Syncrolight

Show Designer

User Manual

for Software Release 2.5

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1 Planning Your Display

Light shows are slightly different to conventional static light displays and require some additional planning. If you just randomly put lights around your garden and do a Light Show without much planning, you can easily just end up with a display of seemingly random flashing lights!

So if you are just starting out and just have a bunch of lights that you want to string around the outside of your house and garden, do spend some time planning. Consider how you can animate your lights in some way to make them more interesting. Look into using items such as Mega Trees, Running Trees or Leaping Arches. Identify common items in your house or garden that you can utilise in your display, items like window frames, groups of bushes, groups of tree all work well. Look at other displays and see what other ideas you can utilise in your display.

This manual and the Show Designer software itself focuses on physical items and groups of lights rather than individual sets of lights, as these are key aspects of a light show.

2 Introduction to Show Types

Before you jump in and create your first show, we need to explain some different types of show, please don't skip this as it's quite fundamental to the way the Show Designer works.

The Show Designer has two types of show, a basic show and an advanced show. The main difference between these is the way the editor is displayed. The basic mode is designed for beginners or those with just a couple of controllers. The advanced mode is for experienced users or those creating a larger display.

2.1 Basic Mode Show

*Terminology: A **Channel** is used to refer to a **physical output of a controller**. Typically you connect one set of lights to an output channel of a controller. (You can connect multiple light strings to a single controller output if you wish, subject to having a sufficient power supply. All lights connected to a single channel will all illuminate together).*

Consider the following example where we have 2 trees and want to put Red and Green lights on them, this will use 4 channels on a controller as shown in Figure 1 below.

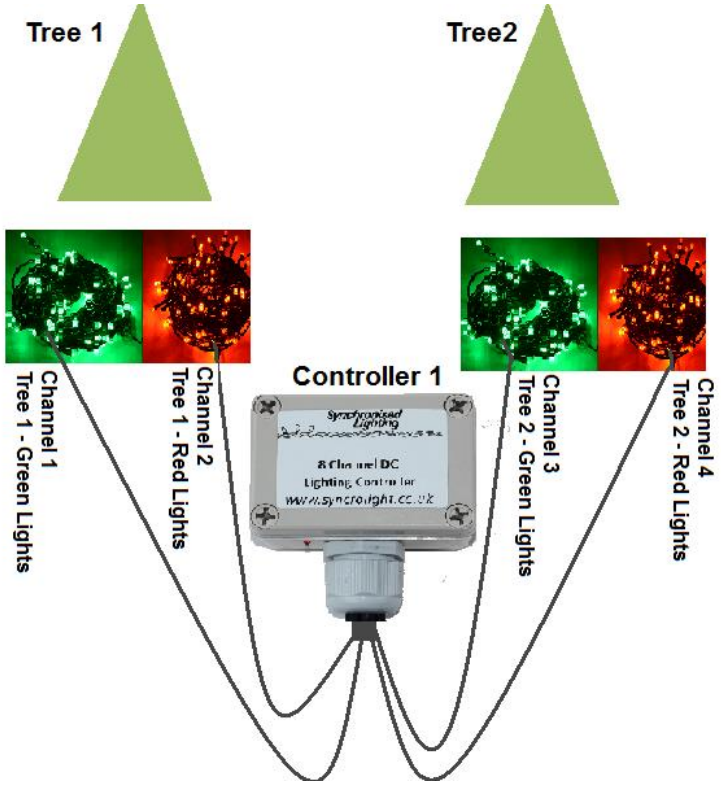


Figure 1 - Simple Display Setup

In the Show Designer, related channels are grouped together into a group (or 'Segment' as they are called in the designer). So the Tree 1 'Segment' contains channels 1 and 2, whilst the Tree 2 'Segment' contains Channels 3 and 4.

*Terminology: A **Segment** is used to represent an individual element in the display (e.g. A Christmas Tree) which can be illuminated in one or more colours. A Segment groups one or more related channels together.*

In basic mode the two trees in your display look like that below in Figure 2. The configuration is shown in Figure 3. You can see that the Segments map to the Red and Green Channels 1 to 4 of controller number 1.

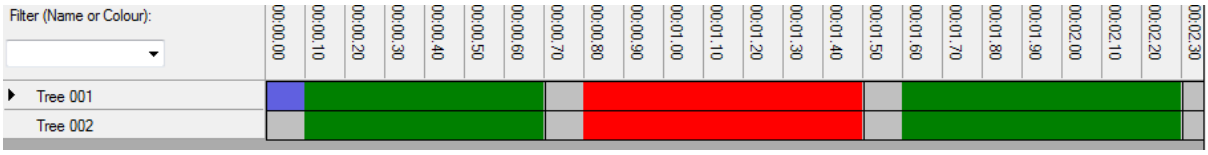


Figure 2 - Two Trees in the Show Designer (Basic Mode)

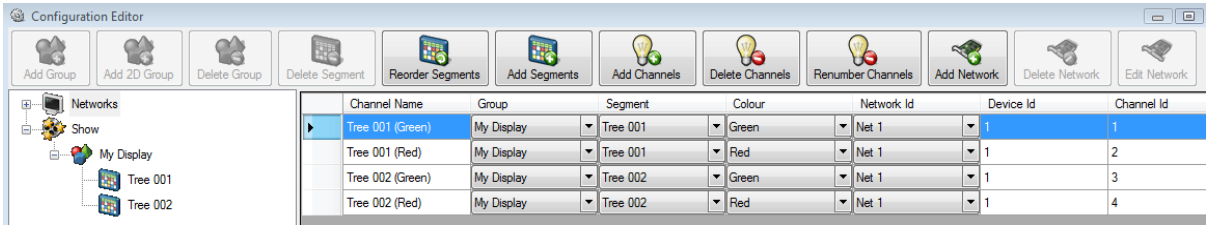


Figure 3 - Two Tree Configured in the Show Designer (Basic Mode)

This grouping of channels helps keep the designer uncluttered and easy to use. Rather than manipulating the 4 channels directly, you have just 2 entries, one for each tree. In the designer you can turn the tree on Red or Green, and these are displayed as appropriate colour blocks in the designer.

The important concept to grasp here is that you need to think in terms of the physical items that are in your display, like the 2 trees, rather in terms of the controllers and lights. The configuration maps the physical items in your display to the actual controllers, channels and lights.

What if I only have one colour on my tree? No problem, the tree is still a Segment, but it just has one channel rather than two. If you expand your display in the future by adding more colours, you simply add more channels to your Segment in the Configuration Editor.

2.2 Advanced Mode Show

In basic mode we saw how channels are grouped together into Segments. In advanced mode we take this one step further. Suppose you have a line of trees in your display and want to do a chase down the line of trees or change the colour of all trees together. To make this easier, related items are grouped together as a 'Display Item'.

*Terminology : A **Display Item** or **Group** is a collection of related Segments. You typically perform effects such as chases across Segments, or illuminate all Segments in the group together.*

Typical Display Items include items like a line of trees as shown in Figure 4. Here you would have a Display Item called 'Line of trees'. This would contain 6 Segments, one for each tree. Each tree would contain corresponding channels for that tree.

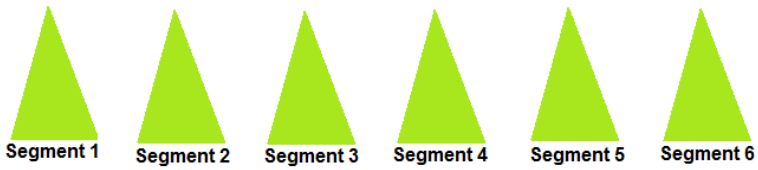


Figure 4 - Display Item - Line of Trees

Another common feature of light displays is the leaping arch. The arch is made up of multiple sets of lights to produce the leaping effect. In the Show Designer you would create a 'Leaping Arch' Display Item, with multiple Segments, each Segment having 1 channel for the lights (or 2 channels per Segment for a 2 colour arch).

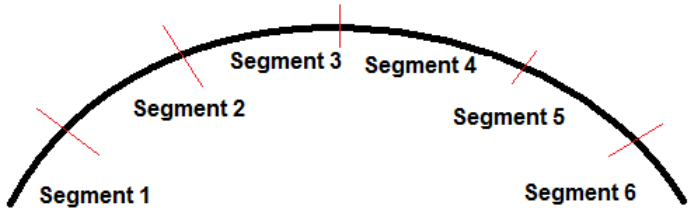


Figure 5 - Display Item - Leaping Arch

In the Show Designer the advanced mode allows this additional layer of grouping. In this mode two grids are displayed as show in Figure 6. The top grid shows your Display Items. In this example, it shows 2 trees (Figure 1), a Line of trees (Figure 4) and a Leaping Arch (Figure 5). When you select a Display Item in the top grid, the designer shows you the Segments in the bottom grid.

You could think of the top grid as a summary of your show, with the bottom grid showing the zoomed in view.

As the advanced mode has this extra grouping, it gives you more power in the designer, allowing you to create chases and effects across all Segments with just a couple of mouse clicks

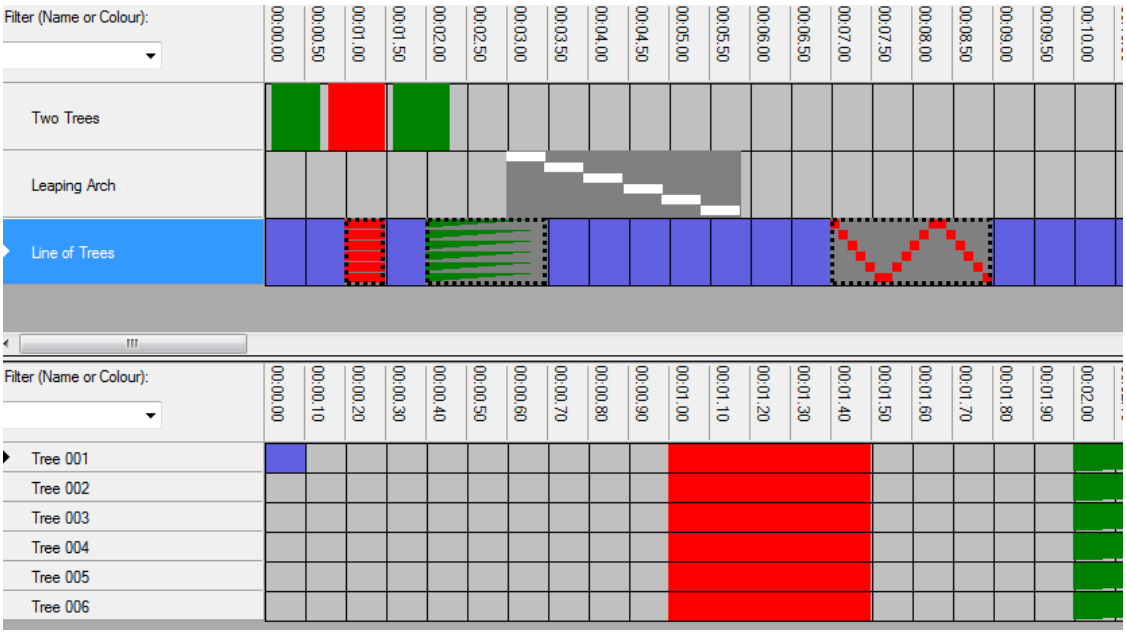


Figure 6 - Show Designer (Advanced Mode)

2.3 Advanced & Basic Mode Summary

You have now seen an overview of the different types of show. Don't worry if you are still a little confused, it will all become clear once you start using the Show Designer. One point to note, you can start a show in basic mode and then switch to advanced mode, but you can't switch back to basic mode from the advanced mode.

2.4 Musical or Non-musical Light Shows

You can create musical or non-musical shows in the Show Designer. For musical shows, the selected audio track is played from the computer along with the show.

For non-musical shows, you can play the show from the computer or download it onto an SD card and play it from the SyncroLight SD card controller.

2.5 Sample Sequences

The Show Designer contains a few sample sequences that you can have a look at or use to start your own show. It is worth spending a little time looking at these basic and advanced shows.

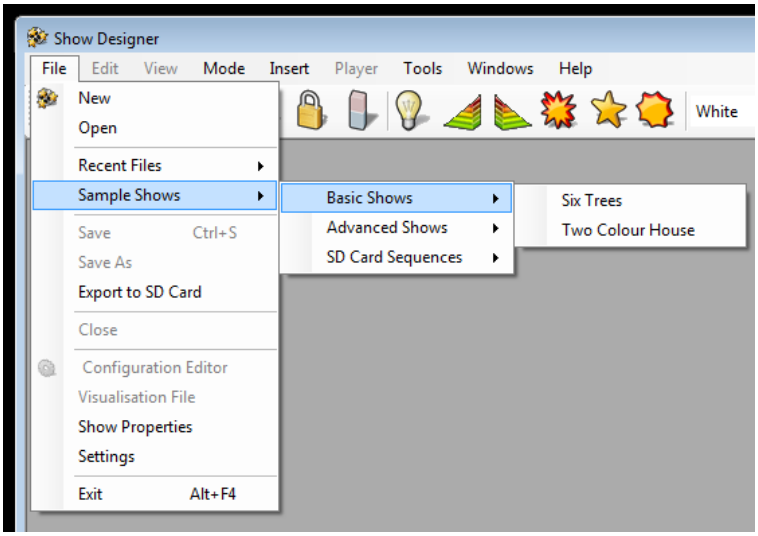


Figure 7 - Sample Sequences

The sample sequences may vary depending on the software release.

3 Show Designer

3.1 Creating a Show

Ok so let's get started and create a show.

In the Show Designer select *File/New.* The 'create new show' window will then be displayed as shown in Figure 8.

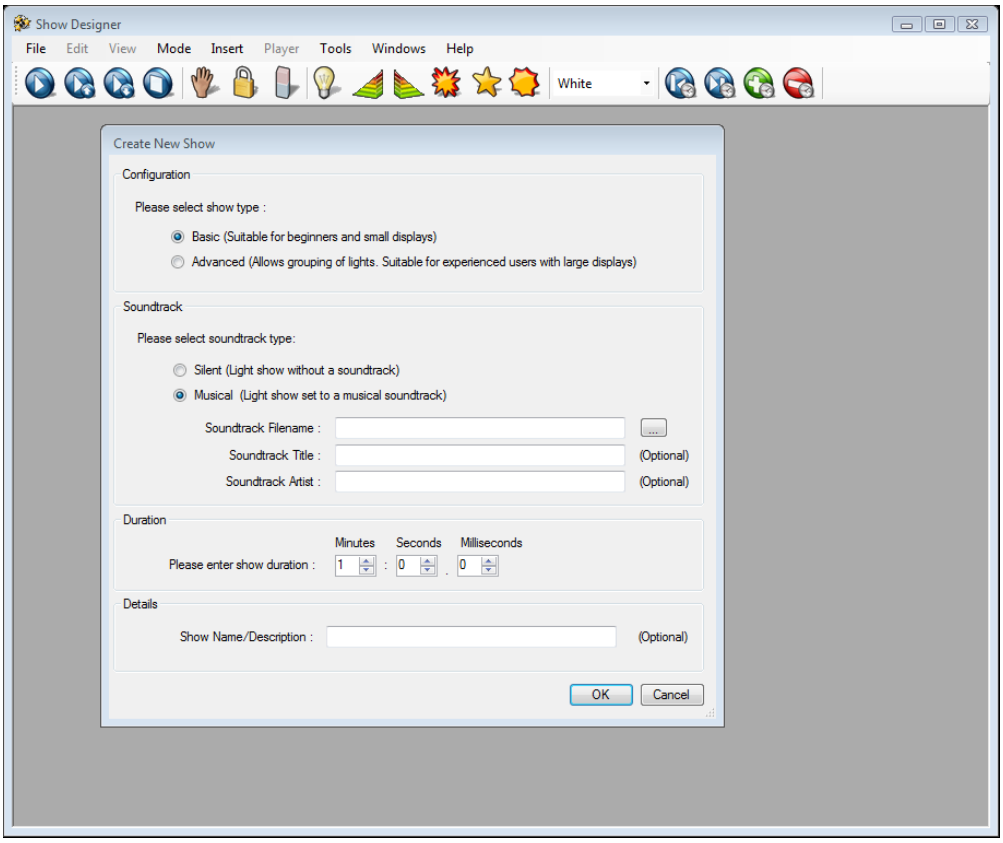


Figure 8 - Creating a new show

Select the show type (See Chapter 2 for details of basic and advanced shows) and select either a musical or silent show. For a musical show you will need to select the audio file for the show. Press the '...' button to open the File Dialog window and select your chosen audio file. For best results use a .WAV format file. Later versions of the Show Designer will automatically convert .mp3 files to .WAV files for you.

For musical shows the duration will be set to match the audio, although you can modify this if you require. For silent shows you will need to specify the duration that you would like for your show.

You can also enter some optional details about your show, this includes the soundtrack title, artist and description of your show.

Once you have entered the details you require, press OK. The designer will then create a blank show for you. You will be presented with a screen like that in Figure 9. Note that if you specified a basic mode show, you will only get the bottom grid displayed.

The designer creates 8 initial Segments for you. At this stage you can return to the show properties screen by selecting *File/Show Properties and* switch between advanced and basic mode to see the difference.

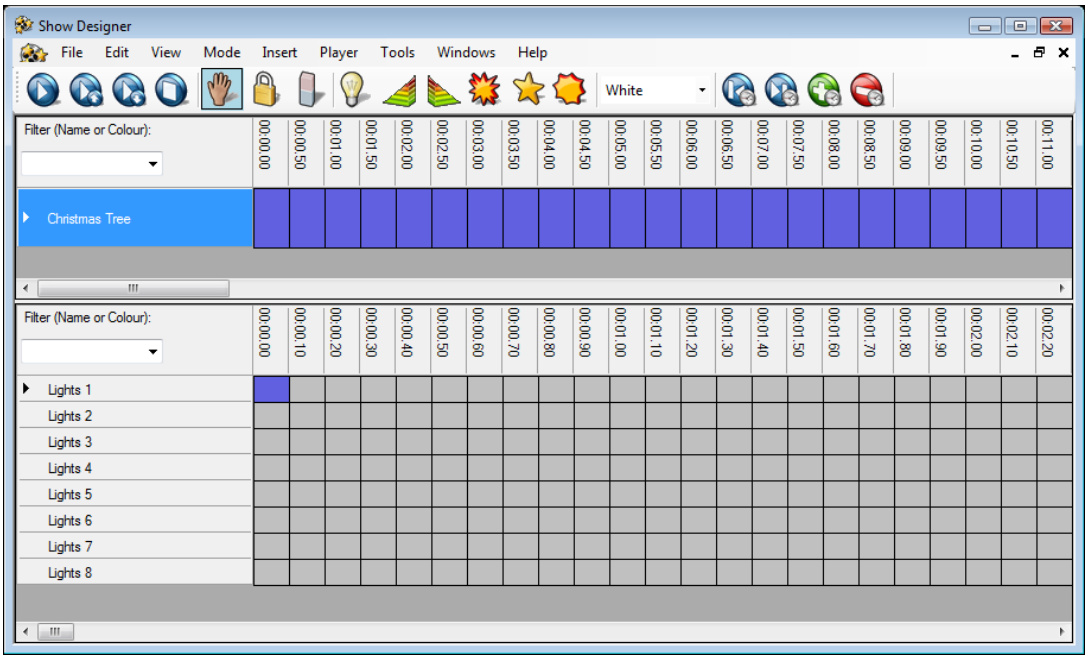


Figure 9 - New Blank Show (Advanced Mode)

In advanced mode, selecting cells in the top grid displays the appropriate Segments in the bottom grid.

You will see the grids are arranged with time across the top, with the Display Items or Segments down the side.

3.2 The Toolbar

The toolbar at the top of the Show Designer contains a bar containing some buttons which are explained below in Figure 10.

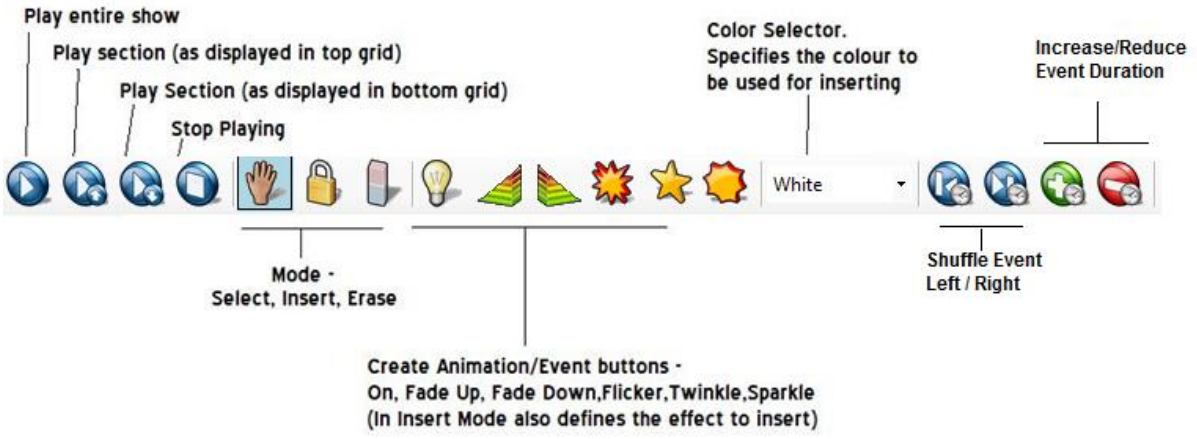


Figure 10 - Toolbar Buttons

3.2.1 Show Playback Buttons

The first section of buttons in the toolbar are used for show playback. You can start playback of the entire show, or just play the regions displayed in either top of bottom grids. The 'Player' menu also contains items for playing the show.

3.2.2 Mode Selection Buttons

The designer has 3 different operating modes.

- **Selection Mode** - This is the normal mode. Allows areas of the grid and items within it to be selected with the mouse
- **Insert Mode** - In this mode, each mouse click will insert an object at the corresponding position in the grid. The type (and colour) of the object inserted is controlled by the effect tool buttons to the right (which can be toggled when in insert mode).
- **Erase Mode** - In this mode each mouse click will erase the object at the corresponding position in the grid.

The selection mode can also be controlled via the main menus. Note also that the menu contains a 'Use Right Click' option for the insert mode; the enables the left mouse button to work as per selection mode, with the right mouse button to being used to perform the Insert.

3.2.3 Insert Animation/Event Buttons

These buttons control what effect is inserted in 'Insert Mode' and can also be clicked to insert the appropriate effect when in Selection Mode. Note that the Colour selection drop down box to the right determines the colour to be used. Effects can also be inserted via the Main Menus or via Popup-menus when right clicking in the grid.

3.2.4 Shuffle Buttons

These buttons can be used to shuffle selected events or animation blocks left or right.

3.2.5 Duration Buttons

These buttons can be used to increase or reduce the duration of selected events or animations blocks.

3.3 Display Grid

3.3.1 Grid Row Height

The grids are displayed with time across the top and Display Items down the side (See Figure 9). You can change the height of the rows via the *File/Setting*s menu. This will display the window shown in Figure 11. Note that a setting of 0 uses the default row height.

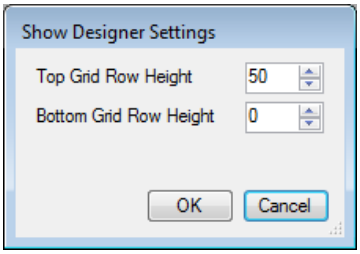


Figure 11 - Setting Window

3.3.2 Grid Time Scale

The scale of the timelines in the top and bottom grids can be adjusted by using to *Zoom + / Zoom –* menu item in the *View/Top Grid* and *View Bottom Grid* menus.

3.3.3 Grid Filter

The top left of the designer grid contains a filter list (Figure 12). You can either

- Filter by colour by selecting a colour from the list, or
- Filter by name by typing a name or part of a name.

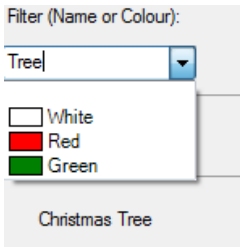


Figure 12 - Grid Filter

3.4 Inserting Events

To control lights in your display you need to insert events into the grid. When the show plays, the software plays these events to control the corresponding lights connected to the controllers. You can insert the following types of Events:

- **On/Off**
- **Fade Up**
- **Fade Down**
- **Flicker** -Channel rapidly turns on and off at a specified rate
- **Twinkle** – Random flashing – if on same controller MULTIPLE will be on together
- **Sparkle** – Random flashing – if on same controller only ONE will be on at any one time

You can insert events in a number of ways. First select the cells in the grid (bottom grid in advance mode) where you want to insert an event. Then either:

- Press one of the event buttons in the toolbar, or
- Select an event from the Insert menu, or
- Right click the mouse and select the event from the popup menu (see Figure 13).

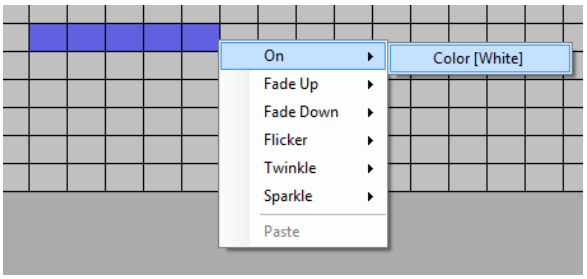


Figure 13 - Inserting event via the popup menu

Once you have inserted an event you can double click on it (or right click and select properties) to view or change this events properties (See Figure 14). You can also quickly shuffle this event left or right with the shuffle tool buttons (or CTRL LEFT / CTRL RIGHT keys) or increase its duration with tool buttons (or CTRL +, CTRL -).

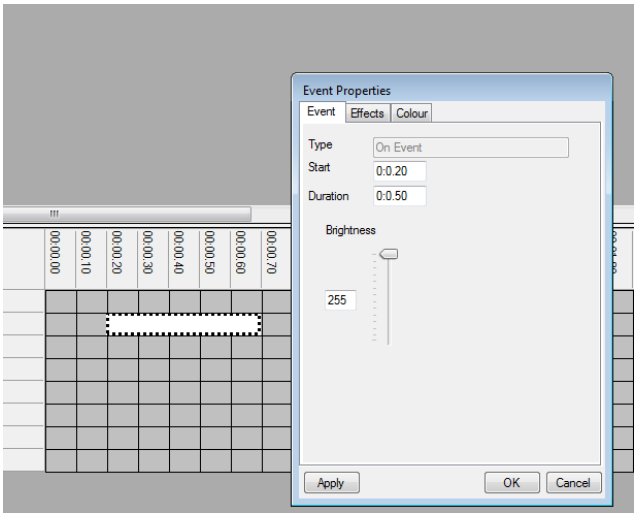


Figure 14 - Editing On Event properties

By selecting multiple rows in the grid you can also quickly insert multiple events across adjacent Segments.

3.5 Inserting Animation Events (Advanced Mode)

In advanced mode you can use the top grid to insert events that you want to apply to the whole Display Item (i.e. all Segments). For example if you want the whole Display Item to illuminate in white, insert an On Event for white in the top grid. Events will automatically be generated in all Segments and will be displayed in both the top and bottom grids. Note that as these events are created in the top grid, you cannot edit them in the bottom grid.

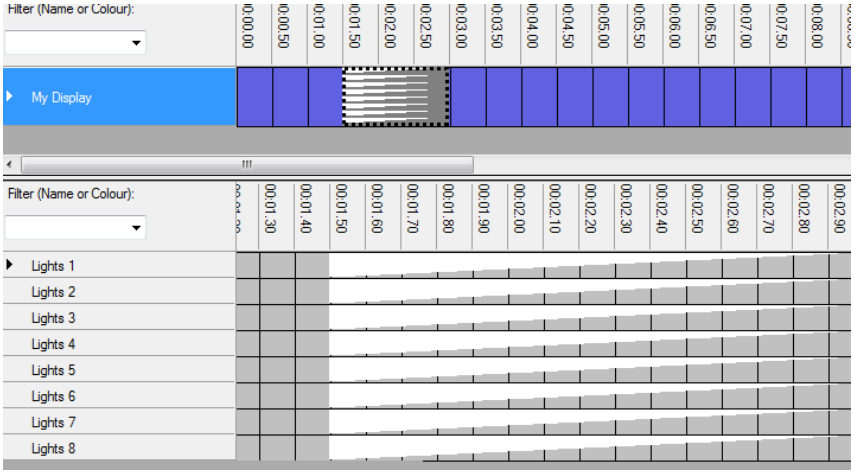


Figure 15 - Animation Event

Notice that a grey block is displayed in the top grid to denote that this in an animation event.

As well as the usual On, Fade Up and Fade Down events, you can also insert chase events where each Segment turns on and off in turn. To insert one of these select cells in the top grid and select Cycle from the popup menu as show in Figure 16.

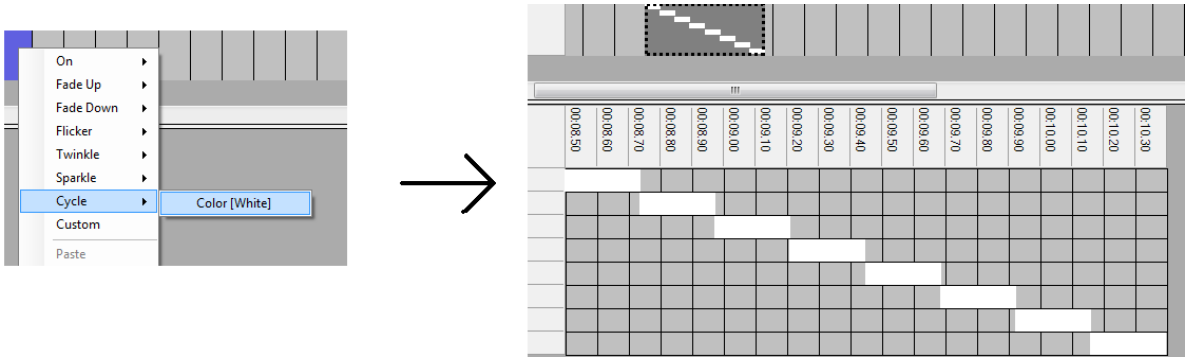


Figure 16 - Creating an Animation Cycle

Once you have created the cycle you can then edit its properties (double click or right click and select properties) and add loops, invert colours and add fades etc. (see Figure 17)

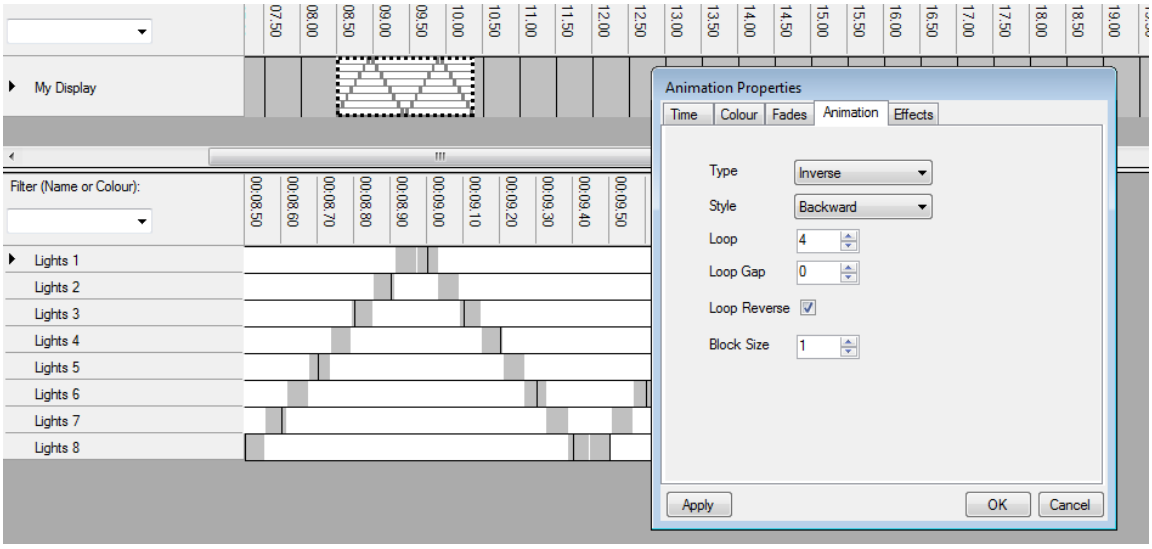


Figure 17 - Animation Properties

3.6 Event Timings

In the previous sections you have seen how to insert events to create your show, but one of the difficulties in musical shows is aligning events to match points in the music.

To help you achieve accurate timings the designer has the following tools to help:

- Beat markers
- Beat Insertion Tool
- Audio Waveform

3.6.1 Using Beat markers

Whilst the music is playing you can tap out the beat (by pressing CTRL SPACE) and a marker will appear in the designer.

Simply Press the "play top screen" tool button and press CTRL SPACE wherever you want a beat.

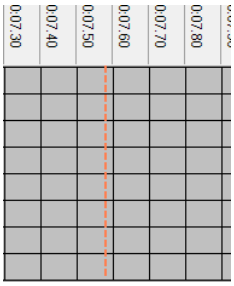


Figure 18 - Beat Marker

You can then use the shuffle tool button or keys (CTRL LEFT or CTRL RIGHT) to align your events with these beat markers.

Beat marker are saved with your show. You can clear these markers with the *View/clear Beats* menu item. You can also show or hide them with the *View/Beats* menu item.

It is often best to work on small sections of the song at a time, so tap out the beats for a section of the song and work on that before proceeding to the next part.

3.6.2 Beat Insertion Tool

You can also insert beats using the Beat Insertion tool. This tool is accessed from the *View* menu. This allows you to insert either beats or events into the designer. You can also offset the beats by a configurable amount based on your reaction time.

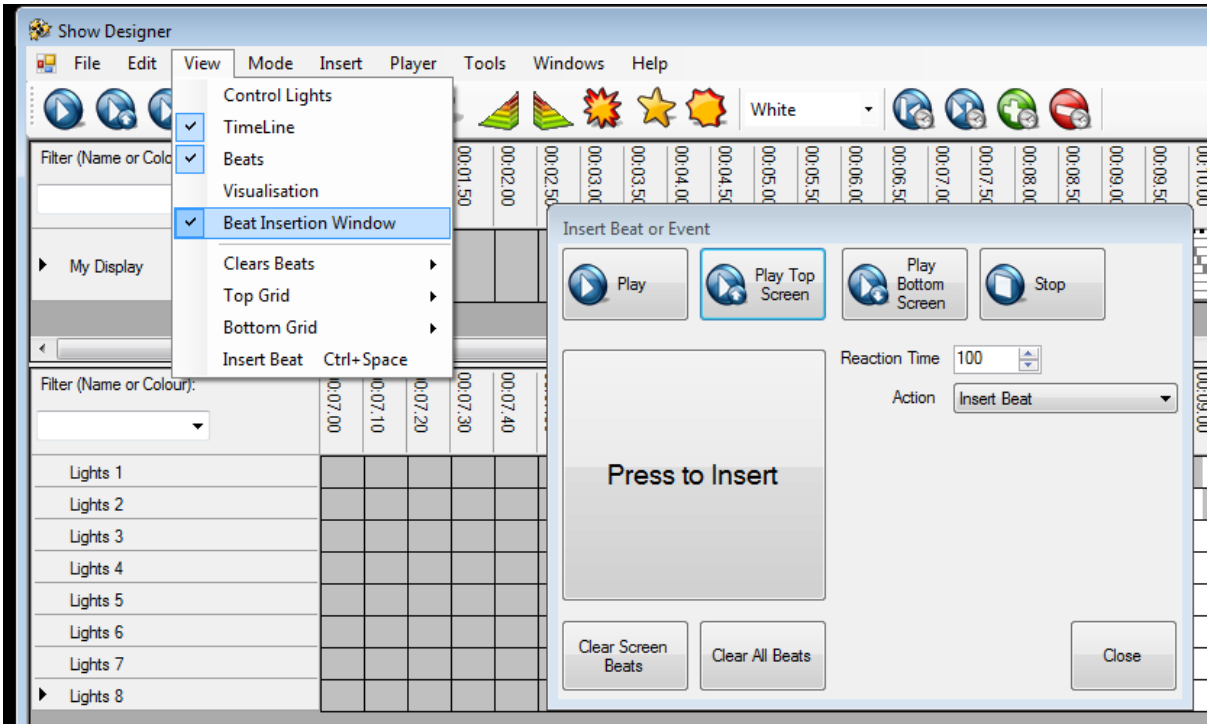


Figure 19 - Beat Insertion Tool

3.6.3 Waveform

The waveform graph can also be used to aid with timings. This can be displayed for most WAV format songs. This graphical representation of the audio can be show using the *View/Top Grid/Wave Form* and *View/Bottom Grid/Wave Form* menu items.

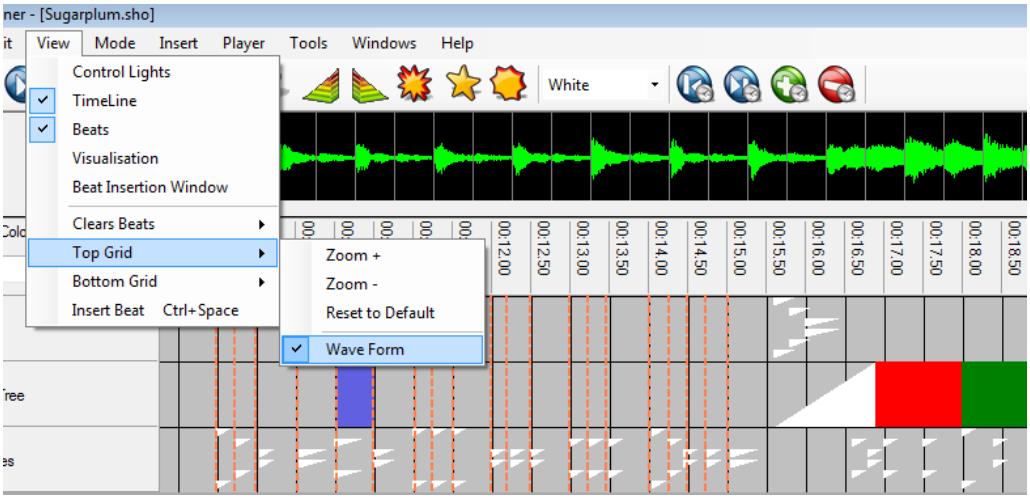


Figure 20 - Viewing audio Wave Form

You can also switch the waveform display between Volume and Low/Medium/High frequencies by right clicking in the waveform. This is sometimes useful to highlight beats or sections that are not visible in the volume waveform graph.

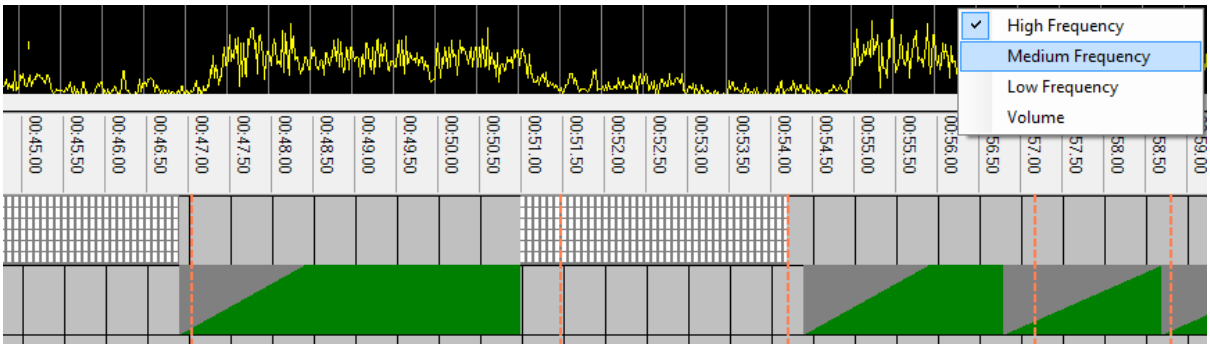


Figure 21 - Changing Waveform graph to a different frequency

3.7 Cut / Copy / Paste

The designer allows events and animation blocks to be cut, copied and pasted as required.

Simple select the events you which you would like to cut or copy. Then right click and select *cut* or *copy* (See Figure 22) from the popup menu. You can also use the *Edit* menu or keyboard shortcuts if you prefer. You can then move to another part of the grid, right click and paste the cut or copied events.

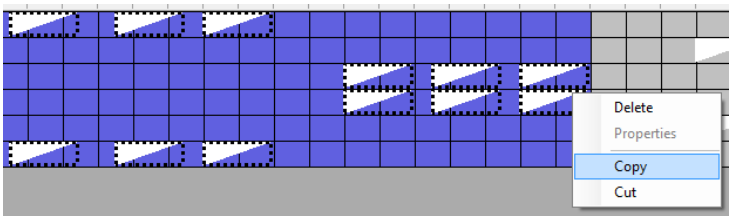


Figure 22 - Copying Events

3.8 Undo / Redo

The designer contains undo functionality for most aspects of the designer. Use the *Edit* menu (or keyboard shortcuts) to undo or redo edits to events etc.

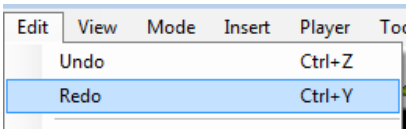


Figure 23 - Undo / Redo

3.9 Configuration Import

When creating multiple shows you can import the definitions of Display Items/Segments/Channels etc from another show. You can do this by selecting the *Edit/Import Configuration* menu

3.10 Export to SD Card

Non-musical sequences that contain a single network can be exported to an SD card and played on the Synchronised Lighting SD card Controller. This controller can be used stand-alone to play sequences on addressable LED strips or pixels as well as driving other AC or DC SyncroLight controllers.

3.11 Control Lights

If you have controllers and lights connected you can enable the *View/Control Lights menu* to allow the Show Designer to control your lights as the show plays. Please ensure you have a network correctly connected and channels correct configured before enabling this function. See section 4.2 for information on setting up your network.

Depending on your system, for best results you may need to turn off the timeline and visualisation functionality when controlling lights. (i.e. Ensure *View/Timeline* and *View/Visualisation* are unselected)

After changing any network setting in the Configuration Editor, you may need to toggle the control lights setting to apply the new settings.

4 Configuration Editor

The configuration editor in the Show Designer is accessed from the *File/Configuration Editor* menu item. This editor allows you to configure:

- Networks for communication to lighting controllers
- Display Items (Advance mode shows only)
- Segments
- Channels

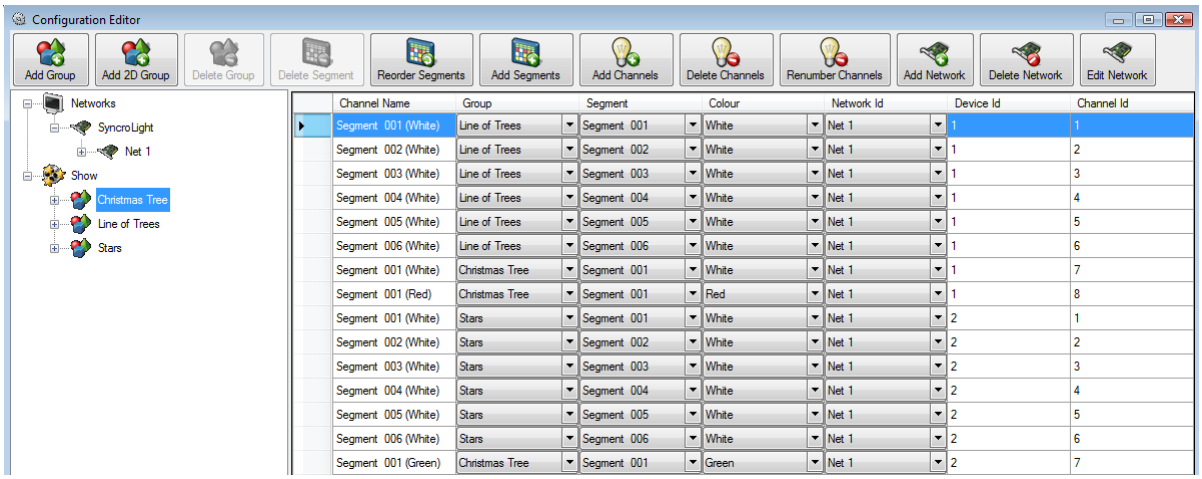


Figure 24-Configuration Editor

The configuration editor is made up of the following items :

- Tool buttons (Top) for adding and deleting networks, Segments etc.
- Navigation Tree (Left) for filtering and browsing channels
- Channel list (Right)

4.1 Navigation Tree

The navigation tree, on the left of the configuration editor, allows you to quickly view your configuration by either Network or Display Item/Segment.

By selecting an item in the navigation tree, the editor displays all the corresponding channels for that item in the channel list to the right.

Remember that:

- A Show contains Display Items
- A Display Item Contain Segments
- A Segment contains Channels
- Channels connect to the lights

4.1.1 Displaying Channels by Display Item/Segment

To view by Display Item and Segment, expand the Show node in the tree to see the Display Items. You can then expand each Display Item to see its Segments.

For example, by expanding the Show and selecting the 'Christmas Tree' Display Item (See Figure 25), you can see that it has one Segment defined. This one Segment has 3 channels defined, one for each colour (White, Red and Green). You can also see that the lights for the 'Christmas Tree' are connected to Controller 1, Channels 7 (White) and 8 (Red) and Controller 2, Channel 7 (Green).

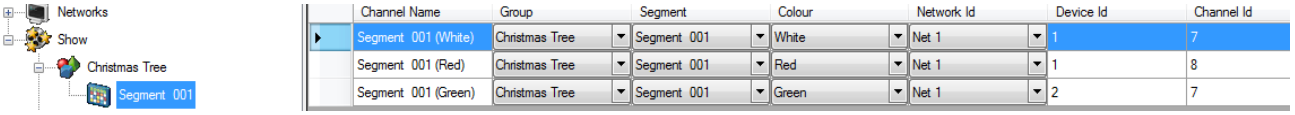


Figure 25 - Navigation by Display Item

You can edit the information in the channel list if you need to change any details, but usually you would only need to change the device and channel information to match the physical wiring of your lights and controllers.

4.1.2 Displaying Channels by Network/Controller

By drilling down the tree by network and controller you can see the channels that are configured for a specific controller.

For example Figure 26 shows that Controller 1 uses channels 1 to 6 for the 'Line of Trees' Display Item, and 7 and 8 are used for the 'Christmas Tree' Display Item.

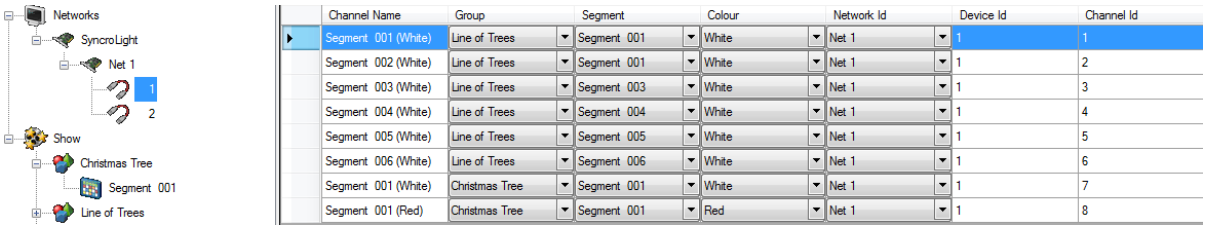


Figure 26 - Navigation by Controller

4.1.3 Renaming Display Items and Segments

You can rename Display Items and Segments by clicking on the name in the navigation tree. The cursor will then appear next to the item allowing you to edit the name.

4.2 Adding a Network

One of the first things you will need to do when configuring your show, is to define a network. This is the special network that connects your computer to the lighting controllers. The number and type of networks supported depends on your licence.

Generally one SyncroLight network is sufficient for most displays. For larger displays you can add more networks if required.

To add a network select the 'Add Network' tool button from the top of the configuration editor. In the 'Add Network' window (see Figure 27) ensure "SyncroLight" network type is selected with the network Id of "Net 1". Select the COM port which corresponds to the USB-RS485 cable/converter (See Figure 28) which you must have connected and installed.

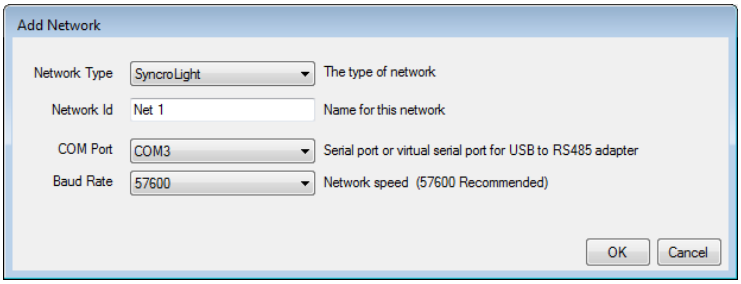


Figure 27 - Adding a network

Figure 28 - SyncroLight USB-RS485 Cable

Instructions for installing/connecting the USB-RS485 cable can be found in the User Manual for the SyncroLight Controllers.

You can create shows without having a network configured, but generally when creating your first show we suggest you have a controller and lights connected so you can see the show and lights working.

4.3 Creating a New Display Item (Advanced Show Mode)

4.3.1 Example 1 – Christmas tree in 4 Colours

To create a new Display Item press the "Add Group" tool bar button in the configuration editor (You can also right click in the header in the main designer and select Add Group).

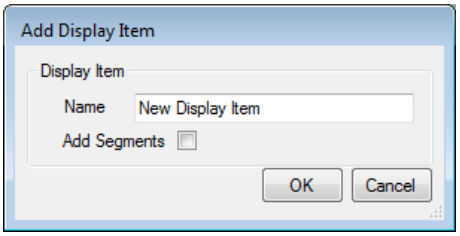


Figure 29 - Add Display Item

The window for creating a Display Item can also create the Segments and Channels for you automatically, so type in a (unique) name for your Display Item and be sure to check the "Add Segments" checkbox as shown below.

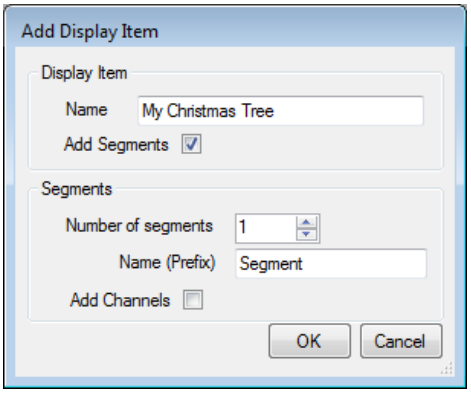


Figure 30 - Adding Segments

You can now specify how many Segments your Display Item will contain. In our example this Display Item is a standalone tree so will only contain 1 Segment. Be sure to check the "Add Channels" checkbox.

You will then be prompted for the channels to be created. We want our new Christmas Tree item to have 4 Channels (for separate White, Red, Green and Blue LED light strings), so these corresponding colours are selected.

By completing the device/channel/channels per controller information, channels will be created and numbered accordingly.

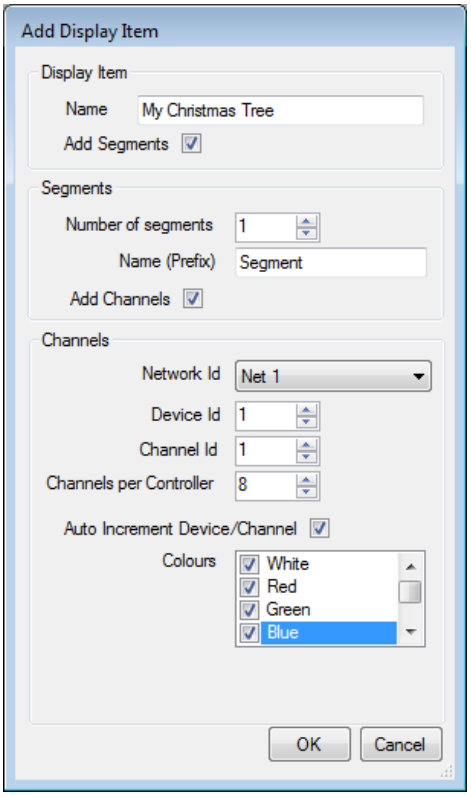


Figure 31 - Adding Channels

Figure 31 will create a new Display Item called 'My Christmas Tree' with 1 Segment and 4 colours using controller 1 channels 1,2,3 and 4.

4.3.2 Example 2 – Line of 6 Trees in 2 Colours

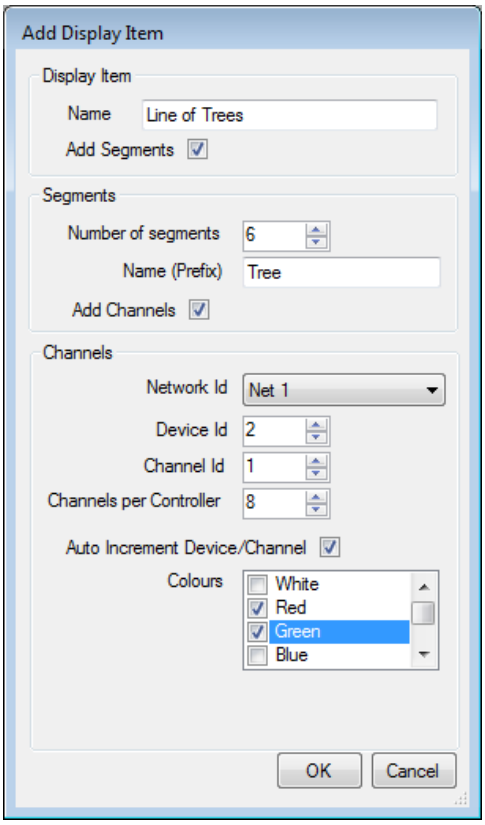


Figure 32 - Creating a Line of Trees

This Example will create a Display Item for a line of six trees each with red and green lights. This will use 12 Channels, starting on controller 2 channel 1. (i.e. Controller 2 channels 1-8 and controller 3 channels 1-4).

4.3.3 Example 3 – RGB Strip

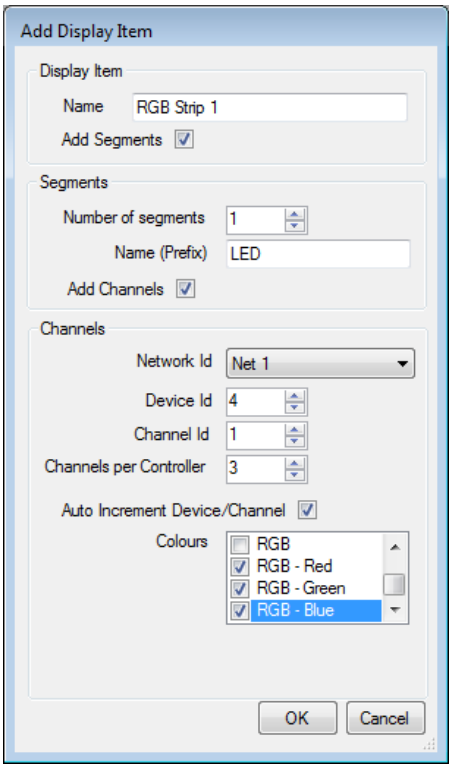


Figure 33 - Display Item for an RGB Strip

When adding a Display Item for non-addressable RGB strip, connected via 3 separate channels, select the RGB-Red, RGB-Green and RGB-Blue entries in the colours list (as shown in Figure 33).

4.3.4 Example 4 – Addressable RGB Strip / RGB Pixels

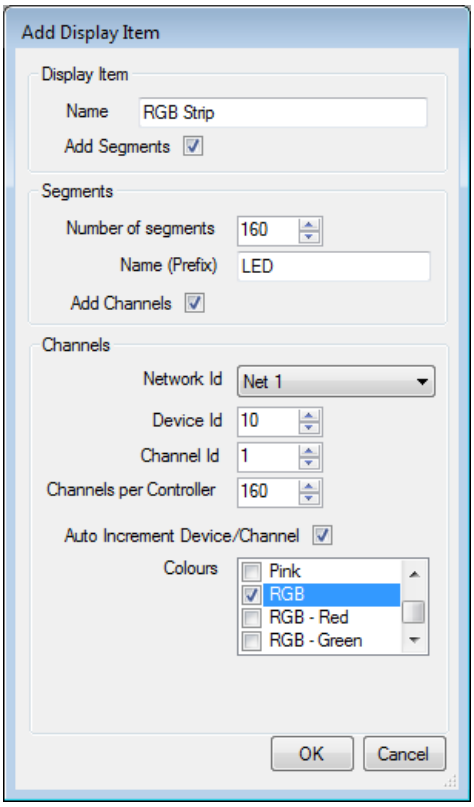


Figure 34 - Display Item for an addressable LED strip

If adding an Display Item for a RGB addressable strip or pixel lights be sure to select 'RGB' and set the Channels per controller and Segments to match the number of LEDS on your strip.

4.4 Creating Segments

Normally you create Segments and Channels when creating your Display Item (as seen in section 4.3). You can however add Segments to an existing Display Item with the "Add Segments" toolbar button in the Configuration Editor.

The screen for adding Segments is similar to that used when adding Display Items (See 4.3), except you select which Display Item you are creating a Segment for from the list.

Note : In basic show mode you cannot create Display Items so you will not be able to select a Display Item.

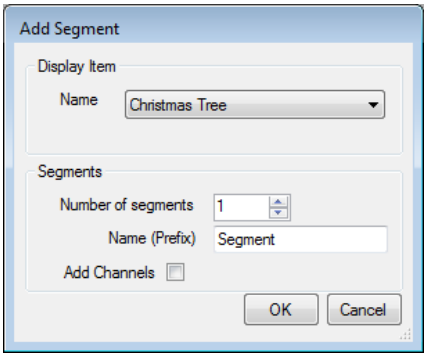


Figure 35 - Creating Segments

4.5 Creating Channels

Normally you create Segments and Channels when creating your Display Item (as seen in section 4.3). Channels can however be added to existing Segments using the "Add Channels" tool button in the Configuration Editor. This works in a similar way to the Add Display Item and Add Segments screens.

Select the Display Item and Segment you are creating the channel for, along with the colour lights that will be connected to this channel. You can then specify the Controller and Channel number for this new channel.

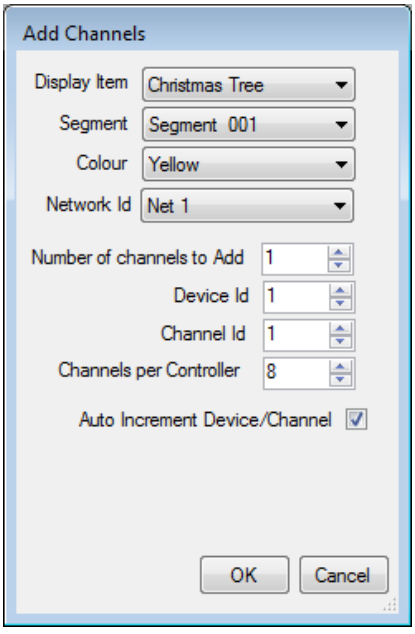


Figure 36 - Creating Channels

4.5.1 Reorder Segments

If you find Segments are listed in the wrong order you can use the 'Reorder Segments' tool button to change the ordering of the Segments in the designer.

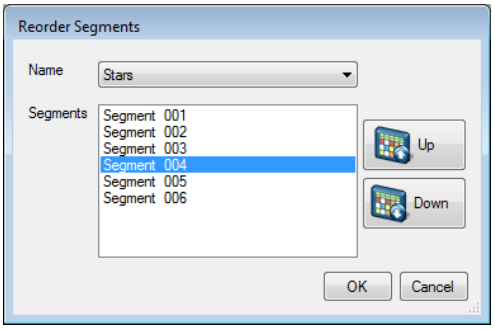


Figure 37 - Reorder Segments

4.6 Renumbering Channels

You can edit the details of channels manually in the main channel list. However if you have a number of channels to rename or renumber this can be slow. So it's often better to use the renumber channels tool, simply select the channels to be renumbered and press the "Renumber Channels" tool button. This will display a screen allowing you to either:

- Rename the selected channels
- Change the network of the selected channels
- Renumber the selected channels

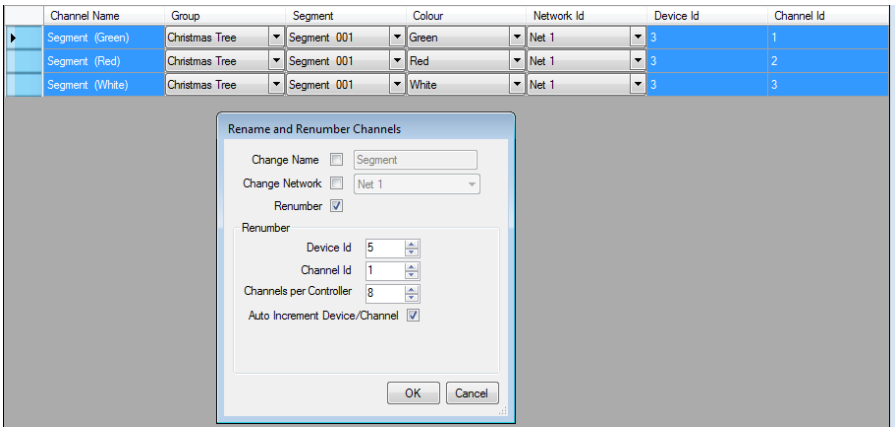


Figure 38 - Renumber Channels

4.7 Deleting Display Items, Segments or Channels

Tool buttons are provided in the Configuration Editor to allow the Networks, Display Items, Segments and Channels to be deleted. Just select the item to be deleted and click the corresponding tool button.

As a precaution we strongly suggest you save a backup of the show before deleting any items.

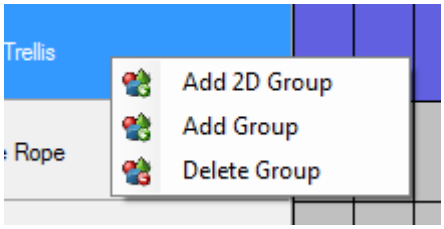
4.8 2D Group and Pixel Grid

4.8.1 Creating a 2D Group

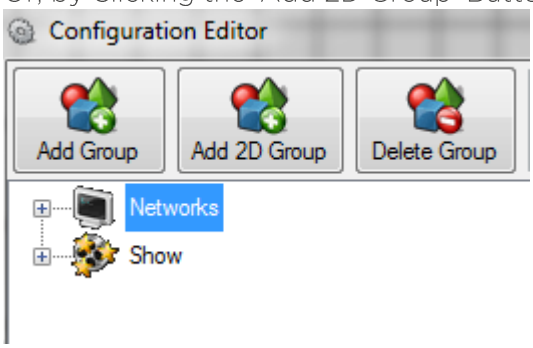
A 2D Group is generally used for 2-3 dimensional objects like a mega tree or pixel grid, typically using addressable LED strips and Pixels. Creating a 2D groups enables you to easily create a range of special effects on your Pixels/addressable LED Strip.

You can create a 2D group by either:

- Right clicking in the Display Item header to the right of the main grid and selecting 'Add 2D Group'

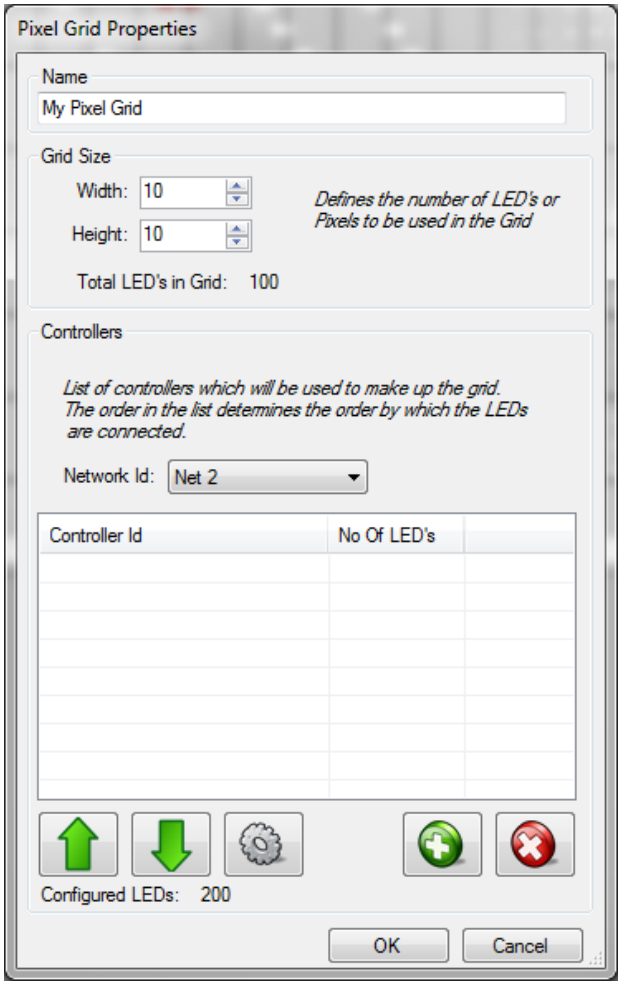


- Or, by Clicking the 'Add 2D Group' Button in the Configuration Editor

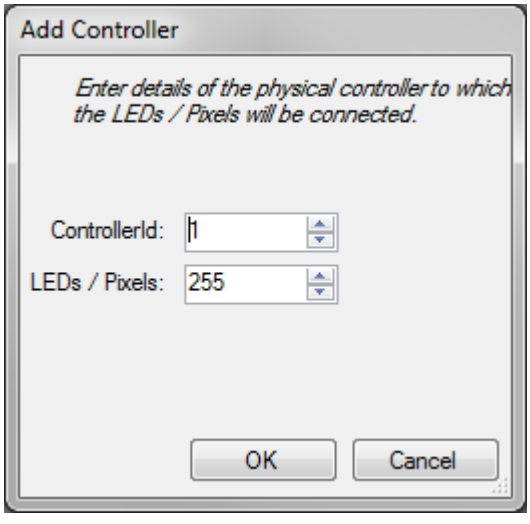


You will then be presented with the screen shown below, allowing you to specify how many Pixels you want in your 2D group. This can be a grid (i.e. 10 x 10) or a single length of addressable LED strip (i.e. 1x160).

You also need to configure the controller(s) to which the LEDs will be connected. Be sure you configure enough controllers/LEDs for your specified grid size.



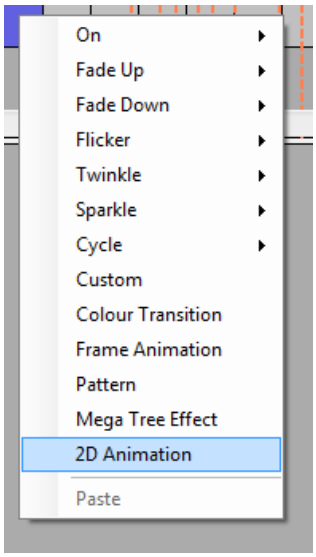
Add a controllers by clicking the green plus button and completing the controller details and number of LEDs.



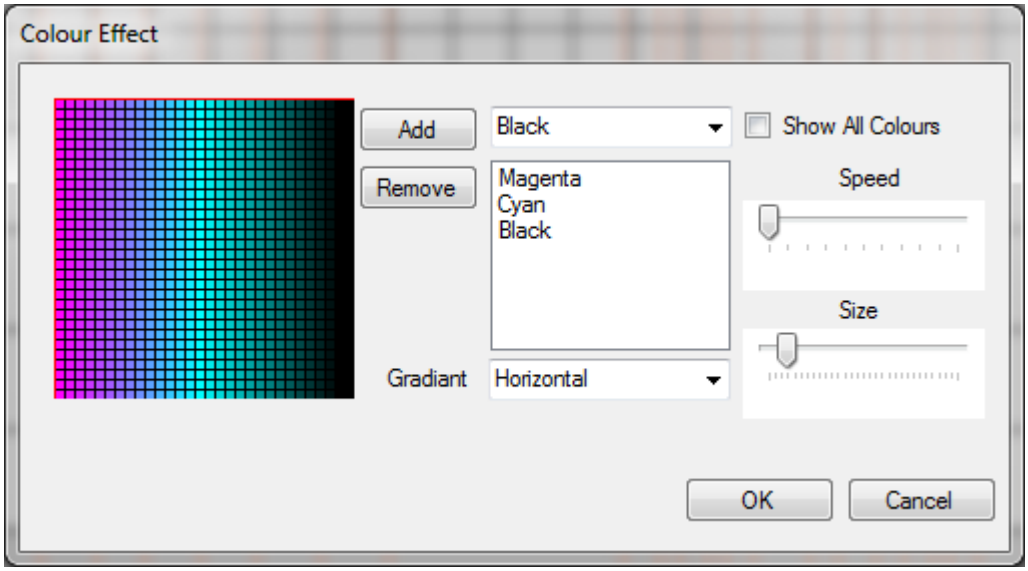
You will also need to define how the pixels are wired, this can be defined at a later date and is described in 0.

4.8.2 2D Animation Effects

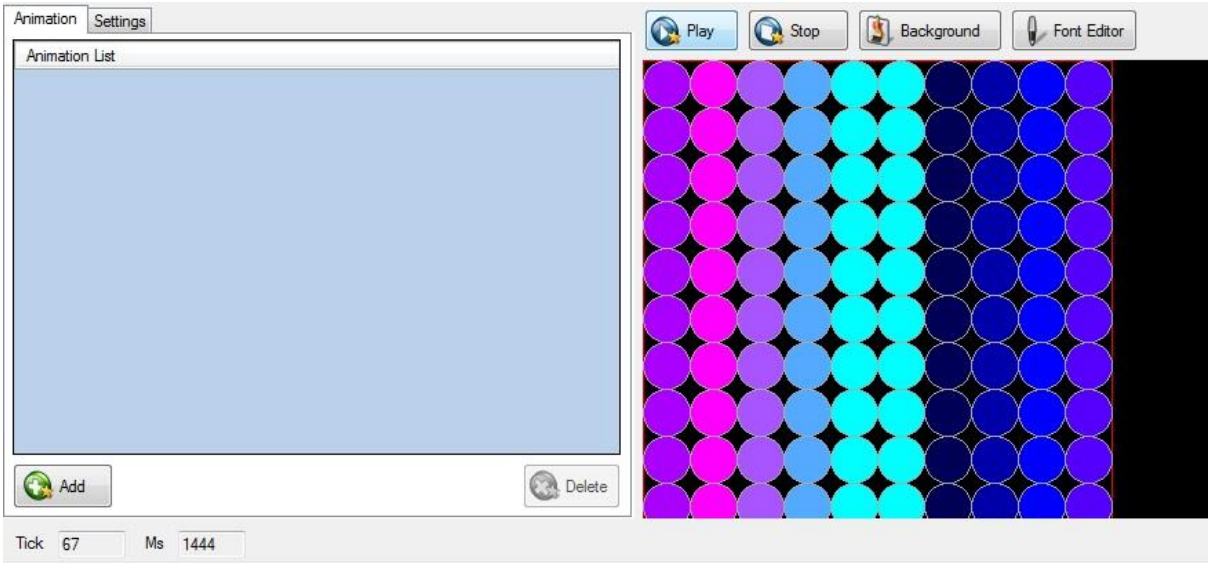
You can create a range of effects with the 2D Animation tool. Once you created a 2D group right click in the grid to access the popup menu.



The main effect for colour fade/swipe animations are created by using the 2D Animation effect. Once you have created a 2D animation effect a tool will display in the bottom part of the screen. You can set colour effects by clicking on the background button. This will open a window that allows you to customise the properties of your 2D animation.



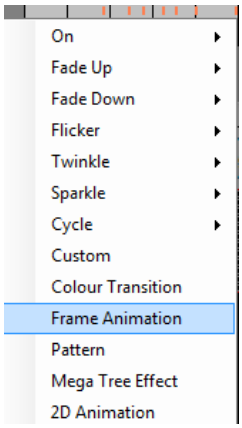
Start by adding the colours you want to use by selecting from the drop down menu and clicking the add button. Pick your speed, size and gradient settings depending on how you want to animation to look. You may want to experiment with these settings to see how each option changes the way the animation displays. Click ok when you are happy with your settings and use the play and stop buttons to start and stop the preview window.



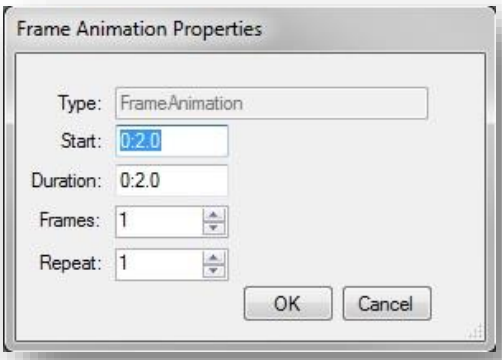
You can also add a range of other effects, like a meteor shower, by clicking the add button. You can change the properties of these effects in the settings tab shown on the left of the pixel grid.

4.8.3 Frame animation

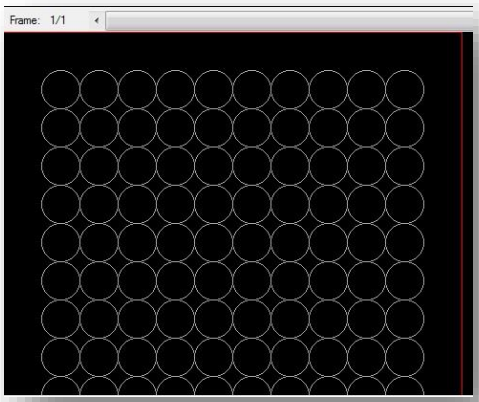
The frame animation tool is used to create light show animations that are created frame by frame. This allows you to create your own patterns and shapes for your lights to display. To create a frame animation right click on your 2D group in the grid and select 'Frame Animation'.



When you select this feature you will get a box that asks you for how long you want the effect to last. You must enter the time in the boxes to tell the program how long the effect should last. You can also enter a value into the repeat box which will tell the program how many times to play the animation that you create.



To use this feature select the part of the timeline where you want to animate and right click, select frame animation and the bottom half of the screen should switch to the frame animation interface.



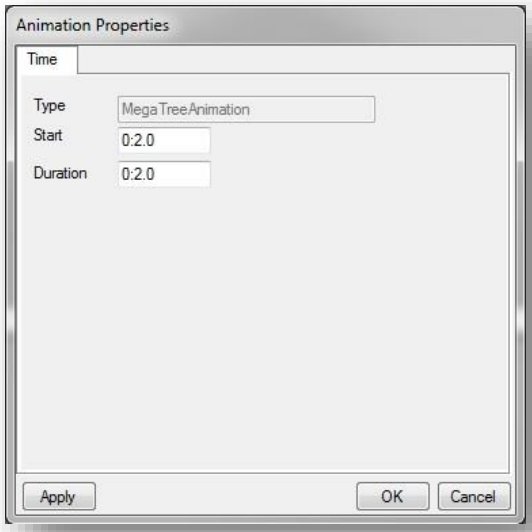
From here you can create your first frame and copy it to your next frame, allowing you to add more to each frame as you go, thereby creating a sequence that appears animated when played back. Select some circles in the grid and fill them with colour. Now press the copy to button to create a new frame that also has that same grid selections filled in already.

Add some more and repeat this for as many frames as you like until, remembering to copy what you've done each time so the next frame is always updated with you previous work.

Simply add more to the frame and use the scroll bar to switch between frames quickly to inspect your work. This is useful for trying to get an idea of what your animation will look like when it's playing live.

4.8.4 Mega tree effect

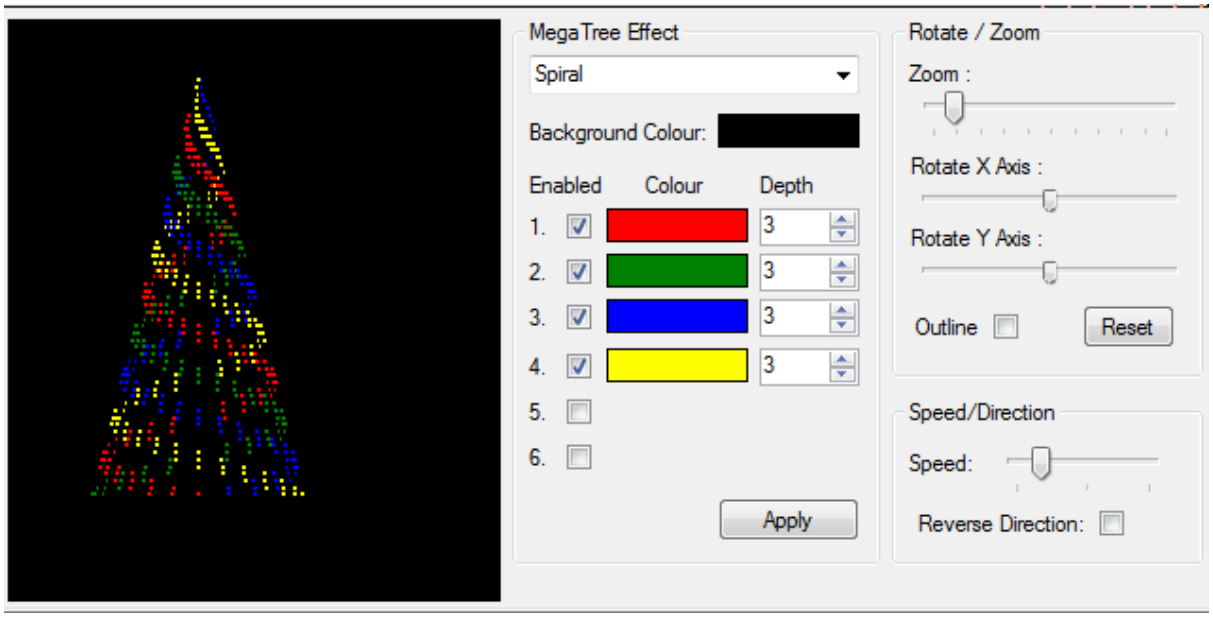
The Mega tree is special effect that allows you to quickly create animations with the lights on your tree. This can save you a lot of time as it allows you to simply select an animation type from a list, such as “spiral” or “spin”.



Just like with the frame animator, select the part of your show that you want to insert the mega tree to and right click, select mega tree and the program will insert the effect for you.

You can customise almost any aspect of the tree from colour to speed and pattern. You must also tell the program how long this effect will last by entering the desired times into the boxes that appear when you select this effect.

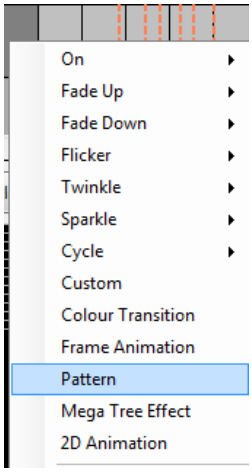
Set the duration on your mega tree effect to tell the program how long this effect should play for.



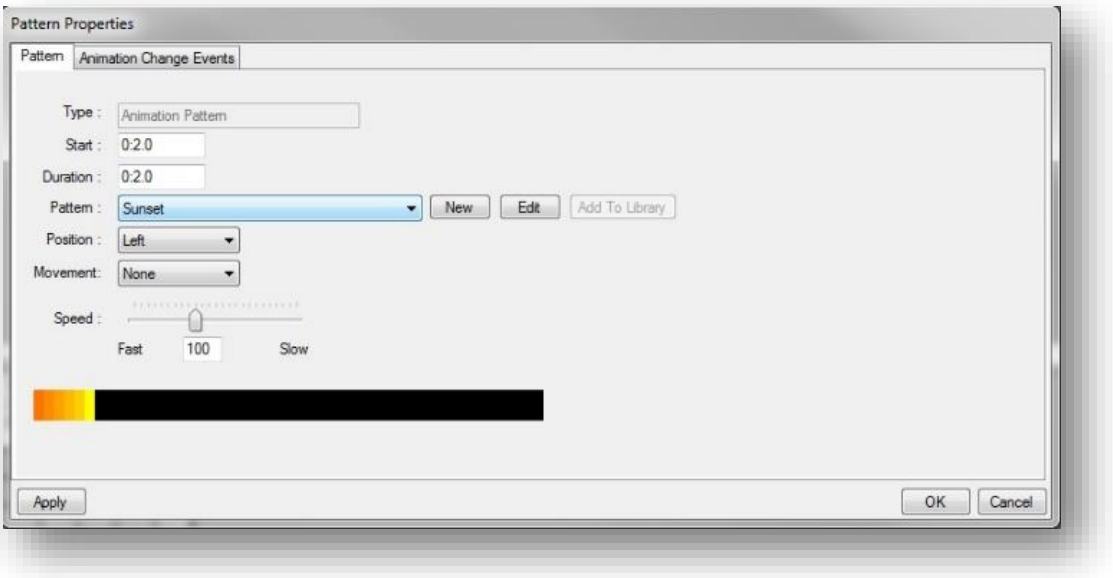
4.8.5 Pattern

The pattern effect is useful feature that allows you to very quickly and easily generate patterns of varying complexity. The process is very simple though, and lets you pick from a range of colours, positions and pre-sets which give you a wide range of customization options.

Select the part of your show that you wish to insert a pattern and right click, select pattern.



Next and a window will open giving you options to choose from that allow you to change colour speed and direction.



Once you are happy with your settings click ok and the program will fill the boxes you selected with your pattern. This is a huge timesaver when making complex lightshows as it is very time consuming to create advanced patterns without the help of this tool. You can also choose the position of the pattern that will allow you to pick between left, right, fill and centre.

There is a small preview window that will be updating as you change settings and allowing you to see a preview of what your pattern will look like. You can also load previously created patterns and add newly made ones to a library for future use.

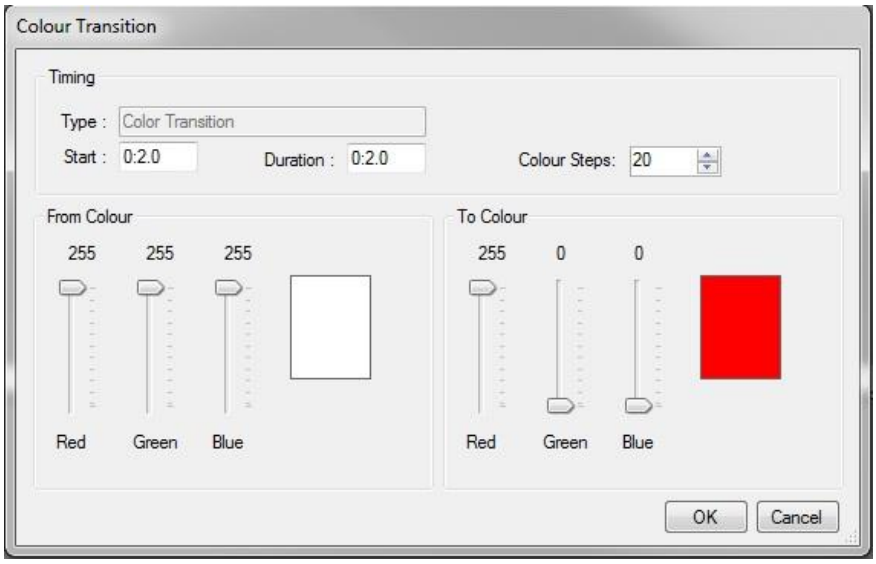
On the animation change events tab (at the top) you can set it so the pattern switches between different patterns at certain times giving you greater control and allowing for advanced displays. You can also add change events later by right clicking in the bottom show designer grid when displaying a pattern you have previously created.

There are a couple of pre-set patterns already to choose from if you are unsure of how this feature works. Try selecting some of these and playing with the settings if you are unsure about creating your own yet.

Once you have designed your pattern, you can save it in the library so you can reuse it again later if needed. To do this, click the “add to library” button once you have finished designing the effect.

4.8.6 Colour transition

The colour transition tool is useful for fades, specifically long gradual fades that would otherwise be difficult to create manually. Simply select the boxes you want to determine how long you wish the fade to be and right click, select colour transition and let the program fill it in for you.



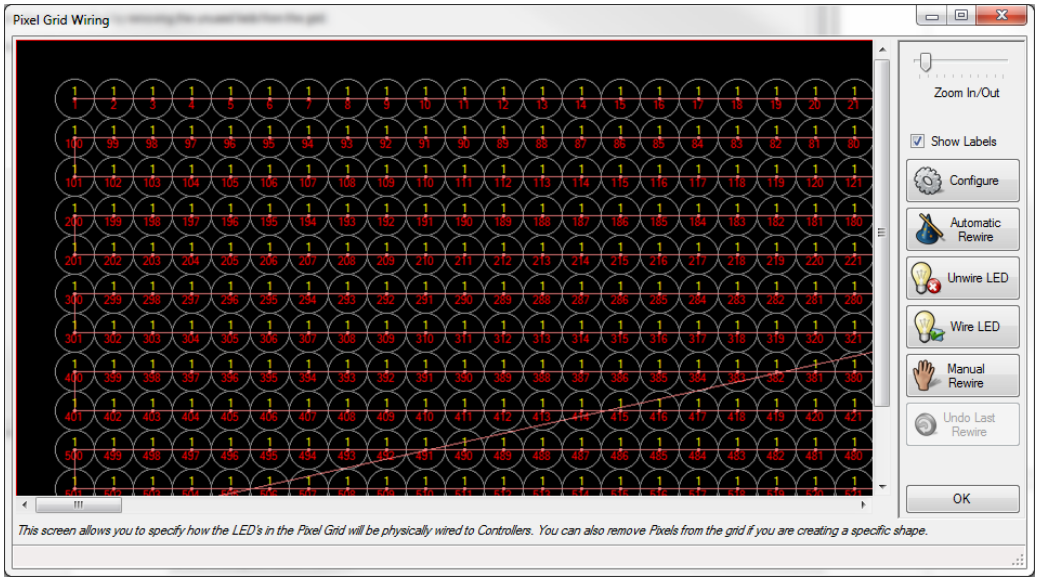
When choosing, you can select what colours the transition will use. You must choose a starting colour and an ending colour so the program knows from what colour to fade from and to.

When using a 2D Animation you need to specify how your pixels are wired. To define the wiring, go to the “File” menu, and click on “Configuration Editor”.

4.8.7 Pixel Grid Wiring

Next, expand the list in the Configuration Editor and select your pixel grid and click on pixel grid wiring. On the right you will several buttons, one of which will be called “Configure”.

Click this and add a controller by clicking the green plus button. Once you have done that the window should display your pixel grid wiring which should look like the image below.



You can then either manually wire the grid by using the ‘Manual Rewire’ button, or use the ‘Automatic Rewire’ wizard if you have a linear wiring method.

5 Visualisation

To aid show creation and light show design the Show Designer has an integrated Visualisation tool. You can use this tool to see how your show will look without needing to have all the lights connected.

You can reuse the same visualisation file for multiple shows providing the shows all have the same Display Item and Segment names (the import configuration function is handy here).

5.1 Visualisation Setup

To create a new Visualisation file, select the *File/Visualisation File* menu item. The visualisation file dialog will appear as shown below.

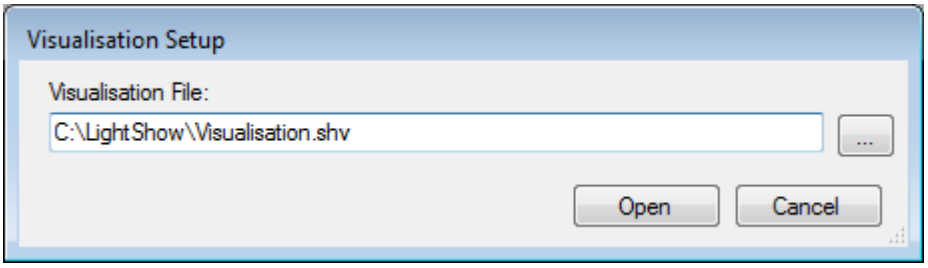


Figure 39 - Visualisation Setup

If you are using an existing visualisation file click the '...' button and select the existing visualisation file.

If you want to create a new Visualisation file enter a name for the file and click *open*. Then Click OK on the popup message to confirm you would like to create a new visualisation file.

You should then be presented with a blank visualisation Window as shown below. The name of your visualisation file is saved with your show, so you may wish to return to the Show Designer and save your show now.

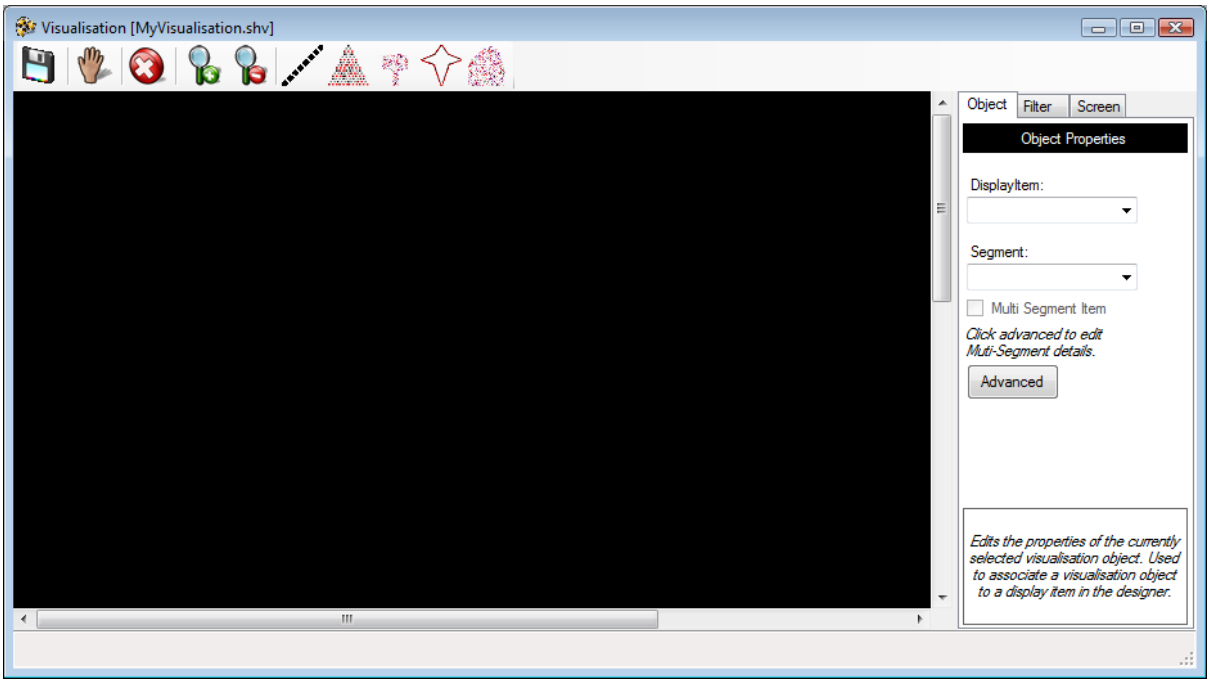


Figure 40 - Visualisation Window

5.2 Hide/Show Visualisation Window

You can view or hide this visualisation window by using the *View/Visualisation* menu item in the Show Designer.

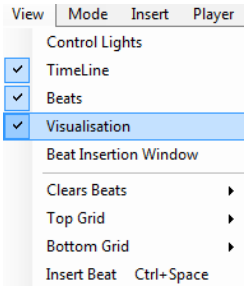


Figure 41 - Display/Hide Visualisation

Note: Only one visualisation window is shown. So if you have multiple shows open in the Show Designer and have the visualisation window visible, the appropriate visualisation file for you show will automatically be loaded whenever you play a show in the designer.

5.3 Visualisation Window

5.3.1 Screen Size and Background

You can load a background picture into the visualisation if you wish. This can greatly help you layout and design your lights display. To load a picture just press the *'Select'* button in the Screen Configuration Tab (See Figure 42 below).

You can adjust the brightness of the background, to make it look like dusk so the lights show up better, by using the brightness slider.

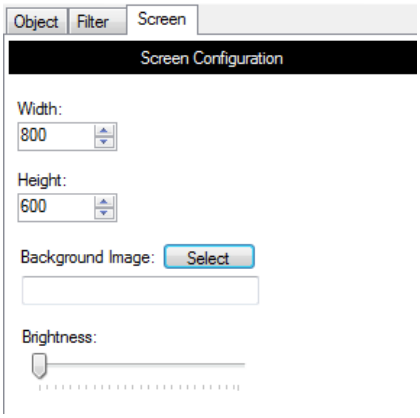


Figure 42 - Visualisation Screen Background

You can adjust the Width and Height of the visualisation area in the screen tab. We suggest a Width and Height of around 1000 pixels as high resolution background images and/or a large screen configuration may lead to performance issues.

5.3.2 Visualisation Tool Bar

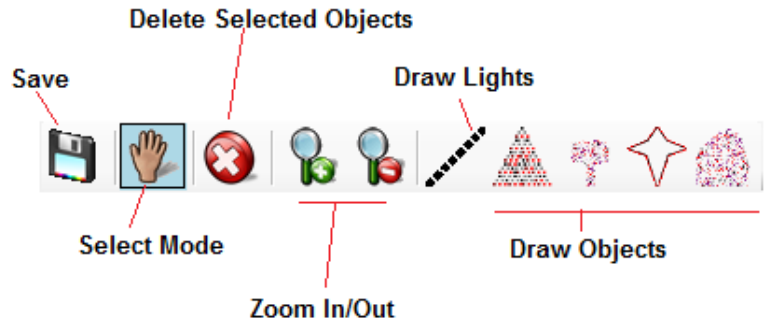


Figure 43 - Visualisation toolbar

- **Save** – Saves the visualisation
- **Select Mode** – Allows objects in the visualisation to be selected or moved
- **Zoom In/Out** – Allows you to zoom the visualisation in or out as required
- **Draw Lights** – Allow drawing of strings of lights
- **Draw Objects** – Allows placement of new visualisation objects

5.3.3 Adding Lights to your Layout

To draw light strings in your visualisation layout, press the *Draw Lights* button in the toolbar and then left click to place lights on your visualisation. Right click to end the current light string. Left Click again to draw another light string. To exit the draw lights mode press the 'Select Mode' tool button.

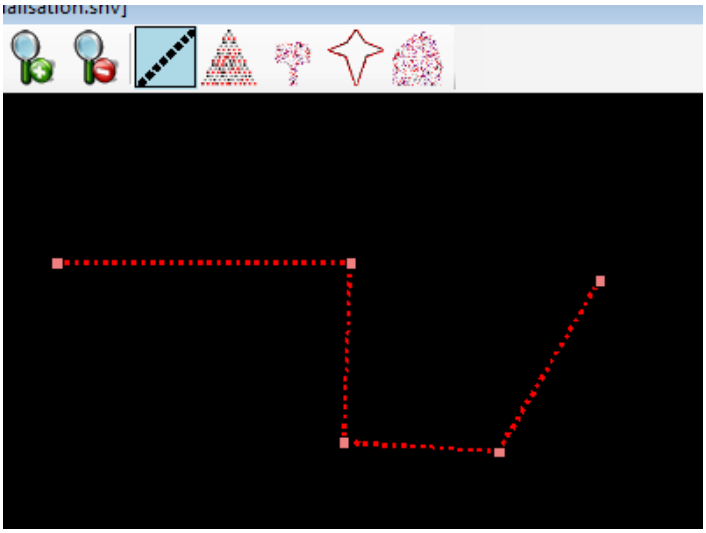
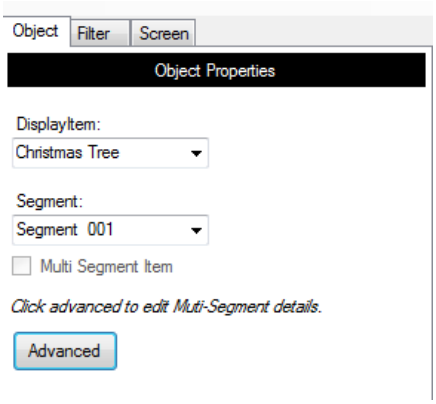


Figure 44 – Adding Light Strings

In Select Mode you can select your drawn light by left clicking on them. Once selected, little squares will appear on the ends of the line and on the corners (See Figure 44)Figure 44 – Adding Light Strings. You can select and move the whole light string by clicking on the line and dragging around the screen as required. You can also select and drag the squares to reposition sections of the lights as required.

Note that the line is drawn is red, this denotes that it is not assigned to a Display Item or Segment.

To link your light string to you show, select the line you have drawn and press the objects tab on the left of the window as shown below. This displays the object properties for your light string. You can now select the *Display Item* and *Segment* that you would like this light string to be linked to in your show.



If you press the *advanced* button you can also change the bulb style to reflect the type of light string you have.

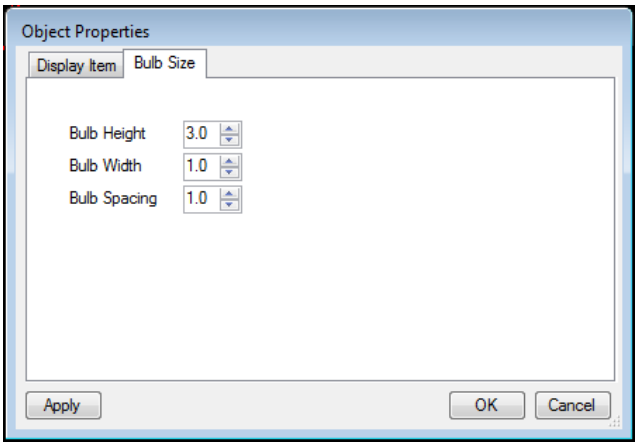


Figure 45 Changing Light String Bulb size

5.3.4 Multi Segment items

For items like leaping arches or items made from addressable led strips, you can draw one item in the visualisation and then associate this to multiple Segments. The visualisation will automatically divide you line into equal Segments for you.

To do this, first draw your item using the draw lights tool button, like the arch as shown below. Now view the object properties by either double clicking on the line or pressing *Advanced* from the *Object* tab on the right.

Select your *Display Item* and check the *Multi-Segment Item* tick box. An additional Segment tab will now appear.

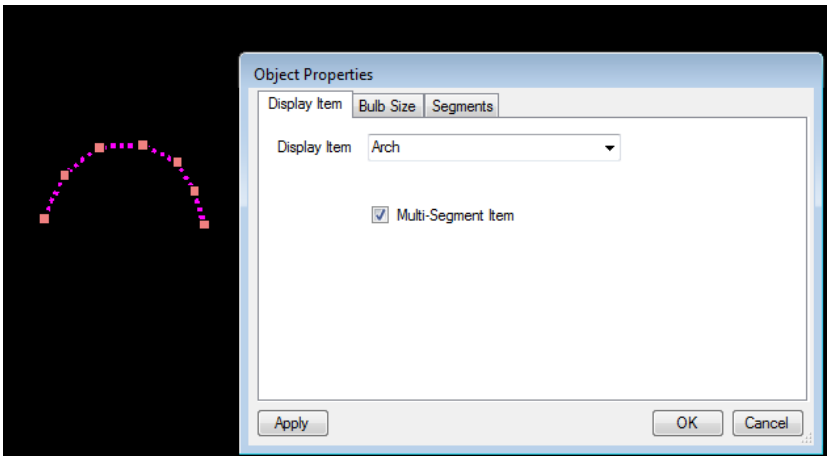


Figure 46 - Multi-Segment Item creation

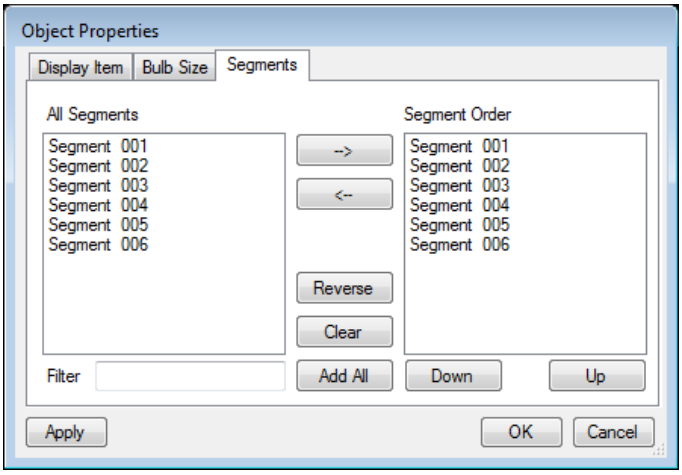


Figure 47 – Segment Configuration for Multi-Segment Items

In the *Segment* tab of the *Object Properties* dialog the left list contains all the Segments for the selected Display Item. You can filter this if required using the filter box at the bottom of the list. The right list shows the Segments that will be linked to your item in the visualisation.

You can move Segments between left and right list using the '->' and '<-' buttons. Ensure the Segments in the right list are displayed in the order you require. To change the order of any items in the right list, select the Segment and use the Up or Down buttons to change its position in the list.

5.3.5 Adding Visualisation Objects (Trees/Stars/Bushes)

To add trees or stars to your layout, select one of the draw object tool buttons in the visualisation window and then left click to place the objects on your layout. Right click or Change back to Selection mode when you have finished.

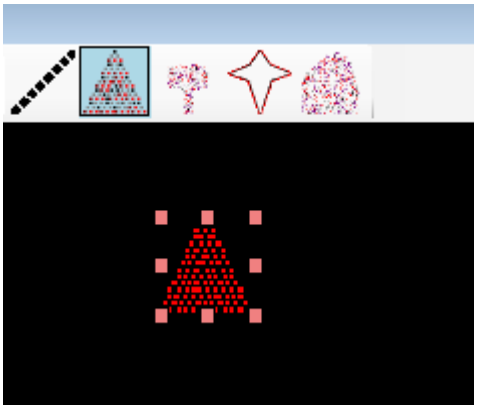


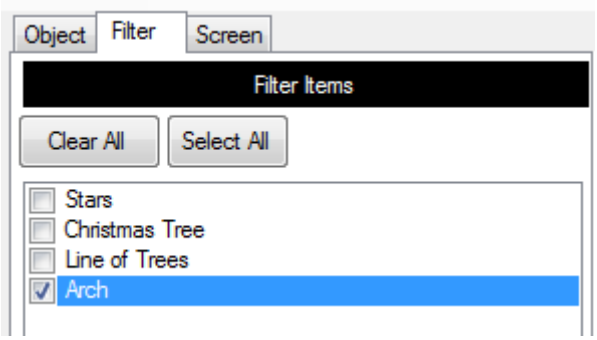
Figure 48 - Adding a Tree

You can change the position of any drawn items by clicking on them with the mouse. You can then drag them to a new position or adjust their size using the little squares displayed around the object.

Don't forget to link this object to a Display Item your show, do this by selecting the *Display Item* and *Segment* in the *Object Properties* Tab on the left of the window (or in the popup *Object Properties* dialog that is accessed by double clicking on the object).

5.3.6 Filtering Objects

If you have a lot of items in your visualisation you may wish to filter these. You can do this in the Filter tab display on the right hand side of the visualisation window as shown below.



5.3.7 Adding Custom Visualisation Objects (Advanced users)

You can add your own custom objects to the visualisation toolbar by following the steps below:

a) Locate the installation directory and find the Tool buttons directory (e.g. C:\Program Files\SyncroLight\Tool buttons)

b) Using a suitable gif editor (i.e. Paint.NET) create a new .gif file for your new visualisation item. You may wish to use one of the existing .gif files as a starting point. Note that the file MUST have a transparent background. The new item

should also have different colour dots (See Figure 49). This allows different colours to be displayed simultaneously in the Visualisation.

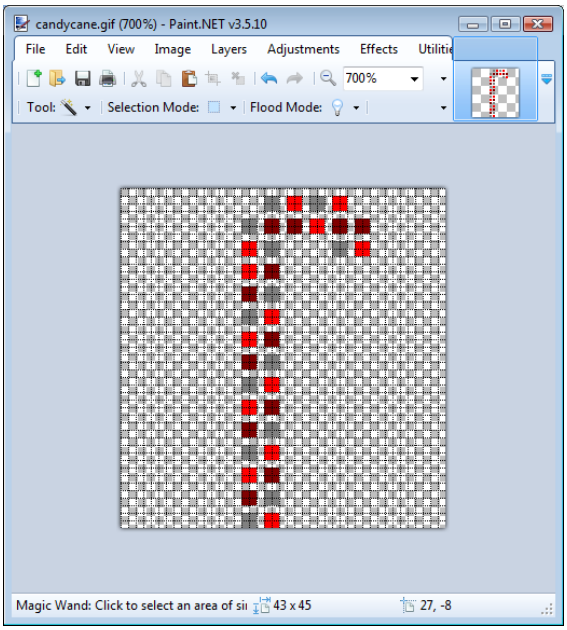


Figure 49 – Creating a new Visualisation Object

c) Edit the VisualisationObjects.xml file using notepad and create a new line for your new item (As shown in Figure 50). Do this by copying an existing line and just change the image and name items.

d) When you restart the Show designer you should now get your new item in the visualisation.

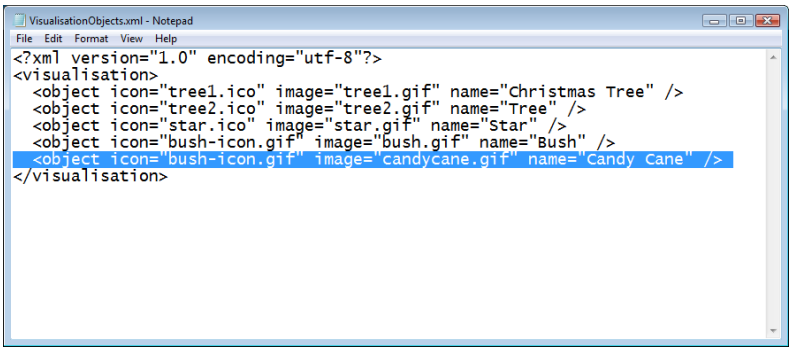


Figure 50 - Adding new object to visualisation toolbar