

AVS4YOU Programs Help



AVS Video Editor v.4

www.avs4you.com

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Contact Us

If you have any comments, suggestions or questions regarding **AVS4YOU** programs or if you have a new feature that you feel can be added to improve our product, please feel free to contact us.

When you register your product, you may be entitled to technical support.

General information:	info@avs4you.com
Technical support:	support@avs4you.com
Sales:	sales@avs4you.com
Help and other documentation:	help@avs4you.com

Technical Support

AVS4YOU programs do not require any professional knowledge. If you experience any problem or have a question, please refer to the **AVS4YOU Programs Help**. If you cannot find the solution, please contact our support staff.

 **Note:** only registered users receive technical support.

AVS4YOU staff provides several forms of automated customer support:

- **AVS4YOU Support System**

You can use the **Support Form** on our site to ask your questions.

- **E-mail Support**

You can also submit your technical questions and problems via e-mail to support@avs4you.com.

 **Note:** for more effective and quick resolving of the difficulties we will need the following information:

- Name and e-mail address used for registration
- System parameters (CPU, hard drive space available, etc.)
- Operating System
- The information about the capture, video or audio devices, disc drives connected to your computer (manufacturer and model)
- Detailed step by step describing of your action

Please do **NOT** attach any other files to your e-mail message unless specifically requested by AVS4YOU.com support staff.

Resources

Documentation for your AVS4YOU software is available in a variety of formats:

In-product (.chm-file) and Online Help

To reduce the size of the downloaded software installation files the in-product help was excluded from the installation although you can always download it from our web-site for your convenience. Please, visit AVS4YOU web-site at <http://onlinehelp.avs4you.com/index.aspx> to download the latest available version of the help executable, run it and install into the AVS4YOU programs folder. After that you will be able to use it through the **Help** menu of the installed AVS4YOU software.

Online Help include all the content from the In-product help file and updates and links to additional instructional content available on the web. You can find the **Online Help** at our web-site - <http://onlinehelp.avs4you.com/index.aspx>. Please note, that the most complete and up-to-date version of AVS4YOU programs help is always on the web.

PDF Documentation

The offline help is also available as a pdf-file that is optimized for printing. All PDF help files are available for download at the programs pages at AVS4YOU web-site (both <http://www.avs4you.com/index.aspx> and <http://onlinehelp.avs4you.com/index.aspx>). To be able to read and print AVS4YOU PDF help files you will need to have a PDF reading program installed.

User Guides

You have access to a wide variety of resources that help you make the most of your AVS4YOU software. The step-by-step user guides will be of help not only to the novice users but also to the users that face a certain task to be performed and look for a way to do it. Please, visit our **User Guides** section of AVS4YOU web-site at <http://www.avs4you.com/Guides/index.aspx> to read the detailed instructions for various software and tasks

Technical Support

Visit the **AVS4YOU Support** web-site at <http://support.avs4you.com> to ask your questions concerning AVS4YOU software installation, registration and use. Feel free to also use our e-mail address support@avs4you.com.

Downloads

Visit the **Downloads** section - <http://www.avs4you.com/downloads.aspx> - of our web-site to find free updates, tryouts, and other useful software. We constantly update the software, new versions of the most popular programs and new software are also frequently released.

Overview

Welcome to **AVS Video Editor**, a powerful, full-featured and easy to use software for working with video data! Our software has a number of great opportunities for creating the best possible video and audio, which makes working with video easy and constructive. The unique interface is universal for any categories of users as much as possible.

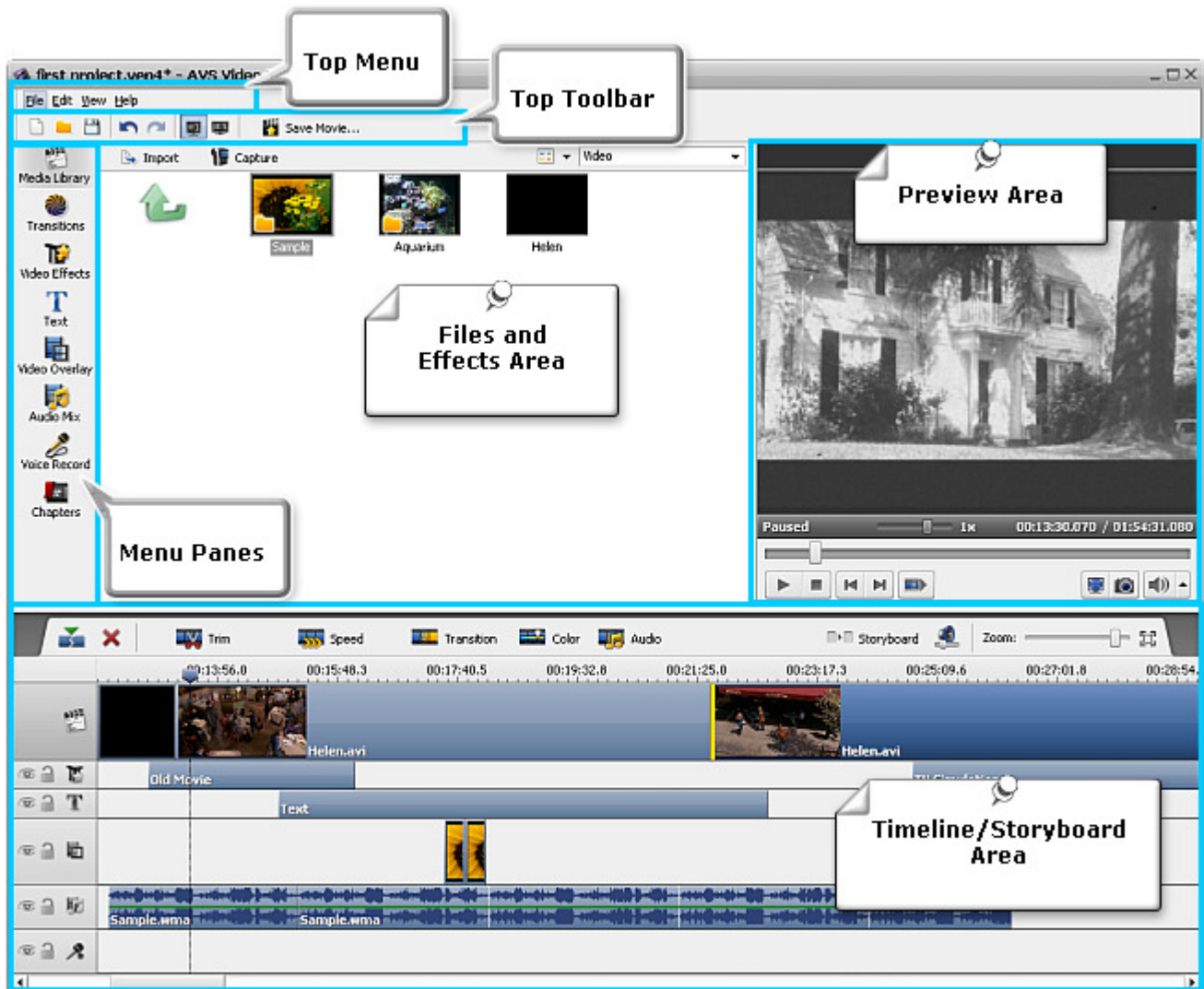
AVS Video Editor will offer you a number of features to process your video. Using it you can easily do the following:

- **create your videos** in an easiest way - **AVS Video Editor** is first of all intended for those new to video editing;
- choose between heaps of innovative **video effects** and **transitions**, apply **text and credits** to video, experiment with **picture-in-picture** or **chromakey** effects;
- use an advanced **timeline** or a **storyboard** for accurate editing, easy and clear navigation and video effects application;
- edit videos from **HD-cameras** quickly and easily - all key formats are supported: HD Video (inc. AVCHD, MPEG-2 HD and WMV HD), TOD, MOD, M2TS;
- insert one or more **audio tracks** into your media file, make **audio corrections**, **mix or trim audio clips**, **record your voice** or live music and combine audio tracks with video;
- split video into scenes and **delete** unnecessary ones;
- edit videos of practically **all formats**, **save** movies to AVI (DivX, Xvid, etc.), MP4 (inc. Sony PSP and Apple iPod), WMV, 3GP, 3G2, QuickTime (MOV), DVD, VOB, VRO, MPEG-1, 2, 4, MPG, DAT, MJPEG, Real Video (RM, RMV);
- **save** video project for **PC, DVD, Blu-ray, DivX/Xvid discs, mobile device, Web**, upload your collections to PSP, iPod, Archos, Creative Zen Vision, mobile phones, portable DVD players, **burn** your video collections onto a CD-R/RW, DVD+/-R, DVD+/-RW, DVD-RAM, Double/Dual Layer;
- use ready individual **menu styles** for every occasion and taste;

To start **AVS Video Editor** go to **Start** menu and choose **All Programs -> AVS4YOU -> Video -> AVS Video Editor**.

Program Interface

The **Main Window** of **AVS Video Editor** comprises the following parts:



- **Top Menu** - is used to get access to all the main functions and features of the program.
- **Top Toolbar** - is used to get quick access to the basic features, such as working with projects and files.
- **Menu Panes** - are used to quickly access the program principle editing options.
- **Files and Effects Area** - shows the imported media files, available transitions, effects, lets manage voice recording and chapter creation.
- **Preview Area** - is used to preview the imported media files, transitions and effects as well as the editing result.
- **Timeline/Storyboard Area** - is used to add and manage your videos, effects and transitions.

Top Menu

AVS Video Editor can be operated with the help of **Top Menu** elements. Flexible system of menu elements is a perfect tool for navigating and operating the application, controlling all the processes.

The **Top Menu** has the following structure:

File menu section

Item	Shortcut	Description
New Project	Ctrl+N	Use it to start a new project, add new videos to your future movie and edit and save it into a file or onto a disc.
Open Project...	Ctrl+O	Use it to open a previously saved project to edit it or save a video into a file or onto a disc.
Reopen Project		Use it to open a previously saved project that is displayed in the list of the recently opened/saved projects.
Save Project	Ctrl+S	Use it to save the currently edited project.
Save Project As...	Shift+Ctrl+S	Use it to save the currently edited project under a different name.
Import Media Library...		Use it to load the multimedia files from the exported library.
Export Media Library...		Use it to create a data file containing the information about all multimedia files loaded into AVS Video Editor .
Import Media...	Ctrl+I	Use it to import media files of all supported types into the program Files and Effects Area so that they can be used to create a movie.
Capture Video...	Ctrl+R	Use it to start AVS Video Recorder and capture video from a capture device connected to your personal computer.
Save Movie...	Ctrl+P	Use it to save movie into one of the supported formats and burn it onto a disc or upload to a portable device.
Exit		Use it to finish work with AVS Video Editor and exit.

Edit menu section

Item	Shortcut	Description
Undo	Ctrl+Z	Use it to reverse the latest performed command. If this option is not available, it means there is no action to undo.
Redo	Shift+Ctrl+Z	Use it to repeat your latest performed command or action.
Object		Use it to edit the selected object placed to the Timeline/Storyboard . Depending on the object type - video, transition, audio or effect - and the selected Timeline or Storyboard view different options for editing the object will be available.
Line		Use it to change the Timeline files and effects lines layout. This option is unavailable if the Storyboard view is selected.

Chapters		Use it to set chapters for your created video. This might be quite useful if you are going to save your resulting video to DVD or Blu-ray disc and create a menu for it.
Split		Use this button to split the video into two parts at the current cursor position.
Freeze		Use it to make a still shot from the video at the current cursor position.
Aspect Ratio		Use it to change the aspect ratio of your resulting video depending on the device that will be used to watch it.
Volume and Balance...		Use it to change the volume of the sound in the output video. Here you can also change the proportion of the volume value for the main video and the added soundtrack, completely mute the main video audio and leave the added soundtrack only and so on.
Settings...	Ctrl+Enter	Use it to change the project and the video settings.

View menu section

Item	Shortcut	Description
Timeline		Use it to change the main view to the Timeline to be able to add video effects, audio soundtracks and so on.
Storyboard		Use it to change the main view to the Storyboard to be able to add videos and transitions and change their properties.
Zoom		Use it to zoom in and out the video and the effects on the Timeline . This option is unavailable if the Storyboard view is selected.
Section		Use it to switch between the program Menu Panes .
View		Use it to change the way the files and effects are represented in the Files and Effects Area . You can choose between the Thumbnails, List and Details .
Sort by		Use it to arrange the media files in the Files and Effects Area according to the Time they were added to the Files and Effects Area , their Name, Date modified, their Type or Size . You can also change their location in an upward/downward direction.









Help menu section

Item	Shortcut	Description
Help	F1	Use it to open the AVS Video Editor help file.
AVS Home Page		Use it to visit AVS4YOU web site.
AVS Support Page		Use it to visit AVS4YOU support site.
E-mail us...		Use it to write an e-mail and send it to our support team.
About		Use it to read the information about the AVS Video Editor program.

Top Toolbar









The **Top Toolbar** lets the user quickly access the main operations with the projects and files and consists of the following buttons:



Button	Name	Description
	New Project	Is used to start a new project, add new videos to your future movie and edit and save it into a file or onto a disc.
	Open Project	Is used to open a previously saved project to edit it or save a video into a file or onto a disc.
	Save Project	Is used to save the currently edited project.
	Undo	Is used to reverse the latest performed command. If this option is not available, it means there is no action to undo.
	Redo	Is used to repeat your latest performed command or action.
	4:3 Aspect Ratio	Is used to change the aspect ratio of your resulting video so that it could fit a common CRT or 4:3 LCD display without any distortions and without black mattes in the upper and lower parts of the video.
	16:9 Aspect Ratio	Is used to change the aspect ratio of your resulting video so that it could fit a widescreen 16:9 LCD display without any distortions and without black mattes on sides of the video.
 Save Movie	Save Movie...	Is used to save movie into one of the supported formats and burn it onto a disc or upload to a portable device.

Menu Panes

The **Menu Panes** are used to quickly access the program principle editing options. They comprise the following buttons:

 Media Library	Use this button to browse the imported media files - video, audio and image files, add them to the Timeline/Storyboard , view their properties and edit them. It can be also used to switch to the Timeline or Storyboard view of the main video.
 Transitions	Use this button to view the available transitions and add them to your video.
 Video Effects	Use this button to view the available video effects , add them to your video and edit them.
 Text	Use this button to view the available text presets , add the text to your video and edit it.
 Video Overlay	Use this button to add video overlay to your video and edit it.
 Audio Mix	Use this button to add an audio soundtrack to your video that will replace or complement the original video soundtrack.
 Voice Record	Use this button to record your voice from a microphone connected to your personal computer soundcard input jack.
 Chapters	Use this button to create chapters for your video. They can be used to create a Video menu in case you plan to burn your video on DVD or Blu-ray disc.

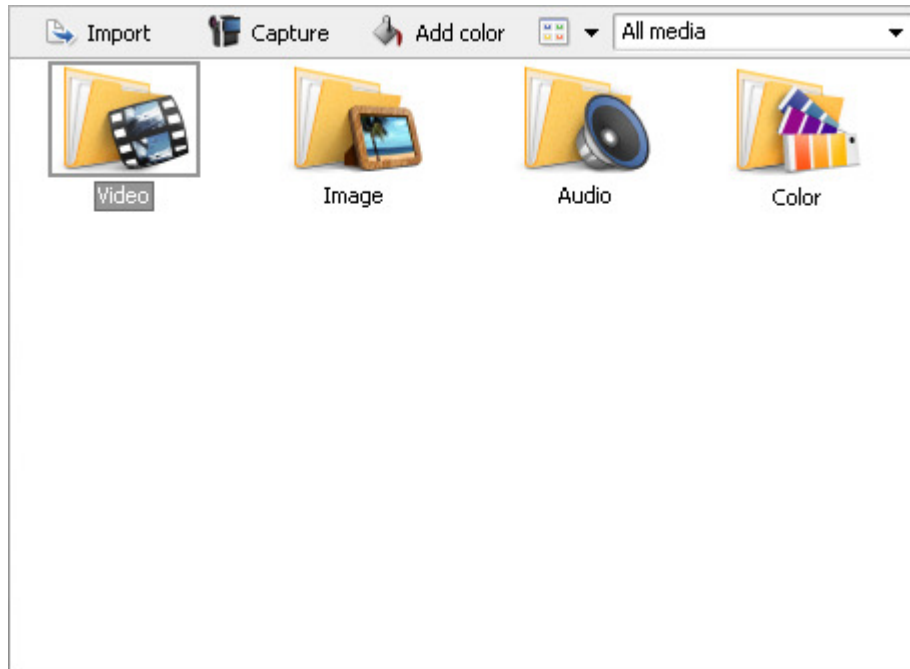


Files and Effects Area

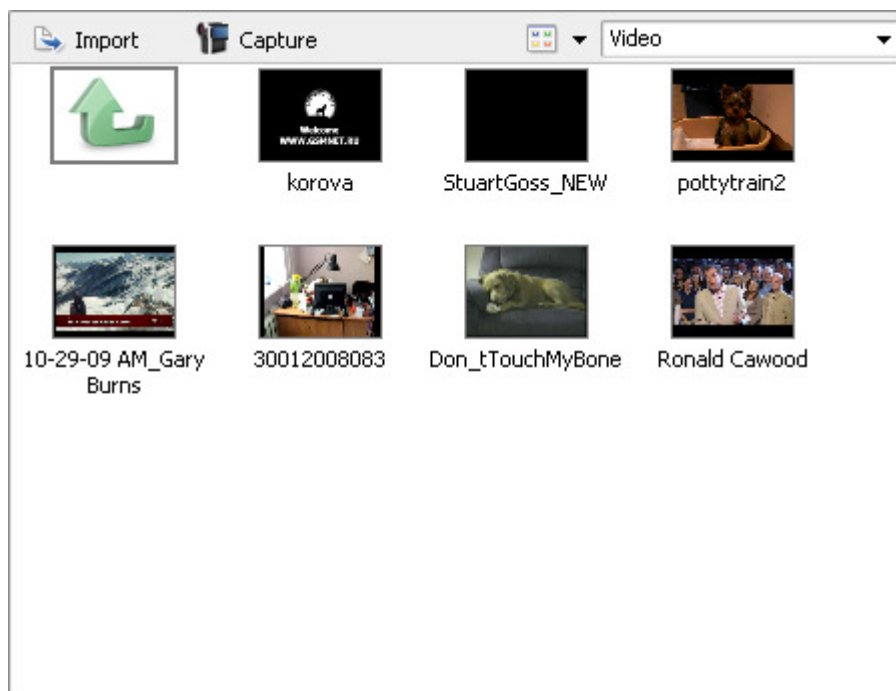
The **Files and Effects Area** serves the following purposes:



- show all the media files imported to the program and lets import new ones;
- shows the available effects and transitions;
- lets the user record voice from a microphone connected to the personal computer;
- allows to create chapters for the output video.


Normally, when the program is opened the **Files and Effects Area** will show the categories for the media files that can be imported into the program. These will include **Video, Image, Audio** and **Color**:



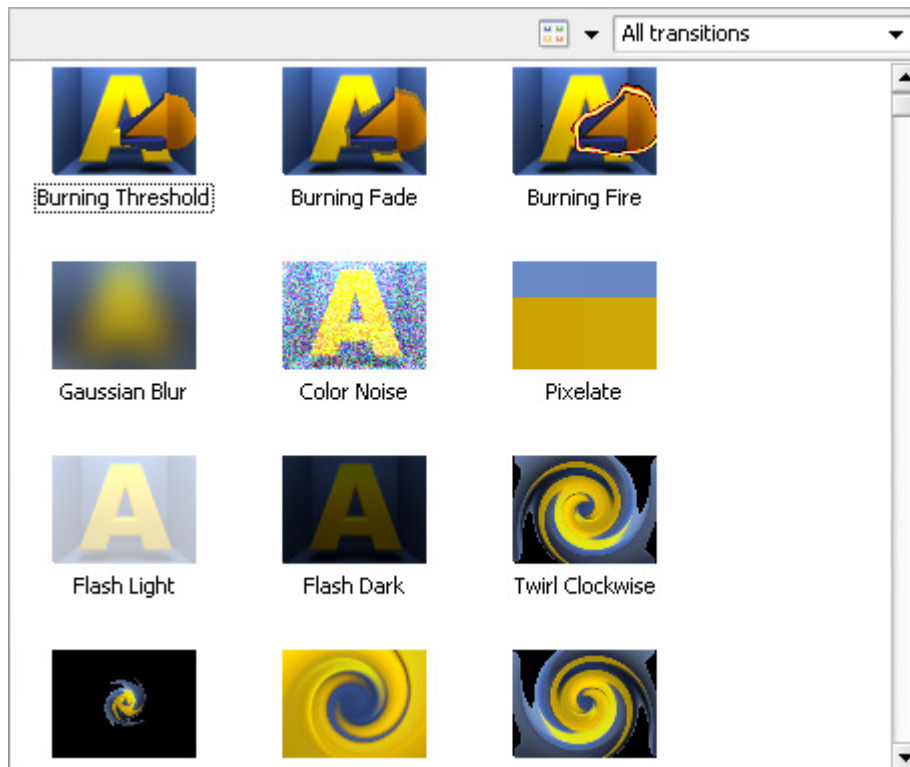
You can select one of the categories double-clicking it with the mouse or using the drop-down box in the upper right corner. When selected, the category will show all the files of a certain selected type - video, image, audio or colors - available in it. Here is an example of the selected video category:



If you want to add some video or other media to your output movie, you will need to **import it** first. To do that click the  Import button and browse for the media files or simply drag-and-drop them to the program window. You can also **capture video** from a capture device connected to your personal computer clicking the  Capture button.

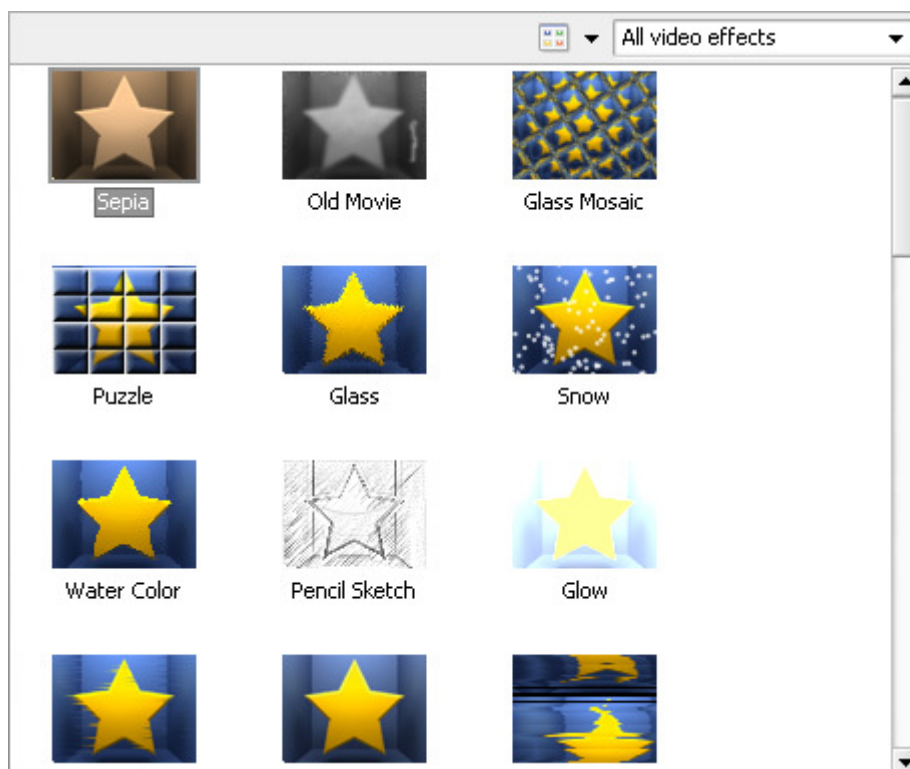
To return back to the **Media Library** view double-click the upward green arrow - .


When you click the **Transition** button of the **Menu Panes**, the list of all the available transitions will be displayed:



You can sort them by subcategories using the upper right corner drop-down box.

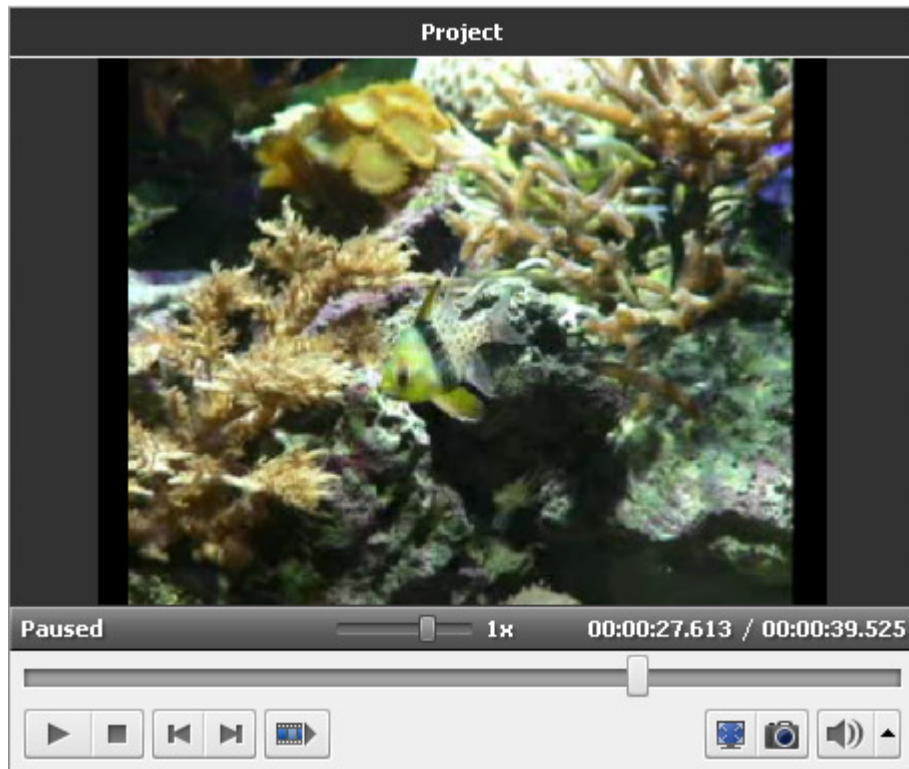
The same way pressing the **Video Effects** button of the **Menu Panes** will show all the effect present in the program in the **Files and Effects Area**. The effects can be sorted by subcategories as well:












You can change the representation of the list of the **Files and Effects Area** elements clicking the **Views**  button. Pressing it and selecting the **View as** option you can choose between **Thumbnails**, **List** and **Details** to view the **Files and Effects Area** elements. With media files - video, images and audio - it is also possible to arrange them by time they were added to the **Media Library**, their name, date modified, type or size with the **Sort by** option. You can also change their location in an upward/downward direction.


Preview Area

The **Preview Area** is used to preview the media files - video, audio and images, - transitions and effects in the **Files and Effects Area** and playback the resulting edited video.



Use the controls to preview the media and navigate through it:


Button	Name	Description
	Playback	Is used to start video file playback. Once you click it, it will turn into the Pause button to let you pause the playback when needed.
	Stop	Is used to stop video file playback. Every time you use it to stop the playback, the cursor goes back to the beginning of the file.
	Previous Frame	Is used to step one frame back in the video.
	Next Frame	Is used to step one frame forward in the video.
	Next Scene	Is used to find the next scene in the video clip. Once you click it, it will turn into the Stop button to let you stop searching scenes when needed.
	Full screen	Is used to make the Preview window occupy all the available surface of a screen.
	Snapshot	Is used to take a snapshot of the current video frame and save it into one of the supported image file formats.
	Mute	Is used to switch the sound of the played video on or off.
	Volume	Is used to change the sound volume while the video playback.

You can also change the playback speed moving the the cursor of the **Playback Speed** slider - , the speed value is displayed next to the slider.

Values	Description
from -16x to -2x	If you set this value, it will increase the backward playback speed
-1x	If you set this value, it will play backwards at normal speed
from -0,5x to 0x	If you set this value, it will decrease the backward playback speed
from 0x to 0,5x	If you set this value, it will decrease the forward playback speed
1x	If you set this value, it will play forwards at normal speed
from 2x to 16x	If you set this value, it will increase the forward playback speed



Note: if the playback slider reaches the beginning of the file, when the negative speed value is set, it continues to play video at normal speed (**+1x**).

To quickly navigate through your video file use the **Playback slider** - .

When you launch the program for the first time, the **Preview window** will show you the **Info Tips**. These **Tips** give you advice on how to use the main features of the program. Switch between the buttons of **Menu Panes** to read the new tips corresponding to each option.

If you don't want the **Tips** to be shown during your work, just click the **Close** link. If you need to disable the **Tips**, check the **Don't show tips** box, nevertheless you'll be able to activate them from the **Settings** window of the program.

Timeline/Storyboard Area


The purpose of the **Timeline/Storyboard Area** is creating and editing your movies. Here you can create, edit, add different effects to your video. The **Timeline/Storyboard Area** can be represented in two views:


1. **Timeline** view - is used when you add different effects - **video effects**, **audio**, **text** and **video overlay** - to your video.

and

2. **Storyboard** view - is used to **add videos** and **transitions** to the **Timeline/Storyboard Area**.

You can easily switch between both the views using the appropriate buttons:

 **Timeline** - is used to switch into **Timeline** view;



 **Storyboard** - is used to switch into **Storyboard** view.

Timeline view

The **Timeline** view allows you to achieve accuracy and precision in applying effects and editing your videos.










AVS Video Editor allows you to apply one or several effects to your media file. For details on specific effect, please refer to respective chapters. The **Timeline** view displays all the possible editing options simultaneously. You can see the **Video Effects**, **Text**, **Video Overlay** and **Audio Mix** lines used to edit your video clip.









- To expand any effect applied to the video you need to press the '+' button near it, to collapse it press the '-' button.
- To include the effect or media file into output video or to exclude it from it the **Enable/Disable line**  button is used.
- To block the line while applying effects to other lines, use the **Lock/Unlock line**  button.

When you select a line with video or effect on the **Timeline** certain buttons will be available on the **Timeline Toolbar**:



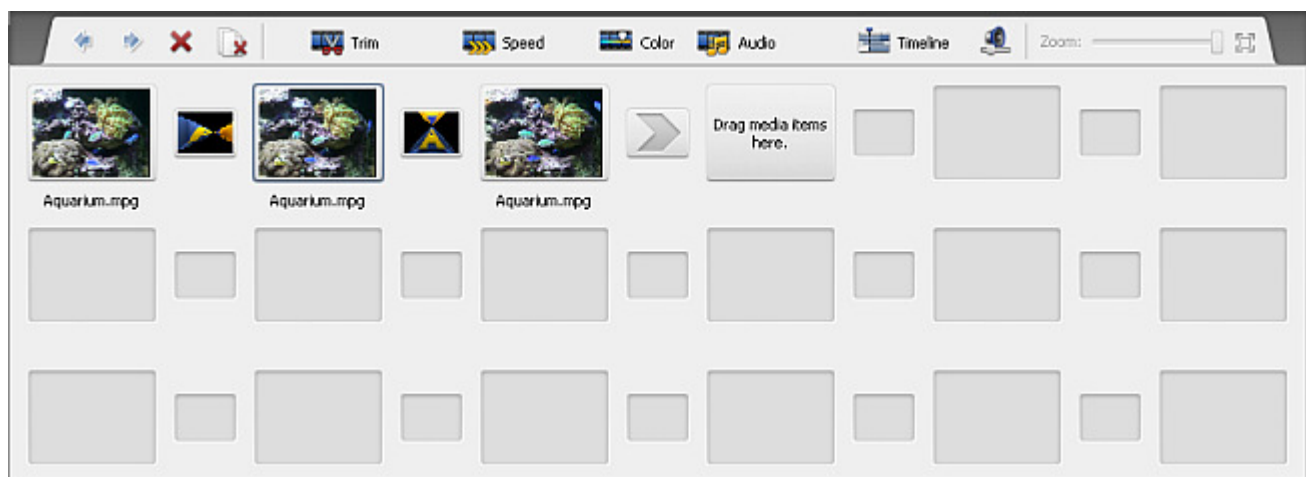
Note: the **Timeline** buttons differ depending on the **Timeline** element selected and can be present or absent for various elements.

Button	Name	Description
	Split	Use this button to split the video into two parts at the current cursor position. See the Placing Imported Media Files to the Storyboard section for more information on this option. This button is only available if a video clip is selected on the Timeline .
	Delete	Use this button to delete the currently selected element (video clip with the adjacent transition, video effect, text, video overlay or audio mix) from the Timeline .
	Trim	Use this button to edit your video clips and video overlay effect duration. See the Using Trim and Multiple Trim Options section for more information on this option. This button is only available if a video clip or video overlay effect is selected on the Timeline .
	Speed	Use this button to change the playback speed of your video. This button is only available if a video clip is selected on the Timeline .
	Color	Use this button to adjust the tonal range, color, and sharpness of your video. This button is only available if a video clip is selected on the Timeline .
	Audio	Use this button to apply some audio effects to the audio track of your video. This button is only available if a video clip is selected on the Timeline .
	Video Effects	Use this button to edit a video effect applied directly on the main video . This button is only available if a video clip with an applied effect is selected on the Timeline .

	Transition	Use this button to edit the selected transition duration. This button is only available if a transition is selected on the Timeline .
	Edit Effect	Use this button to open the Properties window to edit the applied effects. This button is only available if a video effect is selected on the Timeline .
	Duration	Use this button to edit the selected element duration on the Timeline . This button is only available if a video effect or text is selected on the Timeline .
	Edit Text	Use this button to open the Properties window to edit text. This button is only available if a text is selected on the Timeline .
	Edit Overlay	Use this button to open and edit the video overlay Properties window. This button is only available if a video overlay is selected on the Timeline .
	Storyboard	Use this button to switch to the Storyboard view.
	Volume and Balance	Use this button to open the Volume and Balance window and adjust these audio settings.
	Zoom	Use the Zoom slider to zoom in and out the the video and the effects on the Timeline . Click the Zoom to fit button to disable the zooming.


Storyboard view


The **Storyboard** view shows the sequence of video clips with the **Transitions** between them. You can change the order of clips in your video. To add clips to the **Storyboard** simply drag them from **Files and Effects Area** and drop to the necessary place in the **Storyboard**. The same way the transitions are added.














When you select a video clip or a transition on the **Storyboard** certain buttons will be available on the **Storyboard Toolbar**:



 **Note:** the **Storyboard** buttons differ depending on the **Storyboard** element selected and can be present or absent for various elements.

Button	Name	Description
	Move Left	Use this button to move the video clip towards the beginnig of the movie (i.e. to the left part of the Storyboard). This button is only available if a video clip is selected on the Storyboard .

	Move Right	Use this button to move the video clip towards the end of the movie (i.e. to the right part of the Storyboard). This button is only available if a video clip is selected on the Storyboard .
	Delete	Use this button to delete the currently selected element (video clip or transition) from the Storyboard .
	Delete All	Use this button to delete all the elements (both video clips and transitions) from the Storyboard .
	Trim	Use this button to edit your video clips duration. See the Using Trim and Multiple Trim Options section for more information on this option. This button is only available if a video clip is selected on the Storyboard .
	Speed	Use this button to change the playback speed of your video. This button is only available if a video clip is selected on the Storyboard .
	Color	Use this button to adjust the tonal range, color, and sharpness of your video. This button is only available if a video clip is selected on the Storyboard .
	Audio	Use this button to apply some audio effects to the audio track of your video. This button is only available if a video clip is selected on the Storyboard .
	Video Effects	Use this button to edit a video effect applied directly on the main video . This button is only available if a video clip with an applied effect is selected on the Storyboard .
	Transition	Use this button to edit the selected transition duration. This button is only available if a transition is selected on the Storyboard .
	Timeline	Use this button to switch to the Timeline view.
	Volume and Balance	Use this button to open the Volume and Balance window and adjust these audio settings.

Keyboard Shortcuts

The following keyboard shortcuts are available to **AVS Video Editor** users:

- **Main Window general purpose shortcuts**
- **Menu Panes shortcuts**
- **Preview Area/Player shortcuts**
- **Timeline shortcuts**
- **Trim/MultiTrim/Video Effects properties/Video Overlay properties windows common shortcuts**

Main Window general purpose shortcuts

Shortcut	Corresponding Button	Description
Ctrl+N	New Project	Use it to start a new project, add new videos to your future movie and edit and save it into a file or onto a disc.
Ctrl+O	Open Project...	Use it to open a previously saved project to edit it or save a video into a file or onto a disc.
Ctrl+S	Save Project	Use it to save the currently edited project.
Shift+Ctrl+S	Save Project As...	Use it to save the currently edited project under a different name.

Ctrl+I	Import Media...	Use it to import media files of all supported types into the program Files and Effects Area so that they can be used to create a movie.
Ctrl+R	Capture Video...	Use it to start AVS Video Recorder and capture video from a capture device connected to your personal computer.
Ctrl+P	Save Movie...	Use it to save movie into one of the supported formats and burn it onto a disc or upload to a portable device.
Ctrl+Z	Undo	Use it to reverse the latest performed command. If this option is not available, it means there is no action to undo.
Shift+Ctrl +Z/ Ctrl+Y	Redo	Use it to repeat your latest performed command or action.
Ctrl+Enter	Settings...	Use it to change the project and the video settings.
F1	Help	Use it to open the AVS Video Editor help file.

Menu Panes shortcuts

Shortcut	Corresponding Button	Description
Ctrl+1	Media Library	Use it to browse the imported media files - video, audio and image files, add them to the Timeline/Storyboard , view their properties and edit them. It can be also used to switch to the Timeline or Storyboard view of the main video.
Ctrl+2	Transitions	Use it to view the available transitions and add them to your video.
Ctrl+3	Video Effects	Use it to view the available video effects , add them to your video and edit them.
Ctrl+4	Text	Use it to view the available text presets , add the text to your video and edit it.
Ctrl+5	Video Overlay	Use it to add video overlay to your video and edit it.
Ctrl+6	Audio Mix	Use it to add an audio soundtrack to your video that will replace or complement the original video soundtrack.
Ctrl+7	Voice Record	Use it to record your voice from a microphone connected to your personal computer soundcard input jack.
Ctrl+8	Chapters	Use it to create chapters for your video. They can be used to create a Video menu in case you plan to burn your video on DVD or Blu-ray disc.

Preview Area/Player shortcuts

Shortcut	Corresponding Button	Description
Ctrl +Space	Play/Pause	Use it to playback or pause the currently edited video or selected effect or transition in the Preview Area . This shortcut is common for all the windows where player is present.
Alt+S	Stop	Use it to stop video file playback. Every time you use it to stop the playback, the cursor goes back to the beginning of the file.

Alt+Left	Previous Frame	Use it to go to the previous frame of the currently edited video or selected effect or transition in the Preview Area . This shortcut is common for all the windows where player is present.
Alt+Right	Next Frame	Use it to go to the next frame of the currently edited video or selected effect or transition in the Preview Area . This shortcut is common for all the windows where player is present.
Alt+N	Next Scene	Use it to find the next scene in the video clip. Once you click it, it will turn into the Stop button to let you stop searching scenes when needed.
Alt+Down	Decrease Speed	Use it to change the backward preview playback speed of the currently edited video or selected effect or transition in the Preview Area . Each time you use this shortcut the playback speed will change to -0.25x, -0.5x, -1x, -2x, -4x, -8x, -16x speed. In case you start using this shortcut after the Increase Playback Speed shortcut has been used and the speed is somewhat increased (0.25x, 0.5x, 1x, 2x, 4x, 8x or 16x) the Decrease Playback Speed shortcut will decrease the playback speed gradually each time you press it until the playback speed reaches 0.25x . After that the shortcut will begin acting as Fast Backward and will start changing the backward video playback speed. This shortcut is common for all the windows where player is present.
Alt+Up	Increase Speed	Use it to change the forward preview playback speed of the currently edited video or selected effect or transition in the Preview Area . Each time you use this shortcut the playback speed will change to 0.25x, 0.5x, 1x, 2x, 4x, 8x, 16x speed. In case you start using this shortcut after the Decrease Playback Speed shortcut has been used and the speed is somewhat decreased (-0.25x, -0.5x, -1x, -2x, -4x, -8x or -16x) the Increase Playback Speed shortcut will increase the playback speed gradually each time you press it until the playback speed reaches -0.25x . After that the shortcut will begin acting as Fast Forward and will start changing the forward video playback speed. This shortcut is common for all the windows where player is present.
Alt+M	Mute	Use it to switch the sound of the played video on or off. This shortcut is common for all the windows where player is present.

Timeline shortcuts

Shortcut	Corresponding Button	Description
Ctrl+PgDn	Zoom in	Use it to zoom the Timeline in and enlarge the view of the added video and effects.
Ctrl+PgUp	Zoom out	Use it to zoom the Timeline out reduce the view of the added video and effects.
F9	Zoom to Fit	Use it to return the view of the video and effects at the Timeline so that the whole video was displayed at the Timeline Area .
F8	Split	Use it to split the video at the Timeline at the current cursor position.
Del	Delete	Use it to remove the currently selected element from the Timeline .

Trim/MultiTrim/Video Effects properties/Video Overlay properties windows common shortcuts

Shortcut	Corresponding Button	Description
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Alt+N	Next Scene	Use it to find the next scene in the video clip. Once you use it, it will turn into the Stop shortcut to let you stop searching scenes when needed.
Alt+L (F3)	Mark in (Left bound)	Use it to mark the beginning of the trimmed area.
Alt+R (F4)	Mark out (Right bound)	Use it to mark the end of the trimmed area.
Alt+I (F5)	Fade in	Use it to mark the fade in area.
Alt+O (F6)	Fade out	Use it to mark the fade out area.
MultiTrim window specific shortcuts		
F8	Split Scene	Use it to split the video into scenes at current cursor position.
Alt+D	Start Scene Detection	Use it to start scene detection.
Alt+Z	Zoom	Use it to open the zoom timeline .
Ctrl+M	Merge Scenes	Use it to join the selected scenes together.
Del	Delete Scenes	Use it to delete the currently selected scene.
Video Overlay properties window specific shortcuts		
Ctrl+Left	Previous Time Stamp	Use it to quickly go to the previous time stamp of the trajectory.
Ctrl+Right	Next Time Stamp	Use it to quickly go to the next time stamp of the trajectory.
Ctrl+Ins	Add Time Stamp	Use it to add a new time stamp at the current overlay position. You can change the trajectory at this time stamp after that clicking it with the mouse and dragging it to the desired position.
Ctrl+Del	Remove Time Stamp	Use it to delete the currently selected time stamp. The trajectory will be changed to a straight line connecting the two time stamps before and after the deleted one.
Video Overlay properties Presets tab/Text properties Presets tab window specific shortcuts		
Ctrl+S	Save Preset	Use it to save the currently edited preset.
Del	Delete Preset	Use it to delete the currently selected preset.
Text properties window specific shortcuts		
Ctrl+C	Copy	Use it to copy the currently selected text box with the text to the program clipboard and paste it to another place.
Ctrl+V	Paste	Use it to paste the previously copied or cut text box with the text.
Ctrl+X	Cut	Use it to cut out the currently selected text box with the text to the program clipboard and paste it to another place.

Working with AVS Video Editor

Working with **AVS Video Editor** is quite simple and does not require any specific knowledge on video editing. All you need is to follow simple steps in creating and editing your own video.

1. Start **AVS Video Editor**. A **new project** will be automatically created for you or a previously edited one will be opened.
2. Set the project and video **parameters**. This is necessary for the correct and comfortable work and video creation and editing.
3. **Import the media files** that you want to be included into your movie (videos, audio tracks and images) or you can **capture** your video if it is recorded on a DV camera, for instance.
4. **Put the imported or captured video** to the **Timeline/Storyboard Area**. This is necessary to form the succession of video clips in your future movie and for editing them.
5. Start **editing** your movie by **adding transitions** between video clips in the **Timeline/Storyboard Area**.
6. **Add video effects** to your video and edit them as you like.
7. **Add text** captions to your movie where necessary.
8. You might want to **add video overlay effect** or **change the movie soundtrack** or **record your voice from microphone**.
9. When all the editing is done, you will need to **save your video** into a file or **record** it onto a disc or upload it to a portable device of yours. You can also **create a disc menu** for you movie in case you save it into a DVD or Blu-ray format.

And that's just it - as an output you will get a video that can be watched using a favorite program or a device of yours.

Working with Projects

Working with **AVS Video Editor** is built around the project conception. This means that once a project is created and saved, the next time saving the video to some other format will be very fast and easy - you simply load the same project and click the **Save Movie...** button.

Projects are also very useful in case you do not have a possibility to create, edit and save your video all at once. If this is your case, you will need to save the project and next time start from the place where you left your editing.

When **AVS Video Editor** is launched for the first time, a new project will automatically be created for you.

The project file represents a data file with a **.vep4** extension containing the information on the video and audio clips, effects and transitions added to your movie. You cannot read the saved project with a third-party application, only **AVS Video Editor** is able to open (or reopen) the created project file.



Note: it is strongly recommended not to change the location of the media files used in your project while working on it.

Working with projects is done the following way:


1. You can **create a new project** of yours.
2. **Set the project parameters** so that it could meet your requirements.
3. **Save** your created project to be able to use it in future.



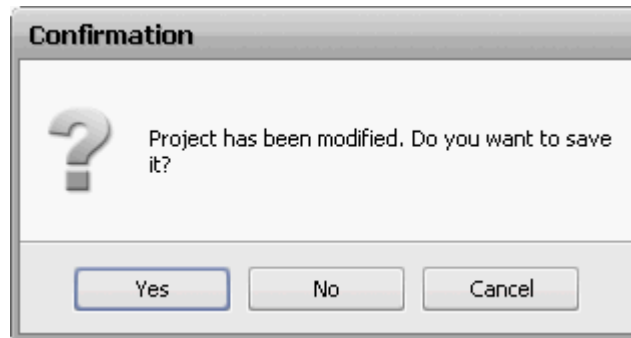
Note: the project file will only contain all the necessary information on the video clips and your actions, but not these elements themselves.

4. Or alternatively **open** an already saved project to additionally edit it or save your created video into some other format.

Starting a New Project

So, when **AVS Video Editor** is launched for the first time, a new project will automatically be created for you. But you can create a new project yourself. To do that click the **New Project**  button or use the **File** section of the **Top Menu**.

You will be asked if you want to save the previous project or not:

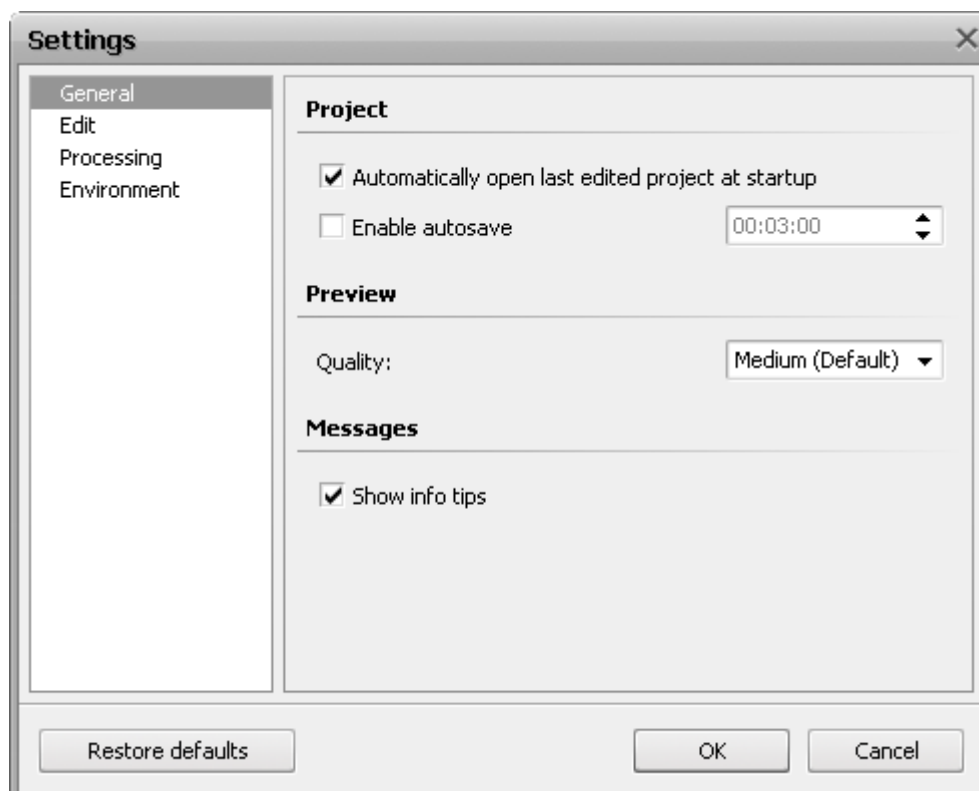


It is recommended to save the changes, so that you could use the project in future. Or you might want to press **Cancel** if you do not plan to close the previous project and start a new one.

After the new project is created, you will need to **change its settings** and **save it** afterwards.

Changing Settings

The settings window can be opened using the **Edit** section of the **Top Menu**. It will be opened to the **General** tab first:



Here you can set the following parameters:

- **Project** - the settings pertaining to the project:
 - **Automatically open last edited project at startup** - mark this option to let the program open the latest edited project for you at startup. If unmarked, a new empty project will be opened when the program is launched.
 - **Enable autosave** - mark this option to let the program automatically save the project every set interval of time (hours:minutes:seconds). This can be convenient if you experience power shutdowns and your work results can be lost if you do not save your project frequently.

- **Preview** - the settings of the **Preview Area**:

- **Quality** - the quality used to preview your video (can be **Low (Fastest)**, **Medium (Default)** and **High (Slowest)**) - you can change it to the lower value if your computer fails to playback the video correctly.

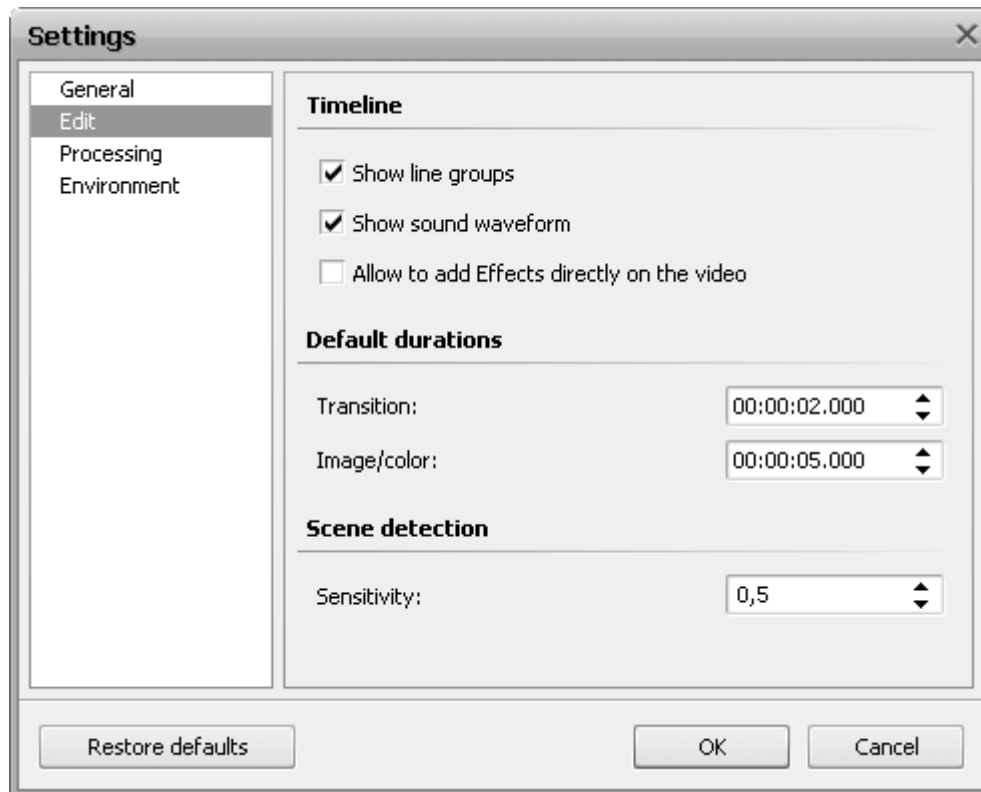


Note: this option affects the video preview only and does **NOT** in any way affect the quality of the output video.

- **Messages** - the option gives you helpful information on how to use the main functions of the program.

- **Show info tips** - tick this box to confirm that you want to read the **tips** while working with **AVS Video Editor**. The tips window appears in place of the **Preview window** every time you switch to a new element of the **Menu Panes**.

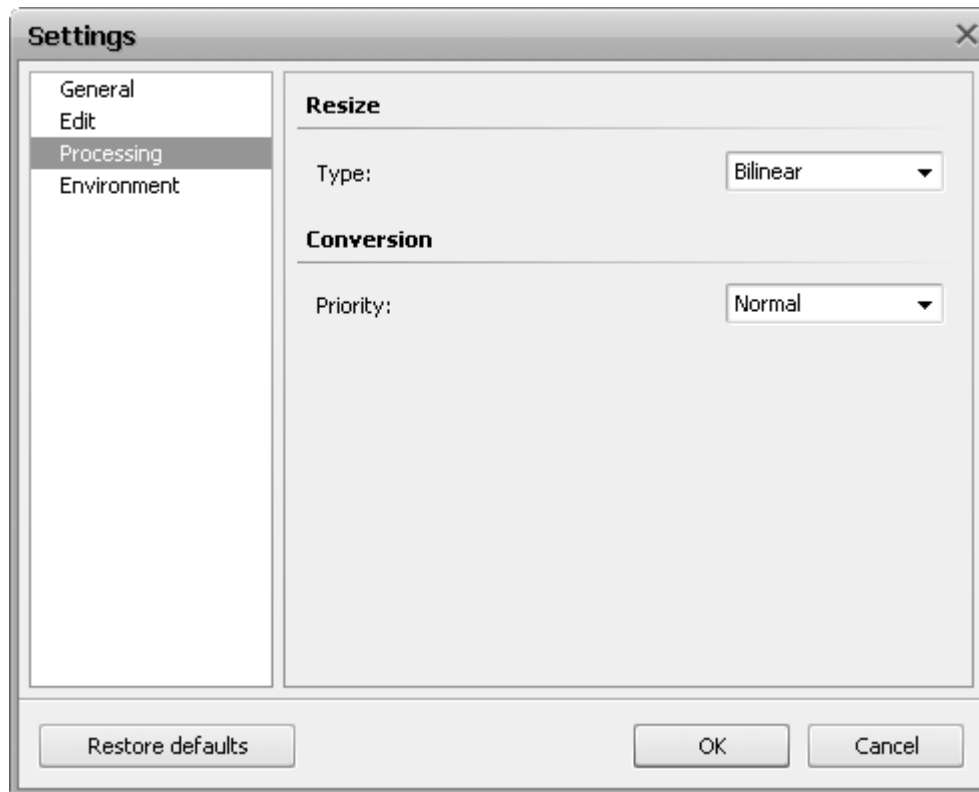
The next tab is the **Edit** settings:



Here you can set the following parameters:

- **Timeline** - the options used to change the representation of the **Timeline** elements:
 - **Show line groups** - mark this option to group the **Timeline** elements according to their type. If unchecked the **Timeline** elements will be displayed without grouping.
 - **Show sound waveform** - mark this option to show the waveform of the audio tracks added to the **Timeline**. If unchecked the audio track will be shown without the waveform.
 - **Allow to add Effects directly on the video** - mark this option to be able to drag and drop video effects **directly** to the **Main Video** line on the **Timeline**. If unchecked you will be able to drop the selected effect on the **Video Effects** line only.
- **Default durations** - the default duration value set for all the elements of a type:
 - **Transition** - the initial duration set for all transitions added to the video (measured in hours:minutes:seconds.hundredths of seconds).
 - **Image/color** - the initial duration set for all images and colors added to the video (measured in hours:minutes:seconds.hundredths of seconds).
- **Scene detection** - scene detection sensitivity applied when searching for scenes (in **Multiple Trim window**, for instance):
 - **Sensitivity** - the threshold of the video in scene detection. If the program finds too many or too little scenes, you might try and change this value.

The next tab is the **Processing** settings:



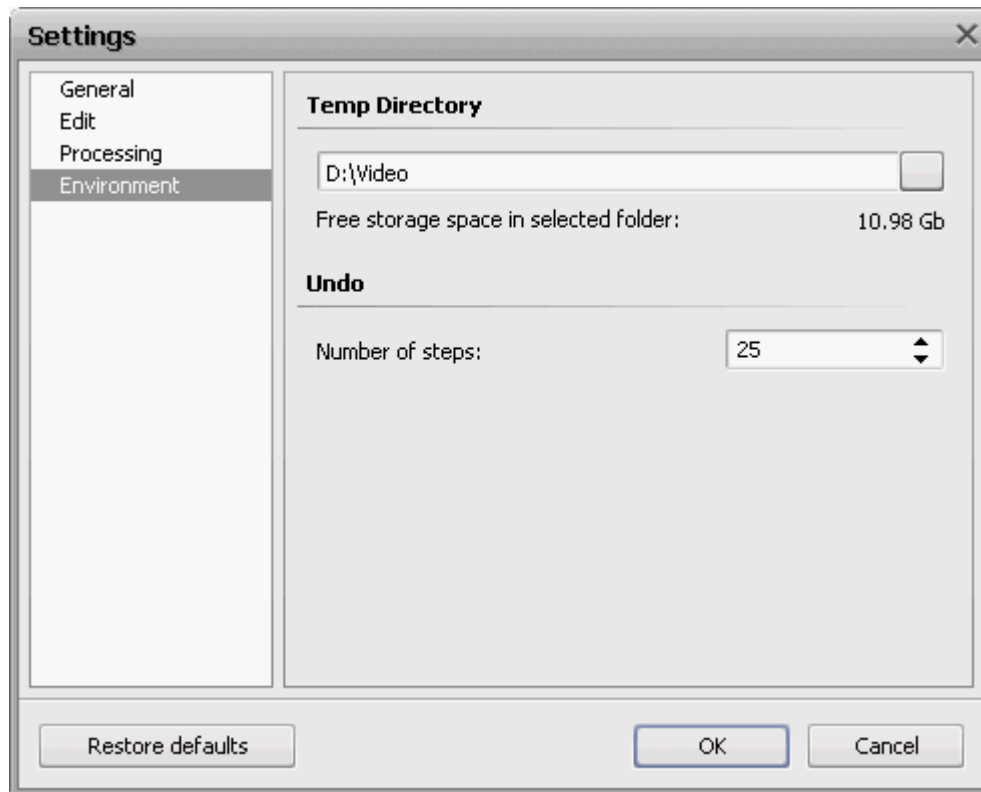
Here you can select the one of the available **Resize** filters:


- **"Nearest Neighbor"** - the simplest method of image resizing, i.e. the processing power used is the smallest, but the result also has the poorest quality. Speaking of the process itself, when the resizing is done using the **"Nearest Neighbor"** filter, only the pixels closest to the sample point are taken into consideration, with no input from other surrounding pixels. This method can be really recommended only in case the speed is crucial and the quality can be neglected.
- **Bilinear** - a slightly better method of image resizing, being a reasonable compromise between the speed and the output image quality. When the resizing is done with the **Bilinear** filter, a sample point takes the four closest pixel centers and linearly interpolates their color values according to their distance from the sample point. The method takes more computing power than the **"Nearest Neighbor"**. This method is particularly useful when an image is being enlarged, or transformed without decrease in average size.
- **Bicubic** - the best method of image resizing among available ones. Images resampled with bicubic filter are smoother and have fewer artifacts. At the same time this filter will require more computing time and power.

Depending on your computer configuration, the time you have to perform the conversion and all the other factors, you can select one of the filters and the appropriate resizing will be performed.

It is also possible to set the **Conversion** priority: **Highest**, **Above Normal**, **Normal** or **Below Normal**. Select the **Normal** or **Below Normal** priority, if you plan to do some other work on your computer - watch a movie, play a game, - while the conversion process takes place. In case you need to convert files as soon as possible, use the **Highest** or **Above Normal** conversion priority.

The next tab is the **Environment** settings:



Select the **Temporary Directory** used to store all the program work files using the **Browse**  button. The program will show the **Free storage space in selected folder** in the appropriate place.




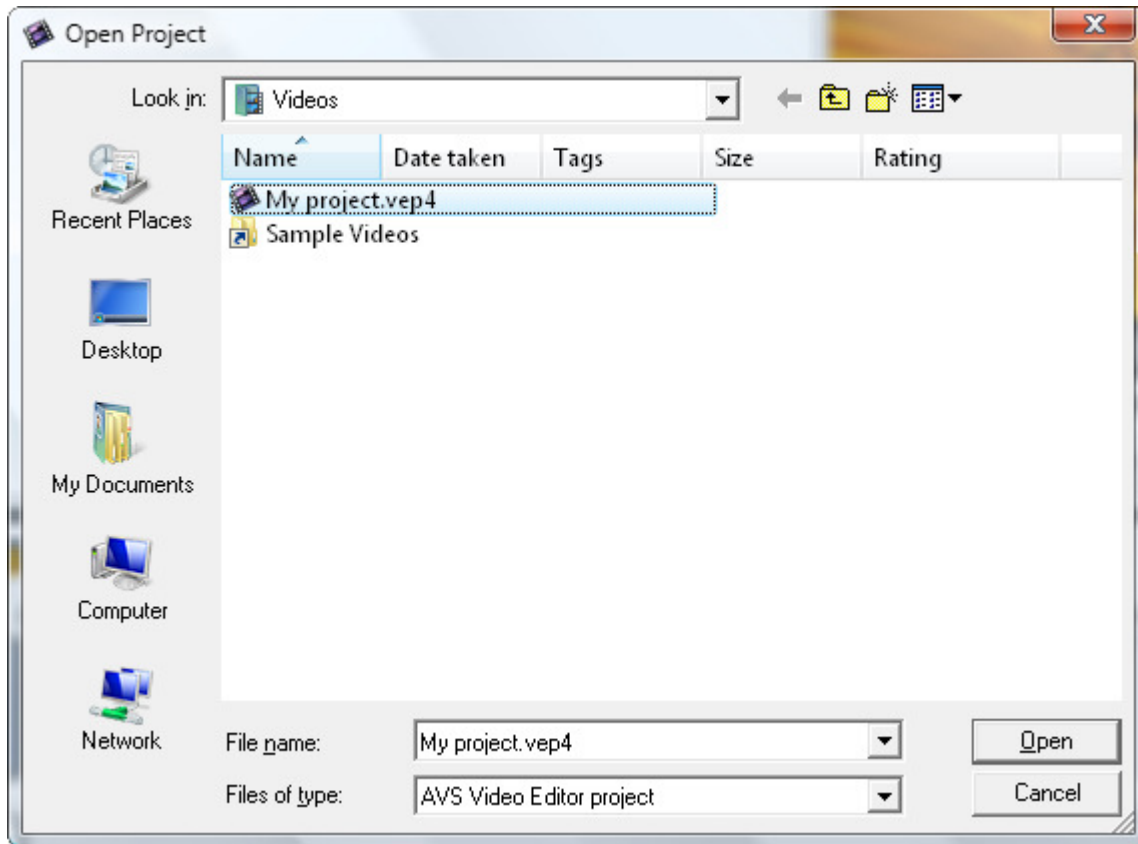
Note: you might need quite a lot space for video editing, so we strongly recommend that you select the drive with the largest available free space value for the temporary folder.

Undo - the number of the undo/redo actions:

- **Number of steps** - the number of the steps handled by the program. If the number of steps exceeds the value, the first undos will become unavailable. This number depends on the memory installed on your computer, but you can try and increase it if you plan a large project.

Opening Existing Projects


To edit an old project that has been previously **saved** you will need to open it. Click the **Open Project**  button or use the **File** section of the **Top Menu**. The following window will be opened:

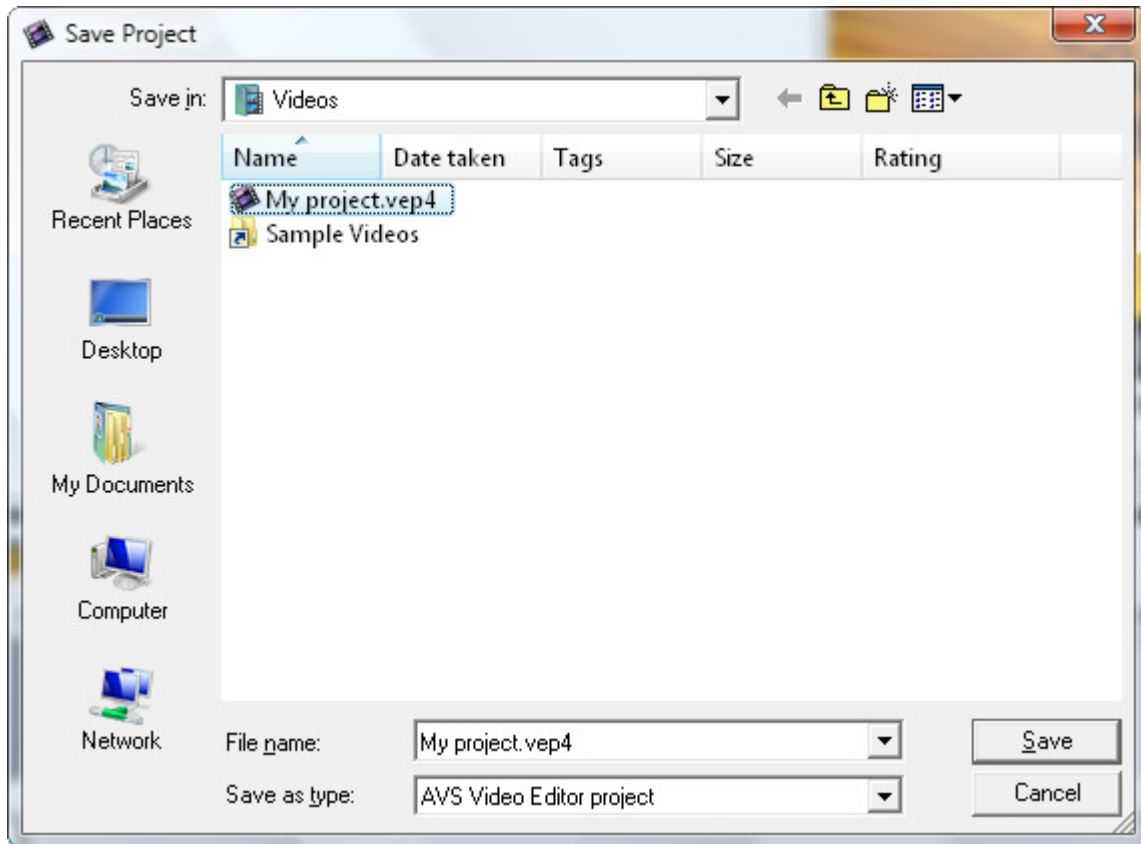


Select the necessary project and click the **Open** button. The project will be loaded into **AVS Video Editor** reflecting all the applied and saved changes.

You can also open one of the recently modified projects using the **Reopen Project** option of the **File** section of the **Top Menu** and selecting the necessary project from the list of available ones.

Saving Projects

Whenever a new project is created or you edit an old project, you will need to save it so that all the changes were available in the future. Click the **Save Project**  button or use the **File** section of the **Top Menu**. The following window will be opened:



Select the location, enter the project name and click the **Save** button. The next time you need to edit the same project, simply **open** it.

In case you need to save the same project but under a different name use the **Save Project as...** option of the **File** section of the **Top Menu**.

Creating and Editing Videos

Once a new project is created or an older one started, you can begin work with the media files you have on your computer hard disk drive. Normally, the work with the videos is started with **importing media** files that you have on your computer or an optical disc into **AVS Video Editor** program. This can be done the following way:

- You can either **import the media files** - videos, audio and images - into the program;
- or will need to **capture your video** from a capture device of yours - a miniDV camcorder or something alike - and then these captured videos will be automatically imported into the program.

In either case after the files are added to the **Files and Effects Area** you need to **place them to the Timeline/Storyboard Area** to be able to **edit** them.

Creating Videos



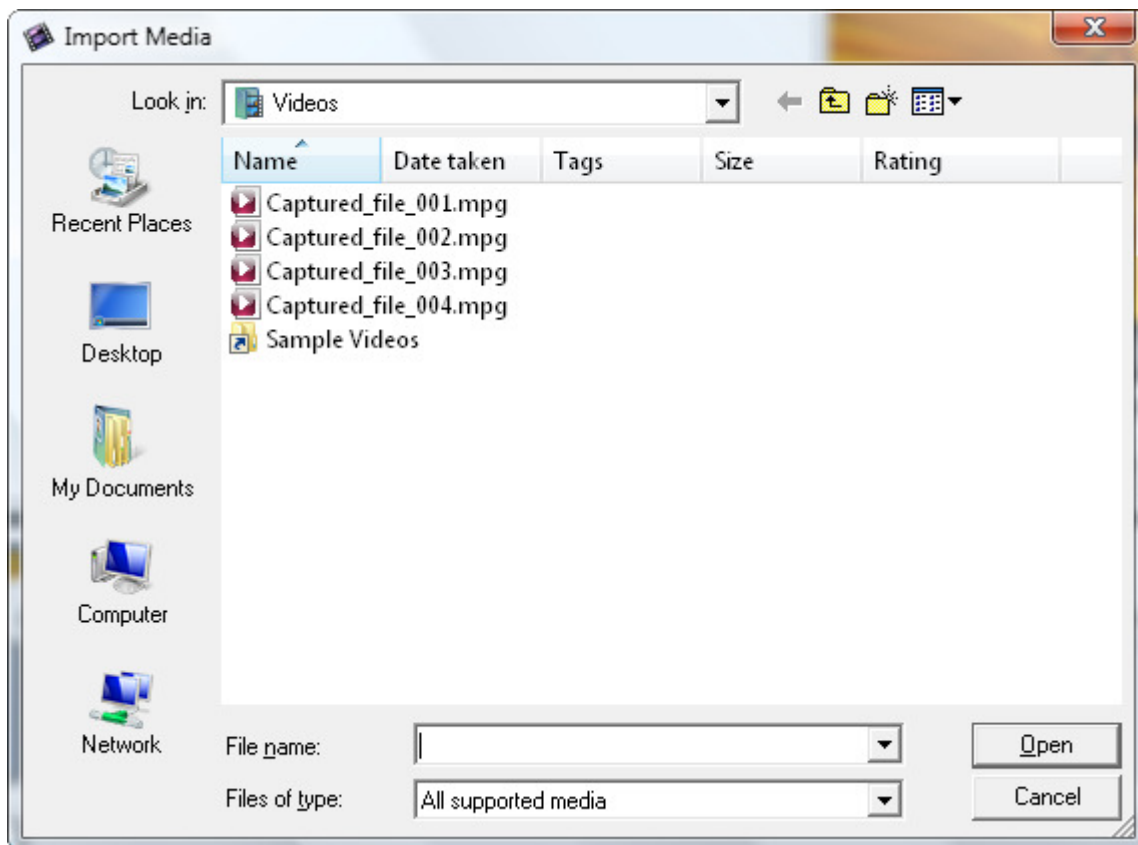
Click the **Media Library** button to view what media files are already loaded into **AVS Video Editor**. If this is your first project, no videos or audio or image files will be loaded into the program. So you will need to **import them**. If you plan to create a movie from the video recorded by a miniDV camcorder of yours, you will need to **capture the recorded video** to the computer hard disk drive prior to working with them.

After the files are imported to the program, you can **preview them, preedit them** if needed and after that **place them to the Timeline/Storyboard Area** to create a movie.

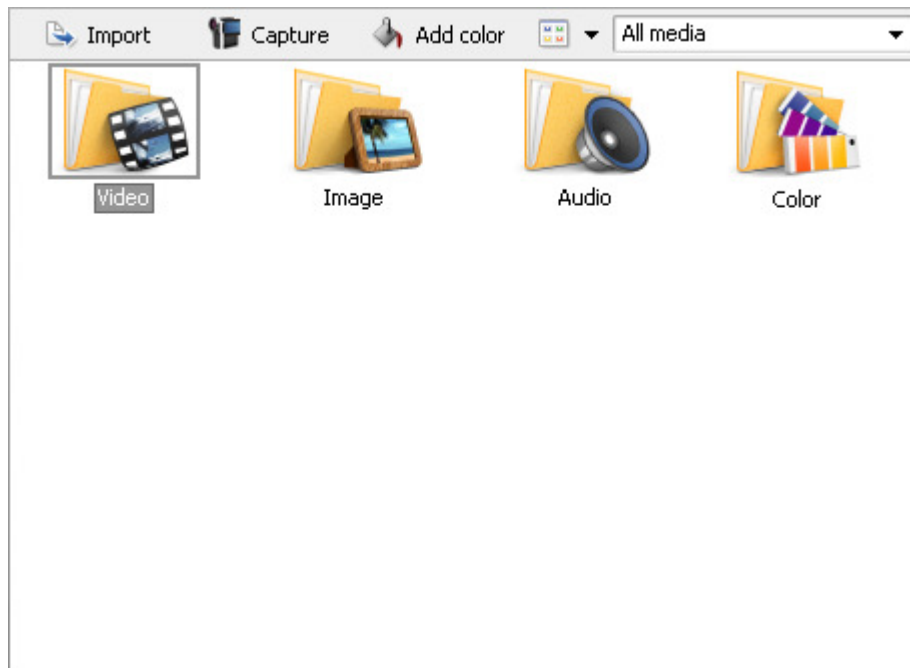
Importing Multimedia Files

Import Before you can begin editing your video, you need make the files available to **AVS Video Editor**. This means, that you will need to import your video, audio and image files from your computer hard disk drive into the program. First click the **Media Library** button of the **Menu Panes** and then the **Import** button in the **Files and Effects Area**. The same can be done using the **Import Media** option of the **File** section of the **Top Menu**.

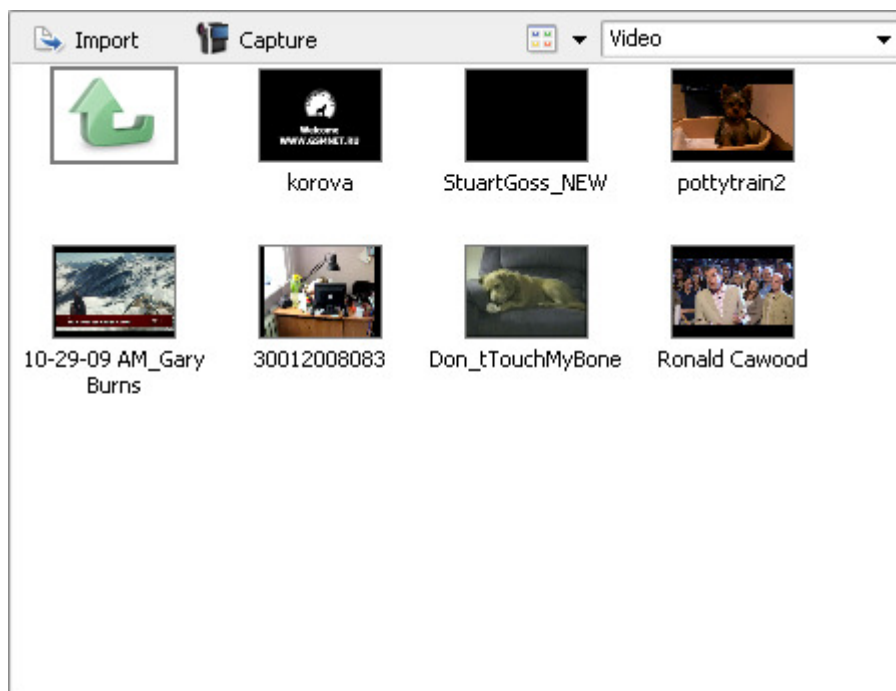
The **Import Media** window will be opened:



Select the necessary media files and click the **Open** button. The selected files will be added to the **Files and Effects Area** into the appropriate category - **Video, Audio** or **Image**:




You can select one of the categories double-clicking it with the mouse or using the drop-down box in the upper right corner. When selected, the category will show all the files of a certain selected type - video, image, audio or colors - available in it. Here is an example of the selected video category:

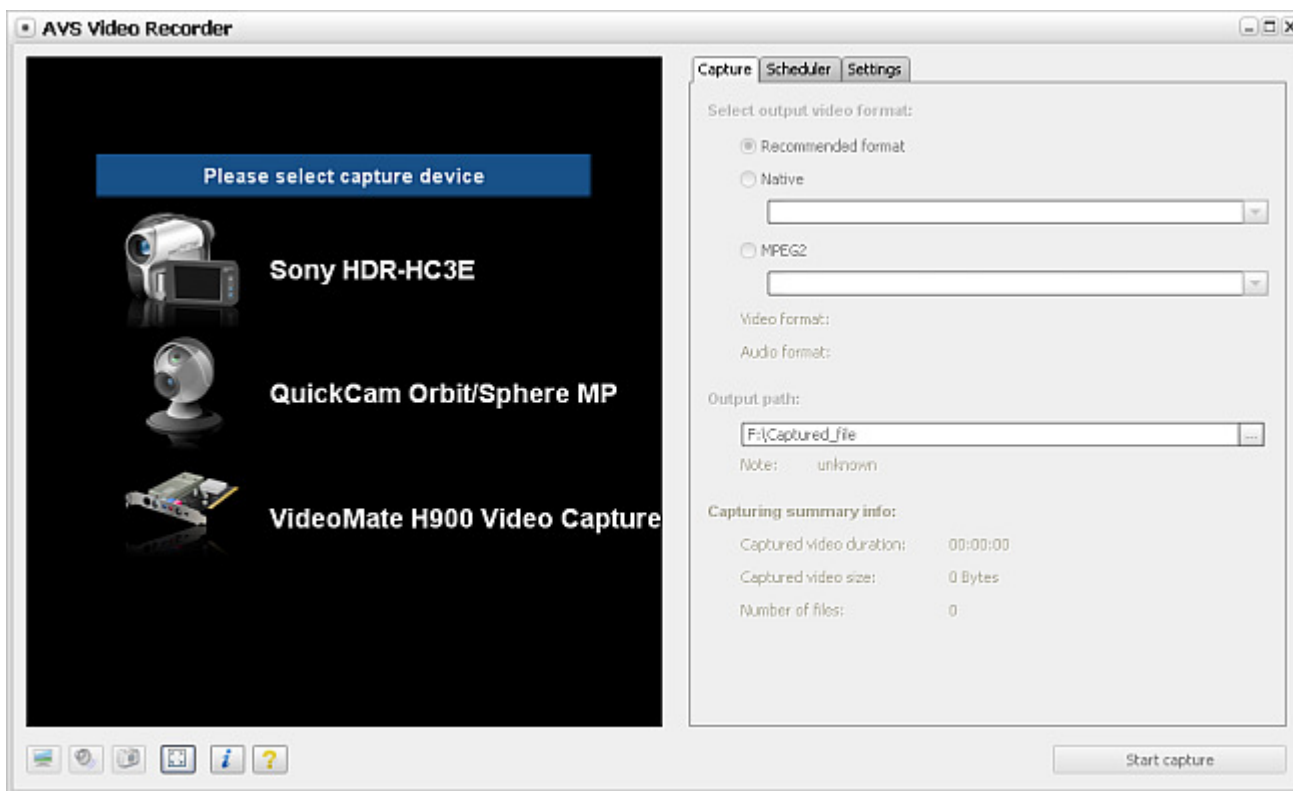


After that you can either import more media files or **preview** the imported media files or **preprocess them** before you **place them to the Timeline/Storyboard Area**.

Capturing Video

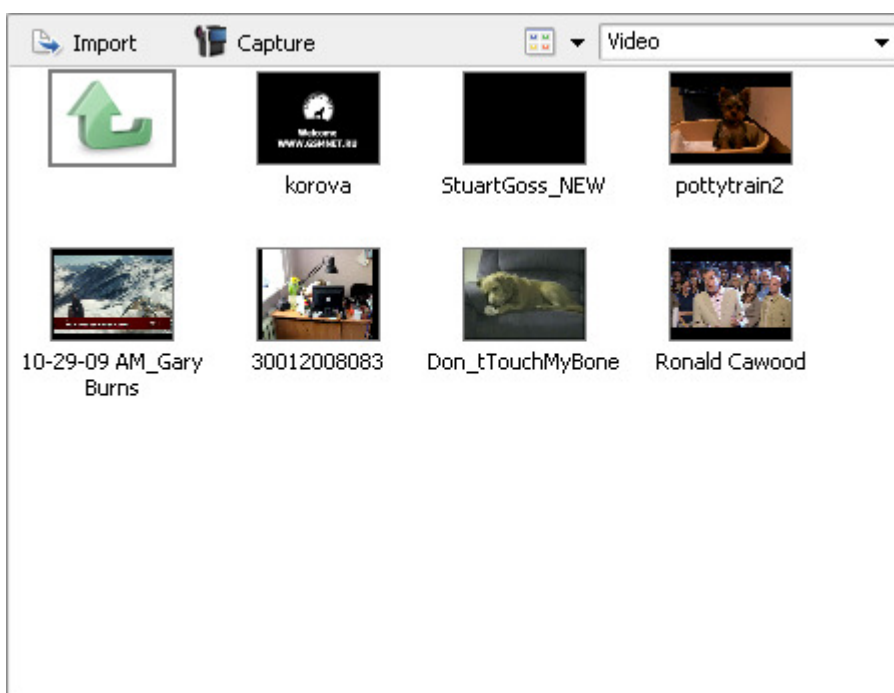
 **Capture** Sometimes you might want to create a home movie out of the material recorded onto a miniDV camera or some other device that requires the video captured before you can edit it. **AVS Video Editor** lets you do that with no difficulties.

First of all you will need to properly connect your miniDV camcorder or another capture device to your personal computer and, after you launch **AVS Video Editor**, press the **Capture** button. **AVS Video Recorder** program will start and let you capture your video to the computer hard disk drive:




Please, refer to the **AVS Video Recorder Online Help** for detailed information on how to capture video from a capture device.

When you finish capturing video, press the **Exit** button in **AVS Video Recorder** bottom right corner to return to **AVS Video Editor**. You will find your captured video in the **Video** section of the **Files and Effects Area**:

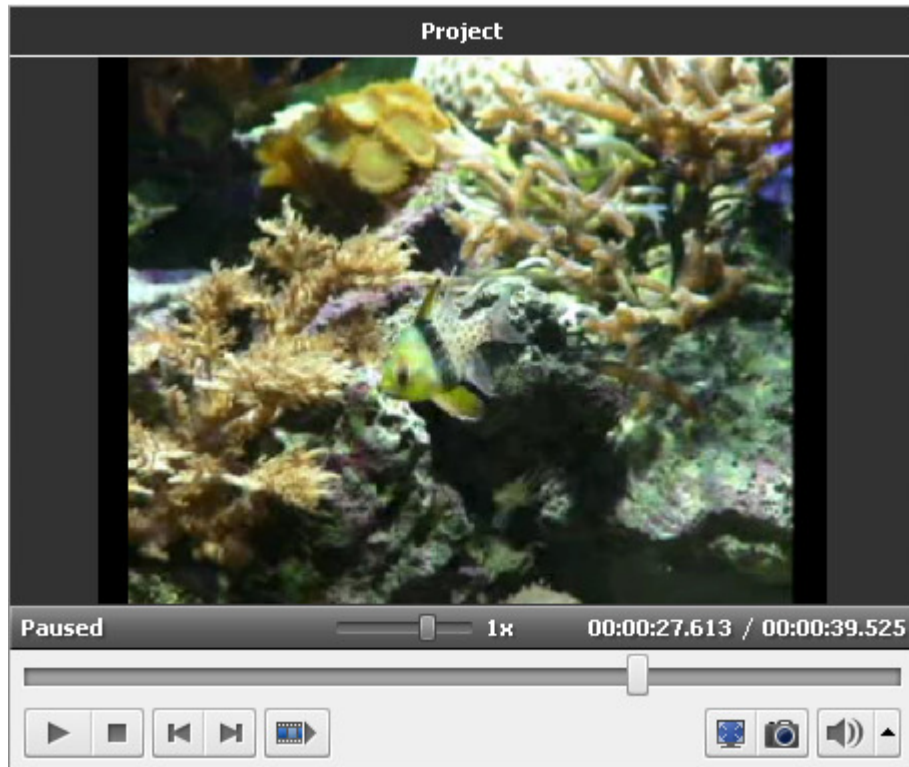





Using Preview

Before you add the media files to the **Timeline/Storyboard Area** you might want to preview them or **edit** them.

 Click the **Media Library** button to view the imported media files. After that select one of the categories - **Video**, **Audio**, **Image** or **Color** and double-click it.

After that select a media file to preview clicking it. Now use the **Preview Area** to watch or listen to the media file you have selected:



Use the **Playback**  button to start the media file playback. Or, alternatively, you can simply double-click the media file in the **Files and Effects Area** to start its playback. If you want you can play your files on full screen. To open a **Full Screen** mode, please, use the  button or double click the **Preview window**. To go back to the windowed mode click the  button once again, double click the picture or press the **Esc** button.

The buttons of the **Preview Area** are quite self explanatory, though you can read their detailed description [here](#).

The same way the effects and transitions are previewed. Simply select the appropriate section of the **Menu Panes - Transitions** or **Video Effects** or **Text** and click the necessary element of the **Files and Effects Area**.

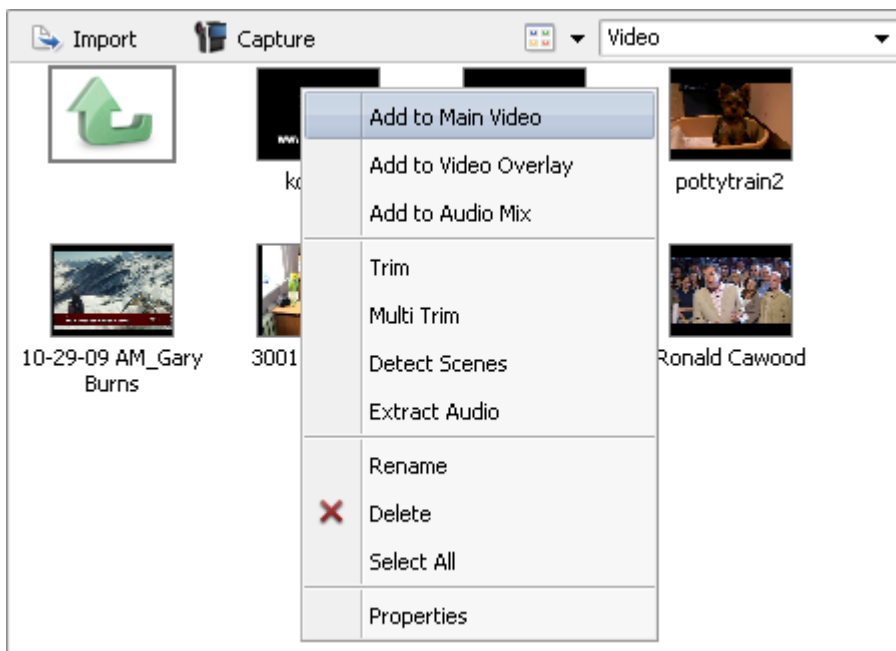
Preprocessing Files

Not all the media files that you import to **AVS Video Editor** can be used in your output movie right away. Some of them will, for sure, need preprocessing - **trimming, cutting off some unnecessary scenes** and so on.

The easiest way to access all the actions that you can do to the imported media files is via the **right-click express menu**. You will be able to view the files **properties, change their duration, alter the aspect ratio** value and even **extract audio** from the video clip so that you will be able to use it in your editing afterwards.

Files Express Menu

The easiest way to view all the actions that you can do the files in the **Files and Effects Area** is to use the right-click express menu. Select the media file you want and click it with the right mouse button:






Here you can choose to perform the following actions (depending on the file type):

Video files express menu

Add to Main Video
Add to Video Overlay
Add to Audio Mix
Trim
Multi Trim
Detect Scenes
Extract Audio
Rename
 Delete
Select All
Properties


Add to Main Video	Use this option to add the selected video clip to the Timeline/Storyboard Area and include it to the output movie.
Add to Video Overlay	Use this option to add the selected video clip to the Timeline/Storyboard Area on the Video Overlay line.
Add to Audio Mix	Use this option to add the audio track of the selected video clip to the Timeline/Storyboard Area on the Audio Mix line.
Trim	Use this option to open the Trim window and edit the selected video clip duration.
Multi Trim	Use this option to open the MultiTrim window and edit the selected video clip duration.
Detect Scenes	Use this option to detect scenes in the selected video clip and split it into scenes.
Extract Audio	Use this option to extract audio from the selected video clip and save it into the .mp3 or uncompressed .wav format. The extracted audio will be automatically imported to the Audio section of the Files and Effects Area .
Rename	Use this option to change the name of the video clip in the Files and Effects Area .
Delete	Use this option to delete the selected videos from the Files and Effects Area .
Select All	Use this option to select all the videos in the Files and Effects Area .
Properties	Use this option to display the video clip properties window .

Image files express menu

	Add to Main Video
	Add to Video Overlay
	Add to Audio Mix
	Rotate Counterclockwise
	Rotate Clockwise
	Rename
	Delete
	Select All
	Properties

Add to Main Video	Use this option to add the selected image to the Timeline/Storyboard Area and include it to the output movie.
Add to Video Overlay	Use this option to add the selected image to the Timeline/Storyboard Area on the Video Overlay line.
Rotate Counterclockwise	Use this option to rotate the image counterclockwise. A new image with the rotation changes will be created.
Rotate Clockwise	Use this option to rotate the image clockwise. A new image with the rotation changes will be created.
Rename	Use this option to change the name of the image in the Files and Effects Area .
Delete	Use this option to delete the selected images from the Files and Effects Area .
Select All	Use this option to select all the images in the Files and Effects Area .
Properties	Use this option to display the image properties window .

Audio files express menu

	Add to Main Video
	Add to Video Overlay
	Add to Audio Mix
	Rename
	Delete
	Select All
	Properties

Add to Music Mix	Use this option to add the selected audio track to the Timeline/Storyboard Area and include it to the output movie.
Rename	Use this option to change the name of the audio track in the Files and Effects Area .
Delete	Use this option to delete the selected audio track from the Files and Effects Area .
Select All	Use this option to select all the audio files in the Files and Effects Area .
Properties	Use this option to display the audio properties window .

Color files express menu

	Add to Main Video
	Add to Video Overlay
	Add to Audio Mix
	Rename
✗	Delete
	Select All
	Properties

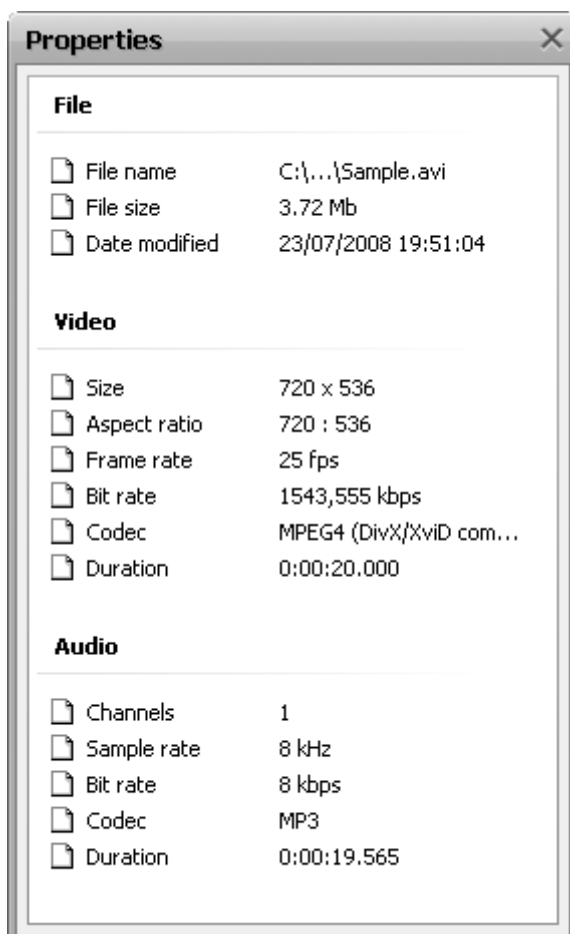
Add to Main Video	Use this option to add the selected color to the Timeline/Storyboard Area and include it to the output movie.
Add to Video Overlay	Use this option to add the selected color to the Timeline/Storyboard Area on the Video Overlay line.
Rename	Use this option to change the name of the color in the Files and Effects Area .
Delete	Use this option to delete the selected color from the Files and Effects Area .
Select All	Use this option to select all the colors in the Files and Effects Area .
Properties	Use this option to display the color properties window .

Properties Windows

Right-click the file in the **Files and Effects Area** and select the **Properties** option.

The files **Properties** windows display all the available properties for the files of different types.

Video files properties window



File:

- **File name** - the name and the path of the selected file.
- **File size** - the size of the file measured in kilobytes/ megabytes/ gigabytes.
- **Date modified** - the date and time the file was changed and re-written.

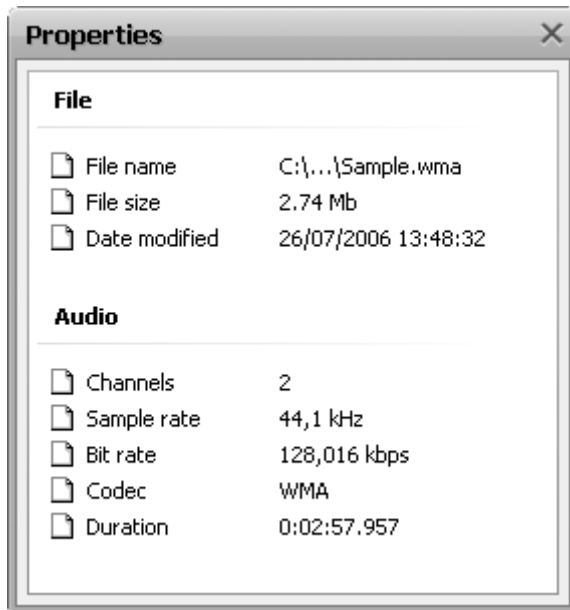
Video:

- **Size** - the size of the video clip image (width and height) measured in pixels.
- **Aspect ratio** - the relationship of screen width to height.
- **Framerate** - the number of video frames displayed every second.
- **Bitrate** - the number of bits transferred per second.
- **Codec** - type of format used to code the video information into the video file.
- **Duration** - the length of the video clip (hours:minutes:seconds).

Audio:

- **Channels** - number of channels in the audio track (mono - one channel, stereo - two channels, quadro - four channels, 4.1 - five channels, 5.1 - six channels, 6.1 - seven channels, 7.1 - eight channels).
- **Sample rate** - the sampling frequency specified in hertz.
- **Bitrate** - the number of data points used to approximate the true wave form (kilobits per second).
- **Codec** - the codec used to encode the video clip soundtrack.
- **Duration** - the length of the video clip soundtrack (hours:minutes:seconds).

Audio files properties window



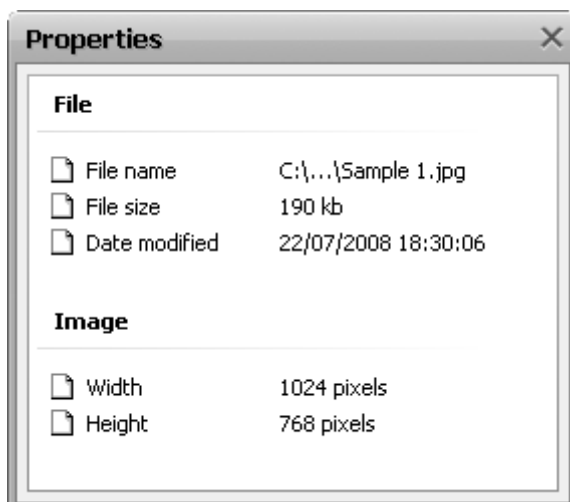
File:

- **File name** - the name and the path of the selected file.
- **File size** - the size of the file measured in kilobytes/ megabytes/ gigabytes.
- **Date modified** - the date and time the file was changed and re-written.

Audio:

- **Channels** - number of channels in the audio file (mono - one channel, stereo - two channels, quadro - four channels, 4.1 - five channels, 5.1 - six channels, 6.1 - seven channels, 7.1 - eight channels).
- **Sample rate** - the sampling frequency specified in hertz.
- **Bitrate** - the number of data points used to approximate the true wave form (kilobits per second).
- **Codec** - the codec used to encode the audio file.
- **Duration** - the length of the audio file (hours:minutes:seconds).

Image files properties window



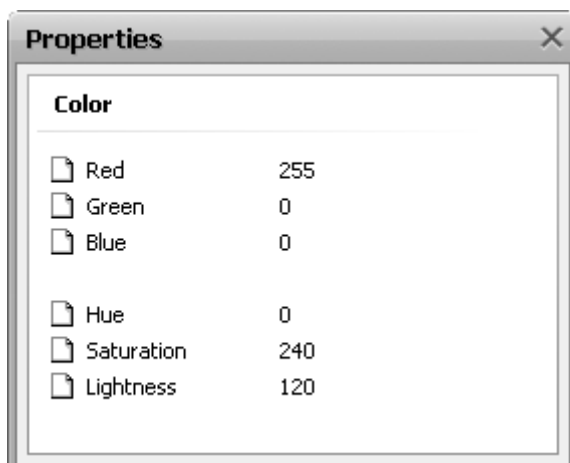
File:

- **File name** - the name and the path of the selected file.
- **File size** - the size of the file measured in kilobytes/ megabytes/ gigabytes.
- **Date modified** - the date and time the file was changed and re-written.

Image:

- **Width** - the width of the image file specified in pixels.
- **Height** - the height of the image file specified in pixels.

Color files properties window



Color:

- **Red** - the intensity of the red color in the color file (**0** - no red color is present, **256** - the maximal intensity of the color).
- **Green** - the intensity of the green color in the color file (**0** - no green color is present, **256** - the maximal intensity of the color).
- **Blue** - the intensity of the blue color in the color file (**0** - no blue color is present, **256** - the maximal intensity of the color).
- **Hue** - the gradation of color or quality of a color as determined by its dominant wavelength.
- **Saturation** - the perceived intensity of a specific color.
- **Lightness** - the subjective brightness perception of a color.

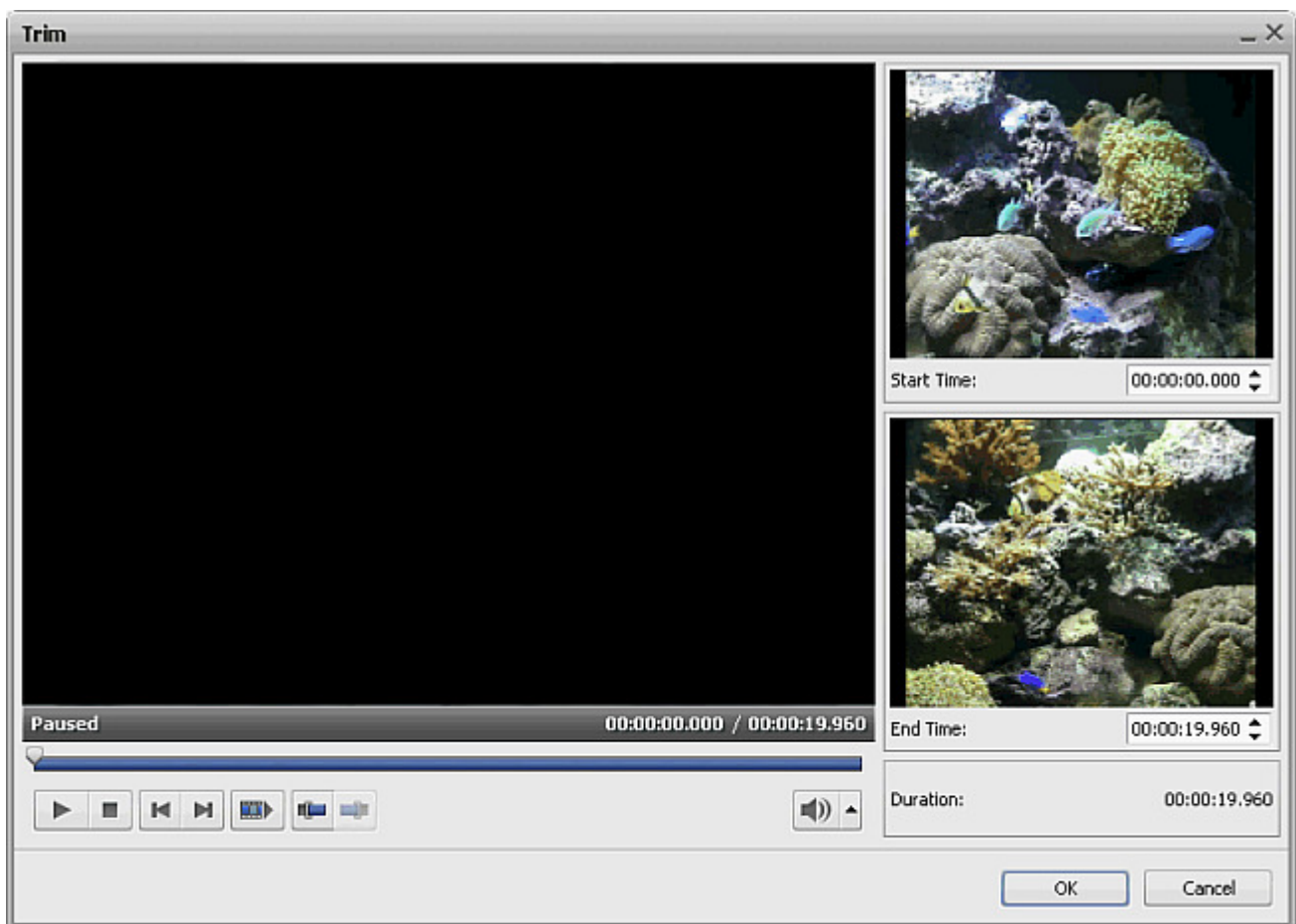
Trimming Video

Right-click the file in the **Files and Effects Area** and select the **Trim** option. There are two options available:






- **Trim** - lets the user change the video clip duration cutting out the unnecessary parts in the beginning and the end of it.
- **MultiTrim** - lets the user detect the scenes and change the video clip cutting out the unnecessary parts in any place of the video clip.



Using Trim option

The **Trim** option is quite useful when you need to cut out some video from the beginning or the end of the video clip, or both from the beginning and the end of the clip. Click the right mouse button on the video clip and select **Trim**. The following window will be opened:



The window buttons are used the following way:

Button	Name	Description
	Playback	Is used to start video file playback. Once you click it, it will turn into the Pause button to let you pause the playback when needed.
	Stop	Is used to stop video file playback. Every time you use it to stop the playback, the cursor goes back to the beginning of the file.
	Frame Back	Is used to step one frame back in the video.
	Frame Forward	Is used to step one frame forward in the video.
	Next Scene	Is used to find the next scene in the video clip. Once you click it, it will turn into the Stop button to let you stop searching scenes when needed.

	Mark Start	Is used to mark the beginning of the trimmed area. All the video to the left of this area will be deleted.
	Mark End	Is used to mark the end of the trimmed area. All the video to the right of this area will be deleted.

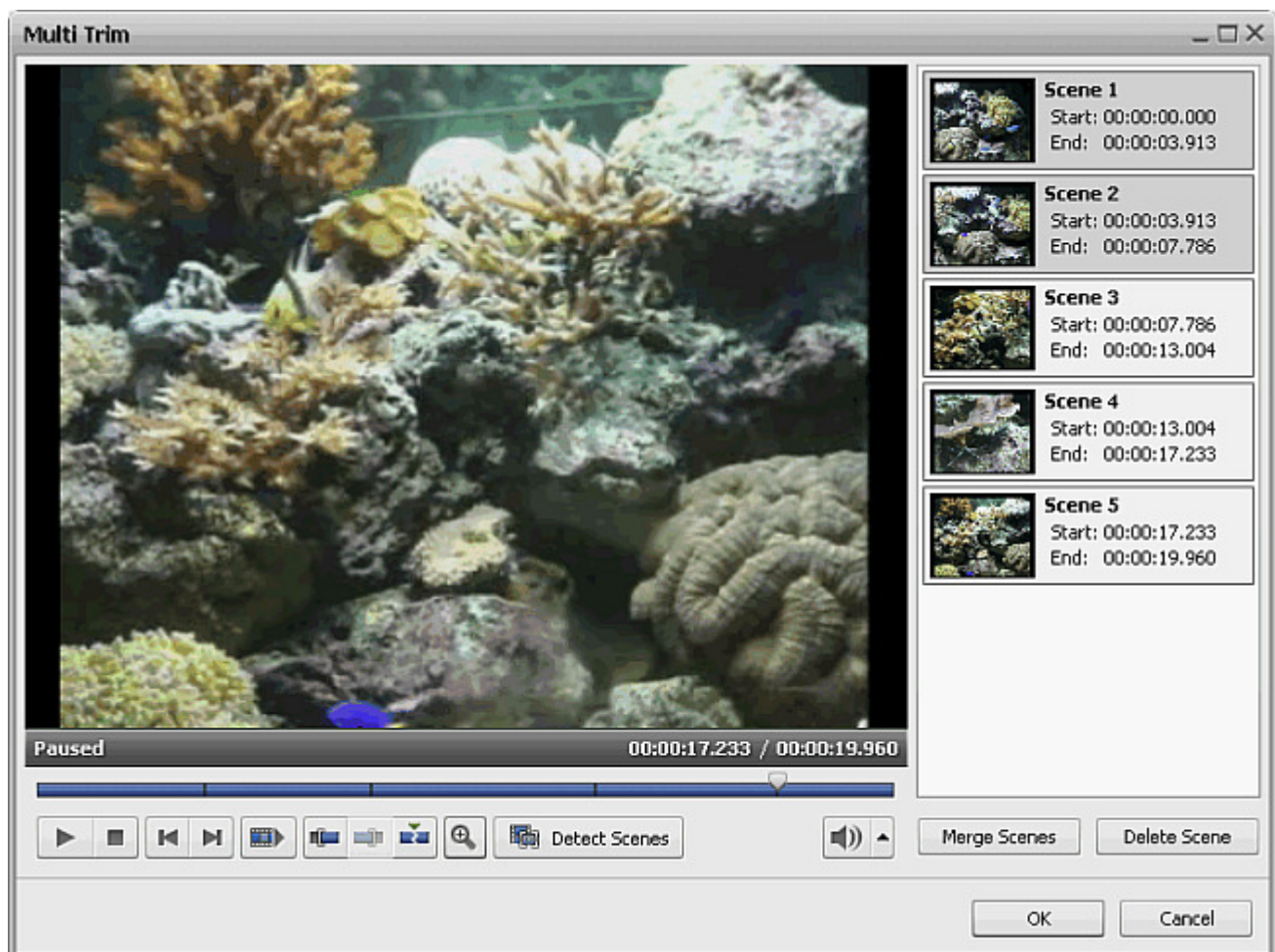
You will need to place the slider cursor to the place where you want your video to begin. Do it using the mouse button. You can find the exact position in the video either using the **Frame Back** or **Frame Forward** button or using the time fields of the **Start Time** and **End Time** areas in the right part of the **Trim** window. The total duration of the trimmed video will be shown under the **Duration** caption.

Click the **Mark Start** button to mark the beginning of the video (all the video to the left of the cursor will be deleted) and the **Mark End** button to designate the end of the trimmed video (all the video to the right of the cursor will be deleted as well) - so only the video within the highlighted area will be left.


To accept the changes click the **OK** button, to discard the changes and close the **Trim** window use the **Cancel** button.










Using **MultiTrim** option



The **MultiTrim** option is very useful in case you need to delete several scenes in different parts of the video clip - beginning, end or anywhere in the middle. Click the right mouse button on the video clip and select **MultiTrim**. The following window will be opened:



The window buttons are used the following way:

Button	Name	Description
	Playback	Is used to start video file playback. Once you click it, it will turn into the Pause button to let you pause the playback when needed.


	Stop	Is used to stop video file playback. Every time you use it to stop the playback, the cursor goes back to the beginning of the file.
	Frame Back	Is used to step one frame back in the video.
	Frame Forward	Is used to step one frame forward in the video.
	Next Scene	Is used to find the next scene in the video clip. Once you click it, it will turn into the Stop button to let you stop searching scenes when needed.
	Mark Start	Is used to mark the beginning of the current trimmed area.
	Mark End	Is used to mark the end of the current trimmed area.
	Split	Is used to split the video into scenes at current cursor position.
	Zoom	Is used to open the zoom timeline (see below).
	Detect Scenes	Is used to start scene detection.

When you click the **Zoom** button the zoom timeline will be displayed. In this case the upper part will show the whole video clip timeline and the lower part will only show the area between the  and  enlarged. This way you can find the necessary scene more easily using the lower timeline.



You can either manually select all the scenes in the video clip and choose what to keep and what will be deleted or find the scene changes automatically. For manual scenes marking place the slider cursor to the place where you want your video to begin. Do it using the mouse button. You can find the exact position in the video using the **Frame Back** or **Frame Forward** button.

Click the **Mark Start** button to mark the beginning of the scene and the **Mark End** button to designate the end of the trimmed scene - the video within the highlighted area will be left. The same way all the other scenes are trimmed.

Although it might be better use the **scene detection** algorithm offered by **AVS Video Editor**. To do it click the **Detect Scenes**  button. It will take the program some time to find all the scenes in the video. After this is done, the found scenes will be displayed in the right part of the **MultiTrim** window.

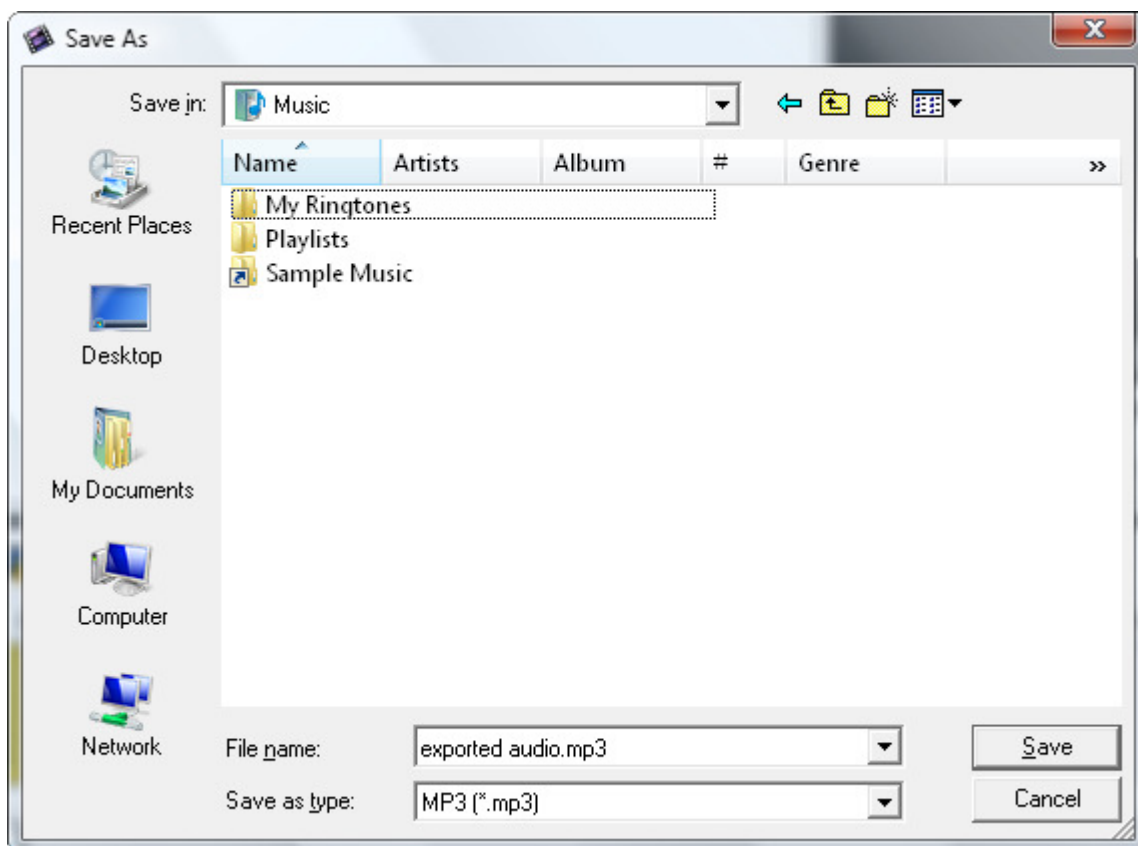
Now you can select one of the scenes and click the **Delete Scene** button to remove the scene from the video, or select several scenes with the mouse (the **Ctrl** and **Shift** buttons on the keyboard might help you in this - press and hold them while selecting scenes with the mouse to select several videos) and click the **Merge Scenes** button to join the selected scenes together.

If you want, for example, to join the first and the third scenes and delete the second one, please, don't use the **Merge Scenes** option as in this case all the previously selected deletion areas will be discarded. Go back to the main window and drag-and-drop the necessary scenes to the **Timeline/Storyboard Area** from the **Files and Effects Area** in order to continue editing.

To accept the changes click the **OK** button, to discard the changes and close the **Trim** window use the **Cancel** button.

Extracting Audio

If you need to take only the soundtrack from the video clip it can be done using the **Extract Audio** option of the **Express Menu**. **Right-click** the file in the **Files and Effects Area** and select the **Extract Audio** option. The following window will be opened:



Select the location and enter the name for your audio track, choose the format - compressed .mp3 (MPEG-1 Layer 3 codec will be used to encode your exported audio) or uncompressed .wav (PCM format with a better quality but taking more disk space) - and click the **Save** button. The audio track will be saved onto your computer hard disk drive into the selected folder under the selected name and automatically imported to the **Audio** section of the **Files and Effects Area**.





Note: if you need to edit the audio track of the imported video clip, simply drag and drop the selected video clip to the **Audio Mix** line on the **Timeline**.

Changing Aspect

The latest thing you should choose for your output video is the aspect ratio used. The aspect ratio of an image is its displayed width divided by its height (usually expressed as "x:y"). In common life you will not need all the theoretical knowledge on the aspect ration and its peculiarities. We'd recommend that you use the following simple rules while choosing the necessary aspect for your output video:

Use the **Aspect Ratio** buttons of the **Top Toolbar** or the **Aspect Ratio** option of the **Edit** section of the **Top Menu** and select one of the options:

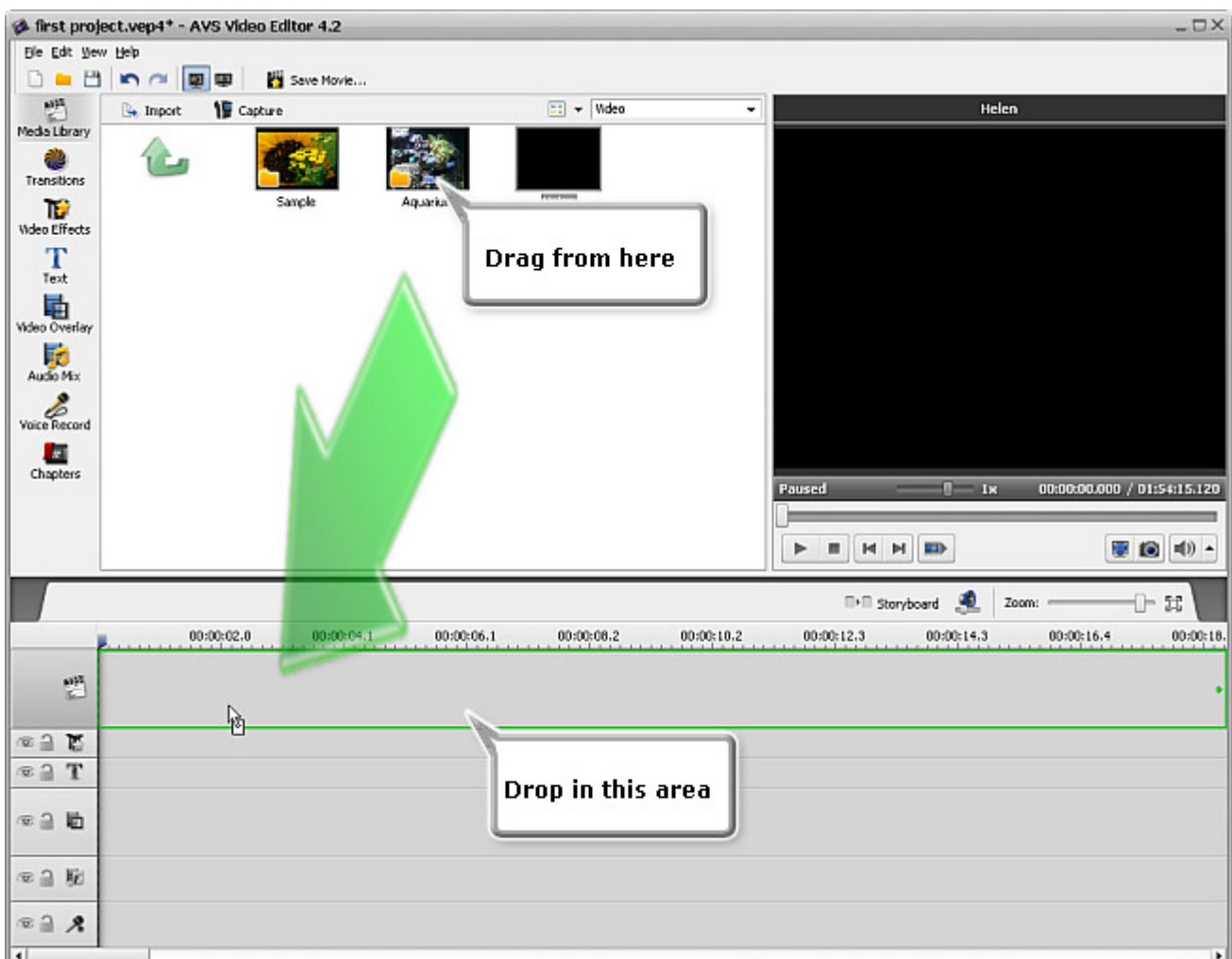
-  - the 4:3 aspect ratio is used if you plan to watch your output video on a common CRT-display or CRT-television set that has the proportions of the width and height 4:3 (it looks almost square, in fact, its screen width being slightly longer than height).
-  - the 16:9 aspect ratio is used if you plan to watch your output video on a wide-screen LCD or plasma display or TV-set that has the proportions of the width and height 16:9 (you can for sure distinguish it from that with the 4:3 aspect as it is quite elongated horizontally, its width being almost twice the size of its length).



Note: in case you import 4:3 video files and then choose the 16:9 aspect ratio the black bars (mattes) will be added by the sides of the output video to preserve the image size and prevent distortions. See the **Using Crop Scale** section to find out how to save video with an aspect ratio different from that of the imported files without mattes adding.

Placing Imported Media Files to the Storyboard/Timeline

When your video is ready to be added to your future movie, you can add it to the **Timeline/Storyboard Area**. This can be simply done drag-and-dropping the video with the mouse from the **Files and Effects Area** to the **Timeline/Storyboard Area**:

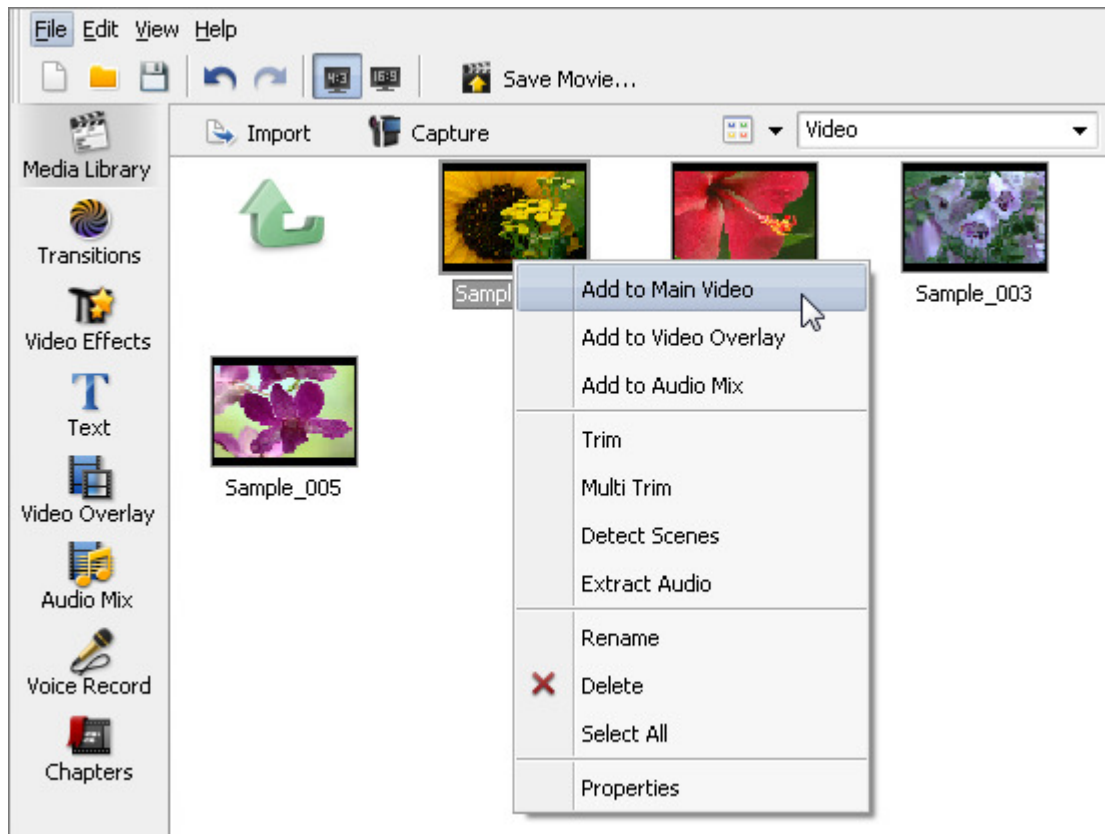


Click the **Media Library** button of the **Menu Panes**, select the video clip to be added and, **without releasing the left mouse button**, drag the file to the **Timeline/Storyboard Area** and only there release the mouse button dropping the file.

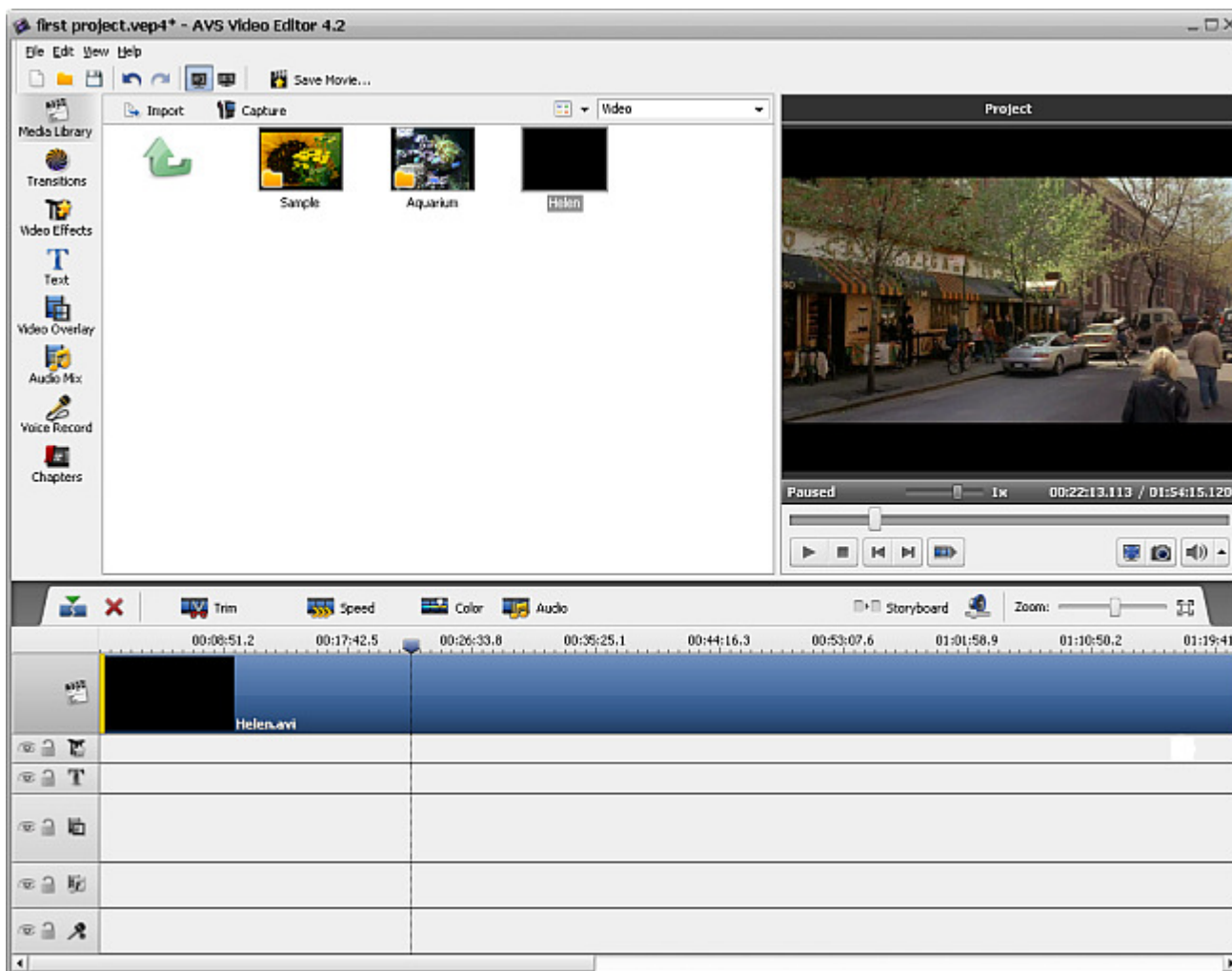


Note: it is not too much important whether you add the files using the **Timeline** or **Storyboard** view for the **Timeline/Storyboard Area** as you can **manage the order of the videos** afterwards.

If you do not like drag-and-dropping or simply prefer some other methods, it is possible to use the **Express Menu** to add files to the **Timeline/Storyboard Area**. Click the file to be added with the **right** mouse button and select the **Add to Main Video** option:



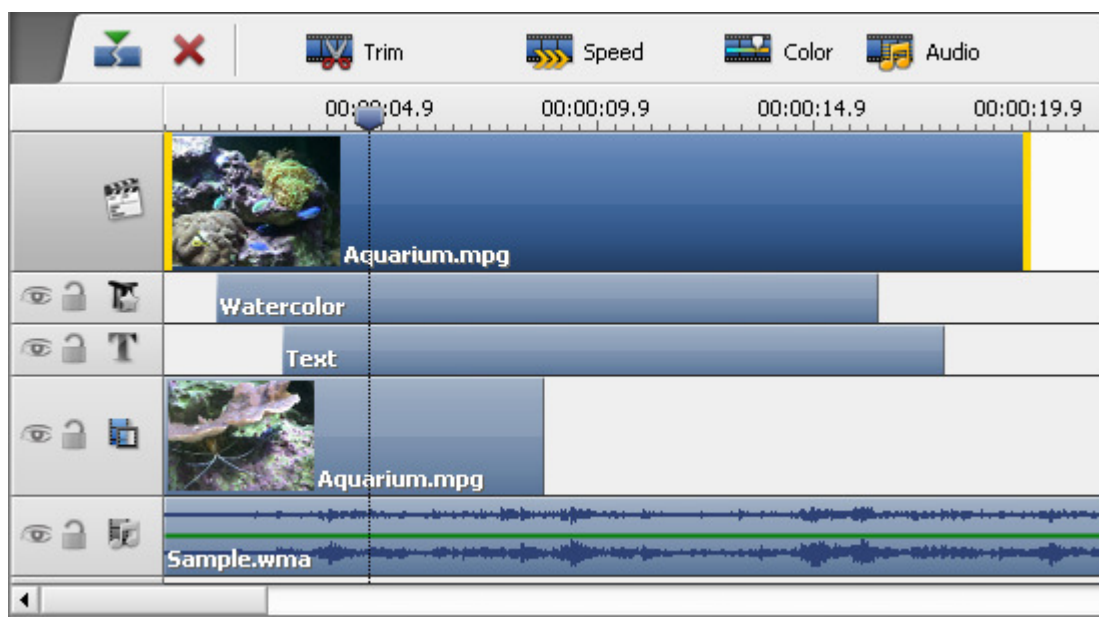
The selected file will be added to the **Timeline/Storyboard Area**:



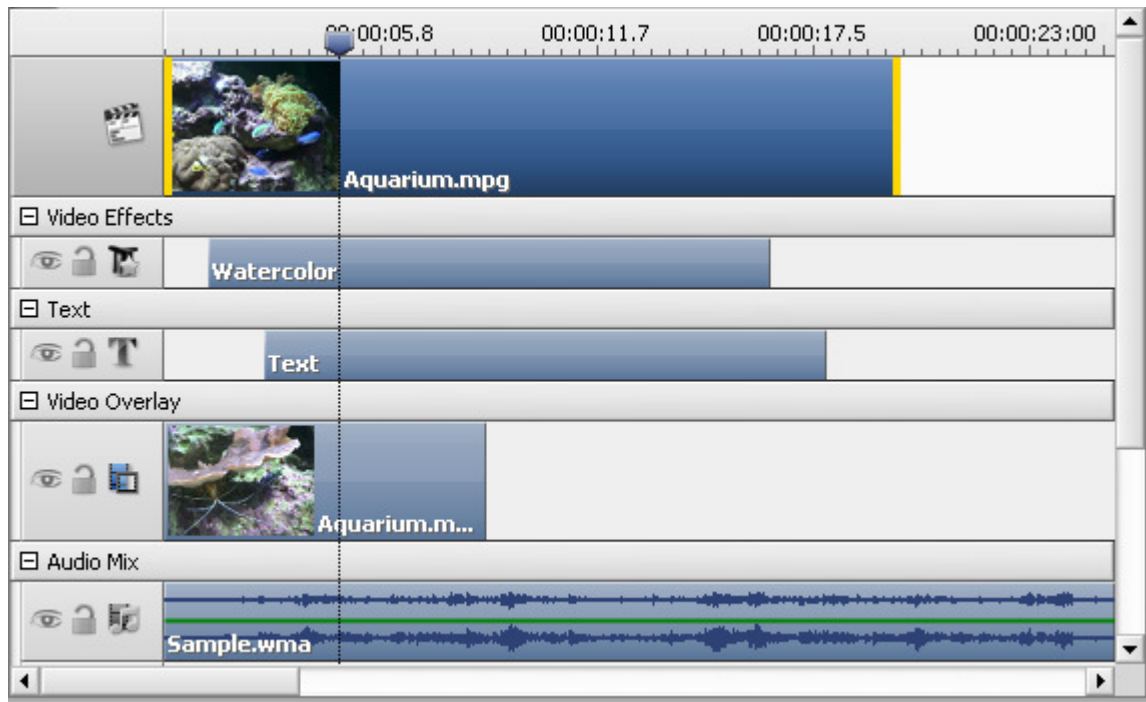
The files of all types are added the same way - videos, audios, images and colors - you can either drag-and-drop them or use the **Express Menu**. Just select the necessary category in the **Files and Effects Area** and add them to the **Timeline/Storyboard Area** using one of the methods described above. After that you can **manage the Timeline/Storyboard Area** layout and files order.

Managing Timeline/Storyboard

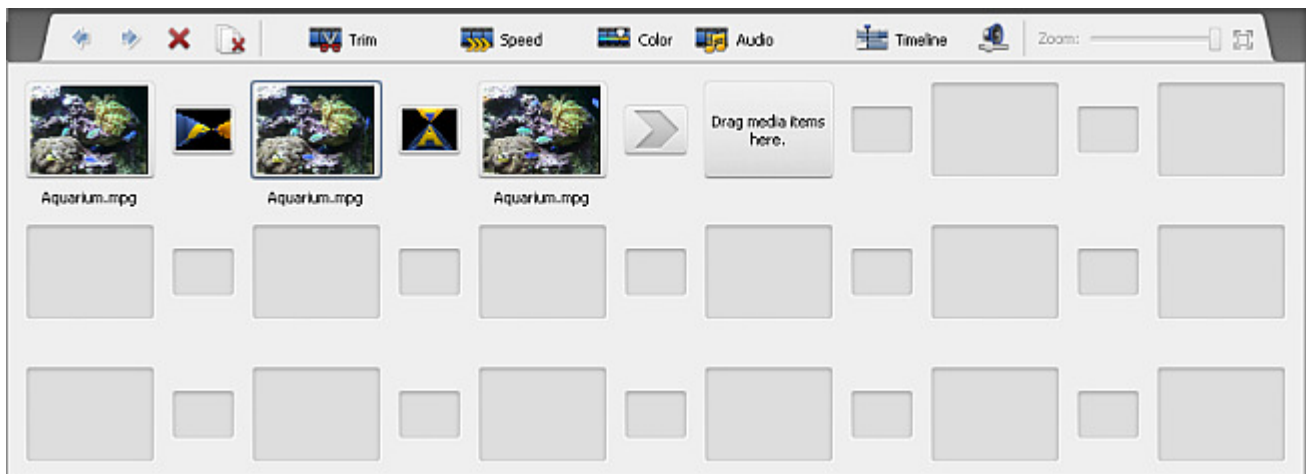
You can manage the way the **Timeline** looks. It looks like this by default:



You can group different elements according to their type - video effects, audios, overlays. Use the **Settings** option of the **Edit** section of the **Top Menu** and in the **Edit** tab check the **Show line groups** option. This will make the **Timeline** look the following way:



It is also possible to change the videos order in the **Timeline/Storyboard Area**. For that switch into the **Storyboard** view using the **Storyboard View**  button or the **Storyboard** option of the **View** section of the **Top Menu**:



Now you can move the video clips towards the beginning of the future movie using the **Move Left** button or to the end of the movie using the **Move Right** button. Click the video clip in the **Storyboard** which place in the video you would like to change and click the appropriate button to change the video clips order.

When you click the **Move Left** button the selected video clip will change places with the adjacent left video clip and vice versa - pressing the **Move Right** button will change the place of the selected video and the adjacent right video clip. This way you can create the necessary video clips order in your future movie.

Editing Videos

After you **place your video clips to the Timeline** you can begin editing it, i.e. **add transitions** between video clips, **add video effects** to your video, **text**, **video overlay** effect or **audio soundtrack**. You can also change the duration of the video clips on the **Timeline** using the **Trim and MultiTrim options**, adjust the **playback speed**, make the **color correction** of the image, correct the video image size using the **Crop Scale** option and **split video into chapters** so that you could **create a video menu** later.

Adding Transitions

Transitions are used to help your video clips smoothly go into one another. You can add transitions when two or more clips are **placed to the Timeline/Storyboard Area**. The transitions can be added by simple drag-and-dropping them to the **Timeline/Storyboard Area** (it is better to use the **Storyboard view** for transitions adding) or using the transition express menu.

So you can follow the steps:

- Click the **Transitions** button of the **Menu Panes**.
- Switch into the **Storyboard view** using the **Storyboard View** button.
- Select the transition you would like to add to the video of yours, and click it with the left mouse button. Then, **without releasing the button**, drag the selected transition to the rectangle between the video clips and drop it there.
- Or alternatively select a rectangle with the arrow between the two video clips at the **Storyboard** where a transition should be added, click the transition to be added with the right mouse button and select one of the options:



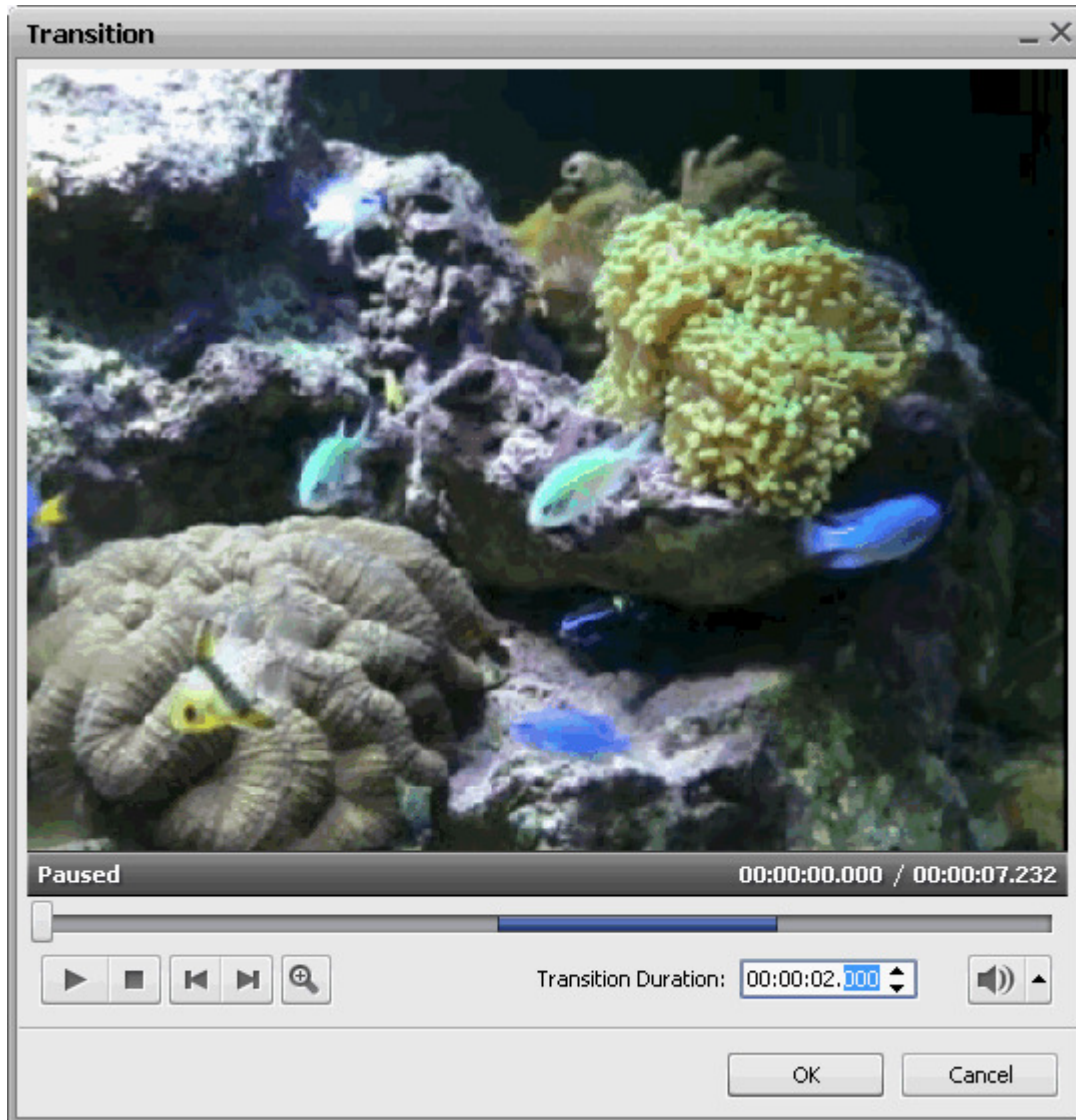
- **Add or Replace Transition** - use this option to add the currently selected transition to the previously selected rectangle between two video clips at the **Storyboard**.
- **Apply Transition to All** - use this option to add the currently selected transition between all the video clips at the **Storyboard**.
- **Apply Random Transitions** - use this option to add random transitions between all the video clips at the **Storyboard**.

Changing Transitions in Storyboard View





After a transition is **added to the Timeline/Storyboard Area** you can change its duration between the scenes.

Click a transition with the mouse and select the **Transition** button of the **Storyboard Toolbar**. Or use the right mouse button on the necessary transition and select the **Transition** option in the right-click express menu.




The following window will be opened:



Here you can playback the video and see how the added transition is applied. Use the player buttons under the preview window to do that:

	Playback	- is used to play/pause the video;
	Stop	- is used to stop the video playback;
	Frame Back	- is used to step one frame back in the video;
	Frame Forward	- is used to step one frame forward in the video;

The **Transition Duration** field is used to alter the length of the transition between the two clips - you can enter the duration manually or use the up and down arrows.

When you click the **Zoom**  button the zoom timeline will be displayed. In this case the upper part will show the whole timeline of the two video clips with the transition between them and the lower part will only show the area between the  and  enlarged. This way you can navigate the video clips more easily using the lower timeline:

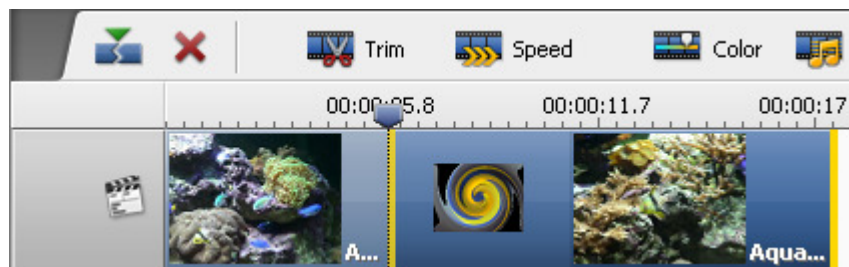



Click the **OK** button to accept changes or **Cancel** to discard changes and close the **Transition Properties** window.

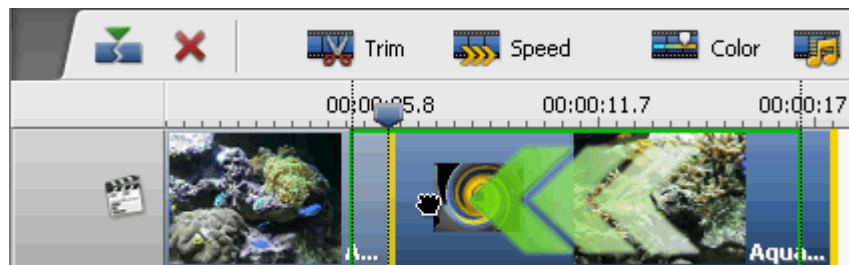
Changing Transitions in Timeline View

A transition duration in the **Timeline View** can be changed similarly to the **changing the duration in the Storyboard View**: you click the video with the transition to be changed with the left mouse button and after that click the **Transition** button of the **Timeline Toolbar**. The **Transition Properties** window will be opened.

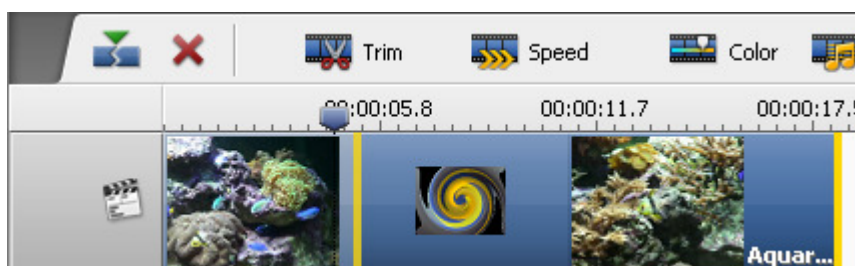
However, it is also possible to change the transition duration between the video clips using the **Timeline**: select two video clips where you can change the transition:



Click the second in the row video clip with the left mouse button, it will turn into a hand - . **Without releasing the left mouse button** drag the second video clip to the left (thus to the beginning of the movie) to increase the transition duration. Or move the mouse to the right decreasing it, just note that your transition can disappear if its duration reaches a **0** (zero) value:



Now when you release the mouse button, the transition duration will be altered:




Note: this way of changing the transitions duration is faster than that using the **Transition Properties** window, but the latter is more precise as you can set the transition boundaries more exactly.

Video Effects

While processing your videos in the **AVS Video Editor** program you can also add different video effects to them, such as **grayscale** to make your video look black and white or **invert** to change the colors of a video fragment or to add a romantic touch to your film with a **snow** effect and many other effects. The detailed description of each effect can be found in the next sections.

To apply an effect you should proceed through the following easy steps:

1. Selecting an effect to add

After importing a video to the program and dragging it to the **Timeline/Storyboard Area** press the **Video Effects** button from the **Menu Panes**. In the **Files and Effects Area** you will see all the video effects you can apply to your video. The effects view can be changed to suit your convenience, if you click the **View** button  ▾ and choose the **View As** option and then one of the view types: thumbnails, list, details.



Note: The **Sort by** option of the **View button** is not available, when the **Video Effects** pane is pressed.

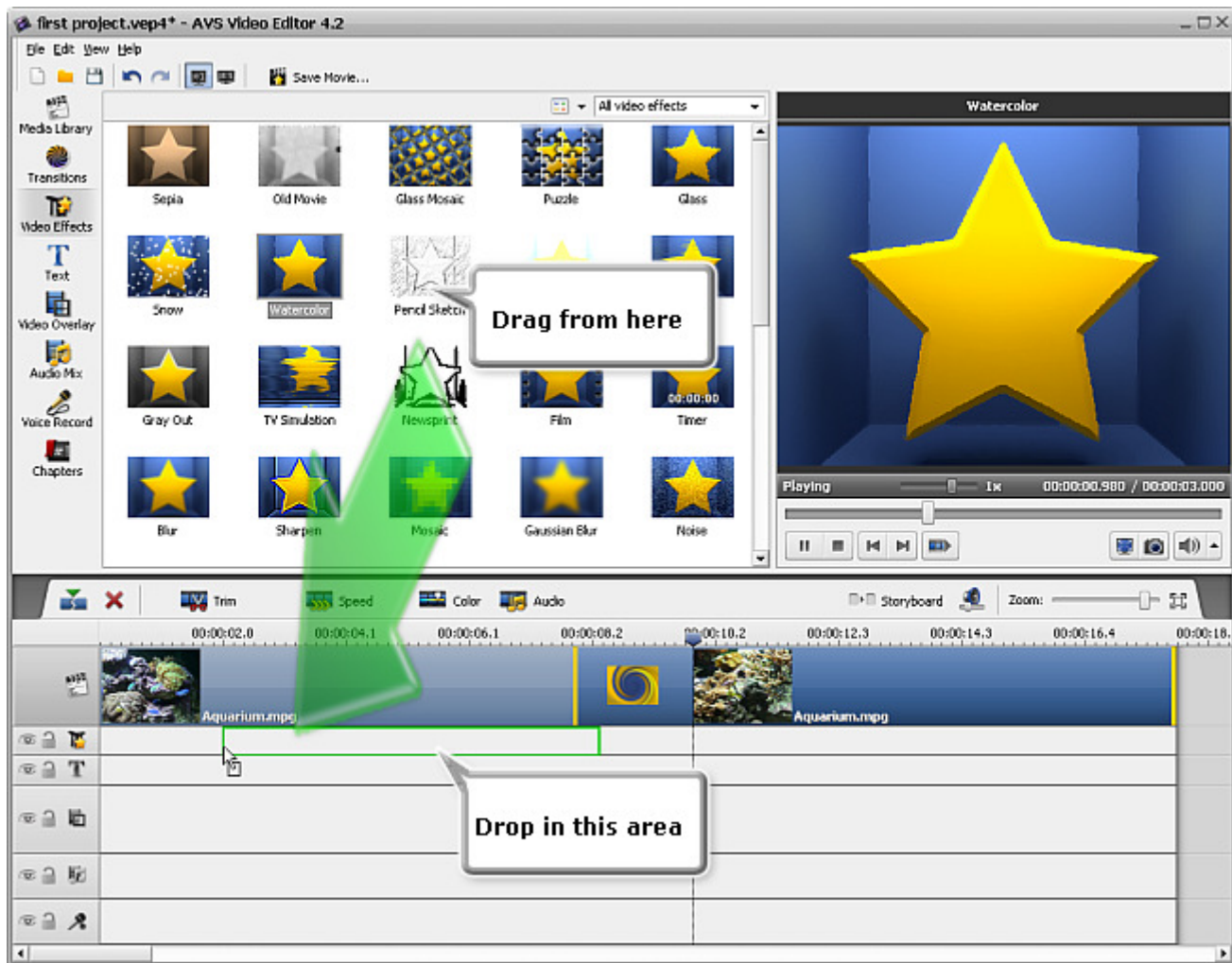
In the dropdown list situated near the **View** button you can select the effects groups that will be displayed in the **Files and Effects Area** or the **All video effects** option. So you will easily find the necessary effect, if you know to what group it belongs.



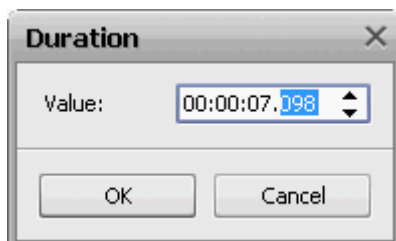
2. Placing the video effect on a special line

After you found an effect you want to apply, right-click it and choose the **Add or Replace Video Effect** option. If you have already added an effect and choose this option, the previously added effect will be replaced by the new one. If there are several effects in the **Timeline/Storyboard Area**, the highlighted effect will be replaced. It's also possible to drag the necessary effect from the **Files and Effects Area** and drop it to the

Timeline/Storyboard Area within the **Line for Video Effects** (see the figure below).



It's also possible to add video effects **directly on the main video**.



3. Setting the effect duration

You can set the duration of the added effect by left-clicking it (it will be highlighted) and pressing the **Duration** button on the **Timeline Toolbar** or right-clicking the necessary effect and selecting the **Duration** option. A window (see the figure on the left) will appear where you can set the necessary value by entering it through the keyboard or using the arrow buttons. Then press the **OK** button to apply the set duration of the effect. You can achieve the same goal by dragging the effect boundaries in the **Timeline/Storyboard Area**.

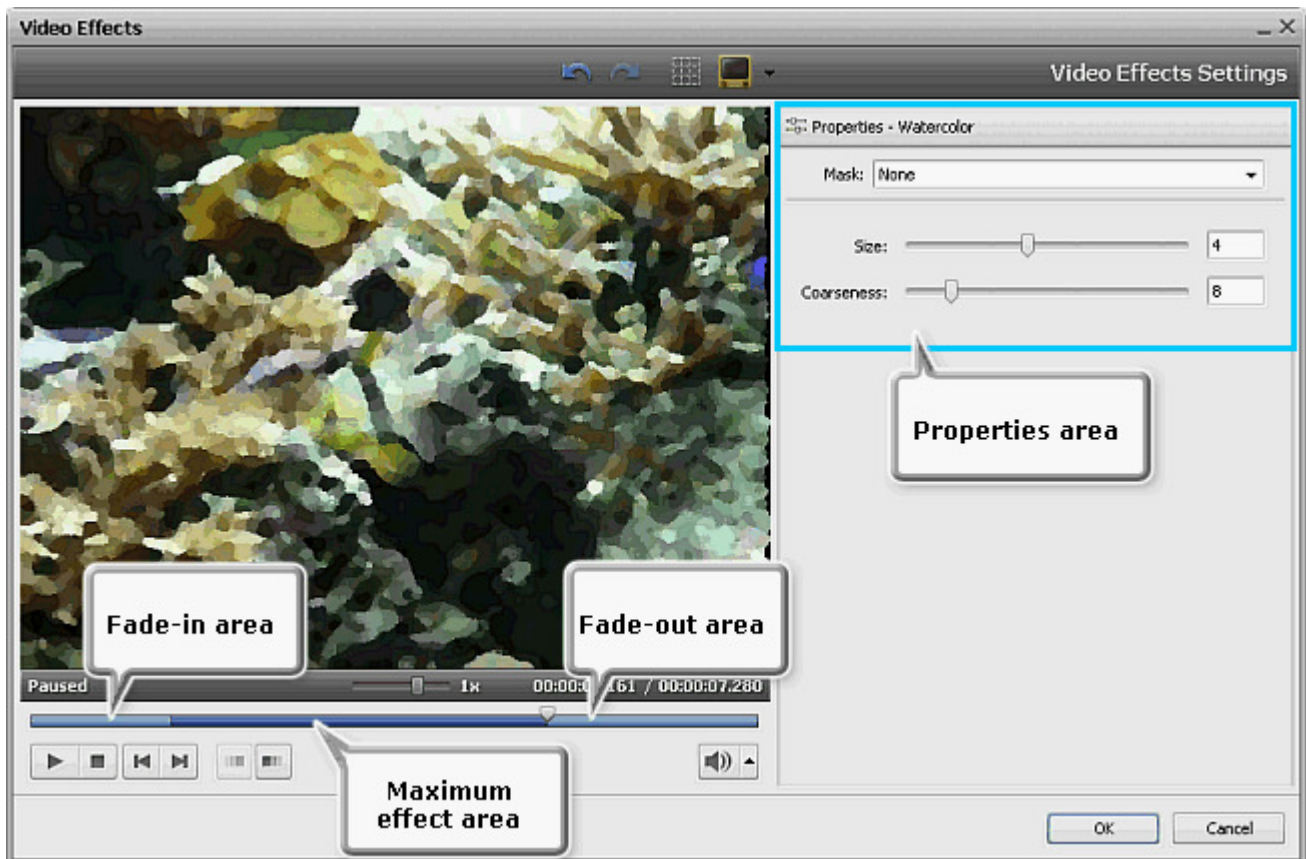
Area.

4. Changing the effect properties

AVS Video Editor allows you also to change the effect properties. To do that, press the necessary effect in the **Timeline/Storyboard Area** and hit the **Edit Effect** button on the **Timeline Toolbar** or right-click the effect and choose the **Edit Effect** option. After that the **Video Effects** window will be opened (see the figure below).




In the **Properties Area** of the **Video Effects** window select an effect applying area in the **Mask** drop-down list. The following options are available: none, rectangle, ellipse and polygon. If you select **None**, the effect will be applied to the entire picture area.

Then set other effect properties. They vary from effect to effect. The detailed effects properties description can be found in the **Special, Effect** and **Transform** chapters.



5. Setting the fade-in and fade-out areas

Within the **Video Effects** window you can also set the **Fade-in** and **Fade-out** areas for the effect you applied to your video file using the slider under the preview area. **Fade-in** is the area where the effect starts being reflected on your video. In the area of **maximum representation** the effect is applied to 100% capacity. In the **Fade-out** area the effect is being reduced until it completely disappears.

You can set **Fade-in** and **Fade-out** boundaries by dragging the cursor  of the slider area to the place where you want the **Fade-in** area to end and hit the  button. The **Fade-in** area will be marked. Then drag the same cursor to the place on the slider area where you want the **Fade-out** area to begin and press the  button. After that the **Fade-out** area will be marked. It's also possible to direct the mouse cursor at the edge of the slider area and drag the boundaries inwards or outwards. If you want to set the **Fade-out** effect, drag the right edge of the slider area to the left. To apply the **Fade-in** effect, drag the left edge of the slider area to the right (see the figure below).



6. Previewing the applied effect

After adding an effect to the video file you can preview the applied effect using the **playback controls** situated under the slider area. These buttons have the same functionality as the buttons of the **Preview Area** situated in the **Main Window**. The latter ones are described [here](#).

If you want to delete the applied effect, you should select it and press the appropriate button on the **Timeline Toolbar** or right-click the effect you want to delete and choose the **Delete Object** option.

Video Effects List and Description

All the video effects that can be applied in **AVS Video Editor** are divided into 3 groups: **Special**, **Effects** and **Transform**. In the table below you will find all effects situated according to their belonging to one of the groups and their brief description.

Group	Effect	Description
Special Effects	Sepia	Applies Sepia effect to transform image spectrum to brownish and yellowish photo paper
	Old Movie	Applies Old Movie effect to get a black and white image with scratches
	Glass Mosaic	Applies Glass Mosaic effect to see your video through a number of rectangular glass pieces, each displaying a part of the whole video image
	Puzzle	Applies Puzzle effect to divide your picture in tens of rectangles or puzzle form rectangles
	Glass	Applies Glass effect to make an image appear as if it were being viewed through different types of glass
	Snow	Applies Snow effect to add a romantic touch to your film
	Watercolor	Applies Watercolor effect to make your videos look like water color paintings
	Pencil Sketch	Applies Pencil Sketch effect to turn any image of your film into a hand-drawn sketch
	Glow	Applies Glow effect to make your picture look like it's emanating light
	Wind	Applies Wind filter to make an image look as if the colors are being blown off your photo
	Gray Out	Applies Gray Out effect to transform colors of the picture to the gray part of the spectrum
	TV Simulation	Applies TV Simulation effect to imitate bad quality of the broadcast video signal
	Newsprint	Applies Newsprint effect to turn your image into a photo from a newspaper
	Film	Applies Film effect to put film negative borders on your video
Timer	Applies Timer effect to add a timepiece (that measures a time interval) to your video	
Effects	Blur	Applies Blur effect to reduce contrast between adjacent pixels visually smoothing and softening the image
	Gaussian Blur	Applies Gaussian Blur effect to reduce contrast between adjacent pixels according to a mathematical equation
	Motion Blur	Applies Motion Blur effect to reduce contrast. This effect gives the impression of motion
	Sharpen	Applies Sharpen effect to increase contrast to seemingly bring the images into better focus
	Mosaic	Applies Mosaic effect to define a selection by clumping pixels of similar color values in cells
	Noise	Applies Noise effect to add some texture to an image by way of tiny pixel dustings
	Diffuse	Applies Diffuse effect to make the selection look less focused
	Emboss	Applies Emboss effect to give an image a 3D look
	Filter Minimal	Applies Filter Minimal effect to emphasize the dark pixels in an image
	Filter Maximal	Applies Filter Maximal effect to emphasize the light pixels in an image
	Deinterlace	Applies Deinterlacing effect to remove interlacing effect.
	Median	Applies Median effect to replace each pixel with a pixel that has the median color value of neighboring pixels
	Invert	Applies Invert effect to invert the colors in an image
	Colorize	Applies Colorize effect to colorize the entire file in an RGB-specified file
	Grayscale	Applies Grayscale effect to convert color images to just two color levels: black (0) and white (255)
Posterize	Applies Posterize effect to specify the tonal level (or brightness values) and then map pixels to the closest matching level	
Threshold	Applies Threshold effect to determine how much contrast there is between neighboring pixels for the sharpening to affect them	

Transform Effects	Flip	Opens Flip effect to flip an entire image horizontally or vertically
	Perspective	Opens Perspective effect to transform the perspective in an image horizontally or vertically
	Skew	Opens Skew effect to skew the entire image horizontally or vertically
	Shift	Opens Shift effect to move your image along X and Y axes
	Rotate	Opens Rotate effect to rotate the entire image
	Resample	Opens Resample effect to reproduce the entire image
	Zoom	Opens Zoom effect to magnify or reduce the image
	Mirror	Opens Mirror effect to duplicate a part of the image
	Twirl	Opens Twirl effect to twirl the image
	Ripple	Opens Ripple effect to add spaced ripples to the image's surface
	Wave	Opens Wave effect to create an undulating pattern on your image
	Sphere	Opens Sphere effect to make a certain sphere-shaped area blurred
Cylinder	Opens Cylinder effect to make a certain cylinder-shaped area blurred	

Special Effects

The **Special** effects allow you to imitate faded photos and old movie, turn your film into a hand-drawn sketch or watercolor painting.

Effect	Description
Sepia	Applies Sepia effect to transform image spectrum to brownish and yellowish photo paper
Old Movie	Applies Old Movie effect to get a black and white image with scratches
Glass Mosaic	Applies Glass Mosaic effect to see your video through a number of rectangular glass pieces, each displaying a part of the whole video image
Puzzle	Applies Puzzle effect to divide your picture in tens of rectangles or puzzle form rectangles
Glass	Applies Glass effect to make an image appear as if it were being viewed through different types of glass
Snow	Applies Snow effect to add a romantic touch to your film
Watercolor	Applies Watercolor effect to make your videos look like water color paintings
Pencil Sketch	Applies Pencil Sketch effect to turn any image of your film into a hand-drawn sketch
Glow	Applies Glow effect to make your picture look like it's emanating light
Wind	Applies Wind filter to make an image look as if the colors are blowing off your photo
Gray Out	Applies Gray Out effect to transform colors of the picture to the gray part of the spectrum
TV Simulation	Applies TV Simulation effect to imitate bad quality of the broadcast video signal
Newsprint	Applies Newsprint effect to turn your image into a photo from a newspaper
Film	Applies Film effect to put film negative borders on your video
Timer	Applies Timer effect to add a timepiece (that measures a time interval) to your video

Sepia



The **Sepia** transforms image spectrum to brownish which imitates faded photos and yellowish photo paper. Use it to give your photos an antique appearance.

In the **Properties Area** of the **Video Effect** window you can **change the effect properties**. The properties of the **Sepia** effect available for setting are its **Level**, **Brightness** and the **Red**, **Green**, **Blue** colors.

Level:	<input type="range" value="100"/>	100
Brightness:	<input type="range" value="80"/>	80
Red:	<input type="range" value="100"/>	100
Green:	<input type="range" value="90"/>	90
Blue:	<input type="range" value="85"/>	85

On the figures below you can see the video picture before and after applying the **Sepia** effect:



Before applying the **Sepia** effect



After applying the **Sepia** effect

Old Movie



If you apply the **Old Movie** effect you'll get a black and white image with scratches. It also adds noise, shake and dust to your video, making it look as if it's playing on an old projector.

In the **Properties Area** of the **Video Effect** window you can **change the effect properties**. The properties of the **Old Movie** effect available for setting are its **Artifacts** (film damage - dust, hair, specks, etc.), **Scratch**, **Jitter** (vibration), **Brightness** and **Contrast**.

Artifact:	<input type="range" value="5"/>	5
Scratch:	<input type="range" value="5"/>	5
Jitter:	<input type="range" value="30"/>	30
Brightness:	<input type="range" value="35"/>	35
Contrast:	<input type="range" value="4"/>	4

On the figures below you can see the video picture before and after applying the **Old Movie** effect:

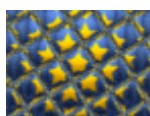


Before applying the **Old Movie** effect



After applying the **Old Movie** effect

Glass Mosaic



The **Glass Mosaic** effect lets you see your video through a number of rectangular glass pieces, each displaying a part of the whole video image.

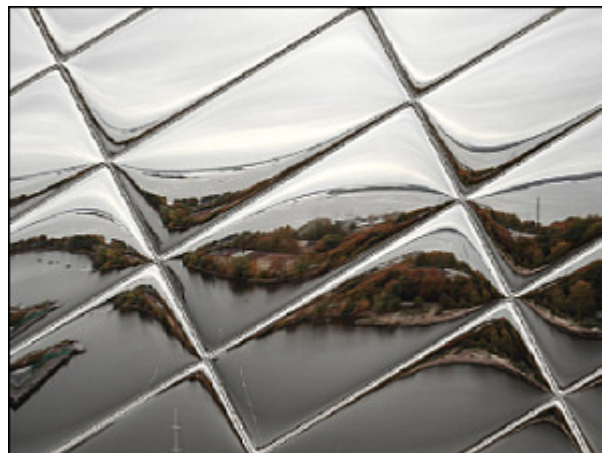
In the **Properties Area** of the **Video Effect** window you can **change the effect properties**. The properties of the **Glass Mosaic** effect available for setting are **Width** of each glass piece, its **Height**, **Angle** of the entire glass set, **Curvature** of objects displayed through glass pieces, **Smooth** value (sharpens or smooths the objects outline) and video image **Quality**.

Width:	<input type="range" value="123"/>	123
Height:	<input type="range" value="120"/>	120
Angle:	<input type="range" value="30"/>	30
Curvature:	<input type="range" value="30"/>	30
Smooth:	<input type="range" value="15"/>	15
Quality:	<input type="range" value="3"/>	3

On the figures below you can see the video picture before and after applying the **Glass Mosaic** effect:



Before applying the **Glass Mosaic** effect



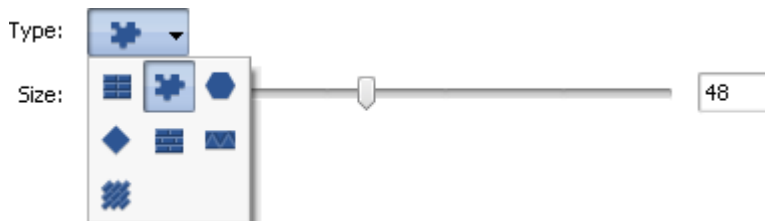
After applying the **Glass Mosaic** effect

Puzzle



The **Puzzle** effect divides your picture in tens of rectangles or puzzle form rectangles, or as it was made of dozen of pieces fit accurately together into one picture.

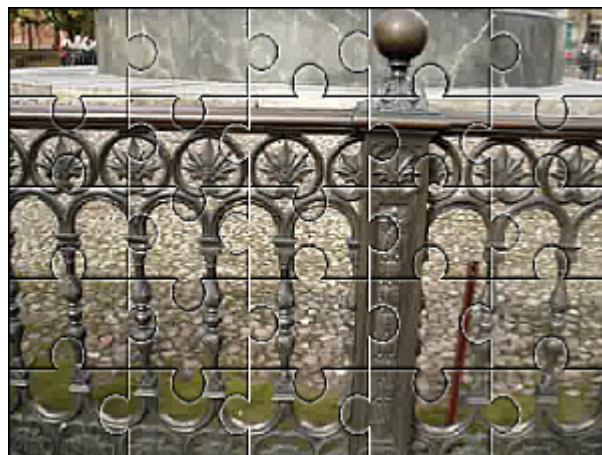
In the **Properties Area** of the **Video Effect** window you can **change the effect properties**. Here you can select a puzzle **Type** and set **Size** of puzzle pieces.



On the figures below you can see the video picture before and after applying the **Puzzle** effect:



Before applying the **Puzzle** effect



After applying the **Puzzle** effect

Glass

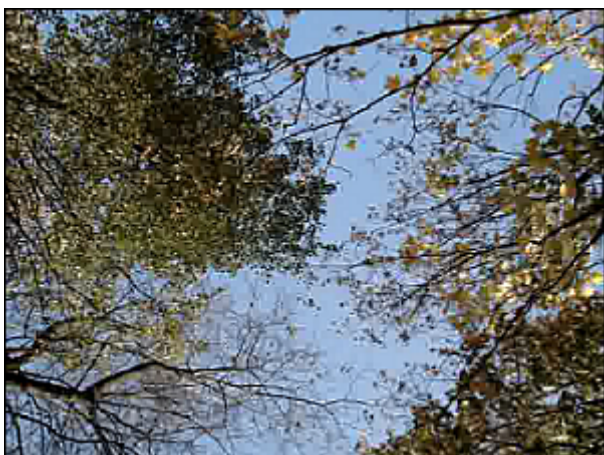


The **Glass** effect makes an image appear as if it were being viewed through different types of glass.

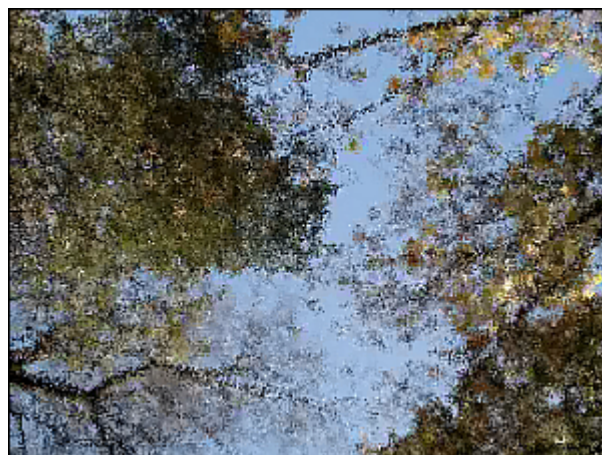
In the **Properties Area** of the **Video Effect** window you can **change the effect properties**. You can customize the glass surface changing the **Level** value. The higher values make the picture less clear.



On the figures below you can see the video picture before and after applying the **Glass** effect:



Before applying the **Glass** effect



After applying the **Glass** effect

Snow



If you need to add a romantic touch to your film use the **Snow** effect. It gives to your picture a winter day appearance when millions of snowflakes fall down from the sky.

In the **Properties Area** of the **Video Effect** window you can **change the effect properties**. The properties of the **Snow** effect allow you to set the **Size** and **Count** of the snowflakes, their **Direction**, **Deviation** and **Speed**. It's also possible to choose the **Color** of the snowflakes and their transparency by changing the **Alpha** value. If you untick the **Snowdrift** option activated by default, the snow won't be accumulated at the bottom of the video image during the file playback.

Size:

Count:

Direction:

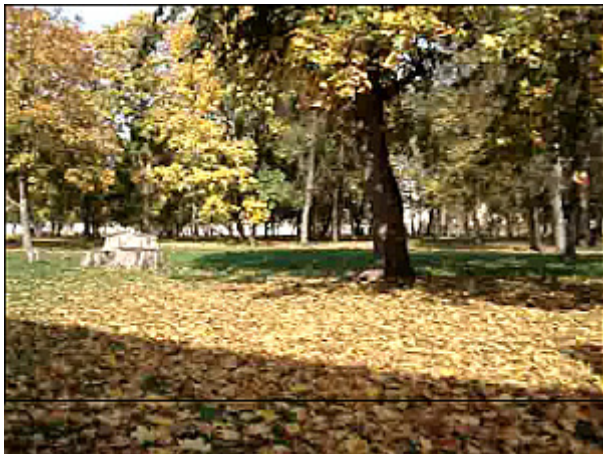
Deviation:

Speed:

Color: Alpha:

Snowdrift

On the figures below you can see the video picture before and after applying the **Snow** effect:



Before applying the **Snow** effect



After applying the **Snow** effect

Watercolor



The **Watercolor** effect makes your videos look like watercolor paintings. This effect is reached thanks to blur and equalizer filters which reduce contrast between large parts of color areas with uniform color but keep most contrasting transitions.

In the **Properties Area** of the **Video Effect** window you can **change the effect properties**. The properties of the **Watercolor** effect allow you to set the **Size** and **Coarseness** of color areas.

Size:

Coarseness:

On the figures below you can see the video picture before and after applying the **Watercolor** effect:

Before applying the **Watercolor** effectAfter applying the **Watercolor** effect

Pencil Sketch



The **Pencil Sketch** effect turns any image of your film into a hand-drawn sketch like it was painted by a professional artist.

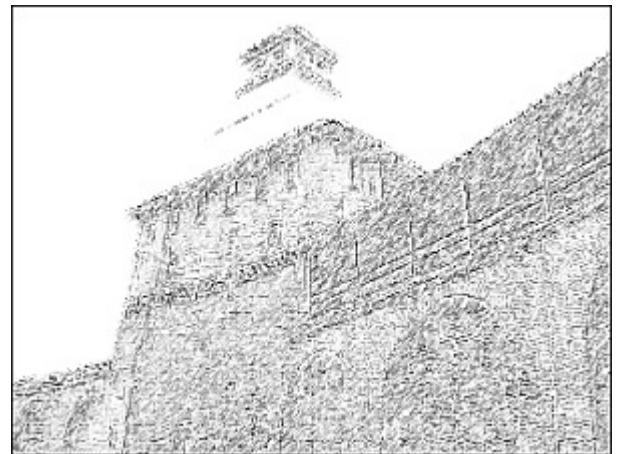
In the **Properties Area** of the **Video Effect** window you can **change the effect properties**. The properties of the **Pencil Sketch** effect available for setting are its **Level**, **Brightness** and **Contrast**.

Level: 30

Brightness: 10

Contrast: 8

On the figures below you can see the video picture before and after applying the **Pencil Sketch** effect:

Before applying the **Pencil Sketch** effectAfter applying the **Pencil Sketch** effect

Glow



The **Glow** effect makes your picture look like it's emanating light.

In the **Properties Area** of the **Video Effect** window you can **change the effect properties**. The only property available for setting is the **Glow Level**. Lower glow level values make the picture darker and higher values make it shine intensely.

Level: 40

On the figures below you can see the video picture before and after applying the **Glow** effect:



Before applying the **Glow** effect



After applying the **Glow** effect

Wind

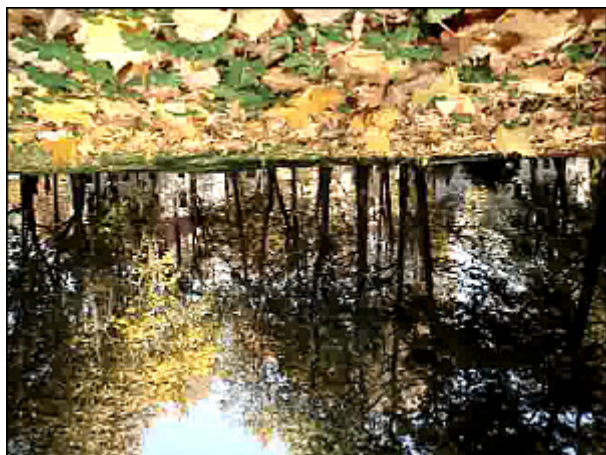


The **Wind** filter makes it seem as if the colors are being blown off your photo.

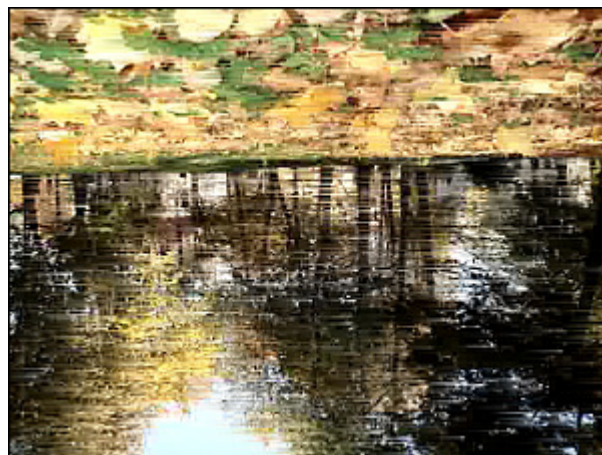
In the **Properties Area** of the **Video Effect** window you can **change the effect properties**. The properties of **Wind** effect available for setting are its **Direction** and **Density**. The negative **Direction** values make the wind blow to the left, the positive values make it blow to the right.

Direction: -25
Density: 20

On the figures below you can see the video picture before and after applying the **Wind** effect:



Before applying the **Wind** effect



After applying the **Wind** effect

Gray Out



The **Gray Out** effect transforms all colors of the picture to the gray part of the spectrum and only one color (you select) will appear.

In the **Properties Area** of the **Video Effect** window you can **change the effect properties**. Here you can select a certain color to be appeared, to modify **Threshold** and **Filter** values.

Color:

Threshold: 100

Filter: 3

On the figures below you can see the video picture before and after applying the **Gray Out** effect:



Before applying the **Gray Out** effect



After applying the **Gray Out** effect

TV Simulation



The **TV Simulation** effect imitates bad quality of the broadcast video signal when the video stream is divided into separate frames. The sequence of frames is displayed with low speed and image deformation.

In the **Properties Area** of the **Video Effect** window you can **change the effect properties**. The following properties of the **TV Simulation** effect are available for setting: **Interline** (deformation of the image), **Amplitude**, **Amplitude Offset**, **Vertical Speed**, **Vertical Offset** and **Interframe Size** (size of the black zone between the frames).

Interline: 5

Amplitude: 15

Amplitude Offset: 5

Vertical Speed: 5

Vertical Offset: 5

Interframe Size: 5

On the figures below you can see the video picture before and after applying the **TV Simulation** effect:



Before applying the **TV Simulation** effect



After applying the **TV Simulation** effect

Newsprint

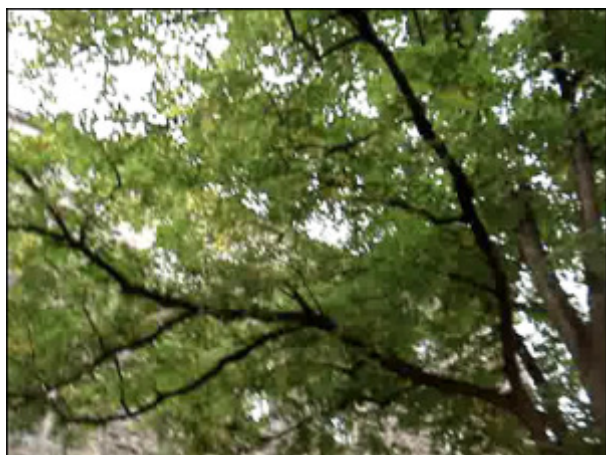


Newsprint turns your images into a photo from a newspaper.

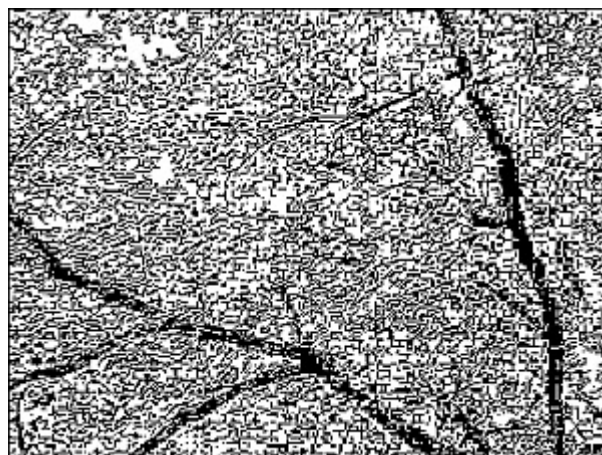
In the **Properties Area** of the **Video Effect** window you can **change the effect properties**. The only property available for setting is newsprint **Level**.

Level: 4

On the figures below you can see the video picture before and after applying the **Newsprint** effect:



Before applying the **Newsprint** effect



After applying the **Newsprint** effect

Film



The **Film** allows you to put film negative borders on your video, then it looks like a long film strip with perforations along each frame. You can change the number of perforations, their speed and position.

In the **Properties Area** of the **Video Effect** window you can **change the effect properties**. The properties of the **Film** effect available for setting are the borders **Size** and their **Speed**. Check the **Vertical** box to add vertical borders, if unchecked they take a horizontal position. The **Border** box allows you to add borders without perforation and place your picture in the center of the negative strip.

Size: 11

Speed: 0

Vertical

Border

On the figures below you can see the video picture before and after applying the **Film** effect:



Before applying the **Film** effect



After applying the **Film** effect

Timer



The **Timer** effect adds a timepiece (that measures a time interval) to your video. You can set the time value and interval, specify the timer position, choose the appropriate color and size for the clock.

In the **Properties Area** of the **Video Effect** window you can **change the effect properties**. The following properties of the **Timer** effect are available: **Time settings**, **Font settings**, **Brush settings**, **Shadow settings** and **Edge settings**. Click the appropriate button to open the properties that you want to modify.



Time Mask:


Hours:Minutes:Seconds

Start Time:

00:00:00

Time Settings

- **Time Mask** - select the measurement units and their order
- **Start Time** - here you can enter the zero point for your timer

Press the  button to reset start time. Select one of the options: **reset to zero** or **reset at the beginning of effect**



Font:

Arial

Size:

64

Font Style:



Font Settings

- **Font** - select one of the available fonts from the dropdown list
- **Size** - set the font size
- **Font Style** - the following options are available here: bold, italic, underline, strike (bold is pressed by default)



Brush type:

Solid

Color:

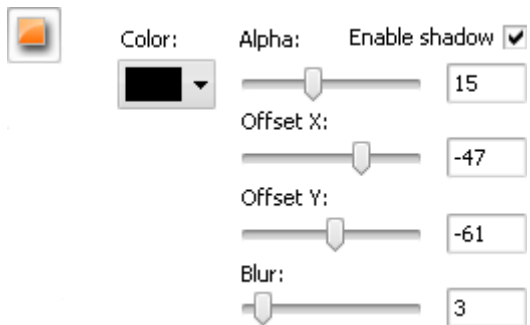


Alpha:



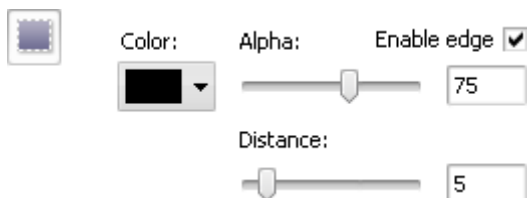
Brush Settings

- **Brush Type** - select one of the available brush types from the dropdown list: solid, gradient, hatch and texture.
- **Color** - choose the color of your timer
- **Alpha** - set the color transparency



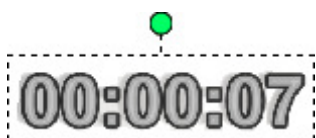
Shadow Settings




- **Enable shadow** - this box is checked by default, if you uncheck it no shadow will be added to your timer figures
- **Color** - choose the color of the shadow
- **Alpha** - select the color transparency
- **Offset X** - set the shadow offset along the X-axis
- **Offset Y** - set the shadow offset along the Y-axis
- **Blur** - select a value for shadow blur



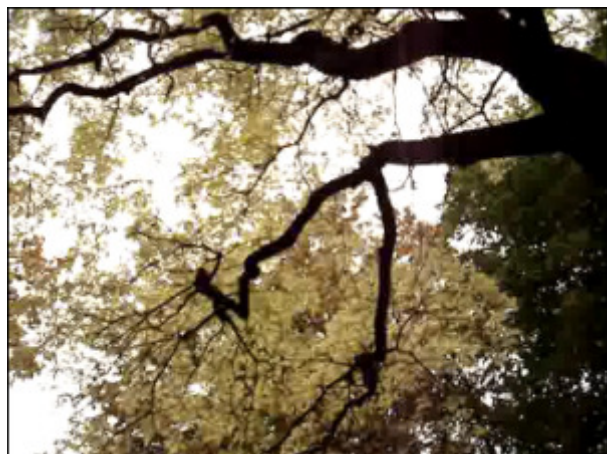
Edge Settings

- **Enable edge** - this box is checked by default, if you uncheck it no edge will be added to your timer figures
- **Color** - choose the color of the edge
- **Alpha** - select the color transparency
- **Distance** - select a value for distance from the timer figures to the edge

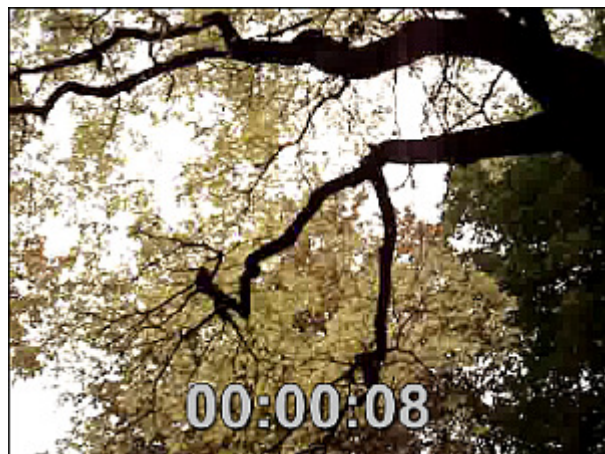


You can also move and rotate the timer rectangle. To **move** the timer rectangle direct the mouse cursor to it and the cursor will turn into the . Then without releasing the mouse button, move the rectangle in the direction you need. To **rotate** the timer rectangle click the green circle  with the left mouse button, the mouse cursor will change into a round arrow  - click the mouse button and, without releasing it, drag it to change the timer orientation.

On the figures below you can see the video picture before and after applying the **Timer** effect:



Before applying the **Timer** effect



After applying the **Timer** effect

Effect

These effects allow you to introduce various painting, mosaic, blur and similar adjustments to your media file.

Effect	Description
Blur	Applies Blur effect to reduce contrast between adjacent pixels visually smoothing and softening the image
Gaussian Blur	Applies Gaussian Blur effect to reduce contrast between adjacent pixels according to a mathematical equation
Motion Blur	Applies Motion Blur effect to reduce contrast. This effect gives the impression of motion
Sharpen	Applies Sharpen effect to increase contrast to seemingly bring the images into better focus
Mosaic	Applies Mosaic effect to define a selection by clumping pixels of similar color values in cells
Noise	Applies Noise effect to add some texture to an image by way of tiny pixel dustings
Diffuse	Applies Diffuse effect to make the selection look less focused
Emboss	Applies Emboss effect to give an image a 3D look
Filter Minimal	Applies Filter Minimal effect to emphasize the dark pixels in an image
Filter Maximal	Applies Filter Maximal effect to emphasize the light pixels in an image
Deinterlace	Applies Deinterlacing effect to remove interlacing effect
Median	Applies Median effect to replace each pixel with a pixel that has the median color value of neighboring pixels
Invert	Applies Invert effect to invert the colors in an image
Colorize	Applies Colorize effect to colorize the entire file in an RGB-specified file
Grayscale	Applies Grayscale effect to convert color images to just two color levels: black (0) and white (255)
Posterize	Applies Posterize effect to specify the tonal level (or brightness values) and then map pixels to the closest matching level
Threshold	Applies Threshold effect to determine how much contrast there is between neighboring pixels for the sharpening to affect them

Blur Effects

AVS Video Editor offers three blur variations.

Blur



Blur reduces contrast between adjacent pixels by lightening pixels next to well-defined edges and shadows, visually smoothing and softening the image.

In the **Properties Area** of the **Video Effect** window you can **change the effect properties**. The only property of the **Blur** effect available for setting is **blur** level.

Blur: 100

On the figures below you can see the video picture before and after applying the **Blur** effect:



Before applying the **Blur** effect



After applying the **Blur** effect

Gaussian Blur



Gaussian Blur uses a mathematical equation (a bell-shaped curve) to calculate the transition between adjacent pixels, resulting in most of the blurred pixels ending up in the middle range between the two original colors. The **Gaussian Blur** adds low-frequency detail and can produce a hazy effect.

In the **Properties Area** of the **Video Effect** window you can **change the effect properties**. The only property of the **Gaussian Blur** effect available for setting is **size**.

Size: 5

On the figures below you can see the video picture before and after applying the **Gaussian Blur** effect:



Before applying the **Gaussian Blur** effect



After applying the **Gaussian Blur** effect

Motion Blur



Motion Blur gives the impression of motion in the image by adding directional and angle controls for the blurring process. You can choose an angle between -90° to 90° and a distance from 1 to 999 pixels to control the effects of the **Motion Blur**.

In the **Properties Area** of the **Video Effect** window you can **change the effect properties**. The properties of the **Motion Blur** effect available for setting are **angle** and **distance**.

Angle: 45

Distance: 10

On the figures below you can see the video picture before and after applying the **Motion Blur** effect:



Before applying the **Motion Blur** effect



After applying the **Motion Blur** effect

Sharpen



The **Sharpen** effect increases contrast to seemingly bring the images into better focus (although it cannot substitute for an image that's properly focused in the first place). It focuses blurry images by increasing the contrast of adjacent pixels.

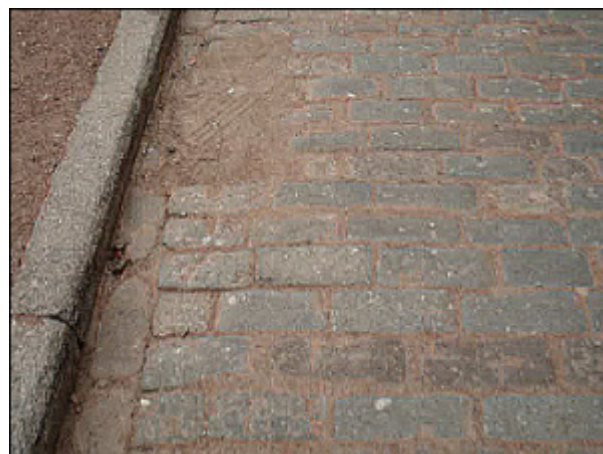
In the **Properties Area** of the **Video Effect** window you can **change the effect properties**. The only property of the **Sharpen** effect available for setting is its **level** (the magnitude of displacement).

Level: 98

On the figures below you can see the video picture before and after applying the **Sharpen** effect:



Before applying the **Sharpen** effect



After applying the **Sharpen** effect

Mosaic

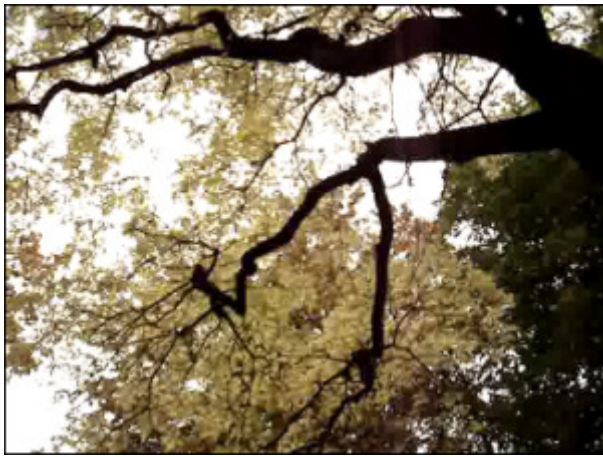


The **Mosaic** effect defines a selection by clumping pixels of similar color values in cells. The pixels in a given block are the same color, and the colors of the blocks represent the colors in the selection. It produces irregularly-contoured squares at regularly-spaced intervals. There are two types of mosaic effect. Simple mosaic is produced based on the color of the top left pixel; otherwise it is based on the average color of all pixels in the given tile.

In the **Properties Area** of the **Video Effect** window you can **change the effect properties**. The properties of the **Mosaic** effect available for setting are **size** of the block (in pixels) and the **smooth** option. By checking/unchecking the **Smooth** checkbox you can select the type of the **Mosaic** effect.



On the figures below you can see the video picture before and after applying the **Mosaic** effect:



Before applying the **Mosaic** effect



After applying the **Mosaic** effect

Noise



The **Noise** effect adds noise, or pixels with randomly distributed color levels. This effect is used to add some texture to an image by way of tiny pixel dustings. The **Noise** effect can be used to conceal "touch-ups" of flat color on an image, or remove other problem areas.

In the **Properties Area** of the **Video Effect** window you can **change the effect properties**. The properties of the **Noise** effect available for setting are its **level** and the **monochrome** option. If you check the **Monochrome** box, it will apply the filter to the tonal elements in the image only without changing the colors.



On the figures below you can see the video picture before and after applying the **Noise** effect:



Before applying the **Noise** effect



After applying the **Noise** effect

Diffuse



The **Diffuse** effect shuffles pixels in a selection to make the selection look less focused according to the selected magnitude of the effect. The effect moves pixels to the selected distance randomly, ignoring color values.

In the **Properties Area** of the **Video Effect** window you can **change the effect properties**. The only property of the **Diffuse** effect available for setting is **distance** of pixel relocation (in pixels).

Distance:

On the figures below you can see the video picture before and after applying the **Diffuse** effect:



Before applying the **Diffuse** effect



After applying the **Diffuse** effect

Emboss



The **Emboss** effect is used to give an image a 3D look - as if it was raised or stamped. The **Emboss** effect turns the entire image gray, except to trace colors that occur if you use high settings.

In the **Properties Area** of the **Video Effect** window you can **change the effect properties**. They include an embossing **angle** (from -360° - to lower (stamp) the surface, to $+360^\circ$ - to raise the surface), **distance** (height), and a percentage (1% to 500%) for the **amount** of color within the selection. The **Angle** setting vary from $0-360^\circ$ (though it may also give negative readings). This parameter controls the direction of light. **Distance**, varying from 1 to 10, sets the elevation of the effect. **Amount** varies from 1-500 and controls how much detail the filter sees to emboss. At low setting, almost nothing is raised up.

Angle:

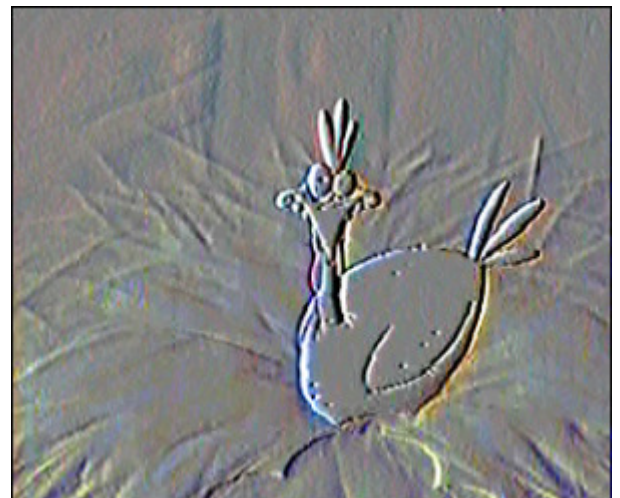
Distance:

Amount:

On the figures below you can see the video picture before and after applying the **Emboss** effect:



Before applying the **Emboss** effect



After applying the **Emboss** effect

Filter Minimal and Maximal

Filter Minimal



The **Minimal Filter** effect emphasizes the dark pixels in an image.

In the **Properties Area** of the **Video Effect** window you can **change the effect properties**. The only property of the **Filter Minimal** effect available for setting is its **size**.

Size:

On the figures below you can see the video picture before and after applying the **Filter Minimal** effect:



Before applying the **Filter Minimal** effect



After applying the **Filter Minimal** effect

Filter Maximal

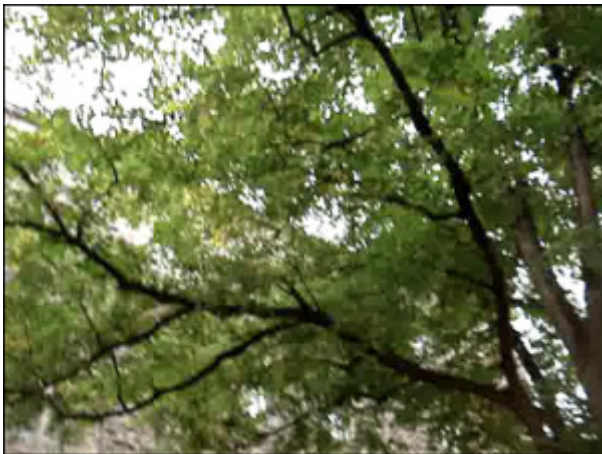


The **Maximal** filter emphasizes the light pixels in an image.

In the **Properties Area** of the **Video Effect** window you can **change the effect properties**. The only property of the **Filter Maximal** effect available for setting is its **size**.

Size:

On the figures below you can see the video picture before and after applying the **Filter Maximal** effect:



Before applying the **Filter Maximal** effect



After applying the **Filter Maximal** effect

Deinterlace



AVS Video Converter allows you to remove interlacing artifact using deinterlacing filter. For interlaced video a frame contains either top (odd) fields or bottom (even) fields, for non-interlaced video frame contains both even and odd field. One of these fields commence one field period later than the other on a progressive display (monitor).

Mostly this effect appears in video that was captured from TV tuners or DV cameras. Applying **Deinterlacing** effect removes the interlacing artifacts.

In the **Properties Area** of the **Video Effect** window you can **change the effect properties**. The properties of the **Deinterlace** effect available for setting are **even** and **interpolate**. Check **Even** and/or **Interpolate** check-boxes, if needed. Doing it you can remove interlacing artifact by removing one field of a video (the **Even** lines) and blend (**Interpolate**) the remaining lines.

Even

Interpolate

On the figures below you can see the video picture before and after applying the **Deinterlace** effect:



Before applying the **Deinterlace** effect



After applying the **Deinterlace** effect

Median



The **Median** effect replaces each pixel with a pixel that has the median color value of neighboring pixels with the specified radius. At low radius values, this effect is useful for reducing some types of noise. At higher radius values, this effect gives an image a painterly appearance.

In the **Properties Area** of the **Video Effect** window you can **change the effect properties**. The only property of the **Median** effect available for setting is its **level**.

Level:

On the figures below you can see the video picture before and after applying the **Median** effect:



Before applying the **Median** effect



After applying the **Median** effect

Invert



The **Invert** effect inverts the colors in an image. When you invert an image, the brightness value of each pixel in the channels is converted to the inverse value on the 256-step color-values scale. For example, a pixel in a positive image with a value of 255 is changed to 0, and a pixel with a value of 5 to 250.

On the figures below you can see the video picture before and after applying the **Invert** effect:



Before applying the **Invert** effect



After applying the **Invert** effect

Colorize

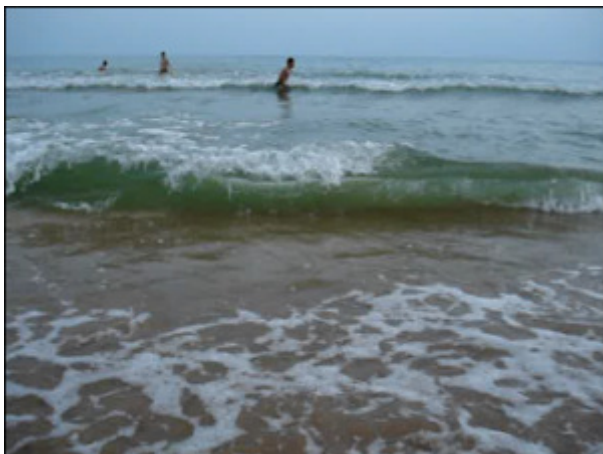


The **Colorize** effect lets you colorize the entire file in an RGB-specified file. The video is colorized in the tones of the selected color while the overall balance of the file is maintained.

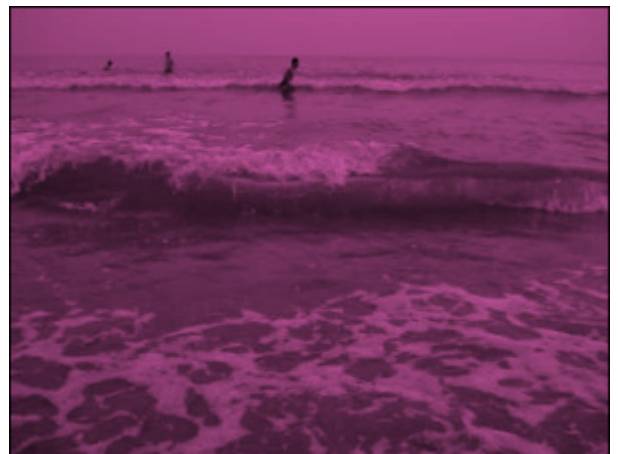
In the **Properties Area** of the **Video Effect** window you can **change the effect properties**. The following properties of the **Colorize** effect are available for setting: red, green and blue colors.

Red:	<input type="range"/>	<input type="text" value="246"/>
Green:	<input type="range"/>	<input type="text" value="106"/>
Blue:	<input type="range"/>	<input type="text" value="198"/>

On the figures below you can see the video picture before and after applying the **Colorize** effect:



Before applying the **Colorize** effect



After applying the **Colorize** effect

Grayscale



The **Grayscale** effect converts color images to gray scale palette: black (0) and white (255).

In the **Properties Area** of the **Video Effect** window you can **change the effect properties**. The only property available for setting is the **Desaturate** option. You can check the **Desaturate** box to desaturate the video to the shades of gray (remove colors). The desaturated video may be slightly darker and can lose some detail.

Desaturate

On the figures below you can see the video picture before and after applying the **Grayscale** effect:



Before applying the **Grayscale** effect



After applying the **Grayscale** effect

Posterize



The **Posterize** effect lets you specify the tonal level (or brightness values) and then maps pixels to the closest matching level.

In the **Properties Area** of the **Video Effect** window you can **change the effect properties**. The only property available for setting is **Posterize Level**.

Levels: 4

On the figures below you can see the video picture before and after applying the **Posterize** effect:



Before applying the **Posterize** effect



After applying the **Posterize** effect

Threshold



The **Threshold** effect determines how much contrast there is between neighboring pixels for the sharpening to affect them. The higher setting exclude more and more pixels.

In the **Properties Area** of the **Video Effect** window you can **change the effect properties**. The following properties of the **Threshold** effect are available for setting: **Level** and **Grayscale**. The **Grayscale** box is checked by default, you can uncheck it, if you want to add colors to your video.



On the figures below you can see the video picture before and after applying the **Threshold** effect:



Before applying the **Threshold** effect



After applying the **Threshold** effect

Transform

The **Transform** effects allow you to introduce various transformations, such as rotation, shift and other to your media file. It also lets you reproduce the entire image or a part of it.

Effect	Description
Flip	Opens Flip effect to flip an entire image horizontally or vertically
Perspective	Opens Perspective effect to transform the perspective in an image horizontally or vertically
Skew	Opens Skew effect to skew the entire image horizontally or vertically
Shift	Opens Shift effect to move your image along X and Y axes
Rotate	Opens Rotate effect to rotate the entire image
Resample	Opens Resample effect to reproduce the entire image
Zoom	Opens Zoom effect to magnify or reduce the image
Mirror	Opens Mirror effect to duplicate a part of the image
Twirl	Opens Twirl effect to twirl the image.
Ripple	Opens Ripple effect to add spaced ripples to the image's surface
Wave	Opens Wave effect to create an undulating pattern on your image
Sphere	Opens Sphere effect to make a certain sphere-shaped area blurred
Cylinder	Opens Cylinder effect to make a certain cylinder-shaped area blurred

Flip



The **Flip** transformation lets you flip an entire image horizontally or vertically.

In the **Properties Area** of the **Video Effect** window you can **change the effect properties**. The only property of the **Flip** effect available for setting is the **Vertical** option. The horizontal direction is set by default, if you'd like to flip the image vertically, you should tick the **Vertical** option.

Vertical

On the figures below you can see the video picture before and after applying the **Flip** effect:



Before applying the **Flip** effect



After applying the **Flip** effect

Perspective



The **Perspective** effect allows you to transform the perspective in an image. It has two variations: horizontal and vertical transformations.

In the **Properties Area** of the **Video Effect** window you can **change the effect properties**. The properties of the **Perspective** effect available for setting are **angle** and the **Vertical** option. The vertical type is set by default, to apply the horizontal one, you should untick the **Vertical** box.

Angle: 60

Vertical

On the figures below you can see the video picture before and after applying the **Perspective** effect:



Before applying the **Perspective** effect



After applying the **Perspective** effect

Skew



The **Skew** transformation lets you skew an entire image horizontally or vertically.

In the **Properties Area** of the **Video Effect** window you can **change the effect properties**. The properties of the **Skew** effect available for setting are **angle** and the **Vertical** option. The vertical direction is set by default, if you'd like to skew the image horizontally, you should untick the **Vertical** option.

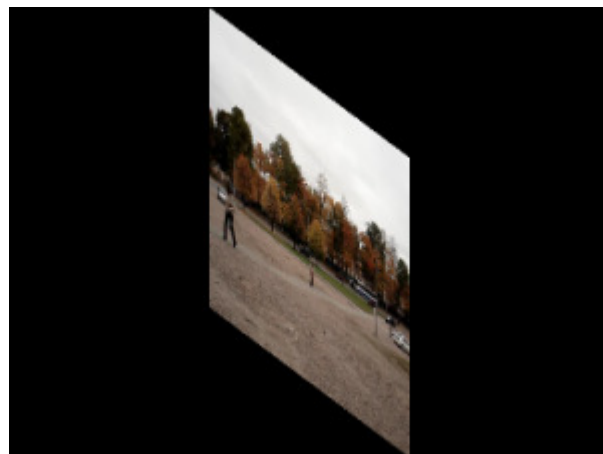
Angle: 60

Vertical

On the figures below you can see the video picture before and after applying the **Skew** effect:



Before applying the **Skew** effect



After applying the **Skew** effect

Shift



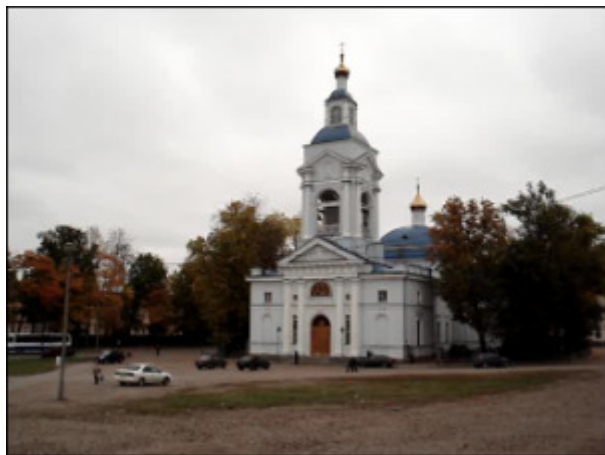
The **Shift** transformation allows you to move your image along the X and Y axes.

In the **Properties Area** of the **Video Effect** window you can **change the effect properties**. The properties of the **Shift** effect available for setting are **OffsetX** and **OffsetY** (axial coordinates).

OffsetX: -224

OffsetY: 71

On the figures below you can see the video picture before and after applying the **Shift** effect:



Before applying the **Shift** effect



After applying the **Shift** effect

Rotate



The **Rotate** transformation allows you to rotate the entire image.

In the **Properties Area** of the **Video Effect** window you can **change the effect properties**. The only property of the **Rotate** effect available for setting is the **angle** of rotation.

Angle: 90

On the figures below you can see the video picture before and after applying the **Rotate** effect:



Before applying the **Rotate** effect



After applying the **Rotate** effect

Resample



The **Resample** transformation allows you to reproduce the entire image.

In the **Properties Area** of the **Video Effect** window you can **change the effect properties**. The only property of the **Resample** effect available for setting is **count** (the number of reproductions).

Count: 3

On the figures below you can see the video picture before and after applying the **Resample** effect:



Before applying the **Resample** effect



After applying the **Resample** effect

Zoom



The **Zoom** feature lets you magnify or reduce your view of the image.

In the **Properties Area** of the **Video Effect** window you can **change the effect properties**. The only property of the **Zoom** effect available for setting is magnitude of **zoom**.

Zoom: 30

Center X: 0

Center Y: 0

On the figures below you can see the video picture before and after applying the **Zoom** effect:



Before applying the **Zoom** effect



After applying the **Zoom** effect

Mirror



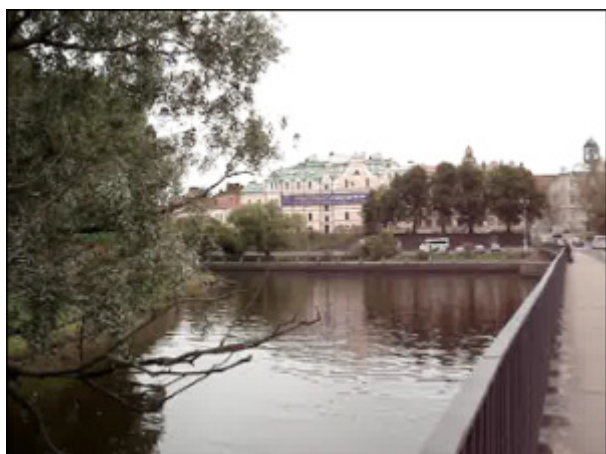
The **Mirror** effect lets you duplicate a part of the image.

In the **Properties Area** of the **Video Effect** window you can **change the effect properties**. The properties of the **Mirror** effect available for setting are its **level** and **type** (bottom, top, left, right).

Type:

Level: 50

On the figures below you can see the video picture before and after applying the **Mirror** effect:



Before applying the **Mirror** effect



After applying the **Mirror** effect

Twirl



The **Twirl** effect tweaks the angle of the texture coordinate.

In the **Properties Area** of the **Video Effect** window you can **change the effect properties**. The properties of the **Twirl** effect available for setting are its **degree** and **angle**.

Degree:

Angle:

On the figures below you can see the video picture before and after applying the **Twirl** effect:



Before applying the **Twirl** effect



After applying the **Twirl** effect

Wave



The **Wave** effect creates an undulating pattern on your image or a selection of the image. You can choose the appropriate wave size and amplitude, change the speed of their movement, make them vertical or horizontal.

In the **Properties Area** of the **Video Effect** window you can **change the effect properties**. The properties of the **Wave** effect available for setting are **Peaks** (number of wave peaks), **Amplitude** (wave amplitude), **Speed** (wave motion speed), **Offset** (objects offset along the waves) values and **Vertical** option. The vertical direction is set by default, if you'd like to make horizontal waves, you should untick this option.

Peaks:

Amplitude:

Speed:

Offset:

Vertical

On the figures below you can see the video picture before and after applying the **Wave** effect:



Before applying the **Wave** effect



After applying the **Wave** effect

Ripple



The **Ripple** effect adds spaced ripples to the image's surface (like ripples on the surface of a pond). You can change the number of added ripples and the speed of their movement.

In the **Properties Area** of the **Video Effect** window you can **change the effect properties**. The properties of the **Ripple** effect available for setting are **Omega** (number of ripple rings), **Speed** (the positive speed values let the ripples travel outward from the center point, the negative values make the ripples move toward the center point) and **Offset** (objects offset along the ripple rings) values.

Omega: 30

Speed: 10

Offset: 0

On the figures below you can see the video picture before and after applying the **Ripple** effect:



Before applying the **Ripple** effect



After applying the **Ripple** effect

Sphere



The **Sphere** effect lets you make a certain sphere-shaped area blurred.

In the **Properties Area** of the **Video Effect** window you can **change the effect properties**. The only property of the **Sphere** effect available for setting is its **degree**.

Degree:

It's also possible to change the **location** and **size** of the sphere area like while applying the ellipse effect.

On the figures below you can see the video picture before and after applying the **Sphere** effect:



Before applying the **Sphere** effect



After applying the **Sphere** effect

Cylinder



The **Cylinder** effect lets you make a certain cylinder-shaped area blurred.

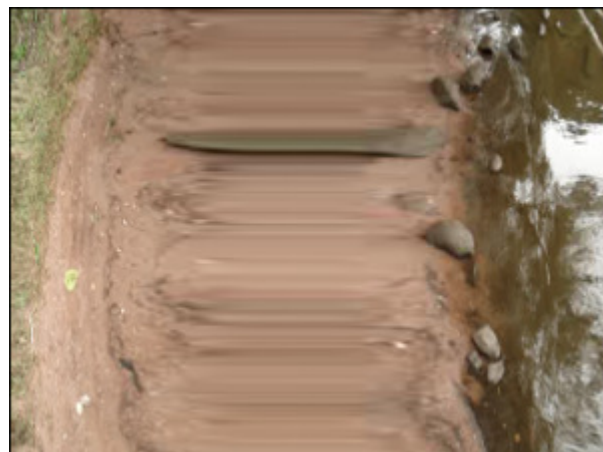
In the **Properties Area** of the **Video Effect** window you can **change the effect properties**. The properties of the **Cylinder** effect available for setting are **center**, **radius**, **degree** and **vertical** option. The vertical direction is set by default, if you'd like to blur the image horizontally, you should untick the **Vertical** option.

Center:
 Radius:
 Degree:
 Vertical

On the figures below you can see the video picture before and after applying the **Cylinder** effect:



Before applying the **Cylinder** effect

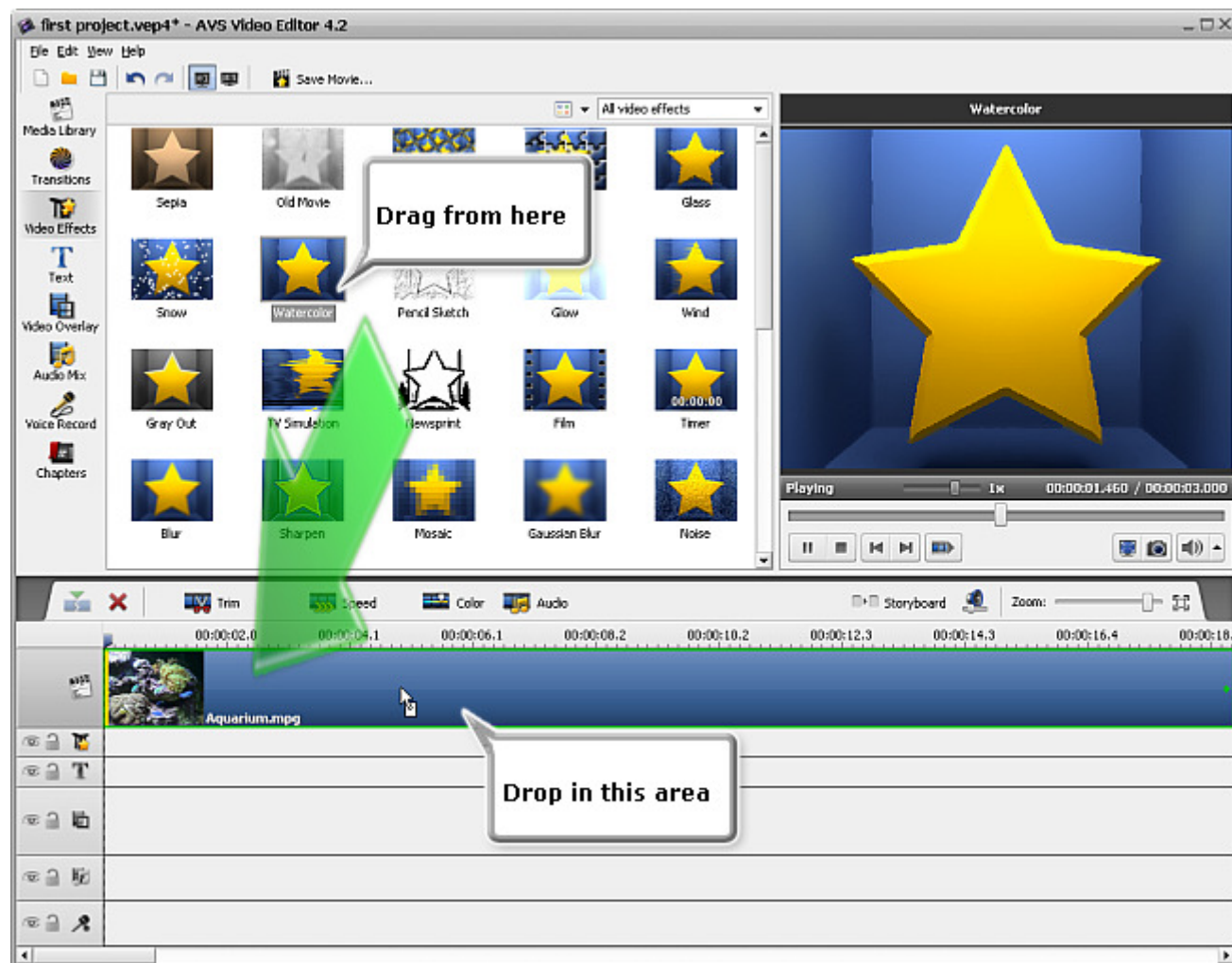



After applying the **Cylinder** effect

Adding Multiple Effects

AVS Video Editor gives you a possibility to apply multiple video effects on a video clip placed on the **Timeline/Storyboard Area** and edit them in one window. Click the **Video Effects** button from the **Menu Panes** and select the necessary effect in the **Files and Effects Area**. After you found an effect you want to apply, drag and drop it to the video.

i Note: make sure that the **Allow to add Effects directly on the video** option is enabled in the project you're working at. To check it, open the **Settings** window.



The same way, you can add several video effects to your video. The modified video will be marked by this sign  on the **Timeline/Storyboard Area**.



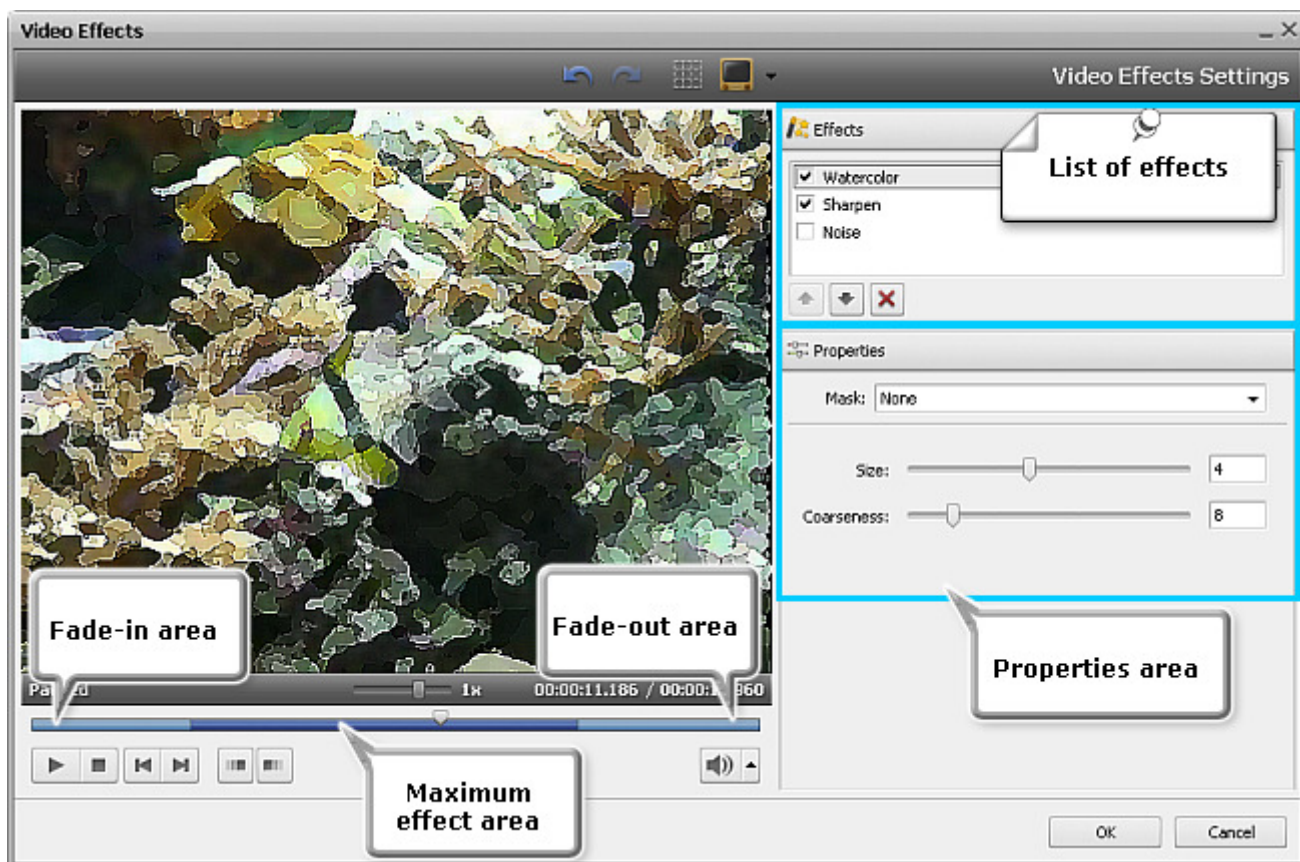
The **Video Effect** sign on the **Timeline**



The **Video Effect** sign on the **Storyboard**

To change the properties of the applied effect, press the **Video Effects** button on the **Timeline/Storyboard Toolbar** or click the video file on the **Timeline/Storyboard Area** with the right mouse button and select the **Video Effects** option of the express menu. The **Video Effects** window will be opened (see the figure below).

In the right part of the window you can see the **List of effects** and the **Properties area**, in the left part you can set the **Fade-in** and **Fade-out** areas and preview the result.



First of all select the effect from the list whose properties you want to modify by clicking it with the left mouse button.



Note: the appropriate **Effect** box should be checked, if unchecked the effect and its properties will be disabled.

In the **Properties area** of the **Video Effects** window select the **Mask** from the drop-down list. The following options are available: none, rectangle, ellipse and polygon. If you select **None**, the effect will be applied to the entire picture area.

Then set other effect properties. They vary from effect to effect. The detailed effects properties description can be found in the **Special**, **Effect** and **Transform** chapters.

With help of the **Video Effects** window you are able to create your own visual effect combining various types of video effects, for example, the combined **Watercolor** effect and **Sharpen** filter make your image look like an impressionism painting.

Click the **OK** button to save the changes or **Cancel** to discard all the changes and close the **Video Effects** window.

Text and Graphics



The **Text and Graphics** effect is used to add different captions (static and animated), shapes and images to your movie:



First you will need to select a **Text** preset and **add it to the Timeline**. After that you will be able to **change text properties, add and edit graphics**.

Then you can preview the video using the **Preview Area** to make sure that the objects look the way you want them to.

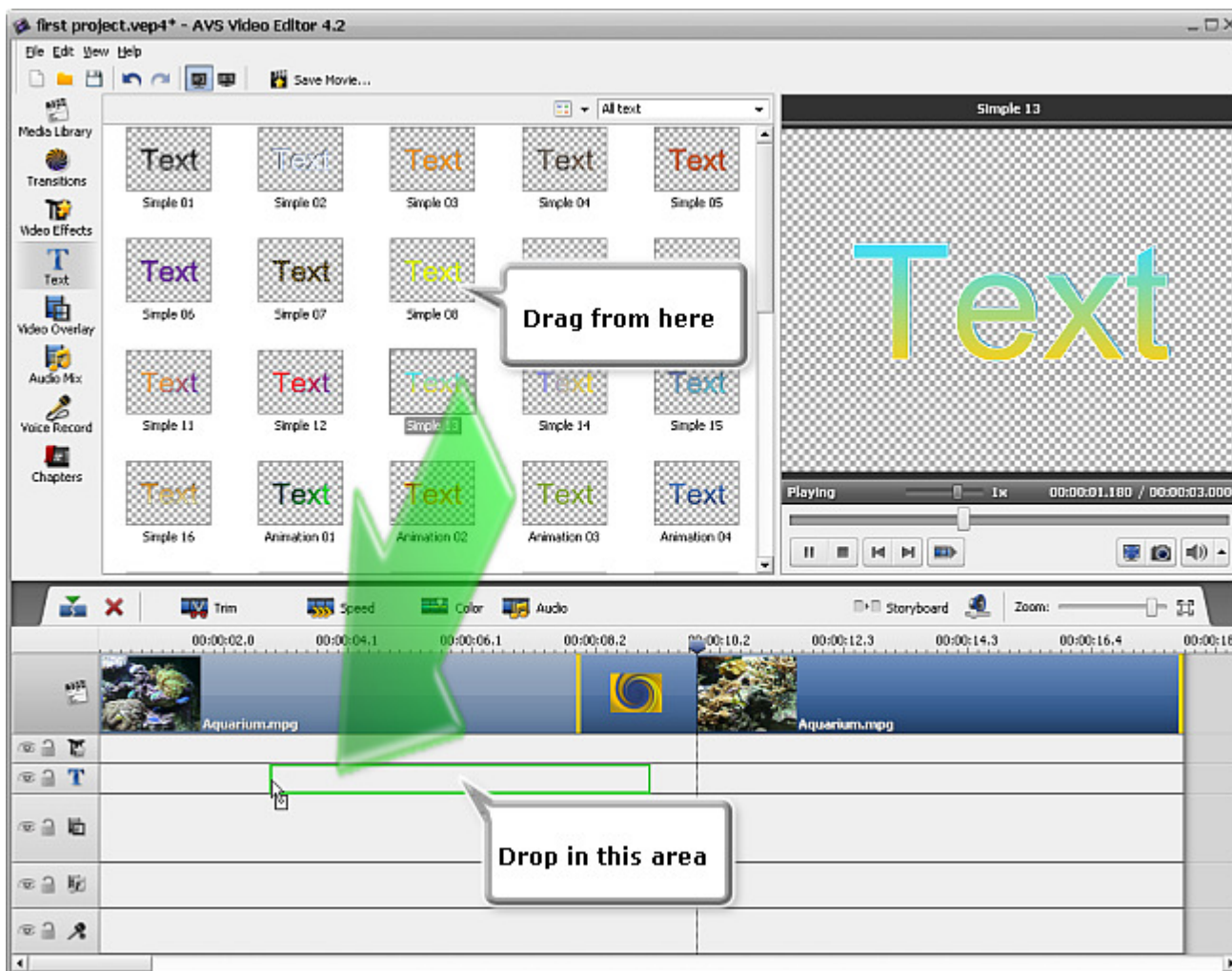


Note: you can apply not one but several text effects. If you want to disable any effect, check the respective window off clicking the  icon (it will turn into an  icon then). To enable the effect click this icon once again.

Adding Text



Now you can add a text effect to the **Timeline/Storyboard Area**. First select the **Text** button of the **Menu Panes**. Then drag-and-drop the text with the mouse from the **Files and Effects Area** to the **Timeline/Storyboard Area**:



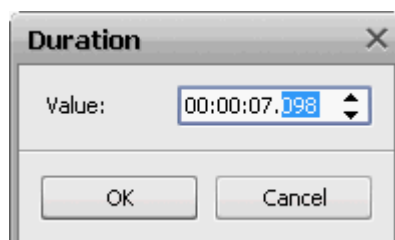
Alternatively you can click the necessary text effect with the right mouse button and select **Add or Replace Text** option of the express menu. The selected text effect will be placed to the **Timeline**. The added text duration can be changed either using the **Timeline** or clicking the **Duration** button on the **Timeline Toolbar**.

Changing Text Duration

To change the duration on the **Timeline** locate the text effect there (it will be in the **Text** group) and click the left or right boundary with the left mouse button. Then, **without releasing the mouse button**, drag it to the necessary direction - left or right - to alter the **Text** duration in the movie:



Alternatively you can click the **Text** effect on the **Timeline** and use the **Duration** button of the **Timeline Toolbar**. The following window will appear:



Enter the duration value using the keyboard (it is hours:minutes:seconds.hundredths of seconds) or use the up and down arrows to change the duration with the mouse.

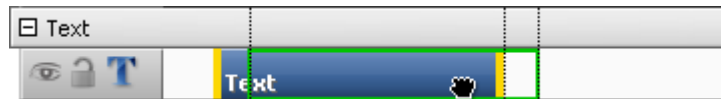
Changing Text Position

To change the position of the text effect in the movie, place the mouse cursor over it (it will turn into a hand):



The mouse cursor over the **Text** effect

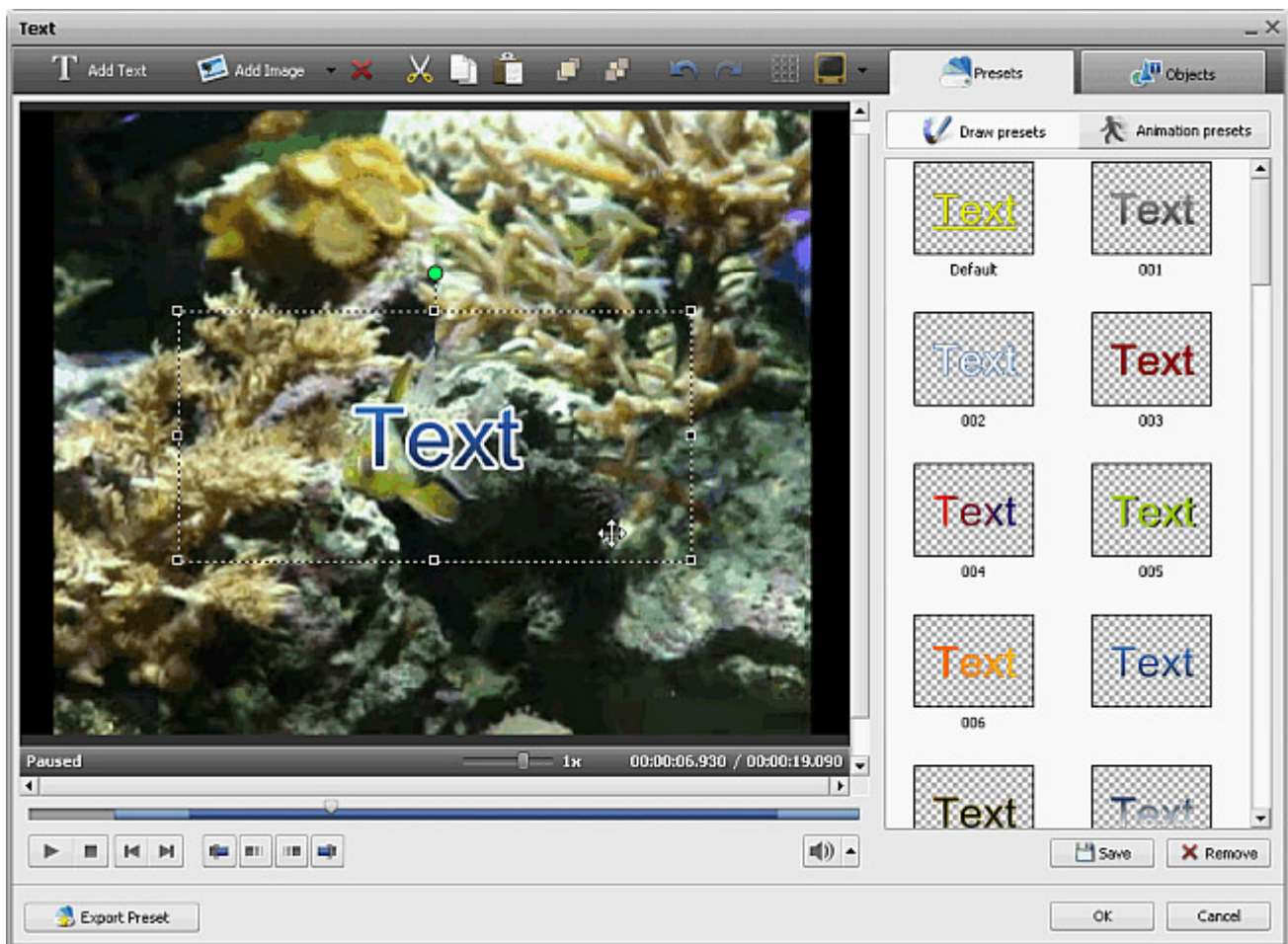
click the left mouse button and, **without releasing the mouse button**, drag left or right to a new position:



The **Text** effect dragged to a new position in video

Editing Window

Once a text effect is **added to the Timeline** you can change the text itself and its properties. Click the text effect at the **Timeline** and press the **Edit Text** button of the **Timeline Toolbar**. Or alternatively right-click the text effect at the **Timeline** and select the **Edit Text** option of the right-click express menu. The following window will be opened:















Here you can select a **Text preset**, add and edit some **graphics**. You will be also able to **change text properties** switching between the **Presets** and **Objects** tabs.

Text Toolbar




You can use the **Toolbar** over the preview area to edit the text and graphics. It has the following buttons:








	Add Text	Use this button to add a new text box with the text to your video. The added text can be edited independently from the other texts in the video.
	Add Image	Use this button to add an image or a geometrical shape to your video. The added object can be edited independently from the other texts and objects in the video.
	Remove Object	Use this button to remove the currently selected object or text from the video.
	Cut	Use this button to cut out the currently selected object (text or shape) to the program clipboard and paste it to another place.
	Copy	Use this button to copy the currently selected object (text or shape) to the program clipboard and paste it to another place.
	Paste	Use this button to paste the previously copied or cut object (text or shape).
	Bring to Foreground	Use this button to bring the currently selected object (text or shape) to the foreground as related to the other objects. This option is only available if more than one object is present in the text effect and the currently selected object is not in the most foreground position.
	Move to Background	Use this button to move the currently selected object (text or shape) to the background as related to the other objects. This option is only available if more than one object is present in the edit window and the currently selected object is not in the most background position.
	Undo	Use this button to undo the latest performed action.
	Redo	Use this button to redo the latest undone action.
	Show Grid	Use this button to show or hide the vertical/horizontal grid lines. This might be helpful if you want to align the text in the video.
	TV Safe Zone	Use this button to show or hide the borders of the 4:3 CRT display, 4:3 LCD display and 16:9 LCD widescreen display so that you could see if the video and all its elements will be displayed correctly on a screen of your display/TV set during the playback.

Preview Area


The **Preview Area** of the editing window allows you to see the added text and objects and control their color, size and position on the screen. The following buttons help you navigate through your video, set the beginning and the end of the effect and fade in/out areas:

	Playback	Is used to start video file playback. Once you click it, it will turn into the Pause button to let you pause the playback when needed.
	Stop	Is used to stop video file playback. Every time you use it to stop the playback, the cursor goes back to the beginning of the file.
	Previous Frame	Is used to step one frame back in the video.



	Next Frame	Is used to step one frame forward in the video.
	Mark In	Is used to mark the initial position of the applied effect in the video.
	Fade In	Is used to set the end of the fade-in area for the applied effect.
	Fade Out	Is used to set the beginning of the fade-out area for the applied effect.
	Mark Out	Is used to mark the final position of the applied effect in the video.

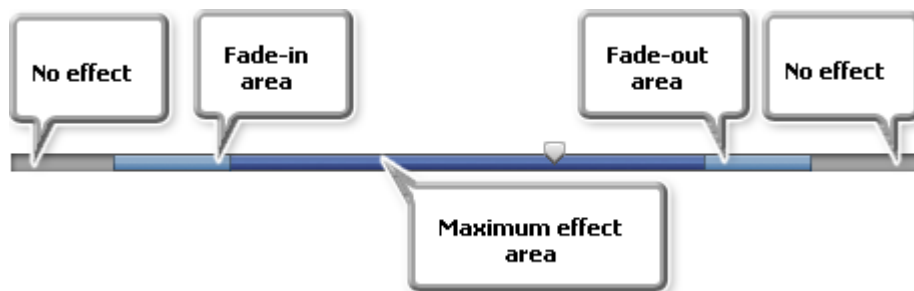
Preview Slider

Using the **Preview Slider** situated under the preview area you can **mark** the beginning and the end of the applied effect and set the **Fade-in** and **Fade-out** areas.

Place the cursor  of the slider area where you want the applied effect to begin and hit the **Mark In** button. The **beginning** of the effect area will be marked. Then drag the cursor to the end of the slider and mark the point where the effect ends clicking the **Mark Out** button.

If you need to make your effect appear and disappear gradually, use the **Fade-in** and **Fade-out** buttons in the same way that you marked the beginning and the end of the applied effect.

It's also possible to direct the mouse cursor at the edge of the slider area and drag the boundaries inwards or outwards. When the cursor turns into a double-sided arrow  you can specify the initial and final positions of the effect, but if the cursor looks like a simple arrow , you're able to change the duration of the **Fade-in** and **Fade-out** areas.



Note: it's possible to set all these areas for each text effect, geometrical shape or image you add to your video, just open the **Objects** tab and select the necessary element.

Working with Text Presets

Any changes you make to the **text** effect or **graphics** can be saved to a preset so that you can use them later if you plan to apply the same effect to a different video.



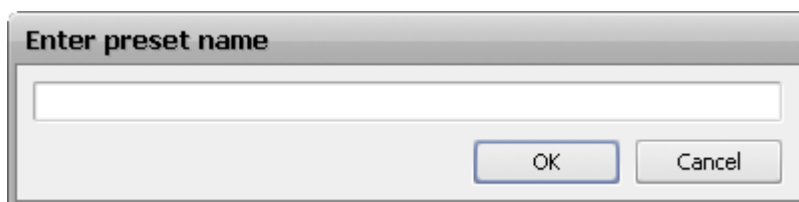
This is right both for the **Draw presets** tab where you can select the appropriate text preset and for the **Animation presets** tab where you can set the text effect **Fade in** and **Fade out**.

When you want to apply a **text** effect to your video, first, select one of the presets from the **Draw presets** tab clicking it with a right mouse button and selecting the **Apply** option (if there is no text effect on your video yet) or **Add** option (if you want to add one more text to your video) from the express menu. It's also possible to drag and drop the desired preset to the preview area of the **edit window**.

Then you can **modify** it to completely suit your needs. Edit the **Font, Brush, Shadow** and **Edge** properties of the text in the **Objects** tab, change its **size** and **orientation**.

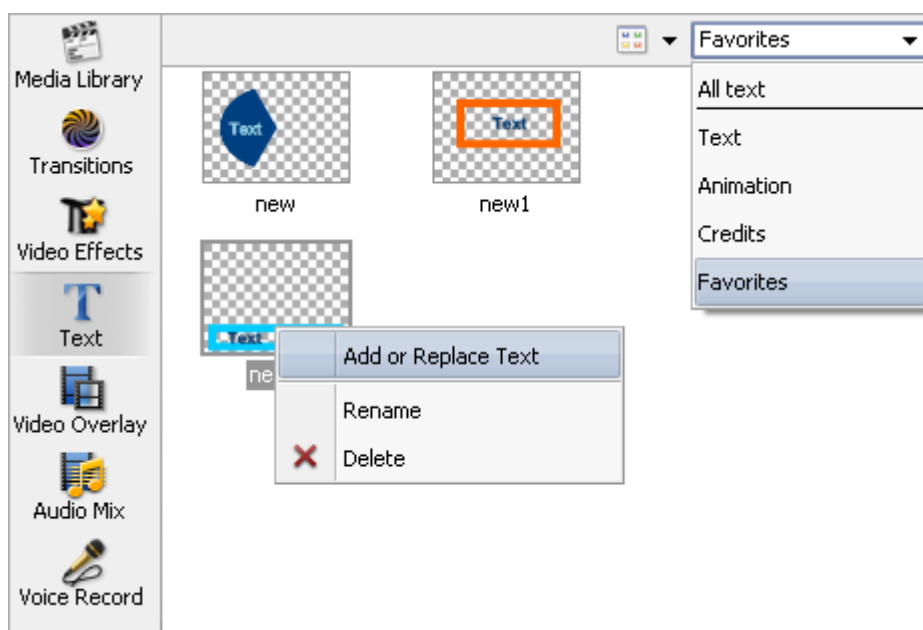
Open the **Animation presets** tab to choose the way the text will appear on the screen and disappear from it. Each animation preset contains a **Fade in** and **Fade out** effect, if you don't like one of the effects, select another one in the **Objects** tab.

To save the currently edited text settings as a preset, just click the **Save** button in the bottom of the presets area. The following window will be opened:



Enter a new unique preset name and click the **OK** button. The saved preset will be displayed in the list of the available presets now, and you will be able to use it later on. You can also delete unnecessary presets from the list using the **Remove** button of the preset area.

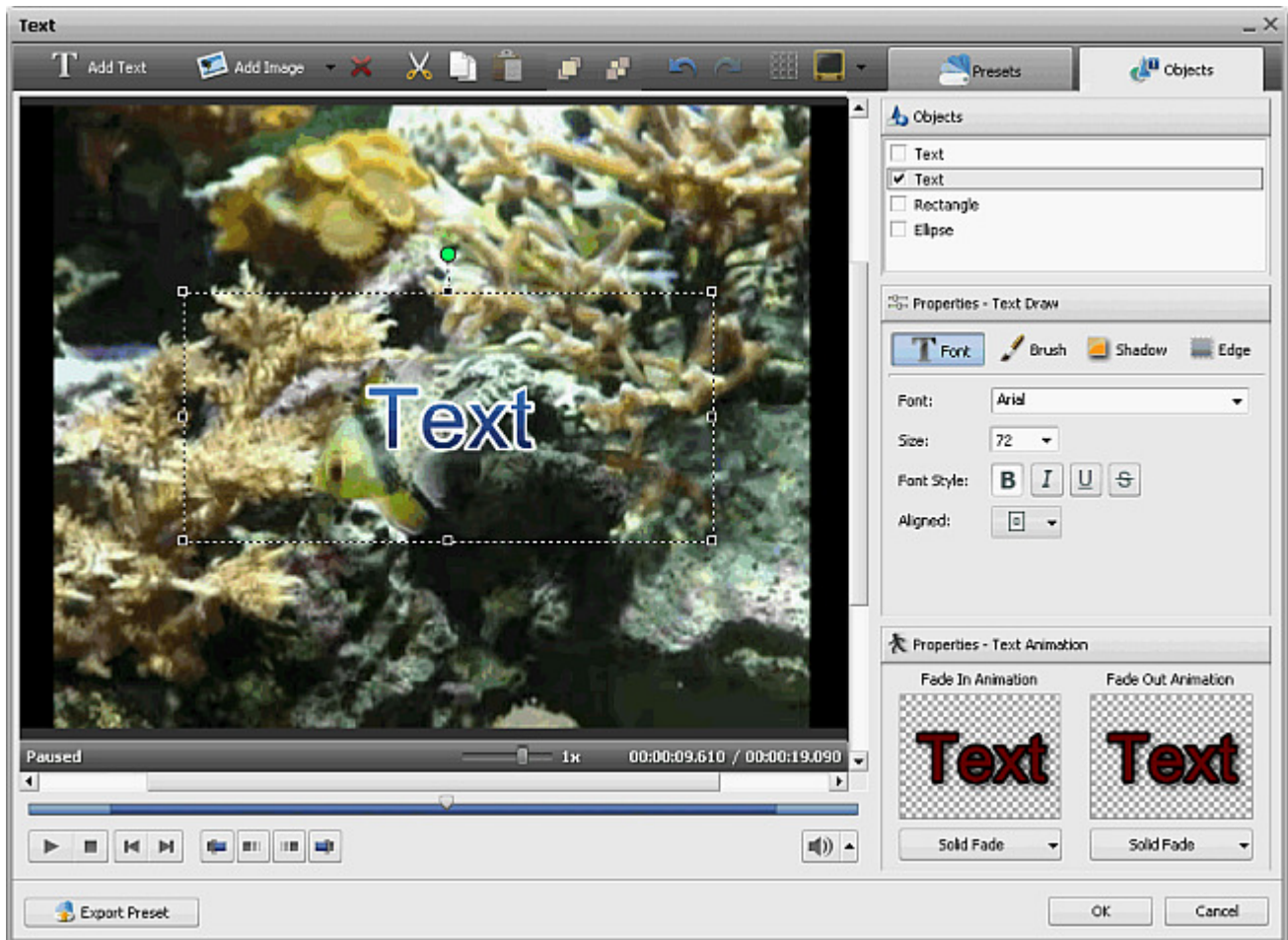
When you add some **graphics** to your movie, all the objects, images and their settings can also be saved as a preset. For this purpose, please, use the **Export Preset** button located in the left lower corner of the **edit text** window. Then type a name in the opened **Enter preset name** window and hit the **OK** button. After that you will find the saved preset in the **Favorites** category when you click the **Text** button on the **Menu Pane**.



To be able to apply one of the saved presets, use the right-click menu and select the appropriate option among the available ones: **Add or Replace Text, Rename, Delete**.

Editing Text

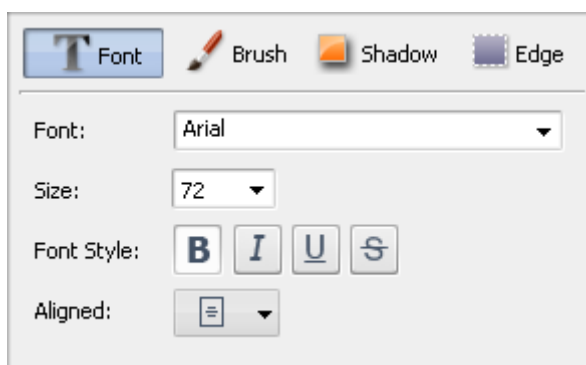
Once a text effect is added to your video using the **Add Text** button or selected from the **Presets list** you can change the text itself and its properties.



First of all open the **Objects** tab and select the text preset you want to modify from the objects list. You can uncheck the box with an object name to disable it while you edit other text or geometrical shape.

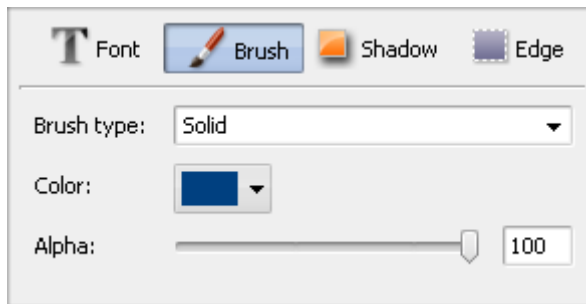
After that you'll see the **text box** on the preview area of the window. Double click it to type your own text, just take into consideration that each time you press the **Enter** key the cursor will start a new line.

Properties - Text Draw



Font

- **Font** - the text font-face used in the text effect. You can select a font-face from the drop-down list.
- **Size** - the text font-size used in the text effect. You can either select a value from the drop-down list or enter it manually using the keyboard.
- **Font Style** - the text font style used in the text effect. You can select **B** for bold text, **I** for italicized text, **U** for underlined text and **S** for strikethrough text.
- **Aligned** - the text position in the rectangle box that surrounds the text effect.

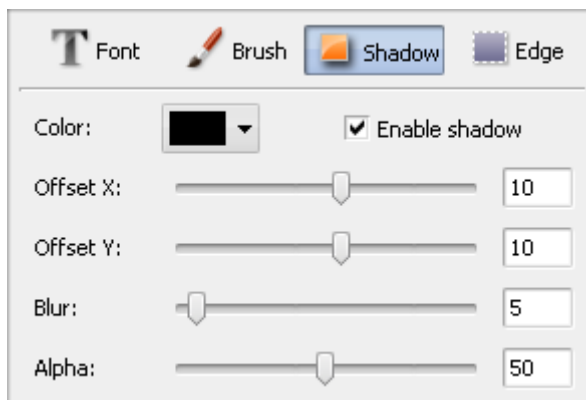


Brush

- **Brush type** - the style of the main filling used in the text. Can be **Solid** (no color change throughout the filling), **Gradient** (smooth color change from one selected color to the other), **Hatch** (a pattern composed of two selected colors) and **Texture** (an image used as a filling for your text).
- **Color** - the color or the colors (for **Gradient** and **Hatch**) used for the main text filling.
- **Alpha** - the transparency of the colors (can differ from **0** - full transparency

- to **100** - not transparent color).

- **Gradient** - (available for **Gradient** brush type only) is used to select the pattern of the **Gradient**.
- **Texture** - (available for **Texture** brush type only) is used to select the image to be used as filling and change it.
- **Fill** - (available for **Hatch** brush type only) is used to change the pattern of the **Hatch**.

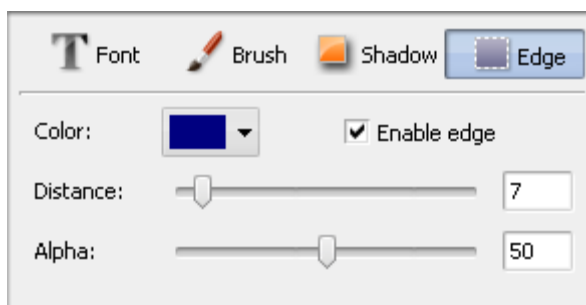


Shadow

- **Enable shadow** - is used to switch the text shadow display on and off. If marked the below properties will be available.
- **Color** - the color of the shadow.
- **Offset X** - the horizontal offset of the shadow in relation to the text itself (positive values move the shadow to the right of the text, negative values move the shadow to the left of the text).
- **Offset Y** - the vertical offset of the shadow in relation to the text itself (positive values move the shadow above the text, negative values move the shadow below the text).
- **Blur** - the text shadow smearing (**0** being the **Blur** absence, **100** marking

the maximum **Blur** value).

- **Alpha** - the transparency of the shadow colors (can differ from **0** - full transparency - to **100** - not transparent color).



Edge

- **Enable edge** - is used to switch the text edge display on and off. If marked the below properties will be available
- **Color** - the color of the edge.
- **Distance** - the thickness of the text edge (**0** value will display no edge, **100** is the maximal value for the edge property).
- **Alpha** - the transparency of the edge colors (can differ from **0** - full transparency - to **100** - not transparent color).

Properties - Text Animation





The **Text Animation** option is used to set the text **Fade in** and **Fade out** effect - i.e. how the text effect appears and disappears in the movie.

You can choose the effect used when the text appears in your video clicking the drop-down menu beside the **Fade in Animation** caption and selecting the necessary effect from the list of available ones. The same is done for the **Fade out Animation**.

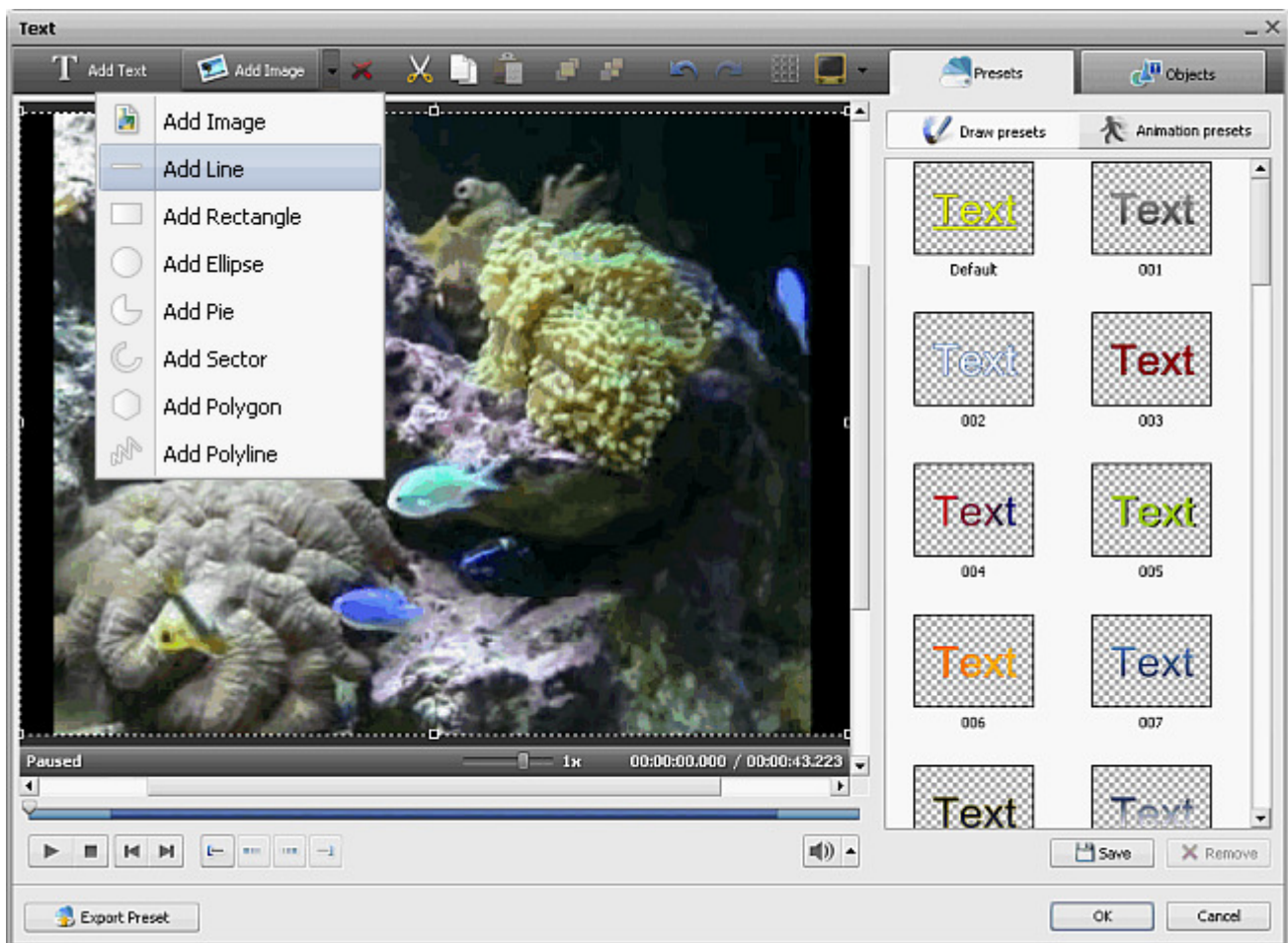
The duration of the **Fade in** and **Fade out** for the text effect is set on the **preview slider**.

It's also possible to select an **Animation preset** from the presets list. Each **Animation preset** contains an already selected **Fade-in** and **Fade-out** effect.

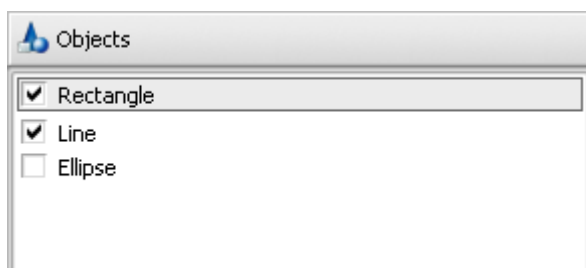
You can also change the **Text** box **size** and orientation. To change the **Text** orientation, click the green circle  (visible when the text is selected with the mouse) with the left mouse button, the mouse cursor will change into a round arrow -  - click the mouse button and, **without releasing it**, drag it to change the text orientation.

Adding and Editing Graphics

The **Text** window allows you to add not only various **text presets**, but geometrical shapes and images to your media file. To do it, open the **edit text** window and click the downward arrow near the **Add Image** button to select the desired shape from the drop-down list. The program offers a wide range of shapes: **Line**, **Rectangle**, **Ellipse**, **Pie**, **Sector**, **Polygon** and **Polyline**.




Select one of the geometrical shapes to highlight an object in the video. You'll be able to draw only borders of a shape or it will be covered with specified color while the rest of the picture remains untouched.




Click the **Objects** tab to change the geometrical shape properties. First you need to select the object you want to modify, if you have added several shapes to your movie.

Uncheck the box with an object name to disable it while you edit other geometrical shapes.

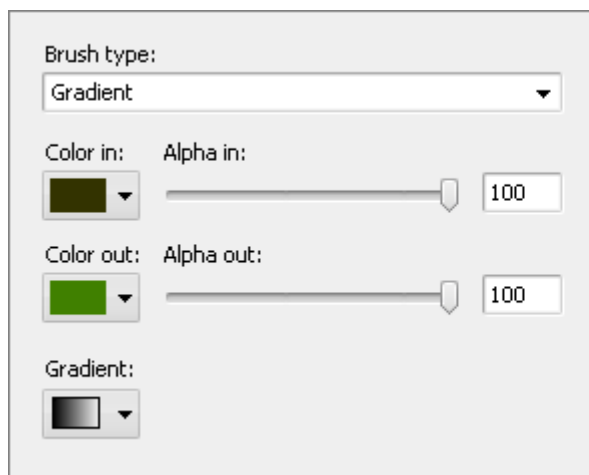
If you want to include a **filled shape** to your video, stay in the **brush** mode  set by default and select the **color** and **alpha** value (transparence), as well as a **brush type** from the following available ones: **solid**, **gradient**, **hatch**, **texture**.

- Choose the **Solid** option, if you want your shape to be of a homogen color. Set the **color** and **alpha** value.
- Another available option is **Gradient**, that is a gradual blend of color, which can be considered as even graduation from low to high values. By selecting the **Gradient** option you should also set the **color in**, **color out**, **gradient type**, as well as **alpha in** and **alpha out** values (transparence).

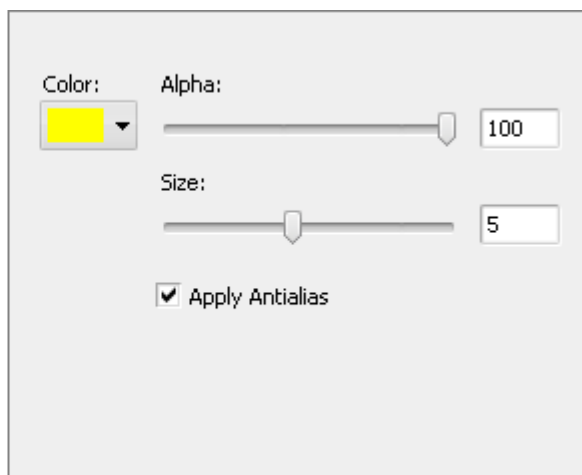
- Choosing the **Hatch** option, you can add closely spaced parallel lines to your ellipse effect. The type of it you can select in the **Fill** drop-down list.
- If you decide to apply **Texture** brush type, you should load an image and set an **alpha** value.

If you would like to include only an **outline of the shape**, you should click the  **Pen** button to choose the **color**, **alpha** value (transparence) and the pen thickness on the **size** slider. You can also check the **Apply Antialias** box to smooth the outline of the shape.

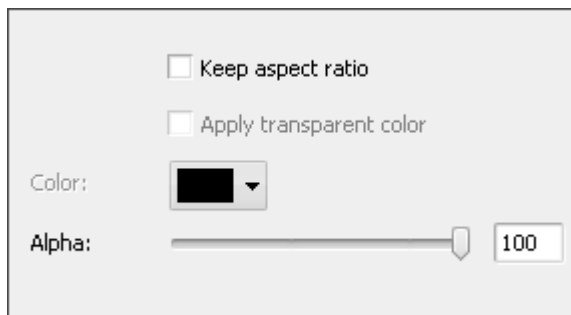
The properties area when the **Brush** button is pressed



The properties area when the **Pen** button is pressed





In case you plan to add an image to your video, click the  **Add Image** button or select the same option from the drop-down list. Then browse for the necessary image in your computer hard disk drive and load it to the program.

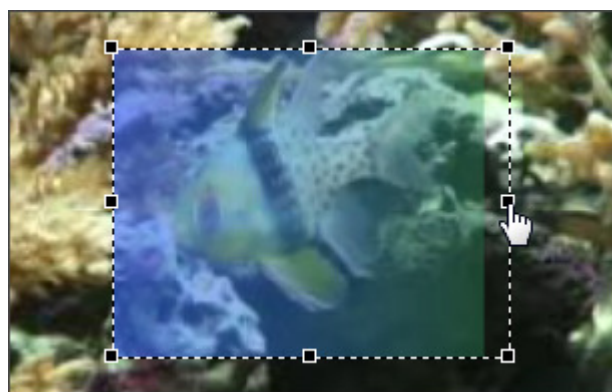
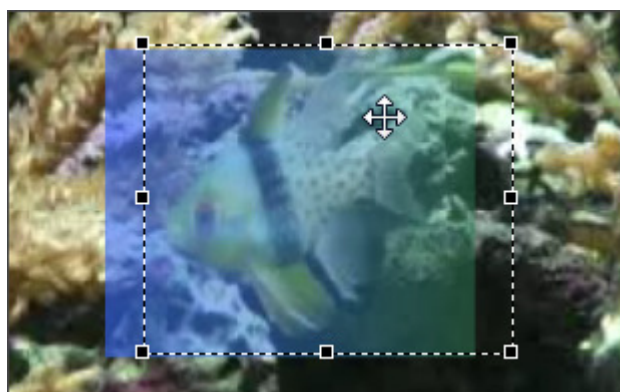


The following properties are available for setting: **keep aspect ratio**, **apply transparent color**, **color** (it's available when the latter checkbox is checked) and **alpha**.

Check the **Keep aspect ratio** box, if you'd like to preserve the aspect of the imported image.

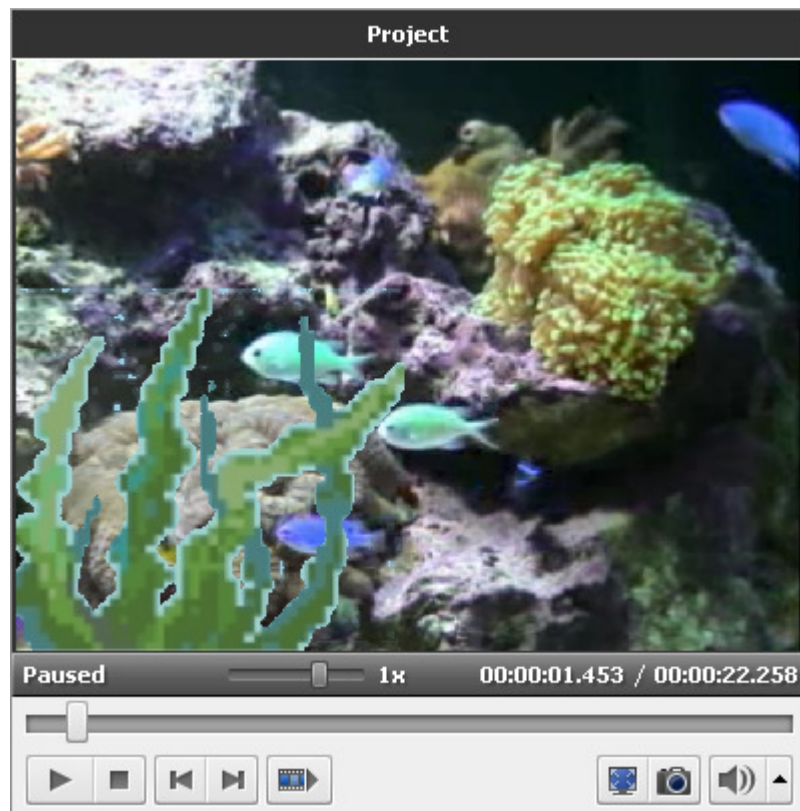
Ticking the **Apply transparent color** box you make one color of the imported image transparent, then you should select this color in the appropriate box. Change the transparence value moving the **Alpha** slider or typing numbers in the field.

It's possible to change the **location** and **size** of the added object within the preview area of the **edit text** window. To move the object to some other place on the video picture, you should direct the mouse cursor to the object area (the mouse cursor will turn to the  sign) and drag it to the place where you want the object to be situated. To change the size of the object, direct the mouse cursor to one of the **black squares** ■ (the mouse cursor will turn to the  sign) and, **without releasing the mouse button**, drag it within the preview area.



Video Overlay



The **Video Overlay** effect is used to let you superpose video image over the video clip you would like to edit:



First you will need to select a **Video Overlay** preset and **add it to the Timeline**. After that you will be able to **edit video overlay and change its properties**.

Then you can preview the video using the **Preview Area** to make sure that the video overlay effect looks the way you want it to.

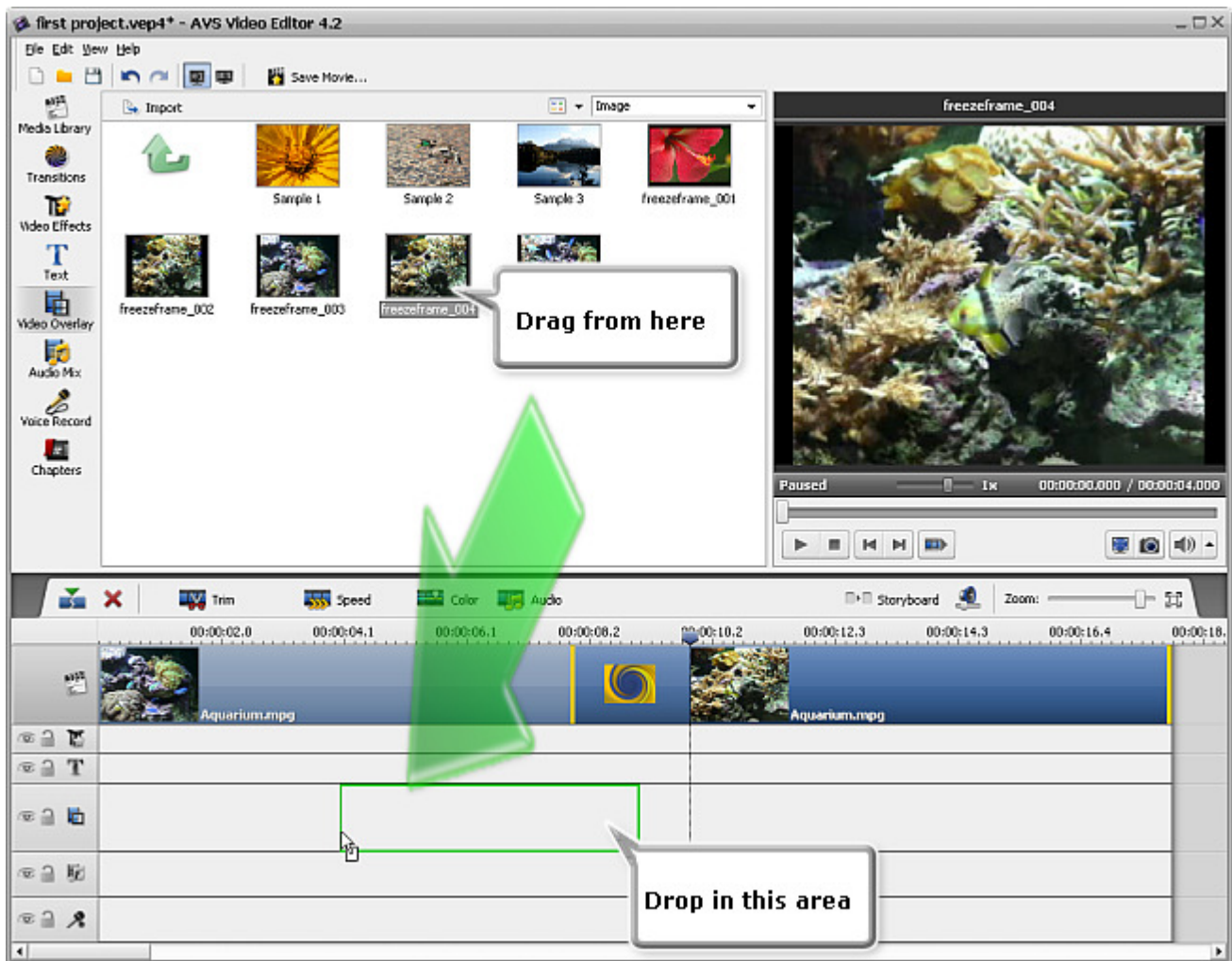


Note: you can apply not one but several video overlay effects. If you want to disable any effect, check the respective window off clicking the  icon (it will turn into an  icon then). To enable the effect click this icon once again.

Adding Video Overlay



Now you can add a video overlay effect to the **Timeline/Storyboard Area**. First select the **Video Overlay** button of the **Menu Panes**. Then drag-and-drop the video overlay with the mouse from the **Files and Effects Area** to the **Timeline/Storyboard Area**:

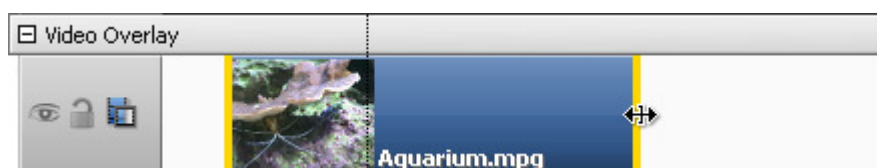


Alternatively you can click the necessary video overlay effect with the right mouse button and select **Add to Video Overlay** option of the express menu. The selected video overlay effect will be placed to the **Timeline**.

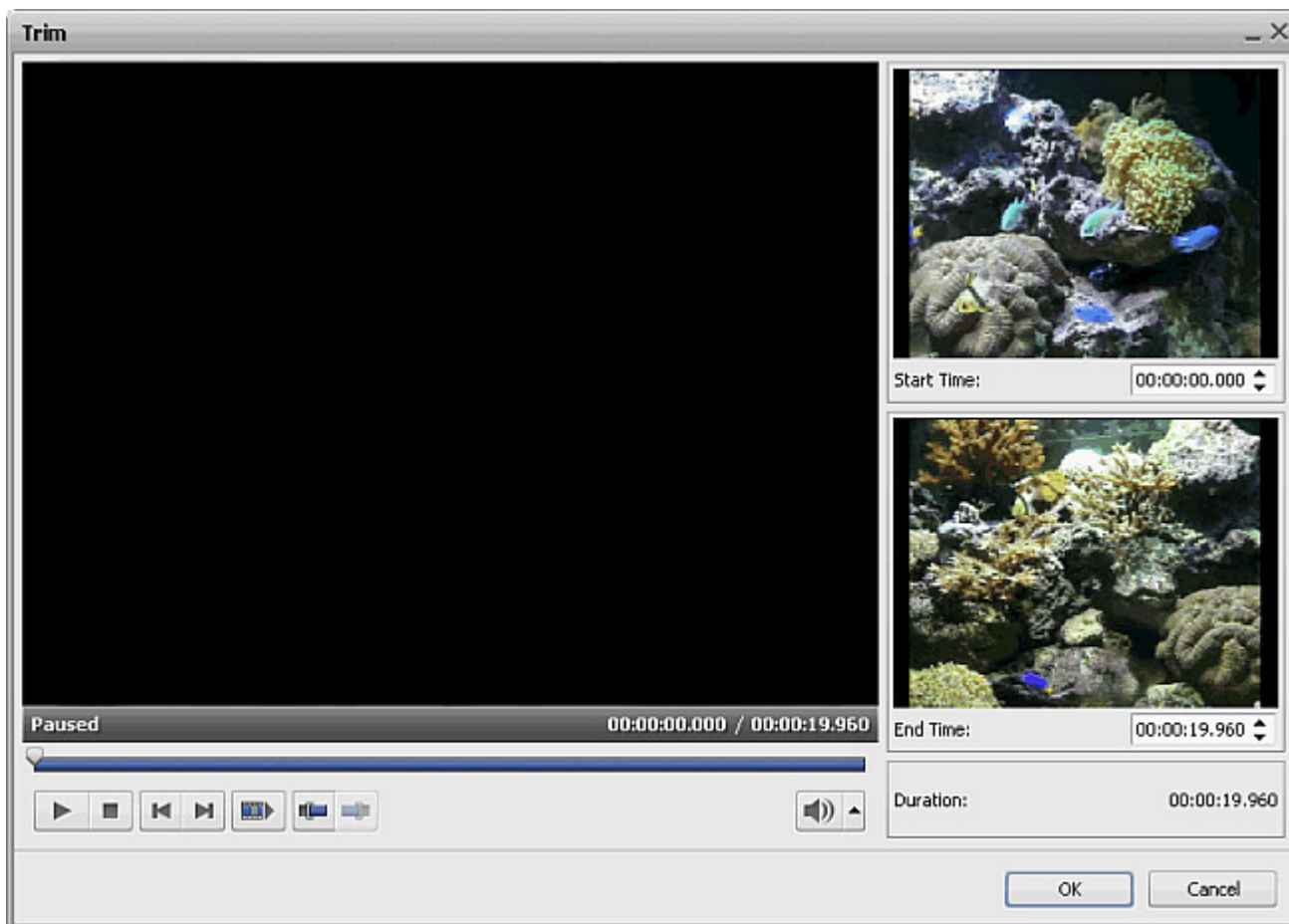
The added video overlay duration can be changed either using the **Timeline** or clicking the **Trim** button on the **Timeline Toolbar**.

Changing Overlay Duration

To change the duration on the **Timeline** locate the video overlay effect there (it will be in the **Video Overlay** group) and click the left or right boundary with the left mouse button. Then, **without releasing the mouse button**, drag it to the necessary direction - left or right - to alter the **Video Overlay** duration in the movie:



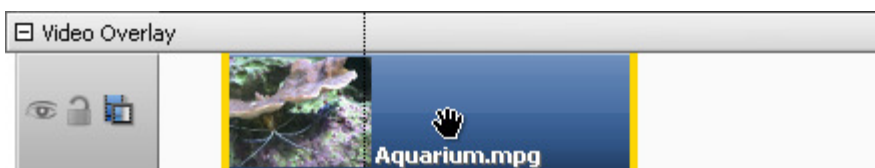
Alternatively you can click the **Video Overlay** effect on the **Timeline** and use the **Trim** button of the **Timeline Toolbar** (it is going to be the **Duration** button if you use an image as an overlay). The following window will appear:



See the **Trimming Video** section for more detail on how to use the **Trim** option. In case you use an image for the overlay simply enter the duration value using the keyboard (it is **hours:minutes:seconds.hundredths of seconds**) or use the up and down arrows to change the duration with the mouse.

Changing Overlay Position

To change the position of the video overlay effect in the movie, place the mouse cursor over it (it will turn into a hand):



The mouse cursor over the **Video Overlay** effect

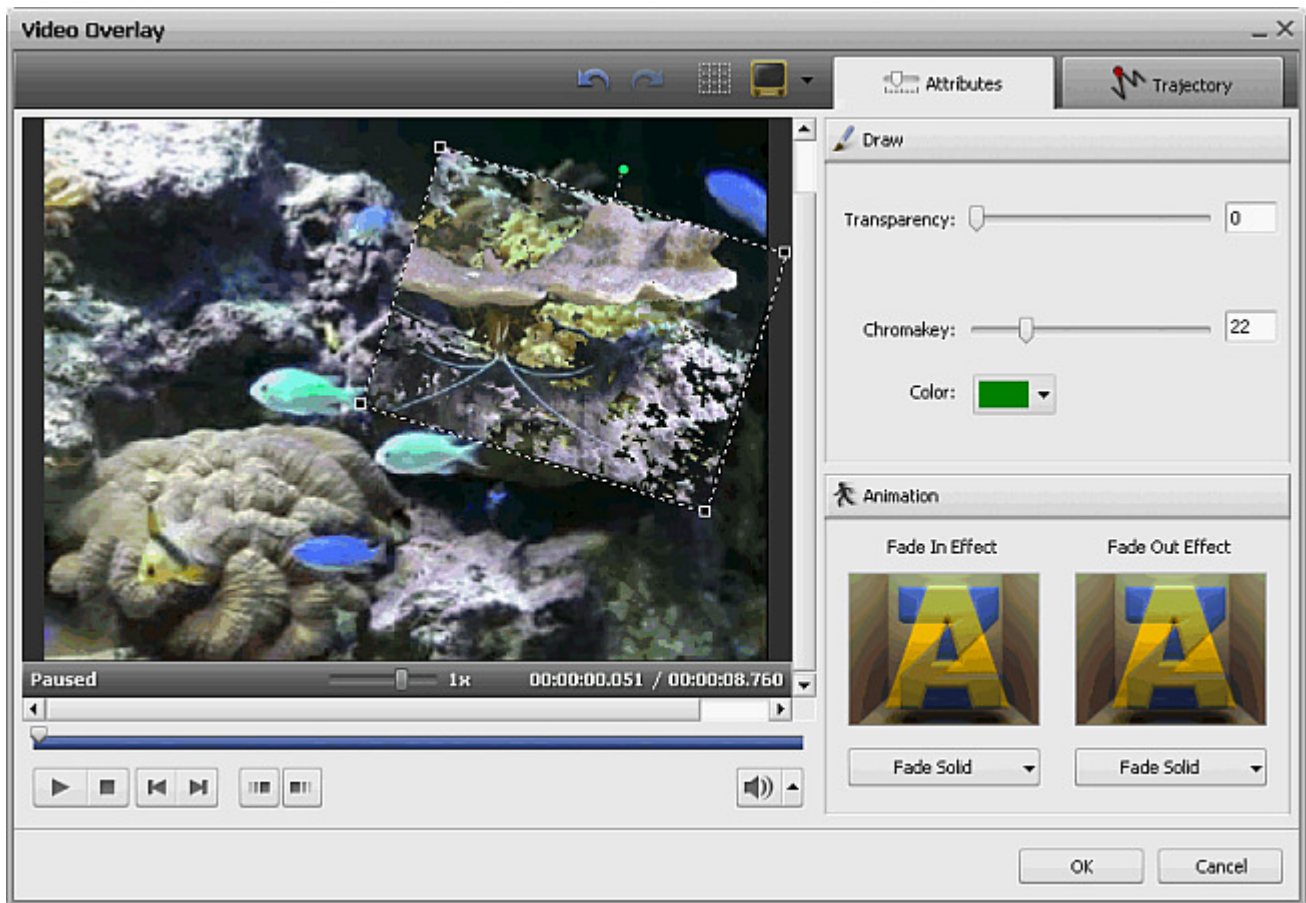
click the left mouse button and, **without releasing the mouse button**, drag left or right to a new position:



The **Video Overlay** effect dragged to a new position in video

Editing Video Overlay

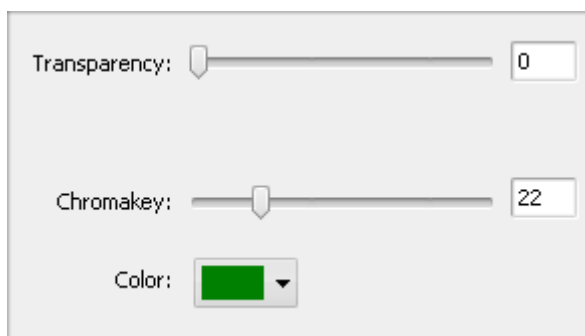
Once a video overlay effect is **added to the Timeline** you can change the overlay properties. Click the video overlay at the **Timeline** and press the **Edit Overlay** button of the **Timeline Toolbar**. Or alternatively right-click the video overlay at the **Timeline** and select the **Edit Overlay** option of the right-click express menu. The following window will be opened:





You can change the following overlay properties:



Attributes tab

Draw



- **Transparency** - the transparency of the video or image used for the overlay (can differ from **0** - not transparent video - to **100** - full transparency).
- **ChromaKey** - a composite effect which allows you to add video overlay that will be half transparent so that only part of it that has the specific color you need will be visible and all the rest will disappear to reveal the video underneath.
- **Color** - select the color to be transparent clicking the downward arrow. In the opened window select the color that forms the area you would like to be transparent.




It's also possible to change the angle of the **Video Overlay** effect. Click the green circle  (visible when the overlay is selected with the mouse) with the left mouse button, the mouse cursor will change into a round arrow -  - click the mouse button and, **without releasing it**, drag it to change the video overlay orientation.

You can also change the **Video Overlay** box size using the black squares  on its boundaries (the mouse button will look like this  when you hover it over one of the black squares - click the mouse button and, **without releasing it**, drag it to change the video overlay size).

Animation



You can choose the effect used when the overlay appears in your video clicking the drop-down menu beside the **Fade in Effect** caption and selecting the necessary effect from the list of available ones. The same is done for the **Fade out Effect**.

The duration of the **Fade in** and **Fade out** for the video overlay is set on the preview slider. You can set **Fade-in** and **Fade-out** boundaries by dragging the cursor  of the slider area to the place where you want the **Fade-in** area to end and hit the  button. The **Fade-in** area will be marked. Then drag the same cursor to the place on the slider area where you want the **Fade-out** area to begin and press the  button. After that

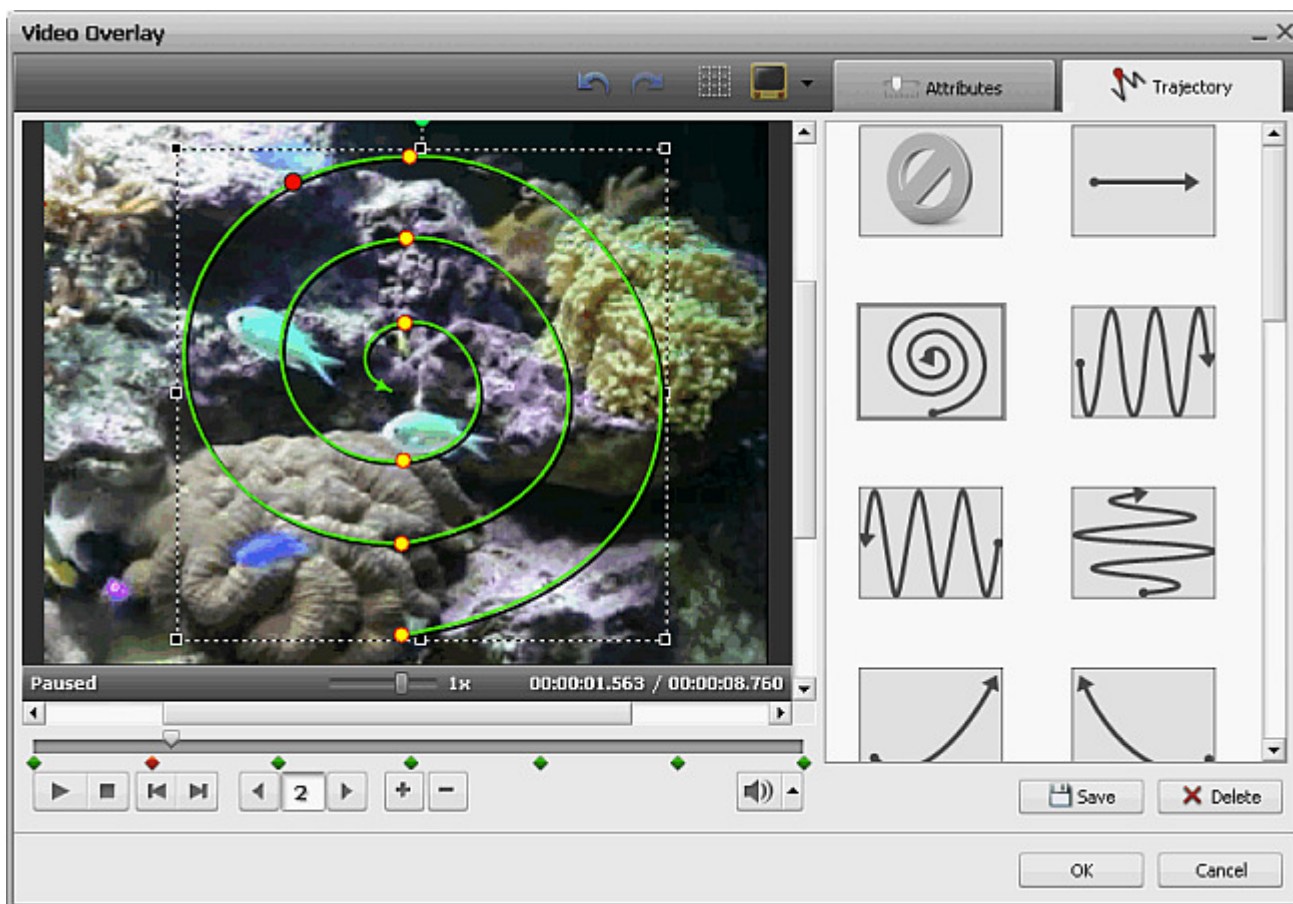
the **Fade-out** area will be marked.

It's also possible to direct the mouse cursor at the edge of the slider area and drag the boundaries inwards or outwards. If you want to set the **Fade-out** effect, drag the right edge of the slider area to the left. To apply the **Fade-in** effect, drag the left edge of the slider area to the right (see the figure below)









Trajectory tab

The **Trajectory** tab is used to change the path of the video overlay throughout the movie image. You can select one of the presets from the list:



The selected preset will be displayed in the preview area with the chosen trajectory drawn (the green line). The small yellow circles show the overlay time stamps when the trajectory changes direction, the red one marks the current overlay position. You can use the following buttons under the preview area to manage the trajectory:


	Playback	Is used to start video file playback. Once you click it, it will turn into the Pause button to let you pause the playback when needed.
	Frame Back	Is used to step one frame back in the video.
	Frame Forward	Is used to step one frame forward in the video.
	Navigation	Is used to navigate through the trajectory time stamps. The ◀ lets you quickly go to the previous time stamp of the trajectory and the ▶ to the next one. The digit field shows the current time stamp number.
	Add Time Stamp	Is used to add a new time stamp at the current overlay position. You can change the trajectory at this time stamp after that clicking it with the mouse and dragging it to the desired position.
	Remove Time Stamp	Is used to delete the currently selected time stamp. The trajectory will be changed to a straight line connecting the two time stamps before and after the deleted one.

The necessary time stamp can be selected not only using the **Navigation** buttons, but also with the mouse. To do that, click a rhombus representing the necessary time stamp with the mouse (the mouse cursor will turn into a hand):



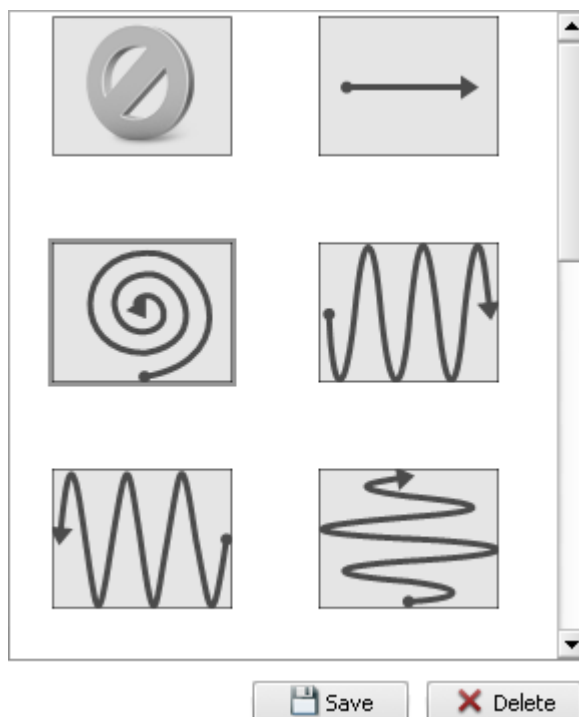
After that you can either delete the selected time stamp, or alter the trajectory, or change the time stamp position on the timeline. Click it with the mouse and, **without releasing the mouse button** (the cursor will turned into a closed hand), move the time stamp left or right changing its position:



You can also change the direction of your trajectory using the time stamps. Click it with a left mouse button (the cursor will look like this - ) , then **without releasing the mouse**, drag it to a new position.

Presets

Any changes you make to the trajectory of the **Video Overlay** effect can be saved to a preset so that you can use them later if you plan to apply the same overlay trajectory to a different video.







Use the **Preset** area of the appropriate tab, click the **Save** button to save the currently edited video overlay trajectory as a preset.

You can also remove unnecessary presets from the list using the **Delete** button of the preset area.

Video Overlay Toolbar

You can use the **Video Overlay Toolbar** over the preview area to additionally manage the overlay. It has the following buttons:



	Undo	Use this button to undo the latest performed action.
	Redo	Use this button to redo the latest undone action.
	Show Grid	Use this button to show or hide the vertical/horizontal grid lines. This might be helpful if you want to align the overlay in the video.
	TV Safe Zone	Use this button to show or hide the borders of the 4:3 CRT display, 4:3 LCD display and 16:9 LCD widescreen display so that you could see if the video and all its elements will be displayed correctly on a screen of your display/TV set during the playback.



Audio

The **Audio Mix** is used to add a new soundtrack to your movie that will replace the original movie sound or just, for instance, supplement it with some music.



First you will need to import the necessary audio into **AVS Video Editor**. Read the **Importing Multimedia Files** section to learn how to do that.

Then select an audio soundtrack itself and **add it to the Timeline**. After that you will be able to modify the audio and change the original and the added sound volume. You can also use a microphone connected to your personal computer **to record your voice** and overlay your movie with it.

i Note: you can apply not one but several tracks. If you want to disable any audio track, check the respective window off clicking the  icon (it will turn into an  icon then). To enable the track click this icon once again.

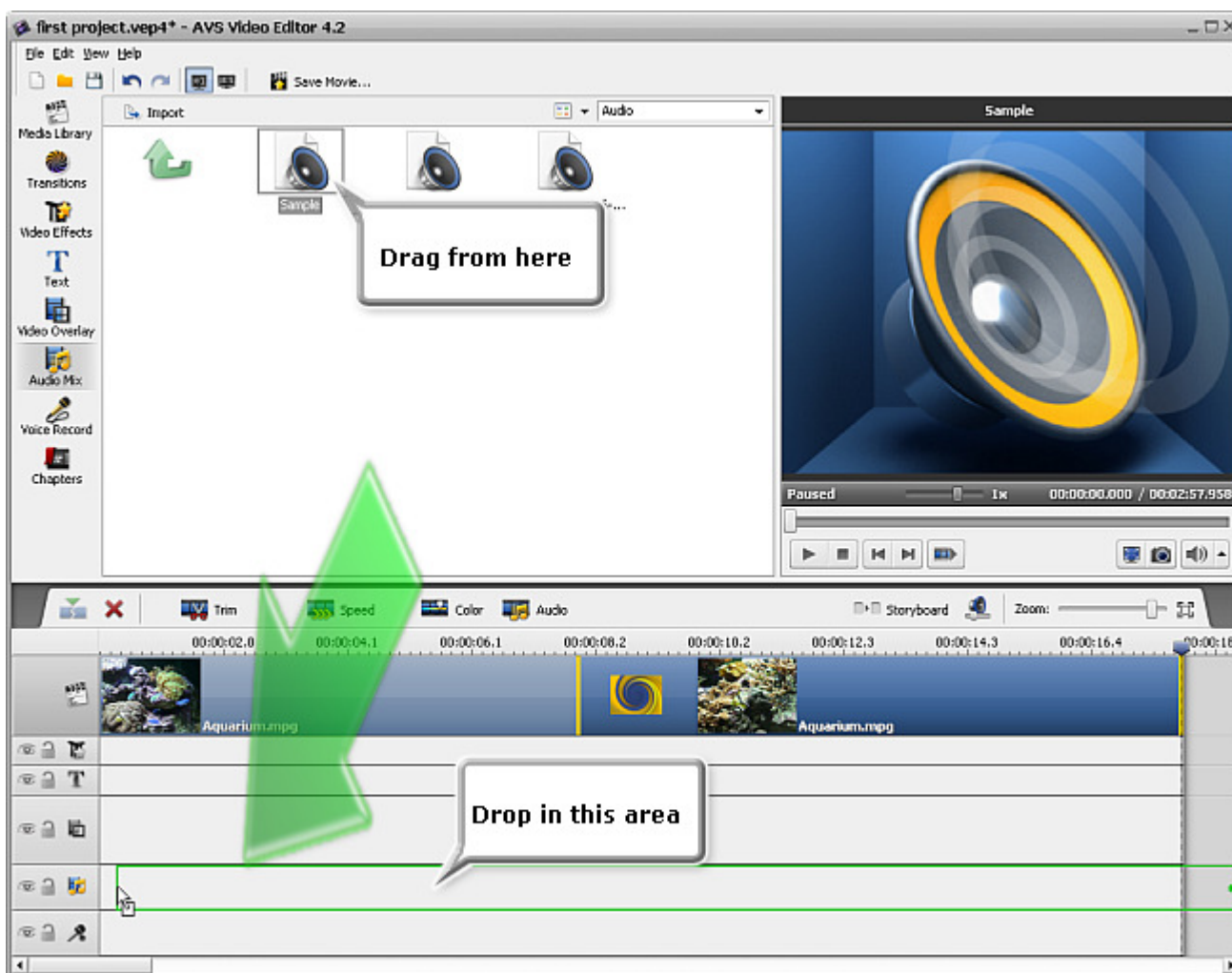
Then you can preview the video using the **Preview Area** to make sure that the added audio is fine.

i Note: you cannot add transitions between two audio clips. The length of time the two audio clips play together is determined by the amount of overlap between the two clips. When two audio clips overlap, the volume of each audio clip is lowered by 50 percent during the part where they overlap.

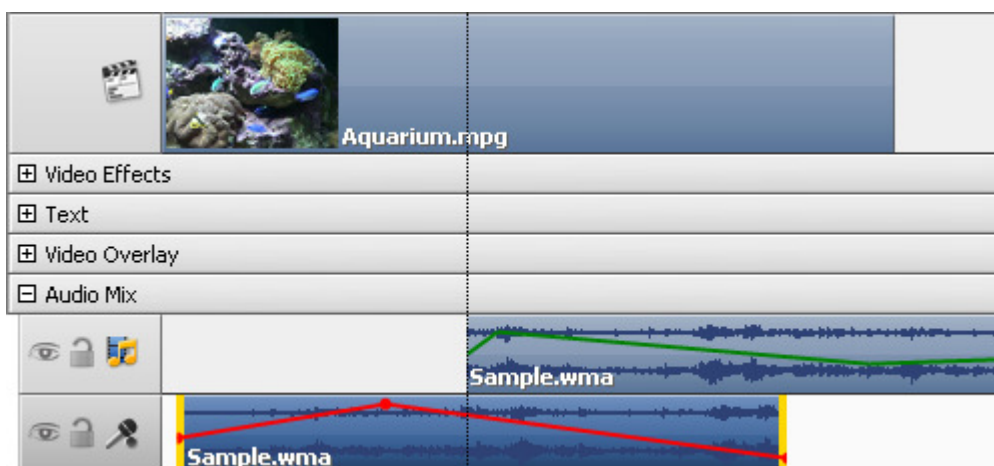
Adding Audio Soundtrack



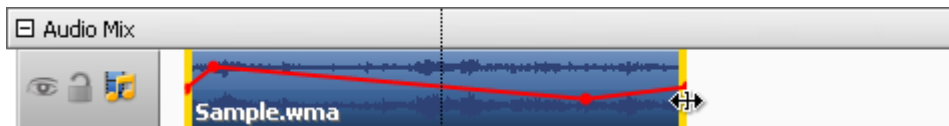
Now you can add a soundtrack to the **Timeline/Storyboard Area**. First select the **Audio Mix** button of the **Menu Panes**. Then drag-and-drop the audio with the mouse from the **Files and Effects Area** to the **Timeline/Storyboard Area**:



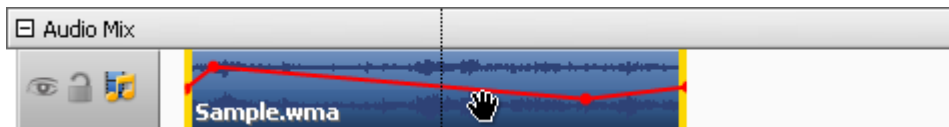
Alternatively you can click the necessary audio with the right mouse button and select **Add to Audio Mix** option of the express menu. The selected audio will be placed to the **Timeline**.



The added audio duration can be changed using the **Timeline**. Locate the added audio there (it will be in the **Audio Mix** group) and click the left or right boundary with the left mouse button. Then, **without releasing the mouse button**, drag it to the necessary direction - left or right - to alter the **Audio Mix** duration in the movie:

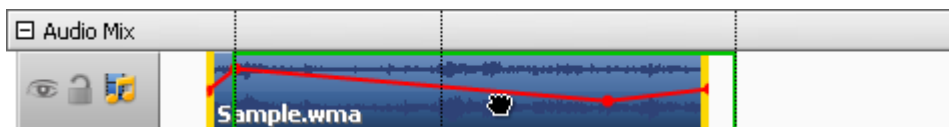


To change the position of the audio mix in the movie, place the mouse cursor over it (it will turn into a hand):




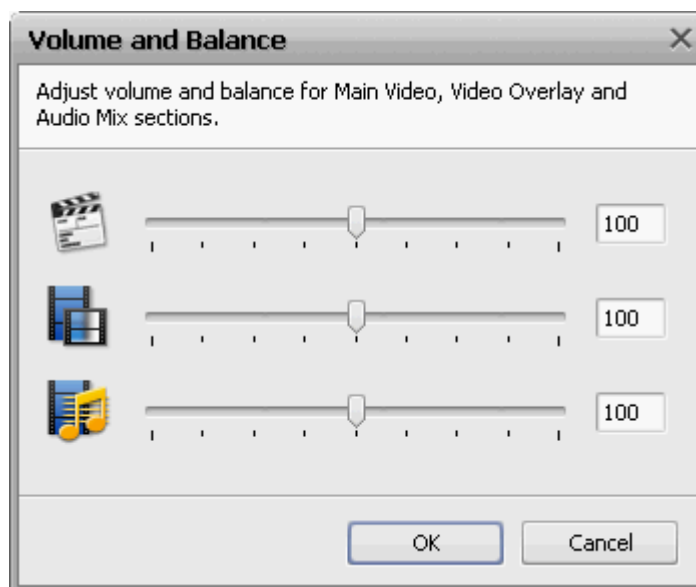
The mouse cursor over the **Audio Mix** line

click the left mouse button and, **without releasing the mouse button**, drag left or right to a new position:



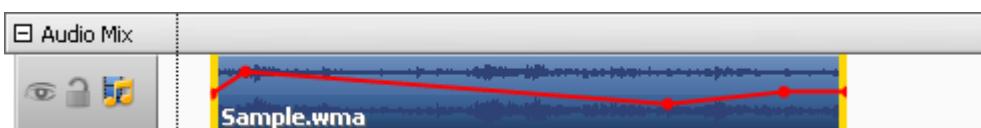
The **Audio Mix** dragged to a new position in video

You can adjust the audio levels between the two audio tracks (the original audio that was recorded as part of a video clip on the video track and the audio that was recorded or imported and added to the audio track). Adjusting the audio levels determines which audio will play louder than the other. The default setting plays the audio in both tracks at equal levels. The audio levels you select will play throughout the entire portion of your movie. By adjusting the audio levels, it could be set so that dialog in your video clip can be heard over the music that plays in the background. To adjust audio levels please use the **Volume and Balance**  button at the **Timeline/Storyboard Toolbar**. The **Volume and Balance** window will be opened:

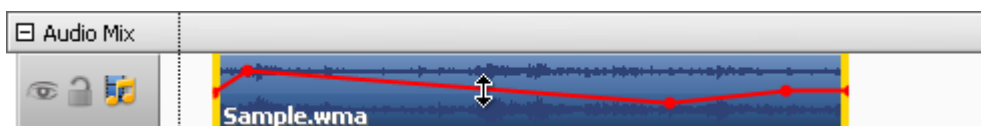


Drag the upper slider to set the main video audio level, the central slider to set the audio level for the video overlay and the bottom one for the added audio mix volume.

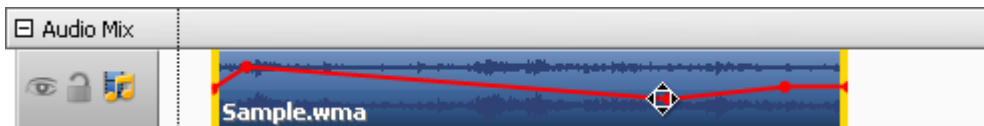
To change the audio level in the added soundtrack itself, use the envelope displayed on the audio track line. For each audio track at the **Timeline** an envelope that depicts the volume control can be seen.



You can alter it differently according to your project's details. To add a control point to the envelope, double-click within the envelope line (where the mouse cursor changes to a bidirectional arrow):



and a new control point (a red dot) will appear. Then you can drag it to the location where you want it. To move a point on the envelope, click and hold the point and drag it to a new location:



You can use this feature to smooth transition between two tracks. When the mouse cursor is located over a point, you will see it change from an arrow to a rhombus.



Note: in case you move the point more than 20 pixels over the track line up or down, the point will be deleted.

Recording Voice



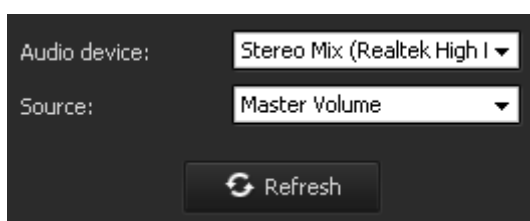
If you plan to add some commentaries to your movie, you can not only **add text** to it, but also record voice from microphone connected to your personal computer sound card.

Select the **Voice Record** button of the **Menu Panes**. The **Recording Voice** panel will become available to you:



Here you can select the following parameters (switching among the tabs **Source**, **Format**, **Options**):

Audio Source



- **Audio Device** - the device that will be used for sound recording. Press the drop-down combo-box and select the necessary device from the list, if you have more than one input device installed on your computer.
- **Source** - the input jack active on the device. The following input jacks might be available depending on your input device configuration:
- Mono Mix - allows you to record the sound from a program player or a hardware tuner connected to your personal computer in mono mode;

- **Stereo Mix** - allows you to record the sound from a program player or a hardware tuner connected to your personal computer in stereo mode;
- **SPDIF** - allows you to record the sound from any external device connected to the digital input jack of your computer sound card;
- **Aux** - allows you to record the sound from any external device connected to the Aux (auxiliary) input of your computer sound card;
- **CD Player** - allows you to record the sound from a laser audio disc in you computer CD/DVD-ROM drive;
- **Line In** - allows you to record the sound from any external device connected to the Line In input of your computer sound card;
- **Microphone** - allows you to record the sound from a microphone connected to the Microphone input of your computer sound card;
- **Phone Line** - allows you to record the sound from an external device connected to the Phone Line input of your computer sound card.

Recording Format

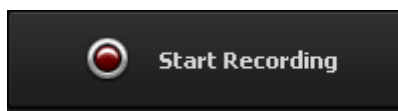
Format:	PCM
Frequency:	44100 Hz
Bitrate:	1411,2 kbps
Channels:	2 (Stereo)

- **Format** - the codec used to record audio from the input device. You can select among **MP3** (MPEG-1 Layer 3 codec will be used to encode your recorded audio), **WMA** (Windows Media Audio format) or **PCM** (an uncompressed format with a better quality but taking more disk space)
- **Frequency** - the sampling frequency specified in hertz used to encode the audio.
- **Bitrate** - the number of data points used to approximate the true wave form (kilobits per second) - the bigger the value the better the quality will be though the recorded file size will also be bigger.
- **Channels** - the number of channels in the recorded audio (mono - one channel - or stereo - two channels).

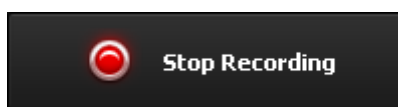
Options

<input type="checkbox"/> Mute Player	
<input type="checkbox"/> Delay Recording	00:00:04
<input type="checkbox"/> Time Limit	00:00:01

- **Mute Player** - use this option to switch the sound of the main video off/on. This might be helpful when you record some audio and the preview player does not let you hear the recorded sound properly.
- **Delay Recording** - use this option to delay the recording a certain period of time which can be selected either manually or entered into the appropriate field using the keyboard (hours:minutes:seconds).
- **Time Limit** - use this option to restrict the recording time to certain time after which the recording will be stopped. You can change the value either manually or enter it into the appropriate field using the keyboard (hours:minutes:seconds).

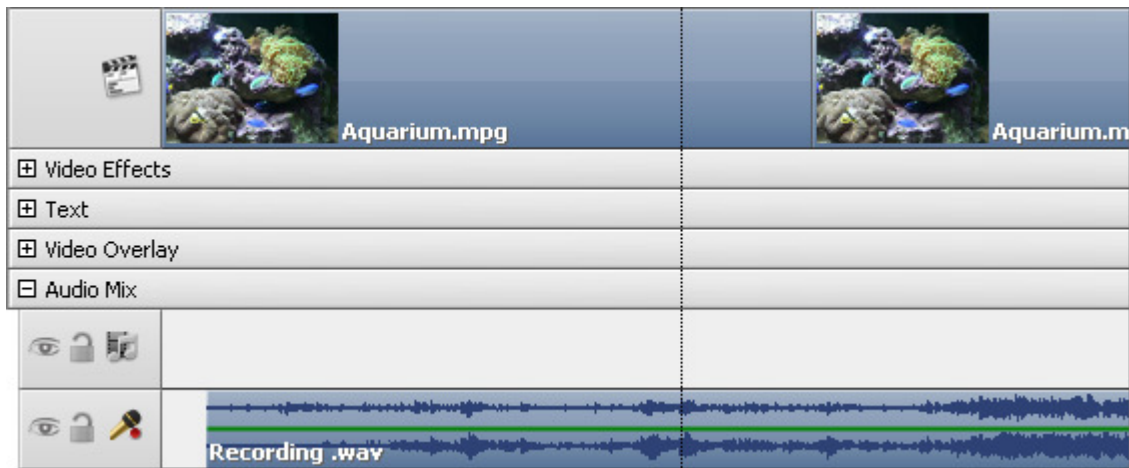


When all is ready, click the **Start Recording** button to begin the recording.



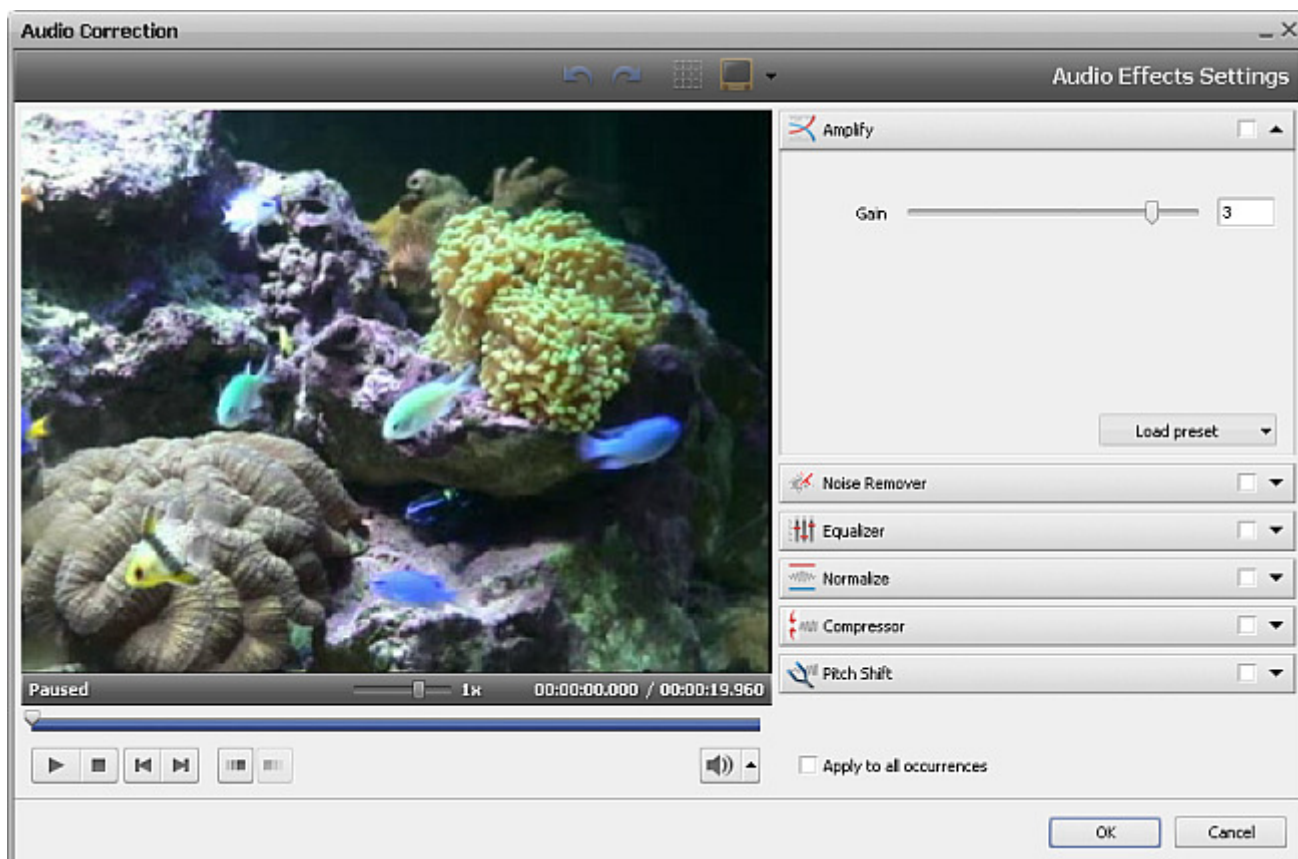
Note: the recording will start right from the current cursor position at the **Timeline**. If you plan to record voice from a certain position in the video, please make sure that the current cursor position is correct.

Once pressed the **Start Recording** button will turn into **Stop Recording** to let you stop the recording whenever needed. The resulting recorded audio can be managed just like a common **added audio soundtrack**:






Audio Effects

AVS Video Editor offers you a possibility to introduce various audio effects to the audio track of the imported video. In order to make audio adjustments, please, **place** your video file to the **Timeline/Storyboard** and click the **Audio** button on the **Timeline/Storyboard Toolbar** or click the video file on the **Timeline/Storyboard Area** with the right mouse button and select the **Audio** option of the express menu. The **Audio Correction** window will be opened:



In the right part of the window you can select the audio effect to apply and change its properties, in the left part you can set the fade-in and fade-out areas and preview the result. The following audio effects are available: **Amplify**, **Noise Remover**, **Equalizer**, **Normalize**, **Compressor**, **Pitch Shift**.

To apply the desired effect, check the box near the effect name. After that you can set the **Fade-in** and **Fade-out** areas for the selected effect, if necessary. Drag the cursor  of the slider area, place it where you want the **Fade-in** area to end and hit the  button. The **Fade-in** area will be marked. Then drag the same cursor to the position where you want the **Fade-out** area to begin and press the  button. The **Fade-out** area will be marked.


It's also possible to direct the mouse cursor at the edge of the slider area and drag the boundaries inwards or outwards. If you want to set the **Fade-out** effect, drag the right edge of the slider area to the left. To apply the **Fade-in** effect, drag the left edge of the slider area to the right (see the figure below)

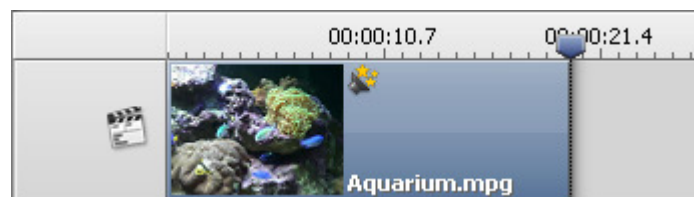


If you plan to use this video clip once again, for example, in **Video Overlay effect** and want to save the audio correction settings, tick the **Apply to all occurrences** box in the bottom of the window.



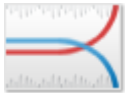
Note: the audio correction settings don't affect the input video files.

Click the **OK** button to accept all the changes and continue work with **AVS Video Editor** or **Cancel** to discard all the changes. If you save the adjustments you've made, the video file will be marked by this sign  on the **Timeline/Storyboard Area**.



The **Audio correction** sign on the **Timeline**

Amplify



The **Amplify** effect lets you amplify your audio recording as you wish.

It's possible to select the necessary preset from the dropdown list clicking the **Load preset** button or set a custom **Gain** value in the **properties** of this effect.



Noise Remover

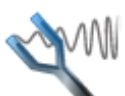


The **Noise Remover** effect lets the user attenuate the noise sound of a certain frequency based on the Fast Fourier Transformation.

It's possible to select the necessary preset from the dropdown list clicking the **Load preset** button or set a custom **Reduce** value and select one of the available **FFT (Fast Fourier Transformation)** options.



Pitch Shift



The **Pitch Shift** effect shifts the frequency spectrum of the input signal. It can be used to disguise a person's voice, or make the voice sound like that of the "chipmunks", through to "Darth Vader". It is also used to create harmony in lead passages, although it is an "unintelligent" harmonizer.

It's possible to select the necessary preset from the dropdown list clicking the **Load preset** button or set a custom **Rate** value.

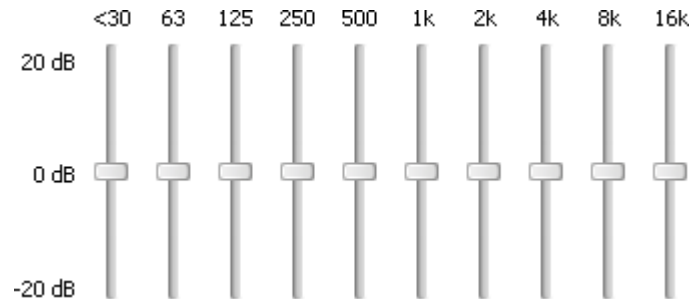


Equalizer



The **Equalizer** filter is used to change the frequency pattern of the audio file, attenuate some of the frequencies and amplify others.

It's possible to select the necessary preset from the dropdown list clicking the **Load preset** button or manually change the properties.



Normalize



Use the **Normalize** effect to achieve the greatest amount of amplification that will not result in clipping.

It's possible to select the necessary preset from the dropdown list clicking the **Load preset** button or set a custom **Normalize** value. You can also tick the **Bias Adjust** option to adjust the addition of a high frequency signal to the audio.



Compressor



The **Compressor** is a variable gain device, where the amount of gain used depends on the level of the input. In this case, the gain will be reduced when the signal level is high that makes louder passages softer, reducing the dynamic range. This effect equals to dynamic volume regulator and makes loud sounds quieter, and the quiet sounds louder.

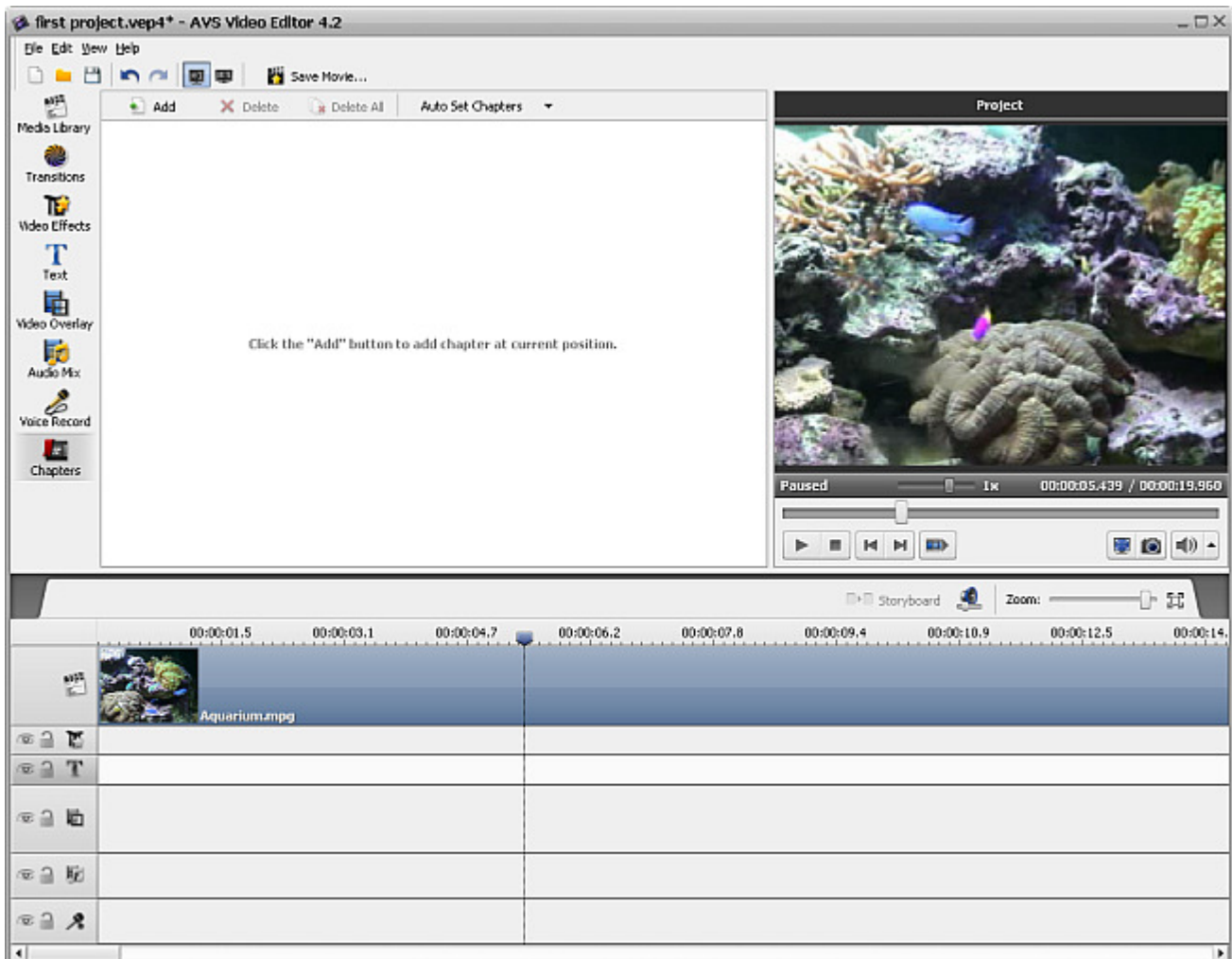
It's possible to select the necessary preset from the dropdown list clicking the **Load preset** button or set custom values for **Threshold**, **Ratio**, **Root Mean Square (RMS)** and **Post Amplify**.



Splitting Videos into Chapters

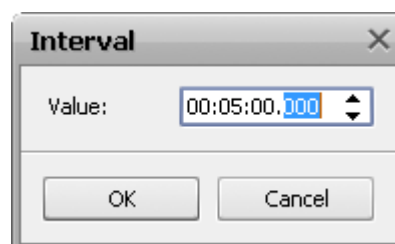
 If you plan to **create a DVD or Blu-ray with a menu**, it will be useful to split your video into chapters beforehand. Select the **Chapters** button of the **Menu Panes**.


The following window will be opened:





You can choose either to set chapters automatically using the **Auto Set Chapters** button, or create them manually using the **Add** and **Delete** buttons.

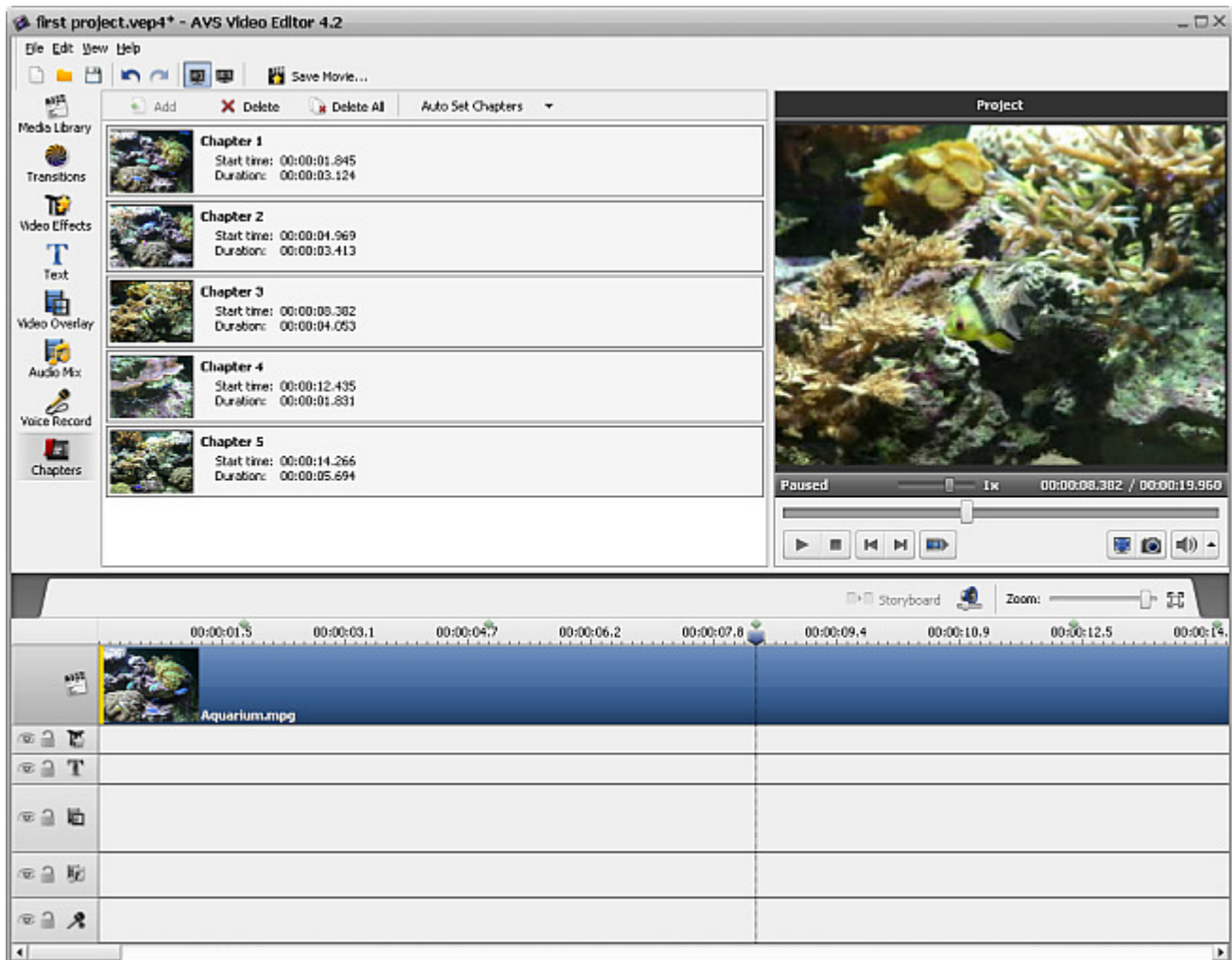
If you select the first option (**Auto Set Chapters**) you will need to opt for one of the variants - **At the Beginning of Each Clip** (in this case a new chapter will be created at the beginning of each new clip added to the **Timeline/Storyboard Area**) or **At a Time Interval** (in this case you will need to select a time interval which will determine a new chapter creation). The interval window will let you select the desired interval:



 **Note:** the **At the Beginning of Each Clip** option will only add chapters to your video if more than one clip is added to the **Timeline/Storyboard Area**. In case only one clip is added to the **Timeline/Storyboard Area** the only chapter will be created at the beginning of the movie.

The second option is used the following way: click the place at the timeline scale where you want your chapter to begin and use the  **Add** button to mark the beginning of a new chapter. Or select an already added chapter and use the  **Delete** button to remove it from the video.

When you add all the chapters they will be displayed in the **Files and Effects Area**:



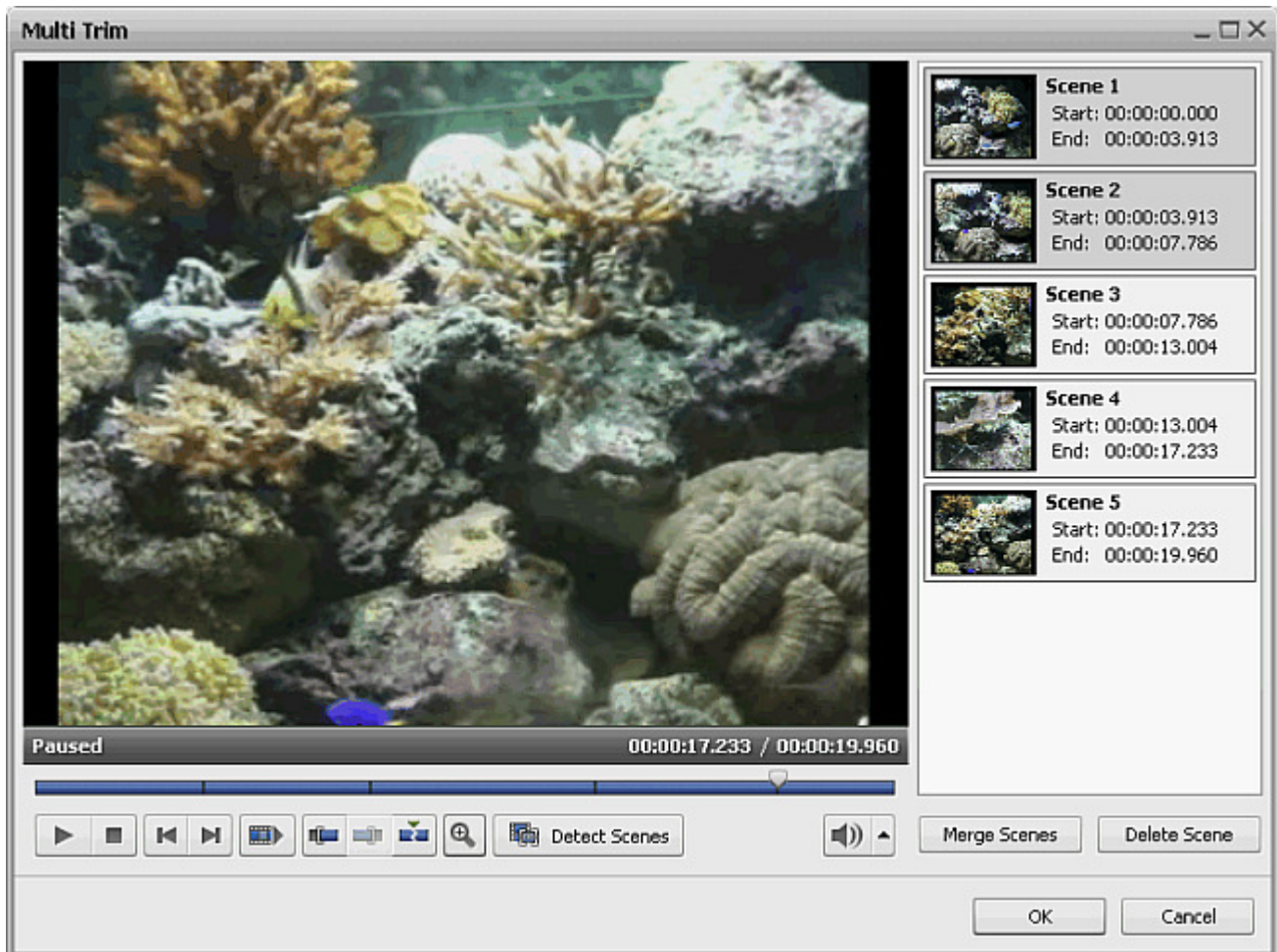
Using Trim and Multiple Trim Options

After you add your video to the **Timeline/Storyboard Area** and edit it, you can still trim it and detect scenes and insert transitions between them.

Click the main video area at the **Timeline** and use the **Trim** button of the **Timeline Toolbar** to open the **Trim** window. Or alternatively click the video at the **Timeline** with the right mouse button and select the **Trim** option.

Please read the **Trimming Video** section to learn how to use the **Trim** option.

The same way the **Multiple Trim** option can be used to find scenes in your video added to the **Timeline/Storyboard Area**. Open the **MultiTrim** window using the right mouse button on the main video at the **Timeline** and selecting the **MultiTrim** option. The opened **MultiTrim** will look like this:



Please read the **Trimming Video** section to learn how to use the **MultiTrim** option.

After you split your video using either of the **Trim** options, you can **add transitions** between scenes of the video or continue editing it.

Note: if there is an audio track placed to the **Timeline** and you have marked an area of deletion using **Trim** or **MultiTrim** option, the part of audio file present in the area of deletion will also be cut. If you don't want the part of the audio to be deleted, **lock** the **Audio mix** line.

Using Crop Scale

When you **import** video files of one **aspect ratio** and then **change the aspect** to a different value for the output video, there can be two different situations which can be solved in a similar way:

- the input files have the **4:3 aspect** and the output file will have the **16:9 aspect ratio** - in this case the **mattes** will be added to the left and right sides of the video image to prevent distortion;
- the input files have the **16:9 aspect** and the output file will have the **4:3 aspect ratio** - in this case the **mattes** will be added to the top and bottom sides of the video image to prevent distortion.

In both these cases you can get rid of the mattes using the **Crop Scale** option available in **AVS Video Editor**. **Select the necessary aspect ratio** and click the video at the **Timeline** with the right mouse button. Choose the **Crop Scale** option. The **Crop Scale** window will be opened:



In the above figure you can see an example of the first above case of the aspect ratio change - an input 4:3 video image changed into an output 16:9 video file. As you can see, mattes are added to the sides of the video so that it could fit an 16:9 frame (the black bars on top and bottom of the video are added simply to fit it into the square player window and will not actually be added to the output video).

Now if you use the Crop Scale: field and click the button, the slider will become available that will let you change the visible part of the video. Move the slider using the mouse to get rid of the mattes:



Note: using the **Crop Scale** function will enlarge the video image so that it could fit a new frame size with an aspect different from that of the original video. It means that a part of the video, namely some video image at the top and the bottom parts will be cut out and lost.


And this is how your transformed cropped video will look like in the **Preview Area**:

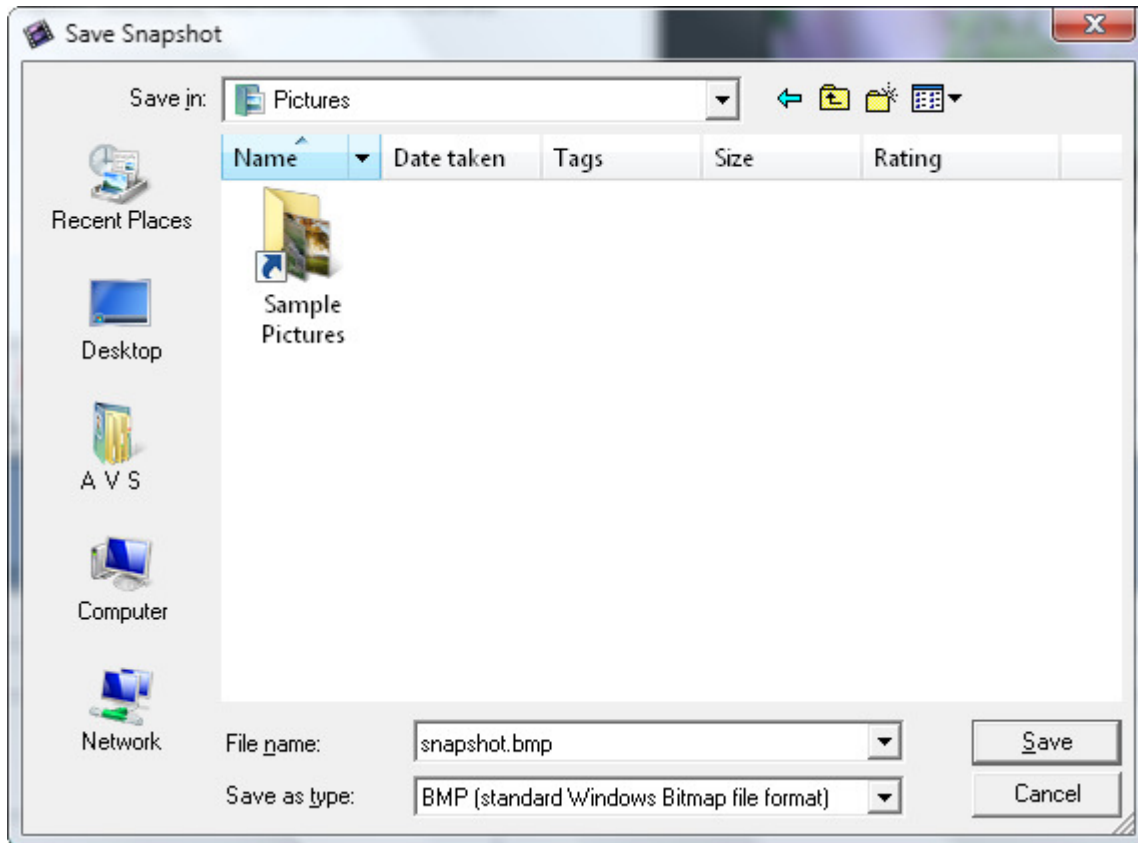


As you can see, the resulting video has no mattes on either side. At the same time it is slightly enlarged and cropped on top and bottom. So you will have to decide what is more important for you: have video fit your display or TV-set screen or have the whole source video image.

Taking Snapshots

If you need to capture a particular moment of your video clip and include it in your future movie, you can use a **Snapshot** option. The process of taking a snapshot is very quick and easy with **AVS Video Editor**.

Place your video clip to the **Timeline** and find the necessary frame moving the **Timeline** cursor or using the slider under the **Preview window**. Then click the **Snapshot**  button. The following dialog window appears:



Here you can specify the file location, enter the file name and open the dropdown menu to select the appropriate file format for your picture. There is a wide list of supported formats:

- **BMP** (standard Windows bitmap file format)
- **WMF** (standard Windows Metafile format)
- **EMF** (Enhanced Windows Metafile format)
- **JPEG** (Joint Photographic Expert Group file format)
- **GIF** (Graphics Interchange file Format)
- **PNG** (Portable Network Graphics file format)
- **TIFF** (Tagged-Image File Format)

Finally press the **Save** button. In case you need to use this picture in your current project, just **import** it into the **Files and Effects Area**, **place** to the **Timeline/Storyboard** and continue your film creation.

Adjusting the Playback Speed

AVS Video Editor allows you to change the playback speed of video content placed on the **Timeline/Storyboard Area**. Use this feature to correct too slow or too fast episodes speeding up or slowing down your clips. You can create interesting voice effects by adjusting playback speed. Faster speed makes the voice sound small and wacky and slow makes the voice sound large and ominous.

Select the video clip on the **Main video** or **Overlay video** line by clicking it, then press the **Speed** button on the **Timeline/Storyboard Toolbar**. The following window will appear:



The **Speed** field shows the current speed value, click the **...** button and adjust the speed value dragging the **Slider** - 

- The values from **0x** to **0,9x** will decrease the playback speed.
- The **1x** value will playback video at normal speed.
- The values from **1,25x** to **12x** will increase the playback speed.



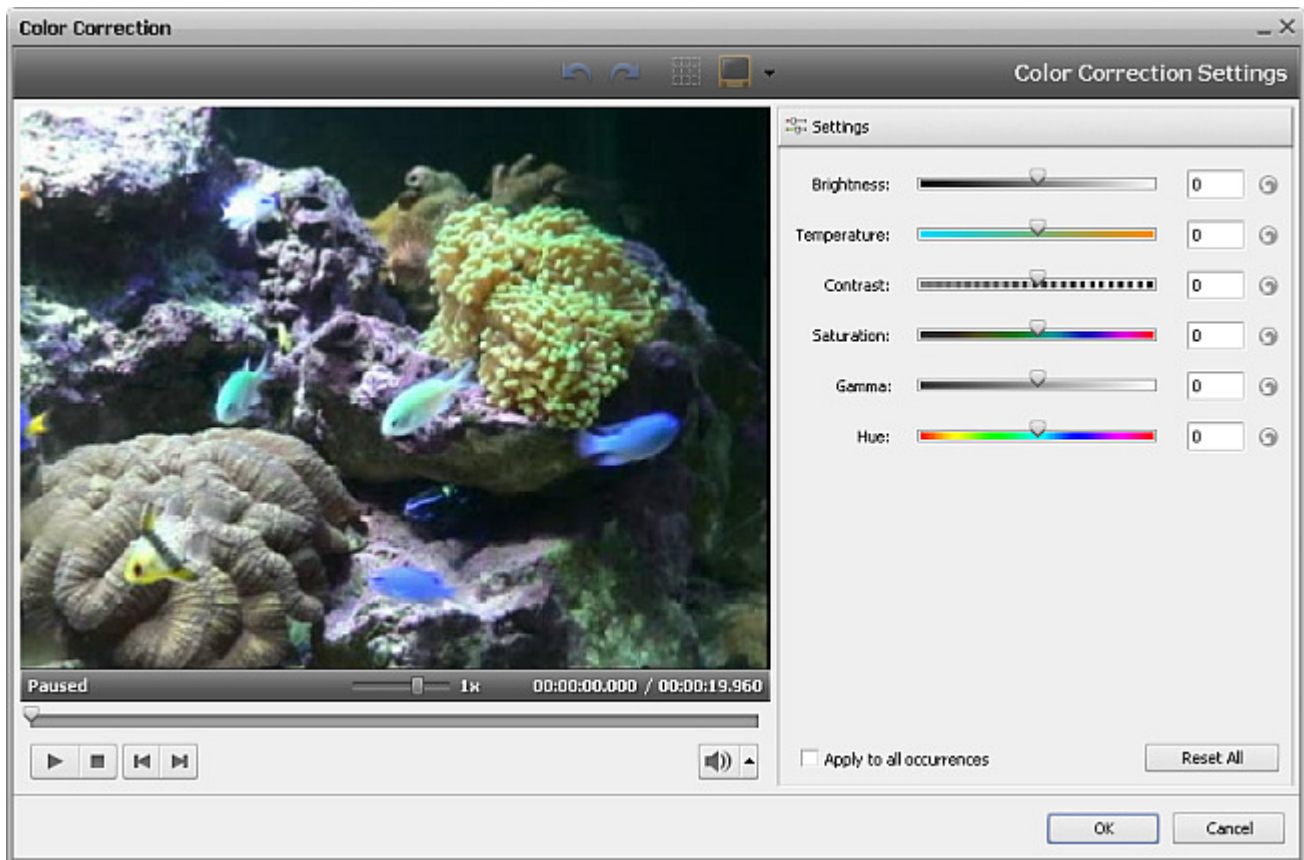
Note: at present using this function you can change the **forward** playback speed only.

You can play the video clip using the **Player controls** to see if the speed adjustments you've made suit your needs. If your video file includes an audio track, the audio playback speed could also be changed according to the video stream speed or it can be switched off. Select the **Stretch** option from the **Audio** drop-down menu to adjust audio speed or choose **Mute** to make speed adjustments to the video without affecting the accompanying audio.

To accept the changes click the **OK** button, to discard the changes and close the **Speed** window use the **Cancel** button.

Color correction

AVS Video Editor allows you to adjust the tonal range, color, and sharpness of your video files. In order to improve the quality of the imported videos, please, **place** your video file to the **Timeline/Storyboard** and click the **Color** button on the **Timeline/Storyboard Toolbar** or click the video file on the **Timeline/Storyboard Area** with the right mouse button and select the **Color** option of the express menu. The **Color Correction** window will be opened:



In the right part of the window you can easily correct colors applying a certain video effect, in the left part you can preview the result. Depending on the problem you experience or the result you want to get you can select one of the video effects:

The **Brightness** effect lets you make simple adjustments to the tonal range of a file. Brightness is the relative lightness or darkness of the color.


The **Temperature** effect lets you adjust your video image to warm (red) or cold (blue) colors. Negative values represent cold colors and positive values transform to warm colors correspondingly.

The **Contrast** effect adjusts the contrast of an image. Values can range from -100 to +100.

The **Saturation** sometimes called chroma, is the strength or purity of the color. It makes colors more vivid or more muted and represents the amount of gray in proportion to the hue, measured as -100 (gray) to 100 (fully saturated).

The **Gamma** effect measures the brightness of midtone values and modifies the pixel values in an image. A higher gamma value yields an overall lighter image.


The **Hue** effect shifts all colors in an image. The hue, or color, adjustment represents a move around the color wheel. It's the color reflected from or transmitted through an object. It's measured as a location on the standard color wheel, expressed as a degree between -180 and 180. In common use, hue is identified by the name of the color such as red, orange, or green.

You can adjust your image using the slider controls of each effect or typing the necessary value manually in the appropriate field. If you don't achieve the desired effect, click the  button near the value field or the **Reset All** button and try again.

If you plan to use this video clip once again, for example, in **Video Overlay effect** and want to save the color correction settings, tick the **Apply to all occurrences** box in the bottom of the window.



Note: the color correction settings don't affect the input video files.

Click the **OK** button to accept all the changes and continue work with **AVS Video Editor** or **Cancel** to discard all the changes. If you save the adjustments you've made, the video file will be marked by this sign  on the **Timeline/Storyboard Area**.



The **Color correction** sign on the **Timeline**

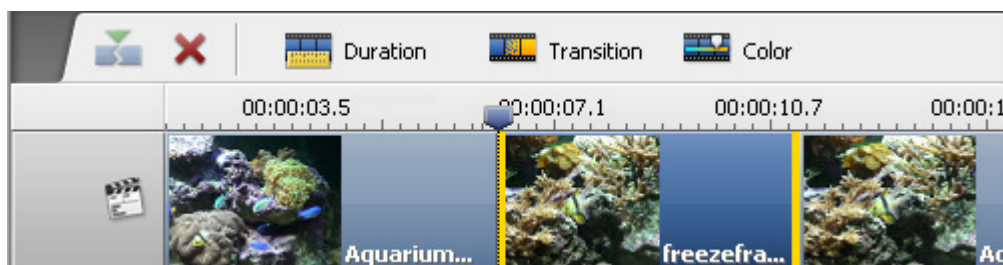


The **Color correction** sign on the **Storyboard**

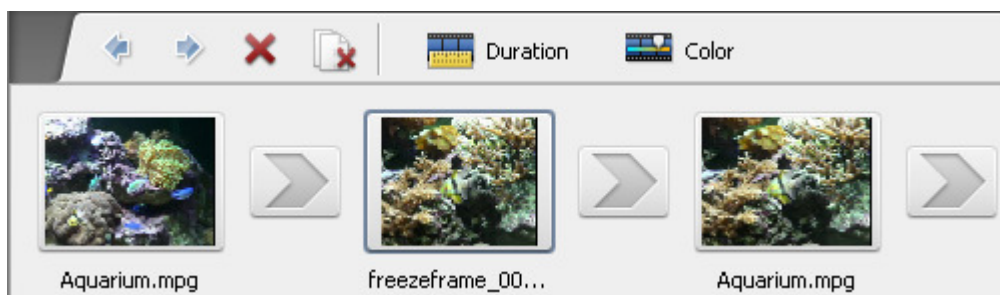
Freeze Frame Option

The **Freeze Frame** option allows you to make a still shot from your video clip. It's a special effect in which a single frame is shown over and over. Move the cursor in the **Timeline** to find the exact frame you want to freeze, then select the **Freeze** option from the **Edit** section of the **Top Menu**.

The still shot will look like this on the **Timeline**:




It can be also viewed on the **Storyboard**:



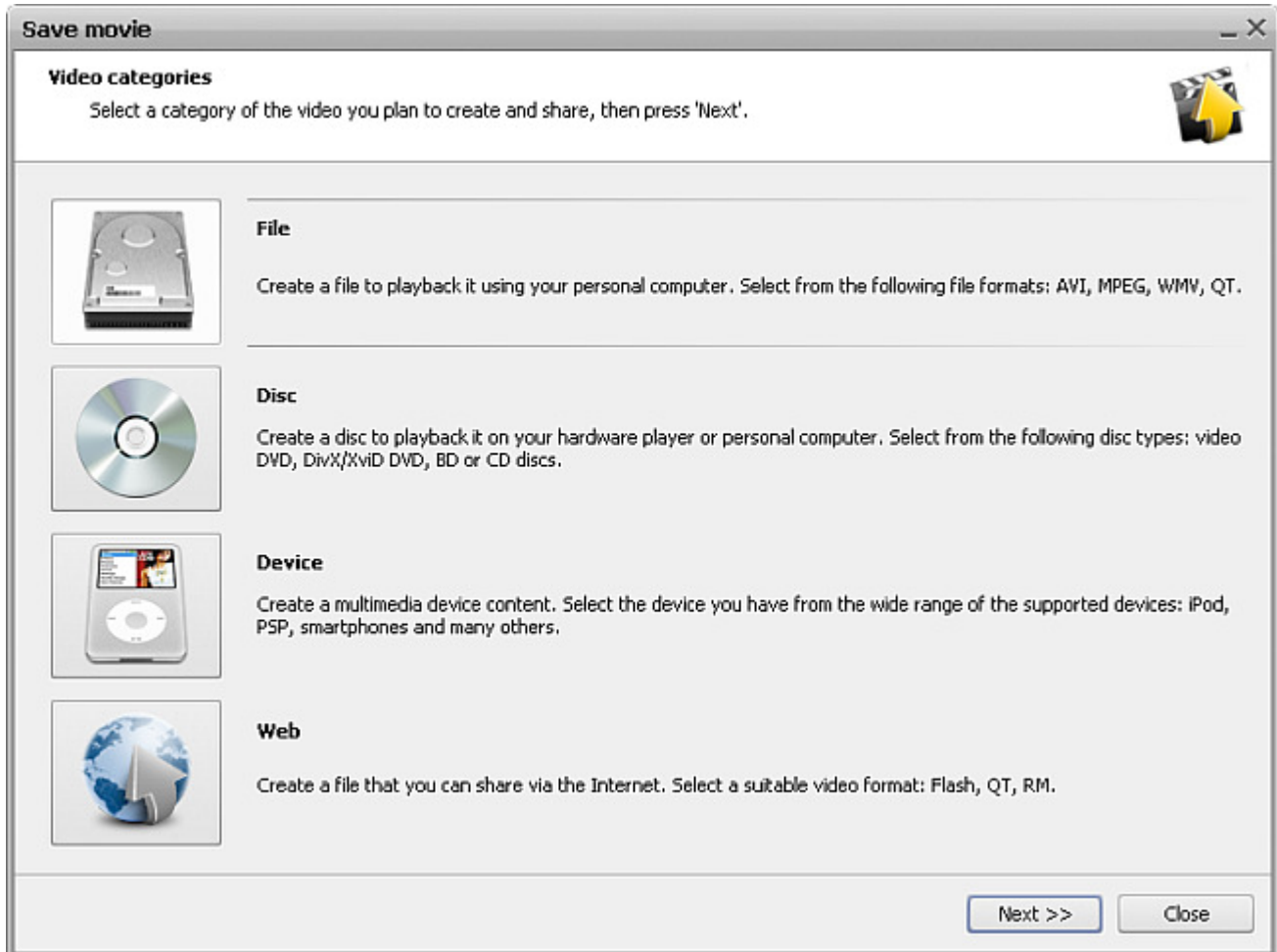
The **Freeze Frame** function creates an image file in **PNG** format named **freezeframe_001**, **freezeframe_002**, etc. by default. The newly created images are automatically added into the **Image** category of the **Files and Effects Area**.

You can change the duration of the still image clicking the **Duration** button on the **Timeline/Storyboard Toolbar** or right-clicking it and selecting the **Duration** option from the **express menu**. The **Duration** window will appear where you can set the necessary value by entering it through the keyboard or using the arrow buttons. Then press the **OK** button to apply the set duration of the image.

Saving Videos

 **Save Movie** After you **create** a movie, **edit** it and everything is ready to be saved, you can press the **Save Movie...** button of the **Top Toolbar** or use the **Save Movie...** option of the **File** section of the **Top Menu**.

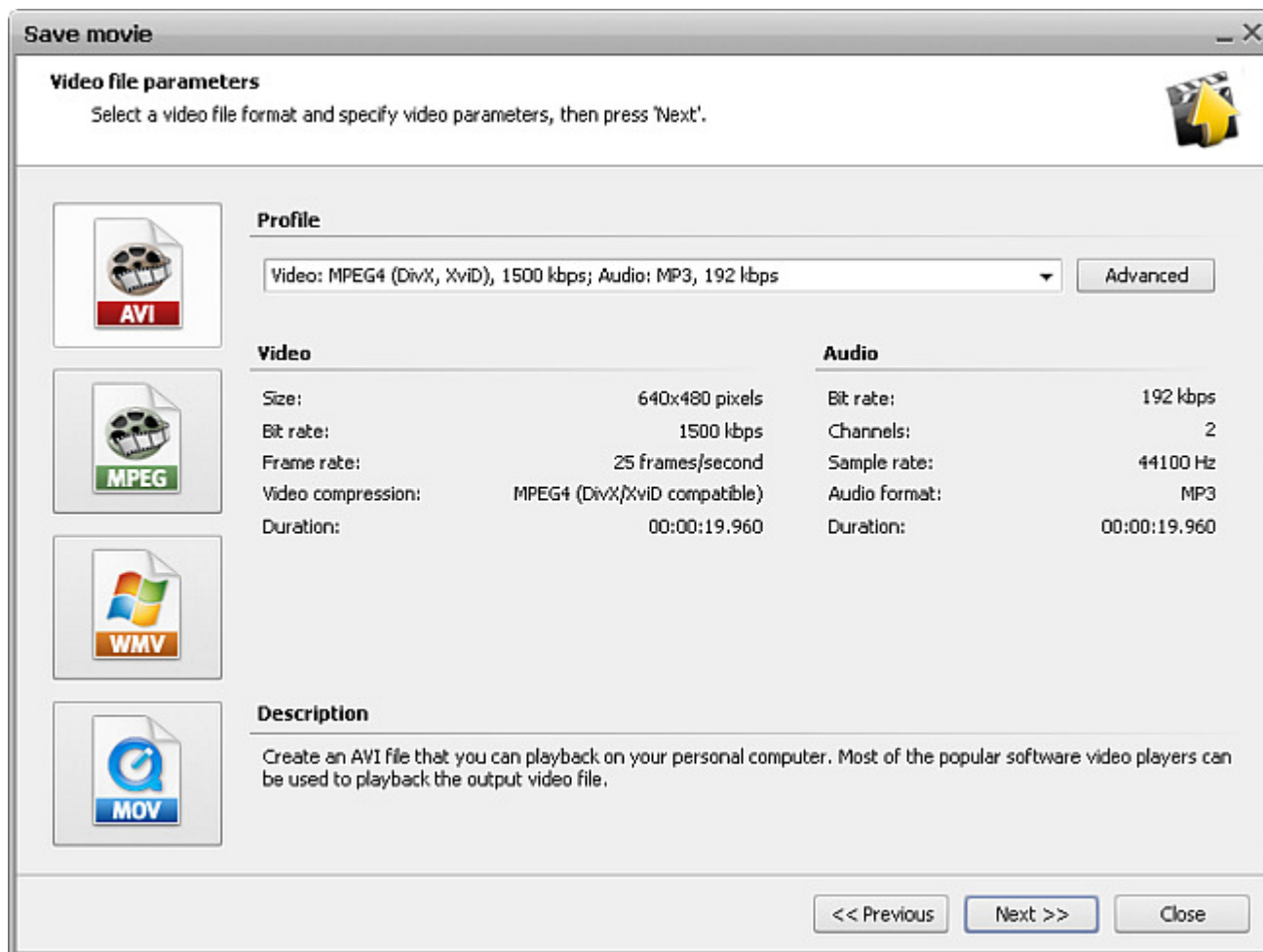
The following window will be opened providing the choice to save your movie into a desired format:



The options are:

- **Save to File** - use this option to create an **AVI, MPEG, WMV, or MOV** video file onto your computer hard disk drive. You will be able to watch the video using some software player program (**AVS Media Player**, for instance).
- **Save to Disc** - use this option to create a **DVD-video** or **Blu-ray** disc with a **menu**, or a **DivX/Xvid** disc compatible with most up-to-date hardware DVD players. Once the video is saved you will be offered to burn a disc with your movie that can be watched using your home hardware player.
- **Save to Devices** - use this option to create a video for a **mobile player, mobile phone** or a **gaming console** of yours and upload it right to the device. Other **most popular devices** are also supported.
- **Save for Web** - use this option to create a video that can be streamed via web and save it into **Flash, RM** or **MOV** format.

Make your choice and click **Next >>** to go to the next screen:

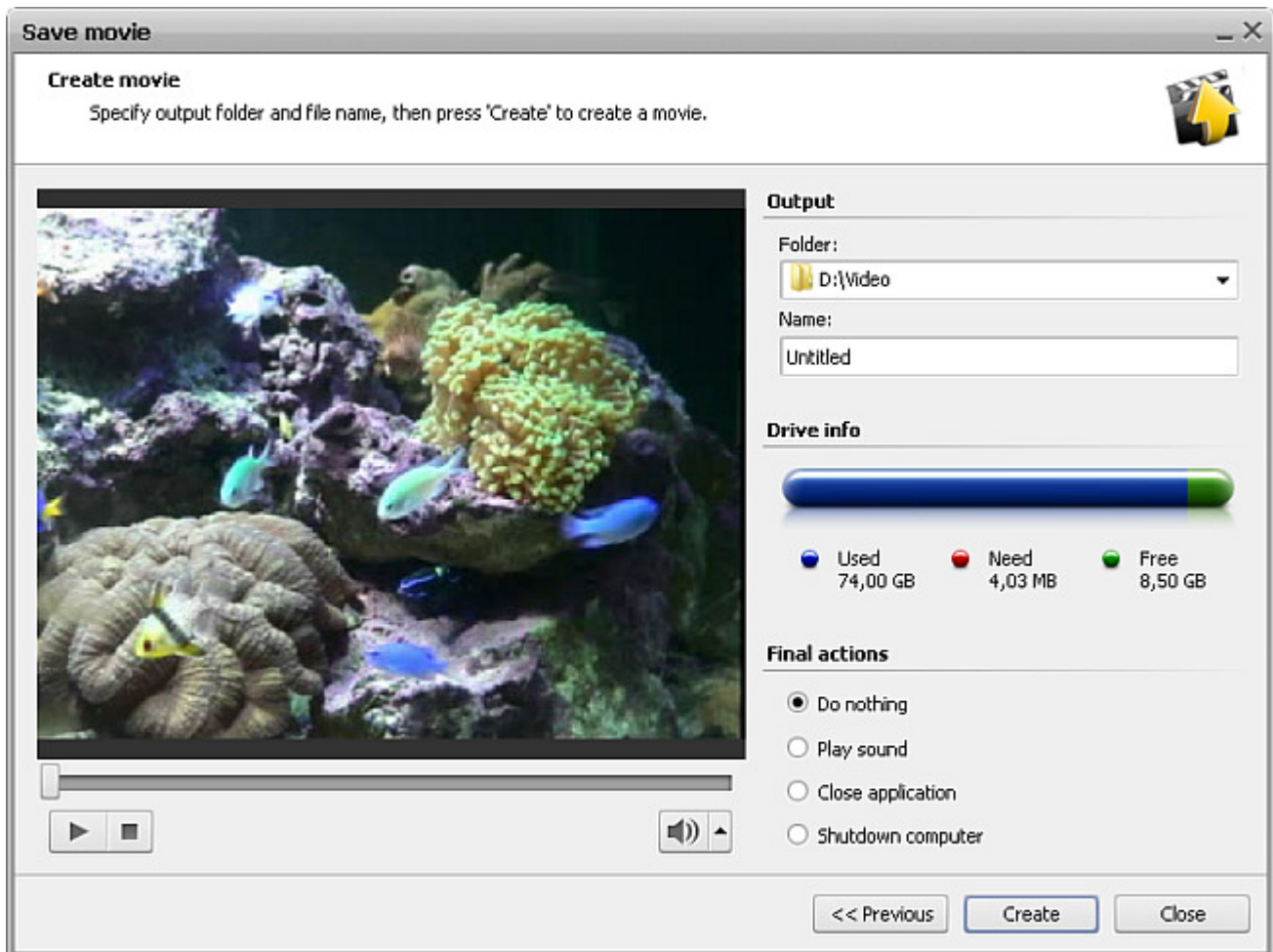


Depending on what you selected at the first step, the second step will either offer you a number of formats to save your video or a list of devices that the output video will be compatible with. You will be also able to change the output format settings if you would like to using the **Advanced** button.



Note: please, make sure you know what you are doing, as in some cases the settings change can make the output video incompatible with the device that will be used to watch it.

Click the **Next >>** button to proceed to the next step:



Here you can select:

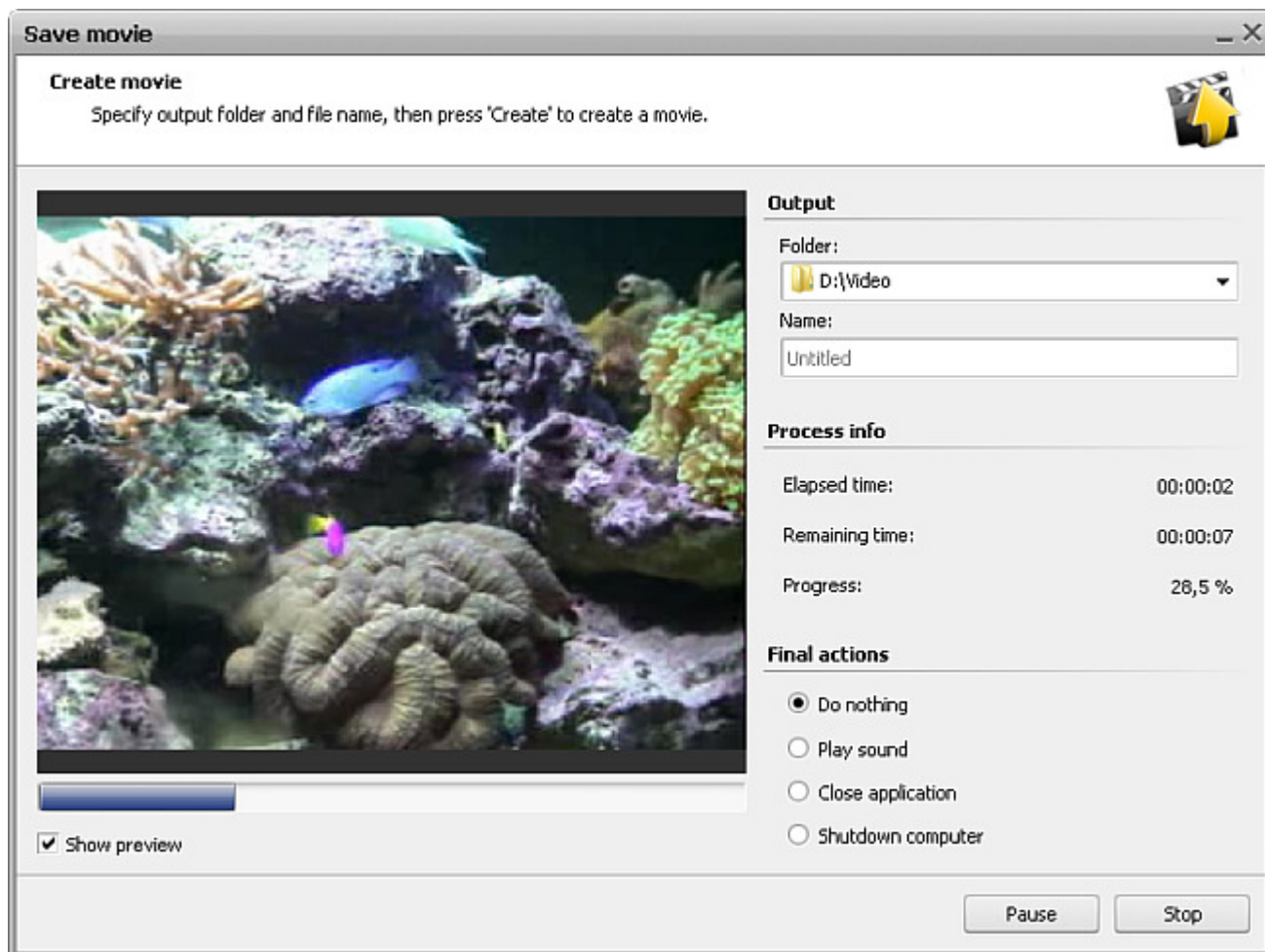
- **Output folder** - a folder on your computer used to store the output video file.

i **Note:** when saving video onto a **disc** or for a **portable device** please make sure you select a folder on your computer **hard disk drive**. You will be able to burn a disc or upload video to a portable once it is saved.

- **Name** - the file name used for your output video.
- **Drive info** will show the selected destination capacity and the place that will be taken by the output video file.

You can also select actions to be performed once the file is saved: you can choose to **Do nothing**, **Play sound** to alert you that everything is ready, **Close application** to exit from **AVS Video Editor** and **Shutdown computer**.

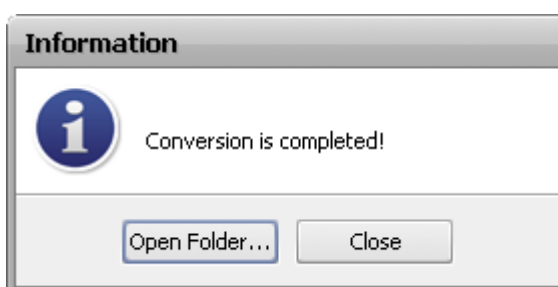
The final preview of the future movie is possible to make sure that everything is alright. Then click the **Create** button to start the video saving process:



You will monitor the process of file creation using the preview (if **Show preview** is checked) and the additional information:

- **Elapsed time** - the time spent by the program since the beginning of the file saving process.
- **Remaining time** - the estimated time till the file saving process is finished.
- **Progress** - the progress of the process shown in percent.

When overall progress reaches 100%, the program will offer some further actions depending on what you chose before and on the format selected. For instance, for the **Save to File** option the following dialog window will appear:



Supported Formats

Most of the commonly used media file formats are supported by **AVS Video Editor**:

Format	Read	Write
HD Video formats (.m2ts, .m2t, .mts, .tod, index.bdm, index.bdmv) <ul style="list-style-type: none"> ● Blu-ray video ● AVCHD ● MPEG-2 HD 	+	+
AVI - Audio Video Interleave (including HD video) (.avi, .divx, .xvid, .ivf, .div, etc) <ul style="list-style-type: none"> ● DivX codec * ● Xvid codec ● H.264 codec ● DV codec ● Cinepak codec ● Indeo codec ● MJPEG codec ● Uncompressed codec ● MS MPEG-4 codec ● and other *if necessary codec is installed	+	+
WMV - Windows Media Formats (including HD video) (.wmv, .asf, .asx, .dvr-ms) <ul style="list-style-type: none"> ● Windows Media Video ● Advanced Systems Format ● DVR-MS 	+	+ (.wmv only)
MPEG - Motion Picture Experts Group (including HD video) (.mpg, .mpeg, .mp2, .m1v, .mpe, .m2v, .dat, .ifo, .vob, .vro, .mg4, .mod, .mvv) <ul style="list-style-type: none"> ● MPEG-1 ● MPEG-2 ● VCD, SVCD, DVD (PAL and NTSC) ● VOB, VRO ● MPEG-4 	+	+
Mobile video formats (.3gp2, .3gpp, .3gp, .3g2, .mp4) <ul style="list-style-type: none"> ● MP4 (inc. Sony PSP and Apple iPod) ● 3GPP ● 3GPP2 	+	+
Quick Time movie (including HD video) (.mov, .qt, .m4v, .mp4)	+	+

Adobe Flash (.swf ¹ , .flv, .f4v, .f4p)	+	+
	(except .swf ¹)	(.swf and .flv only)
RealNetworks (.rm, .rv, .ram, .rmvb, .ivr)	+	+
Matroska (including HD video) (.mkv)	+	-
Ogg Media (including HD video) (.ogm, .ogg, .ogv)	+	-
AMV/MTV files (.amv, .mtv)	+	-
TS files (ts, .m2ts, .m2t, .mts, .tp)	+	-
Nintendo DS files (.dpg)	+	-
NullSoft Video (.nsv)	+	-
FLIC files (.fli, .flc)	+	-
CDG files ² (.cdg)	+	-

¹ - **.swf** files with video content only can be loaded into **AVS Video Editor**.

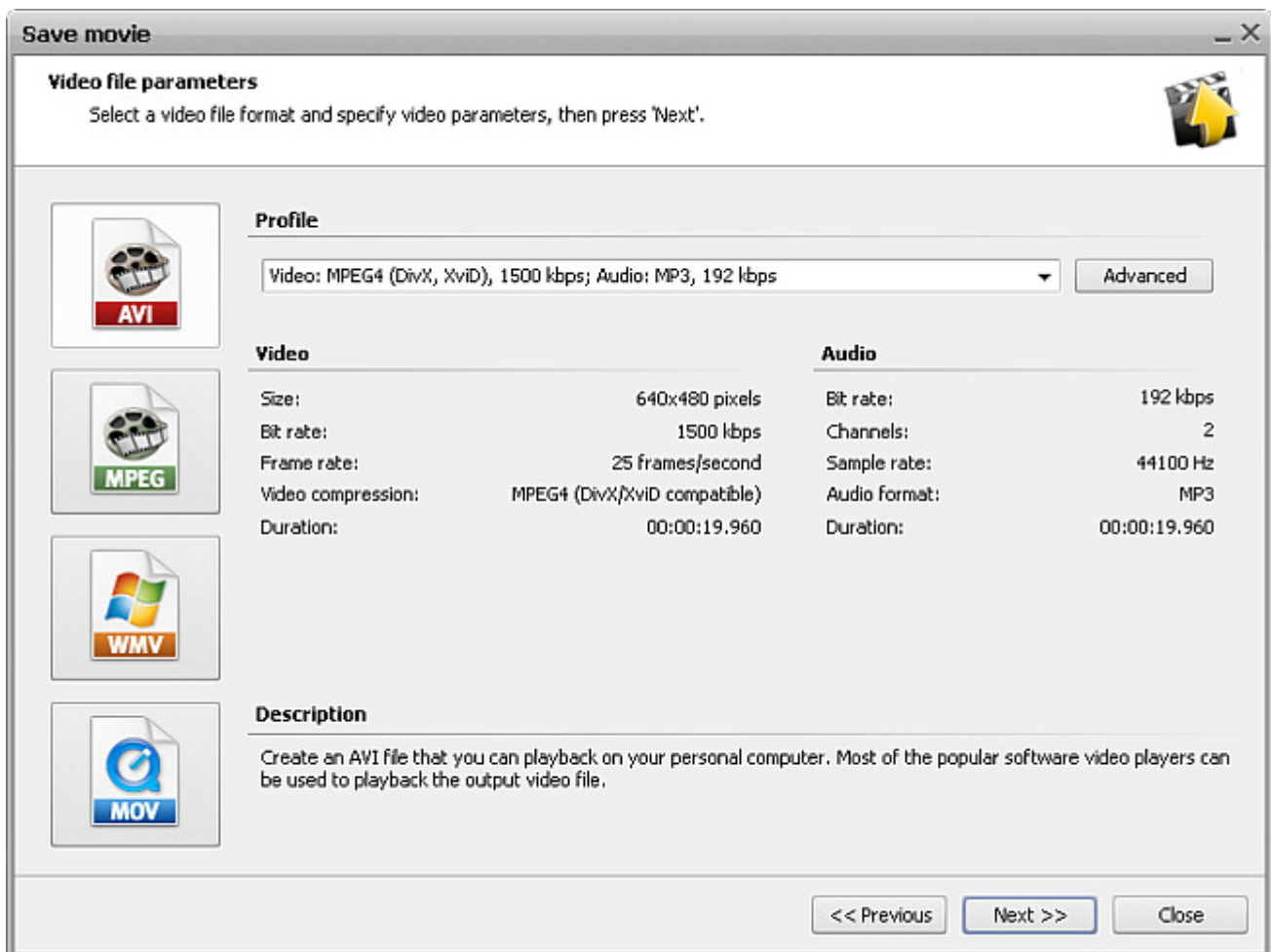
² - **CDG files** are karaoke files. To load video file together with audio track, make sure that video and audio files are located in one and the same folder and have the same name, e.g. "song.cdg" and "song.mp3" (CDG+MP3 format) or "song.cdg" and "song.ogg" (CDG+OGG format).

Saving to File



You can use the **Save to File** option to save your video into a file using different formats and codecs. The following options are available here:

- **Save to AVI** - use this option to save your movie into a video file with an **.avi** extension. The video will be encoded using **MPEG-4 (DivX/Xvid) codec, H.264 codec**, or using a preset for a certain video service - **Google video, YouTube video** or **Myspace video**. There is also a possibility to save your movie into an uncompressed **AVI** video.
- **Save to MPEG** - use this option to save your movie into a video file with a **.mpeg** extension. The video will be encoded using **MPEG-1** or **MPEG-2** codec.
- **Save to WMV** - use this option to save your movie into a video file with a **.wmv** extension. The video will be encoded using Microsoft **WMV** codec and compatible with many portable players - Microsoft Zune, Archos, Creative ZEN, Epson Multimedia Storage Viewer P3000/P5000, Palm Treo series devices, HP iPaq series devices and other different mobiles and portables that use Microsoft Windows Mobile as an operating system.
- **Save to MOV** - use this option to save your movie into a video file with a **.qt** extension. The video will be encoded using **Quick Time** codec and will be compatible with Apple Quick Time player.



Saving to AVI



The **Save to AVI** option is used to save your movie into a video file with an **.avi** extension. The video will be encoded using **MPEG-4 (DivX/Xvid) codec**, **H.264 codec**, or using a preset for a certain video service - **Google video**, **YouTube video** or **Myspace video**. There is also a possibility to save your movie into an uncompressed **AVI** video.

You select one of the available **Profiles** from the drop-down list and review its settings in the list of **Video** and

Audio properties:

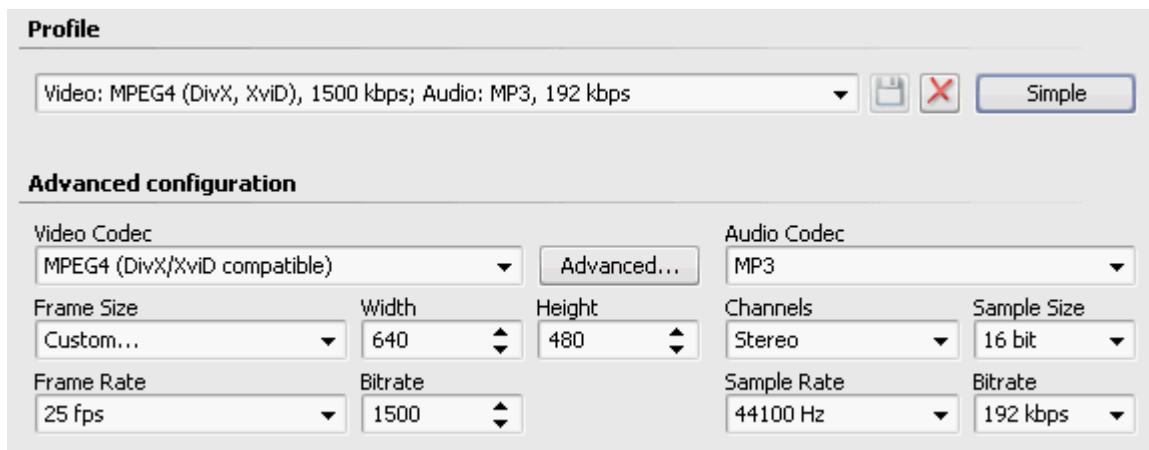
Profile			
Video: MPEG4 (DivX, XviD), 1500 kbps; Audio: MP3, 192 kbps			Advanced
Video		Audio	
Size:	640x480 pixels	Bit rate:	192 kbps
Bit rate:	1500 kbps	Channels:	2
Frame rate:	25 frames/second	Sample rate:	44100 Hz
Video compression:	MPEG4 (DivX/XviD compatible)	Audio format:	MP3
Duration:	00:01:36.400	Duration:	00:01:36.400

VIDEO PROPERTIES	Description
Size	Displays the size of the video frame used in the output video. The size is shown as a width to height ratio and is measured in pixels.
Bitrate	Displays the number of bits transferred per second, measured in kilobits per second.
Framerate	Shows the number of video frames displayed every second, measured in frames in second.
Video compression	Displays the name of the codec used to encode the video information into the video file. You can change the MPEG-4 and H.264 codecs advanced settings.
Duration	Shows the length of the video clip (measured in hours:minutes:seconds.hundredths of seconds).
AUDIO PROPERTIES	Description
Bitrate	Displays the number of data points used to approximate the true wave form (measured in kilobits per second).
Channels	Shows the number of channels in the movie audio track (mono - one channel, stereo - two channels)
Sample Rate	Defines the number of samples per second taken from a continuous signal and is measured in Hz.
Audio Format	Shows the codec used to encode the video clip soundtrack.
Duration	Displays the length of the video clip soundtrack (hours:minutes:seconds.hundredths of seconds).

If you would like to change some of the settings, you will need to click the **Advanced** button next to the **Profile** drop-down list.



Note: please, make sure you know what you are doing, as in some cases the settings change can make the output video incompatible with the device that will be used to watch it.



If you change any of the settings, you will be able to save your changes into a preset using the **Save Preset**  button. You can also delete any of the existing presets using the **Delete Preset**  button.

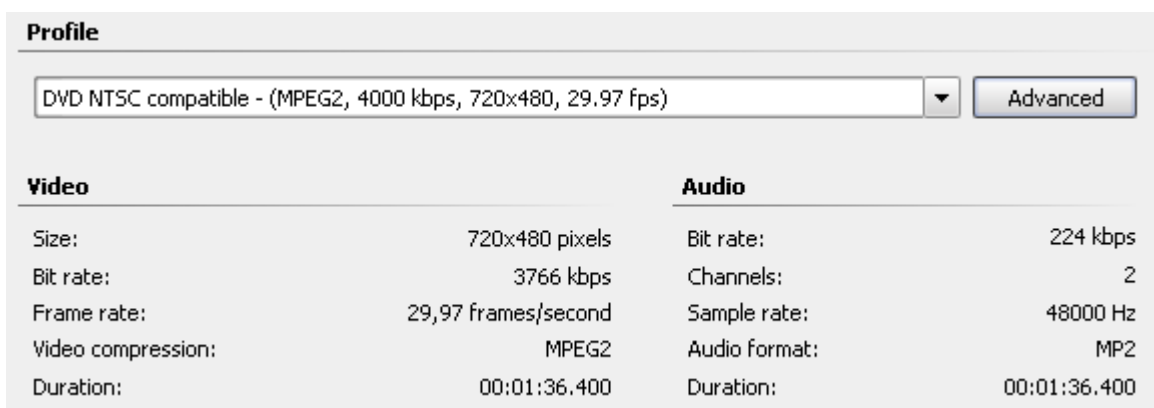
When you set all the parameters you will need to click the **Next >>** button to go to the **next step** and select the output file destination folder and choose actions to be performed once the file is saved.

Saving to MPEG



The **Save to MPEG** option is used to save your movie into a video file with a **.mpeg** extension. The video will be encoded using **MPEG-1** or **MPEG-2** codec.

You select one of the available **Profiles** from the drop-down list and review its settings in the list of **Video** and **Audio** properties:



VIDEO PROPERTIES	Description
Size	Displays the size of the video frame used in the output video. The size is shown as a width to height ratio and is measured in pixels.
Bitrate	Displays the number of bits transferred per second, measured in kilobits per second.
Framerate	Shows the number of video frames displayed every second, measured in frames in second.
Video compression	Displays the name of the codec used to encode the video information into the video file.
Duration	Shows the length of the video clip (measured in hours:minutes:seconds.hundredths of seconds).
AUDIO PROPERTIES	Description
Bitrate	Displays the number of data points used to approximate the true wave form (measured in kilobits per second).



Channels	Shows the number of channels in the movie audio track (mono - one channel, stereo - two channels)
Sample Rate	Defines the number of samples per second taken from a continuous signal and is measured in Hz.
Audio Format	Shows the codec used to encode the video clip soundtrack.
Duration	Displays the length of the video clip soundtrack (hours:minutes:seconds.hundredths of seconds).

If you would like to change some of the settings, you will need to click the **Advanced** button next to the **Profile** drop-down list.





Note: please, make sure you know what you are doing, as in some cases the settings change can make the output video incompatible with the device that will be used to watch it.

Profile

DVD NTSC compatible - (MPEG2, 4000 kbps, 720x480, 29.97 fps)  

Advanced configuration

Video Codec	MPEG2 <input type="button" value="Advanced..."/>		Audio Codec	MP2
Frame Size	Width	Height	Channels	Sample Size
720 x 480	720	480	Stereo	16 bit
Frame Rate	Bitrate		Sample Rate	Bitrate
29,97 fps	3766		48000 Hz	224 kbps

If you change any of the settings, you will be able to save your changes into a preset using the **Save Preset**  button. You can also delete any of the existing presets using the **Delete Preset**  button.

When you set all the parameters you will need to click the **Next >>** button to go to the **next step** and select the output file destination folder and choose actions to be performed once the file is saved.

Saving to WMV



The **Save to WMV** option is used save your movie into a video file with a **.wmv** extension. The video will be encoded using Microsoft **WMV** codec and compatible with many portable players - Microsoft Zune, Archos, Creative ZEN, Epson Multimedia Storage Viewer P3000/P5000, Palm Treo series devices, HP iPaq series devices and other different mobiles and portables that use Microsoft Windows Mobile as an operating system.

You select one of the available **Profiles** from the drop-down list and review its settings in the list of **Video** and **Audio** properties:

Profile

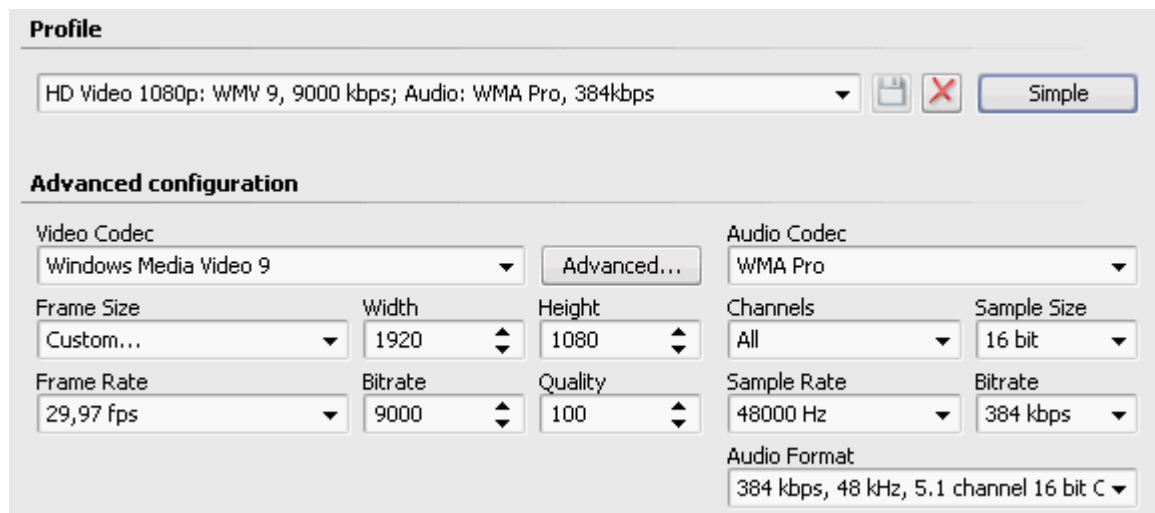
Microsoft Zune - Best Quality - (1112 kbps, 320x240, 25 fps) Advanced



Video		Audio	
Size:	320x240 pixels	Bit rate:	192 kbps
Bit rate:	920 kbps	Channels:	2
Frame rate:	25 frames/second	Sample rate:	44100 Hz
Video compression:	Windows Media Video 9	Audio format:	WMA
Duration:	00:01:36.400	Duration:	00:01:36.400

VIDEO PROPERTIES	Description
Size	Displays the size of the video frame used in the output video. The size is shown as a width to height ratio and is measured in pixels.
Bitrate	Displays the number of bits transferred per second, measured in kilobits per second.
Framerate	Shows the number of video frames displayed every second, measured in frames in second.
Video compression	Displays the name of the codec used to encode the video information into the video file. You can change the WMV codec advanced settings.
Duration	Shows the length of the video clip (measured in hours:minutes:seconds.hundredths of seconds).
AUDIO PROPERTIES	Description
Bitrate	Displays the number of data points used to approximate the true wave form (measured in kilobits per second).
Channels	Shows the number of channels in the movie audio track (mono - one channel, stereo - two channels)
Sample Rate	Defines the number of samples per second taken from a continuous signal and is measured in Hz.
Audio Format	Shows the codec used to encode the video clip soundtrack.
Duration	Displays the length of the video clip soundtrack (hours:minutes:seconds.hundredths of seconds).

If you would like to change some of the settings, you will need to click the **Advanced** button next to the **Profile** drop-down list.

Note: please, make sure you know what you are doing, as in some cases the settings change can make the output video incompatible with the device that will be used to watch it.



If you change any of the settings, you will be able to save your changes into a preset using the **Save Preset**  button. You can also delete any of the existing presets using the **Delete Preset**  button.

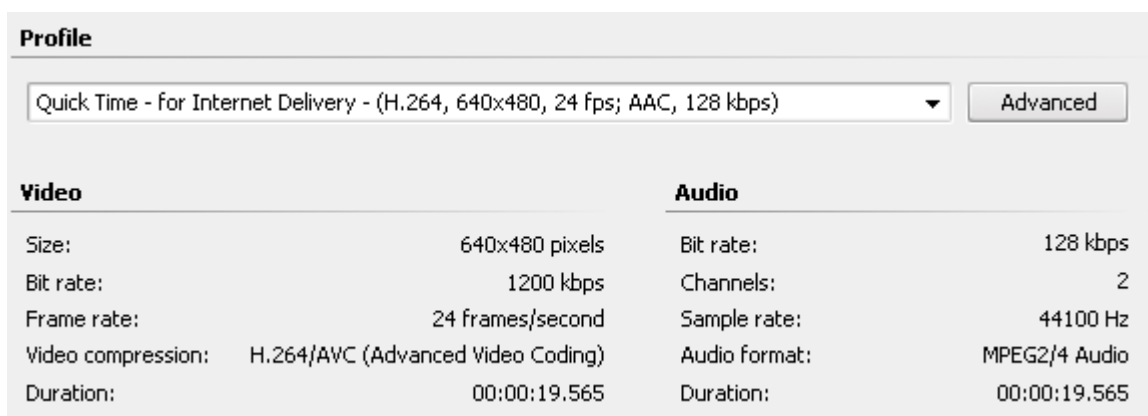
When you set all the parameters you will need to click the **Next >>** button to go to the **next step** and select the output file destination folder and choose actions to be performed once the file is saved.

Saving to MOV



The **Save to MOV** option is used to save your movie into a video file with a **.qt** extension. The video will be encoded using **Quick Time** codec and will be compatible with Apple Quick Time player.

You select one of the available **Profiles** from the drop-down list and review its settings in the list of **Video** and **Audio** properties:



VIDEO PROPERTIES	Description
Size	Displays the size of the video frame used in the output video. The size is shown as a width to height ratio and is measured in pixels.
Bitrate	Displays the number of bits transferred per second, measured in kilobits per second.
Framerate	Shows the number of video frames displayed every second, measured in frames in second.
Video compression	Displays the name of the codec used to encode the video information into the video file.
Duration	Shows the length of the video clip (measured in hours:minutes:seconds.hundredths of seconds).
AUDIO PROPERTIES	Description



Bitrate	Displays the number of data points used to approximate the true wave form (measured in kilobits per second).
Channels	Shows the number of channels in the movie audio track (mono - one channel, stereo - two channels)
Sample Rate	Defines the number of samples per second taken from a continuous signal and is measured in Hz.
Audio Format	Shows the codec used to encode the video clip soundtrack.
Duration	Displays the length of the video clip soundtrack (hours:minutes:seconds.hundredths of seconds).

If you would like to change some of the settings, you will need to click the **Advanced** button next to the **Profile** drop-down list.



Note: please, make sure you know what you are doing, as in some cases the settings change can make the output video incompatible with the device that will be used to watch it.

Profile



Quick Time - for Internet Delivery - (H.264, 640x480, 24 fps; AAC, 128 kbps)  

Advanced configuration

Video Codec: H.264/AVC (Advanced Video Coding) Audio Codec: MPEG2/4 Audio

Frame Size: Custom... Width: 640 Height: 480 Channels: Stereo Sample Size: 16 bit

Frame Rate: 24 fps Bitrate: 1200 File Type: mov Sample Rate: 44100 Hz Bitrate: 128 kbps

If you change any of the settings, you will be able to save your changes into a preset using the **Save Preset**  button. You can also delete any of the existing presets using the **Delete Preset**  button.

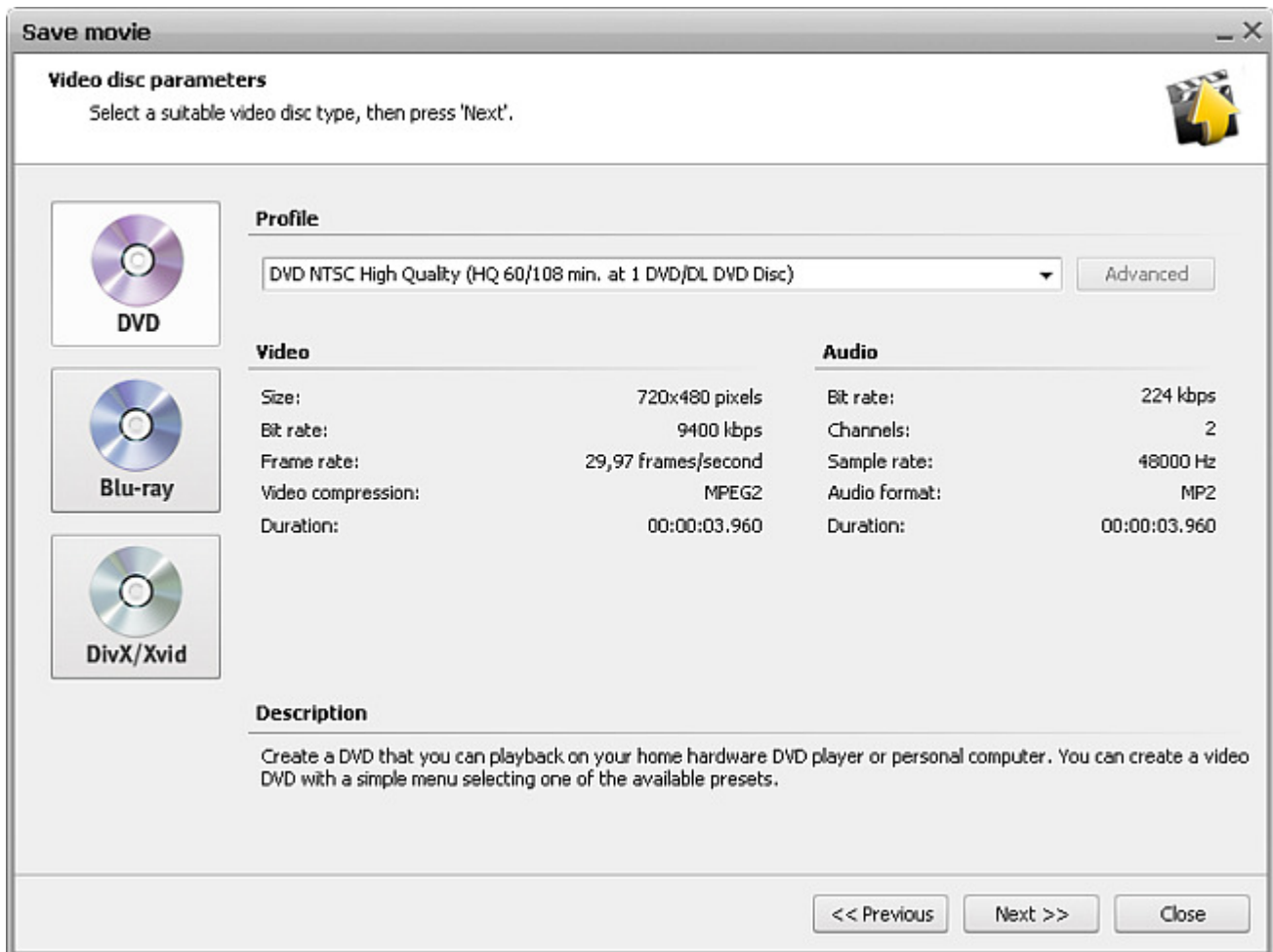
When you set all the parameters you will need to click the **Next >>** button to go to the **next step** and select the output file destination folder and choose actions to be performed once the file is saved.

Saving to Disc



You can use the **Save to Disc** option to save your video onto different types of discs. The following options are available here:

- **Save to DVDs** - use this option to create DVD-video and burn your output movie onto a DVD disc. You will be also able to **create and edit DVD menu** for decoration and quick and easy navigation through your video. The resulting disc will be compatible with most types of modern hardware players supporting DVD±R/RW discs.
- **Save to Blu-ray** - use this option to create Blu-ray video and burn your output movie onto a Blu-ray disc. You will be also able to **create and edit Blu-ray menu** for decoration and quick and easy navigation through your video. The resulting disc will be compatible with most of well known hardware and software Blu-ray players.
- **Save to DivX/Xvid** - use this option to create DivX/Xvid video and burn your output movie onto a CD or a DVD disc. The resulting disc will be compatible with most types of modern hardware players supporting playback of DivX/Xvid video discs.



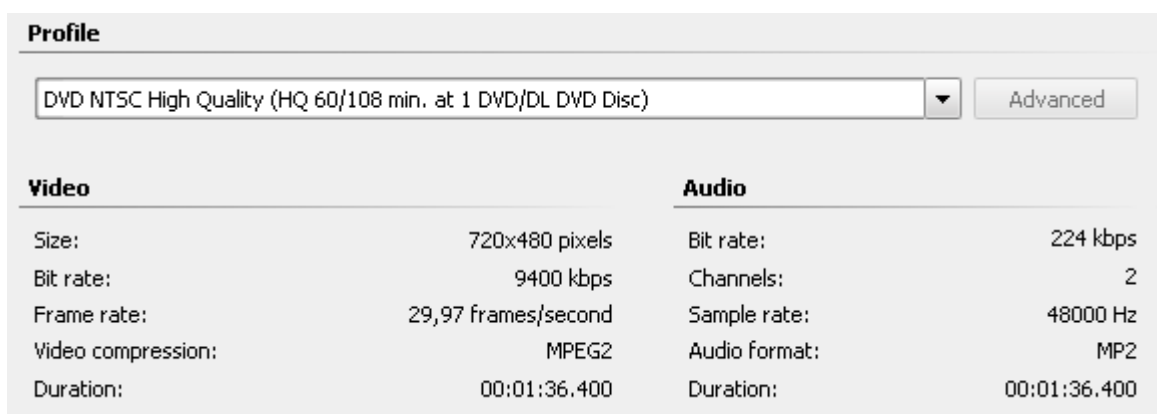
When the movie creation is over, you will be offered to **burn** it onto a the disc using the internal **AVS Video Editor** burning engine. You do not need any other additional programs to burn your created discs.

Saving to DVDs



The **Save to DVD** option is used to create DVD-video and burn your output movie onto a DVD disc. You will be also able to **create and edit DVD menu** for decoration and quick and easy navigation through your video. The resulting disc will be compatible with most types of modern hardware players supporting DVD±R/RW discs.

You select one of the available **Profiles** from the drop-down list and review its settings in the list of **Video** and **Audio** properties:



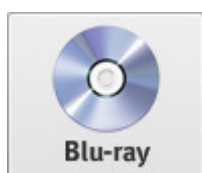
VIDEO PROPERTIES	Description
Size	Displays the size of the video frame used in the output video. The size is shown as a width to height ratio and is measured in pixels.
Bitrate	Displays the number of bits transferred per second, measured in kilobits per second.
Framerate	Shows the number of video frames displayed every second, measured in frames in second.
Video compression	Displays the name of the codec used to encode the video information into the video file.
Duration	Shows the length of the video clip (measured in hours:minutes:seconds.hundredths of seconds).
AUDIO PROPERTIES	Description
Bitrate	Displays the number of data points used to approximate the true wave form (measured in kilobits per second).
Channels	Shows the number of channels in the movie audio track (mono - one channel, stereo - two channels)
Sample Rate	Defines the number of samples per second taken from a continuous signal and is measured in Hz.
Audio Format	Shows the codec used to encode the video clip soundtrack.
Duration	Displays the length of the video clip soundtrack (hours:minutes:seconds.hundredths of seconds).



Note: you cannot change any settings in the profile as all the settings are restricted by the standards compatibility and only an exact profile can be chosen.

After you select a profile from the drop-down list and click the **Next >>** button, you will go to the **DVD menu creation** step.

Saving to Blu-ray



The **Save to Blu-ray** option is used to create Blu-ray video and burn your output movie onto a BD disc. You will be also able to **create and edit Blu-ray menu** for decoration and quick and easy navigation through your video. The resulting disc will be compatible with most types of modern hardware and software Blu-ray players.



Note: for a Blu-ray disc only the 16:9 aspect can be selected.

You select one of the available **Profiles** from the drop-down list and review its settings in the list of **Video** and **Audio** properties:

Profile			
Blu-ray Full HD 1080p - (H.264, 24000kbps, 23.976fps)			Advanced
Video		Audio	
Size:	1920x1080 pixels	Bit rate:	1536 kbps
Bit rate:	24000 kbps	Channels:	2
Frame rate:	23,98 frames/second	Sample rate:	48000 Hz
Video compression:	H.264/AVC (Advanced Video Coding)	Audio format:	LPCM
Duration:	00:00:19.960	Duration:	00:00:19.960

VIDEO PROPERTIES	Description
Size	Displays the size of the video frame used in the output video. The size is shown as a width to height ratio and is measured in pixels.
Bitrate	Displays the number of bits transferred per second, measured in kilobits per second.
Framerate	Shows the number of video frames displayed every second, measured in frames in second.
Video compression	Displays the name of the codec used to encode the video information into the video file.
Duration	Shows the length of the video clip (measured in hours:minutes:seconds.hundredths of seconds).
AUDIO PROPERTIES	Description
Bitrate	Displays the number of data points used to approximate the true wave form (measured in kilobits per second).
Channels	Shows the number of channels in the movie audio track (mono - one channel, stereo - two channels)
Sample Rate	Defines the number of samples per second taken from a continuous signal and is measured in Hz.
Audio Format	Shows the codec used to encode the video clip soundtrack.
Duration	Displays the length of the video clip soundtrack (hours:minutes:seconds.hundredths of seconds).



Note: you cannot change any settings in the profile as all the settings are restricted by the standards compatibility and only an exact profile can be chosen.

After you select a profile from the drop-down list and click the **Next >>** button, you will go to the **BD menu creation** step.

Saving to DivX/Xvid



The **Save to DivX/Xvid** option is used to create DivX/Xvid video and burn your output movie onto a CD or a DVD disc. The resulting disc will be compatible with most types of modern hardware players supporting playback of DivX/Xvid video discs.

You select one of the available **Profiles** from the drop-down list and review its settings in the list of **Video** and **Audio** properties:

Profile			
Video: MPEG4 (DivX, XviD), 1500 kbps; Audio: MP3, 192 kbps		Advanced	
Video		Audio	
Size:	640x480 pixels	Bit rate:	192 kbps
Bit rate:	1500 kbps	Channels:	2
Frame rate:	25 frames/second	Sample rate:	44100 Hz
Video compression:	MPEG4 (DivX/XviD compatible)	Audio format:	MP3
Duration:	00:01:36.400	Duration:	00:01:36.400

VIDEO PROPERTIES	Description
Size	Displays the size of the video frame used in the output video. The size is shown as a width to height ratio and is measured in pixels.
Bitrate	Displays the number of bits transferred per second, measured in kilobits per second.
Framerate	Shows the number of video frames displayed every second, measured in frames in second.
Video compression	Displays the name of the codec used to encode the video information into the video file.
Duration	Shows the length of the video clip (measured in hours:minutes:seconds.hundredths of seconds).
AUDIO PROPERTIES	Description
Bitrate	Displays the number of data points used to approximate the true wave form (measured in kilobits per second).
Channels	Shows the number of channels in the movie audio track (mono - one channel, stereo - two channels)
Sample Rate	Defines the number of samples per second taken from a continuous signal and is measured in Hz.
Audio Format	Shows the codec used to encode the video clip soundtrack.
Duration	Displays the length of the video clip soundtrack (hours:minutes:seconds.hundredths of seconds).

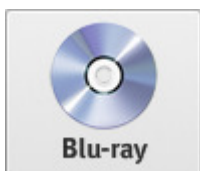


Note: you cannot change any settings in the profile as all the settings are restricted by the standards compatibility and only an exact profile can be chosen.

Creating and Editing DVD Menu

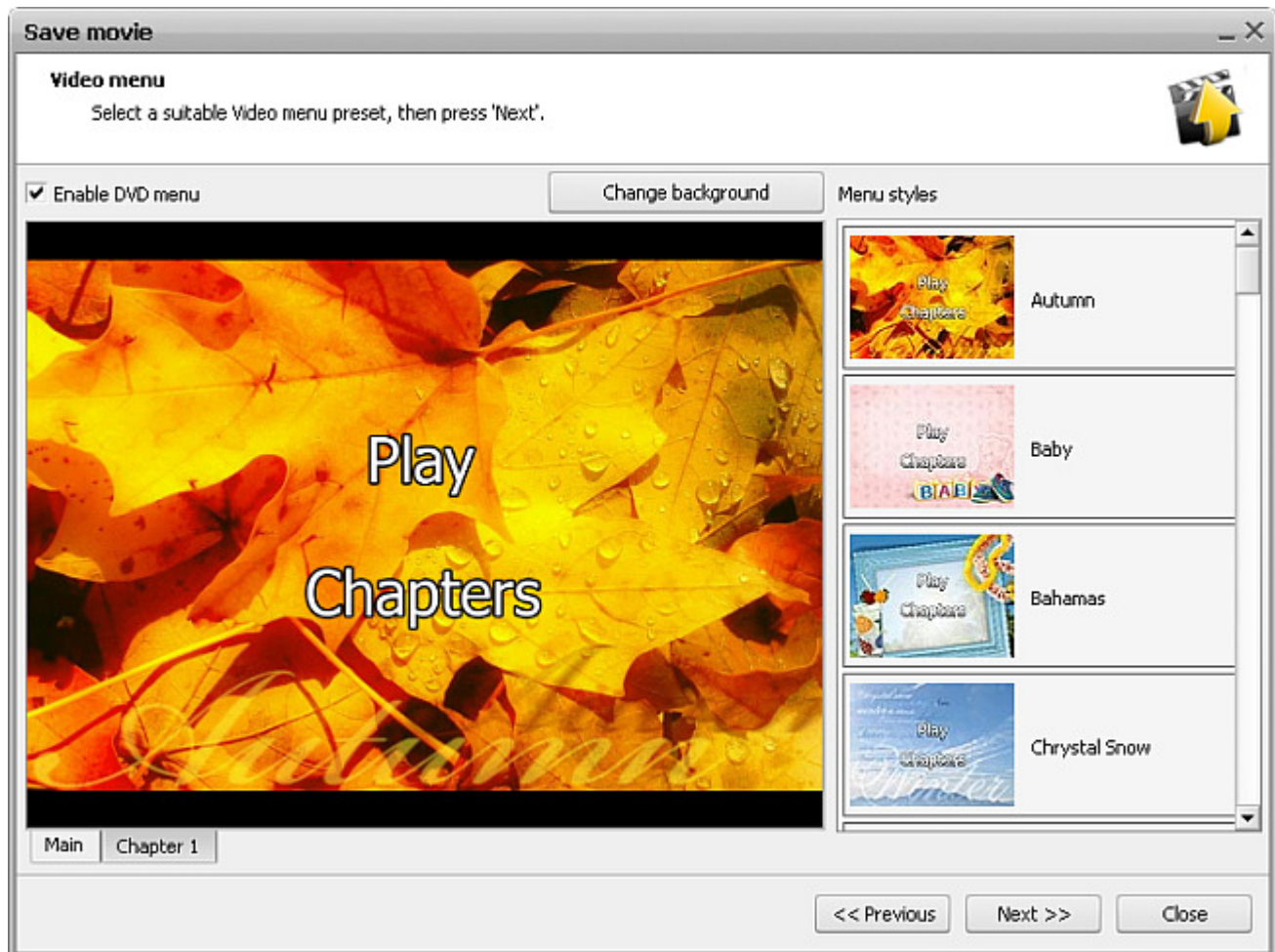


When you select to save your movie onto a DVD disc pressing the **Save to DVD** button or onto a Blu-ray disc clicking the **Save to Blu-ray** button, and select a DVD/Blu-ray profile from the drop-down list of available profiles, **AVS Video Editor** will let you create your future video menu that will add individuality to your movie and simplify the navigation through your created disc.



Note: to create a disc with a menu you need to **create chapters** in your video. In case your video contains no chapters, the video menu will be created with the only chapter starting from the beginning of the video.

There is a number of styles you can select for the video menu:



Choose a **Menu Style** from the list simply clicking its image with the name, it will be applied to the menu at once. You can also edit the menu appearance, so that it looked better for your movie. Use the **Change background** button to customize the background picture or select other pictures for your chapters.

After you choose a style, you can test it using the tabs of the preview window:

- **Main** tab - displays the main video menu page.
- **Chapters...** tab - displays the video menu page with chapters list (there can be several such tabs in case the video contains a lot of chapters).

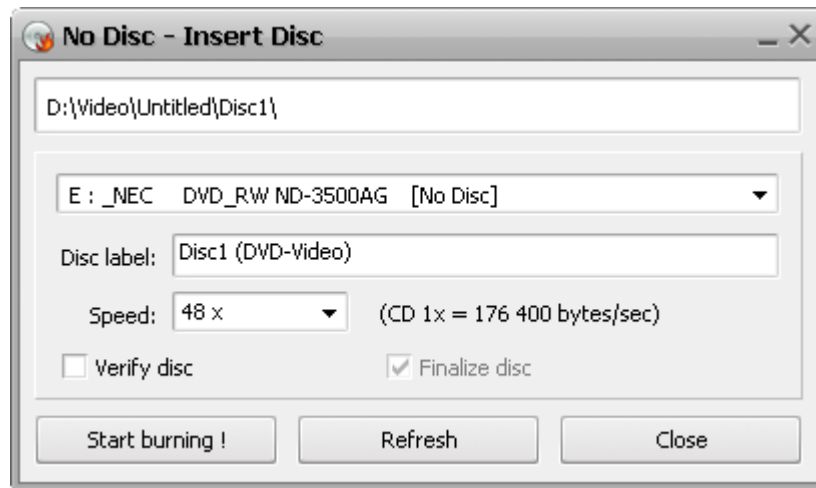
When your video menu style is selected and the menu functionality is tested, you can click the **Next >>** button to proceed on.

Burning discs

When the conversion process is over, you will be offered to burn the created file or folder onto the disc using the internal **AVS Video Editor** burning engine. To do that, please, click the **Burn to Disc...** button in the opened window:



The next window allows you to select the disc drive you want to use, verify the destination of the file or folder to burn and set some burning settings.



In order to select the appropriate disc drive click the downward arrow next to the current disc drive name and choose the drive you want to use from the drop down list, if you have several drives. Then insert an optical disc into the disc drive you've selected and verify its status. The application informs you if this disc is **Closed**, **Empty** or **Not Empty**.

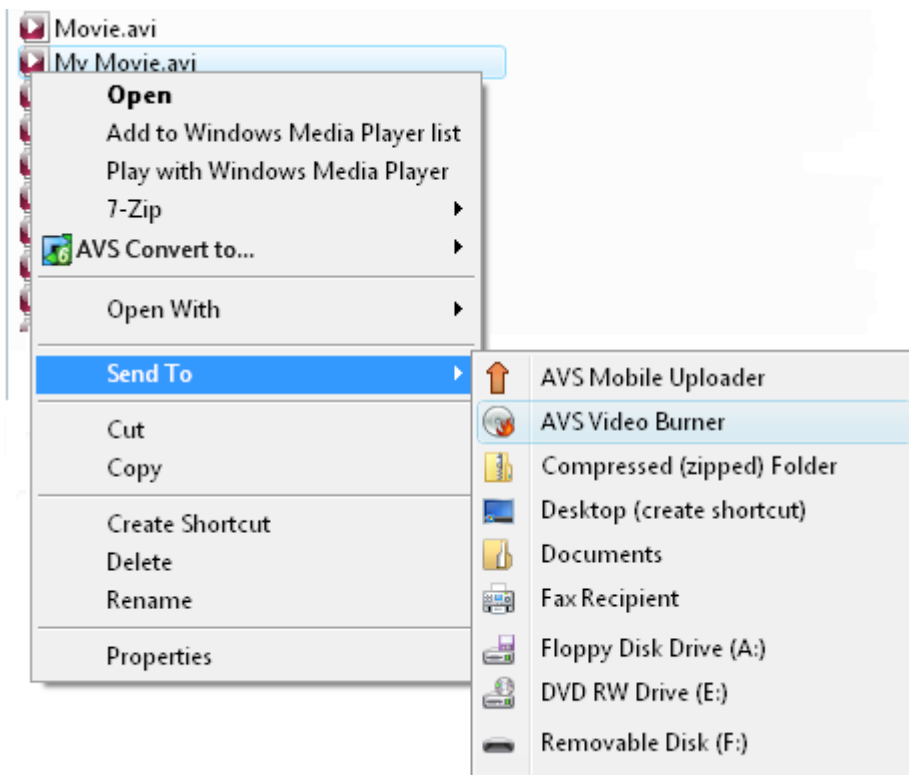


Note: if the inserted disc is not empty, all existing data will be erased from it during the burning process.

The line below the drive name shows you the **Disc label** you are going to create. You can also set the burning **speed** value clicking the small black arrow, just note that the available values depend on the disc type you use. Tick the **Verify disc** box to make sure the disc is recorded correctly.

Finally click the **Start burning!** button to record your CD/DVD/BD disc.

It is also possible to burn a previously converted film onto a disc using the same application. Click the file you're going to write with the right mouse button and select the **Send To -> AVS Video Burner** option from the express menu. It can be very useful if you are not able to burn disc right after the conversion is done. Thanks to this application you can create your disc any time you need it.



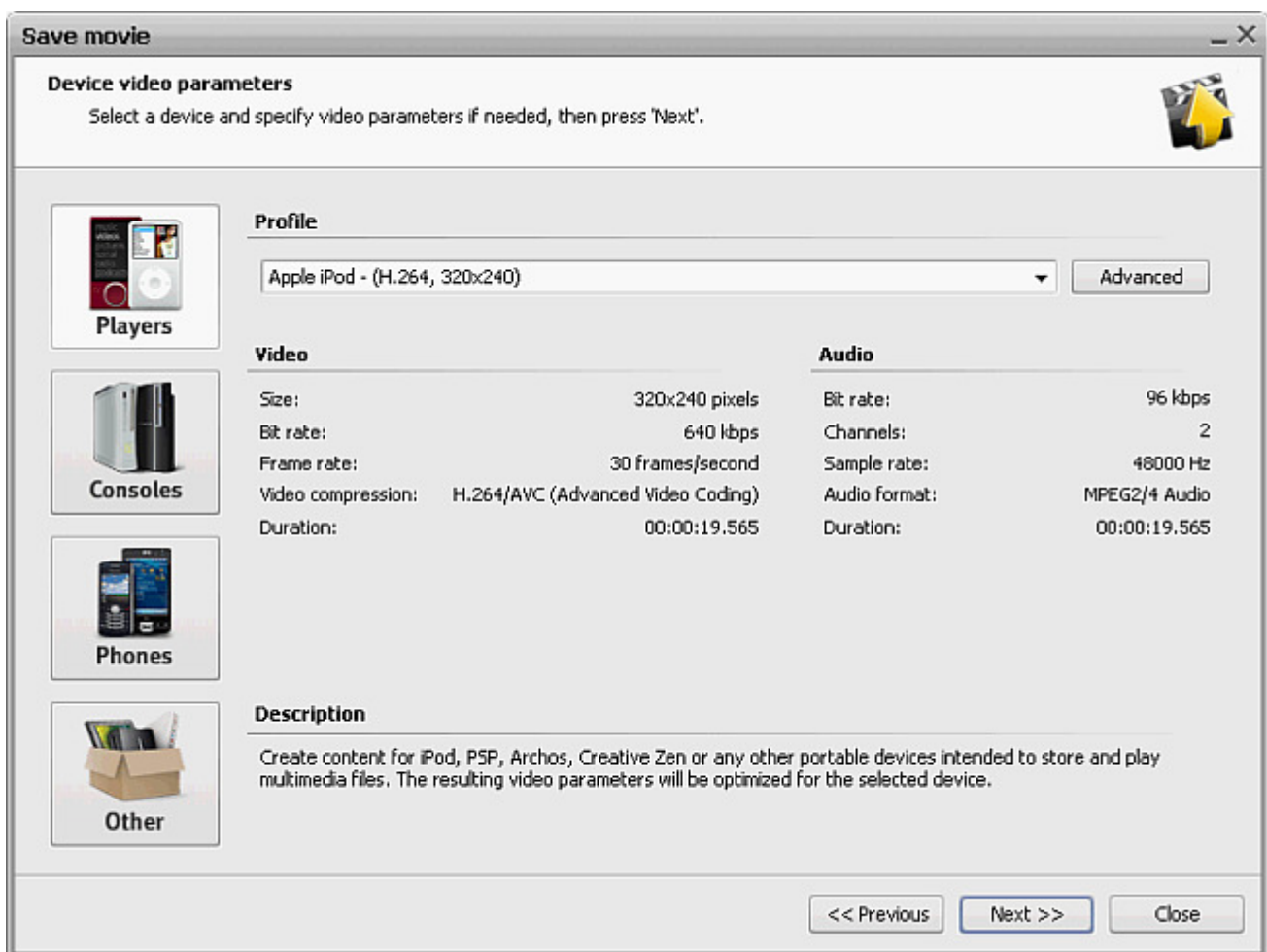
After the burning is over the disc will be ejected automatically. Note, if you checked the **Verify disc** box, the recording will take a little longer depending on the size of the output files as the program will need time to verify them.

Saving to Devices



You can use the **Save to Devices** option to create a video for a mobile player, mobile phone or a gaming console of yours and upload it right to the device. Other most popular devices are also supported. The following options are available here:

- **Save to Mobile Players** - use this option to save your movie into video files compatible with various mobile players - Apple iPhone, Apple iPod of different models including iPod Touch, Sony PSP, Microsoft Zune, Archos, Creative Zen Vision, iAudio, iRiver and Epson players.
- **Save to Gaming Consoles** - use this option to save your movie into video files compatible with most popular gaming consoles - Microsoft Xbox 360, Sony PlayStation 3 and Sony PSP.
- **Save to Mobile Phones** - use this option to save your movie into video files compatible with many mobile phones supporting video playback - BlackBerry 8 and 81 series phones, Apple iPhone, HP iPaq series devices, Palm Treo series and other pocket PCs and PDAs. If your device is not on the list, you can try and use a generic 3GPP/MPEG-4 mobile phone profile.
- **Save to Other Devices** - use this option to save your movie into video files compatible with Apple TV and Epson multimedia players.



When the movie creation is over, you will be offered to upload it to the portable using **AVS Mobile Uploader** that comes together with **AVS Video Editor**. You do not need any other additional programs to transfer your created movie to a portable of yours.



Note: some devices do not allow third party programs to upload files to them as it can damage their files database and make all the previously uploaded files inaccessible. **AVS Mobile Uploader** will not be launched for these devices. Please use the proprietary programs that come bundled with such devices to transfer the output video files to them.

Saving to Mobile Players



The **Save to Mobile Players** option is used to save your movie into video files compatible with various mobile players - Apple iPhone, Apple iPod of different models including iPod Touch, Sony PSP, Microsoft Zune, Archos, Creative Zen Vision, iAudio, iRiver and Epson players.

You select one of the available **Profiles** from the drop-down list and review its settings in the list of **Video** and **Audio** properties:

Profile			
Apple iPod - (H.264, 320x240)		Advanced	
Video		Audio	
Size:	320x240 pixels	Bit rate:	96 kbps
Bit rate:	640 kbps	Channels:	2
Frame rate:	30 frames/second	Sample rate:	48000 Hz
Video compression:	H.264/AVC (Advanced Video Coding)	Audio format:	MPEG2/4 Audio
Duration:	00:00:19.565	Duration:	00:00:19.565



VIDEO PROPERTIES	Description
Size	Displays the size of the video frame used in the output video. The size is shown as a width to height ratio and is measured in pixels.
Bitrate	Displays the number of bits transferred per second, measured in kilobits per second.
Framerate	Shows the number of video frames displayed every second, measured in frames in second.
Video compression	Displays the name of the codec used to encode the video information into the video file.
Duration	Shows the length of the video clip (measured in hours:minutes:seconds.hundredths of seconds).
AUDIO PROPERTIES	Description
Bitrate	Displays the number of data points used to approximate the true wave form (measured in kilobits per second).
Channels	Shows the number of channels in the movie audio track (mono - one channel, stereo - two channels)
Sample Rate	Defines the number of samples per second taken from a continuous signal and is measured in Hz.
Audio Format	Shows the codec used to encode the video clip soundtrack.
Duration	Displays the length of the video clip soundtrack (hours:minutes:seconds.hundredths of seconds).

If you would like to change some of the settings, you will need to click the **Advanced** button next to the **Profile** drop-down list.



Note: please, make sure you know what you are doing, as in some cases the settings change can make the output video incompatible with the device that will be used to watch it.

Profile

Apple iPod - (H.264, 320x240)  

Advanced configuration

Video Codec: H.264/AVC (Advanced Video Coding) Audio Codec: MPEG2/4 Audio

Frame Size: 320 x 240 Width: 320 Height: 240 Channels: Stereo Sample Size: 16 bit

Frame Rate: 30 fps Bitrate: 640 File Type: m4v iPod Sample Rate: 48000 Hz Bitrate: 96 kbps

If you change any of the settings, you will be able to save your changes into a preset using the **Save Preset**  button. You can also delete any of the existing presets using the **Delete Preset**  button.

When you set all the parameters you will need to click the **Next >>** button to go to the **next step** and select the output file destination folder and choose actions to be performed once the file is saved.

Saving to Gaming Consoles



The **Save to Gaming Consoles** option is used to save your movie into video files compatible with most popular gaming consoles - Microsoft Xbox 360, Sony PlayStation 3 and Sony PSP.

You select one of the available **Profiles** from the drop-down list and review its settings in the list of **Video** and **Audio** properties:

Profile

Microsoft Xbox360 - Normal HD Quality 480p - (H.264, 29.97 fps, 848x480)

Video		Audio	
Size:	848x480 pixels	Bit rate:	256 kbps
Bit rate:	2600 kbps	Channels:	2
Frame rate:	29,97 frames/second	Sample rate:	48000 Hz
Video compression:	H.264/AVC (Advanced Video Coding)	Audio format:	MPEG2/4 Audio
Duration:	00:00:19.565	Duration:	00:00:19.565

VIDEO PROPERTIES	Description
Size	Displays the size of the video frame used in the output video. The size is shown as a width to height ratio and is measured in pixels.
Bitrate	Displays the number of bits transferred per second, measured in kilobits per second.
Framerate	Shows the number of video frames displayed every second, measured in frames in second.
Video compression	Displays the name of the codec used to encode the video information into the video file.
Duration	Shows the length of the video clip (measured in hours:minutes:seconds.hundredths of seconds).
AUDIO PROPERTIES	Description
Bitrate	Displays the number of data points used to approximate the true wave form (measured in kilobits per second).

Channels	Shows the number of channels in the movie audio track (mono - one channel, stereo - two channels)
Sample Rate	Defines the number of samples per second taken from a continuous signal and is measured in Hz.
Audio Format	Shows the codec used to encode the video clip soundtrack.
Duration	Displays the length of the video clip soundtrack (hours:minutes:seconds.hundredths of seconds).

If you would like to change some of the settings, you will need to click the **Advanced** button next to the **Profile** drop-down list.



Note: please, make sure you know what you are doing, as in some cases the settings change can make the output video incompatible with the device that will be used to watch it.

Profile

Microsoft Xbox360 - Normal HD Quality 480p - (H.264, 29.97 fps, 848x480)

Advanced configuration

Video Codec		Audio Codec	
H.264/AVC (Advanced Video Coding) <input type="button" value="Advanced..."/>		MPEG2/4 Audio	
Frame Size	Width	Height	Channels
Custom...	848	480	Stereo
Sample Size	Frame Rate	Bitrate	File Type
16 bit	29,97 fps	2600	mp4 PSP
Sample Rate	Bitrate	Sample Rate	Bitrate
48000 Hz	256 kbps	48000 Hz	256 kbps

If you change any of the settings, you will be able to save your changes into a preset using the **Save Preset** button. You can also delete any of the existing presets using the **Delete Preset** button.

When you set all the parameters you will need to click the **Next >>** button to go to the **next step** and select the output file destination folder and choose actions to be performed once the file is saved.

Saving to Mobile Phones



The **Save to Mobile Phones** option is used to save your movie into video files compatible with many mobile phones supporting video playback - BlackBerry 8 and 81 series phones, Apple iPhone, HP iPaq series devices, Palm Treo series and other pocket PCs and PDAs. If your device is not on the list, you can try and use a generic 3GPP/MPEG-4 mobile phone profile.

You select one of the available **Profiles** from the drop-down list and review its settings in the list of **Video** and

Audio properties:

Profile

BlackBerry 81xx - (MPEG4, 560 kbps, 320x240)

Video		Audio	
Size:	320x240 pixels	Bit rate:	96 kbps
Bit rate:	460 kbps	Channels:	2
Frame rate:	25 frames/second	Sample rate:	44100 Hz
Video compression:	Microsoft MPEG-4	Audio format:	MP3
Duration:	00:00:19.565	Duration:	00:00:19.565

VIDEO PROPERTIES	Description
Size	Displays the size of the video frame used in the output video. The size is shown as a width to height ratio and is measured in pixels.
Bitrate	Displays the number of bits transferred per second, measured in kilobits per second.
Framerate	Shows the number of video frames displayed every second, measured in frames in second.
Video compression	Displays the name of the codec used to encode the video information into the video file.
Duration	Shows the length of the video clip (measured in hours:minutes:seconds.hundredths of seconds).
AUDIO PROPERTIES	Description
Bitrate	Displays the number of data points used to approximate the true wave form (measured in kilobits per second).
Channels	Shows the number of channels in the movie audio track (mono - one channel, stereo - two channels)
Sample Rate	Defines the number of samples per second taken from a continuous signal and is measured in Hz.
Audio Format	Shows the codec used to encode the video clip soundtrack.
Duration	Displays the length of the video clip soundtrack (hours:minutes:seconds.hundredths of seconds).

If you would like to change some of the settings, you will need to click the **Advanced** button next to the **Profile** drop-down list.





Note: please, make sure you know what you are doing, as in some cases the settings change can make the output video incompatible with the device that will be used to watch it.

Profile

BlackBerry 81xx - (MPEG4, 560 kbps, 320x240)

Advanced configuration

Video Codec		Audio Codec	
Microsoft MPEG-4 <input type="button" value="Advanced..."/>		MP3	
Frame Size	Width	Height	Channels
320 x 240	320	240	Stereo
Sample Size	Frame Rate	Bitrate	Sample Rate
16 bit	25 fps	460	44100 Hz
Bitrate			Bitrate
			96 kbps

If you change any of the settings, you will be able to save your changes into a preset using the **Save Preset**  button. You can also delete any of the existing presets using the **Delete Preset**  button.

When you set all the parameters you will need to click the **Next >>** button to go to the **next step** and select the output file destination folder and choose actions to be performed once the file is saved.

Saving to Other Devices



The **Save to Other Devices** option is used to save your movie into video files compatible with Apple TV and Epson multimedia players.

You select one of the available **Profiles** from the drop-down list and review its settings in the list of **Video** and **Audio** properties:

Profile			
<input type="text" value="Apple TV - Best Quality - (H.264, 640x480, 25 fps; MP2/4 (AAC), 320 kbps)"/>			<input type="button" value="Advanced"/>
Video		Audio	
Size:	640x480 pixels	Bit rate:	320 kbps
Bit rate:	1200 kbps	Channels:	2
Frame rate:	25 frames/second	Sample rate:	48000 Hz
Video compression:	H.264/AVC (Advanced Video Coding)	Audio format:	MPEG2/4 Audio
Duration:	00:00:19.565	Duration:	00:00:19.565



VIDEO PROPERTIES	Description
Size	Displays the size of the video frame used in the output video. The size is shown as a width to height ratio and is measured in pixels.
Bitrate	Displays the number of bits transferred per second, measured in kilobits per second.
Framerate	Shows the number of video frames displayed every second, measured in frames in second.
Video compression	Displays the name of the codec used to encode the video information into the video file.
Duration	Shows the length of the video clip (measured in hours:minutes:seconds.hundredths of seconds).
AUDIO PROPERTIES	Description
Bitrate	Displays the number of data points used to approximate the true wave form (measured in kilobits per second).
Channels	Shows the number of channels in the movie audio track (mono - one channel, stereo - two channels)
Sample Rate	Defines the number of samples per second taken from a continuous signal and is measured in Hz.
Audio Format	Shows the codec used to encode the video clip soundtrack.
Duration	Displays the length of the video clip soundtrack (hours:minutes:seconds.hundredths of seconds).

If you would like to change some of the settings, you will need to click the **Advanced** button next to the **Profile** drop-down list.



















Note: please, make sure you know what you are doing, as in some cases the settings change can make the output video incompatible with the device that will be used to watch it.

Profile

Apple TV - Best Quality - (H.264, 640x480, 25 fps; MP2/4 (AAC), 320 kbps)  

Advanced configuration

Video Codec	H.264/AVC (Advanced Video Coding) 		<input type="button" value="Advanced..."/>	Audio Codec	MPEG2/4 Audio 
Frame Size	Width	Height	Channels	Sample Size	
Custom... 	640  	480  	Stereo 	16 bit 	
Frame Rate	Bitrate	File Type	Sample Rate	Bitrate	
25 fps 	1200  	mov 	48000 Hz 	320 kbps 	

If you change any of the settings, you will be able to save your changes into a preset using the **Save Preset**  button. You can also delete any of the existing presets using the **Delete Preset**  button.

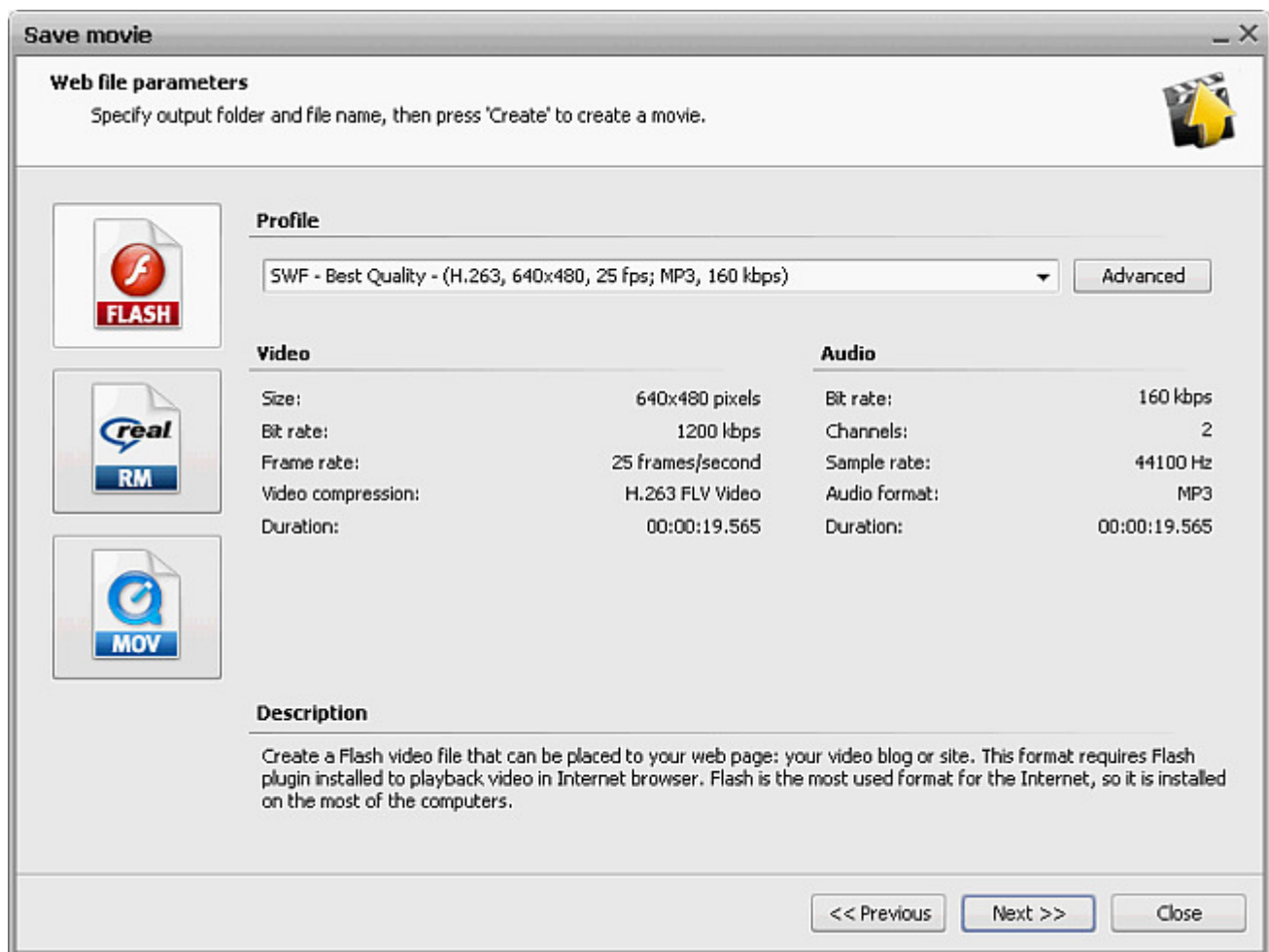
When you set all the parameters you will need to click the **Next >>** button to go to the **next step** and select the output file destination folder and choose actions to be performed once the file is saved.

Saving for Web



You can use the **Save for Web** option to save your video into a file using different formats and codecs. The following options are available here:

- **Save to Flash** - use this option to save your movie into a video file with an **.swf** or **.flv** extension. You will be able to deliver your video over the Internet and it will be played using Flash plugin for an Internet browser.
- **Save to RM** - use this option to save your movie into a video file with an **.rm** extension. The video will be encoded using **RealMedia codec**. You will be able to embed it into your web page later and it will be played using RealMedia plugin for an Internet browser.
- **Save to MOV** - use this option to save your movie into a video file with a **.qt** extension. The video will be encoded using **Quick Time** codec and will be compatible with Apple Quick Time player and can be added to your web site and played using a Quick Time plugin for an Internet browser.



Saving to Flash



The **Save to Flash** option is used to save your movie into a video file with an **.swf** or **.flv** extension. You will be able to deliver your video over the Internet and it will be played using Flash plugin for an Internet browser.

You select one of the available **Profiles** from the drop-down list and review its settings in the list of **Video** and **Audio** properties:


Profile

SWF - Best Quality - (H.263, 640x480, 25 fps; MP3, 160 kbps) Advanced

Video		Audio	
Size:	640x480 pixels	Bit rate:	160 kbps
Bit rate:	1200 kbps	Channels:	2
Frame rate:	25 frames/second	Sample rate:	44100 Hz
Video compression:	H.263 FLV Video	Audio format:	MP3
Duration:	00:00:19.565	Duration:	00:00:19.565

VIDEO PROPERTIES	Description
Size	Displays the size of the video frame used in the output video. The size is shown as a width to height ratio and is measured in pixels.
Bitrate	Displays the number of bits transferred per second, measured in kilobits per second.
Framerate	Shows the number of video frames displayed every second, measured in frames in second.
Video compression	Displays the name of the codec used to encode the video information into the video file.
Duration	Shows the length of the video clip (measured in hours:minutes:seconds.hundredths of seconds).
AUDIO PROPERTIES	Description
Bitrate	Displays the number of data points used to approximate the true wave form (measured in kilobits per second).
Channels	Shows the number of channels in the movie audio track (mono - one channel, stereo - two channels)
Sample Rate	Defines the number of samples per second taken from a continuous signal and is measured in Hz.
Audio Format	Shows the codec used to encode the video clip soundtrack.
Duration	Displays the length of the video clip soundtrack (hours:minutes:seconds.hundredths of seconds).

If you would like to change some of the settings, you will need to click the **Advanced** button next to the **Profile** drop-down list.



 **Note:** please, make sure you know what you are doing, as in some cases the settings change can make the output video incompatible with the device that will be used to watch it.

Profile

SWF - Best Quality - (H.263, 640x480, 25 fps; MP3, 160 kbps) Simple

Advanced configuration

Video Codec	H.263 FLV Video	Advanced...	Audio Codec	MP3
Frame Size	Width: 640	Height: 480	Channels	Stereo
Sample Size	16 bit	Frame Rate	25 fps	Bitrate
1200	SWF	Sample Rate	44100 Hz	160 kbps

If you change any of the settings, you will be able to save your changes into a preset using the **Save Preset**  button. You can also delete any of the existing presets using the **Delete Preset**  button.

When you set all the parameters you will need to click the **Next >>** button to go to the **next step** and select the output file destination folder and choose actions to be performed once the file is saved.

Saving to RM



The **Save to RM** option is used to save your movie into a video file with an **.rm** extension. The video will be encoded using **RealMedia codec**. You will be able to embed it into your web page later and it will be played using RealMedia plugin for an Internet browser

You select one of the available **Profiles** from the drop-down list and review its settings in the list of **Video** and **Audio** properties:

Profile			
RealVideo 10: 2500 kbps, 720x480, 29.97 fps; RealAudio: COOK, 96 kbps			Advanced
Video		Audio	
Size:	720x480 pixels	Bit rate:	96 kbps
Bit rate:	2500 kbps	Channels:	2
Frame rate:	29,97 frames/second	Sample rate:	44100 Hz
Video compression:	Real Video 10	Audio format:	RealAudio COOK
Duration:	00:00:19.565	Duration:	00:00:19.565

VIDEO PROPERTIES	Description
Size	Displays the size of the video frame used in the output video. The size is shown as a width to height ratio and is measured in pixels.
Bitrate	Displays the number of bits transferred per second, measured in kilobits per second.
Framerate	Shows the number of video frames displayed every second, measured in frames in second.
Video compression	Displays the name of the codec used to encode the video information into the video file.
Duration	Shows the length of the video clip (measured in hours:minutes:seconds.hundredths of seconds).
AUDIO PROPERTIES	Description
Bitrate	Displays the number of data points used to approximate the true wave form (measured in kilobits per second).
Channels	Shows the number of channels in the movie audio track (mono - one channel, stereo - two channels)
Sample Rate	Defines the number of samples per second taken from a continuous signal and is measured in Hz.
Audio Format	Shows the codec used to encode the video clip soundtrack.
Duration	Displays the length of the video clip soundtrack (hours:minutes:seconds.hundredths of seconds).

If you would like to change some of the settings, you will need to click the **Advanced** button next to the **Profile** drop-down list.



Note: please, make sure you know what you are doing, as in some cases the settings change can make the output video incompatible with the device that will be used to watch it.

Profile

RealVideo 10: 2500 kbps, 720x480, 29.97 fps; RealAudio: COOK, 96 kbps Save Preset Delete Preset Simple

Advanced configuration

Video Codec: Real Video 10 Advanced... Audio Codec: RealAudio COOK 96 Kbps Stereo Music

Frame Size: 720 x 480 Width: 720 Height: 480 Channels: Stereo Sample Size: 16 bit

Frame Rate: 29,97 fps Bitrate: 2500 Sample Rate: 44100 Hz Bitrate: 96 kbps

If you change any of the settings, you will be able to save your changes into a preset using the **Save Preset** button. You can also delete any of the existing presets using the **Delete Preset** button.

When you set all the parameters you will need to click the **Next >>** button to go to the **next step** and select the output file destination folder and choose actions to be performed once the file is saved.

Saving to MOV



The **Save to MOV** option is used to save your movie into a video file with a **.qt** extension. The video will be encoded using **Quick Time** codec and will be compatible with Apple Quick Time player and can be added to your web site and played using a Quick Time plugin for an Internet browser.

You select one of the available **Profiles** from the drop-down list and review its settings in the list of **Video** and **Audio** properties:

Profile

Quick Time - for Internet Delivery - (H.264, 640x480, 24 fps; AAC, 128 kbps) Advanced

Video		Audio	
Size:	640x480 pixels	Bit rate:	128 kbps
Bit rate:	1200 kbps	Channels:	2
Frame rate:	24 frames/second	Sample rate:	44100 Hz
Video compression:	H.264/AVC (Advanced Video Coding)	Audio format:	MPEG2/4 Audio
Duration:	00:00:19.565	Duration:	00:00:19.565

VIDEO PROPERTIES	Description
Size	Displays the size of the video frame used in the output video. The size is shown as a width to height ratio and is measured in pixels.
Bitrate	Displays the number of bits transferred per second, measured in kilobits per second.
Framerate	Shows the number of video frames displayed every second, measured in frames in second.
Video compression	Displays the name of the codec used to encode the video information into the video file.



Duration	Shows the length of the video clip (measured in hours:minutes:seconds.hundredths of seconds).
AUDIO PROPERTIES	Description
Bitrate	Displays the number of data points used to approximate the true wave form (measured in kilobits per second).
Channels	Shows the number of channels in the movie audio track (mono - one channel, stereo - two channels)
Sample Rate	Defines the number of samples per second taken from a continuous signal and is measured in Hz.
Audio Format	Shows the codec used to encode the video clip soundtrack.
Duration	Displays the length of the video clip soundtrack (hours:minutes:seconds.hundredths of seconds).

If you would like to change some of the settings, you will need to click the **Advanced** button next to the **Profile** drop-down list.



Note: please, make sure you know what you are doing, as in some cases the settings change can make the output video incompatible with the device that will be used to watch it.

Profile



Quick Time - for Internet Delivery - (H.264, 640x480, 24 fps; AAC, 128 kbps)  

Advanced configuration

Video Codec: H.264/AVC (Advanced Video Coding) Audio Codec: MPEG2/4 Audio

Frame Size: Custom... Width: 640 Height: 480 Channels: Stereo Sample Size: 16 bit

Frame Rate: 24 fps Bitrate: 1200 File Type: mov Sample Rate: 44100 Hz Bitrate: 128 kbps

If you change any of the settings, you will be able to save your changes into a preset using the **Save Preset**  button. You can also delete any of the existing presets using the **Delete Preset**  button.

When you set all the parameters you will need to click the **Next >>** button to go to the **next step** and select the output file destination folder and choose actions to be performed once the file is saved.

Aspect Ratio

- **The evolution of film and TV aspect ratios**
- **Original aspect ratio**
- **Letterboxing and Pillar Boxing**
- **Working with aspect ratio in AVS Video Editor**
 - **Selecting aspect ratio when you create a new project**
 - **Changing aspect ratio in video file properties**
 - **Saving movies using aspect correction**

The aspect ratio of an image is its displayed width divided by its height (usually expressed as "x:y"). For instance, the aspect ratio of a traditional television screen is 4:3, or 1.33:1. High definition television uses an aspect of 16:9, or about 1.78:1. Aspect ratios of 2.39:1 or 1.85:1 are frequently used in cinematography, while the aspect ratio of a sync-sound 35 mm film frame is around 1.37:1 (also known as "Academy" ratio). Silent films which used the full frame were shot in 1.33:1.

The evolution of film and TV aspect ratios

The 4:3 ratio for standard television has been in use since television's origins and many computer monitors use the same aspect ratio. Since 4:3 is the aspect ratio of the usable frame within the Academy format once the soundtrack had been taken into account, films could be satisfactorily viewed on TV in the early days of the medium. When cinema attendance dropped, Hollywood created widescreen aspect ratios to immerse the viewer in a more realistic experience and, possibly, to make broadcast films less enjoyable if watched on a regular TV set.

16:9 is the format of Japanese and American HDTV as well as European non-HD widescreen television (EDTV). Many digital video cameras have the capability to record in 16:9. Anamorphic DVD transfers store the information in 16:9 vertically stretched to 4:3; if the TV can handle an anamorphic image the signal will be de-anamorphosed by the TV to 16:9. If not, the DVD player will unstretch the image and add letterboxing before sending the image to the TV. Wider ratios such as 1.85:1 and 2.39:1 are accommodated within the 16:9 DVD frame by adding some additional masking within the image itself.

Within the motion picture industry, the convention is to assign a value of 1 to the image height, so that, for example, an anamorphic frame is described as 2.39:1 or just "2.39". This way of speaking comes about because the width of a film image is restricted by the presence of sprocket holes and a standard intermittent movement interval of 4 perforations, as well as an optical soundtrack running down the projection print between the image and the perforations on one side. The most common projection ratios in American theaters are 1.85 and 2.39.

The 16:9 format adopted for HDTV is actually narrower than commonly-used cinematic widescreen formats. Anamorphic widescreen (2.39:1) and American theatrical standard (1.85:1) have wider aspect ratios, while the European theatrical standard (1.66:1) is just slightly less. (IMAX, contrary to some popular perception, is 1.33:1, the traditional television aspect ratio.)

Super 16mm film is frequently used for television production due to its lower cost, lack of need for soundtrack space on the film itself, and aspect ratio similar to 16:9 (Super 16mm is natively 1.66 whilst 16:9 is 1.78).

Original aspect ratio

Original Aspect Ratio is a home cinema term for the aspect ratio or dimensions in which a film or visual production was produced — as envisioned by the people involved in the creation of the work. As an example, the film *Gladiator* was released to theaters in the 2.39:1 aspect ratio. It was filmed in Super 35 and, in addition to being presented in cinemas and television in the original aspect ratio of 2.39:1, it was also broadcast without the mattes its original aspect ratio release had.

Letterboxing and pillar boxing

Letterboxing is the practice of transferring widescreen films to video formats while preserving the original aspect ratio. Since the video display is most often a more square aspect ratio than the original film, the resulting video must include masked-off areas above and below the picture area (often referred to as "black bars," or, more accurately, as mattes). Letterboxing takes its name from the similarity of the resulting image to a horizontal opening in a postal letter box.

Letterboxing offers an alternative to the pan and scan or full screen method of transferring a widescreen film to video. In pan and scan, the original image is cropped to suit the 1.33:1 (or 4:3) ratio of the television screen. In contrast, letterboxing preserves most of the original composition of the film as seen in the theater.

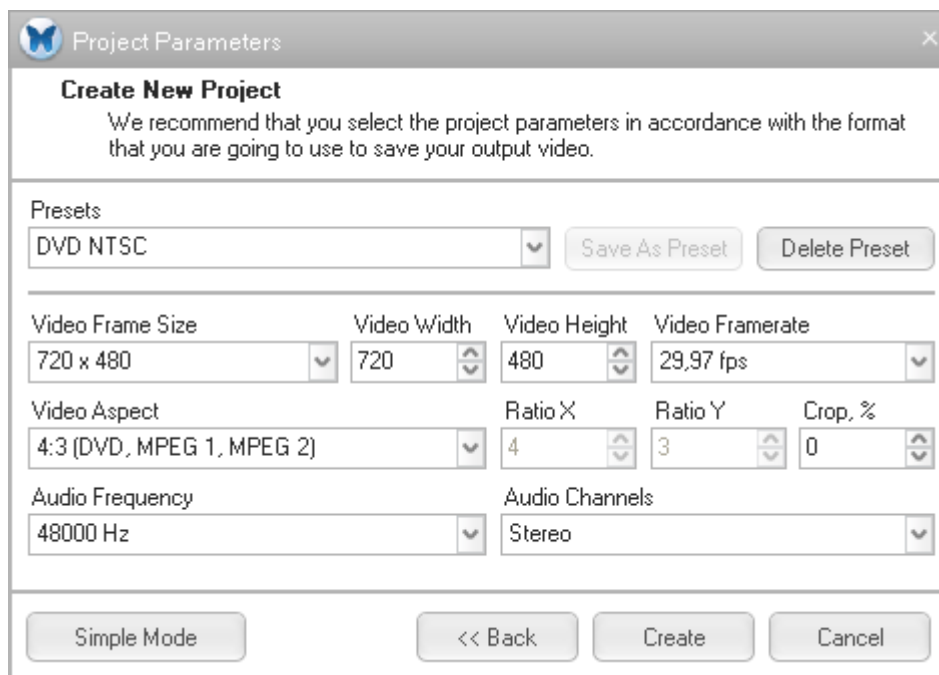
Pillar boxing refers to what happens when a 1.33:1 image is displayed on a wider screen, adding bars on the side. The pillar box effect occurs in widescreen video displays when black bars (mattes or masking) are placed on the sides of the image. It becomes necessary when video that was not originally designed for widescreen is shown on a widescreen display. The original material is shrunk and placed in the middle of the widescreen frame. "Pillar box", sometimes called windowboxing, comes from the similarity of this display to free-standing mailboxes in the UK and the British Commonwealth.

Working with aspect ratio in AVS Video Editor

When you work with video files in **AVS Video Editor**, it is sometimes necessary to set their aspect ratio parameters. You will need to **select the initial aspect parameters when you start creating a new project**, you can **change the video file aspect ratio settings in the properties window** and finally, you can use the **aspect correction option when you save your video file into the available video formats**. See the sections below to get more information on this topics.

Selecting aspect ratio when you create a new project

When you create a new project it is necessary to select the future video image aspect ratio. The fact is, hardware and software DVD players can playback your created DVDs in accordance with their aspect ratio that will not always coincide with the image physical width to height ratio. That is why you should bear this in mind when you create a new project and save your movie later in DVD or MPEG format. You should decide from the very beginning what aspect ratio your movie will have.



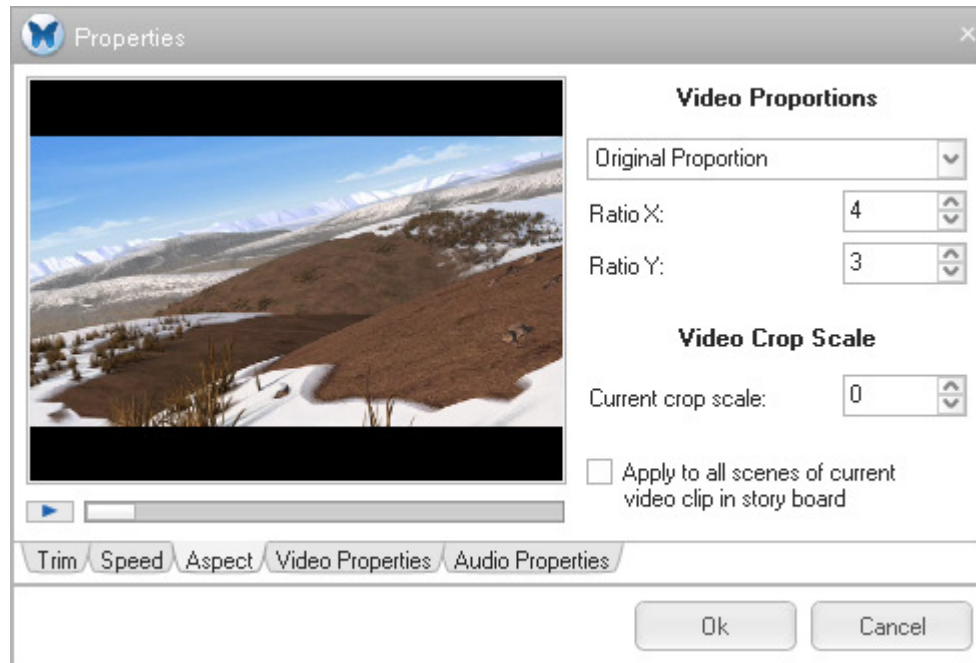
When you save your movie in DVD or MPEG format, you can choose **4:3** aspect ratio if you plan to watch your movie using a common television set, or **16:9** aspect ratio to watch your video on a widescreen TV.

When you save your movie in all other supported formats (AVI, RM, and others), it is **strongly recommended** that you leave **Original Aspect** setting.

If you have already created a project with the settings like in this one but with other video material and used the **Crop** function in the video properties, you can set here the crop percentage that will be used by default in your current project. If you need to change it, you can do that later, using the video file properties.

Changing aspect ratio in video file properties

When you add a video clip to the **Storyboard** you can view its properties and change some of them if necessary.

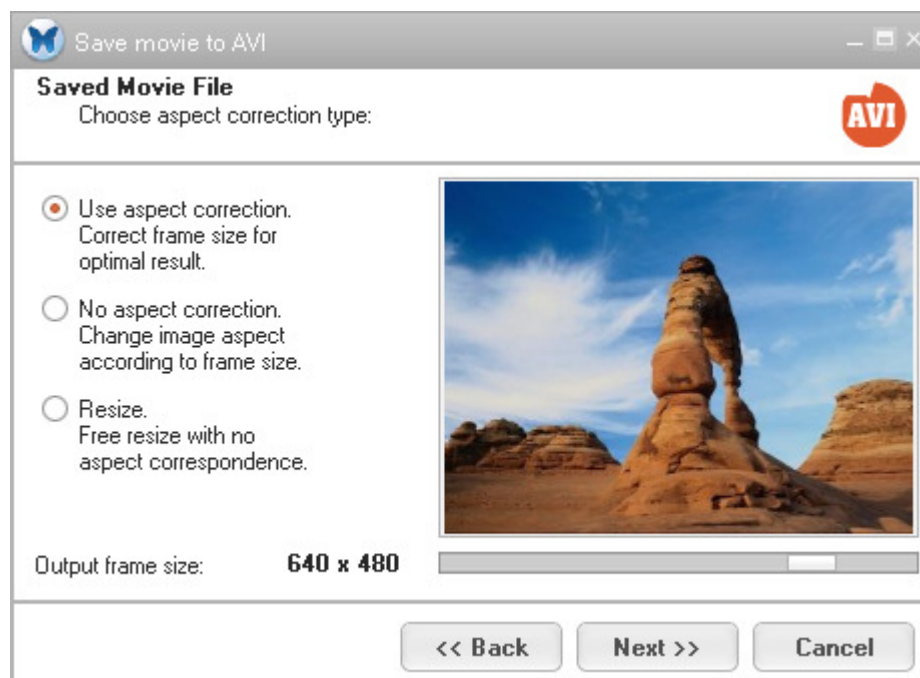


In the **Aspect** tab you can modify the aspect ratio of your video clip. It might be useful if the video was prerecorded with distortions - elongated in horizontal or vertical dimension. You can correct that changing current aspect width and current aspect height, selecting **Custom** aspect ratio in the upper drop-down list, leave the **Original** aspect, or change it to the **4 to 3** or **16 to 9** ratio.

You can also use the **Video Crop Scale** option to cut out the editor created mattes (black areas), but please note, that a part of image will also be lost. You cannot cut out the mattes initially present in the video material using this function. This function is similar to pan and scan option in DVD players.

Saving movies using aspect correction

Sometimes your video file aspect ratio does not coincide with the physical resolution width to height ratio. If you leave the parameters this way there can be image distortions during playback. To correct this situation the **aspect correction** function was introduced into **AVS Video Editor**. You can use this function when you save your video into all the main formats, except DVD and MPEG. These two formats use the aspect ratio in-built identification and you can set their aspect ratio when you **create a new project**. For all the other formats three options are available:



1. **Use aspect correction** - the Video Editor will correct the initial project frame size to optimally fit the set aspect ratio. For instance, the editor can increase or decrease the video frame height so that the physical width to height ratio coincided with the aspect ratio.



Note: when you convert and save your video file into **3GP format** and into **MP4 format** for mobile phones, this option is disabled. This is done due to the fact that mobile phones support only videos with fixed frame sizes that cannot be altered in accordance with aspect ratio.

2. **No aspect correction** - the Video Editor will correct the initial aspect ratio according to the video file physical frame size ratio. If the aspect ratio is wider than that of the physical dimensions', the editor can add mattes above or below the image (letterboxing). In case the aspect ratio is narrower than the physical dimensions ratio, the editor can add mattes on the sides of the image (pillow boxing).
3. **Resize** - free resize with no aspect correspondence. All the aspect related changes will be neglected and discarded. The image will be resized according to the width and height specified.

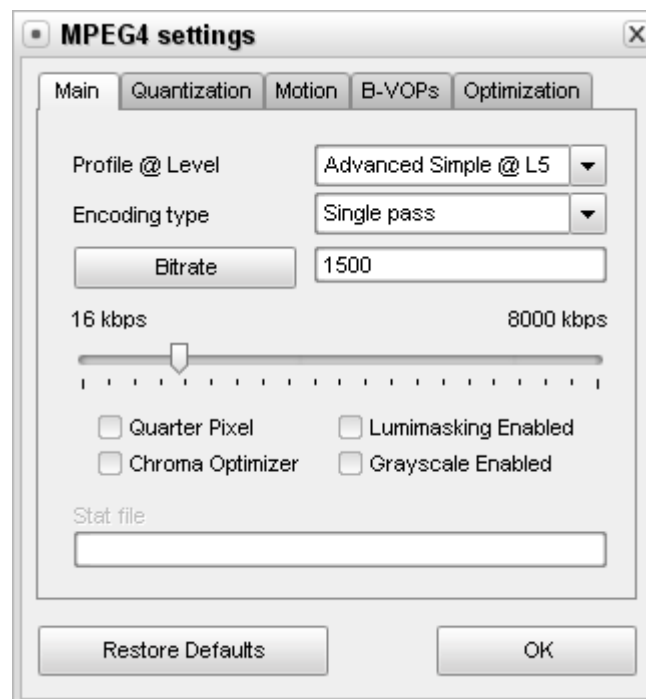
MPEG-4 Advanced Settings

MPEG-4 - ISO/IEC open standard for video encoding developed by MPEG (Moving Picture Experts Group). It is characterized by a small output video file size and quite good picture quality even when a relatively low bit rate is used. The most known resulting output when you use MPEG-4 format for compression is the AVI file type which is commonly used in home video. It is coded with Xvid, DivX, 3ivx, Nero Digital and other video codecs.

The following tabs of the codec settings window are available:

- **Main settings** - include **Profile @ level**, **Encoding type**, **Bitrate/Target quantizer/Target size**, **Quarter pixel**, **Lumimasking enabled**, **Chroma optimizer**, **Grayscale enabled**, **Stat file**.
- **Quantization settings** - include **Quantization type**, **Min I-frame quantizer**, **Max I-frame quantizer**, **Min P-frame quantizer**, **Max P-frame quantizer**, **Min B-frame quantizer**, **Max B-frame quantizer** and **Trellis quantization**.
- **Motion settings** - include **Motion search type**, **VHQ Mode**, **Frame drop ratio**, **Max key interval**, **Global motion compensation**, **Use chroma motion**, **Cartoon mode** and **Turbo mode**.
- **B-VOPs settings** - include **Use B-VOPs**, **Max consecutive B-VOPs**, **Quantizer ratio**, **Quantizer offset**.
- **Optimization settings** - include **Automatically detect optimizations**, **Force optimizations**.

Main Settings



[Profile @ level] [Encoding type] [Bitrate/Target quantizer/Target size] [Quarter pixel]
 [Lumimasking enabled] [Chroma optimizer] [Grayscale enabled] [Stat file]

Profile @ level - restricts the usage of MPEG-4 tools and limits the encoded bit rate so that the output movie is compatible with hardware decoders. If you are acquainted with Xvid codec settings you will find that the **Profile levels** coincide with the Xvid profiles. In the table below you can see which profile allows you to change the specific codec settings and use different quantization types, what maximum resolution, frame rate or bit rate is recommended for every profile.

Profile level	Recommended max resolution and frame rate	Maximum average bit rate	Lumimasking enabled	B-Frames (Use B-VOPs)	Quantization type	Interlacing encoding	Quarter pixel	Global motion compensation
Simple @ L0	176x144x15 fps	64 kbps	not allowed	not allowed	H.263 only	not allowed	not allowed	not allowed
Simple @ L1	176x144x15 fps	64 kbps	allowed	not allowed	H.263 only	not allowed	not allowed	not allowed
Simple @ L2	352x288x15 fps	128 kbps	allowed	not allowed	H.263 only	not allowed	not allowed	not allowed
Simple @ L3	352x288x15 fps	384 kbps	allowed	not allowed	H.263 only	not allowed	not allowed	not allowed
ARTS @ L1	176x144x15 fps	64 kbps	allowed	not allowed	H.263 only	not allowed	not allowed	not allowed
ARTS @ L2	352x288x15 fps	128 kbps	allowed	not allowed	H.263 only	not allowed	not allowed	not allowed
ARTS @ L3	352x288x30 fps	384 kbps	allowed	not allowed	H.263 only	not allowed	not allowed	not allowed
ARTS @ L4	352x288x30 fps	2000 kbps	allowed	not allowed	H.263 only	not allowed	not allowed	not allowed
AS @ L0	176x144x30 fps	128 kbps	allowed	allowed	H.263 or MPEG	allowed	allowed	allowed
AS @ L1	176x144x30 fps	128 kbps	allowed	allowed	H.263 or MPEG	allowed	allowed	allowed
AS @ L2	352x288x15 fps	384 kbps	allowed	allowed	H.263 or MPEG	allowed	allowed	allowed
AS @ L3	352x288x30 fps	768 kbps	allowed	allowed	H.263 or MPEG	allowed	allowed	allowed
AS @ L4	352x576x30 fps	3000 kbps	allowed	allowed	H.263 or MPEG	allowed	allowed	allowed
AS @ L5	720x576x30 fps	8000 kbps	allowed	allowed	H.263 or MPEG	allowed	allowed	allowed

As can be seen **Profile levels "Simple @ L0", "Simple @ L1", "Simple @ L2", "Simple @ L3", "ARTS @ L1", "ARTS @ L2" and "AS @ L2"** roughly correspond to the DivX **Handheld Profile** that is intended to enable the decoding of DivX video content at bit rates and resolutions appropriate for small handheld devices such as mobile phones and digital watches.

Profile levels "ARTS @ L3", "ARTS @ L4", "AS @ L0", "AS @ L1" and "AS @ L3" can correspond to the DivX **Portable Profile** which will enable high-quality DivX video content for portable video devices, including video-enabled MP3 players and small video playback devices such as PDA.

Profile level "AS @ L4" can correspond to the DivX **Home Theater Profile**. The specifications for this profile will ensure that DivX Certified home theater devices such as DVD players, set-top boxes, and gaming consoles, can playback all versions of high-quality DivX content.

And **Profile level "AS @ L5"** can correspond to the DivX **High Definition Profile** that is intended for any hardware device that can playback high-definition resolution DivX content.


Profile level setting can be chosen from the preset list only and cannot be altered.

The **Encoding type** section allows you to select the number of passes that the compression will take and configure these passes. It can be selected from the list:


- **Single pass - Bitrate** is used to convert the video file with a constant target bitrate. You can use this option to convert the file with relatively fast speed when you need to get an output file with a certain target bitrate. The target bitrate is selected in the **Bitrate/Target quantizer/Target size** section.

- **Single pass - Quantizer** is used to convert the video file with a constant quality. You can use this option to convert the file so that the output video will have an unknown size, but the quality will be better. The target quantizer is selected in the **Bitrate/Target quantizer/Target size** section.
- **Twopass - 1st pass** is used for the first pass of the multipass conversion mode. See below to learn more on how to perform multipass conversion.
- **Twopass - 2nd pass** is used for the second and all the following passes of the multipass conversion mode. See below to learn more on how to perform multipass conversion.

You can perform multipass conversion with the **AVS Video Converter** program. If you wish your video to reach a specific accurate file size at the end of the encode and pertain a certain quality, you'll need to use a multipass mode. To start encoding in the multipass mode, you need to select the **Twopass - 1st pass** encoding type first, set all the parameters of the codec, click **OK** and, on closing the **AVI Profile editor**, click the **Convert Now!** button. When the conversion is over, you will need to open the **AVI Profile editor** for the second time and press the **Configure** button. Now you can select the **Twopass - 2nd pass** encoding type, set the necessary codec parameters and repeat the conversion once again.

 **Note:** when you select the **Twopass - 1st pass** encoding type, no conversion actually takes place. The codec only analyzes the input video and creates a log file - **Stat file**, where all the information about the file is saved. And only when you select the **Twopass - 2nd pass** encoding type and press the **Convert Now!** button, the conversion is done. You should bear it in mind, as there will be no output **Twopass - 1st pass** mode.

Bitrate/Target quantizer/Target size - section allows the user to select the desired output bitrate, quantizer or size values.

 **Note:** the **Average Bitrate** will make the codec convert the output video with a constant average bitrate, while the **Quantizer** will let the codec concentrate on the output file quality, not taking into account the file size.

The **Average Bitrate** values can be between **0** and **5000**, the default values are **800** for low quality, **1200** for medium quality and **1400** for high quality presets.

The **Target quantizer** values can be between **0** and **51**, the default value is **26**. The higher the value, the lower the quality of the output video file.

The **Target size** values can be selected only when you are going to perform a second pass in **Twopass** mode. This can be especially useful, if you would like to save your output video file onto some storage of a certain size - a CD-R/RW, for instance. The higher the value, the better the quality of the output video file.

Quarter pixel - the codec works with quarter pixels for encoding with a more precise motion compensation. Enabling this option increases the size of auxiliary data so when the bit rate is low the quality can decrease. If you turn the setting on you should bear in mind that the coding and decoding load on the CPU increases heavily and devices with slower CPU's might even not be able to playback the output video files. The compression time with **Quarter pixel** setting **On** increases.

Quarter pixel setting can be either checked or unchecked.

Lumimasking enabled - used to apply more compression to very dark and very bright frames where it cannot be easily noticed by the human eye. At the same time the algorithm releases the resources allowing to decrease the compression of the other frames so the picture looks better. Recommended to turn **On** if the movie contains lots of very dark or very bright scenes. Not recommended for music video clips.

Lumimasking enabled setting can be either checked or unchecked.

Chroma optimizer - used to produce a better impression of objects edges by reducing the noise around them. It is achieved by interpolating the colors in the dark and bright areas situated near the object edges. As the compression ratio of the picture without the noise is higher the output video will have better quality. Recommended to leave it **On**.

Chroma optimizer setting can be either checked or unchecked.

Grayscale enabled - lets the codec not to write the information about the color into the frames thus reducing the video frames size in the output video file up to 10%. These saved resources will be used to enhance the output video quality. Can be recommended if you need to convert a black-and-white source video file.

Grayscale enabled setting can be either checked or unchecked.

In the **Stat file** section you can select the file that will be used to store the information on the input video. This information will be used for the codec to perform a second pass. This option is enabled in twopass mode only.

If you are not sure which settings to use you can press the **Default** button to discard the changes and restore default settings.

When ready press the **OK** button to accept the changes you have made.

Quantization Settings



[Quantization type] [Min I-frame quantizer] [Max I-frame quantizer] [Min P-frame quantizer]

[Max P-frame quantizer] [Min B-frame quantizer] [Max B-frame quantizer] [Trellis quantization]

Quantization type - quantization matrices used to convert the movie. Depends on the video bit rate used, movie type and picture quality.

Quantization type	Details
H.263	<p>Recommended to use with bit rates below 900 kbps for the movies with average frame sizes (512x288 and alike - DivX/Xvid movies that fit into one CD) and smaller as this matrix blurs the picture thus increasing the compression ratio and the quality of the output video on lower bit rates. But if the resolution (frame size) is above average (for instance, 720x480) the picture quality will be worse and it is recommended to use bit rates above 900 kbps.</p> <p>Also suitable for coding the movies with very good picture quality and cartoons.</p>
MPEG	<p>Recommended to use with bit rates above 900 kbps (movies that fit into two CD's) as this matrix keeps the picture sharper using more bits of the information to code the video image. Also suitable for coding the movies with not very good picture quality. At higher bit rates sharpens the images.</p>

Quantization type setting can be chosen from the preset list only and cannot be altered.

Min I-frame quantizer - lets the user configure the minimum quantizer for I-frames. It is strongly recommended that you leave these settings at their default. See also the **B-VOPs** section for more details on different frames types.

The possible values vary from **0** to **10000**. The default value is **1**.

Max I-frame quantizer - lets the user configure the maximum quantizer for I-frames. It is strongly recommended that you leave these settings at their default. See also the **B-VOPs** section for more details on different frames types.

The possible values vary from **0** to **10000**. The default value is **31**.

Min P-frame quantizer - lets the user configure the minimum quantizer for P-frames. It is strongly recommended that you leave these settings at their default. See also the **B-VOPs** section for more details on different frames types.

The possible values vary from **0** to **10000**. The default value is **1**.

Max P-frame quantizer - lets the user configure the maximum quantizer for P-frames. It is strongly recommended that you leave these settings at their default. See also the **B-VOPs** section for more details on different frames types.

The possible values vary from **0** to **10000**. The default value is **31**.

Min B-frame quantizer - lets the user configure the minimum quantizer for B-frames. It is strongly recommended that you leave these settings at their default. See also the **B-VOPs** section for more details on different frames types.

The possible values vary from **0** to **10000**. The default value is **1**.

Max B-frame quantizer - lets the user configure the maximum quantizer for B-frames. It is strongly recommended that you leave these settings at their default. See also the **B-VOPs** section for more details on different frames types.

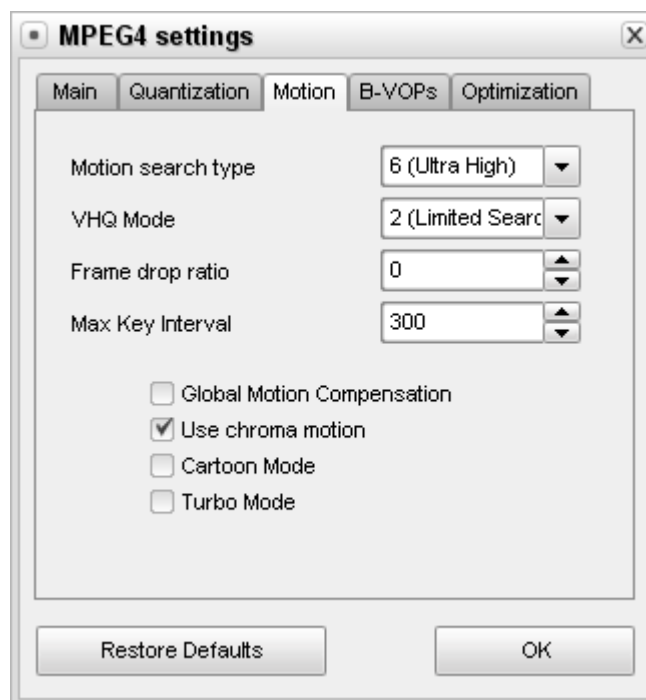
The possible values vary from **0** to **10000**. The default value is **31**.

Trellis quantization - an advanced algorithm that lets the codec estimate the quality-size ratio and choose the coding variant based on it. Can improve the quality keeping the file size smaller. At the same time the conversion time increases as compared to the conversion with this setting disabled.

If you are not sure which settings to use you can press the **Default** button to discard the changes and restore default settings.

When ready press the **OK** button to accept the changes you have made.

Motion Settings



[Motion search type] [VHQ Mode] [Frame drop ratio] [Max key interval] [Global motion compensation]
 [Use chroma motion] [Cartoon mode] [Turbo mode]

Motion search type - decides mostly over the resulting quality at a given bit rate. The codec searches for the motions of the objects in the movie and based on the objects motion estimation compresses the output video. If set to low values, the codec will be faster at the costs of quality for the given bit rate.

Motion search type	Details
0 (None)	Use this setting to switch Motion search off. The conversion process will get faster but the quality of the output movie will be not too good. Really not recommended. Can be used only at very high bit rates as with Motion search off the codec generates only I-frames (frames with a very small compression ratio) and in this case the output video file quality will be very high, but the file size will also be huge.
1 (Very Low)	Use this setting to set a very low level of Motion search . The codec neglects most of the differences between the motions of the objects in the movie thus the compression process gets faster but the size of the frames in the output file is bigger and the quality is not too good. Recommended to use only when the speed of conversion is critical.
2 (Low)	Use this setting to set a low level of Motion search . The codec neglects most of the differences between the motions of the objects in the movie thus the compression process gets faster but the size of the frames in the output file is bigger and the quality is not too good. Recommended to use only when the speed of conversion is critical.
3 (Medium)	Use this setting to set a medium level of Motion search . The codec neglects many differences between the motions of the objects in the movie thus the compression process gets faster but the size of the frames in the output file is bigger and the quality is not too good. Recommended to use only when the speed of conversion is critical.
4 (High)	Use this setting to set a high level of Motion search . The codec searches for differences between the motions of the objects in the movie thus the compression process gets a little slower but the size of the frames in the output file is smaller and the quality is rather good. Recommended to use for good quality when you need a faster conversion.

5 (Very High)	Use this setting to set a very high level of Motion search . The codec searches for most of the differences between the motions of the objects in the movie and uses an advanced algorithm to convert the picture in the movie thus the compression process gets slower but the size of the frames in the output file is smaller and the quality is good. Recommended to use for good quality conversion if you want to fit your movie to two CD's.
6 (Ultra High)	Use this setting to set an ultra high level of Motion search . The codec searches for most of the the differences between the motions of the objects in the movie and uses an advanced algorithm to convert the picture in the movie thus the compression process gets slower but the size of the frames in the output file is smaller and the quality is good. Recommended to use for the best quality conversion if you want to fit your movie to one CD.

Motion search type setting can be chosen from the preset list only and cannot be altered.

VHQ Mode - an algorithm that decides which format will be used to store motion vectors thus reducing the file size. Depends on the **Motion search type** used - the best compression and the best quality can be achieved when **Motion search** is equal to **6 (Ultra High)** and **VHQ mode** is equal to **4 (Wide search)**. Cannot be used together with **Global Motion Compensation**.

VHQ Mode	Details
0 (Off)	Use this setting to switch VHQ Mode off. The biggest output file size and the highest speed of conversion.
1 (Mode Decision)	Use this setting to set VHQ Mode to the lowest level. The big output file size and the high speed of conversion.
2 (Limited Search)	Use this setting to set VHQ Mode to low level. The medium output file size and the medium speed of conversion.
3 (Medium Search)	Use this setting to set VHQ Mode to medium level. The smaller output file size and the lower speed of conversion.
4 (Wide Search)	Use this setting to set VHQ Mode to the highest level. The smallest output file size and the lowest speed of conversion.

VHQ Mode setting can be chosen from the preset list only and cannot be altered.

Frame drop ratio - allows to set the percentage of frames that don't have any important information and thus can be dropped. It is done to reduce the output file size and preserve the quality. The higher the value the more frames are dropped and the picture might have a "jittering" effect. At the same time the picture quality might increase due to the released resources that are redistributed to enhance the quality of the frames that were not dropped so the **Frame drop ratio** setting should be picked experimentally. When set to **0** no frames are dropped.

Frame drop ratio setting can be altered manually to suit your personal needs - you can enter the values using the keyboard or with the mouse clicks. Possible values are **0 - 100**.

Max key interval - maximum number of delta frames (interframes) between two keyframes (intraframes - frames with a very small compression ratio) compulsorily inserted by the codec in addition to automatic I-frames insertion. This is used to reduce the seeking time for fast forward or backward mode when watching the movie. It is necessary for the codec to use I-frames to increase the output video quality as the P-frames (delta frames or interframes) situated between two keyframes are compressed based on the preceding I-frames.

The recommended setting about **300**. It is possible to lower the value a little in fast-motion videos although if the value is too small then too many keyframes (I-frames) are inserted and the video cannot be compressed very effectively thus lowering the output video quality. At the same time it is possible to increase the value in videos with a lot of slow-motion scenes as the codec is able to insert I-frames by itself when needed.

Max key interval setting can be altered manually to suit your personal needs - you can enter the values using the keyboard or with the mouse clicks.

Global motion compensation - helps while coding the objects that only change their size or place in the picture but keep static (for instance, when the camera zooms in or out or moves shooting the panoramic view). It is recommended to use this option when converting movies with nature views and alike. The compression ratio can be increased up to 3% (the released resources will be used to enhance the output video quality) but the conversion and decoding speed will be lower. Most effective for compressing the videos with greater resolution. Cannot be used together with the **VHQ Mode**.

Global motion compensation setting can be either checked or unchecked.

Use chroma motion - an algorithm that lets the codec detect motion in an advanced way and calculate the possibility to additionally compress the output file without the quality loss. The compression ratio can be increased up to 7% thus increasing the final quality but the conversion speed will be much lower.

Use chroma motion setting can be either checked or unchecked.

Cartoon mode - special possibilities for motion estimation when converting cartoons (animated pictures).

Cartoon mode setting can be either checked or unchecked.

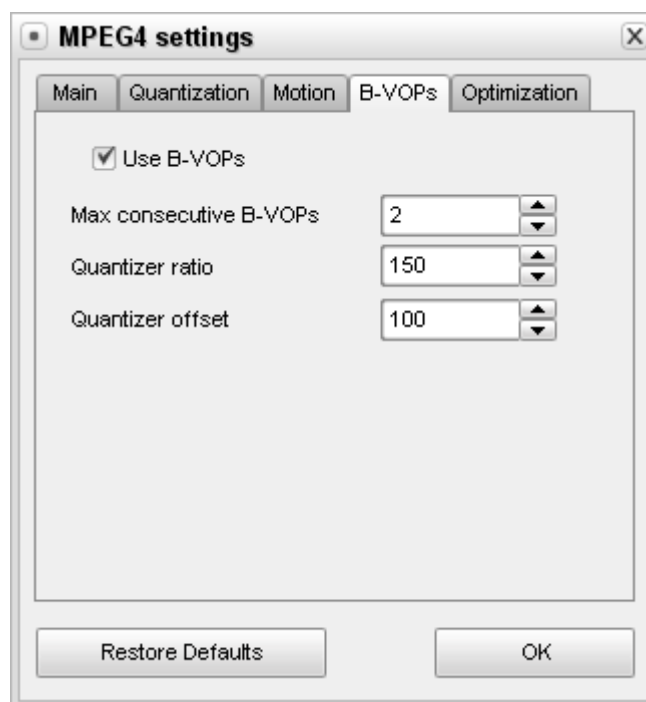
Turbo mode - lets the algorithm estimate the motion for b-frames and quarterpel faster.

Turbo mode setting can be either checked or unchecked.

If you are not sure which settings to use you can press the **Default** button to discard the changes and restore default settings.

When ready press the **OK** button to accept the changes you have made.

B-VOPs Settings



[Use B-VOPs] [Max consecutive B-VOPs] [Quantizer ratio] [Quantizer offset]

Use B-VOPs - an option that allows the codec algorithm to use so called bidirectional frames that are much smaller in size than usual frames and are predicted based on the frames before and after them. They let the codec increase the compression ratio without quality loss.

In video compression three types of frames can be used: I-, P- and B-frames. I-frames are the frames with a very small compression ratio. They are also called keyframes (intraframes) - see **Max key interval**. When watching the film the navigation is done using the I-frames. Between two I-frames the codec uses a succession of P-frames (delta frames or interframes), which have a much higher compression ratio, for instance:

I	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	I	P	P	P	P	P	P	P
---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

and so on. To further increase the video compression ratio, B-frames were introduced. They are inserted between two less compressed frames - I-frames or P-frames, so that the succession of the frames in the video file looks like

I	P	B	P	B	P	B	P	B	P	B	P	B	P	B	P	I	P	B	P	B	P	B	P	B
---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

Compression ratio for the B-frames is the highest among all the frames as they are compared with the previous and the following frames and only difference between them is written into B-frames. The released compression possibility is redistributed between the I-frames and P-frames allowing to compress them less but at the same time keeping the file size smaller. And though the quality of B-frames is worse than the quality of P-frames and I-frames, the picture quality remains quite good due to the reduction of compression of the latter.

It is recommended to leave the **Use B-VOPs** setting **On**.

Use B-VOPs setting can be either checked or unchecked.

Max consecutive B-VOPs - maximum number of sequential bidirectional frames in the video stream. The best result might be achieved when bidirectional frames and interframes are interleaved thus the **Max consecutive B-VOPs** number is equal to **1**. If you set this number to **0** the result will be the same as to uncheck the **Use B-VOPs** setting. At higher values the movie picture might flicker but you might try to change the value to see the result for yourselves.

Quantizer ratio - the ratio used to calculate the bidirectional frames quantizer according to the following formula:

B-frames quantizer = $[(\text{Quantizer of previous P-frame} + \text{Quantizer of following P-frame}) * (\text{B-frame quantizer ratio})/200 + (\text{B-frame offset}/100)]$.

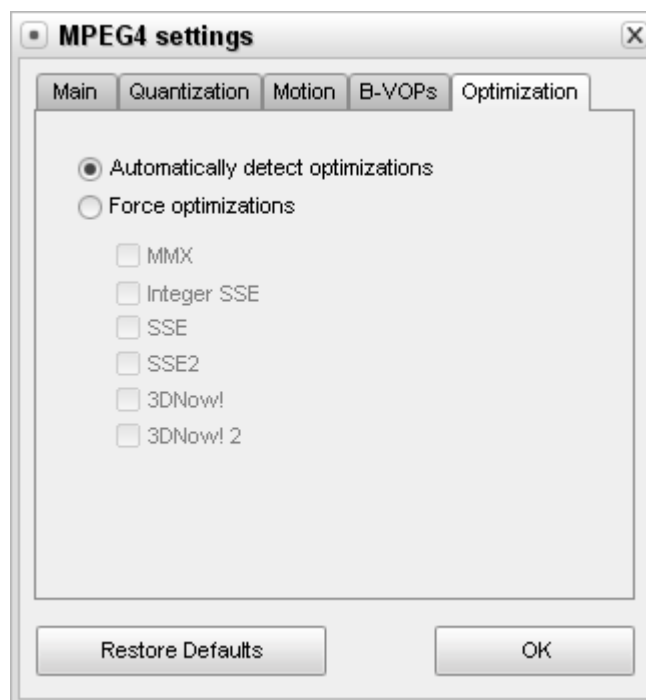
As can be seen, if you increase the default value the ratio of bidirectional frames compression will be also increased decreasing the ratio of compression of the other frames thus improving their quality. At the same time the quality of bidirectional frames will get worse so you should check the output result. If the default value is decreased the ratio of bidirectional frames compression will also decrease thus increasing the compression of the other frames and reducing their quality or increasing the size of the output video file which is not recommended.

Quantizer offset - the offset used to calculate the bidirectional frames quantizer. It is not recommended to change this value although you can try to change it to compare the results.

If you are not sure which settings to use you can press the **Default** button to discard the changes and restore default settings.

When ready press the **OK** button to accept the changes you have made.

Optimization Settings



[Automatically detect optimizations] **[Force optimizations]**

Automatically detect optimizations - this setting lets the codec automatically detect the CPU type and the instructions set it can use best.

It is recommended to leave this setting **On**.

Force optimizations - this setting lets you override the codec internal CPU detection and use the instructions set you consider necessary.

Usually, you should leave this on auto detection. If you get weird crashes or strange results, you might first try to disable SSE + SSE 2, if still nothing changed disable 3DNow! + 3DNow! 2 and so on.

This is only for situations where the wrong CPU extensions get used and produce erroneous output.

3DNow! and 3DNow! 2 belongs to AMD (Advanced Micro Devices), while the rest are Intel Architecture technology.

It is not recommended to change this setting.

If you are not sure which settings to use you can press the **Default** button to discard the changes and restore default settings.

When ready press the **OK** button to accept the changes you have made.

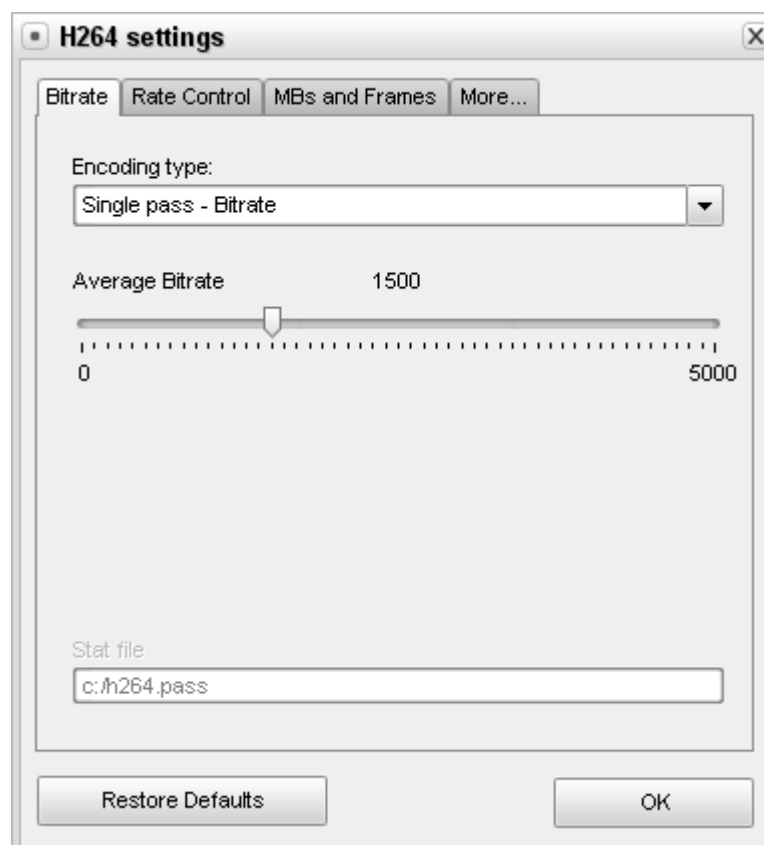
H.264 Advanced Settings

H.264 - H.264, or AVC, for Advanced Video Coding, is a digital video codec standard which is noted for achieving very high data compression. It was written by the ITU-T Video Coding Experts Group together with the ISO/IEC Moving Picture Experts Group as the product of a collective partnership effort known as the Joint Video Team. The intent of the H.264/AVC project was to create a standard that would be capable of providing good video quality at bit rate that are substantially lower (e.g., half or less) than what previous standards would need (e.g., relative to MPEG-2, H.263, or DivX and Xvid).

The following tabs of the codec settings window are available:

- **Bitrate** - include **Encoding type, Average bitrate/Quantizer, Stat file.**
- **Rate Control settings** - include **Bitrate, Quantization Limits, Scene cuts.**
- **MBs and Frames settings** - include **Partitions, B-Frames.**
- **More settings** - include **Motion Estimation, Miscellaneous options.**

Bitrate Settings




[Encoding type] [Average bitrate/Quantizer] [Stat file]

The **Encoding type** section allows you to select the number of passes that the compression will take and configure these passes. It can be selected from the list:


- **Single pass - Bitrate** is used to convert the video file with a constant target bitrate. You can use this option to convert the file with relatively fast speed when you need to get an output file with a certain target bitrate.
- **Single pass - Quantizer** is used to convert the video file with a constant quality. You can use this option to convert the file so that the output video will have an unknown size, but the quality will be better.

- **Multipass - First pass** is used for the first pass of the multipass conversion mode. See below to learn more on how to perform multipass conversion.
- **Multipass - First pass (Fast)** is used for the fast first pass of the multipass conversion mode. See below to learn more on how to perform multipass conversion.
- **Multipass - Nth pass** is used for the second and all the following passes of the multipass conversion mode. See below to learn more on how to perform multipass conversion.

You can perform multipass conversion with the **AVS Video Converter** program. If you wish your video to reach a specific accurate file size at the end of the encode and pertain a certain quality, you'll need to use a multipass mode. To start encoding in the multipass mode, you need to select the **Multipass - First pass** or **Multipass - First pass (Fast)** encoding types first, set all the parameters of the codec, click **OK** and, on closing the **AVI Profile editor**, click the **Convert Now!** button. When the conversion is over, you will need to open the **AVI Profile editor** for the second time and press the **Configure** button. Now you can select the **Multipass - Nth pass** encoding type, set the necessary codec parameters and repeat the conversion once again.

 **Note:** when you select the **Multipass - First pass** or **Multipass - First pass (Fast)** encoding types, no conversion actually takes place. The codec only analyzes the input video and creates a log file - **Stat file**, where all the information about the file is saved. And only when you select the **Multipass - Nth pass** encoding type and press the **Convert Now!** button, the conversion is done. You should bear it in mind, as there will be no output **video** file after the **Multipass - First pass** or **Multipass - First pass (Fast)** modes.

The **Average bitrate/Quantizer** section allows the user to select the desired output bitrate or quantizer values.

 **Note:** the **Average Bitrate** will make the codec convert the output video with a constant average bitrate, while the **Quantizer** will let the codec concentrate on the output file quality, not taking into account the file size.

The **Average Bitrate** values can be between **0** and **5000**, the default values are **800** for low quality, **1000** for medium quality and **1200** for high quality presets.

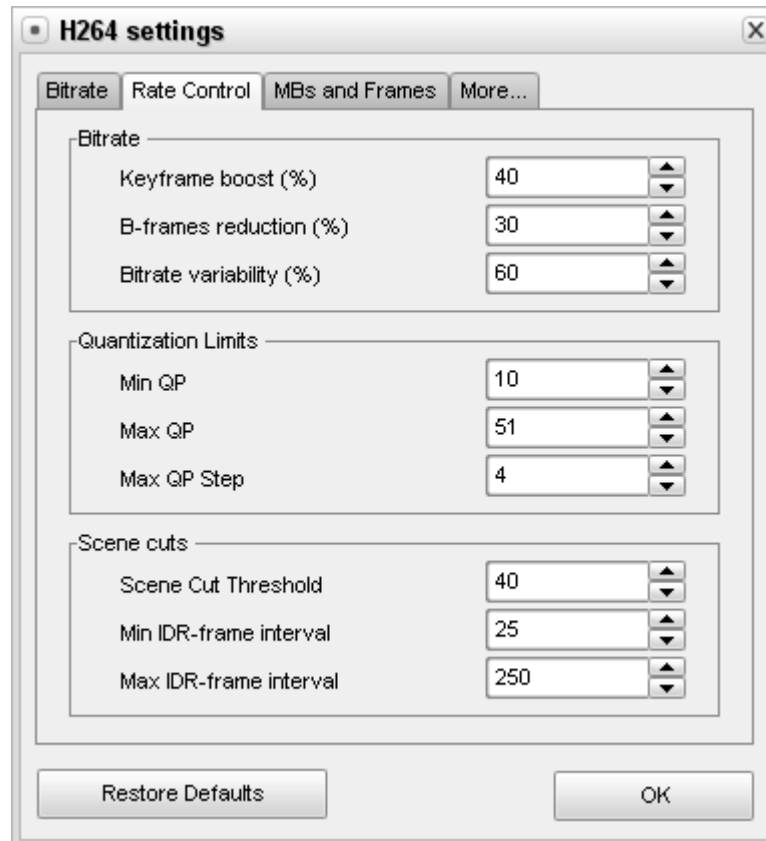
The **Quantizer** values can be between **0** and **51**, the default value is **26**. The higher the value, the lower the quality of the output video file.

In the **Stat file** section you can select the file that will be used to store the information on the input video. This information will be used for the codec to perform a second pass. This option is enabled in multipass mode only.

If you are not sure which settings to use you can press the **Restore Defaults** button to discard the changes and restore default settings.

When ready press the **OK** button to accept the changes you have made.

Rate Control Settings



[Bitrate] [Quantization Limits] [Scene cuts]

The **Bitrate** section comprises the following codec parameters:

- Keyframe boost** controls how much the quality of key frames (I-frames) is boosted as compared to the other frames (P-frames). Please, see the **B-VOPs section** of the MPEG-4 codec for more detail on different frame types used in video coding. The boost gives I-frames some extra quality, so frames predicted from them will also be of better quality, leading to a better visual impression. The higher the value, the more quality is given to the I-frames and the less to the other frames. You can try the higher values for low-bitrate and low-quality encodes or lower values for bright, continuously fast-moving videos where the background is frequently changing. The possible values vary from **0** to **70**. The default value is **40**.
- B-frames reduction** controls how much the quality of B-frames is reduced as compared to the other frames (P-frames). This cut in B-frame bitrate is hardly noticeable to the human visual system because B-frames are used inconspicuously in between other frames to more efficiently recreate the video's motion. It is possible to lower this value a little for high-bitrate/low-quantizer video thereby ensuring a more uniform quality to details, motion and the video as a whole. For animated content (cartoons, anime), you might use higher values. The possible values vary from **0** to **60**. The default value is **30**.
- Bitrate Variability** controls the extent to which the codec can vary the quality throughout the movie at the bitrate specified. The lower this option is set, the more unstable and erratic the quality changes can become. The higher this setting is, the more equal the quality becomes, producing a video with more stable quality. The possible values vary from **0** to **100**. The default value is **60**.

All the **Bitrate** settings can be altered manually to suit your personal needs - you can enter the values using the keyboard or with the mouse clicks.

The **Quantization Limits** section comprises the following codec parameters:

- Min QP** sets the lowest quantizer your video can attain at any point. Very high values are not recommended unless you plan video with an immensely high bitrate and low resolution. The possible values vary from **0** to **51**. The default value is **10**.
- Max QP** sets the highest quantizer you video can reach. It is strongly recommended leaving it where at the default value of **51**. The possible values vary from **0** to **51**. The default value is **51**.

- **Max QP Step** controls how much the quantizer can change between two consecutive frames. Setting this value too low forces the codec to switch quality levels slowly, which can be devastating to the compression of certain scenes which, for example, could suddenly use a lower quantizer to maintain similar visual quality. Setting it too high can lead to conspicuous jumps in quality. The possible values vary from **0** to **50**. The default value is **4**.

All the **Quantization Limits** settings can be altered manually to suit your personal needs - you can enter the values using the keyboard or with the mouse clicks.

The **Scene cuts** section comprises the following codec parameters:

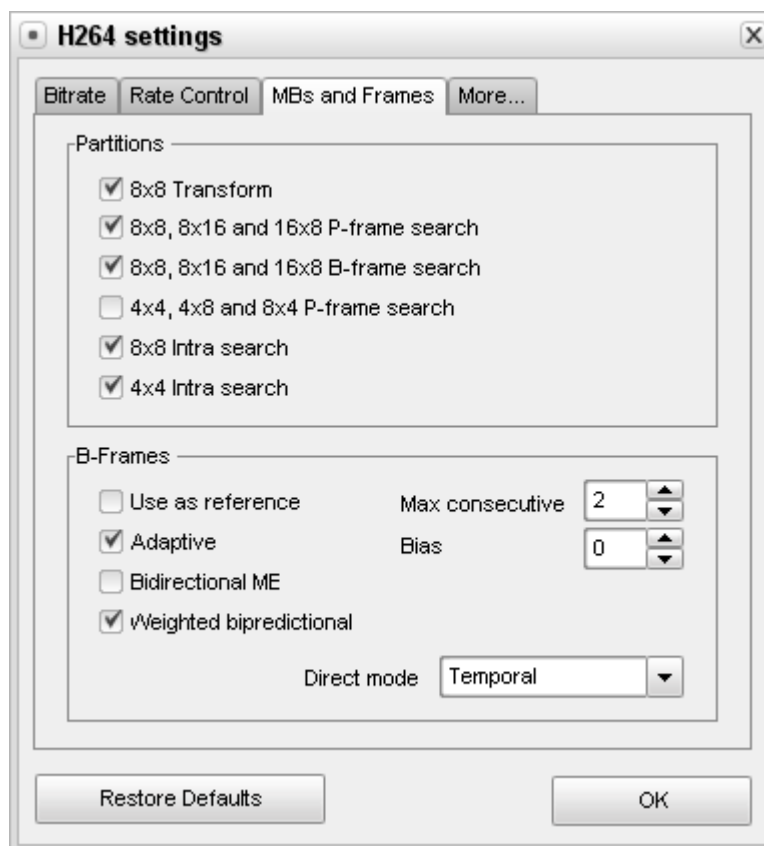
- **Scene Cut Threshold** determines how much a frame needs to change before being considered a scene change by the codec. The higher the value, the less sensitive scene change detection will be. For dark videos you might want to decrease this value so as to let the codec more accurately determine scene changes. As a more general rule, videos with more subtle scene changes need a higher scene cut threshold and bright high-contrast videos with very prominent scene changes might actually be reason to attempt to set a lower threshold. The possible values vary from **0** to **100**. The default value is **40**.
- **Min IDR-frame interval** sets the minimum number of frames between two keyframes. If this value is set too high, too much time will go by without the codec detecting a scene change and implementing the necessary keyframe. Setting it too low can result in a waste of bitrate and sometimes flickering. The possible values vary from **0** to **100000**. The default value is **25**.
- **Max IDR-frame interval** sets the maximum distance between two keyframes. Setting this too low can result in an oversaturation of key frames, possible flickering, and general bitrate waste, reducing overall quality. Setting this too high can result in seeking issues, and any artifacts/encoding flaws during the time between key frames will remain on the screen longer. The possible values vary from **0** to **100000**. The default value is **250**.

All the **Scene cuts** settings can be altered manually to suit your personal needs - you can enter the values using the keyboard or with the mouse clicks.

If you are not sure which settings to use you can press the **Restore Defaults** button to discard the changes and restore default settings.

When ready press the **OK** button to accept the changes you have made.

MBs and Frames Settings



[Partitions] [B-Frames]

The **Partitions** section comprises the following codec parameters:

The partition search and decisions increase the accuracy and thus the quality and compression efficiency of the codec, enabling higher quality output. As a general rule, the more searches types of searches the codec performs on the visual information, the more accurately and efficiently it can predict and encode them. Disabling any partition search and decision options will speed up the encoding process at the expense of the quality.

The **8x8 Transform** feature is a very powerful compression technique which acts upon larger blocks of visual information and enables the usage of other high-quality partition options such as the **8x8 Intra search** which would otherwise be unusable without the **8x8 Transform**. Both of these options increase quality to a significant degree, but the usage of the the **8x8 Transform** would make your video **High Profile AVC** compatible and would break the encoded video's compatibility with **Main Profile AVC**. Thus you should make sure your device supports **High profile AVC**, otherwise you might not be able to playback the resulting output video file.

All the **Partitions** settings can be either checked or unchecked.

The **B-Frames** section comprises the following codec parameters:

- **Use as reference** allows a B-frame to reference another B-frame. Checking this setting might increase quality slightly because these B-frames can be predicted from one another instead of being limited to the P-frames around them for prediction and at the same time the time of the conversion will also increase. This setting should be activated when using more than 2 consecutive B-frames (See the **Max consecutive** setting below).
- **Max consecutive** indicates how many B-frames will be used consecutively. You can use up to 5 consecutive B-frames, but using 2-3 is the most sensible choice. The possible values vary from **0** to **5**. The default value is **0**.
- **Adaptive** activates adaptive use of B-frames. Without this feature, the codec will always put as many B-frames in a row as set in the **Max consecutive** field.
- **Bias** lets the codec increase or decrease the probability that B-frames are being used. The higher this number, the more frequently B-frames will be dropped in. Setting this parameter to **100**, for instance, will force the codec to use the maximum

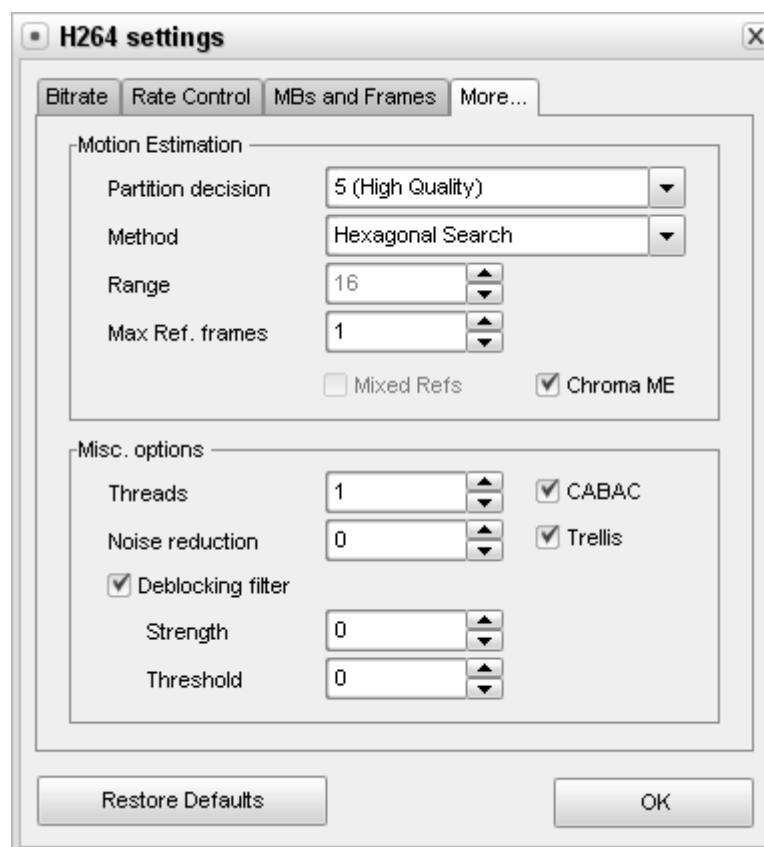
number of B-frames specified in the **Max consecutive** box - it will be the same as uncheck **Adaptive** check-box. Setting this to **-100** will mean that almost no B-frames are used. For most videos, the optimal number of B-frames will be chosen at **Bias** value of **0**. The possible values vary from **-100** to **100**. The default value is **0**.

- **Bidirectional ME** parameter allows the codec to predict some B-frames using motion before and after them. This increases quality of the output video.
- **Weighted bipredictional** setting allows B-frames to be predicted more heavily from one P frame or another. It results in more accurate and efficient B-frames, therefore increasing quality.
- **Direct B-frame mode** allows B-frames to use predicted motion vectors instead of coding the actual motion, thus saving space and increasing compression efficiency. This setting indicates how motion vectors for B-frames are derived: **Spatial** uses neighboring blocks in the same frame, which may result in a higher PSNR (it can be used for animated content as it better handles inconsistent motion jumps), whereas **Temporal** makes use of neighboring frames - which many people perceive as higher quality (better used for real-life content with fluid motion).

If you are not sure which settings to use you can press the **Restore Defaults** button to discard the changes and restore default settings.

When ready press the **OK** button to accept the changes you have made.

More Settings



[Motion Estimation] [Miscellaneous options]

The **Motion Estimation** section comprises the following codec parameters:

- **Partition Decision** parameter controls the precision of the motion estimation process. The selection menu contains a list of 7 options, arranged from the least quality **1 (Fastest)** to the highest quality **6b (RDO on B-frames)** options. It is strongly recommended to use the options below **5 (High Quality)** only in case the speed is crucial and the quality is expendable. In all the other cases the values of **5 (High Quality)**, **6 (RDO)** and **6b (RDO on B-frames)** should be used. The higher the value, the better the quality at the expense of the conversion speed.

- **Method** indicates in which direction the motion estimation search is performed. The better the method, the higher the likelihood of the codec finding and accurately recording motion, thereby increasing the compression quality and efficiency. It is recommended to use either **Hexagonal search** for slower machines or **Uneven Multi-Hexagon** for more powerful configurations. The **Exhaustive Search** can be used only on extra-powerful computers as it decreases encoding speed dramatically.
- **Range** specifies the motion search range in pixels. The higher the range, the more pixels will be analyzed, which is paid by slower encoding time. This parameter is only used together with **Uneven Multi-Hexagon** and **Exhaustive Search** motion search methods. The possible values vary from **0** to **64**. The default value is **16**.
- **Max Ref. frames** indicates how many previous frames can be referenced by a P-frame or B-frame. The higher is this value, the better but the coding process gets slower at the same time. The possible values vary from **0** to **16**. The default value is **0**.
- **Mixed Refs** option offers the codec greater freedom to make references on a smaller scale when checked. Requires the **Max Ref. frames** value to be more than **1** to be turned on.
- **Chroma ME** uses the color information in the video's chroma plane to estimate motions, which increases both the accuracy and visual quality of motion estimation. This almost always leads to a significant quality increase, especially with animated material. It can be recommended to switch this option on.

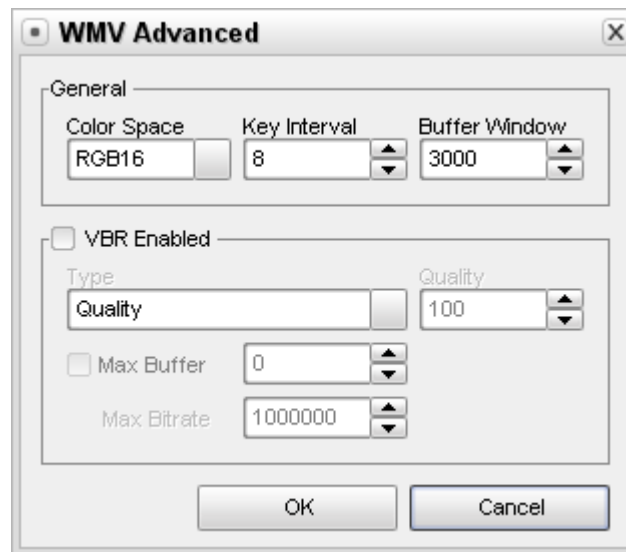
The **Quantization Limits** section comprises the following codec parameters:

- **Threads** should be equal to the number of encoding threads that can be used in the encoding process. The number of threads should correspond with the number of processor cores the computer has. Each single Hyper Threading processor can be counted as 2 threads. When not sure how many cores your computer has, or whether or not it has HT, it's safe to keep this setting at **1**. This option speeds up the encoding process on multi-core machines. The possible values vary from **1** to **4**. The default value is **1**.
- **CABAC - Context Adaptive Binary Arithmetic Coding** - is a feature that allows syntax elements of the video stream to be predicted by context. Basically, it increases compression efficiency at no quality loss (10-15% varying by video and by bitrate), though the decoding speed can slow down. This option should be unchecked only if you plan to playback the output video on a portable device with a slow processor. It is **On** by default.
- **Noise reduction** option switches on and off the image noise prefiltering. The value of **0** turns this option off, the other values (1 to 65535) turn on the filter of small image noises. The possible values vary from **0** to **65535**. The default value is **0**.
- **Trellis** is an advanced algorithm that lets the codec estimate the quality-size ratio and choose the coding variant based on it. Can improve the quality keeping the file size smaller. At the same time the conversion time increases as compared to the conversion with this setting disabled. It is only available if the **CABAC** setting is on.
- **Deblocking filter** option switches on or off the in-loop deblocking filter. Enabling this feature also increases the conversion time.
- **Strength** determines how strong the deblocking effect needs to eliminate the blocks where the **Threshold** identified them. The possible values vary from **-6** to **6**. The default value is **0**.
- **Threshold** determines how much of the material actually needs to be deblocked. The higher the value is set, the more of the video will be perceived as blocks, so the more the deblocker will act upon. The possible values vary from **-6** to **6**. The default value is **0**.

If you are not sure which settings to use you can press the **Restore Defaults** button to discard the changes and restore default settings.

When ready press the **OK** button to accept the changes you have made.

WMV Advanced Settings



[General] [VBR Enabled]

The **General** WMV codec settings include:

- **Color Space** - an abstract mathematical model describing the way colors are selected for representation in the video. The following values are available: **RGB16**, **RGB24**, **RGB32**, **I420**, **IYUV**, **YV12**, **YUY2**.

The **Color Space** setting can be chosen from the preset list only and cannot be altered.

The default value is **RGB16**.

- **Key Interval** - maximum interval between two keyframes compulsorily inserted by the codec in addition to automatic I-frames insertion. This is used to reduce the seeking time for fast forward or backward mode when watching the movie. It is necessary for the codec to use I-frames to increase the output video quality as the P-frames (delta frames or interframes) situated between two keyframes are compressed based on the preceding I-frames.

The recommended setting about **8**. It is possible to lower the value a little in fast-motion videos although if the value is too small then too many keyframes (I-frames) are inserted and the video cannot be compressed very effectively thus lowering the output video quality. At the same time it is possible to increase the value in videos with a lot of slow-motion scenes as the codec is able to insert I-frames by itself when needed.

Key Interval setting can be altered manually to suit your personal needs - you can enter the values using the keyboard or with the mouse clicks.

The default value is **8**.

- **Buffer Window** - determines the amount of content that can fit into the buffer. The buffer is needed to ensure that the data flow is continuous.

VBR Enabled - check this option to select the video compression using variable bitrate encoding. This will mean that the program will encode the video using different bitrate values for different places in the video depending on the video itself and the VBR **Type** selected from the drop-down list:

- **Quality** - use this option to select the quality based compression. You can choose the **Quality** value in the appropriate field entering it using the keyboard or with the mouse clicks. The best quality corresponds to the **100** value and the worst is designated by the **0**.

- **Constrained** - use this option to select the bitrate based compression. You can set the **Max Buffer** and **Max Bitrate** values in the appropriate fields. The bigger values will mean the lesser constrain type and vice versa. You can enter the values using the keyboard or with the mouse clicks.
- **Unconstrained** - use this option to let the program itself decide what is best for the video compression. The video will be converted using unconstrained variable bitrate encoding.

If you are not sure which settings to use you can press the **Cancel** button to discard the changes and close the window.

When ready press the **OK** button to accept the changes you have made.

Overview

This list includes the mobile devices which can handle media files of different types.

- **Apple iPod, iPod touch & iPhone**
- **Sony PSP**
- **Archos DVR**
- **BlackBerry Pearl**
- **Samsung Players**
- **Creative Players**
- **iRiver**
- **SanDisk Sansa e200 series**
- **Epson P-2000/P-4000 (P-3000/P-5000)**
- **Cowon iAudio X5**

Bluetooth is an industrial specification for wireless personal area networks, also known as IEEE 802.15.1. Bluetooth provides a way to connect and exchange information between devices like personal digital assistants (PDAs), mobile phones, laptops, PCs, printers and digital cameras via a secure, low-cost, globally available short range radio frequency.

Bluetooth is a radio standard primarily designed for low power consumption, with a short range (power class dependent: 1 meter, 10 meters, 100 meters) and with a low-cost transceiver microchip in each device.

Infrared data transmission is also employed in short-range communication among computer peripherals and personal digital assistants or mobile phones. These devices usually conform to standards published by IrDA, the Infrared Data Association. Remote controls and IrDA devices use infrared light-emitting diodes (LEDs) to emit infrared radiation which is focused by a plastic lens into a narrow beam. The beam is modulated, i.e. switched on and off, to encode the data. The receiver uses a silicon photodiode to convert the infrared radiation to an electric current. It responds only to the rapidly pulsing signal created by the transmitter, and filters out slowly changing infrared radiation from ambient light. Infrared communications are useful for indoor use in areas of high population density. Infrared does not penetrate walls and so does not interfere with other devices in adjoining rooms.

Infrared is the most common way for remote controls to command appliances.

The **USB** mobile devices it can communicate with the computer in the following ways:

- Devices that represent **USB Mass Storage Device Class (MSC or UMS)** are seen as a removable drive in the system and some of them as a fixed drive.
- Devices representing **USB MTP Device Class** use **Media Transfer Protocol (MTP)** supported by Microsoft Windows Media Player 10 and 11.
- Devices that use Microsoft **ActiveSync** for communication, i.e. mobile phones, smartphones and PDAs or pocket PCs with Microsoft Windows Mobile or Microsoft Windows CE installed. For these devices support you need to have a personal computer running Windows 2000 SP4, Windows 2003, Windows XP with ActiveSync program v4.5 or later installed or running Windows Vista with Windows Mobile Device Center v6 or later installed.

Depending on the communication type used different file types might be available for upload to the same devices.

Apple iPod, iPod touch & iPhone

Audio

Frequency response: 20Hz to 20,000Hz

Audio formats supported:

- MP3 16 to 320 Kbps (8 to 320 Kbps for iPod shuffle)
- MP3 VBR
- M4A, M4B with AAC codec 16 to 320 Kbps (8 to 320 Kbps for iPod shuffle)
- WAV
- Apple Lossless
- AIFF (except iPod shuffle)

Upgradable firmware enables support for future audio formats.

Video (iPod Video, iPod touch and iPhone only)

Video formats supported:

- **H.264 video**, up to 1.5 Mbps, 640 by 480 pixels, 30 frames per sec., Low-Complexity version of the H.264 Baseline Profile with AAC-LC audio up to 160 Kbps, 48 kHz, stereo audio in .m4v, .mp4 file formats;
- **H.264 video**, up to 768 Kbps, 320 by 240 pixels, 30 frames per sec., Baseline Profile up to Level 3.0 with AAC-LC audio up to 160 Kbps, 48 kHz, stereo audio in .m4v, .mp4 file formats;
- **MPEG-4 video**, up to 2.5 Mbps, 640 by 480 pixels, 30 frames per sec., Simple Profile with AAC-LC audio up to 160 Kbps, 48 kHz, stereo audio in .m4v, .mp4 file formats.

Upgradable firmware enables support for future video formats.

Photo support (except iPod touch and iPhones)

Syncs iPod-viewable photos in formats:

- JPEG
- BMP
- GIF
- TIFF
- PNG

Text support (except iPod shuffle, iPod touch and iPhones)

- TXT (.txt files)
- VCARD (.vcf files)



Note: iPod first and second generation models (iPod 1G & iPod 2G) are not supported. Upload to all the later models is supported via USB interface only (Apple iTunes must be installed on the personal computer for iPhone and iPod touch upload support, although it is not used for uploading).

Video can be converted for **all** iPod and iPhone models. Uploading to iPhone 3GS and iPhone 3G with firmware 3.x and higher can only be done using Apple iTunes application.

Sony PSP

Audio support

UMD:

- H.264/MPEG-4 AVC Main Profile Level 3
- Linear PCM
- ATRAC3plus

Memory Stick:

- ATRAC3plus
- MP3 (MPEG-1/2 Audio Layer 3)
- Linear PCM (WAV form)
- AAC (MP4 form)
- WMA

Video support

UMD:

- H.264/MPEG-4 AVC Main Profile Level 3

Memory Stick:

- MPEG-4 SP (MPEG-4 AAC)
- H.264/MPEG-4 AVC Main Profile (MPEG-4 AAC)

Photo support

Memory Stick:

- JPEG (Conforms with DCF 2.0/Exif 2.21)
- TIFF
- GIF
- PNG
- BMP

Archos

Archos AV 500 and AV 700

Audio playback:

- Stereo MP3 decoding at 30-320 kb/s CBR & VBR
- WMA (including protected WMA files)
- WAV (PCM & ADPCM)

Video playback:

- MPEG-4 SP with B-Frames with stereo sound
- AVI file format (audio/video file container by Microsoft) near DVD quality up to 720x480 @ 30 f/s (NTSC), 720x576 @ 25 f/s (PAL) (has not been certified by DivX, Inc., may not read all DivX® 4.0 & 5.0 files; does not read DivX® 3.11 & 6.0 files)
- Microsoft WMV9 Simple Profile up to 352x288@30f/s and 800 KBit/s; supports WM DRM

Photo viewer:

- JPEG (except progressives)
- BMP

Archos 404/504/604

Audio playback:

- Stereo MP3 decoding at 30-320 Kbits/s CBR & VBR
- WMA
- Protected WMA
- WAV (PCM/ADPCM)

With optional software plug-ins:

- AAC music files (**UMS** only, see the **Overview** for more detail)
- AC3 stereo sound files

Video playback:

- MPEG-4 (ASP@L5 AVI, up to 720x480 @ 30 f/s (NTSC), 720x576 @ 25 f/s (PAL))
- WMV (MP@ML, up to 720x480 @ 30 f/s (NTSC), 720x576 @ 25 f/s (PAL))

With optional software plug-ins:

- H.264 up to 720x480 @ 30 f/s (NTSC), 720x576 @ 25 f/s (PAL) and AAC sound (**UMS** only, see the **Overview** for more detail)
- MPEG-2 MP@ML up to 10 Mbps (up to 720x480 @ 30 f/s (NTSC), 720x576 @ 25 f/s (PAL)) and AC3 stereo sound (**UMS** only, see the **Overview** for more detail)

Photo viewer:

- JPEG
- BMP
- PNG

Certain audio and video bitrates, video and photo resolutions, and/or file variations may not be compatible.

BlackBerry Pearl

Audio playback:

- .mp3
- .wav
- .m4a
- .m4b
- .aac
- .amr
- .mid

Video playback:

- .avi
- .3gp

The MPEG-4 video files with resolution 320 by 240 pixels at 30 frames per second are supported.

Photo viewer:

- .jpg
- .jpeg
- .bmp
- .gif
- .tif
- .tiff
- .png

Certain audio and video bitrates, video and photo resolutions, and/or file variations may not be compatible.

Samsung Players

Samsung YP-T8/T8N/T7F/D1

Audio support:

- MPEG-1/2/2.5 Layer3 (.mp3 - 8 Kbps~320 Kbps, 8 kHz~48 kHz)
- WMA (.wma - 5 Kbps~320 Kbps, 8 kHz~48 kHz)
- Ogg (.ogg - Q1~Q10)

Video support:

- .svi (Samsung VIdео - special MPEG-4 video file type with video resolution 208x176 and frame rate 15 fps with MP3 audio of 44,1 kHz 128 Kbps)
- .mpg (resolution 160x128 and frame rate 15 fps with MP3 audio of 44,1 kHz 128 Kbps)
- .avi (resolution 160x128 and frame rate 15 fps with MP3 audio of 44,1 kHz 128 Kbps)
- .wmv (resolution 160x128 and frame rate 15 fps with MP3 audio of 44,1 kHz 128 Kbps)

Image support:

- .jpg (file size no more than 3 MB)
- .bmp
- .gif

Text support:

- .txt

Samsung YP-T9

Audio support:

- MPEG-1/2/2.5 Layer3 (.mp3 - 8 Kbps~320 Kbps, 8 kHz~48 kHz)
- WMA (.wma - 5 Kbps~320 Kbps, 8 kHz~48 kHz)
- Ogg (.ogg - Q1~Q10) (**UMS** only, see the **Overview** for more detail)

Video support:

- .svi (Samsung VIdео - special MPEG-4 video file type with video resolution 208x176 and frame rate 15 fps with MP3 audio of 44,1 kHz 128 Kbps) (**UMS** only, see the **Overview** for more detail)

Image support:

- .jpg (file size no more than 3 MB)

Text support:

- .txt (**UMS** only, see the **Overview** for more detail)

Samsung YP-T7

Audio support:

- MPEG-1/2/2.5 Layer3 (.mp3 - 8 Kbps~320 Kbps, 8 kHz~48 kHz)
- WMA (.wma - 5 Kbps~320 Kbps, 8 kHz~48 kHz)
- Ogg (.ogg - Q1~Q10)

Image support:

- .jpg (file size no more than 3 MB)
- .bmp
- .gif

Text support:

- .txt

Samsung YP-K5/K3**Audio support:**

- MPEG-1/2/2.5 Layer3 (.mp3 - 8 Kbps~320 Kbps, 8 kHz~48 kHz)
- WMA (.wma - 5 Kbps~320 Kbps, 8 kHz~48 kHz)
- Ogg (.ogg - Q1~Q10) (**UMS** only, see the **Overview** for more detail)

Image support:

- .jpg (file size no more than 3 MB)

Text support:

- .txt (**UMS** only, see the **Overview** for more detail)

Samsung YP-T6/U3/U2/U1/F2/F1/C1/55**Audio support:**

- MPEG-1/2/2.5 Layer3 (.mp3 - 8 Kbps~320 Kbps, 8 kHz~48 kHz)
- WMA (.wma - 5 Kbps~320 Kbps, 8 kHz~48 kHz)
- Ogg (.ogg - Q1~Q10)

Samsung YP-Z5/YH-925**Audio support:**

- MPEG-1/2/2.5 Layer3 (.mp3 - 8 Kbps~320 Kbps, 8 kHz~48 kHz)
- WMA (.wma - 5 Kbps~320 Kbps, 8 kHz~48 kHz)

Image support:

- .jpg (file size no more than 3 MB)

Creative Players

Creative ZEN Stone/Nano Plus**Audio support:**

- MPEG-1/2/2.5 Layer3 (.mp3 - 8 Kbps~320 Kbps, 8 kHz~48 kHz)
- WMA (.wma - 5 Kbps~320 Kbps, 8 kHz~48 kHz)

Creative ZEN Stone/Sleek/ Micro/Neeon**Audio support:**

- MPEG-1/2/2.5 Layer3 (.mp3 - 8 Kbps~320 Kbps, 8 kHz~48 kHz)
- WMA (.wma - 5 Kbps~320 Kbps, 8 kHz~48 kHz)
- WAV

Creative ZEN V/Sleek Photo/ Microphoto**Audio support:**

- MPEG-1/2/2.5 Layer3 (.mp3 - 8 Kbps~320 Kbps, 8 kHz~48 kHz)
- WMA (.wma - 5 Kbps~320 Kbps, 8 kHz~48 kHz)
- WAV

Image support:

- .jpg
- .jpeg

Creative ZEN Vision/Vision W/ Vision:M/V Plus/ Neon 2**Audio support:**

- MPEG-1/2/2.5 Layer3 (.mp3 - 8 Kbps~320 Kbps, 8 kHz~48 kHz)
- WMA (.wma - 5 Kbps~320 Kbps, 8 kHz~48 kHz)
- WAV

Video support:

- .avi
- .mpg
- .mpeg
- .wmv

Image support:

- .jpg
- .jpeg

iRiver

iRiver H10**Audio support:**

- MP3 (32 to 320 Kbps)
- MP3 VBR
- WMA (32 to 192 Kbps)

Photo support:

- JPEG (the progressive JPG is not supported)

Text support:

- TXT

iRiver U10**Audio support:**

- MPEG-1/2/2.5 Layer 3 (8 to 320 Kbps)
- WMA (8 to 320 Kbps)
- OGG (up to Q10)
- ASF

Video support:

- AVI (AVI compatible with MPEG-4 SP (Simple Profile) QVGA (320x240) or less/ 15 frames per second or less/ 384 kbps or less with audio MP3 128 kbps 44.1 kHz CBR)

Photo support:

- JPEG (the progressive JPG is not supported)

Text support:

- TXT

SanDisk Sansa® e200 Series

Audio support:

- MP3 (8 to 320 Kbps)
- WMA (8 to 320 Kbps), including WMA with DRM protection

Video support:

- MJPEG (up to 176 by 240 pixels, 15 frames per sec., specifically converted and with duration no more than 10 minutes) (**UMS** only, see the **Overview** for more detail)

Photo support:

- JPEG (specifically converted from GIF, BMP and TIFF) (**UMS** only, see the **Overview** for more detail)

Epson P-2000/P-4000 (P-3000/P-5000)

Audio support:

- MP3 (.mp3 - MPEG-1 Layer 3) - maximum bit rate 320 kbps (48KHz, 16bit Stereo)
- AAC (.m4a) - maximum bit rate 320 kbps (48KHz, 16bit Stereo)

Video support:

- Motion JPG (.mov, .avi) - maximum resolution 640 x 480 pixels, minimum resolution 160 x 112 pixels, supported audio CODEC: μ -LAW, A-LAW, PCM
- MPEG-4 (.asf, .mp4, .mov, .avi) - maximum resolution 640 x 480 pixels, minimum resolution 160 x 112 pixels, supported audio CODEC: AAC, MP3, G726(ADPCM), μ -LAW, A-LAW, PCM

Photo File Format support:

- JPEG (.jpeg, .jpg, .jpe) - minimum image size 160 x 120 pixels, maximum image size 17.8 Megapixels, maximum image aspect ratio 8:1
- TIFF (.tif, .tiff) - display TIFF file stored in header created by EPSON F-3200 scanner
- RAW (.nef, .crw, .erw, .cr2, .orf, .mrw, .pef, .erf) - select DSLR (display JPEG stored in header)

Cowon iAudio X5

Audio playback:

- .mp3
- .wma
- .ogg
- .wav
- .asf
- .flac

Video playback:

- .avi (MPEG-4 video files with resolution is 160 by 120 pixels at 15 frames per second)

Photo viewer:

- .jpg

Text support:

- .txt

Certain audio and video bitrates, video and photo resolutions, and/or file variations may not be compatible.

Troubleshooting

The **Troubleshooting** section contains the AVS4YOU programs common error messages and notifications and the possible ways to solve the problems that occur. Below you will see the list of the pages that refer to troubleshooting of various AVS4YOU programs and some common cases as well:

- AVS4YOU programs activation issues;
- AVS Mobile Uploader issues.

AVS4YOU Programs Activation Troubleshooting

Error (Message) Description

License key is invalid

Possible Reasons and Ways to Solve the Problem

- Your license key may contain both symbols 0 (zero) and the letter O. Make sure that you enter all the digits and letters of the license key correctly. Please check that you are not mistaking 0 (zero) for the letter O.
- It is recommended just to copy your license key from the registration letter and paste it to the appropriate text box in the activation form. In case you cannot use the mouse right-click menu, please select the license key and use the **Ctrl+C** keyboard combination to copy the key and the **Ctrl+V** to paste it into the appropriate field of the activation application.

Error (Message) Description

Unable to establish connection to the server

Possible Reasons and Ways to Solve the Problem

- The firewall or antivirus installed on your computer might block the AVS4YOU activation application internet connection necessary for the successful activation process. Please create a rule for the activation program so that it could connect our web server and complete the activation process. In case you do not know how to do that, please disable your antivirus/firewall during the activation process, and do not forget to enable it back afterwards. AVS4YOU software will need to connect to our server only once - during activation and validation of your license.

Error (Message) Description

License expired

Possible Reasons and Ways to Solve the Problem

1. Check the date and time settings on your personal computer.
2. Delete all the contents of the C:\Documents and Settings\All Users\Application Data\AVS4YOU\Licence (for Windows XP) or C:\Users\All Users\AVS4YOU\Licence (for Windows Vista) folder. In case you cannot find the specified folder check if it is hidden (you can find it out the following way: go to the Windows **Start** menu, select **Control Panel - Folder Options**, then the **View** tab of the opened window and select the **Show hidden files and folders** option.)
3. Activate your programs once again.
4. If all the above steps do not help please contact our support team using the **Support Form**.

Error (Message) Description

The Internet connection could not be established

Possible Reasons and Ways to Solve the Problem

1. Please download the **HID Generator** utility: www.avsmmedia.com/files/HID_Generator.exe. Left click it to download. If you can not download the utility, please copy the link from the page and paste into the address bar of your browser, next click **Enter** on the keyboard (or the browser **Go to** button) to start downloading.

2. Transfer it to your offline PC and launch. After you launch the utility, the **Hardware ID** window will be opened. Please, press the **Get hardware ID** button. You will see your generated hardware ID in the field (it should look similar to this: "NUpUMjk5RDMtU1QzMTIwMDI2QS0zLjA2=").
3. Please send a message to our support team via the **Support Form** containing the following information: your hardware ID (copy it from the **Hardware ID** window) and your current license key. Also please inform us about the operating system you use.
4. After that we will make and send you a *.lickey file, which will automatically insert all necessary activation information to your computer registry so that you could successfully finish the activation process.

AVS Mobile Uploader Troubleshooting

Error (Message) Description

No mobile devices can be detected by the program

Possible Ways to Solve the Problem

1. For all the USB connection types (USB-UMS, USB-MTP, USB-ActiveSync, USB-iPhone/iPod touch):
 - make sure that the mobile device is on, if not please turn it on;
 - check the device connection to the personal computer (make sure that the cable is connected and the USB port works properly), connect the device to the proper USB port of your personal computer if necessary;
 - make sure that you connect the mobile device directly to the computer USB port, please do not use any USB hubs, USB extension cables, display or keyboard USB ports.
2. USB-MTP connection type:
 - check the Windows Media Player version installed on your system, make sure that you have WMP version 10 or higher (11/12) installed; you can always download and install the latest version of Windows Media Player from the Microsoft web site.
3. USB-ActiveSync connection type:
 - check if the Microsoft ActiveSync is installed on your computer; if not please install Microsoft ActiveSync (this can be downloaded from the Microsoft web site) and after that register the AVSMobileDevice2ActiveSync.dll (to do this go to the Windows **Start** menu and select **All Programs - AVS4YOU - Repair**).
4. USB-iPhone/iPod touch connection:
 - check the iTunes version installed on your computer, make sure that you have the proper iTunes version for your mobile device - 7, 8 or later; you can always download and install the latest iTunes version from the Apple web site;
 - connect only one device (iPhone or iPod touch) to your personal computer in case you have several.
5. Bluetooth connection type:
 - make sure that the mobile device is on, if not please turn it on;
 - make sure that the personal computer Bluetooth adapter is on, if not please plug it in and/or turn it on;
 - make sure that the Bluetooth service of the mobile device is on, if not please enable it;
 - please check the Bluetooth protocol stack used by your computer Bluetooth adapter, **AVS Mobile Uploader** supports Microsoft (Windows XP SP2/3, Windows Vista) and Toshiba (Windows XP SP2/3) Bluetooth protocol stacks **only**; BlueSoleil and Widcomm (Broadcom) Bluetooth protocol stacks are not supported.
6. IrDA (Infrared) connection type:
 - make sure that the mobile device is on, if not please turn it on;
 - make sure that the personal computer Infrared adapter is on, if not please plug it in and/or turn it on;
 - make sure that the Infrared port of the mobile device is on, if not please enable it;
 - check the personal computer Infrared adapter and mobile device Infrared port connectivity, make sure that the adapter and the device port are directed to each other and nothing blocks the connection; place the computer Infrared adapter and the mobile device Infrared port as close to each other as possible.

Enabling the DMA Mode

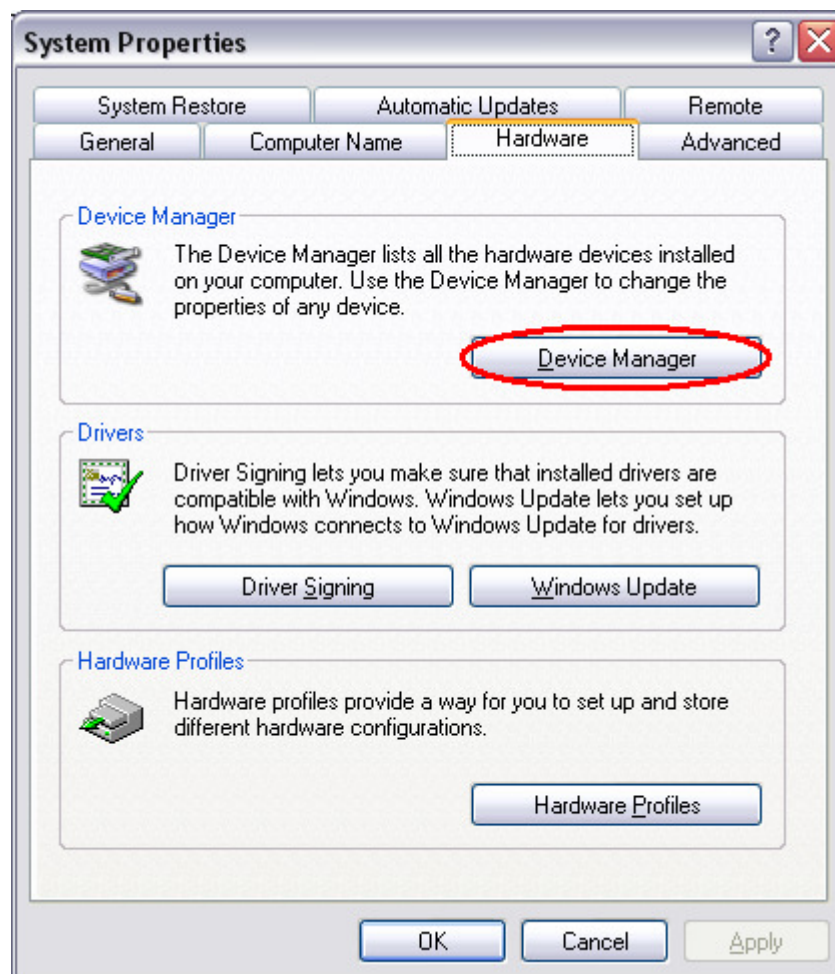
DMA mode - Direct Memory Access - allows certain hardware subsystems within a computer to access system memory for reading and/or writing independently of the CPU. Many hardware systems use DMA including disk drive controllers, graphics cards, network cards, and sound cards.

DMA is an essential feature of all modern computers, as it allows devices of different speeds to communicate without subjecting the CPU to a massive interrupt load. Otherwise, the CPU would have to copy each piece of data from the source to one of its registers, and then write it back again to the new location. During this time the CPU would be unavailable for other tasks.

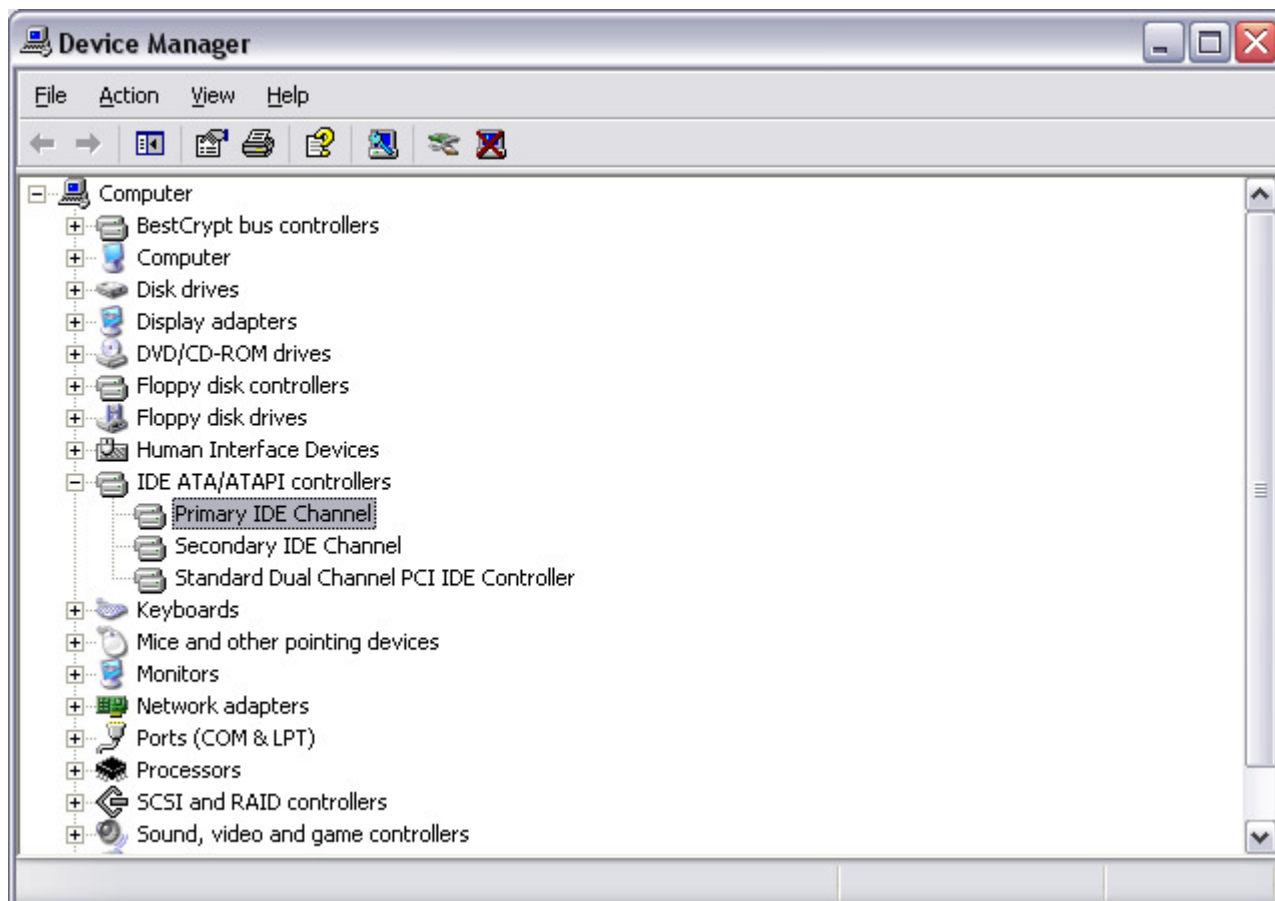
A DMA transfer essentially copies a block of memory from one device to another. While the CPU initiates the transfer, the transfer itself is performed by the DMA Controller. A typical example is moving a block of memory from external memory to faster, internal (on-chip) memory. Such an operation does not stall the processor, which as a result can be scheduled to perform other tasks. It is essential in providing so-called zero-copy implementations of peripheral device drivers as well as functionalities such as network packet routing, file copy, streaming video over a network, etc.

To enable the DMA mode you should do the following:

1. Go to the Windows **Start** menu and select **Control Panel**;
2. In the **Control Panel** window choose the **System** icon, double-click it to open the system properties window;
3. In the **Hardware** tab there is a **Device Manager** button:

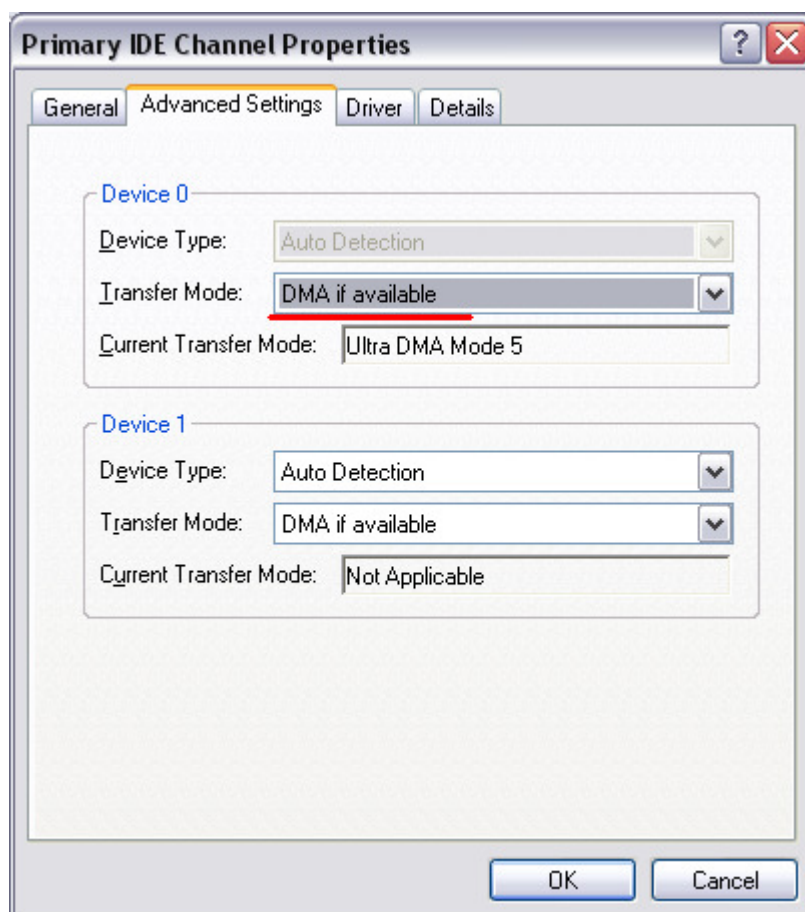


You should click it to open the **Device Manager** window:

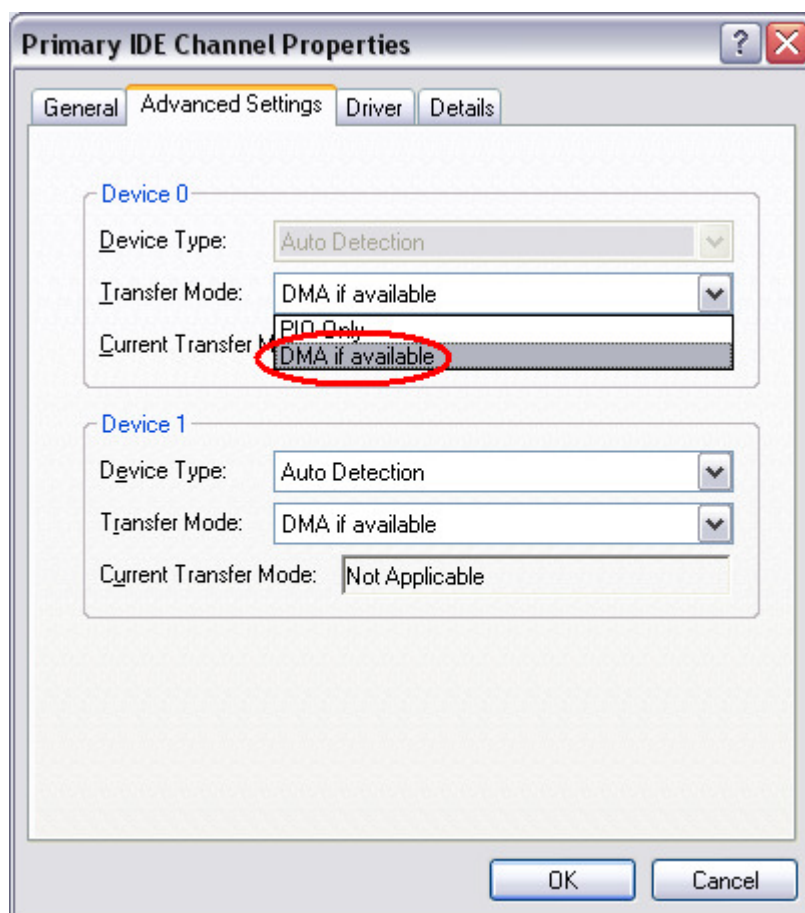


Here you should find **IDE ATA/ATAPI controllers** among the other devices and click the "+" in front of it to open the list of available IDE channels that the controller has.

4. Double-click the **Primary IDE Channel** caption to open the controller properties window:



In the **Advanced Settings** tab you will see the **Transfer Mode** drop-down box where the current transfer mode is displayed. To change the transfer mode and enable DMA you should open the drop-down box and choose **DMA if available** option:



After that click **OK** to accept the changes you have made. The same can be done for the **Secondary IDE Channel**. After you enabled DMA modes for the IDE channels you can close the device manager window. Sometimes the reboot might be needed to apply all the changes.

Note: not all the controllers allow the user to change the transfer mode. If you install the third party driver for your computer IDE controller see the instructions that go along with the driver software. Usually when the special driver for the controller is installed the DMA mode is enabled automatically by the driver software.

Disc Types

AVS4YOU programs currently support three types of optical disc formats that are available for consumer use. This section will better explain the purpose of these formats and their place in history. With the support of other disc types and formats the corresponding information will be added.

- **Compact Discs**
- **Digital Versatile Discs**
 - **DVDs of different capacities**
 - **DVDs of different medium type**
- **Blu-Ray Discs**

Compact Discs

Digital Audio Compact Discs (CD-DA) were first introduced to the consumer audio market in 1980 by Philips and Sony as an alternative to vinyl records and magnetic tape cassettes. In 1984, Philips and Sony extended the technology to include data storage and retrieval and introduced a new format: the Data Compact Disc (CD-ROM).

Since then, the Compact Disc has dramatically changed the way that we listen music and handle electronic information. With a capacity of up to 700 megabytes of computer data or 80 minutes of high quality audio, the Compact Disc has revolutionized the distribution of every kind of electronic information.

In 1990, Philips and Sony extended the technology again and the Compact Disc became recordable (CD-R). Before the introduction of the CD-R technology, compact discs were produced in commercial replication plants by stamping the media with a pre-recorded master. Today, discs are produced in replication plants where large quantities are required. For small production volumes (up to 500 copies or more, depending on your location and manufacturers in your market), it can be significantly less expensive to master your own discs using commercially available Compact Disc writing drives.

Whether a Compact Disc was stamped at a replication facility or "burned" using a compact disc recorder, it can theoretically be read by any available CD-ROM drive. In reality, some inexpensive media and CD players do not work very well together. Only the physical composition of a commercially replicated disc and a CD-R disc are different. The former is coated with a reflective layer of aluminum resulting in a typical silver color. The latter is coated with a reflective layer behind a thin layer of dye (colors can range from blue, silver, green, and others).

In 1997 Compact Disc ReWritable (CD-RW) - a rewritable optical disc format - was introduced. While a prerecorded compact disc has its information permanently stamped into its polycarbonate plastic substrate, a CD-RW disc contains a phase-change alloy recording layer composed of silver, indium, antimony and tellurium. An infra-red laser beam is employed to selectively heat and melt the crystallized recording layer into an amorphous state or to anneal it at a lower temperature back to its crystalline state. The different reflectance of the resulting areas make them appear like the pits and lands of a prerecorded CD. A CD-RW recorder can rewrite 700 MB of data to a CD-RW disc roughly 1000 times.

A Compact Disc contain blocks (or sectors) of 2352 bytes each, going from the center hole to the outer diameter. The block at logical address 0 (beginning of the disc) is located near the center of the disc; the last addressable block (end of the disc) is located near the outer edge of the disc.

Blank discs are usually available in the following sizes (block sizes approximated).

- 21 minutes = 94500 blocks
- 63 minutes = 283500 blocks
- 74 minutes = 333000 blocks
- 80 minutes = 360000 blocks

Digital Versatile Discs

In January of 1995, Sony was the first to showcase Digital Versatile Disc technology after having announced co-development six months earlier. Three weeks later, Pioneer, Time Warner, and Toshiba announced their own version of DVD, which had major differences from the format developed by Philips and Sony. Immediately disputes started over which format should be used, since each had their own advantages and disadvantages.

The disputes did not stop until May of 1995, when a major report was released by leading hardware and software manufacturers (Apple, Compaq, Fujitsu, HP, IBM, and Microsoft), stating that the two formats were not going to be supported by the industry when there were clear advantages in using one format. The result was a mix of the two formats and the formation of the DVD Forum by all companies involved in the two original formats (Matsushita, Mitsubishi, Pioneer, Philips, Hitachi, JVC, Sony, Thompson, Toshiba, and Time Warner).

In 1996, the specifications for DVD-ROM and DVD-Video were finalized and DVD players began to ship to market. One year later, the DVD Forum worked on the specifications for the first recordable (DVD-R) implementation of DVD. In November of 1997, Pioneer announced the first DVD-R drives, while Matsushita and Toshiba released the first DVD erasable (DVD-RAM) drives.

During 1998, a new coalition was formed to develop re-writable discs specifically for storage of data based on 25-year-old CD patents. This format was initially called DVD+RW and was not allowed to use the DVD logo after the DVD Forum ruled that it could not be used in the branch technology. While the technologies between the two formats are similar, licensing rules dictate differences, some of which can be witnessed in the logo branding of devices and media.

Much like Compact Discs, Digital Versatile Discs are comprised of a continuous spiral of blocks (or sectors) starting from the center hole ending at the outer rim of the disc. The blocks are only of size 2048 bytes, making the format less complicated.

There are several types of DVD discs depending on their **capacity** and on the **medium type**.

The main types of DVDs that differ as to their **capacity** are:

DVD disc types	First side		Second side		Total capacity
	First layer capacity	Second layer capacity	First layer capacity	Second layer capacity	
DVD-5	4.7 Gb	-	-	-	4.7 Gb
DVD-9	4.3 Gb	4.3 Gb	-	-	8.6 Gb
DVD-10	4.7 Gb	-	4.7 Gb	-	9.4 Gb
DVD-14	4.3 Gb	4.3 Gb	4.7 Gb	-	13.3 Gb
DVD-18	4.3 Gb	4.3 Gb	4.3 Gb	4.3 Gb	17.2 Gb

DVD-5 - single sided, single layer (disc capacity about 4.7 Gb, the working surface of such a disc is situated on one side of it and consists of one layer only);

DVD-9 - single sided, double layer (disc capacity about 8.6 Gb, the working surface of such a disc is situated on one side of it and consists of two layers about 4.3 Gb each);

DVD-10 - double sided, single layer on both sides (disc capacity about 9.4 Gb, the working surfaces of such a disc are situated on both its sides and either consists of one layer about 4.7 Gb);

DVD-14 - double sided, double layer on one side and single layer on the other side (disc capacity about 13.3 Gb, the working surfaces of such a disc are situated on both its sides and consist of two layers about 4.3 Gb each on one side and one layer about 4.7 Gb on the other side);

DVD-18 - double sided, double layer on both sides (disc capacity about 17.2 Gb, the working surfaces of such a disc are situated on both its sides and either consists of two layers about 4.3 Gb each).



Note: the DVD capacity is measured in the so called **decimal gigabytes** (one gigabyte is equal to 1000 megabytes). The real size of the DVDs is smaller when measured in the so called **computer gigabytes** or **gibibytes** (one gigabyte is equal to 1024 megabytes).

The disc **medium** can be:

DVD-ROM (read only, industrially manufactured)

A factory-made DVD that is manufactured by a press. The DVD specification Version 1.0 was announced in 1995 and finalized in September 1996. "DVD" was originally an acronym for "digital video disc"; some members of the DVD Forum believe that it should stand for "digital versatile disc", to indicate its potential for non-video applications. Toshiba adheres to the interpretation of "digital versatile disc". The DVD Forum never reached a consensus on the matter, however, and so today the official name of the format is simply "DVD"; the letters do not "officially" stand for anything.

DVD-R (R = Recordable once)

A DVD-Recordable or DVD-R is an optical disc with a larger storage capacity than a CD-R, typically 4.7 GB instead of 700 Mb, although the capacity of the original standard was 3.95 Gb. The DVD-R format was developed by Pioneer in autumn of 1997. It is supported by most DVD players, and is approved by the DVD Forum. A DVD-R can be written to only once.

DVD-RW (RW = ReWritable)

A DVD-RW is a rewritable optical disc with equal storage capacity to a DVD-R, typically 4.7 GB. The format was developed by Pioneer in November 1999 and has been approved by the DVD Forum. Unlike DVD-RAM, it is playable in about 75% of conventional DVD players. The primary advantage of DVD-RW over DVD-R is the ability to erase and rewrite to a DVD-RW disc. According to Pioneer, DVD-RW discs may be written to about 1,000 times before needing replacement, making them comparable with the CD-RW standard. DVD-RW discs are commonly used for volatile data, such as backups or collections of files. They are also increasingly used for home DVD video recorders.

DVD-R DL (double layer)

DVD-R DL (Dual Layer) (Also Known as DVD-R9) is a derivative of the DVD-R format standard. DVD-R DL discs employ two recordable dye layers, each capable of storing nearly the 4.7 GB of a single-layer disc, almost doubling the total disc capacity to 8.54 GB. Discs can be read in many DVD devices (older units are less compatible) and can only be written using DVD±RW DL burners.

DVD+R (R = Recordable once)

A DVD+R is a writable optical disc with 4.7 GB of storage capacity. The format was developed by a coalition of corporations, known as the DVD+RW Alliance, in mid 2002. Since the DVD+R format is a competing format to the DVD-R format, which is developed by the DVD Forum, it has not been approved by the DVD Forum, which claims that the DVD+R format is not an official DVD format. The DVD+R format is divergent from the DVD-R format. Hybrid drives that can handle both, often labeled "DVD±RW", are very popular since there is not yet a single standard for recordable DVDs. There are a number of significant technical differences between the dash and plus formats, and although most consumers would not notice the difference, the plus format is considered by some to be better engineered.

DVD+RW (RW = ReWritable)

A DVD+RW is a rewritable optical disc with equal storage capacity to a DVD+R, typically 4.7 GB (interpreted as $4.7 \cdot 10^9$, actually 2295104 sectors of 2048 bytes each). The format was developed by a coalition of corporations, known as the DVD+RW Alliance, in late 1997, although the standard was abandoned until 2001, when it was heavily revised and the capacity increased from 2.8 GB to 4.7 GB. Credit for developing the standard is often attributed unilaterally to Philips, one of the members of the DVD+RW Alliance. Although DVD+RW has not yet been approved by the DVD Forum, the format is too popular for manufacturers to ignore, and as such, DVD+RW discs are playable in 3/4 of today's DVD players. Unlike the DVD-RW format, DVD+RW was made a standard earlier than DVD+R.

DVD+R DL (double layer)

DVD+R DL (Double Layer), also known as DVD+R9, is a derivative of the DVD+R format created by the DVD+RW Alliance. Its use was first demonstrated in October 2003. DVD+R DL discs employ two recordable dye layers, each capable of storing nearly the 4.7 GB of a single-layer disc, almost doubling the total disc capacity to 8.55 GB. Discs can be read in many DVD devices (older units are less compatible) and can only be created using DVD+RW DL and Super Multi drives. The latest DL drives write double layer discs slower

(2.4x to 8x) than single-layer media (8x-16x). A double layer rewritable version called DVD+RW DL is also in development but is expected to be incompatible with existing DVD devices.

DVD-RAM (random access rewritable)

DVD-RAM (DVD-Random Access Memory) is a disc specification presented in 1996 by the DVD Forum, which specifies rewritable DVD-RAM media and the appropriate DVD writers. DVD-RAM media are used in computers as well as camcorders and personal video recorders since 1998. You can identify a DVD-RAM disc due to lots of little rectangles distributed on the surface of the data carrier. Compared with other writeable DVDs, DVD-RAM is more closely related to hard disk technology, as it has concentric tracks instead of one long spiral track. Unlike the competing formats DVD+R, DVD-R, DVD+RW and DVD-RW, you do not need special DVD burning software to write or read DVD-RAMs on a computer. DVD-RAMs can be accessed like a usual floppy disk or hard drive. DVD-RAM is more suited to data backups and use in camcorders than DVD±RW. The advantages of DVD-RAM discs are the following: long durability of minimum 30 years and they can be rewritten more than 100,000 times, and also the fact that no DVD burning software required in computers as the discs can be used and accessed like a removable hard disk.

Blu-Ray Discs

Blu-ray Disc (BD) is a next-generation optical disc format meant for storage of high-definition video and high-density data. The Blu-ray standard was jointly developed by a group of leading consumer electronics and PC companies called the Blu-ray Disc Association (BDA), led by Sony and Philips. Blu-ray has information capacity per layer of 25 gigabytes.

Blu-ray gets its name from the shorter wavelength (405 nm) of a "blue" (technically blue-violet) laser that allows it to store substantially more data than a DVD, which has the same physical dimensions but uses a longer wavelength (650 nm) red laser.

BD-R (R = Recordable once)

A single-layer Blu-ray disc (BD) can fit 23.3, 25, or 27 GB; this is enough for approximately four hours of high-definition video with audio. A dual-layer BD can fit 46.6, 50, or 54 GB, enough for approximately eight hours of HD video. Capacities of 100 GB and 200 GB, using four and eight layers respectively, are currently being researched; TDK has already announced a four-layer 100 GB disc.

BD-RE (RE = REwritable)

The BD-RE (rewritable) standard is available, along with the BD-R (recordable) and BD-ROM formats, which became available in mid-2004, as part of version 2.0 of the Blu-ray specifications. BD-ROM pre-recorded media are to be available by early 2006.

In addition to 12 cm discs, an 8 cm variation for use with camcorders is planned that will have a capacity of 15 GB.

To ensure that the Blu-ray Disc format is easily extendable (future-proof) it also includes support for multi-layer discs, which should allow the storage capacity to be increased to 100GB/200GB (25GB per layer) in the future simply by adding more layers to the discs.

Blu-ray drives currently in production can transfer approximately 36 Mbit/s (54 Mbit/s for BD-ROM), but 2x speed prototypes with a 72 Mbit/s transfer rate are in development. Rates of 8x or more are planned for the future.

Because the Blu-ray standard places data so close to the surface of the disc, early discs were susceptible to dust and scratches and had to be enclosed in plastic caddies for protection. The solution to this problem arrived in January 2004 with the introduction of a clear polymer that gives Blu-ray discs unprecedented scratch resistance. The coating, developed by TDK Corporation under the name "Durabis," allows BDs to be cleaned safely with only a tissue - a procedure that can damage CDs, DVDs. Bare BDs with the coating are reportedly able to withstand attack by a screwdriver.

Glossary

A

AAC

Advanced Audio Coding. Standardized, lossy compression and encoding scheme for digital audio. AAC is promoted as the successor to the MP3 format by MP3's creator, Fraunhofer IIS. Depending on the encoder used, AAC generally achieves better sound quality than MP3 at the same bitrate, particularly below 192 kbit/s. AAC's most famous usage is as the default audio format of Apple's iPhone, iPod, iTunes, and the format used for all iTunes Store audio (with extensions for proprietary Digital Rights Management (DRM) where used). AAC is also the standard audio format for Sony's PlayStation 3, the MPEG-4 video standard, and HE-AAC is part of digital radio standards like DAB+ and Digital Radio Mondiale.

ADPCM

Adaptive differential pulse-code modulation. A technique for converting sound or analog information to binary information (a string of 0's and 1's) by taking frequent samples of the sound and expressing the value of the sampled sound modulation in binary terms. ADPCM is used to send sound on fiber-optic long-distance lines as well as to store sound along with text, images, and code on a CD-ROM. This method of encoding sound data files takes up less storage space than the regular PCM format used by WAV and AIFF files--and CD audio for that matter. ADPCM comes in more than one flavor: IMA's ADPCM, for example, is used on the Sony Mini Disc to cram more data onto a smaller platter; Microsoft ADPCM is used as part of Windows 95's canon of audio codecs.

AMR

Adaptive Multi-Rate. An audio data compression scheme optimized for speech coding. AMR was adopted as the standard speech codec by 3GPP in October 1998 and is now widely used in GSM. It uses link adaptation to select from one of eight different bit rates based on link conditions. AMR is also a file format for storing spoken audio using the AMR codec. Many modern mobile telephone handsets will allow you to store short recordings in the AMR format, and some commercial programs exist to convert between this and other formats such as MP3, although it should be remembered that AMR is a speech format and is unlikely to give ideal results for other audio.

artifacts

Unusual or unwanted video distortion. Examples of artifacts include flicker, jitter, degradation of resolution, and aspect ratio abnormalities.

aspect ratio

The aspect ratio is the relationship of screen width to height. Standard broadcast TV has a ratio of 4 to 3. Widescreen commonly has a ratio of 16 to 9 (although 1.85:1 and 2.11:1 are also used). To show widescreen movies on a standard TV screen, either letterbox (with black bars above and below the image) or 'pan and scan' (which crops the movie to fit the screen) are common techniques.

audio feedback

A special kind of feedback which occurs when a sound loop exists between an audio input (for example, a microphone or guitar pickup) and an audio output (for example, a loudspeaker). In this example, a signal received by the microphone is amplified and passed out of the loudspeaker. The sound from the loudspeaker can then be received by the microphone again, amplified further, and then passed out through the loudspeaker again. This is a good example of positive feedback. The frequency of the resulting sound is determined by resonant frequencies in the microphone, amplifier, and loudspeaker, the acoustics of the room, the directional pick-up and emission patterns of the microphone and loudspeaker, and the distance between them.

AVI

Audio Video Interleave. The original Microsoft file format for Microsoft's Video for Windows standard. It is an audio video standard designed by Microsoft and is apparently proprietary and Microsoft Windows specific. It is a format developed for storing video and audio information. Files in this format have an .AVI extension. However, Video for Windows does not require any special hardware, making it the lowest common denominator for multimedia applications.

B

B-frames

Bidirectional frames - frames used in MPEG-4 format that are compressed based on the frames before and after them. Have the greatest compression ratio among all frame types. See **B-VOPs** codec settings section for more detail.

BD

Blu-ray Disc. A next-generation optical disc format meant for storage of high-definition video and high-density data. The Blu-ray standard was jointly developed by a group of leading consumer electronics and PC companies called the Blu-ray Disc Association (BDA), led by Sony and Philips. A single-layer Blu-ray disc (BD) can fit 23.3, 25, or 27 GB; this is enough for approximately four hours of high-definition video with audio. A dual-layer BD can fit 46.6, 50, or 54 GB, enough for approximately eight hours of HD video. Capacities of 100 GB and 200 GB, using four and eight layers respectively, are currently being researched; TDK has already announced a four-layer 100 GB disc.

bandwidth

A network's capacity for transferring an amount of data in a given time.

bidirectional frames

See **B-frames**.

bit rate

The number of bits transferred per second.

brightness

The value of a pixel along the black-white axis.

B-VOPs

An option that allows the codec algorithm to use so called bidirectional frames that are much smaller in size than usual frames and are predicted based on the frames before and after them.

C

capture

To record audio, video, or still images as digital data in a file.

capture device

Hardware that transfers audio and video from an external source, such as a VCR or camcorder, to a computer.

chapters

DVD discs can be split up into titles, and then further into chapters. For example, on a disc with multiple sporting events, each event may be designated as a separate title. Each period in the individual sporting event or title may be designated a chapter.

chroma motion

An algorithm that lets the codec detect motion in an advanced way and calculate the possibility to additionally compress the output file without the quality loss.

chroma optimizer

An algorithm used to produce a better impression of objects edges by reducing the noise around them.

clip

1. The audio, video, or still images within DVD discs. Clips are stored in collections.
2. The audio, video, or still images within **AVS Video Editor**.

clip creation

The process of detecting and splitting video content into separate clips.

codec

An abbreviation for COmpressor/DECompressor. Software or hardware used to compress and decompress digital media.

compression

A process for removing redundant data from a digital media file or stream to reduce its size or the bandwidth used.

content

Audio, video, images, text, or any other information that is contained in a digital media file or stream.

CSS

"Content Scramble System". The official DVD-Video digital encryption scheme.

D**data rate**

The speed of a data transfer process, usually expressed in kilobytes (thousands of bytes) per second. See also bit rate.

DC Bias (DC offset)

An offsetting of a signal from zero. The term originated in electronics, where it refers to a direct current voltage, but the concept has been extended to any representation of a waveform. DC offset is the mean amplitude of the waveform; if the mean amplitude is zero, there is no DC offset. DC offset is usually undesirable. For example, in audio processing, a sound that has DC offset will not be at its loudest possible volume when normalized (because the offset consumes headroom), and this problem can possibly extend to the mix as a whole, since a sound with DC offset and a sound without DC offset will have DC offset when mixed. It may also cause other artifacts depending on what is being done with the signal. DC offset can be reduced in real-time by a one-pole one-zero high-pass filter. When one already has the entire waveform, subtracting the mean amplitude from each sample will remove the offset if the offset is constant throughout the waveform. Otherwise, the high-pass filter should be used.

decode

The process of converting the data on a DVD into the video image on the screen.

decompress

Convert video and audio data from a compressed form back into its original form.

delta frames

See **P-frames**.

digital video (DV)

Video images and sound stored in a digital format.

to download

To transfer a file over a network in response to a request from the device that receives the data. Downloaded content is kept on the receiving device for playback on demand. In contrast, streamed content is played as it is delivered.

DVD

Digital Versatile Disc - an optical disc used to store information that has rather a large capacity as compared with usual CD's. Needs special DVD drive to read such a disc.

E**encode**

Convert video or audio into a compressed format.

F**FFT**

Fast Fourier transform. An efficient algorithm to compute the discrete Fourier transform (DFT) and its inverse. FFTs are of great importance to a wide variety of applications, from digital signal processing and solving partial differential equations to algorithms for quick multiplication of large integers. The discrete Fourier transform, occasionally called the finite Fourier transform, is a transform for Fourier analysis of finite-domain discrete-time signals. As with most Fourier analyses, it expresses an input function in terms of a sum of sinusoidal components by determining the amplitude and phase of each component. However, the DFT is distinguished by the fact that its input function is discrete and finite: the input to the DFT is a finite sequence of real or complex numbers, which makes the DFT ideal for processing information stored in computers. In particular, the DFT is widely employed in signal processing and related fields to analyze the frequencies contained in a sampled signal, to solve partial differential equations, and to perform other operations such as convolutions. The DFT can be computed efficiently in practice using a fast Fourier transform algorithm. Since FFT algorithms are so commonly employed to compute the DFT, the two terms are often used interchangeably in colloquial settings, although there is a clear distinction: "DFT" refers to a mathematical transformation, regardless of how it is computed, while "FFT" refers to any one of several efficient algorithms for

the DFT. This distinction is further blurred, however, by the synonym "finite Fourier transform" for the DFT, which apparently predates the term "fast Fourier transform" but has the same initialism.

frame

One of many sequential images that make up video.

frame drop ratio

The percentage of frames that don't have any important information and thus can be dropped.

frame rate

The number of video frames displayed per second. Higher frame rates generally produce smoother movement in the picture.

frame size

The number of pixels that form the video image (horizontally/vertically).

full motion video

Content that shows 30 (interlaced) or 24 (film content) frames per second.

G**gain**

A measure of the ability of a circuit to increase the amplitude or power of a signal. It is usually defined as the mean ratio of the signal output of a system to the signal input of the same system. It may also be defined as the decimal logarithm of the same ratio.

Thus, the term gain on its own is ambiguous. For example, 'a gain of five' may imply that either the voltage or the power is increased by a factor of five.

global motion compensation

An algorithm that helps while coding the objects that only change their size or place in the picture but keep static.

GSM

An open file format designed for telephony use in Europe, GSM is a very practical format for telephone quality voice. It makes a good compromise between file size and quality. Note that WAV files can also be encoded with the GSM codec.

H**HD DVD**

High-Definition Digital Versatile Disc or High-Density Digital Versatile Disc is a high-density optical disc format designed for the storage of data and high-definition video. HD DVD-ROM has a single-layer capacity of 15 GB, a dual-layer capacity of 30 GB, and a 51 GB single-sided triple-layer disc (which uses slightly bigger 17 GB layers), approved in September 2007 by the DVD Forum. However, the 51 GB spec is only a preliminary spec and compatibility with existing hardware is unknown at this time. HD DVD-R and HD DVD-RW has a single-layer capacity of 15 GB, a dual-layer capacity of 30 GB.

HDD

Hard disk drive.

highlight

Activate or focus menu or selection. When the cursor is moved over an option on a DVD menu, that menu often changes color. It is then "highlighted".

I**I-frames**

Also called intraframes or keyframes - frames with a very small compression ratio used to form the base of the video picture. See **B-VOPs** codec settings section for more detail.

import

The process of bringing existing digital audio, video, and still image files into **AVS Video Converter** or **AVS Video Editor** programs.

interframes

See **P-frames**.

intraframes

See **I-frames**.

J**jitter**

The smoothness of frame delivery over time.

K**keyframes**

See **I-frames**.

L**letterboxing**

The practice of transferring widescreen films to video formats while preserving the original aspect ratio.

LFO

Low-frequency oscillation. An audio signal usually below 20 Hz which creates a pulsating rhythm rather than an audible tone. LFO predominantly refers to an audio technique specifically used in the production of electronic music. The abbreviation is also very often used to refer to low-frequency oscillators themselves, which produce the effects explored in this article.

lumimasking

An algorithm used to apply more compression to very dark and very bright areas where it cannot be easily noticed by the human eye.

M**M4A**

M4A files are actually the audio layer of (non-video) MPEG-4 movies. M4A is slated to become the new standard for audio file compression. This format is also known as Apple Lossless, Apple Lossless Encoder, or ALE. It is a new codec designed to provide lossless encoding in less storage space.

matte (usually used in plural - mattes)

The masked-off areas above and below the picture area, used to maintain original aspect ratio when viewing video on the screen with a different aspect ratio.

max consecutive B-VOPs

Maximum number of sequential bidirectional frames in the video stream.

max key interval

Maximum number of delta frames (interframes) between two keyframes (intraframes).

motion search type

An algorithm that allows the codec to search for the motions in the movie and better compress them with a higher quality.

MOV

A file extension for QuickTime Video Clip. QuickTime is a video and animation system developed by Apple Computer. QuickTime is built into the Macintosh operating system and is used by most Mac applications that include video or animation. PCs can also run files in QuickTime format, but they require a special QuickTime driver. QuickTime supports most encoding formats, including Cinepak, JPEG, and MPEG. QuickTime is competing with a number of other standards, including AVI and ActiveMovie. For more information see the **Apple site** and their **Support page**.

movie file

The file created by combining the audio, video, and still images contained in your project.

MP+

A Musepack music format, a popular high quality lossy compression that offers higher audio quality than MP3. Nowadays Musepack audio files generally have the extension .mpc, but lots of files with the extension .mp+ still float around file sharing networks. Musepack is based on the MPEG-1 Audio Layer 2 standard (MP2), but includes many improvements. It is believed by audiophiles to be one of the highest quality lossy compressions available for music.

MP2

MPEG-1 Audio Layer II, sometimes Musicam. An audio codec defined by ISO/IEC 11172-3. An extension exists: MPEG-2 Layer II and is defined in ISO/IEC 13818-3. The file extension for files containing such audio data is usually .mp2. While it has largely been superseded by MP3 for PC and Internet applications, it remains a dominant standard for audio broadcasting as part of the DAB digital radio and DVB digital television standards. It is also used internally within the radio industry, for example in NPR's PRSS Content Depot programming distribution system.

MP3

MPEG-1 Audio Layer 3. An audio encoding format. It uses a lossy compression algorithm that is designed to greatly reduce the amount of data required to represent the audio recording, yet still sound like a faithful reproduction of the original uncompressed audio to most listeners. It was invented by a team of European engineers at Philips, CCETT (Centre commun d'etudes de television et telecommunications), IRT and Fraunhofer Society, who worked in the framework of the EUREKA 147 DAB digital radio research program, and it became an ISO/IEC standard in 1991. MP3 is an audio-specific format. The compression removes certain parts of sound that are outside the normal human hearing range so cannot be heard by the listener. It provides a representation of pulse-code modulation — encoded audio in much less space than straightforward methods, by using psychoacoustic models to discard components less audible to human hearing, and recording the remaining information in an efficient manner. Using MP3-compression PC-users were able to compress an ordinary music-CD to one tenth of its original size - thus 12 hours of music could be stored on a recordable CD that on the other hand could be played by a MP3-CD-player or an ordinary PC.

MPEG

Moving Picture Experts Group. Gives excellent compression with little loss in quality of the video. MPEG supports three types of data - video, audio and streaming. There are a number of standards: among them there are two flavors of MPEG available today. MPEG-1 was designed to provide VHS video quality and CD audio quality at a combined data rate of 150 kilobytes per second. MPEG-1 is displayed at 30 frames per second in a frame that is 352x240 (horizontal x vertical) pixels in size. This allows relatively high quality video images to be stored in relatively small file sizes for playback across computer networks or CD-ROM delivery. MPEG-2 is the other side of the compression coin. It is a broadcast standard specifying a playback size of 720 x 480 pixels at 60 fields per second. Data rates can range from 2 to 10 megabits per second. This means large file sizes and data rates that require specialized hardware for playback. MPEG-2 is one of the core compression technologies for DVD. See the **MPEG site** for more information.

MPEG-4

ISO/IEC open standard for video encoding developed by MPEG (Moving Picture Experts Group). It is characterized by a small output video file size and quite good picture quality even when a relatively low bit rate is used. The most known resulting output when you use MPEG-4 format for compression is the AVI file type which is commonly used in home video. It is coded with Xvid, DivX, 3ivx, Nero Digital and other video codecs. Other file types can be found in the **output file format** section.

MSC

Devices that represent USB Mass Storage Device Class (MSC or **UMS**) are seen as a removable drive in the system and some of them as a fixed drive.

MTP

Devices representing USB MTP device class use Media Transfer Protocol (MTP) supported by Microsoft Windows Media Player 10 and 11.

multimedia

Any format that contains more than one media, such as text, still images, sound, animation, and video.

N

navigation

Accessing the features of a DVD-Video disc.

NTSC

National Television Systems Committee. A committee of the Electronic Industries Association that prepared the standards for commercial television broadcasting in the United States, Canada, Japan, and parts of Central and South America. The NTSC format has 525 scan lines (rows) of resolution at frame rate of thirty frames per second.

O

OGG

An open standard for a free container format for digital multimedia, unrestricted by software patents and designed for efficient streaming and manipulation. The development of the OGG standard began in 1993, then known as "Squish". It was designed as a substitute for MP3 and WMA and by now it is almost as popular and well known as MP3. Above all, the algorithm is still being developed what is mainly due to its flexibility. Although the sound-quality gets better with every further development the files are backwards compatible and can be played with older players as well. Like MP3 OGG offers encoding at variable bitrates. Using this compression parts of the song are encoded with a higher compression than others what depends on the source. Most times, this compression goes along with squishy noises or even small interruptions. OGG is also one of the very few formats that support multi-channel compression. Surround-files could theoretically be compressed with more than two channels. OGG is, like it's predecessors, streamable and although the used player has to support this feature, it's one of many good reasons for OGG.

output file

The file that is a result of conversion of a source file.

P

P-frames

Delta frames or interframes - frames used in MPEG-4 format to increase the compression ratio. A row of P-frames is placed between two **I-frames** - thus the name interframes was given. See **B-VOPs** codec settings section for more detail.

PAL

Phase Alteration Line. This standard is used for commercial broadcasting in most of Europe, Australia, and parts of Central and South America. PAL format displays at 625 scan lines (rows) of resolution at frame rate of 25 frames per second.

pillow boxing

The practice of transferring films having aspect ratio of 1.33:1 to wide screens while preserving the original aspect ratio.

pitch

The perceived fundamental frequency of a sound. While the actual fundamental frequency can be precisely determined through physical measurement, it may differ from the perceived pitch because of overtones, or partials, in the sound. The human auditory perception system may also have trouble distinguishing frequency differences between notes under certain circumstances. According to ANSI acoustical terminology, it is the auditory attribute of sound according to which sounds can be ordered on a scale from low to high.

pixel

Picture cell. This is the smallest independent unit of a digital image; similar to each dot on your monitor.

pixel depth

The number of bits of color information per pixel.

player

A program or device that displays multimedia content, typically animated images, video, and audio.

project file

The file created when you save the results of adding various clips to the workspace when you work with **AVS Video Editor**. This file is saved with an .vep extension.

Q

QT

Apple Quick Time format for audio/video data.

quantizer

Detail removal factor (DRF), or the degree of picture blur due to details reduction. Used to allow picture compression.

quantizer offset

The offset used to calculate frames quantizer.

quantizer ratio

The ratio used to calculate frames quantizer.

R**to record**

To capture audio, video, or still images as digital data in a file.

regional coding

Region code - the software protection used on DVD discs to prevent unauthorized playback of the discs made in one country to be played in another country.

Most DVD-ROM drives let you change the region code a few times, usually between 0 and 5. Once a drive has reached the limit it can't be changed again unless the vendor or manufacturer resets the drive. This limitation cannot be overridden.

There are 7 regions: (1) Canada, U.S., US Territories; (2) Europe, Japan, South Africa, Middle East (including Egypt); (3) Southeast Asia, East Asia (including Hong Kong); (4) Australia, New Zealand, Pacific Islands, Central America, Mexico, South America, Caribbean; (5) Former Soviet Union, Indian Subcontinent, Africa (also North Korea, Mongolia); (6) China and (7) Transcontinental - used for watching DVD movies onboard the planes, ships and so forth.

resolution

See **Frame size**

RGB model

Color spectrum represented by mixing red, green, and blue (RGB) colored light in various proportions and intensities.

RM

Real Media streaming format for audio/video data. RealMedia provides one of the oldest and most widespread (85% of all web-accessing computers have RealPlayer installed) Web delivery formats. The RealMedia files (.rm) can be viewed using RealPlayer 3 and above. For more information see the **RealNetworks site** and their **user information site**.

root-mean-square

Abbreviated RMS or rms, also known as the quadratic mean, is a statistical measure of the magnitude of a varying quantity. It is especially useful when variates are positive and negative, e.g. waves. It can be calculated for a series of discrete values or for a continuously varying function. The name comes from the fact that it is the square root of the mean of the squares of the values.

S**source**

Audio and video content that can be captured and encoded from devices installed on your computer or from a file.

split

The process of dividing an audio or video clip into two parts.

still image

A graphic file, such as a .bmp, .gif, or .jpg.

storyboard

A view of the workspace that focuses on the sequencing of your clips (used in **AVS Video Editor**).

subtitle

Subtitles show the words being spoken on top of video content. They are often used for language translations.

SWF

Macromedia/Adobe Flash format, used to create video files that can be easily placed to your home page as they use not too much space and are supported by most browsers (in case the necessary plugin is installed). See the **Adobe web site** for more info on this format.

T

timeline

1. The area of the user interface that shows the timing and arrangement of files that make up a media file.
2. A view of the workspace that focuses on the timing of your clips.

titles

Video programs can be split up into titles, and then further into **chapters**. A good example of titles is when a DVD contains a movie (one title), the trailer for the movie (a second title), and biographies of the actors (a third title), all on the same disc.

transition

The method of smoothly moving from one video clip or photo to another.

trim

Hiding parts of a file or clip without deleting them from the original source. Files and clips can be trimmed by adjusting the start or end trim points. Used in **AVS Video Editor**.

U

UMS

Devices that represent USB Mass Storage Device Class (**MSC** or UMS) are seen as a removable drive in the system and some of them as a fixed drive.

V

VBR

Variable bit rate. This allows DVD compression methods to use more or less compression according to the complexity of the picture.

VHQ Mode

An algorithm that decides which format will be used to store motion vectors thus reducing the file size.

VOB

DVD video movie file. DVD is the new generation of optical disc storage technology. DVD is essentially a bigger, faster CD that can hold cinema-like video, better-than-CD audio, still photos, and computer data. DVD aims to encompass home entertainment, computers, and business information with a single digital format. It has replaced laserdisc, is well on the way to replacing videotape and video game cartridges, and could eventually replace audio CD and CD-ROM. DVD has widespread support from all major electronics companies, all major computer hardware companies, and all major movie and music studios.

VOX

Dialogic ADPCM. An open file format optimized for storing digitized voice data at a low sampling rate. VOX files are most commonly found in telephony applications, as well as an occasional arcade redemption game. Similar to other ADPCM formats, it compresses to 4-bits. Unlike a WAV file, a VOX file does not contain a header to specify the encoding format or the sampling rate, so this information must be known in order to play the file. If not known, it is normally assumed that a VOX file is encoded with Dialogic ADPCM at a sampling rate of 8000Hz. It is possible that a VOX file may be encoded in a format other than Dialogic ADPCM, but this is not common.

W

WAV/WAVE

Short for Waveform audio format, a Microsoft and IBM audio file format standard for storing audio on PCs. It is a variant of the RIFF bitstream format method for storing data in "chunks", and thus also close to the IFF and the AIFF format used on Amiga and Macintosh computers, respectively. It is the main format used on Windows systems for raw audio.

widescreen

Most TVs display in 4:3 ratio. Widescreen display shows you the same ratio that is used for movies, which is frequently 16:9. If the title is being shown on a widescreen TV it can be shown in its original aspect ratio without the display of the black bars above and below the image.

Windows Media file

A file containing audio, video, or script data that is stored in Windows Media Format. Depending on their content and purpose, Windows Media files use a variety of file name extensions, such as: .wma, .wme, .wms, .wmv, .wmx, .wmz, or .wvx.

WMA

Windows Media Audio, an audio data compression technology developed by Microsoft. The name can be used to refer to its audio file format or its audio codecs. It is a proprietary technology which forms part of the Windows Media framework. WMA consists of four distinct codecs. The original WMA codec, known simply as WMA, was conceived as a competitor to the popular MP3 and RealAudio codecs. It is the second most popular audio codec after MP3, based on the number of supported devices researched by Jupiter Research. WMA Pro, a newer and more advanced codec, supports multichannel and high resolution audio. A lossless codec, WMA Lossless, compresses audio data without loss of audio fidelity. And WMA Voice, targeted at voice content, applies compression using a range of low bit rates.

WMV

Windows Media Video, Microsoft's new standard for audio and video which is closely tied with the Windows Operating System. The player is able to play Windows Media Video (.wmv) and Advanced Streaming Format (.asf) files, and also other formats such as QuickTime, AVI, MPEG and MP3. See the **Windows Media site** for more information.

workspace

The area of **AVS Video Editor** in which you create your movies. It consists of two views: storyboard and timeline, which act as a container for work in progress.