amBX

LIGHT-SCENE ENGINE MANAGER GUIDE

amBX Light-Scene Engine Manager

The amBX Light-Scene Engine Manager is the installation and configuration software tool for use with amBX Light-Scene Engine (L-S E)

1. About amBX Light-Scene Engine

The amBX Light-Scene Engine has been designed and developed to take intelligent and intuitive lighting control to new levels. Built on the proven amBX lighting control technology and abstracted design model, Light-Scene Engine brings new possibilities for interactive lighting and putting total control in the hands of the user with simple yet powerful apps and user interfaces. amBX Light-Scene Engine is suitable for projects of all sizes and for single or multiple location lighting installations.

amBX Light-Scenes simplify complex lighting control

Light-Scenes are collections of settings and parameters for determining exactly the right lighting experience required. From simple static lighting to the most dynamic and interactive experience, an amBX Light-Scene ensures consistency of experience in every amBX controlled installation. Light-Scenes manage the colour, location, movement, brightness and all dynamic aspects of lighting. They can be pre-defined or they can change dynamically in response to external triggers such as sensors, audio or video input and also from controls within the amBX apps. In this way Light-Scenes deliver powerful and comprehensive control yet are very easy and flexible to use and there's no programming required.

Ambient Light-Scenes manage the lighting in each space and any requirements for colour, colour changing, movement, direction and brightness.

Audio Light-Scenes react dynamically and in real time to sound input, such as music, to turn the whole space into the experience

Video Light-Scenes react in real time to any video image to extend the experience beyond the screen, adding impact and immersion.

amBX Light-Scene Engine has standard capability to run and access up to 256 different Light-Scenes in each individual space within an installation. Light-Scenes are available from the Light-Scene library and for installers on the amBX website and can also be designed to bespoke requirements.
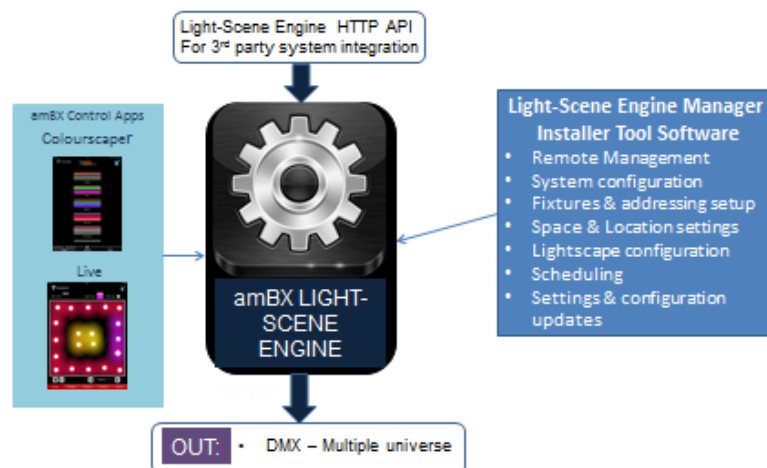
amBX Control Apps

amBX Colourscaper

The Colourscaper App offers complete control of lighting in each space. The main functions are:

Light-Scene selection: a single touch will smoothly transition the lighting from the current Light-Scene to the one selected.

Colour Selection: the colour palette of each Light-Scene can be easily changed in seconds from the pre-set colour library, a full colour picker or even the exact colour reference data.

Brightness & Saturation: simple slider controls to get the light levels just right.

Update Light-Scenes: the Colourscaper will synchronise to the Light-Scenes installed in the Light-Scene Engine in order to keep up-to-date with any changes made to the installation.
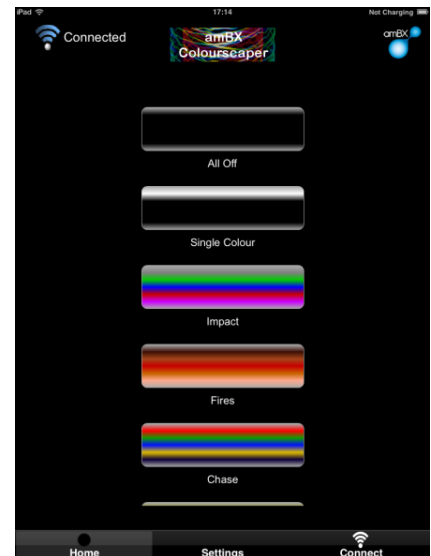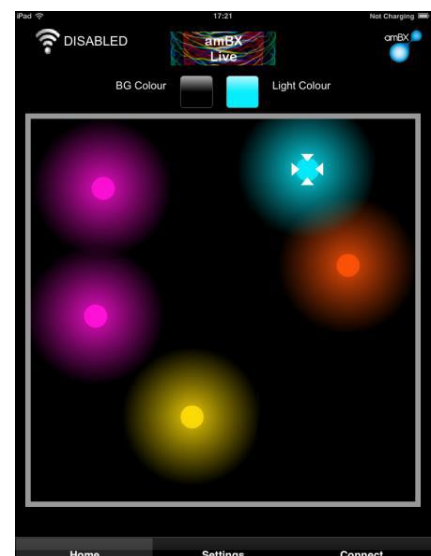
amBX Live

The amBX Live App allows the space to be easily set up by selecting colours for different parts of the room or area.

The screen represents the floor layout of the room and, for example, by simply clicking in the right-hand corner you have control of the lighting in the right-hand corner of the real room.

Click and drag to move the colour around and the effects appear in real time in the real room to allow rapid ambience creation for the right effect every time.

amBX Control Apps work directly with amBX Light-Scene Engine via an IP connection e.g. Wi-Fi and are available for iPad from the iTunes App Store.

Other control apps and systems

amBX Light-Scene Engine is designed for connection to other systems and devices which have a role to play in the management of lighting in the building or project, for example sensors for presence detection or daylight amBX Light-Scene measurement and also automation and building control systems. Light-Scene Engine has an http IP protocol which is available for installers and integrators and can also be used for managing and configuring bespoke requirements, which makes it widely compatible with other third party systems and devices.

All functions of Light-Scene Engine are controllable by other third party systems which can address the Light-Scene Engine API. Details are available from www.ambx.com

2. Light-Scene Engine Manager

The installation and configuration software tool for amBX Light-Scene Engine is a Windows PC software application available as a free download from www.ambx.com

Key functionality of the Light-Scene Engine Manager:

- 3-dimensionsal spatial settings for lighting fixture locations
- Fixture addressing and setup for the Light-Scene Engine
- Multiple or single space set up
- amBX location zone allocation for each lighting fixture
- Fixture type configuration and adjustment settings
- Light-Scene installation to Light-Scene Engine
- Light-Scene selection for each space
- Individual Light-Scene customisation
- Schedule set up and management

Designing for any Space with amBX

amBX uses a notional 3D spatial model for designing and describing effects in any space.

The space is divided into geographic locations with a compass-orientation model and 3 height layers.
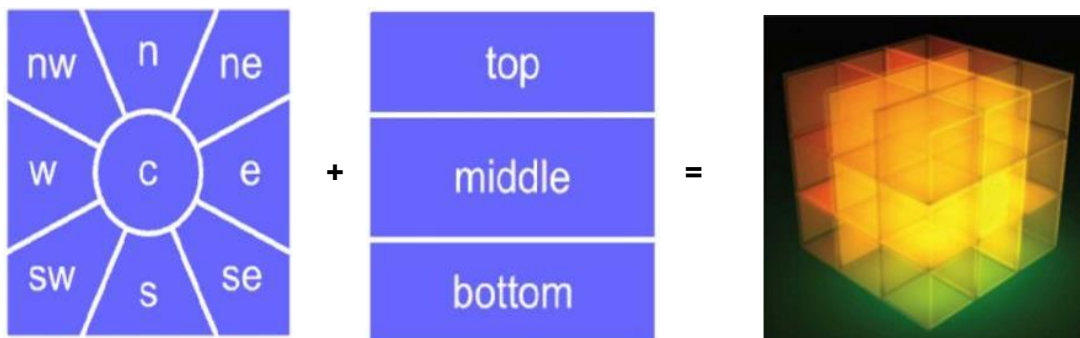
This results in a 3D cube representation of any space that the amBX System will manage. Other models can be supported by amBX as required.

This model is then used as required in different amBX applications and implementations to ensure faithful delivery of effects every time for whatever devices that are present.

Once the lighting fixtures in an amBX installation have been allocated their location within the amBX 3D spatial mode all Light-Scenes will work within that space with the correct spatial orientation.

Any size and layout of space can be set up using the model layout in the tool (pictured).

The Top layer is used for lighting at ceiling height or equivalent.

The Middle layer is used for lighting at head height or mid-height within the space.

The Bottom layer is used for lighting at floor level or the lowest in the space.

Orientation is set by determining the visual focal point of the space and starting from there as the North setting. This can also be aligned with the real geographic positioning of the space.

Note: if amBX is being used with video or audio then the prime source location i.e. the screen should be set as North.

3. The Light-Scene Engine Manager Software

| Light Name	Fixture Type	Universe	DMX Address	Space	amBX Location	Height	Gamma	Output Min.	Output Max.	X
amBX light 000	DMX_R8G8B8	Universe1	1	Default	North	Top	64	0	255	X
amBX light 001	DMX_R8G8B8	Universe1	4	Default	NorthEast	Top	64	0	255	X
amBX light 002	DMX_R8G8B8	Universe1	7	Default	East	Top	64	0	255	X
amBX light 003	DMX_R8G8B8	Universe1	10	Default	SouthEast	Top	64	0	255	X
amBX light 004	DMX_R8G8B8	Universe1	13	Default	South	Top	64	0	255	X
amBX light 005	DMX_R8G8B8	Universe1	16	Default	SouthWest	Top	64	0	255	X
amBX light 006	DMX_R8G8B8	Universe1	19	Default	West	Top	64	0	255	X
amBX light 007	DMX_R8G8B8	Universe1	22	Default	NorthWest	Top	64	0	255	X
amBX light 008	DMX_R8G8B8	Universe1	25	Default	Centre	Top	64	0	255	X
amBX light 009	DMX_R8G8B8	Universe1	28	Default	North	Middle	64	0	255	X
amBX light 010	DMX_R8G8B8	Universe1	31	Default	NorthEast	Middle	64	0	255	X
amBX light 011	DMX_R8G8B8	Universe1	34	Default	East	Middle	64	0	255	X
amBX light 012	DMX_R8G8B8	Universe1	37	Default	SouthEast	Middle	64	0	255	X
amBX light 013	DMX_R8G8B8	Universe1	40	Default	South	Middle	64	0	255	X
amBX light 014	DMX_R8G8B8	Universe1	43	Default	SouthWest	Middle	64	0	255	X
amBX light 015	DMX_R8G8B8	Universe1	46	Default	West	Middle	64	0	255	X
amBX light 016	DMX_R8G8B8	Universe1	49	Default	NorthWest	Middle	64	0	255	X
amBX light 017	DMX_R8G8B8	Universe1	52	Default	Centre	Middle	64	0	255	X
amBX light 018	DMX_R8G8B8	Universe1	55	Default	North	Bottom	64	0	255	X
amBX light 019	DMX_R8G8B8	Universe1	58	Default	NorthEast	Bottom	64	0	255	X
amBX light 020	DMX_R8G8B8	Universe1	61	Default	East	Bottom	64	0	255	X
amBX light 021	DMX_R8G8B8	Universe1	64	Default	SouthEast	Bottom	64	0	255	X
amBX light 022	DMX_R8G8B8	Universe1	67	Default	South	Bottom	64	0	255	X
amBX light 023	DMX_R8G8B8	Universe1	70	Default	SouthWest	Bottom	64	0	255	X

The Light-Scene Engine Manager is a PC application that allows an installer to allocate DMX fixtures to amBX locations and to select and modify the Light-Scenes loaded onto the Light-Scene Engine.

There are four main screens in L-SE Manager:

        1.   **Fixture Setup**

        2.   **Light-Scene Setup**

        3.   **Schedule**

        4.   **Settings**

These are described in detail below.

1. Fixture Setup
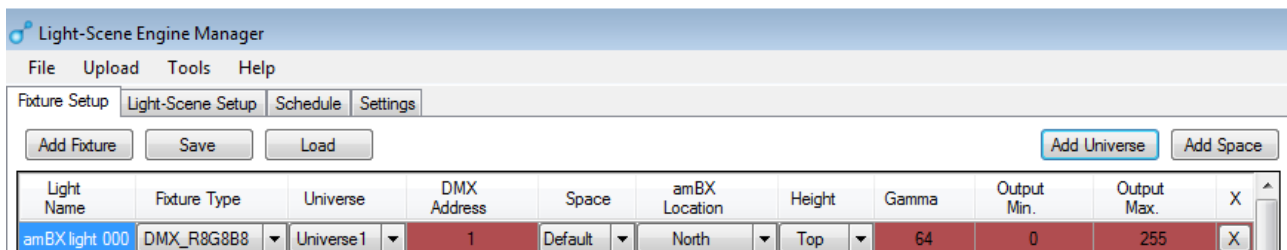
From this screen identify DMX Fixtures and allocate them to an amBX location. You can load and save the DMX fixture set-up independently. In the File menu you will find options for creating, opening and saving projects and uploading the fixture definitions.

Fixture Naming

This is not affected by the L-SE, it simply allows users to name and identify their individual fixtures for identification purposes.

Examples of this might be "bar light middle", "lounge light 17", "dance floor lighting right", "truss 12 light 15".

Fixture Type

This identifies the type of DMX fixture that you are addressing. A range of fixture configurations is supported. DMX_R8G8B8 represents a DMX light that takes an 8-bit red channel, 8-bit blue channel and 8bit green channel.

Commonly used DMX fixture addressing protocols are selected from the drop-down menu for each fixture.

Individual channels are addressable by selection of the required channel type.
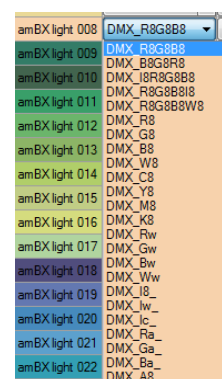
Universe

For configurations with more than one DMX universe this field allows the universe for a fixture to be specified. Additional universes can be added using the Add Universe button. Currently multiple universes are only supported with Enttec DMX interfaces.

DMX Address

This is the start address of your DMX fixture. For example a three channel (RGB) fixture such as R8G8B8:

>   address 1 represents the red channel of fixture 1
>
>   address 2 represents the green channel of fixture 1
>
>   address 3 represents the blue channel of fixture 1
>
>   address 4 represents the red channel of fixture 2
>
>   address 5 represents the green channel of fixture 2
>
>   address 6 represents the blue channel of fixture 2
>
>   and so forth.

Only the start address is required when starting at address 1 the next fixture starts at address 4, then 7, then 10 and so on.

Alternatively, multiple fixtures can share the same address if they are in the same location. This increases the scalability of an amBX space to cover multiple regions or spaces of various sizes above the available out-put of one DMX universe of 512 available channels which would otherwise limit useable fixtures to 170.

>   Example: North Top Fixtures are addressed as DMX 1 North East Top Fixtures are addressed as DMX 4 East Top Fixtures are addressed as DMX 7.

Space

amBX allows multiple, independent spaces to be defined. A typical use would be to have spaces for each room where the lighting is to be controlled. This field allows the amBX space for a fixture to be defined. Additional spaces can be added with the Add Space button.

amBX Location

Each of the discs represents a height level from the amBX location.

Each disc is then subdivided into the 9 compass locations available to amBX. Once you have a fixture selected you can click on one of these discs to set the fixture to the specified location. Once this is done a highlight will appear in that location to let you know that you've selected it.

The fixture will also change colour to match that of the selected location e.g. Clicking the blue "N" will set the fixture to group 2, location North and set its colour in the table to blue.

amBX

Height

This value represents the height or group at which a fixture is set. In a standard amBX set-up (using the default location Model) you have "Top", "Middle" and "Bottom"

The Top layer is used for lighting at ceiling height or equivalent.

The Middle layer is used for lighting at head height or mid-height within the space.

The Bottom layer is used for lighting at floor level or the lowest in the space.

Fixture Adjustments

The amBX Light-Scene Engine Manager allows you to adjust values on individual fixtures during setup to make adjustments for different manufacturer's fixture designs.

- **Gamma**

  Used to adjust the Gamma correction curve for overall luminance. 1.0 = default (no change in output). Values above 1.0 reduce the light output, values below 1.0 increase the light output.

- **Output Minimum and Maximum**

  Used to truncate the RGB colour space of available DMX intensity where 255 = 100% Output MIN allows you to keep the intensity from dropping below a threshold. Output MAX allows you to cap the overall intensity to adjust overall ambient brightness to an appropriate level.

Uploading Fixture Information

In the Upload menu there is an Upload Fixtures option. This is selected to upload the fixture configuration to the Light-Scene Engine.

Once the fixture set up is complete and all fixtures have been configured to the required universe/space/location/channel then the Upload Fixture procedure needs to be run in order to install this configuration into the Light-Scene Engine.
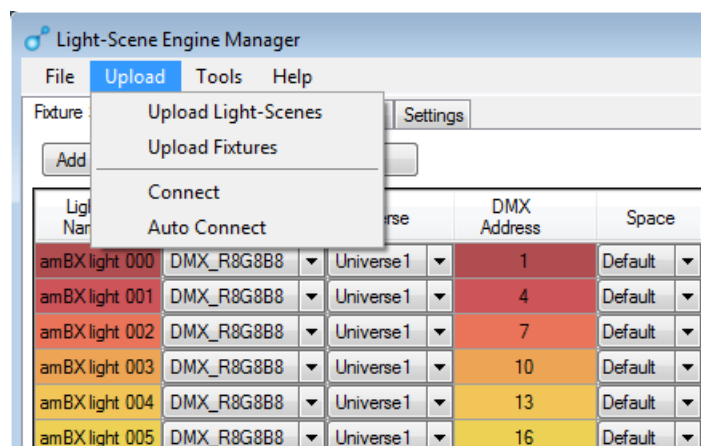
Note: the Light-Scene Engine Manager software must be connected to the Light-Scene Engine before the Upload Fixture procedure is run.

See section below: Connecting to Light-Scene Engine

Connecting to Light-Scene Engine

The Light-Scene Engine Manager software must be connected to the Light-Scene Engine software before Fixture, Light-Scene, Schedule and Setting data can be uploaded. This is normally done over the network to which both the Light-Scene Engine and the Light-Scene Engine manager software are connected.

Important: The Light Scene Engine Manager software must be capable of accessing Light-Scene Engine via the network or running on the same Processor.

Light-Scene Engine Manager will request the IP address and port code of the Light-Scene Engine Processor during each upload procedure.

The Light-Scene Manager is set to default to IP address 127.0.0.1, Port code 8069.

The values need to be validated as part of the upload procedure.

Note: if the Light-Scene Engine Manager software is being used on the same Processor as Light-Scene Engine then the default settings will not need changing.

Follow these steps to connect to Light-Scene Engine:

1. Ensure Light-Scene Engine is operating and is on same network or the same Processor the Light-Scene Engine Manager

2. Select Upload Fixtures once the configuration settings in Light-Scene Engine Manager are complete

3. Validate the correct IP address for the Light-Scene Engine installation
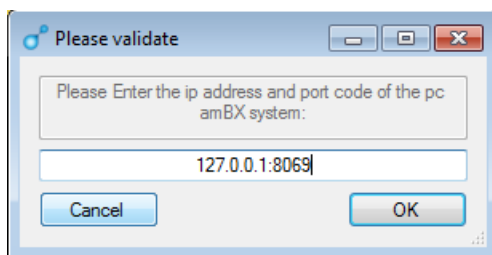

> *Note: If you use the "**Connect**" tab Upload drop down menu and enter the IP address and then select the "**Auto Connect**" tab the Light Scene Engine Manager will re-use the same IP address throughout the setup session for all uploads.*
>
> *This is cleared on closing of the Light-Scene Engine application and not remembered for a new session.*

4. Ensure the correct values in the Edit Universe dialogue box are correct for the Light-Scene installation you are updating.
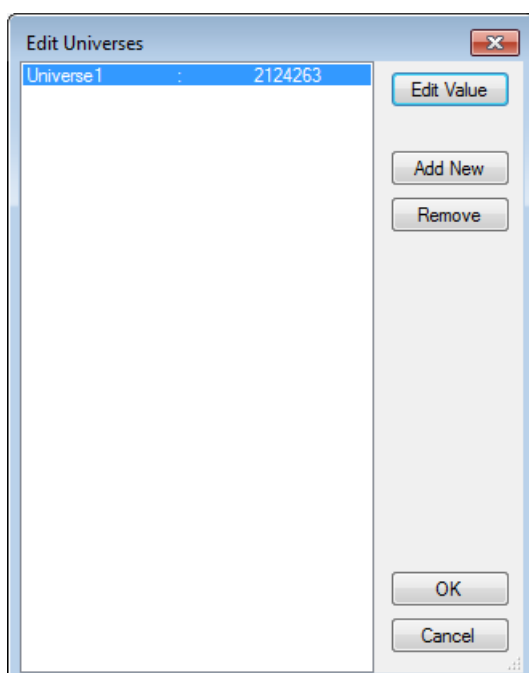
> *Note: The "Universe Value" is the unique device number of the Enttec DMX adapter installed for that universe.*
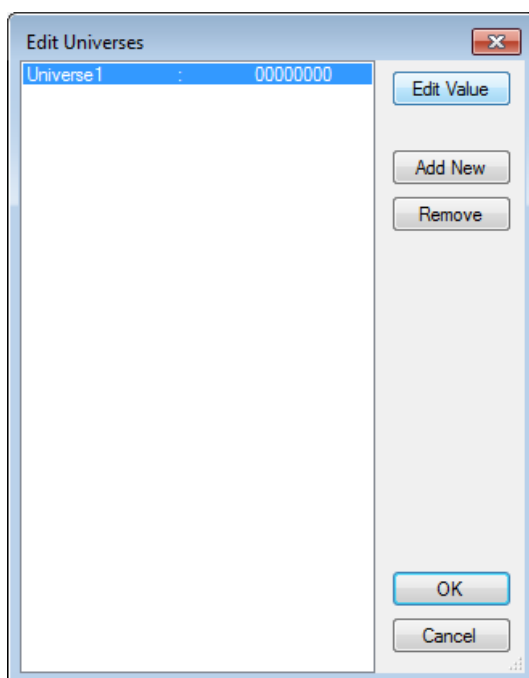
5. Select the universe to edit and click the Edit Value button.
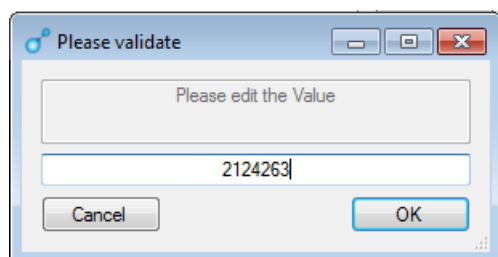
6. Enter the Enttec address and press the OK button.

7. Click "Ok"

2. Light-Scene Setup

An amBX Light-Scene is a container of scripted effects, a colour palette and name, description, priority and icon. The L-SE uses these Light-Scenes to generate an experience by combining base and effect palettes and scripted effects when they are triggered by audio and video to create a meaningful ambient scene.

Light-Scenes can be dragged around to re-order them or the arrow buttons can be used. Double click on the background or click the Add Light-Scene button to add a new Light-Scene.

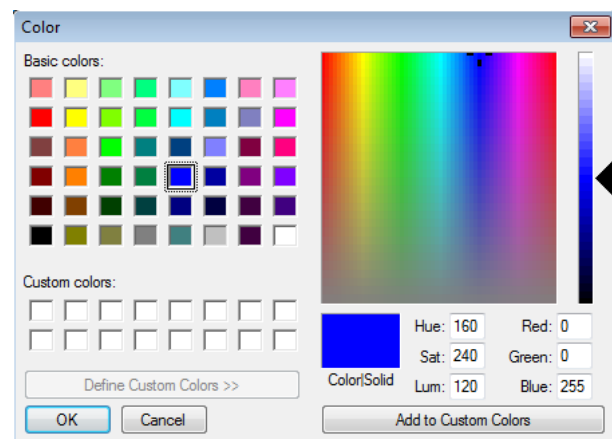To modify a Light-Scene click on its icon, the customisation area will become active.
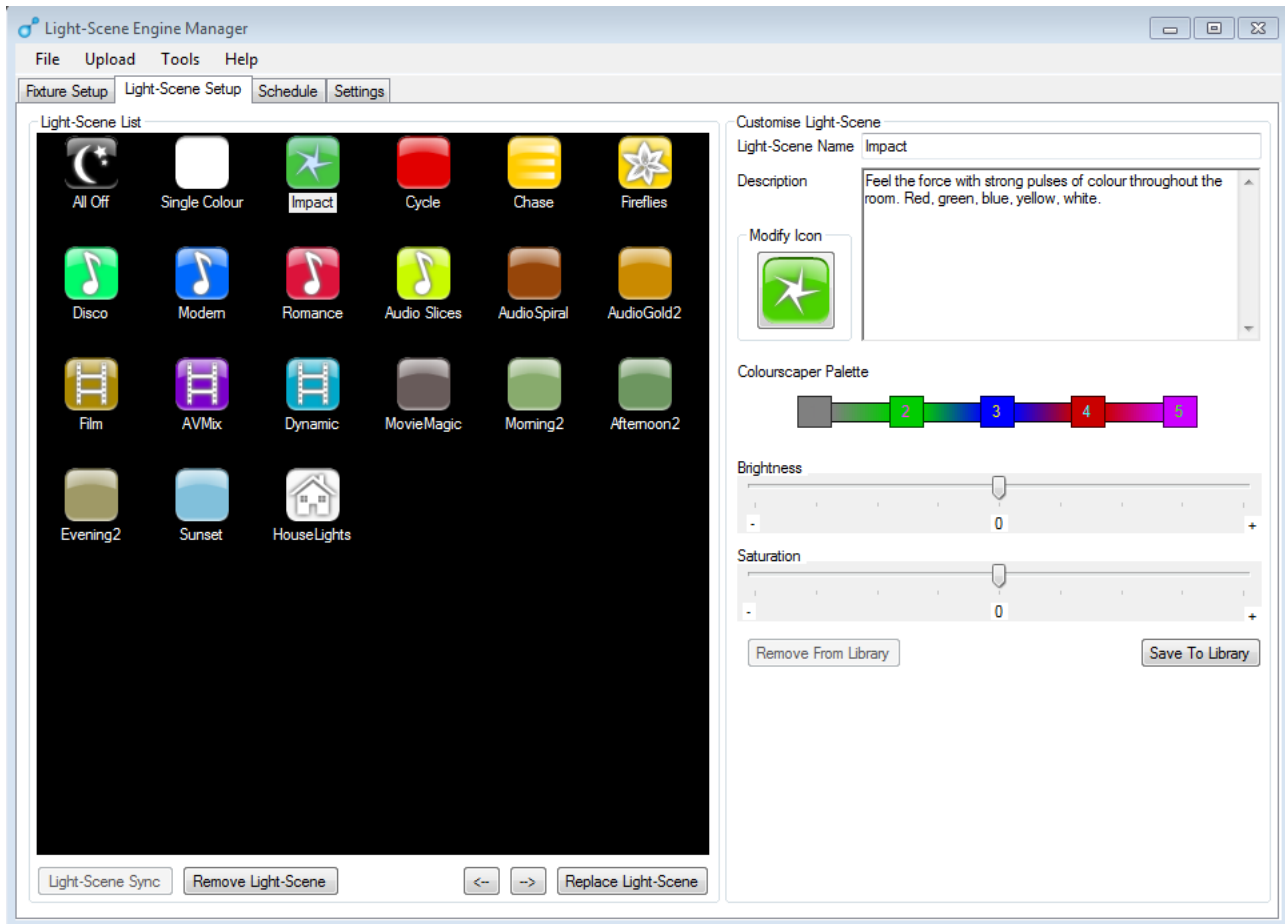
Change the Palette

Once a Light-Scene is selected the five palette colours used by that Light-Scene are shown. They can be changed by double-clicking on one of the five numbered boxes in the palette.
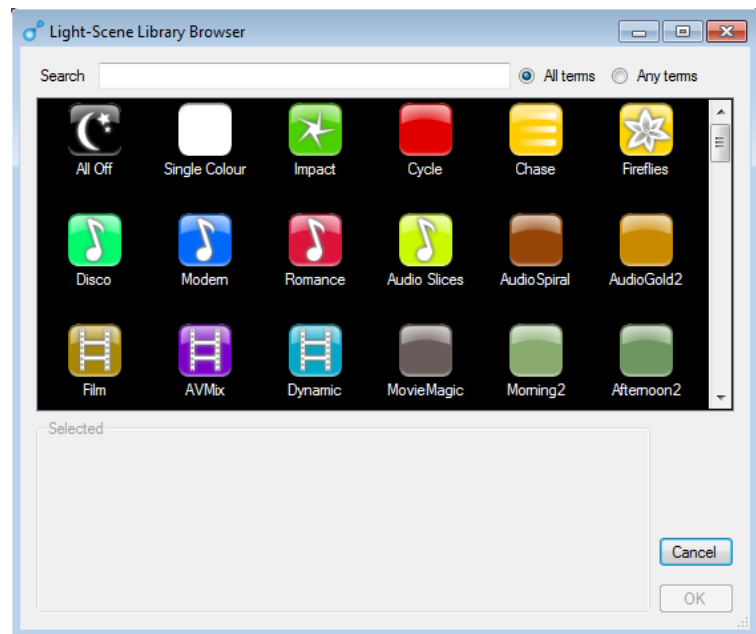

This will bring up a colour picker.

Light-Scene Export Window

These are the Light-Scenes that will be exported to the L-SE in the final step of the process. Selecting Browse on Main Menu will bring up Light-Scene Library.

Light-Scene Library

amBX has created a series of base Light-Scenes that act as starting points for selection and colour customisation.

Save to Library

User renamed Light-Scenes can be saved using the Save To Library button on the Main Light-Scene page.

Name and Description

Naming will help you to identify your amBX Light-Scenes on the L-SE. Description is used in the Light-Scene Engine Manager to give you a quick idea of what the Light-Scene does.

Icon Customisation

Selecting the Customise Icon button the Icon Library will open and a selection including colour can be made. It is useful to select an icon that correlates to the mood, palette, or naming convention of the Light-Scene. Currently the icons are not used in the LS-E.

Uploading Light-Scene Information

In the Upload menu there is an Upload Light-Scenes option:

Once the Light-Scene setup and configuration is complete the Upload Light-Scene procedure needs to be run in order to install this configuration into the Light-Scene Engine.
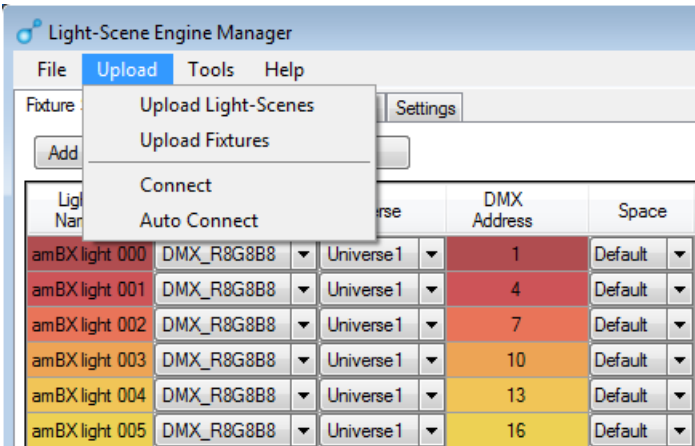
*See section on Connecting to Light-Scene Engine*

3. Schedule

Once a set of Light-Scenes has been selected they can be scheduled to play over time. The Light-Scene Engine allows different Light-Scenes for each hour of each day for a whole week. A schedule can be defined for each space.

7x24 hour scheduler

The Light-Scene Engine Manager scheduler allows Light-Scenes to be placed on the schedule grid.

Select a Light-Scene and then select a time slot with your left mouse button. Selecting the Light-Scene with the right mouse button will delete the Light-Scene at that time. Selecting a new Light-Scene will fill empty time slots or overwrite existing Light-Scene/time pairs.
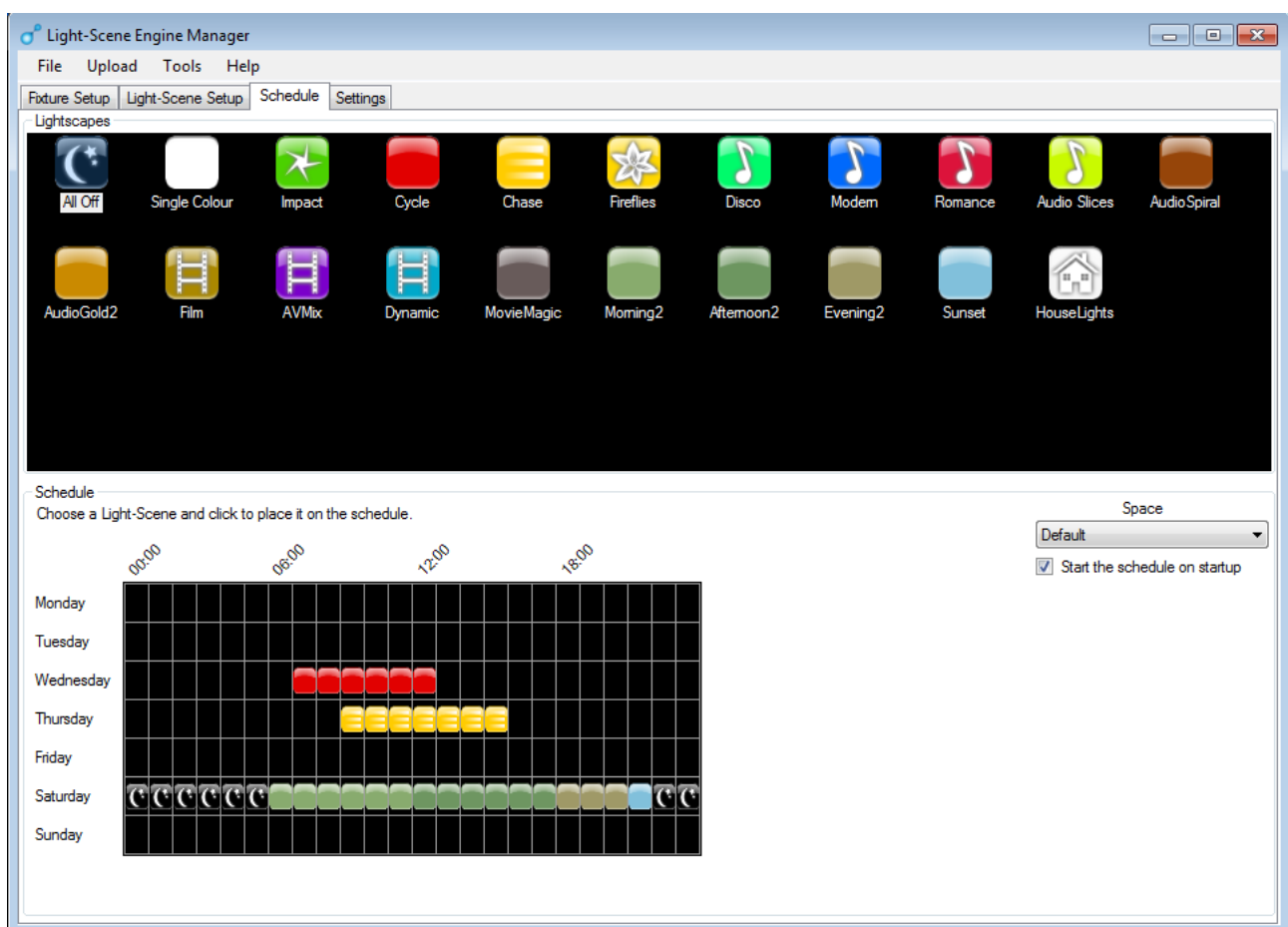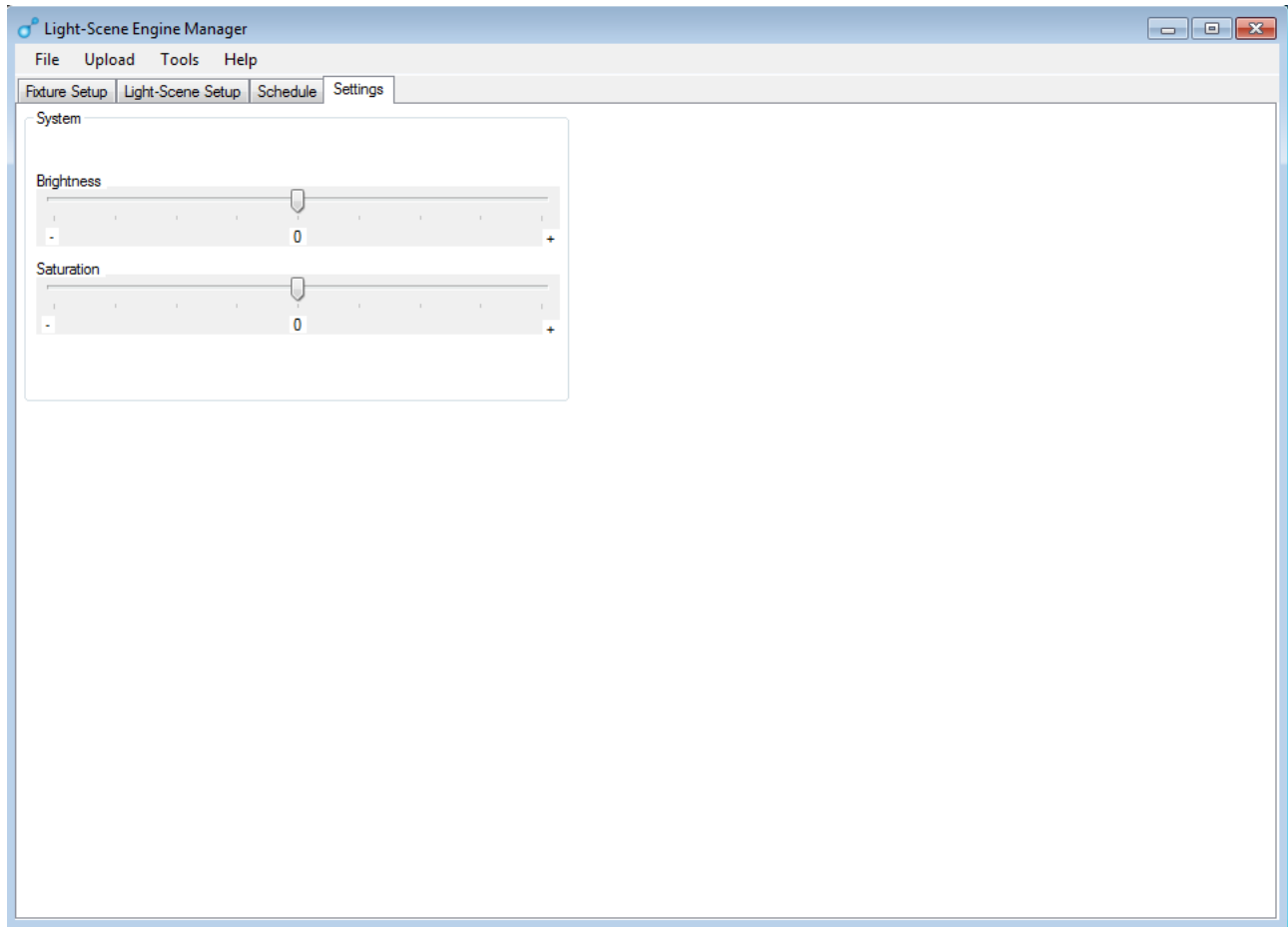

Uploading Schedule Information

In the Upload menu use the Upload Light-Scenes option to upload the schedules:

4. Settings

Change the Brightness and Saturation for the L-SE.

Uploading Settings

In the upload menu use the Upload Light-Scenes option to upload the Settings to Light—Scene Engine.

NOTE: Once Upload Fixtures or Upload Light-Scenes procedure has been run the Light-Scene Engine will reset itself with the new changes and uploads.

This process takes a few moments and also includes the switching off and on of any lights already configured and connected to the system. The lights will flash momentarily green during this.

The Light Scene Engine will start running with the Light-Scene it last ran or its replacement unless there has been a schedule uploaded. If no Light-Scene was running previously or if it is a new installation and no schedule has been uploaded, then no Light-Scene will run until selected.