gocyberlink.com)

[www.cli.co.jp](http://www.cli.co.jp)

You may also find solutions in the FAQ section or at our Web sites. In addition to frequently asked questions, we also provide troubleshooting techniques, the latest in product news, and other relevant information.

## Email/Fax Support

In order to answer your technical questions as quickly as possible, please send email to: [powerdirector@gocyberlink.com](mailto:powerdirector@gocyberlink.com) or visit us at [support.gocyberlink.com](http://support.gocyberlink.com). Or fax us at: (886) 2-8667-1467.

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**Note:** Technical support is only offered to registered users, so please make sure to jot down your serial number located on your CD case when emailing or faxing.

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# Telephone Support

You are welcome to call the CyberLink's Technical Support Hotline at (886) 2-8667-1298. Phone support hours are Monday to Friday, 9:00 AM-5:00 PM (GMT +8:00) Taiwan local time excluding holidays. When calling for support, please have your computer ready and provide us with the following information:

- your registered serial number
- the product version
- Windows' OS version
- hardware types (capture card, sound card, VGA card) and their specifications
- warning messages displayed
- detailed problem description and when it occurred

---

**Note:** Technical support is only offered to registered users, so please make sure your serial number is ready when calling.

---



# APPENDIX A

## What Is MPEG?

MPEG, simply, is an acronym short for the Moving Picture Experts Group which belongs to the family of ISO/IEC standards (International Organization for Standardization and International Electrotechnical Commission). It is a compression technology for digital video and audio signals intended for consumer distribution. Included in the MPEG family are:

- MPEG-1 (Audio/Video)
  - MP3 or MPEG-1 Audio Layer 3 (Audio)
- MPEG-2 (Audio/Video)
- MPEG-4 (Interactive Multimedia System)
- MPEG-7 (Multimedia Database & Retrieval)

MPEG technology is defined as a bit-stream representation for synchronized digital audio and digital non-interlaced or interlaced (MPEG-2 includes both) video compressed to fit into a certain bandwidth:

- MPEG-1 -- 1.5-4.0 Mbps (megabits per second)
- MPEG-2 -- 4.0-10.0 Mbps

MPEG is responsible for multiplexing and synchronizing one video stream with a single or multiple audio streams. MPEG-1 was designed to reproduce VHS/VCR quality in a digital format, while the MPEG-2 concept, similar to MPEG-1, is intended to cover a wider range of applications including DVD quality and its primary goal of an all-digital transmission of broadcast TV at coded bitrates between 4 and 9 Mbps.

## NTSC and PAL

The NTSC (National Television Systems Committee) and PAL (Phase Alteration Line) are television standards used for commercial television broadcasting around the world. Both NTSC and PAL use interlaced content at thirty frames per second (approx. 60 fields) and 25 frames per second (approx. 50 fields) respectively.

Because fields in interlaced signals are independent of other fields within a given frame, problems arise when two fields containing different imagery data are interleaved for display on non-interlaced computer monitors. When video imagery with superfluous movement is displayed, it usually causes motion artifacts (visual imperfections). DVD titles whose content originates directly from films produced from Hollywood studios (24 frames/second) won't possess Motion Artifacts.



# GLOSSARY

<b>ASF</b>	Short for Advanced Streaming Format, a streaming multimedia file format developed by Microsoft for Windows 98. Term is currently used interchangeably with WMA and WMV.
<b>bitrate</b>	Bitrate denotes the average number of bits that one second of video/audio data will consume.
<b>codec</b>	Short for video COmpression and DECompression. Each codec uses a different algorithm to compress and decompress video data. Without codecs, storing and playing back digital video would be impractical. Common codecs include Indeo, Cinepak, RLE, MS Video 1, and MPEG.
<b>deinterlace</b>	Deinterlaces interlaced video content, especially from TV signals or before capturing video content (see interlace for more details).
<b>DSL</b>	See xDSL.
<b>DV</b>	Digital Video. Refers to the capturing, manipulation and storage of video in digital formats. The DV format is an international standard intended for consumer use created back in 1995 by a consortium of companies.
<b>DVD</b>	Digital Versatile Disc. DVD is a high capacity CD-size disc for video, multimedia, games and audio applications.
<b>flip video</b>	This option is for certain video formats (such as YUY2) provided by some hardware capture devices which will might be displayed as upside-down during recording.
<b>fps</b>	Frames Per Second. A measure of how much information is used to store and display motion video. The term applies equally to film video and digital video. Each frame is a still image; displaying frames in quick succession creates the illusion of motion. The more frames per second (fps), the smoother the motion appears. In general, the minimum fps needed to avoid jerky motion is about 30. Some computer video formats, such as AVI, provide only 15 frames per second.

<b>frame rate</b>	For video content, the frame rate measures how many still frames per second. The higher the better when capturing video content with motion.
<b>GOP</b>	Group of Pictures. A MPEG compression technology, the GOP concept reduces the temporal redundancy across frames (from frame to frame) for video content and consists of I, B, P frames.
<b>hue</b>	the attribute of colors that permits them to be classed as red, yellow, green, blue, or an intermediate between any contiguous pair of these colors.
<b>I-frame</b>	A.k.a. intra pictures, I-frame is typically the first frame of each GOP (apart of video compression technology used by MPEG), is moderately compressed, and serves as the reference points for random access and can be likened to images.
<b>interlaced video content</b>	Describes video content within a given frame where there are 2 imagery data fields, even and odd, that is scanned separately (e.g. NTSC and PAL television signals). This usually poses a problem when interlaced content meets non-interlaced mediums like computer monitors, which only displays non-interlaced content.
<b>ISDN</b>	Integrated Services Digital Network. Provides a user up to 56 kbps of data bandwidth on a phone line that is also used for voice, or up to 128 kbps if the line is only used for data.
<b>kbps</b>	Kilobits per second. See bitrate.
<b>kHz</b>	Kilohertz. Hertz (Hz) is a unit of frequency equal to one cycle per second. One kHz is 1000 complete cycles per second.
<b>LAN</b>	Local Area Network. A computer network that spans a relatively small area. Most LANs are confined to a single building or group of buildings and mainly connect workstations and personal computers.
<b>MBR</b>	Multibitrate codecs allow several streams of different bitrates to be bundled into one file. The streaming server then communicates with the end user's media player to determine the optimum speed for delivery.
<b>mono</b>	Mono is a single audio channel for lowest bitrate consumption.
<b>MPEG</b>	Moving Picture Experts Group. A family of international standards used for coding audio/video information into digital format. Currently, MPEG-2 is the standard for digital video formats and MP3 for strictly digital audio formats.
<b>non-interlaced video content</b>	Describes video content within a given frame that does not consist of distinct imagery data fields. (e.g. computer monitors)

<b>noise removal</b>	Removes video artifacts such as white noise from video signals.
<b>NTSC</b>	National Television Systems Committee. Is a standard format adopted by the FCC for television broadcasts in the United States, Japan, Canada, and Mexico. Specs: 525 lines of resolution per frame at 30 fps.; 60 Hz field frequency; requires a 6 MHz analog channel for transmission.
<b>PAL</b>	Phase Alteration Line. Is the standard format for television broadcasts in Germany, Great Britain, South America, Australia, and most of Western European and Asian countries.
<b>PCM</b>	Pulse Code Modulation. Is a sampling technique for digitizing analog signals, especially audio signals. PCM samples the signal 8000 times a second; each sample is represented by 8 bits for a total of 64 kbps. There are two standards for coding the sample level. The Mu-Law standard is used in North America and Japan while the A-Law standard is use in most other countries.
<b>resolution</b>	Measured in lines or megahertz for monitors, it is the maximum number of pixels that can be displayed expressed as (number of horizontal pixels) x (number of vertical pixels), i.e., 1024x768.
<b>sampling rate</b>	Sampling rate determines the sound frequency range (corresponding to pitch), which can be represented in digital waveform. The range of frequencies represented in a waveform is often called its bandwidth.
<b>saturation</b>	Is chromatic purity: freedom from dilution with white.
<b>smoothing</b>	Smooths out image if you find video content is too fine and on the grainy side.
<b>stereo</b>	Two independent audio channels but bitrate remains constant while the channels' split may vary.
<b>SVRT</b>	Smart Video Rendering Technology. A proprietary CyberLink technology, SVRT saves vast amounts of time when producing movies that contain compressed MPEG files because it only renders edited portions. This preserves the quality of unrendered video portions of the original MPEG files.
<b>VCD</b>	Video Compact Disc. Generally for video applications employing MPEG-1 technology, video quality is not as detailed as DVD and has similar technology to that of audio CDs.
<b>Windows Media Format</b>	This format is optimized for streaming and playing back audio, video, and script data and is primarily used in streaming presentations over the Internet. The main format used is .WMV in combination with Microsoft's Windows Media Player.

<b>Windows Media Services Server</b>	The Windows Media Services server offers the ability to provide multimedia content to a large number of clients using .WMV, .ASF, .WMA, .MP3 and .WAV formats. It is for the expanded use of streaming media such as live broadcasting and intelligent streaming and is, by default, the best way to stream media since it was designed especially for streaming. It also provides sufficient tools and support for traffic management and broadcasting streaming services. This differs from HTTP (Hypertext Transfer Protocol) streaming, which is directly streamed from Web servers.
<b>WMA</b>	Windows Media Audio. A Windows Media proprietary streaming audio format typically used to download and play files or to stream content.
<b>WMV</b>	Windows Media Video. A Windows Media proprietary streaming audio/video format typically used to download and play files or to stream content and is the main streaming format used for Microsoft's Windows Media Player.
<b>xDSL</b>	Refers collectively to all types of Digital Subscriber Lines, the two main categories being ADSL and SDSL. Two other types of xDSL technologies are High-data-rate DSL (HDSL) and Symmetric DSL (SDSL). DSL technologies use sophisticated modulation schemes to pack data onto copper wires. They are sometimes referred to as last-mile technologies because they are used only for connections from a telephone switching station to a home or office, not between switching stations.



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