

PHOENIX 3 Premium Edition Manual



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PHOENIX 3 Premium Edition – Showcontroller

Introduction

PHOENIX Showcontroller arises from a laser software that had been developed in the 90's and has been further developed in order to combine the control of music, laser, light and video. From the beginning it has been our wish and our customers' wish to be able to create and to control **laser shows** with only one PC or laptop. And all that at lowest possible efforts and costs.

With the help of various developments in computer technology we have come closer to this target. Now you can create **multimedia shows** with or without **laser shows** and fascinate your audience.

Control hundreds of moving heads, lasers, video screens, pyrotechnics, etc. with only one PC. **PHOENIX 3** gives you the advantage, that you can program the complete laser show on your without the hardware.

Thanks to the **PHOENIX 3D visualization** you can simulate complex 3D stages including the laser, video and light effects on your PC and view them in video quality. Show your customers, how your laser show will look like in reality – directly on site on your laptop.

Similar to a video editing program all scenes, all effects and all movements may be freely arranged in real-time and the duration of each effect may be changed in order to achieve a perfect and synchronous laser show. You can see all changes directly and without any rendering in the **laser show** output. You won't have any waiting time. Compulsory storage of all effects, etc.

Just select a short part of the music which you would like to accentuate with effects- like the professionals do. (It is recommendable to take parts with only 10 to 20 seconds.) Now you can run them permanently in a loop. Then just move all "events" (the global definition for all effects, cartoons and scenes) into the time-line of the **laser show software** and adjust all "events" perfectly with regard to time and optical appearance by simply changing the parameters.

Thanks to the loop function you don't have to start the programmed laser show sequence again and again. Just change the events while the show is running in the loop. Once the short music part is completed, just open the loop, move it by 10 to 20 seconds and continue programming. This type of programming a laser show is extremely efficient and gives you the possibility to create a complete laser show within shortest possible time.

Alternatively and/or additionally it is possible to add previously finished and stored effects/DMX scenes, etc. per drag and drop or by means of a MIDI keyboard/PC keyboard in time with the music – and while the show is running – into the time-line of the laser/multimedia show.

"Record-Programming" is the perfect method for efficiently programming particularly fast music parts in short time – e.g. with single beams of your laser and fast animations. Once the frame of the show has been completed, you still can access each part of the show for the fine tuning.

1.1. Philosophy:

PHOENIX Showcontroller is a multimedia control program focusing on control of show laser projectors. In a multimedia show in which lasers shall be applied, the light/video projections have to be programmed particularly precise. A laser show will not forgive any movements asynchronous to the music and even inexperienced viewers will immediately realize any faulty programming. All the more, for us, the makers of PHOENIX, it has been an incentive to develop a tool making easily and efficiently working possible.

The laser show software PHOENIX offers the possibility to connect up to 32 individual laser projectors, more than 16.000 DMX channels (32 x DMX512 circuits) and a video on only one time-line and to let them act perfectly adjusted to the music.

In this connection a clear program structure is absolutely necessary, what the user will be shown in PHOENIX right away. We have knowingly done without conventional light control desk methods, in which additional unpredictable changes can be performed during the live application. First and foremost PHOENIX PRO is NO "LIVE Controller" – although PHOENIX offers more possibilities, even in live applications than most "standard software solutions". However, PHOENIX PRO was made for pre-programmed time code shows which often have been programmed many days, weeks and months before and which are worked out up to the absolute perfection. For pure live applications we have developed PHOENIX-LIVE which offers all interactive control possibilities you can think about.

1.2. Hardware -Concept

We have developed our own USB/network interfaces for the PHOENIX laser software, which are suitable for all single-color and full-color standard ILDA (RGB) laser projectors. It doesn't make any difference whether the laser was manufactured in the US, in China or in Europe – it only has to have a design 100 % in compliance with the ILDA standard. At this point we would like to mention, that the Micro USB interface as well as the DMX-in, the DMX-out and the X/Y signals will output 3 colors + intensity only. That is, color crystals as they are mainly applied in gas lasers will be activated only partially correct! For these customers it will be necessary to use the PHOENIX-PRO-USB/PHOENIX-NET interfaces. These interfaces will output 6 color channels + intensity. The USB variant activates the scanners with 12 Bit.

The network interface, however, operates with 16 Bit, resulting in a finer resolution of the scanned objects. The maximum scan speed is limited to 50 k for the PHOENIX-Micro USB interface. On the other hand, PRO-USB operates at 100K+ – and the PHOENIX-NET at 200k – particularly for raster frame display you will appreciate it. The change to the professional solution will be worthwhile for a lot of users just because of the convenient usage of the LAN interface (that can be well accessed by WIFI either). The USB interfaces' advantages are the fast configuration and the easy connectivity as well as the fact, that the interface does not require any external power supply! (PRO-USB can be connected via USB or via adapter 9-15Vm 500mA !)

Notice: All PHOENIX interfaces can be disconnected from and reconnected to the PC during the laser output – without causing a breakdown of the laser or a software failure. Particularly important during WIFI operation, as the signal in the standard windows network might be cut for a while.

1.3. PHOENIX Configuration

In principle the PHOENIX configuration is quite easy. Intuitive operation is possible after a short time. The basics are learned pretty fast as it is the case with many other professional programs. However, the "depths" and tricks will require some more time and engagement as you possibly may think in the beginning. Somehow you may compare it to Windows "Excel".

Version of this manual: PHOENIX 3 – V – 1.0

You can achieve good results right away, but when it comes to perfection and effects with which the audience cannot even imagine how this one or that one is made, the "professionals" will distinguish from the normal users.

The PHOENIX Showcontroller is being further developed every day and with the aid of the users we are able to provide new effects and possibilities all the time. Most of the good ideas (not to say 90 %) originate from our users' hints and wishes. For this reason it is important for us to keep a permanent good communication to our users. It is our foremost criterion to maintain our programming philosophy, i.e. our users must be able to understand each effect and its possibilities even without reading the manual.

Installation

1.4. Hardware Requirements for the Laser Software

All specifications are absolute minimum requirements and are only applicable for the version published until 01.07.2010 ! We maintain a philosophy of permanent further development, leading to continuous increases with regard to the requirements. If you would like to know whether your old PC's performance will be sufficient just contact your local dealer or send us a mail.

- Window PC with Windows XP, VISTA or Windows 7
- min. 2 GHZ (recommended: Duo core 2x2 GHZ), 2GB RAM (recommended 4GB), 10 GB hard disk, 128MB graphics (recommended 512MB) with OpenGL and DirectX 9.0 (or higher)
- 15" monitor, min. XGA (1024x768) resolution (recommended 1240x1024) preferably you should work with two monitors.
- Keyboard, mouse (possibly touchscreen in case of LIVE)

Options:

- External DMX desk
- Midi-Keyboard etc.
- Joysticks
- Touchscreen
- DMX devices of all types

1.5. Installing the Laser Control Software PHOENIX 3

As we continuously work on the further development of the laser software PHOENIX 3, we recommend to load the newest version from the internet. The latest software version is always available at <http://www.phoenix-showcontroller.de> in the download area.

After inserting the CD or downloading the newest kits from our website, please execute the file Setup.exe. Should you have an old version of PHOENIX on your computer, you will have to UNINSTALL it and delete all folders "PHOENIX Showcontroller" manually. (In case you have stored your own shows, audio files or the like, you should of course store it separately at another place). After successfully uninstalling the old version you are now ready for installing the new version. Just follow the prompts similar to Windows and install the software on your hard disk. Once the software has been successfully installed you can start it from the desktop.

Notice for learning PHOENIX

For quickly learning PHOENIX you should once read this manual completely – without opening PHOENIX. Having read the manual in the dry-run please start from the beginning and this time try everything on your PC. It has been shown in the past, that this method is

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much more efficient and faster than trying to use the program when you read the manual for the first time. Additionally you may watch the video tutorials that have been developed along the lines of this manual. For further information please refer to our website.

1.6. Installing the Hardware

PHOENIX 3 Premium Edition Laser Software can access lasers not only by means of USB interfaces but also by means of network interfaces, allowing you to control up to 32 lasers via the network. It needs just one interface per laser (if you want to access the laser directly.)

1.6.1. Installing the Hardware (USB interfaces)

Connect and install the interface only **after** you have successfully installed the laser software! Otherwise you will have trouble in correctly outputting your laser show on the laser.

Installing the USB interface:

1. Connect the USB cable
2. The Windows installation window will open
3. You DON'T want to search for drivers on the internet....
4. Install the driver **MANUALLY !!!** Otherwise Windows will not find the proper driver upon the first installation.
5. Enter the correct path for the driver:
...\\Programme\\PHOENIX Showcontroller\\Interface Drivers

Alternatively you can also insert the PHOENIX installation CD, on which you can find all drivers in the directory: "Interface Drivers"

The laser interface will be installed properly now and can be used subsequently.

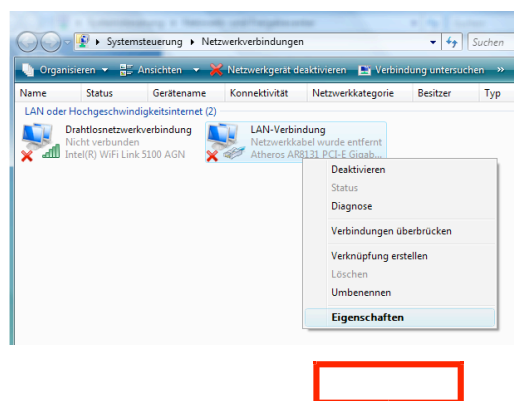
1.6.2. Installing the Hardware (Network Interfaces)

The PHOENIX-Net-Interfaces do not have to be installed separately. Depending on the network settings they will be detected automatically as soon as you access the network or you will have to assign a suitable IP address manually.

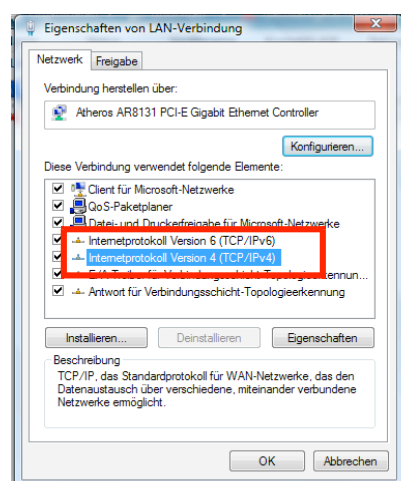
Procedure for manually assigning an IP address:

- 1) Your PC should receive the IP address 192.168.1.165 (as an example) and Netmask 255.255.255.0. (All other fields remain empty!)

Procedure

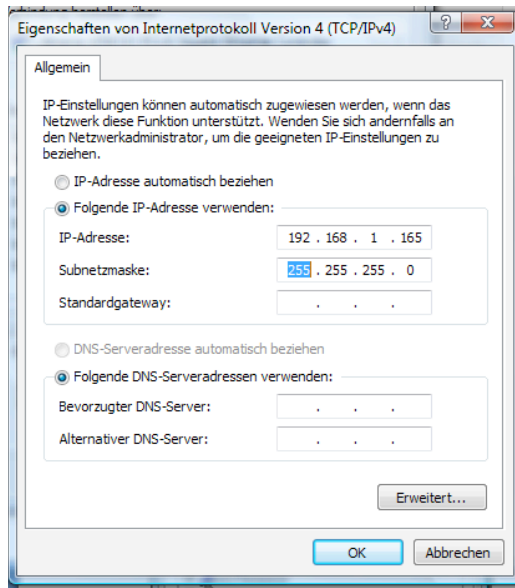


Open "Network Connections"
Right-click on "LAN connection" and select "Properties".



Twice double-click on "internet protocol" version 4" to enter the computer's IP address

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Enter the IP address e.g. "192.168.1.165" and Sub Net Mask 255.255.255.0.
The other fields remain empty!

Click on "OK" to close the window.

Your PC is now ready for connecting the network to the LAN interface(s).

1.6.3. Programming the PHOENIX-LAN Interface

Now the network interfaces also have to receive corresponding IP addresses. Connect the interface directly to your PC by means of a network cable. (If necessary by means of a router/switch) For the first installation you should connect only ONE LAN interface, as the factory settings of all LAN interfaces use the same IP address (192.168.1.100).

Now open your default browser and enter the IP address 192.168.1.100 (WITHOUT http or www). A menu will open, where you can view and modify all interface settings. Change to "IP-Setup" to enter the desired IP address. We recommend to use for example 192.168.1.105 and 192.168.1.110. The Sub net mask always remains on the set value 255.255.255.0! - After successful modification please reset the board (disconnect from the power line), wait 10 seconds and reconnect the power. You're done. The board is now configured to a new IP address.

As an alternative you can also use the setting Automatic DHCP, that is, the board will receive a new IP address automatically upon every new start. In this case you have to set "Obtain an IP address automatically" on your PC.

At present you can operate up to 32 LAN interfaces with one PC. For security reasons you might want to make use of the idea to connect two PCs to the network and use the same interface settings on both computers! In case – for whatever reason – the one computer should not work or have a power breakdown the other computer can right away take over and continue the show! After the communication with the first computer has been terminated the interfaces immediately will be available and can be accessed by the second computer. Thus you can start the same show at the same time on the second computer and you can be sure that, if the worst comes to the worst, you can present fail-safe redundancy.

As long as the network interfaces and your PC are connected to the same network PHOENIX will automatically find and display the interfaces! Should this not be the case please check again your PC's network settings.

Notice: It is no problem to mix network interfaces and USB interfaces with each others.

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Support

On our website www.Phoenix-Showcontroller.de/blog/news you will always find the newest information about the state of programming and all news around the laser software PHOENIX.

1.7. Updating this Software

On the website www.Phoenix-Showcontroller.de you will receive our free laser software updates (security/functional range) as well as hints for the PHOENIX 3 laser software. Apart from that, PHOENIX performs an update check with our server upon every program start. (provided that there is an internet connection!) In case an update is available PHOENIX will automatically inform you about and execute the update accordingly.

ATTENTION: Please note that you have to save your own settings and shows without fail BEFORE installing a complete installation kit. Please refer to the chapter "Updates".

If you subscribe to our update alarm (newsletter) with your e-mail address, we will inform you about important updates (security/function expansion)

1.8. Manual

The menu Manual always contains the actual version of the manual for our laser software PHOENIX 3. Please note that currently you hold in your hands the manual version PHOENIX 3 Premium Edition July 2010. Within the next months we will regularly perform amendments and upgrades.

1.9. Video Tutorials

It is our main target to provide you a perfect laser software. That's why we work daily to increase and optimize the range of functions and offer new updates every two weeks. To get these new updates is quite simple, just click the update button. In order to let you know more about the immense performance range of our laser software we will offer our own video tutorials on individual topics through the internet. Please subscribe to our update alarm to receive the latest news.

Our continuous further development additionally guarantees, that new technologies and effects will be programmed either. Precisely because of our customers' wishes the functional range and the handling of PHOENIX – the laser software – could be permanently improved. Your help, ideas and criticism will always be very welcome. We are at your disposal at support@phoenix-showcontroller.de.

On-Line Access per Remote Maintenance Tool

With the help of our software "Online Support" we have realized a remote maintenance option. That is, if you have exhausted the aforementioned support possibilities and we could not help you with a specific support ticket, we still offer the possibility to let us access to your PHOENIX laser software installation. Therefore just click the button "Online Help" and then send us your online ID number to support@Phoenix-Showcontroller.de. However, please contact us before in order to arrange a fixed date!

Starting PHOENIX

Once you have installed PHOENIX you can start it right away by clicking the desktop icon. Please connect the small blue USB dongle to your PC now. It will be recognized as “HID – Human Interface Device“ and will be installed automatically. You do NOT need any additional driver.

The PHOENIX main menu will open. Depending on whether you have installed the complete PHOENIX package or only the PHOENIX-LIVE-Kit the selection of programs to be used will be displayed. Unlicensed programs will open in demo mode only.

Notice: You can open all programs with every license – however, you will possibly have no laser output! In this case the program will run in demo mode only, just showing you the possibilities. In order to use more or all options of PHOENIX you can purchase an upgrade at any time per e-mail.



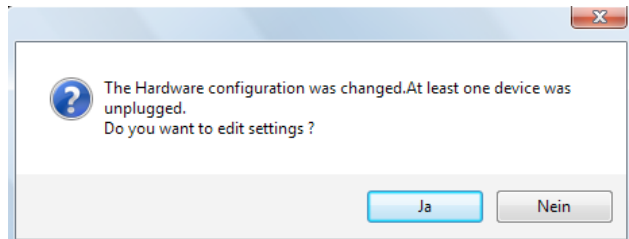
Selection:

- | | |
|-------------------------|---|
| PRO: | Starts PHOENIX 3 Premium Edition – Showcontroller |
| Pic Edit: | Starts the 3D Picture Editor for drawing your own graphics/logos |
| Show Player: | Scheduler for starting shows (only for P3 – PRO/PROplus users) |
| LIVE: | Starts PHOENIX-LIVE |
| Video help: | Opens the PHOENIX Showcontroller website for current tutorials. |
| Online Help: | Remote access to your PC by the PHOENIX help team |
| Hardware-Check: | Checks the connected hardware – without using PHOENIX.
Can also be used to objectively check scanners or to execute performance tests! |
| Media converter: | Starts the optional software for converting Flash, AVI and graphics (jpg, bmp, png...) |

Setting Options

1.10. Selecting the Interface

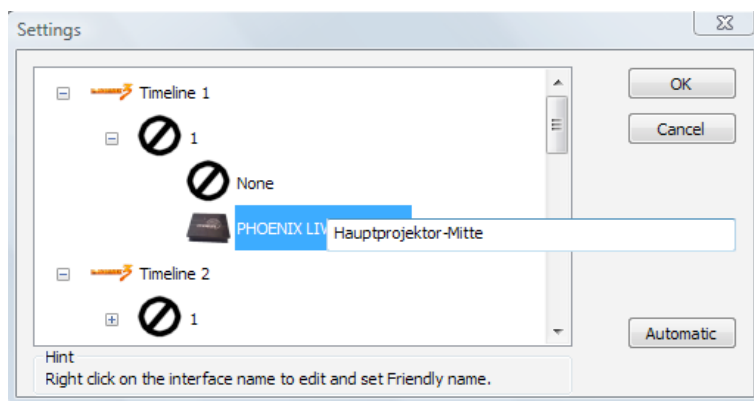
When started, PHOENIX will automatically recognize whether and which interfaces are connected to the PC.



If the window shown on the left opens, please select “JA” or “Yes” to adjust the interface settings. If you choose “Nein” (“No”), the previous settings will not be changed, which might have the effect that your output will not be sent to the correct interface...

Interface Assignment 6.1-1

Please choose the corresponding interfaces here or just click on “**Automatic**” – PHOENIX will then assign the interfaces sequentially to the individual time lines. (Mostly this is the easiest way!) The sequence will be maintained in future.



The name of the interface (e.g. “Main projector center”) can be modified at any time in the PHOENIX settings – also within the software ! Therefore just right-click on the name of the interface. A text field will open to enter the name.

Interface-Rename 6.1-2

You can open this window for interface settings at any time, also while working with the software. Just click on “Options” → “Remap Scanners”. The interface(s) can be removed or reconnected at any time – even without restarting the software.

Notice: At present PHOENIX-Showcontroller can manage up to 32 interfaces. However, PHOENIX-LIVE can manage only 8/!!! In case that interfaces were changed upon the next program start, the settings window will appear again. Otherwise the software will be started without notification.

1.11. Adjusting the Master-Settings for the Laser Projector

1.11.1. Scanner Settings – Adjusting the Laser Projector

Depending on the quality version, every laser projector has different scanner settings. These settings contain the scan speed as well as important information about waiting times at the corners and so on.

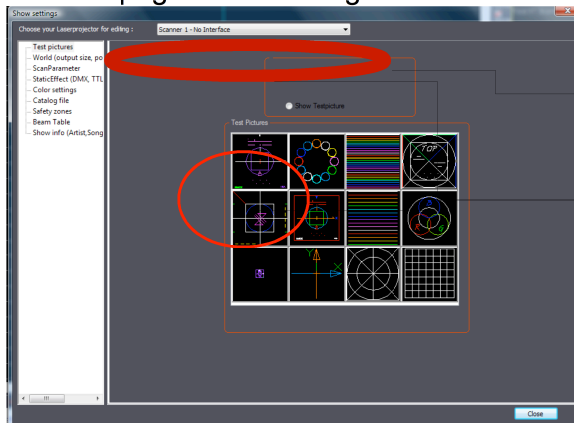
For that reason it is quite difficult to save default values that would be ideal for all laser projectors here ! These data have to be set once for your projector to achieve best possible results ! Every manufacturer or projector requires different values !!!

To modify the settings follow below instruction:



Click the “Settings” button to open the window for general settings.

The first page of the settings window shows the “Test pictures”.

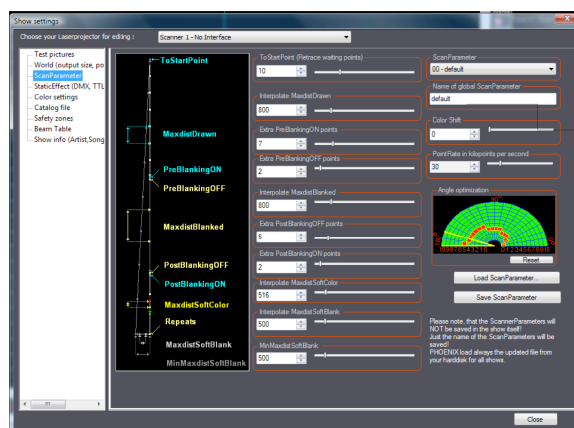


At first choose the laser to be edited.

Then click on one of the test pictures

Change to “Scan parameters”

1.11.2. Adjusting the Scan Parameters



Use this dialogue to optimize all scanner settings. The most important and efficient settings are:

“Point Rate” – Here you can set the number of points to be output for each frame. Mostly the ideal value is in the range of 27k - 35k **ATTENTION:** If you set this value too high, the scanners might be irreparably damaged. A good hint might be, that the corners of a square should not be round. If the picture is completely distorted, the scanners will be overloaded and might be damaged.

Interpolate MaxDistDrawn: Here you can add further points between two vector points. For the most projectors this value should be balanced between 800-1500. More or less points mostly will extremely deteriorate the picture.

Extra PreBlanking Points on/off: Number of points that will be added at the first or last point of a looped line. Adjust this value so that no “little tails” will be visible behind the first and the last point. The point should also not be brighter (hotspot) than the remaining drawing.

Extra PostBlanking Points on/off: Number of points that will be added at the first or last point of a drawn line. Adjust this value so that no “little tails” will be visible behind the first and the last point. The point should also not be brighter (hotspot) than the remaining drawing.

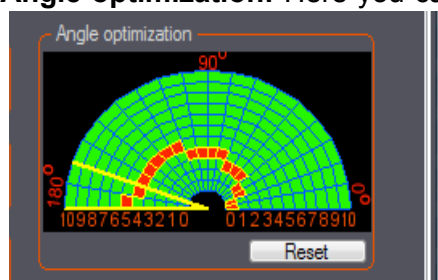
ToStartPoint: This is mostly used in case of gas lasers with crystal insertion only. It will add further points at the start of a frame. In case of DPSS lasers the value can be set to 0 to avoid unnecessary loss of performance.

Interpolate MaxDist SoftColor: If you activate the check-box “Softcolor” in the cartoon event, points between two vectors will be morphed in with different colors. With this value you can set the distance of this morphing process. The higher the value, the “softer” the changeover will be.

Interpolate MaxDistSoftBlank: Similar to SoftColor you can adjust the distance of the threshold between the first point and the last point. If the flag “SoftBlank” in the cartoon event is activated (!) every line will be faded in/out as a principle. However, in case of DPSS laser systems, it may appear that the total brightness goes down drastically as the blanking is too slow. In case of gas lasers with crystals the soft blanking will not cause any trouble.

MinMaxdistSoftBlank: In order to avoid that every small line will be faded in and out, you can set the minimum length of a line here. Otherwise it may happen, that the line disappears completely upon fading in or out...

Angle optimization: Here you can set the “holding points” at the corners of a graphic. That is, if you for example have a corner with 90 ° and it appears too round, you can add some more points so that the corner will become sharper. Depending on the angle you can set different values. The graphic on the left is to be seen as if the laser is coming from left (yellow line).

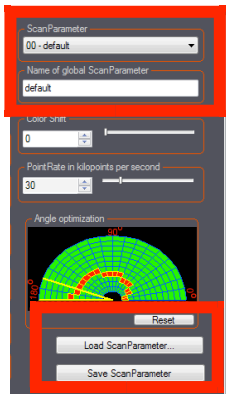


ALL settings are global and apply firstly to all graphics and effects. However, in the cartoon mode it is possible to define individual settings for each graphic separately...

Let the laser output a test picture and adjust each of the values one after the other so that the drawing flickers as few as possible and at the same time is not distorted. You should pay particular attention to the start and end points. They should not have “small tails”. The values ExtraPre and Post Blanking can be used for a fine adjustment.

Alternatively you can also click on “Pause” DURING the show output and execute the scanner optimization in real-time !

Finally you will have to (!) name and save the scanner settings. (Otherwise PHOENIX will remind you automatically)



Enter the name for the scanner settings so that PHOENIX will explicitly load THESE settings when you start the show ! All scanner settings as well as worlds, colors, etc. will NOT be stored in the show but only the name will be stored globally on the PC. That is, if you name the scan parameters “default” and store them, these settings will be loaded in future, whereas it doesn't matter, whether the show will be started on your PC or on another. As a matter of principle PHOENIX will load those “default” settings which were stored with this name for the connected laser system. The reason for this procedure is, that, if you send the show to somebody else by e-mail PHOENIX will play the show on his computer and his laser system right away with the correct settings for scanner, worlds and colors.

Please note that you can use up to 32 different scanner settings within one show. Especially in case of combinations of graphics and beam-shows it is sometimes important to use different scanner settings. You can select in the “cartoon” which scanner settings you want to access...

Notice:

According to ILDA standards the scanner speeds are measured at an angle of 7 degrees. In practice however, laser shows are often played at angles of up to 45 degrees so that the scanners, of course have to work much more.

IN THIS CASE you should by no means exhaust the indicated scan speed. The following table can be used as a guideline. However, it should serve as an idea only.

We do not assume any liability for possible damages caused by improper settings.

Manufacturer information:	Recommended upper limit
20K	15k
30K	22k
40K	28k
50K	35k

b) Color settings – How to get the most beautiful colors out of the laser ?

In principle there are only a few different laser systems. There are single-color lasers (e.g. green), two-color lasers (red/green), and RGB lasers (red, green, blue) in the market for solid-state lasers and diode lasers. Furthermore, there are gas lasers and high end diode systems with up to 6 color lines.

When using a one color laser system, you will have set the gray level values only, in the best case. That is, the laser show will display dark color tones (e.g. dark blue) darker than bright color tones (e.g. white). In case of RGY (red, green and the mixed color yellow) you will have to adjust some more colors. The biggest challenge are the 6 color lasers, where you have to learn even the finest color shades. However, the procedure is always the same!

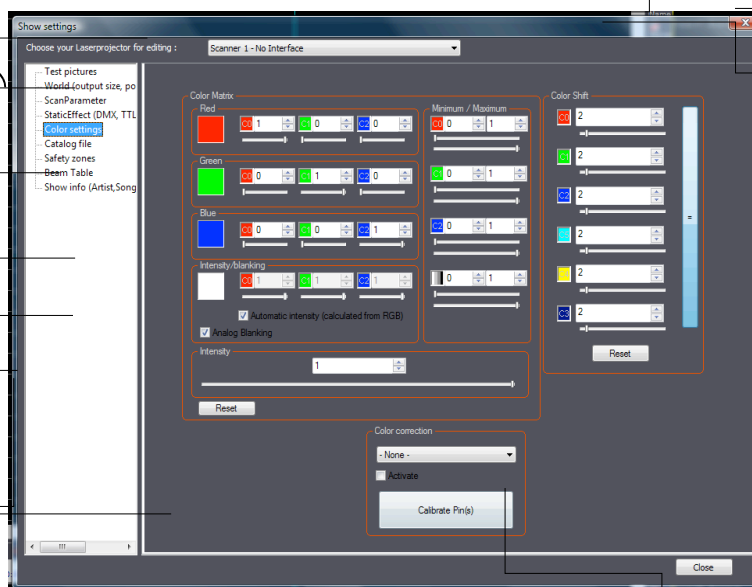
For the setting please connect your laser and adjust it to a screen for the adjustment...

Starting the Color-Wizard:

At first start the scanner settings menu and then change to "Color Settings"



Selection of the scanner color matrix



Menu selection

Output to red channel
Min/Max laser power
Output to green channel
Min/Max laser power

Output to blue channel
Min/Max laser power

Output to intensity channel
Min/Max laser power

Color shifting of the individual color channels. (Forward/backward)

To move all color shifts simultaneously...

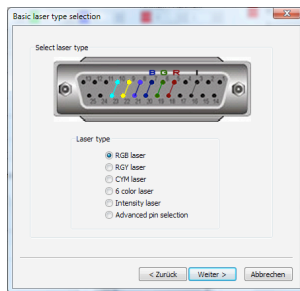
Activate/deactivate intensity automatic

Overall brightness

Select the settings already optimized

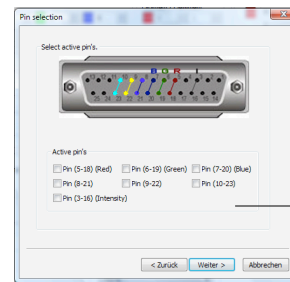
Start calibration

The color matrix works with percentage values. If, for example, 1 / 0 / 0 is indicated for the red channel, it means that 100 % power will be output on channel "red" (Pin 5) in case of red colors in the laser show. The green and the blue channel in this case will output 0 %. If you slightly increase the value for "blue", for example to 0.08 (as you can see for the green channel in the picture), PHOENIX will automatically mix 8 % of the green power to every blue effect. In this way you even can improve lasers with a weakness in blue by adding some "green power". The "min/max" indication on the right side shows at which point the laser diode will start the laser output and at which point it will achieve the maximum. As all laser diodes have different start values it is important, that all values are correctly indicated to allow consistent fading. For example: If a white wave is faded out, it should not become red and green when it becomes darker... You should execute the color correction with automatic calibration in order to achieve a color behavior as perfect as possible. Therefore, at first please activate the field "Active" above the **"Start Calibration"** button. Then start the Color-Wizard:

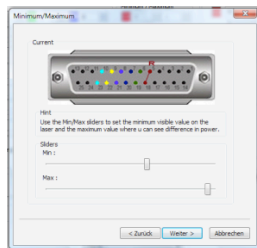


At first select your laser type

Or choose the
“Advanced selection”



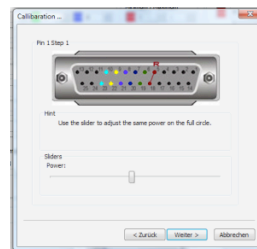
Click on “Continue” for the next step.



The laser will now project two red lines onto the screen. Lower the “Min” slider until you just can't recognize the red line any more.

Move the “Max” slider to the right until you have reached the maximum brightness. Mostly it is shortly before the end of the adjustment possibility as most lasers achieve their maximum power at around 95 %.

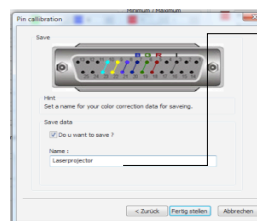
- Continue –



Secondly a red circle made of two half circles will be projected. Adjust the brightness with the slider so that both half circles will be displayed in the same brightness.

Don't let yourself be fooled – these settings are of immense importance as they later will decide whether the laser will display colors good or bad !!!

This process has to be repeated several times for each individual color until you can save your settings in the last menu.



Activate the check-box to store your settings.

Enter a name in the line and finish the color correction with “Fertig stellen” (Finish)

The color matrix will allow you to change your settings at a later time. For example it is possible to quickly exchange all red colors with green colors or to add some green color to the blue color, in case you are using for example a 405nm diode...

Notice: You can see your changes directly and do not have to render or the like. You can change and optimize the colors even during the show output!

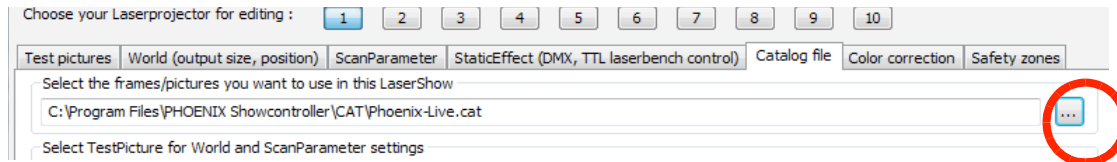
1.12. Loading “CAT-Files” for a Show

For every show you will need pictures to create effects and animations. These pictures are drawn in the program “PicEdit” and stored in a catalog. The file created hereof is a “.cat” file.

We recommend to maintain a good organization of your directories from the beginning and to archive all required files belonging to a show in ONE directory. In doing so, you won't have to

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search for a long time if you want to transfer the show to another computer or if you have to install the system newly. Same as the other settings, the CAT-Files are to be selected in the settings menu. Open the settings  and change it to the tab column “Catalog file”.



Click the Open button right of the path box. Select your .cat file and click on “open”. PHOENIX will immediately load your pictures and display them in the window. You will need to perform this process for each individual (!) scanner.

Notice: Importing other picture formats (as for example ILDA files, Pics, xyz, plt, Flash etc.) is to be executed in PicEdit or in the cartoon !

1.13. Priorities, Loading an Audio File, Setting the Synchronization and the Length of the Time Line

PRIORITIES

Please note for the time line as a principle: PRIORITIES ! (or essentials)

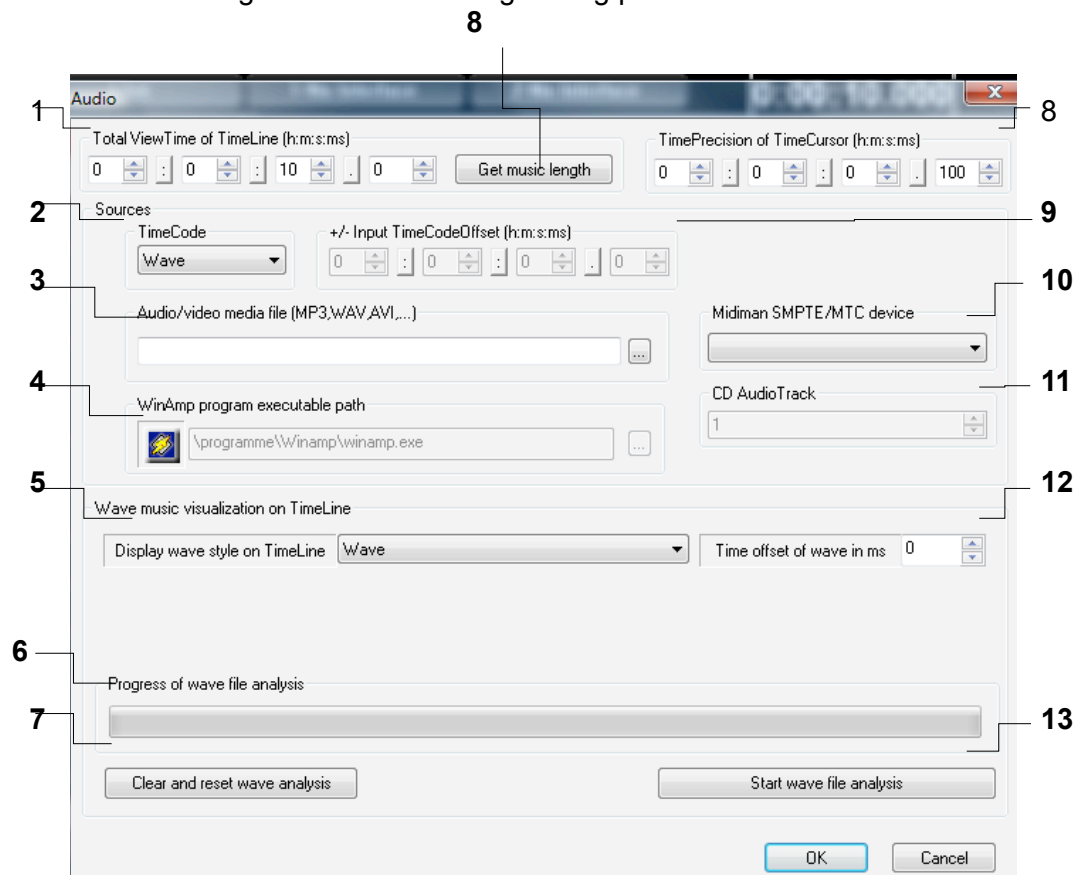
The priority of an event is defined by its position in the time line. Events that are in a lower position in the time line have a higher priority! If, for example, a rotation in the x-axis is ABOVE a cartoon (a cartoon is an event in which the drawn pictures “pics” or key frames of an animation are defined – and thus the most important event in PHOENIX) you *won't realize a change of the picture*. However, if the rotation is positioned BELOW the cartoon, the picture will rotate around the x-axis. In this case the rotation has a higher priority and thus has an effect on the picture lying above.

The same applies, if a rotation AND additionally for example a move are positioned below a cartoon – PHOENIX will process the commands sequentially and now would perform first the rotation and then the move. If you exchange the events, that is first the move and then the rotation – the procedure will be completely different. You should do some in-depth trials in the beginning in order to develop the feeling what's possible and when.

It is essential, how you arrange the individual events to each other and below each other to receive the correct or desired effect.

In principle you can play a laser show without music. However, a certain “synchronization” will still be necessary to ensure that the show will look the same always and everywhere. Open the audio settings window by either double-clicking on the white time bar (58) or by selecting “settings” in the menu “audio”.

The menu “audio settings“ features following setting possibilities:



- 1) Displays the overall length of the time line. In the best case it should always have the same length as the piece of music.
- 2) Time Code Selection: Here you can define the object with which you want to synchronize the laser show . For selection are:
 - a. **Time** The internal PC time. That is: 1 second on the time line corresponds to 1 “real” second
 - b. **CD Audio** Plays the CD in the CD/DVD drive. The exact title is to be chosen with selection “11”.
 - c. **WAVE** The time line will be synchronized to a WAVE file. The file is to be chosen in selection window “3”.
 - d. **SMPTE** The show will be synchronized with an SMPTE- time code device which is optionally available. PHOENIX supports, for example, Midiman 8x8/s SMPTE. The corresponding device is to be chosen in the selection window “10”. The time setting “9” lets you set a corresponding off-set to the show start.
 - e. **MP3** The time line will be synchronized to an MP3 file. The file is to be chosen in selection window “3”.
 - f. **LIVE** The time line will be synchronized to variable speed. You can adjust the speed wit a speed slider from 0-100.

- g. **WinAmp** The time line will be synchronized to the WinAmp player. The path for the player's .exe file is to be chosen in field "4".

- 3) This is the path statement for WAVE and MP3 files.
- 4) This is the path statement for the WinAmp player (if required for the synchronization)
- 5) When using WAVE files PHOENIX can display the WAVE curve. Depending on the setting you can fade in different frequencies.
- 6) Displays the current conversion status of the WAVE conversion.
- 7) Resets the last WAVE conversion
- 8) Step size of the event movements on the time line. Default = 100msec. However, for some parts of music you may need to adjust the synchronization within hundredths of seconds
- 9) Offset adjustment when using SMPTE-synchronized shows. (If many companies create the show together (e.g. music, laser, video, pyrotechnics, special effects, stage moves, etc.) it might be advisable to use a signaling PC (or a corresponding SMPTE signal from a CD player), which is sending a so-called SMPTE signal, keeping all other PCs synchronous. That way you can also perform short breaks or replays from only one "director's chair".
- 10) Selecting the SMPTE device (e.g. M-Audio Midiman 8x8/s)
- 11) Selecting the CD track (only active, if time code is set to CD-Audio)
- 12) Off-set adjustment for the WAVE shape towards the time line. Sometimes you might have to set the WAVE shape a few milliseconds forwards or backwards in order to have it synchronous to the music.
- 13) Starts the WAVE file conversion.

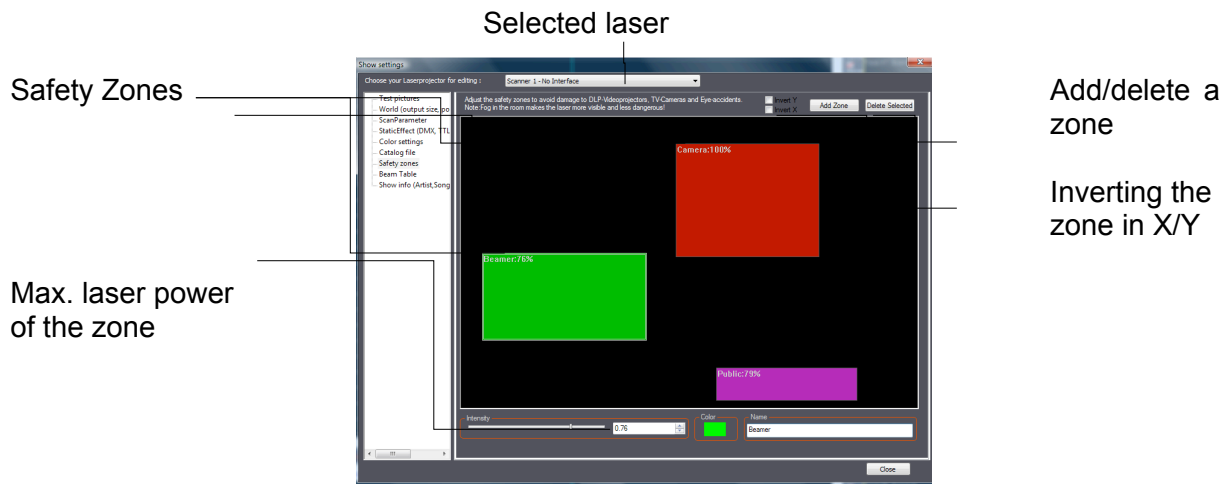
1.14. Security Setting for the Shows

1.14.1. Safety Zones

You will need safety zones to assign a certain laser power to certain areas within the auditorium. Video projectors as well as cameras for example are extremely sensitive to lasers and therefore should preferably not be exposed to any laser power at all. Even minimum exposure to laser beams can be sufficient to damage the device !!!

With following instructions you can define up to 16 independently acting safety zones in PHOENIX :

Open the settings menu with  and change to “Safety Zones”
Click on “Add Zone” and change size and position of the red square according to your requirements. By changing the color and entering a name you can easily assign the zones at a later time.



1.14.2. WORLD Settings (Projection Zone)

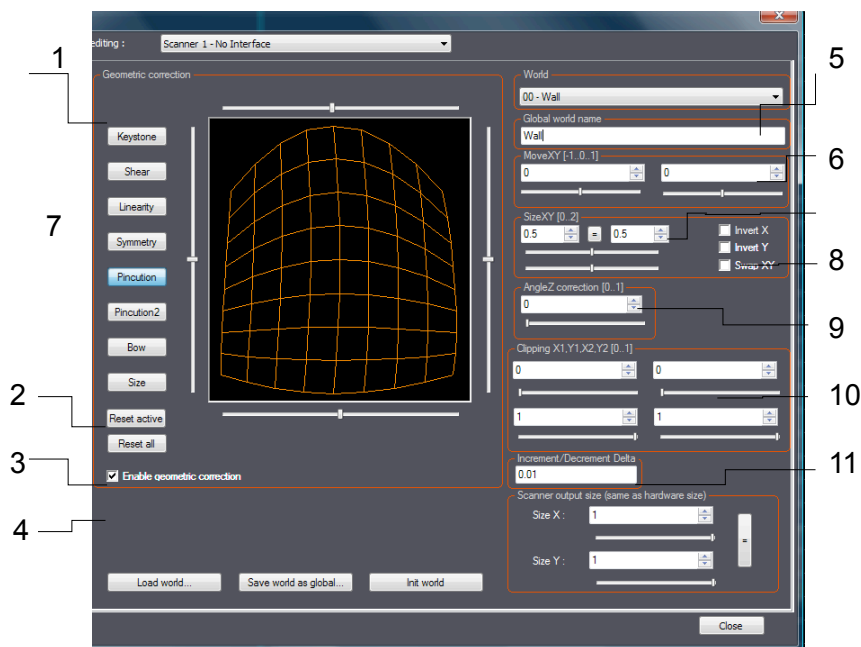
Every laser projector uses “World Settings” as basic settings. For example, you can determine the sizes, the geometrical corrections, clippings, etc. for the individual projection zones here.

Projection zone is just another name for “WORLD”. We define a World as a type of area, in which the one or the other animation or an effect shall be displayed.

There are some standard worlds as for example the “Audience” world. Audience is, in general, the name of worlds in which the spectators have the laser beams in eye height. “Screen” on the other hand are those worlds in which the screens of a room are defined and adjusted. “Mirrorball” also is an commonly used world in which for example spirals are projected onto the mirror ball of a room. Thus, worlds are quite important settings for all laser shows and must be set correctly to ensure all security conditions and show courses. In one

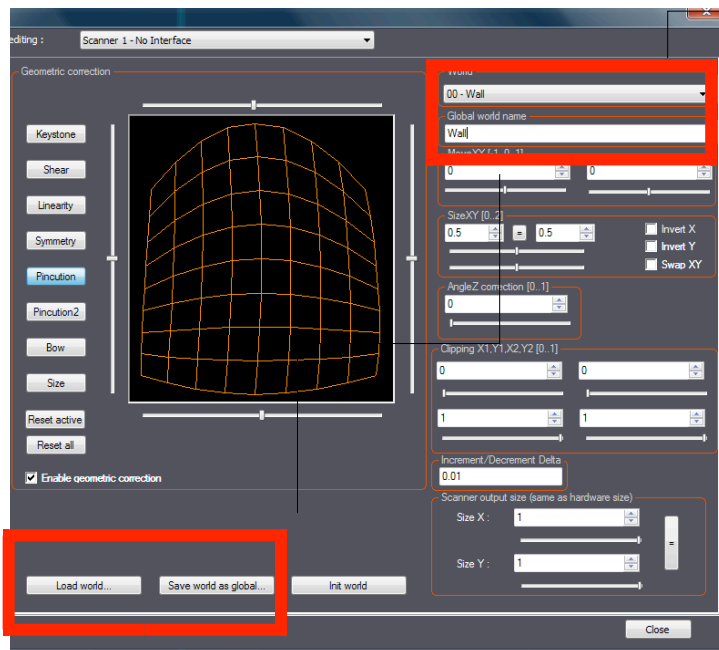
show you may store max. 32 of these worlds which subsequently can be selected for each event or cartoon during programming the show.

Open the settings with  and change to "World"



- 1) With the sliders on the side you can set geometrical corrections in all variants.
- 2) Here you can reset currently active geometrical corrections or all corrections.
- 3) Switch on/off the geometrical correction
- 4) Load/save the complete world (All settings you can see on this page) ATTENTION – SAVE THESE SETTINGS BY ALL MEANS !!!
- 5) Name of the world (you can store max. 32 worlds per laser projector for one show.)
- 6) Position of the projection in this world (right/left, up/down)
- 7) Size of the projection in this world
- 8) Inversion (mirroring of the X or Y axis)
- 9) Z-axis rotation
- 10) Clipping (e.g. cutting the projection in order to have it matching the screen, that is, that the projection will not be displayed outside of the screen, no matter how big the animation is.)
- 11) Delta-value: Step size of all variable settings on this page (e.g. 0.1 for big steps or 0.0001 for very small steps). When setting size and position you thus can adjust the correct value very precise.

Finally you must (!) enter a name for the world settings and store them.



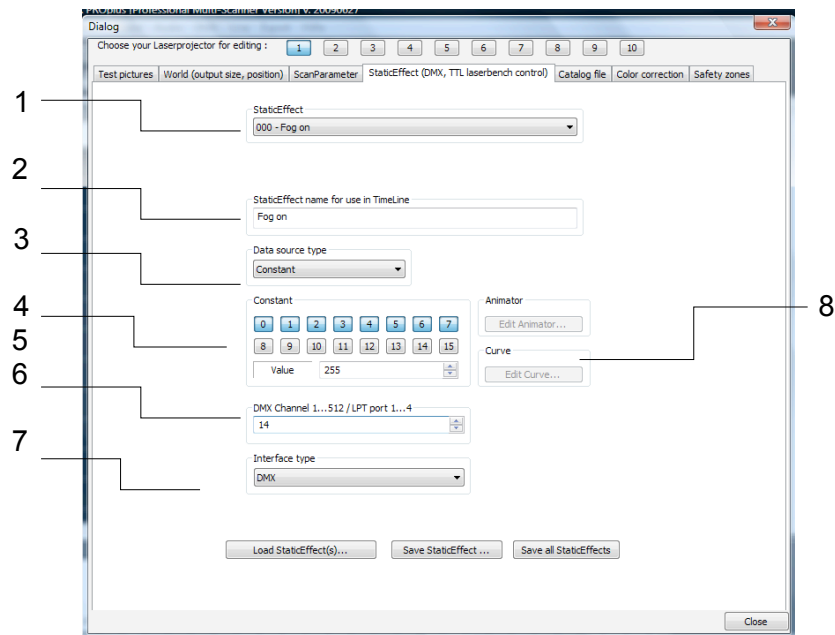
Enter the name for the world settings or for this projection zone here so that explicitly THESE world settings will be loaded in future when you load the show! All world settings – as well as the scanner settings, colors, etc. – will NOT be stored in the show but only the name will be stored globally on your computer. That is, if you rename and store the world settings “PHOENIX RGB Laser“, these parameters will be loaded in future. It doesn't matter whether the show will be loaded from your PC or from another. PHOENIX will automatically load the “PHOENIX RGB Laser“ settings that were stored for the connected laser system with this name. You can

store and load up to 32 different worlds for each show. Later, If you program your effects and animations you can chose in which worlds this animation shall run.

STATIC EFFECTS

These are the static effects that appear in a show. It can be individual DMX signals or TTL signals (+5v) which can be found at the USB-PRO and the LAN interfaces. With correct application you also can activate static effects spontaneously and while a show is running. This is quite helpful for spontaneously activating a fog machine or a motor-driven screen. In our example a fog machine is being activated...

Open the settings with  and change to “Static Effect“. Be sure to select the right laser projector. Each interface has its own static effects.(DMX universes and TTL outputs)



- 1) Name of the currently active static effect
- 2) Enter the name here
- 3) Type of the static effect:
 - a. Constant : A fixed value to be entered in value field “4”.
 - b. Animator: A variable value depending on the animator “8”.
 - c. Curve: A variable value depending on the curve “8”.

Notice: The minimum value is always “0” or “1”. The maximum value is depending on the selected interface (6)! In case of “DMX” the min. value would be “1” and the max. value would be “512”. For TTL the min. value would be “1” and the max. value would be “65535”. Animator and Curve are always in between these two limits. In order to keep the overview, we just specify “0” as min. value and “1” as max. value. 0=0%, 1=100%.

- 4) Selecting the “constant value”
- 5) Selecting the DMX channel – in case DMX has been selected as interface (6).
- 6) Selecting the interface:
 - a. **TTL** (These are 0/5V connections at the PRO-USB & LAN-interface)
 - b. **DMX** (This will access the DMX output of the interface – ATTENTION each connected interface has its own DMX - out universe – Therefore take care which laser projector you have chosen above !!!)
 - c. **Shutter** Accesses the shutter signal of the interface.
- 7) Loading and storing the static effects.
- 8) Settings of “Animator” and “Curve” for “Type” (3)

In our picture we activate the fog machine on channel 14 with the value 255 for example. That means: in the moment you will call up this static effect during your show, the value 255 will be output at DMX channel 14. Where and how to use static effects, you can read in the section “Events”

EVENTS

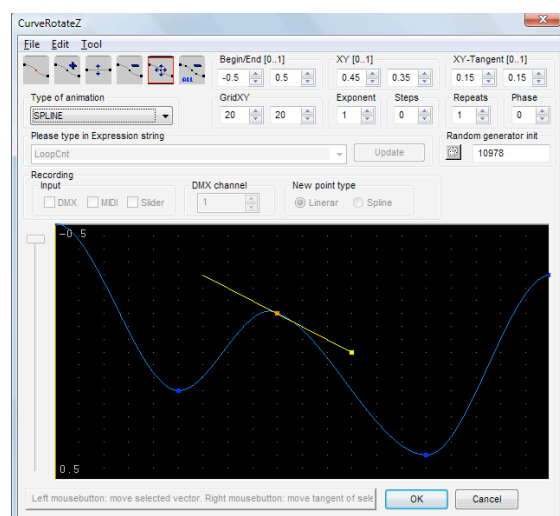
In PHOENIX we call all movements, animations and effects which are set onto the time line events. As a standard the event list is displayed on the right side of the time line. If you can't see the event list, double-click somewhere on the time line – and the event list will be displayed again. You can place the event list anywhere else – e.g. on a second monitor. This can offer you the advantage, that you can see all events at any time and you don't have to scroll. Left-click on the upper frame and hold the mouse button and then move the event list to the desired position. You can add events to the time line per Drag n 'Drop or by double-clicking. In case you want to add several events exactly below each other just click the different events one after the other... PHOENIX will automatically copy the events to the time cursor in the time line.

The sequence plays an important role when setting an event onto the time line. The most important event is the “Cartoon”. Here the key frames for an animation will be selected. Therefore the cartoon always has to be placed to the most upper position of an effect composition. Every animation movement for this cartoon has to be in a lower position. Also you have to consider the arrangement of the individual movements to each other. If a move is positioned above a rotation, the animation firstly will be brought into position and then rotated. That is, there is a priority on the time line going from up to down. The lower you place an event on the time line, the higher its priority and therefore it will be executed after the events in the higher position.

In principle there are always two different modes of movement/effect events. CURVE and ANIMATOR. Both of them work completely identical from 0 to (0 – 100 % performance within the effect time). The only difference is that for an Animator you can't set movement points as in a CURVE.

We will describe the individual events only in brief here, as most effects are self-explanatory.

1.15. CURVE Windows

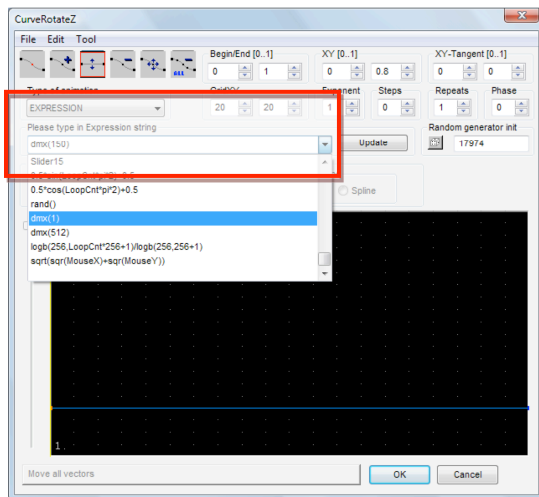


CURVES are some of the most powerful instruments in PHOENIX and present one of two possibilities to adjust any effect movements. Curves can be used for movements, rotations, morphing, etc. Principally there are always two values in between which something may be varied. The “CURVE line” thereby indicates what will happen at what time and how. It is important to know, that this window always refers to the overall time of the effect ! If the effect “CurveRotate Z” takes 10 seconds, this curve and its movements will refer to exactly 10 seconds!

Let's take the rotation Z as in this example. The frame/animation would rotate from left to right here (approximately $\frac{3}{4}$ rotations), then a $\frac{1}{4}$

rotation back to left, then a slow rotation to the right and finally a relatively fast rotation to the left...

Curve joints are to be set with the “+” key. With “-” you can delete points and with the cross you can move points. In order to move the points more precise you can use the setting values on the right. You can adjust the spacing in detail with the function “**Grid XY**”. If you would like to repeat a certain movement, you can use the function “**Repeat**”. “**Phase**” means a movement of the whole curve. **Exponent** will only work, if “**Exponential**” was selected as “**Type of animation**”. In the field “**Expression**” you can chose some interactive possibilities such as for example “**Joystick**” or “**Mouse**”, that is, that the ACTIVE knot shall react to the movements of Joystick/mouse or the like. You can also enter your own mathematical formulas to create abstract movements. It might be easier to understand the expressions if we use a little example:

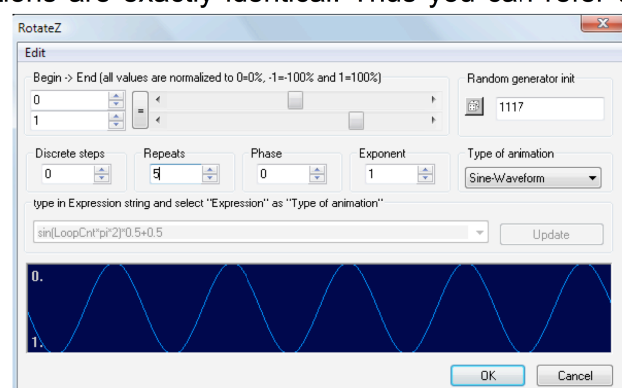


We have the curve as a horizontal line from start to finish. That is, the object will be rotated to the set rotation degree and thus doesn't move. The “Type of animation” is chosen as “DMX(1)” in this example. (1) indicates the DMX-in channel, with which the curve now can be controlled. If you enter a different value in brackets (e.g. 150), the curve will be controlled with the corresponding channel at the DMX controller. In doing so you can use all devices listed in the expression list for controlling the

curve. Be it a MIDI channel, a movement with the mouse or the joystick or even a self-developed mathematical formula that you can enter here.

1.16. Animator Window

The second of the aforementioned possibilities is the Animator. In principle the animator works in the same way as the curve with the only difference that you can't set the joints in between the limits manually. All other functions are exactly identical. Thus you can refer to the curve description for details. The advantage of this variant is that you can faster create even movements that have to be executed for example 5 times within the effect length. In particular you can create very fast movements that are in time with the music.



All available laser events...



All Events 7.2-3

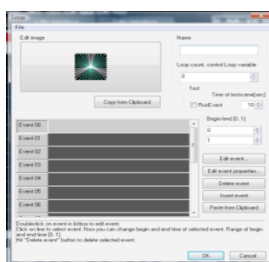
You can arrange the events as you wish. You can move them per Drag n 'Drop with the left mouse key. The positions will be stored automatically and will be shown again upon the next program start. With a right click you can see the "Reset List" function with which you can reset the list to the factory settings.

The following events are included in the 2010 version.

1) Cartoon

The most important event. Due to its large volume we will explain the cartoon on the following pages in detail. But before we would like to explain first all other events.

2) Loop



the
loop

Figure 7.2-4

A loop comprises another 32 time lines, whereas you can add several events by double-clicking and later insert them as a package into the main time line. You can store the loops individually and reload them on request for inserting into another show. In doing so you can fast and easily copy complicated effects and adjust them to the time. You can adjust length events in the loop window by means of the start/end values. It is also possible to insert complete show parts into a per Copy and Paste !!!

However, you should ensure that the cartoons always refer to the current catalog. That is, if you load a different catalog, the pictures in the loop event won't match any more .

3) Intensity

Determines the brightness of an effect..

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4) Pivot X / Y / Z

Defines an effect's center of rotation in the Z-axis. You will need it, if you want to perform a Z rotation around the corner of a picture.

5) Rotate X / Y / Z

Rotates an effect around the corresponding axis..

6) World Rotate X / Y / Z

Rotates the effect including a position movement in the corresponding axis.

7) Scale X / Y / Z

Changes the size of an effect without changing the number of points of the projection.

8) Size X / Y / Z

Changes the size of an effect. The smaller the projection the fewer points will be output..

9) Clip X / Y / Z 1 and 2

Cuts the projection on both sides. You will need this, if you want to display a graphic on a screen – without having the display outside the screen.

10) Scale XYZ

Changes the size of the animation

11) Scale X / Y

Changes the size of the animation without changing the number of points.

12) Clip X1/X2, Y1/Y2, Z1/Z2

Cuts the projections at the left/right, top/bottom (or in the depth of a 3D picture).

13) Size XY

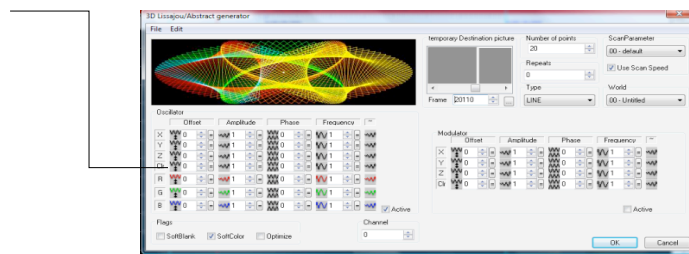
Changes the size of the x and y axis in equal measure with point reduction.

14) Scale XYZ

Changes the size of all 3 axes in equal measure.

15) Lissajous

For creating individual laser figures on the basis of different frequencies, phases, etc.



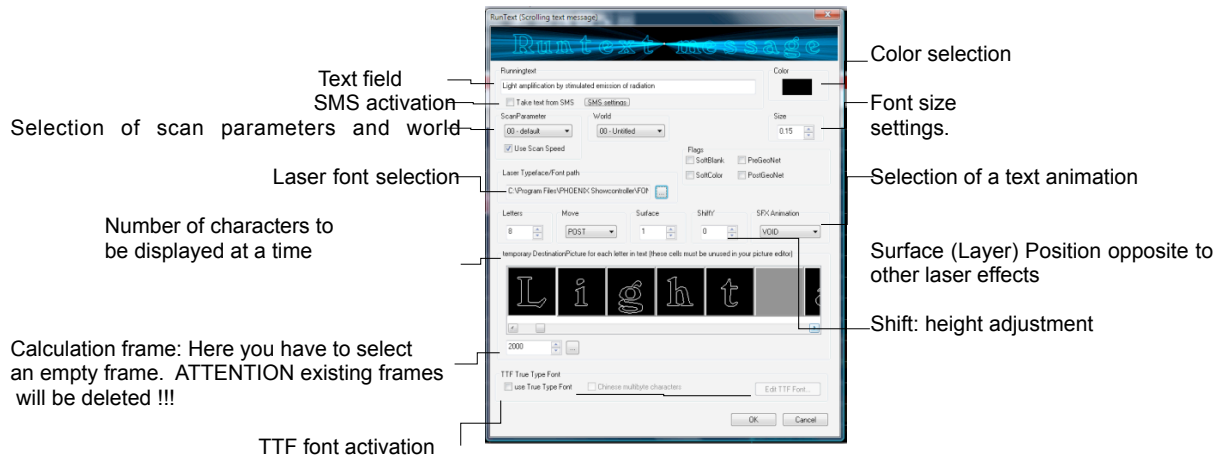
Oscillator for all axes
Calculation frame. Here you
have to select an **empty (!)**
frame !

Selection of scanners
and worlds

16) RunText

This function allows you to bring text of any length onto the laser. “Laser-optimized” fonts and “True Type Fonts (TTF)” are available for optimal display. The advantage of the laser fonts is that they were drawn optimized for laser output. You can chose from the font folder “..\PHOENIX Showcontroller\Fonts\... Click on any (!) letter of the selected font in the directory to select it. In case of TTF the fonts that are provided by Windows are available.

Text can also be read from an SMS of a mobile phone. (For more information please refer to the SMS explanations.)



LIVE-RunText 7.2-5

The laser-optimized fonts will be deactivated then.

17) Pipeline

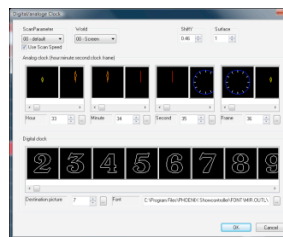
Moves the viewer position in a 3D picture. Very nice function to drive through a 3D graphic.

18) Clock

Let your laser display the PC time in real-time. Digital and/or analog clocks are available. You can design the analog clock yourself. Actually the hand and the frame have to be chosen from the CATALOG. (You can find an example of a clock in the show directory of “DEMO” – these pictures may be copied) The digital clock requires the path of the desired laser-optimized font. Chose the font from the directory “..\PHOENIX Showcontroller\Fonts\XYZ-Schrift\ and double-click any file in this directory! As always you must select the “start picture” in the destination frame, where you can enter the figures. ATTENTION: It will delete or overwrite 12 frames for the time!!!



Realtime-Clock 7.2-7



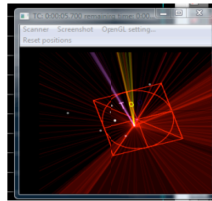
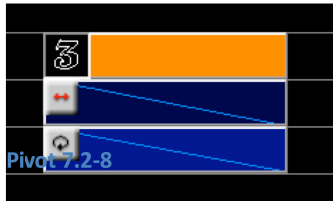
Clock-Frames 7.2-6

19) Pivot X/Y/Z

Moves the center of rotation of each rotation axis. (e.g. Rotate X) to rotate for example a square around one of its corners (and not around its own axis...) You

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should take care that is always placed ABOVE the rotation command on the time line in order to have the required priority...



Center of rotation in this example...



Changes the size of all 3 axes without changing the number of points.
Cuts the selected page of the laser projection. (Clipping)

20) CurveShift X / Y

Moves the object without changing other parameters. This function is similar to moving the laser projector physically.

21) Shear Y by X and the others.

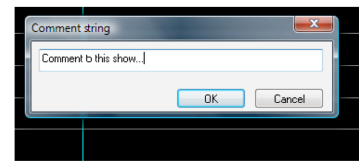
The object will be distorted geometrically.

22) View / View X / Y / Z

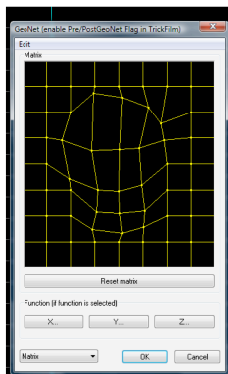
Changes the view angle of an object. **ATTENTION:** The check-box "View" in the cartoon ha to be activated in order to see this effect on the object !!!

23) Comment

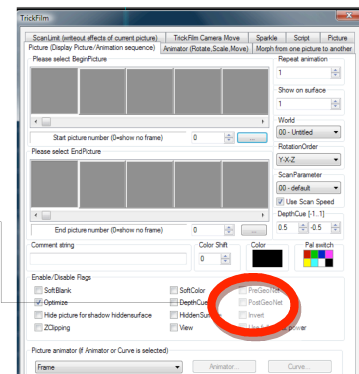
Adds a text notice to the time line



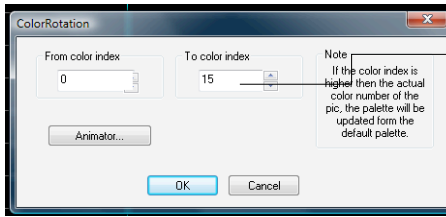
24) GeoNet



This allows you to completely distort the object geometrically. **ATTENTION:** You will see the consequences on an effect only, if the check-box "GeoNet" in the cartoon is activated.



25) Color rotation



This changes the colors of an object. The higher the value in the event, the faster the color rotation will be performed.

26) Fade in / out

This will fade in/out the object (dark > bright or vice versa)

27) Scanspeed

it is recommendable to handle this effect with CARE. If the scan rate set in the PHOENIX settings for example is 30k and the value for the scan speed is set to "1" --PHOENIX will output exactly these 30 k. However, if you now change the value to 2 – PHOENIX will output a scan speed of 60k ! And on the other hand the output will be only 15 k, if the value is set to 0.5. So, with this function, you can change the scan speed rates of a running (!) effect. NOTICE: The scan speeds WON'T be reset to the value defined in the settings after termination of an effect! So, you have to terminate the scan speed in any case with the value "1". – Otherwise the remaining show will run in the new scan speed.

28) LIVE

This is a basic version of the Lissajou generator.

29) Ping

Funny little effect that lets pan a few circles back and forth. You can set the number of circles in the event.

30) Color Shift

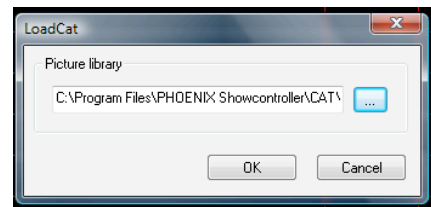
Moves all colors to the next color.

31) BEAMSHOW

Switches on/off the beam visualization in the preview (!) (Useful, if you have a graphic part as the show starts and then change to a beam show. You won't have to switch manually to "beam visualization" in the preview.)

32) LoadCat

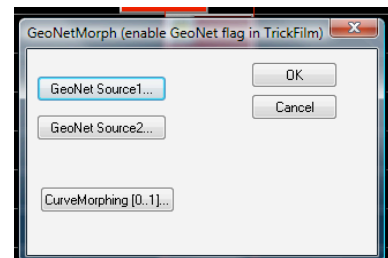
Allows loading a new CAT file while the show is running! In this way you can use several CATALOGs within one show. However, you should take care, that all following events will access to this new catalog – and not to the CAT which was initially defined and stored in the settings.



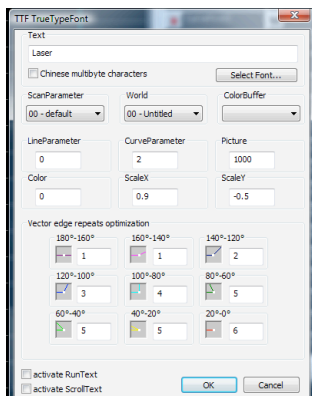
33) GeoNetMorph

Allows morphing between two defined GeoNet grids. Make sure to have activated the check box “Geonet” in the cartoon!

“CurveMorphing” allows you to create an individual moving curve between the two GeoNets.



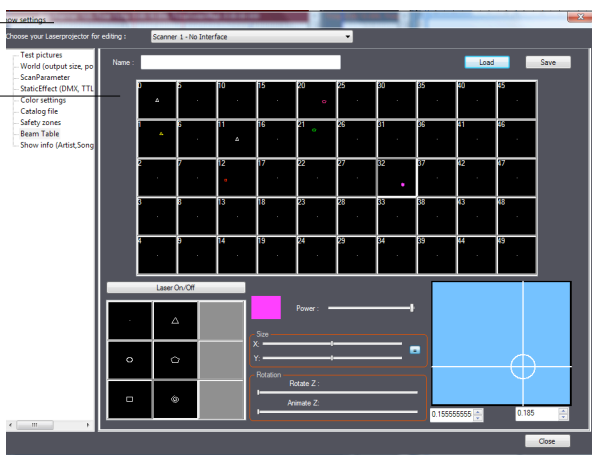
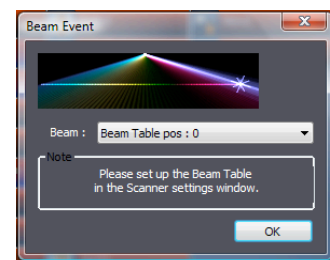
34) TrueTypeFont



Allows to display one single word. The difference to “RunText” is, that you have different scroll possibilities here. Additionally it includes an optimization for vector edges with which you can optimize all angles of the characters. This event is particularly suitable for displaying Eastern European and Asian True Type Fonts. You have to define the first empty frame in the field “Picture”. ATTENTION: It will overwrite all frames in the CATalog. We therefore recommend to enter a high number (10.000-30.000), as usually no frames are stored in this range.

35) Beamtable Event

For single beam shots onto external room mirrors. You may adjust the positions in the settings! In doing so, you have up to 50 beam positions to be executed per each output interface.



Select the laser you want to edit, click on the beam pictures and then on one of the 50 single beams. You can now position the activated beam with the cross line. The object size can be set with the sliders. If the object (the single beam) additionally shall rotate continuously in a certain speed, you can adjust it with the slider “Animat Z”. (Beautiful effect for example with a square on a mirror ball...)

You can set the color by clicking

on the color field. Store the beam table to possibly use in in other shows.

36) Bitmap



RasterScanning 7.2-9

can do with the editor! Usually raster scans are output with approximately 80-110k! Hence the maximum size of the picture also is relatively small! Please make sure, that your scanners are permitted for such extreme loads. We assume no liability for possible damages in such cases. It is required to use the PHOENIX-NET/PHOENIX-PRO USB Interface to achieve this speed.

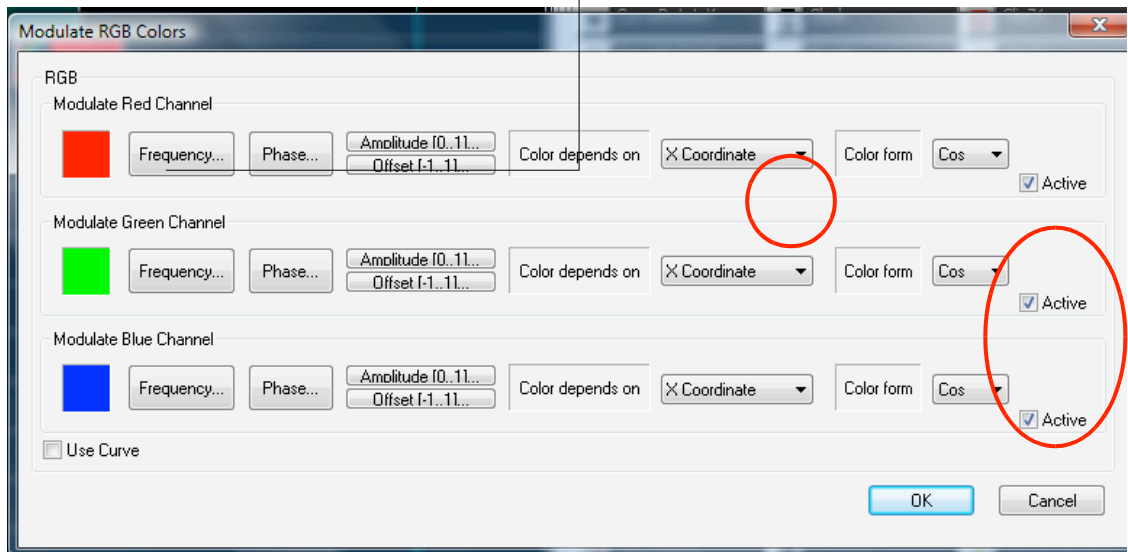
Allows to display a picture in Windows-typical formats (jpg, bmp, png...) as a raster picture.

The picture's resolution is limited to 64x64 pixels. All larger pictures will be scaled down. You can chose from "Bitmap" and "Form Editor" for the "type" selection. "Line Color Shift" and Begin/End correction will allow you to optimize the output quality if required. "Projection World" lets you chose the corresponding projection zone, that is, where the projection shall be executed. You can chose the settings defined for raster scanning with "Scanner Parameters". The scanner settings, same as projections worlds, are defined in the settings. The formula "Flower" shall serve as an example, what you

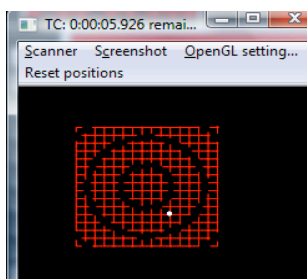
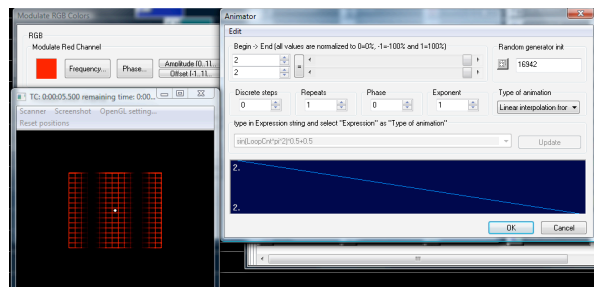
37) Twist Z

Lets all objects including their animation and movements rotate around the Z-axis

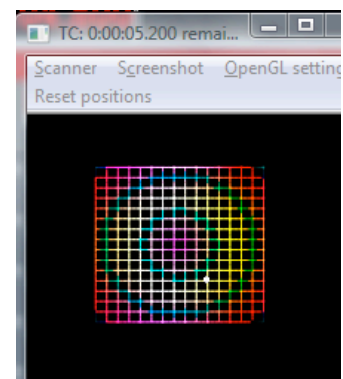
38) Modulate RGB



Beautiful color effect in which different modes for color fading are offered. For easily understanding this effect select a picture with many horizontal and vertical lines (checker-board pattern). Place the “Modulate RGB” effect below and **deactivate** the check boxes of green and blue. You will now see a red output with two black bars on your laser... THIS is the **”frequency”**. The higher the value in the animator, the more bars will be generated. **Phase** is the speed with which the two bars will run from right to left. The higher the end value, the faster the bars will move from left to right. **Amplitude** is responsible for the width of the bars. The higher the value, the narrower the bar will be. With **Offset** you can adjust the depth of the effect. And with the possibilities in **”color depends on”** you can select the color gradient.



This picture for example was created with “Point Distance” and the default settings.



When activating the check boxes of the other two colors the color gradients will of course overlay each other resulting in new colors. Just play around and you can create many different and individual color gradients.

- 39) **Move X / Y / Z (Curve and Animator)**
Moves the object along the corresponding line.

- 40) **Rotate around red / green / blue**
All colors apart from the selected base color will be exchanged (red, green or blue).

41) RGB Gradient

Adjusts the possibility for color morphing from one color into another. What makes this effect so special is that you can define different colors for the start point and the end point of an object !

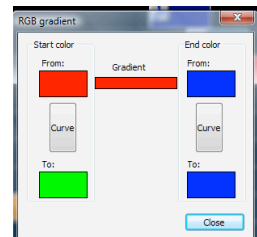


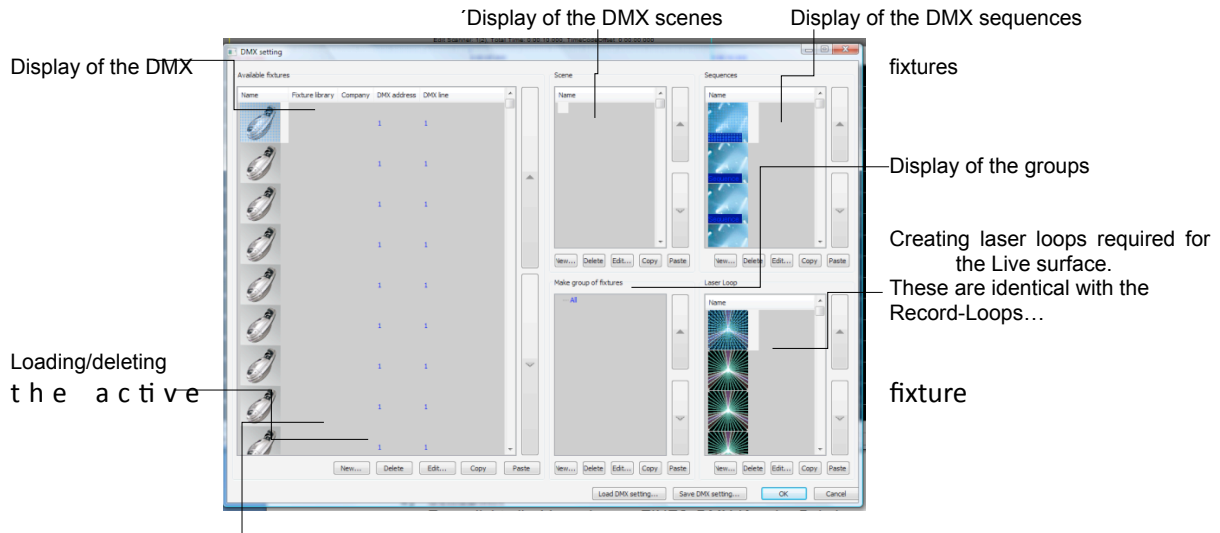
Figure 7.2-11

DMX Settings and DMX Events

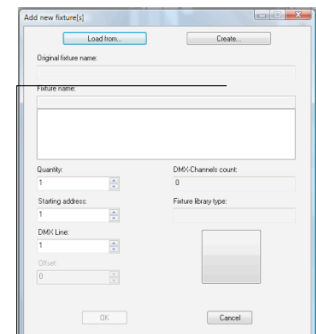
PHOENIX is capable of controlling all types of DMX devices. ALL PHOENIX interfaces feature a DMX512 output and a DMX512 input. Thus you will have the same number of DMX circuits as interfaces. Moreover, you can mix different types of interfaces (network and USB). However, the PHOENIX-USB PRO and PHOENIX-NET Interfaces offer some advantages as for example completely optically insulated DMX connections by means of the built-in Neutrik connections and ART-Net in case of the network version! Thus you also can transmit the DMX signal via WIFI. Professional users have mounted the network interface into the laser projector thus being capable of connecting for example a fog machine directly to the laser and, if required, controlling it directly... WIFI applications will make this advantage particularly apparent. The PHOENIX-Micro interface on the other hand features the DMX signals ONLY at the 25 pin SUB-D connection – which are NOT optically insulated and also do not feature separate DMX connections. So, either you will have to make a breakout cable yourself for splitting the DMX signal and the ILDA signal or you will have to purchase the optionally available cable in our web shop www.Phoenix-Showcontroller.de or from your local dealer. For the pin assignment please refer to the interface manual.

1.17. DMX Settings

Before we will explain the individual DMX events, we have to create the DMX fixtures at first. Open therefore the menu “DMX” > settings.

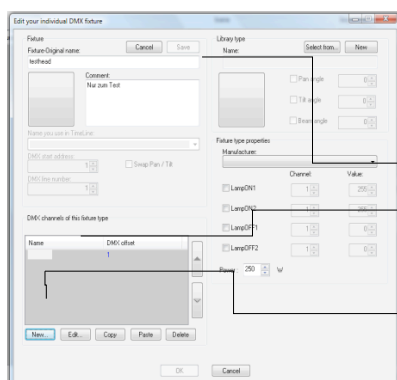


Click on “**New**” to insert a new moving head into the list. Load the DMX fixture from the existing list or create a new fixture. Enter the number of devices and chose the DMX start address. Also you have to define, on which DMX interface the output shall be executed. The channel distance between the individual DMX devices has to be defined with Offset..



1.18. Creating new DMX Fixtures

Click on the button “Create” to define a new device.

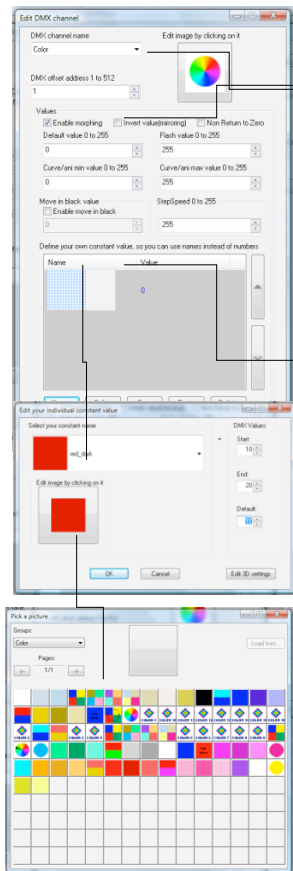


The edit window for DMX devices will open. Follow the procedure step by step. That is, enter the name, type of device, manufacturer, etc.

ATTENTION – Only AFTER you have selected all points, you can press the “Save” button to store the fixture.

The “DMX channels” settings are the most voluminous settings. Sometimes a moving head can have up to 32 channels that you have to define here. Click on **NEW** to create the individual channels...

1.19. DMX Channel Editor



Here you define all relevant settings for each single channel. At first you have to choose the channel name (in our example "Color").

Enter the "default" values, that is, when no DMX scene is running. (For PAN it could be for example 128, so that the head will always stay vertical.)

The field "**Move in Black**" (MIB) is the value which will be output, if the event "MIB" is active. Usually it is used only for the channels "Dimmer" and "Shutter", to create movements in the dark.

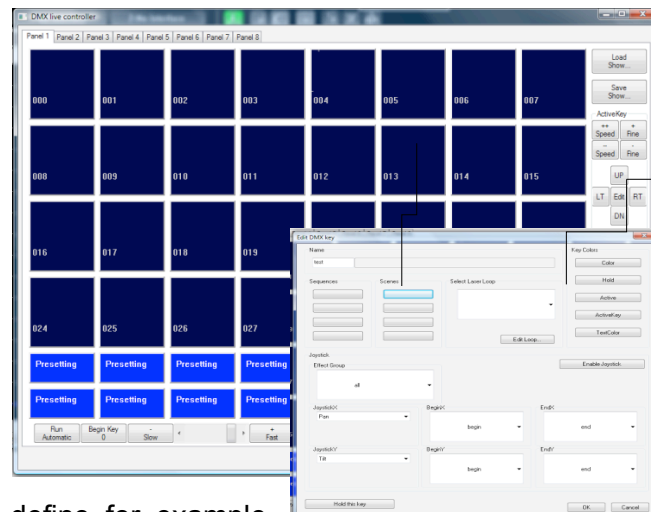
In the field below you can define fixed DMX values. For color it will be the fixed colors... Click on "New" to define the fixed colors. Enter the start value for the color in the field "**Start**" and the end value in the field "**End**". "**Default**" is the value which will be output, when quick selection is used.

In "**Edit 3D Settings**" you can set the adjustments for the visualization.

Go through all DMX channels in this way and try to work as precise as possible. It will allow you to create DMX scenes much faster in the future...

Finally store the fixture in order to be able to use it all the time.

1.20. DMX-LIVE Controller



This LIVE-Controller is ideal for starting laser/DMX scenes. It is very easy to operate. When activating the button the scene or scenes and laser loops will be played. In order to program a button click on "**Edit**".

Now you can determine which sequences, scenes and laser loops shall be played, if this button will be pressed.

The "**Joysticks**" are the small white lines located at the edge of the effect buttons. You can move them back and forth with the help of your mouse. (click and hold the left mouse button.) Thus you can Pan and Tilt as joystick for a moving head, allowing you to move the moving heads interactively during the show...

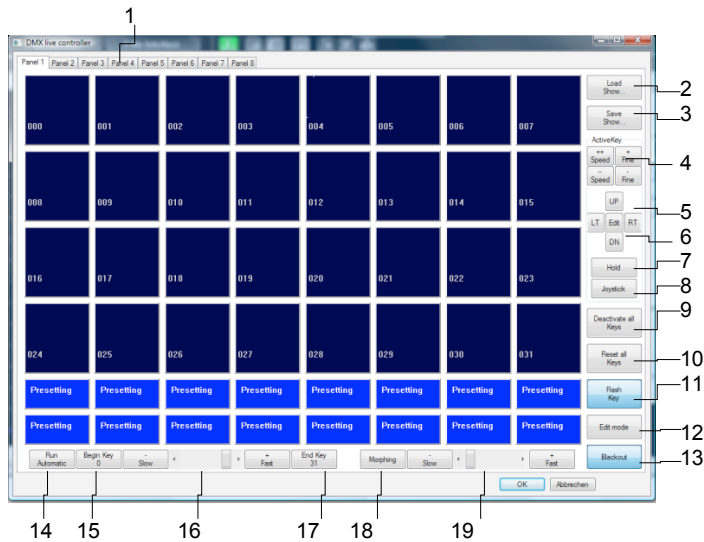
define for example head, allowing you to move the moving heads interactively during the show...

Notice:

It is important to know, that the Live controller also works with priorities. The back effect buttons will overlay the front ones. If you would like to change only the color of a moving head spontaneously during the movement, you can define the color channel to one of the

back effect buttons. When playing two scenes with the same DMX devices the latter effect will have priority and overwrite the color of the scene defined by the first effect button.

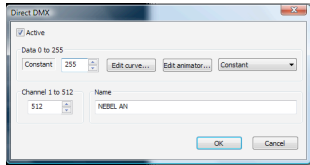
Explanation of the DMX LIVE Controller



- 1) Effect banks
- 2) Load the LIVE banks
- 3) Store the LIVE banks
- 4) Effect speed
- 5) Move an effect
- 6) Edit/modify an effect
- 7) Hold mode for activating/deactivating effects
- 8) Activate/deactivate joystick function
- 9) Deactivate all effects
- 10) Reset all effects to default settings
- 11) Activate/deactivate Flash mode for effects
- 12) Activate/deactivate the Edit mode
- 13) Blackout – Stops the DMX output
- 14) Auto Run Mode
- 15) Select the start effect
- 16) Auto Run speed
- 17) Select the last effect for Auto Run
- 18) Lets the DMX channels morph between two effects
- 19) Morphing speed

DMX – EVENTS

1.21. DMX

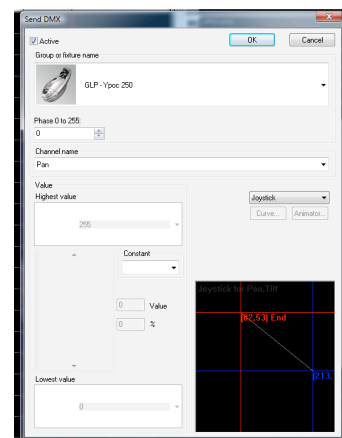


The easiest of all DMX output possibilities! Here you can define the DMX address and the DMX value. The output will be executed solely on the first interface.

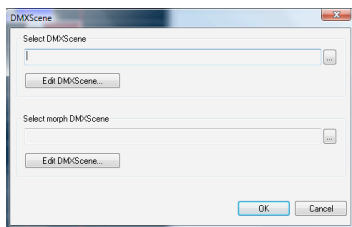
With Animator / Curve you can create individual DMX curves.

1.22. Send DMX

This function allows the modification of ONE DMX channel. When placing the Send DMX event below the DMX scene event the DMX channel modified within Send DMX will be overwritten in the DMX scene. In this way it is possible to change only the color of the gobos while a DMX scene is running – without having to change the DMX scene itself. As soon as the “Send DMX” event will be terminated the initial value will be output again. Using this function is quite easy... Select the device above, chose the DMX channel to be modified and then define the value(s) by means of the usual slider/joystick, animator or curve.

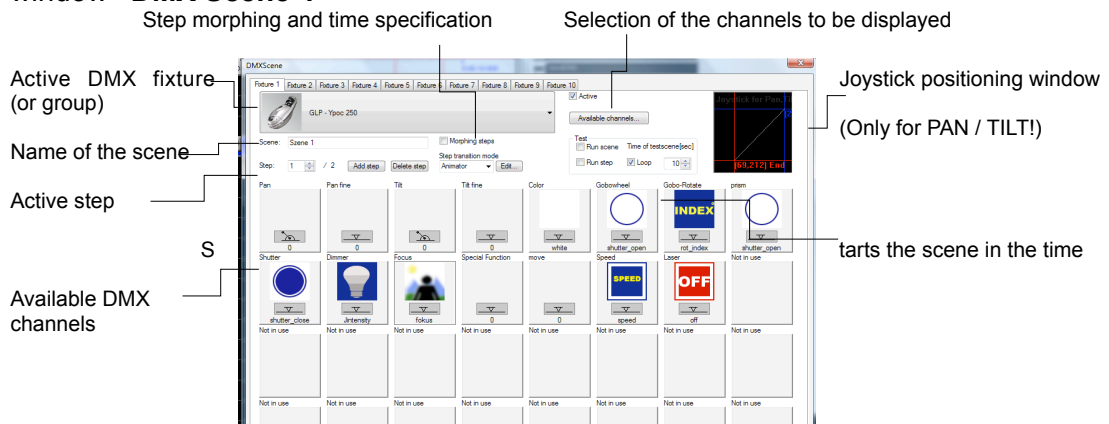


1.23. DMX Scene



Creating a complex situation consisting of one or more DMX fixtures with 1 to 32 channels each. Moving head waves with 10 or more moving heads for example have to be programmed here. If you double-click the event in the time line a selection window will open. Depending on, whether you want to create an existing scene or a new one, you have to make your selection

here. When you select a new scene “Edit DMX scene“, you have to continue in the window “**DMX Scene**“.



In contrary to many other systems PHOENIX is not fixed to defined times when creating scenes. Therefore it is not necessary to define whether a scene will take 3 minutes or only ten seconds. The scene will not be repeated on the time line automatically – but it runs exactly once in the relative length to the event on the time line itself. By that short events will run fast and long events will run slowly. Furthermore a scene is not fixed to a stage setting (as with other systems), but can be built from several “**Steps**”. By adding, for example, 3 parts (the scene will then consist of 4 parts totally) each part will be assigned to one quarter of the overall time of the event. This way of programming allows you quickly to run a square with moving heads in 4 steps, whereas the time for the corner points will be one quarter of the event's overall time. If the DMX channels are correctly defined you will be able to trigger the “fixed” values of for example gobos with the scroll wheel of your mouse. When using further “fixture pages” you will be able to integrate more scenes into this one. Please keep in mind that the additional fixtures will have a higher priority and if you select these fixtures their DMX channels will overwrite the existing ones! If you arrange it cleverly, you can achieve interesting effects, especially by applying the animator expressions! Don't forget to deactivate the unused DMX channels in the “Available channels” list. (To avoid that they will be unnecessarily overwritten with the value “0”!)

Otherwise you will reach the next level by double-clicking the channels....

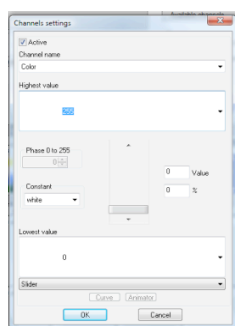
You can enter the Min. – and Max values manually. In principle there are three different ways to enter a value:

Slider, Animator & Curve.

Slider is the right choice for the fixed setting of a value.

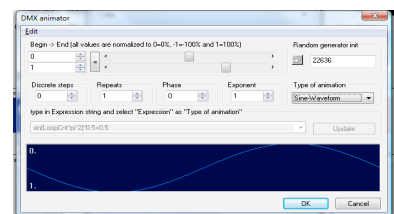
Animator or **Curve** however are more suitable if you want to program for example a wave with several moving heads.

Based on this little example we will tell you what's it about...

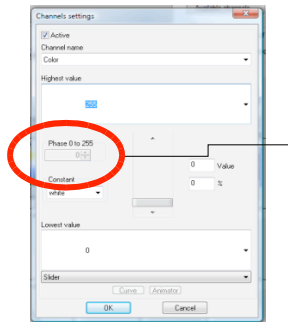


Creating a wave: At first chose the channel “PAN“. The drop down menu will show “**Slider**“. Set the MAX value to, for example, 100 and the Min value to 20. Thus we have fixed the limits of our wave. Now change from “**Slider**“ to “**Animator**“ in the drop down menu. The slider functions will be highlighted in gray and cannot be changed any more. Click on the **Button “Animator”** that is now selectable. The typical Animator window will appear...

Select the “sine wave form” in “type of animation“. Now you still can set the usual parameters, such as repeat rate, etc. in the other fields.



All of your connected or selected moving heads will now move evenly and simultaneously back and forth.



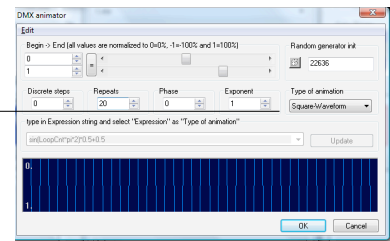
In order to achieve a phase displacement (that the moving heads go up and down one after the other), you have to set the phase's value from "0" to "10" in the window "Channel Settings". Now your moving heads will start to move back and forth with a little phase displacement.

Notice: This field is only active, if you have selected a group with at least two fixtures...

Another funny possibility to explain the DMX channels or the animator is using the shutter. If you would like to have your shutters going up and down in time with the music, we will also use the animator – however, this time with "square wave form" and set the corresponding repeat value to e.g. "20". If you run the show all the time in the loop, you can see the result directly and in real-time.

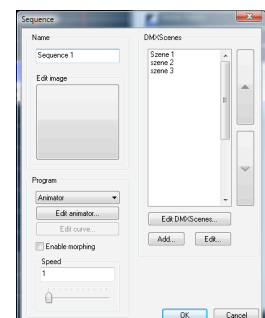
There is hardly an easier and more efficient way to program your show perfectly synchronous to the music than with the help of the animators.

Of course, you can achieve the aforementioned examples with the "Curves", too!



1.24. DMX Sequence

A sequence consists of several DMX scenes that are played one after the other. Every scene will be assigned to the same share of the overall time of the sequence – independent of the fact how many fixtures, DMX steps or DMX channels are used in a DMX scene. You can still create or add scenes here. The changeovers can be defined with the "Program".



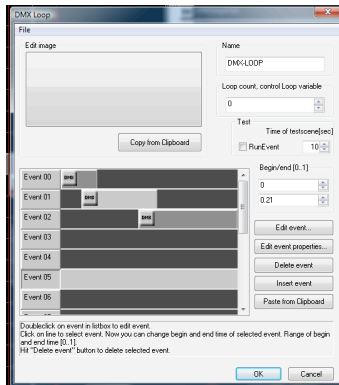
1.24.1. Move in Black

Lets the DMX scene – e.g. a rotation of some moving heads – continue, however, PHEONIX switches off the dimmers and shutters during the "Move in Black" time.

1.24.2. Fading Dimmers

Lets the selected light effect of group fade in/out by means of the dimmer. Of course, it is a precondition, that the DMX fixture features a dimmer. PHOENIX uses the dimmer channels selected in the DMX fixture for dimming.

1.24.3. DMX Loop

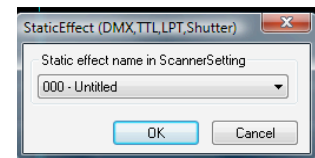


A loop is a kind of a “container” in which you can program complex scenarios. One more time line that can be used later in whole again and again. The length of each track can be adjusted. It is also possible to insert scenarios copied from the main time line into this time line loop per Copy and Paste – saving a lot of work. The additional events will be inserted in relative time to the main time line.

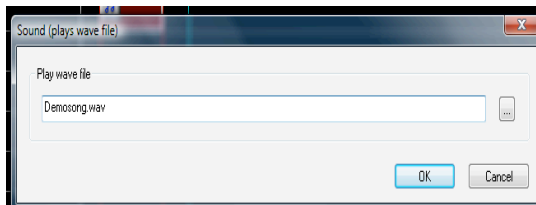
1.24.4. OTHER EVENTS

9) Static Events

Starts the effect stored under static event in the settings. It can be a DMX function or a TTL signal. For more details please refer to the Settings!



9)Sound



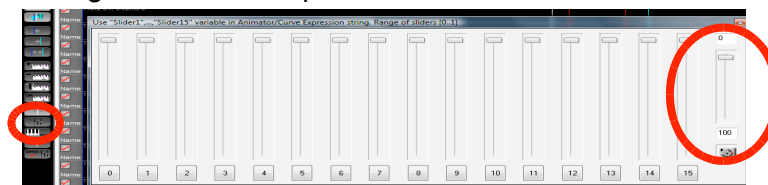
This function allows you to quickly insert a WAV file into the time line – without having to change the main track. It is often used, for example, to insert the squeaking of a door (in a graphics show)...

9)DMX Comment

For writing a short comment on the DMX time line.

9)LIVE Speed

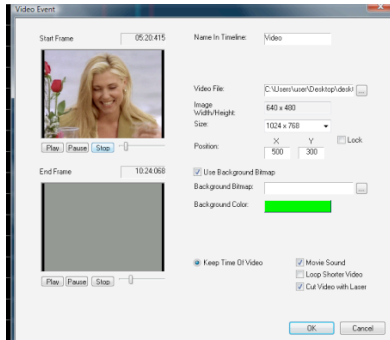
If **TimeCodeSource** in the audio window is set on “**LIVE**”, you can manually control the speed. 0 = Show stops. 100 is the maximum speed. You can also set the speed in steps of 0.01. Just use the slider at the right side – where you also can define your personal settings for min/max speed.



9)WinAmp

Opens a file in the WinAmp player synchronously to the show.

9)Video

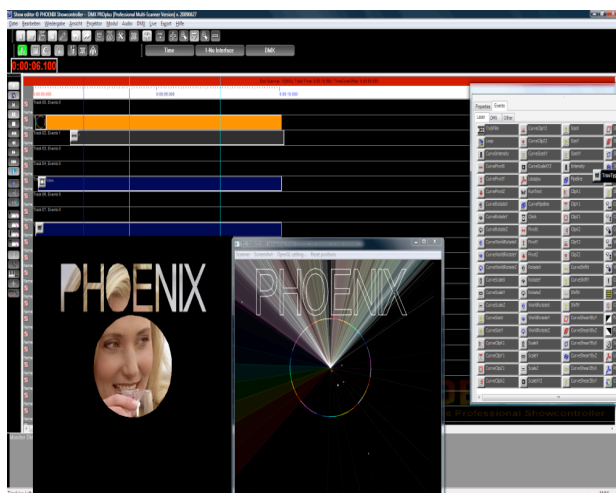


If you want to display a video on an additional graphics board output. In principle you can load any video, that can be played by the Windows (!) Media Player. It is important to know, that possibly various video codecs are required to play a video. The higher the compression of a video, the more problems might occur when playing the video... The event will be stored – same as the “Other” and “DMX” events on the “DMX” time line.

If possible with regard to the number of frames of the video, it will be played synchronously to the laser show or to the lasers and DMX fixtures. You can choose the start/end frame within the event. In the time while no video is being played, you can output a “pause picture” e.g. a company logo or alternatively an individual color. The size of the picture (preferably the optimum resolution of the video projector) as well as the position of the video picture has to be defined. Additionally you can choose whether the music of the video shall be played or not. If the video shall be repeated all the time, you have to select the corresponding check-box.

The last point “**Cut Video with Laser**” is an optionally available PHOENIX function. Without the required license this function will work in Demo mode only.

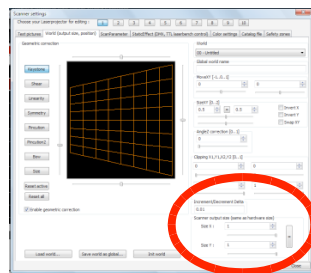
VIDEO CUTTING



is a new type of video – laser presentation. If this check-box is activated, a laser graphic is required to see something! The “Cut Function” is principally used by the first scanner or time line 1 only. If you for example take a circle moving from right to left, the video projector will only display the video picture IN this circle. If you now adjust the projectors perfectly to each other or if you overlay them in the right order you will receive the desired effect. However, it affords to synchronize the video projector to the laser projector extremely thoroughly.

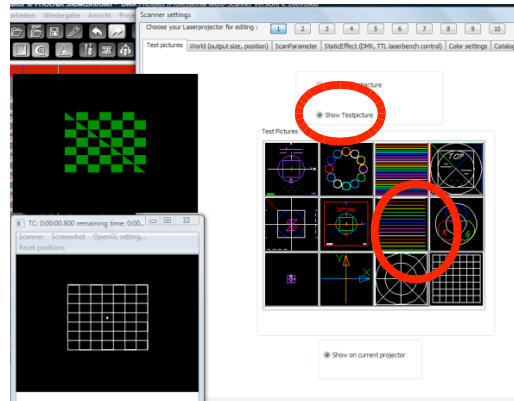
Please proceed as follows:

- 1) Create a video event including a video/BMP content.
- 2) Arrange your laser/video projector in a way, the they are as close as possible and that they can project perfectly (that is, without any geometrical distortions) onto the screen. (Otherwise you would have much more trouble with the settings.)
- 3) Define one color (e.g. green) to be displayed, if NO video is running (pause).
- 4) Close the video event window with "OK"
- 5) Now click on "Settings" to define the world parameters.
- 6) Chose the test picture with the grid lines.
- 7) You will now see the corresponding grid lines both on the video projector and on the laser projector. Now you have to align the laser lines EXACTLY with the video squares by means of the world settings. At the beginning you will



realize, that is is not at all easy and you will have to fight with the various

parameters. Don't worry – after a short time you will easily handle it. For the size of the laser picture please use in any case the "Sizes" bottom right in the picture.



Otherwise you will also change the video size... Finally the most important (!) STORE the world with its own name ! If you don't store a world with an individual name – it may happen, that you will have changed settings when loading the show data next time. PHOENIX always stores only the world's NAME in the show – and NOT the settings. Those are always loaded from the folder "world" upon starting a show. By the way, the same applies to the other scanner parameters...

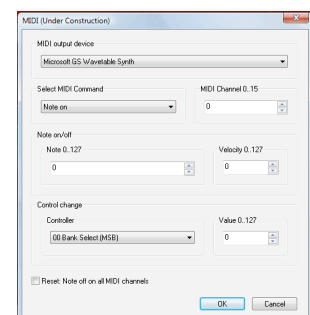
Notice: You have up to 32 worlds – EACH world MUST have its own name and must be stored separately.

10) GoTo Lets the time cursor jump to the defined time within the event.

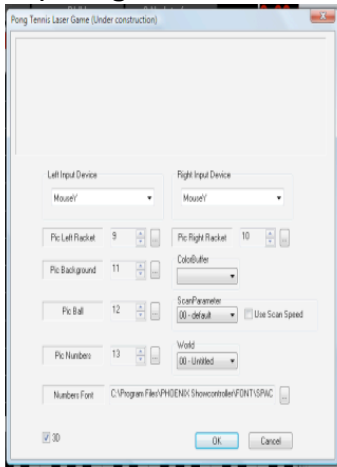
11) Midi

Sends corresponding Midi control signals through the optionally available Midi device.

In principle you can use any Windows compatible Midi devices – if the device was recognized and installed by Windows – it will be displayed for selection in the upper combo box.



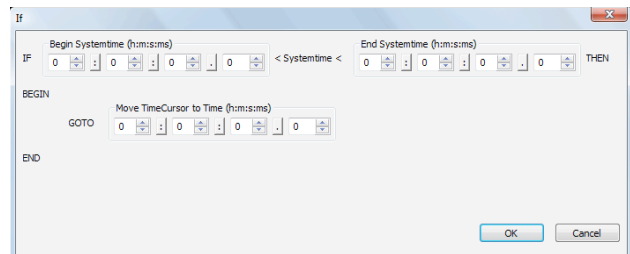
12) Pong / Tennis



This is a laser game which can be played by two persons. You can draw yourself the playing field as well as the rackets and balls, etc. and thus create it individually. You can also find examples for tennis objects in the demo directory. The game is really easy to play! At first you chose the kind of control in the menu devices. It can be joysticks or the mouse, a DMX controller or the like.. Then you select a frame from the CAtalog for the rackets and so on. Further down in the window you have to select the font in which the point shall be displayed. (...\\PHOENIX Showcontroller\\Font\\font type\\select character) You're done!

13) If / Goto Event

This effect will be required if you have for example a fixed installation in which something shall happen between 10 and 12°clock and then at 12.01 something different. This event will activate the time code only AFTER the defined time so that only then the next events will be performed.



14) Set Var

Experienced show programmers and mathematicians can define the variables for all offered expressions here.

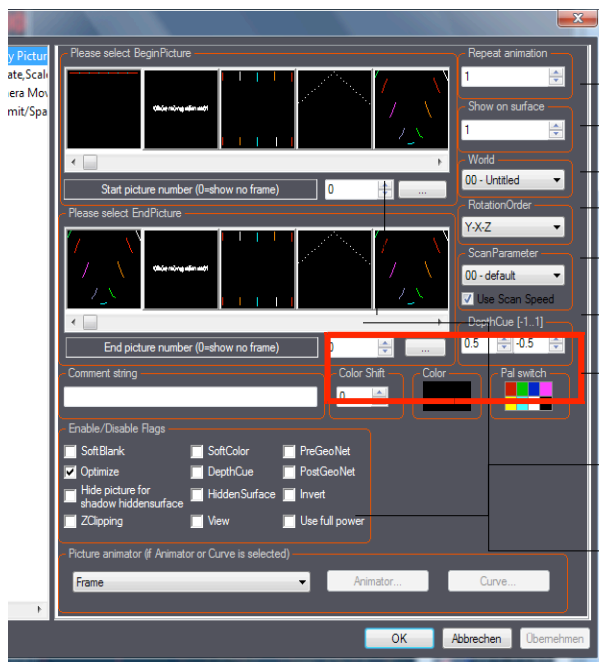
15) Note Event

Creates a type of video message. That is, if you, for example, connect a monitor to the second graphic board output and place it in the back stage area, you could display a notice as video message 3 minutes before the show starts...

Trickfilm

The trickfilm event is the most important event in PHOENIX. Here you select the decisive pictures from the CATalog. You have to decide, whether you want to take only one picture – then the start picture and the end picture would be one and the same, or whether you want to run an animation. Here, too, morphing and many other effects are ready for creation. If you have fully understood, how to use the cartoon – you are capable to create a laser show with ONLY this event.!

As there are so many different possibilities we consider it as the main task to do some experiments with different variations!



Number of repeats of an animation (frame cycles)

Layer position (Whether the animation shall be in the foreground or in the background in relation to another animation)
Selection of the "World" in which this effect shall be executed.



Selection, in which sequence the rotations shall be performed.

Selection of the "Scanner settings" with which the animation shall be executed.

Cut off the depth axis (Z) (front and back)

Recolor the picture. Single color or color morphing is possible

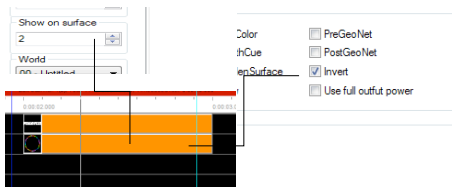
Performance type of an animation: Normal, Animator & Curve. In this way you can also play the animation back and forth or along a defined path....

In the start frame and in the end frame you can determine with which frame the animation shall start and with which frame it shall end. In case of matching frames PHOENIX will output a still image only.

Flags:

- Softblank: Lets the blanking points fade out slowly. Looks very beautiful with drawings (soft ends of the lines...)
- Optimize: Optimizes the corner points of a drawing automatically. Depending on the angle more or less points will be inserted automatically.
- Hide picture...Hides the drawing completely. All lines will be drawn with blanking lines.
- Z-Clipping: Allows/prohibits the cutting in the Z axis. Must be activated, if necessary!
- SoftColor: Lets the color changes merge into one another. (No hard cuts)
- DepthCue: Fading out the lines in the Z-axis.
- HiddenSurface: Allows/prohibits the function Hidden Surface (works only with 3D pictures)
- View: Allows/prohibits the function View
- PreGeoNet: Allows/prohibits the GeoNet functions
- PostGeoNet: Allows/prohibits the GeoNet functions
- Invert: Works only in connection with "Surface Layer". A second picture/animation will be played within the first event. It is about the same as different layers. The higher the value the more this cartoon will be moved to the front. Example with two cartoons:

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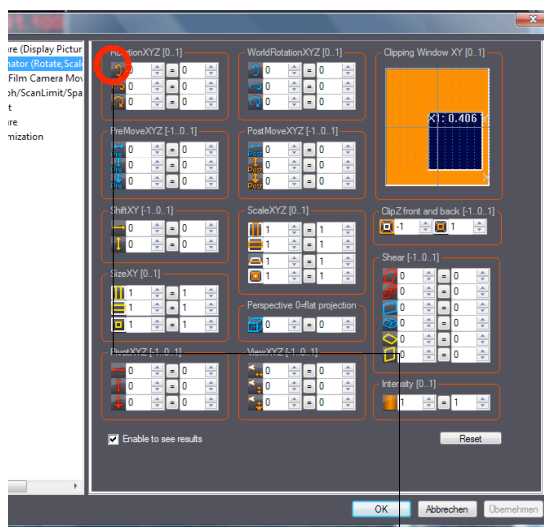
Without Invert



With Invert

- Use full power of Laser Deactivates the color correction (all colors 100%)

1.25. Trickfilm Animator

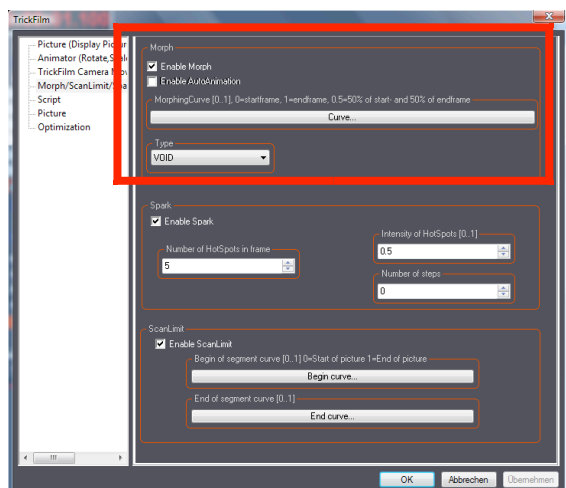


You can place simple movements and animation curves onto the selected frame(s) in the animator. For a simple move from right to left it is not required to place an additional event onto the time line – the animator is in any case sufficient...

As usual in PHOENIX all movements work in the range from 0 – 1. That is, a complete rotation of 360 degrees will be made, if you enter 0 for the start and 1 for the end (100%). If you would like to have two rotations within the event's length, you should enter a "2" for the end.

By clicking the little symbols at the borders of the input fields the corresponding animator event windows will open! Here you can go more into the details of the movements. In the clipping window you can define the borders of the projection by means of simple mouse movements.

1.26. Trickfilm – Morph from one picture to another

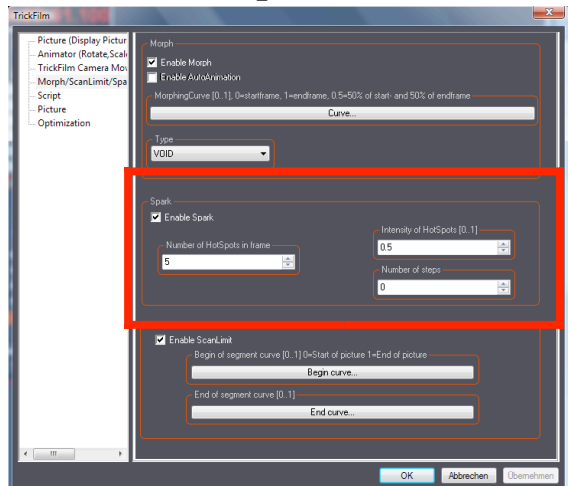


If you want to morph back and forth between two different frames (between the start frame and the end frame) you should keep in mind the following: Preferably you should create the pictures in P-CAD especially so that they match each other as morphing often doesn't look so nice. Both frames should have the same number of points. Morphing is always performed from point 1 to point 1 and from point 2 to point 2....!

Morphing is activated, as soon as the checkbox "Enable Morph" is selected.

With “Enable Auto Animation” morphing will be active for ALL frames between the start frame and the end frame. For example: You have drawn an animation series with 10 pictures. If the check-box is active PHOENIS will now morph from picture 1 to picture 2 and then to picture 3. You can define the overall morphing with the CURVE, e.g. morphing from the start frame to the end frame shall be executed within the event time...

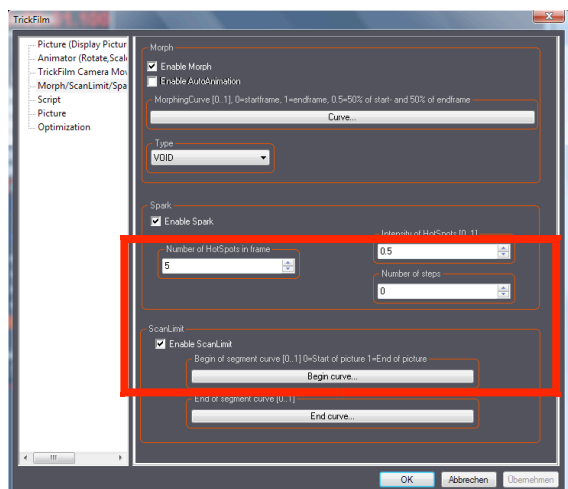
Trickfilm - Sparkle



Sparkles are little hotspots flashing up in a frame at random. It is a very beautiful effect for example in a wave, where bright point flash up spontaneously in the fog.

In order to activate this effect please activate the check-box. You can then define the number of sparkles and the intensity.

1.27. Trickfilm SCANLIMIT

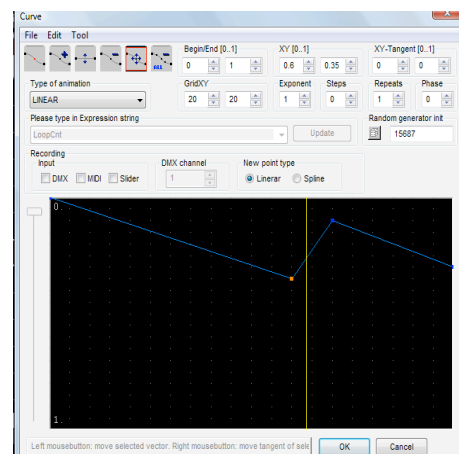


Use this function in order to build a frame point by point (same as in “dot to dot”). You can adjust the behavior of the start point and the end point with the two CURVES.

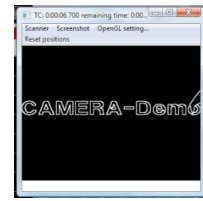
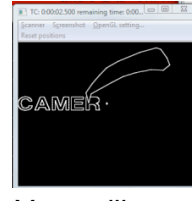
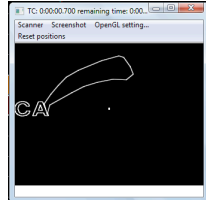
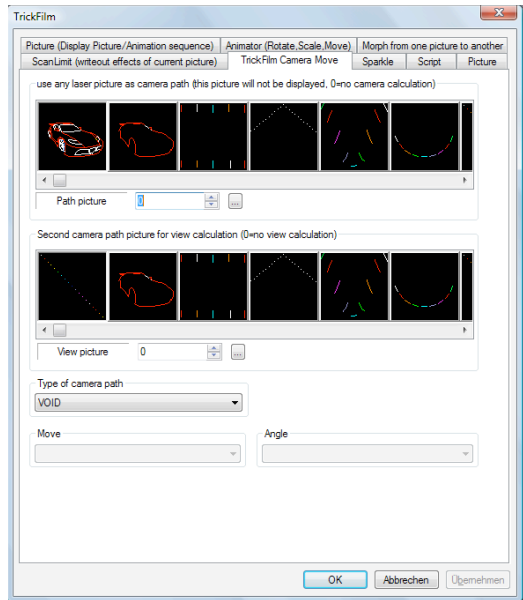
You will see at the start curve that the line is only at the value “0”. It means that the first drawn point shall be visible on the laser projection from the start until the end. If you want that the start of the picture shall be removed slowly by the time of the event. You have to move the end point a little bit downwards in the curve.

In this example the start point would slowly disappear directly after drawing. It would appear again in the last third of the time and at the end it would be removed again quickly.

The same applies to the “End Curve“, being responsible for drawing the last point. Per default the line is linear from 0 to 1 which means, that the frame will be drawn evenly fast and flowing. If you now add some joints into the line you can achieve some funny effects..



1.28. Trickfilm – Camera Move



You will need

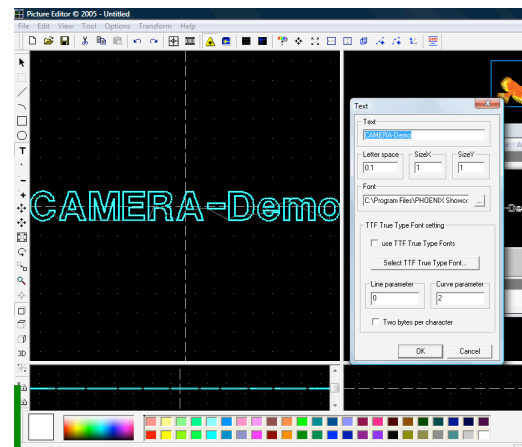
this function, if you want a frame moving along a path. A known situation in this field is, for example, writing a word with a pen. In order to understand this effect completely, we will have to go a bit more into the details...

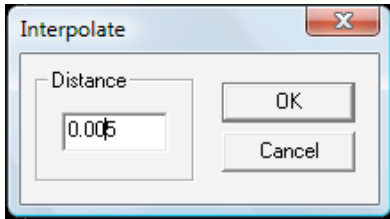
At first we need two frames. The frame "to be drawn" and the "drawing" frame. That is, in our example the word and the pen.

Change to P-CAD to draw these two frames...

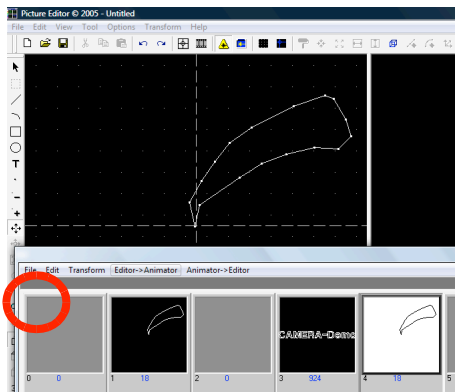
Open the text field and enter the word (CAMERA-Demo)

- 1) Chose a font...
- 2) Close the window with OK
- 3) Click on "C" (for Center) and click on "M" (for Maximize) – so that the word will be displayed as big as possible.
- 4) Now chose "Transform" in the top menu
- 5) Chose "Interpolate", change the value to 0.005 and click on "OK"





- 6) The number of points will now be multiplied that the resolution for the future path will be high enough.
- 7) Now store this picture in the CATalog into empty frame (NOT 0 or 1 !!!!)
- 8) Now draw the other frame, e.g. a pen...



- 9) Draw the picture with the tip showing exactly to the center of the cross as shown in the picture

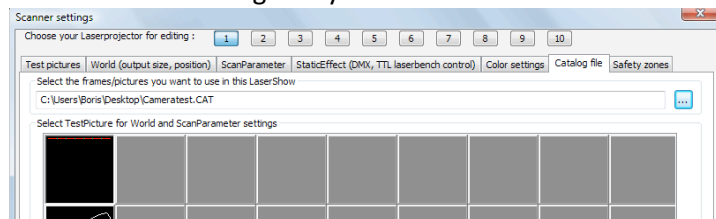
Store the picture with "Editor > Animator" in the CATalog into an empty frame.

Now select "File" from the CATalog and store the CATalog under the name "Cameratest" on on your desktop.

You can now exit PicEdit and change back to PHOENIX

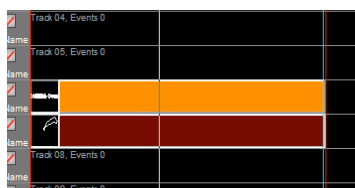
PRO...

Load the new CATalog into your show...

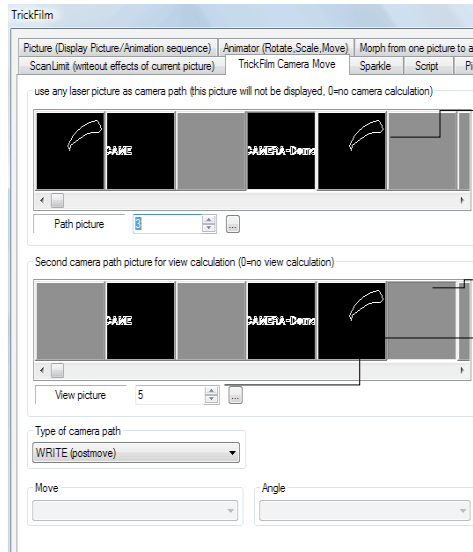


sure, that both events are of the same length.

Close the settings menu and go back to the cartoon in the time line. We have to place two cartoons onto the time line now for the desired effect! One for the word and a second for the pen. Make



Trickfilm 1: Select the word as start frame and as end frame. Change to the category "**Scanlimit**" and activate the function by entering an empty frame (e.g. 10.000). Now close the cartoon. If you start the show now, you will see that the word will be drawn point by point.



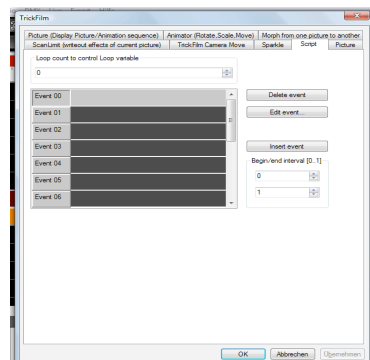
Trickfilm 2: Double-click the second cartoon and define the pen as start frame and as end frame. Change the “**SURFACE**” value from 1 to 2 – in order to set higher priority for the pen, that is, that the pen will always be in the foreground. Change to the category “**Camera Move**” and select the word “Camera-Demo” as path picture.

Select an empty frame for calculation In the “View Picture” – 0 would deactivate the function!

Finally select the function “**WRITE (Postmove)**” from the combo box.

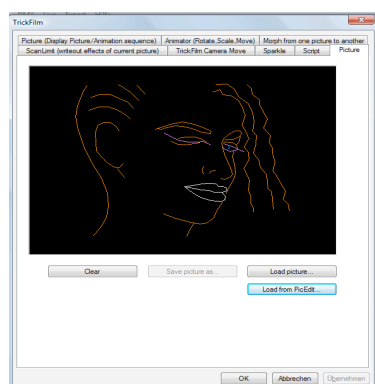
Close the cartoon with “OK” and start the show. The pen should now “write” the word.

1.29. Trickfilm – Script



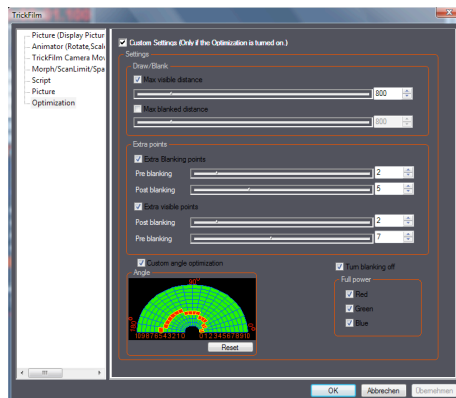
In the script you can insert additional events into your own time line. In this way an interlacing of an effect in an effect will be possible. The advantage of such interlacing is, that all effects and all further cartoons will always move and adopt appropriate to the size of the main cartoon.

1.30. Trickfilm – Picture



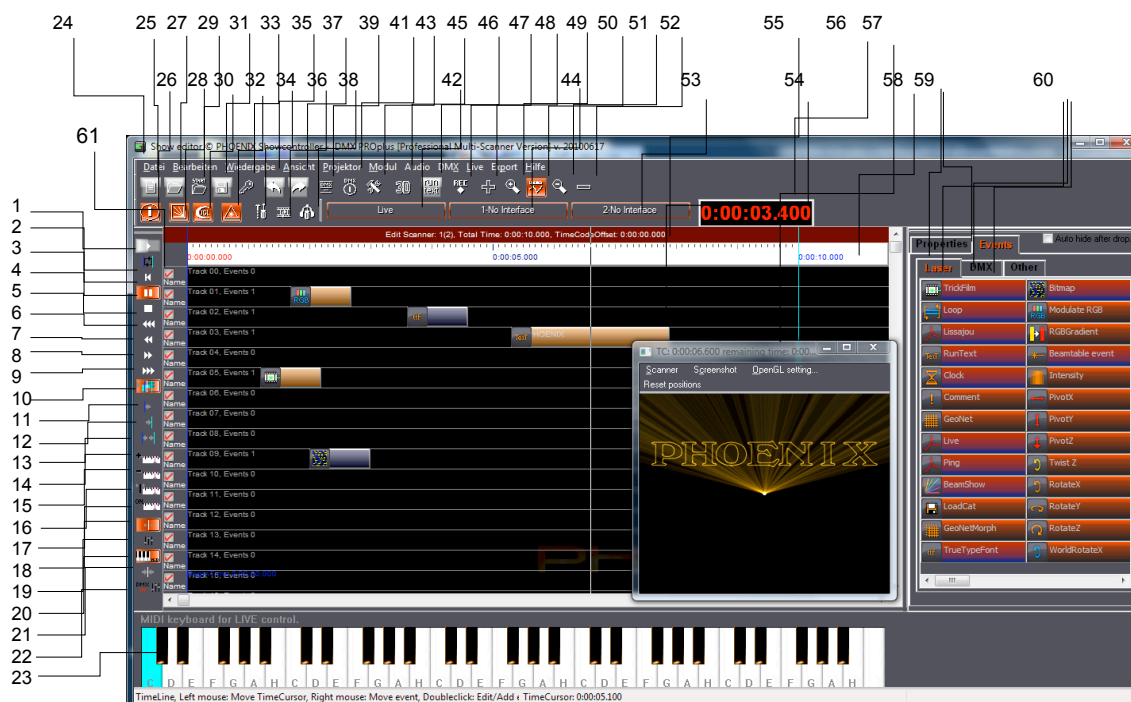
Here you can trouble-freely and easily load single pictures stored as “PIC” or ILDA frames – that you have received from somebody – without having to change the CATalog in the PicEdit. Useful, if you want to integrate you logo into the show.

Trickfilm - Optimization



In these settings you can once again optimize and adjust each single frame additionally and individually, independent of the scanner settings. Especially the "Angle Optimization" allows to fundamentally improve the graphics output so that no hotspots in the corners will attract any negative attention. You can create an blanking free projection with the 3 check-boxes "Full Power". Thus, in case of an RGB laser you have max. 7 different color combinations. In some cases however, the output power can appear much brighter in this way. The initial scanner settings will be overwritten immediately in the activated status.!

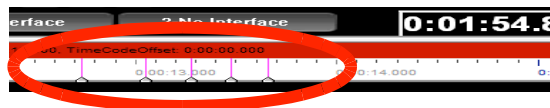
1.31. Explanation of the Surface



- 1) **Start** To start the show
- 2) **Loop** To repeat one part between two points that are set with (11) and (12).
- 3) **Restart** Starts the show once again from the beginning
- 4) **Pause** Pauses the current show. (Show can be continued any time from this point). The output will freeze.
- 5) **Stop** Stops the show completely. DMX and laser signal transmission will also be stopped..
- 6) **Rücklauf** Large kickback on the time line.

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- 7) **Rücklauf** Small kickback on the time line
- 8) **Vorlauf** Small forward jump on the time line
- 9) **Vorlauf** Large forward jump on the time line
- 10) **Only active** Only selected/active events on the time line will be played.
- 11) **Start-L** Starting point of a loop
- 12) **Stop-L** Stop point of a loop
- 13) **Open-L** Reopens the loop. The cursor continues moving.
- 14) **Marker** Depending on whether (17) is activated or deactivated, you can set beat markers in the upper white time line or you can pause the show with this button. The same function is available with the space bar...



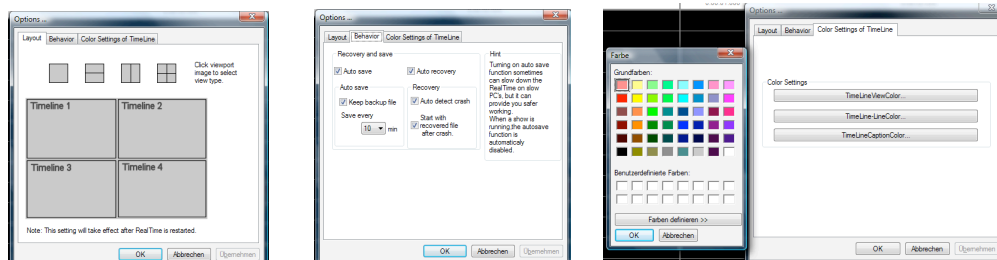
- 15) **Marker-del** To delete all beat markers on the time line.
- 16) **Marker-Mag** Magnet for easily finding the beat markers.
- 17) **BMP on/Off** Switches between beat markers and Pause upon pressing the space bar or the button (14).
- 18) **Auto-Scroll** Switches the time line on/off while the show is playing.
- 19) **Var.Sliders** Opens the variable sliders window. Each slider can be assigned to a function in an "animator" or in a "curve". Select "Expression" in the Animator or in the Curve and chose "Slider1.." in the expression field. Now you can adjust the value between 0 (0%) and 1 (100%) with slider 1. In this way you can, for example during a show, control some variable values such as colors, brightness, movements, etc. The last slider on the right side is for the "LIVE" speed. If "LIVE" is selected in the time code source, you can influence the show speed with this function. You still can change the min. and max. values individually in the range from 0.01 to 1000.



LIVE-Speed Slider

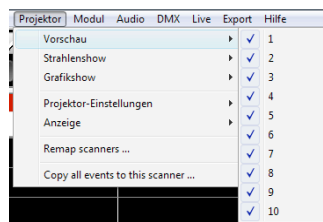
- 20) **Midi** Opens/closes the Midi keyboard display (23)
- 21) **TimeCursor** If you click here the time cursor's position will be the new center of the display.
- 22) **DMX in** Activates/deactivates the DMX - in – standby. You can connect an external DMX desk to the interface 1, allowing you remote control of all functions. If DMX - in is deactivated, PHOENIX won't receive any DMX signal!!!
- 23) **Midikeyboard** Displays the Midi keyboard. If you click the buttons, the Midi key window will open. For detailed explanation of the Midi- functions, please refer to the chapter “Midi control”.
- 24) **Task-Menü**
- a. File
 - i. only functions that are typical for Windows (Load, Save...)
 - b. Edit
 - i. only functions that are typical for Windows (Copy, Paste...)
 - c. Replay
 - i. Once again all functions of the left tool bar including the hot-keys.
 - ii. Search for events: To search a specific event in the show.
 - iii. Starting the PHOENIX 3D visualization of light, laser and video
 - d. Display
 - i. Switch on/off the various windows
 - ii. Size adjustment of the time line
 - iii. Options:

Here you can set the number of time lines to be displayed as well as the auto storage/backup functions and the monitor colors for the user interface.



Notice: The settings will only be active after a restart of PHOENIX !

e. Projector

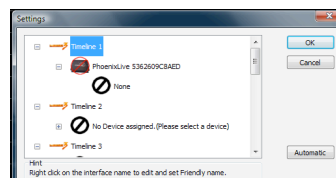


Activate/deactivate the preview monitor for the laser projector. Define, whether it is a graphics projector or a beam projector.... These settings are only relevant for the preview window (57), not for the actual laser output!

i. Remap Scanner:

The scanner mapping menu is used to assign a time line to a specific laser projector. Here you can enter names for the individual interfaces and assign them manually or automatically to the time line. In case of "Automatic" all interfaces will automatically be assigned in sequence according to their serial number. This procedure ensures that interface XYZ will always access the same time line. (Important is you restart your PC, etc.)

Notice: You can also change the name of the interface here. Click on the (+) sign to display all interfaces. Then right-click on the name. A new field will open and you can enter the name.



The interfaces will be updated upon opening. That is, your changes will only be visible after you leave the function. You can also add new interfaces or deactivate interfaces at any time, without having to start the program newly. All connected interfaces (USB and LAN) will be recognized and displayed automatically. You can define the number of projectors (max. 32) in the field "Scanner Num" above the "Automatic" button.

ii. Copy all events to this scanner

If you have a multiple scanner show but only one output board, you can copy ALL effects from ALL time lines to one time line. Thus you won't miss possibly important effect passages. ATTENTION: Please ensure that your scanners can still clearly output the additional points caused by double effects...

f. Module:

Using "Shift+left mouse button" draw a square around one or more events on the time line. Save this situation, that is, all active events as "module". Such modules can be loaded and inserted into your show at any time.

Notice: A similar, but mostly more efficient way to achieve the same result is to copy the active events (Ctrl + C) and then paste them in a Record-Loop-Event ! Record-Loop-Events will be explained in detail in a later chapter!

g. Audio

Here you can open the "Audio settings menu". As already explained earlier in this manual, you can perform all important settings with regard to synchronizing your show to music, etc. You can also open this menu by double-clicking on the white time line (58).

h. DMX

<u>Settings</u>	Here you make all settings relevant for DMX for all DMX devices (moving heads, scanners, fog machines, etc.) For more details about DMX, please refer to "DMX settings"
<u>Colors</u>	Define the colors of the DMX event
<u>LIVE</u>	The LIVE menu allows you to program laser and DMX effects in a touchscreen-optimized menu. See the "DMX-LIVE" section for more about this topic.
<u>Lamps</u>	For switching on/off the scanners and moving head illuminants.
<u>DMX only</u>	If you don't use any lasers, it is recommendable to switch off the laser effects.
<u>Block DMX</u>	All DMX signals will be deactivated.

i. LIVE

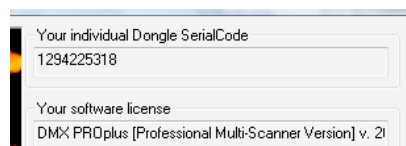
Runtext	For spontaneous run-text messages – without having to program a show ...
---------	--

j. Export

You can store up to 2 minutes of a show and laser effects as a show file(.pho). Later on you can store these files on a PHOENIX-LAN interface and start it via DMX.

k. Help

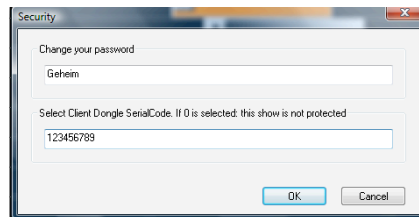
About this Program...



..Here you can view your personal dongle number. We will need this number for possible updates!
The window also shows your current version.

- 25) **New** Deletes the current show and starts a new project.
- 26) **All on / off** Activates/deactivates all laser projectors
- 27) **Open** Loading a show
- 28) **Preview** Starts the preview window. In the menu of the preview window you still can make the settings regarding visibility of the beams, etc.
- 29) **Start** For easily and quickly starting a show. All show in the sub directory "Shows" will be displayed.

- 30) **OpenGL** Activates the old-fashioned laser preview – mainly for old and slow PCs the more fluent visualization of laser beams. You can also adjust the beam directions with the right mouse button in this preview window.
- 31) **Save** Storing the show
- 32) **On / Off** Switches on/off the currently active laser projector. (The active time line is the one with a red bar above the white time bar!)
- 33) **Protect** To protect a show with a password.
(Only available with the version PROplus!)



Enter your personal password here.
(Keep it confidential!)

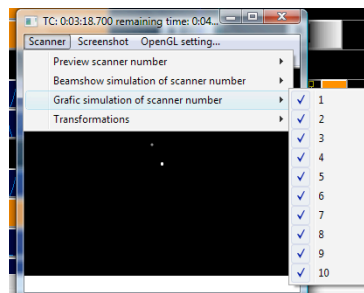
Enter the ID of the dongle that is allowed to play
this show here.

If the user doesn't have this dongle number ha can only enter the password. Otherwise the show will be closed again.

ATTENTION: There is no way to find out the password!!! If you forget it, you can't open the show any more!

- 34) **Settings** Starts the laser projector settings (See last chapter for explanations of the laser settings...
- 35) **Undo** Undo the last made step
- 36) **CAT file** Opens the settings directly with the "Load CAT-File" window
- 37) **Redo** Redo the UNDO command.
- 38) **Reload Cat** Loads the CAT-file once again in the background. This step will be required, if you, for example, have added a picture in PicEdit. Otherwise PHOENIX loads the CAtalog only once upon the show start.
- 39) **DMX only** If you don't want to program any laser effects, it is recommendable to program in the "DMX mode".
- 41) **Block DMX** Deactivates the DMX output
- 42) **TimeCodeSource** Displays the selected synchronization setting of the show (e.g. MP3)
- 43) **DMX-Settings** Opens the DMX settings

- 44) **Edit Scanner** Displays the scanner which is currently edited. By clicking you can now chose from scanner 1 to 32..
- 45) **3D-Visu** Starts the PHOENIX 3D visualization program
- 46) **LIVE-Runtext** Starts the LIVE Run-text window. (See the chapter L-Run-text for more information.)
- 47) **Rec-Loop** Starts the Record-Loop-Window (See the chapter Rec-Loop for more information.)
- 48) **Zoom++** Zoom in large steps
- 49) **Zoom+** Zoom in small steps
- 50) **Wave-Form** Shows the WAVE form, as far as it has been analyzed in the audio window before (!)
- 51) **Zoom-** Zoom small step
- 52) **Zoom--** Zoom large step
- 53) **Shadow-TL** Shows a second time line as second layer in the background. This serves for better adjustment of several time line tracks. The events in a different color CAN'T be moved/edited in this situation...
- 54) **Event** All effects, etc. on the time line are generally named events
- 55) **Beatmarker** Beat markers can be set with the space bar or with the Space “+” key (14)
- 56) **Time** Shows the remaining time of the show. **Upon mouse-click:** Shows the show time already played.
- 57) **Preview** Preview window. You can place up to 32 laser projectors with the mouse anywhere in the window.



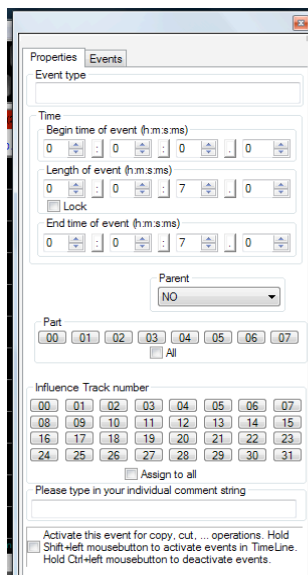
You can mirror all projectors in the X-axis and in the Y-axis in this menu. (**Only** for the preview) Beam simulation and/or graphic projection settings, etc. In the “OpenGL setting” you can additionally make detailed settings regarding the visibility of the beams.

- 58) **Time bar** Shows the synchronization time. Wit a double-click on the time bar you can open the “audio window” for setting the music, etc.

59) **Tab-Menu**

Shows either the events or the properties.

1. **Events:** All possible events which can be inserted into the time line..
2. **Properties:** Shows start point, duration and end point, etc. as well as the active time lines of the current event.
3. **Events:** There are laser events, DMX events and other events. You have to sort the events yourself. In order to do so, you just have to move the events per per drag and drop with the left mouse button. The sequence will be stored automatically when you exit the program.
You can move events onto the time line per drag and drop or per double-click. The event will be inserted into the time line at the current position of the time cursor. If you click several times on one or more events, these events will be inserted exactly below each other.



Properties:

As soon as an event has been activated, all times will be displayed in this window. Start time, event length and end time. So, here you can optimize and adjust the length of an event.

Having selected an effect-event, you can define WHICH part of a picture you want to move with this function. The part definition is to be made in PicEdit – already when drawing the picture! The show “Robots” in the demo directory shows the beautiful effects you can achieve with this function. The show consists of only one frame. However, by using the “parts” you can define each arm, each leg, etc. as a part, allowing to move them individually.

With **Influence Track Number** you can define exactly WHICH track you want to influence. Without selection here, PHOENIX will automatically influence the next higher cartoon. However, you can influence several or even all cartoons on all tracks with this

effect, too.

60) **Selection**

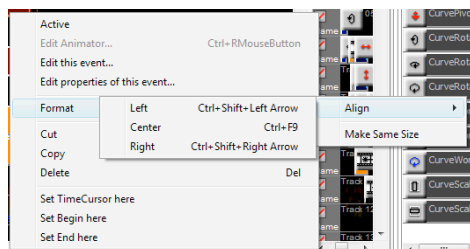
Here you can select laser events , DMX events or other events.

61) **Left bar**

You can see small active check-boxes on the left side of the time line... If you activate these check-boxes, the events will not be considered when the show is playing. You can rename the time lines as you like.

Right Mouse Button

Depending on whether you right-click on the time line only or on several (!) active events, PHOENIX will offer more or less selection possibilities. We will show you now all possibilities on the picture below. (In our example we have three activated events)



Format allows you to align all active events in parallel to the left/to the right/in the center or to adjust all events to the same size. The remaining functions should be self-explanatory.

Midi Access

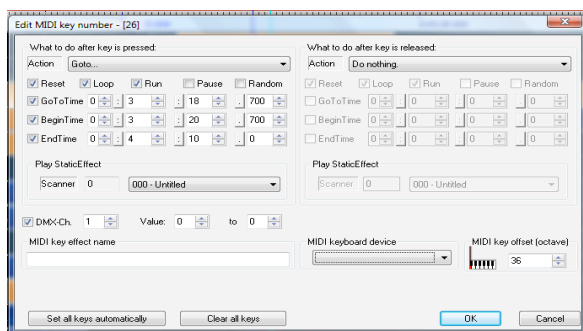
In PHOENIX you can access/control all functions, events and movements per Midi and per DMX-in. Basically there are two different Midi applications in PHOENIX. Firstly the starting of a certain time slot or a static effect. The second application is interactively acting and influencing movements, animations, colors, effects and speeds.

At first we want to explain the first explanation:

If you want to use a Midi keyboard you firstly have to connect it as USB device and select it in PHOENIX in the menu "Midi keyboard device". Additionally you have to select the keyboard in the audio window (drop down 10). Sometimes you may have to restart PHOENIX once or twice (!!!) until the Midi keyboard will be recognized,

In order to play a specific time slot as loop with Midi, please proceed as follows:

- 1) The show must be stopped!
- 2) Press any key on the Midi keyboard (23) or click on the USB Midi keyboard (Alternatively you can also press any key on your PC key board)
- 3) The window "Enter Midi key number" will open. The Midi number at the top will immediately show, which Midi key was pressed.
- 4) The "**Action-Menu**" lets you select: "**Go to**" or "**Static Effect**". (If you select "Do nothing" nothing will happen).



"Go to" means that, if you press this key, the time cursor will jump to the position set in the function "GoToTime".

The Midi loop will end at the point which is set for "EndTime". The "BeginTime" is the point at which an effect will start in a repeat.

If you, for example, fade in a sloshy wave for two seconds, which then starts to rotate, the fading shall not be performed again in a repeat.. Thus you should set a second start point by means of "BeginTime" that is applied only in case of a repeat. Don't forget to activate the corresponding check-boxes.

- 5) On the right hand side you can adjust, what shall happen upon releasing the Midi key. For example, the time cursor can jump back to the first second, if you release the key. Or to a completely different effect.
- 6) If you select "**Static Effect**" instead of "Go To", the static effect selected in the drop down menu will be executed at the moment, when you press the Midi key. Static effects are to be programmed in the settings. It can be, for example, DMX signals for fog machines, screens, etc. or TTL signal (0 / 5V). The special thing with static effects is, that these effects can be activated while a show is playing, without having to stop/pause the show. Hence the static effects are often used for spontaneous effects, such as fog, pyrotechnical effects, motor driven screens, etc., which then can be activated at any time.
- 7) The "**DMX-in**" setting uses the channel and the value of the incoming DMX-in signal of the 1. interface (!), to activate the midi loop. Same as for the Midi signal of the keys, the corresponding loop will be started at the moment when the correct DMX signal is sent. Please note that the **button "DMX-in" (22)** has to be activated – otherwise PHOENIX won't accept any DMX signal!!!

1.32. Record Loop Function

In order to program a show fast and efficient, we have created an innovative programming aid. The principle is quite easy to understand. At first you have to program a few effects such as sloshy waves, rotating circles, etc.. Then you have to assign these effects to a (Midi) key on the PC keyboard or to a Midi key of a USB Midi keyboard. Subsequently you can start the music and insert the effects in time with the music. You have two options. The first option will insert the effect as long as the Midi key will be pressed. That is, the start point will be set with pressing the key and the end point will be set with releasing the key.

The second option defines a fixed time. A fixed time will be assigned to the effect – e.g. 250 milliseconds for one single beam shot. Now, this effect will be started with pressing the Midi key. No matter, how long you will press the key – the effect will be set onto the time line for exactly 250 milliseconds. Ready.

You can also play several Midi keys (in case of a Midi keyboard) simultaneously to insert several effects at the same time. However, it is recommendable to play a piece of music or a passage from it in a loop and to add more and more effects with each cycle. PHOENIX will insert the events automatically below each other ! ATTENTION: Don't forget the priorities!!! They play an important role here, too! If you, for example, insert a fade-in effect at a later time, it will affect automatically the event above !

Anyway – you will see how fast and efficient you will program easy (!) laser shows in future or how fast you can insert quick beat changes with single beam shots perfectly and synchronously into the time line with the help of the Record Loop Function.

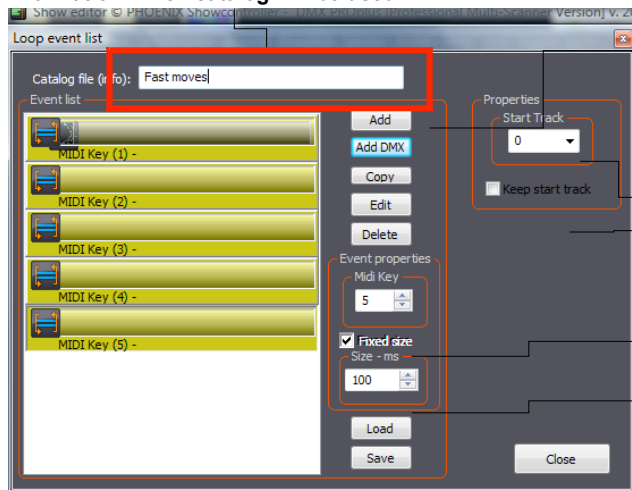
You should now learn the functions in detail.:

Start the Record Loop Function by pressing the REC key.

The window "Loop Event List"



Information which catalog will be used.



Add a loop event

Add a DMX event

Copy a loop

Edit a loop

Delete a loop

Start-Track for inserting

Lock the track where the loops will be inserted

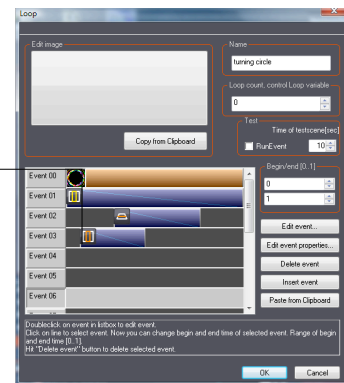
Select the Midi key (PC keyboard or Midi keyboard)

If a loop shall have a fixed time, the check-box has to be active and you have to select the time.

Load and store all loops for other shows.

Procedure for using the **Record Loops**:

- 1) Click on "Add"
- 2) Create a loop event
- 3) Double-click in the time line to see all events you can insert. Start as usual with the "cartoon" in order to have an object first of all – and then add movements, etc. You can now already watch the effect with "RunEvent", however, the changes will only be visible in the next cycle! The time to be set shall only be an example, as the effect will be played faster or more slowly, depending on the inserted length. Alternatively you can also copy several events or complete show passages (!) with CTRL+C and then insert them into the time line by clicking the "Paste from Clipboard" button. However, please keep in mind that you always have to use THE picture catalog you also have used in the show!!!!!!!
- 4) If you finished programming the effect, click "OK"
- 5) The loop is now ready and has to be assigned to a Midi key. (0-127)
- 6) Finally select whether the effect shall have a fixed time or not.
- 7) Now click once into the time line with the left mouse button in order to activate the correct scanner. (You can insert loops into all 64 time lines...)

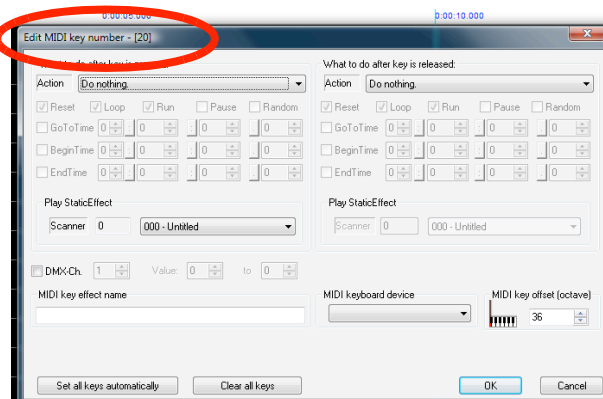


- 8) Start the show or the music
- 9) Press the selected Midi keys in order to insert the loop effect.
- 10) If necessary, correct the loops afterwards. Also, you still can move, edit and even change the effects.
- 11) As an alternative you can also insert the loop into the time line per drag and drop
- 12) Have fun...

By the way...

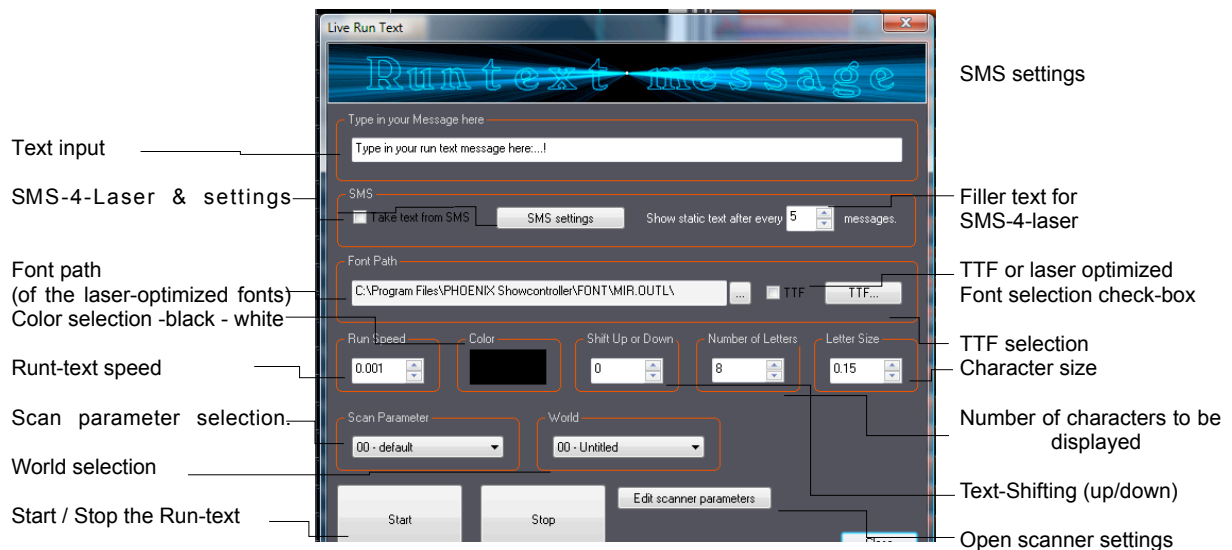
In order to find out the Midi-Key value of a key, just click on "O" on your keyboard. The Midi window will open. Top left in the window you can see a figure – the channel of the Midi key...

Don't forget to click on the time line to activate it!



1.33. LIVE-Run-Text

The function LIVE-Run-text is useful for short spontaneous messages that you want to project onto the screen in between. Being completely autarkic and not connected to the time line, you can also display SMS-4-Laser messages.



1.34. SMS-4-Laser

It is a very popular advertising possibility in discotheques to project SMS messages that are transmitted to the laser per cell phone. With PHOENIX it is quite simple. Just find one of the cell phones on the following list. (More mobile phones are in preparation and will be added by and by!)

Enfora <<http://www.enfora.com>> :

SA-EL, SA-G, SA-GL

Falcom <<http://www.falcom.de>> :

Twist, Swift, Samba 55, Samba 75

iTegno <<http://www.itegno.com>> :

WM1080A, WM1080A1I, WM1080A1E, 3000, 3232E, 3232I, 3898

Multitech <<http://www.multitech.com>> :

MTCBA-G-F1, MTCBA-G-F2, MTCBA-G-F4, MTCBA-G-UF1, MTCBA-G-UF2, MTCBA-G-UF4

Nokia <<http://www.nokia.com>> :

N12, N30, N32, 6100, 6210, 6220, 6310, 6310i, 6610, 6820(Bluetooth), 8250, 8910

Siemens <http://www.siemens.com/index.jsp?sdc_p=pWMENcfst6u1436z1> :

A65, AC75, AC45, C35, C45, ES75, M35, M45, MC35, MC35i, MC45, MC55, MC65, MC75, S35, TC35, TC35i, TC45, TC65

SIMCOM <<http://www.sim.com>> :

SIM100S, SIM100T

Sony Ericsson <<http://www.sonyericsson.com>> :

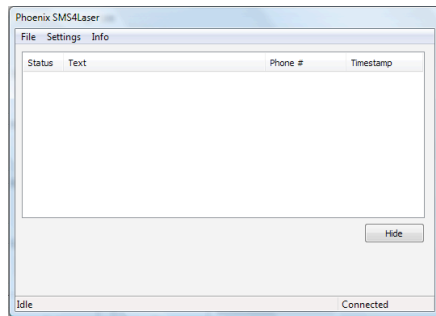
T226, T230, T238, T290, T310, T610, T630, T637, T68, T68i, K310, K320, K500, K510, K600, K700, K750i, K800i, W810, W900, S700, S710, V800, W300, W550, W600, W700, W800i, W810, W900, Z500, Z600, Z1010,

Connect the cell phone preferably with a standard COM cable (connection cable) to the USB interface of your computer.

Verify, that the cell phone has been recognized as modem in the hardware manager. Then start PHOENIX. You can integrate SMS-4-Laser into a show as event or via the LIVE-Run-text.

Open the SMS settings...

Main window



File: Load/store all settings

Settings: Options
GSM settings
Filter settings

Info: About SMS-4-Laser

-After how many
SMS shall this
text be shown?

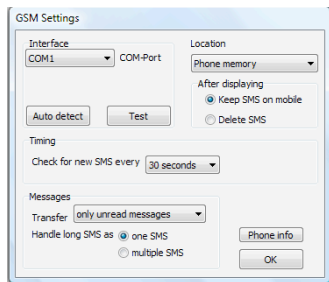
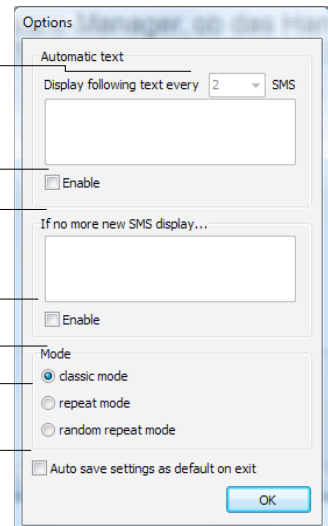
Text field for repeated texts

Text field for fillers

Activate/deactivate

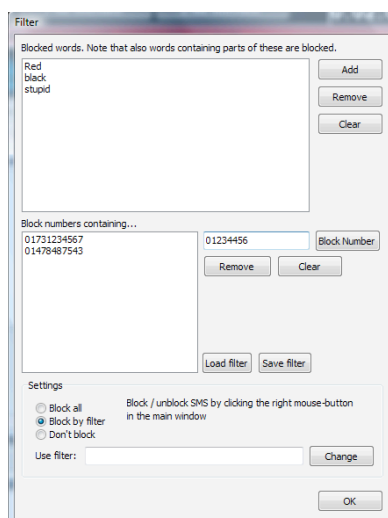
Selection of the display mode

Auto save (should be activated)



Select the COM-Port in "Interface". Please refer to the hardware manager to find out the COMport which your cell phone is assigned to. If you click on "Test" the correct port will be searched automatically. The process may take a few minutes!

Now you can set the other values as required.



You can define unwanted words in the filter. These words will automatically be deleted from the SMS messages.

Thus you also can directly lock certain telephone numbers.

Various modes feature the most important functional possibilities:

Block all: Every single SMS must be confirmed before it will be output on the laser

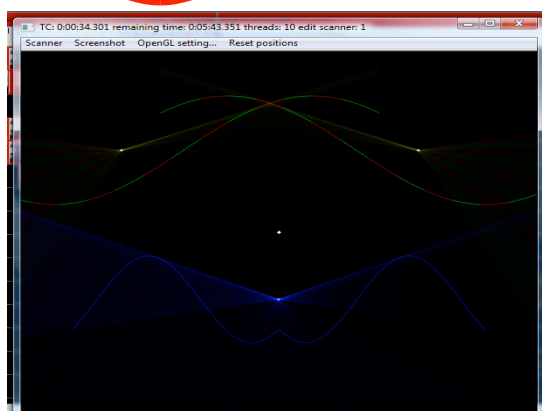
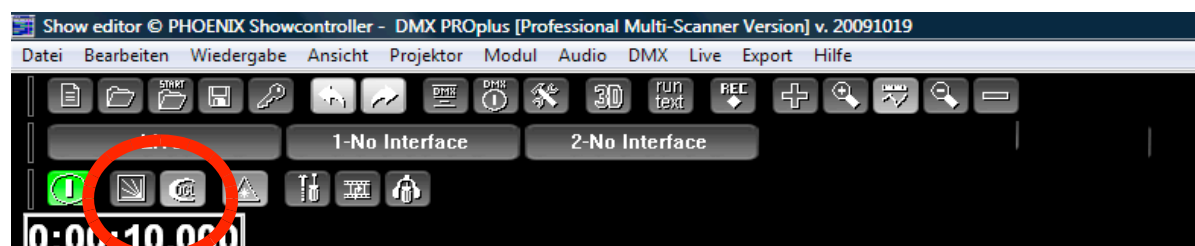
Block by filter: The aforementioned filters will be applied.

Don't Block: All SMS will be output without filter.

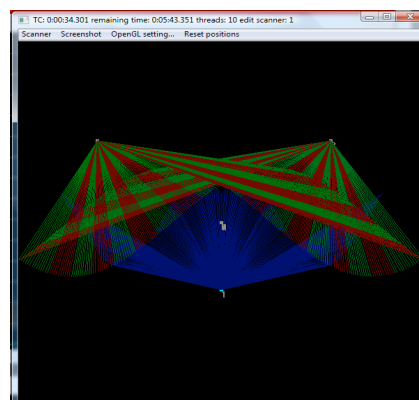
If you have finished all settings, close the window with “Hide”. Make sure that the check-box “Take SMS” is activated. PHOENIX will now regularly retrieve the SMS and insert them into the text line.

1.35. Direct X / Open GL Preview

With “Preview” you can watch your laser show in realistic quality even without connected laser. If you have an older PC you may use the simplified preview which is easier to display... For up to date PCs we always recommend using the OpenGL view. By activating the OpenGL button you can switch between the previews.

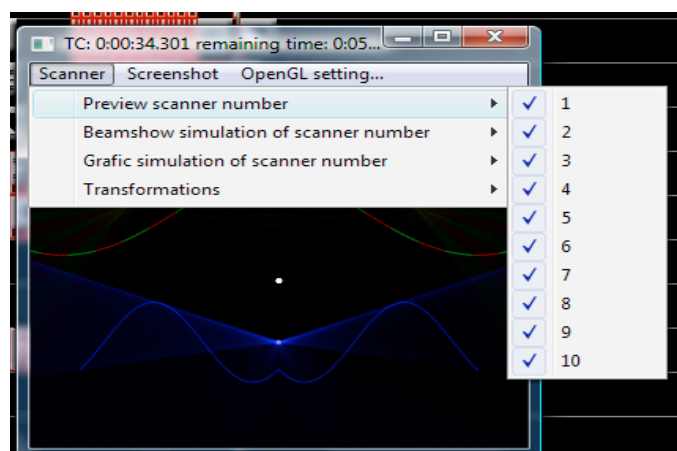


Open GL Preview



Simplified Preview

In this menu you can set basic functions of the laser projectors:



Preview scanner number:

Which laser shall be displayed

Beam show simulation...:

Lets the beams appear visible

Graphic simulation of scanner...:

Simulates a screen, so that graphics will be recognized

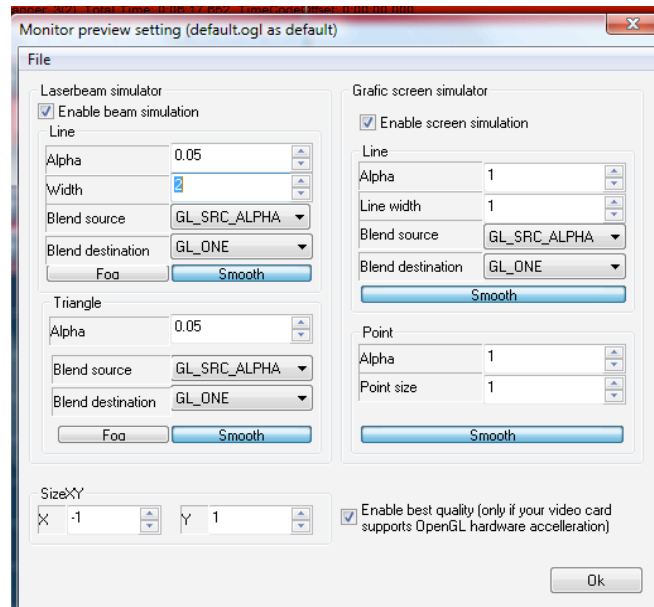
Transformations:

Allows to invert X and Y.

Apart from that you can also move the projectors per drag and drop by clicking on the white dot in the preview in order to bring them in the right position.

Screenshot lets you make a snapshot of the preview which you then can insert into a “loop” or somewhere else.

Furthermore, you can make various settings regarding brightness and size of ALL projectors in the **OpenGL settings** in order to achieve a more realistic visualization.



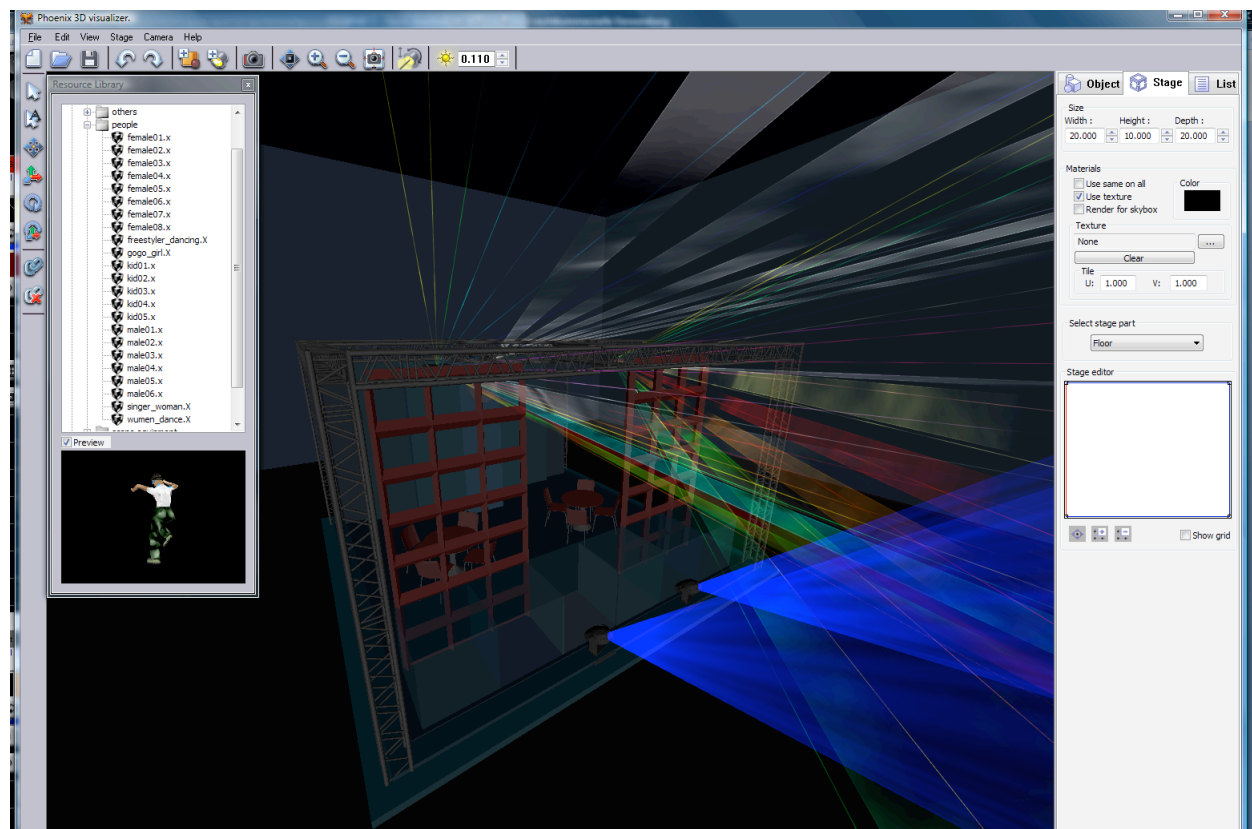
1.36. 3D Visualization

Another type of visualization is the PHOENIX 3D visualization which can display, apart from laser, also light and video technique within a complete stage environment.

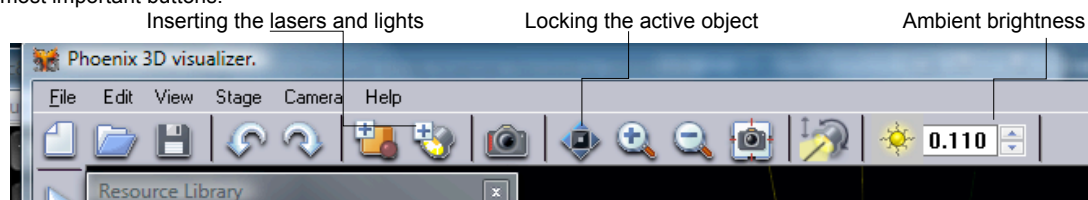
You can start the **3D visualization** via the “3D” button in PHOENIX-PRO



An independent program communicating with PHOENIX PRO will open.



The most important buttons:



File

New	Deletes the current project and starts a new project..
Open	Opens an existing project. Per default all projects are stored in the directory "3D > Stages".
Save	Stores the current project
Save As	Stores the current project with a new name.

Edit

Undo	Undo the last step
Redo	Redo the last Undo command
Delete	Delete the currently activated object
Clone	Copy the currently activated object

View

Show Coordinates	Show the coordinates of the 3D objects
Show Editor Tabs	Show the editor box on the right hand side in order to adjust the sizes and position specifications
Show Resource Library	Show the 3D object list of all ready-made objects. These can be drawn into the 3D stage per drag and drop.

Stage

Add Objects	Here you can create or load your own 3D objects. For loading or importing 3D Max files you have to export the files as "DirectX file" before. The extension is ".x" file
Add fixture	Import moving heads, video files and laser projectors
Options	Here you can make settings regarding the visualization quality. The higher the quality the more computationally intensive the visualization will be!

Camera

Fit	Lets the 3D visualization appear without zoom.
Screen Shot	Creates a bitmap of the current view. Notice: If several monitors are used, ONLY the first monitor will be displayed!
Zoom	Zoom in and zoom out in the 3D room
View	Determines the view.
View > Rotation	Lets the 3D room rotate automatically.

Help

Help	Shows this manual
About	Shows information about PHOENIX 3D



Activation arrow. To select and activate an object

A click on the object arrow will open an object list.

Movement tool. You can move the objects with the mouse as long as the button is active.

If the 3D arrows are active, you can influence the position at the XYZ coordinates with the mouse, too.

Undo-Taste

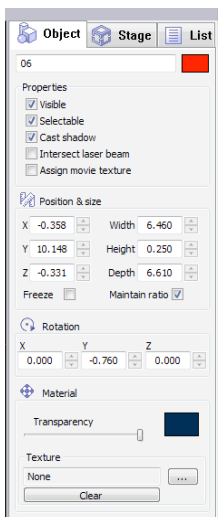
Rotate the object around the currently active axis. The axis will light up when you move the mouse over it.

Group several objects

Split a group of several objects.

1.37. Editor Box

1.37.1. Object



Here you can adjust the active 3D object with regard to size and position. Furthermore, you can set the following in the properties:

Visible: Lets the object appear visible/invisible.

Selectable: Shows, if the object actually may be activated with the mouse pointer or not. If you reactivate the object afterwards, you have to select it in the "Select Objects" list with the object arrow.

Cast shadow Decides, whether the object creates a shadow or not

Intersect Laser beams Shows, whether the object lets pass or stops laser beams.

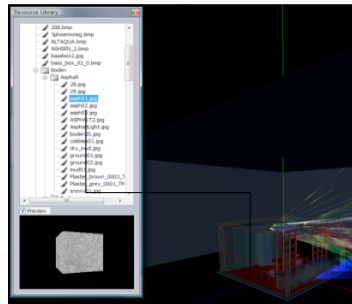
Assign movie texture In case of activated check-box PHOENIX-PRO will display the video file on the object's surface. Useful for example for video screens of plasma displays...

Rotation Lets the object rotate

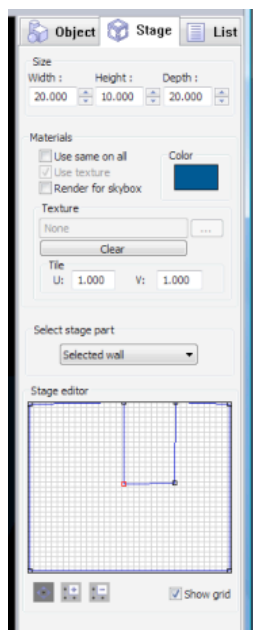
Transparency Shows the grade of transparency the object shall have. (In order to look through the object...) Useful for example for water screens or gauze screens..

Texture Select a surface from a large library or take your own bitmaps for 3D object surfaces

As an alternative you can also move a texture from the object library onto your object per drag and drop.



1.37.2. Stage



In the “stage settings“ you can make all settings regarding the location itself. These include room size, width, length, depth or how the walls are built. In this way it is even possible to plan a trade fair booth with many walls. In doing so, you can chose various textures for the walls, the ceiling and the floor.

Use same on all: determines, whether the texture shall be individual or the same everywhere

Use texture: determines, whether a texture shall be used

Render for skybox: makes the corners visible or invisible

Texture: To load a BMP picture as a texture

Tile: Number of texture repeats on the object

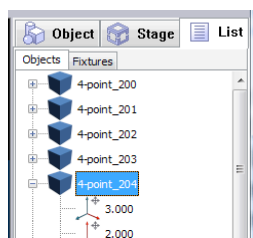
Selection: Defines the currently active wall or ceiling.

Stage editor: To edit the walls.

Buttons: To add, delete and move the corner points

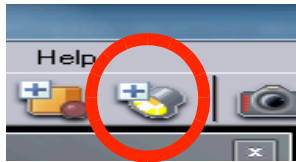
Show grid: Shows the auxiliary lines in the stage editor.

1.37.3. List

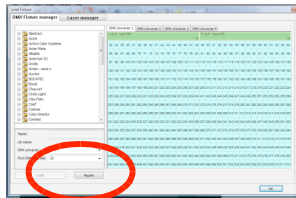


The “List“ comprises all 3D objects and fixtures (e.g. moving heads, lasers...) including its coordinates. You can't edit the objects here.

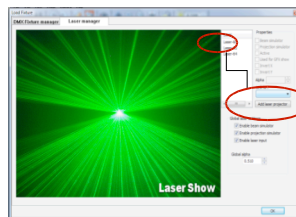
1.38. Inserting Light, Videos and Laser



Clicking the "Insert" button will open an new window...



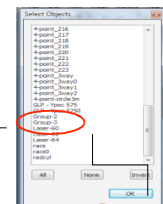
With a click on "Acquire" all DMX fixtures will be inserted into the 3D visualization. In the case that you had marked objects with "Assign Movie Texture" before, the videos will be synchronized with the PHOENIX time line and displayed on the corresponding 3D objects in the same moment.



With "**Add Laser**" in the area "**Laser manager**" you can now add as many lasers as you like. By activating a laser you can set further options. Brightness, Graphic or only beam simulations. Inversions of X and Y, and, of course, to which time line the laser shall be assigned. Thus you can assign for example 5 lasers to "Scanner 1" at the same time. "Scanner" in this case means the PHOENIX PRO time line. PHOENIX currently features 10 time lines or scanners, whereas each laser can be programmed individually. The Alpha value determines the overall laser brightness.

Quick manual: PHOENIX 3D Visualization:

- 1) Start PHOENIX PRO
- 2) Load show (By clicking Start)
- 3) Start 3D-Visualization
- 4) 3D will start...
- 5) Load an existing stage
 - a. File > Open
 - b. E.g. default-stage 1
(In the directory ...PHOENIX Showcontroller\3D\Stages\...)
- 6) Stage will be loaded
- 7) Click the "lamp" in order to load light and laser devices
- 8) The window "Load Fixture" will be opened...
- 9) Click on "Acquire" in the first window
- 10) Change to the "Laser Manager"
- 11) Click once on "Add Laser Projector"
- 12) Close this window with "OK"



- 13) Click on the object arrow
- 14) The list with all 3D objects and fixtures will open...
- 15) Chose "**Laser**" from the list and click **OK**
- 16) The selected laser projector is now activated and can be moved with the mouse or can be precisely adjusted in the editor box (size, position and rotation)
- 17) In order to avoid that you accidentally activate another object, click on Thus you lock the activation and will be able to turn and rotate the visualization at any time – without deactivation the activated object.
- 18) Once you have positioned all objects and lasers the way you want to, you can start the show in PHOENIX-PRO.
- 19) The visualization will be visible now...

Version of this manual: PHOENIX 3 – V – 1.0

1.39. Showplayer

The Showplayer is an additional program of PHOENIX that can be chosen in the first selection window.

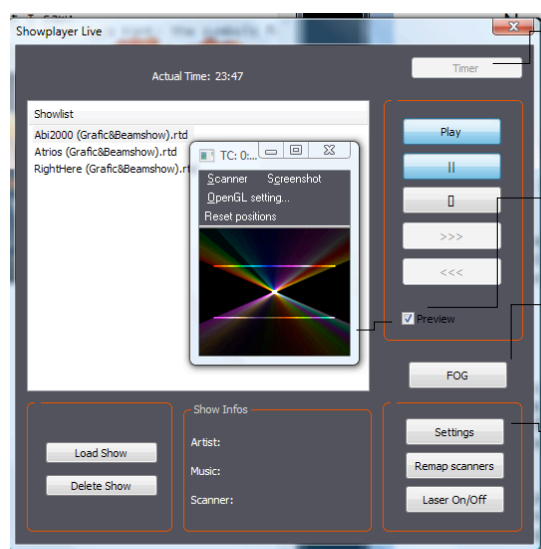


With the help of the “Showplayer” you can program complete show cycles or plan an exhibition days, weeks or months in advance.

Start the software with connected USB dongle and the interfaces. IMPORTANT – You may NOT run any other PHOENIX program (PicEidt, PHOENIX, LIVE or hardware check) at the same time! Otherwise you will have no output.

1.39.1. Overview: the Functions after the Start

After starting the following program surface will appear:



There are 2 modes... The “LIVE” mode and the “Timer” mode...

In the LIVE mode you can spontaneously chose laser shows from the list and play run them with “Play”. Activate the checkbox “Preview” to open the preview window. The “FOG key” is to be programmed with the right mouse button and allows the user to access a fog machine while the show is running. Click the “Settings” key to adjust the show settings, projection zones, etc.. The usual window will open and allows the user to make his settings while the show is running! The function “Remap Scanners”, to reassign the interfaces, can be opened only when the show was stopped.

File: "Load/store existing show directories."

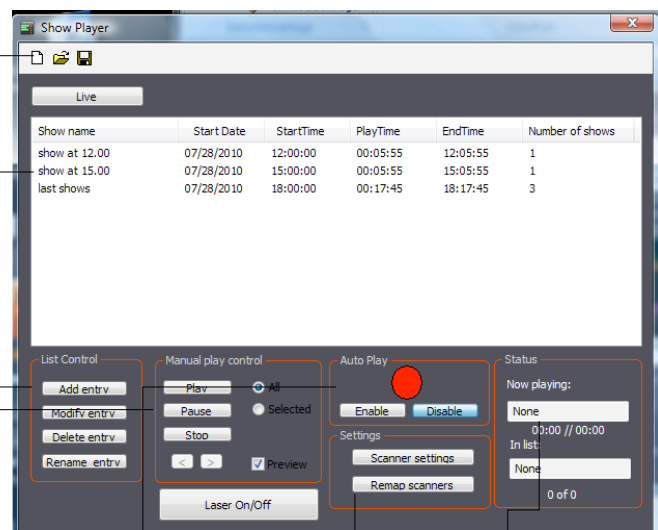
Info: Information about the program

Display all selected show lists (this can be 1-1000 shows, that will be played on after the other)

Add a show list
Change a show list
Delete a show list
Rename a show list

Play a show list
Pause a show list
Stop a show list

Activate the show player with time control
Deactivate the show player

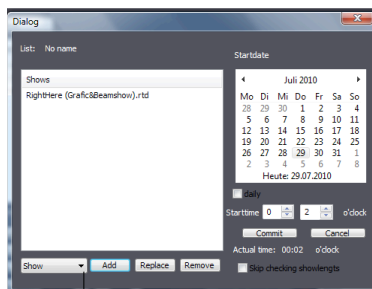


Settings

Status of the current show

1.39.2. Adding a Show

Click on "Add Entry" in order to add a show to a show list. A new window will open.



drop down menu and define the time in seconds (or select a piece of music).

Click on "Add" to select a show. The show will be inserted into the list.

Chose more shows, if you want to play several shows in sequence.

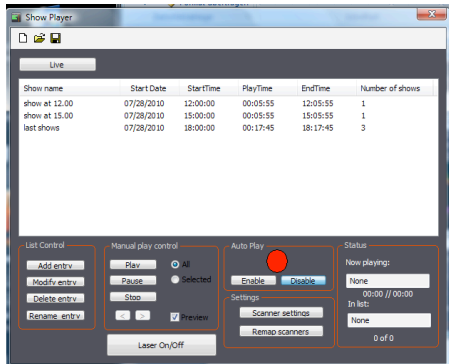
Once you finished the show selection, chose date and time, when the show (the shows) shall be played.

Alternatively you can also program a "Pause" or "Music", if you, for example, want to play two shows after each other with a 60 seconds break in between. Chose "Pause" from the

Having chosen the start time, click on "Commit" in order to check the shows. Enter a name for this show list – e.g. "Opening show". The show list will now be displayed in the main window.

IMPORTANT: Check EVERY single show BEFORE inserting into the show player. (Check, whether the right CAtalog, the right scan parameters, the right worlds and the appropriate music have been STORED.) The show player will load the show and right away start playing. If, for example, you didn't select the right path of the music or the world settings aren't correct, the show will possibly not start and the show player will be paused. Verify exactly, whether the show really would start immediately, if you loaded and started it directly in PHOENIX....

You can now create as many show lists as you like and let them play in sequence per time control.



Add further show lists or click on “Enable” – to activate the show player. If the signal light shows “grün“, the show will be started at the right time.

Save your personal show files, so that you will have the appropriate shows directly available for the next event...

Hardware-Check



The Hardware-Check is a little program independent of PHOENIX to check your hardware (interfaces, lasers, TTL/DMX devices) completely.

Thus you have the possibility to measure or verify the effective scanner speed and the performance of your laser and to check the communication between PC and laser and the DMX devices.

So, if you should have problems with a software output – Check at first, whether the output still works in the hardware check – to find out principally, whether the trouble is to be found on the hardware side or on the software side.

1.40. Overview Hardware-Check

After starting the following surface will appear...

Preview

Display: Interface features

Scan-Speed setting

Inverting X and Y axis

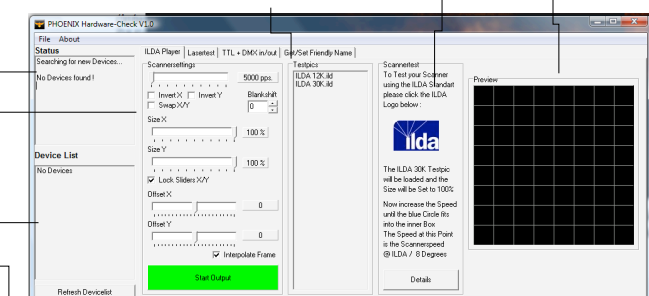
Size settings

Display and selection of the connected interfaces

Start/stop the laser output

Test pictures

ILDA test picture button



Detailed explanation of the ILDA test picture

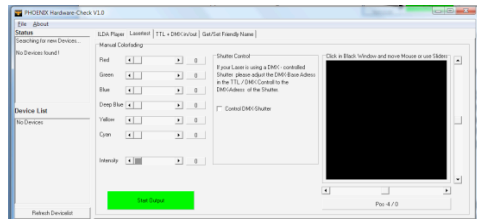


In order to test you laser click on the blue“ILDA symbol“.

Your laser output should now look as following:

Now move the “scanner settings slider“ slowly from 5000pps (5K) to the area of 20000 pps (20K). The blue circle should be located within the green square now. Continue moving the slider to the right until the blue circle only touches the inner edges of the square. The value which is shown now (e.g. 25000pps = 25K) corresponds to the effective output speed of your scanners)

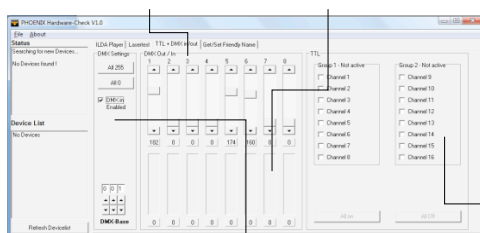
1.41. Laser Test



with the corresponding value. Activate the check-box “Control DXM-Shutter“ here. **Start Output** = laser output...

NOTICE: The power that you laser now outputs is the maximum power **WITHOUT** modulation. That is, this power you will unfortunately never achieve during a laser show, as the beam is operated in the modulated mode. (i.e. on/off). Usually and depending on the quality of the laser modules you can achieve approximately 50-70% of the maximum 100%- power during a show. That is, with a 1W laser you will achieve between 500 and 700mW output power during the show.

1.42. TTL+DMX in/out



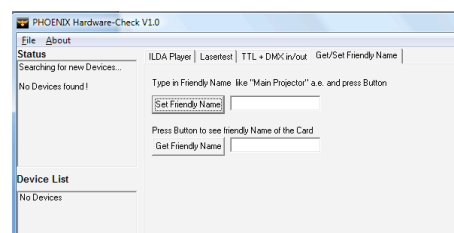
DMX in / out start address Activate DMX in TTL output

DMX out – Sliders DMX in displays

Here you can check the DMX/TTL in/outputs of your interface. The start address defines the first slider channel for DMX out and DMX in. On the right hand side you can check the TTL outputs of PHEONIX-PRO USB and PHOENIX-Net.

1.43. Get / Set friendly Name

You can assign individual names to your interfaces, such as “Main projector“, etc.. Both with PHOENIX-Micro USB and PHOENIX-PRO USB these names will be stored on your PC. That is, as soon as you connect the interfaces to your computer – the new name will be displayed. If you connect the boards to another computer – the original name will be displayed again. In case of the network board the name is stored on the network board's CPU thus being independent of the computer.



Video help

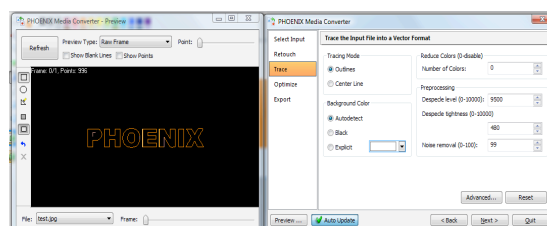


If you click on “Video help“, you will be connected directly with our website where you can find the newest video tutorials and other useful videos. This data base will be expanded continuously.

PHOENIX-LIVE Surface

Please refer to the additionally available “PHOENIX-LIVE“ manual. You can also find it under “Help“ in the PHOENIX LIVE program or on our website.

1.44. PHOENIX Media-Converter



Opens the Media-Import-Tool (**Only with additional Media-Converter-Option which you can purchase, for example, in our**

webshop www.phoenix-showcontroller.de > Shop!)

The converted files (movies, pictures and flash files) will be changed into the special PHOENIX .pho file format and can then be imported into the CATalog as .pho

You can thus import from the internet many free animations and pictures/logos and use them for your own shows... The usage is self-explanatory. At first you have to chose the path of the file and then you select the directory to store the converted .pho file. The “Advanced Options“ might be useful for detailed settings. Here applies the guideline “Try and error“ to achieve the best results.

