Martin ShowDesigner

User manual

Rev.: 07/07/2006, 1:18 AM
Base on MSD version 4.8

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Martin Show Designer 4 Help

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Printed: July 2006

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Special thanks to:

Marco, Stefan, Ofer, Chris West and all MSD users for their feedbacks

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Introduction

Part I

1 Introduction

Welcome to Martin ShowDesigner!

Martin ShowDesigner is a unique and user-friendly lighting and set-design software package useful in developing realistic 3D lighting simulations in both architectural and entertainment fields. Useful as a high quality production or sales presentation tool, ShowDesigner allows you to create realistic set and lighting design renderings using lighting, reflection, transparency, shadow and smoke.

In the architectural field, ShowDesigner can be used to realistically demonstrate the enhancing effects of lighting on buildings, bridges, monuments or any structure.

Imagine creating realistic renderings of a building, subtly changing lighting, shadow and reflection in order to obtain the best solution based on different fixture positions, spread angles and setbacks.

Conveniently create lighting designs from your own PC or laptop. Forget time-consuming scale modules and detailed drawings. Make positional and effect alterations quickly and easily, then view them on screen.

ShowDesigner gives you the ability to present to your customer a variety of looks, multiple realistic renderings that are appealing to view and easy to understand. ShowDesigner calculates the luminous intensity on any surface, taking into account the color, refraction, absorption, reflectance and transparency. Ambient light can be adjusted to any level when calculating dawn, day, dusk or night environments. The renderings can be saved in BMP or JPEG format and displayed via any picture viewer.

ShowDesigner eliminates the time consuming task of producing scale models and detailed drawings, letting you spend less time "on location."

ShowDesigner features a very realistic Offline programming module, enabling the lighting programmer to connect his console to the ShowDesigner and start programming using virtual fixtures in the Offline.

Rental companies can pre-program shows in realistic real time 3D visualization thereby saving time and money on the production budget.
With the ShowDesigner you can give your customer the confidence that they have picked the best solution. And give yourself the confidence that you have presented the highest quality visualization simulation available, while at the same time saving both time and money.

1.1 MSD Gold and Silver versions

Gold and Silver versions

This document is written for use with the full Gold version of the software.

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If you have a Silver version you will find some of the functions are not available.
You can upgrade a Silver version to a Gold version if you wish, please contact your local Martin supplier for more information.

MSD Gold

MSD Silver

1.2 Software Modules

ShowDesigner
The main program works in a full 3D environment. Here, different objects and fixtures combine to form a stage, building or whatever environment is desired.
It is possible to work in real time wire frame or solid mode. Set and lighting design can be simulated easily and extremely realistically due to the MSD's advanced rendering capabilities.

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The MSD calculates the luminous intensity of any surface and takes into account the surface of any object in terms of color, refraction, absorption, reflectance and transparency.
The ambient light level can be adjusted at any level. Renderings can be saved in bitmap or JPEG format and displayed via any standard Windows picture viewer.

3D Visualizer *(Gold Only)*
A very useful tool for pre-programming of any kind of show. Any DMX controller can be connected via a DMX interface for easy offline programming.
An interface for laptop users is also available. In 3D Visualiser, very precise pre-programming is possible.
It can display most fixture functions such as movement (even the head of a moving head will move accordingly), intensity, fixed colors, CMY color mixing, gobos, framing, iris and more.
Camera positions and angles can be easily changed on the fly, making it fast to study a light show from different viewing positions.
The show can be recorded in real time and saved as a video clip in various formats such as AVI and MOV. It is then possible to view a pre-programmed show using any standard Windows video viewer

Model
A handy 3D CAD program for creating or modifying objects. Objects can be built from scratch using different primitives like cubes, pyramids, toroids, etc., or they can be a modification of an already existing object from the library. The object library contains images of chairs, stage elements, people, trussing of various manufacturers, etc. It is also possible to import 3D DXF files.

Paper
Modern productions require a plethora of paperwork – the Martin Show Designer makes this easy to generate using the Paper Module.
This tool can be used to create plans with views in any scale and from any angle.
Add in a key, fixture lists, information blocks and even pictures. It also creates easy to use and edit fixture and patching lists.

Fast Net-Render Client & Server *(Gold Only)*
The Show Designer's ability to create a high quality rendering of your show is a very powerful tool.
However it does take a considerable amount of computer power to achieve and can take quite some time too.
The Fast Net Render system is there to speed up this process. It utilizes the power of other computers, connected to your own, via a network to speed up the rendering process.

Tools

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Gobo Editor
A special tool for adding in your own custom gobo's to the MSD system. This will allow the Show Designer and 3D Visualiser programs to simulate your fixtures as accurately as possible

MSD Scene Compactor
This utility can be used to clean up a scene from unused objects, fixture, cues, and material.

DMX Info *(Gold Only)*
This application allow you to see values coming in or out of the MSD

IES to SPT *(Gold Only)*
This application converts IES illumination files supplied by many luminaire manufacturer to SPT file that MSD can import as fixture.
More detail on building MSD fixtures is available in a separate document.

1.3 Hardware Requirements

Hardware Requirements

Computer

For the most satisfying user experience you should use the best machine that you can, but as a minimum we recommend at least a Pentium 4 Processor with 512Mb RAM, 400Mb hard disc space, parallel or USB port (for the hardware dongle), SVGA 3D Accelerated card high color minimum resolution of 1024 x 768 with 64Mb of graphics memory.

Operating Systems

This fully integrated package runs under Windows 98 Second Edition, Windows Millennium Edition, Windows 2000 or any version of Windows XP.
Windows XP is strongly recommended

HASP protection key (Hardware Dongle)

There are two versions of the HASP – one is for use with your computers parallel port, the other for USB ports.
For large systems or multi-user offices there is also a network HASP available.
The software will not operate with out the presence of a HASP key.

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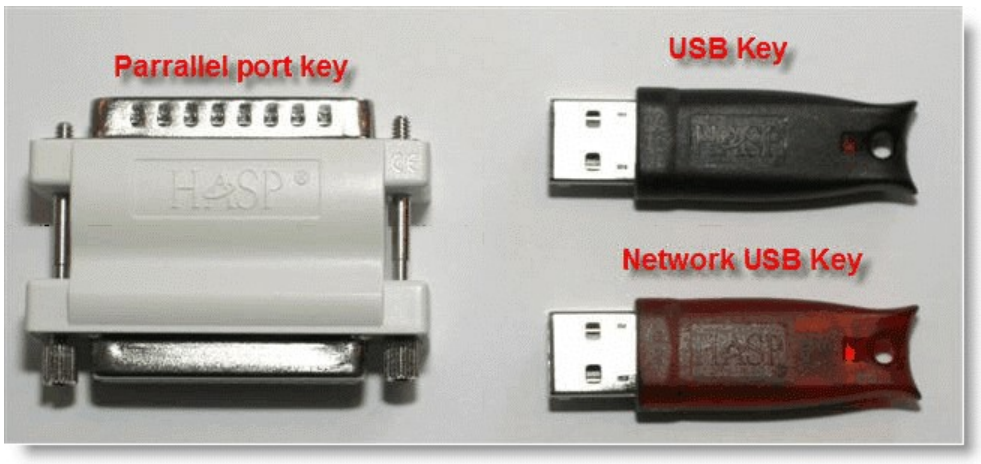

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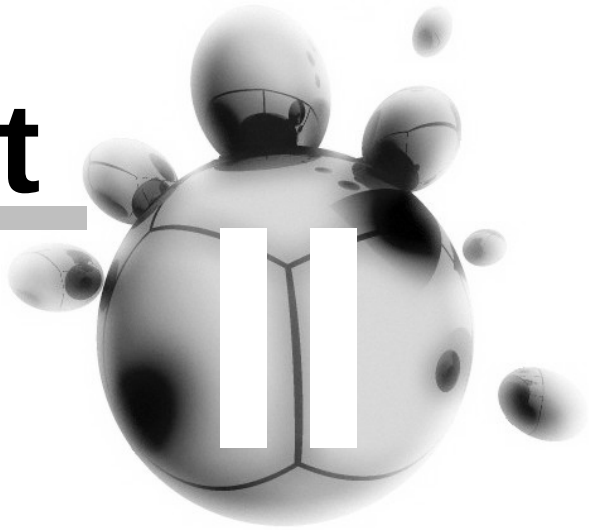
Software Installation

Part II



2 Software Installation

Select the installation type to do...

MSD with normal HASP key

MSD with network HASP key (Require a special HASP key)

MSD Fast-Net Render Server

MSD update installation

MSD fixture library installation

MSD communication driver install

MSD hardware driver install

2.1 MSD with normal HASP key

Step-by-step instructions to install MSD software

This is the first window to appear when installing MSD
3 choices are possible

A) **Install Stand Alone MSD Gold (silver)**
This is the most common situation.

B) **Install Network Server**
If the purchased HASP key (dongle) is a network type, select this option.
Note 1: The Network server must be installed on only one computer that we be the server for all other MSD client.
This should be done on the machine where the hardware key is before installing any network client.
Note 2: The Network server key is not necessary to use the Fast-Net Render feature of MSD

C) **Install Network Client MSD Gold**
Install a client version of MSD (only for a Network Dongle) on machine(s) on the same network as the MSD Network server.
Note1: IP address of the client machine must be on the same address range and subnet as the MSD server.

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If the HASP dongle driver is not installed you will be prompt to remove the key while the driver is being installed.
another prompt will tell to reconnect the HASP key.

Software Agreement window, click Continue if you accept...

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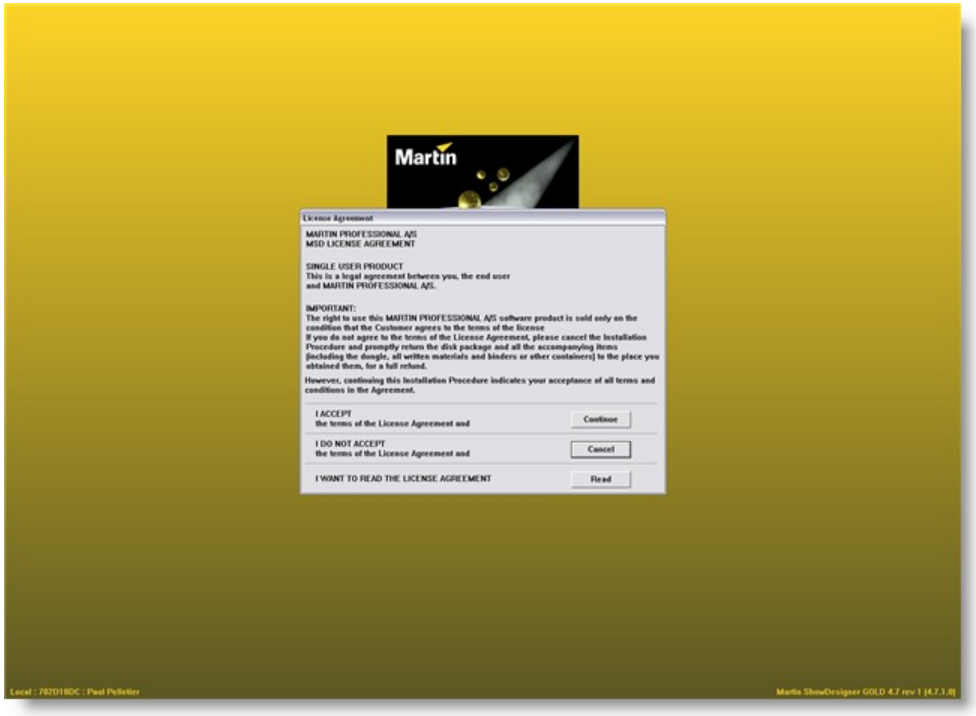

Here, enter your name (this name will appear on any print out from MSD)
Enter the registration code supplied with the HASP key.
If you lost your registration code, contact Lighthouse with the key code that appear at the bottom left of the previous window.

If this is the first time you install MSD on that PC you will see this window.
It is suggested that you leave the selection as is.

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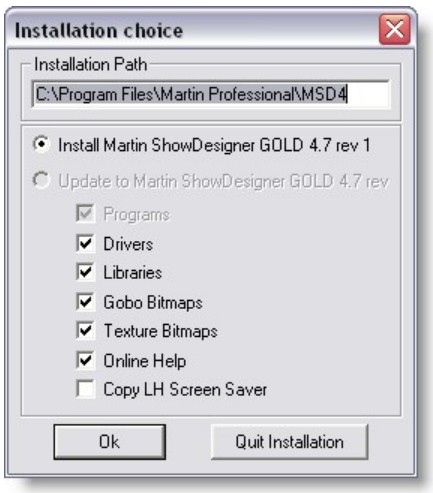
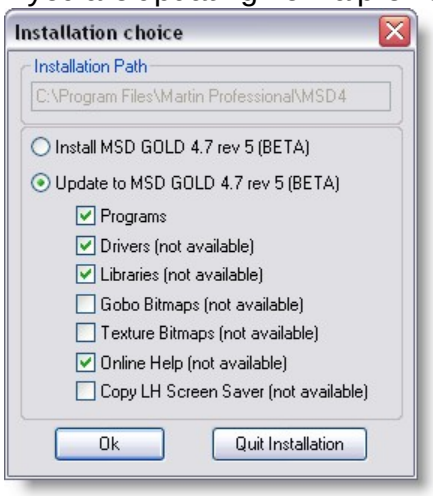
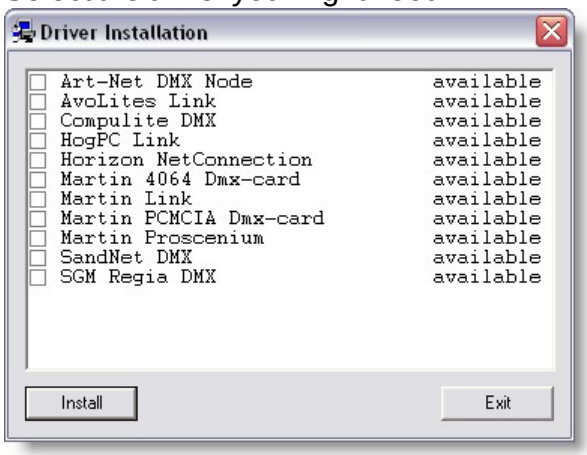


If you are updating from a previous install you will have this window.



The next step is the software driver installation.
Select the driver you might need.



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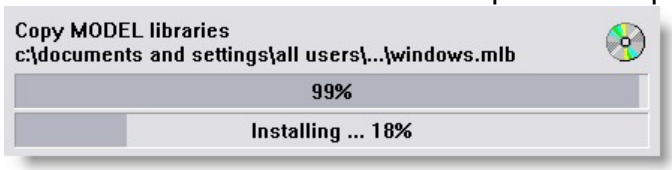
It is possible to see such window showing up, click Unblock to continue.

This prompt is a warning that some hardware device such as PCI DMX card or DMX USB adapters might need another driver to function.

This software install now start copying file to the hard drive
it can take a few minutes for this step to be completed.



Part of the MSD is the Fast-Net Render
This application requires a small server application to run on any PC to use as Render server.
If you want to use the current machine as Fast-Net Render server, click Next, otherwise click Cancel.
You can always install/de-install this later.

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The last prompt of the Installation is the help language choices.

2.2 MSD with network HASP key

The MSD installation for Network key is similar to the normal key.
But the Server you must select the second option as shown below

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Then the HASP Licence Manager must be install

Select Service if you want to have the Licence Manager working without having to be logged on the PC.

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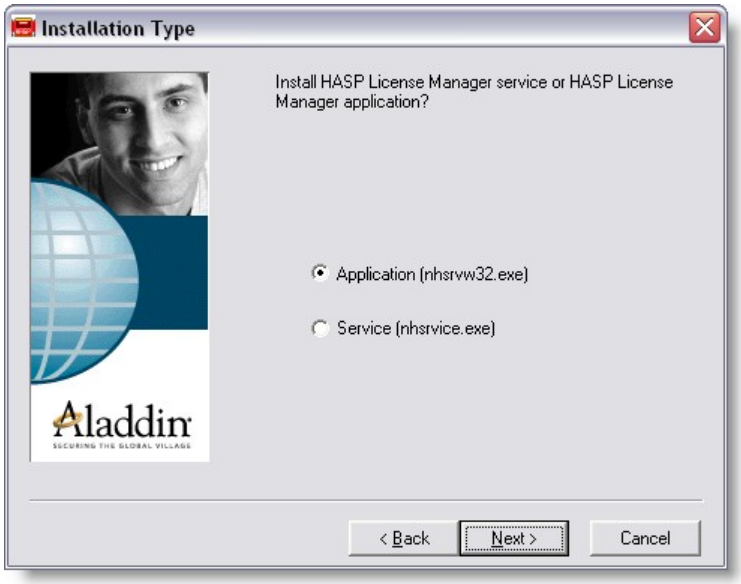
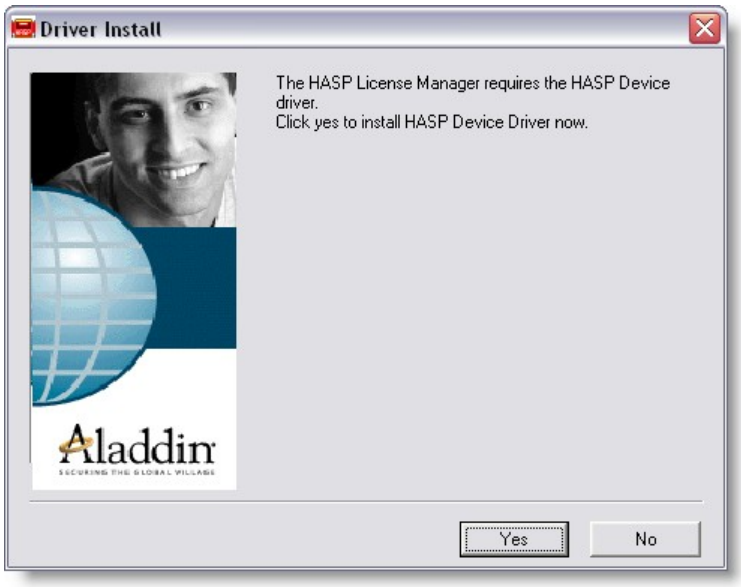


Click Yes to install the HASP driver



Once you have finish installing the Licence Manager and it starting, you might get this warning, click Unblock to continue.

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For client MSD installation select the third option.

Install a client version of MSD (only for a Network Dongle) on machine(s) on the same network as the MSD Network server.

Note1: IP address of the client machine must be on the same address range and subnet as the MSD server.

2.3 MSD Fast-Net Render Server

The Fast-Net Render Client is a module in MSD.
This application requires a small server application to run on any PC to use as Render server.
To Install this on other PC simply put the installation file on a disc.
Then copy and install this program on the other PC to be used as Server
If you are updating the server, make sure you right-click on the tray icon and close the Fast-Net server before...

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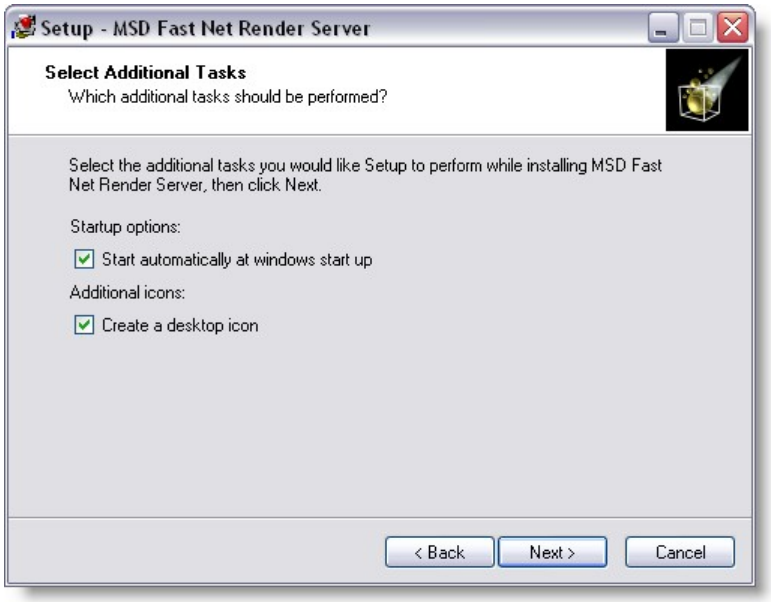
It is recommended to have the Fast-Net render server starting automatically on each PC.



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Click here for more details on using FastNet-RenderServer

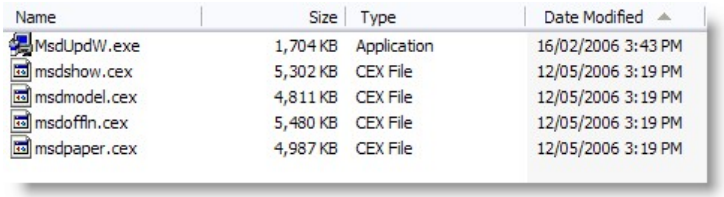
2.4 MSD update installation

In between each software release is does happen that minor updates or beta versions are made available.

Often this intermediate version don't have the Usual Setup.exe file.

Instead a file called "MsdUpdW.exe" is used to install each module update

The Module update will have a .CEX file extension.



Name	Size	Type	Date Modified
MsdUpdW.exe	1,704 KB	Application	16/02/2006 3:43 PM
msdshow.cex	5,302 KB	CEX File	12/05/2006 3:19 PM
msdmodel.cex	4,811 KB	CEX File	12/05/2006 3:19 PM
msdoffln.cex	5,480 KB	CEX File	12/05/2006 3:19 PM
msdpaper.cex	4,987 KB	CEX File	12/05/2006 3:19 PM

Make sure that all MSD software are closed.

Double click on the "MsdUpdW.exe"

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Choose the appropriate option (commonly Local HASP key)

Verify the information displayed here is correct.

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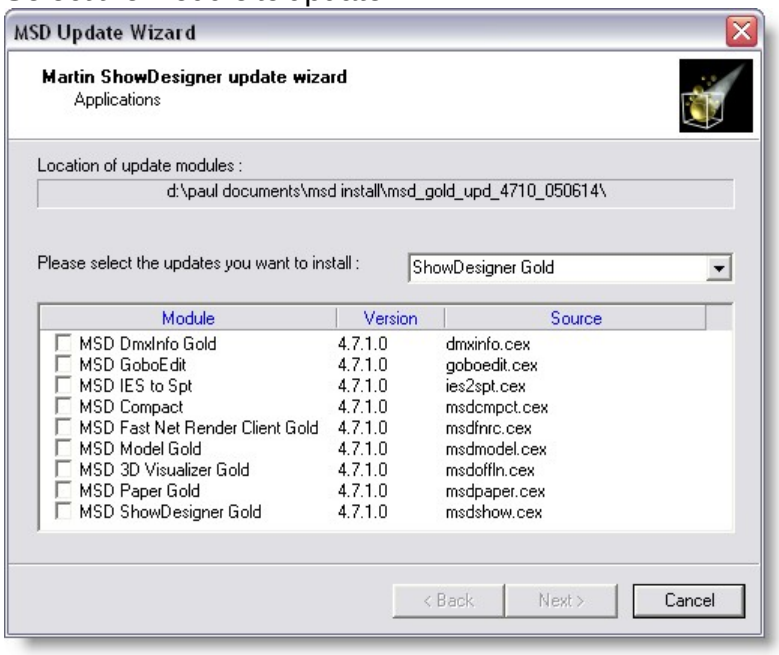
Select the module to update



Click Next

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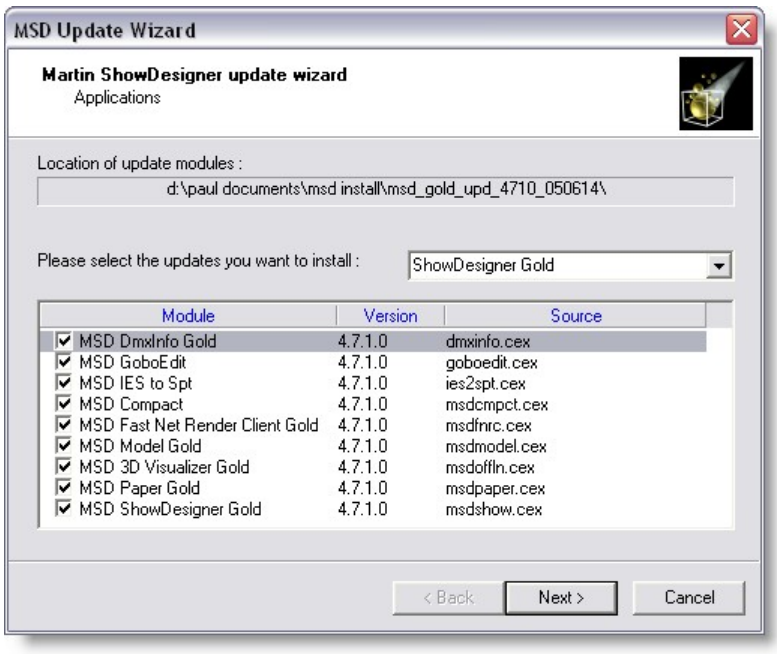
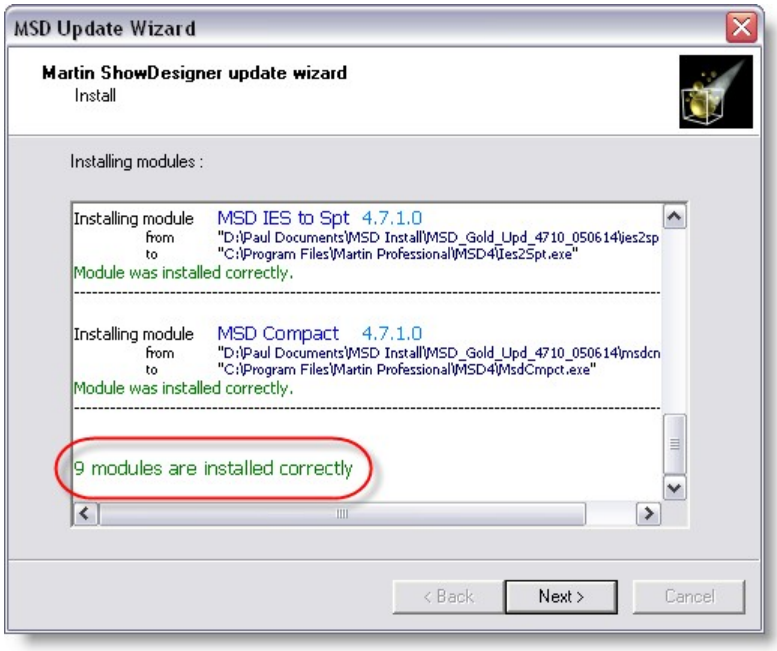


Verify that all modules were updated, if an error occur i will be reported here.
Most common error are cause by MSD application already running when the update was started.



You can now use the new version.

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2.5 MSD fixture library installation

Once a while the fixture library gets updated.

To update the fixture library, download the updated file from the Lighthouse site.

Commonly the fixture library is install in:
C:\Documents and Settings\All Users\Documents\MSD4
Unzip the library there.

Note, updating the fixture library does not update the fixture already used in a scene. To do so you can use the Open and Update feature in the Show Designer module or use the fixture replace operation in Show Designer

2.6 MSD communication driver install

MSD can connect to a variety of controller via network or using a local driver to communicate with another software installed on the same PC.
For this a driver must be installed and activated.

new and updated driver are available to download from the Lighthouse site.

a file called "DInstall.exe" must be download along with the driver.

Put the driver file in the same folder as the "DInstall.exe"

Run "DInstall.exe"

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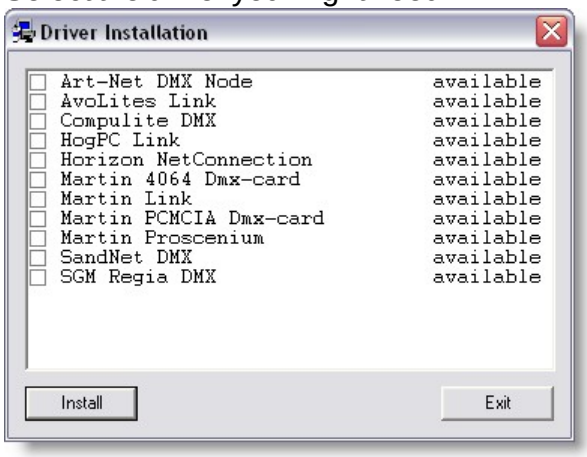
Select the driver you might need.



It is possible to see such window showing up, click Unblock to continue.

This prompt is a warning that some hardware device such as PCI DMX card or DMX USB adapters might need another driver to function.

In the ShowDesigner Module or 3D Visualizer module, you must select the right driver to be used.

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2.7 MSD hardware driver install

Some drivers for hardware device such as the PCI card, PCMCIA card, USB Universal DMX require a low level or Windows driver to be install.

New and updated driver are available to download from the Lighthouse site.

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MSD Basic knowledge

Part II

3 MSD Basic knowledge

Icons

Hotkeys

Display Mode

System Axis

Window Management

Fast Switch

3.1 Icons

Icon	Item	Hotkeys	Description
	New	CTRL+N	Opens a new Scene
	Open	CTRL+O	Allows you to open saved scenes
	Save	CTRL+S	Saves current scene
	Delete	DEL	Deletes the currently selected object or fixture
	Turn operation off	Spacebar	Turn off the current operation (move, scale, Rotate, etc…)
	Undo	CTRL+Z	Undoes your previous action
	Redo	CTRL+Y	Redo you're your previous action after using undo
	Print	CTRL+P	Prints the currently selected window
	About MSD		Opens an information window
	Show/Hide beam		Hides all beams from fixtures
	Light Mode	L	Prevents you selecting any object other than fixtures
	Fixture View		Gives you a view from the fixtures point of view
	Edit Fixture Layers	CTRL+F	Allows you to choose which layers of fixtures are visible
	Edit object Layers	CTRL+L	Allows you to choose which layers of objects are visible
	Illuminance Meter	I	Allows you measure the brightness at mouse point

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	Fixture Insert		Inserts a Fixture
	Move Beam	B	Allows control of fixtures beams with the mouse
	Focus Beam	F	As above, but moves all beams to the same position
	Fast Patch	P	Allows you to quickly re-patch the addresses and ID numbers for all your fixtures.
	Move	M	Move an object or fixture
	Move Horz.		Move an object or fixture left or right.
	Move Vert..		Move an object or fixture up or down
	Scale	S	Resize an object using the mouse
	Scale Horz.		Resize only up and down
	Scale Vert.		Resize only left and right
	Scale XYZ	ALT+S	Resize an object in 3D
	Rotate Horz. Axis		Rotate an object or fixture in the horizontal axis
	Rotate Vert. Axis		Rotate an object or fixture in the vertical axis
	Rotate Depth Axis	R	Rotate an object or fixture in the depth axis
	Rotate Two Axis		Rotate an object or fixture in the horizontal and vertical axis
	World Axis		Move, Rotate or Scale base on World Axis
	Object Axis		Move, Rotate or Scale base on Object Axis
	Group	G	Group objects together
	Group Axis	ALT+G	Group objects with the picked object axis
	Assembly	CTRL+G	Group fixtures and objects together to create a multiple sources fixture. (Example Bar of 6 Pars)
	Subtract		Groups and subtracts the selected object (Only visible at render time)
	Intersect		Groups and keeps only the intersection between the objects (Only visible at render time)
	Attach	Shift+G	Attach Dynamic object Hook to selected object
	Un-group	U	Separates grouped objects into the original objects

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	Zoom	Z	Zoom the camera in and out on current view
	Camera Move To/From	X	Move the camera in and out of current view
	Camera Inspect	C	Move the camera around on current view
	Camera Move	V	Move the camera up, down, left or right.
	Camera Swivel	ALT+V	Point the camera in a different direction
	Camera undo	ALT-Z	Undo your last camera move.
	Camera redo	ALT-Y	Redo your last camera move, after using undo
	Select Camera		Select a saved camera position
	Full View		Resets camera position and zoom so you can see your whole scene, on current window
	Full view all		Resets camera position and zoom so you can see your whole scene, on all windows
	Insert Object		Insert an Object
	Duplicate	ALT+D	Insert a duplicate of the current object
	Duplicate Multiple		Insert multiple duplicates of current object
	Wire frame		Puts the current window into a wire frame view
	Wire frame (Lit)		As above, but with illumination levels as well
	Solid		Puts the current view into a solid view
	Trace SHADOW		Makes a 3D rendering of the current view, (only in 3D windows)
	Fast-Switch to ShowDesigner		When click the current scene will close from the current module and re-reopened in the ShowDesigner module
	Fast-Switch to Modeller		When click the current scene will close from the current module and re-reopened in the Modeler module (if an object was selected it will be open)
	Fast-Switch to 3D Visualizer		When click the current scene will close from the current module and re-reopened in the 3D Visualizer module
	Fast-Switch to Paper		When click the current scene will close from the current module and re-reopened in the Paper module
Icons specific to the Modeler module			
Icon	**Item**	**Hotkeys**	**Description**

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	Cube		Insert a Cube
	Triangle 4		Insert a Triangle 4 Facets
	Pyramid 4		Insert a Pyramid 4 Facets
	Cylinder		Insert a Cylinder
	Half Cylinder		Insert a Half Cylinder
	Quarter Cylinder		Insert a Quarter Cylinder
	Cone		Insert a Cone
	Half Cone		Insert a Half Cone
	Quarter Cone		Insert a Quarter Cone
	Sphere		Insert a Sphere
	Half Sphere		Insert a Half Sphere
	Quarter Sphere		Insert a Quarter Sphere
	Toroid		Insert a Toroid
	Half Toroid		Insert a Half Toroid
	Quarter Toroid		Insert a Quarter Toroid
	Triangle 3		Insert a Triangle 3 Facets
	Pyramid 3		Insert a Pyramid 3 Facets
	Rectangle		Insert a Rectangle
	Triangle		Insert a Triangle
	Corner		Insert a Corner
	Circle		Insert a Circle
	Half Circle		Insert a Half Circle
	Quarter Circle		Insert a Quarter Circle

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Icons specific to the 3D Visualizer module			
Icon	**Item**	**Hotkeys**	**Description**
	Front View	CTRL+1	
	Back View	CTRL+2	
	Left View	CTRL+3	
	Right View	CTRL+4	
	Top View	CTRL+5	
	Bottom View	CTRL+6	
	3D View	CTRL+0	
	DirectX Wireframe		
	DirectX Beam		
	Solid Beam		

Icons specific to the Paper module			
Icon	**Item**	**Hotkeys**	**Description**
	Zoom 1:1		Zoom to 1:1 ratio
	Zoom Full View		Zoom to full view so the whole document is visible
	Zoom In		Zoom inward on the sheet
	Zoom Out		Zoom outward on the sheet
	Bring To Front	Home	Bring selected object to the front
	Move Forward	Page Up	Bring selected object forward
	Move Backward	Page Down	Bring selected object backward
	Send to back	End	Send selected object to the back
	Data grid		Display a grid with all information needed…
	Re-number Mode		In this mode fixture ID can be renumbered

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	Patch Mode		In this mode fixture address can be change
	Overlapping address		Mark fixture(s) that have overlapping address range
Icons specific to the Gobo Editor module			
Icon	**Item**	**Hotkeys**	**Description**
	Cut		Delete and copy to clipboard the object
	Copy		Copy the object to the clipboard
	Paste		Paste the object from the clipboard to the gobo
	Previous		Jump to the previous gobo in the library (if any)
	Next		Jump to the next gobo in the library (if any)
	Insert Point		
	New Gobo		
	Grid		
	Polar Grid		
	Add point		
	Add Area		
	Set Color		
	Rotate area		
	Insert		

3.2 Hotkeys

Modeller and Show Designer Hotkeys

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Item	Hotkeys
Objects / Fixtures	
Move	M
Rotate	R
Scale	S
Scale 3D	ALT+S
Camera	
Camera Zoom	Z
Camera In/Out	X
Camera Inspect	C
Camera Pan View	V
Camera Swivel	ATL+V
Camera Undo	ALT+Z
Camera Redo	ALT+Y
Edit	
Select All	CTRL+A
De-Select All	SHIFT+ESC
Edit Fixture Layers	Ctrl+F (not in Modeller)
Edit Object Layers	Ctrl+L (not in Modeller)
Properties	ALT+Enter
Delete	DEL
Undo	CTRL+Z
Redo	CTRL+Y
Other	
Fast Patch	P
Print	
Save	CTRL+S
Jump from window to Window	CTRL+page
Light Mode (toggle)	L
Move beam	B
Focus beam	F
Light Intensity meter	I
Replace Fixture	CTRL+H
Combine	

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Group	G
Group Axis	ALT+G
Group Assembly	CTRL+G
Attach	Shift+G
UnGroup	U
Offline Visualizer Shortcuts	
File New	Ctrl+N
File Open	Ctrl+O
File Save	Ctrl+S
Edit Fixture Layers	Ctrl+F
Edit Object Layers	Ctrl+L
3D Camera	Ctrl+0
Front Camera	Ctrl+1
Back Camera	Ctrl+2
Left Camera	Ctrl+3
Right Camera	Ctrl+4
Top Camera	Ctrl+5
Bottom Camera	Ctrl+6
View complete scene	Ctrl+7
Camera Undo	Alt+Z
Camera Redo	Alt+Y
Picked Fixture Properties	Alt+Enter
Camera Properties	Alt+Shift+Enter
Normal Screen Mode	F2
Full Screen Mode (Toolbar's visible)	F3
Max Screen Mode (Only scene visible)	F4
Start current Fast Focus Operation	F
Camera Zoom	Z
Camera In/Out	X
Camera Inspect	C ((Rotate around picked fixture only when window is in 3D view)
Camera Pan	V
Camera Swivel (rotate camera)	Alt+V (only when window is in 3D view)
Display Timing information	Ctrl+T
Display DirectX memory information	Ctrl+M
Mouse Functions	

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LMB = Left Mouse Button, RMB = Right Mouse Button, MMB = Middle Mouse Button	
LMB	Pick objects
LMB + CTRL	Pick objects and keep other selections
LMB + Mouse Drag	Clear selection, Clear Pick, Select all objects inside rubber band box
LMB + SHIFT + Mouse Drag	Clear selection, Clear Pick, Select all objects inside and touching rubber band box
LMB + ALT + Mouse Drag	Clear selection Clear Pick, Select all touching the dragged line
LMB + CTRL + Mouse Drag	Select all objects inside rubber band box
LMB + CTRL + SHIFT + Mouse Drag	Select all objects inside and touching rubber band box
LMB + CTRL + ALT + Mouse Drag	Select all touching the dragged line
RMB + Mouse Drag	Zoom Rectangle
MMB + Mouse Drag	Camera PAN
Mouse wheel	Zoom on Cursor position
MMB Double Click	Full View for current view
Nudge Functions	
Move	
Arrows key	Starts with a move of 1 pixel. Holding down the key will keep moving, slowly accelerating.
SHIFT+Arrows key	Starts with a move of 10 pixels. Holding down the key will keep moving, slowly accelerating.
Scale	
Arrows key	Starts with a move of 1 pixel. Holding down the key will keep moving, slowly accelerating.
SHIFT+Arrows key	Starts with a move of 10 pixels. Holding down the key will keep moving, slowly accelerating.
Rotate	
Arrows key	Starts with a rotation of 1/10th of a degree. Holding down the key will keep rotating, slowly accelerating.
SHIFT+Arrows key	Starts with a rotation of 1 degree. Holding down the key will keep rotating, slowly accelerating.
CTRL+Arrows key	Starts with a rotation of 45 degrees. Holding down the key will keep rotating in steps of 45 degrees.

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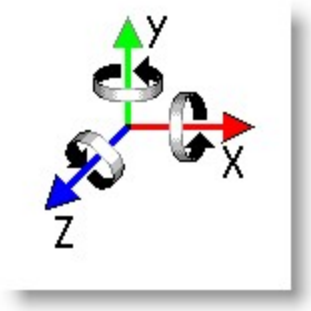
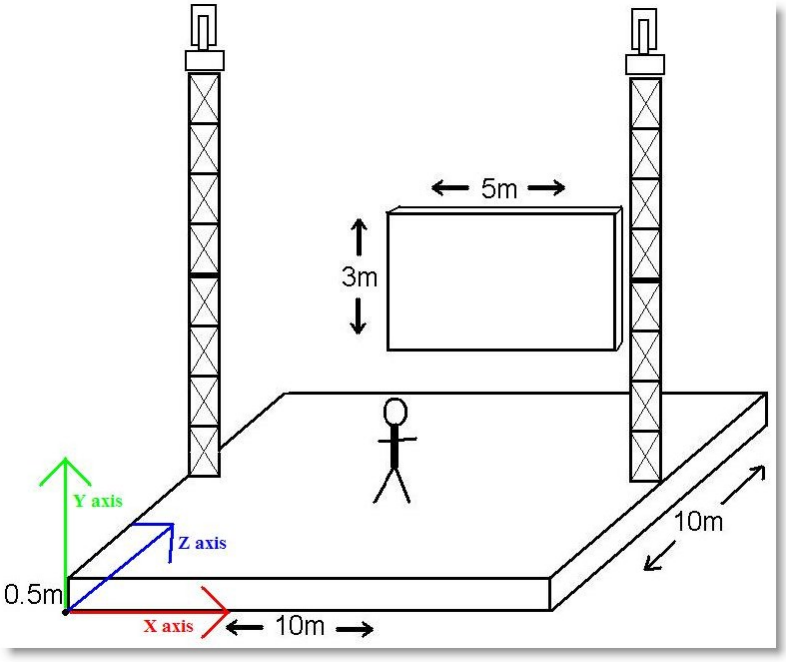
3.3 System Axis

Because MSD is a three-dimensional (3D) graphical program, a system with three axes has to be determined: the X-axis, Y-axis and Z-axis.
These axes represent the spatial horizontal, vertical and depth axis respectively.
In the program, the **X-axis** is red, the **Y-axis** is green and the **Z-axis** is blue.



X is from Left to Right
Y is from Up Down
Z is from Back to Front\



NOTE: If (in case of a window) the horizontal, vertical and depth axes are mentioned, these axes concern the window axes.
These window axes are not necessarily the same as the spatial X-, Y- and Z-axis.

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Note: Most CAD systems, use a right-handed coordinate system. However in these environments the Z axis defines height, not depth. This stems back to 2D CAD systems where X, Y is the drawing plane. When extended to 3D, Z became the height above the drawing plane.

In 3D World we tend to look at things like a human normally do ie.: When referring to a three-dimensional plane, a z-axis refers to the depth of a three-dimensional object. When referring to the other axis planes, x-axis refers to the horizontal width and y-axis refers to the vertical height of the object.

3.4 Fast-Swtich

Often it is necessary to open a scene already open in one module into another module In MSD the same file cannot be open in multiple modules at the same time.
Example you are working on a scene and an object from that scene need to be modified in modeler or a scene in 3D Visualizer need to be open in ShowDesigner for modification.

The Fast-Switch allow this operation to be done ...well fast...!

Available in the toolbar as well as in the File menu are three items

Fast-Switch to ShowDesigner
When click the current scene will close from the current module and re-reopened in the ShowDesigner module.

Fast-Switch to Modeller
When click the current scene will close from the current module and re-reopened in the Modeler module. (if an object was selected it will be open)

Fast-Switch to 3D Visualizer
When click the current scene will close from the current module and re-reopened in the 3D Visualizer module.

Fast-Switch to Paper
When click the current scene will close from the current module and re-reopened in the Paper module.

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Part IV

4 ShowDesigner

Menu

Layout

Camera

Fixtures

Objects

Grouping objects and fixtures

Fixture Block

Scene Block

Dynamic Objects

Material and Textures

Rendering

Layers

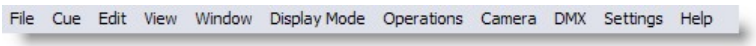
Cuelist

Dmx Control

Printing

Fast Patch

4.1 Menus



File
Cue
Edit
View
Window
Display Mode
Operation
Camera

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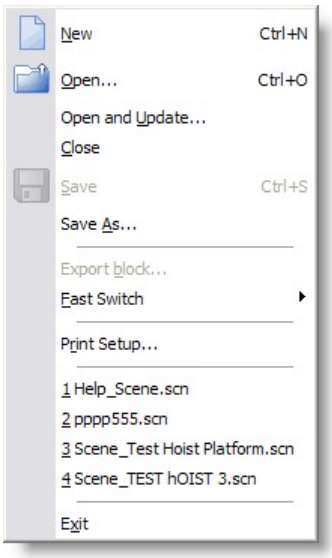
DMX
Settings
Help

File Menu



You will use the entries in this menu to open, close and save files, setup the printer, get information about the program and exit the program.

File | New

Shortcut : **Ctrl+N**
This menu is used to create a new scene. The system will ask to save any changes to the current scene if a scene is already open. The new scene will read the file 'Default.spt' in the spot directory for all the default fixtures.

File | Open...

Shortcut : **Ctrl+O**
This menu is used to open an existing scene. You will be presented with the standard file dialog in the scenes directory.

After you have selected a scene, the current scene will be closed and the new scene will be opened.

If the current scene was changed since the last save you will get the opportunity the save these changes or cancel the open command.

File | Open and Update..

Like the above Open command except that all fixture definitions are fetch into the Spots folder and replace with the new ones.

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Example, new fixture definition include new 2D symbols for printing. so to update scene made with previous fixture definition, use the Open and Update

File | Close
Use this menu item to close the current scene. If the current scene has any unsaved changes you will get the opportunity to save these before the scene is closed.

File | Save

Shortcut : **Ctrl+S**
Save is used to save the current scene. If the current scene was never saved before, you must enter a name for the new scene.

File | Save As...
This menu item is used to give the scene a new name. If you use this option you must select a new name for the scene. The scene is then saved using this name. Any subsequent saves of the scene will be done using this name.

File | Export Block...
Use Export Block to save a portion of a scene as a Scene Block or Fixture Block

File | Fast-Switch
Use Fast-Switch to open the current scene into another module. See Fast-Switch for more details

File | Print Setup...
This option allows you to setup the current printer.

File | Recent files
Here you will find the 4 last saved/opened files. By selecting one of these files you can open the selected scene.

File | Exit
Shortcut : **Alt+F4**
This option will shut down the program. If there is a scene open and if this scene has any unsaved changes you will be asked to save these changes or cancel the operation.

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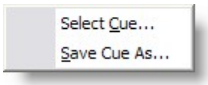
Cue menu



Cue | Select Cue...

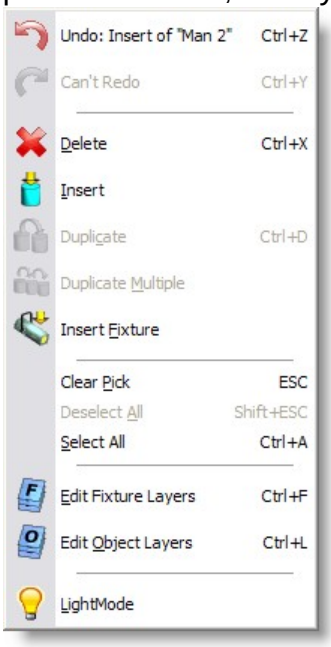
This option shows the Cue List.

Cue | Save Cue As...

See Cue List for more details

Edit menu

You will use the entries in this menu to delete, copy and insert objects and fixtures, clear pick or selection, edit layers and switch between 'Light Mode' and 'Normal Mode'.



Edit | Undo

Shortcut : **Ctrl+Z**

This option will undo the last action (if there is one). The text after 'Undo' indicates the nature of the last action.

Edit | Redo

Shortcut : **Ctrl+Y**

This option will redo the last 'undone' action (if there is one). The text after 'Redo' indicates the nature of the last 'undone' action.

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Edit | Delete

Shortcut : **Ctrl+X**

This option will delete the picked object.

Edit | Duplicate

Shortcut : **Ctrl+D**

This option will copy the picked object. When you click with your left mouse button inside a window, the copy will be inserted into the scene.

If you keep the mouse button down, you can directly move the inserted copy around until you release the mouse button.

Edit | Duplicate Multiple

This option will make multiple copies of the picked object. When you click with your left mouse button inside a window, a dialog will appear.
See Duplicate Object or Fixture

Edit | Insert

This option allows you to insert an object from the object list into the scene. See Object List for more information about objects. When you click in a window after selecting this option a list of available objects will appear. The desired object will be inserted after clicking on it in the list.

Edit | Insert Fixture

This option allows you to insert a fixture from the fixture list into the scene. See Fixture List for more information about fixtures. When you click in a window after selecting this option a list of available fixture manufacturers will appear. When you move your mouse over the desired manufacturer, all available fixtures from that manufacturer will appear. The desired fixture will be inserted after clicking on it in the list.

Edit | Clear Pick
Shortcut : **ESC**
This option clears the current pick. If you had something picked, it will be unpicked.

Edit | Deselect All
Shortcut : **Shift+ESC**

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This option clears the selection. If you have one or more objects selected, they will be de-selected.

Edit | Edit Fixture Layers

Shortcut : **Ctrl+F**
When you select this option, a dialog will appear. See Layers for more details

Edit | Edit Object Layers

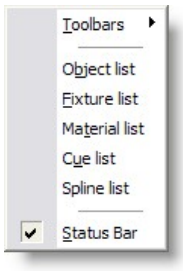
Shortcut : **Ctrl+L**
When you select this option, a dialog will appear. See Layers for more details

In this dialog, you can edit the object layers. You can edit the name of a layer by clicking in the left box (layer line will become active), and then clicking in it again. You can then edit the existing name or enter a new name. You can make one of the layers 'Active'. This means that any new objects will be placed on that layer. In the 'Visible' column, you can select which layers are visible or hidden. The 'Active' layer must be visible, because otherwise, you would not see objects you add to the scene.

Edit | LightMode

This option activates and deactivates the LightMode. When you are working in LightMode, you can only pick fixtures. All other objects are ignored when you try to pick something.

View menu



You can use the entries in this menu to view or hide the toolbars holding the buttons, the different lists and the status bar at the bottom of the main window. If an item is visible a check mark will be displayed in front of the menu item.

View | Toolbars

This menu is used to show or hide the toolbars. For an overview of all the buttons in the

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toolbars you can look at the Icon topic.

View | Object list...
This option shows the Object List window. In this window you can delete, rename and import objects. In a new scene this list will be initially empty.

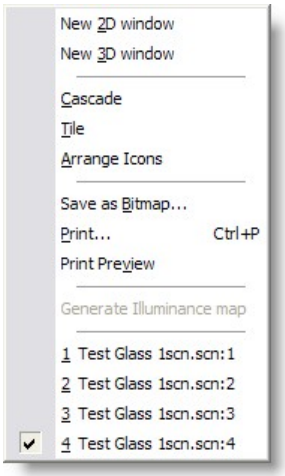
View | Fixture list...
This option shows the Fixture List window. In this window you can delete, rename and import fixtures.
In a new scene this list will contain all fixture reads from the 'Default.spt' file in the spot directory. See this Topic to change this behavior.

View | Material list...
This option shows the Material List window. In this window you can edit, copy, import, delete and create new materials. In a new scene this list will be initially empty.

View | Cue list...
This option shows the Cue List window. In this window you can edit, delete and create new cues. In a new scene this list will be initially empty.

View | Status Bar
This menu is used to show or hide the status bar.

Window menu



You will use the entries in this menu to open or arrange windows and to save or print windows.

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Window | New 2D window
This option opens a new 2D window.

Window | New 3D window
This option opens a new 3D window.

Window | Cascade
This option will arrange all open windows to be all the same size, stacked one on top of another.

Window | Tile
This option will arrange all open windows to be tiled side by side, so all windows will be totally visible.

Window | Arrange Icons
This option will arrange all icons at the bottom of the main window.

Window | Save as Bitmap...
This option allows you to save a window as a Windows bitmap (BMP) or a jpeg image (JPG).

Window | Print...

Shortcut : **Ctrl+P**
This option allows you to print a window. The print will always be in wireframe mode.
See Printing in ShowDesigner Module for more details

Window | Print Preview
This option allows you to preview how a window will be printed.
See Printing in ShowDesigner Module for more details

Window | (Opened windows)
Here you will see how many windows you have open and which is active. You can activate a specific window by choosing its menu item.

Display Mode menu

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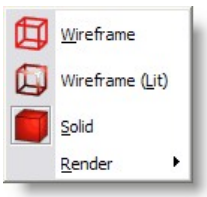
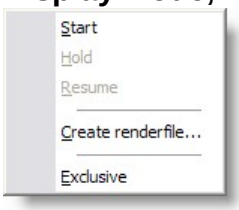


This menu allows you to select the display mode of a window. It gives you a range of representations of a scene.
See Display Mode for more details

Display Mode | Render

Display Mode, Render menu



This menu will only be available in a 3D window. It allows you to realistic render your scene, taking into account lighting, reflection, shadows, smoke etc.

See Rendering for more details

Display Mode | Render | Start
The start option will start the rendering of the scene.

Display Mode | Render | Hold
The Hold option will temporarily stop rendering the window. This might be useful if you are rendering a complex scene. By setting the rendering on hold, you get more time to do other things (in this application or another). This option is only available if you are currently rendering in the window.

Display Mode | Render | Resume
The Resume option will resume rendering a window, which was previously stopped by using the Hold option. This option is only available if the window is currently in a 'hold rendering' mode.

Display Mode | Render | Exclusive
The Exclusive option is a special case of the Start option. The exclusive option will also start rendering a window, but if you choose this option, the ShowDesigner application will

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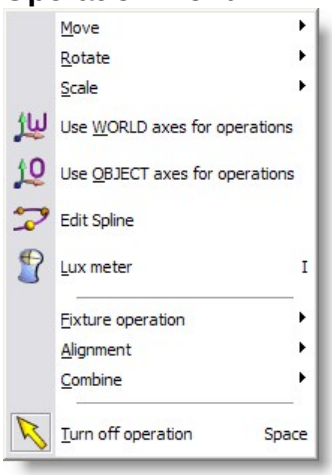
turn its full attention to the rendering process. This means that nothing else can be done with the ShowDesigner until the rendering process is completed. It can not be stopped! So be very careful to use this option. The only advantage of this way of rendering is that it is faster.

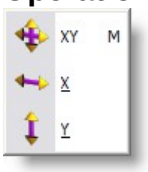
Display Mode | Render | Create Render file
Use this to create a render for the Fast Net-Render

Operation menu



This menu allows you to start an operation on one or more objects and/or fixtures.

Operation | Move menu



The Move operations allow you to interactively manipulate the position horizontally and/or vertically by moving the mouse.

Operation | Move | XY

Shortcut : **M**
This option allows you to move an object or fixture both horizontally and vertically.

Operation | Move | X

This option allows you to move an object or fixture only horizontally.

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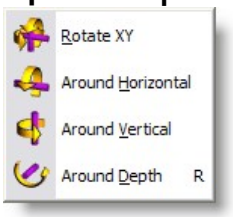
Operation | Move | Y

This option allows you to move an object or fixture only vertically.

Operation | Rotate



The Rotate operations allow you to interactively manipulate the orientation of an object or fixture.

Operation | Rotate XY

Shortcut : **R**
This option allows you to rotate an object or fixture around both the horizontal and vertical axis.

Operation | Around Horizontal

This option allows you to rotate an object or fixture around the horizontal axis.

Operation | Around Vertical

This option allows you to rotate an object or fixture around the vertical axis.

Operation | Around Depth

This option allows you to rotate an object or fixture around the depth axis.

Operation | Scale

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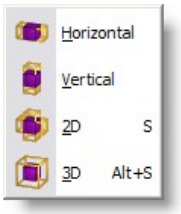

The Scale operations allow you to interactively manipulate the size of an object.

Operation | Scale | Horizontal

Shortcut : **S**
This option allows you to scale an object horizontally.

Operation | Scale | Vertical

This option allows you to scale an object or vertically.

Operation | Scale | 2D

This option allows you to scale an object horizontally and vertically.

Operation | Scale | 3D

This option allows you to scale an object uniformly by scaling the whole object by the same amount.

Operation | Lux meter

Shortcut: **I**
This option activates and deactivates the Lux meter.
See Lux Meter for more details...

Operation | Fixture Operation |

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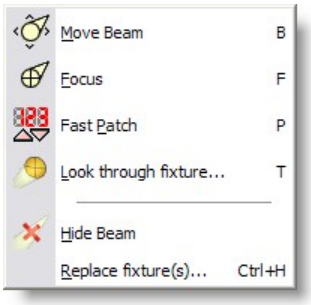

The Fixture operations allow you to manipulate one or more fixtures.

Operation | Fixture Operation | Move Beam

This option allows you to move the focus point of one or more fixtures, relative to its or their position(s).

Operation | Fixture Operation | Focus Beam

Shortcut: **F**
This option allows you to focus one or more fixtures on the point you click, and then drag the focus.

Operation | Fixture Operation | Look through fixture...

This function allow you to see as if you were inside the fixture looking out by the lens.
See Look Through Fixture topic for more details

Operation | Fixture Operation | Fast patch

Shortcut: **P**
This option allows you to patch fixtures using the mouse
See Fast-Patch for more details

Operation | Fixture Operation | Beam Hidden

This option allows you to hide/show the beam of the picked fixture.
See Preferences Options for more details on this

Operation | Fixture Operation | Replace Fixture...
Shortcut: **CTRL+H**

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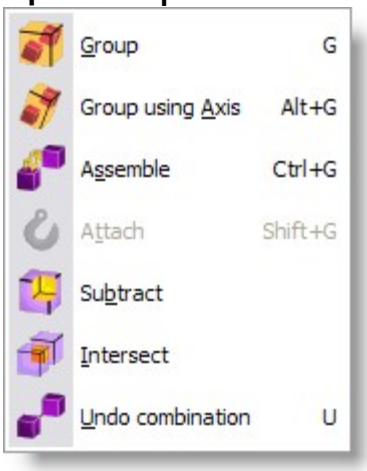
This option allows you to replace a fixture by another fixture. The fixture will have the same position, patch address and focus point. Other settings will be read back from DMX.
See Replace Fixture for more details

Operation | Alignment menu

Operation | Alignment | Align Chain
This option allows you to align two or more selected objects in a chain like way.
See Align for more details

Operation | Alignment | Align...
This option allows you to align one or more selected object(s) to the active (picked) object. When you select this option, a dialog will appear.
See Align for more details

Operation | Combine menu



Operation | Combine | Group

Shortcut: **G**
This option allows you to group the selected objects together. The resulting group can be treated as a single object from then on. Such a group can always be split again by picking it and selecting the 'UnGroup' operation.

Operation | Combine | Group using Axis

Shortcut: **ALT+G**

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This option allows you to group the selected objects together. The resulting group can be treated as a single object from then on. Such a group can always be split again by picking it and selecting the 'UnGroup' operation.

Operation | Combine | Assemble

Shortcut: **Ctrl+G**
Assembly grouping is similar to normal grouping except that fixtures in the group are still accessible individually.
A good example of an assembly would be a bar of 4 PARs

Operation | Combine | Attach

Shortcut: **Shift+G**
Use Attach to link Dynamic Objects with other objects.
See Dynamic Object for more details...

Operation | Combine | Subtract

See Subtractive Grouping

Operation | Combine | Intersect

See Intersect Grouping

Operation | Combine | UnGroup

Shortcut: **U**
This option allows you to split a group into its components. Each component will be added to the selection.

Operation | Turn Off Operation

Shortcut: **Spacebar**
This option turns off all current operation.

Camera Menu

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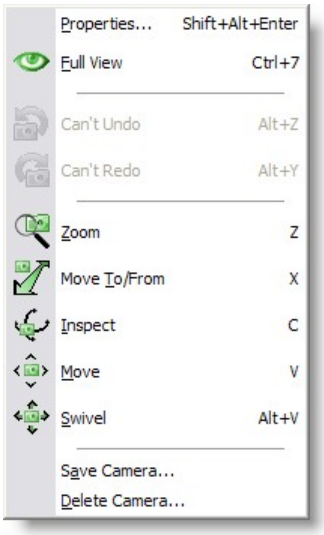

This menu allows you to manipulate the camera of a window.
See Camera for more details

Camera | Properties
For information on the camera properties

Camera | Full View

Shortcut: Double click middle mouse button
This option will try to adjust the camera so that the entire scene will be visible in the current view.

Camera | Full View All

This option will try to adjust the camera so that the entire scene will be visible in all views.

Camera | Zoom

Shortcut: **Z**
This option allows you to interactively zoom in/out. In 2D windows, the scale will change and in 3D windows, it will be the camera angle that changes.

Camera | Move To/From

Shortcut: **X**
This option allows you to move the camera to and from. In 2D windows, this does the same as the 'Zoom' operation. In 3D windows, the camera is moved forwards or

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backwards.

Camera | Inspect

Shortcut: **C**
This option allows you to inspect an object by moving the camera around a point. In 2D windows this can only be done if you have an active (picked) object. The camera will move around the center of the object. In 3D windows the camera will move around the center of an active object if there is an active object, otherwise the camera will move around the focus point of the camera.

Camera | Move

Shortcut: **V**
This option allows you to pan up, down, left and right the camera.

Camera | Swivel

Shortcut: **Alt+V**
This option allows you to look around with the camera. In 2D windows, you can move around then view plane, and in 3D windows you can look around by tilting the camera from left to right and from top to bottom.

Camera | Save Camera...
This option allows you to save a 3D camera position, giving it a name. The camera will be stored with the scene file.

Camera | Delete Camera...
This option allows you to delete one or more cameras (from this scene file).

DMX menu

You will use the entries in this menu to select and setup a DMX driver and to change DMX input/output options.
See DMX for more details

DMX | Follow

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The follow option will turn on/off the follow mode. If the follow mode is active, The program will be sampling the incoming DMX and update the stage settings accordingly, until you turn the follow mode off.

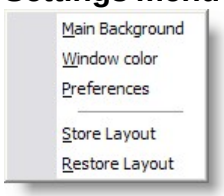
DMX | Snapshot
The Snapshot option will sample the incoming DMX once and update the stage settings accordingly.

DMX | Setup Driver...
This option allows you to change the settings of the current driver. What kind of settings (if any) are available depends on the active DMX driver.

DMX | Select Driver...
This option allows you to select which of the installed DMX drivers you want to use. If you select another driver, it will be used the next time you run the program. In other words, you have to exit and restart the program to have the change of DMX driver take effect.

DMX | Motor Map...
This option allows you to patch Dynamic Objects to DMX channel.

Settings menu



This menu allows you to adjust the appearance and preferences.

Settings | Main Background
This option allows you to change the appearance of the background of the main application window.
See settings for more details

Settings | Window color
This option allows you to change the background color of the 2D-and 3D windows.
See settings for more details

Settings | Preferences

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In the preferences dialog you can set your preferences. Some are local (apply only to the ShowDesigner module), some are global (they may apply to all Martin ShowDesigner modules). The preferences are arranged into groups, with each it's own page (page). Each page ('Render Settings', 'Snap', 'Grid', 'Units', 'Detail', 'Gamma', 'Auto Save', 'Paths' and 'DirectX driver') will be explained next.
Render Settings page
See Settings for more details

Help Menu

Help | Contents
Shortcut : **F1**
This option will display this help text.

Help | About ShowDesigner...

This option will display a window in which you can get information about the program. By clicking on the info button you will see information about the current installed version, the installation date, the serial number of the program and the name with which the program was installed. By clicking again on the (now 'Version') button, you

4.2 Layout

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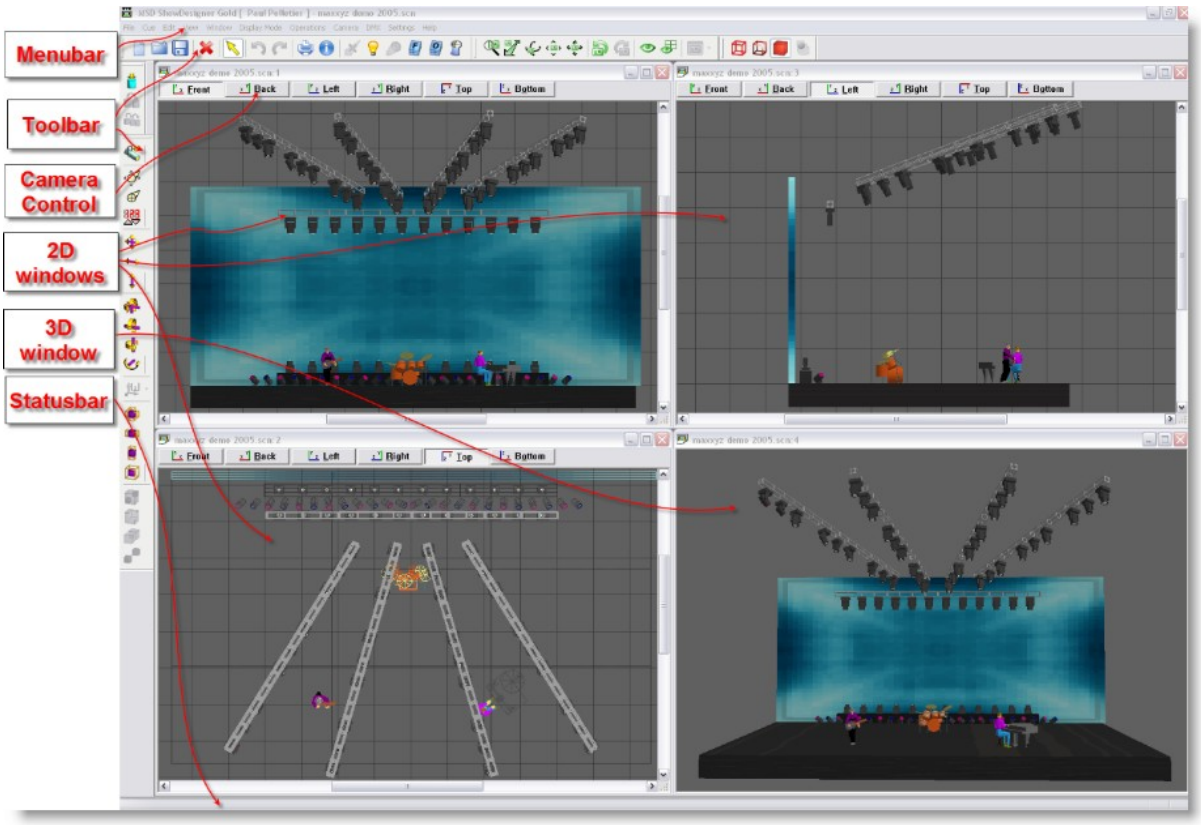

The application window has a menu bar, a status bar, toolbar's, 2D windows and 3D windows.
The menu bar will be covered in Menu the toolbar's in MSD Icons, 2D windows and 3D windows in Window Management.

To build a similar layout as above, simply insert 3 2D views and 1 3D view.
From window menu click Tile.
Set the 2D view one as TOP, one as Left and one as Front
In each view, set the Spot Beam Properties to Never
Then in the menu Settings, click on Store Layout.

4.3 Window Management

The program has 2 types of windows, namely 2D windows and 3D windows.
Each window has its own capabilities, although many are available in both.
You can not change one type of window into the other, but you can open as many windows of both types as you like.
(Opening a window can be done by selecting 'New 2D window' or 'New 3D window' from the menu (see 'Window Menu ').
Both types of windows are further explained in the following sections.

2D Windows

2D windows give you an orthographic view of your scene. You can work in one of six

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views, namely Front, Back, Left, Right, Top and Bottom.

- You can change between these views by clicking one of the 'Camera buttons' in the top of a 2D window. By clicking on the current (down) camera button, the position and scale of the camera will be adjusted so the entire scene will be visible. If only a part of the scene is visible (when you are zoomed in) you can pan through the scene with the vertical and horizontal scrollbars at the right and bottom of the window. You can also hold the middle mouse button and drag the mouse around to pan up, down, left and right
- The 2D window also has a grid to enhance orientation in the object. The size and color(s) of the grid can be set in Grid settings
- In the 2D camera properties dialog of a 2D window you can set the camera position, the scale and if the grid should be visible in this view.
- It can be viewed in wireframe mode or solid mode

Wireframe

Solid

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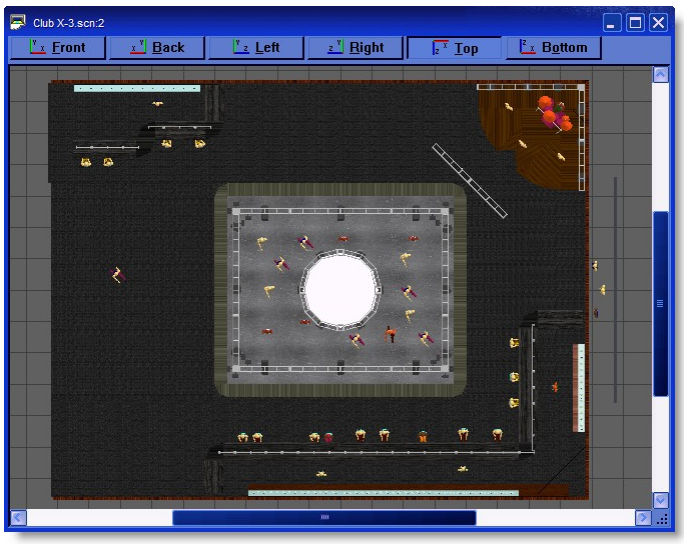

3D Windows

3D windows give you a perspective view of your scene. Here you can view the scene from any point and with different camera angles. The 3D window has some features the 2D window has not:

- You can use the 'Render' display mode to calculate a realistic image.
- You have an inspect mode, which will rotate your camera around the Y-axis of the scene. You can start and stop the inspect mode by clicking the right mouse button in a 3D window and selecting 'Other', 'Inspect Object' in the appearing context menu.
- In the 3D camera properties dialog of a 3D window you can set the camera position, the focus point (the point you are looking at) and the camera angle.
- It can be viewed in wireframe mode or solid mode

Wireframe

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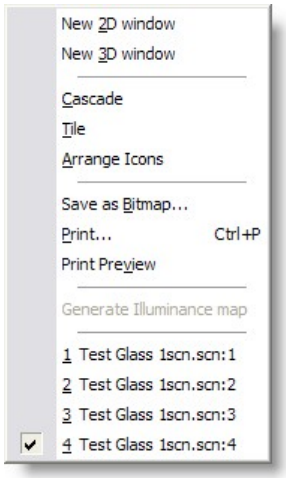
Solid

Using multiple windows

So far we have only had one window open. It is possible to open up as many windows as you like at the same, each one viewing your scene from a different angle. To get you started a simple 4 window set will do.

Click on the Window menu, then click on New 2D Window



· Repeat this process so you have 3 windows open

· Click on the Window menu again and click on New 3D Window

You should now have 4 windows open. Using the mouse you can move and resize the windows until they are laid to your satisfaction. To make it easier, open the Window menu again and click on Tile. You now need to save this setup, so you can go back to it again in the future.

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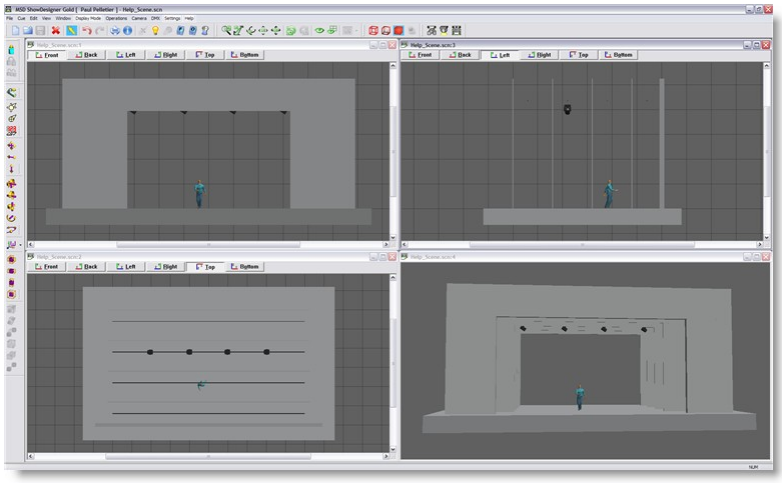
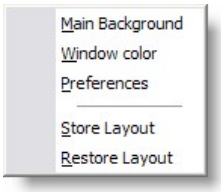


Click on the Settings menu, then click Store Layout



This will save the layout. To return to it at any time, click on the same menu and click Restore Layout.
If you wish to look at one view in more detail, simply click on the maximize button on the window itself. When you want to return to the previous view, click on the restore button.
2D views

See Using Camera for more details

Main Background
You can choose what you have as the main background, behind all the windows on the screen.
Click on Settings and then Main Background.
You then have a choice of nothing, using the main windows image or setting your own image.
See settings for more details

Window Color
To change the color of the background in each window, to something other than black, click on Settings and Window Color. Then choose your color from the list or create your own and click OK
See settings for more details

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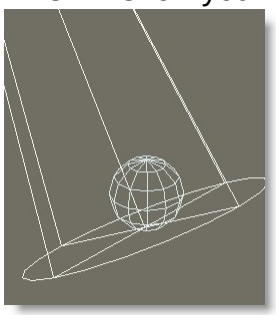
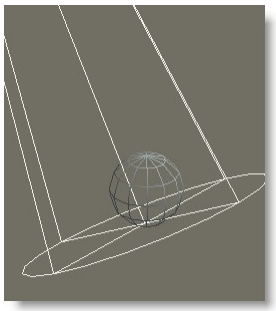
4.4 Display Mode

There are 4 different display modes (Wireframe, Wireframe lit, Solid and Render). Each display mode shows you a different representation of the scene.

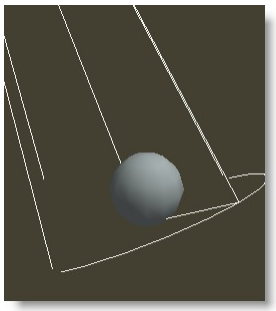
Wireframe
This option will show the objects in wireframe mode.
This will show your objects as solid lines with a single color.



Wireframe Lit
This option will show the objects in wireframe lit mode.
This will show your objects as colored lines, lit by a single light source.



Solid
This option will show the scene in solid mode.
This will show your objects as fast, solid, simple shaded objects, lit by a single light source.



Render
This option will calculate a realistic image of the scene, lit by the fixtures in the scene

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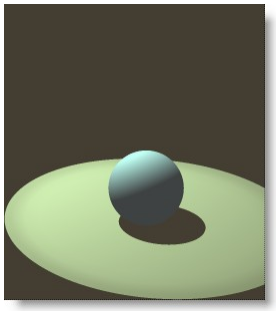
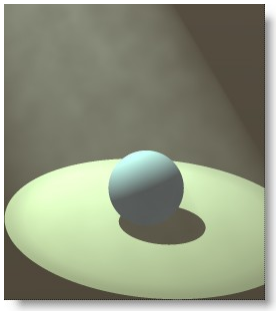
(with their fader, iris, zoom angle gels and gobo settings).
During the calculation of the image, shadows, reflections, transparency and even smoke can be taken into account.
Depending on the complexity of the scene and the selected options, this calculation may take a while.



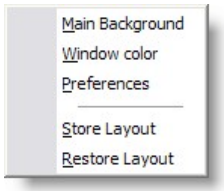
Render with Smoke



4.5 Settings

Various settings that can be change to tailor the MSD to your need.

From the menu click on Settings



Main Background

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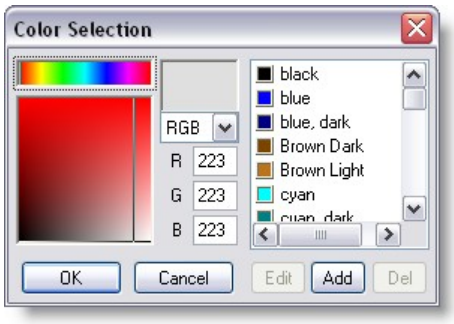
This option allows you to change the appearance of the background of the main application window.

Window Color



This option allows you to change the background color of the 2D-and 3D windows.
Use this to change background form a dark color to a light color or vice-versa to have a contrast between objects and background.

Click here for Preferences help

Store Layout

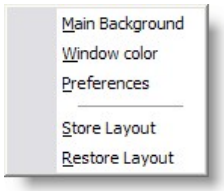
This option allows you to save the layout of the program. It will store positions and sizes of the application windows,
the 2D and 3D windows, and the lists (Object, Fixture, Material and Cue).

Restore Layout

This option allows you to restore the layout of the program by loading the saved settings.

4.5.1 Preferences

From the menu Settings, click on preferences



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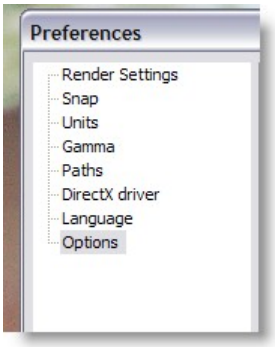


Render Settings

Object Snap

Units

Gamma

Paths

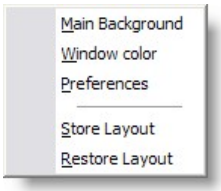
DirectX Driver

Language

Options
[****]

4.5.1.1 Rendering Default Settings

To set the default Rendering settings, from the menu Settings, click on Preferences



click on Render Settings

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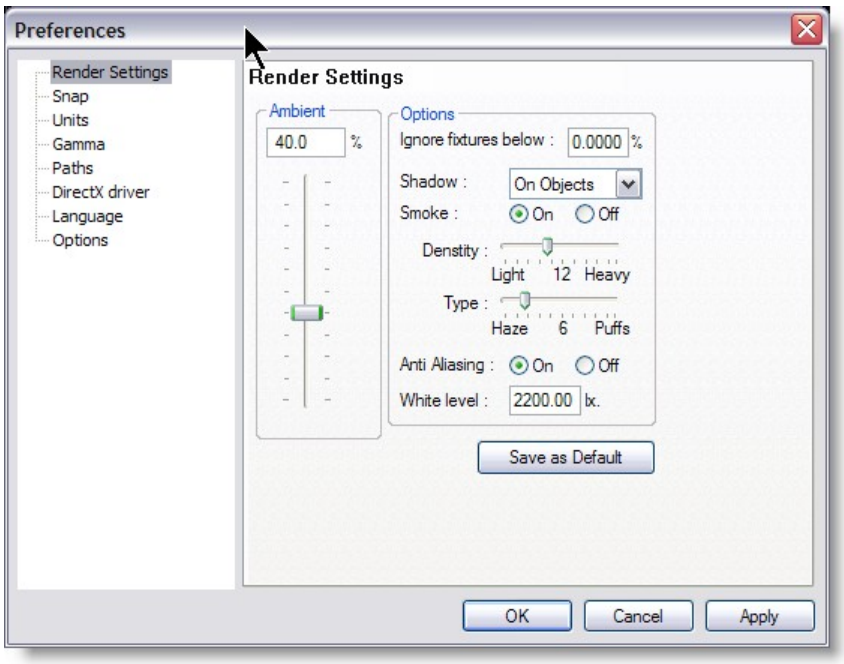
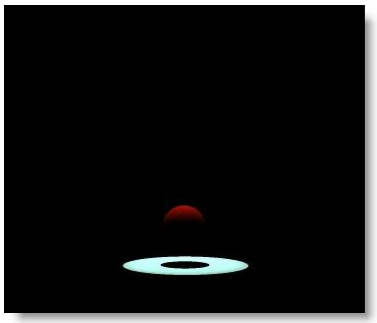


Default Render Settings

These settings are the one used when clicking on the Trace/Shadow icon while in a 3D view
The Same settings will appear in the alternative way to start a rendering.

- **Ambient**
  Controls the general lighting level in the scene.



Ambient @ 0%

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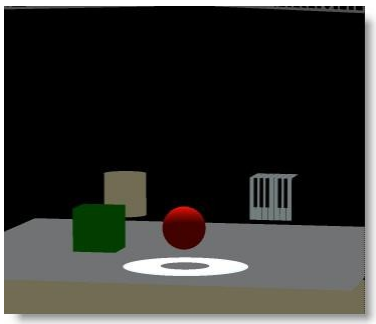
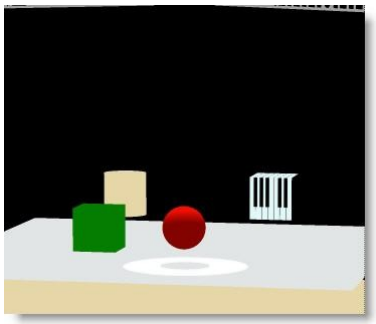


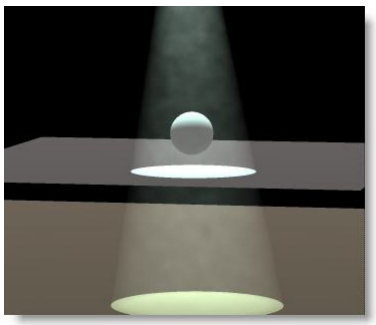
Ambient @ 50%



Ambient @ 100%

- **Ignore Fixture Below...**
  Any fixtures below the percentage set here will not be shown

- **Shadow**
  Controls whether shadows show up on objects, everything or nothing at all. Less shadows will take less time to render.



Shadow = None

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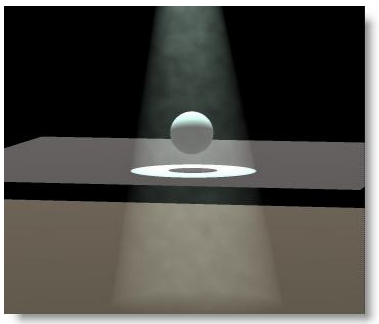
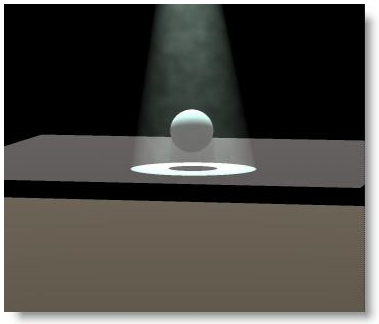
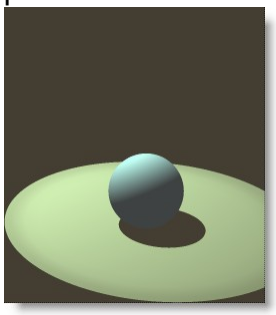


Shadow = On Object (smoke rays goes through objects)

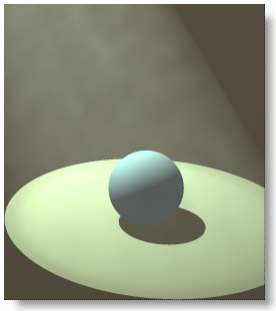


Shadow = Always

Smoke
Turns smoke or haze in the atmosphere on or off. Smoke on slows down the rendering process.



No Smoke



With Smoke

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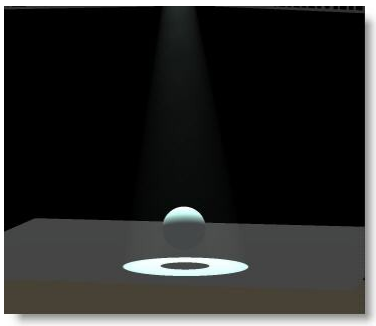
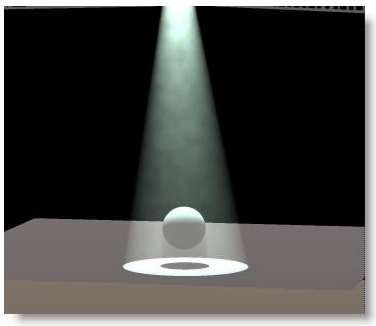
- **Smoke Density**

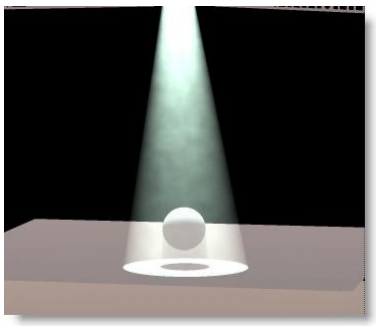
Controls the level of smoke in the scene.



Smoke Density @ 1



Smoke Density @ 15



Smoke Density @ 30

- **Smoke Type**

Controls whether the smoke is evenly spread out, like a haze machine or in puffs like it might be from a smoke machine.

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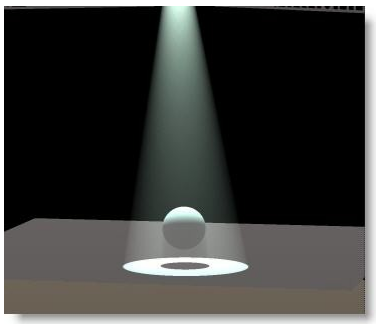
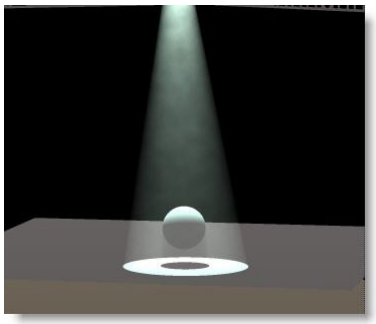
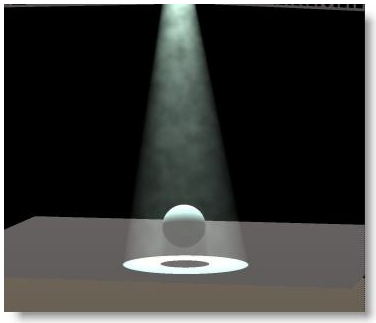


Smoke Type: Haze @ 1



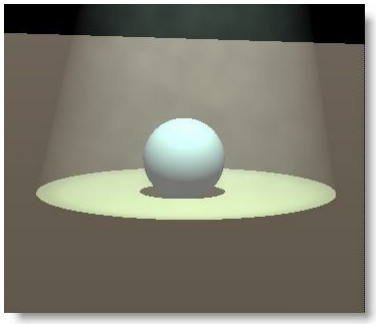
Smoke Type: Haze / Puff @ 15



Smoke Type : Puff @ 30

- **Anti-Aliasing**

Anti-Aliasing is a process that soften the edges in a rendering process. It does take a little more time, but makes rendering more natural.



Without Anti-Aliasing

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approximately-*Aliasing*

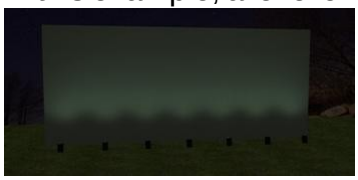
- **White Level**

Imagine the White level as the eyes sensitivity or camera sensitivity. It could be explained as the amount of light require to have a white surface looking white...

The default value of 2200.00 lux (200 foot candle) is appropriate for more stage rendering

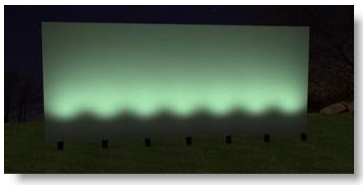
However, for exterior architectural rendering a setting of 800 lux (75 foot candle) could be more appropriate...

In a relatively low ambient light level, the eyes is more sensitive, let say 500 lux
In a normal ambient light level the lux level for white is approximately 2200 lux
In a situation when you have light blasting directly in the camera, a level of 5000 lux could be used...
Here's some example of the same scene render at different white level.
In this example, a level of 1000 lux appears to be normal.

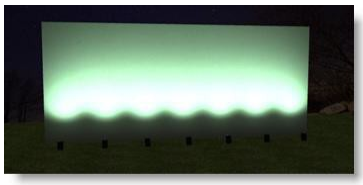


White Level @ 5000

White Level @ 2200 (Default)



White Level @ 1000



White Level @ 500

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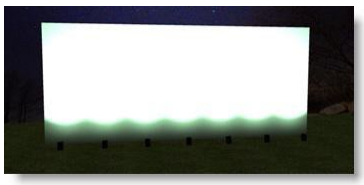
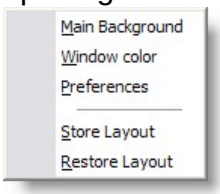


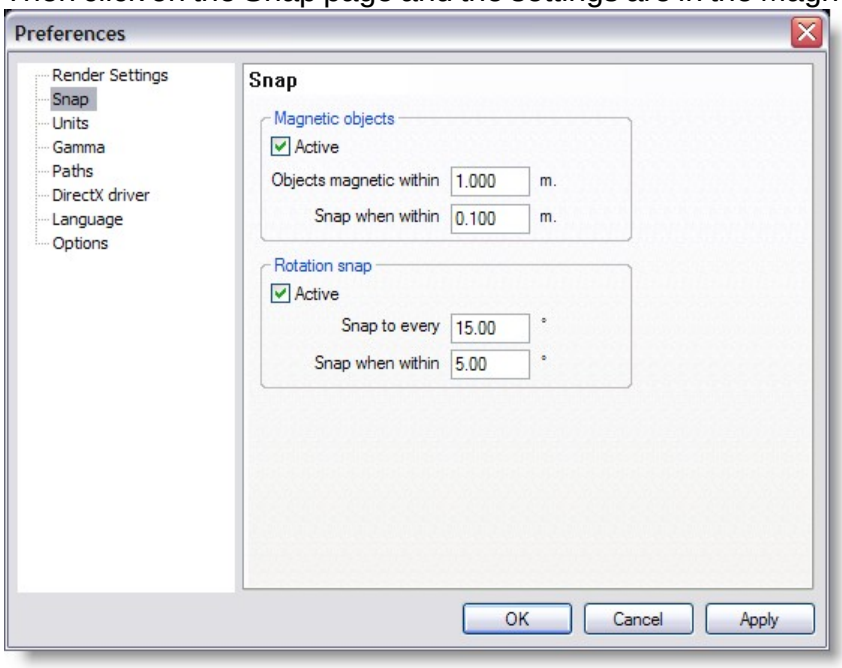
White Level @ 100

4.5.1.2 Object Snap

The magnetic snap effect.
The default settings for the magnetic snap system are set so an object will become magnetic when it gets within 1m of another object and it will snap the to the object when it's within 0.1m. You can adjust these settings by clicking on the Settings menu and opening Preferences.



Then click on the Snap page and the settings are in the Magnetic box.



You can even turn the magnetic effect off.
Here is how the effect works, this example assumes you leave the settings at their default value.

When objects are more than 1m apart, nothing happens.

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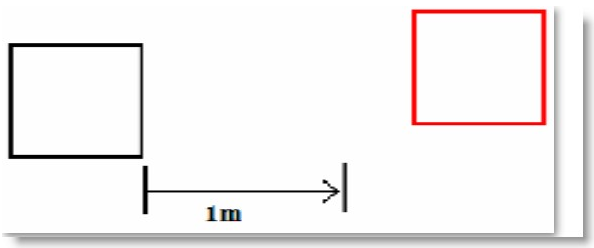
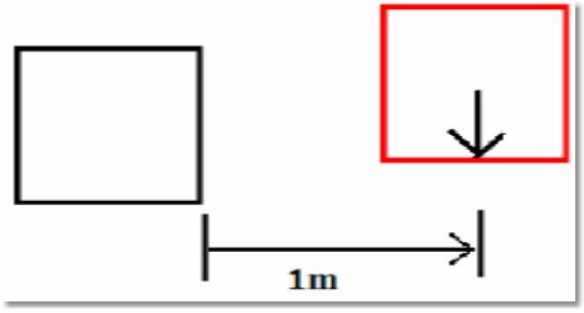
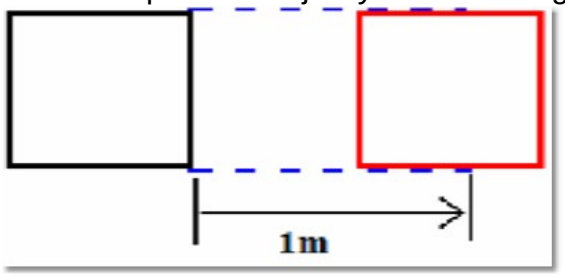


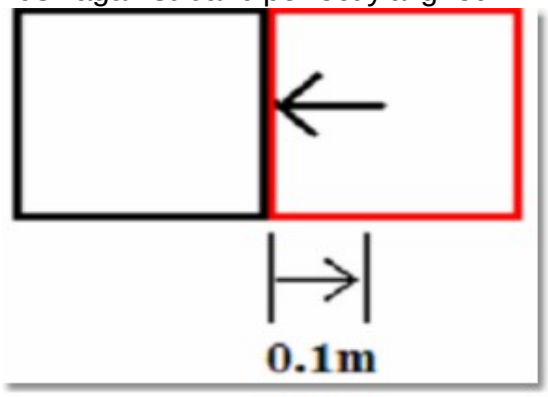
When you move an object to within 1m, the magnetic effect starts to work.



The effect pulls the object you are moving into alignment with the other object.



When you move the object to within 0.1m it is pulled up against the other object, so it is flush against it and perfectly aligned.



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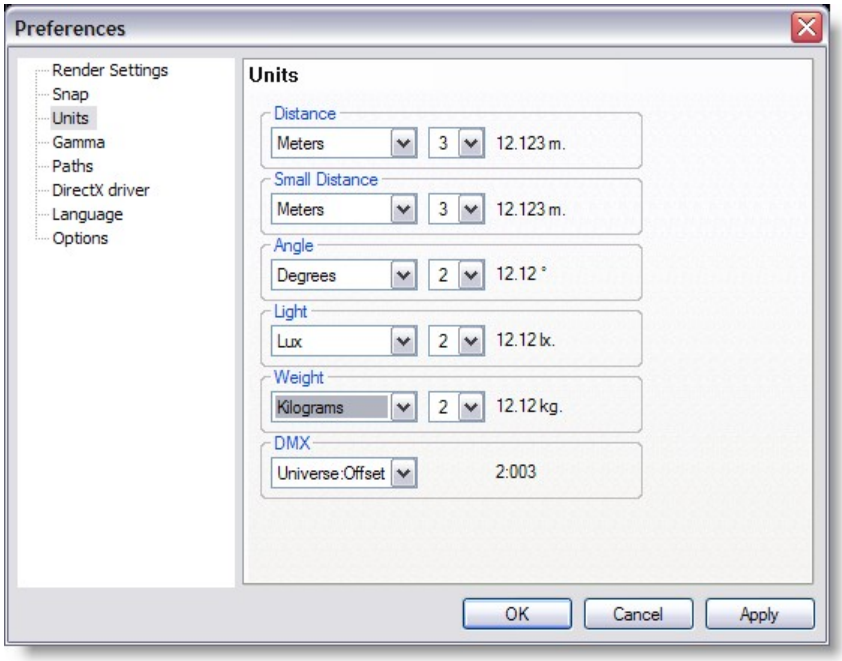
4.5.1.3 System Untis

The MSD can work in both Imperial or Metric system.
At any point in the creation process you can switch from one system to the other, call values will be converted as indicated
For each settings the precision (number of decimal digit) can be set.



Distance

Set the unit values to enter position and dimensions of objects

- Distance: Meters, Millimeters, Inches or Feet & Inches.

Imperial value must be enter as follow
1'2" = 1 foot 2 inches
When using Feet&Inches, enter a value with no comma or quote will be considered as inches

Metrics value can be set in Meters or Millimeters

Small Distance

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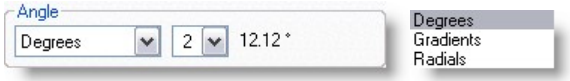
The small distance unit is used when the distance to enter is small like in the margins in paper or the line thickness when importing DXF.
When using metric units the normal distance unit is meter, but this would result in a lot of 0,00x numbers when dealing with these small sizes.
To make this more readable we added the extra small distance unit, so the user can display these small numbers in mm or inches.

Angle



- Angle: Degrees (360°), Radials (2p) or Gradients (400°).

The most common settings for Angle is Degree.
In some situation Gradient or Radial degree can be chosen.
See Formulas for more details in angle types

Light

- Light: Lux or Foot-candle.

In MSD, it is possible to calculate the amount of light at a specific point on a surface.
The light intensity can be displayed as Lux or FootCandle.

Weight

- Weight: Grams, Kilograms or Pounds.

In the Paperwork module, it is possible to see the fixture weight.
It can be displayed as Grams, Kilograms or Pounds.

DMX

Various ways of displaying DMX addresses are possible in MSD
Offset is the DMX address.
Universe is the DMX link

4.5.1.4 Gamma

The Gamma page contains global preferences for the way your monitor displays colors

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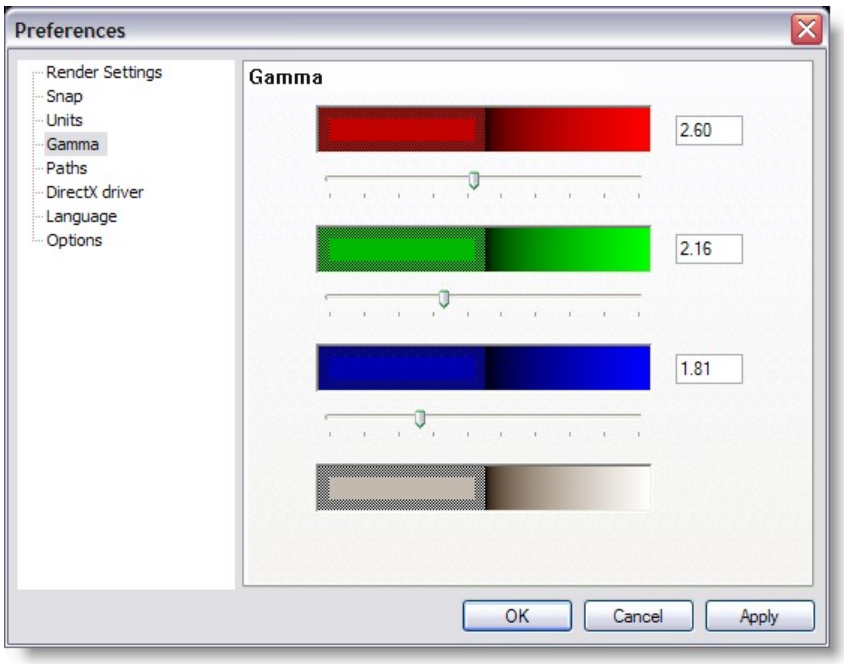

In this page you can set the way the program adjusts colors. Determining how the colors should be adjusted is done by using the three sliders and/or values.
There are four color sections, one for red, green, blue and gray each. Every section has an outer area and a center area. The outer area is a dithered pattern of pixels with luminance values of 0% and 100%, and the center area contains pixels with a luminance value of 50%. So to get correct values, the inner and outer area should be optically of the same intensity. Use the scrollbar and/or edit box to adjust the image's gamma level so that the inner areas and the outer areas are of equal brightness. The correction value that synchronizes their luminance is the gamma level of your monitor.

4.5.1.5 Paths

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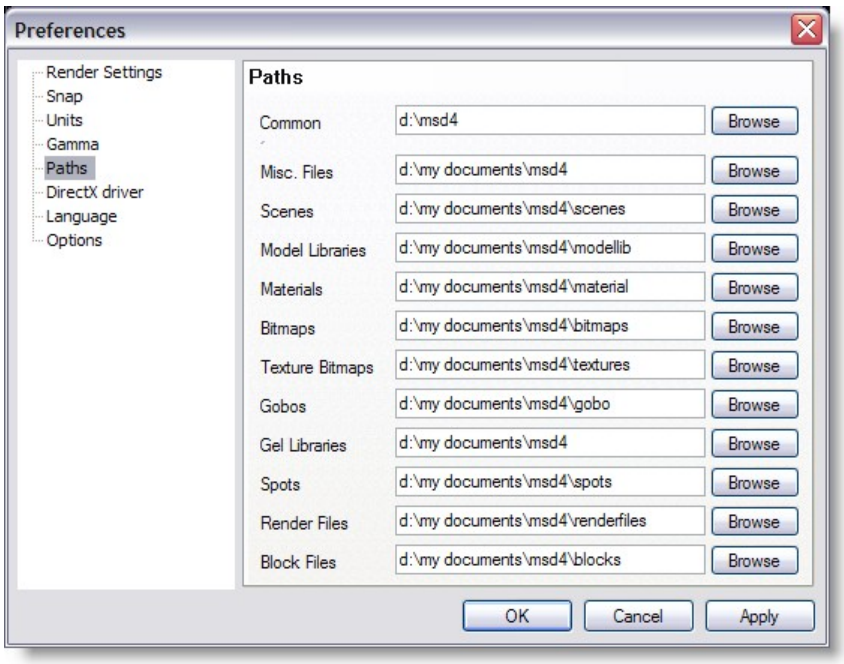

In the Paths page, the default paths to the different kind of files are set.
By default they point to the installed subdirectories. Normally you don't have to change any of them.

Common: Is the location of the default MSD files such as fixtures, textures, demo scenes etc...
By default the location is "C:\Documents and Settings\All Users\Documents\MSD4"

The other fields are the locations on user files, meaning the file you create.

When open a window to import or load something is MSD you will notice two buttons at the top left (User and Common)
Click one of the buttons to access the right folder set.

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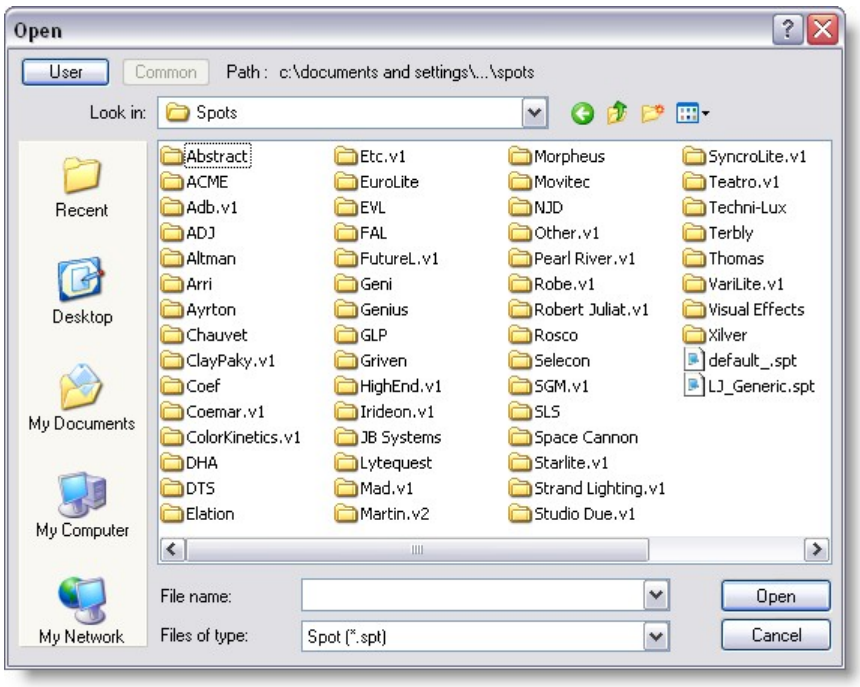

As a rule, put all the file you create or add manually to the user folder set and leave the Common folder as default.
Only add files to the common folder when updating from the official MSD library.
This will ensure the integrity of the files you use and also avoid that your modified library gets overwritten when updating the new library.

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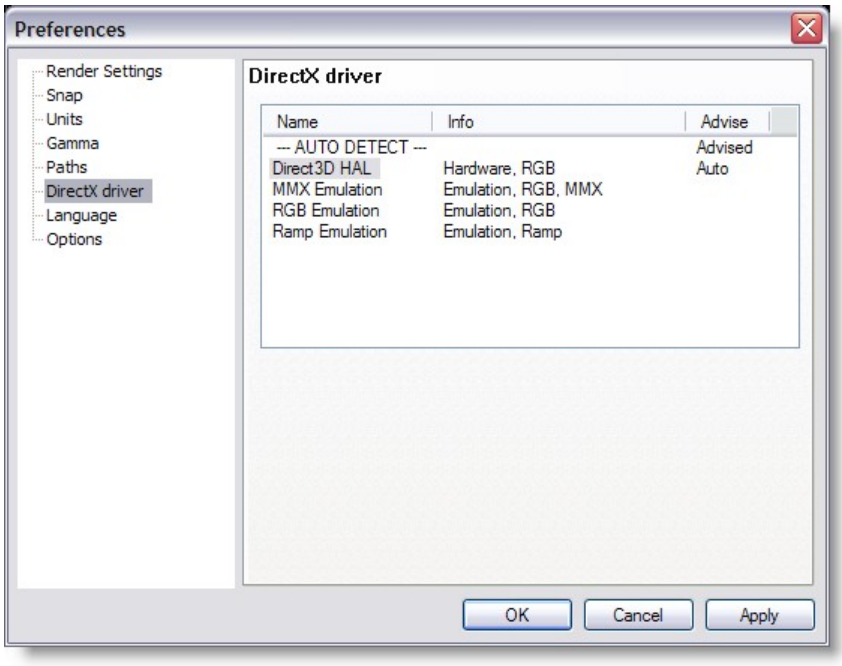
4.5.1.6 DirectX



In this page you see which DirectX drivers are available, and you can specify which driver you want to use.
The drivers are listed in order of preferred capabilities. Default, the first ('--- AUTO DETECT ---') will be selected.
When this option is selected, the program will automatically select a driver on its capabilities.
If you have problems with the automatically selected driver, you can override it by selecting one of the other drivers.

DirectX means all graphical calculation are handled by the Graphic Card processor
In MMX Emulation, the calculation are now handled by the main processor.
Generally DirectX mode is faster.

If you encounter some strange result in the display when using MSD, the first thing is to make sure you have the latest video driver for you Graphic Card.
Most video drivers that comes on the graphic card bundle CD are old drivers, so please check with the card manufacturer.

If updating the driver doesn't help, try switching to MMX emulation.

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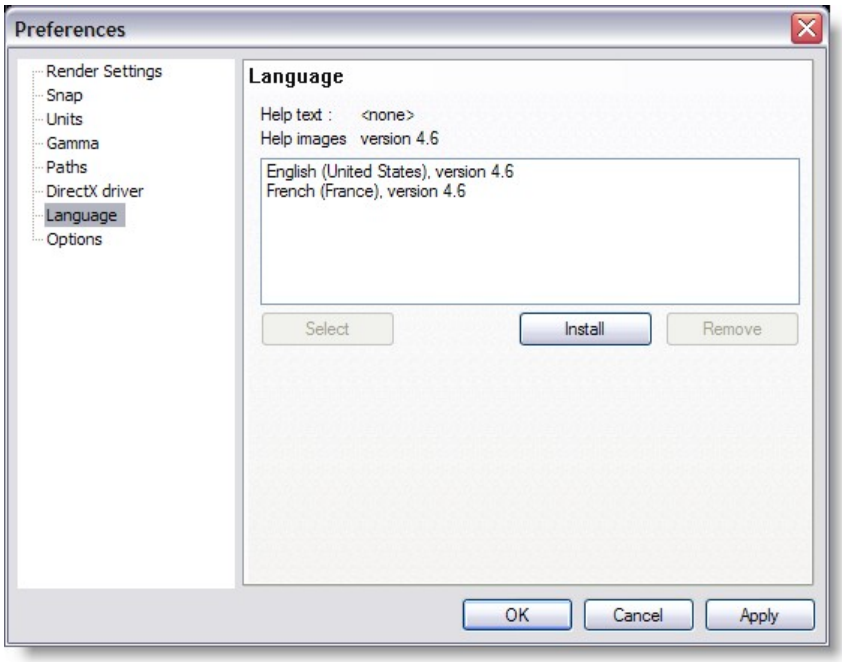
4.5.1.7 Language



In this page you see which help language is currently selected (and which are available).
You can select one from the available list by clicking on it and then press the 'select' button.
You can remove one or more languages by selecting them, and then click on the 'remove' button. (On Windows2000 this can only be done by a user with administrative rights)
You can (re)install help files (if available) by clicking on the 'Install' button, after which a dialog will appear.

In this dialog you will see all available language versions in the selected directory.
If there are no versions available, you can use the 'manual folder' button to browse to a directory which does contain a help version.
On the ShowDesigner CD, the folder you need is 'D:\manuals' (if D is your CDROM drive). From the available list you can install one or more versions by checking the checkbox in front of them, and then click OK.

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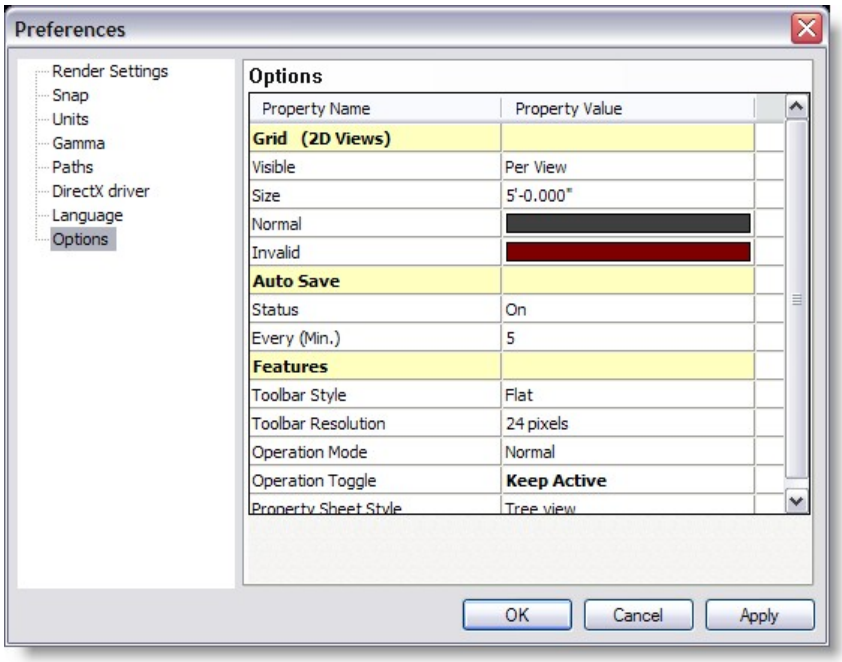
4.5.1.8 Preferences Options

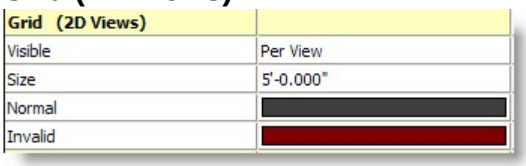


Grid (2D Views)

Auto Save

Features

Grid (2D Views)



You will have noticed that every 2D view has a grid in the background. The default setting for this grid is 1m. This means every square you see is 1m by 1m in size.
If you zoom out eventually you will notice the grid change. As the grid becomes impossible to use when you zoom out, it replaces it with a larger grid. It also changes the color to you know this has happened.
You can change the settings for your grid by going into the main Preferences window, (under the Settings menu) and clicking on the Grid page.

You have the option to change the size of the grid, the colors used and even decide if you want the grid on, off or on in some windows and off in others (per view).

If you wish to turn a grid off in one particular window:

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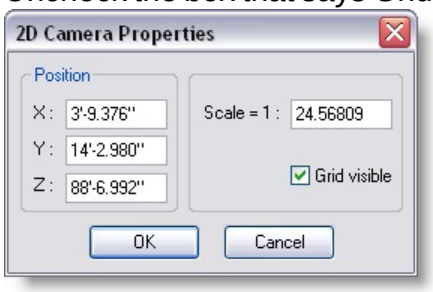
Ensure you have set the main preferences to '**per view**'

Back to the Show Designer window, Click on the 2D window you wish to change, to make sure it's active
Press Alt + Shift + Enter
Uncheck the box that says Grid Visible



Click OK

Auto Save

Auto Save	
Status	On
Every (Min.)	5

When set on a backup scene is saved at specified interval.
The back files are place is the User folder
The temporary file will look something like 'Backup 05_29_00 14_46_20.scn', which means its a Scene backup, created at 14:46 on May the 29th 2000.

Features

Features	
Toolbar Style	Flat
Toolbar Resolution	24 pixels
Operation Mode	Normal
Operation Toggle	**Keep Active**
Property Sheet Style	Tree view

Toolbar Style:

Toolbar Resolution:
24 Pixels are the new icon style, it's always possible to revert to the Classic icon...

Operation Mode:
The choices are Normal or Bounding box
This is the way objects are displayed while moving a camera view
In Normal the objects remain visible, bounding box will make the object disappear and show a wireframe box

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for slower video card bounding box can be use to accelerate the movement

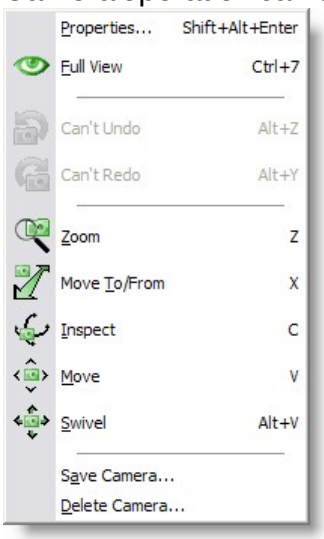
Operation Toggle
The choices are Toggle or Keep Active
In toggle mode, every time you press an hotkey such as M for move, the operation will be toggled (on or off)
In **Keep Active** mode, pressing a hotkey while this operation is already selected, the operation remain active.

Use the Spacebar or the Icon to turn off the current operation.

4.6 Camera

Camera on the Show Designer works very much like a camera in real world
You can move it, change where it's looking at and modify it's zoom.
Camera properties can be change using the mouse or can also be change in the Camera properties window

Camera operation can be choose from the Camera Menu...



...Or from the Camera Toolbar

You can view a 3D window from almost any angle you like. You have 5 camera movements you can use:

Camera Zoom [Hotkey Z]

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Holding the LMB and moving the mouse up or down will zoom the camera in and out.
Zoom Like on a real camera, zoom will allow you to zoom in or out of the scene

Camera In/Out [Hotkey X]
Holding the LMB and moving the mouse up or down will move the camera in and out.
Would be like walking towards your scene with the camera, instead of using the zoom

Camera Inspect [Hotkey C]
Holding the LMB and moving the mouse around will move the camera around a selected object or if no select is made, it will move around the focus point of the camera (see camera properties)

Camera Move [Hotkey V]
Holding the LMB and moving the mouse around will move the camera in and out.
Lift the camera up, down, left or right

Camera Swivel [Hotkey Alt+V]
Holding the LMB and moving the mouse around will move the camera direction
Point your camera in a different direction

Camera Undo [Hotkey Alt+Z]
Undo the last Camera change in the selected view

Camera Redo [Hotkey Alt+Y]
Redo the last Camera Undo in the selected view

Full View [Hotkey Ctrl+7]
Zoom the Camera to fully see the scene of the current view

Full View All
Zoom the Camera to fully see the scene of all views

Camera Selection (only in 3D window)
Press the down arrow and select a saved camera view

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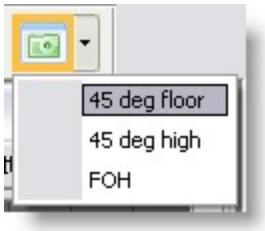

Or Press the icon and select the camera from the following window

Camera Properties

Save a Camera View

Delete a Camera View

4.6.1 Camera Properties 2D

In Show Designer, there are two type of Cameras; The one for 2D view and the one for 3D view
Camera can be move manually with the mouse(see Using Camera) or edited with values.

Every 2D window has six view buttons across the top. These can be used to view your scene from any of the 6 directions:

You can use the Zoom button and drag the mouse to zoom in and out. The mouse wheel will also do this, except it will zoom in on what ever the mouse is currently pointing at.
You can use the Camera Move button and drag the mouse to move the view around. The middle mouse button will also do this.

Camera Properties can be access in three ways
-With the hotkey SHIFT+ALT+ENTER
-From the right-click menu on a view
-From the menu Camera

2D Camera Properties

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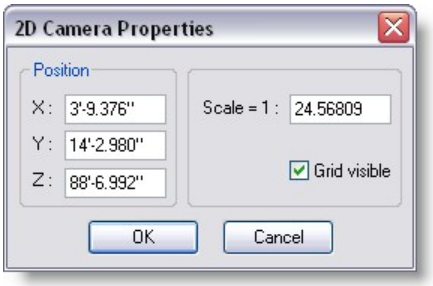

Position
X: Set the Camera position form left to right
Y: Set the Camera position form bottom to top
Z: Set the Camera position form front to back

Note: If you are on a Top View for example, only the X and Z need to be set. But make sure the Y value is higher then the maximum height of the scene, otherwise part of the scene will be clipped.

Scale
Set the number of unit that 1 unit on screen represent in real life
Example 1:150

Grid Visible
When checked, a grid will be visible.
However, if the grid is not showing, probably the general grid settings is set to Never in the Setting/Preferences/Grid

---

4.6.2 Camera Properties 3D

In Show Designer, there are two type of Cameras; The one for 2D view and the one for 3D view
Camera can be move manually with the mouse(see Using Camera) or edited with values.

Camera Properties can be access in three ways
-With the hotkey SHIFT+ALT+ENTER
-From the right-click menu on a view
-From the menu Camera

3D Camera Properties

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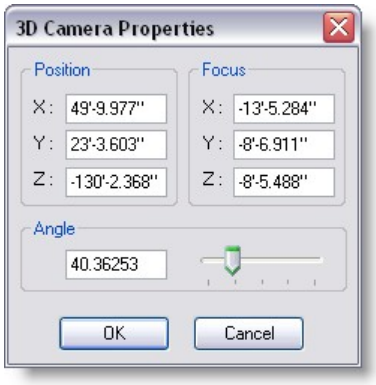

Position
X: Set the Camera position form left to right
Y: Set the Camera position form bottom to top
Z: Set the Camera position form front to back

Focus
X: Set the Camera "Look At" form left to right
Y: Set the Camera "Look At" form bottom to top
Z: Set the Camera "Look At" form front to back

Angle
Set the angle of the zoom.
A wider zoom will give more perspective.
A good perspective setting usually means a better sense of dimension...
As a reference, the human eyes has a field of around 60 degree (image in focus)

Therefore setting the camera at 60 degree and then moving the Camera will give a real-life like viewing.

Here's three example of camera settings where you can see the perspective in action

4 degree at 200 meters

60 degree at 18 meters

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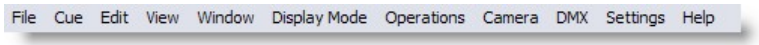
120 degree at 15 meters

4.6.3 Camera Save/Delete

Camera set in 3D view can be store.

Once you have set up your camera you will want to save the position, so you can go back to it later.



Click on the Camera menu, then click on Save Camera

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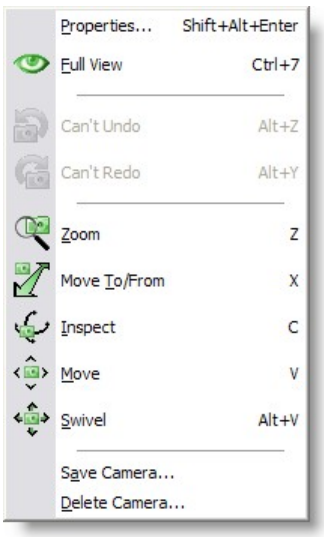
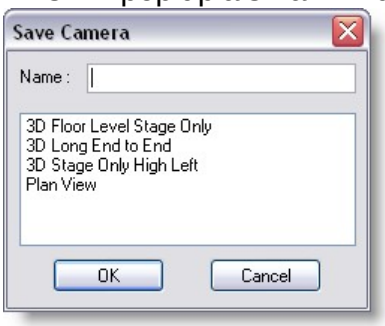


This will pop up a small window



Type in the name for your view and click OK.

You can save as many different views as you like.

If, while setting up your camera views, you make a mistake, there are a few buttons that can help.

Camera Undo will allow you to go back to your previous view setting.

And if everything goes completely wrong and you want to start again, click on Full View. This will reset the camera to viewing the whole scene.

Full View: Will set the current view only

All Full View : Will set all open views to Full View

There are two ways of saving 3D camera

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-From the menu Camera, select Save Camera...
-From the right-click menu, select Camera and then select Save Camera...

Type in a name from the Camera and press OK

To delete a Camera
-From the menu Camera, select Delete Camera...
-From the right-click menu, select Camera and then select Delete Camera...

Select the camera and press OK

4.7 Fixtures

Fixture List

Importing Fixture

Inserting Fixture

Select and Manipulate fixture

Replacing fixture

Duplicate Objects or fixture

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4.7.1 Fixture List

This list shows all the fixtures that are in this scene. To open this window you must select the 'fixture list' menu item. In new scenes this list will be filled with the fixtures defined in the file 'Default.spt' in the spot directory. By default this file contains a long list of Martin fixtures. The second column of the list shows you the version of the fixture definition. At the bottom of the window are four buttons. The functions of these buttons are described below. At the top of the list you see a gray area with the text 'Name' and 'Definition' in it. This is called the header. In the header you can also see two vertical lines. If you move your mouse cursor over these lines, you will see the cursor of the mouse change into a vertical line with two little arrows. When this happens you can click the left button of the mouse and, while holding it down, move the mouse left and right. As you are moving the mouse you will see that the column width of the list will change. A double click on the vertical line will change the width of the column to the minimal width required to display all text in that column. All fixtures in this list can be inserted in the scene using the insert fixture operation that is activated by clicking the button.

- The **Delete** button:
  The 'Delete' button simply allows you the remove the selected fixture from the list. You will be asked to confirm this action. Deleting the fixture from the list will not affect any inserted fixtures of the selected type in the scene. You can however no longer insert a fixture of this type in scene.

- The **Rename** button:
  The 'Rename' button allows you to change the name of the selected fixture. After you have clicked on this button, a box will appear around the selected fixture, in this box you can type a new name. After you press the enter-key the fixture will be renamed. If the name you entered already exists in this scene you will see an error box and the rename operation is canceled.

- The **Add** button:
  The 'Add' button allows you to get fixtures from fixture definition files into this scene. You will be presented with the standard file open dialog box in the spot directory. You can now select the fixture definition file you want to add to this scene. All fixtures in the selected file will be added to the scene. If the fixture definition file contains a fixture with a name which is already used in this scene the new fixture will be renamed by adding a '.x' to the name, where the x

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represents a number starting from 1 and increasing until a name if found that is not used.

- The **Close** button:
  The 'Close' button will close this window. You can leave this window open while you work with the program, or close it to have more room on the screen for other windows. This window can be opened again by selecting the 'Fixture list' menu item in the 'View' menu.

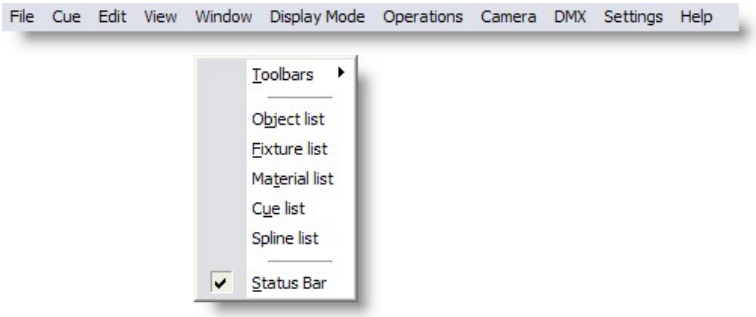
4.7.2 Importing Fixture in a Scene

When starting a new scene, the Fixture list is contains some fixtures by default.

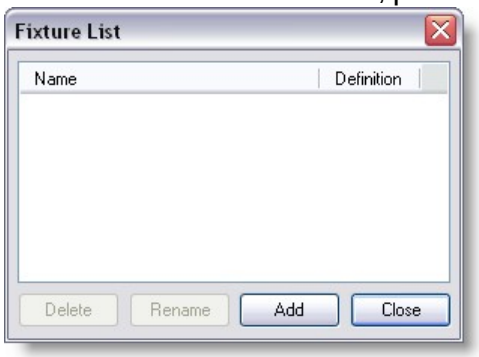
Note:To avoid having fixture loaded by default when creating a new scene, rename the file Default.spt to something else
usually this file is in the folder "C:\Documents and Settings\All Users\Documents\MSD4\Spots"

If the desire fixture can't be found in the list, it can be imported in the scene following these steps:

From the **View** menu, select **Fixture List**



From the Fixture list control, press **Add**



Browse to the desire manufacturer folder and press **Open**
*Note: Some generic fixture like PAR's can be found in the folder **Other***

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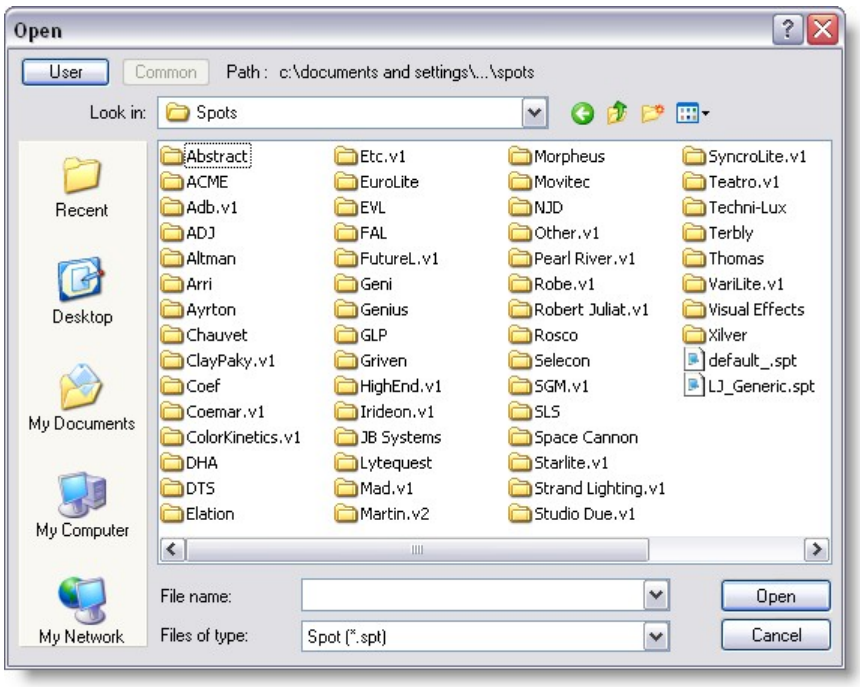
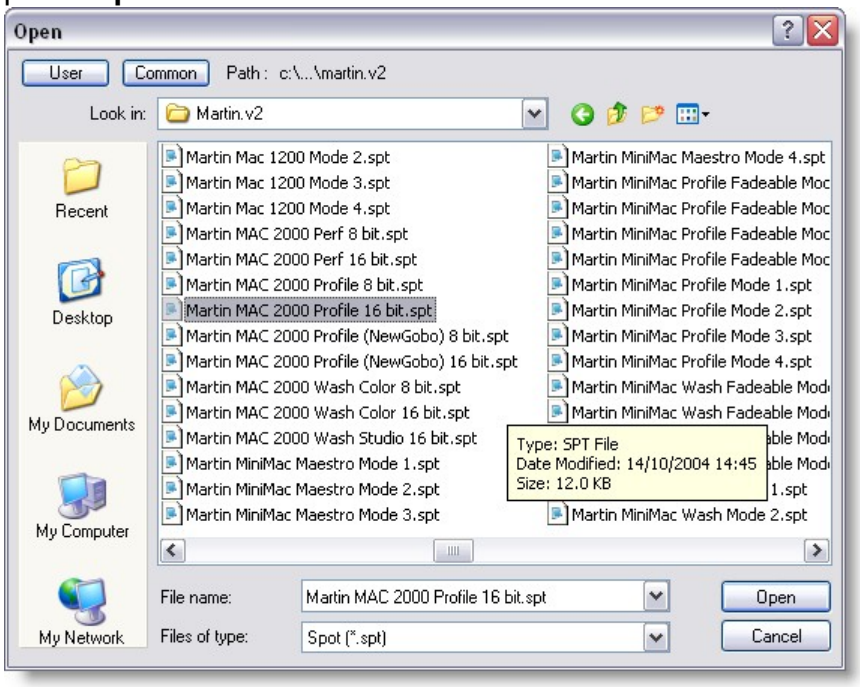


Select one or multiple fixtures from the list (Use CTRL or Shift for multiple selection) and press **Open**



The imported fixture now appears in the list

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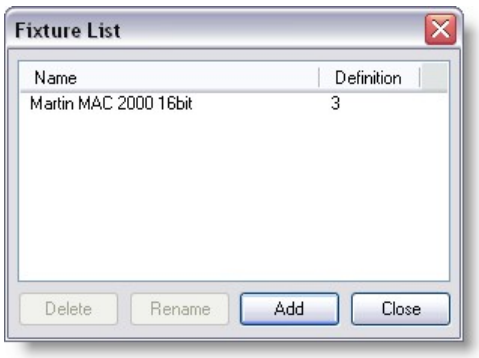


Note: If the same fixture model is imported a second time, a number will follow the fixture name.

Once a fixture is imported in a scene, it can be use as many times as needed in the scene.
If the fixture is modified in the library where it was imported from, it will not affect the fixtures on the scene.

If the fixture is deleted from the Fixture List, the fixture in the scene will remain. Actually, when deleting an fixture for the list, the fixture still remain on the scene but is simply hidden from the Fixture List. See Scene Compactor for detail on how to permanently delete an fixture from a scene.

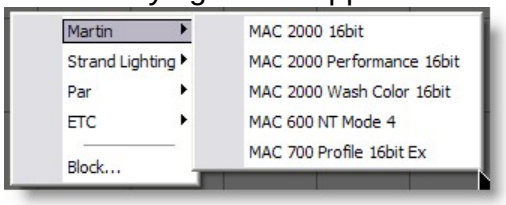
4.7.3 Inserting Fixture in a Scene

To insert a fixture in a scene:

First you must import some fixtures in the scene.
By default some Martin fixture are automatically imported in a new scene. see this topic to change this

Click the Fixture Insert button.
Click in a 2D view.

A menu saying should appear



Click on the manufacturer *(remember this is not the whole fixture library, but only the fixture imported in the scene)*

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This should bring up a list of fixtures, select the desired fixture.

The fixture is now place on the scene.

Tips: When inserting an object from the top view, the insert point of the object will be place on the 0 of the Y axis
So if you want to import a fixture or object for a pipe placed at 12 meters from the ground, insert it in the side view by clicking at the pipe level.
No the object or fixture will be inserted close to its final height and in the center (0) of the X axis.

4.7.4 Select and manipulate fixture

Controlling fixtures
Let's point the fixtures at the person on stage.

- In a 2D view, pick a fixture and press the + key on the numeric keypad.
- Pick the other fixture and press the + key again.
- Or hold the CTRL key and click on the fixtures or drag a rectangle enclosing both fixture
- Both fixtures should now highlighted in green.
- Select the Focus Beam button.
- Click on the person on the stage.

Tip: You can use Light Mode to help when selecting fixtures, with this mode on you won't be able to select anything other than fixtures. Click on the Light Mode button to turn this on.

Now set up your lights. Right click on a fixture and select properties. By going through all the pages you will find all the settings for the fixtures, pick the colors, gobos etc to make the fixtures do what ever you want.

Use the orientation settings to position the fixture in the 3D space (See System Axis to understand the X, Y and Z fields)
Position: The physical location of the fixture
Rotation: The physical orientation of the fixture
Focus Point: The beam target .

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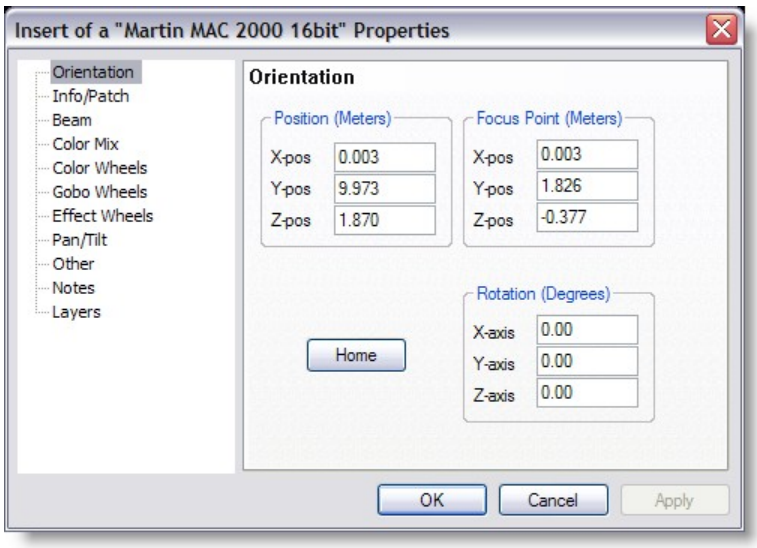
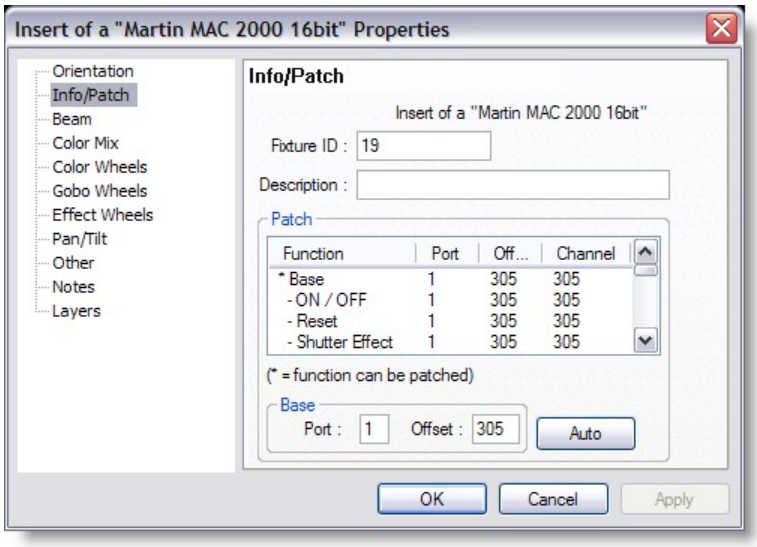


Info/Patch



Beam

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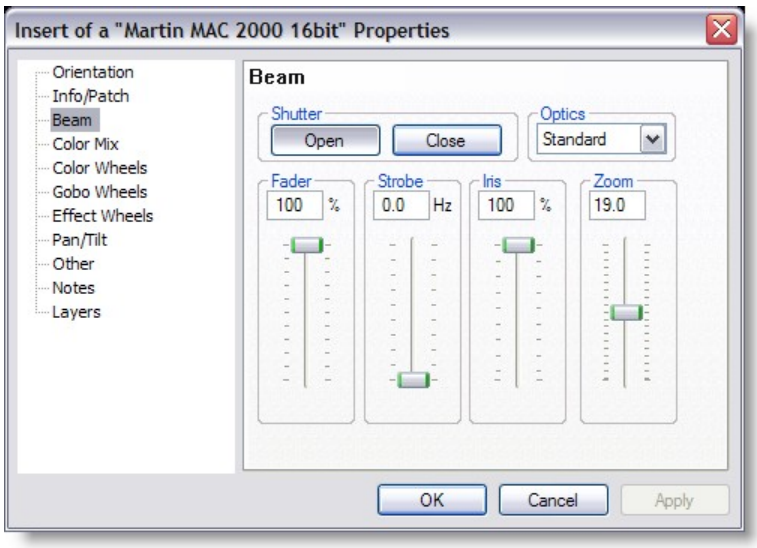
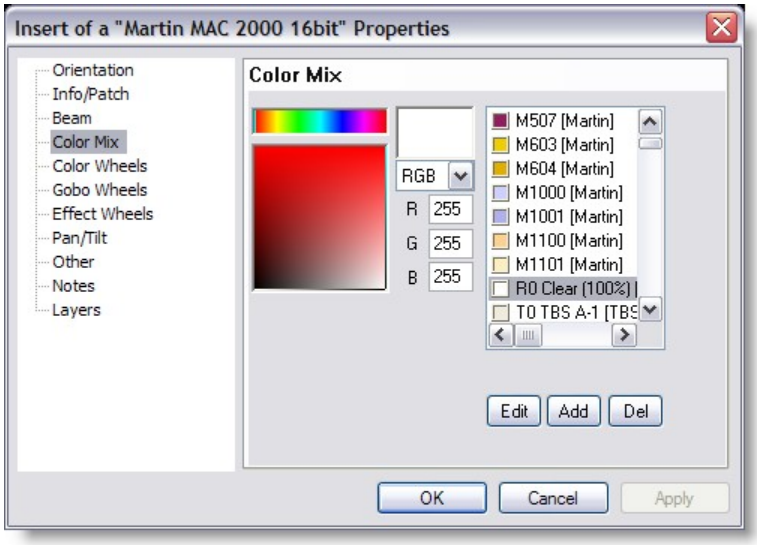


Color Mix



Color wheel

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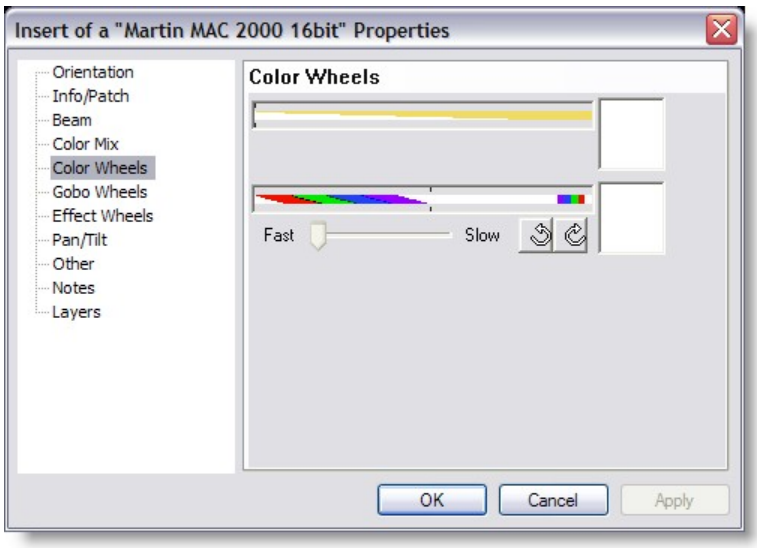
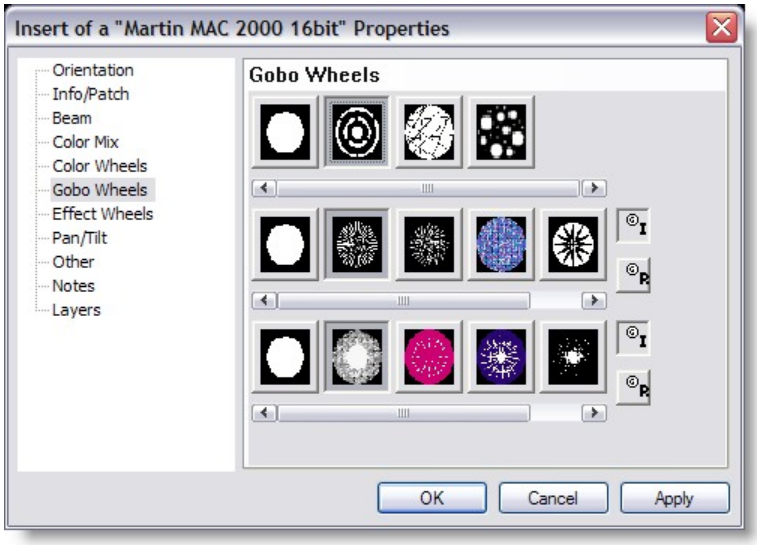


Gobo



Effect Wheel

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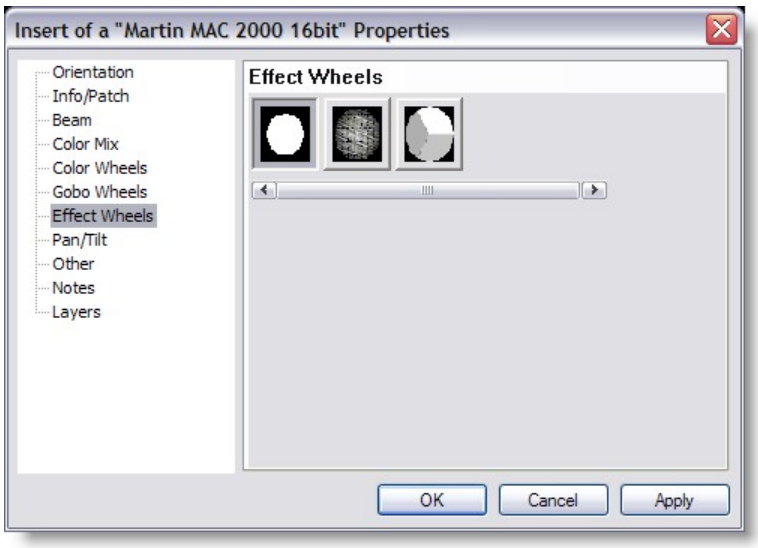
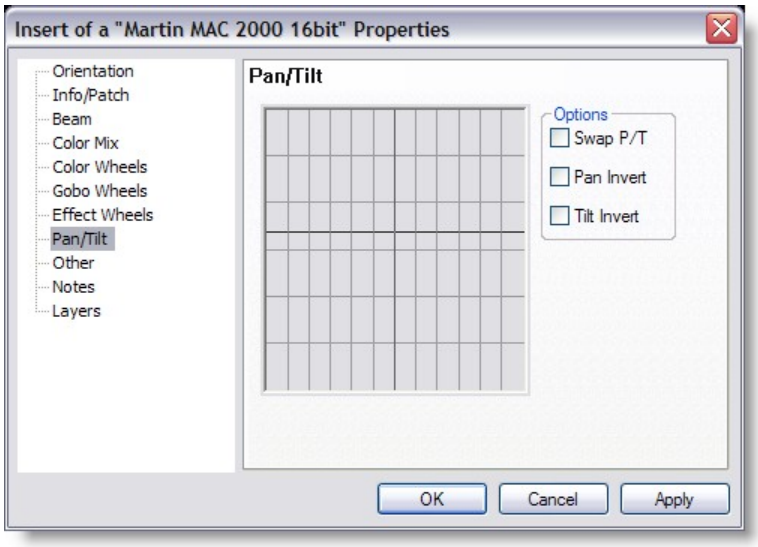


Pan/Tilt movement



Other

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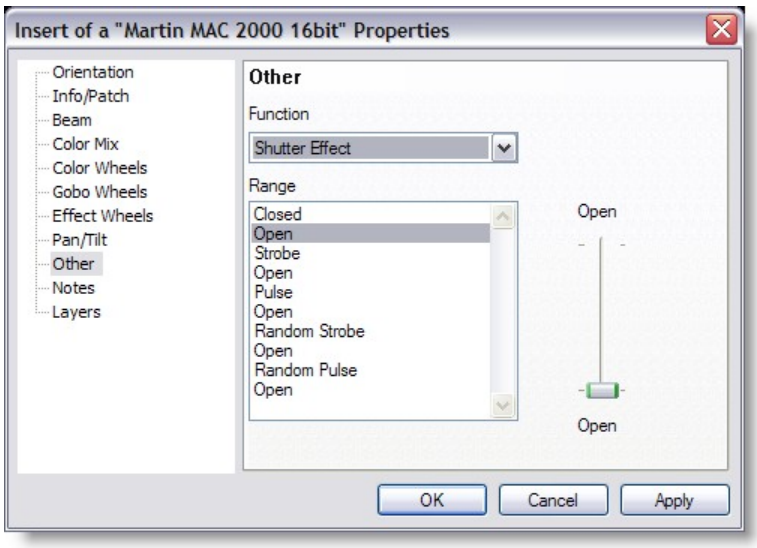
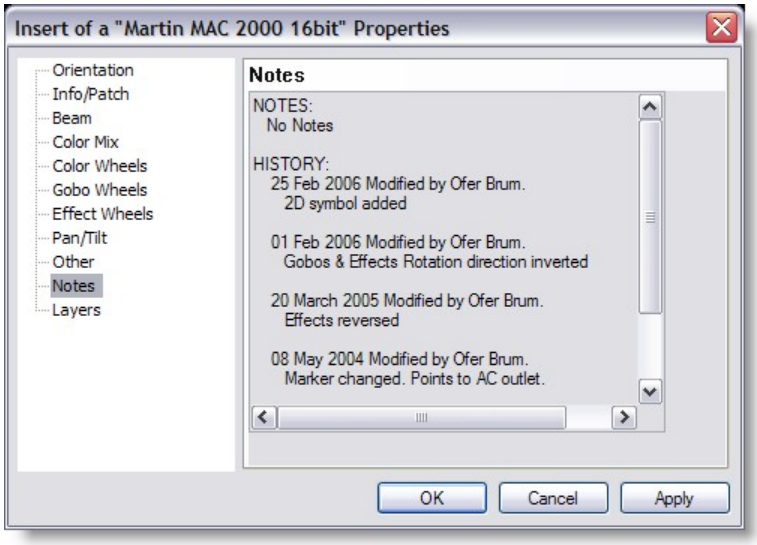


Notes



Layers

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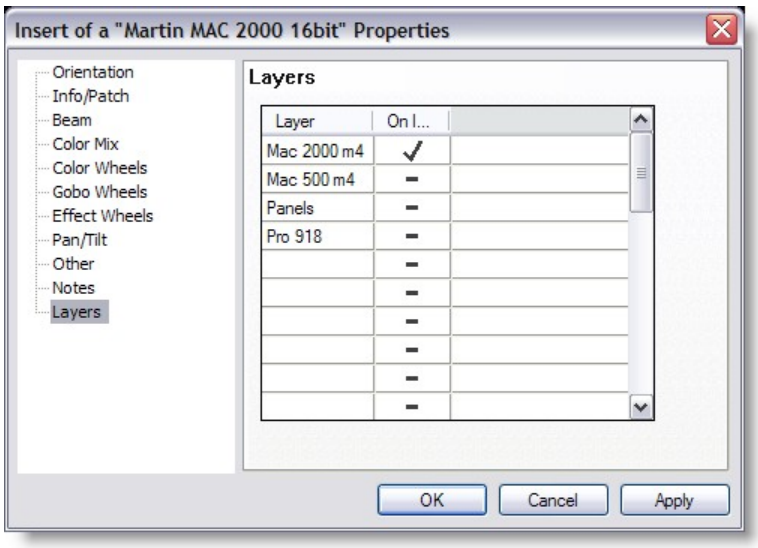

Tip: To deselect fixtures, so that you can change one fixture without effecting the rest, pick the fixture you don't want and press the "-" on the numeric keypad. Only the fixtures highlighted in green will be affected by the changes. To deselect all fixtures, press Shift & Escape.

4.7.5 Replacing one or many fixtures in a scene

It happen that one or many fixtures need to be replace from one type to another or simply replacing the same fixture type with a new version of its definition.

Here's how to do it!

In the ShowDesigner, from the menu View, click on the Fixture List item

In the fixture list, If the fixture does not exists, press Add to import a fixture definition.

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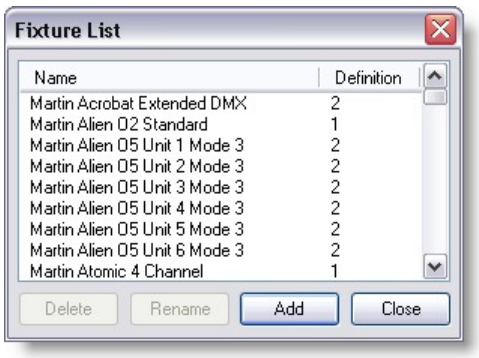
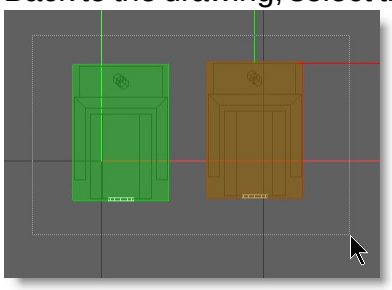
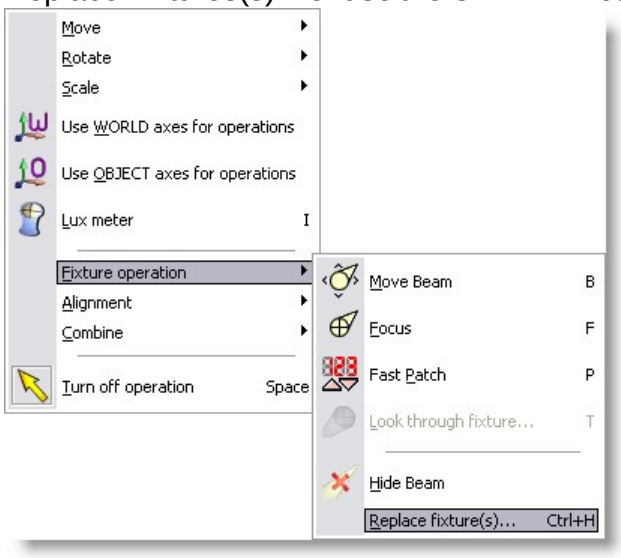


Back to the drawing, select the fixture(s) to be replace.



Once all the fixtures are selected on the Operation menu, Fixture Operation and click on Replace Fixtures(s)... or use the CTRL+H hotkey



Select the new fixture and press OK

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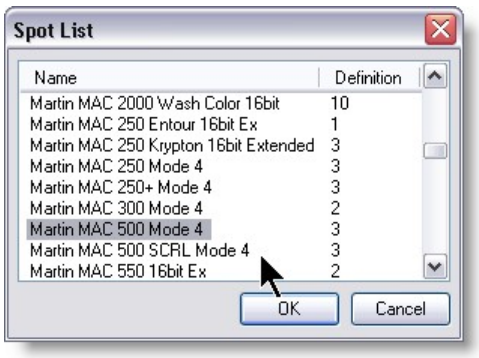
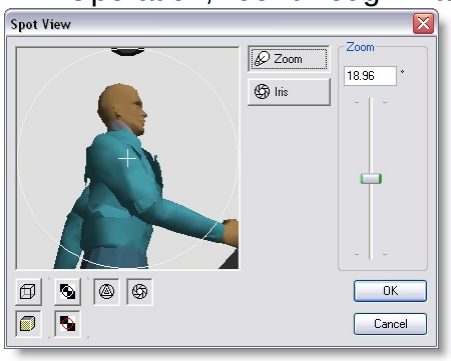


There you go, the fixture are replaced...

Note: If the new fixture takes more dmx channels you will need to sort out the patch so the fixture fit..

4.7.6 Look Through Fixture

Operation, Look through fixture



Look through fixture

In the top left of this dialog, you see a view through the lens of the picked fixture onto the scene. The way the scene is displayed is controlled using the button (Wireframe) and the button (Solid) at the bottom left. Right next to those are two buttons which control the way the gobo and iris are drawn (if the fixture has a gobo and/or iris). When the top one (XOR) is selected, they will be drawn by inverting the background, when the bottom one (Color) is selected, they will be drawn using the fixture beam color (without taking into account the fader/shutter). Next to these two groups, there can be two buttons to select if the Gobo (if any) should be drawn ( ), and whether the Iris (if any) should be drawn ( ).

Right next to the preview window, there can be a number of controls, depending on the

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capabilities of the fixture, each having it's own button, for example:

Zoom, change the zoom angle.
Iris, change the iris.
Gobo index, change the gobo rotation index.
When you select such a function, the slider control right from the control buttons change accordingly, so that you can control the function.
You can also change the focus of the fixture by clicking in the preview window. If you click somewhere in the preview window, the fixture will change the focus to that point.

4.8 Objects

Object List

Importing Object

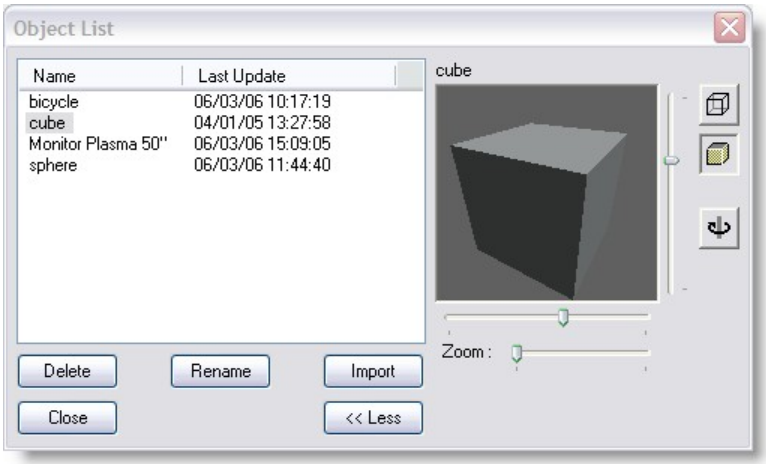
Inserting Object

Select and manipulate objects

Object Properties

Duplicate Objects or fixture

4.8.1 Object List



This list shows all the objects that are in this scene. To open this window you must select the object list menu item. In new scenes this list will be empty, the above example is taken from an existing scene. As you can see there are two objects used in the scene.

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The name of an object is in the first column and the second column of the list shows you when the object was last saved. At the bottom of the window are five buttons. The functions of these buttons are described below. At the top of the list you see a gray area with the text 'Name' and 'Last Update' in it, this is called the header. In the header you can also see two vertical lines. If you move your mouse cursor over these lines, you will see the cursor of the mouse change into a vertical line with two little arrows. When this happens you can click the left button of the mouse and while holding it down, move the mouse left and right. As you are moving the mouse you will see that the column width of the list will change. A double click on the vertical line will change the width of the column to the minimal width required to display all text in that column. All objects in this list can be inserted in the scene using the insert operation, which is activated by clicking the button.

- The **Delete** button:
  The delete button simply allows you to remove the selected object from the list. You will be asked to confirm this action. Deleting the object from the list will not affect any inserts of this object. You can however no longer insert this object in the scene.

- The **Rename** button:
  The rename button allows you the change the name of the selected object. After you have clicked on this button, a box will appear around the selected object. In this box you can type a new name. After you press the enter-key the object will be renamed. If the name you typed already exists in this scene you will see an error box and the rename operation is canceled.

- The **Import** button:
  The import button allows you the get objects from model libraries into this scene. You will be presented with the standard file open dialog box in the modellib directory. You can now select the library from which you want an object. After opening the library you will see a list of all objects in that library. You can now select one or more object(s) from this list and press the OK button. The object(s) you selected will be copied into this scene and they will be shown in this list. If one of the objects you selected has a name which is already used in this scene the new object will be renamed by adding a '.x' to the name, where the x represents a number starting from 1 and increasing until a name is found that is not used.

- The **Close** button :
  The close button will close this window. You can leave this window open while you work with the program, or close it to have more room on the screen for other windows. This window can be opened again by selecting the 'Object list' menu item in the 'View' menu.

- The **<< Less / More >>** button :
  The Object List has a preview mode, which can be (de)activated by the '<< Less' button and the 'More >>' button. If the preview mode is activated, the preview will be updated about a second after you select an object in the list. You can view the

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object in the display modes Wireframe ( ) or Solid ( ), adjust the pan and tilt of the object with the vertical and horizontal sliders next to the preview window, and the zoom by the bottom slider. You can also 'inspect' the object by clicking the inspect button ( ). This will make the object spin around the vertical (y-)axis. In this mode, the horizontal slider below the preview window enables you to control the rotation speed.

Note: Objects can be previewed, zoom in-out, and move around.
Preview are 3D so they are generated every time you select an objects.
When working with large objects, it maybe be necessary to turn the preview off
{<<LESS]

Once an object is imported in a scene, it can be use as many times as needed in the scene.
If the object is modified in by opening the scene in the Modeler, all instances of that object use in the scene will be modified.
However, if the object is modified in the library where it was imported from, it will not affect the objects on the scene.

If the objects is deleted from the Objects List, the object in the scene will remain.
Actually, when deleting an object for the list, the object still remains on the scene but is simply hidden from the Object List.
See Scene Compactor for detail on how to permanently delete an object from scene.

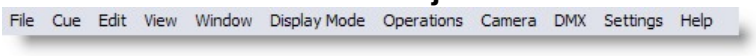
4.8.2 Importing Objects in a Scene

When starting a new scene, object list is empty.
Importing objects in a scene is like choosing all the necessary objects that will bee needed to build the scene.
Example, trussing, stage, riser, musical instrument, curtains....

Note: Fixtures are imported separately from the Fixture List

To import objects, follow these steps

From the **View** menu select **Object list**



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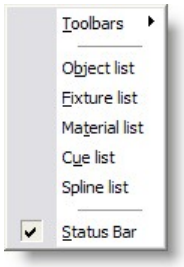
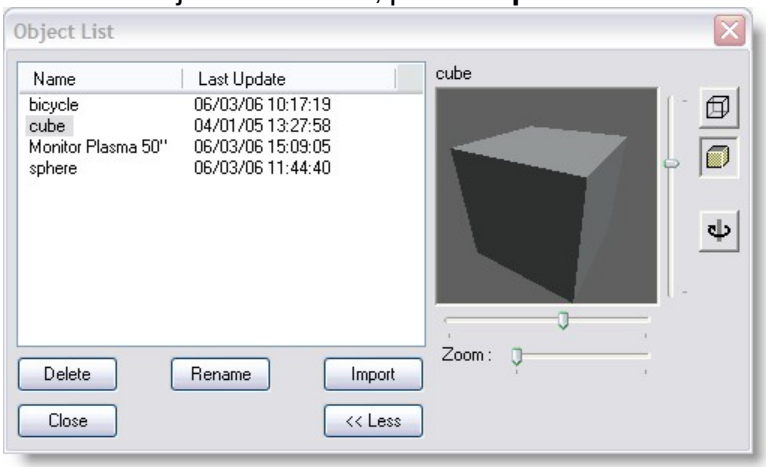
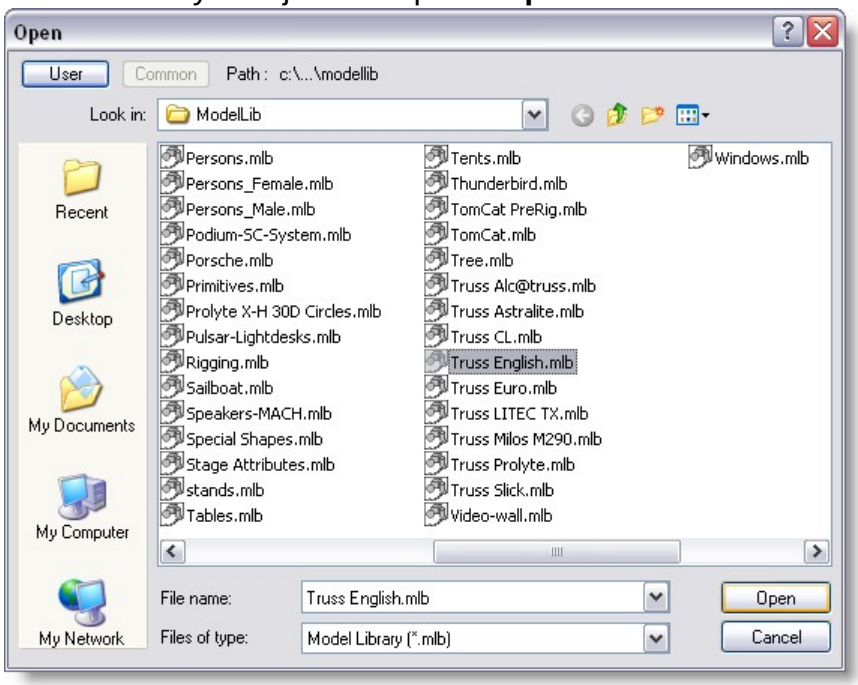


From the Object list control, press **Import**



Select a library of objects and press **Open**



Select one or multiple objects from the left list (Use CTRL or Shift for multiple selection)

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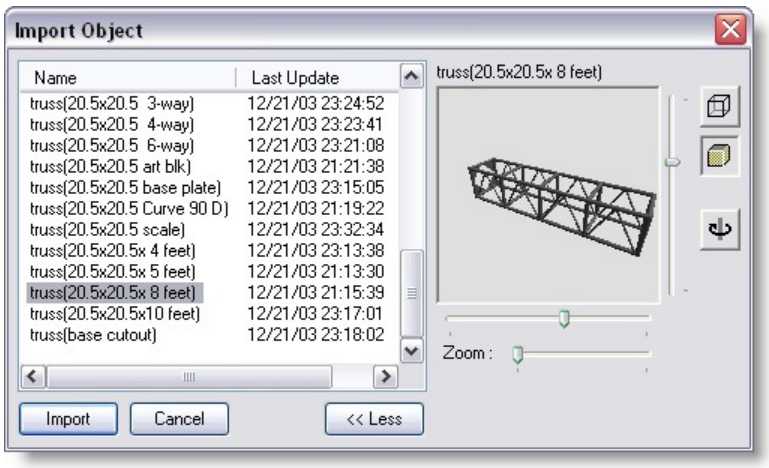
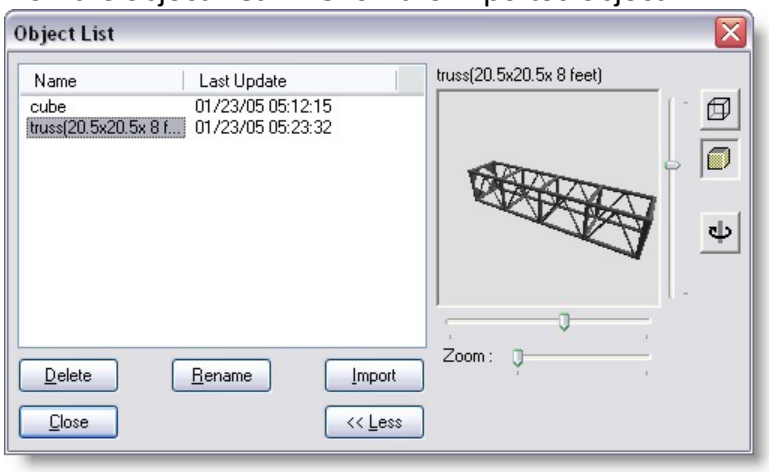


Press **Import** when your selection is done

Now the object List will show the imported object



4.8.3 Inserting Object in a Scene

See Importing Object in a scene first

You can now insert your object in the space.

- Click on the Insert button.
- Click on one of the views this will be the insert point on the object
- This should bring up a menu showing all objects imported in the scene

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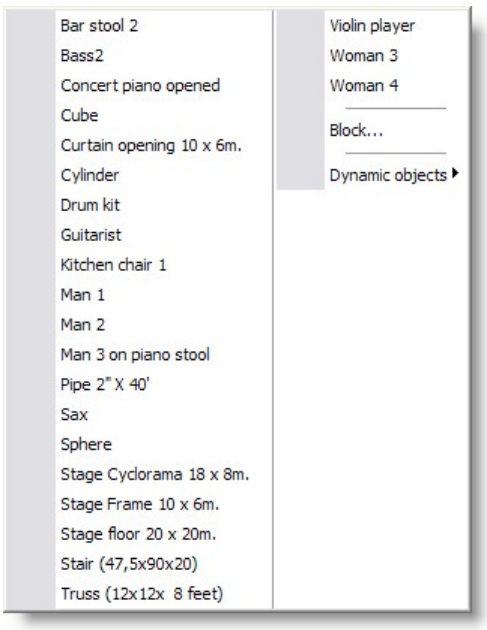

Click on an object in the menu.

The object is now place on the scene.

Tips: When inserting an object from the top view, the insert point of the object will be place on the 0 of the Y axis
So if you want to import a fixture or object for a pipe placed at 12 meters from the ground, insert it in the side view by clicking at the pipe level.
No the object or fixture will be inserted close to its final height and in the center (0) of the X axis.

4.8.4 Select and manipulate object

you can position it the

· Select the move button (or press hotkey M) and position the Mac on top of a truss.
You will notice the Mac is rigged pointing down to the floor; you probably want to rig it facing up to the ceiling.

· Select the fixture, right click and open the properties menu.

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- Under the Rotation section, change Z-axis to 180°
- Click Ok.

You can now duplicate the fixture and place the second on top of the other truss.

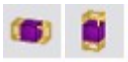
Tip: MSD will load the Martin list of fixtures for you. If you want to load other manufacturer's fixtures, select the Fixture list under the view menu. Click on Add to add fixtures to the list.

You have now completed construction of your scene.

Tip: Magic Alt key. The Alt key is one of the most useful keys in MSD. Press & hold it before clicking on any object on the screen and MSD will keep the last item you selected active, without selecting anything else. This is a very useful tool when you have multiple objects and lights side by side or piled on top of each other.

Resizing an object

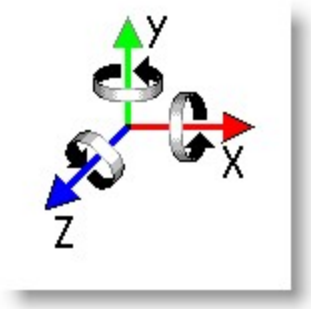
You can adjust the size of an object very precisely by going into its properties, (Alt + Enter). However if you wish to roughly resize something or match its size to another object, then you can use the scaling controls.

The Scale Horizontal and Vertical buttons will allow you to use the mouse to manually resize and object in one direction only. 

The Scale button allows you to resize in two directions at the same time.

The Scale XYZ button is for use on 3D windows and can be used to adjust the size of an object in all 3 dimensions at the same time.

Rotating an object



You can through all three axis. To set an object to a precise rotation, click on the object and press Alt + Enter.

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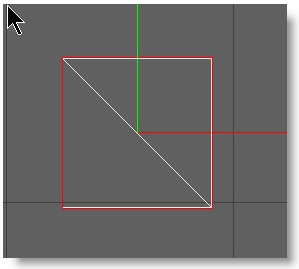
I quick way to rotate an object is to use the rotate function buttons and the mouse.
The hotkey R will set the rotate around depth axis on for you.
You will notice when you rotate an object using the mouse that it snaps to certain angles, much like the magnetic snap system does. The default settings for this snapping action is to snap to every 15º when it is within 5º. This means that the object will snap to a 15º angle whenever it gets within 5º of that angle. You can change these settings and turn them off from the same place you set up the magnetic snap function, (Settings menu, Preferences, Snap page).

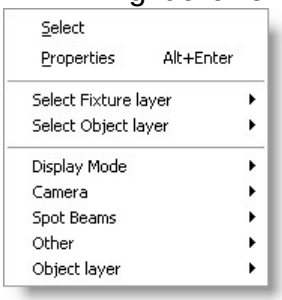
4.8.5 Changing Object Properties

Changing an object's properties
Example: To change a cube into a stage.

- Pick the cube by left clicking on it. It should appear red.



- Right click on the cube, to bring up an options menu.



- Click on 'Properties'
- This will bring up the Properties menu for the cube.

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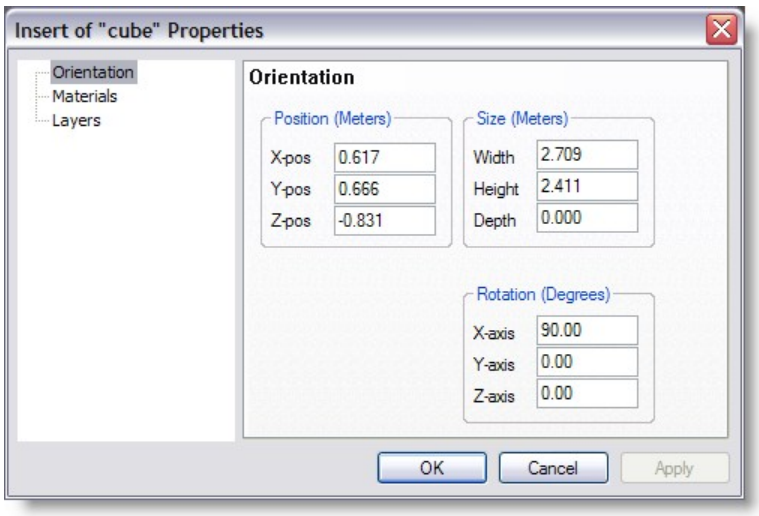

- Set the desired size
- Click Ok when you have finished.

Now we have a stage, we need to put it into position.

- Click on the Move Vertical button.
- Now click and drag the stage.
- Move the stage until its base is level with the red line in the center of the screen.

You can use the Move Horizontal button if you want to move it side to side.

Or you can just use the 'Move' button and move it in any direction you like.

Now insert the person from your object list and place him or her on the center of the stage.
In order to know exactly where you person is, you are going to have to view your stage from different angles.

4.8.6 Duplicate Object or Fixture

Is is possible to duplicate an instance of an object multiple time

After inserting an object on the scene and having position it is possible to duplicate this object without having to re-insert it.

Pick the object to be duplicated

Press the duplicate button or use the hotkey ALT+D
Click a 2D view approximately where the object should be place

Tip, it's often easier to use a top view to duplicate objects.

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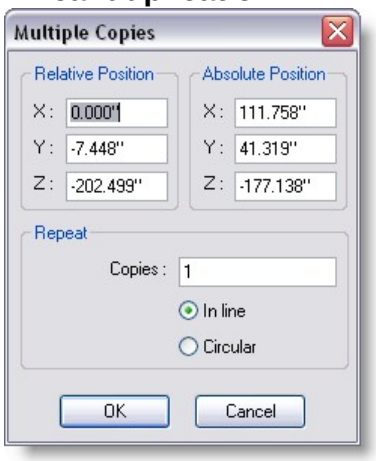
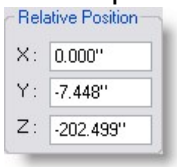
Multiple Duplication
There are two ways you can duplicate multiple objects, in a line or in a circle.

Linear duplication

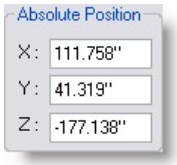


Pick the object you want to duplicate
Click on the Duplicate Multiple button
Click in the space where you want your first copy to appear
A window will now appear.

In this window you have three settings you can use, the relative position, the absolute position and the number of copies. The number of copies setting is straight forward, type in the number of additional copies you want, don't forget you already have one object in your scene. You then need to decide where you want these copies to go. You can set the relative position OR the absolute position, not both!



The relative position uses the object you are copying as the start point. So if you wanted your copies to be in a straight horizontal line from the first then you could set the relative position to X=5m, Y=0, Z=0. This will put your copies in a line along the X axis with a spacing of 5m between each one.



The absolute position will place your first copy at a position relative to the zero point of the scene. This allows you to decide a precise position for your first copy. The second copy will then appear the same distance from your first copy and the first copy is from the original, therefore creating a line.

Example:

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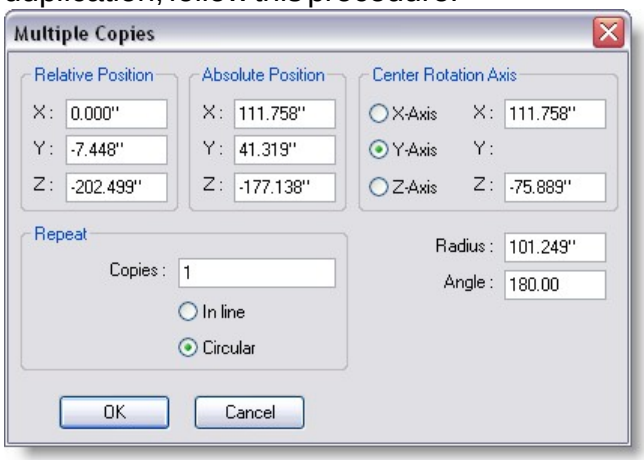
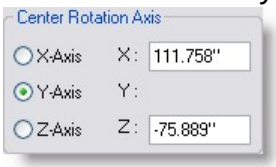
If you have a primitive on position (-0.5, 0.15, 0.0), you can set the first copy 1.0 meter to the right (relative) or set it on position (0.5, 0.15, 0.0) (absolute). All other copies will be positioned relative to the previous copy in the same way as the first copy is positioned relative to the original. What this means is that in the previous example, the second copy would be on position (1.5, 0.15, 0.0), so 1.0 meter to the right from the first copy.

Circular duplication

In the Duplicate Multiple window you have an option under the number of copies box to set it to circular.
When you click on circular, you gain extra options on this window. To set up the circular duplication, follow this procedure:

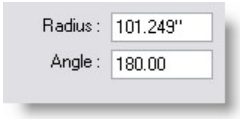


Choose which axis you want to rotate around, X, Y or Z.

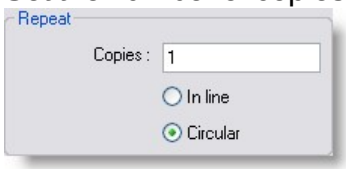


Set the center point of your circle using the remaining two axis.

Set the Angle you want between in each copy.



Set the number of copies



Click OK.

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The radius of the circle is automatically defined by the distance between your center point and the position of the original object. If you want to define the radius instead, simply type in the radius box instead of the axis boxes.

Example
If you want to create winding (spiral) stairs, start with a single plank (cube), position it on position it on (-0.5, 0.15, 0.0) and size if to (1.0, 0.01, 0.1).
Now you create the staircase by specifying the Y-axis to rotate around, position the axis on X: 0.0 and Z: 0.0.
Enter 0.15 in de Y part of the relative position (each plank should be 0.15 higher than the previous one).
Enter and angle of 30.0 (each plank should rotate 30 degrees around the rotation axis), and specify 11 Copies (1 original + 11 copies = 12 times 30 degrees is 360 degrees) for a full circle.

Example to have 12 fixtures in a circular shape.
1. Insert one fixture to your MSD scene
2. Select the 'Multiple Duplicate' option
3. Click the 'Circular' button.
4. In the 'Copies' dialogue set 11 (for a total of 12 fixtures)
5. In the 'Angle' field set 30 degrees spacing (360 divide by 12)
6. In the 'Radius' field set 2m (for 4m centers circle), or whatever radius that serves your needs.
7. Click OK

4.8.7 Aling objects or fixtures

Operation | Alignment | Align Chain
This option allows you to align two or more selected objects in a chain like way. The selection order for this align operation is very important.
The object that is first selected will stay where it is, so you first have to make sure that this object is in the right place.
The second selected object will be aligned to the first one, the third selected object to the second and so on.
There are several ways that two objects can be aligned. The one that will be used is the same as the one that is default calculated for a normal align operation (see 'Operation | Align' for more information on the different align possibilities.)

Operation | Alignment | Align...

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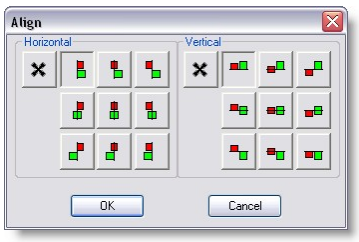

In this dialog, the green square represents the selected object(s), and the red square the active object. The 'Align' operation will not move the active (picked) object. It will align the selected object (s) to the active object. You can align the objects horizontally and/or vertically. Horizontally you can align the left, center and right. Vertically you can align the top, center and bottom. Default, the program will make a guess how you want to align the objects. It does this by comparing the distances between the active object and the first selected object. Horizontally, it will compare the distances left-left, left-center, left-right, center-left, center-center, center-right, right-left, right-center and right-right, and chooses the minimal distance. It does this again for the vertical alignment. These default horizontal and vertical alignments are visible as the two pushed down buttons. You can always select another (or no) alignment by pushing down the desired alignment button.
Example:
Say you have an object with a pipe hanging 2 meters of the floor. You roughly place a number of curtains hanging below the pipe. You can now select the curtains and then pick the pipe. When you now select the 'Align' operation, and push down the button for no horizontal alignment, and the button for vertical alignment, it will snap the top of all the selected curtains to the bottom of the active pipe.

4.9 Grouping objects and fixtures

Grouping allows to takes several objects and combined them as one object to pick

MSD has different grouping method

Group
Group using Axis
Assembly
Subtract
Intersect

4.9.1 Group

A group is multiple objects combined together to create a single object to manipulate.

Once group, objects within a group can't be single pick.

Here's how to group objects

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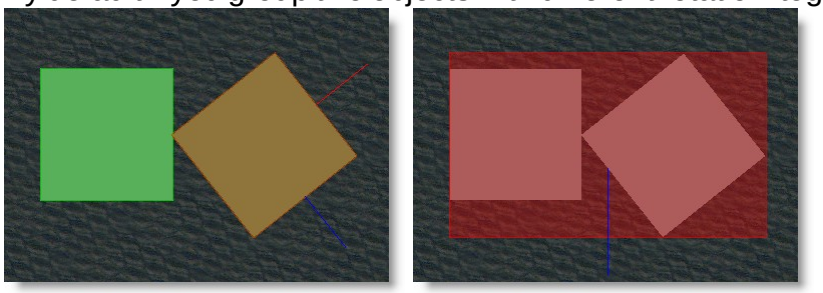
- Select multiple objects
- Now press the Group button.

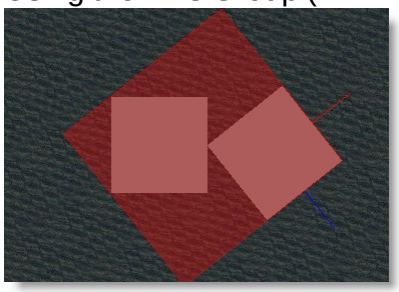
You have now grouped the two pieces into one object.

It is also possible to group objects with an alternative axis.
What does that mean?
By default if you group two objects with different rotation together it would look like this:



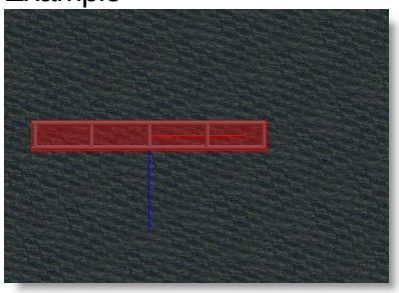
Note that the angled cube is picked but the final axis for the group is the default system axis.

Using the Axis Group (ALT+G) or the result would be like this:



As you can see the axis is now the cube that was picked before grouping.

Another use of the Group axis is to change the rotation axis of an object.
By default to rotation axis of an object depend where the 0,0,0 point was when it was created in the Modeler.
If you need to change that, you can combine a small object (almost none visible) to a bigger object and use that small object as axis.
Example



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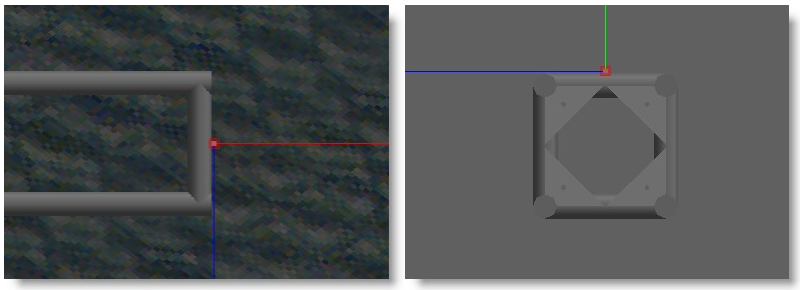
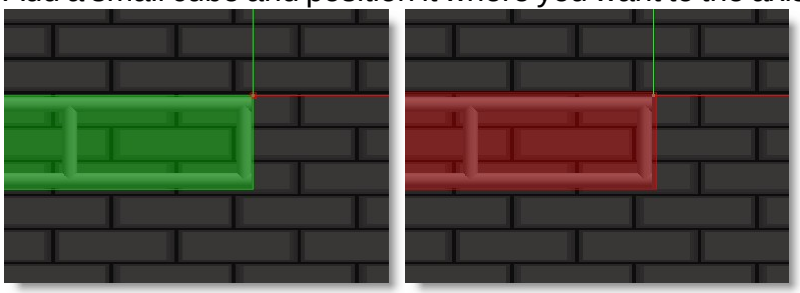
This piece of truss as it's default axis to the center of all axis.



Add a small cube and position it where you want to the axis to be.



Select the Truss and then the cube (must be red), and press the Group Axis icon or ALT+G.

To group fixtures and object together while leaving each fixtures accessible as single pick, see Assembly

4.9.2 Assembly

Assembly grouping is similar to normal grouping except that fixtures in the group are still accessible individually.

A good example of an assembly would be a bar of 4 PARs

Example
Place 4 PAR 64 in a row
and one pipe (made with cylinder primitive)

Select all 4 Pars and the pipe
make sure the pipe is picked (red) this will be the main part of the assembly

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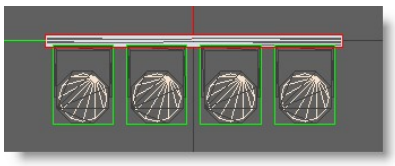
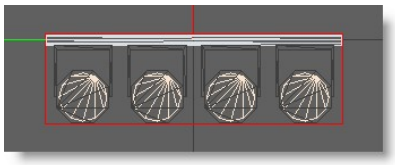
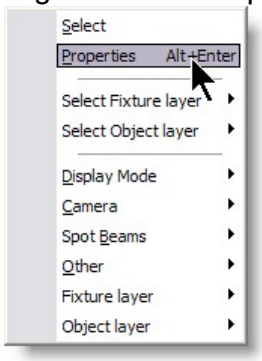


Click the Assemble icon (or CTRL+G)

And the result should look like this.



Right-click on the pipe and choose properties



In the Properties select Assembly Options

-Locked

When locked is enabled, no settings changes will be allowed for that assembly

-Allow Move

The child objects of the assembly will (not) move away from the main part.

-Allow Rotate

The child objects of the assembly will (not) rotate on the main part.

-Allow Scale

The child objects of the assembly will (not) scale one the main part.

-Allow Focus

The child fixture objects of the assembly will (not) focus when using the focus tools (example, a blinder fixture, each source is fix in the casing)

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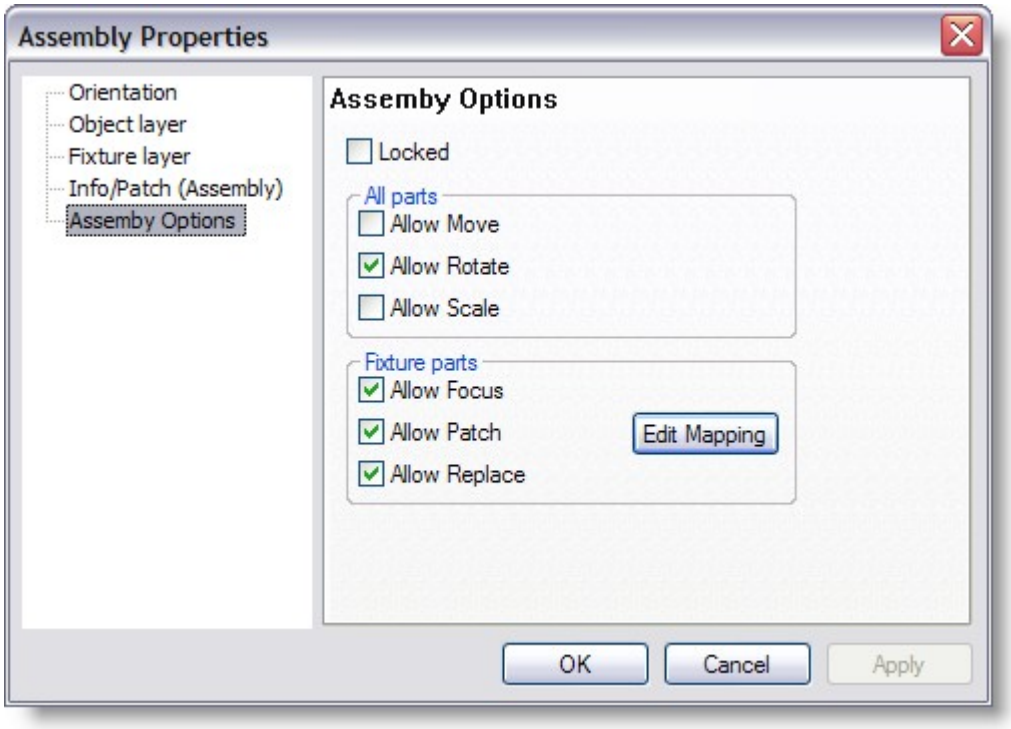
-Allow Patch

The child fixture objects of the assembly will (not) be available for individual patch (example, a Bar of 6 PAR in series, only one address to set on the main part of the assembly)

-Allow Replace

The child fixture objects of the assembly will (not) be available for replacing



Edit Mapping

Some fixtures assembly used multiple Base address
In such case you can define segments to use as base and connect each part of the fixture assembly to a base

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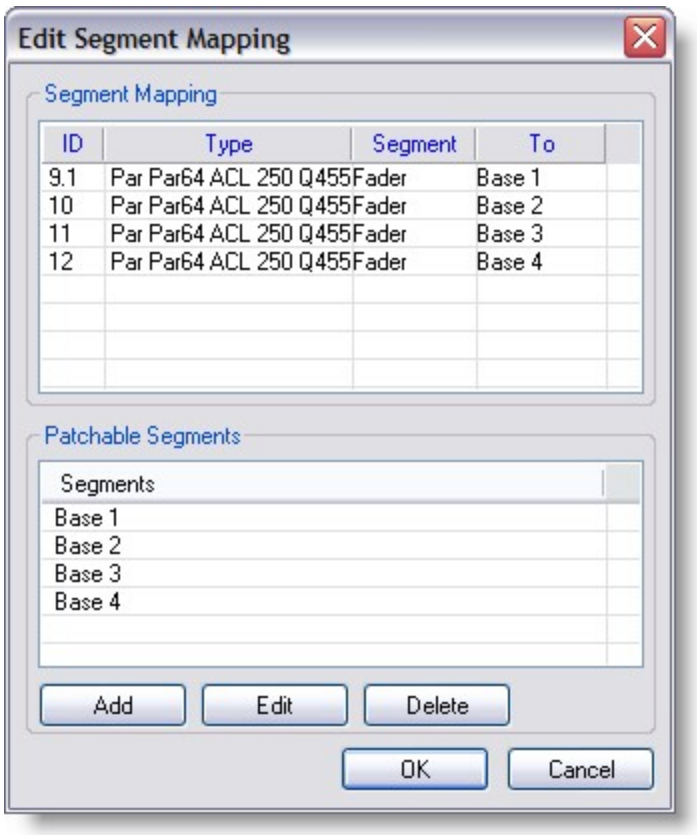

4.9.3 Subtractive Grouping

Much like intersect grouping, subtractive grouping requires you to have multiple objects overlapping each other.

When you come to press the subtractive group button it will remove all the objects from the last object you had picked, i.e. the object highlighted in red. This will result in creating holes in your last object in the shape of the objects you have removed. Again this function only shows up when you rendering the scene.

Before Subtraction

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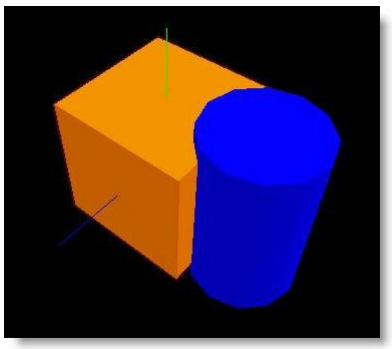
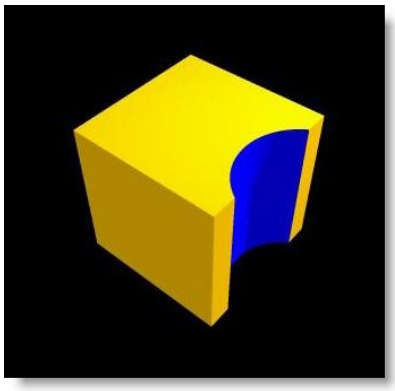


After Subtraction



4.9.4 Intersect Grouping

Intersect Grouping

There are other ways of grouping objects together, other than grouping them into one object. The intersect group function allows you to create a new object out of two or more objects. To use the function, you need to put two or more objects in a position where they over lap each other. Then select all the objects, (pick them and press the '+' key or use the rubber band function on the mouse). Then press the group intersect button.

You will now be left with an object that only exists where all the objects you've used overlap each other.

This function is only visible when you render the scene!

Before Intersection

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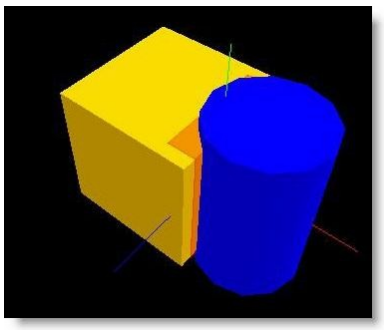
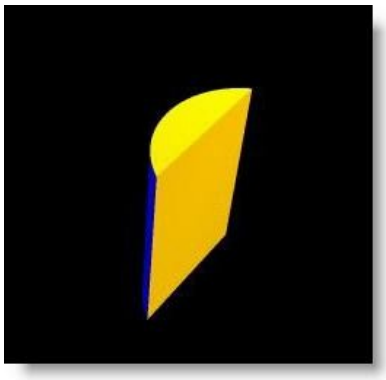


After Intersection



4.10 Fixture Block

A fixture block is a special files that can be create by grouping fixture(s) and object(s) together.

Use a fixture block to save a group of fixture/object that is used often in the same configuration.
Some examples:
-Bar of 6 PAR 64
-Bar of 4 ACL
-9-lites Blinder
-Bar of 6 on a stand
Etc...

The Fixture is similar to the scene block except that it is handle as a fixture once imported in a scene.
The fixture address and ID will behave like a normal fixture.

Creating a fixture block

Inserting a fixture block

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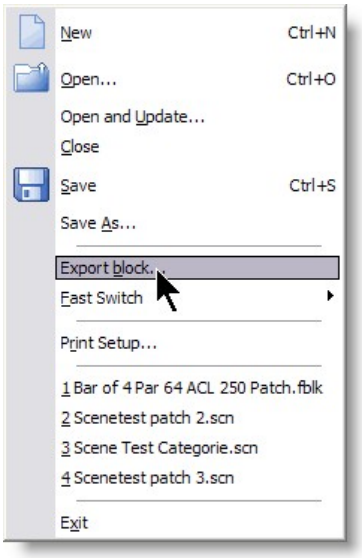
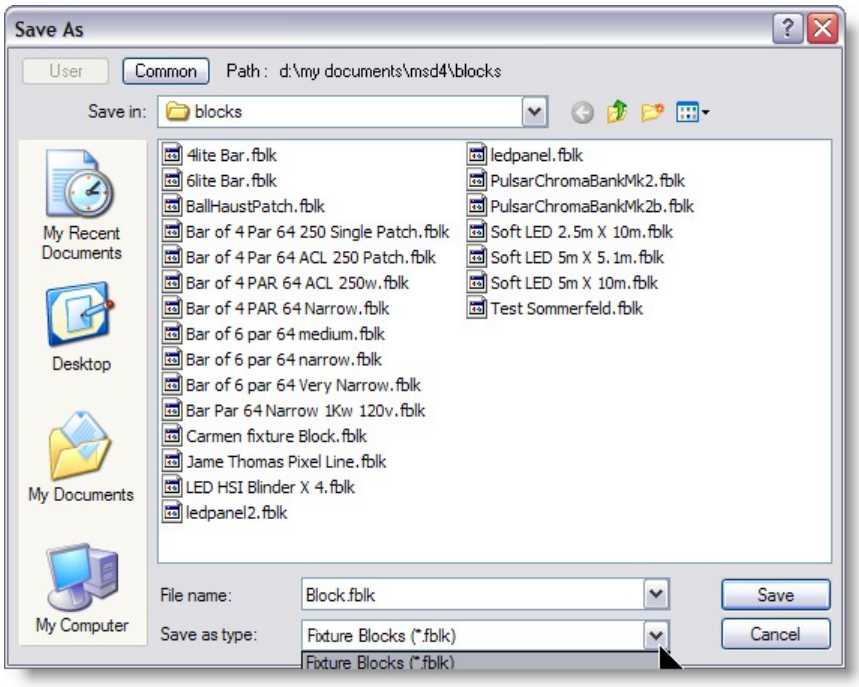
4.10.1 Creating a fixture block

First, create an assembly with the fixtures and objects

From the File menu click on Export Block...



Give a name to the block.



Make sure the Fixture Block Extension is selected.

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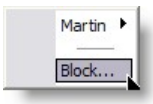
Click on Save.

4.10.2 Inserting a fixture block in a scene

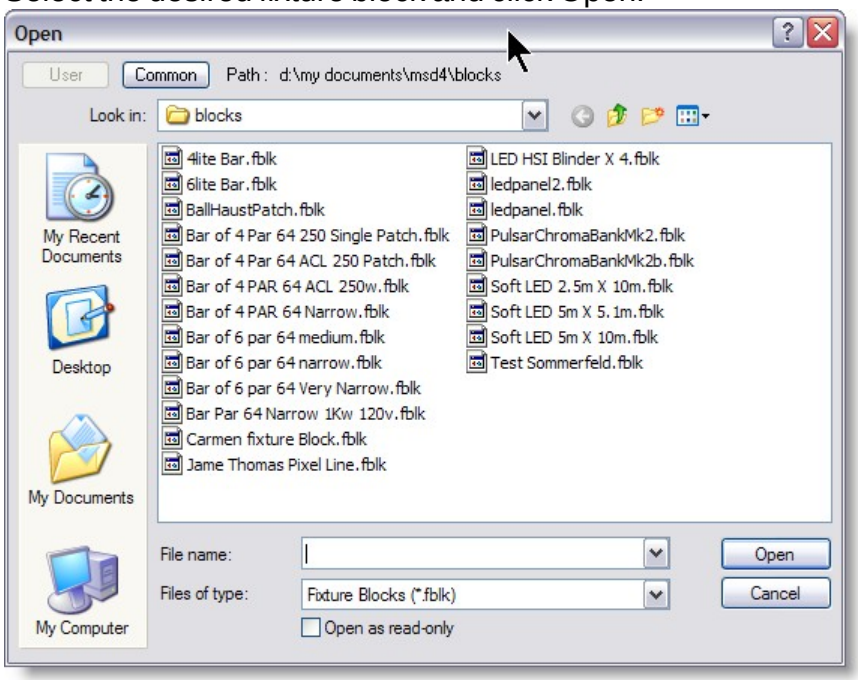
To insert a saved fixture block in a scene

Click on the Insert fixture icon

Then click on the scene and from the popup menu click on Block...



Select the desired fixture block and click Open.



Address behaviours

When inserting a fixture block, the fixture address will behave as follow:
-If all fixtures have the same address in the fixture block, they will have the same address in the scene
Some examples:

-If four PAR were address as 1 when the fixture block was created, when inserted the

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MSD will find the
next address available. if that address is 54, then all 4 PAR will be address as 54.

-If the same fixtures were address as 1,2,3,4, in the same situation the address would then be 54,55,56,57

-If the addresses are 10,12,14,16, in the same situation the address would then be 54,56,58,60

Fixture ID behaviours

ID's behaves in the same way as the addressed.

Note: you can use ID with decimal values (Dot ID) such as 1.1, 1.2, 1.3, 1.4
The Dot ID makes it very useful for fixture blocks.

4.11 Scene Block

A scene block is like a fixture block except it doesn't modify the fixture ID or address.
Use the Scene block to export a part of a scene to import it later into another scene.
Scene block can be exploded (ungrouped)

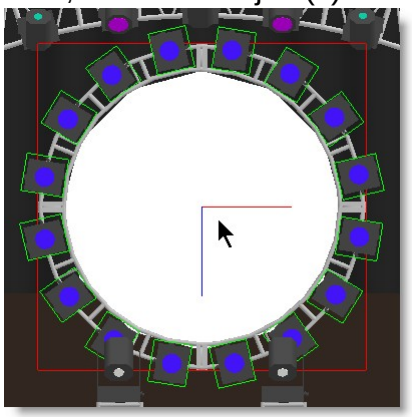
Creating a Scene Block

Inserting a Scene block

4.11.1 Creating a scene block

Creating a scene block in MSD is very simple

First, select the object(s) and fixture(s) to be exported as scene block



From the File menu select Export Block

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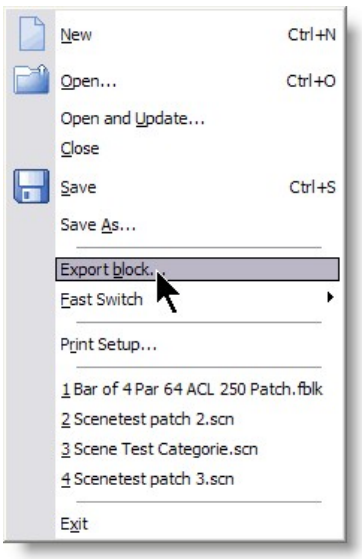
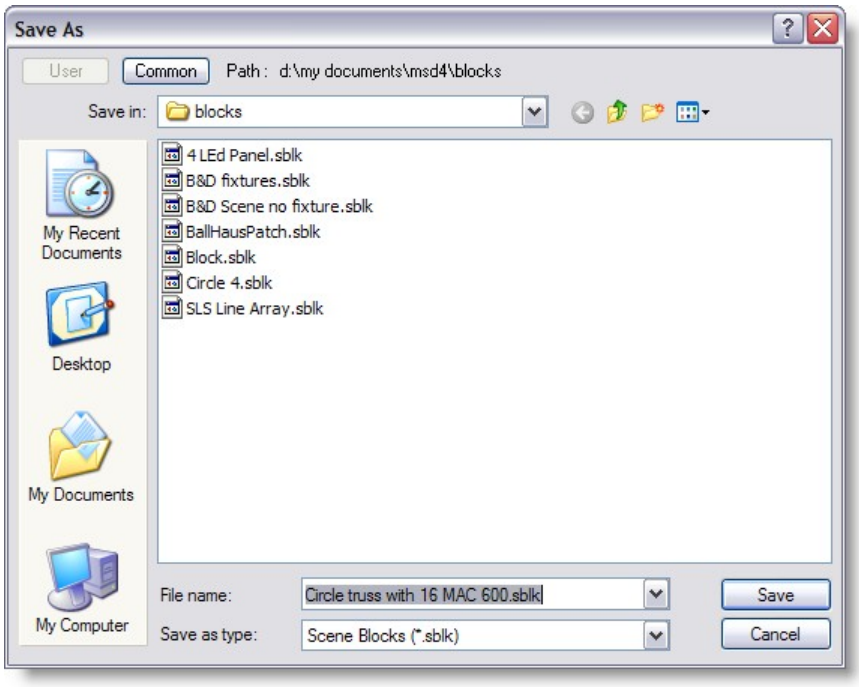


As Save As window will open
Give it a name...



Make sure the SBLK extension is selected

Click Save.

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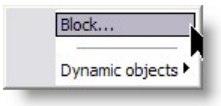
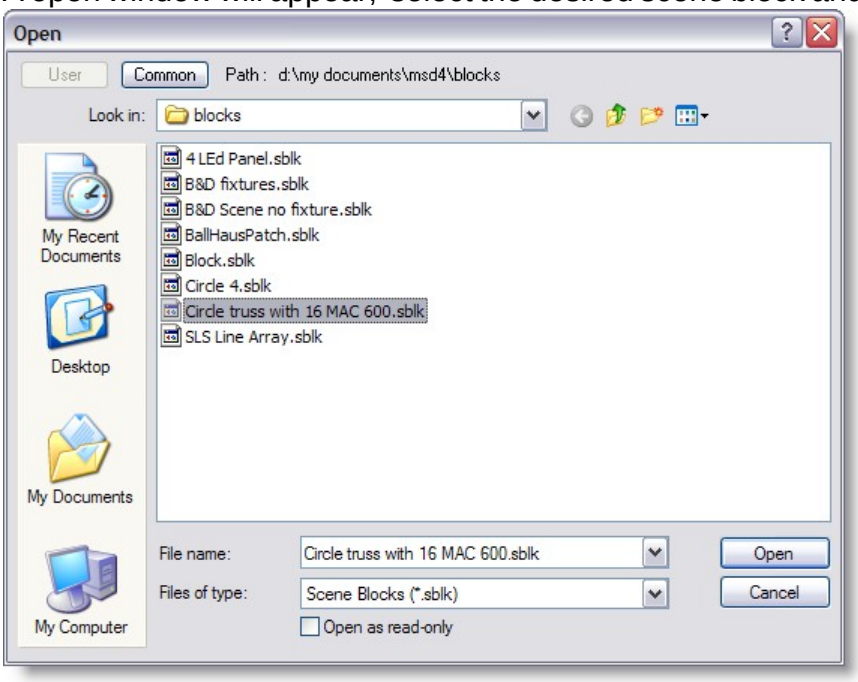
4.11.2 Inserting a scene block in a scene

To insert a Scene Block into a scene, press the Insert Icon

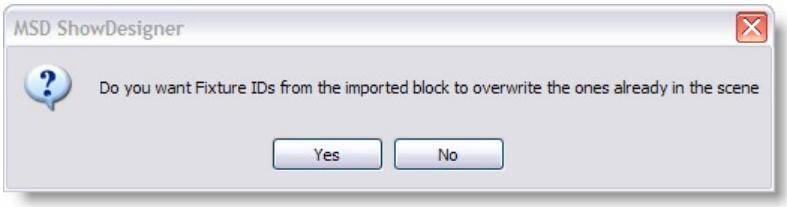
Click on a view, a menu will appear with all objects used in the scene and also a menu item called Block..., click on it



A open window will appear, select the desired scene block and click Open



If the scene block contains fixture a prompt will ask if you want the ID to remain the same as in the block or not.



There you go, a scene block is inserted.

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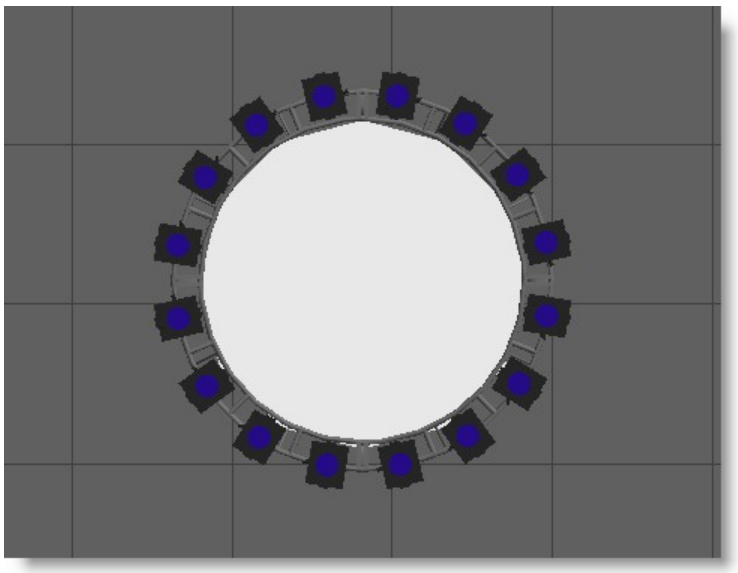

4.12 Dynamic Objects

Dynamic Objects are special object that can be use in a scene to animate other objects.

See how to insert Dynamic Objects in a scene

Dynamic Objects have a 'base', a 'connector' and sometimes some other objects.
As example the Hoist has a motor (base), 'hook' (connector) and a 'chain' (extra)

The base is the motor, and it can be treated as any object to move etc.
Also, the base has property pages (context menu) to patch the object to a motor, and if required can be attach to a DMX channel.
It also contains a property page to set the dynamic parameters (for the hoist, length, min length, max length, and a virtual zero point for adjustment between the length value in the motor buffer and the length of the actual chain.

The connector is the hook, and it can be treated (limited) as an object as well.
In the hoist, it can be used to move the hook up and down, and with it, every thing attached to it, without moving the motor. So you are basically setting the dynamic parameter, the length of the chain.
To attach objects to the dynamic object, select them, and then pick the connector (hook), and go to the menu 'Operations', 'Combine', 'Connect'.
(Connect is a new operation to work with the dynamic objects. They work similar to the assembly).

For the new Dynamic objects, select the insert object operation, and you will find a 'Dynamic objects' menu,
containing the 5 different type of Dynamic Objects.

- Hoist
- Hoist Platform

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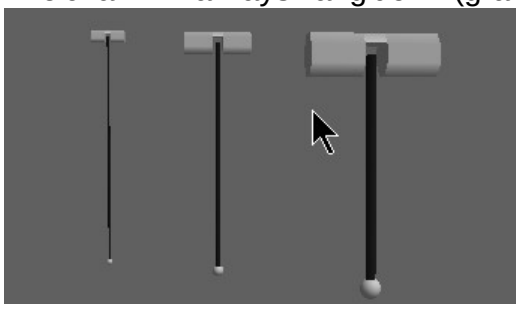
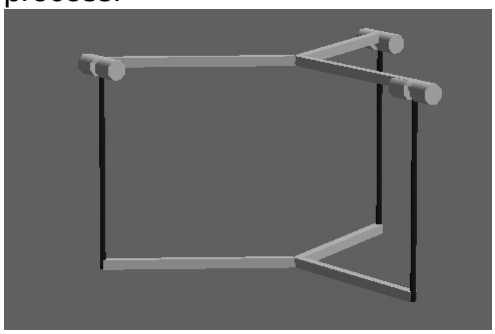
- Rotator
- Scaler
- Track

Each of the type have different models.

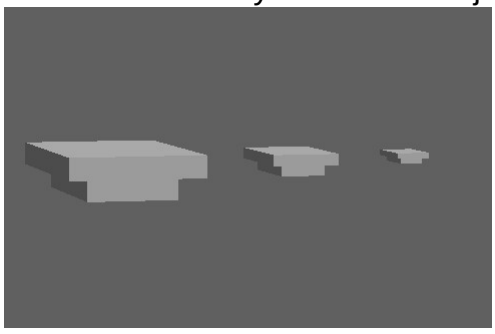
Hoist
single hoist, where you can attach other objects for moving up and down.
The chain will always hang down (gravity...)



Hoist Platform
The default settings for a Hoist Platform has 3 hoists, but it can changed in the properties. The platform will approximate a real platform. (Example a circular truss with 3 hoist)
The 'arms' to the motors and the hooks are virtual, meaning that they don't render, and don't show up in the Visualizer. they are only use a design time to facilitate the creation process.



Rotator
Rotate around the y-axis. virtual object.



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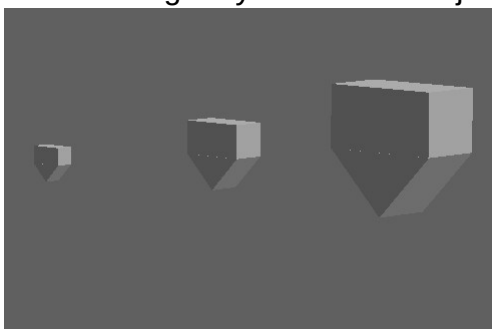
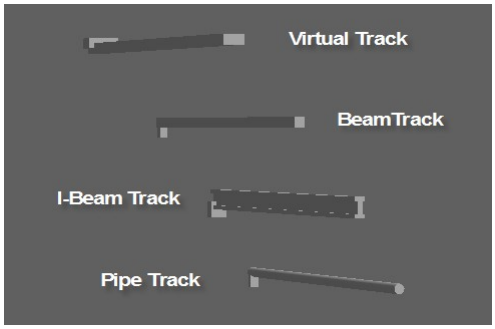
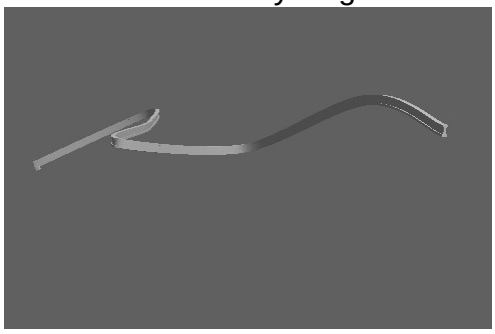
Scaler
Scales along the y-axis. virtual object.



Track
A track to move along. The virtual is a virtual objects, the others are real objects (render/Visualizer)
You can modify the track using the spline list, which each track has automatically



Tracks can have any length it can even be shapes and curves using the SPLINE.



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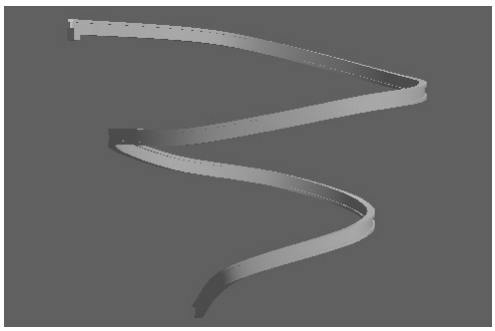
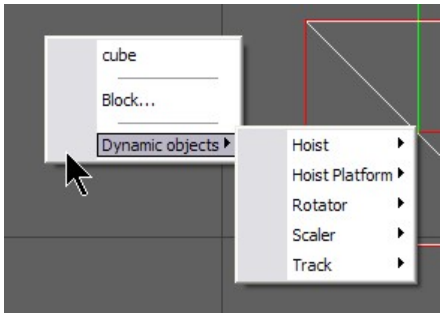
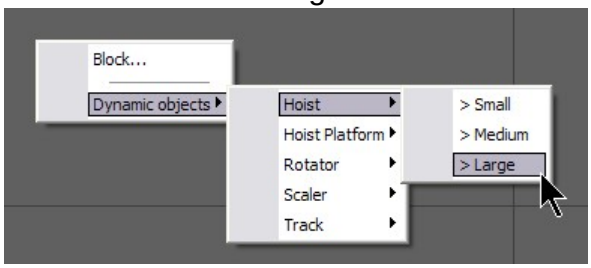


4.12.1 How to use Dynamic Object in a Scene

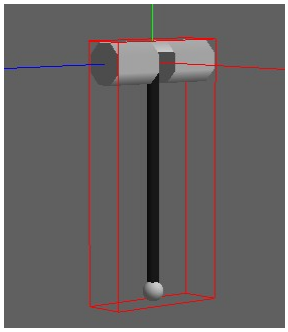
Here's how to insert and use a Hoist on a scene



Let's insert a Hoist Large



You should see something like this is the 3D view



You can take control of the chain length by picking the hook

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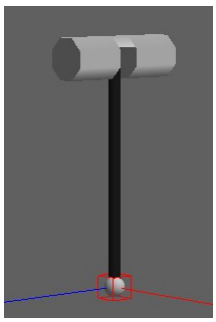
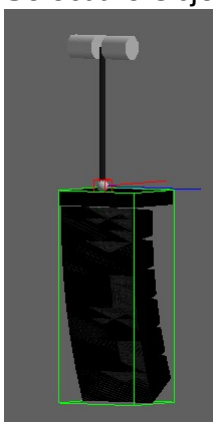
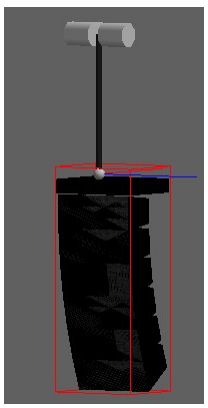


Insert an object to attach to Hoist and position it under the Hook
Select the Object and pick the Hook



Press the "Attach" Icon on the Toolbar
or from the menu Operation>Combine click on Attach



The Hoist is now controlling the height of the object.

Click on the Motor of the hoist and then right-click on it and choose Properties

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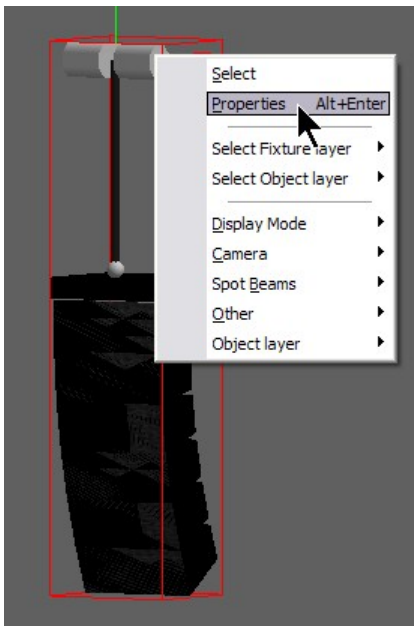
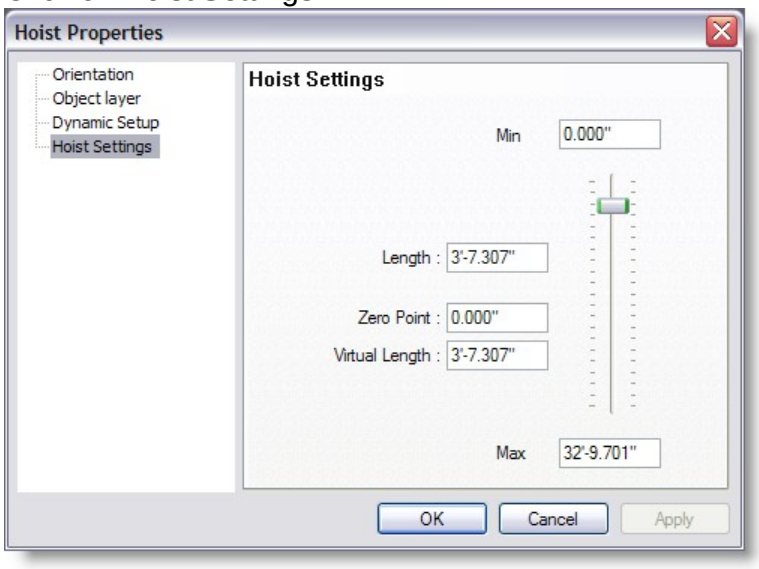


The Hoist Properties will open.
Click on Hoist Settings



Length: Here you can set the length of the chain.

Zero Point: Is the default value of a zero, example, for a rig to have all trusses at the same height but the motors are not all at the same height.

Virtual Length: This is the current value according to the Zero Point.

Example,
The Length is 18,
The Zero Point is 3

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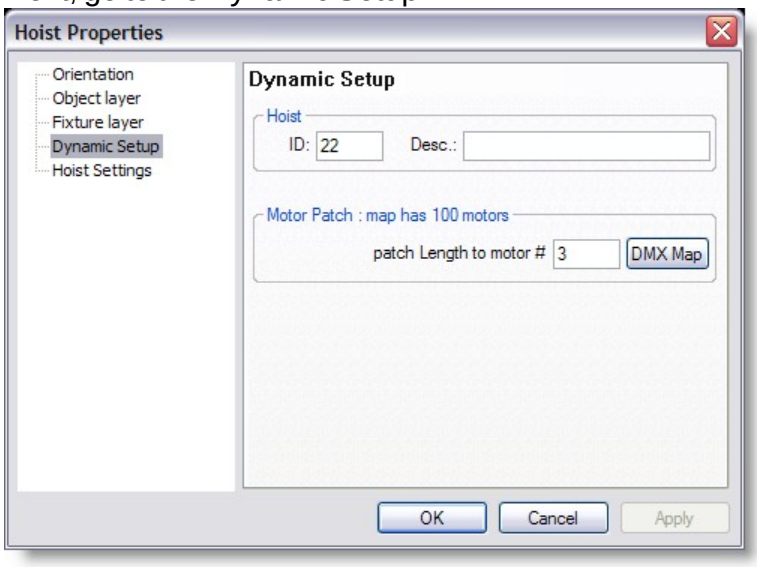
The position is at the maximum length.

the Virtual Length will be 7

Next, go to the Dynamic Setup



In the Dynamic Setup you can give the Hoist an ID and a Description of your own reference.

The Motor Patch is use to assign the control to a motor control.
Press the DMX Map to assign the motor control to a DMX address for simulation control.
See DMX for more details

Note: Is is possible to have an external motor control to communicate with MSD for more information contact Lighthouse

4.13 Materials and Textures

A material is a color or texture which you can apply to the surface of any object. There are several different ways you can use and manipulate a texture and it can get very complex. The best way to use a material is to think of it as an example of what you object is going to look like, rather than spending hours perfecting it.

Creating a simple material
Just like Objects, you need to create a list of materials you are going to use, before you apply them. You will find the Materials list in the same place as the Object list, under the view menu.

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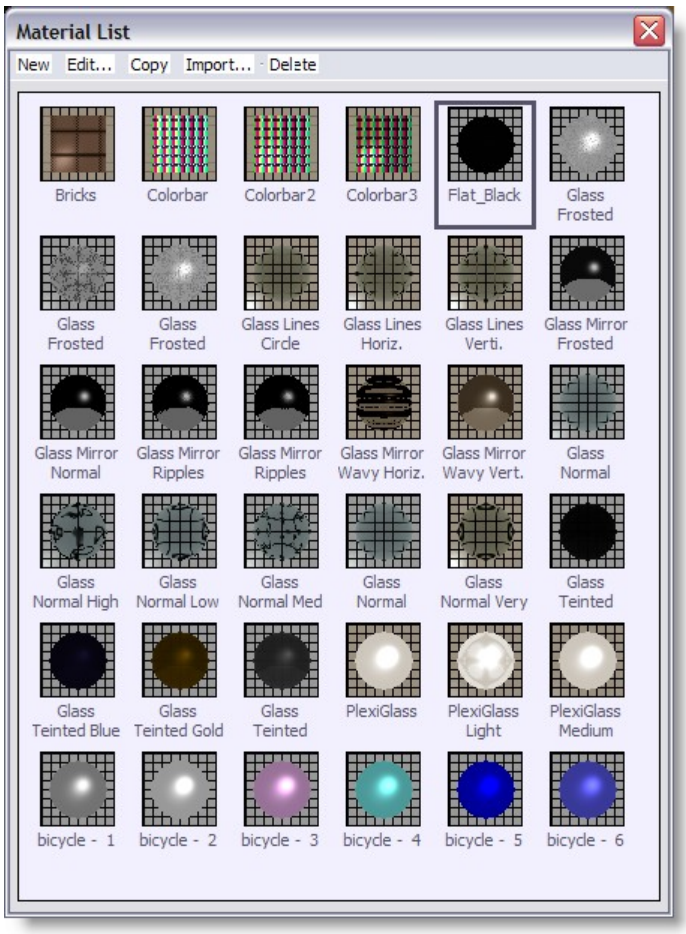

To create a new material, click on New and then Simple, this should open a material properties window. You can then apply a series of properties to what ever material you want to create.

Copying a material

You can use the copy function to make a copy of an existing material, this will save you time if you need two materials that are very similar.

Import a material

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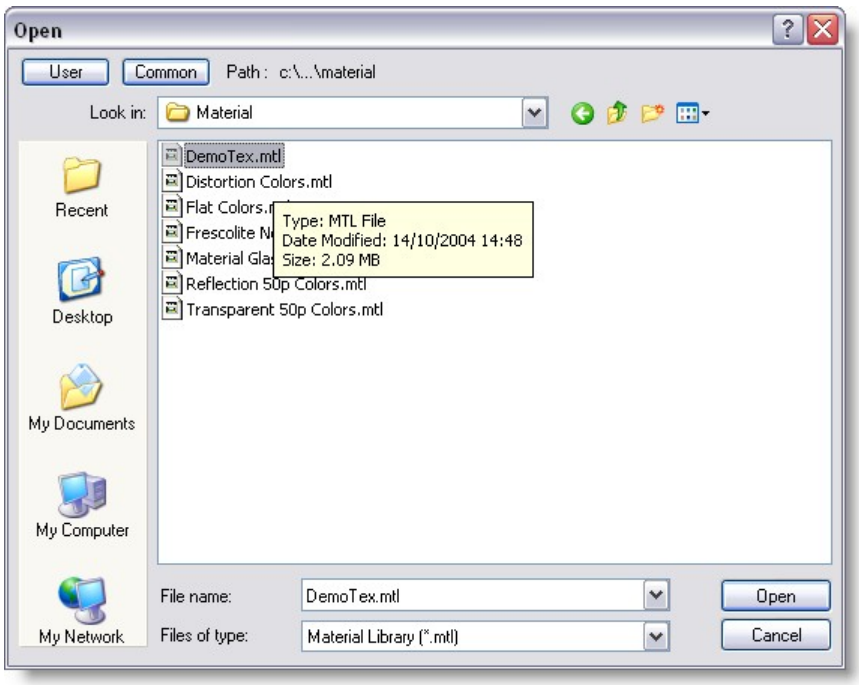

There are a number of pre-made materials for you to choose from, Import allows you to access these.
You can also import materials from other scenes that have been saved on your computer. To do this click on Import and change the file type to scene (.scn), then search your computer for the scene file and open it. It will then give you a list of all the materials that were used in that scene.

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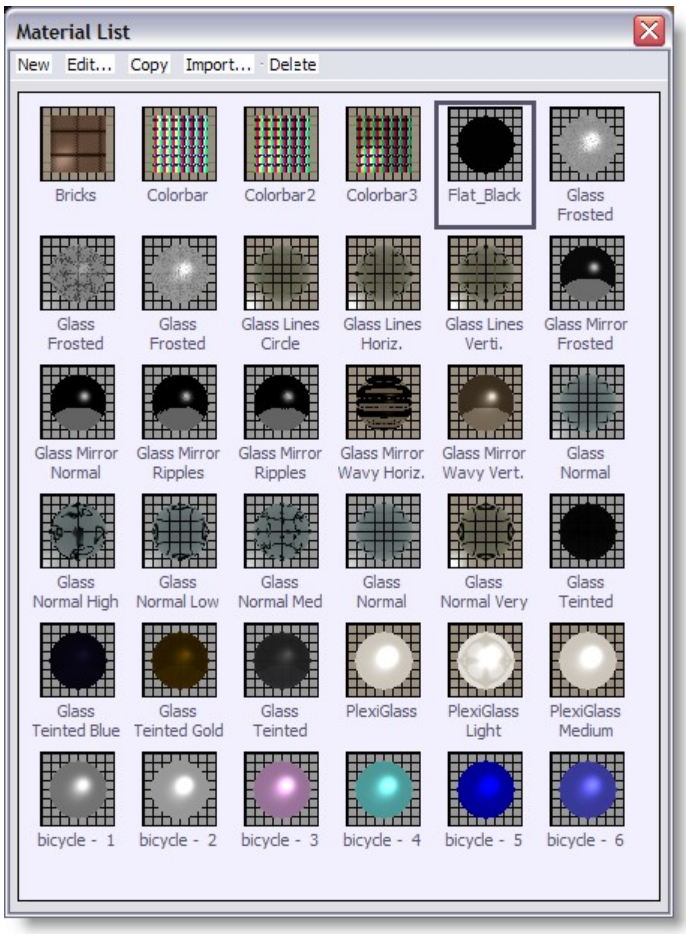

Delete a material
Simply click on the material you wish to delete and click on the delete

Applying your material

- Pick the object you wish to apply your material to.
- Open it's properties window, (Alt +Enter)
- Click on the Materials page.
- Select which part of your object you wish to apply the material to and click on it.
- Click on the material you wish to apply to the part
- Click OK

The Un-link button is so you can separate the material from the part.
The Add button allows you to add more materials to the list from other scenes, much like Import.

Tips: you can create your own Material library
Simple Start a scene in ShowDesigner and create or import all desired textures.
Save the scene.
Then, rename that scene with a MTL extension like "MyTextures.mtl"
When ever you want to import a material,

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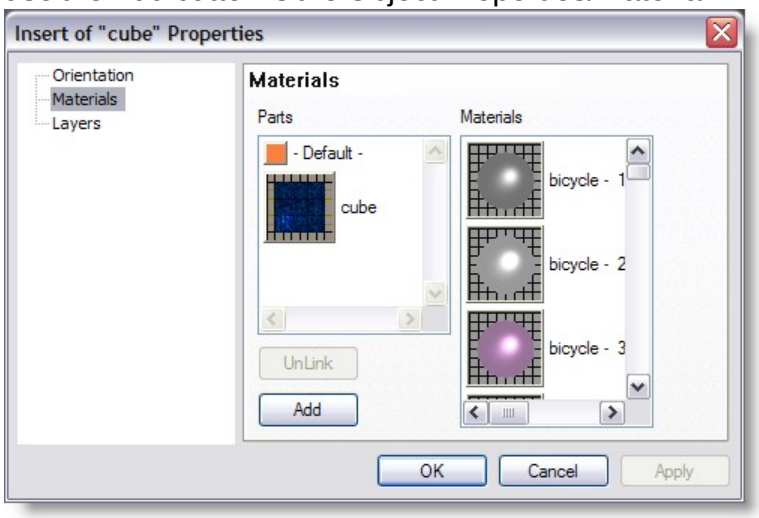
use the Add button is the Object Properties/Material

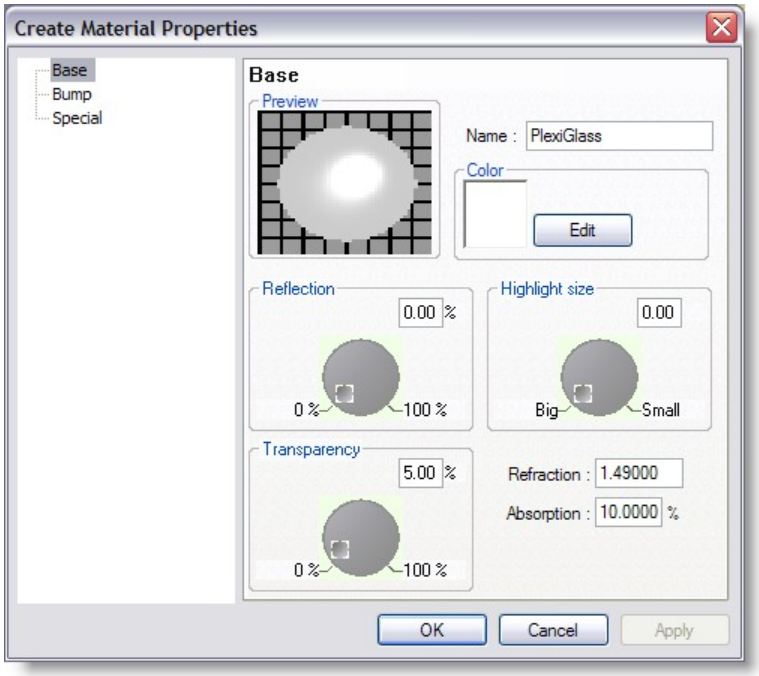


or use the Import button in the Material list.

4.13.1 Material Base

Both Material Texture and Simple have the same Base settings

All the parameters of the simple material can be set using the following property sheet, which has 3 property pages, named 'Base', 'Bump' and 'Special'.



Name: You can give your material any name you like

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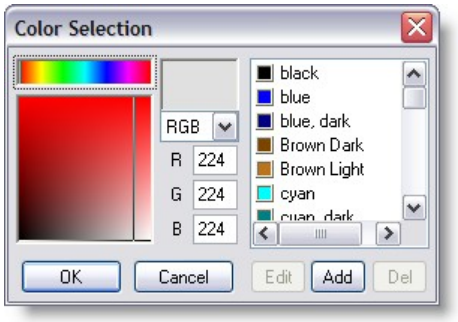
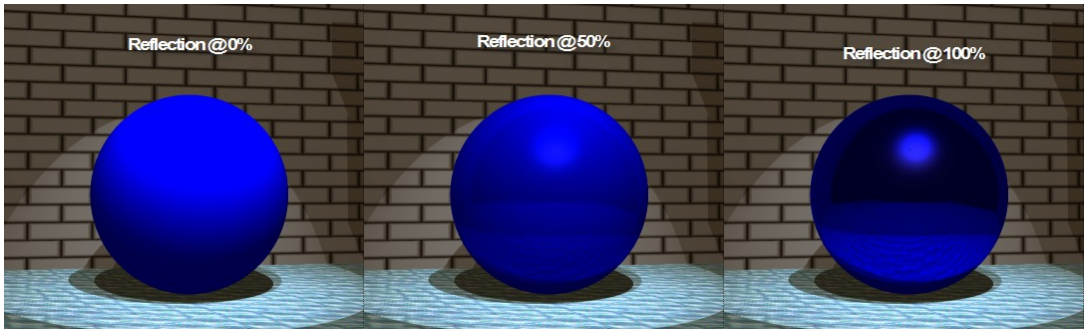
Color: This box contains a rectangle with the color of the material.
You can change the color of the material by clicking on the '**Edit' button**; this will display a color selection dialog in which you can select a new color.



There are two parameters that define the reflectance of a material. The first (on the left) is the reflection. This is the percentage of light that is reflected back. 0% indicates a dull surface and 100% indicated a perfect mirror. The second parameter (on the right) is the 'Highlight size'. This value is an indication of the smoothness of the material. If a material is rough, a big highlight can be seen on the surface. If a material is very smooth, the size of the highlight will be small. Below the reflection parameters you see the transparency parameters. On the left you see the transparency percentage, this percentage indicates the amount of light going through the material, the rest of the material will be reflected back or used to color the object depending on the amount of reflectance you have set.

Reflection: Make your material reflective. 0% will not reflect anything, 100% will work like a mirror.



Highlight size: Controls the size of the reflected light you see on the surface of the material. (Only works if you have a reflection on)

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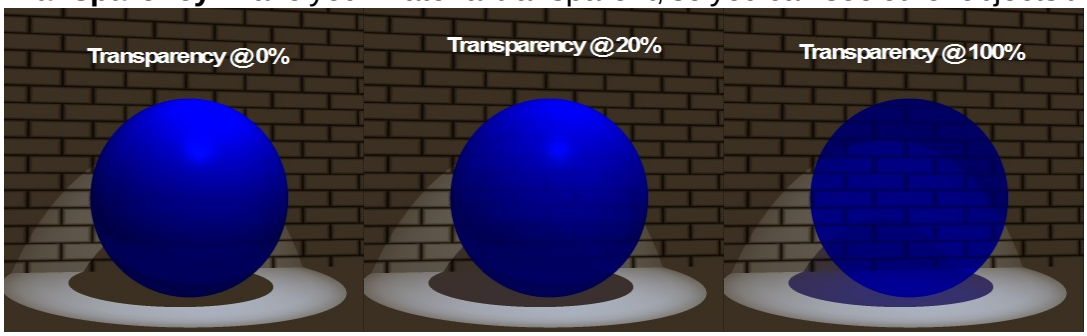
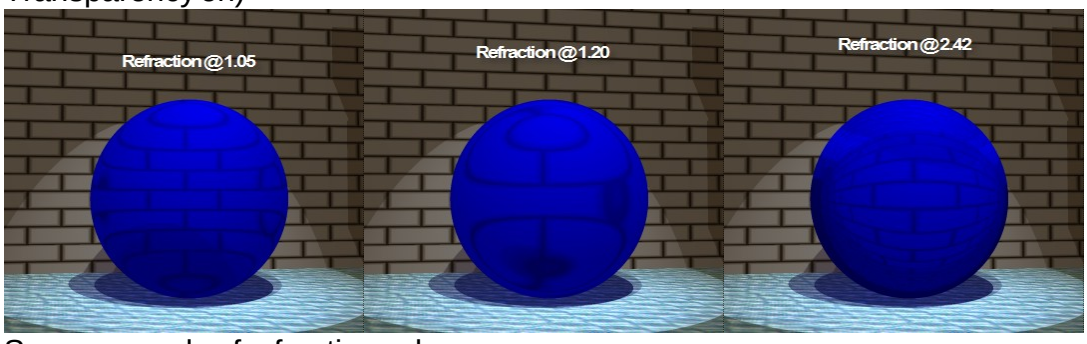
Below the reflection parameters you see the transparency parameters. On the left you see the transparency percentage, this percentage indicates the amount of light going through the material, the rest of the material will be reflected back or used to color the object depending on the amount of reflectance you have set. Next to the transparency percentage you see the other two transparency parameters.

Transparency: Make your material transparent, so you can see other objects through it.



Refraction: Control at what angle the material refracts light. (Only works with Transparency on)



Some example of refraction values

Diamond	2.42
Glass	1.55
Quartz	1.55
Perspex	1.49
Water	1.34

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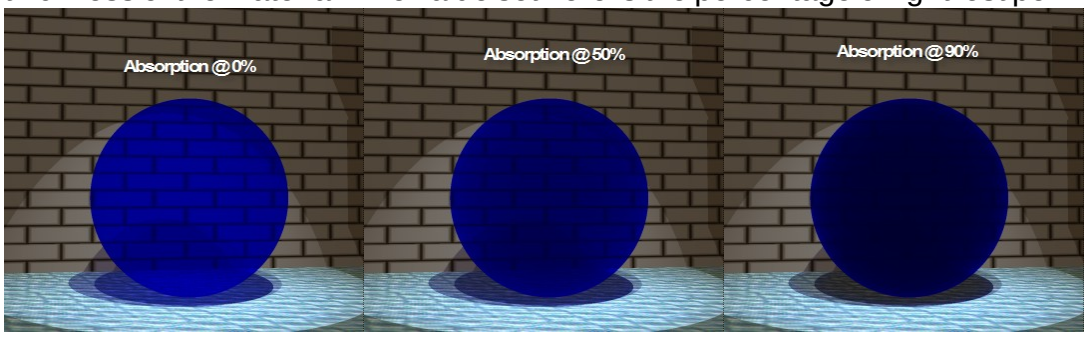
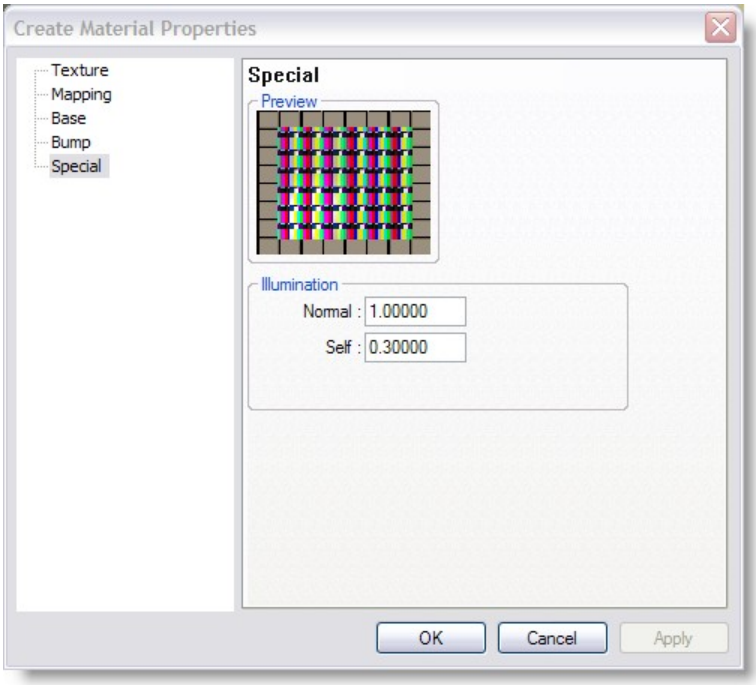
Ice	1.31

Absorption: Control how much the material reduces any light beam that passes through it. (Only works with Transparency on)
The absorption indicates how much light is lost in the material; this also depends on the thickness of the material. The value set here is the percentage of light lost per meter.



4.13.2 Material Special



In this page you can adjust two parameters that determine how the material is lit. The first parameter (normal) determines how much the material is lit by fixtures (the normal lights). A 1.0 means that all the light that hits the material will be used in the calculation, a 0.0 means that none of the light will be used, making the material look as if it not lit by any lights.
The second parameter is used to set the self-illumination. A 0.0 means that the material is not lit by itself and 1.0 means that the material is fully lit by itself.
These two parameters allow you to create special effects. You could create a backdrop with a texture of a sky on it, and by adjusting the 'Normal' parameter you could ensure

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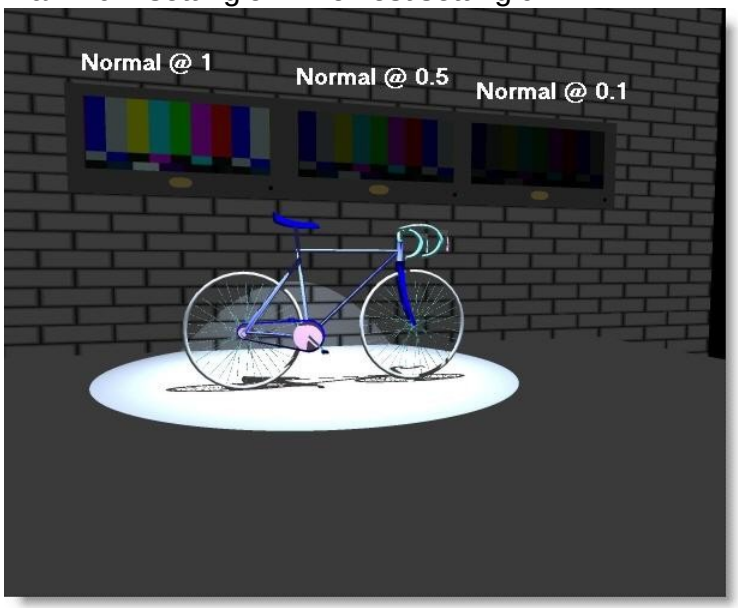
that no light from the fixtures would be visible on the backdrop. To make the backdrop just as light as the real sky you can set the 'Self'-illumination parameter to a higher value. Another effect you can simulate with these parameters is Fiber optics, you can use the self illumination parameter to light up the material without shining any fixtures on the material.

Normal Illumination
Reduce the amount illumination a light causes on the surface. Normally set to its maximum setting of 1. Lowest setting 0.



The 3 video screens above from left to right (With Self set @ 0)
A = Normal @ 1
B = Normal @ 0.5
C = Normal @ 0.1

Self Illumination
Cause a material to produce its own light, so it will glow like a television screen. Normally set to 0, a setting of 1 is the brightest.
Once you have created your material, simply click on OK to save it.

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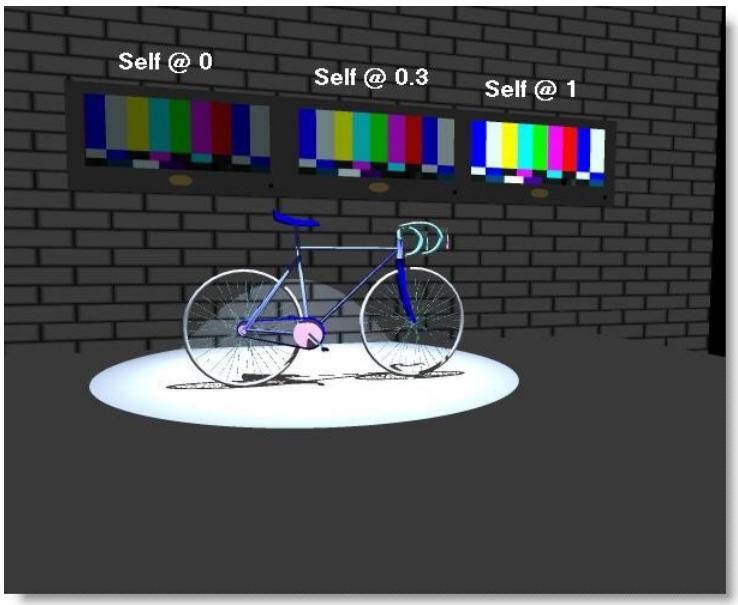
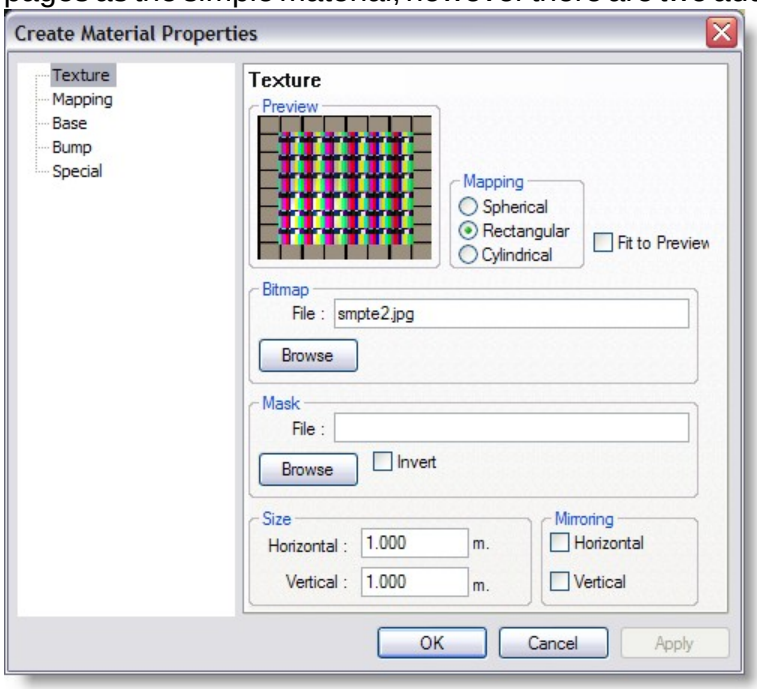


The 3 video screens above from left to right (With Normal set @ 1)
A = Self @ 0
B = Self @ 0.3
C = Self @ 1

4.13.3 Material Texture

Creating a textured material is almost the same as creating a simple material, except you click on Texture under the new menu, instead of simple.
Once the material properties window opens you will notice that you have the same three pages as the simple material, however there are two additional pages.



Mapping Spherical, Rectangular and cylindrical.

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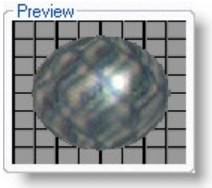
Here you can select how the bitmap will be 'pasted' on the object. If you select 'Spherical' or 'Cylindrical' the bitmap will be wrapped around the object.
If you select 'Rectangular' the bitmap will be pasted on the front of the object. If you select a mapping mode, some options in this dialog will change

Fit to Preview: Option only available to 'Rectangular' and 'Cylindrical' mapped textures. This option changes only the preview, when you activate this option; the size of the texture will be ignored when the preview is calculated. Instead of the size you entered, the size will be scaled to fit the cube / cylinder in the preview exactly.



Bitmap In the 'Bitmap' section below the preview you can select the bitmap that is used for the texture. The name can be typed in or selected from a list by clicking on the 'Browse' button.

Mask If you find a picture and use it in this section, any white or light colored areas will become transparent. It converts your picture into a greyscale image, anything between white and 50% grey becomes transparent and anything about 50% to black remains solid. The invert button swaps this around.

Here some examples using

this texture

and a mask

Normal Mask

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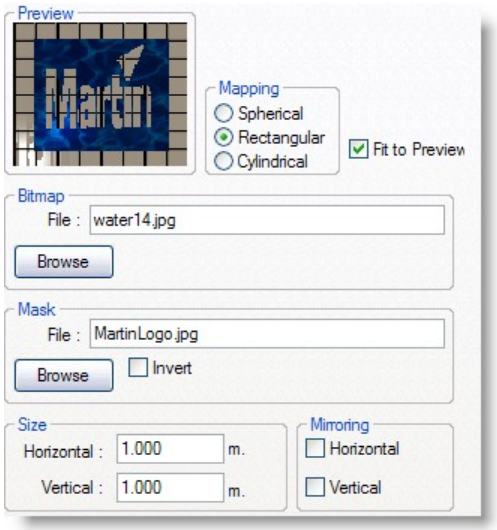
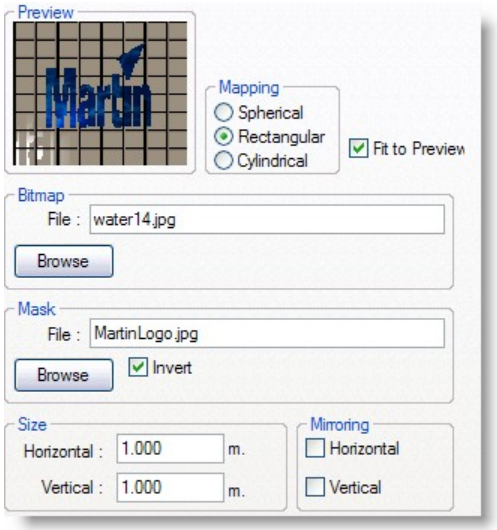


Inverted Mask



Size Below the 'Mask' area you can see a box called 'Size'. This is where the 'Spherical', 'Rectangular' and 'Cylindrical' modes differ:

- Spherical

  The horizontal number indicates the number of times the bitmap is repeated from the back of the object around the front to the back of the object again. The vertical

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number indicates the repetition count from top to bottom.

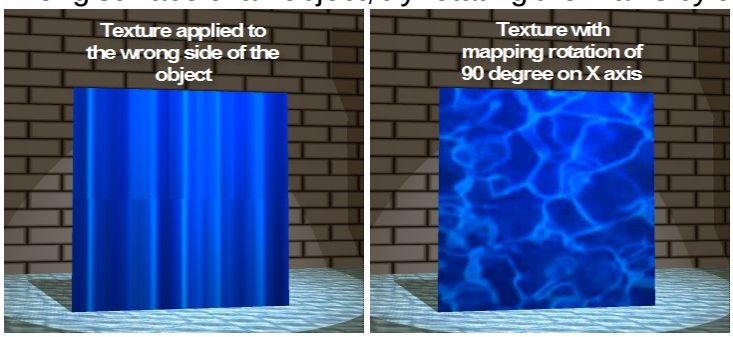
- Rectangular
  The horizontal number indicates the horizontal size of the bitmap (the size of the object that the bitmap represents). The vertical number indicates the vertical size.
- Cylindrical
  The horizontal number indicates the number of times the bitmap is repeated from the back of the object around the front to the back of the object again. The vertical number indicates the vertical size.

Mirroring When you have multiple pictures applied to your texture you can make it mirror the images. I.e. every other image will be reversed, see mirroring below.

Scale Is another way of putting multiple pictures into one texture. For example, 0.5 will split your surface in half and put 2 pictures on it side by side. 0.25 will split it into 4.

Offset Controls how far into your surface the picture starts

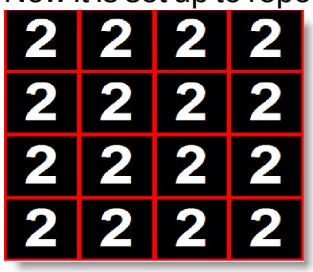
Rotation Can make your picture rotate to different angles. If a texture shows on the wrong surface of an object, try rotating the X axis by 90 degree



Mirroring

This example shows you the effect of using mirroring on a texture, this is the bitmap that is to be the base for the texture:

Now it is set up to repeat the image several times across the texture:



Now Horizontal Mirroring is switched on:

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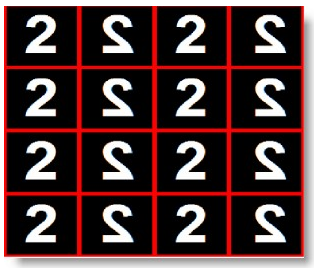
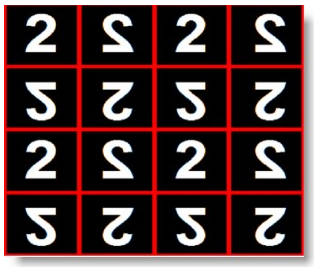
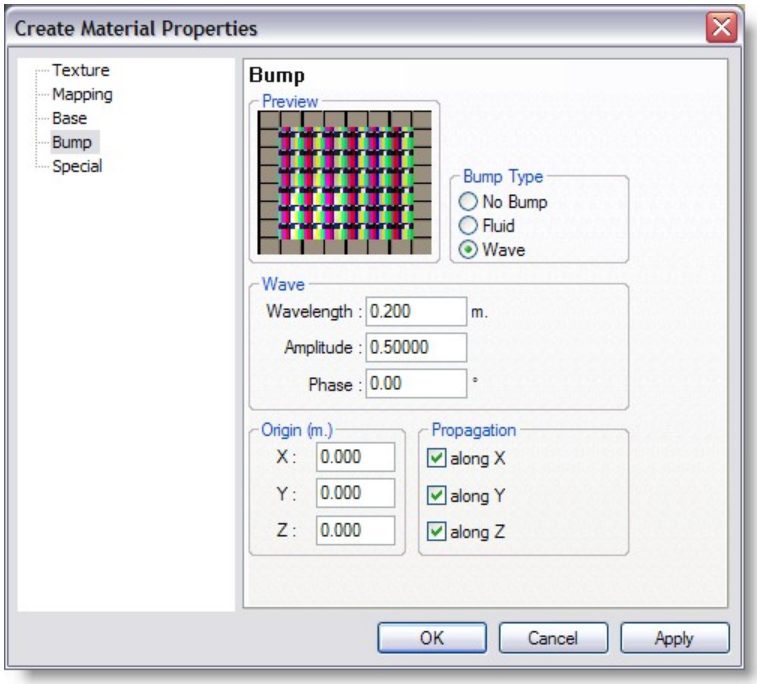


Now the Vertical Mirroring is switched on as well:



4.13.3.1 Material Bump



Next to the preview you see a box with the Bump Type of the material. The bump type can add a 'wavy' element to your material, to simulate water etc. Selecting the 'Fluid' option will simulate 'large water masses' by adding a semi random wave pattern. Selecting the 'Wave' option enables you to define a specific wave.

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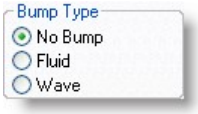
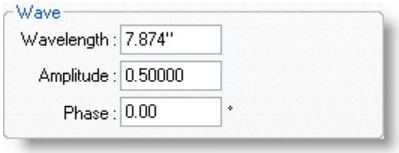


Bump Type:

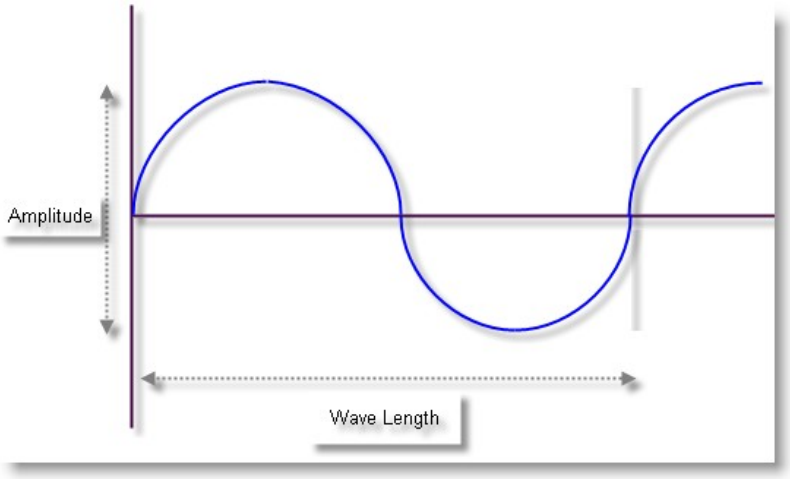
'No bump' turns the effect off,

'Fluid' will make the surface fairly random to make it look like water,

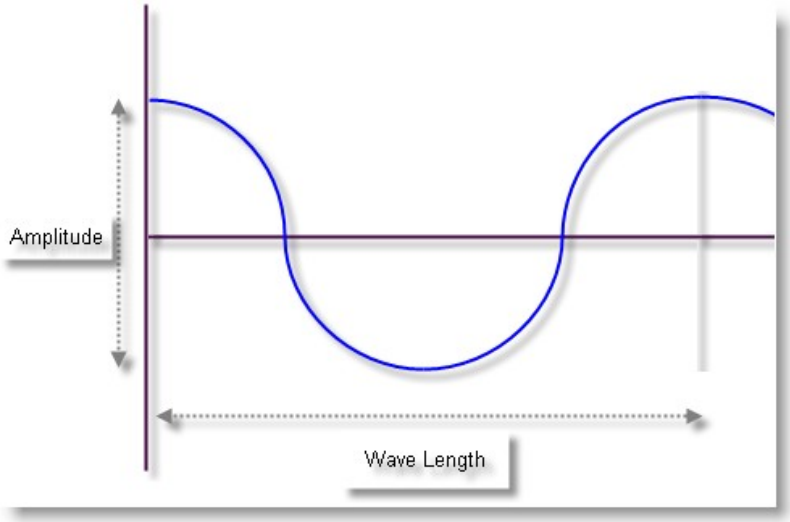
'Wave' will make the surface have an even wave on it. This will not change the shape of the object you put it on, it effects the way light is reflected off it.



Wavelength: Length of each wave



Amplitude: Controls the height of the waves



Phase: controls which part of the wave it starts with

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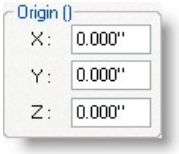
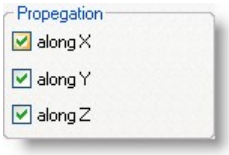
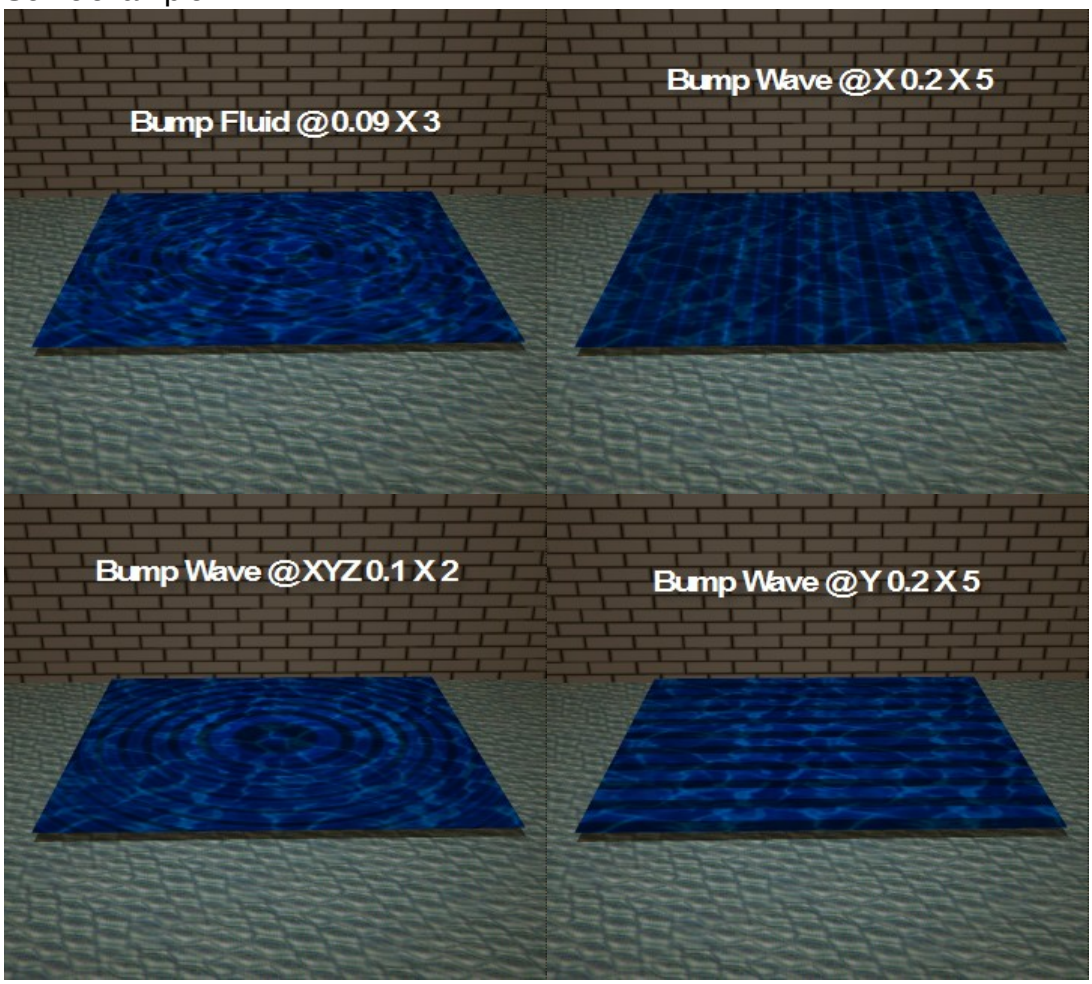


Origin X, Y, Z. Controls where on the material the wave starts



Propagation Controls which direction/s the wave moves in (Wave only)

Some example



4.13.4 Color Selection

Color Selection
Whenever you need to enter a color, the MSD software will display the following dialog.

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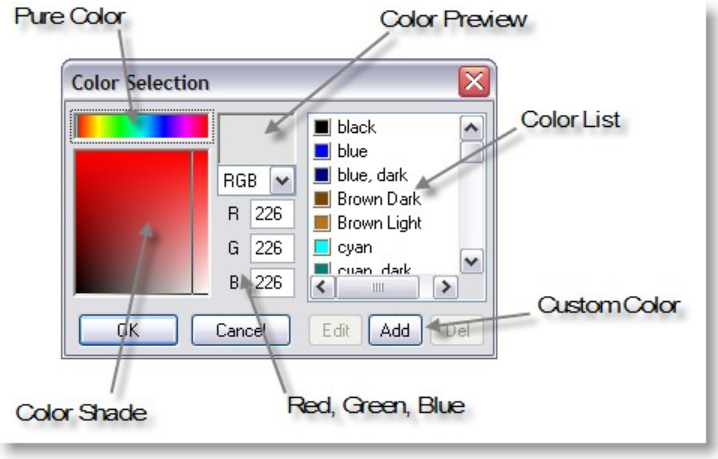
Color Selection



This dialog is divided into two parts, the left part allows you to enter a color using the mouse or by typing in the Red, Green and Blue values directly. On the right is a list of colors from which you can choose.
Selecting a new color

The 'Pure colors' field can be used to select the color displayed in the top of the 'Color shades' field. The 'Color shades' field can then be used to select the desired shade. On the left of this field all the shades between the pure color and black are displayed. On the right you will find all the shades between the pure color and white. While you are dragging the mouse in these fields, you can see the selected color in the 'Color Preview', and the RGB values in the edit fields.

Using the color list
The list can be used to quickly select a saved color. You can use the 'Add' button to add the selected color to this list. If you select a color from the list, the 'Edit' and 'Del' buttons will become available. With the 'Del' button you can delete the selected color from the list. When you click on the 'Edit' button, the following dialog will appear

Color list color edit

In this dialog you can change the name of the color and change the color by clicking on the button next to the name. When you click on the color button you will get a dialog very similar dialog except for the buttons beneath the list.

4.14 Rendering

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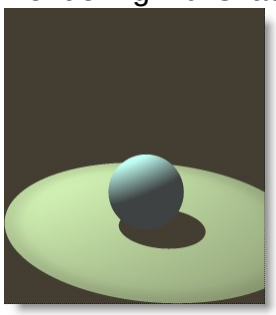
Rendering is a system that creates a high quality three dimensional view of your scene, taking into account light levels, beams, smoke levels, reflections and shadows.
Once completed your rendering is fixed and you cannot change anything about it. To do this you have to switch down to a lower graphics level and then render it again.
The rendering process is quite complex and takes a lot of computer power to complete. As a result it can take quite some time, even several hours on slower systems or with very large or complex scenes.
To speed this process up there is a system called Fast-Net Rendering, which utilizes several computers over a network in order to speed up the process, this is covered in a separate section.

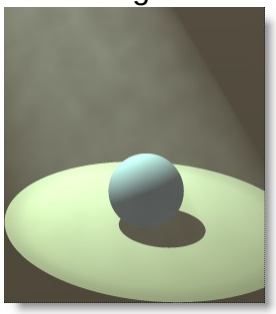
A rendering is a computer generated image of your scene that works out what exactly would come out of each fixture and what that light would do to any surface it hits.

More...
Rendering settings
Creating a Rendering with specific settings
Saving a rendered image

Rendering with shadow but without smoke



Rendering with shadow and smoke



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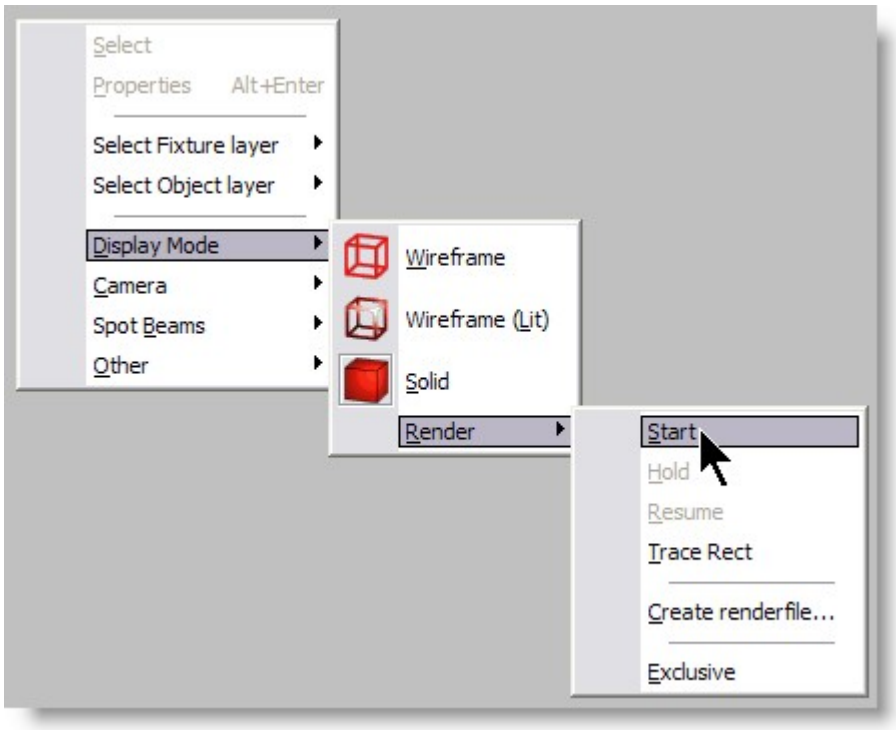
4.14.1 Rendering Creation

To do a quick rendering

- Select your 3D window.
- Adjust your camera settings so you have a good view of your stage
- Click on the Trace Shadow button

Now wait and watch your scene come to life. You will see a percentage count up in the top of you window, indicating how far it has got.

It's also possible to render a scene with different settings. To do this right click in a 3D view, then Display Mode > Render > Start



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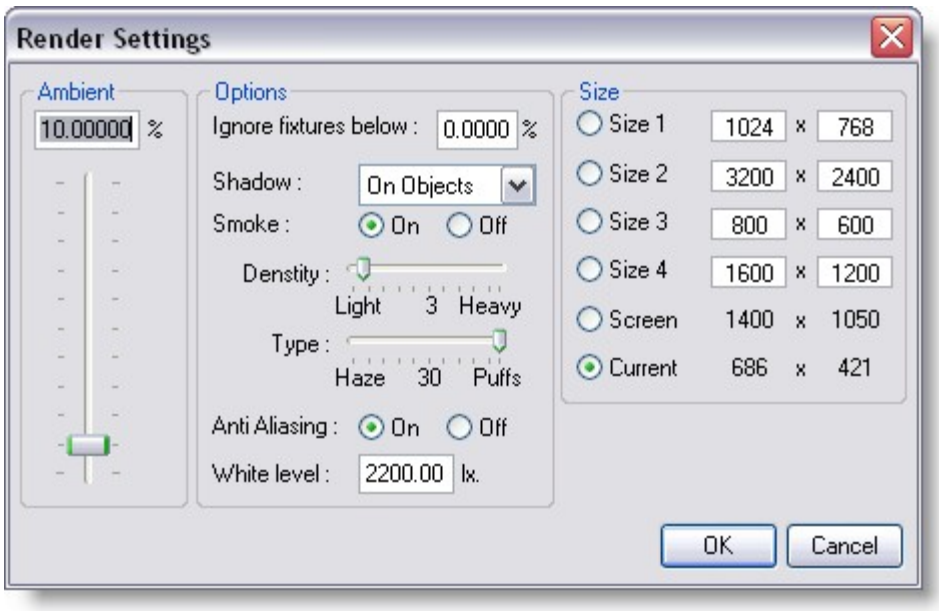
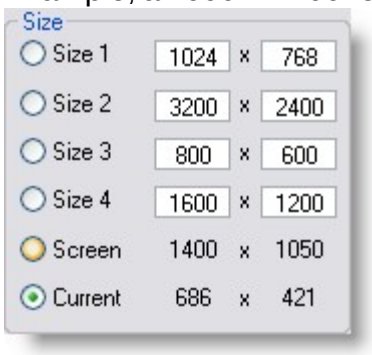


[See this topics for the render options settings]

Rendering can be done in different size. The higher the size (resolution the longer it takes)
Example, a 1600 X 1200 rendering will take 4 times the time for a 800 X 600 rendering.



Another consideration is the screen ratio use to set the camera view in MSD can be different then a screen ratio of the chosen size.

A way to know the current ratio is too look at the "Current" size
Example on the above screenshot, the current size of the 3D MSD window was 686 X 421 = a ratio of 1.63 (868 divided by 421)
In order to get the same ratio at 1600 X 1200, it should be set to 1600 X 982 (1600 divided by 1.63)

Start
The start option will start the rendering of the scene.

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Hold
The Hold option will temporarily stop rendering the window. This might be useful if you are rendering a complex scene. By setting the rendering on hold, you get more time to do other things (in this application or another). This option is only available if you are currently rendering in the window.

Resume
The Resume option will resume rendering a window, which was previously stopped by using the Hold option. This option is only available if the window is currently in a 'hold rendering' mode.

Exclusive
The Exclusive option is a special case of the Start option. The exclusive option will also start rendering a window, but if you choose this option, the ShowDesigner application will turn its full attention to the rendering process. This means that nothing else can be done with the ShowDesigner until the rendering process is completed. It can not be stopped! So be very careful to use this option. The only advantage of this way of rendering is that it is faster.

Create Render file
Use this to create a render for the Fast Net-Render

4.14.2 Saving a Rendering

To keep a rendering, for use in presentations or documents, under the Window Menu, click Save As Bitmap.

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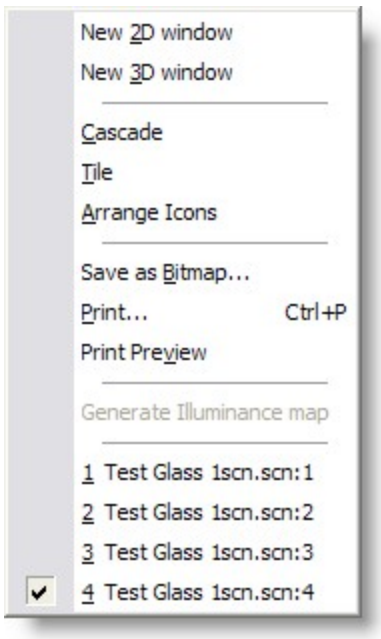

When saving a bitmap, it is possible to save it under different format.

When JPEG is chosen, the compression level can be set by press the JPEG Setting button.

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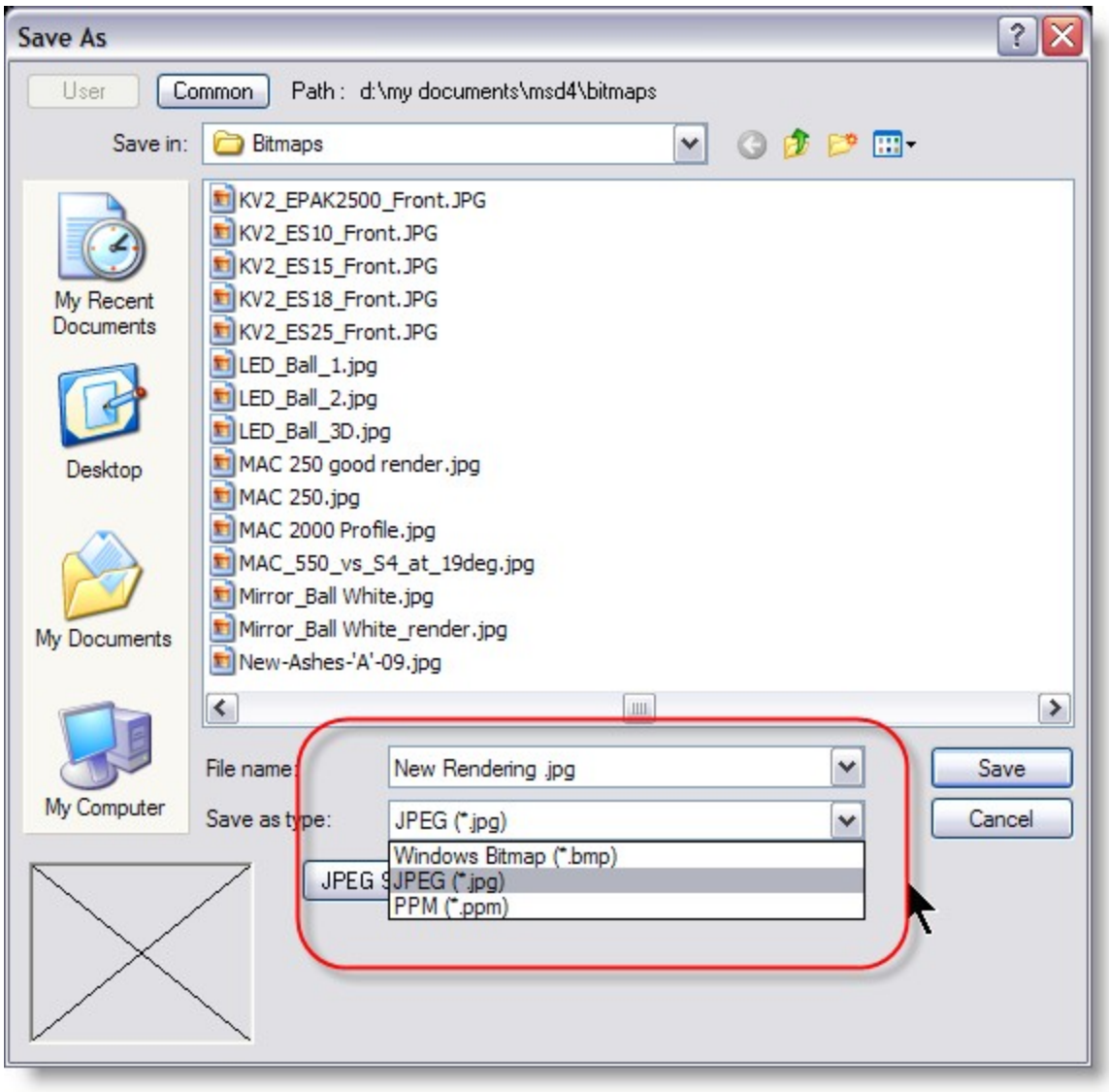

4.15 Lux Meter

Operation | Lux meter

Shortcut: **I**

This option activates and deactivates the Lux meter. When the Lux meter is active, you can take light measurements of the light falling onto an object.

The mouse cursor will change for when activated

The taking of the measurements start when you first click in a window. The program will

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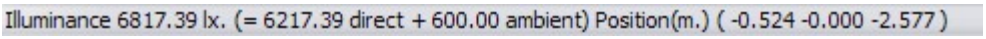
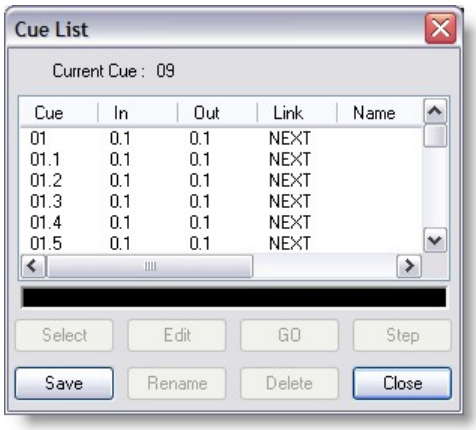
then gather and store information on the scene as it is at that moment. It will use this information to calculate the illumination, and this information will not change until you leave the 'Lux meter' by selecting it again.
This also means that you should not change anything in the scene while you are using the lux meter.
When you click somewhere in a window, the lux meter will start calculating (and will do so as long as you keep the mouse button down) the light falling onto the position you are pointing at.
The information will be displayed in the 'Statusbar' at the bottom of the application. It will look something like:



Illuminance 6827.39 lx. (= 6217.39 direct + 600 ambient) Position (m.)(-0.524, 0.000,-2.577)

This means *6827.39* lux falls on the position *-0.524, 0.000,-2.577* (of which *6217.39* lux directly from light sources and 600 from ambient light).

4.16 Cuelist



The cue list system allows you to store lighting 'states' with in the MSD and then play them back with simple timings. It is essentially a very basic lighting console built into MSD.
To bring up the cue list window, click on the View menu and click on Cue Lists.
This list shows all the cues in this scene. As you can see there are several cues in this scene. In new scenes this list will be empty, the above example is taken from an existing scene.
Then to save your current look, click on the Save button, this will open the Cue Save window. Then fill in the cue number box, with what ever number you want. If you start with a 1, the next time you open the save window it will automatically count on one for you. Then type in a name for your cue and click OK.

Once you have created a cue, there are a few things you can do with it. For information on managing cues, see 'Cues '.

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Cues can record incoming DMX values, so you can save the feed from a DMX controller and then play them back in your scene at another time.
When cues are running, the DMX values are outputted to other programs, for example the Visualizer and can therefore be used to control the lights in these programs.

At the top of the dialog, you can find the 'Current Cue'. This is the last selected cue. In the list itself, 1 or more cues can be highlighted. If an operation works on 1 cue only, it will be the first highlighted cue; otherwise it will work on all highlighted cues.
At the top of the list you see a gray area with the text 'Cue', 'In', 'Out', etc. This is called the header. In the header you can also see vertical lines. If you move your mouse cursor over these lines, you will see the cursor of the mouse change into a vertical line with two little arrows. When this happens you can click the left button of the mouse and while holding it down, move the mouse left and right. As you are moving the mouse you will see that the column width of the list will change. A double click on the vertical line will change the width of the column to the minimal width required to display all text in that column. Every cue has 8 columns:

- **Cue**
  This is the identifier of a cue. It can range from 1 to 999.999.999, which represents cue 999, subcue 999 and subsubcue 999.

- **In**
  This is the cue fade in time (in time notation).

- **Out**
  This is the cue fade out time (in time notation).

- **Link**
  Here you can specify a cue link to another cue.

- **Name**
  A descriptive name for the cue.

- **Follow**
  This specifies the follow-on time if a link is specified.

- **Delay In**
  This is the cue delay in time (in time notation).

- **Delay Out**
  This is the cue delay out time (in time notation).

At the bottom of the window are eight buttons. The functions of these buttons are described here:

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- **The Select button:**
  Allows you to select the highlighted cue and it will become the current cue. In other words, the stage will represent this cue.

- **The Save button:**
  The stage settings will be saved as the highlighted cue.

- **The Edit button:**
  Allows you to edit the cue properties (fade times, delay times, link etc) of the (first) highlighted cue.

- **The Rename button:**
  Allows you to edit the cue number of the highlighted cue.

- **The GO button:**
  Will start a crossfade from the current cue to the highlighted cue. The Step button will turn into a STOP button.
  After the crossfade is done, and an autolink is specified, the next crossfade to the linked cue is automatically started, and so on. It will stop when no autolink cue is specified or the user presses the STOP button. (See also Step)

- **The Delete button:**
  The Delete button will delete the highlighted cue(s).

- **The Step button:**
  The step button will start a crossfade from the current cue to the highlighted cue. While crossfading, the Step button will turn into a STOP button. After the crossfade is done, it stops. If an autolink is defined, it will not be executed. A crossfade can be stopped at any moment by pressing the STOP button. (See also GO)

- **The Close button:**
  The close button will close this window. You can leave this window open while you work with the program, or close it to have more room on the screen for other windows. Selecting the 'Cue list...' menu item from the 'View Menu' can open this window again.

Cues

A cue number represents a cue. You can define up to 999 cues. Each cue can be subdivided into 999 subcues (point cues) and each subcue can again be subdivided into 999 parts. This 3 level numbering is only used for sorting of the cues, so there is no difference between a cue with cue number 7 and a cue with number 4.27.200, it only means that cue 7 comes after cue 4.27.200
So, the 998001999 possible cues are sorted like this:
001
001.001

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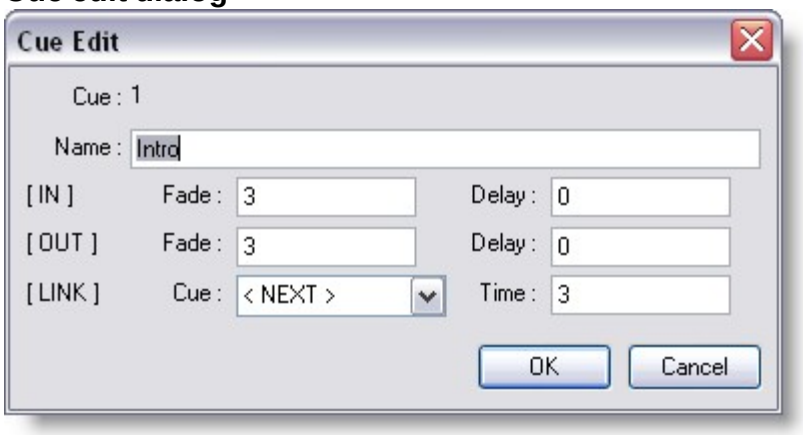
001.001.001
..
001.001.999
001.999
001.999.001
..
001.999.999
..
999

Cue edit dialog



You can give the cue a name, time settings and (optionally) a link.

The name of a cue is purely informational for the user.

After [IN] you can enter the 'fade in' and the 'delay in' time.
After [OUT] you can enter the 'fade out' and the 'delay out' time.
After [LINK] you can specify if you want a link to another cue, and if so, what the 'link time' should be.

Time values are entered (and displayed) in 'time notation'. This format looks like this: [[hours:]min:]sec[.tenthsec]

The elements between [and] are optional. The minimum time you can enter is one tenth second (0.1) and the maximum time is 999 hours, 59 minutes, 59 seconds and 9/10 of a second (999:59:59.9). So 20 is 20 seconds, 1:10 is 1 minute and 10 seconds, etc. You can enter a time in different ways: entering 5025 (5025 seconds) or 83:45 (83 minutes and 45 seconds) will both produce 1:23:45 (1 hour, 23 minutes and 45 seconds) as time.

Default, a cue is linked to the next cue, so after 'link cue' you will see '< NEXT >'. You can select a link from the drop down box by clicking on the down arrow next to it. In the drop down box you will find the options '< NO LINK >', '< NEXT >' and all other cues. By selecting a link, a crossfade to this linked cue will automatically start 'link time' seconds

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after you started the crossfade to the cue you are editing. Selecting '< NO LINK >' will remove any link, and selecting '< NEXT >' will link to the next cue in the cue list, if there is a next cue, otherwise the crossfading stops.

- **A crossfade example:**

A crossfade from cue A to cue B, where cue A has a 'fade out' of 5 sec. and an 'delay out' of 2 sec. Cue B has an 'fade in' of 4 sec, an 'delay in' of 6 sec, a 'cue link' to cue C and a 'link time' of 15 sec.

Crossfade timing example

Time (sec)	**Crossfade**
T	User starts the crossfade by pressing the 'GO' button.
T + 2	Cue A starts to fade out.
T + 6	Cue B starts to fade in
T + 7	Fade out completed.
T + 10	Fade in completed.
T + 15	The next crossfade (to cue C) starts.

4.17 DMX Control

It is possible to use a DMX input device to control the lights in your scene.

To use this you first need to select where the DMX is going to come from.

Click on the DMX menu and then click on Select Driver, you may have to restart the program for your settings to take effect.

You then have two options for using DMX, under the DMX menu, you can either take a snapshot or set the program to follow the DMX.

Follow
The follow option will turn on/off the follow mode. If the follow mode is active, The program will be sampling the incoming DMX and update the stage settings accordingly, until you turn the follow mode off.

Snapshot
A snapshot will literally snapshot the incoming DMX and put the lights to the appropriate positions, colors etc. Useful for just picking up a quick look from a DMX feed.

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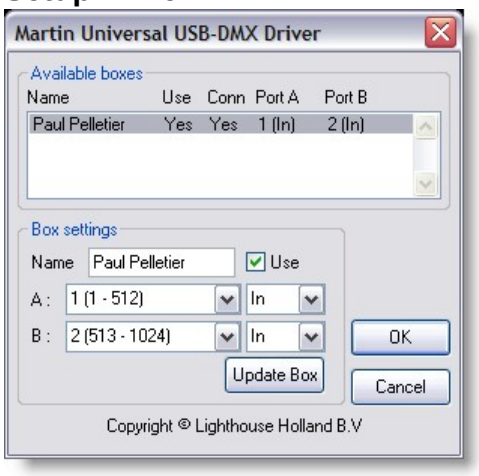
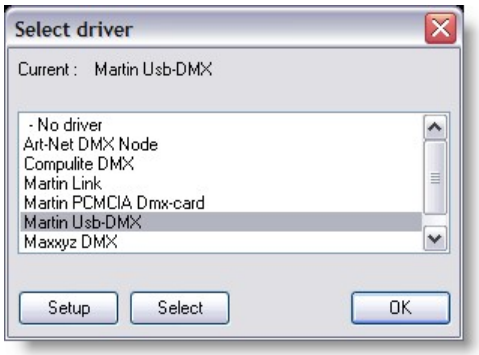
Setup Driver



This option allows you to change the settings of the current driver. What kind of settings (if any) are available depends on the active DMX driver.
Settings can be such as using if the device is using as a DMX in or out and select which universe it is map to...

Select Driver...



This option allows you to select which of the installed DMX drivers you want to use.
If you select another driver, it will be used the next time you run the program. In other words, you have to exit and restart the program to have the change of DMX driver take effect.

If you want to communicate between MSD module (ShowDesigner to 3D Visualizer) set the Driver to None. also set the Follow to Off.

DMX Motor Map

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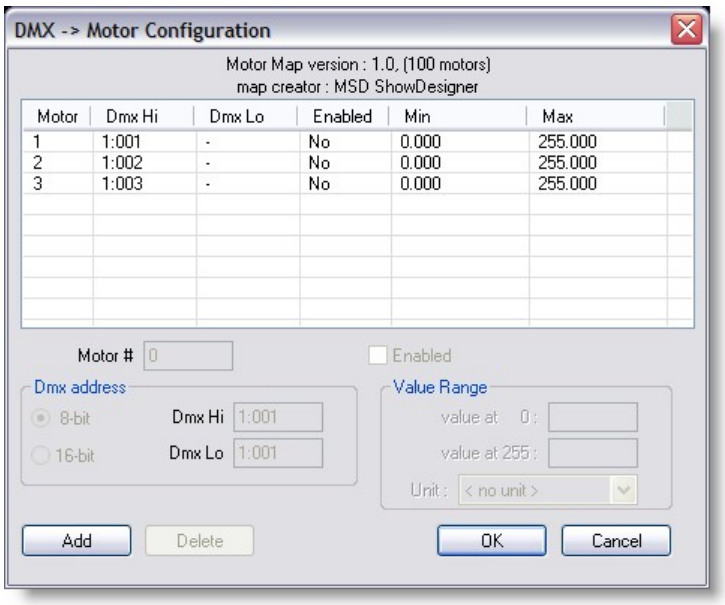
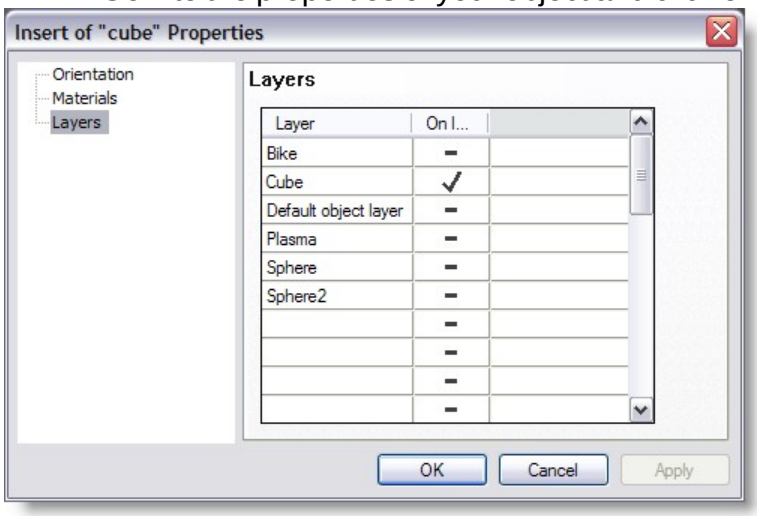


The Motor Map is to patch Dynamic objects to DMX control for simulation purpose.
A Motor can be patch in 8 or 16 bit DMX control
The Channel settings are set in the DMX Hi o and Lo (only hi for 8 bit mode)
The Value range sets the limits of the motor from the DMX control.

4.18 Layers

Creating and using object layers
Once you have inserted your first object, you should put it on a layer. Then for every subsequent object, put it on a layer as you go. This will not only save you time, but a huge headache later on. Here is how you create a layer and put an object on it:

- Go into the properties of your object and click on Layers



- Under the Layers column, click on a blank layer.
- Type in a name for your layer, e.g. Floor, stage or ceiling

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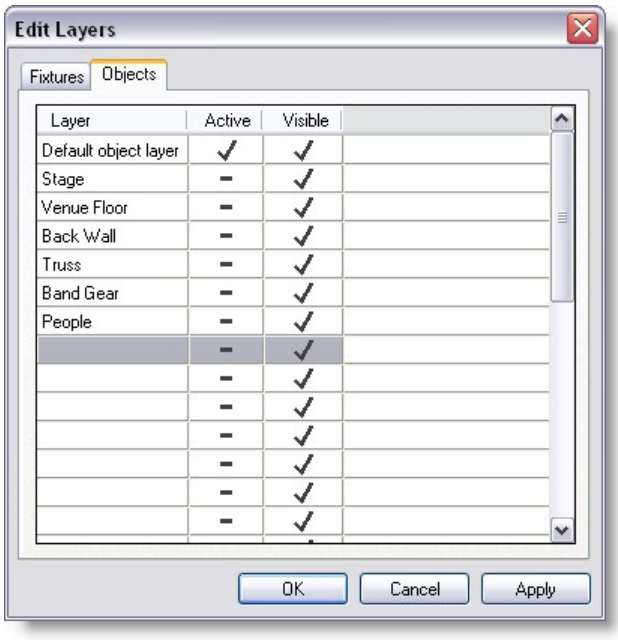
- Click on the box to the right of your name, a tick should appear
- Click OK

Every time you put an object in, you should put it on a layer straight away. Then put other objects that are located in the same area on the same layer. For example, put your stage, staging blocks, risers, stairs, set, musical instruments and people all on one layer called stage. Create new layers for different areas, for example create another layer for your trussing or lighting bars. You can then split it down even further into front of house lighting, front stage lighting, rear stage lighting, side lighting etc.
Once you have set all this up, you can then turn off the layers you don't want to see at any one time. Simply click on Object Layers or press Ctrl + L, this will open the layer control window. In the visible column you can turn on and off which layers are visible.

You can also use this window to change the current active layer. When you insert a new object it will automatically be placed on the current active layer, saving you time and effort.



Press to access the Fixture Layer control directly

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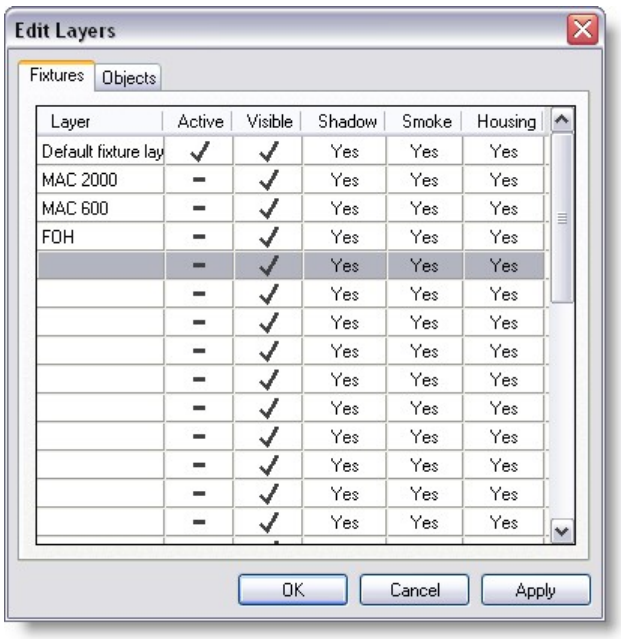

Note: More layers option exists in the 3d Visualizer module

4.19 Fast-Patch

Fast-Patch™ is a function to easily and quickly change the patch of fixtures and a number of accessories. It can patch automated and conventional lights. In conventional lights the dimmer as well as the first 2 scrollers, the first gobo wheel and the first effect wheel can be patched.

Fast-Patch™ is started from the operations menu or from the toolbar with the icon or the **P** hotkey. When the operation is started, the following dialog is shown.

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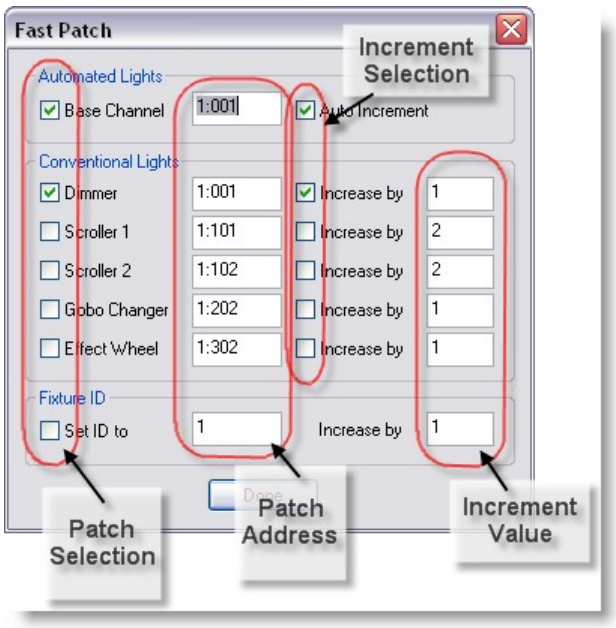
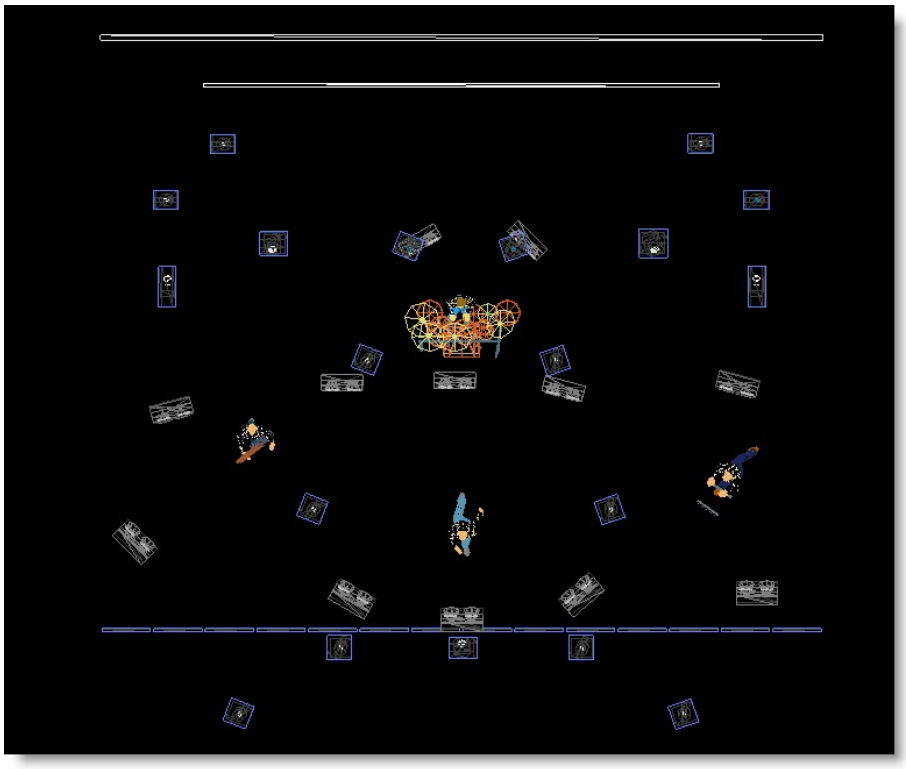


All fixtures will have a blue box around, as you click on fixtures to patch them the blue box will disappear. This make it easier to remember which fixture was patch in the current Fast-Patch session.



This dialog will remain visible until the operation is finished. You can finish the operation by closing the dialog, by clicking on the 'Done' button in the dialog, starting another

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operation or by selecting this action again.
Patching is done by clicking on a fixture. The selected fixture will turn blue while the left mouse button is down. If you hold down the left mouse button, you can check if the correct fixture is selected, and if not cancel the operation width the right mouse button.

The check marks in the Patch selection group indicate whether the channel will be patched in fixture or not. This allows you to quickly patch the dimmer and a number of accessories of conventional lights with one click.
The selected fixture will be patched to the DMX address as indicated in the Patch address fields. The check marks in the Increment selection turn on the Auto increase function. In conventional lights the DMX address is increased by the number entered in the increment fields. In Automated lights the increment depends on the number of channels that is used by the fixture.

When patching automated lights, you can come at the following situation. All channels of a automated light need to be on the same universe, so when you try to patch a automated light that uses 10 channels on address 1:510 they won't fit.
In this case you will see the following message :

If you answer this question with 'No' than the patch will be canceled.

4.20 Printing in ShowDesigner module

Printing from the ShowDesigner module

You can print a scale drawing of any of your windows.

Simply click on the 2D window you wish to print from.

Then click on Window and then Print, this should open a standard windows print window.

Once you click on OK and scale windows will open asking you what scale you want to use. Choose your scale and click OK to complete the print.
The Print Preview option will give you an idea of what your print is going to look like.

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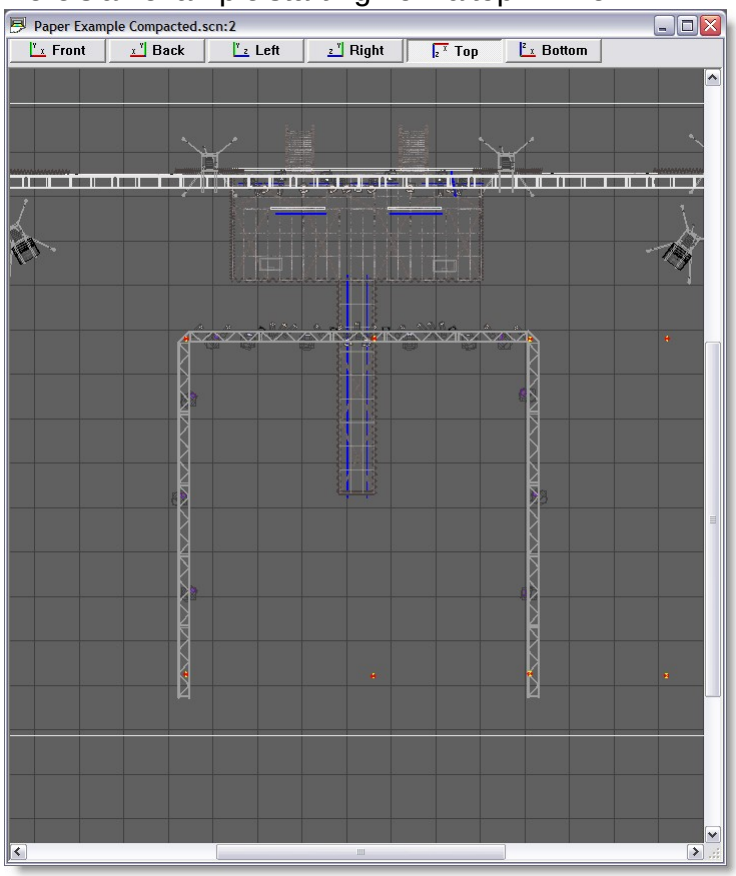
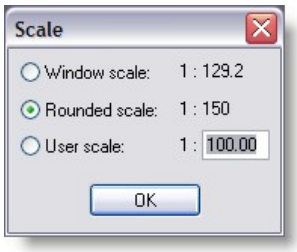
If you have the grid turned ON, a grid will be print in the background with dimension at the edges.

For more printing options see the Paper module

Here's an example starting from a top 2D view.





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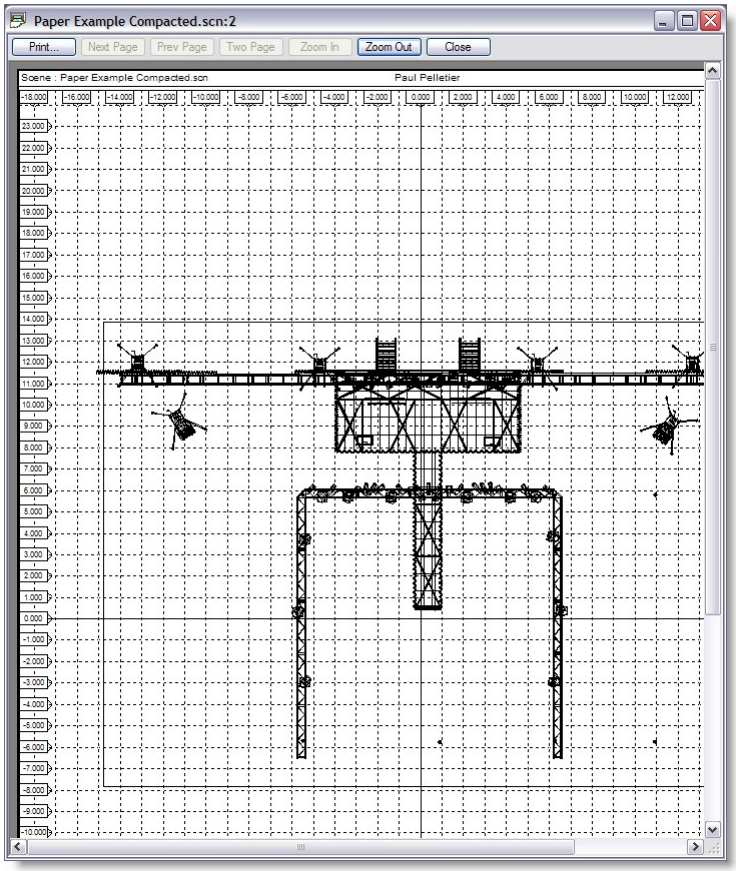

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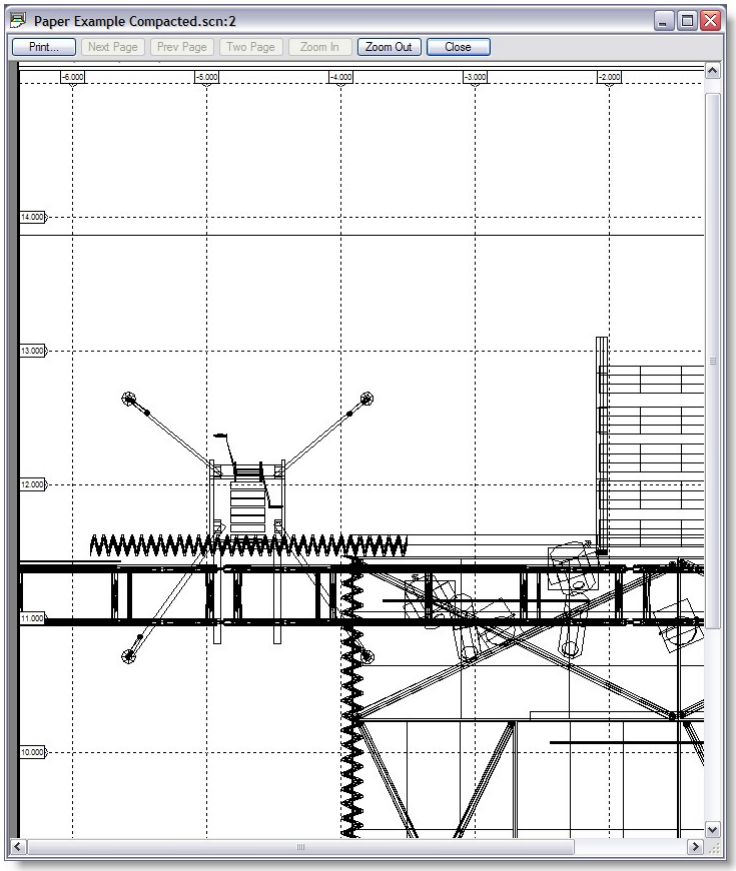

4.21 Fixtures automatically imported in a scene at startup

When creating a new scene, by default some Martin fixture are imported.

It is possible to avoid this.

In the folder "C:\Documents and Settings\All Users\Documents\MSD4\Spots" there is a file called "Default.spt"

This file contains several fixture definition of Martin fixture.

Rename this file so something like "default_.spt"

Now when you start a new scene there will be no fixtures imported.

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Modeler

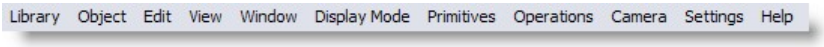
Part V

5 Modeler

Introduction

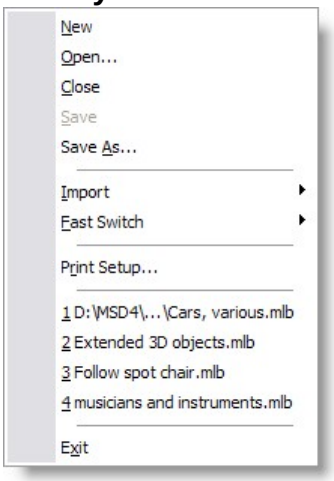
The Modeller is a module of the MSD software package. The Modeller enables you to design and create objects and save them into libraries.
You can use these objects later to create a scene in the ShowDesigner.

5.1 Menu



Library
Object
Edit
View
Window
Display Mode
Operation
Camera
Settings
Help

Library Menu



You will use the entries in this menu to open, close and save files, setup the printer, get information about the program and exit the program.

Library | New

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Shortcut : **Ctrl+N**

This menu is used to create a new library. The system will ask to save any changes to the current library if a library is already open.

Library | Open...

Shortcut : **Ctrl+O**

This menu is used to open an existing library. You will be presented with the standard file dialog in the modellib directory. After you selected a library, the current library will be closed and the new library will be opened. If the current library was changed since the last save you will get the opportunity the save these changes or cancel the open command

Library | Close

Use this menu item to close the current library. If the current library has any unsaved changes you will get the opportunity to save these before the library is closed.

Library | Save

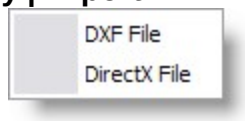
Shortcut : **Ctrl+S**

Save is used to save the current library. If the current library was never saved before, you must enter a name for the new library.

Library | Save As...

This menu item is use to give the library a new name. If you use this option you must select a new name for the library. The library is then saved using this name. Any subsequent saves of the library will be done using this name

Library | Import...



This menu allows you to import other types of libraries like DXF and X format. See Import DXF for more detail

Library | Import | X File

This option allows you to import an X file (in the Microsoft DirectX format).

Library | Fast-Switch

Use Fast-Switch to Re-open a scene edited in Modeller back to the Show Designer or other module. See Fast-Switch for more details

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Library | Print Setup...

This option allows you to setup the current printer.

Library | Recent files

Here you will find the 4 last saved/opened files. By selecting one of these files you can open the selected library.

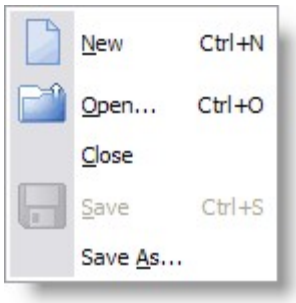
Library | Exit

Shortcut : **Alt+F4**

This option will shut down the program. If there is a library open and if this library has any unsaved changes you will be asked to save these changes or cancel the operation.

Object

You will use the entries in this menu to create, open, close and save objects.



Object | New

Shortcut : Ctrl+N

This menu is used to create a new object. The system will ask you to save any changes to the current object if an object is already open.

Object | Open...

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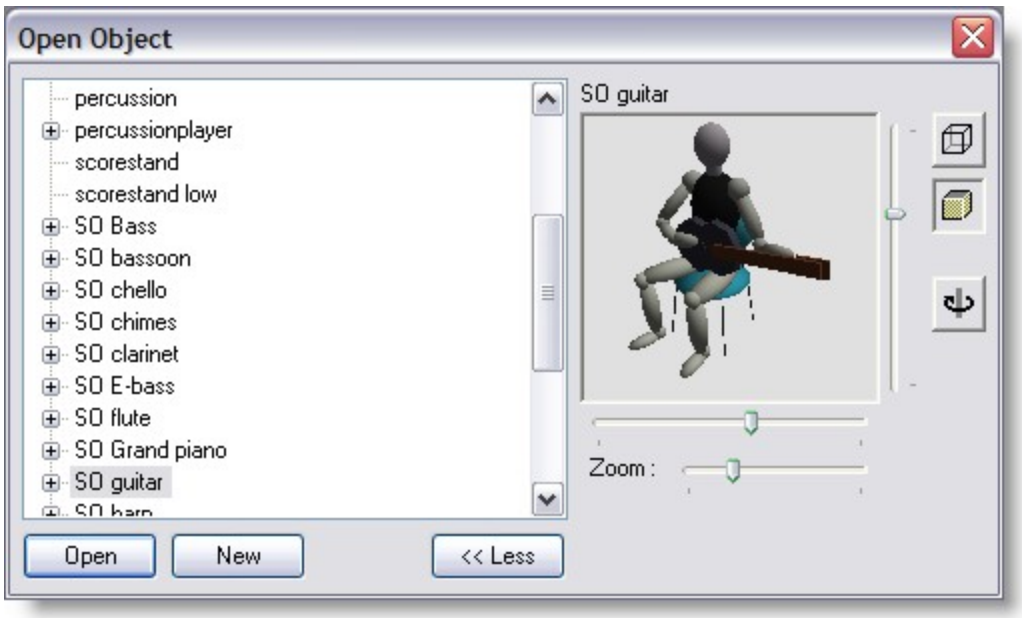

Shortcut : Ctrl+O
This menu is used to open an existing object.
You will be presented with a list of objects present in the current model library. Just like the 'Object List ' it has an optional preview, which you can be (de)activated using the '<< Less / More >>' button.
The object window has a 'tree view', allowing you to see and/or select the (inserted) sub objects of an object. After you select an (sub)object and click on 'Open', the current object will be closed and the new object will be opened. If the current object was changed since the last save you will get the opportunity the save these changes or cancel the open command.

Object | Close
Use this menu item to close the current object. If the current object has any unsaved changes you will get the opportunity to save these before the object is closed.

Object | Save
Shortcut : Ctrl+S
Save is used to save the current object. If the current was never saved before, you must enter a name for the object.

Object | Save As...
This menu item is used to save the object with a new name. If you use this option you must select a new name for the object. The object is then saved using this name. Any subsequent saves of the object will be done using this name.

Edit menu

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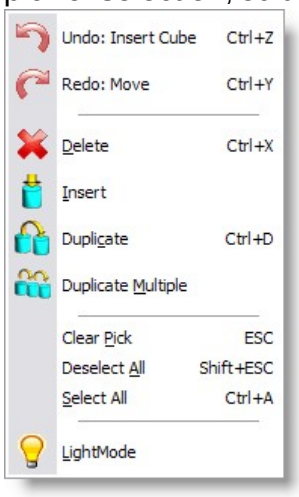
You will use the entries in this menu to delete, copy and insert objects and fixtures, clear pick or selection, edit layers and switch between 'Light Mode' and 'Normal Mode'.



Edit | Undo

Shortcut : **Ctrl+Z**

This option will undo the last action (if there is one). The text after 'Undo' indicates the nature of the last action.

Edit | Redo

Shortcut : **Ctrl+Y**

This option will redo the last 'undone' action (if there is one). The text after 'Redo' indicates the nature of the last 'undone' action.

Edit | Delete

Shortcut : **Ctrl+X**

This option will delete the picked object.

Edit | Duplicate

Shortcut : **Ctrl+D**

This option will copy the picked object. When you click with your left mouse button inside a window, the copy will be inserted into the current object.

If you keep the mouse button down, you can directly move the inserted copy around until you release the mouse button.

Edit | Duplicate Multiple

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This option will make multiple copies of the picked object. When you click with your left mouse button inside a window, a dialog will appear.
See Duplicate Object or Fixture

Edit | Insert

This option allows you to insert an object from the object list into the current object. See Object List for more information about objects. When you click in a window after selecting this option a list of available objects will appear. The desired object will be inserted after clicking on it in the list.

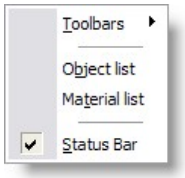
Edit | Clear Pick
Shortcut : **ESC**
This option clears the current pick. If you had something picked, it will be unpicked.

Edit | Deselect All
Shortcut : **Shift+ESC**
This option clears the selection. If you have one or more objects selected, they will be de-selected.

Edit | LightMode

This option activates and deactivates the LightMode. When you are working in LightMode, you can only pick fixtures. All other objects are ignored when you try to pick something.

View menu



You can use the entries in this menu to view or hide the toolbars holding the buttons, the different lists and the status bar at the bottom of the main window. If an item is visible a check mark will be displayed in front of the menu item.

View | Toolbars
This menu is used to show or hide the toolbars. For an overview of all the buttons in the

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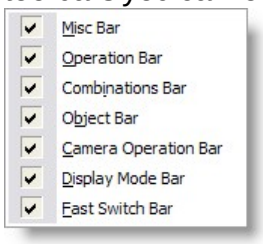
toolbars you can look at the Icon topic.

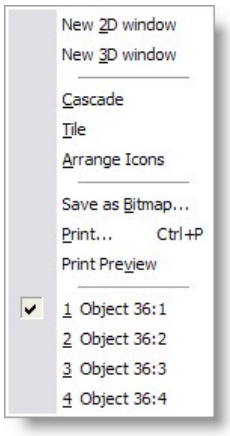


View | Object list...
This option shows the Object List window. In this window you can delete, rename and import objects. In a new library this list will be initially empty.

View | Material list...
This option shows the Material List window. In this window you can edit, copy, import, delete and create new materials. In a new library this list will be initially empty.

View | Status Bar
This menu is used to show or hide the status bar.

Window menu



You will use the entries in this menu to open or arrange windows and to save or print windows.

Window | New 2D window
This option opens a new 2D window.

Window | New 3D window
This option opens a new 3D window.

Window | Cascade

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This option will arrange all open windows to be all the same size, stacked one on top of another.

Window | Tile
This option will arrange all open windows to be tiled side by side, so all windows will be totally visible.

Window | Arrange Icons
This option will arrange all icons at the bottom of the main window.

Window | Save as Bitmap...
This option allows you to save a window as a Windows bitmap (BMP) or a jpeg image (JPG).

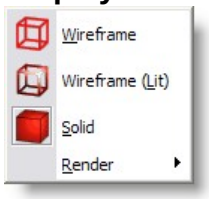
Window | Print...

Shortcut : **Ctrl+P**
This option allows you to print a window. The print will always be in wireframe mode.
See Printing in ShowDesigner Module for more details

Window | Print Preview
This option allows you to preview how a window will be printed.
See Printing in ShowDesigner Module for more details

Window | (Opened windows)
Here you will see how many windows you have open and which is active. You can activate a specific window by choosing its menu item.

Display Mode menu



This menu allows you to select the display mode of a window. It gives you a range of representations of a object.
See Display Mode for more details

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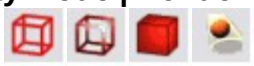
Display Mode | Render



Display Mode, Render menu

This menu will only be available in a 3D window. It allows you to realistic render your object, taking into account lighting, reflection, shadows, smoke etc.

See Rendering for more details

Display Mode | Render | Start

The start option will start the rendering of the Object.

Display Mode | Render | Hold

The Hold option will temporarily stop rendering the window. This might be useful if you are rendering a complex object. By setting the rendering on hold, you get more time to do other things (in this application or another). This option is only available if you are currently rendering in the window.

Display Mode | Render | Resume

The Resume option will resume rendering a window, which was previously stopped by using the Hold option. This option is only available if the window is currently in a 'hold rendering' mode.

Display Mode | Render | Exclusive

The Exclusive option is a special case of the Start option. The exclusive option will also start rendering a window, but if you choose this option, the ShowDesigner application will turn its full attention to the rendering process. This means that nothing else can be done with the ShowDesigner until the rendering process is completed. It can not be stopped! So be very careful to use this option. The only advantage of this way of rendering is that it is faster.

Operation menu

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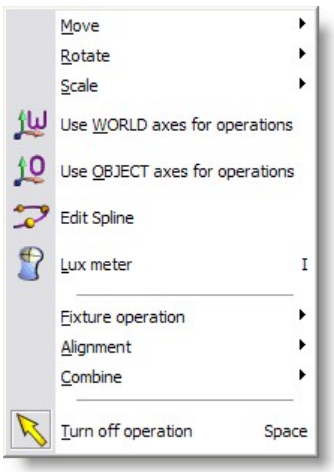
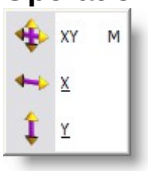


This menu allows you to start an operation on one or more objects and/or fixtures.

Operation | Move menu



The Move operations allow you to interactively manipulate the position horizontally and/or vertically by moving the mouse.

Operation | Move | XY

Shortcut : **M**
This option allows you to move an object or fixture both horizontally and vertically.

Operation | Move | X

This option allows you to move an object or fixture only horizontally.

Operation | Move | Y

This option allows you to move an object or fixture only vertically.

Operation | Rotate

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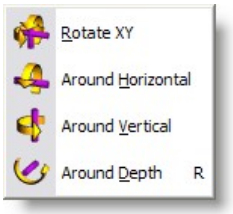


The Rotate operations allow you to interactively manipulate the orientation of an object or fixture.

Operation | Rotate XY

Shortcut : **R**
This option allows you to rotate an object or fixture around both the horizontal and vertical axis.

Operation | Around Horizontal

This option allows you to rotate an object or fixture around the horizontal axis.

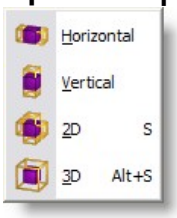
Operation | Around Vertical

This option allows you to rotate an object or fixture around the vertical axis.

Operation | Around Depth

This option allows you to rotate an object or fixture around the depth axis.

Operation | Scale



The Scale operations allow you to interactively manipulate the size of an object.

Operation | Scale | Horizontal

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Shortcut : **S**
This option allows you to scale an object horizontally.

Operation | Scale | Vertical

This option allows you to scale an object or vertically.

Operation | Scale | 2D

This option allows you to scale an object horizontally and vertically.

Operation | Scale | 3D

This option allows you to scale an object uniformly by scaling the whole object by the same amount.

Operation | Alignment menu

Operation | Alignment | Align Chain
This option allows you to align two or more selected objects in a chain like way.
See Align for more details

Operation | Alignment | Align...
This option allows you to align one or more selected object(s) to the active (picked) object. When you select this option, a dialog will appear.
See Align for more details

Operation | Combine menu

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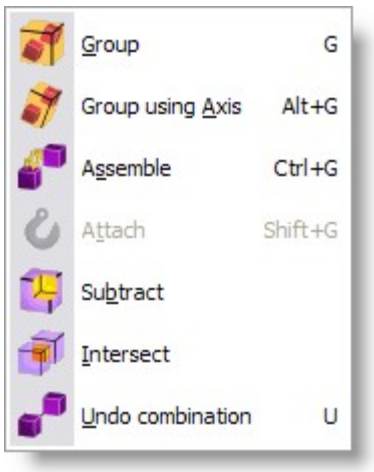

Operation | Combine | Group

Shortcut: **G**
This option allows you to group the selected objects together. The resulting group can be treated as a single object from then on. Such a group can always be split again by picking it and selecting the 'UnGroup' operation.

Operation | Combine | Group using Axis

Shortcut: **ALT+G**
This option allows you to group the selected objects together. The resulting group can be treated as a single object from then on. Such a group can always be split again by picking it and selecting the 'UnGroup' operation.

Operation | Combine | Subtract

See Subtractive Grouping

Operation | Combine | Intersect

See Intersect Grouping

Operation | Combine | UnGroup

Shortcut: **U**
This option allows you to split a group into its components. Each component will be added to the selection.

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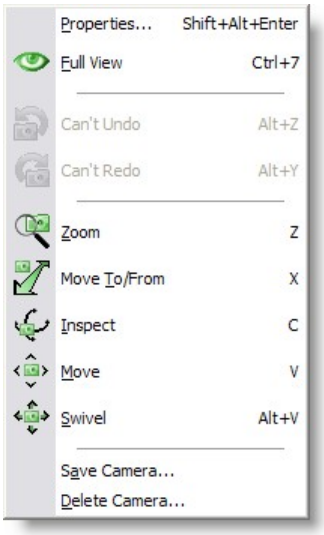
Operation | Turn Off Operation

Shortcut: **Spacebar**
This option turns off all current operation.

Camera Menu



This menu allows you to manipulate the camera of a window.
See Camera for more details

Camera | Properties

For information on the camera properties

Camera | Full View

Shortcut: Double click middle mouse button
This option will try to adjust the camera so that the entire object will be visible in the current view.

Camera | Full View All

This option will try to adjust the camera so that the entire Object will be visible in all views.

Camera | Zoom

Shortcut: **Z**
This option allows you to interactively zoom in/out. In 2D windows, the scale will change

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and in 3D windows, it will be the camera angle that changes.

Camera | Move To/From

Shortcut: **X**
This option allows you to move the camera to and from. In 2D windows, this does the same as the 'Zoom' operation. In 3D windows, the camera is moved forwards or backwards.

Camera | Inspect

Shortcut: **C**
This option allows you to inspect an object by moving the camera around a point. In 2D windows this can only be done if you have an active (picked) object. The camera will move around the center of the object. In 3D windows the camera will move around the center of an active object if there is an active object, otherwise the camera will move around the focus point of the camera.

Camera | Move

Shortcut: **V**
This option allows you to pan up, down, left and right the camera.

Camera | Swivel

Shortcut: **Alt+V**
This option allows you to look around with the camera. In 2D windows, you can move around then view plane, and in 3D windows you can look around by tilting the camera from left to right and from top to bottom.

Camera | Save Camera...
This option allows you to save a 3D camera position, giving it a name. The camera will be stored with the library file.

Camera | Delete Camera...
This option allows you to delete one or more cameras (from this library file).

Settings menu

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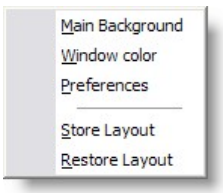


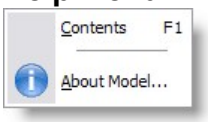
This menu allows you to adjust the appearance and preferences.

Settings | Main Background
This option allows you to change the appearance of the background of the main application window.
See settings for more details

Settings | Window color
This option allows you to change the background color of the 2D-and 3D windows.
See settings for more details

Settings | Preferences
In the preferences dialog you can set your preferences. Some are local (apply only to the ShowDesigner module), some are global (they may apply to all Martin ShowDesigner modules). The preferences are arranged into groups, with each it's own page (page). Each page ('Render Settings', 'Snap', 'Grid', 'Units', 'Detail', 'Gamma', 'Auto Save', 'Paths' and 'DirectX driver') will be explained next.
Render Settings page
See Settings for more details

Help Menu



Help | Contents
Shortcut : **F1**
This option will display this help text.

Help | About Model...

This option will display a window in which you can get information about the program. By clicking on the info button you will see information about the current installed version, the installation date, the serial number of the program and the name with which the program

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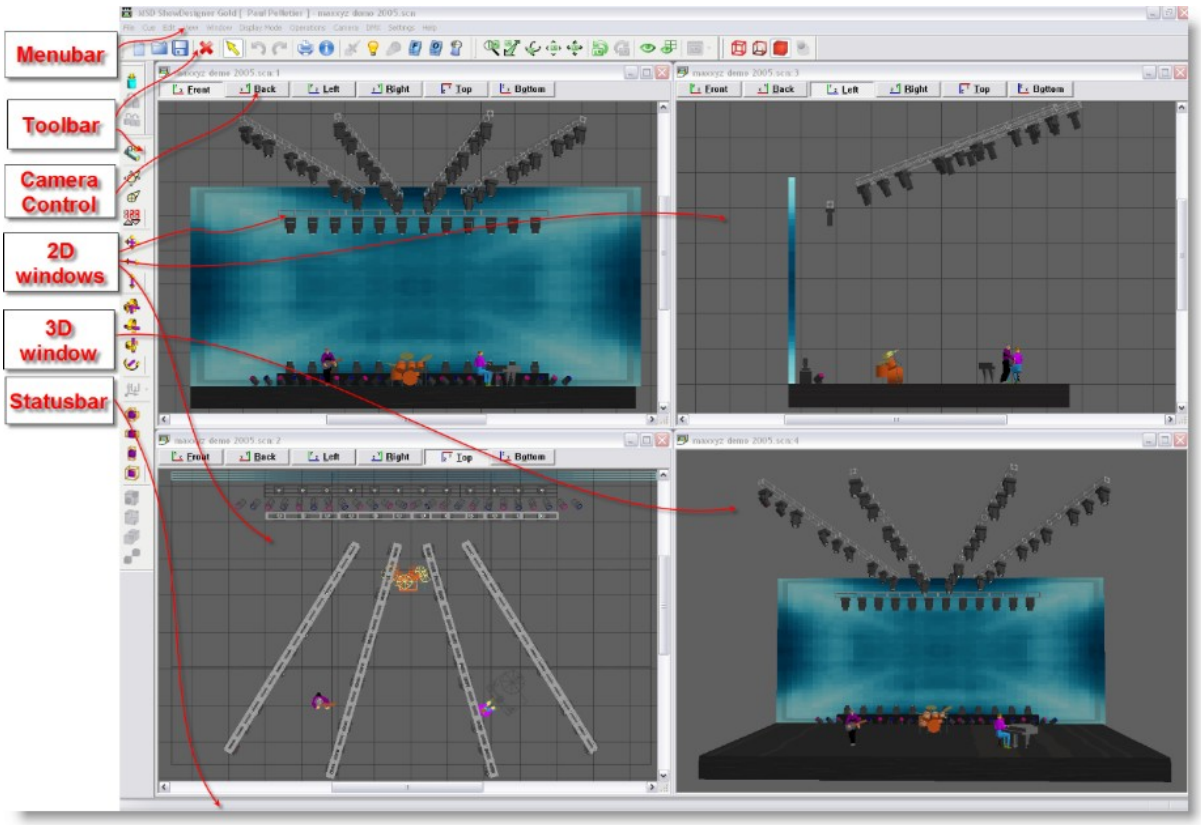
was installed. By clicking again on the (now 'Version') button, you

5.2 Layout

.



The application window has a menu bar, a status bar, toolbar's, 2D windows and 3D windows.
The menu bar will be covered in Menu the toolbar's in MSD Icons, 2D windows and 3D windows in Window Management.

To build a similar layout as above, simply insert 3 2D views and 1 3D view.
From window menu click Tile.
Set the 2D view one as TOP, one as Left and one as Front
In each view, set the Spot Beam Properties to Never
Then in the menu Settings, click on Store Layout.

5.3 Windows Management

The program has 2 types of windows, namely 2D windows and 3D windows.
Each window has its own capabilities, although many are available in both.
You can not change one type of window into the other, but you can open as many windows of both types as you like.
(Opening a window can be done by selecting 'New 2D window' or 'New 3D window' from

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the menu (see 'Window Menu ').
Both types of windows are further explained in the following sections.

2D Windows

2D windows give you an orthographic view of your scene. You can work in one of six views, namely Front, Back, Left, Right, Top and Bottom.

- You can change between these views by clicking one of the 'Camera buttons' in the top of a 2D window. By clicking on the current (down) camera button, the position and scale of the camera will be adjusted so the entire scene will be visible. If only a part of the scene is visible (when you are zoomed in) you can pan through the scene with the vertical and horizontal scrollbars at the right and bottom of the window. You can also hold the middle mouse button and drag the mouse around to pan up, down, left and right
- The 2D window also has a grid to enhance orientation in the object. The size and color(s) of the grid can be set in Grid settings
- In the 2D camera properties dialog of a 2D window you can set the camera position, the scale and if the grid should be visible in this view.
- It can be viewed in wireframe mode or solid mode

Wireframe

Solid

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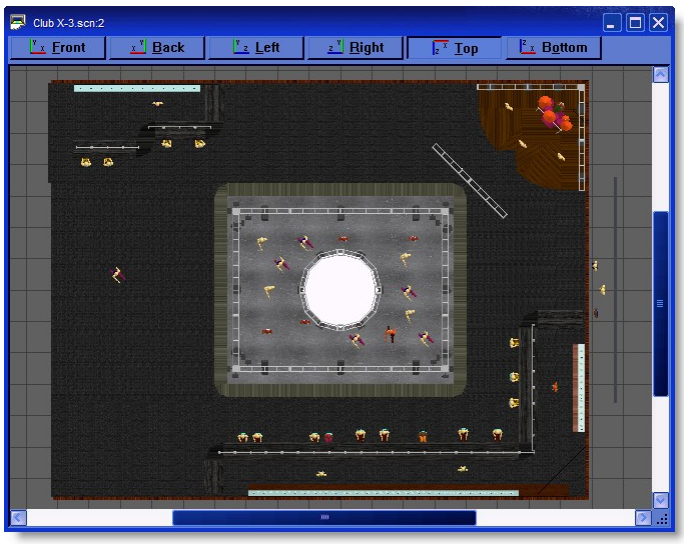

3D Windows

3D windows give you a perspective view of your scene. Here you can view the scene from any point and with different camera angles. The 3D window has some features the 2D window has not:

- You can use the 'Render' display mode to calculate a realistic image.
- You have an inspect mode, which will rotate your camera around the Y-axis of the scene. You can start and stop the inspect mode by clicking the right mouse button in a 3D window and selecting 'Other', 'Inspect Object' in the appearing context menu.
- In the 3D camera properties dialog of a 3D window you can set the camera position, the focus point (the point you are looking at) and the camera angle.
- It can be viewed in wireframe mode or solid mode

Wireframe

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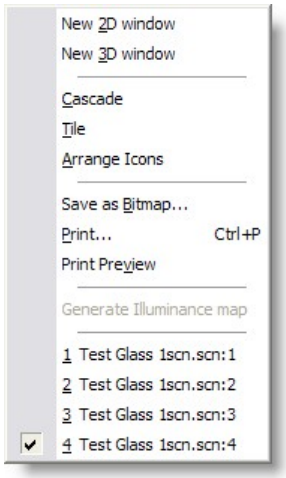
Solid

Using multiple windows

So far we have only had one window open. It is possible to open up as many windows as you like at the same, each one viewing your scene from a different angle. To get you started a simple 4 window set will do.

Click on the Window menu, then click on New 2D Window



- Repeat this process so you have 3 windows open

- Click on the Window menu again and click on New 3D Window

You should now have 4 windows open. Using the mouse you can move and resize the windows until they are laid to your satisfaction. To make it easier, open the Window menu again and click on Tile. You now need to save this setup, so you can go back to it again in the future.

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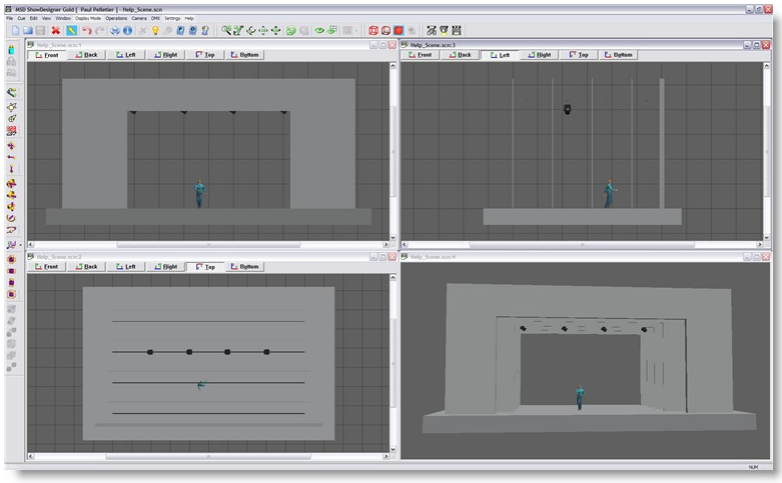
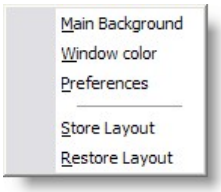


Click on the Settings menu, then click Store Layout



This will save the layout. To return to it at any time, click on the same menu and click Restore Layout.
If you wish to look at one view in more detail, simply click on the maximize button on the window itself. When you want to return to the previous view, click on the restore button.
2D views

See Using Camera for more details

Main Background
You can choose what you have as the main background, behind all the windows on the screen.
Click on Settings and then Main Background.
You then have a choice of nothing, using the main windows image or setting your own image.
See settings for more details

Window Color
To change the color of the background in each window, to something other than black, click on Settings and Window Color. Then choose your color from the list or create your own and click OK
See settings for more details

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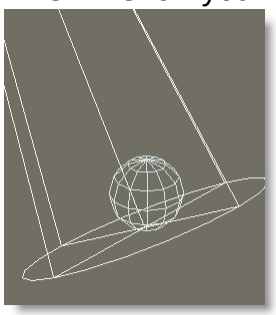
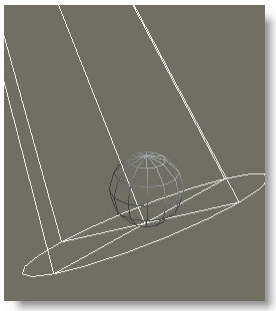
5.4 Display Mode

There are 4 different display modes (Wireframe, Wireframe lit, Solid and Render). Each display mode shows you a different representation of the scene.

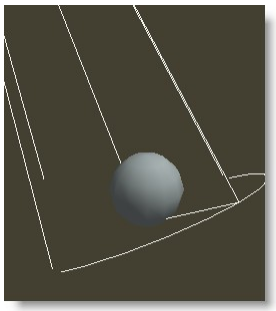
Wireframe
This option will show the objects in wireframe mode.
This will show your objects as solid lines with a single color.



Wireframe Lit
This option will show the objects in wireframe lit mode.
This will show your objects as colored lines, lit by a single light source.



Solid
This option will show the scene in solid mode.
This will show your objects as fast, solid, simple shaded objects, lit by a single light source.



Render
This option will calculate a realistic image of the scene, lit by the fixtures in the scene

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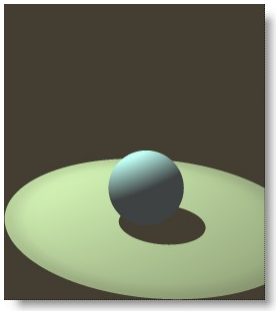
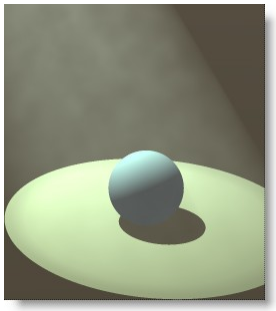
(with their fader, iris, zoom angle gels and gobo settings).
During the calculation of the image, shadows, reflections, transparency and even smoke can be taken into account.
Depending on the complexity of the scene and the selected options, this calculation may take a while.



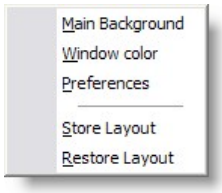
Render with Smoke



5.5 Settings

Various settings that can be change to tailor the MSD to your need.

From the menu click on Settings



Main Background

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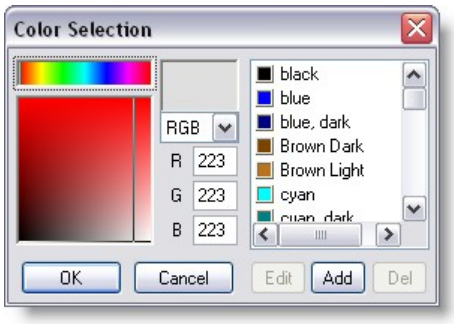
This option allows you to change the appearance of the background of the main application window.

Window Color



This option allows you to change the background color of the 2D-and 3D windows.
Use this to change background form a dark color to a light color or vice-versa to have a contrast between objects and background.

Click here for Preferences help

Store Layout

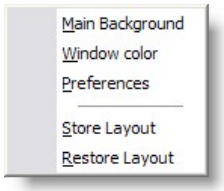
This option allows you to save the layout of the program. It will store positions and sizes of the application windows,
the 2D and 3D windows, and the lists (Object, Fixture, Material and Cue).

Restore Layout

This option allows you to restore the layout of the program by loading the saved settings.

5.5.1 Preferences

From the menu Settings, click on preferences



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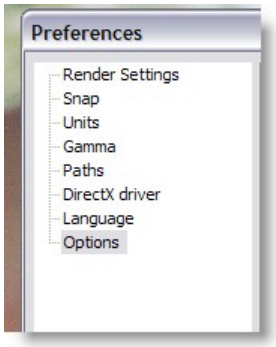
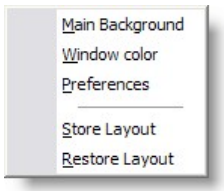


Rendering Default Settings

Object Snap
[****]
System Units
[****]
Gamma
[****]
Paths
[****]
DirectX
[****]
Language
[****]
Preferences Options

5.5.1.1 Rendering Default Settings

To set the default Rendering settings, from the menu Settings, click on Preferences



click on Render Settings

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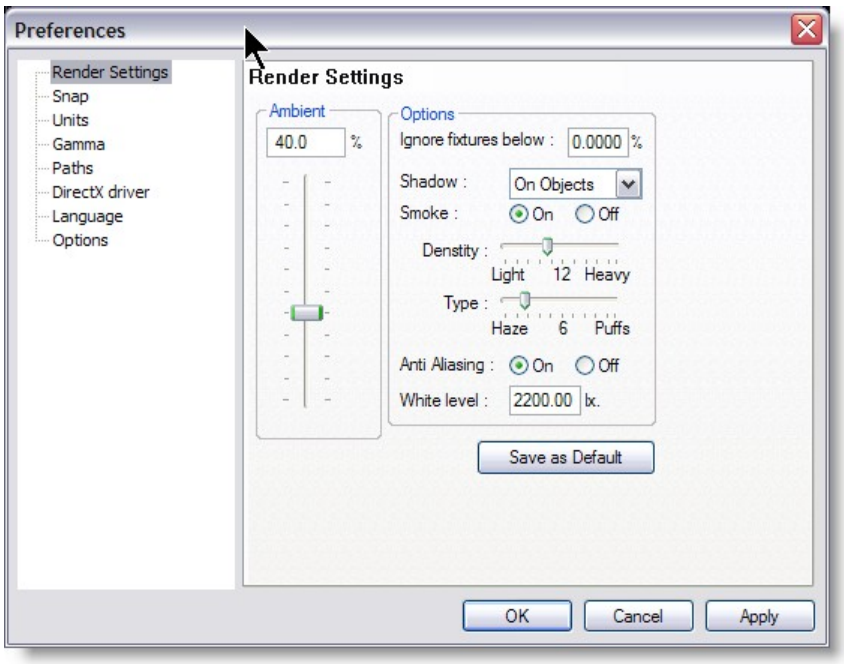
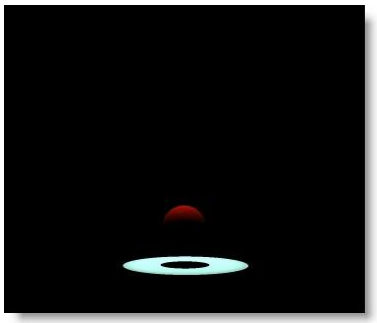


Default Render Settings

These settings are the one used when clicking on the Trace/Shadow icon while in a 3D view
The Same settings will appear in the alternative way to start a rendering.

- **Ambient**
  Controls the general lighting level in the scene.



Ambient @ 0%

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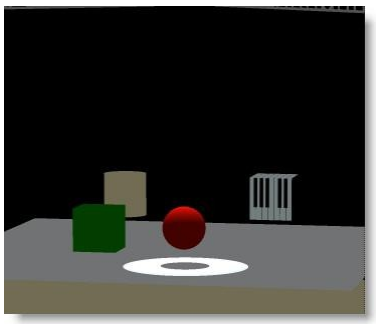
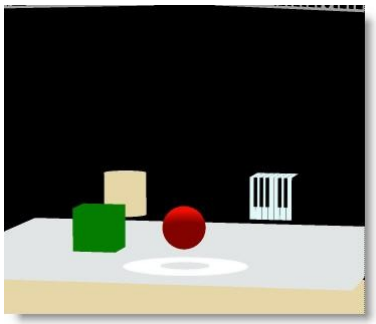


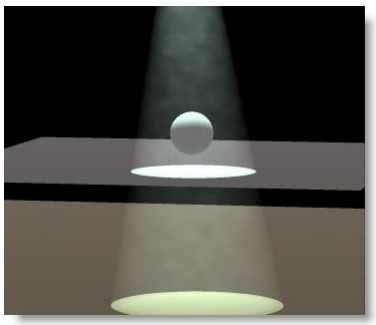
Ambient @ 50%



Ambient @ 100%

- **Ignore Fixture Below...**
  Any fixtures below the percentage set here will not be shown

- **Shadow**
  Controls whether shadows show up on objects, everything or nothing at all. Less shadows will take less time to render.



Shadow = None

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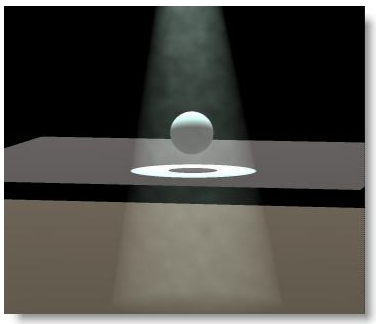
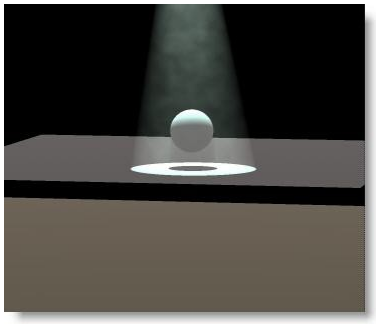
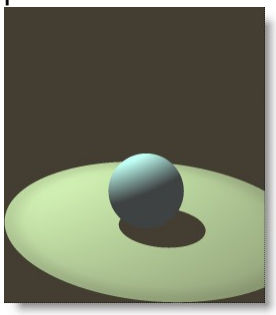


Shadow = On Object (smoke rays goes through objects)

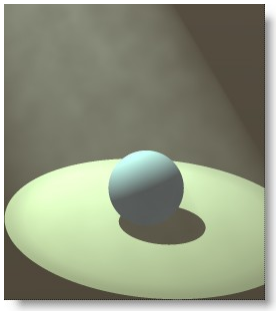


Shadow = Always

Smoke
Turns smoke or haze in the atmosphere on or off. Smoke on slows down the rendering process.



No Smoke



With Smoke

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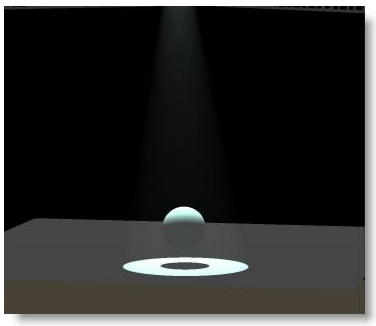
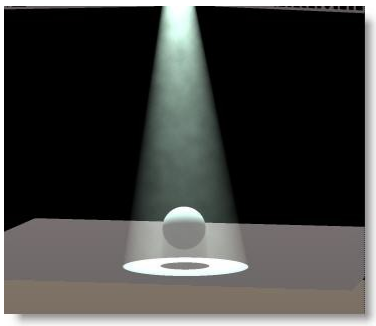
- **Smoke Density**

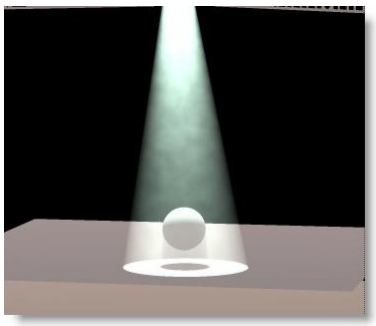
Controls the level of smoke in the scene.



Smoke Density @ 1



Smoke Density @ 15



Smoke Density @ 30

- **Smoke Type**

Controls whether the smoke is evenly spread out, like a haze machine or in puffs like it might be from a smoke machine.

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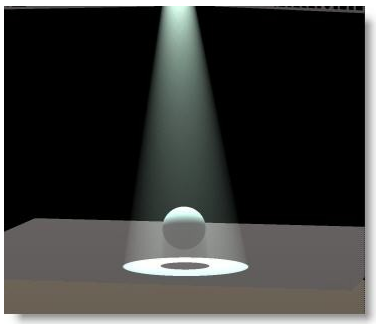
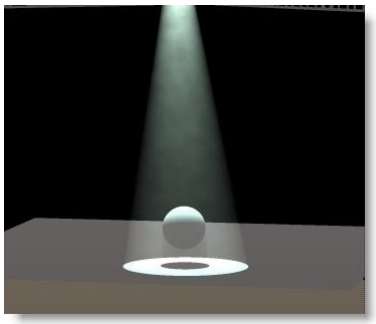
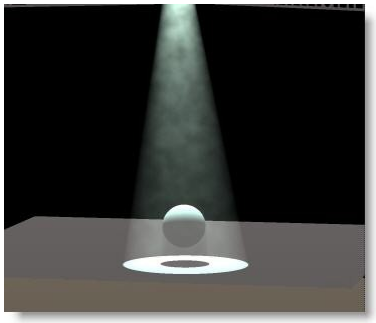


Smoke Type: Haze @ 1



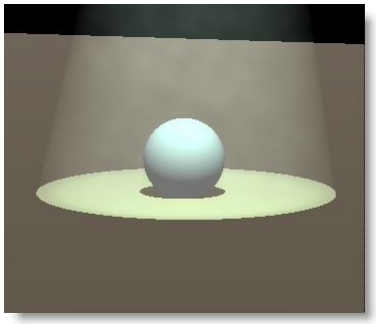
Smoke Type: Haze / Puff @ 15



Smoke Type : Puff @ 30

- **Anti-Aliasing**

Anti-Aliasing is a process that soften the edges in a rendering process. It does take a little more time, but makes rendering more natural.



Without Anti-Aliasing

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approximately-*Aliasing*

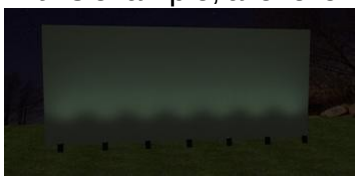
- **White Level**

Imagine the White level as the eyes sensitivity or camera sensitivity. It could be explained as the amount of light require to have a white surface looking white...

The default value of 2200.00 lux (200 foot candle) is appropriate for more stage rendering

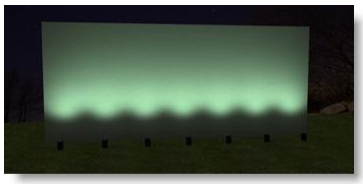
However, for exterior architectural rendering a setting of 800 lux (75 foot candle) could be more appropriate...

In a relatively low ambient light level, the eyes is more sensitive, let say 500 lux
In a normal ambient light level the lux level for white is approximately 2200 lux
In a situation when you have light blasting directly in the camera, a level of 5000 lux could be used...
Here's some example of the same scene render at different white level.
In this example, a level of 1000 lux appears to be normal.

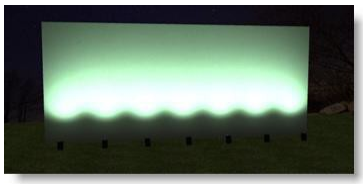


White Level @ 5000

White Level @ 2200 (Default)



White Level @ 1000



White Level @ 500

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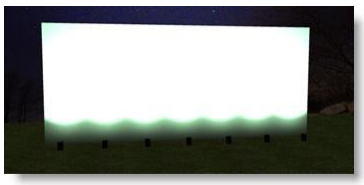
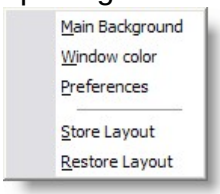


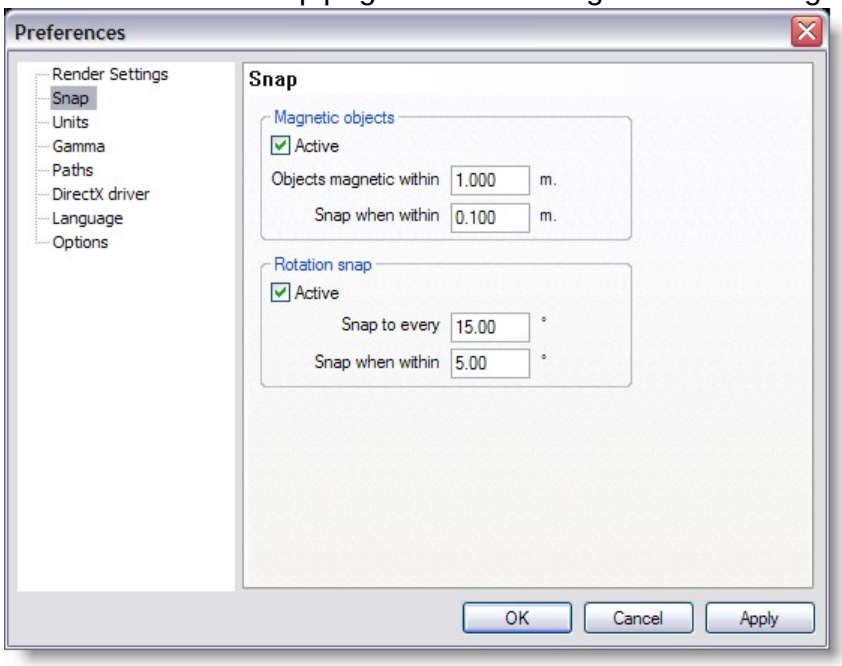
White Level @ 100

5.5.1.2 Object Snap

The magnetic snap effect.
The default settings for the magnetic snap system are set so an object will become magnetic when it gets within 1m of another object and it will snap the to the object when it's within 0.1m. You can adjust these settings by clicking on the Settings menu and opening Preferences.



Then click on the Snap page and the settings are in the Magnetic box.



You can even turn the magnetic effect off.
Here is how the effect works, this example assumes you leave the settings at their default value.

When objects are more than 1m apart, nothing happens.

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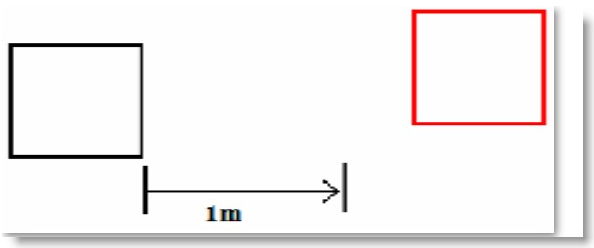
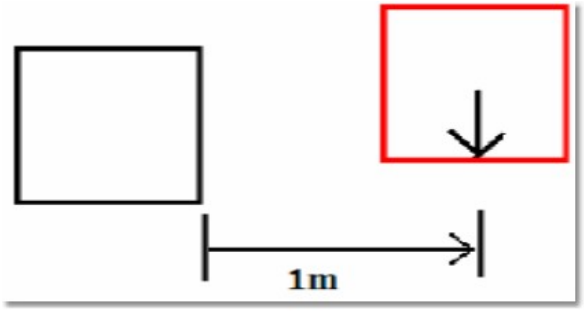
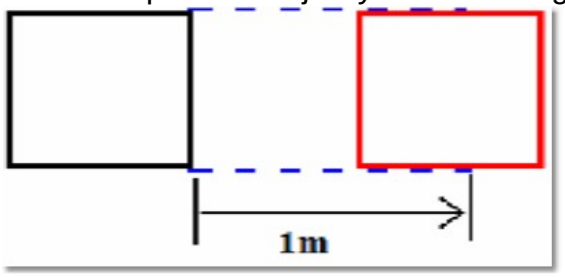


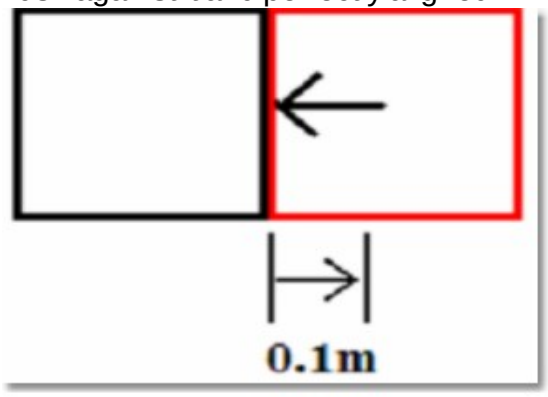
When you move an object to within 1m, the magnetic effect starts to work.



The effect pulls the object you are moving into alignment with the other object.



When you move the object to within 0.1m it is pulled up against the other object, so it is flush against it and perfectly aligned.



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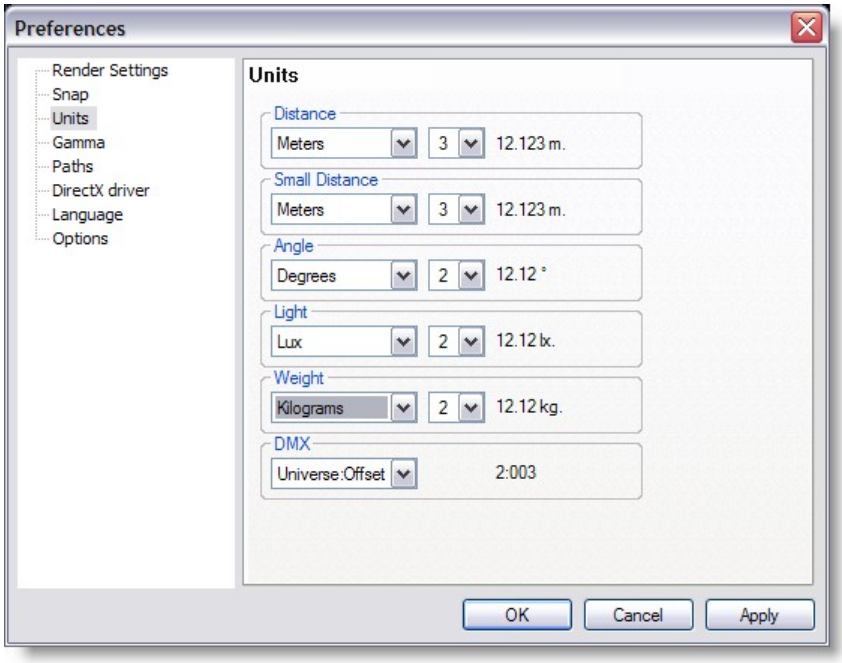
5.5.1.3 System Untis

The MSD can work in both Imperial or Metric system.
At any point in the creation process you can switch from one system to the other, call values will be converted as indicated
For each settings the precision (number of decimal digit) can be set.



Distance

Set the unit values to enter position and dimensions of objects
- Distance: Meters, Millimeters, Inches or Feet & Inches.

Imperial value must be enter as follow
1'2" = 1 foot 2 inches
When using Feet&Inches, enter a value with no comma or quote will be considered as inches

Metrics value can be set in Meters or Millimeters

Small Distance

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The small distance unit is used when the distance to enter is small like in the margins in paper or the line thickness when importing DXF.
When using metric units the normal distance unit is meter, but this would result in a lot of 0,00x numbers when dealing with these small sizes.
To make this more readable we added the extra small distance unit, so the user can display these small numbers in mm or inches.

Angle

- Angle: Degrees (360°), Radials (2p) or Gradients (400°).

The most common settings for Angle is Degree.
In some situation Gradient or Radial degree can be chosen.
See Formulas for more details in angle types

Light

- Light: Lux or Foot-candle.

In MSD, it is possible to calculate the amount of light at a specific point on a surface.
The light intensity can be displayed as Lux or FootCandle.

Weight

- Weight: Grams, Kilograms or Pounds.

In the Paperwork module, it is possible to see the fixture weight.
It can be displayed as Grams, Kilograms or Pounds.

DMX

Various ways of displaying DMX addresses are possible in MSD
Offset is the DMX address.
Universe is the DMX link

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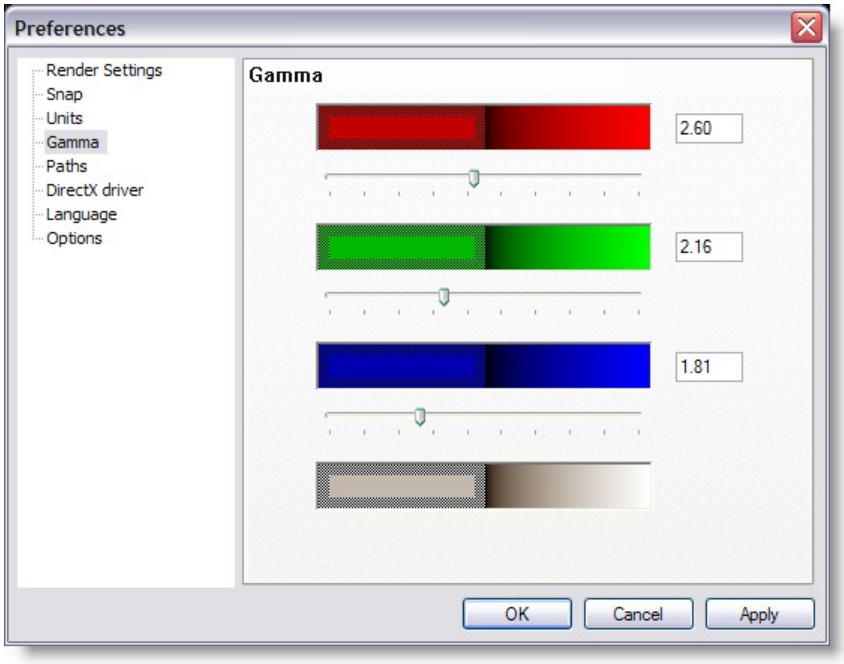
5.5.1.4 Gamma

The Gamma page contains global preferences for the way your monitor displays colors



In this page you can set the way the program adjusts colors. Determining how the colors should be adjusted is done by using the three sliders and/or values.
There are four color sections, one for red, green, blue and gray each. Every section has an outer area and a center area. The outer area is a dithered pattern of pixels with luminance values of 0% and 100%, and the center area contains pixels with a luminance value of 50%. So to get correct values, the inner and outer area should be optically of the same intensity. Use the scrollbar and/or edit box to adjust the image's gamma level so that the inner areas and the outer areas are of equal brightness. The correction value that synchronizes their luminance is the gamma level of your monitor.

5.5.1.5 Paths

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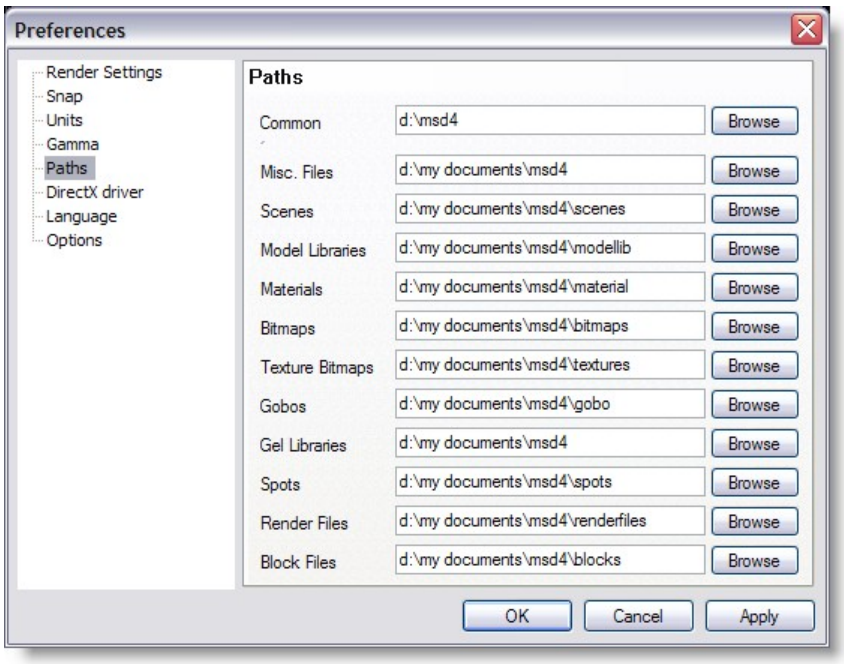

In the Paths page, the default paths to the different kind of files are set.
By default they point to the installed subdirectories. Normally you don't have to change any of them.

Common: Is the location of the default MSD files such as fixtures, textures, demo scenes etc...
By default the location is "C:\Documents and Settings\All Users\Documents\MSD4"

The other fields are the locations on user files, meaning the file you create.

When open a window to import or load something is MSD you will notice two buttons at the top left (User and Common)
Click one of the buttons to access the right folder set.

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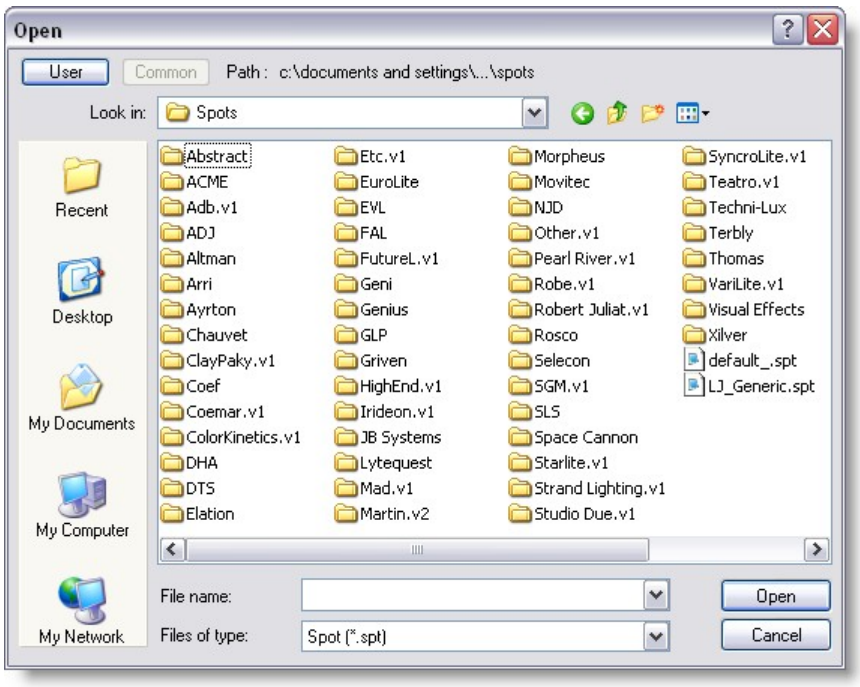

As a rule, put all the file you create or add manually to the user folder set and leave the Common folder as default.
Only add files to the common folder when updating from the official MSD library.
This will ensure the integrity of the files you use and also avoid that your modified library gets overwritten when updating the new library.

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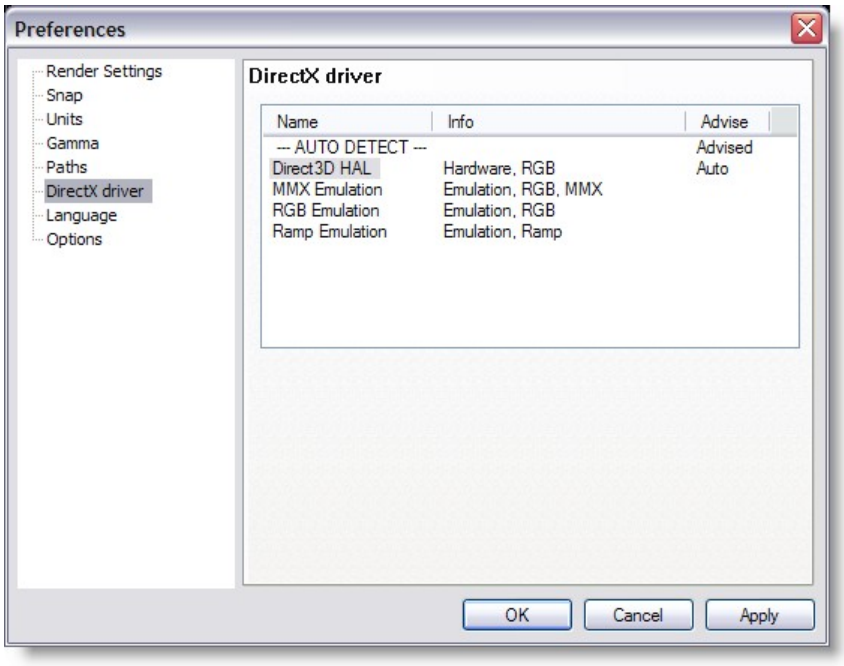
5.5.1.6 DirectX



In this page you see which DirectX drivers are available, and you can specify which driver you want to use.
The drivers are listed in order of preferred capabilities. Default, the first ('--- AUTO DETECT ---') will be selected.
When this option is selected, the program will automatically select a driver on its capabilities.
If you have problems with the automatically selected driver, you can override it by selecting one of the other drivers.

DirectX means all graphical calculation are handled by the Graphic Card processor
In MMX Emulation, the calculation are now handled by the main processor.
Generally DirectX mode is faster.

If you encounter some strange result in the display when using MSD, the first thing is to make sure you have the latest video driver for you Graphic Card.
Most video drivers that comes on the graphic card bundle CD are old drivers, so please check with the card manufacturer.

If updating the driver doesn't help, try switching to MMX emulation.

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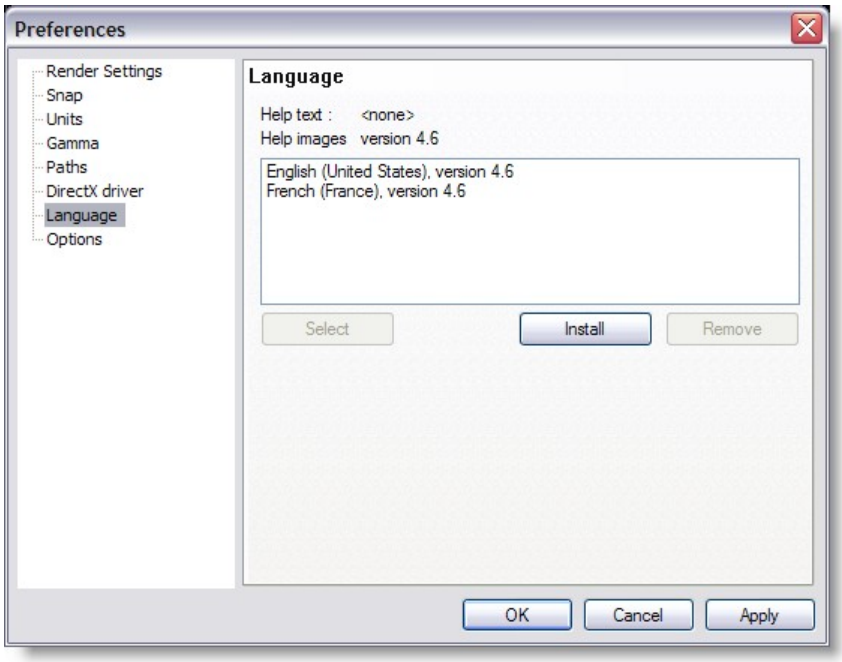
5.5.1.7 Language



In this page you see which help language is currently selected (and which are available).
You can select one from the available list by clicking on it and then press the 'select' button.
You can remove one or more languages by selecting them, and then click on the 'remove' button. (On Windows2000 this can only be done by a user with administrative rights)
You can (re)install help files (if available) by clicking on the 'Install' button, after which a dialog will appear.

In this dialog you will see all available language versions in the selected directory.
If there are no versions available, you can use the 'manual folder' button to browse to a directory which does contain a help version.
On the ShowDesigner CD, the folder you need is 'D:\manuals' (if D is your CDROM drive). From the available list you can install one or more versions by checking the checkbox in front of them, and then click OK.

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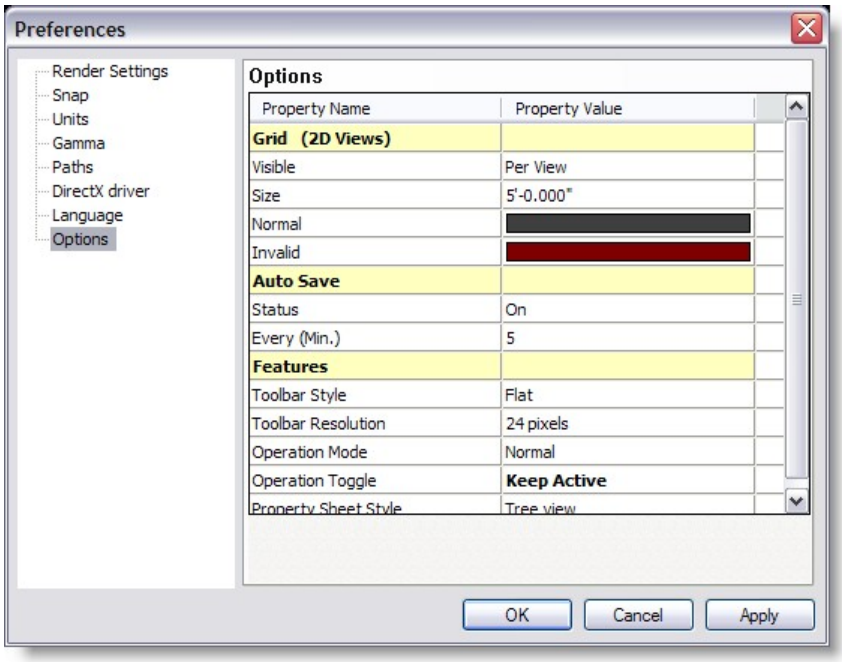
5.5.1.8 Preferences Options

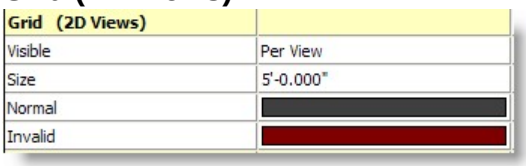


Grid (2D Views)

Auto Save

Features

Grid (2D Views)



You will have noticed that every 2D view has a grid in the background. The default setting for this grid is 1m. This means every square you see is 1m by 1m in size.
If you zoom out eventually you will notice the grid change. As the grid becomes impossible to use when you zoom out, it replaces it with a larger grid. It also changes the color to you know this has happened.
You can change the settings for your grid by going into the main Preferences window, (under the Settings menu) and clicking on the Grid page.

You have the option to change the size of the grid, the colors used and even decide if you want the grid on, off or on in some windows and off in others (per view).

If you wish to turn a grid off in one particular window:

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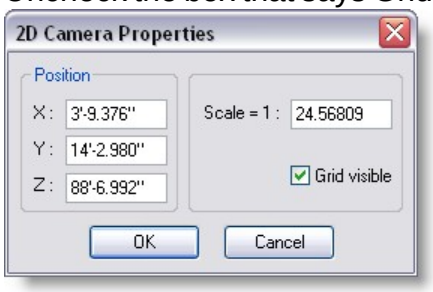
Ensure you have set the main preferences to '**per view**'

Back to the Show Designer window, Click on the 2D window you wish to change, to make sure it's active
Press Alt + Shift + Enter
Uncheck the box that says Grid Visible



Click OK

Auto Save

Auto Save	
Status	On
Every (Min.)	5

When set on a backup scene is saved at specified interval.
The back files are place is the User folder
The temporary file will look something like 'Backup 05_29_00 14_46_20.scn', which means its a Scene backup, created at 14:46 on May the 29th 2000.

Features

Features	
Toolbar Style	Flat
Toolbar Resolution	24 pixels
Operation Mode	Normal
Operation Toggle	**Keep Active**
Property Sheet Style	Tree view

Toolbar Style:

Toolbar Resolution:
24 Pixels are the new icon style, it's always possible to revert to the Classic icon...

Operation Mode:
The choices are Normal or Bounding box
This is the way objects are displayed while moving a camera view
In Normal the objects remain visible, bounding box will make the object disappear and show a wireframe box

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for slower video card bounding box can be use to accelerate the movement

Operation Toggle
The choices are Toggle or Keep Active
In toggle mode, every time you press an hotkey such as M for move, the operation will be toggled (on or off)
In **Keep Active** mode, pressing a hotkey while this operation is already selected, the operation remain active.

Use the Spacebar or the Icon to turn off the current operation.

5.6 Primitives

You can create an object by constructing it with a number of primitives.
Each primitive also has a number of parameters to adjust its shape to fit your needs (see 'Primitive properties ').
There are seven primitives. For each primitive we show you the basic shape and some adjusted forms of the primitive:

You can perform various interactive operations on primitives (like move, scale and rotate). A lot of these operations are available from the toolbar; the rest can be selected from the menu. To use one of these operations you do the following steps:

1. Select the operation from the toolbar or the menu.
2. Click on the primitive you want to use with this operation, this primitive will become picked.
3. While holding down the left mouse button, drag the mouse
4. You can now cancel the operation by clicking the right mouse button.
5. If you let the left mouse button go, the operation will be finished and the changes will be shown in all the windows currently open (except windows in the render display mode).
6. If you want to perform the same operation again you can start at step 2.

We recommend you use the interactive operations mainly in the 2D window, because using them in the 3D windows can sometimes have unexpected results. You can pick a primitive by clicking the left mouse button inside the primitive. There can be only one picked primitive at one time, and this primitive will have a red box drawn around it.
Because primitives can be behind other primitives, you will need a method to pick these obscured primitives. This is done by repeatedly clicking (not to fast, because this will count as a double-click) without moving the mouse. On the first click the primitive nearest to the camera will be picked, the next click will pick a primitive further away. This continues until the furthest primitive is picked, the next click will then pick the nearest primitive again.
If you want to perform an operation on a primitive that is obscured by others, it is often helpful to first pick the correct primitive and then select the correct operation. To start

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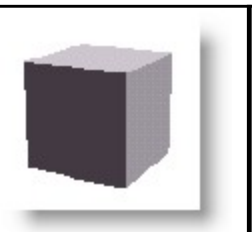
this operation however you would need to click in the window again, possibly picking another primitive. To avoid this picking of another primitive, you can hold down the 'ALT' key. When the operation is started you can let go of the 'ALT' key.
In short, the 'ALT' key prevents the system from picking another primitive when starting an operation.

Some operations, like group and align, require more than one primitive to work with. In an object there can only be one picked primitive, so these operations require something else, they require selected primitives!
Before you can select a primitive you first have to pick it. After you have picked the primitive you can open the context menu of the window (by right clicking in the window); in this menu you see an option called 'Select'. This option will select the primitive. Primitives that are selected are drawn with a green box around them. To unselect or deselect the primitive; you use the same menu option.

A quick way to deselect all primitives in the object, is by using the menu option 'Edit | Deselect All'. (This menu item has the shortcut Shift-Esc).
A quick way to select all primitives in the object, is by using the menu option 'Edit | Select All'. (This menu item has the shortcut Ctrl-A).

Besides the interactive operations described above there are also so called 'property sheets'. Property sheets are dialogs containing a number of pages (or pages). These are described in the section 'Properties ' of this manual.

Primitives

Cube:			
Cylinder:			
Sphere:			

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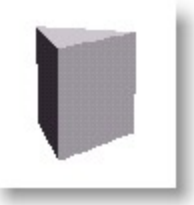
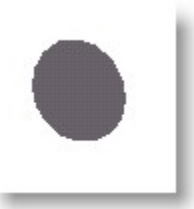
Toroid:			
Triangle:			
Rectangle (2D):			
Circle (2D):			

5.7 Primitives Properties

Properties

You can change most of the parameters of primitives and light-sources by using the property sheets. You can get the property sheet of picked primitives by right clicking in one of the windows containing the object. Doing this will show you the context menu, in which you can select options specific for that window. One of these options is 'Properties'. Selecting this menu option will display a dialog with multiple pages. This dialog is called a property sheet. Below the page windows you see three buttons, called 'OK', 'Cancel' and 'Apply'. You use the 'OK' button to accept the changes and close the property sheet. The 'Cancel' button just closes the property sheet without accepting the changes. The 'Apply' button can be used to accept the changes without closing the property sheet, this allows you to check the new settings and edit them if necessary without repeatedly opening the property sheet.

Following is description of the properties of primitives and the light-sources, beginning with the pages common to all primitives, and ending with the pages for the light-sources.

Primitive properties

The following two pages can be found in the property sheet of all primitives.

Orientation page

The first common page is the 'Orientation' page.

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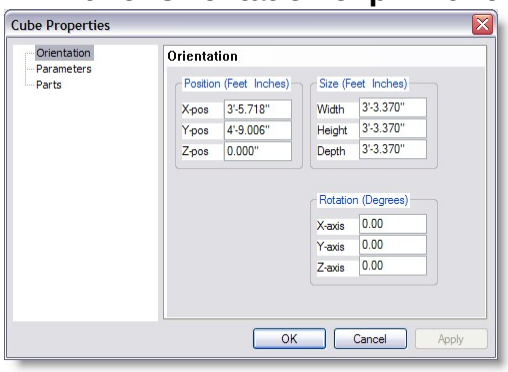
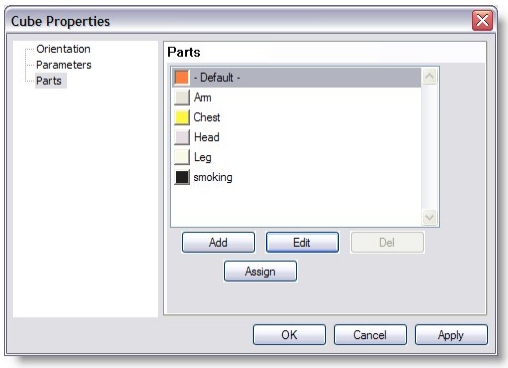
Primitive: Orientation of primitive



This page lets you enter the exact position, size and orientation of the picked primitive. The page is divided into three parts. At the top left you see three edit fields for the position. Next to the position you can see the fields for the size and below that you see the fields for the orientation. In this page you can enter the position and size in meters and the orientation in degrees, this can be changed in the user settings property sheet (see 'Settings Menu ').
Parts page

The second common page is the 'Parts' page.

Primitive: Parts



The parts page allows you to manage parts in this object. All primitive used in the open object belong to a part. All primitives belonging to the same part have the same color or material.
Every new object will automatically belong to the '- Default -' part. This '- Default -' part is special, because it can be overwritten in groups or inserts in other objects. When you select a part for a group or inserted object, all primitives contained in that group (or insert) that belong to the '- Default -' part will become part of the selected part for the group (or insert).
With the buttons under the list you can 'Add' new parts, 'Edit' parts and 'Del' to delete them. After clicking on the 'Assign' button, the picked primitive will become part of the selected part. When you add a new part or edit an existing one, you will be presented with the following dialog.

Edit part description

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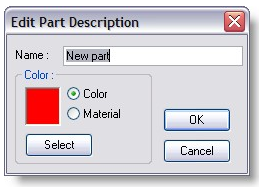
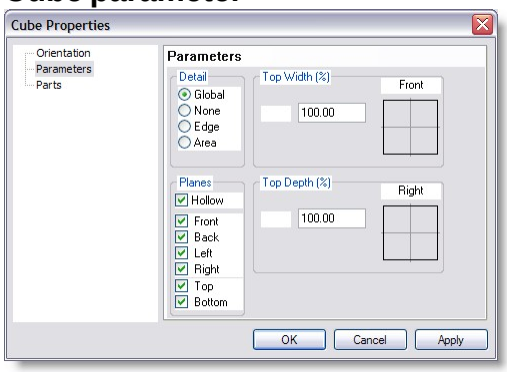


In this dialog you can change the name of the part and change the color or material attached to that part. By default a part has a color, which can be changed by clicking on the 'Select' button. The color selection dialog will then be displayed, letting you select another color.
By selecting the 'Material' button you can attach a material to the part, again you can use the 'Select' button to select the correct material. A list of available materials will be displayed, in which you can select one. This list is managed using the 'Material List '. An exception to this is the '- Default -' part; this part can not have a material.
Parameters page

Cube parameter



This page is used to change the appearance of the picked primitive.
In the top left corner you can see an area labeled 'Detail'. This is used to change the subdivision of large areas. The quality of solid-mode lighting will improve with a higher subdivision. There are four options for this detail level.

- 'Global' : The subdivision is controlled by the global system settings .
- 'None' : No special subdivision is performed
- 'Edge' : All curves will be more subdivided
- 'Area' : Curves, as well as large planes will be more subdivided

On the right side there are two areas called 'Top width' and 'Top depth'. The fields in these areas can be used to change the dimension of the top plane relative to the bottom. Making both these parameter 0 for instance will result in a pyramid. The drawing next to the fields gives a impression of the result of the changes.
The last area in this page is the 'Planes' field. In this field you can make the primitive solid or hollow. When you select hollow, you can also remove some of the planes. (there should be at least one plane selected).
The above image shows the page for cubes (pyramids and triangles), but the other primitives offer similar pages.

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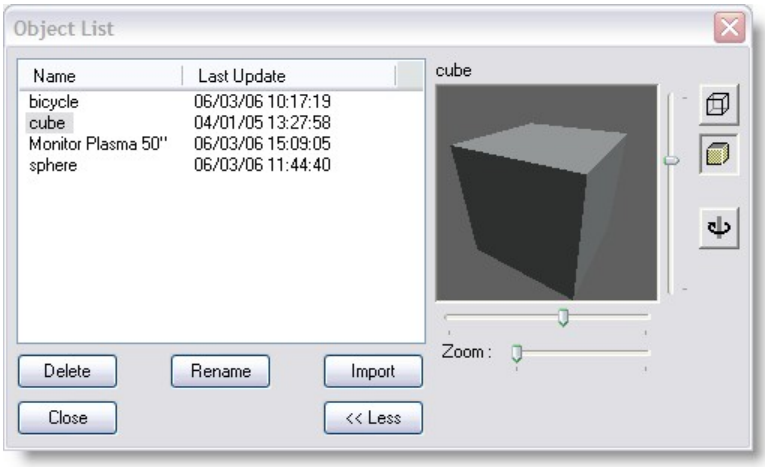
5.8 Object List



This list shows all the objects that are in this library. To open this window you must select the object list menu item. In new library's this list will be empty, the above example is taken from an existing library. As you can see there are two objects used in the library. The name of an object is in the first column and the second column of the list shows you when the object was last saved. At the bottom of the window are five buttons. The functions of these buttons are described below. At the top of the list you see a gray area with the text 'Name' and 'Last Update' in it, this is called the header. In the header you can also see two vertical lines. If you move your mouse cursor over these lines, you will see the cursor of the mouse change into a vertical line with two little arrows. When this happens you can click the left button of the mouse and while holding it down, move the mouse left and right. As you are moving the mouse you will see that the column width of the list will change. A double click on the vertical line will change the width of the column to the minimal width required to display all text in that column. All objects in this list can be inserted in another object using the insert operation, which is activated by clicking the button.

- The **Delete** button:
  The delete button simply allows you to remove the selected object from the list. You will be asked to confirm this action. Deleting the object from the list will not affect any inserts of this object. You can however no longer insert this object in the library.

- The **Rename** button:
  The rename button allows you the change the name of the selected object. After you have clicked on this button, a box will appear around the selected object. In this box you can type a new name. After you press the enter-key the object will be renamed. If the name you typed already exists in this library you will see an error box and the rename operation is canceled.

- The **Import** button:

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The import button allows you the get objects from model libraries into this library. You will be presented with the standard file open dialog box in the modellib directory. You can now select the library from which you want an object. After opening the library you will see a list of all objects in that library. You can now select one or more object(s) from this list and press the OK button. The object(s) you selected will be copied into this library and they will be shown in this list. If one of the objects you selected has a name which is already used in this library the new object will be renamed by adding a '.x' to the name, where the x represents a number starting from 1 and increasing until a name is found that is not used.

- The **Close** button :
  The close button will close this window. You can leave this window open while you work with the program, or close it to have more room on the screen for other windows. This window can be opened again by selecting the 'Object list' menu item in the 'View' menu.

- The **<< Less / More >>** button :
  The Object List has a preview mode, which can be (de)activated by the '<< Less' button and the 'More >>' button. If the preview mode is activated, the preview will be updated about a second after you select an object in the list. You can view the object in the display modes Wireframe ( ) or Solid ( ), adjust the pan and tilt of the object with the vertical and horizontal sliders next to the preview window, and the zoom by the bottom slider. You can also 'inspect' the object by clicking the inspect button ( ). This will make the object spin around the vertical (y-)axis. In this mode, the horizontal slider below the preview window enables you to control the rotation speed.

Note: Objects can be previewed, zoom in-out, and move around.
Preview are 3D so they are generated every time you select an objects.
When working with large objects, it maybe be necessary to turn the preview off {<<LESS]

Once an object is imported in a library, it can be use as many times as needed in the other objects.
If the object is modified in by opening the library in the Modeler, all instances of that object use in the library will be modified.
However, if the object is modified in the library where it was imported from, it will not affect the objects used in currently saved scene.

5.9 Import DXF and others

Often you have to use a drawing made in another program and use

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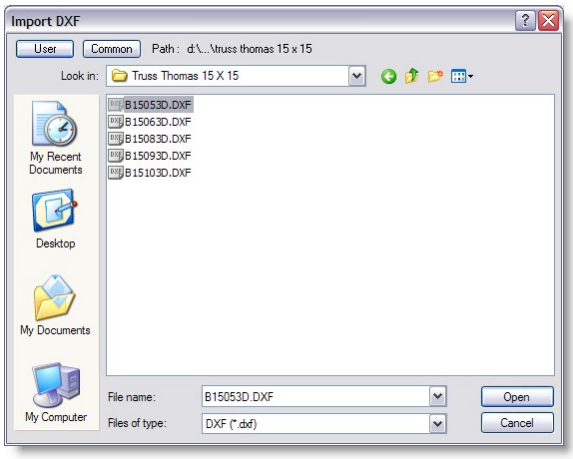
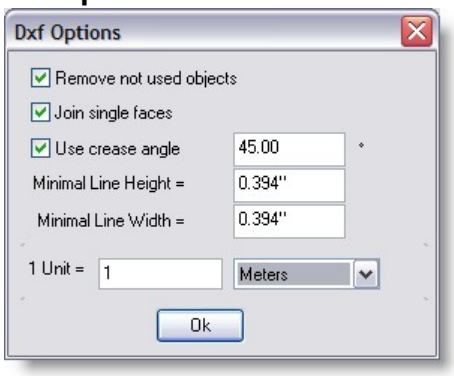
Library | Import | DXF File
This option allows you to import a DXF file. After selecting this option, you will be presented by a DXF options dialog:

From the Library menu select Import>DXF



Browse and select a DXF file and press Open

Dxf options



First you get a list of options on how to import a DXF file:

- **Remove not used objects**
  Here you can specify if you want to remove any 'not used' objects from the DXF import. By not used objects we mean objects present in the file, which are not used in the actual drawing you are importing.

- **Join single faces**
  Here you can specify if you want to join single faces (triangles etc) of an object into one object. The advantage is that such a joined object is easier and faster to manipulate and work with, the disadvantage is that the object can only be handled as 'one', which means for instance you can only add one material to the object.

- **Crease Angle**
  The crease angle is used to smooth joint between surfaces (default is 45 degree)

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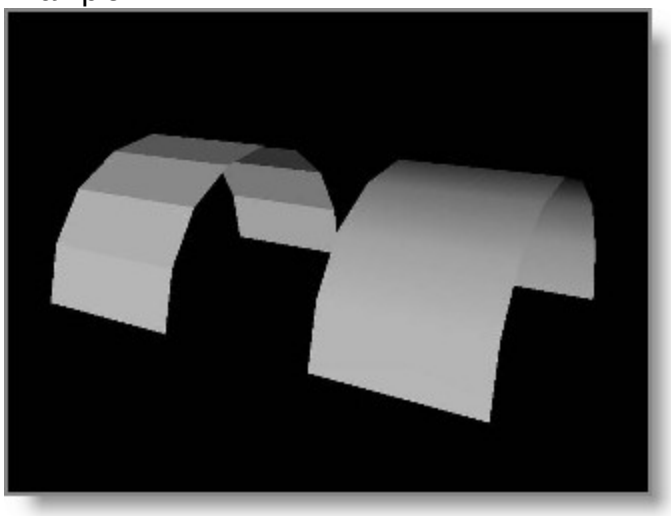
Example:



- **Minimal Line Width and Height**.
  any lines imported in MSD Modeller must be converted into a 3D object. Specified the width and height for these line conversion to cubes
  Note: you can import a 2d Drawing of a plan view and then use the line converted to cube and extrude (scale) walls and other surfaces to the desired width and height

- **Unit**

You can specify what 1 unit in the DXF file represents in real world coordinates.
When importing a file, it is important to know the unit used to create that file.
If it is unknown, try using (1 unit = 1 inch) or (1 unit = 1 meter), these are the most common
Then looking at the object size once imported will give you a hint if it is the right unit.
Example if you import an 12 inches object made with (1 unit = 1 inch) and when importing you choose (1 unit = 1 meter) the object will now have 12 meters...!

When all settings are chosen, click on OK
While the file is importing a status window will be shown where the different imported elements count are displayed.
This box will close automatically once the import is finish.

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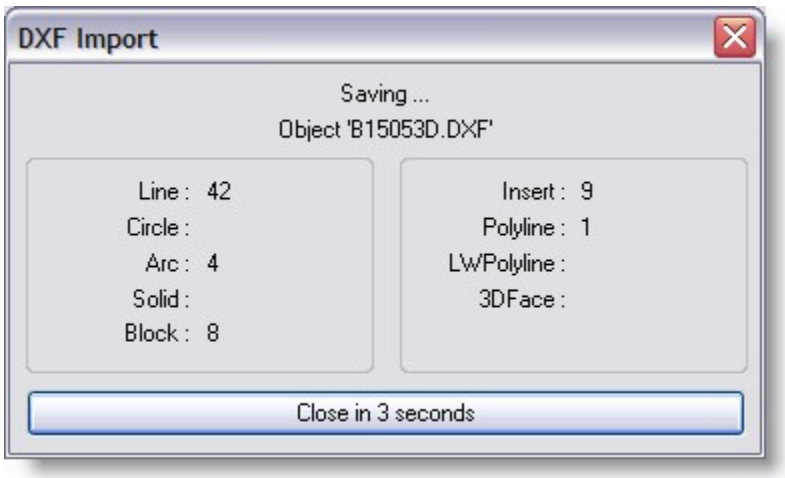

When you import a DXF file, objects defined in the DXF file will be imported as objects in the model library. The total scene in the DXF file will also be imported as an object and will get the name of the DXF file. For example, if you import a DXF file called 'c:\room.dxf' which contains a scene with 3 objects in it (a table and 2 chairs), There will appear 3 objects in the model library called 'room.dxf', 'chair' and 'table', where the object 'room.dxf' will contain the complete scene. If there was also an object 'painting' in the DXF file which was not put in the 'room' scene, it will or will not be in the model library, depending on whether the checkbox 'Remove not used object' was checked or not. Since the Modeller is a 3D graphics program, it will only import 3D DXF objects, and lines if the 'Convert lines to cylinders' option is turned on.

Tips to import CAD drawing
Many CAD's use block and 2D lines to build objects, this can cause some problems when importing in a 3D modeler.

If the CAD as an option to export/Import to a 3D format such as 3DS, take the whole drawing and export it to that format.
Still in the CAD software, create a new drawing and re-import the exported drawing and this time save it or export it as DXF.

5.10 Material List

A material is a color or texture which you can apply to the surface of any object. There are several different ways you can use and manipulate a texture and it can get very complex. The best way to use a material is to think of it as an example of what you object is going to look like, rather than spending hours perfecting it.

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All materials in this list can be assigned to object parts by selecting the Primitive: Parts page in the Primitive properties '.

Creating a simple material
Just like Objects, you need to create a list of materials you are going to use, before you apply them. You will find the Materials list in the same place as the Object list, under the view menu.

To create a new material, click on New and then Simple, this should open a material properties window. You can then apply a series of properties to what ever material you want to create.

Copying a material
You can use the copy function to make a copy of an existing material, this will save you time if you need two materials that are very similar.

Import a material

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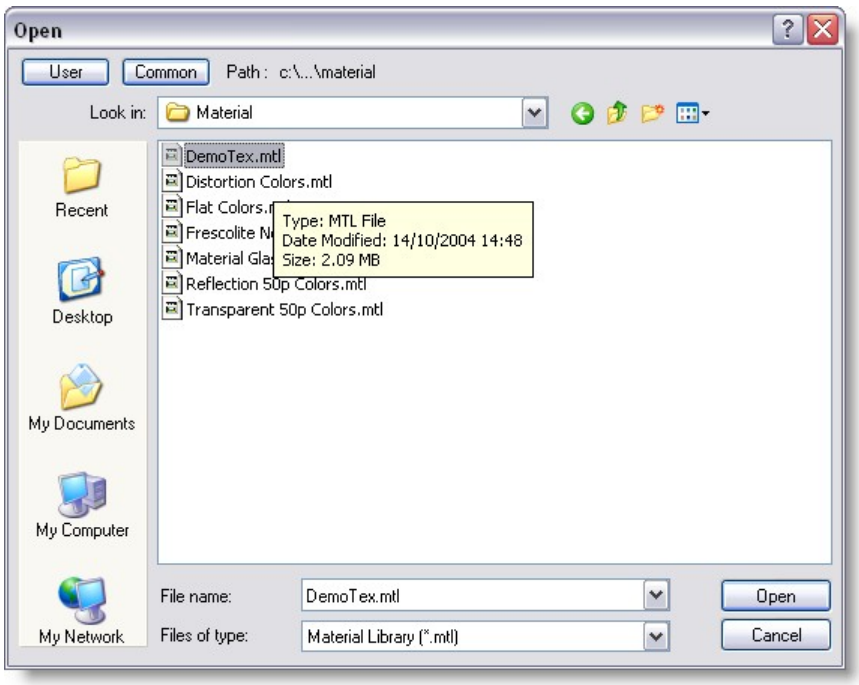

There are a number of pre-made materials for you to choose from, Import allows you to access these.
You can also import materials from other scenes that have been saved on your computer. To do this click on Import and change the file type to scene (.scn), then search your computer for the scene file and open it. It will then give you a list of all the materials that were used in that scene.

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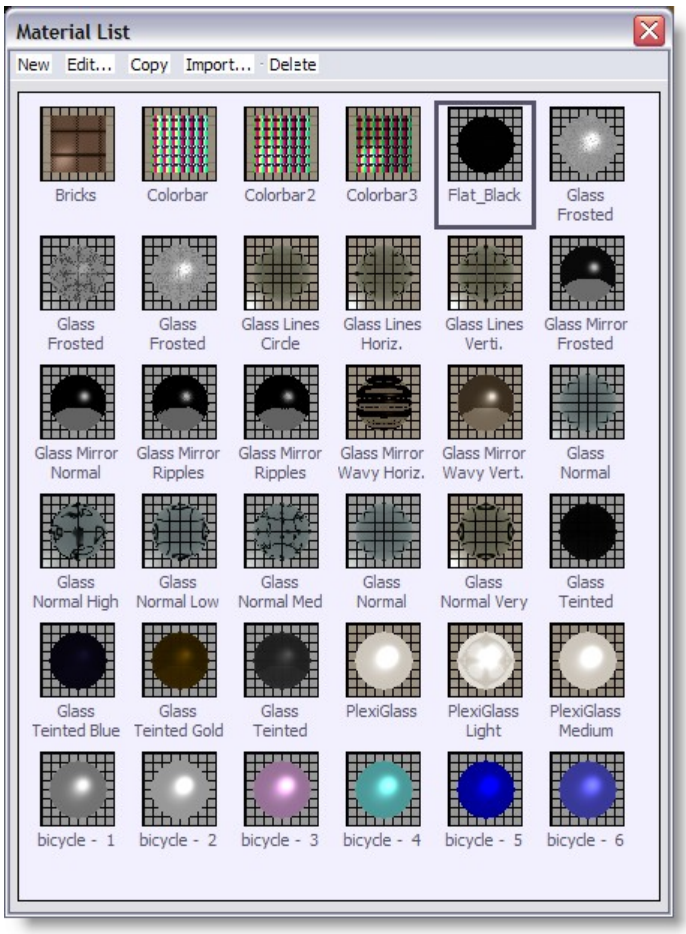

Delete a material
Simply click on the material you wish to delete and click on the delete

Applying your material

- Pick the object you wish to apply your material to.
- Open it's properties window, (Alt +Enter)
- Click on the Materials page.
- Select which part of your object you wish to apply the material to and click on it.
- Click on the material you wish to apply to the part
- Click OK

The Un-link button is so you can separate the material from the part.
The Add button allows you to add more materials to the list from other scenes, much like Import.

Tips: you can create your own Material library
Simple Start a scene in ShowDesigner and create or import all desired textures.
Save the scene.
Then, rename that scene with a MTL extension like "MyTextures.mtl"
When ever you want to import a material,

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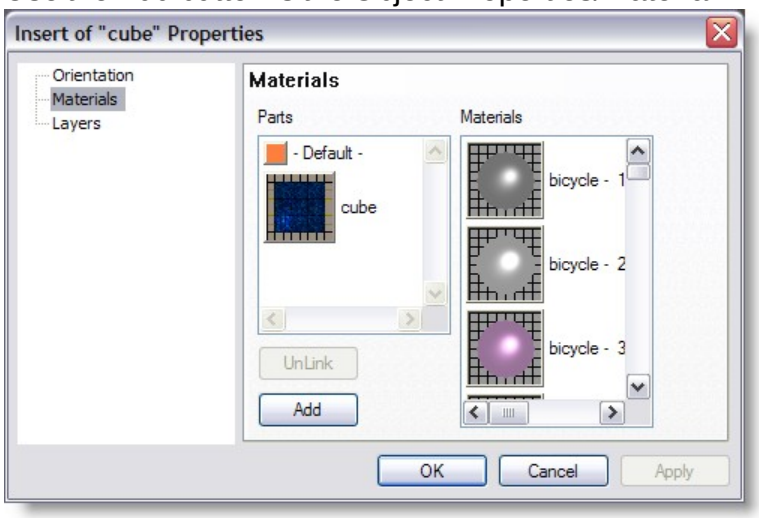
Use the Add button is the Object Properties/Material

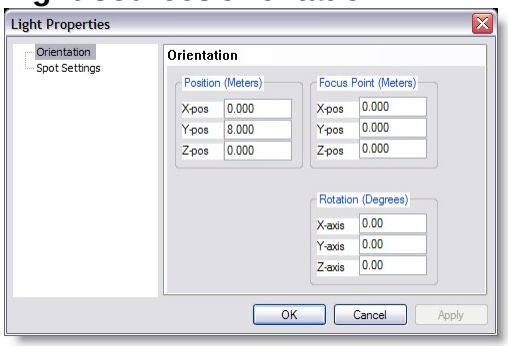


or use the Import button in the Material list.

5.11 Light Source Properties

Orientation page
The 'Orientation' page looks like this

Light-sources orientation



This page looks a lot like the page described in Primitive Properties . The difference is the 'Focus Point' fields instead of the size. The 'Focus Point' fields can be used to focus the spot on a known position.
Settings page
The 'settings' page is the dialog where you set up a light-source. It looks like this

Spot settings

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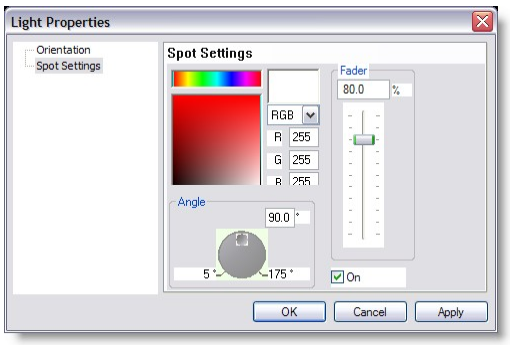

In this page you can change the color of the light-source, change its intensity and change its beam angle. The color of the light-source is changed in the same manner as the 'Color Selection '. The intensity is change with the slider, or by typing in the correct percentage, and the beam angle can be changed by moving the wheel or typing in the correct value.
Below the fader you see an option labeled 'On'. This option is used to turn the light on or off. In the drawing you can recognize light-sources that are on, by a beam. Light-sources that are turned off have no beam.
The settings of the light-sources will be stored with the object. New objects will use the light settings that are in effect at the time you created the object.

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3D Visualizer

Part VI

6 3D Visualizer

The 3D Visualizer part of the MSD software package offers you the possibility to view the effects of various types of moving lights, scrollers and spotlights. Cues made with your light control board, or of course with the ShowDesigner can thus easily be monitored and, if necessary be changed without the need for actual fixtures.

Colors, iris settings, light intensities, movements, gobo selections and more are visible on your screen.

For speed, the bitmap gobos used in the ShowDesigner will be linked to line drawings, which are available in several libraries (See 'Loading scenes ' for more details). If you want to link a bitmap gobo to a line drawing of your own, you can use the MSD Gobo Editor to create a line drawing for that gobo.

Scenes for 3D Visualizer are created with ShowDesigner, there you can place objects and fixtures to create a complete scene. You must make sure that no other program is using the scene file, because this will prevent 3D Visualizer from opening the file. If you want to use the same scene file with both 3D Visualizer and ShowDesigner, you should make a copy of the scene file.

To ensure easy operating, it is possible to change the visibility of Object and Fixture layers. Object layers can be made intersectable, so beams will be projected onto them. Which objects belong to which layer must be decided in the ShowDesigner, as you can not change them in 3D Visualizer. This is not the case with the fixtures, fixtures can be moved to a different layer in 3D Visualizer.

All used fixtures can be re-patched within 3D Visualizer. Not only the default (DMX) address can be altered, but also the input-port to use. The position of fixtures can also be changed using the property pages (See Orientation page), or by dragging the fixture while holding down the 'Alt' key.

Of course the position from which you can view the displayed scene (camera position) can be altered too. Camera positions can be stored, in order to use the camera settings again later on.

3D Visualizer can get the DMX values from an internal link between 3D Visualizer and ShowDesigner or from an outside source (like a light control board). To view the output of outside DMX-source, you will need extra hardware and a corresponding driver. You can use the menu option ' Control | Follow DMX ' to switch between internal link and outside source.

Menus
Layout
Display and Beam Mode

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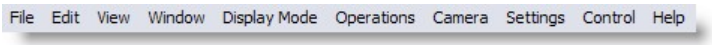
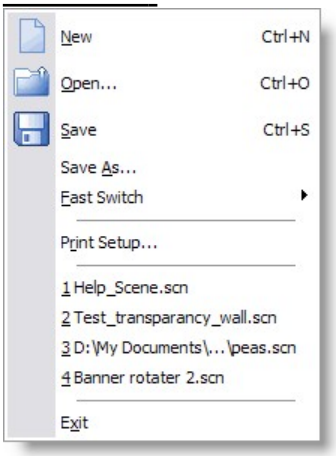
Camera
Camera Properties 2D
Camera Properties 3D
Camera Save/Delete
Loading scenes
DMX Show
Media Feeds
Fixture Properties
Layers
Fast-Patch
Fast-Fan / Fast-Focus
Fast-Reality Check
Fixture Calibration
Settings
Preferences
Display
System Units
Paths
DirectX
Language
Options
Room Preferences

6.1 Menus

Menu bar



File menu



File | New

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Shortcut : **Ctrl+N**
This menu is used to create a new scene. The system will ask to save any changes to the current scene if another scene is already open.

File | Open...

Shortcut : **Ctrl+O**
This menu is used to open an existing scene. You will be presented with the standard file dialog in the 'scenes' directory. After you have selected a scene, the current scene will be closed and the new scene will be opened. If the current scene was changed since the last save you will get the opportunity to save these changes or cancel the open command. Note that a scene can only be opened by one program at any time, so if the scene you selected is already opened by the ShowDesigner, it will fail to open in 3D Visualizer.

File | Save

Shortcut : **Ctrl+S**

The menu option 'Save' is used to save the current scene. If the current scene was never saved before, you must enter a name for this new scene.

File | Save As...
This menu item is used to save the scene with a new name. When you use this option you must select a new name for the scene, the scene is then saved using this name. Any subsequent saves of the scene will be done using this new name.

File | Print Setup...
This option allows you to change the current printer and its settings.

File | Recent files
Here you will find the 4 last saved/opened scenes. By selecting one of these scenes you can open the selected scene.

File | Exit
Shortcut : **Alt+F4**
This option will shut down the program. If there is a scene open and if this scene was changed since the last save, you will be asked whether or not to save these changes or cancel the operation.

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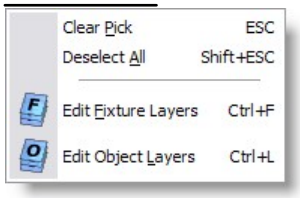
Edit menu



Edit | Clear Pick

Shortcut : **ESC**
This option clears the current pick. Only the 'picked' (red) fixture will be unpicked. Any selected fixtures remain 'selected'.

Edit | Deselect All

Shortcut : **Shift+ESC**
This option clears the selection. Only the 'selected' (green) fixtures will be de-selected. Any picked fixture will remain 'picked'.

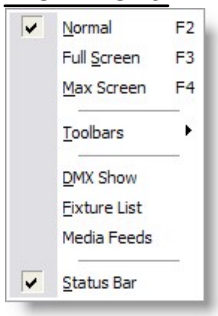
Edit | Edit Fixture Layers

Shortcut : **Ctrl+F**
When you select this option, a dialog will appear.
See Layers for more details

Edit | Edit Object Layers

Shortcut : **Ctrl+L**
When you select this option, a dialog will appear.
See Layers for more details

View Menu



You can use the entries in this menu to select the screen mode or to view or hide the toolbars holding the buttons, the DMX show window and the status bar at the bottom of

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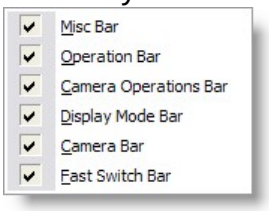
the main window. If an item is visible a checkmarks will be displayed in front of the menu item.

View | Normal
Shortcut : **F2**
This menu is used to select the 'normal' screen mode.

View | Full Screen
Shortcut : **F3**
This menu is used to select the 'full screen' screen mode. This means that the drawing area will be maximized, leaving the toolbars and the Statusbar visible, but hiding the caption, menu and borders. (Actually, they are still there, but they lay outside of the monitor area).

View | Max Screen
Shortcut : **F4**
This menu is used to select the 'max screen' screen mode.. This mode is the same as the 'full screen' mode, but the toolbars will be hidden.

View | Toolbars
This menu is used to show or hide the toolbars. For an overview of all the buttons in the toolbars you can look at the 'Toolbars ' entry.



View | DMX Show
This menu option shows or hides the *DMX Show* dialog. This window lets you record and play DMX shows and allows you to create videos from these shows.
See DMX Show for more details

View | Fixture List
This menu option shows or hides the Fixture List dialog. This window lets you view the list of fixture(s) in the scene and edit some parameters such as position and rotation.

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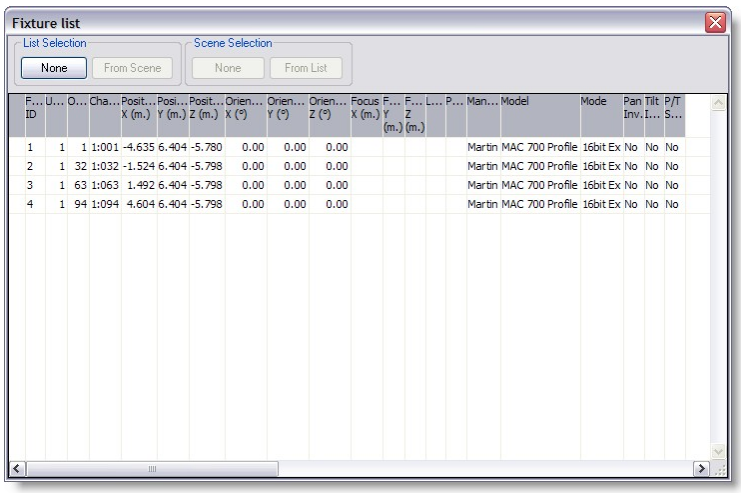
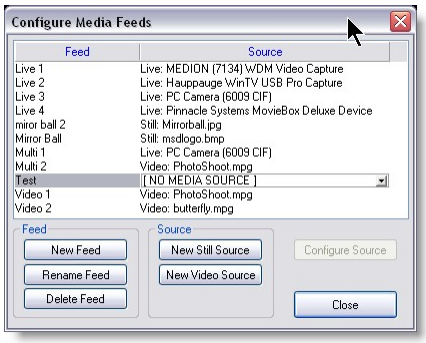


View | Media Feeds

This menu option shows or hides the Media Feeds dialog.

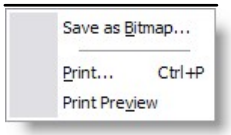


See Media Feeds for more details

View | Status Bar

This menu options will show or hide the status bar, with its status indicators.
Window Menu

Window menu



You will use the entries in this menu to save or print windows.

Window | Save as Bitmap...

This option allows you to save a window as a Windows bitmap (BMP) or a jpeg image (JPG).

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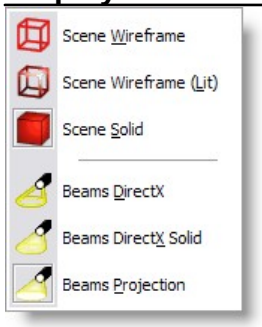
Window | Print...
Shortcut : **Ctrl+P**
This option allows you to print the contents of the main window. The print will always be in wireframe. If you use the button, a print will be generated immediately. If you use the menu entry or the shortcut, you have a chance to change the printer before a print is generated.

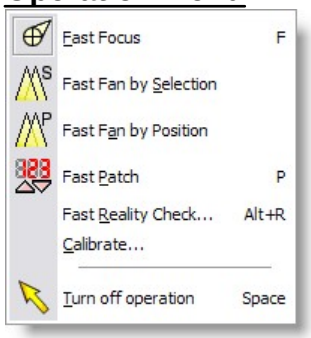
Window | Print Preview
This option allows you to preview how a window will be printed.
Display Mode Menu

Display Mode menu



This menu allows you to select the display modes of a window. It gives you a range of representations of a scene and of the fixture beams.
See Display Mode for more details

Operation menu



Operation | Beam Focus
Shortcut : **F**
This option allows you to focus one or more fixtures on the point you click, and then drag the focus. This operation requires a bi-directional connection between 3D Visualizer and

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the light board, or use of the internal link between ShowDesigner and 3D Visualizer.
See Fast Fan/Focus for more details

Operation | Fast Fan by Selection
Allow fixture fanning by Selection order
See Fast Fan/Focus for more details

Operation | Fast Fan by Position
Allow fixture fanning by position order
See Fast Fan/Focus for more details

Operation | Fast Patch
Shortcut : **P**
Tools to help fixture patch (Address and ID)
See Fast Patch for more details

Operation | Fast Reality Check
Shortcut : **Alt+R**
Tools to help pre-programming with a single fixture of each kind.
See Fast Reality Check for more details

Operation | Calibrate...
Tools to set the fixture position to real world position.
See Fixture Calibration for more details

Operation | Turn Off Operation
Shortcut : **Spacebar**
Exit any current operation

Camera Menu

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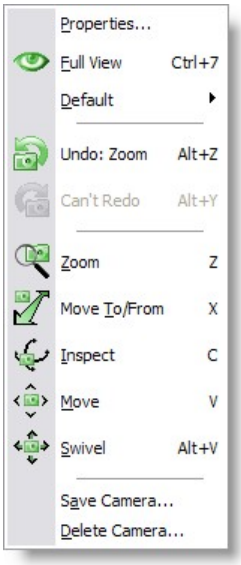
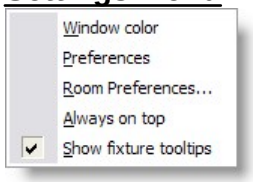


See Camera for more details

Settings menu



Settings | Window color

This option allows you to change the background color of the main window.

Settings | Preferences

In the preferences dialog you can set your preferences. Some are local (apply only to the ShowDesigner module), some are global (they may apply to all Martin ShowDesigner modules). The preferences are arranged into groups, with each it's own page (page).
See Settings for more details

Settings | Room Preferences...

This menu option allows you to change the room settings.
See Room Preferences for more details

Settings | Always on top

This menu option can be used to make 3D Visualizer appear on top of all other applications, even when 3D Visualizer is not the active application. This option can be switched on and off. When this option is on, a check-mark will be displayed in front of the option in the menu.
Control Menu

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Control menu

DMX | HOLD (GO)

This menu option is used to stop 3D Visualizer from reacting to changes in the DMX values. When you select this option the green circle in the status bar changes to a red circle and this menu option changes to 'Control | GO'. Selecting the 'Control | GO' menu options reverses this process and starts the reading of DMX values.

Control | Setup Driver...

This option displays a dialog box, which you can use to change the settings of the driver. This dialog is driver dependent and is therefore not discussed here. If the driver does not support the feature, the menu option will be unavailable.

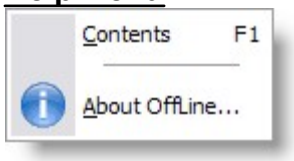
Control | Select Driver...

This option allows you to select which of the installed DMX drivers you want to use. If you select another driver, it will be used the next time you run the program. In other words, you have to exit and restart the program to have the change of DMX driver take effect.

Control | Follow DMX

If this option is switched on, the program will react to DMX values from the driver and not from the internal link between 3D Visualizer and ShowDesigner. You can use this option to check DMX values coming from an external source (for instance a light control board). If this option is turned off, 3D Visualizer will use the DMX values set by the ShowDesigner.
Help Menu

Help menu



Help | Contents

Shortcut : F1
This option will display this help text.

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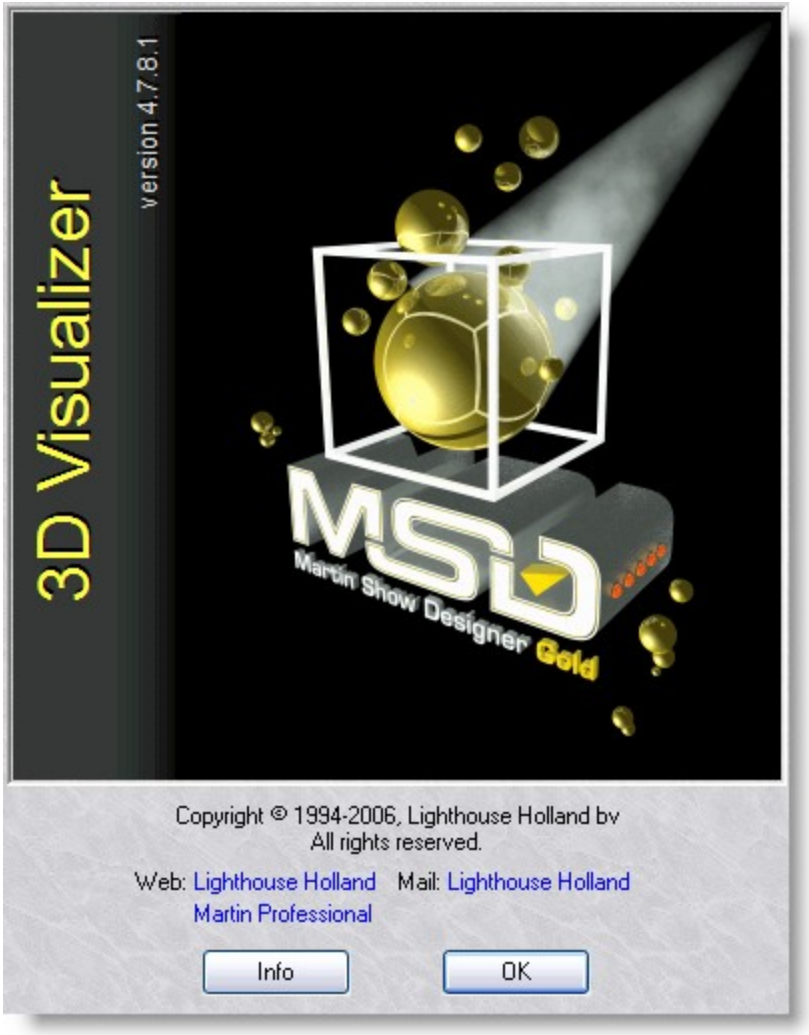
Help | About 3D Visualizer...



This option will display a window in which you can get information about the program. By clicking on the info button you will see information about the current installed version, the installation date, the serial number of the program and the name with which the program was installed. By clicking again on the (now 'Version') button, you can get further version information if you need it or for when you contact us.

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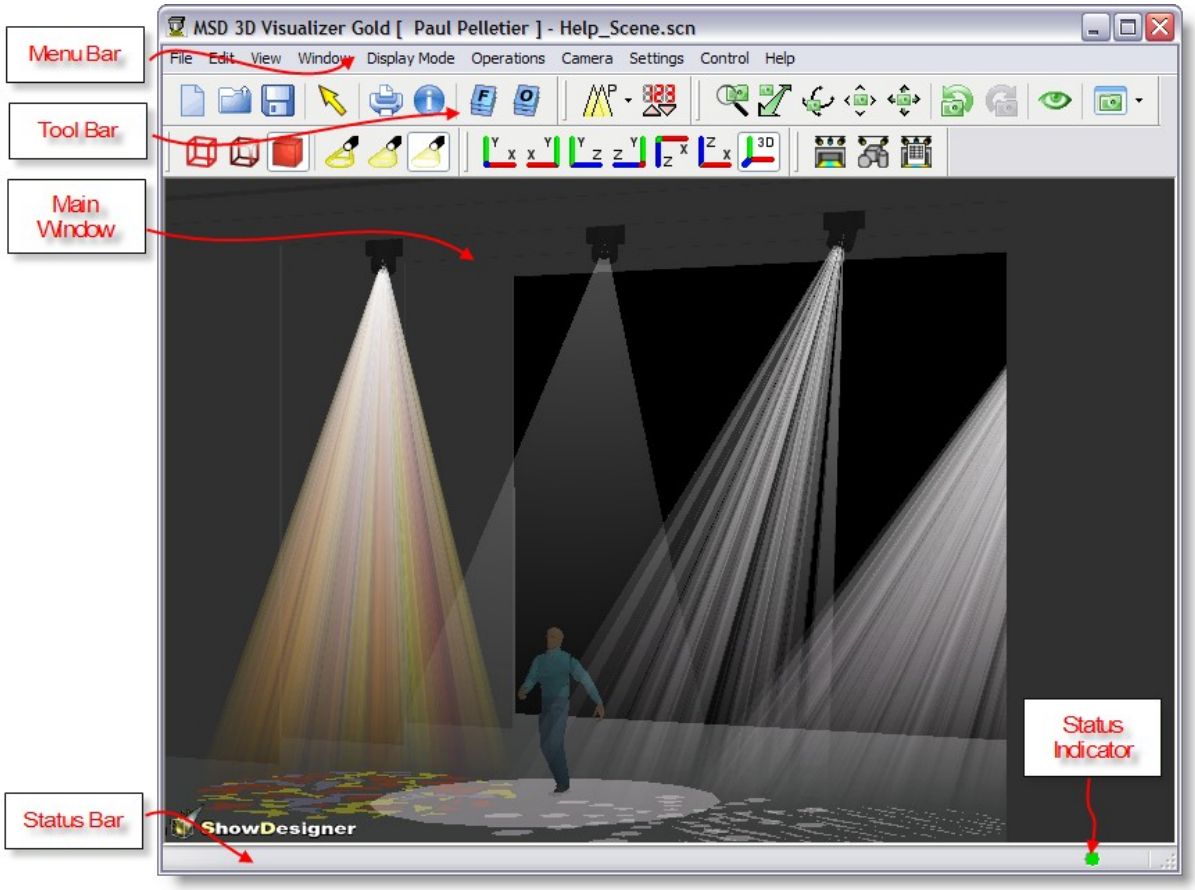
6.2 Layout



The application window has a menubar, toolbars, a main window, Status indicators and a Statusbar.
The menubar will be covered in 'Menu bar ', the toolbars in 'Toolbars ' and the main window in ' Main Window '.
The status bar is used to give you information while you are working with the program.
The status indicators indicate if a fixture is picked (area on the right) and if 3D Visualizer is reacting to DMX (green circle).

6.3 Display and Beam Mode

There are 3 different display modes for objects (Wireframe, Wireframe lit and Solid). Each display mode shows you a different representation of the scene.

Wireframe
This option will show the objects in wireframe mode.
This will show your objects as solid lines with a single color.

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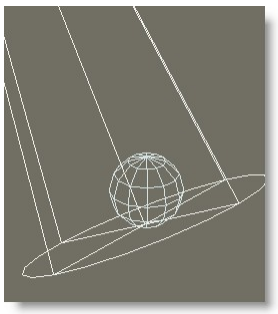
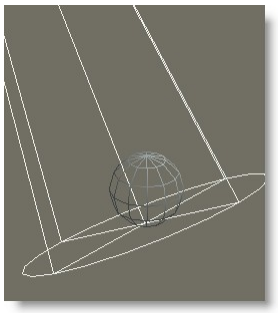
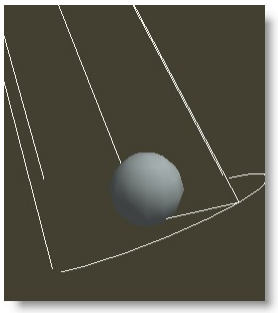


Wireframe Lit
This option will show the objects in wireframe lit mode.
This will show your objects as colored lines, lit by a single light source.



Solid
This option will show the scene in solid mode.
This will show your objects as fast, solid, simple shaded objects, lit by a single light source.



Beam Display Modes
Fixture Beam can be displayed in 3 different ways.
In Wireframe mode, beams are drawn as lines by DirectX.
In Solid mode the beam are drawn as solid.
In DirectX Solid mode, beams are drawn solid with a better gobo projection and beam fading gradually.

Wireframe

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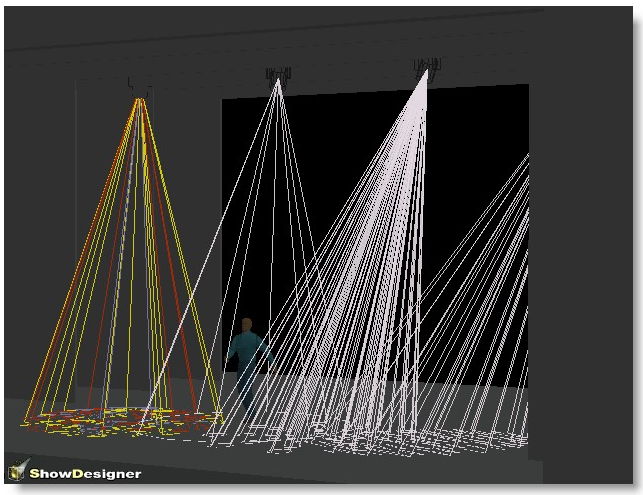
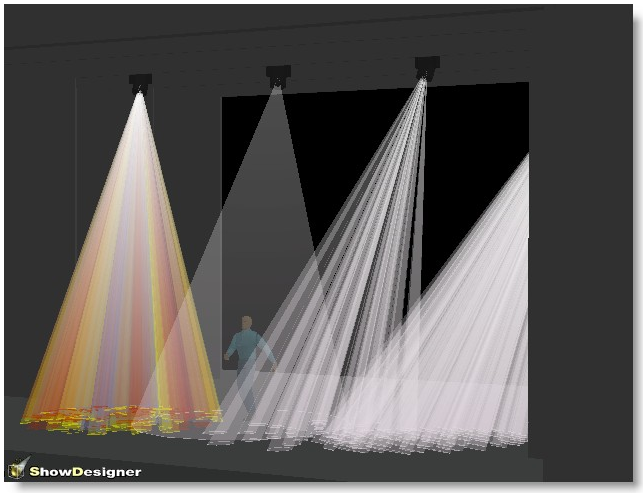


Solid



Solid DirectX mode

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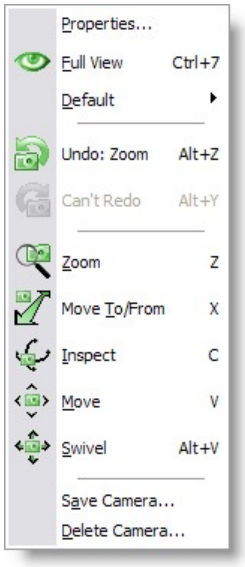
6.4 Camera

Camera Menu



Camera | Properties

This option display one of the camera dialogs described in Camera types , depending on which kind of camera is currently selected.

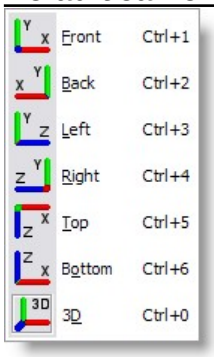
Camera | Full View

Shortcut : **Ctrl+7**

This option will try to adjust the camera so that the entire scene will be visible.

Camera | Default

Default camera menu



Camera | Undo

Shortcut : **Ctrl+8**

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This option undoes the last change made to the camera settings.

Camera | Redo
Shortcut : **Ctrl+9**
This option redoes the last camera undo.

Camera | Zoom
Shortcut : **Z**
This option allows you to interactively zoom in/out.

Camera | Move
Shortcut : **V**
This option allows you to look around with the camera. With 2D cameras, you can move around the view plane and with 3D cameras, you can look around by tilting the camera from left to right and from top to bottom.

Camera | Swivel
Shortcut : **Alt+V**
This option allows you to look around with the camera. With 2D cameras, you can move around the view plane and with 3D cameras, you can look around by tilting the camera from left to right and from top to bottom.

Camera | Move To/From
Shortcut : **X**
This option allows you to move the camera to and from. With 2D cameras, this does the same as the 'Zoom' operation. With 3D cameras, the camera is moved forwards or backwards.

Camera | Inspect
Shortcut : **C**
This option is only available for 3D cameras and allows you to inspect a scene by moving the camera around the focus point of the camera.

Camera | Save Camera...
This option allows you to save the camera settings, giving it a name. The camera will be stored with the scene file.

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Camera | Delete Camera...
This option allows you to delete one or more cameras (from this scene file).

6.4.1 Camera Properties 2D

In 3D Visualizer, there are two type of Cameras; The one for 2D view and the one for 3D view
Camera can be move manually with the mouse or edited with values.

2D views can be used to view your scene from any of the 6 directions:

Camera | Default | Front
Shortcut : **Ctrl+1**
This option changes the camera to a 2D camera looking from the front to the back.

Camera | Default | Back
Shortcut : **Ctrl+2**
This option changes the camera to a 2D camera looking from the back to the front.

Camera | Default | Left
Shortcut : **Ctrl+3**
This option changes the camera to a 2D camera looking from the left to the right.

Camera | Default | Right
Shortcut : **Ctrl+4**
This option changes the camera to a 2D camera looking from the right to the left.

Camera | Default | Top
Shortcut : **Ctrl+5**
This option changes the camera to a 2D camera looking from the top to the bottom.

Camera | Default | Bottom
Shortcut : **Ctrl+6**
This options changes the camera to a 2D camera looking from the bottom to the top.

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You can use the Zoom button and drag the mouse to zoom in and out. The mouse wheel will also do this, except it will zoom in on what ever the mouse is currently pointing at.
You can use the Camera Move button and drag the mouse to move the view around. The middle mouse button will also do this.

Camera Properties can be access in three ways
-With the hotkey SHIFT+ALT+ENTER
-From the right-click menu on a view
-From the menu Camera

2D Camera Properties

Position
X: Set the Camera position form left to right
Y: Set the Camera position form bottom to top
Z: Set the Camera position form front to back

Note: If you are on a Top View for example, only the X and Z need to be set. But make sure the Y value is higher then the maximum height of the scene, otherwise part of the scene will be clipped.

6.4.2 Camera Properties 3D

In 3D Visualizer, there are two type of Cameras; The one for 2D view and the one for 3D view
Camera can be move manually with the mouse or edited with values.

Camera | Default | 3D

Shortcut : **Ctrl+0**
This option changes the camera to the last used 3D camera.

Camera Properties can be access in three ways
-With the hotkey SHIFT+ALT+ENTER

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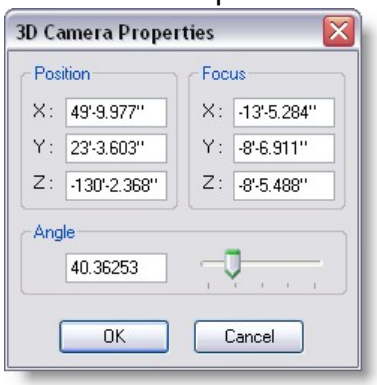
-From the right-click menu on a view
-From the menu Camera

3D Camera Properties



Position
X: Set the Camera position form left to right
Y: Set the Camera position form bottom to top
Z: Set the Camera position form front to back

Focus
X: Set the Camera "Look At" form left to right
Y: Set the Camera "Look At" form bottom to top
Z: Set the Camera "Look At" form front to back

Angle
Set the angle of the zoom.
A wider zoom will give more perspective.
A good perspective setting usually means a better sense of dimension...
As a reference, the human eyes has a field of around 60 degree (image in focus)

Therefore setting the camera at 60 degree and then moving the Camera will give a real-life like viewing.

Here's three example of camera settings where you can see the perspective in action

4 degree at 200 meters

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60 degree at 18 meters

120 degree at 15 meters

6.4.3 Camera Save/Delete

Camera set in 3D view can be store.

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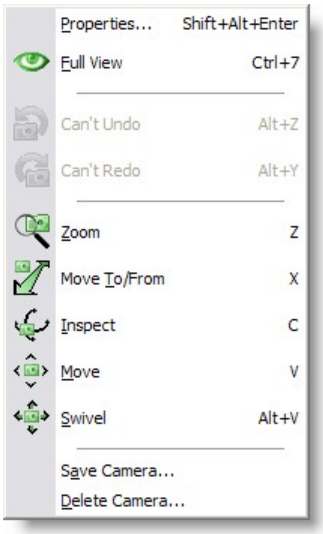
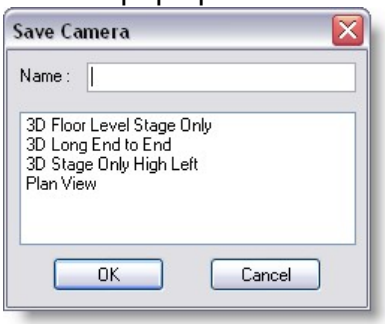
Once you have set up your camera you will want to save the position, so you can go back to it later.

Click on the Camera menu, then click on Save Camera



This will pop up a small window



Type in the name for your view and click OK.

You can save as many different views as you like.

If, while setting up your camera views, you make a mistake, there are a few buttons that can help.

Camera Undo will allow you to go back to your previous view setting.

And if everything goes completely wrong and you want to start again, click on Full View. This will reset the camera to viewing the whole scene.

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Full View: Will set the current view only

There are two ways of saving 3D camera
-From the menu Camera, select Save Camera...
-From the right-click menu, select Camera and then select Save Camera...

Type in a name from the Camera and press OK

To delete a Camera
-From the menu Camera, select Delete Camera...
-From the right-click menu, select Camera and then select Delete Camera...

Select the camera and press OK

6.5 Loading scenes

Loading scenes

When loading a scene, 3D Visualizer needs to load a line drawing representation, a so called 'Line-gobo', for each gobo that is defined in the fixtures used in the scene. 3D Visualizer will use the name of the gobo bitmaps to search for line-gobos. Every line-gobo has a bitmap-name to which it is linked. 3D Visualizer will search all line-gobo libraries in the gobo directories (*see Paths settings*) for a line-gobo with an identical bitmap-name as the gobo bitmap-name.
If no match can be found, the following dialog will appear.

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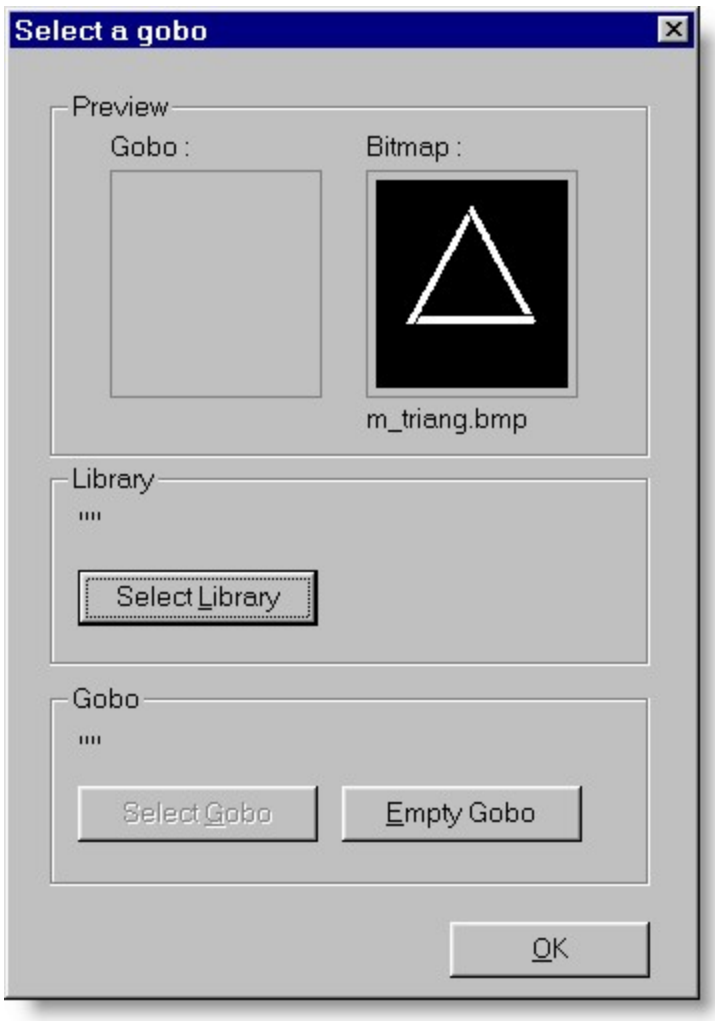

As you can see, two little display windows are present. The one on the left will display a selected line-gobo, the right one shows the bitmap of the gobo for which no matching line-gobo was found.

You have two options to select a line-gobo for the gobo. The first option is to match the displayed bitmap to no gobo at all. In 3D Visualizer the bitmap gobo will be represented as a normal beam, so as if no gobo is used. The only action required for this option: Press the 'OK' button. Of course this is a fast way to get on with your work, but it makes it quite hard to determine what gobos are used. With the 'Empty Gobo' button, you can clear a selected gobo if you decide that you selected the wrong line-gobo.

The second possibility is to link a bitmap gobo to a line-gobo manual. To do this you should first select the line-gobo library from which you want to select the line-gobo. This is done by clicking the 'Select Library' button. The name of the selected library will appear above the button. After you have selected the line-gobo library, you can select a line-gobo from the library by clicking on the 'Select Gobo' button. The following dialog will appear:

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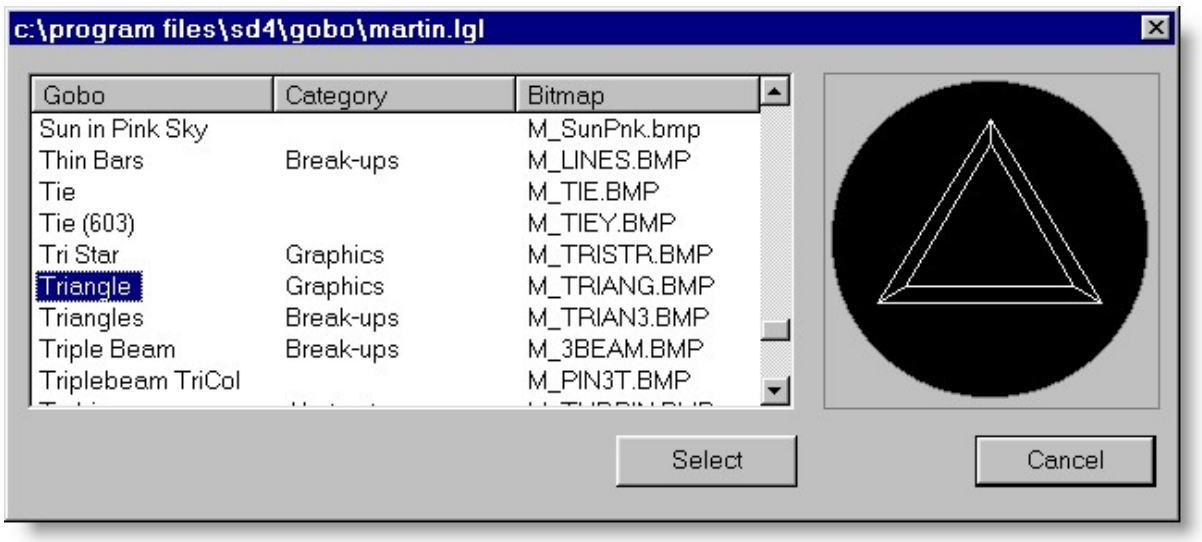
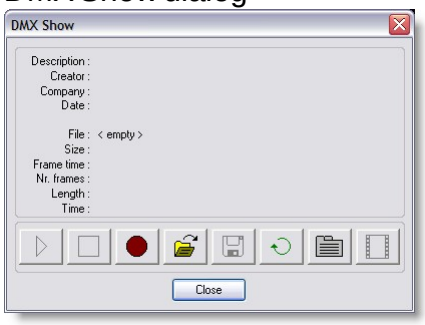


After you select one of the gobos on the left, the corresponding line drawing will be displayed on the right. By pressing the select button, you can link the selected line-gobo to the bitmap gobo. If this link is not what you wanted after all, you can select another gobo by pressing the 'Select Gobo' button again and selecting another line-gobo. When you are satisfied about the selected line-gobo, you can click on 'OK' to activate the link.

6.6 DMX Show

DMX Show
With the DMX Show Dialog, you can record and save DMX input as a file (default with the .dmx file extension in the DMX directory). You can later load and playback this DMX signal. You can also use it to create an AVI file (video).
You can open (and close) the DMX Show dialog by selecting the 'DMX Show' entry in the 'View' menu. A dialog will appear:

DMX Show dialog



Normally, the top part of this dialog shows no information (just '< empty >' after 'File:'). When you open a stored DMX show, this part will show the kind of information as shown above. In the lower part are the control buttons for this dialog:

Play

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This button starts the playback of a Dmx show. It is enabled when you have recorded or loaded a Dmx show.

Stop

This button stops the playback of a Dmx show. It is enabled when the playback is active.

Record

This button starts the recording of Dmx values to create a Dmx show. It will read Dmx from the same source as the main window of 3D Visualizer.

Open

With this button you can load a previously saved Dmx show.

Save

With this button you can save a Dmx show. It is enabled when you have recorded or loaded a Dmx show.

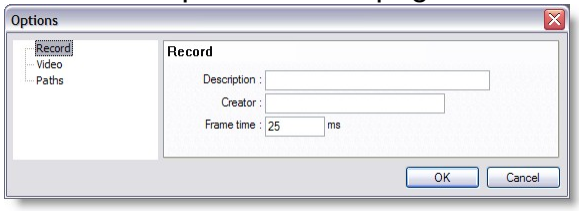
Loop

With this button you can enable/disable the 'looping' mode. When active, the playback will loop back to the start when it reaches the end.

Option

With this button you can open the Options dialog with several pages. The first page contains the options for recording a Dmx show, the second page the options for creating a video file and the last page the paths where DMX shows and videos can be located.

DMX Show options, record page



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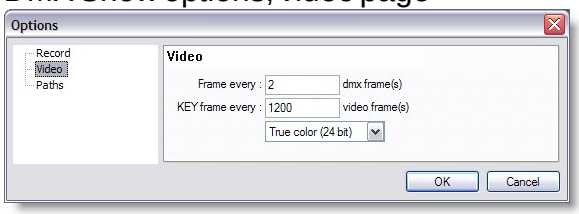
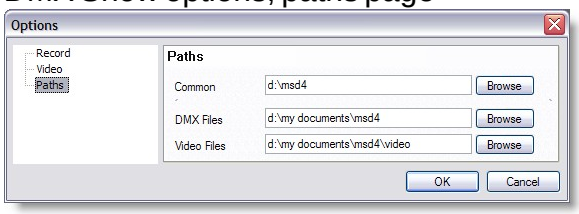
In this page, you can set some parameters that will influence the recording of a DMX show. At the first line you can enter a description for a DMX show, at the second line you can enter your name as the creator for the show and on the last line you can enter at what intervals the DMX values should be sampled. Default, the frame time will be 25 ms, which means the DMX values are sampled at 40 frames per second.

DMX Show options, video page



In this page, you can set some parameters that will influence the creating of an AVI video file. At the first line you can enter how many DMX frames will comprise one video frame. Default this value is set to 2. When a DMX show has a frame time of 25 ms (40 frames per second), this will result in a video frame time of 50 ms (20 fps). At the second line you can specify when a frame should be saved as a key frame. With most video encoders, frames will be stored relative to the previous frame (some will only store changes to minimize the file size). A key frame will be stored totally. Default every 1200th frame will be stored as a key frame (in the same case as above this will mean one key frame every minute.) At the last line you can specify the color format for the video: 256 colors (8-bit), High color (16-bit) or True color (24-bit).

DMX Show options, paths page



In this page you can specify where to store DMX shows and video file.

Create Video

By using this button you can create a video file (AVI). Since most of the time the encoding of the video will not be real-time, you will have to record a DMX show to capture the real-time DMX input, and then use the DMX show to create the video. This also allows you to create video files from different camera positions with the same DMX show.
After you click on the button, you will be presented with a file dialog where you can enter the name of the video file. After that you will get a dialog where you can select which video encoder you want to use. Select one, and then the encoding will start.

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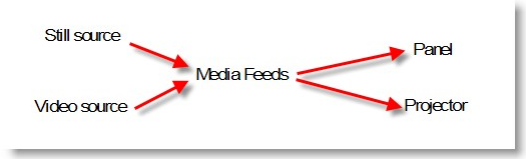
6.7 Media Feeds

Media feeds is another unique feature to MSD
It allows you to display multiple video source onto a scene in 3D Visualizer.

Video can be display on panel (screen) or as projection (video projector)
It's important that the DirectX mode of the 3D Visualizer is set to Direct 3D, otherwise the video playback will not show.

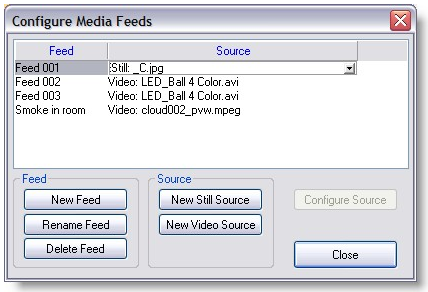
MSD 3D Visualizer use Window Media Player as video engine. Pretty much anything Windows Media Player can see as video can be displayed in MSD 3D Visualizer.

The flow paths is as follow



Video Source and Still Source are assigned to Video Feeds (Jpeg, BMP, AVI, MPEG, video capture, webcam etc.).
Video Feeds are then assign to panel or projector

The first step is to create sources.
For this, from the menu view, click on Media Feeds



Configure feeds

Click on New Video Source to browse and create a new Video source

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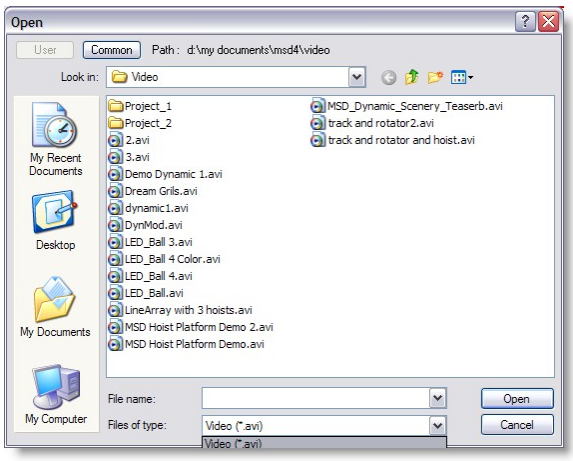
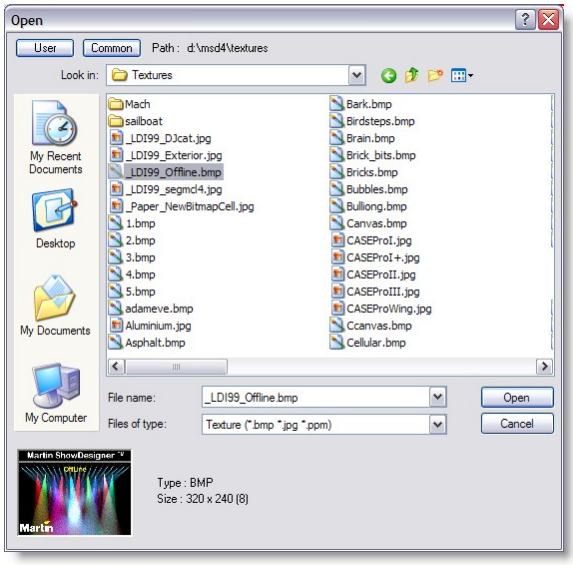


Note: by default only AVI files are seen by the browser, select *.* as file type to see other video file type.

Click on New Still Source to browse and create a new image (still) source



Once the sources are created, you can create an Video Feed
For this, click on New Feed button, this dialog will appear

New Feed

Set the name of the new feed and press OK

A feed can be renamed by pressing Rename Feed and setting the new name following by OK.

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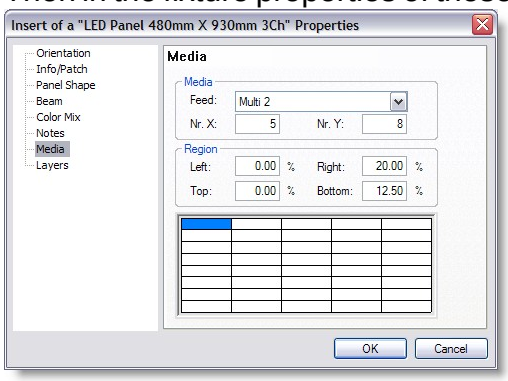
Rename Feed

Let's take the example of a video wall 5 X 8 screen

The screens are made with LED panel set to White color

Then in the fixture properties of these panel assign a Media Feed



Also set the X to 5 and Y to 8
And select the portion of the image this screen will be displaying.

If all screens use the same feed and assign to each of the image portion a video would like this

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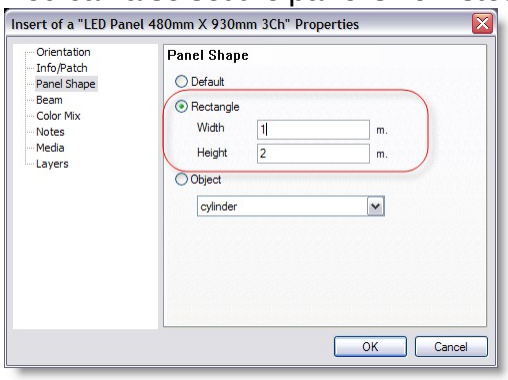
You can also set the panel size instead of using the default size



And finally a video can be apply to a simple shaped form (less then 1024 vertices)

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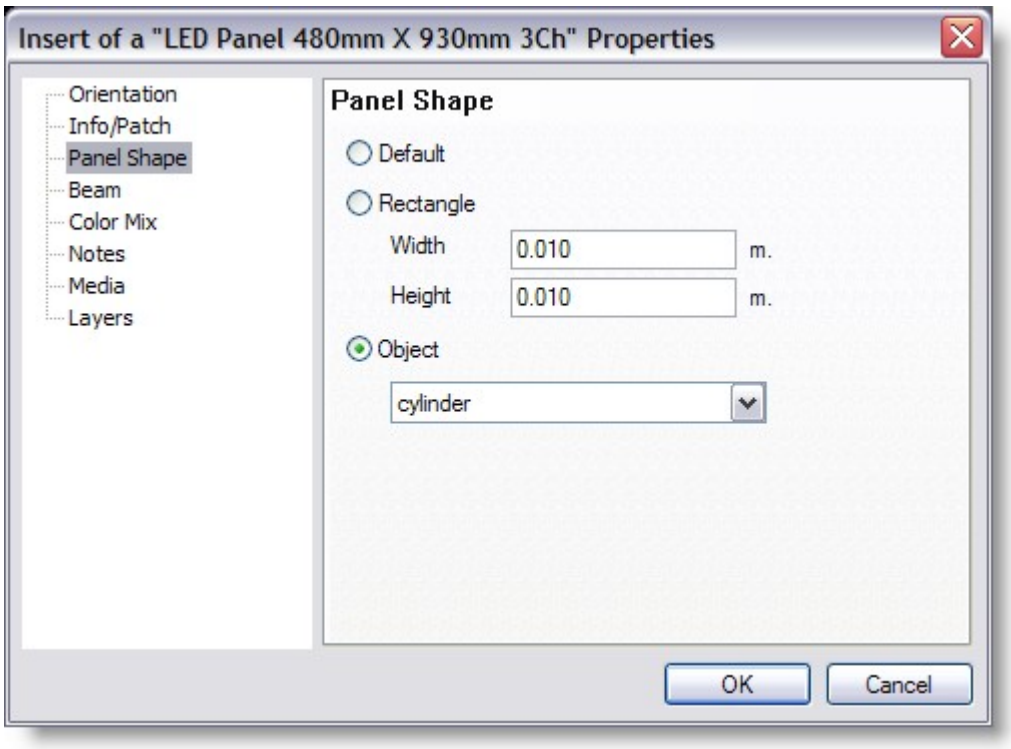

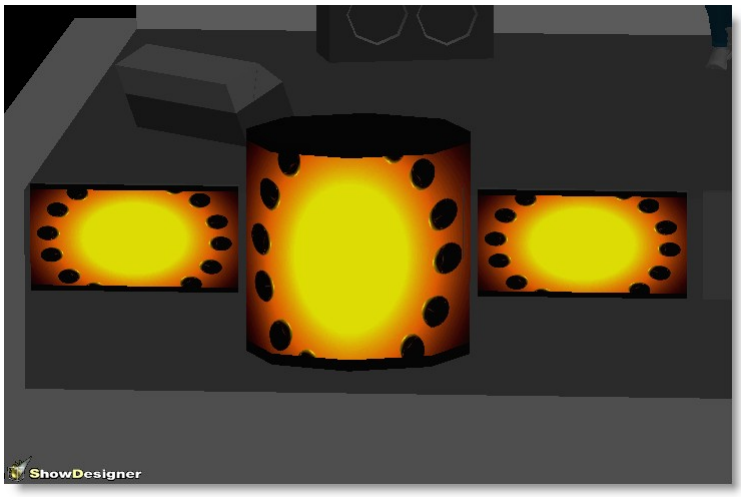

Middle Panel is a cylinder shape

Using Video Feed as smoke effect

Note: There's a feed called Smoke in Room that is always there by default.
This is a special feed that can be used to play a video on smoke to emulate moving smokes in the 3D scene.

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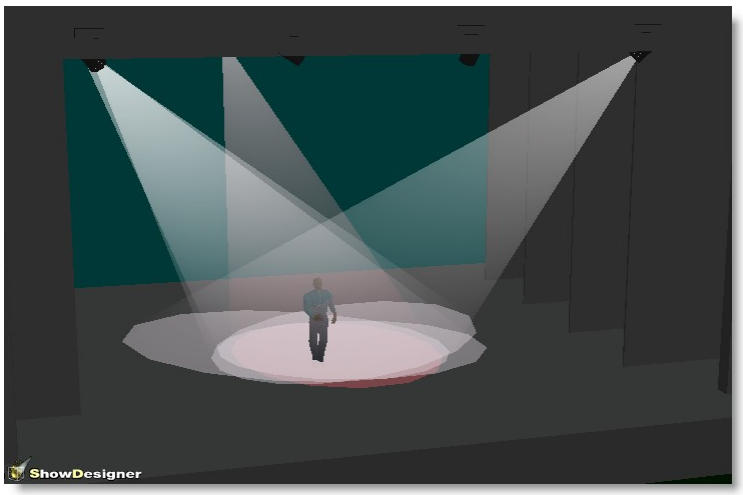
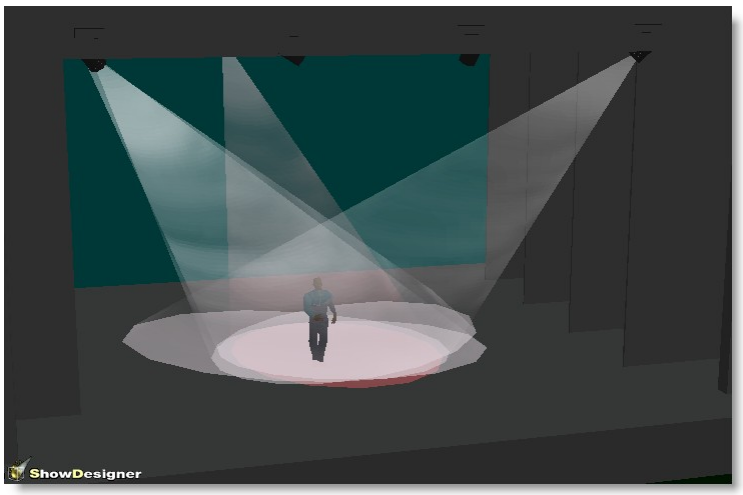


Normal Smoke



Video Smoke

6.8 Fixture Properties

Properties

You can change most of the parameters of a fixture by using the property sheet. When you change a parameter that is controlled by DMX, 3D Visualizer will try to update the DMX accordingly and send it to the light board (or ShowDesigner) and then reread the incoming DMX to check if the changes were accepted. So for this to work properly you must have a bi-directional connection between 3D Visualizer and the DMX source.

You can get the property sheet of picked fixtures by right clicking in the main window. Doing this will show you the context menu, in which you can select options specific for the window and picked fixture. One of these options is 'Properties'. Selecting this menu option will display a dialog with multiple pages.

This dialog is called a property sheet. Below the page windows you see two buttons,

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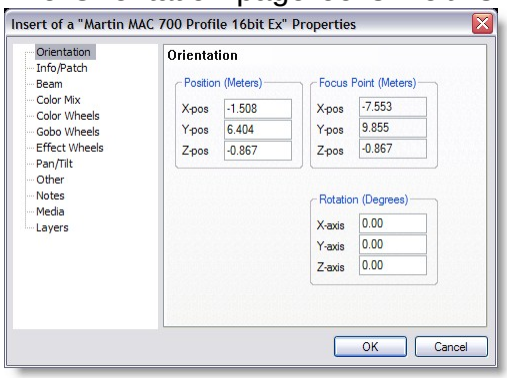
called 'OK' and 'Cancel'. You use the 'OK' button to accept the changes and close the property sheet. The 'Cancel' button just closes the property sheet without accepting the changes.

The number of pages in the fixture properties depends on the capabilities of the picked fixture. In the next paragraphs we give a description of all possible pages.

Orientation page

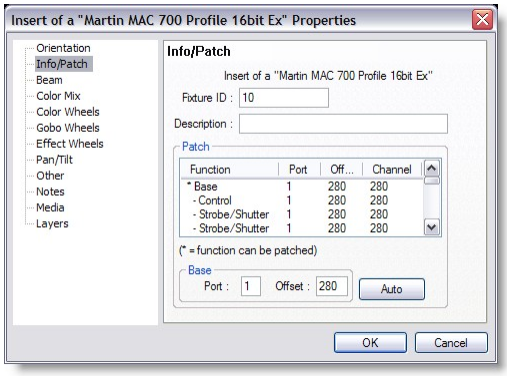
The 'Orientation' page looks like this



This page lets you enter the exact position and orientation of the picked fixture. The page is divided into three parts. At the top left you see three edit fields for the position. Next to the position you can see the fields for the focus point and below that you see the edit fields for the orientation. In this page you can enter the position in meters and the orientation in degrees, this can be changed in the 'Units page ' of the user settings property sheet.

Info/Patch page

The 'Info/Patch' page is used to change the info and patch of the fixture and looks like this:



At the top of the page you can see the type of the fixture being patched. Below that you can enter the Fixture Id and a description. The Fixture Id is a unique number greater than zero. If you enter a number that is already in use, it will swap numbers with the other fixture (If you would enter number 9 in the example above, number 9 would become number 7 and this fixture would become number 9).
The description is a informational piece of text. Below that you see a list of all effects in this fixture. Effects that can be patched are preceded with an '*'.

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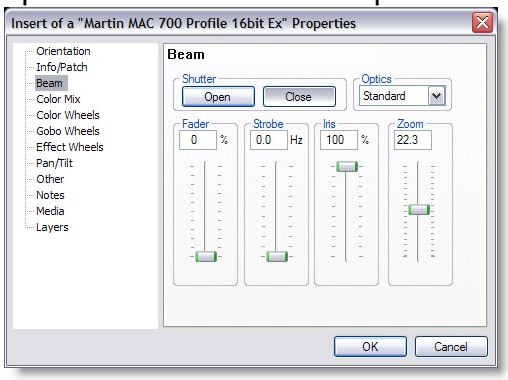
Each line in this list contains the effect name, the port or link to which this fixture is connected, the offset on that link and the channel number. The offset is the part you select on the real fixture. When select an effect that can be patched, the name will appear below the list. You can now enter the correct port and offset for the selected effect. If you select an item that can not be patched, the 'Base' item will appear. The 'Auto' button can be used to let the fixture be automatically patched on a free address. When you place an fixture in the scene it will be automatically patched on a free address, so you only need to change the patch in special cases.

Beam page

The Beam page is used to change the angle, and intensity of the fixture. It can display up to three sliders and an optics selection.



The first slider is called 'Fader' and controls the intensity of the beam. When you slide the slider down, the intensity will decrease. Slide the slider up and the intensity will increase. You can also enter the percentage directly by typing it in the edit field. This slider will always be present.
The second slider is the 'Iris'. Sliding this up will open the iris, sliding it down will close the iris. Again you can enter the required percentage in the edit field at the top of the slider. This slider is only available if the picked fixtures has a iris in it.
The last slider is the 'Zoom' slider. This controls the beam angle of the fixture and is therefore only available when the fixture supports zooming. The Optics selection gives you the option to specify which optics a fixture is using (if a fixture has several optics), so the beam angle (zoom) will be correct.

Color Mix page

The Color Mix page is used to select a color for a fixture. This page can also be called 'Color' when the picked fixture has no color mix or color wheel capabilities. In that case you can select a color that is used as gel.

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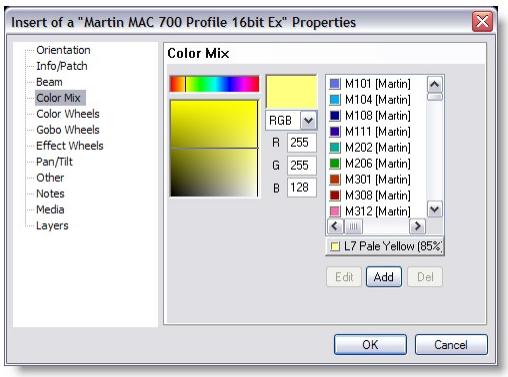
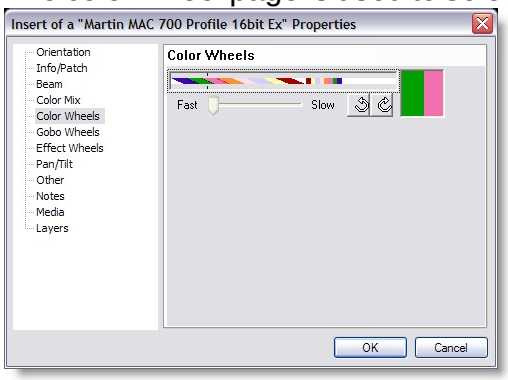


As you can see this looks a lot like the color selector discussed in 'Color Selection ', the difference is in the colors that are in the list. Instead of normal colors, the list now shows a list of gels from the gel libraries. Per gel the color, number, description and manufacturer are given. When you change the color, the system will search the gels in the list for a match, the nearest color it finds will be displayed between the list and its buttons. By clicking on this item the found color will be selected.

Color Wheels page

The color wheel page is used to select a color from a wheel of colors.



As you can see the page consists of two very similar parts, this is because the Martin MAC 500 has two color wheels in it. For every color wheel in the fixture you can see the following :

- Color slider;
- Selected color box;
- Scroll slider;
- Scroll buttons.

The scroll slider and Scroll buttons are only displayed if the color wheel can scroll continues.

You can use the Color slider to select the correct color. At the front of this scrollers you can select a position in between two colors (the diagonal colors). At the end you can select the colors in the wheel. This is because in a Martin MAC 500 the lower regions of the DMX allows the user to slowly scroll from one color to the next, and at higher DMX the colors will be fixed. At still higher DMX values the color wheel will do a continues scroll, both clock-wise and counter clock-wise, this is why the 'Scroll slider' and 'Scroll' buttons are displayed. If you click on one of these buttons, the color wheel will start scrolling. You can use the 'Scroll' slider to regulate the speed of the scrolling. If you click

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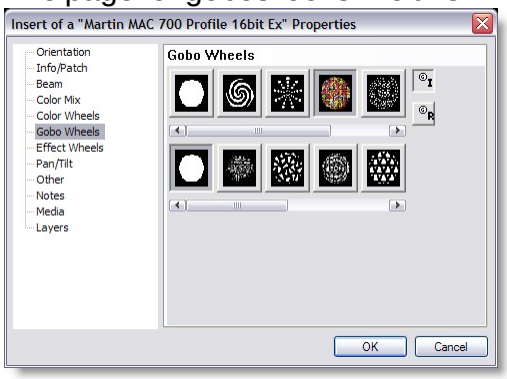
on the 'Selected' color button, the scrolling stops and the selected color will be set in color wheel.

Gobo Wheels page

The page for gobos looks like this



In this page you can select the gobo you want to be displayed by the fixture. All gobos in the wheel will be displayed as buttons. If there are more than five gobos in the wheel, a scrollbar will be displayed below the five buttons, allowing you to scroll through the available gobos. A gobo can be selected by clicking on the button. If the selected gobo has index and/or rotating capabilities, two buttons will appear next to the five gobo buttons. The top button is used to select the indexed version of the gobo and the bottom to select the rotating version. The angle of the indexed version and the speed of the rotating version can be set in the ' Other page '. If you right click on one of the gobo buttons, the following menu will popup.

Gobo context menu

You can use the 'Change' option to change the gobo, but only when this fixture-type allows interchangeable gobos. A file dialog will appear in which you can select a new gobo bitmap. The 'Reset' option can be used to change to the default gobo. This change is specific for the picked fixture. After you close the property sheet 3D Visualizer will try to link a line-gobo to the bitmap gobo just as discussed in 'Loading scenes '.

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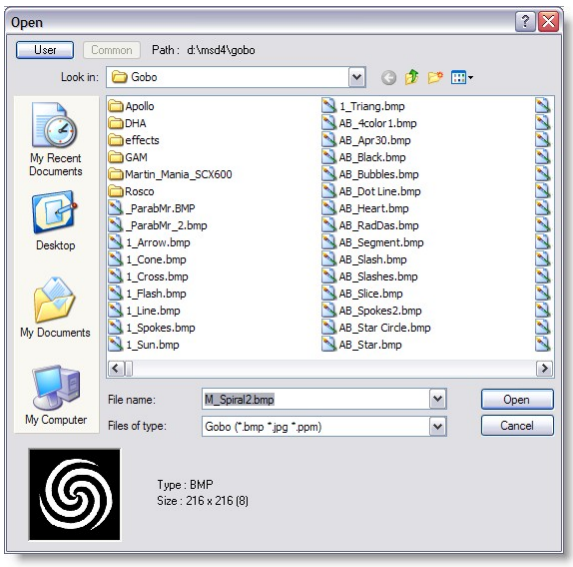
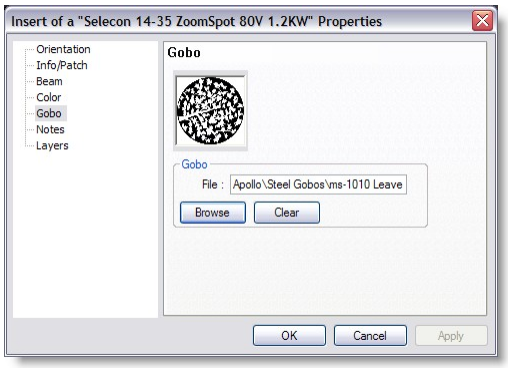


Gobo page for conventional fixture

If a fixture has no gobo wheel but it can display gobos then the following page is available



A preview of the selected gobo is displayed in the top left corner. If you know the filename of the gobo, you can type it in the 'File' field. If you want to seek a file you can select the 'Browse' button, this will open a file dialog in which you can select the correct gobo. After you close the property sheet 3D Visualizer will try to link a line-gobo to the bitmap gobo just as discussed in 'Loading scenes '.

Effect Wheels page

The page for Effects looks like this

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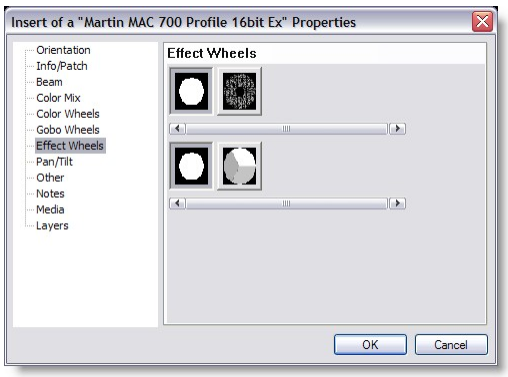
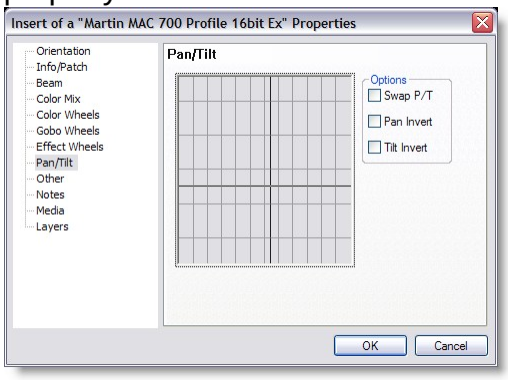


In this page you can select the effect (prism for example) you want to be displayed by the fixture. All effects in the wheel will be displayed as buttons. If there are more than five Effects in the wheel, a scrollbar will be displayed below the five buttons, allowing you to scroll through the available gobos. An effect can be selected by clicking on the button. If the selected effect has index and/or rotating capabilities, two buttons will appear next to the five gobo buttons. The top button is used to select the indexed version of the gobo and the bottom to select the rotating version. The angle of the indexed version and the speed of the rotating version can be set in the ' Other page '. If you right click on one of the gobo buttons, the following menu will popup.

Pan/Tilt page

If the picked fixture has pan/tilt capabilities, the following page will be added to the property sheet.



In this page you can change the pan and tilt values directly. The large area at the left side of the page displays a grid with lines every 45 degrees pan and tilt, and a cross that can be dragged with the cursor. At the right side of the dialog, there are three options which allow you to invert and/or swap the pan and the tilt, but only when the fixture has the capability to do so otherwise the options will be disabled.

Other page

Effects that are not covered in the preceding pages can be found in the 'Other' page. The page looks like this

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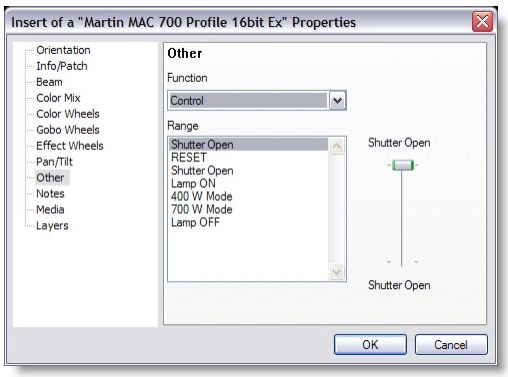
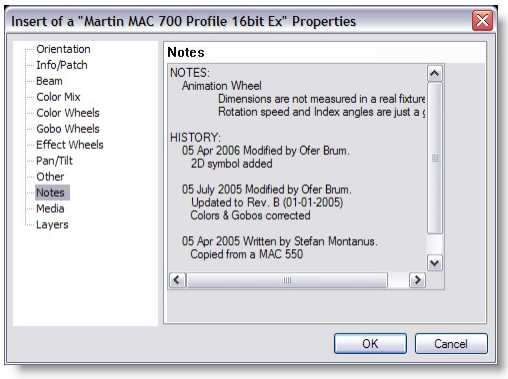


The 'Function' selection list at the top contains a list with all the effects that can be controlled in this page. Selecting an effect in the 'Function' list will change the 'Range' list below the 'Function' selection and the slider to the right of the 'Range' list. The 'Range' list and the slider are used to change the settings of the selected effect. By clicking on a 'range', the nearest DMX value within the range is selected. (For example, if you select a range that goes from 70 to 90, and the current value is 255, 90 will be selected). The slider on the right is used to change the effect within the selected range. It is possible that the current DMX value is not within any of the defined ranges (for example, when more effects use the same DMX channel). The DMX value is said to be out of range for the selected effect. This will be indicated by the text 'OUT OF RANGE' above the slider.

Notes page

Notes page allows to see the history and notes related to the fixture type The page looks like



Media page

Media is a feature available to all fixtures although it only apply to certain fixture type and usage The page looks like

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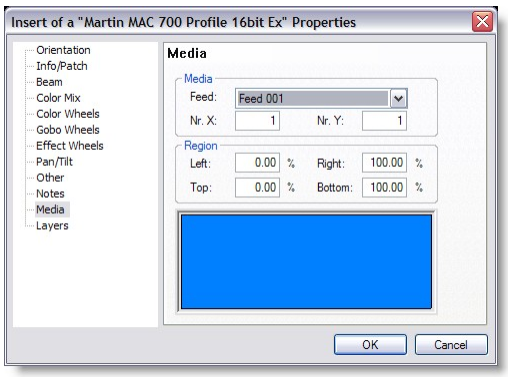
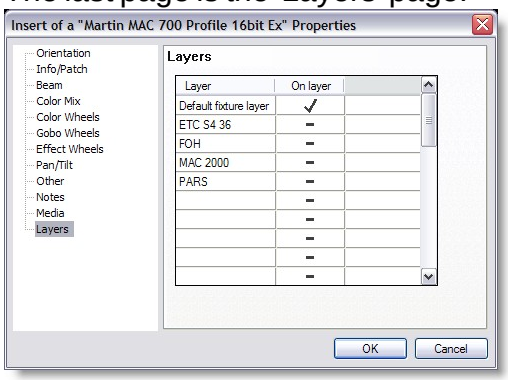


Media is use to display video content through a fixture (example video projector, screen)
Media can only bee seen in the 3D Visualizer when in Direct 3D mode
In the first section, you can choose the media feed to be displayed.
Then if the media feed is part of a group of screens like a video wall, you can specify the number of element per axis use on the video wall.
Finally the Region allow you specify which portion of the video wall this particular fixture represent.
See Media Feeds for more details

Layers page

The last page is the 'Layers' page.



The layer page allows you define on which layer this fixture is situated by clicking on the 'On layer' entry after the correct 'Layer'. The layer names can be edited using the menu option 'Edit | Edit Fixture layers'.

6.9 Layers

Edit Fixture Layers dialog

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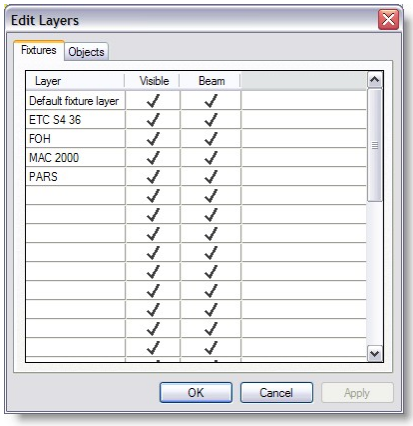
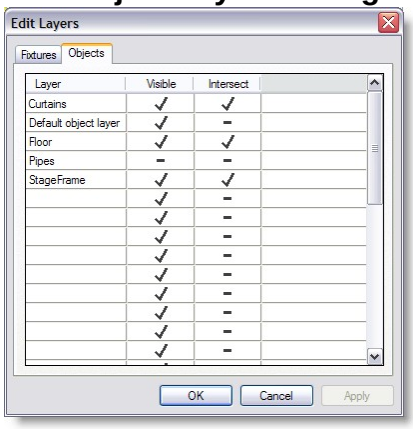


In this dialog, you can edit the fixture layers. You can edit the name of a layer by clicking in the left box (layer line will become active), and then clicking in it again. You can then edit the existing name or enter a new name. In the 'Visible' column, you can select which layers are visible (' ✓ ') or hidden (' - '), in the 'Beam' column you show (' ✓ ') or hide (' - ') the beams of the fixtures contained in that layer. When you hide a layer it means that every fixture contained in that layer will be hidden, beams inclusive, so the 'Beam' column has only effect on visible layers. If a layer is visible but the beams are not, it means that the fixture itself is drawn but no beam will be visible.

Edit Object Layers dialog



In this dialog, you can edit the object layers. You can edit the name of a layer by clicking in the left box (layer line will become active), and then clicking in it again. You can then edit the existing name or enter a new name. In the 'Visible' column, you can select which layers are visible (' ✓ ') or hidden (' - '). The 'Intersect' column determines if beams are projected on the objects contained in the layer or will past through.

Note: Having Intersection enable on all objects can slow down the refresh rate. As a suggestion, only turn intersection of important objects such as floor, walls, risers etc. Trussing, complex objects should have intersection disable unless necessary.

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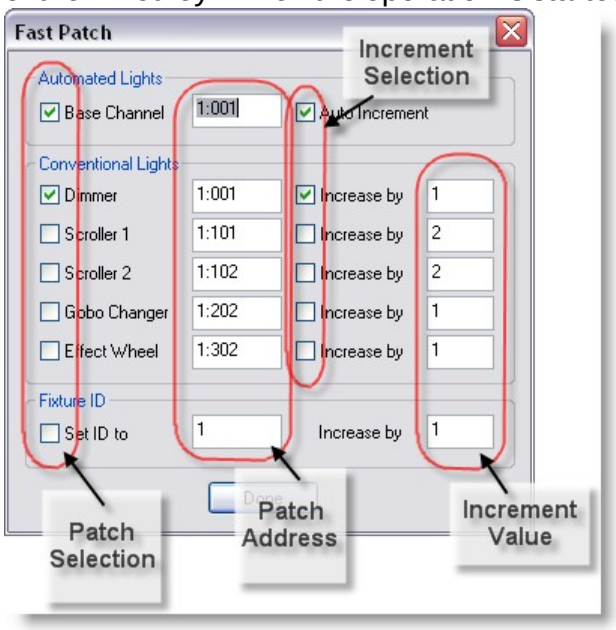
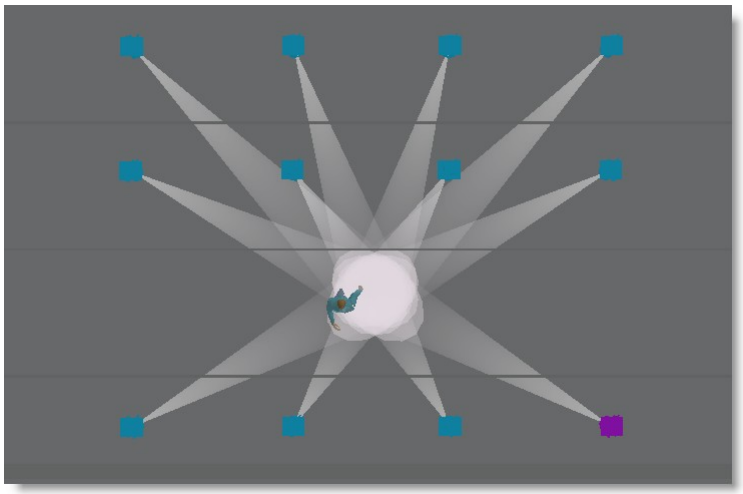
6.10 Fast-Patch

Fast-Patch™ is a function to easily and quickly change the patch of fixtures and a number of accessories. It can patch automated and conventional lights. In conventional lights the dimmer as well as the first 2 scrollers, the first gobo wheel and the first effect wheel can be patched.

Fast-Patch™ is started from the operations menu or from the toolbar with the icon or the **P** hotkey. When the operation is started, the following dialog is shown.



All fixtures will have a blue box around, as you click on fixtures to patch them the blue box will disappear. This make it easier to remember which fixture was patch in the current Fast-Patch session.



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This dialog will remain visible until the operation is finished. You can finish the operation by closing the dialog, by clicking on the 'Done' button in the dialog, starting another operation or by selecting this action again.
Patching is done by clicking on a fixture. The selected fixture will turn blue while the left mouse button is down. If you hold down the left mouse button, you can check if the correct fixture is selected, and if not cancel the operation width the right mouse button.

The check marks in the Patch selection group indicate whether the channel will be patched in fixture or not. This allows you to quickly patch the dimmer and a number of accessories of conventional lights with one click.
The selected fixture will be patched to the DMX address as indicated in the Patch address fields. The check marks in the Increment selection turn on the Auto increase function. In conventional lights the DMX address is increased by the number entered in the increment fields. In Automated lights the increment depends on the number of channels that is used by the fixture.

When patching automated lights, you can come at the following situation. All channels of a automated light need to be on the same universe, so when you try to patch a automated light that uses 10 channels on address 1:510 they won't fit.
In this case you will see the following message :

If you answer this question with 'No' than the patch will be canceled.

6.11 Fast-Fan / Fast-Focus

The Fan/Focus operation can be used to focus a selection of fixtures on 1 point or as a figure. Currently supported figures are a line and a (full) circle.

The Fan/Focus operation is selected (started) from the operations menu or from the toolbar with the icon (focus), the icon (fan using selection order) or the icon (fan using position order). When the operation is started, the following dialog is shown.

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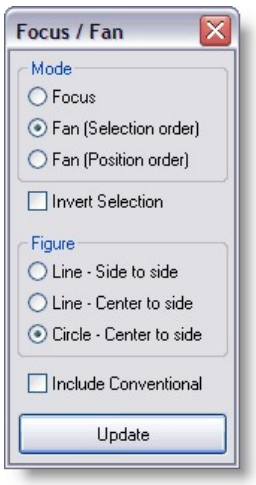
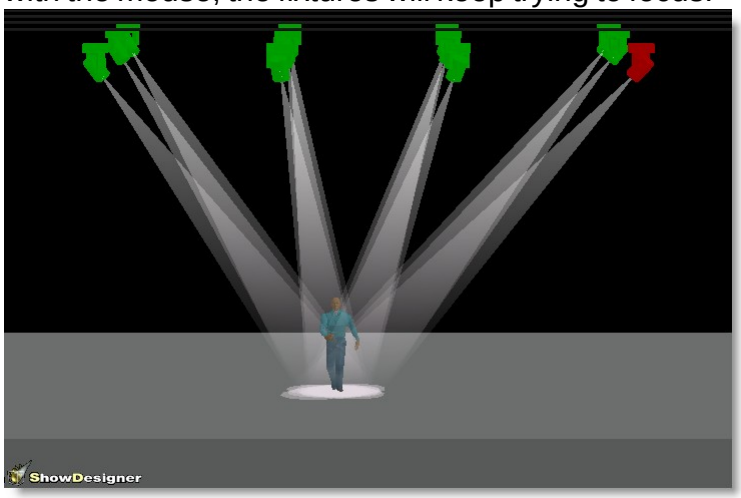


This dialog will remain visible while the Fan/Focus operation is selected. You can deselect the operation by closing the dialog, by starting another operation or by selecting this action again.

Mode

Focus

When the action is active, you can click a point anywhere in the scene, and the selected fixtures will (try) to focus on that point (if the fixture can reach that point). While you drag with the mouse, the fixtures will keep trying to focus.



Fan

When you are dragging the mouse, you can start the Fan by pressing the 'F' key, which will mark the current focus point as the 'start point'. Another way to start the Fan is to double-click the left mouse button on the 'start point' (instead of a normal single click), and keep the mouse down to drag.
By dragging you define the 'end point', which is used to calculate the Fan.
You can fan using several figures.

Fan order

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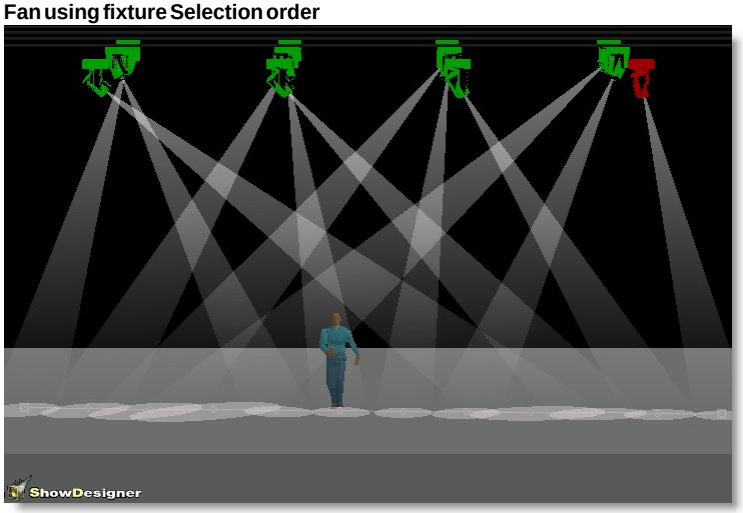
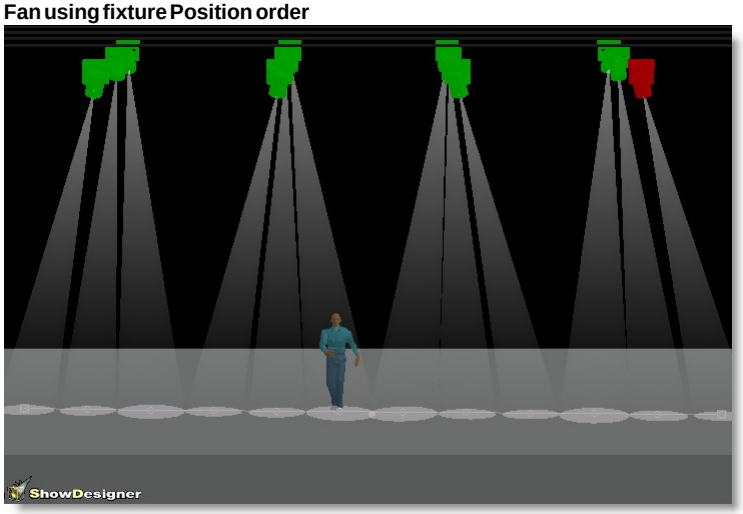
The order used to spread the fixtures along the figure can be one of two ways from the buttons 'Selection' and 'Position' at the top of the options dialog.
'Selection' order uses the fixtures in the order that they were selected, 'Position' order uses them in the left-to-right order as they appear on the screen.
Checking the 'Invert Selection' option will invert the used order method.

Fan using fixture Selection order



Fan using fixture Position order



Fan inverted

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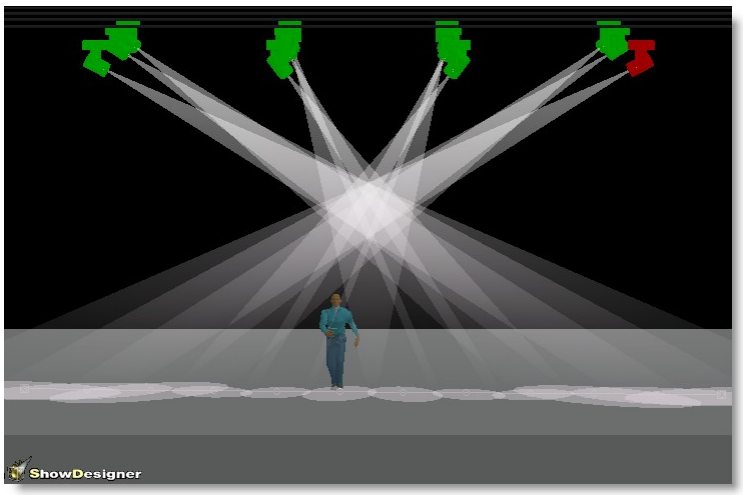


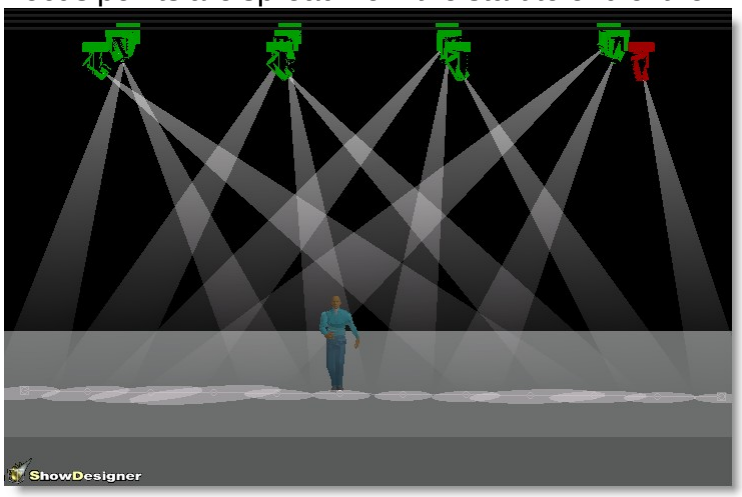
Figure

There are currently 3 figures you can use to fan:

- **Line - Side to side**

  The selected fixtures will be focussed along a line defined by the 'start point' as start and the 'end point' as end of the line.

  Focus points are spread from the start to end of the line.



- **Line - Center to side**

  The selected fixtures will be focussed along a line defined by the 'start point' as center of the line and the 'end point' as end of the line.

  Focus points are spread from the start to end of the line.

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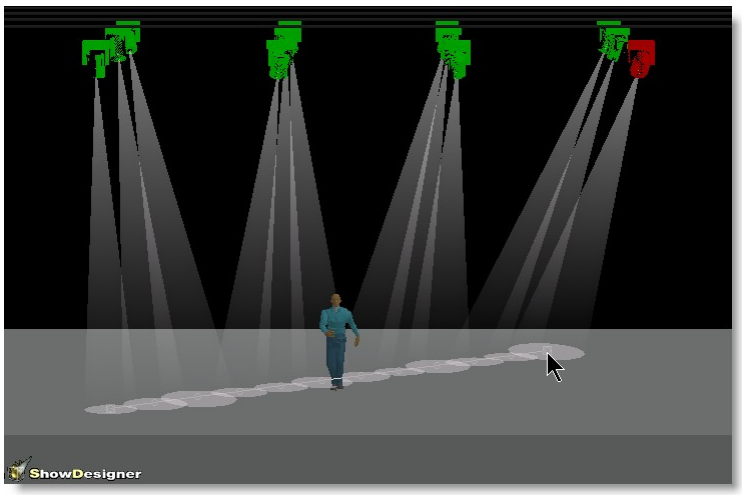
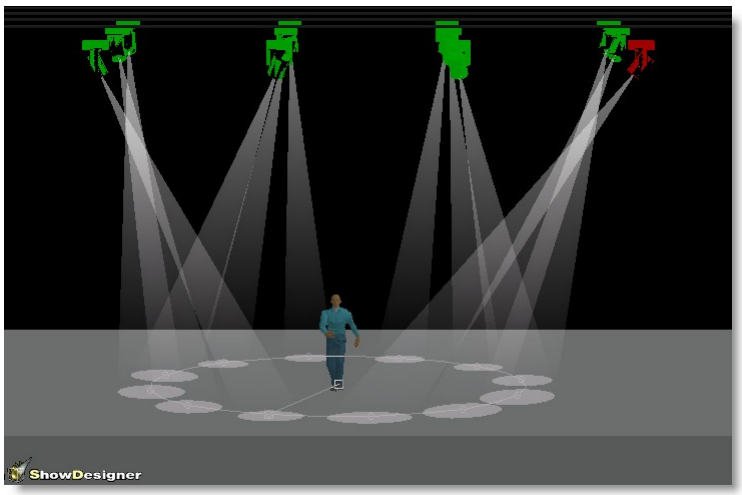


- **Circle - Center to side**

The selected fixtures will be focussed along a circle defined by the 'start point' as the center of the circle and the 'end point' as point on the circle.

The circle will be formed perpendicular to the surface where the 'start point' is chosen. So if the 'start point' is on the floor, the circle will be on the floor, if the 'start point' is on a wall, the circle will be on the wall.

Focus points are spread clockwise from the 'end point'.



Include Conventional

If you check this option, selected 'conventional lights' (no DMX pan/tilt) will also be included in the Fan/Focus operation.
This can be helpful to set-up a scene, but since it changes the orientation of the fixtures, they will change in all cues.

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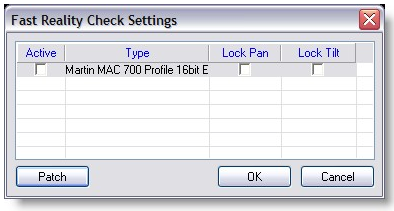
6.12 Fast-Reality Check

Fast-Reality Check is a unique tool to MSD.



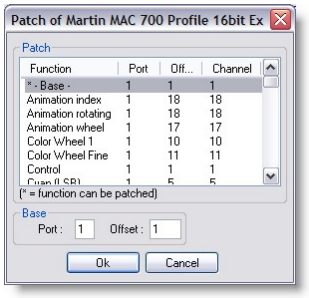
Imagine the following scenario.
You have to pre-program a show using MSD 3D Visualizer.
But to help you choosing gobos, color, focus, frost effect, movement speed, you connect one fixture of each type to your lighting controller.
Each of these fixture is address as one of the fixture in the show patch.
So far this work except that you can only see the result of the address where the fixture is set. If you need to see another fixture result, you must re-address the fixture manually.

Here comes the Fast-Reality Check tool.
For each fixture type used in the show you can patch a fixture to an unused address.
Connect the fixture to the MSD DMX hardware output

Now when you select a fixture in the 3D Visualizer (red) the value for that fixture will be sent to the external fixture.

You can also move the fixture so it point to a fix position and lock the pan and tilt.

Select a fixture in the list and press Patch to set the address.



Example:
On your MSD scene have 8 MAC 700 Profile and 8 MAC 700 Wash to pre-program for

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a show. All addressed to the universe one.
For pre-programming purpose you get one fixture of each kind.

- You connect these fixtures to the MSD DMX output on universe 2 (or any available address range were it fits).
- Then open the Fast-Reality Check window and activate both fixture type.
- Select a fixture and press the patch button.
- Set the address for the two fixtures.
- Now start your pre-programming as usual, and when you want to see what a particular fixture on the show is doing, simply select it in the 3D Visualizer. The DMX values will be automatically sent to the real fixture.
- If you have to work on gobos fro example and want to see the projection, you can move the fixture from the controller to project on a flat surface. Then lock the pan and tilt so no matter what the controller is sending as value for pan/tilt the fixture will remain at the same place.

6.13 Fixture Calibration

Fixture Calibration is a tool to accurately position the fixtures in the MSD scene as they are in reality.
Having proper calibration will mean that using the Fast-Focus and Fast-Fan for programming with the real fixtures will work perfectly.

How does it work?

The first step is to set 4 points on the real world and enter the coordinate of these points in the Calibrate window.

The easiest way to do this is to have a center point 0,0,0 in the middle of the stage or area you are working.
Then set 4 points in a rectangular shape. (note, the shape can be anything, but rectangular is just easier to use)

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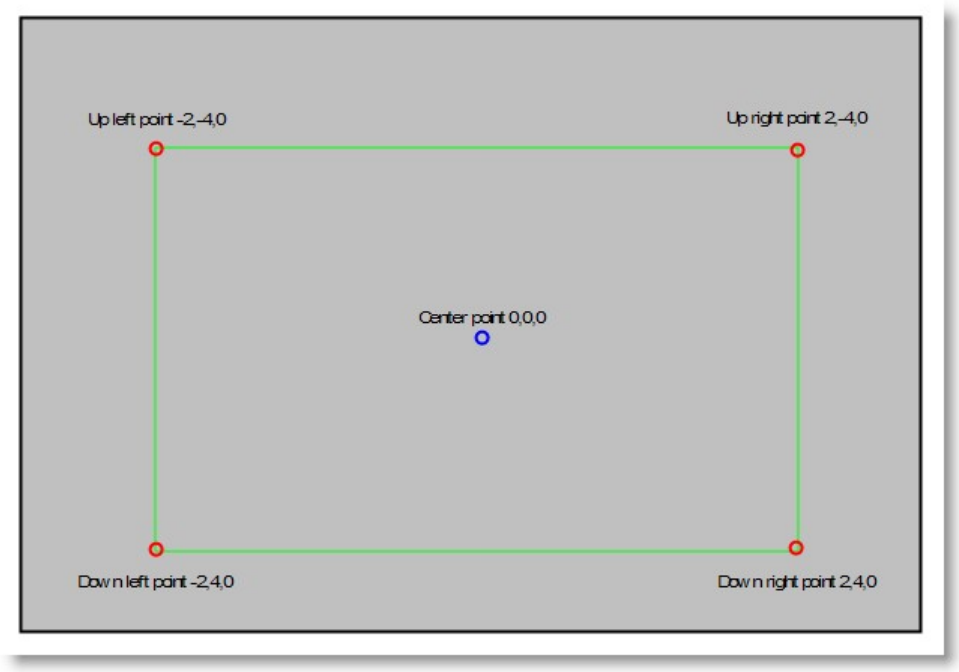
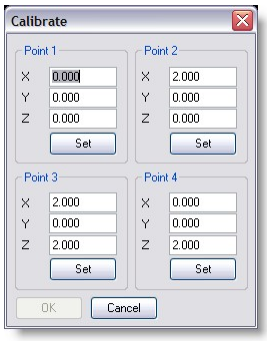


Real world stage points

Now select a fixture is the 3D Visualizer and click on the Calibrate menu item.



Enter the coordinate of your real world points
Then using the DMX controller point the fixture to the first point (using iris or zoom if possible to make it more accurate)
When the point is reached, press the Set button on the aimed point.

Repeat this for all points and then press the OK button.

Select the next fixtures and repeat the steps.

Note: It is possible to use different real-world points for each fixtures... this because it possible that some fixture can't reach some of the points on stage, for example floor fixtures.
For such case you could define 4 points up in the ceiling and use these as references for the floor fixtures.

One strange behaviour you may notice when using the calibration is that some fixture will

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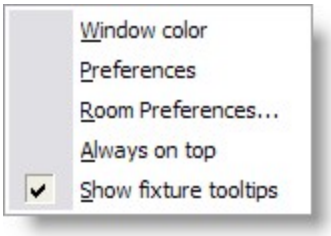
appear to be inside or outside the trussing, this is simply because the truss rigging is probably off compare the real world.

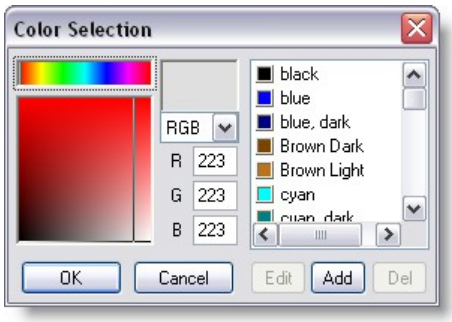
6.14 Settings

Various settings that can be change to tailor the MSD to your need.

From the menu click on Settings



Window Color



This option allows you to change the background color of the 2D-and 3D windows. Use this to change background form a dark color to a light color or vice-versa to have a contrast between objects and background.

Click here for Preferences help

Click here for Room Preferences help

Always On Top
Keep the 3D Visualizer on top of any application

Show fixture tool tips (hints)
This option allows you to see fixture address and ID when placing the mouse over a fixture.

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6.14.1 Preferences

From the menu Settings, click on preferences

Display

System Units

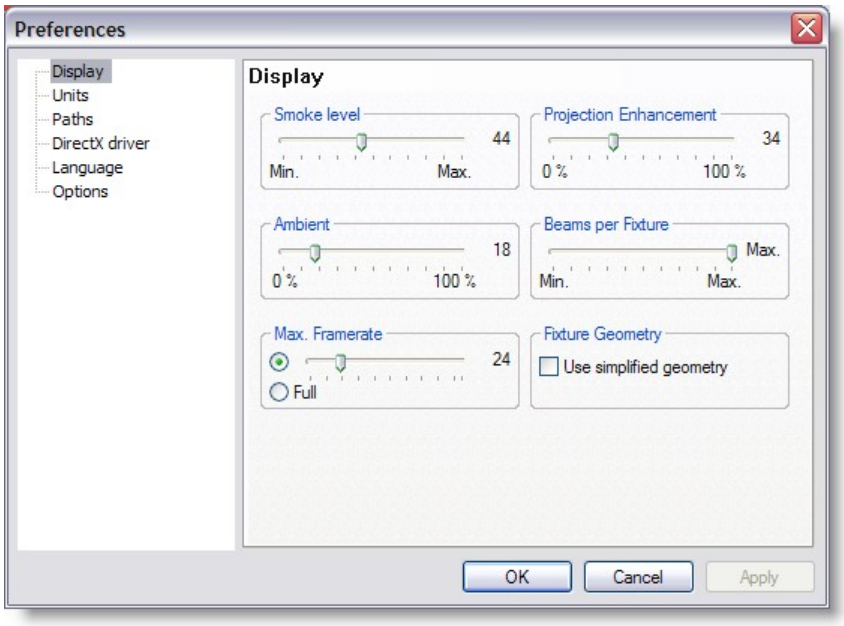
Paths

DirectX Driver

Language

Options

6.14.1.1 Display



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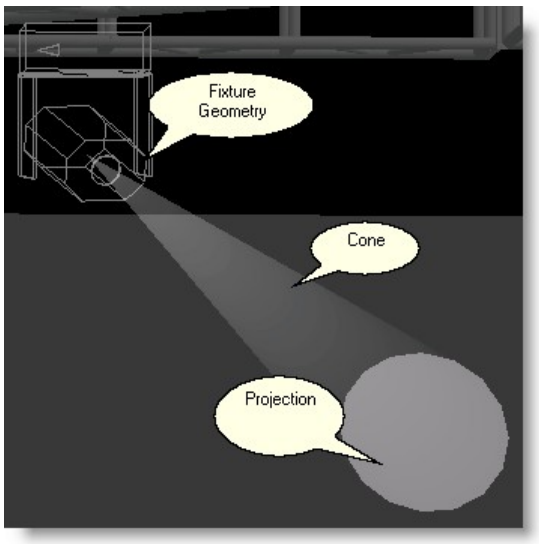

Smoke level controls the amount of smoke in the scene, and therefore, how 'thick' the solid beams are displayed.
See Using Video Feed as smoke effect for other smoke option

Projection enhancement, controls the intensity of the contours of the beam (gobo). If the smoke level is low, it is sometimes hard to see the contour of the beam. In that case a higher level of projection enhancement could help.

Ambient, controls the amount of ambient light used to light the scene.

Beam per fixture , Here you can set the maximum number of beams that each fixture can have. Fixtures that have prisms, parabolic mirrors, etc. can throw more than one beam of light. Because visualizing all these beams can become slow, you can set a maximum number per fixture. When this value is set to minimum then only 1 beam per fixture is allowed. If the value is set to maximum then no limit is set.
NOTE: If an effect in a fixture results in more than the maximum number of beams then this effect will not be visualized. The default value of 25 will display most prisms but parabolic mirror usually produce more beams.
Example if you have 100 fixtures that use a 5 facets prism, the amount of beam the 3D engine as to handle is equivalent to 500 fixtures.

Maximum Fame rate, The maximum frame rate can be used to limit the processor time spend for visualizing. With the slider you can set the frame rate from 5 frames per second to 100 frames per second. When the 'Full' option is selected the Visualizer will use all available time to visualize the fixtures. Setting a maximum frame rate can be useful if you have other programs running on the same computer.

Fixture Geometry, controls the representation of fixture body in the 3D engine.
Here you can switch the fixtures to a simple looking fixture. From version 4.6.5.0 a better looking geometry is used for the fixtures. This could, on slow machines, lead to a slowdown of the visualization. Selecting this option, will revert back to the old style of fixture look.

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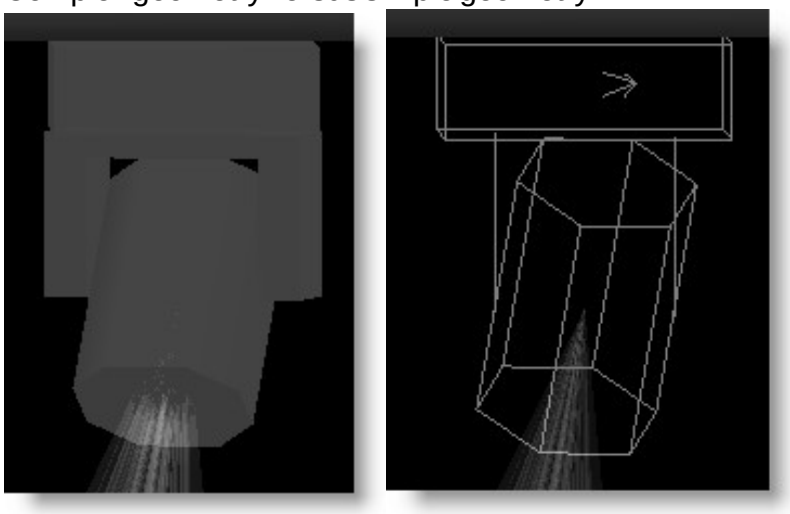
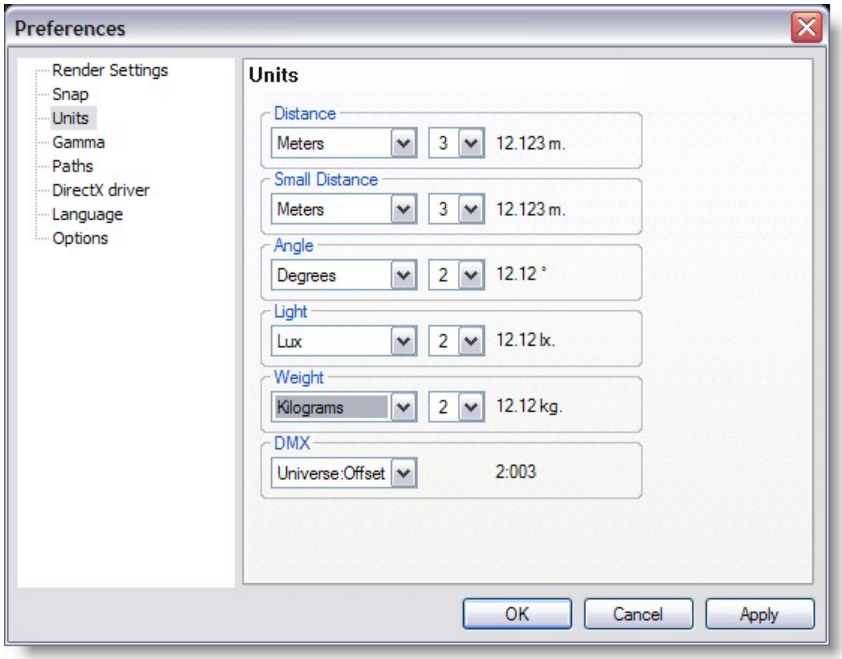
Complex geometry versus simple geometry



6.14.1.2 System Units

The MSD can work in both Imperial or Metric system.
At any point in the creation process you can switch from one system to the other, call values will be converted as indicated
For each settings the precision (number of decimal digit) can be set.



Distance

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Set the unit values to enter position and dimensions of objects
- Distance: Meters, Millimeters, Inches or Feet & Inches.

Imperial value must be enter as follow
1'2" = 1 foot 2 inches
When using Feet&Inches, enter a value with no comma or quote will be considered as inches

Metrics value can be set in Meters or Millimeters

Small Distance

The small distance unit is used when the distance to enter is small like in the margins in paper or the line thickness when importing DXF.
When using metric units the normal distance unit is meter, but this would result in a lot of 0,00x numbers when dealing with these small sizes.
To make this more readable we added the extra small distance unit, so the user can display these small numbers in mm or inches.

Angle

- Angle: Degrees (360°), Radials (2p) or Gradients (400°).

The most common settings for Angle is Degree.
In some situation Gradient or Radial degree can be chosen.
See Formulas for more details in angle types

Light

- Light: Lux or Foot-candle.

In MSD, it is possible to calculate the amount of light at a specific point on a surface.
The light intensity can be displayed as Lux or FootCandle.

Weight

- Weight: Grams, Kilograms or Pounds.

In the Paperwork module, it is possible to see the fixture weight.
It can be displayed as Grams, Kilograms or Pounds.

DMX

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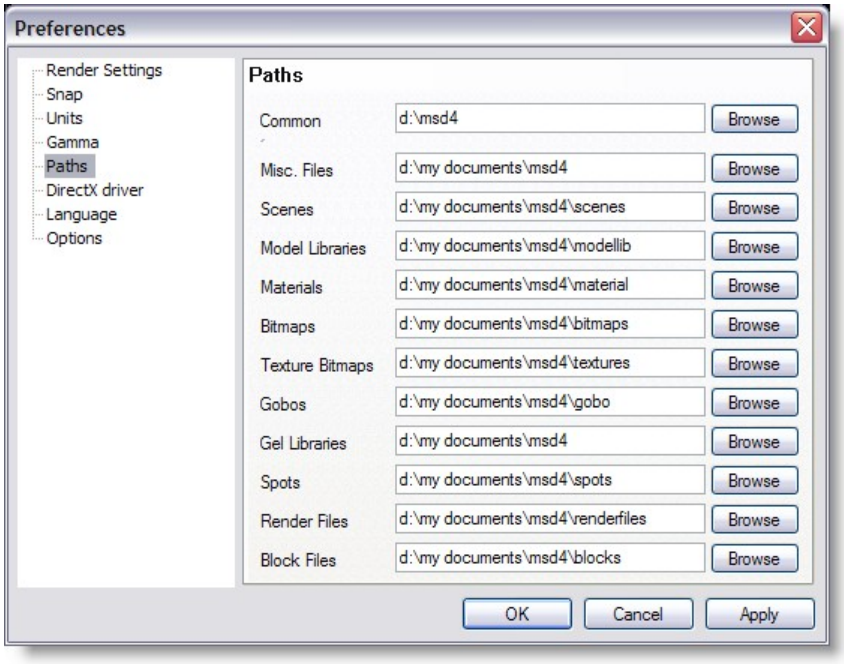
Various ways of displaying DMX addresses are possible in MSD
Offset is the DMX address.
Universe is the DMX link

6.14.1.3 Paths



In the Paths page, the default paths to the different kind of files are set.
By default they point to the installed subdirectories. Normally you don't have to change any of them.

Common: Is the location of the default MSD files such as fixtures, textures, demo scenes etc...
By default the location is "C:\Documents and Settings\All Users\Documents\MSD4"

The other fields are the locations on user files, meaning the file you create.

When open a window to import or load something is MSD you will notice two buttons at the top left (User and Common)
Click one of the buttons to access the right folder set.

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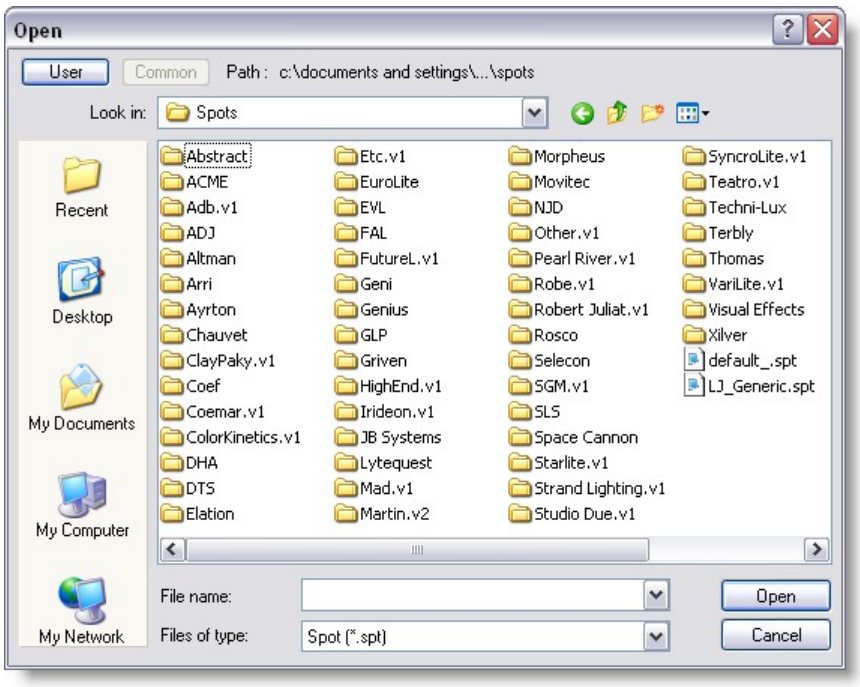

As a rule, put all the file you create or add manually to the user folder set and leave the Common folder as default.
Only add files to the common folder when updating from the official MSD library.
This will ensure the integrity of the files you use and also avoid that your modified library gets overwritten when updating the new library.

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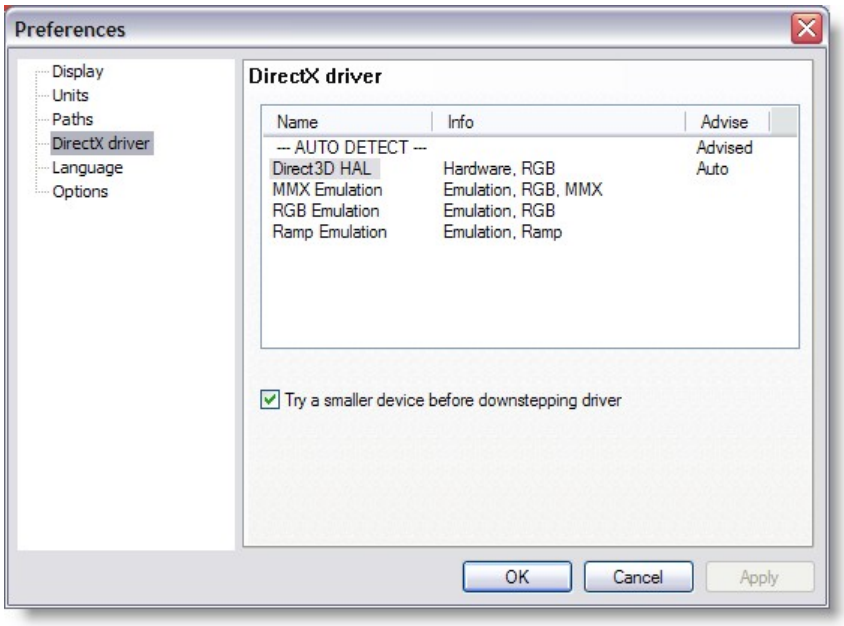
6.14.1.4 DirectX



In this page you see which DirectX drivers are available, and you can specify which driver you want to use.
The drivers are listed in order of preferred capabilities. Default, the first ('--- AUTO DETECT ---') will be selected.
When this option is selected, the program will automatically select a driver on its capabilities.
If you have problems with the automatically selected driver, you can override it by selecting one of the other drivers.

DirectX means all graphical calculation are handled by the Graphic Card processor
In MMX Emulation, the calculation are now handled by the main processor.
Generally DirectX mode is faster.

If you encounter some strange result in the display when using MSD, the first thing is to make sure you have the latest video driver for you Graphic Card.
Most video drivers that comes on the graphic card bundle CD are old drivers, so please check with the card manufacturer.

If updating the driver doesn't help, try switching to MMX emulation.

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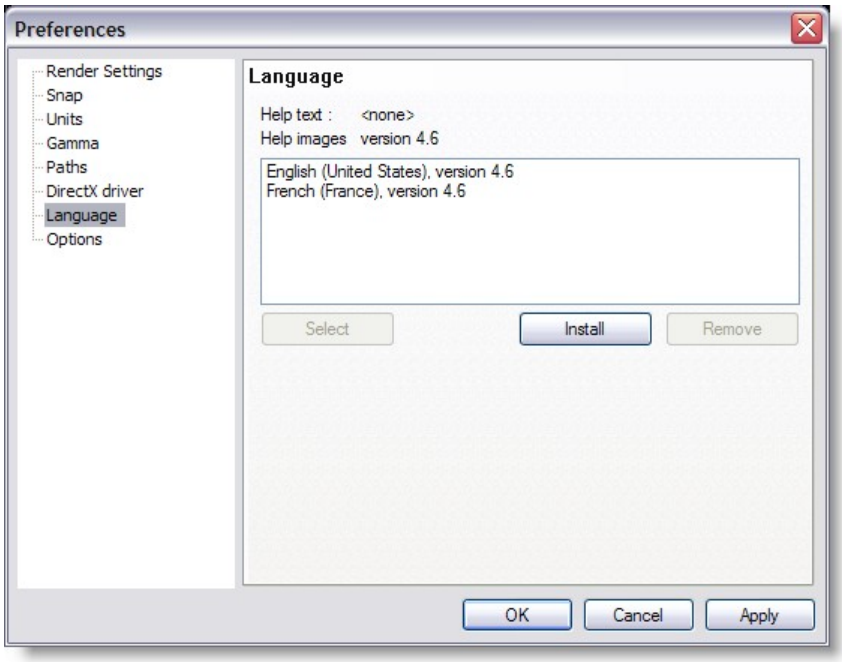
6.14.1.5 Language



In this page you see which help language is currently selected (and which are available).
You can select one from the available list by clicking on it and then press the 'select' button.
You can remove one or more languages by selecting them, and then click on the 'remove' button. (On Windows2000 this can only be done by a user with administrative rights)
You can (re)install help files (if available) by clicking on the 'Install' button, after which a dialog will appear.

In this dialog you will see all available language versions in the selected directory.
If there are no versions available, you can use the 'manual folder' button to browse to a directory which does contain a help version.
On the ShowDesigner CD, the folder you need is 'D:\manuals' (if D is your CDROM drive). From the available list you can install one or more versions by checking the checkbox in front of them, and then click OK.

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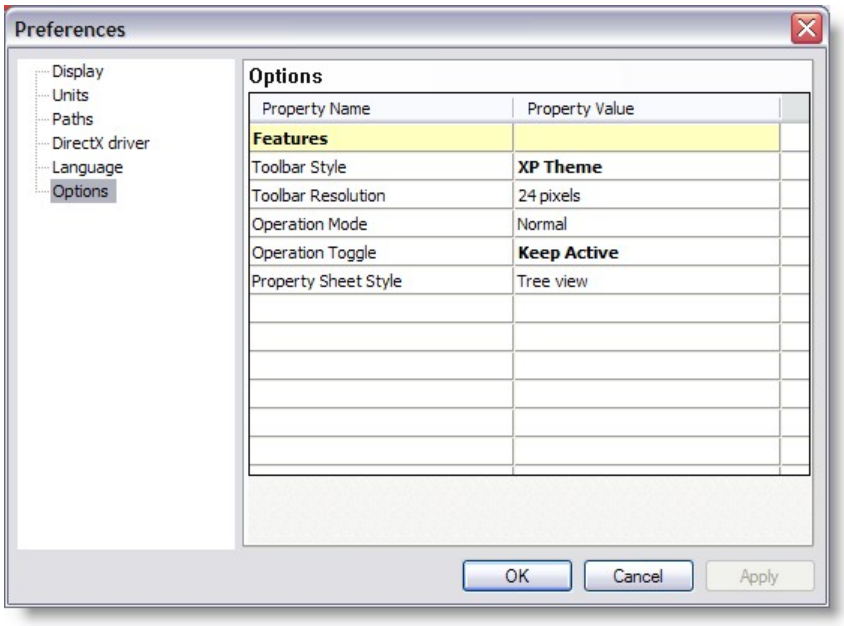
6.14.1.6 Options



Toolbar Style:

Toolbar Resolution:
24 Pixels are the new icon style, it's always possible to revert to the Classic icon...

Operation Mode:
The choices are Normal or Bounding box
This is the way objects are displayed while moving a camera view
In Normal the objects remain visible, bounding box will make the object disappear and show a wireframe box
for slower video card bounding box can be use to accelerate the movement

Operation Toggle
The choices are Toggle or Keep Active
In toggle mode, every time you press an hotkey such as M for move, the operation will be toggled (on or off)
In **Keep Active** mode, pressing a hotkey while this operation is already selected, the operation remain active.

Use the Spacebar or the Icon to turn off the current operation.

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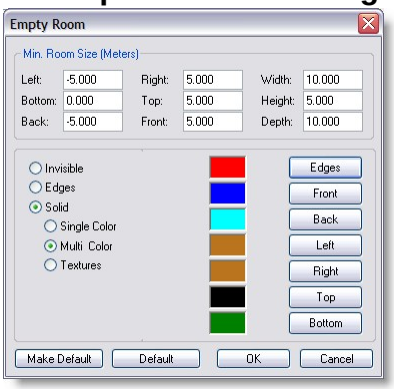
6.14.2 Room Preferences

The Room

Every scene loaded in 3D Visualizer is enveloped by a box. This box is called the Room. This room ensures that beams are always projected on something, even in a scene without any objects. The visual aspects of the room can be changed, by selecting the 'Settings | Room preferences...' menu option.

Room preferences dialog



At the top of this dialog you can enter the extents of the room (minimal size). If the scene doesn't fit in this room, the room will be scaled so that it can just contain the complete scene.

The middle part of the dialog controls the visible aspects of the room.
The room has three different display modes, it can be invisible, only the edges can be drawn or the walls can be drawn as solids.
When the room is made solid, not all walls are drawn. Only the walls that won't obscure the scene will be drawn, the other walls will be drawn like in edge mode. Solid mode also gives you the possibility to select a single color for all the walls, select a color for each wall individual or even to map a bitmap (texture) to each of the walls.

Changes you make to the room settings will be saved with the scene. When you load a scene that doesn't have any room settings in it, a default setting is used.
You can use the 'Make Default' button to change the default settings to the settings as the appear in the dialog.
The 'Restore Default' button can be used to change the current settings back to the default.
When you are done editing the settings, you can click on 'OK' to accept the settings, or click on 'Cancel' to ignore the changes made.

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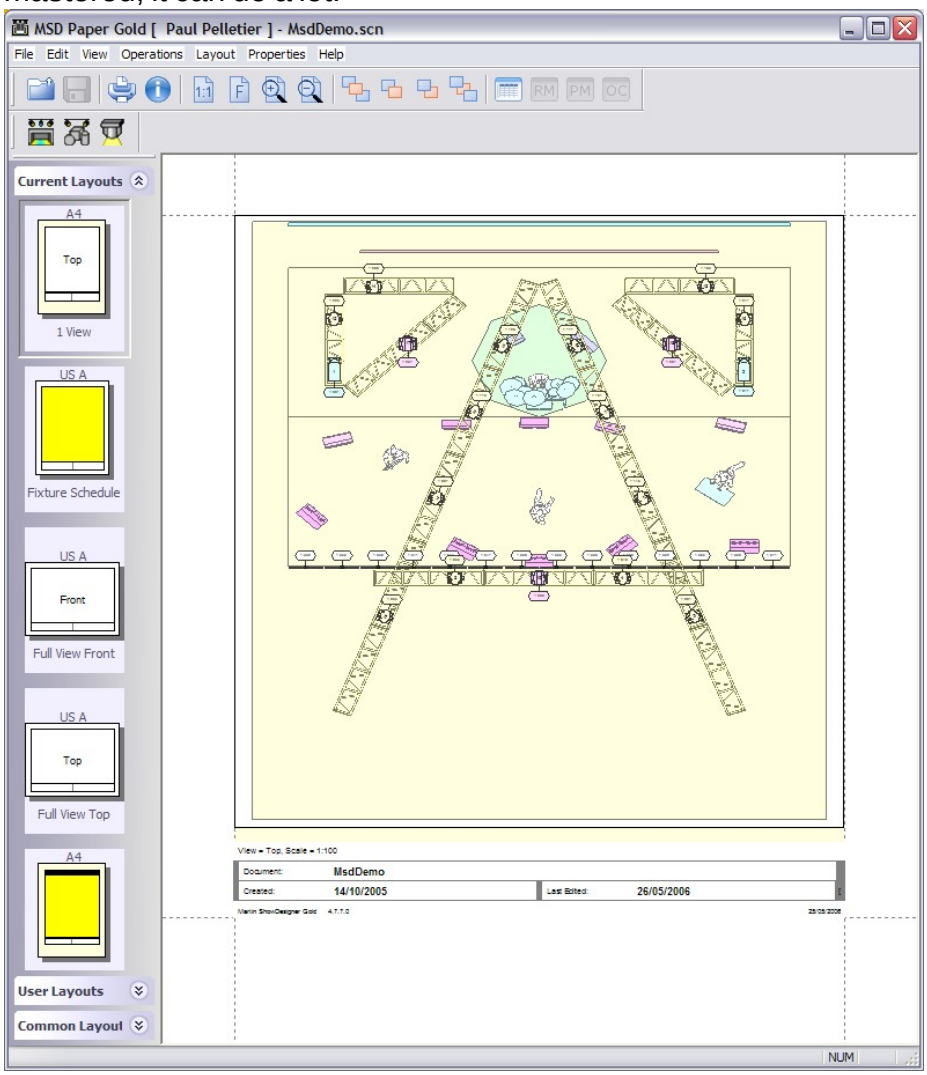
Paperwork

7 Paperwork

The MSD Paper module is specially made to print reports and lighting plot.

It is a very flexible module that require some time to learn and setup as desired, but once mastered, it can do a lot!



7.1 Plot

Will be updated soon...

7.2 Report

Will be updated soon...

7.3 Datasheet

Will be updated soon...

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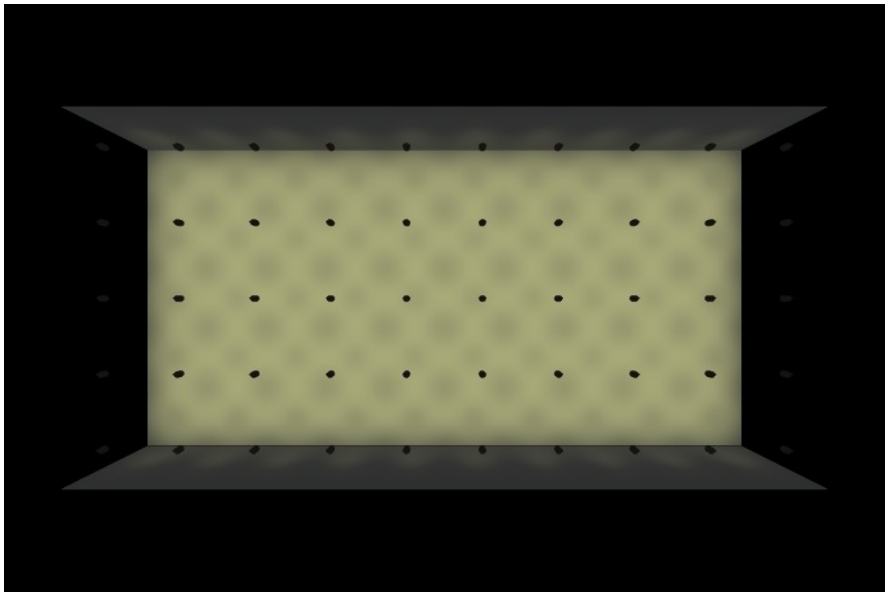
7.4 Illuminance Map

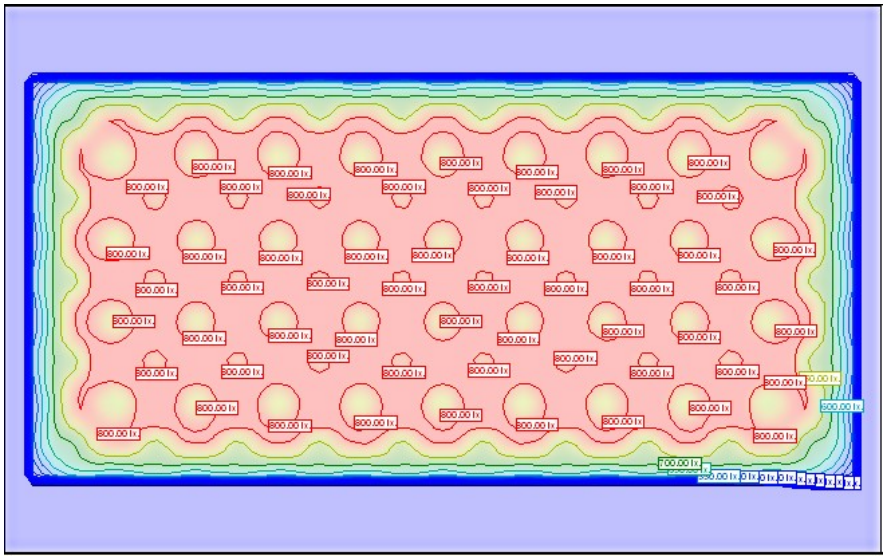
How to Create and View an Illuminance Map

Illumination Map are manly use in architectural.

It represent the light distribution over a surface by the mean of isobar lines.

Here's an example of a regular rendering and the same view as illuminance Map





How to create this view?
All start in the Show Designer module.
Choose a 2D view and zoom to the portion of the scene you want to create an Illumination Map

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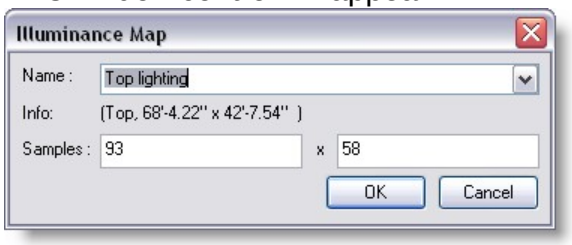
From there, go to the Window menu and click on Generate Illuminance Map.

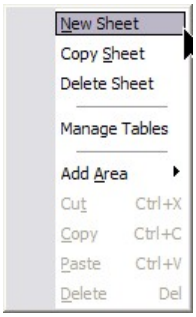
This window control will appear



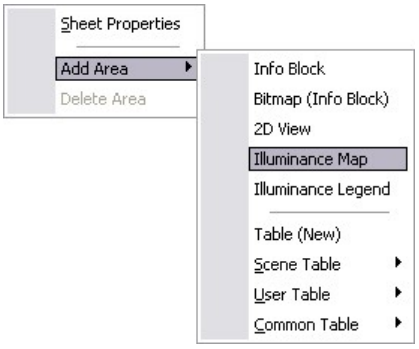
By default a name is given according to the current view, but you can change it
The sample is the number of reading done on the view, the more samples, the more accurate the reading will be.
Repeat the process to generate illuminance Map for other point of view.

Once finish, save the scene and close it. or save and press the Fast Switch to Paper Module

Start the MSD Paper Module and open the scene you just saved.
-In the Edit menu, create a new Sheet



On that new sheet, add an Area for Illuminance Map, to do so, right-click and do as follow



Once the Area on the sheet, resize it to size you want.

-Right-Click on it and select View Properties

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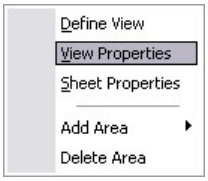
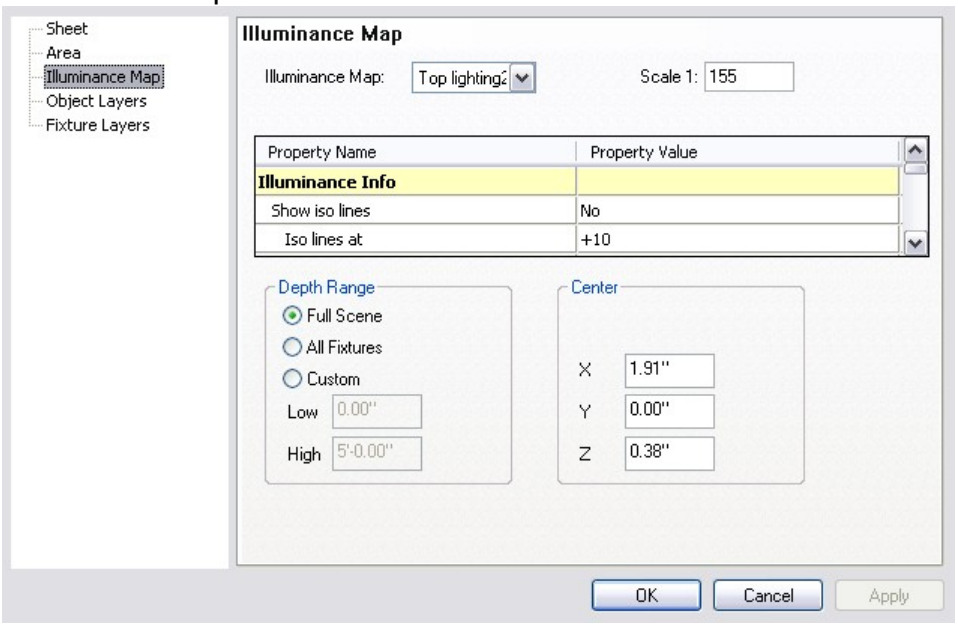
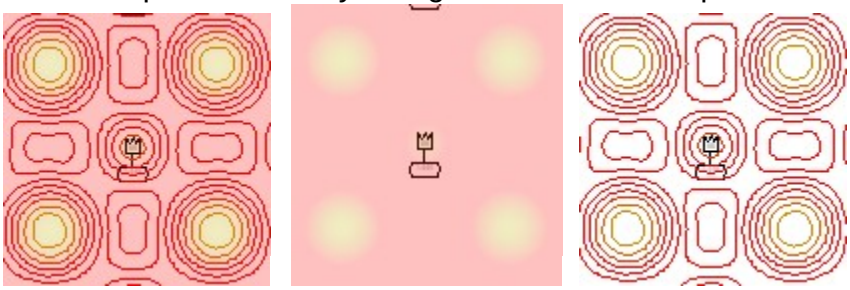


Illuminance Properties



In the Illuminance Map field select the one of the map you generated earlier in the Show Designer module.
Other settings can be changed
-Show Iso Line: To display or not the iso line on the Map
-Iso lines at: The iso lines can be defined as a ';' separated list of ranges, which are defined like this 'min-max+delta'
So '5;-1000+10;1000-5000+500;5000-+1000' will have lines at 5 lux, from 0 lux to 1000 lux every 10 lux, from 1000 to
5000 every 500 lux and from 5000 onwards every 1000 lux (0,5,10,20, ... ,980,990,1000,1500,2000, ... , 4500,5000,6000,7000 ...)
Also you can set '+500' to see an iso line every 500 lux.
-Show Iso values: When enable, a value will be shown on every iso line
-Font: Set the font Size and Style
-Font color: Set the font color for the Iso values
-Show map: when set to yes, a graduated scale map will be shown in the background



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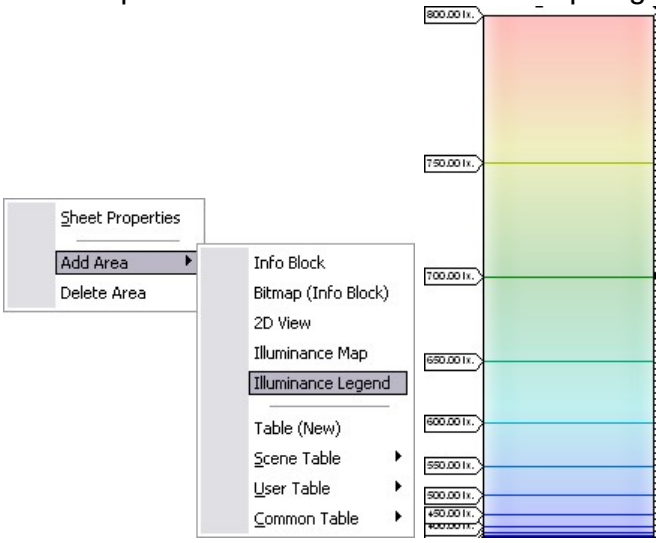
Map and Line Map only Line only
-Map Transparency: set the intensity of the graduated map

-Illuminance Value Range: Set the range in which you are interested to see values
-Illuminance Color Range:Set the color representation of each range.

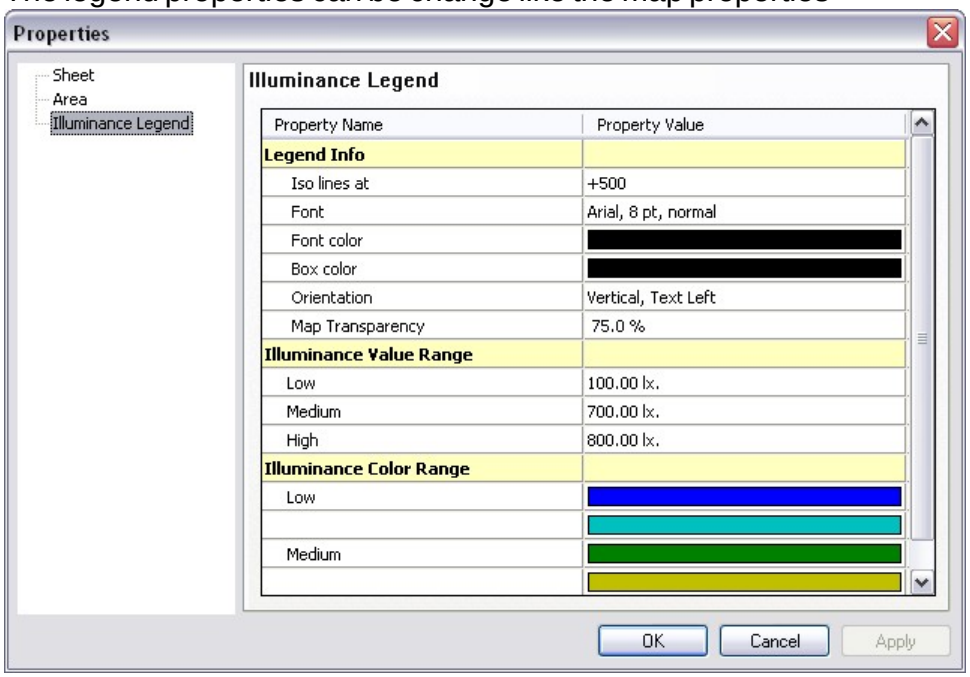
Once the setting done, click Ok to accept.

You can now set the view you want to see, right-click on the map area and select Define View.
Adjust the view and click OK.

It is also possible to add a Illuminance Map Legend



The legend properties can be change like the map properties



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Fast Net Render

Part VII

8 Fast Net Render

What is Fast Net-Render

Fast Net-Render Client
Fast Net-Render Server

8.1 What is MSD Fast Net-Render

MSD Fast Net Render is a additional application to the Martin Show Designer Gold

It has to main purpose, the first one is to use many computers to calculate rendering values to accelerate rendering time.
The second purpose is to create automated batch of rendering process.

The principle is very simple, from a MSD scene, a Renderfile is created instead of a normal rending bitmap.
Then the Renderfile is added as a task to the MSD Fast Net-Render Client.

When the Client start rendering, it will use all the computers running the MSD Fast Net-Render Server application.

For example if one computer is use and rendering takes 10 minutes to be completed, the same rendering done in MSD Fast Net-Render will take 1 minutes if 10 computer of the same processing power is use.
So in short, the more computer on the network using the MSD Fast Net-Render Server the faster it will be.

Using several computers to do the rendering is commonly called "Render Farm"

8.2 Fast Net-Render Client

Instruction on how to use the MSD Fast Net-Render Server

-Open a scene file
-From a 3D window, chose or set a camera view as desired
-Right-click and browse to Display mode / Render / Create Render File

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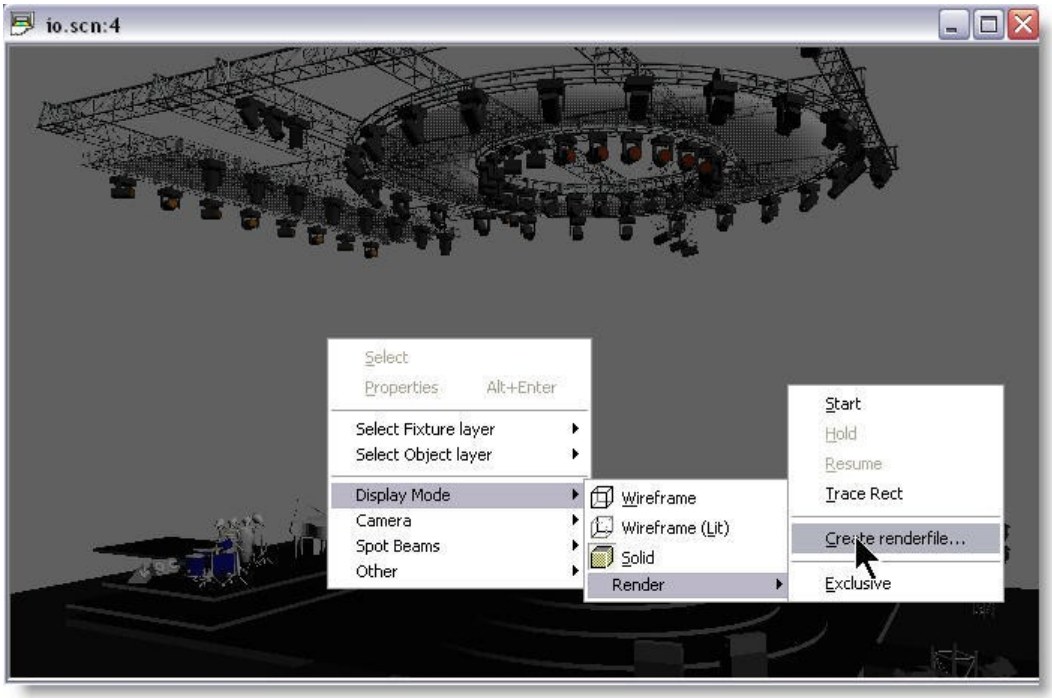
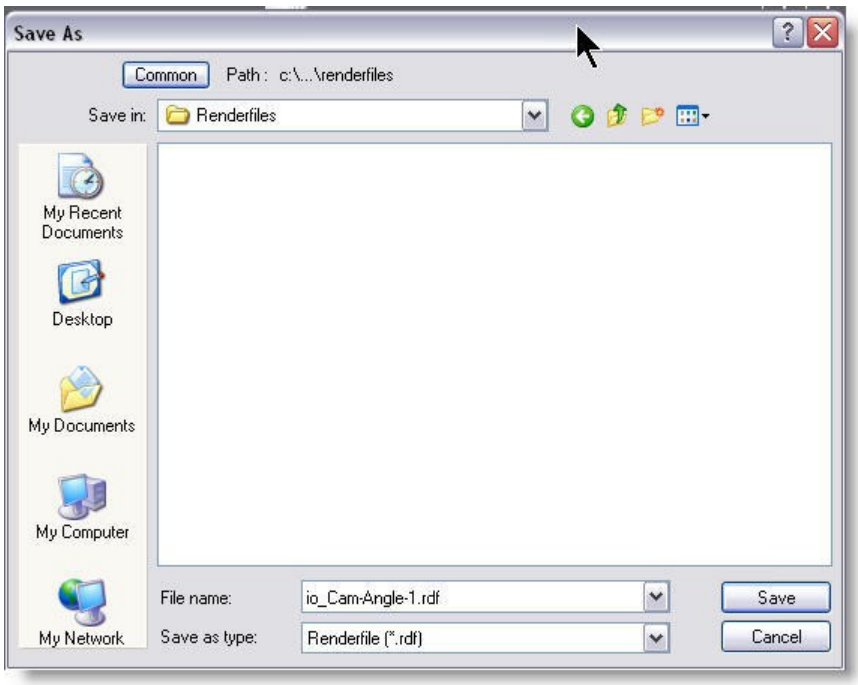


-A window will open and a suggest file name will be in the "File Name" field
-By default it will be the "Scene name_CameraName.rdf"
-The name can be changed as desired
-Then press save



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-Another window control will appear, in there change the rendering settings

Ambient:
Set the ambient level of the surrounding light (ambient light does not cast shadow)

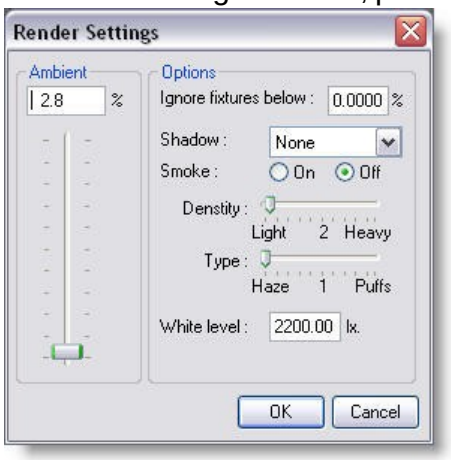
Ignore fixture Below:
If there are several fixtures set at very lo level (1 to 5% for example) setting this value at 5% will simply ignore all these fixtures.

Shadow:
[None]: No Shadow are cast (Fastest)
[On Objects]: Shadow is cast on objects, but smoke rays are not cut by objects (normal)
[Always]: Shadow as cast and smoke rays are stop by objects (slowest)

Smoke: Set the smoke effect on or off
[Smoke Density]: How thick the smoke effect will be (a setting of 3 or 4 usually makes nice and natural effect)
[Type]: How does the smoke look like... 1 is even haze and 30 is really puffy Cloud-like smoke

White Level:
Imagine the White level as the eyes sensitivity. It could be explained as the amount of light require to have a white surface looking white...
The default value of 2200.00 lux (200 foot candle) is appropriate for more stage rendering
However, for exterior architectural rendering a setting of 800 lux (75 foot candle) could be more appropriate...

Once the setting are done, press the OK button



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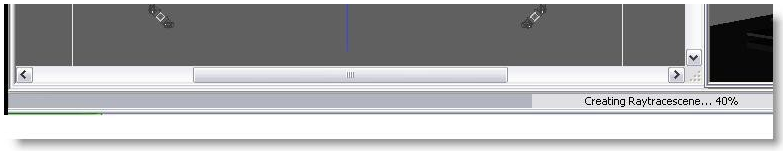
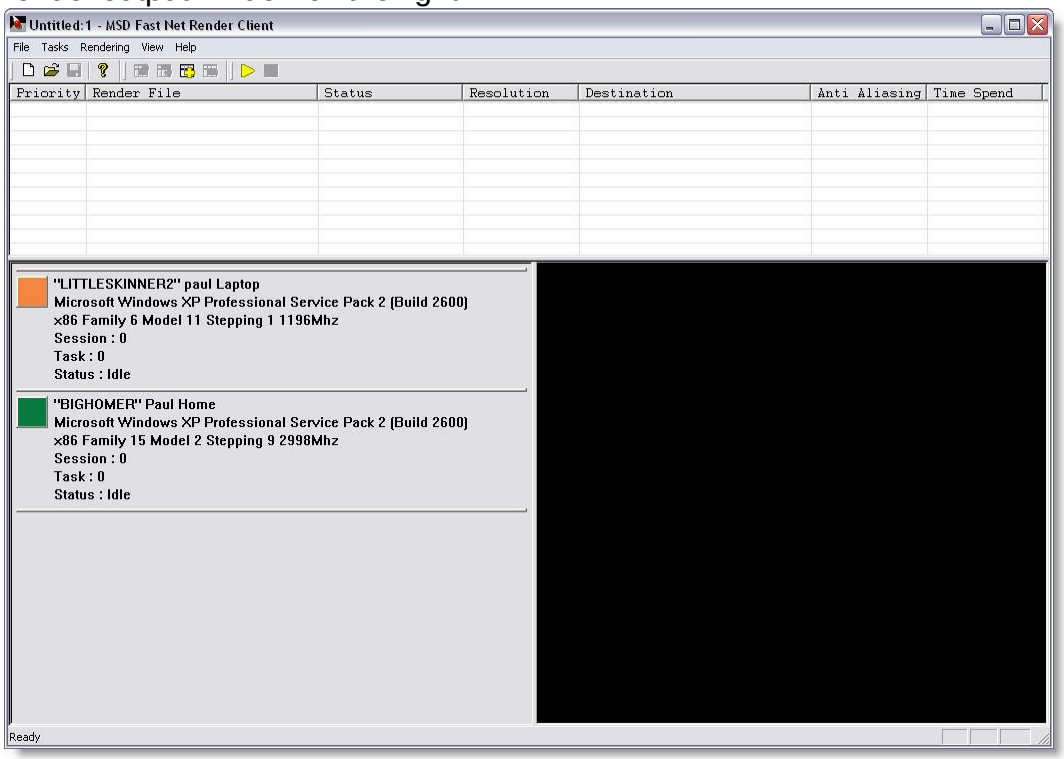
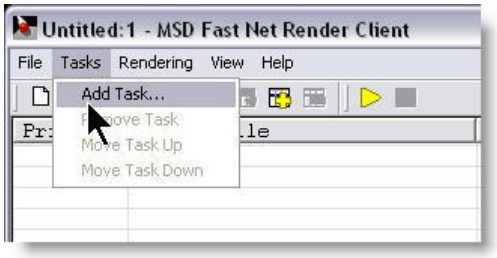
At this moment the Renderfile will be created, you can see the progress on the status bar of the Show Designer.
A Renderfile contains all the information about the scene, from the fixtures info to the texture used, therefore the Renderfile could be sent to MSD user to be rendered...



Once the desired Renderfile are generated (example multiple camera view of the same scene), start the MSD Fast Net-Render Client
In that view you see the task list at the top, the running servers on the bottom left and the render output window on the right



A task can be added From the Task menu or by pressing the [+] icon



A window appear, press the Input File Browse button

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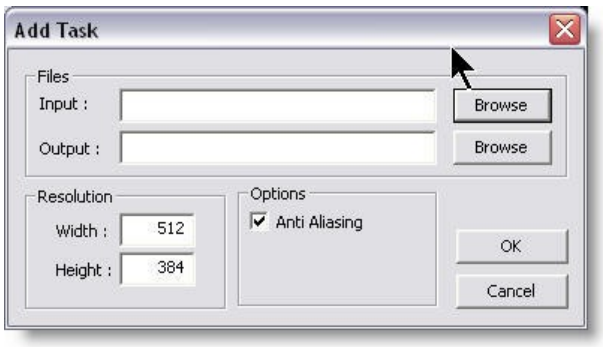
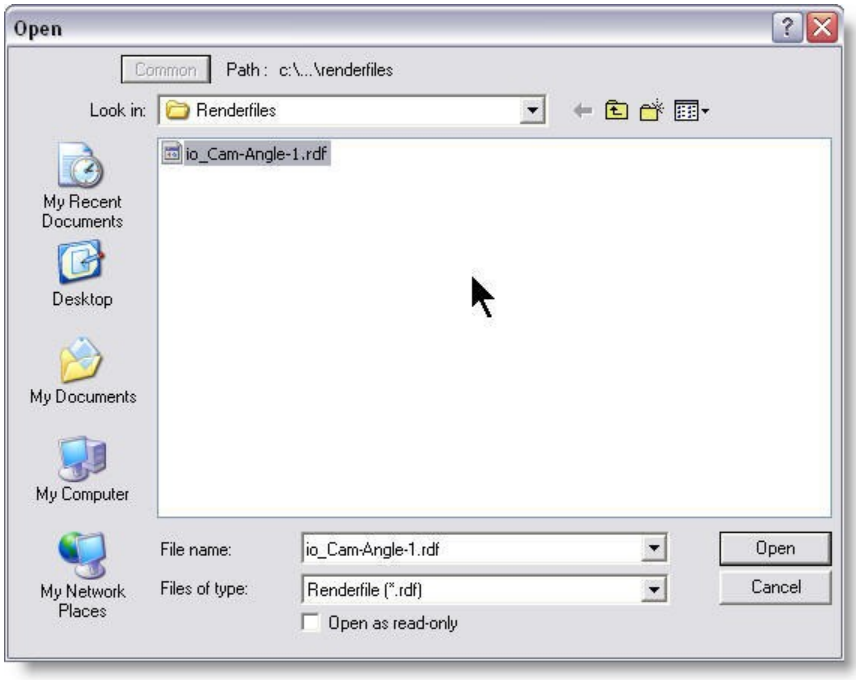


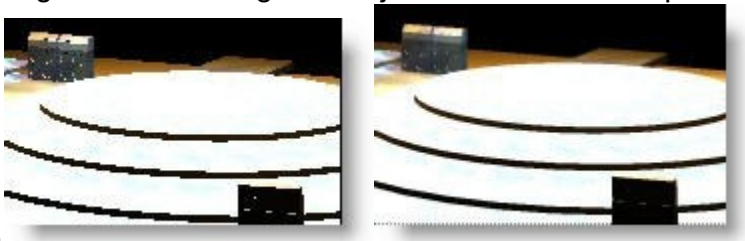
Select a render file



By default the Output name will be the same as the Renderfile
Set the resolution as desired... the larger the resolution the longer it takes...
(Example the rendering time of a 1600 X 1200 will be 4 times longer then a 800 X 600)

Enable or disable the Anti-Aliasing...
Anti-Aliasing smooth the edges of objects but also can require up to 50% time to render

Example:



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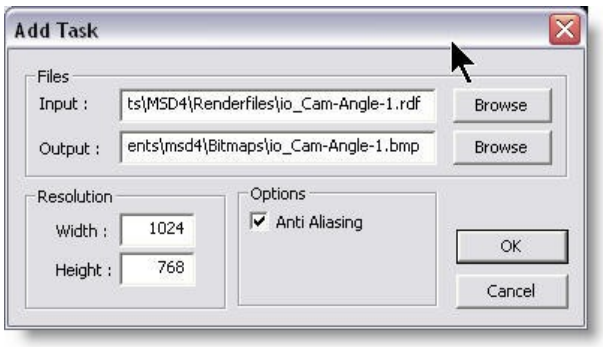
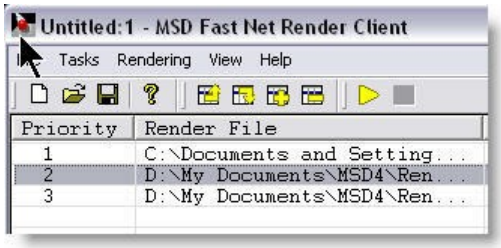
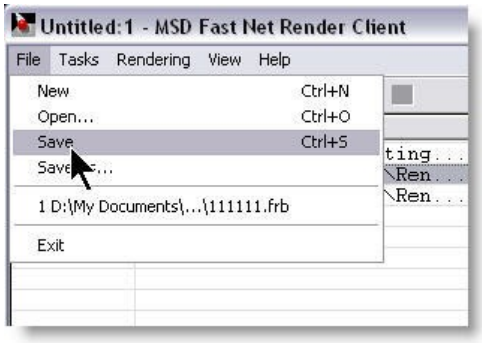


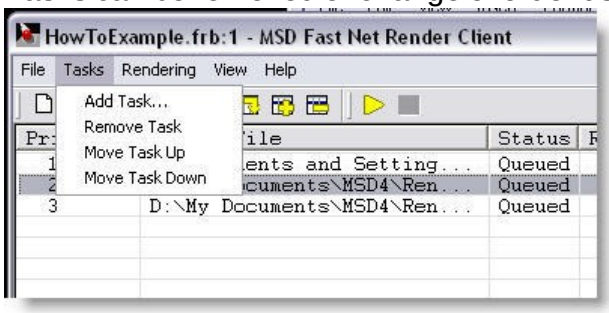
Add all the task to the list



A list of tasks can be save to be reused or completed later



Tasks can be removed or change of order using the menu or toolbar icons



When ready, simply press Start Rendering to begin the task.

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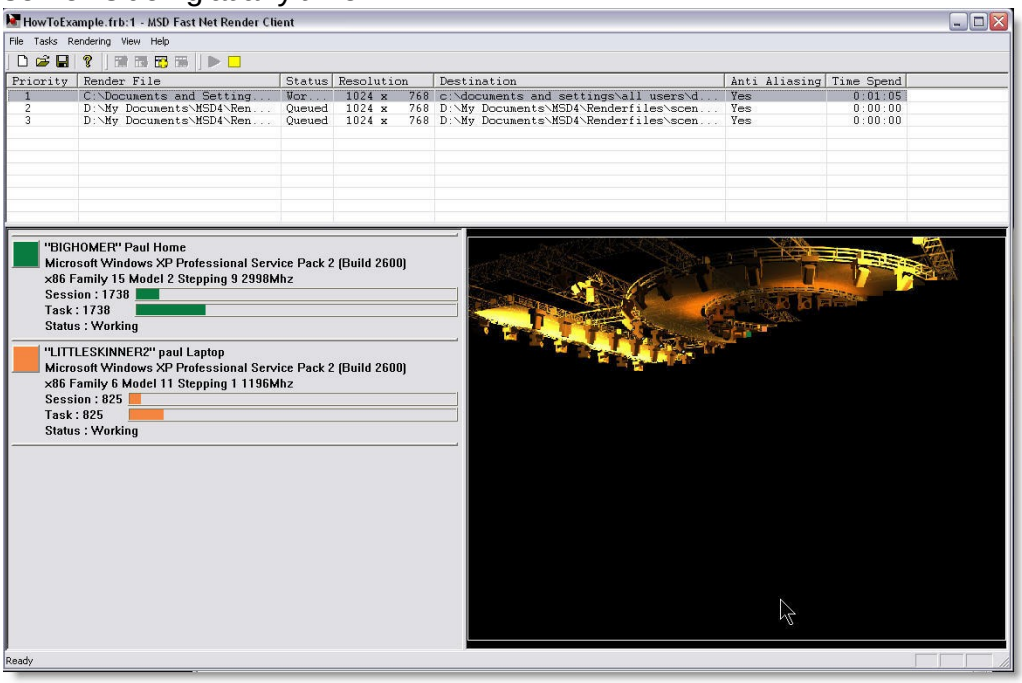
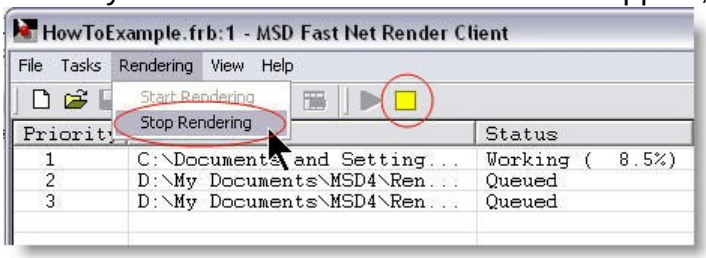
The progress and use of each server is displayed,
Small colored square representing each server show the portion of the rendering the server is doing at any time.



If for any reason a render batch should be stopped , it can be resumed at any time after.



Once a task rendering is done, the bitmaps is ready for viewing. the next task will start automatically until the list is finished.

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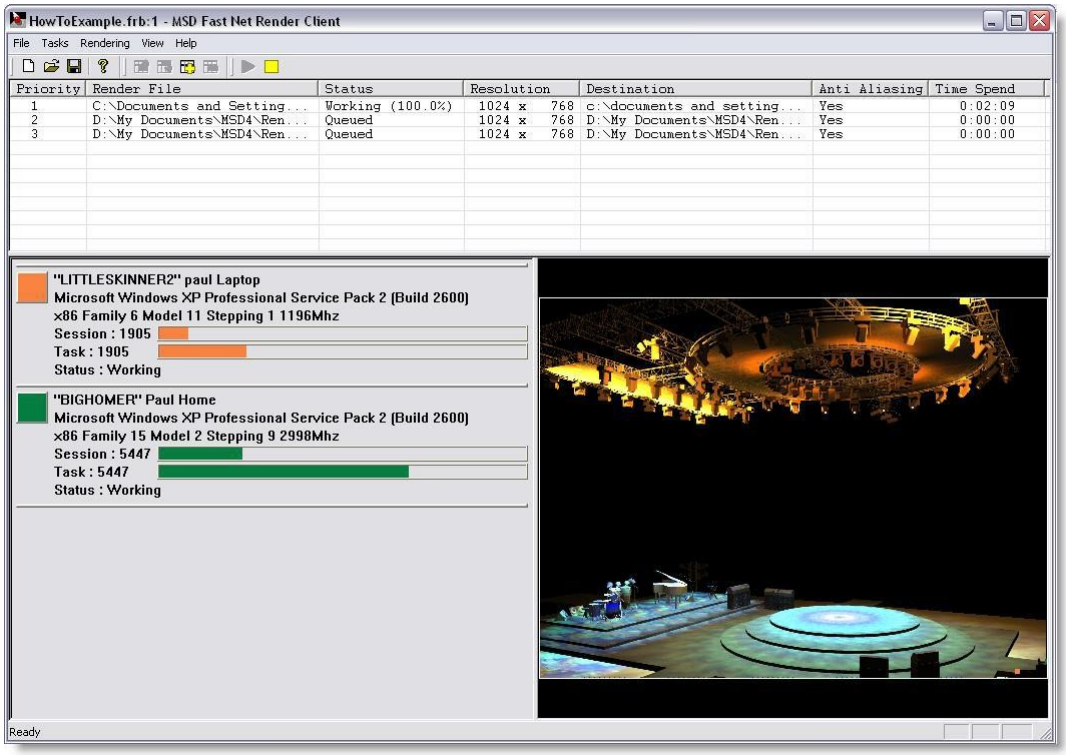

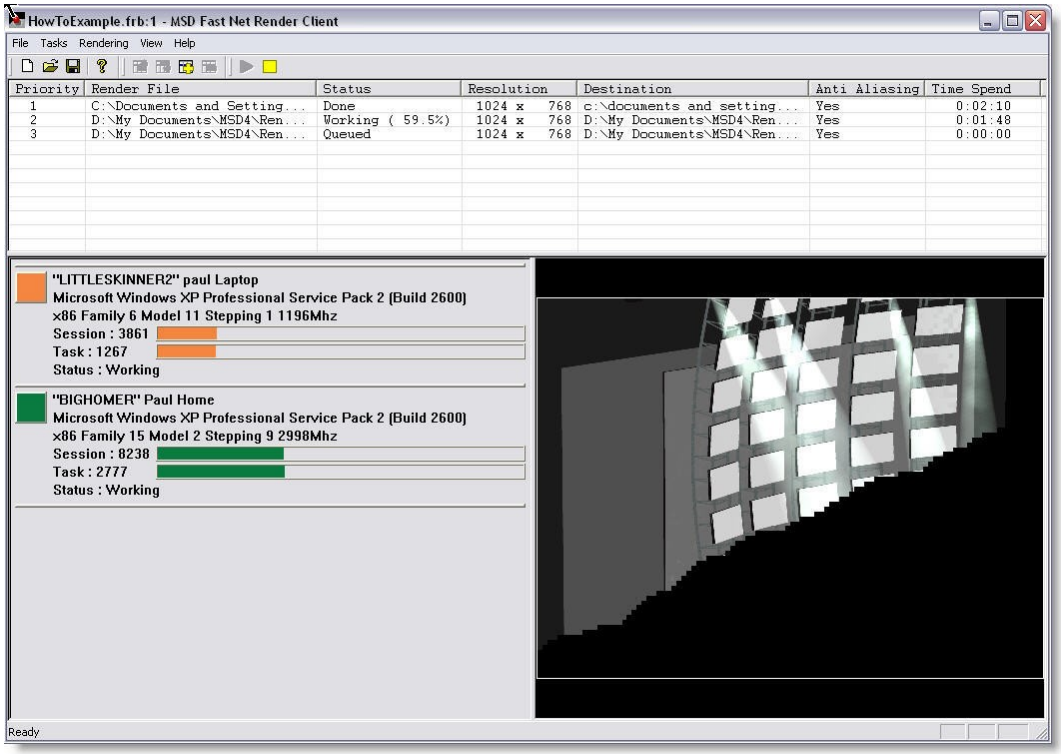

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8.3 Fast Net-Render Server

Instruction on how to install the MSD Fast Net-Render Server

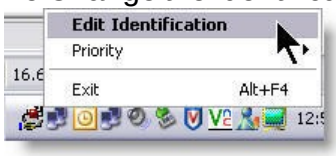
You must install the Fast Net Render Server on every computer you want to use in the Render Farm.

To do this, simply run the Fast Net Render Server installer.

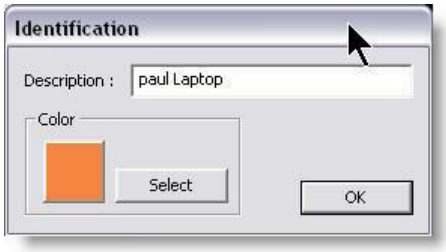
Once the Server working, an icon will appear in the tray icon bar.

Right Click on this icon to get a popup menu

To Change the Identification of the server, select Edit Identification



The Server Name and color can be changed as desired



It's also possible to change the Server Priority
Example if the computer where a Fast Net-Render Server is install is also use by someone else, setting the Priority to Lowest will ensure that the user will have priority over the Render server... this way the user won;t fell his computer slowing down when a rendering is being done as more CPU time will be given to the computer user.

Setting a high priority to the server will have the opposite effect, trying to perform other task on that computer will reveal to be very slow when rendering are being done.

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If you want the client computer to be use as server as well, simply install and run the server application there too.

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MSD Tools and Utilites

Part IX

9 MSD Tools and Utilites

Gobo Editor

Scene Compactor

IES to SPT Converter

DMX Info

9.1 Gobo Editor

The Gobo editor is designed as help for MSD 3D Visualizer, because 3D Visualizer is only able to display line drawing gobos, and the ShowDesigner uses bitmap gobos. The Gobo editor enables you to create and edit line drawing gobos that will represent their matching bitmaps. Created and edited line drawing gobos can be stored and categorized in line gobo libraries (.lgl files).
Of course it is not necessary in 3D Visualizer to have the accuracy of the bitmaps that are used for the render facilities of MSD. It is therefore recommendable to create line drawings that will give a good impression of the gobo, but that are not to complicated. As you will understand, the more complicated a line drawing is, the more time the computer needs to draw these lines.
To give you a good impression of the beam while a gobo is projected, it is possible to determine the beam representation, in combination with a specific gobo.
It is possible within the Gobo editor to use colors as well. These colors for gobos or parts of gobos are independent of the color filters that might be used in e.g. a moving light.

MSD GoboEditor

Layout

The application window

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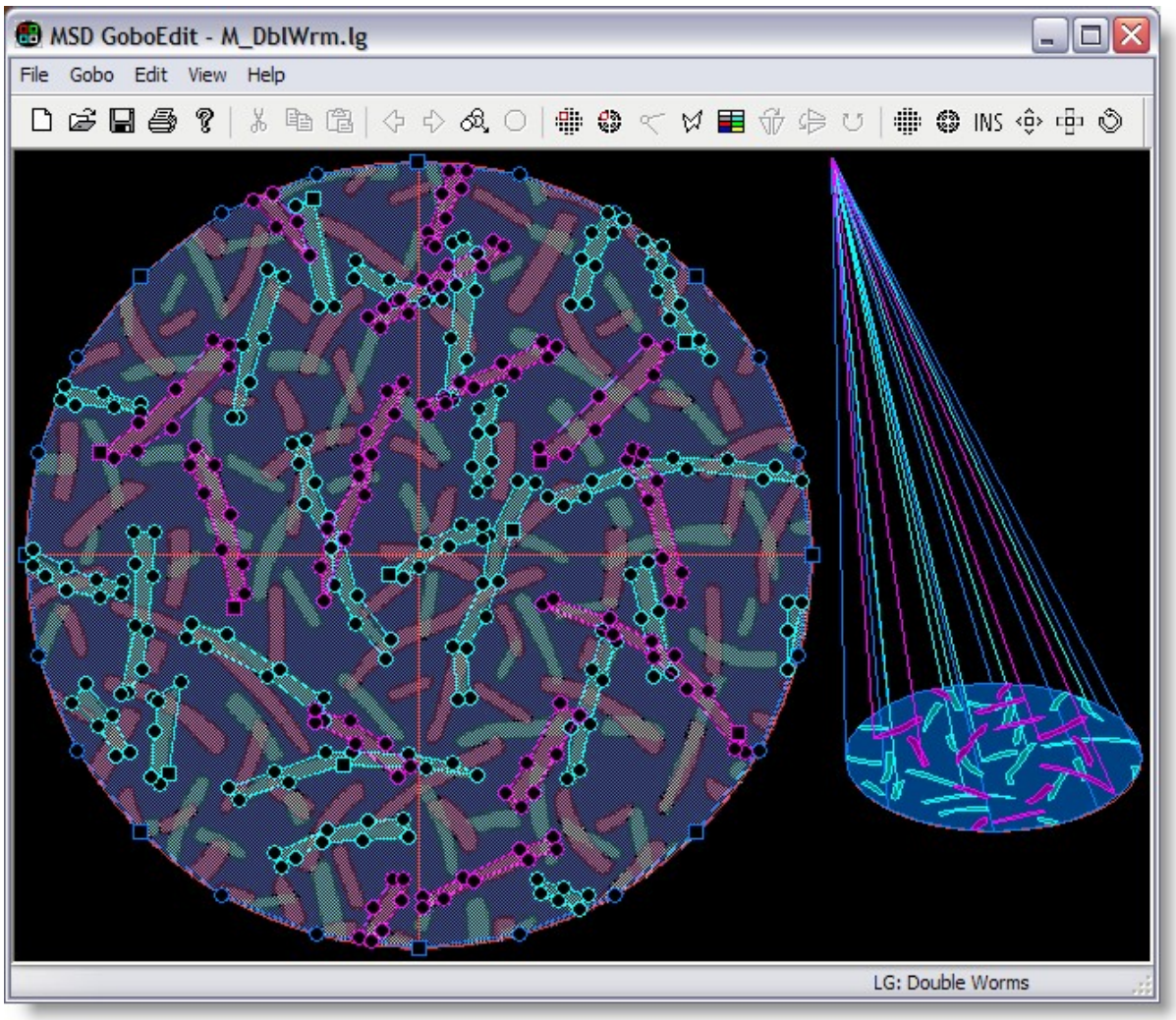

The application window has a menu bar, a toolbar, a main window with an edit area and a preview area, and a status bar. The options from the menu bar will be covered in Menu Bar , the buttons of the toolbar in Toolbar

The status bar gives you information while you are working with the program and has a gobo indicator. The gobo indicator shows which gobo of the current gobo library is being edited.
indicates that the gobo 'Bells' is being edited, which is the 11th of 109 gobos in the library.

Main window
As you can see, the main window contains two display windows. In the one on the left, the drawing area, you can edit a line gobo. The one on the right gives you an impression of the effect of your line gobo.
The toolbar is provided with several buttons which all represent a menu option. If you will hold the mouse cursor on one of these buttons for more than a second or so, a short

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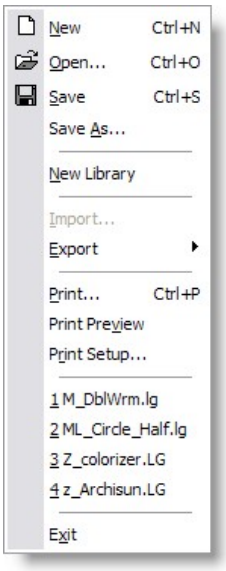
description of the menu option will be displayed.
The status bar provides you with the following information.
The left part will display a brief explanation of a menu option whenever the cursor is pointing to a menu option or over one of the toolbar buttons.
The right part displays the name of the current gobo, as well as the number of gobos in the current library.

9.1.1 Menus

Menu Bar

File menu



All the menu options in the File menu concern Line Gobo Libraries (.lgl files).

File | New
Shortcut : **Ctrl+N**
This option will create a new line gobo library (.lgl file). After selecting this option you can start creating new line drawing gobos.

File | Open...
Shortcut : **Ctrl+O**
Earlier stored line gobo libraries can be opened with this option.

File | Save
Shortcut : **Ctrl+S**

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Alterations made to a line gobo library can be saved with this option.

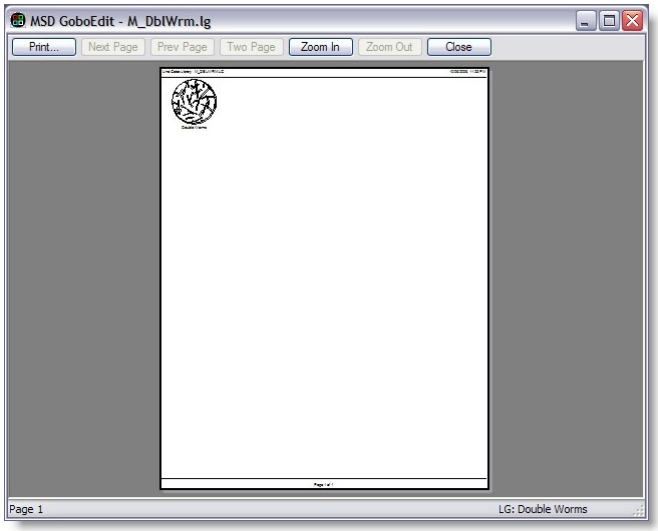
File | Save As...
This option enables you to store alterations made in a gobo library in a new library with a new name. The original library will remain the same.

File | Import...
This option enables you to merge two libraries. After selecting this option, you are able to select another library that will be merged with the library that you have already opened. If both libraries contain gobos with identical names, the names of the gobos of the last opened library will receive an extension (number) to their names. After using this option you could use the ' File | Save As... ' option to give the new merged library a new name.

File | Print...
Shortcut : **Ctrl+P**
Prints all the gobos of the currently opened library.
If you would like to view the print layout first, you can use the ' File | Print Preview ' option, as described below.

File | Print Preview
To view how a printout of the currently opened line gobo library would look like, you could use this option. After selecting this option a window, as displayed below, will appear on your screen.

Print Preview screen



The button row at the top of this window allows you to alter the view that is presented on your screen, or to print the entire library. The 'Print' button will have the same effect as using the ' File | Print... ' option. By pressing the 'Next page' button, the next page of the

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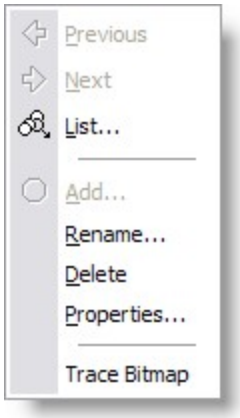
printout will be displayed.
If there are no more pages in this printout, this button can not be used. The 'Pre. page' button allows you to scroll back a page (Previous page). If you have the first page already on your screen, this button can not be used. The 'Two page' button enables you to view two pages with gobos. The 'Zoom in' and 'Zoom out' buttons make it possible to get a larger and a smaller representation of the presented line drawing gobos respectively. The 'Close' button will bring you back to the main screen of the Gobo editor.

File | Print Setup...
This option allows you to alter settings concerning the current printer.

File | Recent files
These options represent earlier opened line gobo libraries. If one of these options is selected, the corresponding library will be opened.

File | Exit
Shortcut : **Alt+F4**
This option will shut down the program. If there is a library open and if this scene was changed since the last save, you will be asked whether or not to save these changes or cancel the operation.
Gobo Menu

Gobo menu



All the options in the Gobo menu concern line gobos within the opened line gobo library.

Gobo | Previous
Displays the previous line gobo in the currently opened window so you can edit it.

Gobo | Next

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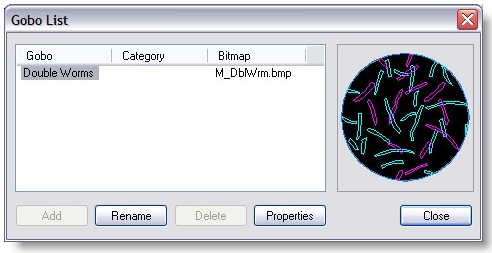
Displays the next line gobo in the currently opened window so you can edit it.

Gobo | List...

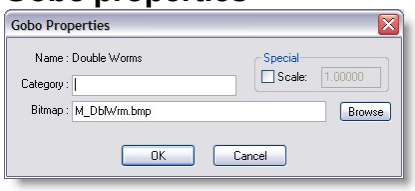
Selecting this option will result in the appearance of a list similar to the following image:

Gobo list



In this list you can select the gobo you want to work on within the currently opened library. You can also add a new line gobo by pressing the 'Add' button, rename an existing gobo by pressing the 'Rename' button or delete an existing gobo by pressing the 'Delete' button. It is also possible to select more than one gobo in order to delete several gobos at once.
If you press the 'Properties' button the following dialog will appear:

Gobo properties



In this dialog you can alter the bitmap file that is currently attached to the selected line gobo, and categorize the current gobo.
The 'Category' field enables you to group some gobos. The gobos of one group will be e.g. sorted at the print procedure. The 'Bitmap' field enables you to enter the bitmap gobo you would like to create or edit a line gobo for.
The 'Browse' button can help with locating the bitmap file. The 'OK' button will activate the alterations made and the 'Cancel' button will ignore these alterations.
If you have selected a gobo from the line gobo list, the options 'Rename', 'Delete' and 'Properties' will also be available in a context menu if you will press your right mouse button. The 'Close' button brings you back to the main window.

Gobo | Add...

This option has the same result as the 'Add' button of the 'Gobo list' window.

Gobo | Rename...

This option has the same result as the 'Rename' button of the 'Gobo list' window.

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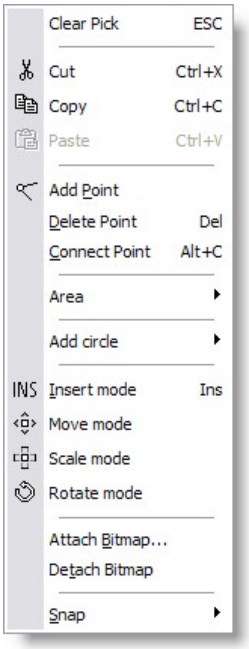
Gobo | Delete...
This option has the same result as the 'Delete' button of the 'Gobo list' window.

Gobo | Properties...
This option has the same result as the 'Properties' button of the 'Gobo list' window.

Edit menu



The options in the edit menu all concern the gobo editing possibilities of the Gobo editor.
In this Gobo editor a line gobo is created out of areas. An area consists of one or more points and several line pieces that connect these points. By adding or deleting points from an area, the number of line pieces will vary equally.
Moving the points by dragging them with your mouse, you can vary the shape of an area. You can cancel a drag movement by pressing the right mouse button while dragging.
By connecting the points to the spotlight, you can obtain a good beam representation.
All the options mentioned in this section are also available when you click your right mouse button in the drawing area.

Edit | Clear Pick
Shortcut : **ESC**
This option clears the pick.

Edit | Add Point
This option adds a point (and a line piece) to the area you are working on.

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Edit | Delete Point
This option deletes the active point (and a line piece) from the area you are editing. This option is available only if you have picked a point by clicking on it with your left mouse button.

Edit | Connect Point
Shortcut : **Alt+C**
If you select this option, the Gobo editor will 'draw' a line between the picked (active) point and the light source. This line represents a part of the light beam of a spotlight. These lines are only visible in 3D Visualizer and the right part of your screen. After connecting a point, the circle will change in a little square. You need to have an active point before you can use this option.

Edit | Add Area
After selecting this option, a new area with one point and no line pieces will be added to the gobo you are editing.

Edit | Delete Area
The area that you are currently working on, the active area, will be deleted after you have selected this option.

Edit | Color
This option enables you to select a color for the active area and for the next area(s) you would like to add to the gobo you are editing.

Edit | Reverse Area Points
This option enables you to change the order of the points of an area. (It might be necessary to reverse the order of the points to get a good solid beam representation of the gobo in 3D Visualizer.)

Edit | Insert mode
This option enables you (de)activate the insert mode. If you click in the window in normal mode, the program will try to pick a point. In insert mode, a new area will be added if you click and no area is active. If an area is active, a new point is added to that area. This makes it easier to create new gobos.

Edit | Attach Bitmap
This option enables you to attach a (different) bitmap to the line gobo you are editing. After selecting a bitmap gobo, it is connected to the line gobo you are editing. When 3D

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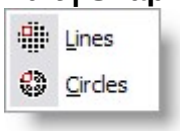
Visualizer needs a line gobo, it will use the attached bitmap to find the correct gobo.

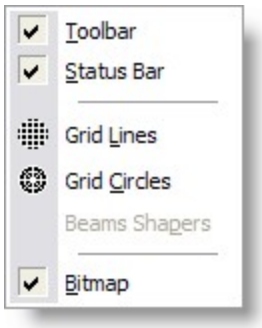
Edit | Detach Bitmap
This option will remove the bitmap gobo overlay and can only be used if there is a bitmap attached to the line gobo drawing. After using this option the line gobo you are presently editing is not attached to a bitmap gobo anymore.

Edit | Snap



This option will make the available grids that can be used, magnetic. The first option, Lines, makes the line grid magnetic, the second one, Circle, makes the circles grid magnetic.
View Menu

View menu



The options of the View menu enable you to determine the layout of the Gobo editor's main window.
All the options mentioned are switches, they enable you to either display or not display the items mentioned. If an item is preceded by a check mark, it is displayed.

View | Toolbar
This option will display the toolbar with its buttons.

View | Status Bar
This option will display the status bar.
The status bar shows information on what gobo you are working on, how may gobos there are within the current library, etc.

View | Grid lines

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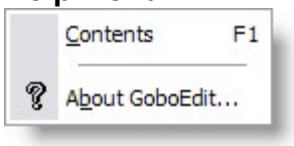
This option will display a grid overlay as help while drawing a line gobo. This grid consists of horizontal and vertical lines.

View | Grid circles
This option will display a grid overlay as help while drawing a line gobo. This grid consists of circles and radial lines.

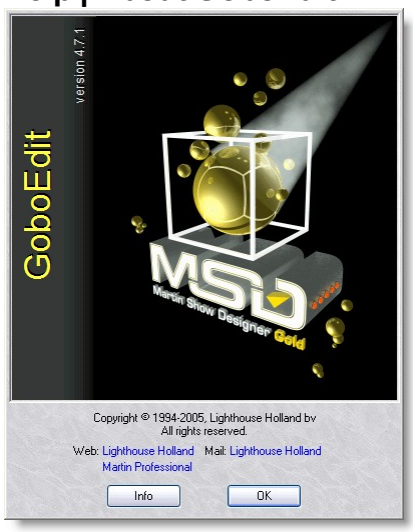
View | Bitmap
This option will display the currently attached bitmap as an overlay.

Help menu



Help | Contents
Shortcut : **F1**
This option will display this help text.

Help | About GoboEdit...



This option will display a window in which you can get information about the program. By clicking on the info button you will see information about the current installed version, the installation date, the serial number of the program and the name with which the program was installed. By clicking again on the (now 'Version') button, you can get further version information if you need it or for when you contact us.

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9.2 MSD Scene Compactor

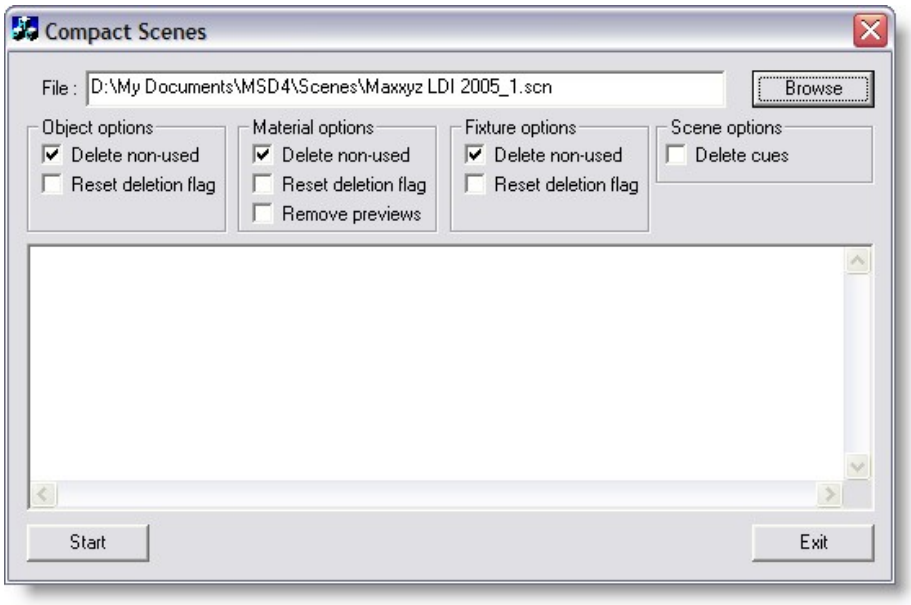
The MSD Scene Compactor is a tool used to cleanup scene from unused objects, cues, material, fixture etc.

It is important to understand that every objects or fixtures imported in a scene are imbedded in the file.
More important is the fact that when you delete an object or fixture from a scene it is still in file, it's only flagged as deleted.

So completely delete these fixture or object you must use the scene compactor.

You can also use the Scene Compactor to retrieve deleted objects or fixtures by checking the Reset Deletion flag box.

It is safe to use it, a copy of the scene will be create with the word " Compacted added at the end of the filename
Example this file name Maxxyz LDI 2005_1.scn will be renamed **Maxxyz LDI 2005_1 Compacted.scn**



9.3 MSD IES to SPT converter

IES is a standard file format to describe the luminosity of a fixture.
It is widely use in architectural world.
It was developed by the IES organization http://www.iesna.org/

The IES to SPT converter simply read a standard IES file and convert it to an SPT file.

From the file menu, click open and choose an IES file and click Open.

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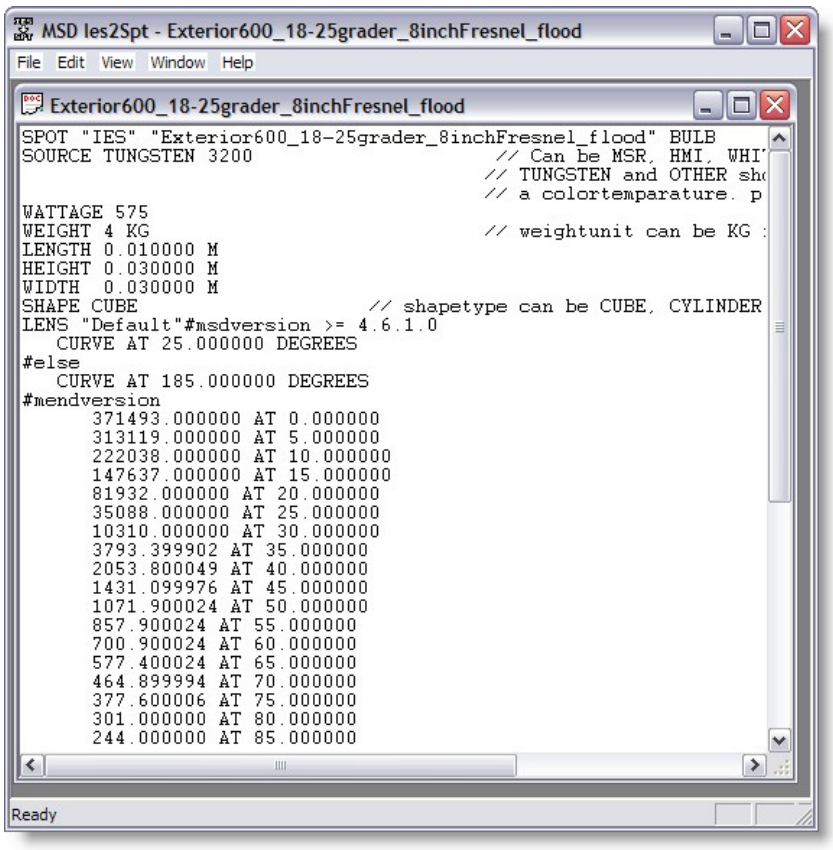

Data is now converted to a SPT format use in MSD.

Of course for intelligent lights MSD requires a lot more information.
A separated document is available to help creating SPT file.

9.4 MSD DMX Info

MSD DMX Info allow you to see DMX value coming in or out of the MSD.
You can select the desire communication driver and port.
Use this tool to troubleshoot driver connections

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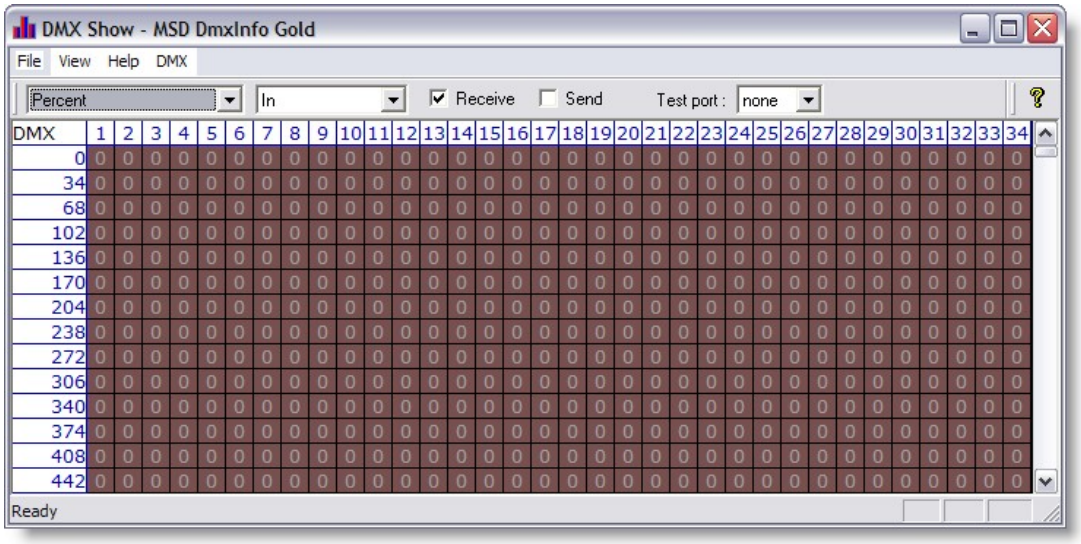
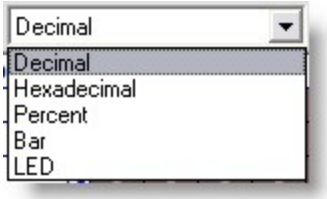


Different view can be selected



Decimal value 0-255
Hexadecimal 00-FF
Percent 0 -100%
Bar (like a VU monitor)
LED (like a pixel)

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Release Notes

Part X

10 Release Notes

10.1 Release Notes 4.8

MSD Gold 4.8 Release

Changes made to MSD since Version 4.7.1

Modeler

- Improved handling of Dongles. There can be multiple dongles connected to the system. The software will search for a dongle for which it has a installation code. When there is no dongle with a correct installation code, then the program will ask for a installation code belonging to the first available MSD dongle on the system.
- Material View is changed to a new and improved look. It now looks similar to the thumbs in Paper.
- Added Fast Switch support. Allowing easy switch to other MSD modules using the same scene file.
- Assemblies. Objects can be linked together. The assembly can have options to disallow movement, rotation etc. of the elements that are assembled to it.
- Improved handling of Read-Only files. When a Read-Only file is opened, the program will make a temporary copy, and when the user wants to save this file, the program asks the user for a new name.
- Support for categories for modeler objects. Each object from the modeler can have a category, and this category is used to create sub-menus when inserting an object. A category with a '\' will be split in multiple sub-menus.
- Improved the rendering speed.
- Bug fix in file open/save dialog : When the default file type in the dropdown box was changed, the extension of the filename didn't change.
- Bug fix in 'jpg' bitmap files : JPEG files that use the CMYK encoding were not loaded correctly.
- Bug fix in the mapping of a texture material : The mapping data was ignored for materials that were used on the default part description.
- Bug fix in rendering : Some surfaces of imported DXF objects were ignored. This happened to surfaces that were very small and had sharp angles in their corners.

ShowDesigner

- Improved handling of Dongles. There can be multiple dongles connected to the system. The software will search for a dongle for which it has a installation code. When there is no dongle with a correct installation code, then the program will ask for a installation code belonging to the first available MSD dongle on the system.
- Material View is changed to a new and improved look. It now looks similar to the thumbs in Paper.
- Added Fast Switch support. Allowing easy switch to other MSD modules using the same scene file.
- Assemblies. Objects can be linked together. The assembly can have options to

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disallow movement, rotation etc. of the elements that are assembled to it.
- Improved handling of Read-Only files. When a Read-Only file is opened, the program will make a temporary copy, and when the user wants to save this file, the program asks the user for a new name.
- Improved the rendering speed.
- Support for '.' fixture ids
- Fast Patch now has visual feedback. The fixtures that aren't handled yet have a blue box. Selecting the same fixture twice in the same run is also blocked now.
- Support for the ADB Warp Framing system.
- Fixture and Scene block support. Import and Export of objects and fixtures. Fixture blocks can be used to make fixtures that have multiple light sources (4-Lite, 8-Lite etc).
- Support for 'Load and Update'.
- Spline support. A user can define and edit a number of splines in the scene.
- In this version, the spline can only be used as the path for a track type dynamic object.
- Dynamic objects. Currently there is support for the following types :
  - Single Hoist. simple up and down movement
  - Multiple Hoists. a construction that hangs on different hoists allowing it to be orientation as well as lowered and raised.
  - Track. a trolley that moved along a path
  - Turn table. can rotate over an axis
  - Scaler. can be used to scale objects (inflate, open/close curtains)
- Dynamic objects are controlled by values in a 'Motormap'. This map is intended to be filled by external tools which communicate with a controller for these motors. To be able to control these dynamic objects with a normal DMX controller, we have added a 'DMX Motor mapping' tool that can be used to define conversion rules that convert some DMX values into Motor values.
- Bug fix in .SPT files : .SPT files can define a geometry for the base through the 'BaseGeom' property. This geometry was only used in Moving head fixtures. Now the geometry is used in all fixture types.
- Bug fix in rendering : Objects that where outside the normal beam, but still within the spilled light range, did not cast any shadows.
- Bug fix in fixture properties : Only the picked fixture changed its strobe, instead of the picked and all selected fixtures.
- Bug fix in rendering : Intensity of the light near to the lens was not correct (to low). This looked like the light was starting a few centimeter in front of the lens.
- Bug fix in file open/save dialog : When the default file type in the drop-down box was changed, the extension of the filename didn't change.
- Bug fix in 'jpg' bitmap files : JPEG files that use the CMYK encoding were not loaded correctly.
- Bug fix in the mapping of a texture material : The mapping data was ignored for materials that were used on the default part description.
- Bug fix in rendering : Some surfaces of imported DXF objects were ignored. This

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happened to surfaces that were very small and had sharp angles in their corners.
- Bug fix in replace fixture : Replacing a fixture changed the Lens system to the default, even if the replacement fixture was a newer definition version of the same fixture with the same lens systems.

Visualizer

- Improved handling of Dongles. There can be multiple dongles connected to the system. The software will search for a dongle for which it has a installation code. When there is no dongle with a correct installation code, then the program will ask for a installation code belonging to the first available MSD dongle on the system.
- Added Fast Switch support. Allowing easy switch to other MSD modules using the same scene file.
- Improved handling of Read-Only files. When a Read-Only file is opened, the program will make a temporary copy, and when the user wants to save this file, the program asks the user for a new name.
- Support for '.' fixture ids
- Support for the ADB Warp Framing system.
- Dynamic objects are controlled by values in a 'Motormap'. This map is intended to be filled by external tools which communicate with a controller for these motors. To be able to control these dynamic objects with a normal DMX controller, we have added a 'DMX Motor mapping' tool that can be used to define conversion rules that convert some DMX values into Motor values.
- Panel Fixtures can change their lens (the part that is lit) without the need to make a new .SPT file and replace it with this new .SPT definition. It is even possible to assign an object from the model library within the scene file as lens.
- Bug fix in .SPT files : .SPT files can define a geometry for the base through the 'BaseGeom' property. This geometry was only used in Moving head fixtures. Now the geometry is used in all fixture types.
- Bug Fix in gobo drawing : A gobo that was put in a normally open wheel position, by the user, was not correctly displayed.
- Bug fix in file open/save dialog : When the default file type in the dropdown box was changed, the extension of the filename didn't change.
- Bug fix in 'jpg' bitmap files : JPEG files that use the CMYK encoding were not loaded correctly.
- Bug fix in the mapping of a texture material : The mapping data was ignored for materials that were used on the default part description.
- Bug fix in replace fixture : Replacing a fixture changed the Lens system to the default, even if the replacement fixture was a newer definition version of the same fixture with the same lens systems.

Paper

- Improved handling of Dongles. There can be multiple dongles connected to the system. The software will search for a dongle for which it has a installation code. When there is no dongle with a correct installation code, then the program will ask for a installation code belonging to the first available MSD dongle on the system.
- Added Fast Switch support. Allowing easy switch to other MSD modules using the

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same scene file.
- Improved handling of Read-Only files. When a Read-Only file is opened, the program will make a temporary copy, and when the user wants to save this file, the program asks the user for a new name.
- Support for '.' fixture ids
- Changed the way the program searches for a symbol to use. The name of the lens system that is used in the fixture is also taken into account. The 'mode' of the fixture is no longer a required element in the search. This allows for a single symbol file for all different modes of a fixture.
- Symbols can have text in them, and attributes to define the location of data like DMX address, unit number and gel.
- Bug fix in symbol drawing : Symbols for Mirror spots were always loaded from the default 'symbols.xml' file, even is a symbol was defined in the .SPT file.
- Bug fix in file open/save dialog : When the default file type in the dropdown box was changed, the extension of the filename didn't change.
- Bug fix in 'jpg' bitmap files : JPEG files that use the CMYK encoding were not loaded correctly

Fast Network Renderer

- Improved handling of Dongles. There can be multiple dongles connected to the system. The software will search for a dongle for which it has a installation code. When there is no dongle with a correct installation code, then the program will ask for a installation code belonging to the first available MSD dongle on the system.
- Improved the rendering speed.
- Bug fix in rendering : Objects that where outside the normal beam, but still within the spilled light range, did not cast any shadows.
- Bug fix in rendering : Intensity of the light near to the lens was not correct (to low). This looked like the light was starting a few centimeter in front of the lens.
- Bug fix in rendering : Some surfaces of imported DXF objects were ignored. This happened to surfaces that were very small and had sharp angles in their corners.
- Bug fix in rendering : Some parts of imported objects were not saved correctly and therefore didn't show up or showed only partially when the image was rendered.
- Bug fix in file open/save dialog : When the default file type in the dropdown box was changed, the extension of the filename didn't change.
- Bug fix in 'jpg' bitmap files : JPEG files that use the CMYK encoding were not loaded correctly.
- Bug fix in the mapping of a texture material : The mapping data was ignored for materials that were used on the default part description.

10.2 Release Notes 4.7.1

MSD Gold 4.7.1.0 release

NOTE: Render files (.rdf) created with MSD Gold 4.7.0.0 are not compatible with this new 4.7.1.0 version,*

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and can no longer be used. You have to create new ones from the original scene file, with the new ShowDesigner module.

MSD ShowDesigner

New:

- New (True color) Toolbar/Menu support.
- Added extra operation mode (Toggle/Stay active) [Spacebar] is the hotkey for that new feature
  - In Toggle Mode, pressing a hotkey for an operation like MOVE, would toggle it on or off according to its current state. In Stay Active, the operation will remain active if it was already active. To turn off the current operation, use the Icon or the [Spacebar] hotkey.

- World / Object switch (for move and rotate)
  You can now choose if the operations Move/Rotate will work according to World axes or to Object Axes
- Nudge:
  When Move/Scale/Rotate operations are active, the 4 arrow keys work as 'nudge' tools
  - Move:
    key = Starts with a move of 1 pixel. Holding down the key will keep moving, slowly accelerating.
    shift+key = Starts with a move of 10 pixels. Holding down the key will keep moving, slowly accelerating.

  - Scale:
    key = Starts with a scale change of 1 pixel. Holding down the key will keep scaling, slowly accelerating.
    shift+key = Starts with a scale change of 10 pixels. Holding down the key will keep scaling, slowly accelerating.

  - Rotate:
    key = Starts with a rotation of 1/10th of a degree. Holding down the key will keep rotating, slowly accelerating.
    shift+key = Starts with a rotation of 1 degree. Holding down the key will keep rotating, slowly accelerating.
    ctrl+key = Starts with a rotation of 45 degrees. Holding down the key will keep rotating in steps of 45 degrees.

- Added Buttons to Open and Close the shutter from the Beam page, as well as the Strobe function.
-

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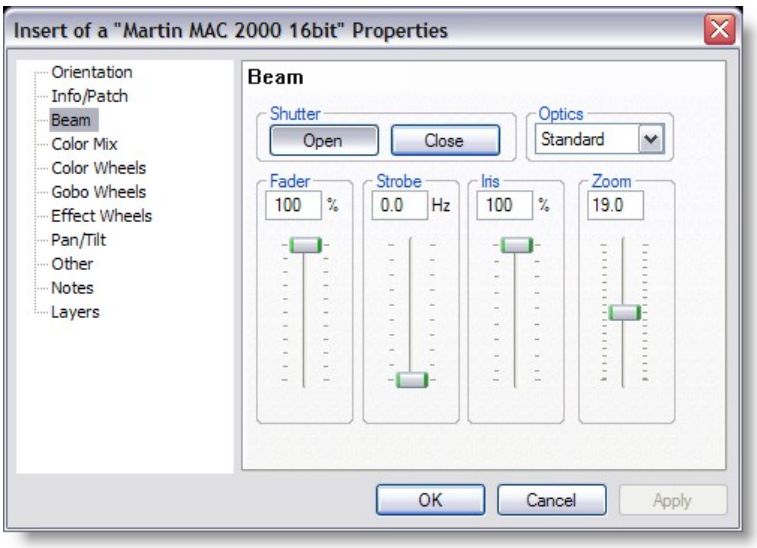
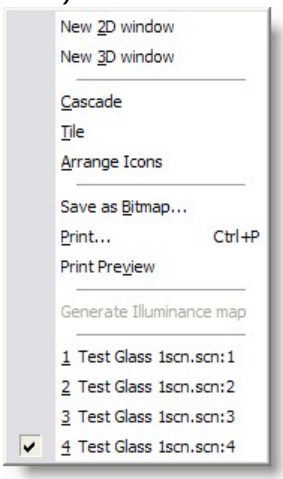
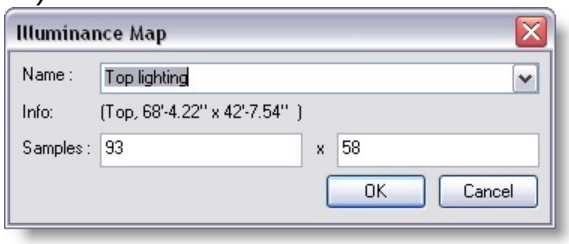


- You can now find a 'Generate Illuminance map' in the Windows menu (in a 2D view).



-
- This will create a map by 'tracing' the illuminance values of the current window with the selected samples,and store this as a illuminance map in the file. It will take into account the normal layer options, but the fixtures will never have a housing. This means that the value on the first hit object will be calculated. The more samples, the more accurate (and slower to calculate) the map. (This map can later be used in the paper module to visualize the illuminance values)



[See here for more details]

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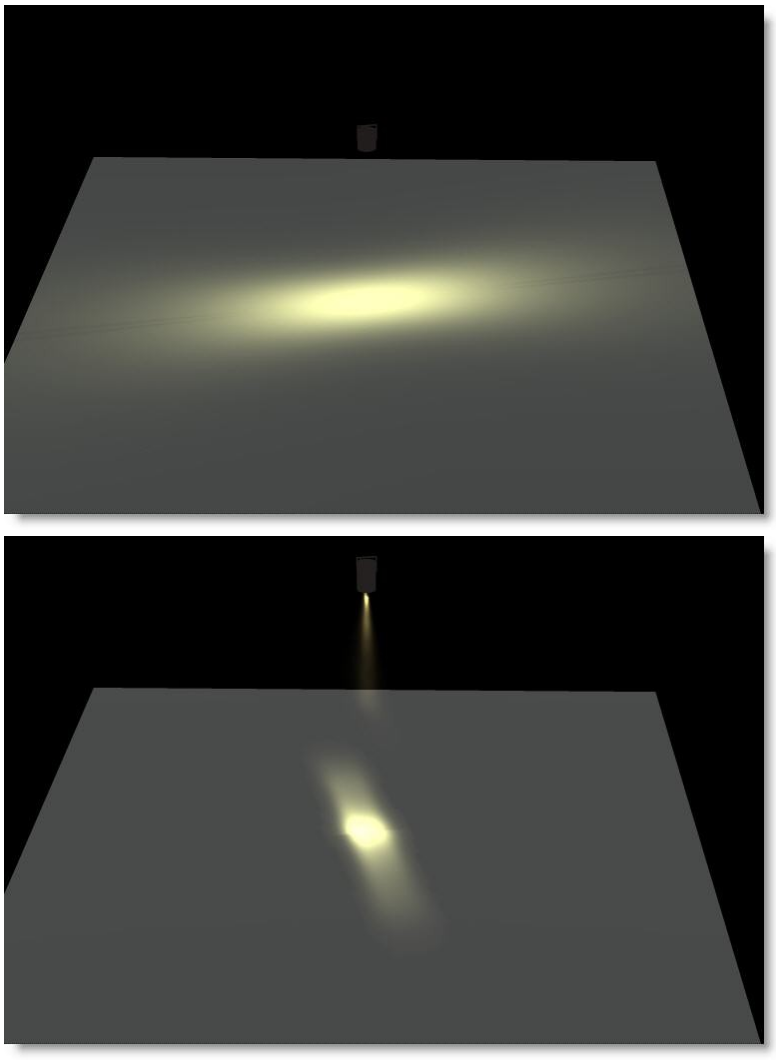
- It can now handle asymmetrical lights (rendering). (In non-rendering windows the beams are still circular.) Example of Martin Exterior 200 with Beam Shaper and PC Lens +Beam Shaper
  Note: Special Data is needed to display that type of beam, not all fixtures have this available.
  In case of the Martin Exterior fixture, In the fixture properties, use the IES Data... in the Optics field of the Beam page



- Operations menu has been rearranged

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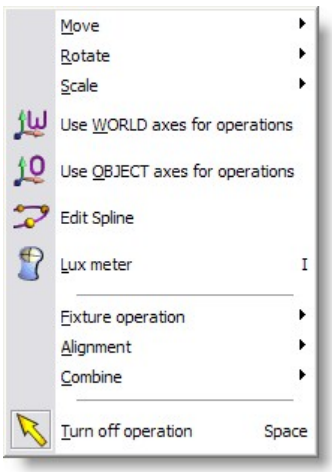
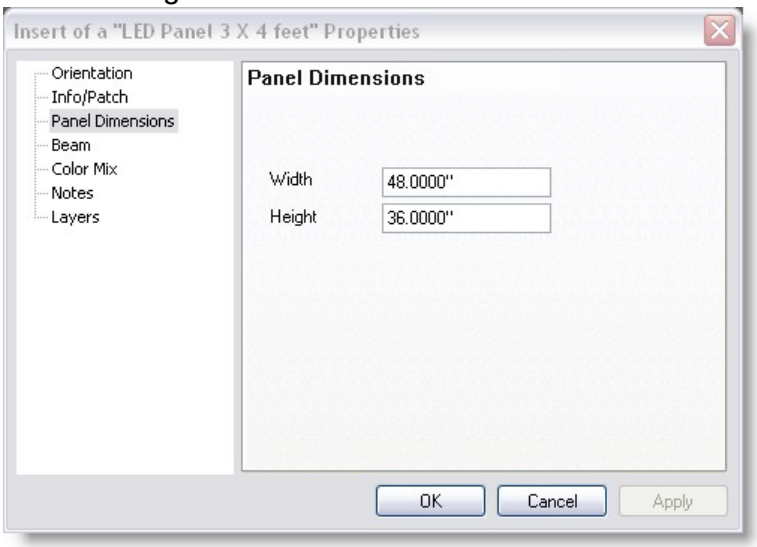


- Added a Ctrl+H for 'Replace Fixture(s)' operation
- Changed Multiple copy: last copy will be picked (+pick/sel undo redo)
- Added new 'Group with axis' operations (use picked orientation) ALT+G or icon
- You can now adjust the dimensions of a panel fixture (properties), this is useful for resizing a video screen or video wall.



- Panelfixtues are now inserted with lens facing to the front
- Zero point (0,0,0) no longer used for 'full view' calculations
- Added a default nudge (Move) if there is no active operation or when the current operation has no nudge of it's own
- Options Property Grid added, replacing 'Grid' and 'Auto Save' pages, and adding some new entries.

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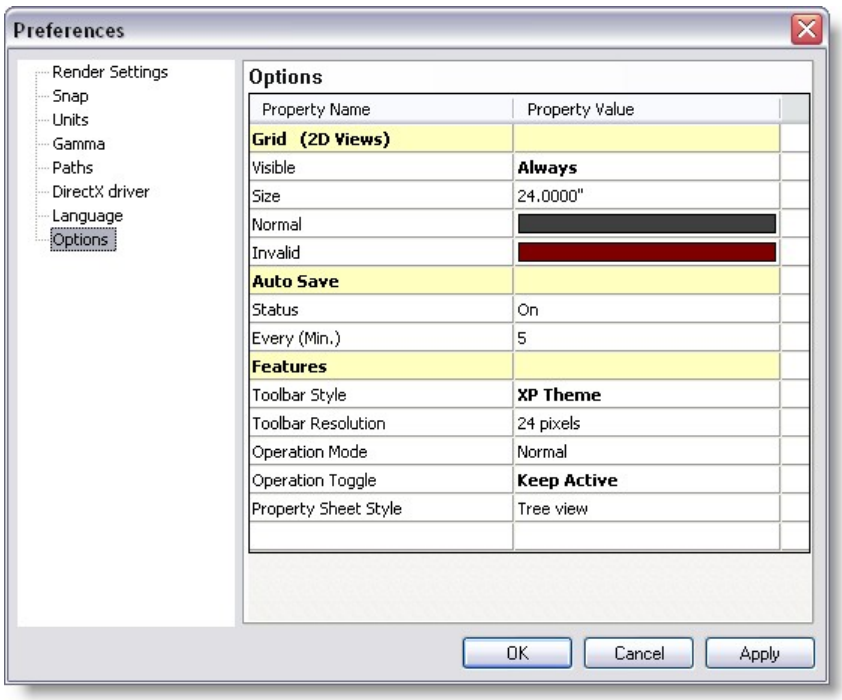

Bugfix:

- Operations now work correctly in 3D Views as well.
- Transitions between two objects with the same material were wrong. (Only noticeable in transparent materials with a refraction index > 1.0)
- The Drop Down size of the Optics will be big enough to show the complete names of the optics.
- Tube Length and Radius were not saved when a renderfile was created.
- Rendering produced error in lighting (sometimes, light was not where it should have been)
- If smooth normal generation failed, an object could have random normals. This resulted in incorrect lighting.
- Axis sometimes disappeared.

MSD Model

New:

- New (True color) Toolbar/Menu support.
- Added extra operation mode (Toggle/Stay active) [Spacebar] is the hotkey for that new feature
- World / Object switch (for move and rotate)
  You can now choose if the operations Move/Rotate will work according to World axes or to Object Axes

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- Nudge:
  When Move/Scale/Rotate operations are active, the 4 arrow keys work as 'nudge' tools
  - Move:
    - key = Starts with a move of 1 pixel. Holding down the key will keep moving, slowly accelerating.
    - shift+key = Starts with a move of 10 pixels. Holding down the key will keep moving, slowly accelerating.
  - Scale:
    - key = Starts with a scale change of 1 pixel. Holding down the key will keep scaling, slowly accelerating.
    - shift+key = Starts with a scale change of 10 pixels. Holding down the key will keep scaling, slowly accelerating.
  - Rotate:
    - key = Starts with a rotation of 1/10th of a degree. Holding down the key will keep rotating, slowly accelerating.
    - shift+key = Starts with a rotation of 1 degree. Holding down the key will keep rotating, slowly accelerating.
    - ctrl+key = Starts with a rotation of 45 degrees. Holding down the key will keep rotating in steps of 45 degrees..
- Increased the default resolution of round primitives (every 15 degrees)
- Operations menu has been cleaned-up.
- Changed Multiple copy: last copy will be picked (+pick/sel undo redo)
- Added new 'Group with axis' operations (use picked orientation) ALT+G or icon
- Added a way to select objects by part description (handy for DXF imported objects)
- Zero point (0,0,0) no longer used for 'full view' calculations
- Added a default nudge (Move) if there is no active operation or when the current operation has no nudge of it's own
- Options Property Grid added, replacing 'Grid', 'Auto-Save' and 'Details' pages, and adding some new entries.

Bugfix:

- Operations now work correctly in 3D Views as well.
- Transitions between two objects with the same material were wrong.
  (Only noticeable in transparent materials with a refraction index > 1.0)
- DXF Import: Sometimes a value was interpreted wrong, causing wrong scaling / skewing / moving of rotated objects.
- DXF import of some LWPolygons were not correctly positioned/oriented
- If Generate Normals failed, it would have random normals, which were incorrect.
- Axis sometimes disappeared.

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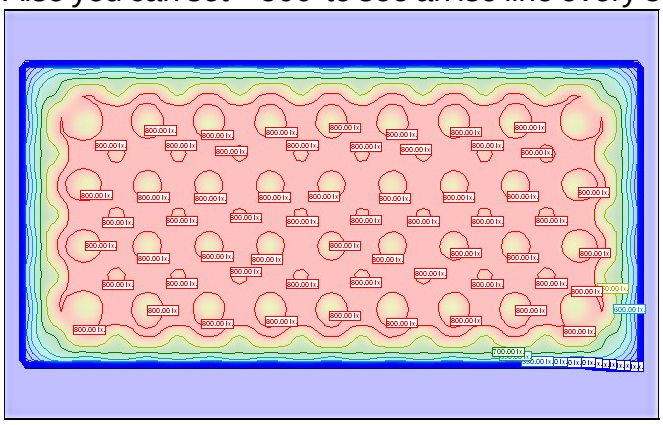
- Cube's top could never be 0.
- Hollow objects did not cast a shadow.

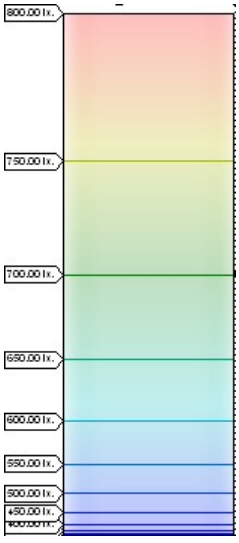
MSD Paper

New:

- New (True color) Toolbar/Menu support.
- There is a new type of area, the 'Illuminance map'.
  In such an area you can select which stored illuminance map you want to see, with configurable colored iso lines.
  The iso lines can be defined as a ';' separated list of ranges, which are defined like this 'min-max+delta'
  So '5;-1000+10;1000-5000+500;5000-+1000' will have lines at 5 lux, from 0 lux to 1000 lux every 10 lux, from 1000 to
  5000 every 500 lux and from 5000 onwards every 1000 lux
  (0,5,10,20, ... ,980,990,1000,1500,2000, ... , 4500,5000,6000,7000 ...)
  Also you can set '+500' to see an iso line every 500 lux.



- There is a new type of area, the 'Illuminance Legend'.
  This area can be associated with an 'Illuminance Map' to produce a legend.



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- New fixtures symbol support.
- Sidebar is now themed (on Windows XP)

MSD 3D Visualizer

New:

- New (True color) Toolbar/Menu support.
- Added extra operation mode (Toggle/Stay active)

Bugfix:

- Changing Media feeds could crash the program.

MSD IES2Spt

New:

- Support for asymmetrical fixtures

MSD Fast Net Render Client

New:

- Support for asymmetrical fixtures

Bugfix:

- Transitions between two objects with the same material were wrong. (Only noticeable in transparent materials with a refraction index > 1.0)
- Problem with 'wrong pixels'
- Now better restart done / not done
- Increased time-out when waiting for server load scene.
- Rendering produced error in lighting (sometimes, light was not where it should have been)

MSD Fast Net Render Server

Note: The Fast Net Render sever must be updated on every PC where it is used.

New:

- Support for asymmetrical fixtures

Bugfix:

- Transitions between two objects with the same material were wrong. (Only noticeable in transparent materials with a refraction index > 1.0)
- Problem with 'wrong pixels'

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- Now better restart done / not done
- Increased time-out when waiting for server load scene.
- Rendering produced error in lighting (sometimes, light was not where it should have been)
- If smooth normal generation failed, an object could have random normals. This resulted in incorrect lighting.

MSD DmxInfo

Bugfix:

- MSD Logo was wrong

10.3 Release Notes 4.7.0

MSD Gold 4.7.0.0 release

The MSD Gold version is a new version that replaces the current MSD version 4.x

Current MSD 4.x users can update to this new version for free.

Main New features:

- Fast Net Render: Networked rendering between multiple Windows based PC's cutting rendering time dramatically. See PDF document on how to use the Fast Net Render (included in the update)
- The Fast Net Render can also be use on single PC as a batch rendering tool…
- Live Video in 3D Visualizer: It is now possible to have video feeds (live input or local video files) playing back in the 3D Visualizer. It can be on surfaces, video projector, moving head projector and even orbital head projector.
- Over 100 new fixtures added to the library
- Many new objects, trussing library

Detail list of all features and bug fixes:

MSD ShowDesigner

- Bugfix: LuxMeter and Tubelights (tubelights were not taken into account when using the Luxmeter)
- Bugfix: Animation wheel was parsed wrong. A FROM range was converted to two point, both with the lowest dmx value
- Rendering supports the animation wheel
- Rendering supports the framing device
  - Added 3 layer properties to spots
  - Cast Shadow
  - Lights Smoke
- Shows Housing when rendering

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- Bugfix: Color of the beams (HW mode) was wrong.
- Bugfix: Insert/copy would not update correctly, which made the object 'disappear' when picking something else.
- Bugfix: RectSelect would redraw the entire scene
- Bugfix: Fixtures with 'lens-geometry' were not orientated correctly during rendering (180 degrees rotated, which could only be seen by non-symmetrical lens geometries)
- Bugfix: Panel fixtures did not have correct 'beam/panel' color
- Bugfix: When the user clicks somewhere where there is no object, while an action is active, the screen was not updated.
- Support for fixtures with double mirror (NAT-type head)

MSD 3D Visualizer

- Media support (stills, movies, live)
- Fixtures are 'list selected' at the start of Fast Patch. Once patched the list selection is removed (=> At start all fixtures are blue. All fixtures that were patched are colored normally)
- Support for fixtures with double mirror (NAT-type head)
- Fixed bug (Selecting a 2D camera into a 3D view (OL) using Camera Select Dialog from toolbar was incorrect)
- Solid fixtures
- Panel fixtures: The fader influences the color instead of the transparency

MSD Modeller

- Bugfix: Insert/copy would not update correctly, which made the object 'disappear' when picking something else.
- Bugfix: RectSelect would redraw the entire scene
- DXF Import improved:
- Bug fixes in orientation (which caused a lot of positional errors)
- Checking for 'empty' objects is more efficient.
- Improved feedback.
- Bugfix: When the user clicks somewhere where there is no object, while an action is active, the screen was not updated.

10.4 Release Notes 4.6.6

MSD Gold 4.6.6.0 release

ShowDesigner, Modeller, 3D Visualizer

- Mouse Scrollwheel support to zoom in/out on the position of the mouse.
- Double clicking the middle mouse button will do a full view.
- Dragging the mouse while holding down the middle mouse button performs a pan-view.

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- Added a lot of new short-cuts for most commonly used operations
- Added/Split the Camera move operation:
  - In 2D, the camera move was a move, but in 3D it was a camera 'swivel'.
  - Now the camera move is a 'move' in both 2D and 3D and the camera 'swivel' has become a new camera operation.
- Moved the 'Full view' toolbar-button to the Camera Operations toolbar, along with adding a new button for 'Full View for all windows'

ShowDesigner, Modeller

- New selection modes to select using a box/line to select everything in 'the box', 'touching or inside the box' and 'touching the line'
- Added camera Undo/Redo support
- Changed the visual style of the toolbar's to get better feedback on which operation is active.
- Picked object will now also be part of the group (not just the selected objects)
- Align the Bounding-box of a group to the orientation of the picked-object (if any) when constructing a group.
- Added Undo/Redo buttons to the toolbar.
- Bugfix: Sometimes the pick did not work correctly.
- Bugfix: Files could not be opened by double-clicking them from the explorer (Actually, this is a work-around for a bug that was introduced in some Microsoft code)
- Bugfix: the size of a triangle was wrong.

ShowDesigner

- Added 'Select All' functionality (like in the Modeller)
- Added a Fast-Patch operation.
- The 'Arrow markers' are replaced by an 'AC-outlet' indicator (needs the latest fixture library update from 7th of June 2004) to indicate the orientation of a fixture.

Modeller

- Modeller now displays the name of the library in the caption text.

3D Visualizer

- Re-introduced the Focus operation as a Fan mode.
- Added the Fixture ID as an parameter to the Fast-Patch
- Bugfix: Fan/Focus could no longer be used for conventional lights. Added a option to select whether conventional fixtures are modified during the fan/focus operation.
- Bugfix: Increment value was wrong in Fast-Patch

New Fixture Library

- The new fixture library can be download from this page
  http://www.lighthouse.nl/download/fixtures/d_fixtures.htm

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IMPORTANT:

In fixture libraries from this day on the marker indicates the AC-outlet position

- In previous version of MSD, moving head fixture had an arrow in the base to either indicate the fixture front (Most Martin Fixtures) or the Fixture AC cord or most other fixtures…
- We have now decided to set all the fixtures the same where a little "S" shaped cylinder is sticking out the fixture base to indicate where the AC cord is… this is to ensure that proper setup of fixture is done when the real show is put together…
- If you use a scene file made with previous versions, it is strongly recommended that you replace the fixtures with the new library version; otherwise the AC marker could be in the wrong place. See PDF for more explanation on how to replace fixtures in a scene

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References

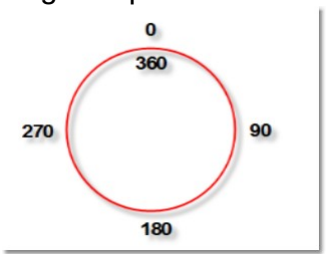
Part XI

11 References

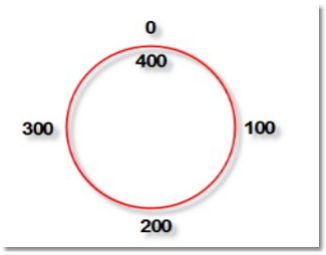
11.1 Formulas

Pi π =3.14159265358979323846

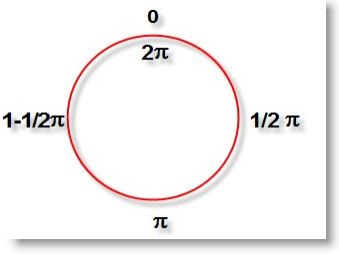
Angles representation



Degree, from 0 to 360



Gradient from 0 to 400



Radian from 0 to 2π

Pi π =3.14159265358979323846

Gradient = TAN(degrees)

Gradient = TAN(180.radians/PI)

Degrees = ARCTAN(gradient) or
TAN-1(gradient) or

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INVTAN(gradient)

Radians= (PI/180).ARCTAN(gradient) or
(PI/180).TAN-1(gradient) or
(PI/180).INVTAN(gradient)

11.2 Links

MSD product page on Martin site

MSD Forum

Documents

FTP

FTP user upload

Lighthouse site

Rendering gallery

Other links

LD Calculator

3D Cafe

DWG converter

Turbo Squid

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