OFFICIAL GUIDE

LSMaker 0.967b

http://lsmaker.uw.hu
Forum at: http://lsmaker.hu/forum

Main window:

LightSaber Maker by LSMaker 0.967beta

File   Import   Export   Edit   Frame manager   Change screen res   Language   Help   Contact

Effect | Mark | Settings |

Color: Empty

Blur: 30   Roundness: 5

Blade: Empty

Blur: 5   Roundness: 5

First width: 3

Second width: 3

Lightness: 20

Render mode
Effect mode   Normal
Interpolate mode   Normal
Color   Add
Blade   Add

☐ Transparent color

Points
⦿ 2 points
○ 4 points
○ Render 2 points as 4
☐ Lock   0 ms

☑ Auto preview "U"
☐ Auto render   Stop

☐ 100   Set positions "L"
   OK   Preview "K"
☐ 100%   Render Frame "J"
   Zoom

Mark in "F"
Mark out "T"

Frame: 0/0
Layer: 0   Del points
Frame filename: Del layer
P1>P2 | P3>P4 | GoTo | <O | P>

Settings panel

Video/Picture area

Timeline

> | II | < | > | every   2   frame   ☐ Show 2 points only   Hide points

Quick start

Use File/New to start a new project.
Here you will be asked to choose a color image , then a blade image .

This window shows the contents of Picts directory (Picts directory can be found where LSMaker.exe is).

You can select a .BMP , .JPG , .ALPHA , .MOT , .A VI file. This file will be used to create the glow around the saber effect. So select a color file (for example Green.jpg). Press OK or double click on the file. You will see a very similar window, but now select a blade file. This will be the white inner part of the saber effect. Select Blade.jpg here.

After this you will see the import dialog:
Every line of the list means a frame of the movie on the timeline in LSMaker.
Press Add to add .BMP , .JPG or .A VI files to the list. Use Delete to remove the selected lines. Clear removes all lines.
Use ^   to move up/down the selected lines.
X2 Copies the selected lines to the bottom.
Edit opens an othe window where you can edit the lines as text.
Check import reversed to add the next file backwards.
At the bottom you can select import methods:

➢Standard: use this for AVI or AVS files.
➢Directshow: this can open more video formats but you must have DirectShow filters installed. Try this if Standard mode doesn t work.

See importing chapter for more details!

Editing

You can set the settings of the effect on the current frome on the left of the window.
Set first and second width to set the width of the effect, set lightness to change the size of the glow around the effect.

Use the left and right button of the mouse to set Point1 and Point2 on the image (click where you want to set it, left click=Point1, right click=Point2).
You can select new color/blade file by clicking the "..." button.
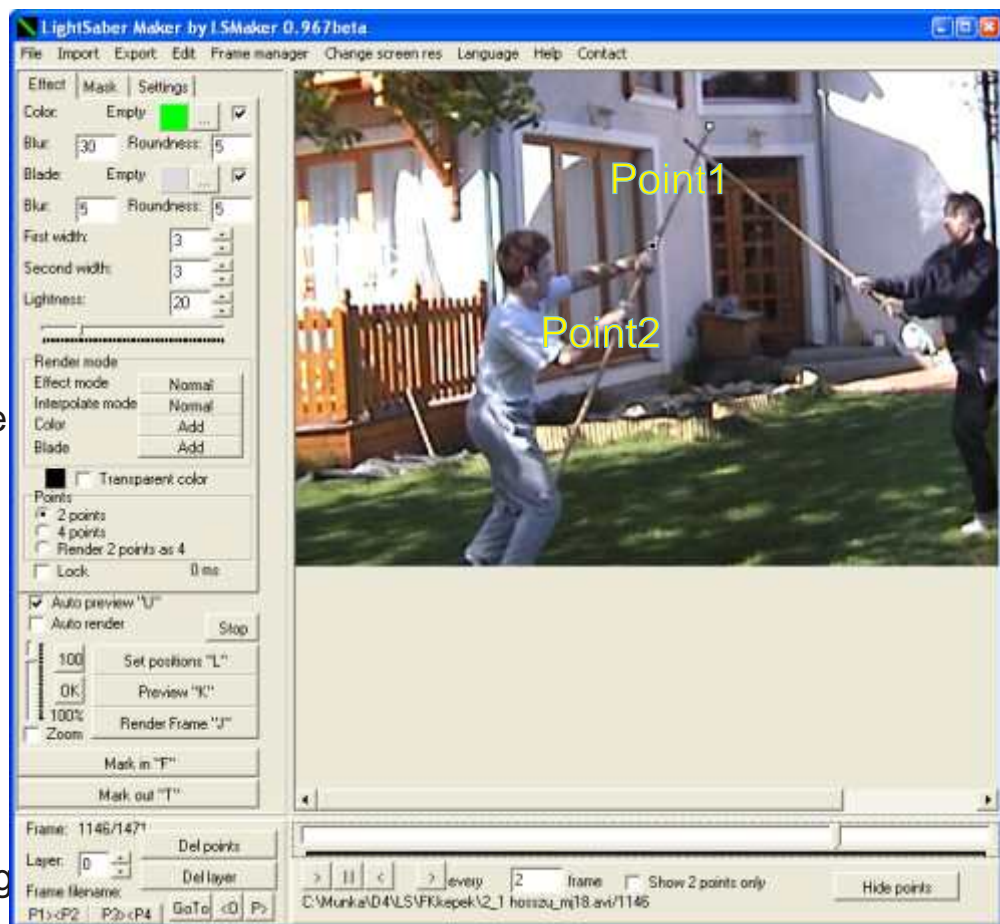
Use the timeline (trackbar at the bottom) to change the actual frame and use the layer setting at the lower left part to select the actual layer.
Press preview to see how the effect look like. On one frame you can place more effects. One effect belongs to one layer. If you change the layer the points on the previous layer seem to disappear.
Press Render to see all layers (all effects on the frame).
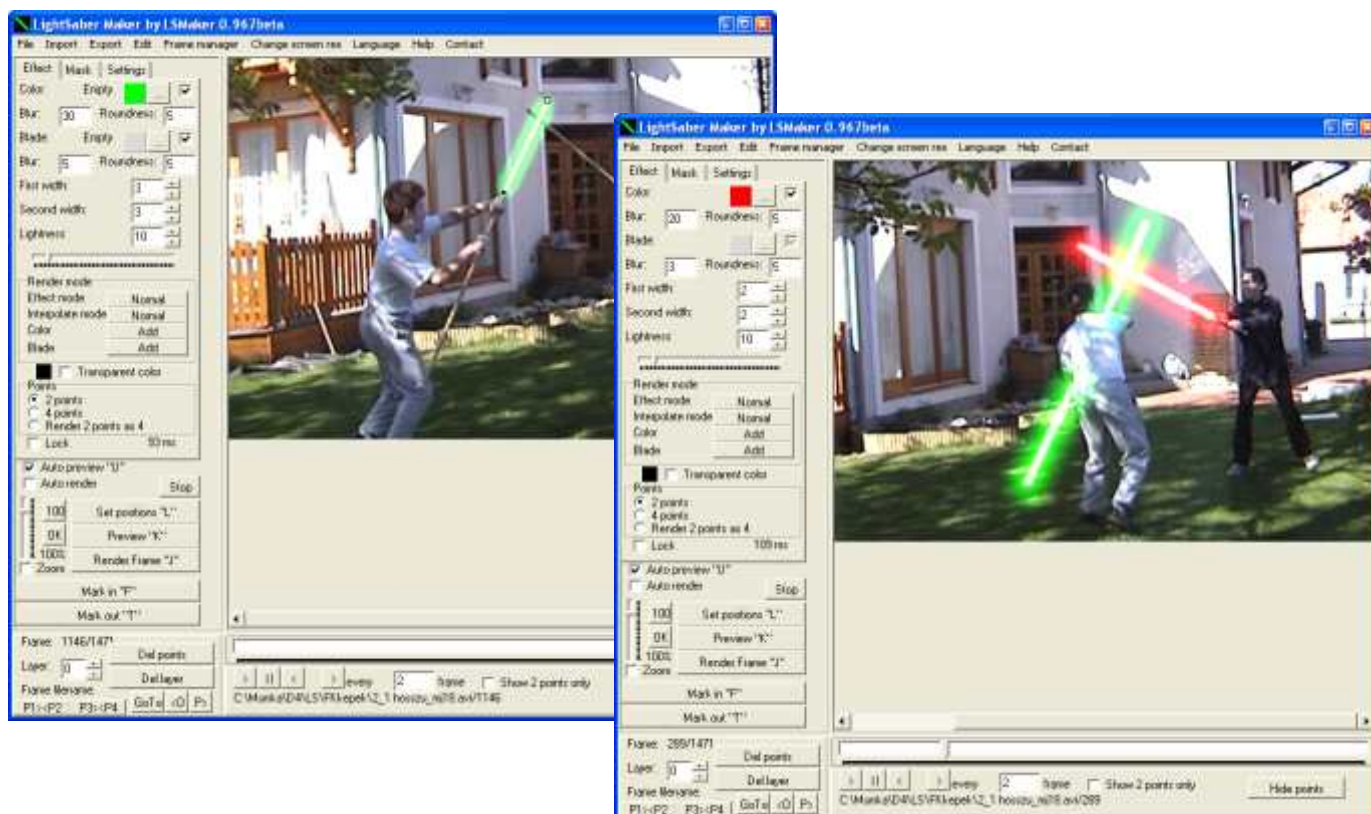
Exporting

Don't forget to save your work, the project recently. Don't always overwrite the previous, make sure you have more previous version of the project just in case. Use File/Save to save the project to ".LSM" file and use File/Open to open a project. Note that project only saves your settings, doesn't copy the video you are working on. Make sure the movie hasn't been moved if you open a project.
Select Export menu to export the movie with effects. You can export to series of ".BMP" or ".JPG" files or to ".AVI" file.
Select Export/AVI. This window will show up:

You can set the range of the timeline you want to export. Press Start and End to export the whole movie. Press OK.
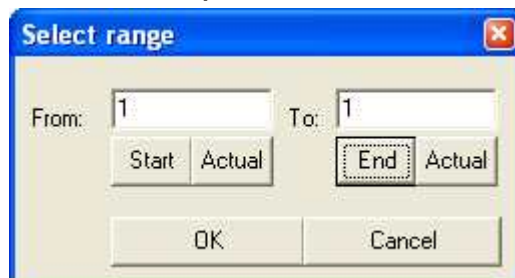
An other window show up, press OK.

In the next window you can select which codec to use when exporting to AVI. This means how to compress the video. Uncompressed video is space-consuming. It is Very difficult to choose the right codec. It depends on lots of things. The quality of the imported video, The quality you want to achieve after exporting, the speed of compression, the filesize you want to get after exporting. I will explain this in details later.
It is not enough to select a codec, the output quality depends on the settings too. Try different settings, search the net to learn more.

DivX is a fine codec for storing the final movei in. But for editing, you need a faster codec. Try installing some kind of MJPEG.
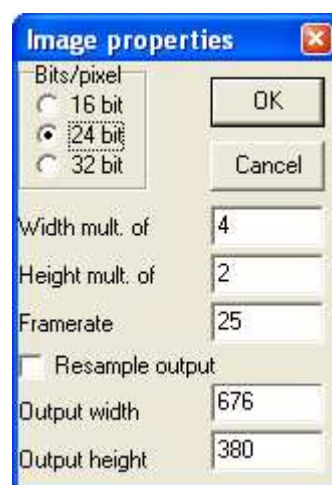
Notice that the sound is gone from the avi. This is a known issue. Different video formats contain the sound in different format, it is complicated and not possible to convert between them without quality loss. That's why LSMaker ignores sound.
You need to use a 3rd party software to put the sound back.

Advanced features

You can change the color/blade files at any time by clicking on the "..." buttons. The known window appears.
You can create "blurred" type saber effects too by selecting 4 point mode. This means you need to set 4 points instead of 2. To set point3 and point4 hold Shift key while pressing left or right mouse button.
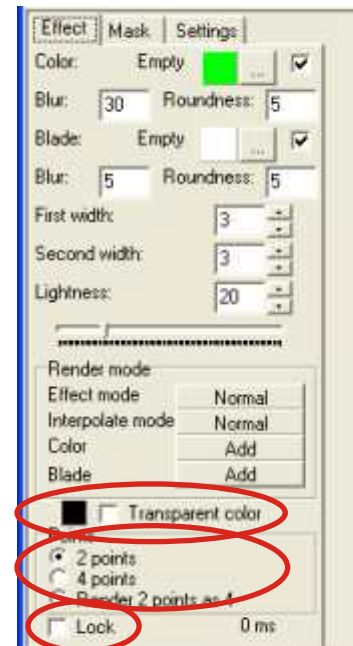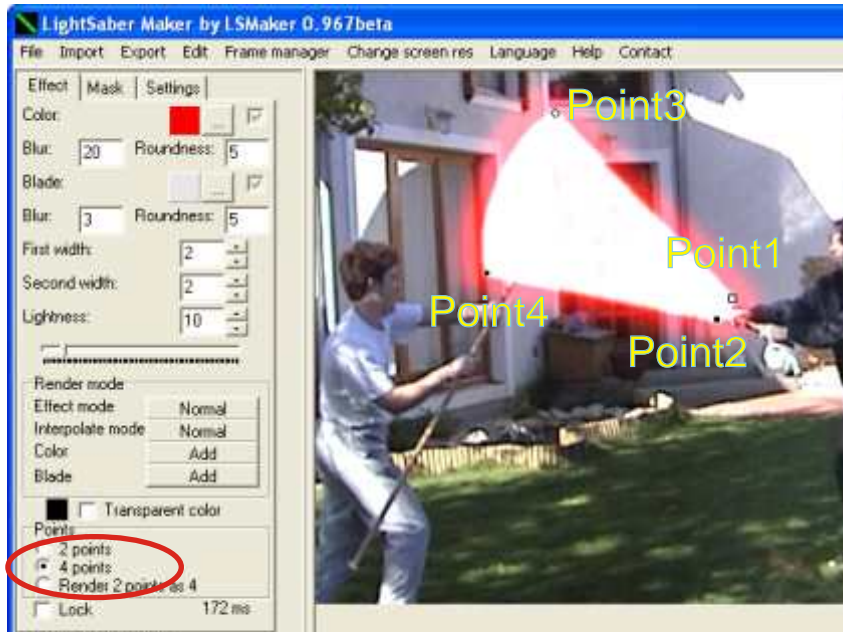
You can also create "clash" effects. Select a clash image for color. Set clash as effect mode by clicking on the button next to "Effect mode". Use Point1 to set the middle of the effect and use Point2 to set one corner. "Image" and "Original image" is quite similar. With these modes the aspect ratio of the effect image won't change. With "Image" mode use Point1 to set the center and use "Point2" to set the width of the effect (horizontal distance from Point1 matters. With "Original image" only Point1 matters.

Render 2 as 4 points calculates an estimated position of the 4 points but you only need to set 2. (Experimental feature).

Transparent color: check to activate. When checked, the selected color in the effect will be transparent.

Lock: when checked, settings of the actual frame won't load.

By clicking on the square next to "..." button, the image generator window comes up. This can be reached from the image selector window, by clicking "Generate".
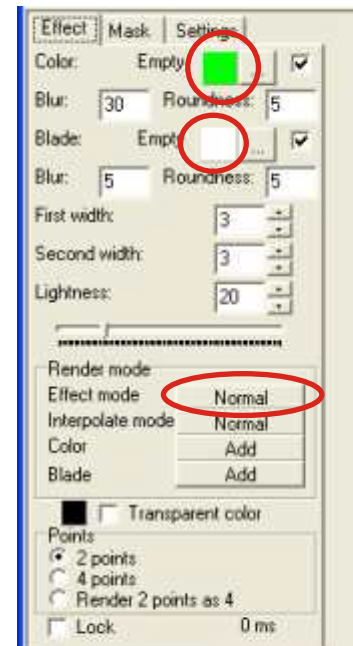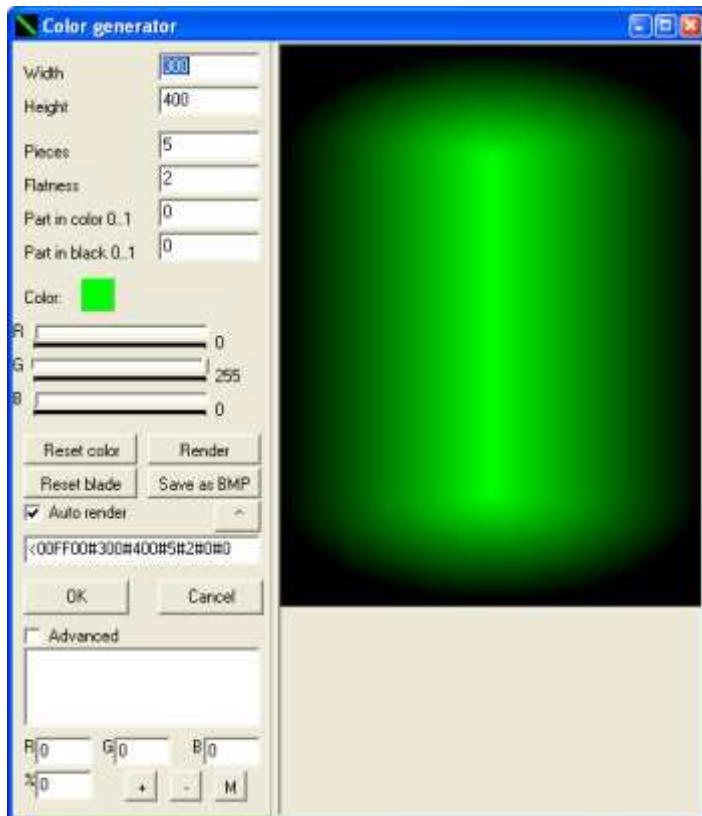
You can create your own "color"/"blade" image files here. Play with the settings. You can save the image to ".BMP" file or just click OK and the program uses the settings-string to create the effect when needed.

There is an option to use "alpha" bitmaps. This means that there is an extra bitmap related to the image. This extra bitmap (alpha map) specifies how transparent every pixel of the bitmap is.

To use this feature you need the alpha map for the bitmap too (this is a bitmap too BMP or JPG file). Make sure it has the same filename except it has "alpha_" prefix in the filename.
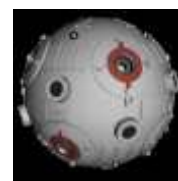
Or create a textfile called "something.alpha" first line must contain the name of the normal bitmap and the second line contains the alpha channel bitmap file. Use relative path from the picts directory and place these files there.

Normal bitmap   Alpha bitmap

Black as trans-parent color

With alpha bitmap (softer!)

How to use moving/motion effects?
Create a textfile with ".MOT" extension. Every line must contain an effect name (filename or settings-string) (relative path from the picts directory).
Use this ".MOT" file as color or blade. Place it on frames without a gap (empty frame) and you will see the effect change line by line and repeats. When a gap is found the circle will start again.
You can also use ".AVI" files instead of ".MOT" files (Directshow importing is used).

Color and blade mode:

Use the button above Transparent color checkbox. You can change the mix mode for color and blade here.

> Add: Default. The brightness of the effect is added to the background. The effect makes the background image lighter. If the background is white the effect cannot be seen.
> Subtract: The opposite of add. The effect subtracts the lightness. This option lets you create black sabers.
> Mix: The avarage is calculated of the image and background. Use when the effect is transparent (alpha bitmap...).
> Replace: Only the effect is visible. Use with transparent bitmap (alpha bitmap).
> Add+alpha: Experimental, creates alpha channel for non-alpha bitmap.
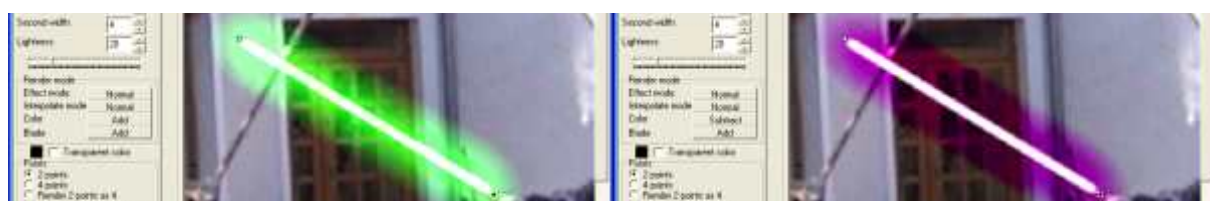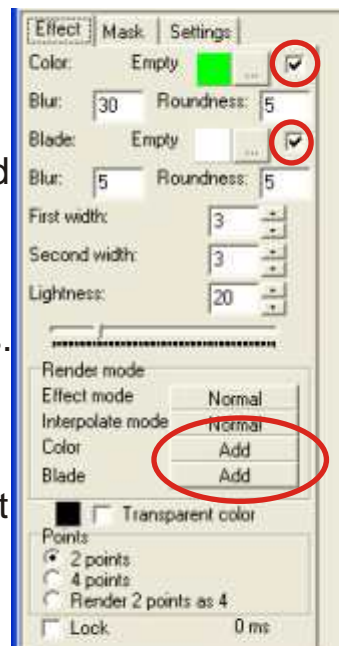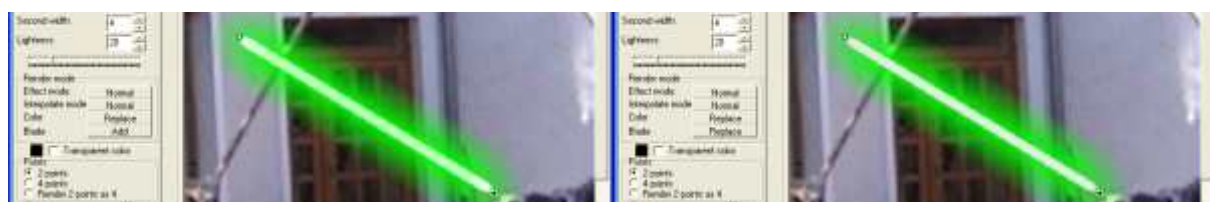

Color: Add
Blade: Add

Color: Subtract
Blade: Add
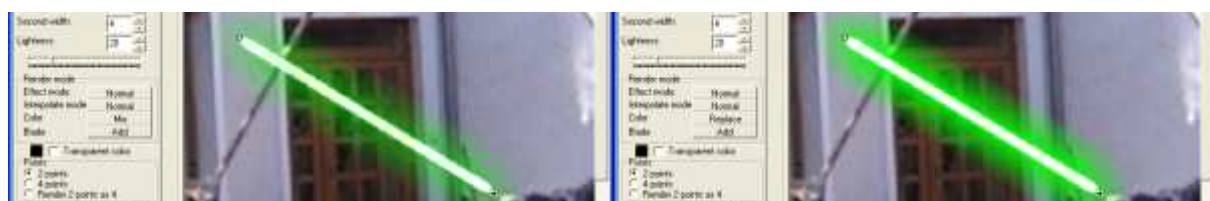
Color: Mix
Blade: Add

Color: Replace
Blade: Add

Color: Replace
Blade: Add (not 100% white)

Color: Replace
Blade: Replace (not 100% white)

Set the checkbox next to the ... buttons unchecked if you wish to turn the effect off. Set the checkbox gray if you want to use the new rendering mode . In this mode no image is used to create the effect. Only the color on the left of the ... button. (Click on the square and use the 3 sliders to modify the color. Beside the color, two integer values are used: Blur and Flatness. Set Blur higher to make the effects edge softer, set Flatness higher is you want the two ends of the saber be flat.
When using this mode, the program automatically creates alpha channel for the bitmap so the mix mode features can be used.

Masking:

When something in the picture is in front of the effect you must hide the effect. This can be done in two ways:
- ➢Use two layers
- ➢Use masking

Open the Mask tab. You can see the image turned white. If you click on the image with left mouse button you can draw black. With right button you can erase it.
If you check preview you can see the image inverted where the mask was white.
Draw black the parts of the picture where you don t want the effect to appear. Press save to save it, clear to reset it to white Revert to reset to the last saved. Use Copy and Paste to copy the mask to other frames.
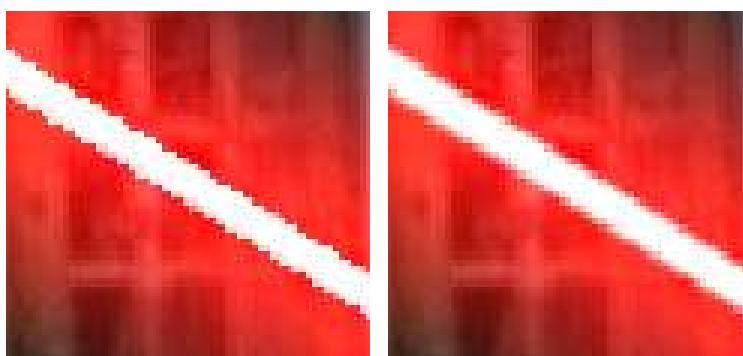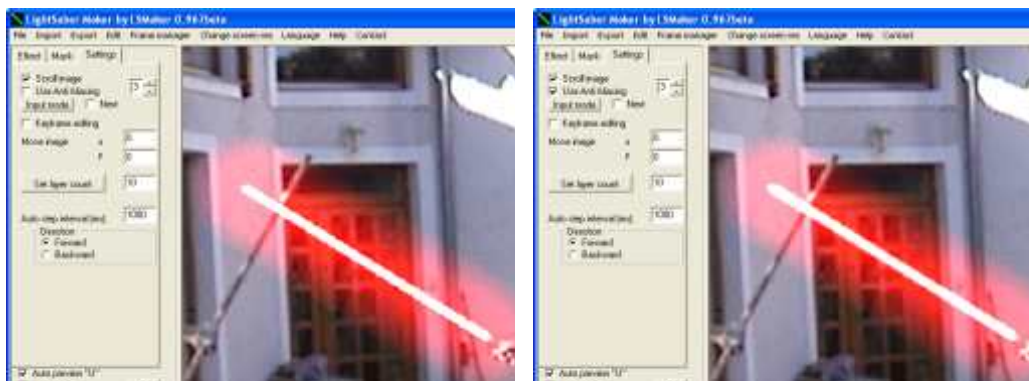You can set brush type and size too.
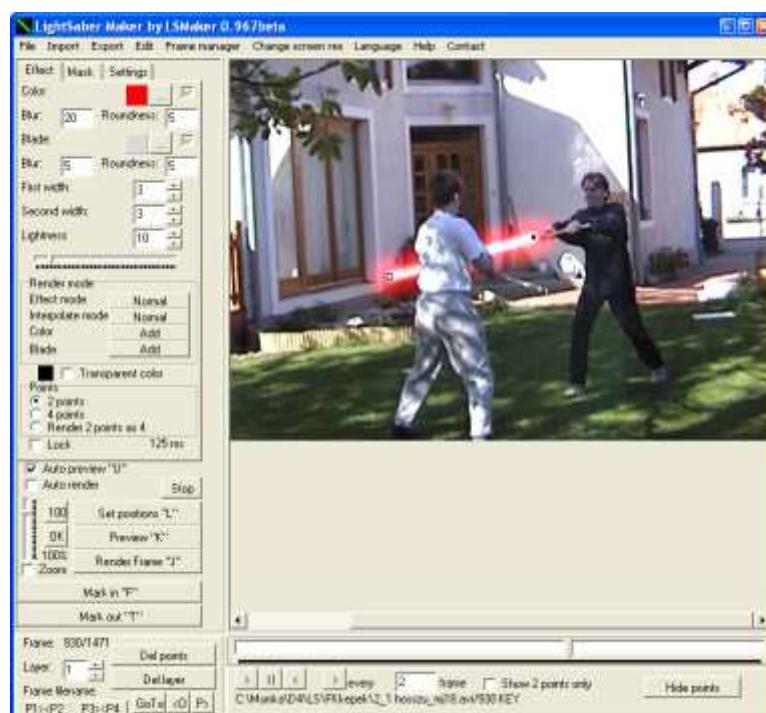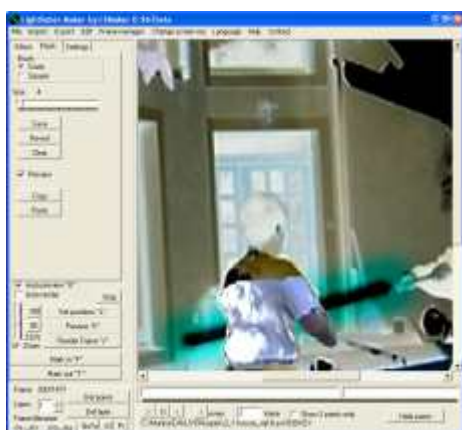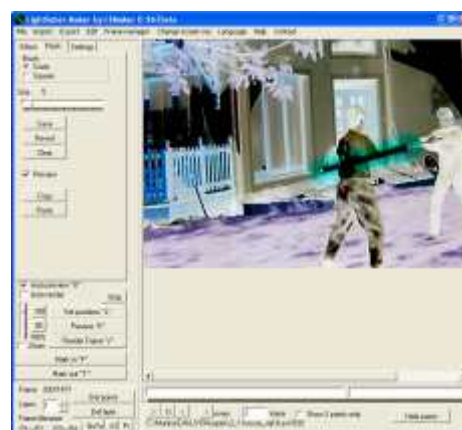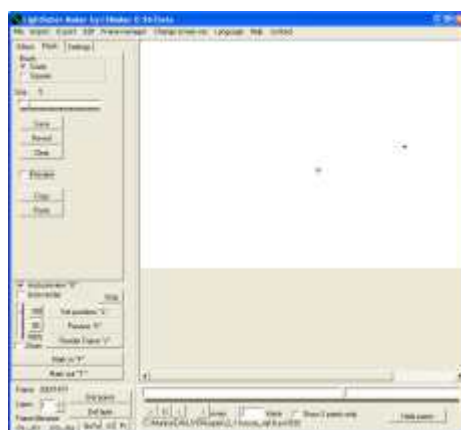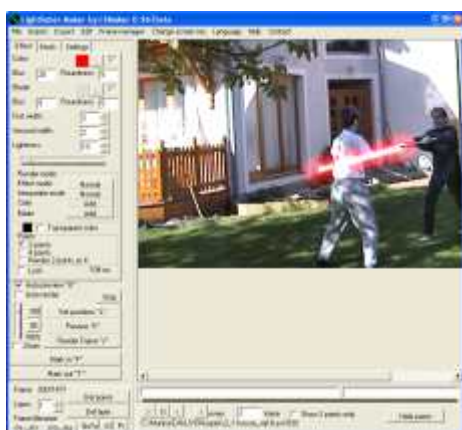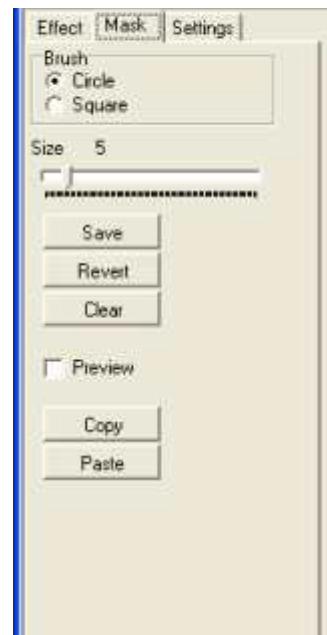
Settings tab

Here you can set some general options of the program.

Use Anti-Aliasing. Very important! Checking this improves the image quality of the effect. Set it to 2 for better image, 3 is very good, no need to set it higher. Note that it takes more time to render with AA on.


Move image: If you want the effect to go out of the picture set x and/or y to hight value.
This shifts right and down the image.

Set layer count: Write the number of layers you wish to use to the box and press the button. Now you will be able to use more layers. Default is 10.
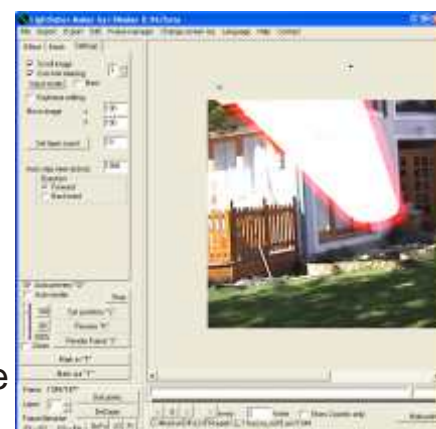
Next: checking this makes the program to step to the next frame when a point is placed. This can be quite handy. Check this and start clicking (placing points) with the left button, then go back to the beginning and start clicking with the right button. This method is quite fast, no need to press step frame each time and it is faster and more confortable to set the 2 points in 2 pass. You can save time because no nned to move the mouse so much on each frame.

Input mode: click on this and a popupmenu apperas. The first menuitem is the default mode. Selecting one of the other 4 menuitems will change the behaviour of the program. When the second menuitem is selected, Point1 will be placed where the mouse cursor is when you press "O", "P", "4", "6" keys. Why is this good? No need for clicking. Go the the first frame of the video, select this menuitem and just follow the frames with the mouse while pressing the "stepping" keys. Then go back and do the same with Point2. Don't forget to revert to "Fast input mode"!
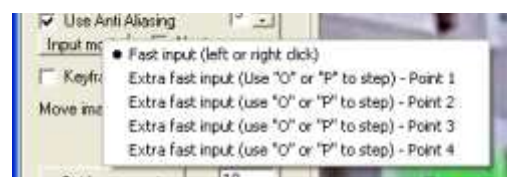
Auto step interval: When pressing the space bar, the program automatically "plays" the video. It waits some time between each frame. This time can be set here (Auto step interval ms) (ms is milliseconds). The direction can also be set: Forward/Backward.

Keyframe editing: When this is checked the program calculates the settings of an empty frame (no points are set) form the previous and following non-empty frame (keyframe). This means if you put an effect in the upper right corner on the first frame and put an effect in the lower right corner of the last frame and nothing else (and you turn this option on) you will see the effect moving from the upper left corner to the lower right in the frames between the first and last frame.

It is important that you can set the "interpolate mode" for each keyframe. This affects how to calculate the frames between the keyframes. Default is "interlopate", this means that the frames until the next keyframe will move from this frame to the other. "Shoot" you can create "blaster bolt" effects easily (explained later) and "Don't interpolate" it means nothing will be done with the following non-keyframe frames till the next keyframe.
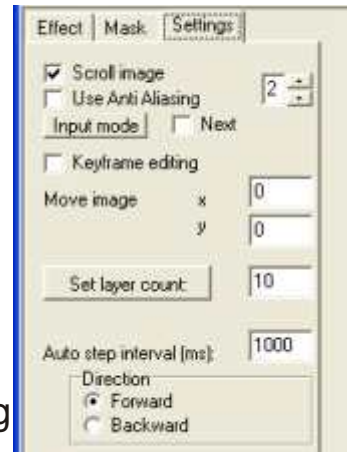
Some other "buttons"

Preview: shows the effect on the current frame and layer.
Render frame: Shows all the effect on the current frame (effects on all layers).
Set positions: Saves the settings of the current frame. Normally this is done automatically when you set a point, set some other options, but some times you need to press it (when width1,2... is set manually).
Auto preview: when checked when you step on a frame preview is pressed automatically.
Auto render: when checked when you step on a frame render is pressed automatically.
Mark in/Mark out: select frames. This is important when exporting or when using frame manager.
Zoom: you can magnify the image.
Del points: removes the set points, the frame becomes a non-keyframe.
Del layer: resets all settings of the current layer on the frame.
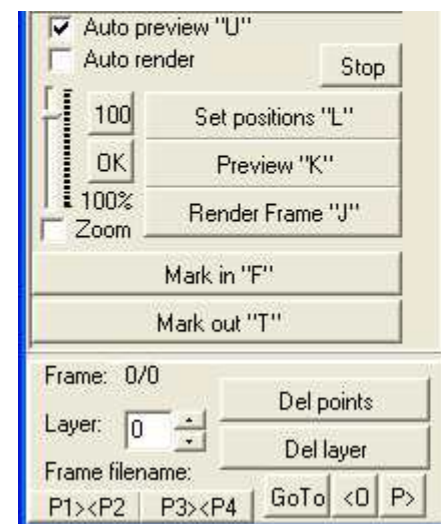Goto: jump to frame.
P1<>P2: exchanges Point1 and Point2.
P3<>P4: exchanges Point3 and Point4.
<O: step back one frame.
P>: step forward one frame.

In the main menu:
Change screen res: change screen resolution: good for magnifying the whole screen.
Frame manager: shows frame manager.

Hotkeys:

"O": step one frame back.
"P": step one frame forward.
"Q": step one layer up.
"A": step one layer down.
"L": set positions.
"K": preview.
"J": render.
"F": mark in.
"T": mark out.
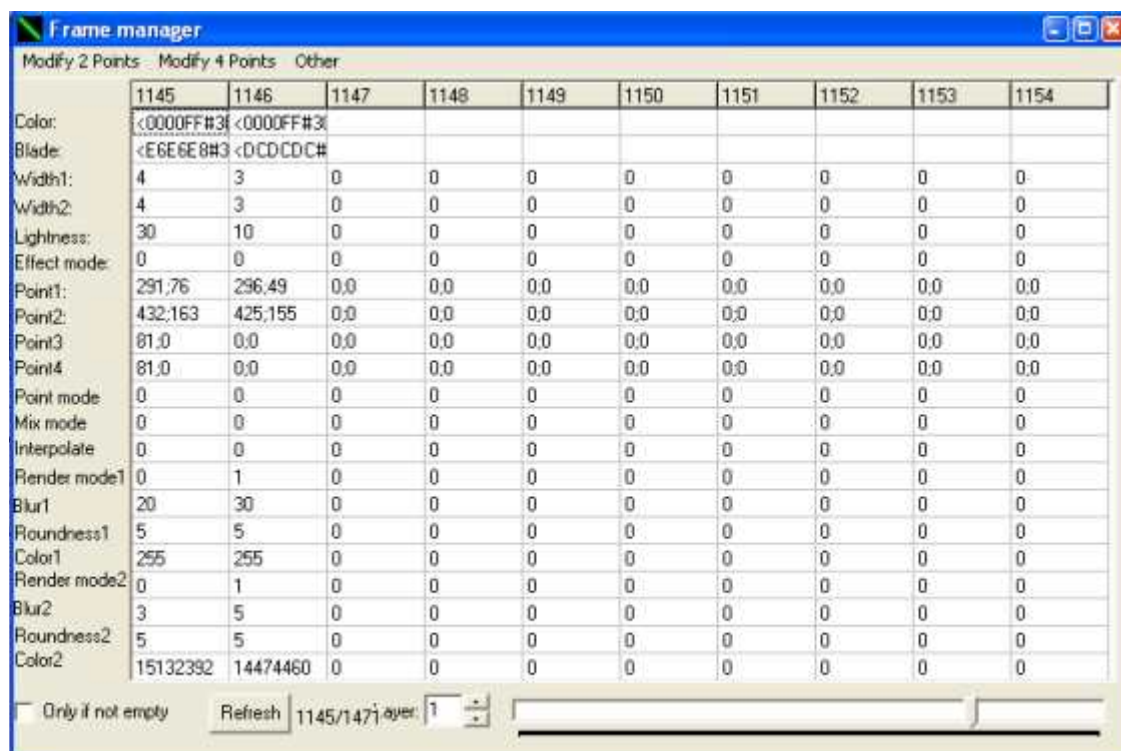
|		
7 3th point	8 layer up	9 4th point
4 step left	5 preview	6 step right
1 left click	2 layer down	3 right click
0 Render		

Turn numlock on
and use these keys.

Frame manager

You can see all the settings for the frames. Here you can modify them manually or modify the settings of many frames at once. You can edit in the table and press ENTER to save (just in case).

There are three menus:
Modify 2 points: these modifications are related to the 2 Points mode. Select "Change width1" to change the width1 of the selected frames. "Auto width1/2" is experimental. "Blade from hilt" is very useful. If you only have a hilt on the video then use Point1 and Point2 to mark the two ends of the hilt. By selecting this modification the program will calculate new positions of Point1 and Point2 (ends of the blade). Remember to put Point1 at the end where the blade comes out.
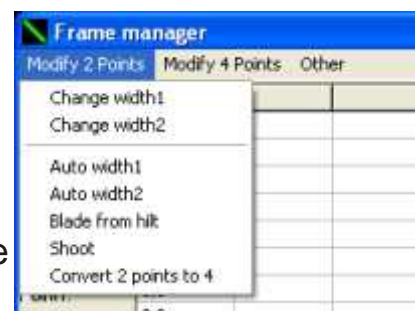
"Shoot": similar to the "Shoot" interpolation mode but this will permanently change the positions, keyframe editing+interpolation doesn't. Lets say the "blaster effect" starts on frame A and ends at frame B. Place Point1 on frame A where you want the effect start flying from and place Point1 on frame B where you want it to fly. Place Point2 on frame A anywhere only the distance between Point1 and Point2 will matter, this will be the length of the effect. Mark the frames from frame A to frame B and apply this modification.

Select "Modify 4 points"/"Modify point order" to modify the order of Point1-2-3-4. This is useful when useing 4Points mode and you have placed the points incorrectly.
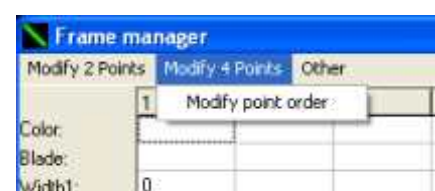
"Other" menu contains modifications that are not realted to 2 or 4 Points mode.

"Change color/blade..." lets you modify the color/blade... after you placed the points, no need to modify these settings frame by frame. Mix, point, Effect, Interpolate modes are also integer numbers. Check which number to use on a frame which contains the setting you want to apply on many frames.

Interpolate is a useful menuitem. Similar to the keyframe editing+interpolate non-keyframes but this will do the changes permanently. If Width1 on frame 1 is 3 and and width on frame frame 5 is 7 then it will change the Width1-s: frame1:3, frame2:4, frame3:5, frame6:6, frame7:7. Similar with the other settings. Color/Blade settings will contain the color/blade of frame A. Length is also very useful. It is easy to create "saber ignition" effect with this. Place Point1 and Point2 at the ends of the saber from frame A till frame B (you can use blade from hilt if you don't have a visible blade). Now go back to frame A and place the other point near the one which is next to the hilt. Mark the frames from A till B. Apply the effect.
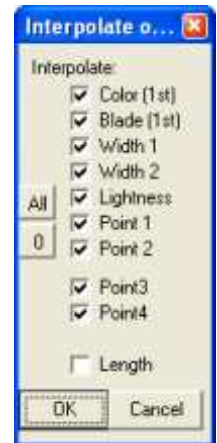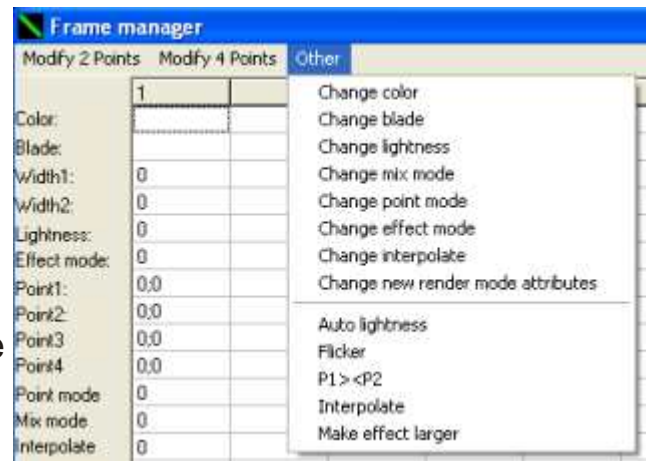
Importing

By default LSMaker can import AVI files through the VFW (Video for Windows) interface. This means you must have a proper (VFW) codec installed to import AVI. AVI is just a containner file, it contains audio and video. The file extension "AVI" doesn't tell much. The video inside the AVI file is compressed. The codecs are responsible to uncompress the video. If you do not have the proper codec installed you cannot see the video. There are hundreds of compression types. There is an identifier in the avi, acalled FourCC (Four character code) that tells the computer which codec to use for

decompressing. If you import an AVI you can see its FourCC in the import window. This can help you search the net for a codec.

In the past few years with DirectX, DirectShow appeared. It is an other way of using video files. There are no codecs here, but filters. It is more versatile, programs can handle many audio and video formats not just AVI.

Recent media player programs use Directshow (Windows Media Player, BSPlayer...). It is likely you have more DS filters installed then codecs. So it happens often that your media player plays a video but programs that use VFW can't open it.

There is an option in LSMaker to use DS instead of VFW. Unfortunately it is not 100% reliable. But it lets you open "more" videos and even more video formats (like MPEG). But there is a better way.

Install a program called AVISynth. After this use "Create AVISynth script from video file" button in the import window. It asks for a video file to open, an AVS file to save and fps. Normally leave fps blank. If importing doesn't work then write correct fps there. If the AVS file is done, import it.

What does it do? It creates a simple text file (this is the avs file) with the following content: "DirectShowSource("c:\video.mpg",25)" 25 is the fps and c:\video.mpg is the filename of the video. If fps is empty, it will be: "DirectShowSource("c:\video.mpg")". With this method it is possible to import WMV, MOV, MPEG1-2 files just as AVIs. If somehow it doesn't work there is a way to create a "fake" AVI and connect it to AVISynth.
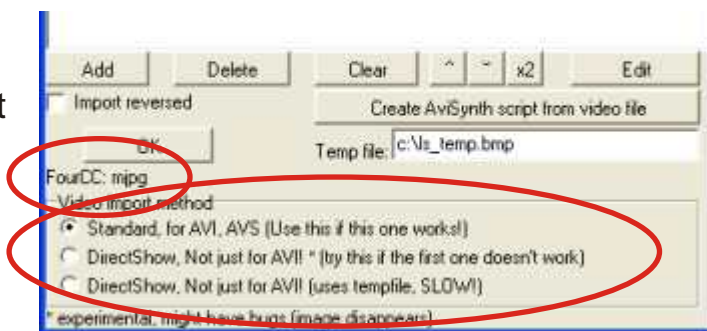
How to open a non-AVI video with LSMaker, and what to do if it doesn't open the video?

Attention! The new version of LSMaker can open AVS files! So ffDshow and makeAVIS are not needed anymore. There is a new button on the import window (Create AVISynth script from video file), which creates AVS scripts from video files that LSMaker can not open on its own. It is important to specify the speed of the video (FPS, frames per second) otherwise it will not work properly.

An AVS file containing: "DirectShowSource("c:\video.mpg")" might not work properly if the video is "corrupt", the fps is specified incorrectly inside the video file. In this case you need to use the following line. Replace "25" with the fps. The AVS creator function of LSMaker creates AVS files in this pattern.

    DirectShowSource("c:\video.mpg",25)

MPEG1: (Programs needed: AviSynth, ffDshow (20041012))

1. First you have to install the programs mentioned above (recommended in this order...). It is importat when you install ffDshow you must select the "Avisynth script serving" option and deselect the "Supported video codecs" and "Supported audio codecs" options (otherwise this "old" codec will decode these formats)!
When the installation is ready, you need to create a text file with the following extension: ".avs" and you need to write the following code there:

    DirectShowSource("c:\video.mpg")

replace video.mpg with your mpg's filename. You can enter different filenames not just MPEGs. What Windows Media Player can playback that is supposed to work here also. There must be a ffDshow directory in your Start menu and a makeAVIS program in it. Start makeAVIS and select your ".avs" file in the first line and select a filename for the "fake" AVI. Press the create button. Now you must have a "fake" avi, which can be opened in LSMaker.
How does it work? What is this? AVI is a kind of video container format (there are others, like OGM, MKV...). It is very versatile because it can contain more video and audio streams, and supports codecs unlike MPEGs. To determine which codec to use at playback, it contains a four character long ID, which identifies the format of the video (and audio). Codecs have lists about what formats they can decode. The ID is called FourCC code (four character code): for ex. "DIVX" identifies DivX format, "MJPG" MJpeg, "CDVC" Canopus DV Codec. "DVSD" DV format. This ID can be found at the beginning of the AVI file, in the header.
AviSynth is a program that serves video (video server), video frames to other programs. It runs a script, which determines what AviSynth should do. Like "open this video. cut off the end. apply this filter, add subtitle..." so a batch list of commands and gives the result video to a program that called AviSynth. This ha a lot of advantiges. You can avoid lots of recomression, so improves video quality, saves disk space and time! If you have programs that can cut video, another can add subtitles, but can only open a specific format... no need to recomress and convert the video all the time. In my case it is good to load non-AVI videos.
The makeAVIS program creates a standard AVI, but it doesn't contain any video information, only links to the avs file. And AVI-s fourcc is "AVIS". The ffDshow codec recognizes this format and calls the avs file via AVISynth to get the wanted video frame. Avisynth runs the script and gives the wanted video frame to the ffDshow codec, that gives the frame to the main program that needs the frame (and it doesn't know about all this, thinks that this is a standard avi...). Very tricky!

MPEG2: (Programs needed: AVISynth, ffDshow (20041012), DGDecode/DGIndex)

The procedure is almost the same as the one mentioned above, but you must also install DGIndex also. After installing, start DGIndex. File|Open the mpeg2 file/s. The Audio|Output method can be changed whether what you want to do with the audio. Extract it as it is to an external file or decode it to wav (there ar better programs to decode sound... but this is off-topic...) Set Video|Field operation to "None"! Now select File|Save project. Select the place and name for the d2v file (it won't be big...) Indexing the MPEG takes some time... When ready, create an AviSynth script (".avs" file) with the following content:

    LoadPlugin("c:\DGDecode.dll")
    mpeg2source("c:\video.d2v")

In the Loadplugin line you should give the path to the dgdecode.dll. This line opens the mpeg2 importer plugin for AviSynth. This meand that you have a new procedure called "mpeg2source" as you see in the second line. There you must specify the d2v file that you have created. After this use makeAVIS to create the "fake" avi and done!

Why can't LSMaker open some AVI file that should work?

VFW (Video for Windows) was introduced in the earlier Windows'. This API was used to handle videos. After some time, with DirectX DirectShow appeared. This is a more versatile system. There are no real "codecs" (as were in VFW) in the DirectShow system, just filters. When a video is opened in the VFW system the OS searched for a codec and decoded the frames. Everything else like developing the image displaying part of a mediaplayer program, the image resizer, the sound system had to be done by every programmer. DirectShow is different. The filters are "equal". Every filter have inputs and outputs and indentifiers what format can go in and what comes out. There are a lot of filters. For ex.: File source: this reads files and sends the data to it's output. AVI splitter: this recognizes an AVI input and sends the video data to a video output and the audio data to the audio out. There are video decoder filters (similar to the VFW codecs), which recognizese compressed video data and sends uncompressed data to the output. And there are video renderers. These display to input uncompressed video on the screen. So by putting some filters after eachother programmers can simply develop meda players. And developing new container formats were easy because only new splitter and parser filters were needed to be developed and all directshow mediaplayers can play the videos.
So "real" codecs are the VFW codecs, the DirectShow ones are filters. Some "codecs" contain both a VFW codec and a DS filter (like DivX). Some codecs are only in VFW version, some are only in DS filter (DV for ex.). You can search the Net for VFW codecs (there are a lot of VFW codecs for DV avi...). LSMaker and all my programs use VFW. So you cannot open videos which you do not have a VFW codec for.
But! A mentioned above you can use AviSynth! Use the " DirectShowSource("vide.avi") " command in a script to open videos via DirectShow filters. Use makeAVIS and done! Opening a DV avi is not a problem anymore!

A quite good pogram called "gspot" is for finding what codecs and filters do you have, so you can easily inspect these kind of problems.
There is a program called Graphedit. You can manually create DirectShow filter chains. (see downloads)
Check out for more info: www.avisynth.org