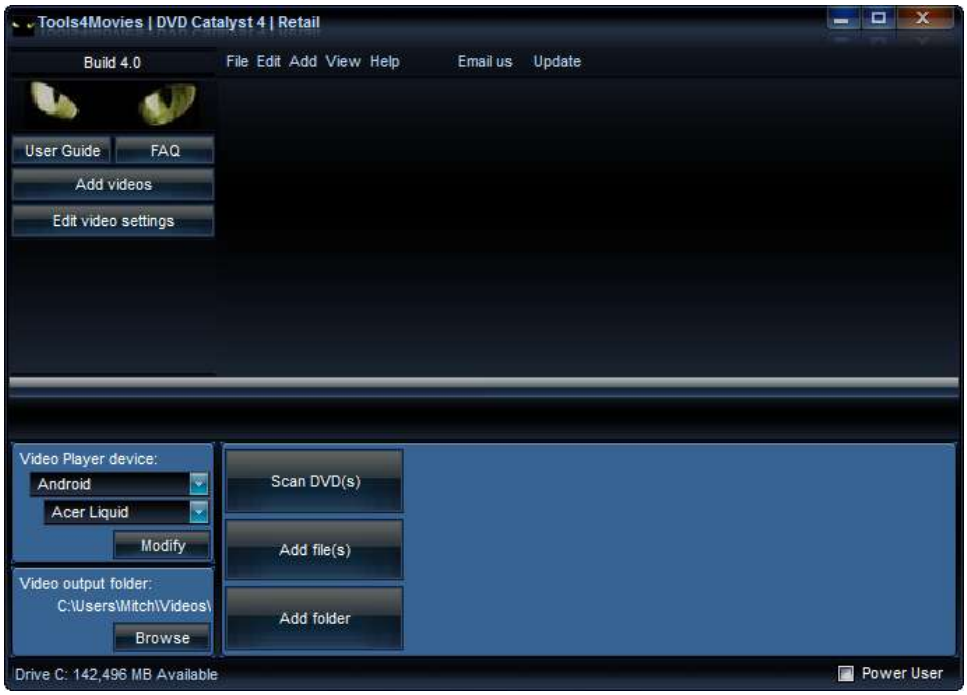
DVD Catalyst 4 User Guide

Table of Contents

1. Newbie Quick Start

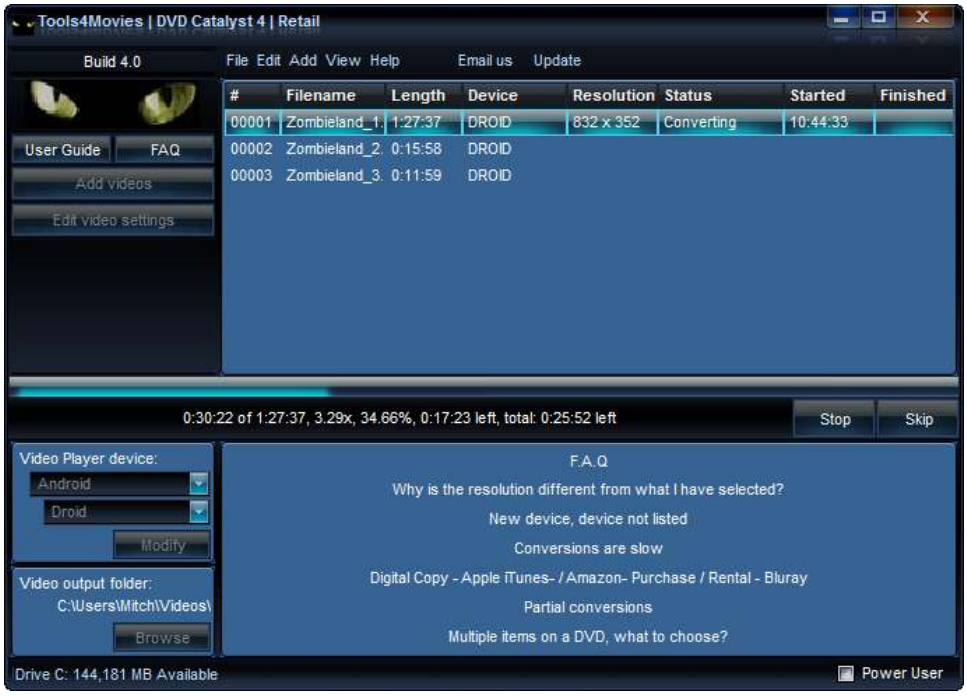
1. Start DVD Catalyst 4 by clicking the icon on your desktop or in your Start menu.



2. Select your video player device using the dropdown boxes on the left.

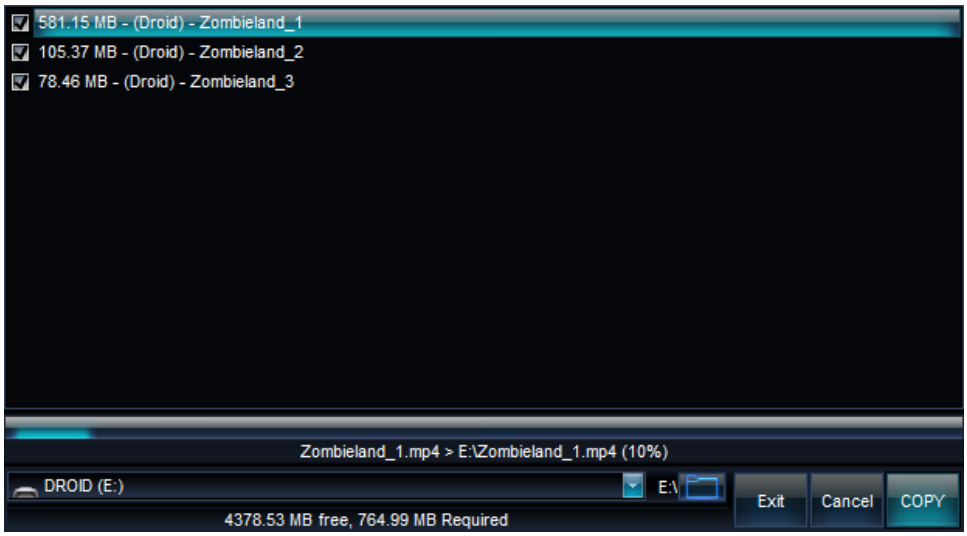
3. Insert your DVD, or click on the Add File(s) button to select video files you want to convert. You can drag files and folders onto the program as well.

4. Click Go to start the conversion process.



5. After the conversion process is complete, you can have DVD Catalyst 4 transfer the videos to your device or you can do it later.

6. Clicking OK will let you select the content you want to transfer to your device.



And now you are ready to watch your movie on your portable video player device.

2. Newbie F.A.Q

While the conversion process is active, a couple of frequently asked questions we received are displayed. Clicking on one of these links will open your web browser and provide some insight.

Q: When I play the movie, it displayed black borders. How do I remove those?

A: Black borders during playback are mainly due to the difference in screen size of the actual video and the device or player you use for playing the files. Watching a wide-screen movie on a square-screen device will result in the video player adding black borders to the video. Please refer to the "Black Border Removal" section found in this User Guide.

Q: Why is the screen size of the video different from the screen size of my device?

A: Similar as the previous question. If your device has a screen size that is larger than the screen size of the original video, DVD Catalyst 4 converts the file with the same resolution of the original video. While it is possible to make the video screen size bigger, it will actually reduce quality rather than making the video look better. Please refer to the "Screen size" section found in this User Guide.

Q: I just bought a new phone, but I cannot find it in DVD Catalyst 4, what do I do?

A: Every week new phones, iPods and other devices are released. While DVD Catalyst has profiles for the most popular devices, it is impossible to add new ones whenever they come out. In addition, many devices such as phones are named differently in different areas of the world. This does not mean that DVD Catalyst 4 does not work with your new phone, on the contrary. DVD Catalyst 4 offers a large degree of flexibility that makes it capable of creating video files for just about every device on the market today, yesterday as well as tomorrow. Have a look at the "New devices" section on the Tools4Movies website, and see if your new phone is listed there. Whenever we receive questions about a new device, usually we provide the settings for it on our website, before we release an update for DVD Catalyst 4 with a profile for it. If your device is not listed there either, you can send us an email at dvdcatalyst@gmail.com with a link to the product website, and as much information as you can provide us about it, and we will suggest settings for you (we always respond within 24 hours), or if the device is similar to a previous model that is listed in DVD Catalyst 4, give that a shot.

Q: Does DVD Catalyst 4 work with Bluray movies?

A: No. Bluray movies use an advanced protection system that is updated whenever a new high-profile movie is released. Many people have to update their Bluray player to be able to play a newly purchased movie, and this would apply for a Bluray conversion tool as well.

Q: Does DVD Catalyst 4 work with Digital Copy, iTunes/Amazon Purchase/Rental movies and TV Shows?

A: No. Those kinds of video files are protected with an Activation system to prevent them from being used with non-compatible devices. DVD Catalyst can convert all other standard video file formats, including DVD, DIVX, XVID, AVI, MPG, MKV and even ISO's.

Q: DVD Catalyst 4 shows multiple items. All I want is the movie.

A: One of the main reasons why we created DVD Catalyst is to make it easy to convert movie DVDs AND TV Episode DVDs. When you insert a DVD, DVD Catalyst will scan the disc for video content, and whatever it finds, that is longer than 10 minutes, it will enable for the conversion process. In most cases, this will result in displaying only the movie or a collection of individual TV Episodes.

Some movies, like the Zombieland movie screenshot on the left, includes special features that are longer than 10 minutes, so these will be enabled for conversion as well. However, if you are converting a TV DVD such as the Roseanne DVD displayed in the screenshot on the right, with 1 click it will convert all the episodes. To turn off the content you don't want, just select it, and remove the "Enable" checkmark.

Q: Why does it take so long to convert a movie?

A: DVD Catalyst 4 is one of the fastest conversion tools available, but it still takes a bit of time to convert a movie. What many people do not realize is that converting video from one format to another is a bit more than just copying a file. To make a video playable for a certain video player device, the format of the file needs to be changed. DVDs use a format called MPEG2, and a device such as an iPod for example can only play MPEG4. Besides the format, the screen size of the video also needs to be changed to make it fit, and the actual file size needs to be reduced as well. A DVD movie usually takes up in its original quality about 4000-8000 MB. While some players are capable of playing files this big, you would only be able to fit one movie on an 8GB memory card, or if you wanted to bring 4 movies on a trip, you would need to upgrade to a pricier 32GB of storage. DVD Catalyst 4 performs all these steps at the same time during conversion. It changes the format from one to another, it resizes the video screen size and it compresses the video so it takes up less space, while at the same time doing its best to produce the best looking video for your video player. For more information, including tips to speed up the process, please refer to the "Performance" section in this User Guide.

Q: DVD Catalyst 4 only converts a small portion of the movie.

A: The DVD Catalyst 4 Trial version only converts 25% of each item. If you purchased DVD Catalyst 4, please make sure you have the Retail version installed (it should say retail at the top).

Some computer manufacturer companies such as Dell, HP, Gateway and Acer use cheap computer parts to keep the price of their systems down. Some low-end DVD drives have problems with so-called Dual-Layer DVDs, on which longer or high-profile movies (Lord of the Rings, Avatar) are released. When the movie switches from one layer to the next, these drives don't process the change correctly, resulting in the conversion to stop. If possible, try the DVD on a different DVD drive to see if that helps.

Q: Playback issues, Lips not moving with the sound.

A: When you preview files created for Apple (iPod/iPhone etc) or Android (Droid, Incredible etc) devices on your computer, do not use Windows Media Player. Windows Media Player can play MP4 files, but not completely accurate. If you use Apple QuickTime or VLC, these files will play properly.

If the files have these issues on your device, the quality setting was set too high, or something else is running in the background. Try a "Battery pull" (take the battery out and put it back in) if possible, or turn the device completely off and on. If you have modified your device, such as a custom rom or overclocked the processor, it could also affect video playback.

3. Power User Mode

When you first install and run DVD Catalyst 4, it runs in a basic mode, providing the main conversion options, but the more powerful and advanced features are not accessible. Most of the questions we received in regards of complications with DVD Catalyst 3 were related to people changing settings that affect compatibility with the selected video player devices, so to make DVD Catalyst 4 less complicated, we implemented the “Power User” feature.

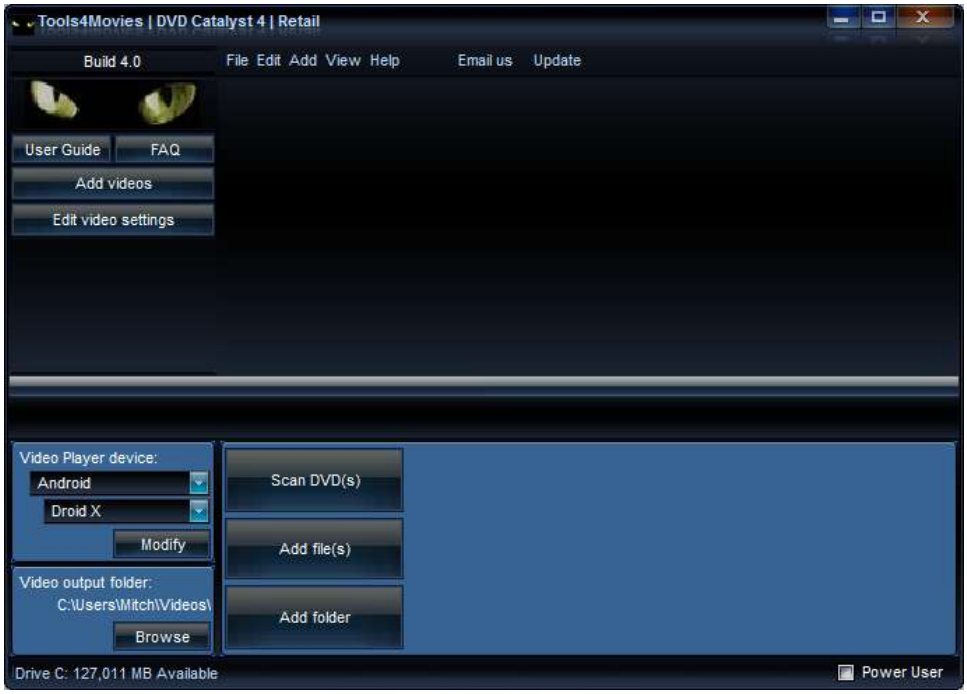
If you are new to DVD Catalyst, or just upgraded from the super-easy DVD Catalyst Free, we recommend running a few conversions in “Basic mode” to make sure everything works right. Similar as purchasing a new car, there is always a chance of complications, so it is not a good idea to “floor” the car when you drive it off the car lot. In “Basic Mode” you still benefit from being able to make some changes in terms of video player device selection and quality settings.

When you do switch to “Power User” mode, you will have access to everything that DVD Catalyst 4 has to offer.

4. Features and Settings explained.

DVD Catalyst 4 is the result of years of development. Originally started as a simple application to assist us with converting our own video files with Windows Media Encoder so they would play (and fit) on an iPaq PocketPC back in 2004, DVD Catalyst has grown into the most powerful and feature rich DVD and video file conversion tool available today. Back in 2004, we tried all the video-apps out there, but none did what we needed for our own use, so we decided to make something ourselves. At one point, we figured that other people were going through the same problems as we were, so we decided to release it to the public. Initially only created for a specific device category (PocketPC), we received requests from users to add support for additional devices and to implement new features. Rather than just copying our competition, we use DVD Catalyst ourselves, so whenever we run into something we would like it to do, we implement it. In addition, our believe is that if there is someone who has use for a particular feature, there are probably lots of people who would find it useful, so we welcome suggestions, requests and new ideas, all of which help making DVD Catalyst 4 the best tool around. With almost every minor update (3.0 to 3.1 for example) we provide more new features and options for free than the competition does with a major upgrade (3.0 > 4.0) with an upgrade fee.

Basic features:



On the left you find the following:

User Guide: Provides direct access to this guide.

FAQ: Provides direct access to the FAQ document.

Add videos: shows the Scan DVD(s), Add file(s) and Add folder buttons.

Edit video settings: shows options related to the selected DVD track or video file.

Video player device: You use the first dropdown to select your device brand (Apple for example) or category (Android for example) and the second dropdown to select your specific device, or a device that is similar to the one you are using. Have a look at the "New devices" section on the Tools4Movies website, and see if your new phone is listed there. Whenever we receive questions about a new device, usually we provide the settings for it on our website, before we release an update for DVD Catalyst 4 with a profile for it. If your device is not listed there either, you can send us an email at dvdcatalyst@gmail.com with a link to the product website, and as much information as you can provide us about it, and we will suggest settings for you (we always respond within 24 hours), or if the device is similar to a previous model that is listed in DVD Catalyst 4, give that a shot.

Video output folder: This is the location on your computer that DVD Catalyst 4 will use for storing the created video files. DO NOT change this to store the files directly on your device. Converting directly to your phone severely slows down conversions, and other issues can occur as well. After the conversion is complete, DVD Catalyst 4 will offer to transfer the files for you.

Add videos:

Scan DVD(s). By default, DVD Catalyst 4 looks for DVDs in your DVD drive when it starts, as well as recognizes it when you put one in your computer. If the DVD does not get detected, you can use this button to initiate a manual scan of your drives. If you connect an external DVD drive while DVD Catalyst is running, you might have to do a manual scan as well.

Add file(s). This brings up a file explorer box, which lets you select video files located on your computer.

Add folder. This brings up a folder explorer box, which lets you select a folder containing video files you want to convert.

Tip: Rather than using Add file(s) and Add folder, you can also drag your files and folders onto DVD Catalyst 4. DVD Catalyst 4 looks for files it can convert, and ignores files like pictures and documents. This makes it so much easier to convert a collection of video files.

Tip: DVD Catalyst 4 recognizes all DVD drives found on your computer, so if you have 2 drives, you can put a DVD in both. In addition, you can use Virtual DVD drives (such as Daemon Tools) or simply drag DVD ISO files onto the program as well.

Edit video settings:

Modify resulting filename: By default, DVD Catalyst 4 uses the original filename of the video file, or, in the case of the DVD, the DVD identifier name. If you want to change the filename to something else, this is the best place to do it. In addition to this being used for storing the file, it is also used for a few more advanced options (see Power User Settings for details)

Enable selection for conversion: When DVD Catalyst 4 finds a DVD; it will scan for content longer than 10 minutes in play length. This enables a fast way to convert TV Episode DVDs as well as Movies (both are

usually longer than 10 minutes) while ignoring special features and trailers. In some cases, special features are longer than 10 minutes, and thus will be enabled for conversion. By selecting the track(s) or file(s) you do not want to convert, and removing this checkmark, they will not be converted.

Subtitles: DVD Catalyst 4 can convert your movie or TV show with subtitles. Just select the language you want to use here.

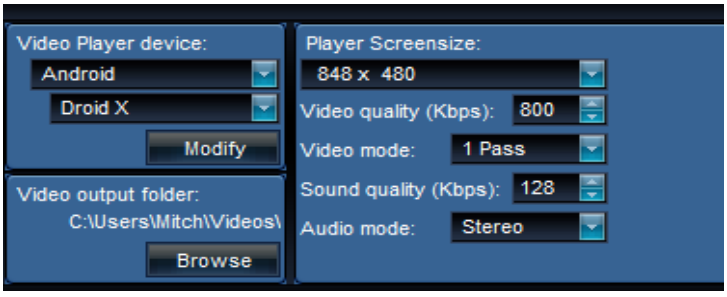
Audio language: If your DVD or video file includes additional languages, such as Spanish or French for example, you can change that here.

Preview: This will have DVD Catalyst play the selected video file/DVD track with the settings you have selected.

Video player device:

As explained earlier, you can select your device using the 2 dropdowns. The first one is used to select the Brand-name or the device category, and the second one is used to select your desired conversion profile. Making your selection here will adjust certain conversion settings to ensure compatibility with your device, such as screen size, video and audio quality, and most importantly, the conversion format used for creating the files.

Clicking on the “Modify” button will give you access to some of these settings (see Power User Settings for more info and adjustments)



Player Screen size: Selecting a device profile will adjust this to the proper setting used for your video player device. DVD Catalyst 4 uses this as a Maximum setting, which means that if the original DVD or video has a higher resolution, it will be resized to fit within the selected screen size. It will not make any additional adjustments to the size. As a result, you might end up with a video file that is smaller or different in size than your selected screen size (more info on this in the Black Border Removal section). If the video screen size of your original DVD or file is less than the selected screen size, DVD Catalyst will use the size of the original file to preserve the best possible quality (have a look at the Upscaling section for info on this).

Video quality (Kbps). This affects the way the video looks, as well as on how big your resulting video file will be. The basic idea is that the higher this setting, the better the video, but also the bigger the file the default settings set by DVD Catalyst when you select your video player device are “safe” settings. You end up with good quality files at a reasonable file size. It’s up to you to increase the quality; however our

own personal preference is to have more good looking videos on our devices than only a few amazing-looking ones. Keep in mind that most devices have a limitation on the maximum quality setting they can play/accept. Most iPod's and Android devices can only go up to 1500 Kbps for example.

Tip: Try the default profile settings first. There are a lot of articles on the web for video on specific video player devices, but most of these use the maximum settings a video player device will accept for video quality, because they believe this produces the best quality. However, many people cannot tell the difference in quality between a file encoded at 1500 or 1000, and this results in a difference of being able to fit 1/3 more movies or TV shows on the same amount of storage space (no need to purchase a pricy 32GB memory card for your phone).

Video mode: This determines how many passes DVD Catalyst should use for the conversion.

1 pass: The conversion of your video file/DVD only runs once,

2 pass: The conversion runs twice. During the first pass, activity of the video (fast-moving scenes/slow-moving scenes) is scanned, and during the second pass, this information is used to adjust the quality setting to maintain a constant quality.

With 1-pass conversions, every part of the video gets the same amount of space to use (aka Constant Bit rate/CBR), and with 2-pass conversions, slower scenes receive a lower quality setting and faster scenes get more (aka Variable Bit rate/VBR or Constant Quality).

2-pass will make the movie in general look better overall, however, with faster scenes it is possible that the quality setting exceeds the limitation of your device, resulting in either stuttering playback or "unplayable file" messages in the middle of the movie. With 1-pass you don't have these issues; however, quality during faster scenes might be a little less, depending on your quality setting.

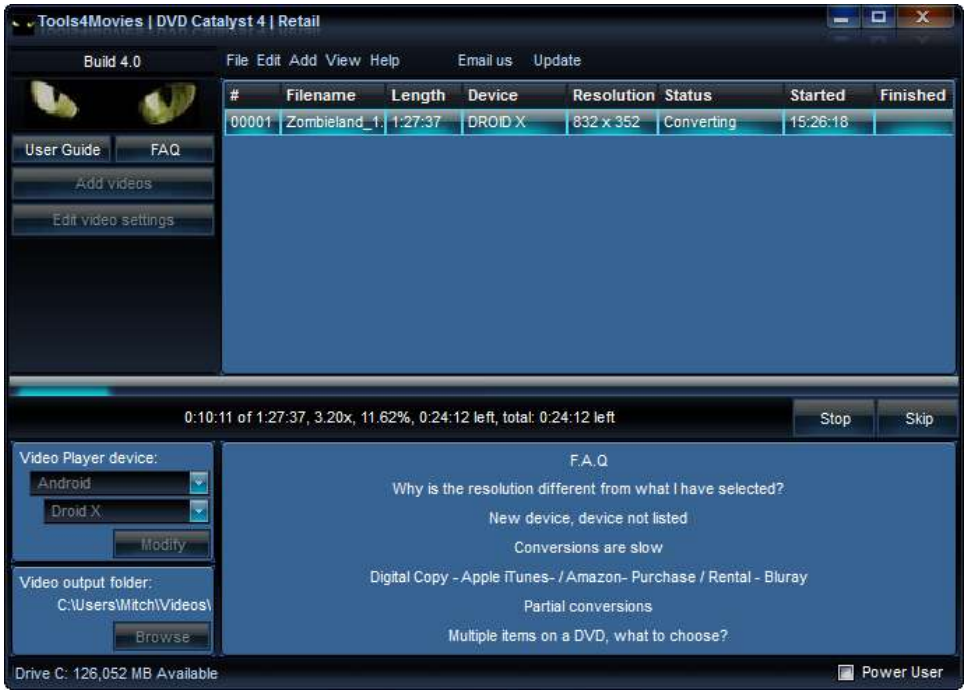
Tip: For best results, rather than using 2-pass, you might want to adjust the quality a bit depending on the kind of movie. For romance movies you could use a lower quality setting, and for fast action movies, increase it a bit.

Sound quality: This determines the quality of the audio during playback. For most devices, 128Kbps (near CD quality) is good enough if you use headphones that came with your device, but for other people 160Kbps is a little better.

Sound mode: Mono or Stereo. For playback using headphones or a speaker system, Stereo provides the best result; however, if you are using a build-in speaker, or need to save file-space, you could use Mono. Stereo provides cool effects such as hearing a car moving from left to right, while with Mono, you will just hear the car move.

Tip: If you are trying to save space, lowering the audio quality a bit can help some. To improve the audio quality, use Mono instead of Stereo. The amount of data is split over the amount of channels, so if you need to use something like 64Kbps, on stereo, this will be 32Kbps per side. By changing it to Mono, it will use 64Kbps per side, which is the same as 128Kbps Stereo.

Go: This will start the conversion of your selected DVD tracks and video files.



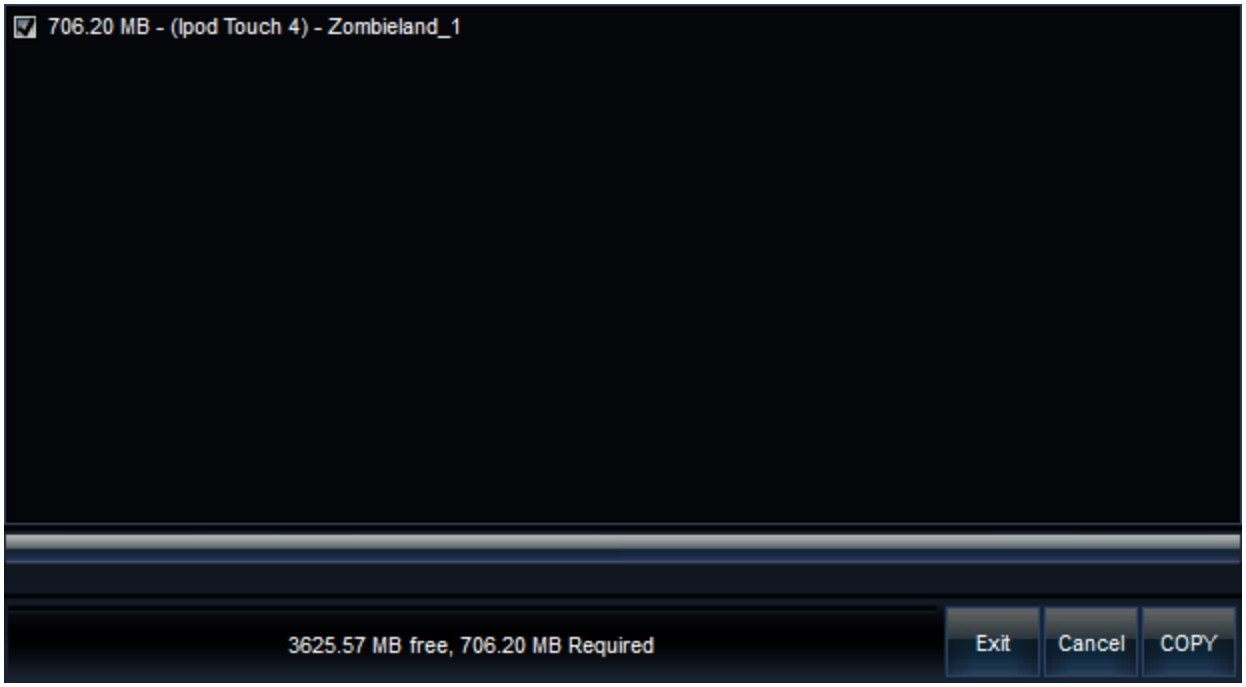
During conversion, a few frequently asked questions are displayed. Clicking on these links will take you to an article on the tools4movies website which provides answers and information for the selected question.

Transferring files:

For most devices, DVD Catalyst 4 will offer to transfer the created video files to your device.

Devices such as Smartphone's (Windows Mobile, Android, Blackberry), which connect to your computer as a removable device (or use a memory card for example) as well as iTunes connected devices such as the iPhone and iPod Touch are supported, however, if devices use proprietary software (other than iTunes) such as the Zune for example, you will have to transfer the files yourself. In most cases, this involves starting the software, adding the created files to it, and then tell the software to sync with your device. If you have multiple iTunes devices, make sure you only have 1 device connected. Having 2 iPods connected in iTunes at the same time can cause the transfer to not work correctly.

If you click Cancel, DVD Catalyst 4 will open the folder for you so you can manually transfer the files, otherwise, it will bring up the following screen.



If you have multiple items, but do not want to transfer them all (or if there is not enough room for all of them) you can remove the checkmarks for items you don't want (yet) If there is enough room available, just click on the Copy button to have DVD Catalyst 4 transfer your movies. For iTunes connected devices, the created files will be added to your "Movie" library, and from there iTunes is told to transfer the files to your device. When complete, just click Exit to go back to DVD Catalyst 4.

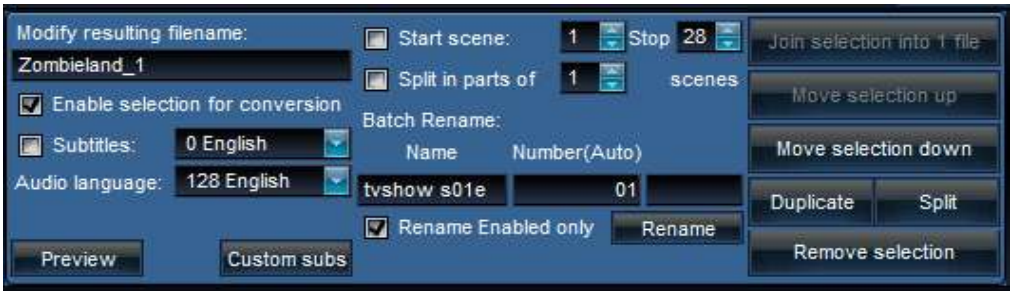
Advanced Features (Power User):

So far, we have only addressed the basic features and options of DVD Catalyst 4. Now onto the part where DVD Catalyst 4 shines. More features and options than its competitors combined, many not found anywhere else, and some so handy, you wouldn't believe how you could have gone without it.

Most of the powerful features and options can be found in Global Settings, which becomes accessible by enabling the "Power User" checkmark at the bottom-right. Besides making Global Settings accessible (the settings here are still used, regardless of the Power User checkmark. They are only hidden from view to make DVD Catalyst 4 easier to use) the Power User checkmark also enables access to additional options.

The "Add videos" options remain the same, so we will not explain them again.

Edit Video settings:



Modify resulting filename: available in Basic Mode as well, lets you change the file name for the selected file/DVD track.

Enable selection for conversion: available in Basic Mode as well, enables/disables track or file from conversion.

Subtitles: available in Basic Mode as well, lets you select subtitle languages to include in the video, if available.

Audio language: available in Basic Mode as well, lets you select the audio language used for the video (if available)

Preview: available in Basic Mode as well, brings up a video preview of the selected item. “Power User” mode enables additional features such as brightness and contrast in the preview window.

Custom Subs: If you are converting video files that do not support subtitles themselves, but you have an SRT-formatted subtitle file that goes with it, you can select that here. Even for some DVDs, it is possible that additional subtitle languages or commentary files are available on the internet, and as long as they are in SRT format, they can be used by DVD Catalyst 4 to be included in the created video files.

Start scene / stop scene: This setting lets you select a portion of the movie to be converted based on scenes (based on playtime position can be set in the preview) You can use this to create a small test clip of a specific scene, or to bypass credit portions at the beginning and/or end of the movie.

Split in parts of 1 scene(s): By enabling this setting, movies and TV shows will be split into portions based on scenes. Using the default 1 will result in each scene being converted into a single file (so you end up with 30+ files for a movie) numbered in order. This option is useful for devices that have limited storage capacity (cheap MP4 players) or, you could use this option to enable scene selection on some devices by creating a playlist of the scene files, and then use the playlist on your video player.

Batch rename: The options here are used to quickly rename files to match a certain system. If you have 50 video files that make up a few seasons of a TV show, you can use this setting to rename them all.

It works with 3 fields. The first one is intended to be used for the TV show name, such as Roseanne for example. The second box is the episode number field. It uses the amount of characters you put in and it will increase in increments of 1 from the starting number you put in. The third box is used to put something behind the filename with the number.

If the fields contain the following: 1: “Roseanne S01E” 2:”01” 3:” DVD” files are renamed like this:

Roseanne S01E01 DVD, Roseanne S01E02 DVD, Roseanne S01E03 DVD, Roseanne S01E04 DVD.

If the fields contain the following: 1: “Dragon Ball Z ” 2:”001” 3:”” files are renamed like this:

Dragon Ball Z 001, Dragon Ball Z 002, Dragon Ball Z 003, Dragon Ball Z 004.

Join selection into 1 file: By default, this setting is only available for AVI files, and only when the files are the same size and format. You can change this in Global Settings > Advanced so it will work with other files or even DVDs, however, this does not always work for files other than AVI. This setting is intended to be used with multi-part AVI files. If you have a multi-part AVI file, you can join them for conversion so you end up with a single file. Select the files you want to join together, and if the files are similar enough, you can click on this button.

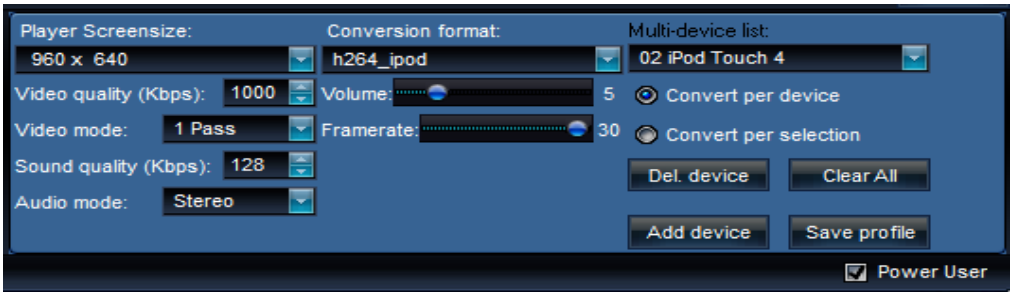
Move selection up/down: By default, DVD Catalyst organizes files and tracks based on a first come first serve basis. If you would like to change the order for the conversion (or for joining them) you can do that with these 2 buttons.

Duplicate: If you would like to convert an item using different settings, you can use the duplicate button to create a copy of the selected DVD track or video file in the conversion list. You could convert one instance into a single file and another into individual scene-files for example.

Split: This will split a movie in 2 equal-length portions. It duplicates the selected item, and adjusts the end time of the first to half-way, and for the duplicate, it sets the start position to half way. This feature is handy for long movies and devices with a limited storage capacity.

Remove selection: This will remove the selected item from the conversion list completely. While similar, the “Enable for conversion” does not actually remove the item from the view, while this button does remove it completely.

Video player device "Modify":



DVD Catalyst 4 uses Video player device "Profiles" to ensure compatibility for specific devices. When you select a device using the dropdowns on the left, the settings found in "Modify" are automatically updated. In most cases, there is no need to change any settings, but if you like to experiment, or adjust the quality a bit; this is where you can do just that.

The settings on the left side, Screen size, Video/Audio quality and modes are available in Basic Mode as well, and are explained in detail a few pages back, so we will focus on the Power User ones.

Conversion format: The most important setting of all in terms of keeping compatibility with devices. While quality and screen size limitations on a video player device such as an iPod or Droid can determine if a file is playable or not, the conversion format is the most important factor. While it is possible to compare conversion formats in DVD Catalyst to codecs, it goes a bit further than that. The names reflect the video (and on some the audio) codec(s) used for the conversion, it also covers a large collection of more advanced options that can be used with the codec. H264, the most common format used today, on devices such as iPod/iPhone/Android and even Bluray, has a lot of advanced options that determine if a file is compatible with a specific device or not.

The Sony PSP can play H264 MP4 files, but unfortunately, files created using this format are not compatible with an iPod, and the other way around this is also the case. Fortunately, all Non-Sony devices that can play H264 MP4 (and a few Sony ones) can play iPod compatible MP4 files.

By selecting a conversion format, you are also specifying the more advanced options as well. H264_ipod creates an iPod compatible H264 MP4 file at a reasonable speed and quality. H264_ipod_hq produces the same kind of file but provides a better quality, but converts a bit slower. H264_psp creates a PSP compatible H264 MP4 file and so on.

Volume: By default, DVD Catalyst 4 uses a technology called "Volume Maximize", which increases the volume to the maximum loudness without causing distortion, and this setting overrides the volume. By disabling this setting in Global Settings > Advanced, you can use the volume slider to adjust the volume more accurately.

Frame rate: Video consists of a sequence of individual pictures. The frame rate is the amount of pictures that are displayed in a certain time frame, and in general, the higher this amount, the more "smooth" the video appears. The frame rate setting in DVD Catalyst works different than any other conversion

tool. Most similar tools (that have a frame rate adjustment setting) use the frame rate as a fixed setting, and as a result, whatever this setting is set to will be used in the created video file. DVD Catalyst on the other hand, uses this setting as a maximum value. It looks at the frame rate of your original video and compares this with your selected frame rate setting, and uses the lowest value. If your frame rate is set to 30, and your original file has a frame rate of 23.xxx, it will use the 23.xxx. If the source video file has a frame rate of 29.xxx, and the frame rate setting is set to 20, it will use 20.

The reason for this is that if a file has a lower frame rate, the only way to increase the frame rate is to copy existing images. It is impossible for a conversion tool to include something that is not there, so it has to use what is actually there. The duplicate frames still require file space to store the color of the individual dots, so you only end up with a lesser quality file, and because some frames are repeated, the movement is also not smooth.

Tip: Because each frame of a video needs file space to store the quality, you can actually use the frame rate to improve quality for video if you use low-quality settings.

If you use a quality of 300Kbps for video, and use a frame rate of 30, each individual frame has 10Kb (300/30). If you lower the frame rate of this file to 20, each individual frame can use 15Kb (300/20).

Some people are more perceptive on movement than others, so while it does affect the smoothness of playback, with some trial and error, you can achieve a quality improvement without too much compromise.

Multi device:

Unique to only DVD Catalyst 4, the Multidevice list is one of the coolest features.

DVD Catalyst was designed to provide an easy way to convert multiple items with a single click. Rather than clicking through a program to start a conversion, wait two hours, repeat the process again for another episode or file, DVD Catalyst 4 lets you set up a conversion queue (list of items), and then start the conversion so all will be converted in order. Connecting to this is the Multidevice list. If you have been into portable devices or phones for a little while, chances are you have more than just one video player device you would want to use your video files for. While it is possible to create files that will play on more than just one device, if these devices are significantly different (an iPod Classic and a Droid Incredible for example) you end up having to make a compromise. The iPod files will play on the Incredible, but because the screen size of videos for the iPod are 1/4th of the Incredible's screen, the video will not look that good.

With Multidevice, you can queue up different device profiles, and everything you convert with DVD Catalyst 4 will be created using the specific settings for each device. If you convert a DVD movie, it will be converted separately for each device, if you convert 20 video files, they will all be converted for each device.

Add device: Adds a new device to the device list. When you click this button, it will create a copy of the currently selected device, and you can either change the profile in "Modify" (same device but different quality settings to compare for example) or just use the video player selection dropdowns to pick a different profile.

Dell device: Removes the currently selected device from the Multidevice list.

Clear all: Removes all added devices from the Multidevice list.

Convert per device: Converts all items for the first selected device, and when finished, it will start over with the second device and so on.

Convert per selection: Converts each item for all devices first, and then continues onto the next item and so on.

Save profile: Look at the next page for more information. This button saves your current device list as an easy to select profile.

Profiles:

DVD Catalyst 4 uses device profiles. These profiles are basically a collection of settings for specific devices. By selecting a video player device profile using the dropdowns on the left, a collection of settings in “Modify” are updated to reflect the settings needed for video for that device.

If your device is not listed, usually you can select a similar device, and the files created with that profile should work fine, however, if you made a lot of changes in “Modify” you can save it as a profile. By default, DVD Catalyst saves and loads the settings from a file called “last profile” to ensure your settings are remembered for the next time you use DVD Catalyst, but if you switch between devices and settings often, you might want to save your settings in a separate profile.

The “Save profile” button in “Modify” lets you do that. All the settings set in “Modify”, including Multidevice if you used that, are saved in a file you can name yourself. Some people use different settings for different movies, and by saving your settings in profiles, you can easily switch between them.

Once you have saved one or more profiles, a new dropdown above the device selection boxes becomes visible:

In the screenshot, you notice that I saved 2 profiles, Action movies and Slow Movies. (Because action movies have more activity on screen, I prefer to use a slightly higher quality setting for them). When you want to convert something using one profile, just select it in the dropdown, and when you want to convert something else using different settings, just switch the profile.

Important: When you save your settings as a profile, any changes you make after selecting the profile will be used for that particular conversion, however they will NOT be saved in the profile (they will be saved in last profile though). So if you select a profile, and increase the quality a bit for one particular movie, restarting DVD Catalyst (or switching profiles) will still use the original saved settings from the profile.

Global Settings (Power User)

Here is where the fun part begins. The true power of DVD Catalyst 4 can be found in Global Settings. Everything from small tweaks to enabling DVD Catalyst 4 to get a glass of milk from the fridge (metaphorically) can be controlled in these settings.

Options and features are organized into tabs, which makes them easier to find, and include a 1-line description of what it is used for. Some settings are quite basic, such as automatically eject the DVD after a conversion is complete, while others are more significant in terms of what it is intended to be used for.

General tab:

Monitor DVD's on insert: DVD Catalyst 4 automatically monitors your DVD drives. Whenever you insert a disc, it will perform a small check on the drive to see if it contains a DVD, and if it is one, it will automatically scan it for you. By removing this checkmark, you have to manually click the Scan DVDs button before a DVD is scanned.

Eject DVD when done: After all the items on a DVD have been converted, even if the conversion is still converting other things such as video files or a DVD in a different DVD drive, it will eject the DVD automatically. If you are doing a conversion run with a couple of DVD drives, you can then replace the DVD for a different one, and when all the conversions are finished, the newly inserted DVD(s) will be scanned and made available for conversion. Some people use it as an indication that the conversion is complete when they walk past their computer.

Open video folder when done: After the conversion is complete, DVD Catalyst 4 automatically opens the folder (or if enabled in another setting, it will offer to transfer your files) containing the created video files.

Transfer files when done: After the conversion is complete, DVD Catalyst 4 will offer to transfer your video files to your device. (Most, but not all devices)

(Video) use source folder as output folder: Rather than converting the files to the folder set in the "output location" area at the bottom left, if this setting is enabled, files created from video files will be stored in the same location as the original. If you are using an external drive, this might slow down conversion speed.

(Video) keep folder structure: If you have your video files organized in folders, enabling this setting will tell DVD Catalyst to maintain the same folder structure, so if your movies are located in e:\video files\movies and your TV shows are located in e:\video files\tv\24 and e:\video files\tv\jericho for example, the same organization will be created in the selected output folder.

Run on windows startup: When you turn on your computer, it will load DVD Catalyst automatically. Useful if you let DVD Catalyst 4 convert automatically.

Right click > Send to > DVD Catalyst: By enabling this setting, you can right click on a video file and using the Send to > DVD Catalyst command, you can have it start DVD Catalyst automatically to start a conversion of the file.

Check for updates on startup: When you start DVD Catalyst, it will automatically check the tools4movies website to see if a new version is available.

Show processor usage indicators: When enabled, DVD Catalyst 4 will display small bars indicating how busy your computer is. For multi-core/multi-cpu systems, it will show 1 bar for each. Note that this slightly slows down the conversion speed.

Bring DVD Catalyst to the foreground after scanning files: If you added a lot of files to convert with DVD Catalyst, it can take a little while before each one of them have been scanned. If you continue to work with something else, DVD Catalyst 4 will jump to the front of your screen when the scanning process is completed.

Start directory: If your original video files are always located in a specific location, you can point this setting to that location, so whenever you browse for files, it will start in that folder.

Startup tab:

Scan for DVDs on startup: When you start DVD Catalyst 4, it will automatically scan your DVD drives to see if you have any DVDs in them. If it finds them, it will automatically start the scanning process.

Start minimized: When DVD Catalyst starts up, it will appear in your taskbar (bottom screen) rather than on your desktop. This is useful if you use DVD Catalyst 4 in automatic mode.

Load state on startup: Works together with “save state” You can save the current state of DVD Catalyst, which includes the conversion list, device list and all the settings. When you start DVD Catalyst, this “state” is loaded again. If you have to restart your computer for some reason, you can use this to bypass scanning of all the files and DVDs.

Minimize to tray: When you minimize DVD Catalyst 4, rather than putting itself in the task bar, it puts itself as a small icon next to your click (aka system tray)

Close tab:

Shutdown DVD Catalyst when done: After DVD Catalyst is finished with the conversion. It closes itself.

Shutdown computer when done: After the conversions have been completed, DVD Catalyst will turn off your computer. (Make sure documents you have opened are saved)

Save conversion status on close: Useful if you use one of the previous shutdown options. This will store the conversion status (completed/failed/skipped conversions, conversion speed and times) and when you start DVD Catalyst again, it automatically loads this so you can verify the process.

Save state on close: This will save the current "state" of DVD Catalyst when you close the application. It will store the conversion list as well as the device list, and when you load the "state" (or have "load on startup" enabled, it will be just like you didn't close DVD Catalyst at all. Useful for when you have to restart your computer for something like Windows Updates while you have a lengthy conversion queue setup, or if you need to convert something else first, and then continue with what you were doing before. If a conversion is running at the time you close DVD Catalyst, it will start the conversion from the beginning of the current file/track. Conversions cannot be resumed.

Borders tab:

Most wide-screen DVDs have black padding added to the video to ensure compatibility with the official DVD standard. If you convert the video blindly, the black padding will be converted as well, and becomes part of the video.

By default, DVD Catalyst 4 automatically removes the padding, however, depending on the video content as well as the screen type of your device; you might still end up with black borders, even though they are not part of the actual video file created. More information on black bar removal can be found in the Black bar removal section in this manual.

(Original video image with black padding)

***No cropping:**

This leaves the video in its original form, and DVD Catalyst 4 will just resize it based on the screen size setting set for your device.

***Remove black bars from file (default):**

(Black borders removed from original video)

This setting removes the black padding from the actual video, but leaves the rest of the video unaltered. DVD Catalyst 4 then resizes the video to fit within the device screen size.

***Completely remove black bars from device:**

 (Cropped for wide-screen device)

 (Cropped for non-wide-screen)

The black padding is completely removed from the video file and, depending on your device screen size, parts of the video is removed to make the video full-screen.

***Partially remove black bars from device:**

If you are using a video player with a non-widescreen, such as an iPod Classic, using the previous option (as you can see in the screenshot) can result in losing a lot of actual video content. Especially with movies like Star Wars and Lord of the Rings, which are wider than most other movies.

The “remove partially” setting is sits in between the previous 2 options. It removes black borders from the file, and removes parts of the actual video to make it fill more of the screen; however, you will end up with some black borders, but don’t lose as much from the actual video.

A  b  c 

A: remove from file

B: remove from device

C: partially remove from device

***Full screen stretch (aka Anamorphic)**

This setting stretches the video to make it full-screen. It does not remove any portions from the video (except for the black padding if the video file/DVD track has these), but to make the video full screen, it will stretch the video in either the height or the width, modifying the actual aspect ratio. If you use this with a widescreen movie on a non-wide screen device, people will appear taller and skinnier. If you use this with older non-widescreen content on a wide-screen device, people will appear shorter and wider.

A  B 

A: remove from file

B: fullscreen stretch

***Add black bars to fit resolution:**

For some devices, video files need to have an exact screen size setting in order to be able to played properly, besides being converted in the proper format. For example, you can create video files you can transfer to a TiVo Series 2 if they are encoded in MPEG2 format (using TiVo Desktop) but if they do not have a screen size of 720x480, the video will have artifacts and lines. By enabling this setting, DVD Catalyst 4 will remove the black borders from the video, but generates new ones to match the selected screen resolution. By removing and then adding new ones, there will be no color difference in the black borders, making it easier for recent TV sets to automatically remove them during playback.

***Border detection scan-count:**

Black border detection in DVD Catalyst works different than any other conversion tool. Rather than just using fixed values, DVD Catalyst 4 actually creates screenshots at certain points of the video, and then scans the screenshots for black areas.

Internally, this is what it looks like:

(The screenshots are taken at a lower quality to ensure better detection of black areas)

Based on the info from the screenshots (the red lines) a comparison is performed (and bad results ignored) and then the calculations needed for the black border removal setting are applied.

The green line shows the actual data that DVD Catalyst will use for the conversion (in this case “remove from device” for the Samsung Galaxy S with the Spaceballs movie).

In some very rare cases, when a movie has a lot of black, or when there are black areas throughout the video (such as the clock display seen in the “24” TV series) using only 5 scanning positions might result in a bad detection. The resulting video might only show a side rather than the middle for example. You can eliminate this from happening by increasing the scan count; however, it will take a little bit of extra time for the conversion. For 99.999% of all files and DVDs, 5 points is sufficient though.

Orientation/Rotation

*Do not rotate video (default). This leaves the video in the original orientation.

*Rotate 90 degrees clockwise.

*Rotate 180 degrees (turn video upside down).

*Rotate 90 degrees counter-clockwise.

For devices that do not have an accelerometer (iPod Touch/iPhone/iPad for example), it can come in handy to adjust the orientation of the video to make better use of the screen, or to be able to use your other hand to access the controls.

Language tab:

For DVDs and video files that have additional languages available, DVD Catalyst 4 offers a multitude of options to make it easier for you with your conversions.

***Default audio selection**. With this setting enabled, DVD Catalyst 4 will automatically select the selected audio language if available. It will first look for the primary selected language, and if that is not found, it will look for the second one. If both are not found (or if this setting is not enabled), it will use the first multi-channel audio track (which is in most cases the main audio language of the movie)

***Default subtitle selection**. Similar as the previous option, this will do the same for subtitles.

*Do not enable subtitles automatically. If a selected subtitle is found, it will be selected, but not enabled in the conversion.

*Always use subtitles when available. If a selected subtitle is found, it will always be enabled.

*Only enable subtitles if the primary audio language is not available. This is better explained with an example. Say you live in the Netherlands, and have NL selected as the primary audio language, and EN as the secondary audio language. If you convert a movie with a Dutch (NL) audio track, it will use that. If it does not have NL, but it does have EN, it will enable subtitles, so you end up with either a Dutch-spoken movie without subtitles or an English-spoken movie with Dutch subtitles.

When you change these settings after scanning a DVD, click the Apply button to have DVD Catalyst make the requested changes to the scanned video content.

***No subtitles:**

With some video files (MKV) the subtitle track is set to always show (this is different than burned in subtitles) and even when you don't select any subtitles, they will be converted in the movie. By enabling this setting, all subtitles (unless you manually enable them) will be ignored.

***Forced subtitles only:**

If you never convert movies with subtitles, but would like to have subtitles for the non-English portions in movies like District 9 and Avatar, enable this setting.

***Enable Closed Captions:**

DVD Catalyst 4 is one of very few conversion tools that actually support closed captions. Closed Captions are special subtitles for the hearing-impaired, and are usually found on Region 1 (USA) DVDs. Besides displaying the spoken words in text-form, these subtitles also include descriptions of non-verbal parts of the movie, such as songs or whispering wind.

Unfortunately, there is no proper way of detecting if a DVD actually has closed captions, except by looking at the actual DVD case ([CC] logo on the back). By enabling the checkmark, DVD Catalyst will convert DVDs with the closed caption setting enabled, which means that if there are closed captions, they will be included in the conversion.

Conversion tab:

Use conversion buffer:

Tell DVD Catalyst to use a small portion of your computer memory to buffer video content from DVDs or video files rather than converting directly from the video content. This can speed up conversions a little, and results in less wear and tear on the DVD drive, however, this is not compatible with all drives. On some DVD drives, the buffer does not clear properly, which results in failed conversions (even if they worked previously). When this happens a complete shut-down of the computer is required to flush the buffer of the drive (a restart is not enough)

Create playlist file:

By default, DVD Catalyst 4 creates a playlist file in the output folder location containing the created video files. This file can be used for easy import in media manager programs such as iTunes en Windows Media Player. If you don't use the file, you can turn it off by removing this checkmark.

Disable track numbering for DVD tracks:

DVD Catalyst 4 uses the DVD label (as seen in "My Computer") for naming the DVD tracks it finds. In addition, it appends the track number reported by the DVD to the name. If you are only converting movies, or rename the tracks yourself, you can turn off the track-numbering with this setting.

Deinterlace:

Some movies and TV shows can have "jagged lines" during movement, due to the way the video was created.

By enabling this setting, these jagged lines will be removed; however, conversions will be a little slower.

***Allow Upscaling:**

By default, DVD Catalyst resizes the video only when the selected screen size for your device is lower than the resolution of the original video. So when you convert a DVD (720x480) for iPod Classic (320x240) it will be resized. However, when you are converting a video that has a lower resolution than the one set in the device settings, the original video will be kept. So if you convert a DVD (720x480) to iPad (1024x768) the original resolution will be kept (720x480). DVD Catalyst 4 does perform the calculations, and applies the correct black-bar removal settings, however, the video will not be upscaled, because it reduces quality rather than improve it. (More information can be found in the "Upscaling"

section further in this user guide.) By enabling this setting, DVD Catalyst will upscale the video to a higher resolution, if needed.

***Overlay video name at the beginning of the video**

This setting will embed the movie filename into the first couple of seconds of the video. Some video player programs, such as the Gallery app on Android devices, only show thumbnail images for the video without file names. Especially if you convert a couple of TV episodes from the same series, it becomes problematic to find out what episode you want to watch, because all you see is a thumbnail image. By enabling this setting, the generated thumbnail will actually contain the filename of the file, so when you are browsing your video files, it becomes easier to see which one is which. (Because the thumbnail is created from the video anywhere between 5 and 15 seconds, the filename will be displayed during those 10 seconds in the video.

***Enable Album Art for MP4 files:**

Some video players, such as iPod/iPhone/iPad are capable of displaying a so-called thumbnail image. iTunes purchased content can contain a DVD cover for example. By enabling this setting, DVD Catalyst 4 creates a screenshot of your file and overlays the filename on top of it and uses that as a thumbnail image.

***Enable streaming for MP4 files:**

If you use an online location for storing your video files such as a web server or Drop Box, or use our MP4 Streaming Server application to access your files on the go, you can enable this setting to be able to play the file while downloading. If this setting is enabled, you can play your video files directly from a web server, while it is downloading. Otherwise, the entire file needs to be downloaded before you can play it.

***Conversion priority:**

Adjusts the priority of the conversion process on your computer. Setting it higher will result in faster conversions, but makes your computer less responsive for other things. Adjusting it lower will result in better responses of your computer, but slower conversions.

***Trim seconds from the beginning:**

Skips the first x minutes of the video to start the conversion. This can be used to trim off the opening credits of an entire TV season without having to manually set it up for each episode.

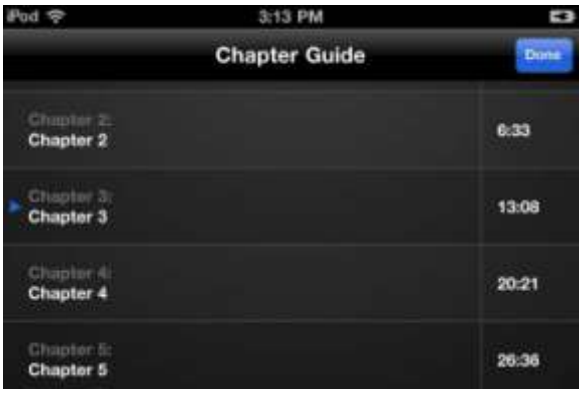
*Trim seconds from the end:

Stop the conversion x minutes before the end. Useful to trim off end credits from each episode/movie.

***Insert chapter information in MP4 files.**

New in DVD Catalyst 4 (actually added late during the beta) is the capability to put in chapter-markings in MP4 video files. More and more devices are capable of playback of MP4 files, and many of these, including the iPod/iPhone/iPad devices are capable of using chapter markings. Similar as scene selection on DVDs, chapter markings inserts “bookmarks” into the file at various positions.

When you convert a DVD (or an MKV file with chapters enabled), DVD Catalyst 4 will use the actual time positions of the original file for chapter markings in the MP4 file. If you are converting video content that does not have chapters or scenes, it will use the set time as an interval (defaults to 5 minutes), making it easier for you to find the part of the video where you left off.



Not all devices or video players support chapter markings in MP4 files, and currently there is an issue with iTunes not being able to read them properly, however, on iPod/iPhone/iPad it works fine.

***Convert only x minutes of each file.**

Starts the conversion as normal, but stops the conversion after x minutes. This is useful for testing conversion settings or to put DVD Catalyst through its paces without having to wait for a conversion to completely finish.

***Run program before conversion.**

If you want DVD Catalyst to run a program, script or play an MP3 file before the conversion starts, you can select that here. If you are converting files from a location that is accessed by a different program at the same time, you can use this to run a script that turns off the program so that it does not interfere with the conversions.

***Run program after conversion.**

Similar as above, but this is for after the conversions are complete. You can use this to run a script to start a program or services after the conversion is done, or play an MP3 to let you know it’s finished. Both run before and run after options do NOT monitor or wait for the script to finish.

DVD tab:

***Ask for DVD track selection.**

Rather than automatically scanning a DVD and the found tracks on it automatically, DVD Catalyst 4 will display a list of the detected tracks on the DVD (with play length); enabling you to manually select the tracks you want to convert. With some more tricky DVDs it can bring this selection up by itself.

Preview will display a small video enabling you to see if you have selected the track you want, cancel will have DVD Catalyst scan through the found tracks by itself and OK will just tell DVD Catalyst to scan the selected tracks only.

***Automatic Movie/Episode detection.**

DVDs come in many different forms and structures. Some TV show DVDs have a play-all track and the individual episodes separate, and some movie DVDs have multiple listings (both real and fake) for the movie. By enabling this setting, DVD Catalyst will try to determine what kind of DVD you have, and enable/disable tracks accordingly. For TV episode DVDs, it will disable the play-all track and leave the individual episodes enabled, and for movies, it will enable the movie, and disable special features for example.

***DVD as VOB.**

The DVD standard specifies that the largest file size on the DVD disc cannot exceed 1GB, so a movie usually consists of 4-8 files that are played in sequence. DVD Catalyst uses tracks reported on the DVD, which is basically a playlist of these files. By enabling this setting, the individual vob files will be accessed and converted as separate files rather than a single file. There is no real use for this setting, except in some very rare cases. Because of this, DVD Catalyst does not remember this setting being enabled upon restarting the program. Really, you should not use this setting at all.

***Use episode number for scene split conversions.**

If you are converting a Multi-DVD movie, such as The Stand or Rose Red, and use the split in scenes options for the conversion, you can use this setting to use an offset for the scene numbering. Normally, the scene number starting at 1 is added to the filename when you split in scenes, but with this enabled, you could have it start at a different number instead.

***Minimum playtime filter.**

When scanning a DVD, DVD Catalyst filters out most special features based on a minimum playtime. When a DVD track has a longer playtime that the time set here (default 10 minutes) it will enable it for conversion. If it is shorter in playtime, it will completely ignore it. The filter basically blocks DVD Catalyst from displaying trailers and most special features, but lets movies and episodes pass through. If you are converting DVDs such as Robot Chicken or ATHF, which contain episodes of only 5 minutes, the episodes will not display after scanning. By adjusting this lower, they will.

***DVD Access modes:**

DVD Catalyst is capable of accessing DVDs using 2 different settings, making it a total of 4 different methods. (Turning off the boosterpack doubles that to 8). It switches between some of these modes automatically, depending on either the settings you selected for the conversion, or on the DVD itself.

Faster DVD conversions.

By default, DVD Catalyst tries to access the DVD using the fastest method possible. If you have a fast DVD drive, and are using a fast computer, or a fast conversion profile such as Audio only > MP3, there is no limit on speeds. Conversion speed can reach 10-40x real-time when this mode is enabled. Unfortunately, depending on the DVD, not all DVDs can be accessed this way, and results in a freeze during the conversion. When this happens, DVD Catalyst restarts the conversion without the fast-setting enabled, which results in a slower, but more compatible conversion. Unfortunately, regardless of what format you have selected for conversion (even Audio only > MP3) the speed usually doesn't exceed 3x real-time. If you leave this enabled, DVD Catalyst switches automatically, if you turn it off, DVD Catalyst will always use the safer/slower mode.

Standard DVD access.

This setting controls a different aspect of accessing the DVD. This does not affect the speed; however, it controls compatibility with DVDs. By default, DVD Catalyst tries to access the DVD using the mode that supports the largest amount of DVDs. By turning this off, DVD Catalyst can still access most DVDs, but some recent Sony-released DVDs (which use newer, non-DVD compliant) protection systems will cause complications. Unfortunately, the more compatible (default) mode has some issues with rendering subtitles. By turning it off, subtitles will look better.

Both settings can also be used with (or without) the Boosterpack. The boosterpack is an updated conversion engine that provides better compatibility with newer video files as well as faster conversions

in general. Unfortunately, there are some minor compatibility issues with some files and DVDs. By turning it off, conversions of DVDs generally are more reliable; however, the conversion speed will be a lot lower.

Automation tab:

***Convert automatically.**

When you add files and DVDs while DVD Catalyst is running, it will automatically start the conversion. If you have your profile settings setup to your likings, the conversion process is 0-click.

***Remember added folders.**

If you add folders to DVD Catalyst, or drag folders onto the program, they will be remembered and automatically scanned for content the next time you start DVD Catalyst. You can add a folder containing your downloads or TV shows, and if you have “Convert automatically” enabled, DVD Catalyst is completely hands free.

***Skip previously converted files**

If you use the above setting (remember folders) you probably want to make sure previously converted files are not converted again. Y enabling this setting, DVD Catalyst will ignore those.

***Check for files every x minutes.**

After the conversion is complete, DVD Catalyst will check for new files in the folders you have added previously, and if it does not find any new files in these locations (tv episodes for example) it will wait for x minutes before it looks for files again.

***File history**

This will bring up a display to show you what folders are currently remembered as well as what files have been created.

Boosterpack tab

The “boosterpack” first introduced as an add-on for DVD Catalyst 3, is an updated conversion engine for DVD Catalyst. Accidentally discovered during early development stages for DVD Catalyst 4, we decided that the performance increase was so significant that it would be great to make it work in DVD Catalyst 3, rather than the (then many months away) release of DVD Catalyst 4.

The boosterpack has since been included in the latest releases of DVD Catalyst 3, and has of course made its way into DVD Catalyst 4 as well. Besides faster conversions, it offers additional advantages over the original DVD Catalyst 3 conversion engine in regards of video file conversion for FLV and MKV files. Unfortunately, there are compatibility issues with a small amount of DVDs.

***Enable boosterpack**

By default now enabled (so you gain a performance boost for conversions) however, if you run into a DVD that has issues with the conversion, it is worth a try to disable the boosterpack temporarily.

***Processor count.**

When you start DVD Catalyst for the first time, it will detect the amount of processors / cores your system has, and for many conversion formats, it will use these to speed up the conversion. Many multi-core enabled conversion tools use a method to convert multiple files at the same time (4 cores = 4 conversions) but DVD Catalyst 4 actually uses all cores for a single conversion, so even if you only convert one file or DVD, it just converts the file 4x faster.

***Enable Vista/7 preview fix.**

The boosterpack also comes with an updated conversion engine. If you enable this setting, the preview mode in DVD Catalyst will not put Windows back into “classic mode” however, brightness/contrast controls might not display properly.

***Enable for detection**

The preview engine can also be used by DVD Catalyst for scanning files. It works better with newer file types such as recent YouTube FLV files and certain MKV files.

Advanced tab:

***AVCHD frame rate.**

In some HD camera files, the frame rate is not detected properly. If this is the case, DVD Catalyst will use the frame rate set here to ensure proper audio sync.

***Maximize volume.**

Sort of the same as “Normalize Audio” found in programs like iTunes, this setting will adjust the volume of your video files to a certain percentage of the maximum it can do without causing distortion. DVDs tend to have a softer audio volume than video files, and if you convert both with DVD Catalyst, this setting ensures the volume of all the created video files have the same loudness, so you don’t have to adjust the volume on your device whenever you watch something. This setting overrides the volume setting in the device settings.

***Audio delay.**

Some devices have a slight audio delay due to faulty hardware. A few models of the HTC HD2 for example. By enabling this setting, you can set an audio delay, which counters the one caused by the device. Unfortunately, this will render the created file useless for playback on any other device or on your computer.

***SRT/MKV Subtitle font scale.**

Subtitles are normally rendered depending on the size of the screen. If you convert video files for small-screen devices, you might want to increase the size of the subtitles to a more readable size. This setting works for video files with separate srt subtitle files, as well as for most MKV files where the subtitles are not burned into the actual movie. It also affects the size of closed captions.

If you enable “embed filename in video” in global settings > conversion, this setting is ignored.

***Convert MP3 files to video files**

This will turn MP3 files into video files of the desired video format. We wanted to put songs on our TiVo’s, but to play the songs; you have to go through a couple of different menu layers. By converting them to video files, they are easier to access.

***Fix MKV**

Changes in one of the most popular MKV creation tools (“compressed headers”) results in compatibility issues with these files with most conversion tools. With this enabled DVD Catalyst regenerates the MKV file without compressed headers (it does not modify the file in any other way, so it works pretty fast) and then convert it to the desired format. When you convert MKV files, and they only convert partially, you want to enable this setting.

***Check (and rename) if file exists.**

By default, when DVD Catalyst starts a conversion, it looks to see if the file it is about to create already exists in the location where you want it. If it does, DVD Catalyst generates a new name for it by appending (1) or (2) etc to it. If you would rather have DVD Catalyst just overwrite the file, disable this setting. Do keep in mind that if you disable this setting and convert a file from and to the same location with the same name, it will have problems.

***Ignore file in use check.**

If a file is in use, most likely there will be issues during the conversion, so by default, DVD Catalyst skips these files. By disabling this setting, DVD Catalyst will still try and convert the file. If you use download software for video files, you might want to turn that off before starting a conversion rather than turning this setting off.

***Enable JOIN for non-AVI.**

DVD Catalyst is capable of joining video files; however the files that this works the best with are AVI files. By enabling this setting, DVD Catalyst will enable you to join MKV, MP4, DVD content and other video sources; however, there might be complications during the process.

***Conversion failsafe**

DVD Catalyst uses this setting to abort/restart a conversion in case something is wrong. If a DVD freezes during conversion, DVD Catalyst stops the conversion (and tries to restart it using different settings). If you adjust this setting too high, there is a chance of hardware damage in case there are complications.

***Frame rate lock.**

If the frame rate set in DVD Catalyst is lower than the frame rate of the original video, it will adjust the frame rate. If the setting in DVD Catalyst is set higher, it will let the conversion engine handle the frame rate based on the source video. In some rare cases, this can cause partial conversions. By enabling this setting, DVD Catalyst will always force a frame rate during the conversion, which can result in the partial conversions to convert completely. This setting can cause audio sync issues if the video file has a fluctuating frame rate.

Device list tab:

For indication purposes, all the device profiles included in DVD Catalyst 4 are listed here.

Version info tab:

Displays the recent changes applied to DVD Catalyst, as well as the version you are using.

Thumbs tab.

This tab is used to have DVD Catalyst 4 automatically create thumbnail files of the videos it creates. If you use a media server, or would like to import screenshots as album art to make your video files look cool in programs like iTunes, you can use the options here to help you with that.

***Generate thumbnail image.**

Every file created by DVD Catalyst will receive an image file to go along with it.

***Use source video.**

The original video will be used for the thumbnail (best quality)

***Use created video.**

The created video file will be used for creating the thumbnail image (lower quality, but accurate representation of your video)

***Resize thumbnail.**

By default, DVD Catalyst just creates a thumbnail based on the original size of the video. By enabling this setting, the thumbnail will be sized based on the setting you specified. Some media server applications only display thumbs of a certain size.

***Time offset.**

Most videos have a fraction of a second of black at the beginning of the video. With this setting you can specify a position in the video that should be used. (After the black part, or maybe even after the opening credits of a TV show).

***Rename thumbnail.**

By default, the original filename will be used for the thumbnail. If you would like to rename them based on a certain naming system, you can specify here what you would like to put in front of the filename.

***Thumbnail location.**

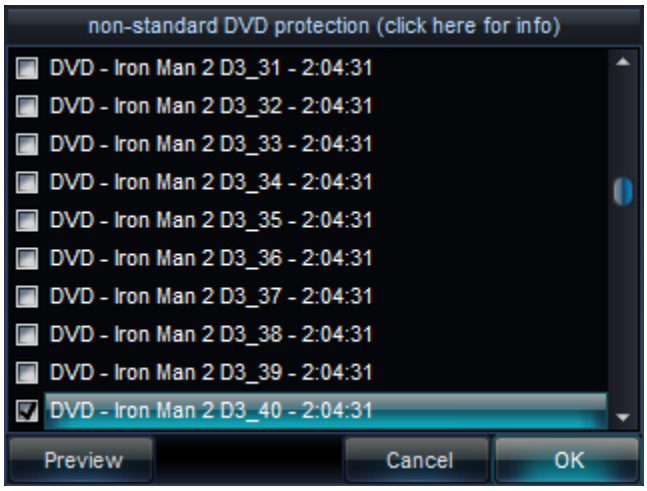
Store the thumbnails in a different location than the location of where the created files are stored (a thumbnail folder for example)

***Sub folder.**

Create a subfolder in the location of where the video file is stored for the thumbnails**.** **C:\Users\Mitch\Videos** for the video files, **C:\Users\Mitch\Videos\thumbnails** for the thumbnail images for example.

5. Frequently Asked Questions (FAQ)

Q: Non-standard DVD protection message



A: Some high-profile DVDs (such as Iron Man 2 for example) feature a DVD protection system that can cause complications with conversion tools such as DVD Catalyst. Usually these DVDs have a lot of fake tracks to confuse conversion software, and in addition, a few of these tracks appear to be correct, but end up with a scrambled scene order. These DVDs are not DVD compliant, and often cause issues on older DVD players or and computer playback. DVD Catalyst works with most of these DVDs; however, there might be complications.

The popup DVD displays when such a DVD is found provides you with a list of the tracks that are reported by the DVD structure. This list contains real as well as fake tracks, and while DVD Catalyst can scan through all of them (just click the cancel button in the popup) it is often faster to just select the track number if you know which one to use. For some DVDs (Star Trek 2009, Iron Man 2 and a few more) DVD Catalyst automatically selects the correct track, but in most cases, it just selects the one with the longest play length.

The easiest way to find the correct track is to play the DVD briefly on your computer or in a standard DVD player, and keep an eye on the track number displayed on the LCD or in the playback application. Then select that track number in the popup. (In the above screenshot at the top left when you hover the mouse over the video).

Q: Digital Copies, iTunes / Amazon rentals

A: DVD Catalyst does not support these file types. Even though DVD Catalyst can convert files that have the same file extension, these "Digital Copy" files are protected with a form of DRM (copy protection) that requires activation using either Windows Media Player or iTunes, and prevent you from being able to use these files on anything that supports those activation systems. For devices that do not support these activation methods, these files are completely useless. There is software that claims to convert these files, but the method used is similar to dubbing VHS tapes, playing and recording the file at the same time. You usually end up with faster conversions with a better quality by just converting the DVD instead.

Q: Black borders

A: Please have a look at the black border removal section.

Q: Screen resolution.

A: Please have a look at the screen resolution / upscaling section.

Q: I can't find my device?

A: DVD Catalyst includes support for more devices than all similar products combined. 100's of popular (and less popular) devices have their own conversion profiles, and are easily selectable using the dropdowns. However, every day new phones and media players are released and it is impossible to include profiles for each one of them.

Unless your device is some vague unknown brand, DVD Catalyst is capable of creating video content for it. Usually selecting a profile for a similar device will produce the desired results, but you can further tweak your settings by clicking on "Modify".

In general, you can perform the following steps to figure out what works best.

Most devices these days support H264 MPEG4 files. Start with the Apple > iPod Nano profile (not fast or HQ), don't make any changes, start a conversion, and hit the skip button after a couple of minutes in the conversion. Transfer the small clip over to your device, and see if it plays.

If it plays, click on Modify, and change the screen resolution to the same as your device, or something slightly less. Note that some phones list the width and height in a reverse order (320×480) in their specifications. For video, the larger number is always in front (480×320). Start a conversion again, and see if the file works. If it does, you can adjust the video quality settings in "Modify" and see what works best for you. As a general rule of thumb, select something close to the width of your device screen as

the video quality and go from there. For 800×480, 800Kbps is a good start, for 480×320, 480Kbps is acceptable.

If the iPod formatted file does not play and your device supports MPEG4 files, select Apple > iPod Nano (Fast) this uses the so-called MPEG4 SP compression technique. If it works, follow the steps above to make changes

If the device supports MPEG4, but doesn't recognize MP4 video files (some stand-alone DVD players with video file support), select the iPod Nano profile again, but in "Modify" change the conversion format to "divx5_mp3" or "xvid_mp3"

If you experience issues, just send us an email using the "Email Us" button at the top of DVD Catalyst 4, and provide us with the device specifications or, preferably, a website link to it.

Q: Conversions are slow

A: Many people don't realize what is actually happening when you are converting video from one format to another, and have questions about how long it takes.

*When you are converting videos, the following steps are done to ensure you get the best quality file. (This applies to ALL conversion tools)

1. The video and audio portion of your video file/DVD track is being decoded. This is basically the same as what a video player application does. Depending on what format the original was encoded in, it uses some of your computer power for doing this. MPEG2 (standard DVD format) was designed to not use much processing power, but H264/AVC requires a lot more power.
2. Additional processing is applied to the decoded video and audio. If you have black border removal options enabled, these will be cut off. Brightness/Contrast options will be applied and so on.
3. If you have subtitles enabled, these will be placed on top of the video.
4. The video portion will be resized (if needed) to fit the selected screen resolution.
5. The video and audio portions are then encoded to the selected quality and compression codecs, creating your file.

Unlike many conversion tools available, DVD Catalyst performs these steps all at once, using as much power from your computer as possible, while similar products perform some the steps one by one (first rip DVD to hard drive, then convert for example).

*If you are converting from a DVD, a tool that removes the protection on the fly, such as AnyDVD or DVD43 will reduce the work needed to be done by the conversion, and thus speed it up a little. In some cases, when the protection is too strong, DVD Catalyst switches to a slower conversion mode, ("restarted conversion" message) to be able to convert the movie, so if there is no protection, it will always use the faster method.

*If you are converting video files, if possible, put the output location on a different hard drive than the one you have the original files on.

*NEVER convert directly to a device or a storage card. The transfer rate of flash memory is not the greatest, so conversions will be terribly slow.

*Don't convert from and to a USB device at the same time. The USB bus can only handle so much data, and having the data go back and forth at the same time will slow things down.

The above mentioned speed tips do not affect quality in any way :)

*Quality settings.

All the profiles in DVD Catalyst 4 are designed to provide you with great-quality video files at a reasonable file size. Some devices have HQ or even HQ2 profiles, which provide even better quality, but will convert at a reduced speed. Most of the people who ask about conversion speed in regards of DVD Catalyst have not even tried the standard profile, and selected one of the HQ profiles first. Quality comes with a price. The higher the quality, the longer it takes for the conversion process.

Many similar tools claim fast conversion speed, but they cheat. DVD Catalyst uses the best video format supported by your device. By selecting a different format (MPEG4-SP instead of H264 for example) will speed up the conversion speed significantly, but besides a faster speed, the quality suffers or the file size ends up a lot larger. Some even use a lower screen resolution to boost conversion speed. If you use equal settings (format, bit rate, screen size) DVD Catalyst 4 is one of the fastest conversion tools available while producing better quality.

So what are the differences between the different profiles in DVD Catalyst 4?

For most of the Apple-devices, such as the iPhone, there are 3 different profiles, Fast, standard and HQ

The Fast profile uses generic mpeg4 for the video format, which is an older form of mpeg4 video that is easier and faster to convert, even on older computers. The compression quality is not the greatest, so to achieve a good looking video file, you end up with a fairly big file size.

The Standard profile uses the H264 video format, but has been tweaked to produce a good quality at a reasonable fast speed.

The HQ profile uses H264 video as well, but it has been tweaked to produce the best possible quality, without any regard of conversion speed.

The HQ2 profile (Motorola Droid) is similar to the HQ profile, but just has a higher bit rate. The settings used in this profile are the maximum the device can actually handle, and in most cases border on overkill. Many people do not see the difference between the HQ and the HQ2 profile.

BITRATE

This determines the file-size and the quality.

As mentioned earlier, a lot of people just look at the specifications of the device, and use those as settings for the video files. The Droid is capable of a maximum bit rate setting of 1500kbps, but many people don't notice the difference between video encoded at 1000kbps or 1500kbps. Now if you watch the same video files on a bigger screen, you might notice the difference, but even then, it really is not as much of a difference as you would think.

As a bonus, a lower bit rate will also result in (slightly) faster conversions.

Processor Speed. Converting stuff is similar as compressing big files with a compression utility like Zip or RAR. The better the compression format (video format) the more processor power is used. The faster the processor, the faster the conversions can run. DVD Catalyst benefits from Dual Core and for AVC/H264 (PSP/iPod) conversions as many cores (Quad) as available will be used to speed up the process.

Warning: because conversions use your computer to the maximum of its capabilities, if there are issues with your computer, they will most likely come out during conversions. If the fan on your processor is not working correctly, your computer can shut down completely. This is not limited to the use of DVD Catalyst, but certain games, as well as other conversion utilities will experience the same problem.

DVD drive: Certain DVD drives are better than others. Converting a DVD will use the speed of your DVD to convert it, so the faster the drive the better. Certain drives work better than others. Laptop DVD drives are designed for low power use (to save battery) and will not perform as good as a DVD drive in a computer. Burners tend to have better results as well. Also the connection of the DVD drive makes a difference. An internal DVD drive can convert faster than an external (USB) drive. When watching a movie this does not always show, because playing a movie is done on 1x speed, but if you are converting a movie, it can go a lot faster.

Hard disk: The hard disk, either used as an input location and/or output location for your video files, can make a big difference in speed. The faster the hard disk, the faster conversions can be put on the hard disk. If you are converting from and to the same hard disk, the hard disk continuously has to switch back and forth, resulting in slowdown of the conversion. The best results can be achieved by converting from one hard disk to another hard disk. If you have an internal and an external hard disk, the best way to convert is from your internal hard disk to your external hard disk.

Memory: Not as important as the 3 above, but more memory can speed up the conversion. Memory speed is not really a big factor.

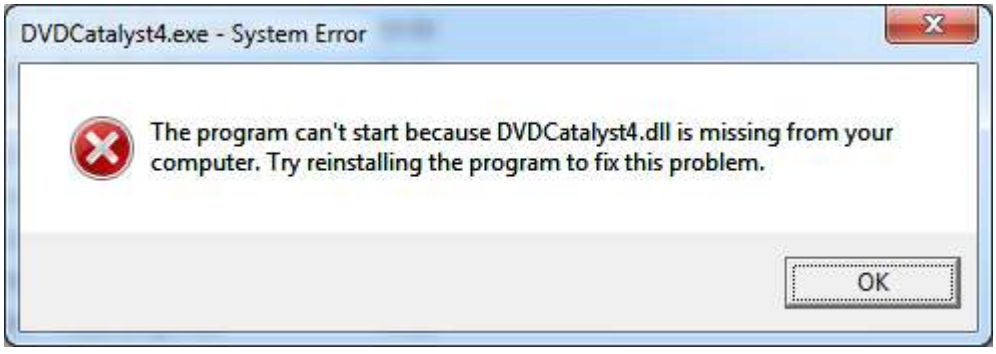
*Speed also depends on how busy your computer is. If you are just browsing websites, the speed does not get affected as much as when you are playing a (3D) game.

*Certain video formats require more processor power than others. In addition the quality settings as well as the screen size can make a huge impact on speed. Conversion to a low quality DIVX file will be a lot faster than a very high quality AVC file (Pocket PC DIVX vs. AppleTV H264) In addition, for Windows Mobile conversion, the inbetweenfile, required for conversion of DVDs, as well as the actual creation of the WMV file for your device take quite some time as well.

Q: Jagged lines on converted TV Shows

Some TV show DVDs (such as Friends) use a technique called “interlacing” for video display. When you convert these shows, it is possible you might notice jagged lines during fast-moving portions of the video. On portable devices this is not really noticeable, however if you convert interlaced video content for higher resolutions, you might want to remove them. To do this, enable the “Deinterlace” option in Global Settings > Conversion.

Q: Missing DVDCatalyst4.dll



The retail version installer of DVD Catalyst 4 comes in 2 versions. The **full installer** and the **update installer**. When you download DVD Catalyst through the website, either the trial version or the retail version using the link provided to you upon purchase, you obtain the full installer version. All that is needed for DVD Catalyst 4 to do what it does is included. If you update DVD Catalyst 4 to a newer version using the update process, you download a smaller installer file, which only updates the things that have been updated. The DVDCatalyst4.dll file contains files that are never changed, so this large file is not included in the update installer, resulting in a smaller download file for the update.

If you are installing DVD Catalyst 4 on a new computer, or due to some unfortunate event, you have to reinstall your computer; you will need to install a full version to obtain the DVDCatalyst4.dll file before you can install the update.

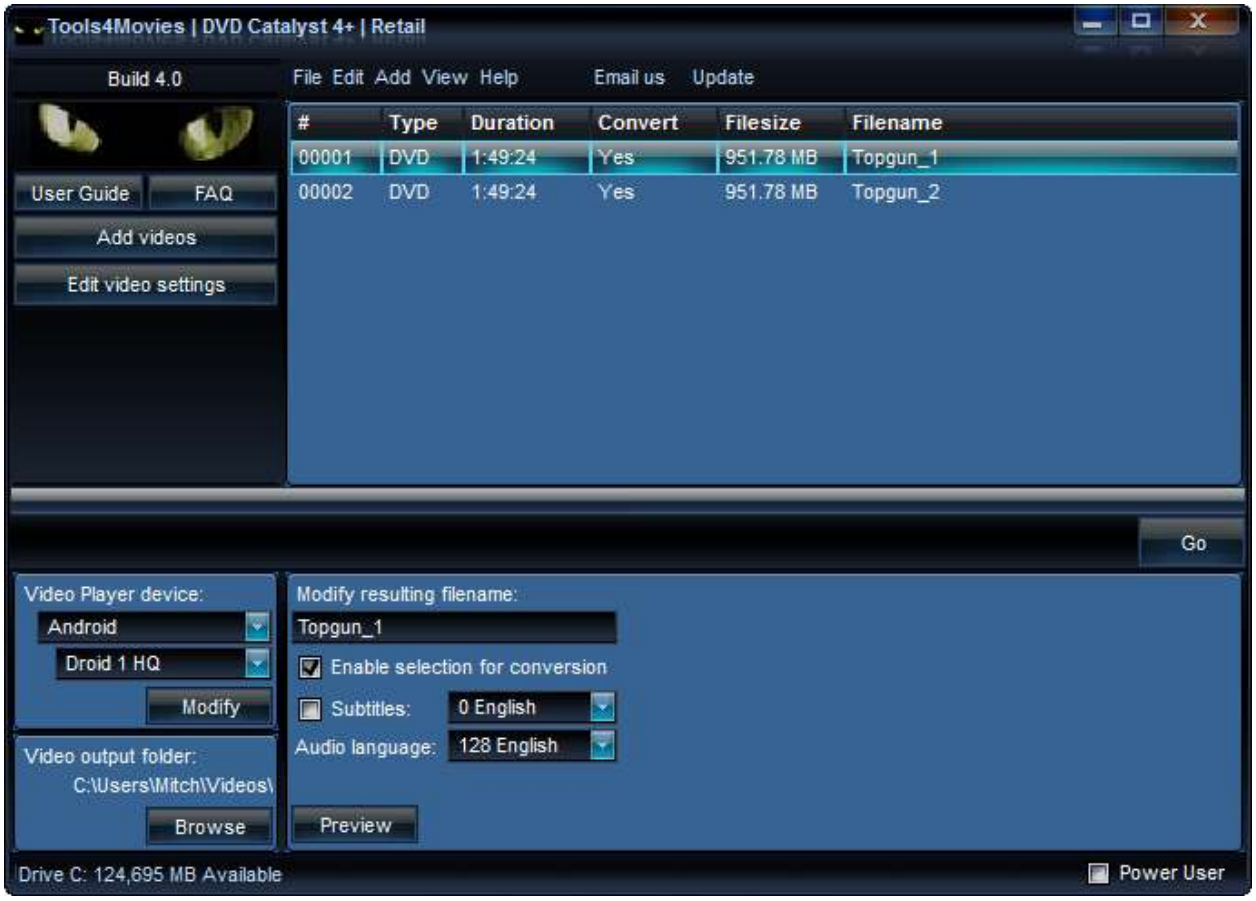
If you run into this problem, you can download and install the full trial version from the tools4movies.com website, and then install the retail update file on top of it to make it work properly.

Q: Multiple items on a DVD

Depending on the content on the DVD, DVD Catalyst can display additional video content after scanning, besides the movie.

DVD Catalyst uses a “minimum playtime” filter to ignore things like trailers and advertisements on a DVD, but to make it as easy as possible to convert both movies and TV show DVDs, every track on the DVD that exceeds this play length will appear in the conversion list.

If you are converting a movie DVD, usually just disabling all the tracks except the longest one will get you just the movie, but if we take Top Gun for example, it can be a little confusing.



The Top Gun DVD in the screen shot shows 2 identical movie tracks. One is a standard 4:3 screen (full screen on older TV sets) and the other is the Wide-Screen version.

Unfortunately due to the official DVD standard, it's not possible to detect which one is which during scanning of the DVD, because the resolution is actually identical. The full-screen version is 720×480, but the wide-screen version also has this resolution. It just has black padding added to it to fit that resolution. So to figure out which one you want to convert, you will have to use the "preview"

Left-Click once on the track you want to preview, and at the bottom, click on the "Preview" button to view your selection.

The first track clearly shows the black borders, so this is the Wide-Screen version of the movie.

The second track doesn't have the black borders, so this is the "full-screen" version of the movie.

To determine which one you should use for your device, look at your device screen. If it looks fairly square, the full-screen one would be the best one to go, if your screen is more rectangular, pick the wide-screen version. Blackberries with a permanent keyboard, Apple iPod Classic/Nano/Video are squarish, iPhone, PSP and most touch-screen devices are rectangular.

While the above might seem like making things more complicated, it actually makes things a lot easier in general. With the growing popularity of TV shows on DVD, With DVD Catalyst you just insert the DVD, wait for the scanning, and start the conversion. With ALL other DVD conversion tools, you will have to convert each episode one by one (convert an episode, start over in the program and convert the next) or manually add each episode to the conversion queue.

If we insert a DVD from Lost Season 3, after scanning, all the episodes are enabled, all you need to do is click Go. If you have multiple DVD drives, just fill them with DVD's and with a single click you can start the conversion of an entire season.

There are a few tricks that you can use to make this easier though.

Automatic

DVD Catalyst 3 has a setting in the DVD tab in Global Settings called Automatic Movie/Episode recognition. This setting, when enabled before scanning a DVD, will have DVD Catalyst 3 look at the play lengths of each track it finds, and if it finds multiple tracks of the same length (TV show episodes are

usually close to the same playtime) it will just enable the episodes. If it finds a long track, and a bunch of different play length tracks, it will just enable the longest one (usually the movie)

Manual

Due to the large variety of different DVD structures, the automatic setting does not always work (it works with about 95% of the DVDs on the market)

You can manually enable/disable tracks for conversion by selecting one or more of them, and add/remove the checkmark below the list called “Enable selection for conversion”

Play length filter

If you are converting all the content on a DVD, or only convert movies, you can adjust the play length filter which is also located in the DVD tab in Global Settings (“Minimum playtime filter …”) Because this setting tells DVD Catalyst 3 to ignore ever DVD track that is shorter than the selected setting, you can lower it to convert trailers/special features or Easter eggs, or if you increase it, it will ignore TV shows for example.

Q: Partial Conversions

The trial version of DVD Catalyst 3 does not convert your movies and video files all the way to the end. As soon as the conversion progress reaches 25%, the conversion continues to the next item, or finished the conversion.

While earlier trial versions of DVD Catalyst did not have this restriction and actually worked for 7 full days just like the retail version, due to some issues with certain virus scanners we were forced to change our trial-system.

Most similar DVD conversion tools use a limitation of 5 minutes, but in our opinion this does not give you any idea about the workings of the application itself or even the quality and speed of the conversions. It barely gets you past the opening credits, which is why we use the 25%. On a 2 hour movie this gives you a full half-hour of video to preview the quality of the video and the performance of the conversion.

If you are using the retail version of DVD Catalyst 3, and your movies do not convert completely this could be due to the following:

* Some computer brands, such as HP, Dell, Gateway, often use the cheapest computer-parts they can get. As a result, some of the low-end DVD drives they use for their computers are less reliable, which can cause complications during conversion. Many high-profile movies come on so-called Dual-Layer DVDs, and some of these drives have issues when the movie switches from one layer to the next, at which point the conversion stops. If the conversions stop after an hour into the movie, try using a different

DVD drive (preferably a DVD burner, as these tend to be more reliable) or install DVD Catalyst on a different computer to see if that works better.

*Scratches, dust etc all affect DVD conversion as well.

Q: Support

A: If you have questions in regards of DVD Catalyst, please use the "Email Us" button in DVD Catalyst, or send an email directly to dvdcatalyst@gmail.com

Many people find it convenient to post questions on website forums on the internet, but even though we visit a few of these, it is impossible for us to perform a search on the web for any questions asked, and who better to answer your question than the actual developer? We always respond within 24 hours to emails sent to us, and in most cases, it is nearly instantaneous. We know many people have bad experiences with contacting support for similar programs, but we respond when we can, rather than saving up emails for a Friday afternoon. By sending us an email instead of using other methods, you save yourself time in waiting or receiving wrong answers, and you save us time in not having to spend time searching the internet for your question that we would normally use in making DVD Catalyst even better.

The "Email Us" button provides us with some basic information, including the selected device profile and the version of DVD Catalyst you are using. That, with a detailed description of the issue you are experiencing, such as what DVD you are having issues with, what settings you might have changed etc. The more information you provide, the better we can assist you. A basic "it does not work" email does not help to get your question answered.

Q: Every time I start DVD Catalyst, it keeps adding files I do not want to convert

A: In "global settings" the "remember folders" setting is enabled. You can either disable this setting, or click on "File history" and clear the "remembered folders" list.

Q: Whenever I start DVD Catalyst it starts converting straight away

A: In "global settings" disable "Convert automatically"

Q: DVDs are not found when I put one in my computer

A1: In "global settings" the "Skip previously converted files" option is enabled and the DVD has been converted before using the same device settings. Disable this setting, or in "File history" clear the file list, or, click on add files and then on the bottom right (Skipped files) click "Add"

A2: In "global settings" the Scan for DVDs on startup and/or the "Monitor DVDs on insert" setting(s) is/are disabled

Q: It only converts small files

A: In "global settings" the "1 minute file-limit" option is enabled.

Q: The created files do not play on my device

A1: if you are converting files for Windows Mobile/Pocket PC/Smartphone, make sure you have the requirements installed. Please look at Chapter 9 for details.

A2: If you are converting for non-Windows Mobile devices, try a conversion using the default settings for the device.

A3: If you are converting for PSP, make sure your PSP firmware is newer than 3.30

Q: I cannot find my video files.

A: By default, DVD Catalyst stores your converted video files in the "My Videos" folder. (C:\Users\Mitch\Videos\ for example). In some cases, a so-called inbetweenfile is used for conversion (All TiVo conversions, as well as all DVD conversions that make use of Windows Media Encoder) If the inbetweenfile is created properly but the actual device file is not, please try to play the inbetweenfile on your computer using Windows Media Player to see if you have the necessary codecs installed.

Q: My computer is very slow when DVD Catalyst is running

A: Video conversion makes the most of your computer. When it is running, it does not allow for much else. In most cases you can change the conversion priority in the dropdown in "Global Settings" to allow you to work with your computer while conversions are running, but this does not always help. Conversions will run slower than as well. You can find more info in previous questions answer.

Q: The movie does not convert fully

A: Try playing the movie in the preview to see if it plays beyond the point where the file stops. It might be that the DVD drive is malfunctioning, and by using a different DVD drive you could have better results. Note that the trial version of DVD Catalyst only converts 25% of each movie (40 minutes for a 2 hour movie)

Q: I have an idea for a feature.

A: Let us know! We are always looking for new options to include with a future version of DVD Catalyst. Most of the features that are in it now are actually requested by users. DVD Catalyst was created as a tool for our own personal use, because there was nothing on the market that did what we wanted it to do. Since the release of our first application people have asked for inclusion of things they were missing in other products, and we listen to your requests.

6. Support

Email Support:

Our support email address is monitored on a regular basis, and we always respond within a day. Generally we respond within 12 hours (as little as it seems, we do sleep) but in most cases it is within the hour. We have a history in providing IT support, and have learned the hard way on how not to do it.

Contact Support via email on:

dvdcatalyst@gmail.com

We regret to inform that we only provide support by email. We do not have the means to provide support by phone or messenger.

7. LAW

The laws in some countries - including the United States of America - restricts the converting and copying of DVDs, even for fair use and personal use (backing up a DVD that you own, for example).

DVD Catalyst does not encourage piracy in any shape or form. DVD Catalyst supports Project Fair Use - Protecting Consumers Fair Use Rights in the Digital Age (http://www.protectfairuse.org).

Additional information on copyright issues for international users can be found at the following Internet resources.

Australia: **Digital Agenda Act 2000**

Europe: **Copyright Laws in Digital Europe** (multi-lingual)

USA: **Cornell University Law School**

USA: **American Digital Millennium Copyright Act**

DVD Catalyst encourages interested parties to keep current with copyright laws in their respective countries. Google (http://www.google.com) is a good starting point.

These laws apply to all similar products regardless of claims otherwise.

8. Copyright

All the content you convert with DVD Catalyst remains licensed to their original owners.

DVD Catalyst makes use of the following resources.

Mplayer / mencoder, a Linux-originated project that enables playback and conversions of numerous video formats

Both mplayer and mencoder are available under the **GNU General Public License version 2**

Source used is available on the website

Ffmpeg, a Linux-originated project that enables conversion to additional video formats

Ffmpeg is available under the **GNU General Public License (GPL)**

Source: **http://ffmpeg.mplayerhq.hu/download.html**

mp4box, a little tool for modifying mpeg4 files to be fully compliant with iTunes

Mp4box is available under the **GNU Lesser General Public License (LGPL)**

Source: **http://gpac.sourceforge.net/downloads.php**

Windows Media Encoder 9 (optional)

Windows Media Encoder 9 is used for creation of fully "Microsoft" compliant files for certain Windows Mobile devices as well as the Zune.

Download: http://www.microsoft.com

License is provided upon installing, and source code is not available.

9. DVD Catalyst License Questions

Q: Can I install DVD Catalyst on more than one computer?

A: Yes. As long as it is considered for personal use, such as for your home computer, home laptop, work pc (with permission from your IT department) you can install DVD Catalyst on multiple computers. You are not allowed to share it with anyone else. The same goes for video files created by DVD Catalyst.

Q: License Code?

A: DVD Catalyst does not use any license codes. We do not believe in any form of DRM. In our experience, DRM, license codes and single computer locks only apply to actual customers, rather than that it prevents piracy. Pirates create a work-around for any copy-protection method found in software, which eliminates any restriction placed on the application, and in the end, the actual customer has to deal with the annoyances and restrictions, which we believe is completely unfair.

We have heard horror stories of people who purchased so-called “lifetime licenses” for software, and when they replace their computer system, the expensive license becomes invalid, forcing the customer to purchase another license.

Q: Updates?

DVD Catalyst comes with free updates to all minor versions. By clicking on the cat-eyes in the program, DVD Catalyst connects to our website to check (and download) the latest version. Upgrades for major versions (4.0 to 5.0) are offered at a reduced cost when available. With our last major upgrade, DVD Catalyst 3 to DVD Catalyst 4, the upgrade was completely free, making the free update time period start from June 2007 (customers who purchased DVD Catalyst 2 after June 2007 qualified for a free upgrade to DVD Catalyst 3, and all users of DVD Catalyst 3 qualified for a free upgrade to DVD Catalyst 4, making it the longest “free upgrade” period in our segment of the market.

10. Black bar removal / Full screen video playback

(The information below applies to video in general, not just DVD Catalyst)

The most often asked question we receive is in regards of full-screen video playback.

It is very easy to have DVD Catalyst 4 make every movie or TV show you convert into a full-screen video, but there are numerous things that affect the way the video looks.

The official DVD standard specifies that DVD video content has to have a resolution of 720x480. With the aspect ratio (16:9, 4:3) the DVD player can make adjustments to the video to make it more screen filling on wide screen TVs. Most DVD wide-screen movies, to comply with the DVD standard, have black padding added as part of the video.

The left screenshot shows the widescreen version of Top Gun, while the right screenshot shows the full screen version. The black padding that was added to the video is clearly visible.

By default, DVD Catalyst removes the black padding from the video, so for the wide screen version, it will end up like this:

The full-screen version does not have any padding, so it will stay the same:

If we play these files on a phone or iPod/iPhone, it will look like this:

Top Gun Widescreen:

iPod Video/Classic, Galaxy S and iPod Touch/iPhone

(Video players add black padding to video that does not match the screen resolution, but for indication purposes, we left it white)

Top Gun Full screen:

In all cases (full screen on the iPod Classic not so much though) the video does not match the device resolution, so black padding is added by the video player itself.

If we do not remove the black padding from the widescreen video, it will end up like this:

Because the black borders that are in the original video are converted as part of the actual video, video players will treat these borders as actual video content, and when the entire video is scaled to fit within the device resolution, you end up with AND the black borders of the original DVD, and because the video is not completely sized to fit the device resolution, additional padding is added by the video player. (This is why DVD Catalyst removes the actual padding from video files by default)

If we want to make all the videos full-screen, there will be some compromises with the video portion.

The transparent, red-marked areas are parts of the video that needs to be removed from the actual video portion to make video full-screen. On the iPod Classic, making a widescreen movie full-screen results in a loss of almost half of the width of the movie to make it fit. For the iPhone and Galaxy S phone, the portion that needs to be removed is not really that much, but if you convert a movie with a wider aspect ratio (such as Star Wars movies for example, you will still lose a significant part of the video. This technique was used for many years to make movies

Using this technique for non-widescreen movies (many older TV shows for example) results in the following:

Full screen on all devices, but on the widescreen devices (iPhone/Galaxy S) parts of the top and bottom are cut-off.

Another method to make movies full screen is by stretching the video.

The video is full-screen, however, because it is stretched in height alone, the actual video looks a bit distorted, making everything longer (and skinnier)

For a full screen movie stretched to fill a widescreen display, the width is enlarged, making everything look wider (and shorter).

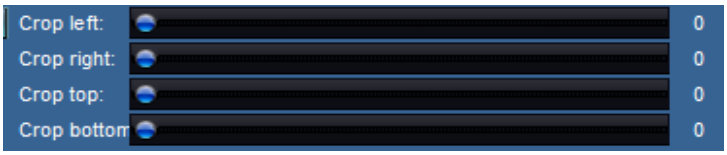
Border removal options available in DVD Catalyst:

DVD Catalyst has 2 different methods of black bar removal. You can set DVD Catalyst to do it automatically, or you can do it by hand. Unlike any other conversion tool on the market, DVD Catalyst does not use fixed-values for black bar removal. The automatic options actually create snapshots of the video, and then these snapshots are scanned for black borders.

By hand:

After scanning a DVD or video file, you can adjust the video properties of each item in the Preview (make sure to enable “Power User mode”).

You can use the sliders to adjust the part that you want to remove.



Another option is to use the automatic options in the preview:

 Reset the black bar removal settings.

 Remove black borders from the video if there are any.

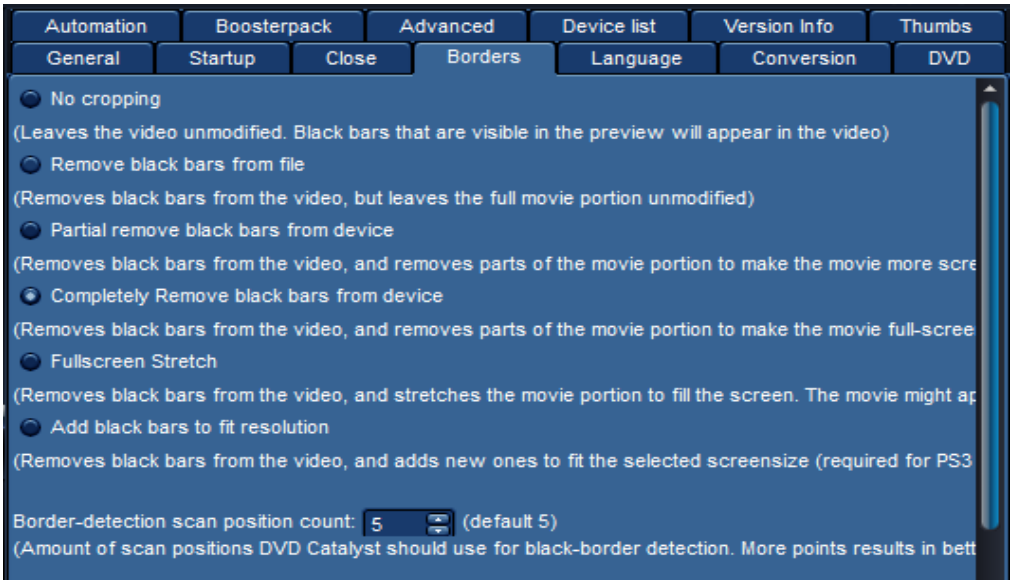
 Remove black borders from the video AND then adjust the sides to make it fullscreen.

 Ignore black borders, but make it fit full screen.

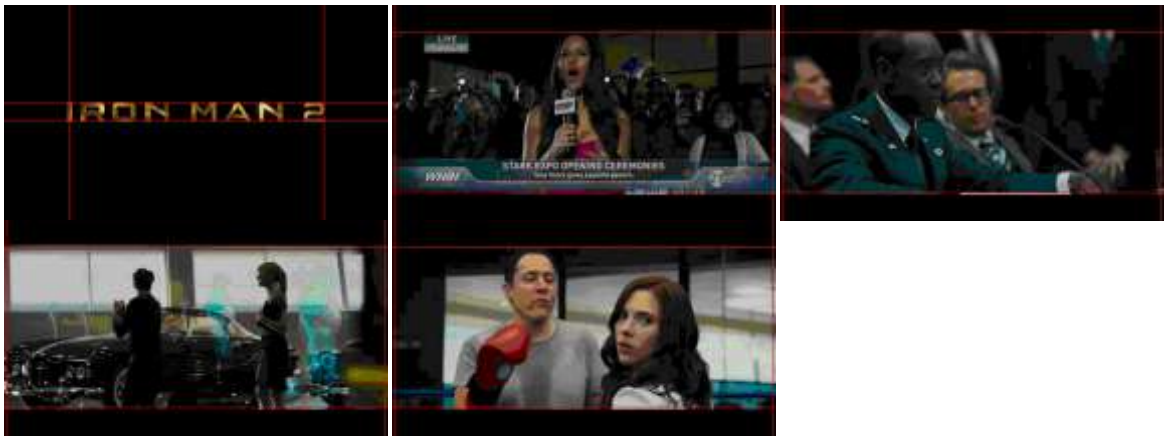
Automatic:

Because DVD Catalyst 4 was created to eliminate as many clicks as possible for whatever you use it for, it has the capability of removing black borders automatically. All similar programs require you to either select the proper black-bar removal method for each item you convert, or you can only convert one thing at a time. DVD Catalyst's automatic black bar removal options create and scan screenshots of the actual video for black areas, and with a comparison of the data found in the screenshots, it removes the black borders, regardless of what kind of video you are converting.

Settings that control this behavior are located in the Borders tab found in Global Settings (Power User Mode)



Regardless of what black bar removal mode you have selected (except for “no cropping”), DVD Catalyst will scan the video when you start the conversion for black borders. For a decent accuracy vs. speed ratio, it creates 5 low-quality screenshots.



Each screenshot is scanned for black areas, and if the data collected is considerably different from the others (such as in the first screenshot) it will be ignored. From the data that is kept, the information is used for the black border removal process.

The above screenshot shows in red of what portion of the movie is considered video, and, in this case we had the Droid 2 profile selected with the “remove completely from device” option, displays in green the portion of the video that is actually kept.

When the conversion is completed, we end up with full-screen video on the Droid 2

No cropping:

Leaves the video as is, so if there are black borders in the video, they will be converted as well. Useful if you only convert video files that do not have any black borders.

Remove from file:

Removes just the black borders from the video portion if there are any.

Completely remove from device:

Removes the black borders from the video if there are any, and then removes part of the sides of the video to make the video full screen.

Partially remove from device:

This option sits in the middle of the previous 2. Black borders will be removed from the video if there is any, and then parts of the video will be removed to make the video almost full screen. Basically half of what will be cut off with “remove from device” will be removed with this setting. You will still have black borders, and you will lose part of the video, but only half of what you would otherwise have to deal with. More screen-filling without losing too much of the video.

Full screen stretch:

Removes the black borders from the video (if there are any) and then it stretches the video to make it full screen.

Some conversion tools call this “Anamorphic”, but in the end, it makes people still look funny.

Add black bars to fit resolution:

Removes the black bars from the video if there are any, and then adds new ones to make the video the selected screen resolution. Some devices and video formats (3gp) only support specific screen sizes, and this ensures the files are compatible. The reason why the bars are removed first is to make sure the entire border-area is the same black. Many movies have a slightly tinted black border, and by adding a new one to that, video player devices will not be able to determine the border correctly.

Summary

As mentioned in the beginning, the above applies to video in general. DVD Catalyst’s approach in detection of black borders is unique in that rather than using fixed border-size specifications (which often leaves small borders, or cuts off too much from the video) it creates screenshots and actually “looks” at these screenshots to determine what needs to be removed. However, regardless of what setting or method you use, there will always be a loss or change in the way the video looks in some way, either by still having black borders but the entire video portion, full-screen video with a portion of the video missing or full-screen video with a (slightly) distorted look.

Our personal preference goes towards “remove black bars from file” (which is why it is set as the default). On most video players, the video player application has a zoom function, which enables you to choose if you want to watch the video in its original form or full-screen.

This video:

Will play like this:

And like this:

11. Video resolution, Upscaling video:

The second-most asked question we receive (after black borders) is about screen resolution.

Most devices available today come with a resolution that is larger than a DVD. As explained earlier in this guide, the DVD standard specifies that the video content has to have a screen resolution of 720x480 (which is modified to different sizes by the “aspect ratio”), and devices such as the iPhone 4 (960x640), iPad (1024x768), Android (800x480/854x480) and Windows Mobile 7 (800x480) all have resolutions that are higher than the 720x480 found on DVDs.

Also explained above (black border removal chapter) DVDs often have black borders embedded into the video, so when this is removed, you end up with an even lower resolution.

Leaving you in some cases with a video portion of something like 720x320 (or with aspect ratio taken into account, 800x320 for example)

In most conversion tools available, when you specify a screen size for a device, the video will be scaled to match that size. If you are converting a DVD to play on an iPod Classic (320x240) the higher resolution original video will be “downscaled” to fit within the specifications of the iPod. However, these same conversion tools also increase the size of the video if the selected screen size is larger than the original video, so if you have a video file of 320x240 and you are converting this to a device with a screen size of 640x480, the video will be “upscaled” to 640x480.

DVD Catalyst does not “upscale” by default!

Many people don’t realize that rather than making the video look better, Upscaling actually reduces quality.

The picture above, the left side shows the video at the original resolution, the right side shows the same video but upscaled from half the resolution to the full size.

With everything, what is not there cannot be used. A DVD has a lower resolution than Bluray, and while there are upscale-players that can play a DVD in a High Definition-like mode, the process of Upscaling is nothing more than increasing the individual pixel size, and some blur filters applied to make it bigger.

Blowing up a picture with a program such as Photoshop works the same way.

The Upscaling part itself is not where the actual quality-loss comes in though. With pictures and video, every pixel displayed uses a bit of information (bit rate/file space) to determine the color and intensity.

When you increase the resolution of a picture or video, even if the individual pixels are just increased in size the amount of individual pixels that need information space increases as well. A simple doubling of the resolution results in 4x as many pixels:

With 4x the amount of pixels, the amount of information needed to store the color for these pixels increases 4 times as well, so if you “upscale” a video, to keep the same quality, you end up with a file that ends up larger.

All video players available already have an “Upscaling” routine build-in, meaning, if you play a lower-resolution video file, it will automatically scale the video to fill the screen at least in one way.

If we take this low resolution video (120x80) and leave it at its original resolution

It will play like this on an iPod Touch 4

Screen-filling, even though the resolution of the video (120x80) is considerably lower than that of the device (960x640)

If we “upscale” the same low-res video (120x80) to match the iPod Touch 4 resolution (960x640), it will look like this:

And on the iPod:

For comparison (left is original size, upscaled on the iPod, right is upscaled during conversion)

Both sides look nearly identical (the left side, original resolution, actually looks a bit better) however, the file on the right is considerably larger in file size (for the 6 minute clip we created, the low res version was 20MB and the high-res version was 70MB).

If you do want to enable “Upscaling” in DVD Catalyst, just enable the checkmark for it in “Global Settings > Conversion”.

Summary

Upscaling video during conversion is a bad thing. Besides ending up with larger files, slower conversion speed, the quality actually reduces than that you make things look better.

12. Retina Display (iPhone 4 / iPod Touch 4)

With the new iPhone and iPod Touch, Apple has been promoting the new screen with a higher resolution, and gave it a fancy name “Retina Display”

With an increase of resolution from 480 x 320 for the previous models to now 960 x 640 you would expect a drastic improvement in terms of video playback, however there are some pitfalls.

Over the last week or so, I have been doing some tests on my new iPod Touch (8GB model), and here are my findings. (This applies to the iPhone 4 as well)

The physical size of the screen is identical to the previous generation. Even though the resolution has doubled in both width and height, the physical area used to display them is identical, meaning, the individual pixels just got a lot smaller. Most people, including myself, are aware of the fact that if you increase the resolution, you gain screen estate. Icons and text becomes smaller, so you can fit more on the screen at the same time. For this reason alone, I use a laptop with a 1920×1200 screen resolution for development and daily use.

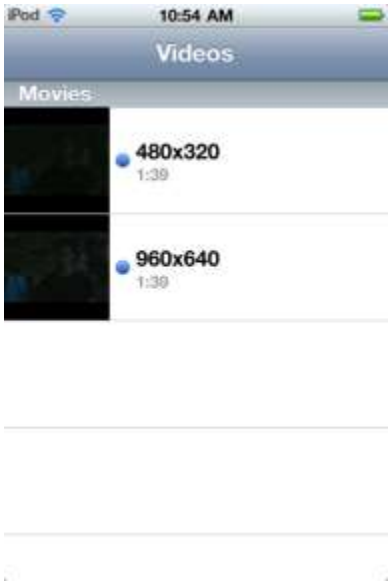
Apple’s approach with the Retina display is different. Rather than using the increased screen resolution for displaying more on screen at once, it leaves everything at the same physical size, but uses more pixels to display everything. The home-screen icons are physically the same size, but are actually made up from 4x as many pixels. Fonts are the same physical size as the previous generation, but again, they are made up from more pixels, giving it a cleaner look.

To be honest, when I unpacked the new iPod Touch 4, I was expecting a tiny iPad. With a screen resolution (960 x 640) so close to the iPad resolution (1024×768) I was hoping for more screen estate, but nothing was further from the truth. Fortunately, my initial disappointment was eliminated the moment I ran a few of my favorite apps. Especially Stanza (a free iBooks-like eReader) as well as Safari greatly benefit from the Retina display. Comparing an eBook on the 3G iPod Touch and the new 4G one showed a world of difference. On the old one you could clearly see that characters were made up from individual dots, but on the new one, this was not noticeable at all. Doing some reading resulted into a much greater and satisfying experience.

So, after my successful reading test, of course I had to test video as well.

I used DVD Catalyst 4 to convert a HD (1080) movie trailer, and set the black-bar removal option (global settings > borders) to “remove from device”. For settings, I used the standard iPod Touch settings at a quality of 600 Kbps with the default 480×320 screen resolution, and for the new one, I used 2400 Kbps. (with the higher resolution, the amount of pixels is actually 4x as many, so by increasing the bit rate to 4x as much, the files are theoretically identical in quality. Each individual pixel gets the same amount of bits to determine the quality)

With playback on the iPod Touch 4G, I was expecting to get a different result, especially with the file-size increase.



Screenshot from the iPod Touch 4 playing a full-screen 480 x 320 file.

Screenshot from the same position on the trailer encoded at 960×480 resolution

While the screenshots might look identical, have a look at the forehead of the guy on the left (sorry, I am not into Twilight, so I don't know his name). You will notice the wrinkles are slightly more prominent in the 960×640 file.

While there are differences noticeable, note that these are screen shots. The video itself runs at 30 frames per second AND because you are not looking at the shots on a retina display, the pictures are larger in size than what you would actually use to view them on.

Cutting the resolution in half will present you with a size similar to what you would have when you view it on your iPhone 4/iPod Touch 4. Now, it is even harder to tell the difference between the two.

The above conversions used for creating the screenshots were done using a 1080 HD trailer. If you use lower-resolution content such as video files or even DVDs, the difference is even less obvious. The original HD video file used has a resolution of 1920 x 800, which is on both width and height larger than the resolution of the Retina display. A DVD generally has a resolution of 848×480, which means that the video itself has a resolution that does not match the retina display resolution, so it will be upscaled in a similar way as the 480×320 video file. While slightly sharper, it will not even come close to the quality of an HD file.

Conclusion:

Unless you use the iPhone 4 or the iPod Touch 4 with a TV dock, or use the files also on a different device, such as the Apple TV or even an XBOX360 for example, I don't think it justify the 4x larger file size. If you use the files on a TV or large-screen device, you will benefit from the higher resolution of your video files, but the quality is also affected by the resolution of the original video. For my own use, I am going to continue the standard iPod Touch settings rather than filling up my 8GB with 4x larger files that look pretty much identical.

13. Physical screen size vs. Screen resolution:

This actually covers the reverse of the Retina Display article.

With the release of the Droid X, we have been receiving questions in regards of what settings to use for conversions (at the time of writing, DVD Catalyst 4 was still in beta). In regards of video playback, the Droid X is identical to the Droid 1 and 2. All 3 have the same 854x480 screen resolution, and are capable of playing (hardware accelerated) H264 MP4 video files.

However, the Droid 1 and 2 both have a 3.7” screen, and the Droid X a 4.3” screen, almost an inch larger.

With the Retina display, the physical size of the screen is identical to previous models of iPod Touch and iPhone, but with the increase in resolution (480x320 > 960x640) the pixels were (greatly) reduced in size. With the Droid X, the resolution stays the same, but the physical size is larger, thus each individual pixel has increased in size.

3.7” 854x480:

4.3” 854x480:

Exact same resolution, just a bigger area to display the same video.

A 19” HDTV that has 1920x1080 as a resolution is just as capable of playing a 1080p movie as a 56” HDTV that has 1920x1080. The 19” TV has a smaller pixel size (more pixels per inch), and would look sharper up close than a 56” TV.

14. Video quality:

Video in its basic form is nothing more than a sequence of images (frames), played at high-speed to fool the human eye into visual movement.

The quality of each individual image plays a big part, but the more images are displayed within a certain time, the smoother the motion looks, and small quality issues with individual frames are not as noticeable as if you look at a still image.

The screenshots above were taken at 1 frame per second, which basically make moving objects jump from 1 spot to the next. When we use something like 30 frames per second for the same movement, the differences between each frame are a lot smaller, giving a more natural look to the movement.

With the above information, we can specify video quality as the combination of the quality of individual images, and how many of these images are displayed per second.

Kbps and fps

Video quality is usually specified in Kilo-bits per seconds (Kbps) or Mbps (Mega-bits per second), which determines how much file space is available for video every second to store the images used for displaying the video. The higher the Kbps value, the better each individual picture looks:

40Kbps video:

1000Kbps video:

All other settings used for the clips were identical, only the video quality setting was adjusted.

As mentioned earlier, the video quality is a combination of image quality and the amount of images (frames) displayed per second.

For example, If you select a setting of 600Kbps to use for video quality, and your video uses a frame rate of 30 images per second, each individual image gets to use 600 / 30 = 20Kb per frame.

If we lower the frame rate (which will affect smoothness of the video a little) to 20 for example, each individual image ends up with 600 / 20 = 30Kb per frame (50% more)

(If you look at the top of the head, you should see the difference)

If the quality in the first shot is acceptable, you could even reduce the file size. If we use the 20Kb per frame setting, and use 20 frames per second, you end up with 400Kbps to get the same quality as the 600Kbps at a frame rate of 30.

Video codecs:

Besides the information above, the quality of video is also greatly determined by the codec used. A codec is used to compress and decompress content, which is best explained with an example.

A picture on your computer is a collection of small pixels (dots) in different colors. Say we have a picture of the size 320x240. This means that the picture consists of 240 lines, each containing 320 pixels, giving it a total of 76800 pixels.

To determine the color of these pixels, a 16bit or a 32bit palette is used. The more colors are available, the better the picture looks.

If we use a 32bits color palette, each of the 76800 pixels uses 32 bits, making it a total of 2457600 bits, or, to store this one picture on your computer, the file is 2457Kb or 2.4Mb in size. If we use this picture for video, at 30 frames per second, we end up with 2475Kb x 30 = 7420Kbps.

This is where codecs come in. Similar as MP3, which can reduce a 4 minute music CD track from 70MB to 3MB, video has codecs that do the same. MPEG, MPEG2, DIVX, XVID, 3GP (h263), H264 and so on.

Each codec was created for a purpose and as a result, they work differently, and produce different results.

MPEG2, which is used for DVDs, was created to produce a good quality video with minimum demand of power during playback.

DIVX and XVID (avi files) were originally created to create smaller-sized versions DVDs of nearly the same quality so they could easily be shared over the internet, and for playback required something a bit stronger than a DVD player.

H264, currently the most used video format for both HD content and portable devices, was created to produce the best possible quality at the smallest possible file size. Because of a huge difference in available technology between when DVD was released and now, H264 is very demanding in the power it needs to create and play video in this format, but most devices available that can play this format have a special hardware-chip build-in, which takes care of the power-needs.

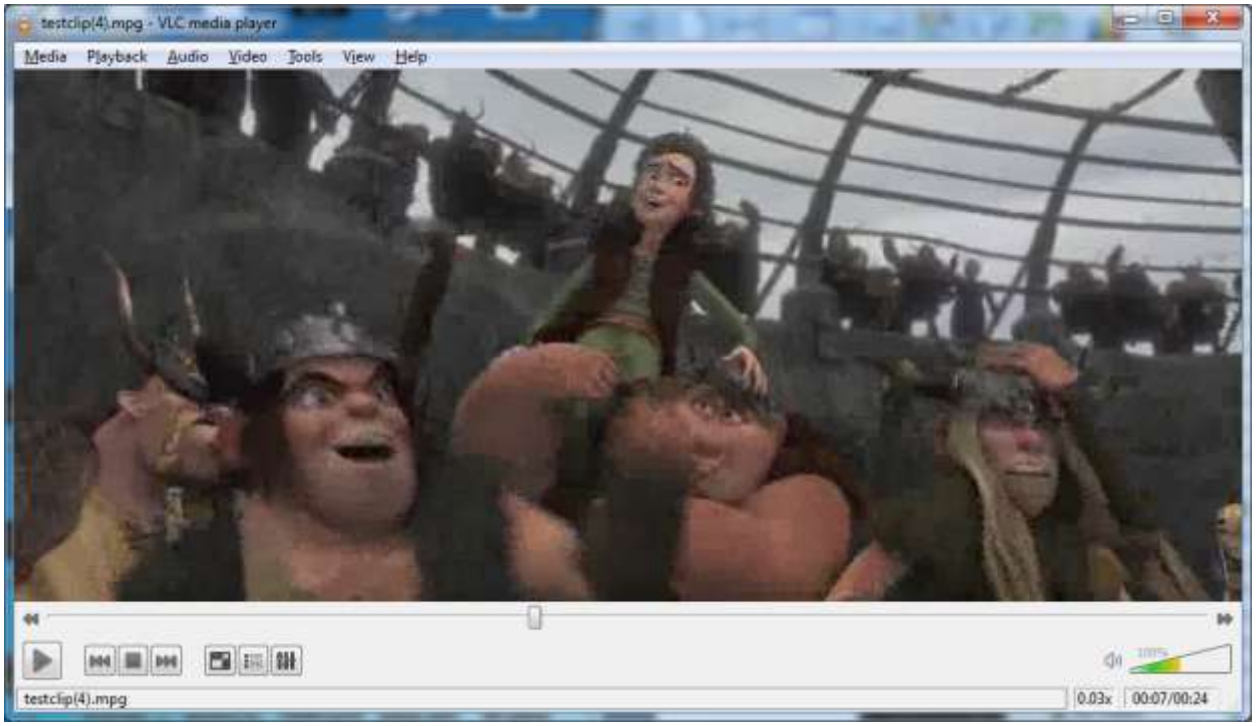
Below the difference in quality between different codecs. For indication purposes, a quality setting too low for the selected screen size is used. This gives a better indication of difference. The settings used are displayed in the screenshot below. Only the “conversion format” is changed for each screenshot.

H264_IPOD: The conversion format used for most profiles in DVD Catalyst.

DIVX5_MP3: Used for many desktop / netbook profiles

WMV_WMA: Used for Zune 30 and older PocketPC devices

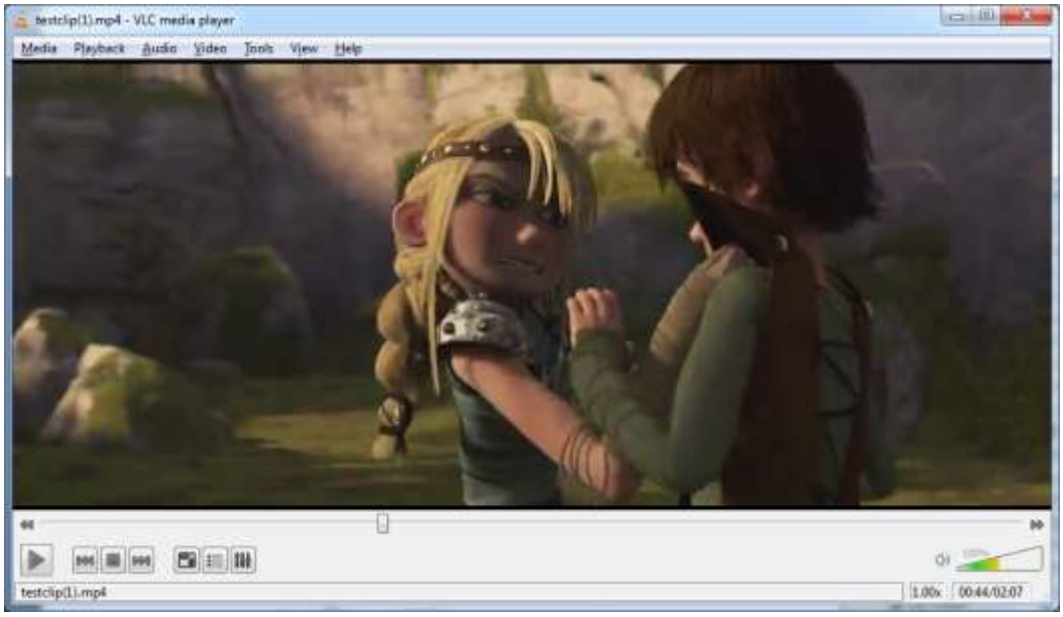
MPEG2_MP2



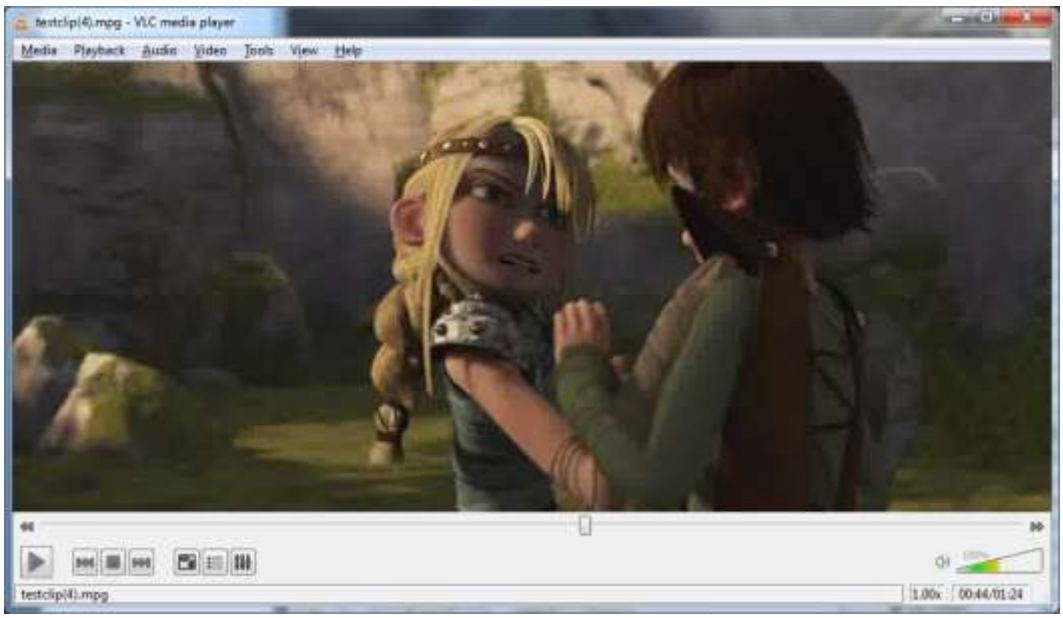
As you can see, there is quite a bit of difference between the different formats, even with the same quality settings.

The screenshots above were taken during a fast-moving section of the clip, which is where the quality settings results in the biggest difference. If we pick the same clip, but create a screenshot of a slow-moving scene, it looks a bit better.

H264_IPOD:



MPEG2_MP2:



Most of the profiles for devices found in DVD Catalyst use the conversion format that produces the best quality for playback on the selected device, which also determines the conversion speed. Many similar tools use the lower-quality formats for file conversion, which provides a significant speed boost during conversion, but impacts quality.

A few simple tips for the best results:

*The slower the conversion speed, the better the quality. H264 requires the most power for the conversion, and in result is considerably slower than when you are creating a DIVX or MPEG2 file.

*For good video quality, at least use a quality setting close to the width of the video, so if you convert for a device with a screen size of 800x480, use at least 800Kbps, if you convert for an iPod Classic (320x240) use at least 300Kbps.

*Start with a standard profile. Many devices listed in DVD Catalyst have HQ (and even HQ2 profiles), and while they do provide great quality, the fact that they are available does not mean that the standard profile produces bad quality files. Many people automatically pick the HQ profile (or HQ2) and then complain about conversion speed without trying the standard profile.

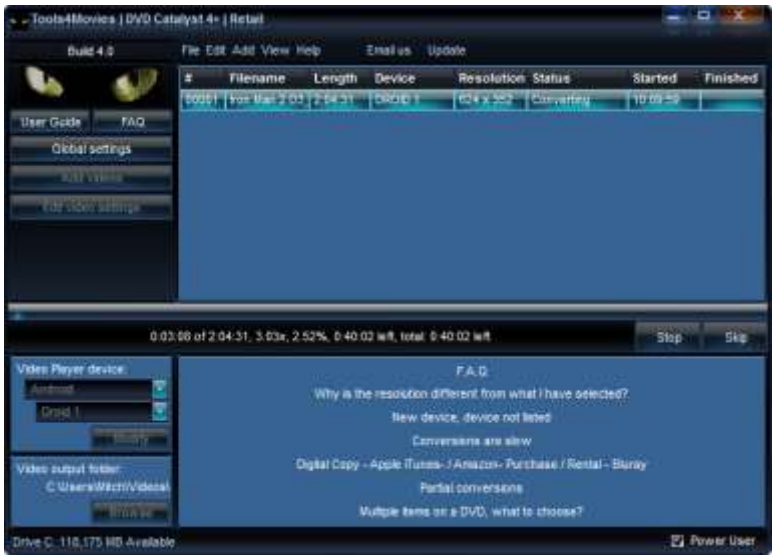
Below 3 screenshots that show the differences between the 3 Droid 1 profiles, standard, HQ and HQ2.

(Android > Droid 1 profile)

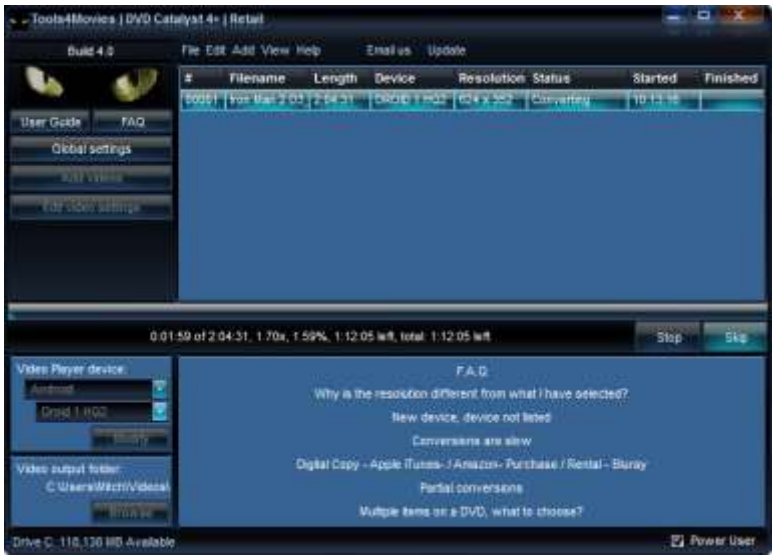
(Android > Droid 1 HQ profile)

(Android > Droid 1 HQ2 profile)

The quality difference is there, but it is not that much. When comparing the Droid 1 standard profile vs. the Droid HQ2 profile, your files end up 2x as large, and the conversion speed is about half of that of the standard profile.



(Iron Man 2 DVD using Droid 1 profile, 3.03x real-time)



(Iron Man 2 DVD using Droid 1 HQ2 profile, 1.59x real-time)