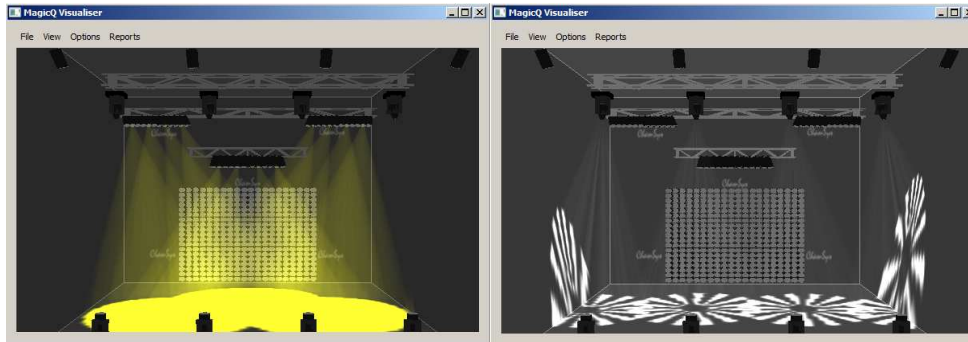


1. Introduction

ChamSys has developed a visualiser for MagicQ called MagicVis. MagicVis is currently available for Windows PCs and Macs. A Linux version will be available shortly.



MagicVis is available in two versions. Firstly, a stand alone MagicVis application which can be run on a laptop connected via network to a MagicQ console. Secondly a new version of MagicQ that has the visualiser combined into it for use on PCs and Macs.

The MagicVis application enables Lighting Designers to add visualisation to their MagicQ console simply by connecting a network cable and starting the MagicVis application. The graphics and processor intensive visualisation is performed on the attached computer, thus ensuring that the MagicQ console continues to run at full performance.

In order to render the beams MagicVis uses the graphics card in your PC / Mac - the better the performance of your graphics card then the better performance of the visualiser. PCs and Macs with shared graphics memory will perform slowly and will only be able to render small lighting rigs. A Nvidia or Radeon graphics card costing £100/£120€/160\$ will make all the difference to your system. ChamSys will continue to optimise the visualiser to improve the performance.

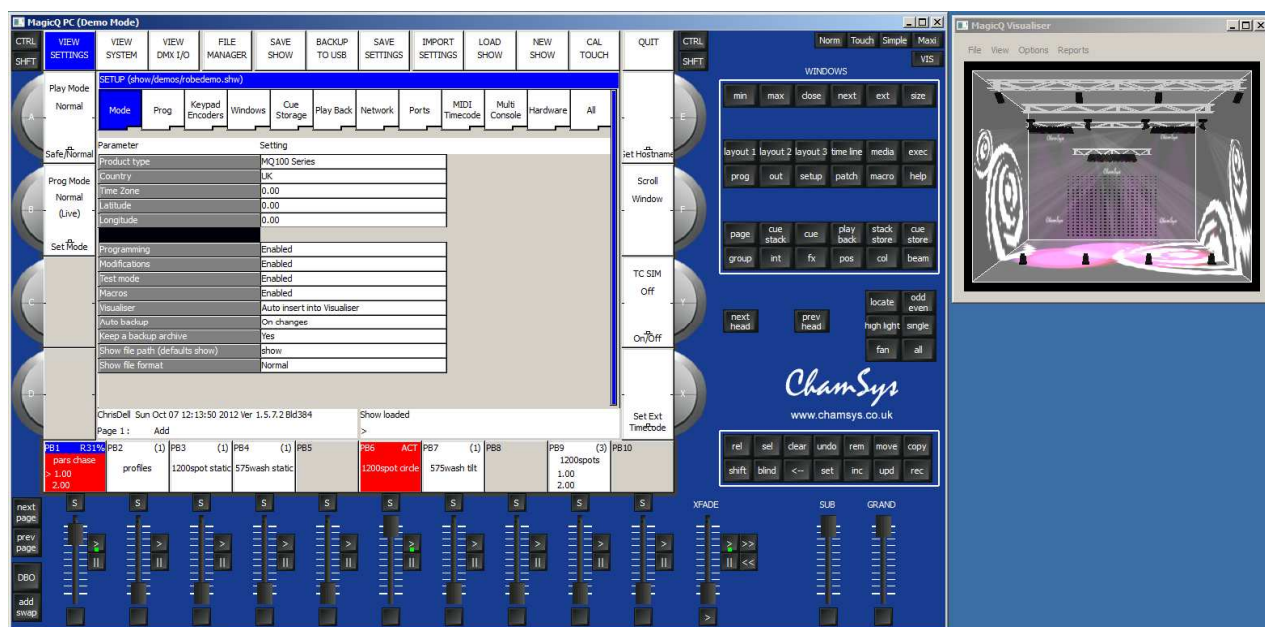
2. Starting MagicVis

Using MagicQ inc Vis combined Visualiser app

In Windows, click on Programmes and select ChamSys, MagicVis and the MagicQ (inc vis) item.

On a Mac, click on Applications, MagicQ and MagicQincVis.

Press the VIS button (top right) to open a Vis window. The default position and size of the Vis window can be configured on MagicQ in Setup, View System, View Monitors - configure and enable Monitor 2.



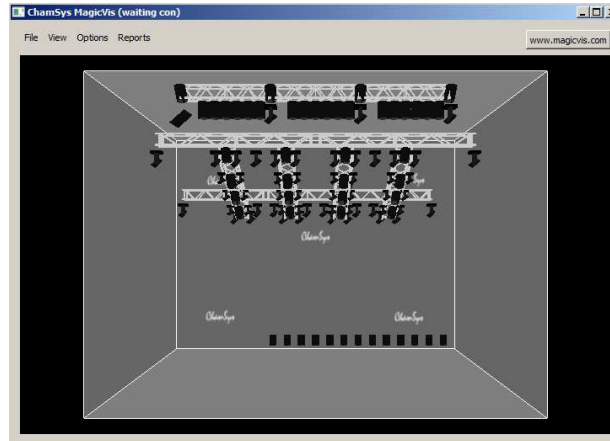
As the Visualiser is integrated with the MagicQ app it is not necessary to set up IP addresses or enable/configure universes.

Connecting MagicVis app to a console

Configure the IP addresses of the both the console and the laptop to be within the same IP address range - e.g, set the console to IP address 2.0.0.1 netmask 255.0.0.0 and the laptop to 2.0.0.2 netmask 255.0.0.0.

Connect the console and the PC/Mac with an inverted network cable. Start MagicVis and in File, Settings choose the network adapter/IP address of the network port that connects to the MagicQ console.

MagicQ Visualiser



The View Vis tab in the Patch Window will now become visible. Initially the title bar in MagicVis will show "Waiting con". Once a connection has been made with the console then it will change to say "waiting sync". Once the show data has been transferred over the connection from the console to the MagicQ vis application then it will change to say "synced".

Choose which network adapter to use in MagicVis by clicking on File, Settings.

If the system continues to say "waiting con" then check IP address are correct and check firewalls are disabled. In some systems you may need to disable other network adapters such as the wireless adaptor.

Once synced, then whenever you load a new show on the console or change the visualiser patch then the changes will automatically appear in the visualiser.

When MagicVis starts it assumes that it will receive DMX data on ArtNet starting from ArtNet Universe 0-0. As soon as MagicVis has a connection with a console it then starts using the DMX protocols and universes in use on that console for each of the patched universes. If the universes are not enabled on the console then the console will send the DMX data directly to the MagicVis using its own MagicVis protocol. This enables MagicVis to be used on a system where the outputs are not enabled.

Note that even when MagicVis says "waiting connection" or "waiting sync" it will visualise according to received ArtNet. ArtNet is sent separately to the connection for show data transfer.

It is also possible to load a show file directly into MagicQ Vis from the File, Load Show menu - in this mode there is no sync - MagicVis just looks at the incoming ArtNet data for rendering the beams but does not sync the patch. This is useful when converting your show to work with another lighting rig.

3. Using MagicVis

The demos folder (LOAD SHOW and select demos) includes demo show files with fixtures patched into the visualiser.

MagicVis currently provides five views – Perspective, Top, Side, Front, and Free. The view can be changed either by clicking View in the MagicVis window or in MagicQ in the Patch window, using Soft Button E.

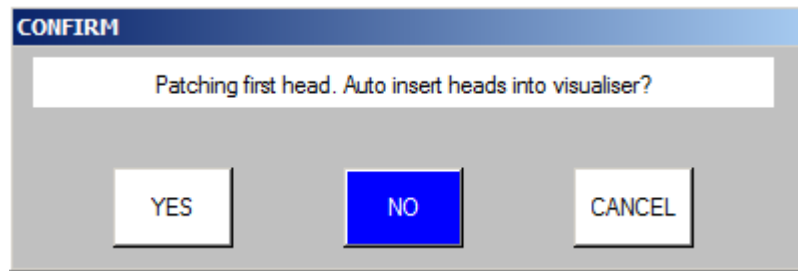
MagicQ Visualiser

In Free view you can rotate the room by moving the mouse whilst holding down the left and right mouse buttons.

The lighting level of the room can be changed by clicking on View and selecting Dark.

Patching fixtures in the Visualiser

When you patch the first head in your show, MagicQ will prompt you whether you wish to auto insert heads into the visualiser.



Once a head has been patched into your show MagicQ will not prompt you again. If you wish to change the setting then you can enable or disable auto insertion in Setup, View Settings, Mode, Visualiser.

When you patch heads in View Heads, MagicQ patches the head in the View Heads view but also generates a visualiser object in View Vis.

Visualiser heads are separate from MagicQ heads – for instance you can have multiple visualiser heads associated with one patched head. You might want to do this if you had two par cans on a single dimmer channel – you would have one Generic Dimmer patched in MagicQ and two visualiser heads.

By default when you patch heads MagicQ creates one visualiser head per MagicQ head. You can add extra visualiser objects for a head using INSERT.

MagicQ, View Vis view

The Patch Window in addition to View Heads, View Chans and View DMX now supports a View Vis view. The View Vis view manages the data for the visualiser. There are several different tabs including Selected Heads, Vis Heads, and Attach Objects.

MagicQ Visualiser

Hd Type	DMX	Hd no	Name	Gel	Attach	X Pos
Generic Dimmer	1-001	001	DSN 105	No col	Front Truss	-8.20
Generic Dimmer	1-002	002	DSN 105	No col	Front Truss	-2.40
Generic Dimmer	1-003	003	DSN 105	No col	Front Truss	3.40
Generic Dimmer	1-004	004	DSN 105	No col	Front Truss	9.20
Generic Dimmer	1-005	005	PAR 64	Indigo	Rear Truss	-9.00
Generic Dimmer	1-006	006	PAR 64	R312 Canary	Rear Truss	-8.60
Generic Dimmer	1-007	007	PAR 64	R356 Middle Lavender	Rear Truss	-8.20
Generic Dimmer	1-008	008	PAR 64	L027 Medium Red	Rear Truss	-7.80
Generic Dimmer	1-009	009	PAR 64	R312 Canary	Rear Truss	-7.40
Generic Dimmer	1-010	010	PAR 64	L027 Medium Red	Rear Truss	-7.00
Generic Dimmer	1-011	011	PAR 64	Indigo	Rear Truss	-6.60
Generic Dimmer	1-012	012	PAR 64	R312 Canary	Rear Truss	-6.20
Generic Dimmer	1-013	013	PAR 64	R356 Middle Lavender	Rear Truss	-5.80
Generic Dimmer	1-014	014	PAR 64	L027 Medium Red	Rear Truss	-5.40
Generic Dimmer	1-015	015	PAR 64	R312 Canary	Rear Truss	-5.00
Generic Dimmer	1-016	016	PAR 64	L027 Medium Red	Rear Truss	-4.60
Generic Dimmer	1-017	017	PAR 64	Indigo	Mid Truss	-2.20

In Selected Heads, all the visualiser heads for the currently selected heads will be shown in the list. Heads are selected as usual using groups or direct from the keypad. In this view the encoders and soft buttons will apply changes to all the visualiser heads for the selected heads.

In Vis Heads, all the visualiser heads are shown in the list – i.e. all the visualiser heads that relate to heads that make up the visualisation. In this view the encoders and soft buttons will apply changes to the visualiser head under the cursor. Use SHIFT/CTRL and the cursor keys to apply changes to multiple heads.

In Attach Objects, all the other (non fixture) objects are shown in a list. In this view the encoders and soft buttons will apply changes to the object under the cursor. Use SHIFT/CTRL and the cursor keys to apply changes to multiple objects.

Positioning the heads in the visualisation

When you patch heads, they automatically become selected, so that in Patch, View Vis, View Selected you will have direct control of the positioning and orientation of the head using the encoder wheels and soft buttons.

Encoders X, Y and F are used for X,Y and Z positioning.

Pressing the soft buttons X, Y and F increases the position by 1 metre on that axis. Pressing SHIFT + the soft button decreases the position by 1 metre on that axis.

Use fan to spread the position apart on the X,Y, or Z position wheels.

MagicQ Visualiser

Hd name	Hd type	Hd no	Attach	X Pos	Y Pos	Z Pos	X Rot	Y Rot	Z Rot
Spot1200	Spot1200	055	Front Turss	-6.80	15.40	5.00	0.0	0.0	0.0
Spot1200	Spot1200	056	Front Turss	-2.00	15.40	5.00	0.0	0.0	0.0
Spot1200	Spot1200	057	Front Turss	2.80	15.40	5.00	0.0	0.0	0.0
Spot1200	Spot1200	058	Front Turss	7.60	15.40	5.00	0.0	0.0	0.0

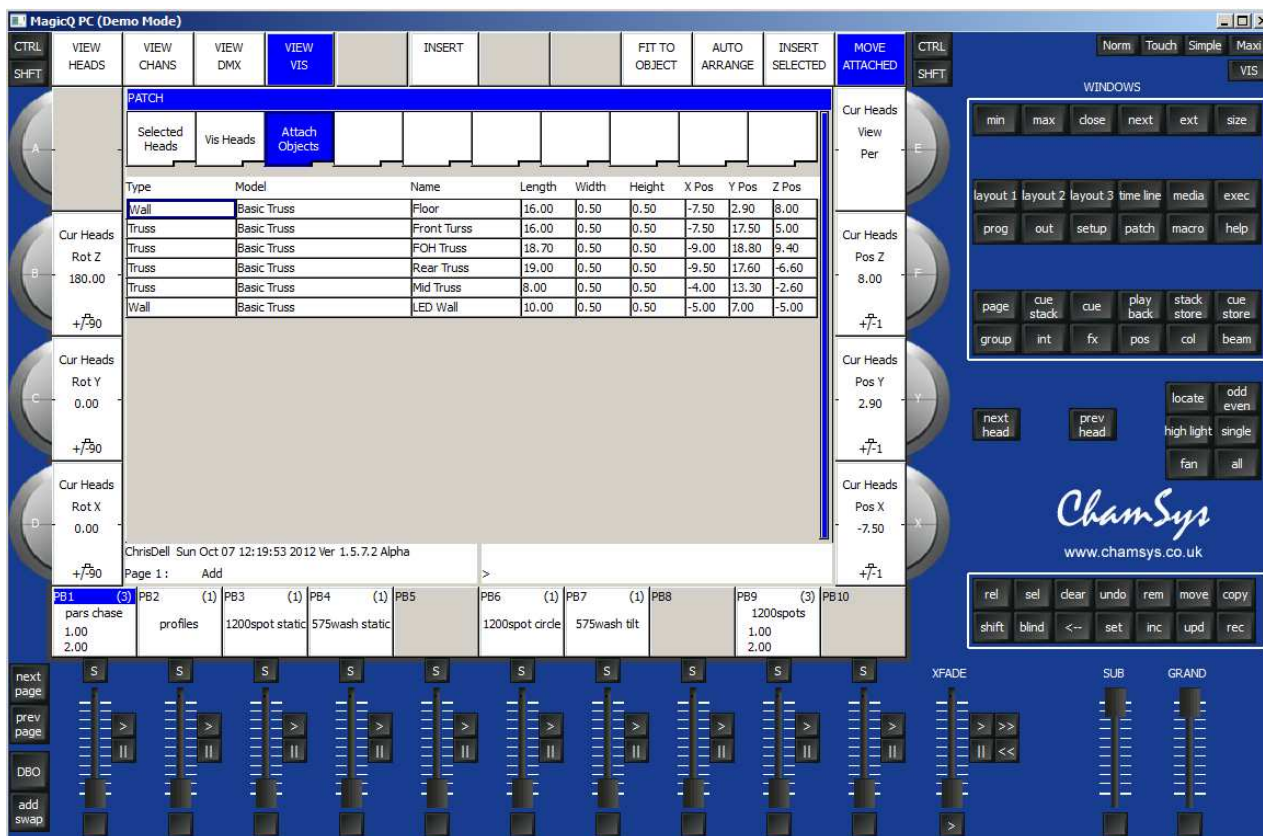
Encoders B, C and D are used for rotation around the X, Y and Z axis.

Pressing the soft buttons B, C and D rotates the heads by 90 degrees around that axis. Pressing SHIFT + the soft button rotates the heads by – 90 degrees around that axis.

You can also enter values directly into the spreadsheet view of the Patch, View Vis window.

You can change multiple values at a time by using SHIFT/CTRL and the cursor keys. Use THRU to enter a spread of values e.g. -5 THRU 5 to spread the X position between -5 and 5 metres.

Attach Objects



In View Attach you can insert truss, pipe, wall or room objects. The Form, people and furniture objects are not currently supported.

The model specifies how the object looks. Currently supported models are truss, pipe and invisible. Invisible can be used for grouping a number of fixtures for example on the floor.

Enter values in the window for length, width and height. Adding a / after the number enters the dimension in feet rather than metres – so for 10 feet enter 10/.

Position the truss or pipe as required. Enter a name in the window for the truss or pipe.

After you insert a truss or pipe, then subsequent heads that are patched will be attached to that truss or pipe object. If for example you patch 6 spots after inserting a truss object, then they will be spread out along the length of the truss.

When you create reports, then as well as overall plots, a plot is created for each attach object – enabling the lighting rig to be broken down into separate pipes and trusses.

Attaching heads to Attach Objects

Heads can be attached to trusses or pipes at any time. Select the fixtures you wish to attach using groups or the keypad. Change to Patch, View Vis, Selected Heads tab and press the FIT TO OBJECT soft button.

Alternatively in the Vis Heads tab, double click on the Attach field. MagicQ will prompt you with a list of all the attach objects to choose from.

MagicQ Visualiser

Heads that are attached to objects move with that object – so for example, repositioning that object in the Attach Objects tab will move the object and all the attached heads.

Removing visualiser heads and objects

To remove a visualiser head or attach object got to Patch, View Vis and put the cursor on the item. Press REMOVE. Use SHIFT/CTRL and the cursor keys to cursor select multiple visualiser heads / objects for removal.

When heads are removed from the visualiser they are not removed from MagicQ patch.

Removing heads from the MagicQ patch will remove any associated visualiser heads.

Changing the size of the room

It is possible to change the size of the room by adding a room object. By default MagicQ uses a room 20 x 20 x 20 metres. If you add a room object then MagicQ will use the dimensions of the room object instead.

In View Attach, pres INSERT. Change the object type to Room and enter the length, width, and height.

Note there is a bug in 1.5.7.1 whereby it is not possible to change the height and the height parameter actually changes the width. Fixed in 1.5.7.2.

Converting an existing MagicQ show file

Old MagicQ show files can be loaded into MagicQincVis, but they will not have any visualiser heads defined. It is easy to take heads from an existing show file and create a visualisation.

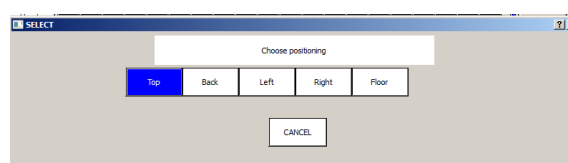
Select the heads using groups or the keypad. Then go to Patch, View Vis, Selected Heads. Press the INSERT SELECTED soft button. This creates a visualiser head for each of the selected heads.

If you wish, you can attach the heads to an object using the FIT TO OBJECT soft button.

It is also possible to insert all the patched heads in your show file into the visualiser in one step. Make sure no heads are selected, then go to Patch, View Vis, Vis Heads and press the INSERT PATCHED soft button. This creates a visualiser head for each head in the patch. The heads will be positioned in a grid format.

Converting a MagicQ grid into a visualisation

It is possible to convert a grid from the MagicQ Plan View into a visualisation. In the Output Window, View Plan press SHFIT + ARRANGE VIS. MagicQ will prompt you for the positioning within the visualisation.



MagicQ Visualiser

For each of the heads in the grid a visualiser head will be inserted into the visualiser. The positioning will be set according to the position in the grid.

For example if you select Top, then MagicQ will treat the grid as if it is a top view and all the visualiser heads will be positioned at the top of the room at the same height.

4. Known Features and Limitations

The following are known features in 1.5.7.5.

Fixture prisms are not currently supported. Random strobes and pulse are not currently supported.

Reports - rotated trusses will not appear correctly in the individual truss plots

Reports - some text overlays other text

Occasionally the physically form of the first fixture is not rendered correctly.

When fixtures are positioned directly downwards the intensity of the projected beam may be dimmer than when slightly offset.

MagicVis

On start up the Visualiser stage layout may not be updated until the show is reloaded or fixture physical position is moved in View Vis on the console.

MagicQ with combined Visualiser App

The MagicQ with Visualiser combined app is a beta version for testing only. It should not be used for important shows - only for visualisation.

Future features

Option to make fixtures show beams or just surfaces (for LEDs etc...)

5. Frequently Asked Questions (FAQ)

How much does it cost? Just like MagicQ, MagicVis is FREE. FREE to download and FREE to use.

Do I need a MagicQ wing or interface attached? No, you can run the visualisation on your PC or Mac without any MagicQ wings or interfaces.

How many fixtures can I visualise? This depends entirely on the power of your graphics card and processor. Our standard demo shows have 500 fixtures and render fine on a mid range graphics card.

Can I add custom set pieces, or import via dxf or dwg? This is not currently supported, but we expect to add it in future versions.

Can MagicVis be used with any lighting console? Yes, MagicVis can be used with any lighting console that outputs ArtNet. This will enable you to visualise the outputs of that console. Note that the visualisation layout (patching and positioning of heads) must first be set up in MagicQ and the resulting show file loaded into MagicVis.

Can MagicQ consoles run visualisation on the console? No, it is not practical to run lighting visualisation on lighting consoles as the graphics and processor power required would interfere with the normal lighting operation.