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<table>
<thead>
<tr>
<th>Material code</th>
<th>Description</th>
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<tr>
<td>EF-SITEMONITOR</td>
<td>Monitoring Software license without graphical visualisation maps including an EC0232 interface</td>
</tr>
<tr>
<td>EFGVS1-2</td>
<td>Graphical Visualisation Software license 1-2 panels including an EC0232 interface</td>
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<tr>
<td>EFGVS3-6</td>
<td>Graphical Visualisation Software license up to 6 panels including an EC0232 interface</td>
</tr>
<tr>
<td>EFGVS7-10</td>
<td>Graphical Visualisation Software license up to 10 panels including an EC0232 interface</td>
</tr>
<tr>
<td>EFGVS11-PLUS</td>
<td>Graphical Visualisation Software license above 10 panels including an EC0232 interface</td>
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<tr>
<td>EFGVS7-10-TCPIP</td>
<td>Graphical Visualisation Software license up to 10 panels with TCP/IP interlink</td>
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<td>EFGVS11-PLUS-TCPIP</td>
<td>Graphical Visualisation Software license above 10 panels with TCP/IP interlink</td>
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2 Installation

2.1 Components

Graphical visualisation software version 6 is split into five distinct components. With suitable configuration, there is no requirement to install all components on the same PC, but the most common setups usually include all five (the Full option during installation).

2.1.1 Monitoring service

This component runs as a pair of Windows services in the background whenever the PC is turned on (assuming the services are not modified from the default of automatic start-up). To change this behaviour please refer to the documentation for your version of Windows for further details on service administration. This component is responsible for providing the link from the PC to the panel network, event monitoring and the interface server to connecting clients.

2.1.2 Site monitor viewer application

This is a Windows-based desktop client that can connect to the Monitoring Service. This client provides full access to all logged and real-time monitoring events, as well as the ability to perform commands such as Global Reset, Global Mute and many more. This viewer is important for the initial configuration of the Monitoring Service.

2.1.3 Graphical visualisation software viewer application

Working in a similar way to the Site Monitor Viewer Application, this is also a Windows-based desktop client that can connect to the Monitoring Service. This client provides full access to all logged and real-time monitoring events, as well as the ability to perform commands such as Global Reset, Global Mute and many more. This application is designed to provide a geographical representation of a single site with rich graphics and a fully programmable interface.

2.1.4 Graphical visualisation software designer application

This tool enables you to create and edit the presentations displayed in the Graphical visualisation software viewer application. The software includes commissioning import and wizard tools, and is designed to enable maximum flexibility while at the same time reducing development time of new presentations.

2.1.5 Site monitor web system

Providing the same functionality as the Site Monitor Viewer Application, this ASP.NET web application allows access via a web browser (such as Microsoft Edge, Firefox, Opera, Safari and Google Chrome). This gives the advantage of quick access from any location or computer without the need to install the desktop user interface client. To use this component, a suitable ASP.NET enabled web server must be installed. It is also important to note that no web server is provided by the Graphical Visualisation Software package and the web user interface does not contain every feature found in the desktop user interface.

2.2 Requirements

All components require Microsoft .NET v4.6 (or compatible) to be installed. The Monitoring Service also requires Microsoft SQL Server Compact v4 or above and a Windows-based PC capable of running services (Microsoft Windows Vista and above, and with all the latest service packs installed). For the connection to a LON network, your PC will also require at least one available Serial or USB port. To use the Web System Interface, you must ensure a suitable ASP.NET enabled web server is installed.

### System requirement

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minimum hardware</td>
<td>Intel i3 or equivalent, 4GB RAM, 3D graphics card with 2 GB RAM, 4GB free disc space, 1 RS232 serialader, 100/1000 Mbps LAN Port or wireless LAN card</td>
</tr>
<tr>
<td>Software libraries</td>
<td>Microsoft .NET 4.6 and Microsoft SQL Server Compact 4.0</td>
</tr>
<tr>
<td>Platform</td>
<td>Windows Vista, Windows7, Windows8, Windows10</td>
</tr>
<tr>
<td>Display</td>
<td>High resolution 1024x768 or higher</td>
</tr>
<tr>
<td>Internet</td>
<td>100/1000 Mbit/s or higher</td>
</tr>
<tr>
<td>Internet, from other locally networked computers or from across the Internet, then you will need to ensure you open port 60000 (or the port you have changed this value to) on any influential router or firewall.</td>
<td></td>
</tr>
</tbody>
</table>

**Note:** if the software is used for a very large and complex site, hardware requirements may need to be higher. Consult Eaton for guidance.

3 General configuration

3.1 Starting the monitoring service

By default, the service listens on port 60000 for incoming connections from clients. If however you do wish to change this, it can be configured by loading the Server Configuration application located within the Start Menu. If you would like to access this service from a remote location, such as from other locally networked computers or from across the Internet, then you will need to ensure you open port 60000 (or the port you have changed this value to) on any influential router or firewall.

**Note 1:** You must restart the service for any changes to take effect.

**Note 2:** You need to know this number when connecting from a client, see below for details.

**Note 3:** Remote access will require the configuration of any influential router or firewall, which is usually performed by your IT department.

If you do need to manually Start, Stop or Restart the service, then this can be done by clicking on the appropriate shortcut located within the Start Menu. Please note that Admin permissions are often required for this.

The following options are available in the Server Configuration tool:

- **Listen on port (Service):** This is the port value which the Monitoring Service will accept connections.
- **Database path (Service):** The physical location of the Monitoring Service database.
- **Enable Anti-Hammering (Service):** This option enables the built in password protection system. This means any user who fails to provide a valid username and password five times in row will be locked out for up to 10 minutes.

**Server host / IP address (Web):** This should be the host or IP address of the computer running the Monitoring Service. If both the web and service are running on the same computer, then ‘localhost’ will generally work fine.
Port (Web): This should be the port value of the computer running the Monitoring Service. If both the web and service are running on the same computer, then this value should match the ‘Listen on Port’ setting.

3.2 Configuring the monitoring service

As the Monitoring Service provides a storage point for events and device status, you will need to initially use the Site Monitor Viewer application to setup the service. This includes aspects such as the E0232 setup, panels, devices, text...etc. It should also be noted that the automated email notification system is configured exclusively through Site Monitor Viewer too. Generally the initial setup is straightforward and can be automated through importing Site Installer files or scanning of the network.

For further details and options on how to achieve this, please refer to the Site Monitor User Manual.

3.3 Configuring the graphical visualisation software viewer

Graphical visualisation software is designed to support various connection methods, and so to connect to Site Monitor you need to create a new profile. To access this, place your mouse pointer near the top of the window to reveal the hidden menu system, you can then select the File drop down menu and then click on Preferences. The popup window contains all the profiles on that computer, and by default this list will be empty. To connect to the Site Monitor Service, you can add a Site Monitor connection type and then fill in the connection details. It is important to note that the default connection details, when connecting to a locally running service, are the following (if all components are installed on the same computer):

Username: admin
Password: admin
Host address: localhost
Host port: 60000

The file path field should be directed at your graphics presentation file, which will have been created using the included designer tool. For further information on how to create a graphics presentation, please refer to the later sections of this manual.

Once the connection details are complete, you can click OK to save this new profile and return to the previous screen. To connect, you can access the File drop down menu again and then click Start. Providing you entered the correct details, the presentation should load and become active.

4 Graphical Visualisation Software viewer

4.1 General

The software can be configured to access multiple sites, although only one site is permitted at a time (unlike Site Monitor which can access multiple sites at the same time). This is achieved by the Profile system as described above in the General Configuration section. Essentially you configure a profile per site, then upon loading Graphical Visualisation Software Viewer, you select a profile and connect.

As this is a graphical representation, we also recommend that any display that is dedicated to this application is put in full screen mode. To achieve this, you can click on the Full Screen option within the View drop down menu.

It should be noted that there is no limitation on the number of instances you have running of the Graphical visualisation software Viewer. So it is therefore possible to load the software multiple times, and with each instance running a different profile. The benefit to this kind of setup would be if a computer system was connected and monitoring various sites. Of course such a computer system would require higher performance hardware.

4.2 Presentations

The viewer application is designed only to run pre-made presentation files and is therefore very much a read-only media viewer. The presentation files are configured exclusively by the included Graphical Visualisation Software Designer tool. Presentations can include any of the following features:

- Multiple graphic screens: These are referred to as pages, and each page is designed primarily to display a single floor plan within a building. Pages can also be used to display non-floor plan imagery, such as navigation pages or informational screens.
- Device status: Each page can also include numerous devices, each positioned upon the floor plan in real geographical positions. Each device can display live status, text and provide control options.
- 3D idle view: Intended as the default view when a user is not looking at a particular page, this mode shows all relevant pages in a truly 3D mode. Essentially all the 2D floor plan images of all buildings are stacked up in a
3D model. This view is fully interactive and allows users to view a floor’s status and navigate a site with ease. Additionally, each floor will flash an appropriate colour if any of its devices are in an active state.

- **Audio:** Any event or user interaction can trigger the playing of audio files. These can be used to alert users to status changes, or provide audio information to users as they navigate the presentation.

- **Event log:** Presentations can display the network event history, which includes historical events as well as being updated with new events.

- **Buttons, text and imagery overlays:** Every page can include a customized variety of buttons, text or imagery that allows specialised user interaction. Each overlay element is highly customizable in terms of position, size, font, colour, border and content.

- **Popup menus (context menus):** All elements of a presentation can be configured with context menus. These are displayed when a user right clicks on an item and allows actions to be applied directly to certain areas of a presentation (i.e. device actions).

- **Network commands:** Any button, popup menu or mouse click can be configured to emit control commands to panel networks. This includes Global Reset, Evacuate, Silence, Mute, Enable, Disable...etc.

- **Programmability with automatic actions:** Preconfigured action sets can be assigned to automatically run when certain conditions are met. These action sets have the full capability equivalent to what a button press can achieve. Conditions include page changes, user actions, status changes and new events being received.

### 4.3 Page view

When the presentation is displaying a page, the floor plan imagery is shown in 2D with the device items placed around in their appropriate positions. Additionally, any overlays associated with the page will be displayed on screen. The following capabilities are available in this mode:

#### 4.3.1 Devices

- Any device in an active state will react and animate appropriately, making it easy to spot.

- Clicking a device will execute any associated click actions.

- When the mouse is hovering over a device, a status box is shown that includes all appropriate live information.

- Clicking the right mouse button on a device will display the associated context menu, which can include general as well as device specific actions.

### 4.3.2 Other active pages

- If any other pages have devices in an active state, these will be stacked up and displayed in the bottom left corner of the screen.

- Clicking a stacked page will execute any associated click actions, which by default will display the page.

- When the mouse is hovering over a stacked page, a status box is shown that includes all appropriate live information.

### 4.3.3 Zooming and moving the viewpoint

- Holding the left mouse button will allow you to move the imagery and devices around the screen. You can also achieve this using the arrow keys.

- Scrolling the mouse wheel will allow you to zoom in and out. You can also achieve this using the + and - keys.

- After a short period, the view will slowly revert back to its original state. You can trigger this yourself by pressing the HOME key.

### 4.4 3D Idle view

When the presentation is in idle mode, it will display a 3D view of the entire site. Within this view, each building will be displayed entirely, including each page/floor. To resemble a building, each floor plan image within a building is then stacked up into a 3D structure. This can provide the easiest way to navigate around a site, as well as the simplest way to view what areas are in what state.

#### 4.4.1 Pages/Floors

- If any of the pages have devices in an active state, they will flash an appropriate colour to highlight their current status.

- Clicking a page will execute any associated click actions, which by default will display the page.

- When the mouse is hovering over a page, a status box is shown that includes all appropriate live information.

- If a page is programmed to automatically show on a specific state, then the presentation will perform an additional animation before displaying that page. This additional animation is intended to highlight the changing area to any observing user.
4.4.2 Zooming and moving the viewpoint

- Holding the left mouse button will allow you to pan and rotate the 3D site plan. You can also achieve this using the arrow keys.
- Scrolling the mouse wheel will allow you to zoom in and out. You can also achieve this using the + and - keys.
- After a short period, the view will slowly revert back to its original state. You can trigger this yourself by pressing the HOME key.

4.5 Event logs

Event logs contain recent network events that have been received by the Monitoring Service. The Graphical Visualisation Software Viewer includes an Event Log overlay element that can display this information. Of course as this is an overlay, the position, design and size of the event log is completely customizable, and can be displayed when and how the designer of the presentation choses.

An important aspect of event logs is that the user can select the log entries, either for copying to another application, or more commonly for acknowledging them. Performing an acknowledge action, which requires a button with the Acknowledge action, indicates to other users of the system that somebody has seen and acted (if required) upon the event. If there are multiple event log elements in a presentation, all user input will be mimicked across them. An example of when this is necessary is if the presentation provides a compact and large mode for viewing event logs – as shown in the default presentation configuration.

4.6 Searching for pages/floors/devices

Searching for specific floors or devices can be achieved by adding a Search box to the presentation, which can be done easily by running the Page/Overlay Wizard. The search box works by taking a text string, and automatically populating a checkable list of found items. This list includes any page/floor and any page device location.

Checking an item will result in the selected item being displayed immediately. This behaviour can be prevented by adjusting the Selected option in the Auto-Show Page property list. Also, once an item is checked, it is then flagged as Selected and the page/floor/device will identify this with either an appropriate flashing colour or state border. It should be noted that any device in an active state will show the appropriate state border rather than the selected border. When selecting a device location, all devices that map to that location will also be selected.

4.7 Operation modes

The Graphical Visualisation Software Viewer is designed for three modes of operation; full user interactive, full autonomous display or a mix of both.

4.7.1 Full user interactive

This kind of setup is when the presentation only displays what a user selects. This means that any state changes will never change the display. To achieve this, simply ensure that devices are not programmed to show the page on any state, and no Automatic Actions exist that can cause the view to change.

4.7.2 Full autonomous display

This is the polar opposite of Full User Interactive, and is intended for displays where no user input is possible. This is ideal for informational displays in lobbies or other public viewing spaces. To achieve this, the presentation would be configured with no buttons, devices set to show pages on state changes and many Automatic Actions configured that alter the view as required.

4.7.3 Mixed

This is the most common setup, in that pages will automatically show, but the presentation is still designed for easy interaction. This is the default setup.

5 Graphical Visualisation Software designer

5.1 General

The designer application is an all-purpose tool for creating and editing presentations, and comes with a selection of built in tools to help achieve this. The software is designed to accommodate various screen sizes, and so provides a flexible tool work space that can be adjusted by each user of the designer.

The first point to notice is that on the left and on the right are collapsible panels. These panels can be decorated with the various toolboxes that are used by all presentations (see the next section for further details). In the centre of the software is the main view, which displays the selected part of the presentation.

To open or save a presentation, you can use the File drop down menu. To view this help information, you can use the Help drop down menu or press the F1 key.
5.2 Toolboxes

There are presently three toolboxes available. These toolboxes cover all important aspects of the software including navigation and properties. To add a toolbox to your presentation, open the View drop down menu and select Add Toolboxes. Once tool boxes are visible, you can then use your mouse to drag and drop the tool boxes to the desired location on screen. To prevent accidental tool box manipulation, you can click the padlock icon to lock the toolbox in place.

5.2.1 Presentation explorer

This toolbox allows you to quickly navigate around a presentation, by simply expanding and selecting items. Selecting an item in this list will alter the main view and update all other toolboxes.

5.2.2 Properties

Every item within a presentation has editable properties, and these are all accessed via the Properties toolbox. When an item is selected in either the Presentation Explorer toolbox, Details toolbox or in the main view, the Properties toolbox will update for that particular item. Common properties include text content, image selections, styling choices...etc. Each section of the property window can be collapsed or expanded, allowing you to hide away the properties that are of no use.

5.2.3 Details

Most items within the Presentation Explorer contain an extensive list of sub items, such as a page’s devices or overlays various elements. The details toolbox will display these and provide more advanced options to edit these sub items (adding, deleting, moving...etc).

5.2.4 Imported devices

If you have used the Import option under the Tool drop down menu, then you can access the available devices using this toolbox. To browse the available devices, simply select an option from each box, then either double click on the required device or select the device and click Add. Please note this toolbox is only valid when you are viewing a page/floor.

5.3 General properties

If you select the root item in the Presentation Explorer, the view will display icons for all items within the presentation. Additionally, the Properties toolbox will show the general properties which cover general site information, the target screen resolution and other values.

General

This is the general site information, that is purely informational and has no bearing of the operation of the presentation.

Display

The screen resolution is important to the wizard setup tools as well as ensuring the screen optimisation mechanisms work as expected. You can also customise the colour scheme used for any item that is displaying a particular state.

Miscellaneous

The View Reset Secs controls when the view will reset after a zoom or drag action by the user.

Auto-show page when in idle

Pages can be configured to automatically show when a device enters a particular state while viewing the Idle mode (3D). As these options are at the General level, they will be applied to all pages and devices in the presentation.

Auto-show page when on page

Pages can be configured to automatically show when a device enters a particular state while viewing a page. As these options are at the General level, they will be applied to all pages and devices in the presentation.

Device status effects page status

Pages will automatically highlight any important status by flashing an appropriate colour. This option allows you to select what status types have this effect on the page. As these options are at the General level, they will be applied to all pages and devices in the presentation.

Active shortcut with device status

When the user is viewing a particular page, other pages with active status will be stacked in the bottom left corner of the presentation to draw the users attention. This option controls what status types have this effect on pages. As these options are at the General level, they will be applied to all pages and devices in the presentation.
Apply mode
For each of the three sections above, you can control how enabling an option is applied. **Allowed** means ticking an option switches it on. **Disallowed** has the opposite effect, and is also higher significance, therefore overruling any **Allowed** configuration.

5.4 Buildings, pages and floors
Pages are the key component of all presentations, and at a basic level each one is a single graphics screen within a presentation. Each one of these screens can include its own images and devices, which is then overlaid with buttons and text. Normally pages represent individual floors within a building, but they can also be used as floor sub sections, informational screens, navigation hubs, welcome screens or pretty much anything a site requires.

5.4.1 Buildings
As with any real site, the site is almost certainly composed of at least one building, and within each building, there is at least one floor level. The graphics system mimics the real physical world and so allows you to define any number of buildings in a site, and then organise the pages/floors into those buildings. Eventually, this will be the foundation of the 3D designer view, where those buildings can be scaled, rotated and positioned within the 3D landscape.

Name
The name of the building (shown in the status popup and the screen title).

Is Page Directory
This option flags a building as a non-building. This is useful for managing non-floor pages, allowing you to group them together.

Colour
This places a colour filter on an entire building, which allows colour coding of buildings within a site. Any floor/page image that also sets a colour will override this setting for just that image.

5.4.2 Page
Once you have created a page (select **Pages and Floors** or a building and then click **Add**), you will be presented with a selection of properties relating to how the page is managed. The following list will help define how each one works.

Mouse Click
This is a configurable list of actions that will execute whenever a user clicks on the page (usually in Idle).

Menu
This is the context menu that will be displayed when a user right mouse clicks on the page.

Name
The name of the page (shown in the status popup and the screen title).

Building
The building in which this page is assigned to.

Floor number
The current floor number. This can be negative for below ground floor levels, 0 for ground floor level and positive for floors above ground level.

Location
Text describing where the floor is located. This is presently only used in the status popup and is optional.

Start Page
If enabled, this will be the page shown when the presentation loads. Presentations can include a welcome/landing page that is purely informational and a navigation hub.

Show in Idle
If enabled, the page will be drawn in the 3D idle mode. Any non-floor plan page should disable this option.

Display scaling
If enabled, page views scale to the current screen size when viewed.

Exclude from search
Enabling this option will ensure the page is never displayed in the search list.

Mouse hover
If enabled, the page will react when the mouse pointer is hovering over it.
Optimise Gfx
To ensure smooth animation and good performance, all imagery must be optimised, which is essential for large sites.

Note: Do not optimise this page. This is not recommended unless the page is expected to be zoomed into. Screen sized: Use imagery that is scaled to fit the screen. Idle only: Use reduced quality images only in idle mode. Full: Use reduced quality images in idle mode and screen sized images in page view mode.

Auto-show page when in idle
Pages can be configured to automatically show when a device enters a particular state while viewing the Idle mode (3D). As these options are at the page level, they will be applied to all devices on the page.

Auto-show page when on page
Pages can be configured to automatically show when a device enters a particular state while viewing a page. As these options are at the page level, they will be applied to all devices on the page.

Device status effects page status
Pages will automatically highlight any important status by flashing an appropriate colour. This option allows you to select what status types have this effect on the page. As these options are at the page level, they will be applied to all devices on the page.

Active shortcut with device status
When the user is viewing a particular page, other pages with active status will be stacked in the bottom left corner of the presentation to draw the users attention. This option controls what status types have this effect on pages. As these options are at the page level, they will be applied to all devices on the page.

Apply mode
For each of the three sections above, you can control how enabling an option is applied. Allowed means ticking an option switches it on. Disallowed has the opposite effect, and is also higher significance, therefore overrruling any Allowed configuration.

5.4.3 Images
A page can include as many images as required, although usually only a single floor plan image is required. These images provide the base on which all devices can be placed. To add an image, simply click the Add Image option. The following properties are available for page images:

Image
This sets the image file to display.

Colour
This places a colour filter on an image, which allows colour coding of floors within a building if required.

Scale
This sizes the image, usually used to ensure the image fits within the screen.

X Positions the image horizontally.

Y Positions the image vertically.

5.4.4 Devices
Each device added to a page usually represents a single product connected to a monitored system. Devices can be anything, including addressable detectors, sounders, manual call points, loops, panels, loops, zones, networks...etc. A device can also be used purely to provide information on a page, in the form of a popup text and audio. The following properties are available for devices:

Mouse click
This is a configurable list of actions that will execute whenever a user clicks on the device.

Menu
This is the context menu that will be displayed when a user right mouse clicks on the device.

Device text
The default device text of the page device (shown in the status popup and the title). This text is usually ignored when connected to a Monitoring Service, as that has its own version of the text.

Image
The displayed device image, as configured in the separate Device Images area.

Visible
Controls if the device is visible to the user.

Filter logs
When enabled, the device’s location information will be used to filter the event log. This is useful if a specific page/floor represents a panel/loop/zone, and you only want to view events from that panel/loop/zone.

Is real
Controls if the device icon is designated as the single true representation of the physical location of the device. This option should be disabled on pages that are not intended as actual floor plans.

Self state only
If enabled, this ensures the device will only represent its own direct status. If disabled, the device will represent its own status and that of any of sub connected items (e.g. a panel will show a fault if any of its devices are in fault).

X Positions the image horizontally.

Y Positions the image vertically.

Network location
This controls what physical location/product the device will represent and track.

Display text
This controls what text is displayed with the device when the page is presently being shown in 2D to the user.

Horizontal and vertical
Positions the 2D display text within the element.

Padding
Sets how far from the edge of the element the 2D display text will appear.
Other text options
The remaining options are the typical font controls for 2D display text, including colour, font, size and text effects.

Background
This sets the background colour for the 2D display text.

Border
This sets a border around the 2D display text, with options to control the colour and thickness.

Enable info-icon mode
If a device is not representing a physical location/product and is purely information instead, then these options allow you to control the popup box.

Auto-show page when in idle
Pages can be configured to automatically show when a device enters a particular state while viewing the Idle mode (3D). As these options are at the device level, they will only effect this device.

Auto-show page when on page
Pages can be configured to automatically show when a device enters a particular state while viewing a page. As these options are at the device level, they will only effect this device.

Device status effects page status
Pages will automatically highlight any important status by flashing an appropriate colour. This option allows you to select what status types have this effect on the page. As these options are at the device level, they will only effect this device.

Active shortcut with device status
When the user is viewing a particular page, other pages with active status will be stacked in the bottom left corner of the presentation to draw the users attention. This option controls what status types have this effect on pages. As these options are at the device level, they will only effect this device.

Apply mode
For each of the three sections above, you can control how enabling an option is applied. Allowed means ticking an option switches it on. Disallowed has the opposite effect, and is also higher significance, therefore overriding any Allowed configuration.

5.4.5 Positioning and sizing
Every image added to a page provides position and sizing options, devices can only be positioned. The images and devices can all be positioned using the mouse (and sized if it is an image), or via the properties.

5.4.6 Adjusting the view
The view’s perspective is adjustable and can be zoomed and shifted. These controls have no bearing on the final presentation, but are provided as an aid to designing.

• Holding SHIFT and the left mouse button will allow you to shift the view around. You can also achieve this using the arrow keys.

• Scrolling the mouse wheel will allow you to zoom in and out. You can also achieve this using the + and - keys.

• The HOME key will restore the view to normal.

5.4.7 Overlay
Each page has its own overlay, and this can be accessed by expanding the current page item within Presentation explorer and selecting the Overlay item. Any overlay elements created here will only effect this single page. For further information on how overlays work, please refer to the next section which controls the shared overlays.

5.5 Overlays
Presentations are made from two key components; the page graphics that are shown in both idle and page view modes, and a layer of overlay elements that provide static buttons, imagery and text. As the name suggests, overlay elements usually sit on top of page graphics.

5.5.1 Page overlay vs shared overlays
As most overlay content will be repeated across multiple pages, the Overlays area in Presentation Explorer allows you to define shared overlay content. The idea is that you can break up your overlay structure into small simple units, of which each perform a specific purpose. Individual pages can then pick and mix the appropriate overlay content. A good example is the event log which all pages need to display. By placing the event log in a shared overlay, it allows all pages to share it, and so any design changes you make will affect all pages.
5.5.2 Predefined overlays
There are presently three default overlays that are automatically displayed and that cannot be deleted. These allow you to quickly effect all pages with little configuration.

<Mastere>
Every screen in graphics will include this overlay content, this includes page views and idle mode.

<Pages>
Every page view will include this content.

<Idle>
The idle view will always include this content.

5.5.3 Overlay
To create an overlay, navigate to Overlays within Presentation Explorer and click Add. The following properties are available for each overlay.

Name
The display name of the overlay, which is only used within the designer.

ID
The ID is used to identify an overlay, which is required for dynamically showing and hiding overlays. This value does not have to be unique, and so can allow you to hide or show groups of overlays with a single action.

Draw order index
When multiple shared overlays are used by a page, this controls the layers of overlays. Higher value overlays will appear over the top of lower value overlays (e.g. allowing the event log to appear on top of other overlay content).

Underlay
If you want overlay content to appear behind the page graphics or idle graphics, you can enable this option. A good use of this is dynamic background content based on status.

Fade in (Secs.)
This controls how quickly the overlay will be displayed. Overlays that fade in, will generally result in a smoother graphics system. Low performance systems may want to disable this feature.

Parent overlays
Adding references to other overlays in this list will ensure they are also displayed. Enabling the tick box means the overlay will show immediately. Unticking this option means the overlay will only show when a Show Overlay action is executed (likely from a button). You will notice that the <Mastere> overlay is always included.

5.5.4 Positioning and sizing
Every element added to an overlay provides position and sizing options. These allow a certain amount of flexibility with regards to different screen resolutions. Elements provide anchoring options, which means they can latch onto one or all sides of the screen. An element anchored to the top and left sides of the screen, will always be position relative to the top left corner at a fixed size. An element anchored to all sides of the screens will shrink and expand depending on the resolution, and will have no fixed size. Finally, an element that is not anchored to any side will always sit in the middle of the screen at a fixed size. The elements can all be position and sized using the mouse, or via the properties.

5.5.5 Frames
A frame is a multi-purpose overlay element that can do two things. Its primary purpose is to house other elements, for example a frame could house a collection of buttons enabling easy movement of these buttons around the screen (they are essentially grouped together by the frame). Frames can also be nested inside other frames, allowing the creation of complex overlay structures. The secondary purpose of a frame is to display images and text, which could include a screen title, company logo, paragraphs of instructions...etc. The following properties are available for each frame.

Mouse click
This is a configurable list of actions that will execute whenever a user clicks on the element.

Menu
This is the context menu that will be displayed when a user right mouse clicks on the element.

Width and height
Providing you are not using full anchoring, these control the size of the element.

Left, right, top and bottom
These options allow you to anchor an element to a particular side of the screen. This means the element can dynamically adjust depending on the current screen resolution. The values define how far the element will placed from that side of the screen.

Use grid
These options allow you to position the element within the parent element’s grid, but only if the parent element has a grid enabled and configured. The Number values control what Row or Column is targeted and the Span values control how many columns and rows the control will occupy.
Create grid
These options allow you to define a grid that child elements can utilise. The format for Rows and Columns is the same, and some examples are:
- 50%;50% - Create two equally sized rows/columns.
- 25%;25%;25%;25% - Create four equally sized rows/columns.
- 60%;40%;100 – Create 3 rows/columns, the third is 100 pixels wide/high and the first and second use 60% and 40% respectively of the remaining available space.
- 25,30%;50,70% - Create 4 columns/rows, the first is 25 pixels wide/high, the third is 50 pixels wide/high and the second and fourth use 30% and 70% respectively of the remaining available space.

Background
This sets the background colour.

Border
This sets a border around the element, with options to control the colour and thickness.

Image
This places an image in the centre of the element. The provided options allow you to position, size and filter the colour of that image as required.

Text
This controls what text is displayed in the element.

Horizontal and vertical
Positions the text within the element.

Padding
Sets how far from the edge of the element the text will appear.

Other text options
The remaining options are the typical font controls for text, including colour, font, size and text effects.

5.5.6 Buttons
Buttons are essential for programming the graphics presentation, and allow the user to interact. The following properties are available for each frame.

Mouse click
This is a configurable list of actions that will execute whenever a user clicks on the element.

Menu
This is the context menu that will be displayed when a user right mouse clicks on the element.

Width and height
Providing you are not using full anchoring, these control the size of the element.

Left, right, top and bottom
These options allow you to anchor an element to a particular side of the screen. This means the element can dynamically adjust depending on the current screen resolution. The values define how far the element will placed from that side of the screen.

Use grid
These options allow you to position the element within the parent element’s grid, but only if the parent element has a grid enabled and configured. The Number values control what Row or Column is targeted and the Span values control how many columns and rows the control will occupy.

Background
This sets the background colour.

Border
This sets a border around the element, with options to control the colour and thickness.

Image
This places an image to the left of any text (or the centre if the button has no text). The provided options allow you to position, size and filter the colour of that image as required. It should be noted that if a value other than 0 is entered in either the X or Y properties, the image will be placed in the middle and then offset by these values.

Style
This allows you to select the general button styling (Flat or Normal).

Text
This controls what text is displayed in the element.

Horizontal and vertical
Positions the text within the element.

Padding
Sets how far from the edge of the element the text will appear.

Other text options
The remaining options are the typical font controls for text, including colour, font, size and text effects.
5.5.7 Text boxes

Text boxes provide a more dedicated element for handling larger fields of text. Although these elements can be set to non-read-only, the user entering text has no bearing on presentations unless the text box is assigned a purpose. The following properties are available for each text box.

Mouse click
This is a configurable list of actions that will execute whenever a user clicks on the element.

Menu
This is the context menu that will be displayed when a user right mouse clicks on the element.

Purpose
Text boxes can be given pre-defined purposes.
None: The text box will have no special behaviour, and will simply contain text.
Filter search list: The text will contain search text queries. Any text entered here will result updating of search lists.
Manual locations: The text will contain a field of the manual location (Network, Panel, Loop… etc.)

Width and height
Providing you are not using full anchoring, these control the size of the element.

Left, right, top and bottom
These options allow you to anchor an element to a particular side of the screen. This means the element can dynamically adjust depending on the current screen resolution. The values define how far the element will placed from that side of the screen.

Use grid
These options allow you to position the element within the parent element’s grid, but only if the parent element has a grid enabled and configured. The Number values control what Row or Column is targeted and the Span values control how many columns and rows the control will occupy.

Create grid
These options allow you define a grid that child elements can utilise. Please refer to Frames for further detail on how to define the size and number of rows and columns.

Background
This sets the background colour.

Border
This sets a border around the element, with options to control the colour and thickness.

Image
This places an image in the centre of the element. The provided options allow you to position, size and filter the colour of that image as required.

Read-only
If enabled, the text box will not permit the user to change the content of the text box.

Vertical and horizontal scroll
These options control if the text box allows scroll bars.

Text
This controls what text is displayed in the element.

Horizontal and vertical
Positions the text within the element.

Padding
Sets how far from the edge of the element the text will appear.

Other text options
The remaining options are the typical font controls for text, including colour, font, size and text effects.

5.5.8 Event logs

These are the most specialised overlay element, and are only capable of displaying event log history from the physical networks. There is no special configuration to control this data, so all event logs will display the same data. Additionally, all user actions on event logs will be duplicated to other event logs, which are most visible with selections. To allow users to Acknowledge events, you can create a button anywhere on the screen that includes the Acknowledge action. This action will automatically process all selected event log rows. The following properties are available for each event log.

Mouse click
This is a configurable list of actions that will execute whenever a user clicks on the element.

Menu
This is the context menu that will be displayed when a user right mouse clicks on the element.

Width and height
Providing you are not using full anchoring, these control the size of the element.

Left, right, top and bottom
These options allow you to anchor an element to a particular side of the screen. This means the element can dynamically adjust depending on the current screen resolution. The values define how far the element will placed from that side of the screen.

Use grid
These options allow you to position the element within the parent element’s grid, but only if the parent element has a grid enabled and configured. The Number values control what Row or Column is targeted and the Span values control how many columns and rows the control will occupy.

Create grid
These options allow you define a grid that child elements can utilise. Please refer to Frames for further detail on how to define the size and number of rows and columns.
Row or Column is targeted and the Span values control how many columns and rows the control will occupy.

**Create grid**
These options allow you define a grid that child elements can utilise. Please refer to Frames for more detail of how to define the size and number of rows and columns.

**Background**
This sets the background colour.

**Border**
This sets a border around the element, with options to control the colour and thickness.

**Image**
This places an image in the centre of the element. The provided options allow you to position, size and filter the colour of that image as required.

### 5.5.9 List box
List boxes provide a facility to display dynamic lists of data. For list boxes to operate correctly, they need to be assigned an appropriate purpose.

**Mouse click**
This is a configurable list of actions that will execute whenever a user clicks on the element.

**Menu**
This is the context menu that will be displayed when a user right mouse clicks on the element.

**Purpose**
List boxes require a selected purpose.

**Search and select:** The contents of the list box will be populated with all the items that match the contents of a search text box, which are either a page/floor or a page device. Checking any item in the list will alter the state of the referenced item to be selected.

**Manual test event type:** The list box will convert into a combo box and allow the user to select an event type used in the manual test.

**Manual test event importance:** The list box will convert into a combo box and allow the user to select an importance level used in the manual test.

**Width and height**
Providing you are not using full anchoring, these control the size of the element.

**Left, right, top and bottom**
These options allow you to anchor an element to a particular side of the screen. This means the element can dynamically adjust depending on the current screen resolution. The values define how far the element will placed from that side of the screen.

**Use grid**
These options allow you to position the element within the parent element’s grid, but only if the parent element has a grid enabled and configured. The Number values control what Row or Column is targeted and the Span values control how many columns and rows the control will occupy.

### Create grid
These options allow you define a grid that child elements can utilise. Please refer to Frames for further details on how to define the size and number of rows and columns.

**Background**
This sets the background colour.

**Border**
This sets a border around the element, with options to control the colour and thickness.

**Image**
This places an image in the centre of the element. The provided options allow you to position, size and filter the colour of that image as required.

**Text**
This controls what text is displayed in the element.

**Horizontal and vertical**
Positions the list within the element.

**Padding**
Sets the gap between items in the list.

**Other text options**
The remaining options are the typical font controls for text, including colour, font, size and text effects.

### 5.5.10 Dynamically showing overlays
As hinted earlier, overlays can be dynamically shown depending on user actions. This means it’s possible to create a button that hides or shows certain overlays. You can achieve this by following these steps:

1. Place the dynamic overlay content within its own unique overlay.
2. Assign an ID to that overlay.
3. Ensure that the required pages (or overlays) include the new overlay in the Parent Overlays list. You can modify the `<Master>` overlay to include it on all pages and idle mode.
4. To show the overlay, add a Show overlay action to any element’s Click actions (most likely a button), using the assigned ID.
5. To hide an overlay, add a Hide overlay action instead.
6. You can also toggle showing and hiding with the Toggle overlay action.

It should be noted that any dynamically shown or hidden overlay will remain as is through page and view transitions. However, dynamically shown overlays will only be displayed if a page/overlay has it referenced in the Parent overlays list. If it isn’t referenced, it will never show.
5.6 Device images
This area of the presentation controls purely how devices are displayed, and how they react to state changes. These devices can then be consumed by pages, who place devices on floor plan images and associate them with real physical products.

5.6.1 Status frames
Within the Device Images section of Presentation Explorer, you will notice several predefined entries. Each one of these controls the alterations made to devices when they enter a particular state. The following properties are available for state frame.

Background
This sets the background colour.

Border
This sets a border around the device, with options to control the colour and thickness.

Scale
This sizes the status frame, but does not affect the actual device image.

Shape sides
This shapes the border and allows any shape configuration. High values will effectively make the border appear round.

Animate
When a state frame is active, the border also supports animation which is intended to be eye catching. This option provides an extended list of varied animations, most of which come in slow and quick varieties.

5.6.2 Adding a device image
Once you have added a device image, you will be presented with the following properties.

Menu
This is the context menu that will be displayed when a user right mouse clicks on the device.

Name
This is the display name of the device, used only internally by the designer.

Width and height
This controls the display size of the device.

Appearance: Background
This sets the background colour of the OK state frame.

Appearance: Border
This sets the border of the OK state frame, with options to control the colour and thickness.

Appearance: Scale
This sizes the OK state frame, but does not affect the actual device image.

Appearance: Shape sides
This shapes the border of the OK state frame and allows any shape configuration. High values will effectively make the border appear round.

Image
This sets the default image for the device. The provided options allow you to position, size and filter the colour of that image as required.

Other option images
For each available state, you can configure a unique image configuration. If not enabled, each state will use the default image configuration.

Auto-show page when in idle
Pages can be configured to automatically show when a device enters a particular state while viewing the Idle mode (3D). As these options are at the device image level, they will affect any device that references this device image.

Auto-show page when on page
Pages can be configured to automatically show when a device enters a particular state while viewing a page. As these options are at the device image level, they will affect any device that references this device image.

Device status effects page status
Pages will automatically highlight any important status by flashing an appropriate colour. This option allows you to select what status types have this effect on the page. As these options are at the device image level, they will affect any device that references this device image.

Active shortcut with device status
When the user is viewing a particular page, other pages with active status will be stacked in the bottom left corner of the presentation to draw the users attention. This option controls what status types have this effect on pages. As these options are at the device image level, they will affect any device that references this device image.

Apply mode
For each of the three sections above, you can control how enabling an option is applied. Allowed means ticking an option switches it on. Disallowed has the opposite effect, and is also higher significance, therefore overruling any Allowed configuration.
5.7 Context menus

Most items within a presentation, such as pages, device images, overlay elements and the background, allow you to assign a Context Menu. These menus are displayed when a user clicks the right mouse button on an item. The menus are designed to provide context specific options to items in the presentation. A good example would be disabling and enabling a device, or resetting a panel. However, any action is possible using context menus, and so they have same capability as a button.

5.7.1 Adding a context menu

To add a new context menu, navigate to the Context Menu area of Presentation Explorer and select Add. This will create a new empty menu. To add your first option in this menu, click the new Add icon. For each option within a menu, you will find the following properties.

- **Mouse click**
  This is a configurable list of actions that will execute whenever a user clicks on the menu option.

- **Text**
  This controls what text is displayed in the menu option.

- **Padding**
  Sets how far from the edge of the element the text will appear.

- **Other text options**
  The remaining options are the typical font controls for text, including colour, font, size and text effects.

- **Separator**
  If enabled, the menu option will be non-clickable and will instead appear as a separator bar. This should be used to organise groups of menu items.

- **Image**
  This assigns a small image to the menu option.

5.7.2 Assigning a context menu

To assign a Context Menu, simply navigate to the appropriate page, device or overlay element and edit the Menu property. No further configuration is required.

5.8 Automatic actions

All the visible elements within the presentation support clickable action sets, which allow a strong level of programmability in the graphics interface. However, a user creating a presentation may want some actions to be automated, such as when the software is running purely autonomously or if they want to display certain information when a particular event occurs. This is where Automatic Actions can help, as they allow the creation of action sets that execute when particular criteria are met. To create an Automatic Action, select Automatic actions in Presentation Explorer and click Add.

The following properties are available for automatic actions.

- **Enable**
  This controls only if the automatic action is live and processing conditions in respect to events. This is always ignored by the action Execute Automatic Action.

- **Name**
  This is the name of the automatic action, but is only ever displayed in the designer.

- **Exe. Order index**
  This controls the execution order of automatic actions, with lower values being executed first. This is important when multiple automatic actions are triggered by certain conditions.
5.8.1 Conditions

This part of the configuration manages when the automatic action will execute, and this list allows you to list all the required conditions. The logic is similar to that of IF statement within a spreadsheet. For the action set to execute, generally all conditions must evaluate true (e.g. if you had three conditions, only when all three conditions are true will the action set be processed). If you want to break conditions down into sets of OR logic (e.g. execute only when condition A, B and C are true, OR if condition D and E is true) then you can insert the OR... condition between conditions. Finally, if you want to execute on a condition not being true, you can enable the NOT Mode (Inverse) option on those specific conditions. These are the available conditions:

<table>
<thead>
<tr>
<th>Condition</th>
<th>Detail / Target</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Or…</td>
<td></td>
<td>Acts as a divider between sequences of AND logic. E.g. if this was the 3rd condition in a list of 4, either condition 1 and 2 must both be true, or condition 4 must be true.</td>
</tr>
<tr>
<td>Presentation loaded</td>
<td>An event that is triggered when the presentation is first loaded.</td>
<td></td>
</tr>
<tr>
<td>Background clicked</td>
<td>An event that is triggered when the user left mouse clicks on the background.</td>
<td></td>
</tr>
<tr>
<td>Is test mode</td>
<td>True when you are testing a presentation. Useful for hiding or showing test elements within a presentation.</td>
<td></td>
</tr>
<tr>
<td>Is idle active</td>
<td>True if the presentation is in Idle/3D mode.</td>
<td></td>
</tr>
<tr>
<td>Idle shown</td>
<td>An event that is triggered when Idle/3D mode is shown.</td>
<td></td>
</tr>
<tr>
<td>Page active</td>
<td>True if a particular page is currently actively displayed.</td>
<td></td>
</tr>
<tr>
<td>Page shown</td>
<td>An event that is triggered when a page is shown.</td>
<td></td>
</tr>
<tr>
<td>Page clicked</td>
<td>An event that is triggered when a page is clicked.</td>
<td></td>
</tr>
<tr>
<td>Is any page active</td>
<td>True if any page is currently displayed (i.e. not in idle mode).</td>
<td></td>
</tr>
<tr>
<td>Any page shown</td>
<td>An event that is triggered when any page is shown.</td>
<td></td>
</tr>
<tr>
<td>Any page clicked</td>
<td>An event that is triggered when any page is clicked.</td>
<td></td>
</tr>
<tr>
<td>Is page in building active</td>
<td>True if a particular page, that is in the selected building, is currently actively displayed.</td>
<td></td>
</tr>
<tr>
<td>Page in building shown</td>
<td>An event that is triggered when a page in the selected building is shown.</td>
<td></td>
</tr>
<tr>
<td>Page in building clicked</td>
<td>An event that is triggered when a page in the selected building is clicked.</td>
<td></td>
</tr>
<tr>
<td>Does environment variable exist</td>
<td>True if the provided environment variable has been set.</td>
<td></td>
</tr>
<tr>
<td>Does environment variable match</td>
<td>True if the provided environment variable matches the value. The value supports * based matching, e.g. *le will match any value that ends with le.</td>
<td></td>
</tr>
<tr>
<td>Device clicked</td>
<td>Device An event that is triggered when a device is clicked. The device selected refers to the device image, i.e. the items listed under Device Images in Presentation Explorer.</td>
<td></td>
</tr>
<tr>
<td>Any device clicked</td>
<td>An event that is triggered when any device is clicked.</td>
<td></td>
</tr>
<tr>
<td>Event importance received</td>
<td>Event importance An event that is triggered whenever a new event log entry is received. Importance values are: Passive: Log entries that have low importance information (Clock syncs, AV requests). Important: Log entries that are deemed important to network stats (enables, disables). Critical: Log entries that have a large impact on the network status (Resets, Fires…etc.)</td>
<td></td>
</tr>
<tr>
<td>Event type received</td>
<td>Event type An event that is triggered when a new event log entry is received. The event types range from status changes to resets.</td>
<td></td>
</tr>
<tr>
<td>Overall status changed to</td>
<td>Status An event that is triggered if the general status changes. Status refers to the typical OK, Fault, Alarm…etc.</td>
<td></td>
</tr>
<tr>
<td>Overall status changed from</td>
<td>Status An event that is triggered if the general status reverts. Status refers to the typical OK, Fault, Alarm…etc.</td>
<td></td>
</tr>
<tr>
<td>Key pressed</td>
<td>Key An event that is triggered when a key is pressed down.</td>
<td></td>
</tr>
<tr>
<td>Key released</td>
<td>An event that is triggered when a key is released.</td>
<td></td>
</tr>
<tr>
<td>Is key pressed</td>
<td>True if a particular key is being pressed. Useful for detecting key combinations (e.g. SHIFT+BACKSPACE).</td>
<td></td>
</tr>
</tbody>
</table>
5.8.2 Actions
The actions available here are exactly the same as the actions available from click actions. For a list of actions, please refer to the Available Actions section later in this document.

5.9 3D view and buildings
When the presentation is in an idle state, and no page is presently shown, then the default behaviour is to display all the buildings and floors in a slowly rotating 3D view. Most of the configuration for this mode is automated, but it is still essential for the buildings to be arranged in real physical locations, ensuring the 3D view is as realistic as possible. This area of the designer allows you to quickly achieve this without any complicated 3D manipulation.

5.9.1 3D view and buildings
The following properties are available:

Menu
This is the context menu that will be displayed when a user right mouse clicks on the background when in Idle.

Camera scale
Factors and adjusts the 3D camera distance from the centre of the 3D view. By default the camera will place itself at an optimum position to allow the view of all content. This offsets that position.

Rotation secs.
This is the time (in seconds) that controls how long it takes for the whole 3D view mode to complete a full rotation. A lower value will speed up the rotation.

Floor load speed
This option allows you to adjust the speed in which the floors are loaded into idle mode. E.g. 1 = normal, 0.5 = take half the time, 2 = take double the time.

Show Dev. on mouse
When the user interacts with pages in 3D mode, the default behaviour is to display and animate all the devices present. In large presentations, this can cause a reduction in animation frame rates. Enabling this option switches this feature off and can improve performance.

HD Images on mouse
When the user interacts with pages in 3D mode, pages will show the floor plan in a higher resolution. In large presentations, this can cause a reduction in animation frame rates. Enabling this option switches this feature off and can improve performance.

5.9.2 Building
The following properties are available:

Allow layout changes
Disabling this option will prevent accidental modifications to all layout properties of the building. Please note the layout properties are always applied.

X, Y and Z
The co-ordinates of a building within the 3D view.

Scale
The size of a building.

Angle
The orientation of a building in degrees (-360 to 360).

Floor Gap (Z)
This allows the automated control of the Z position of floors. The Z value determines how high a floor is from the ground. If disabled, each page will need to be manually positioned directly by editing of the page’s Z value.

5.9.3 Page / floor
The properties displayed are mostly similar to the properties available when editing a page. However, some additional properties are available.

Allow layout changes
Disabling this option will prevent accidental modifications to all layout properties of the page/floor. Please note the layout properties are always applied.

X, Y and Z
The co-ordinates of a page/floor within the 3D view.

Idle opacity
Allows you to make a page/floor appear transparent.

5.9.4 Position, rotating and scaling buildings.
The starting position of buildings will be in the centre of the screen. You can move buildings around by holding the left mouse button over the blue building icon in the top right of each building, then dragging the building to position. To adjust the size of a building, you can position the mouse at the edge of a building and then holding the left mouse button, drag the edge of the building until the size is correct. Finally, to rotate a building, hold the left mouse button over the spinning arrow icon and rotate as required. All of these actions can be achieved by manually editing the property values.

5.9.5 Moving floors within a building
If the floors are not aligned as expected within a single building, you can also manually position floors in respect to the building centre (using the mouse interaction or editing the properties). You may notice that the bounding building box adjusts size too. The bounding box is important as it identifies the range of the building and always encompasses all floor imagery.
5.9.6 Adjusting the view

The view's perspective is adjustable and can be zoomed and shifted. These controls have no bearing on the final presentation, but are provided as an aid to designing.

- Holding SHIFT and the left mouse button will allow you to shift the view around. You can also achieve this using the arrow keys.
- Scrolling the mouse wheel will allow you to zoom in and out. You can also achieve this using the + and - keys.
- The HOME key will restore the view to normal.

5.10 Background

The entire presentation allows you to control the background colour or background image. This will always be visible whichever screen the presentation is displaying. The following properties are available:

- **Menu**
  This is the context menu that will be displayed when a user right mouse clicks on the background when in a page view.

- **Colour**
  This sets the default background colour if no background image is supplied.

- **Image**
  This is the image that will be used as the background. This will size appropriately so the entire background is covered. We recommend you use a high resolution image that ideally matches target monitor screen resolution.

5.11 Images

Before you start creating any content in a presentation, it is important that you pre-load all the required imagery into this list. Selecting an image will provide you with a preview and some basic stats of the file. It is important to note that these images will be embedded in the presentation file (ZPV format) upon saving, and so once an image is added, there is never a need to ever provide the original separate image file.

5.11.1 Editing images

The designer tool provides a few basic image-editing options, that aid commonly required tasks. When adding a new image, you are automatically prompted to edit an image. However, to edit an image that was previously added, you can double click the image, or select it then click the **Edit** button. You can also setup the designer to use a third party external image editing application. To configure this, please access the **Options** item within the **View** drop down menu.

- **Rotate clockwise**
  This will rotate the entire image 90 degrees clockwise.

- **Rotate anti-clockwise**
  This will rotate the entire image 90 degrees anti-clockwise.

- **Crop**
  This will crop the image down to the selected area, converting any image content outside of the selected area to a transparent colour. To select an area, simply use left and right mouse clicks and drop a loop of lines.

Remove background

This will detect the background colour of an image and then automatically crop the image. The detection threshold is used to control how aggressive this behaviour is.

Blend/soften edges

This will allow you to quickly soften the edge between opaque and transparent areas, which can result from any cropping and background removal.

Once you have finished editing, you must click **save changes** to update the image in the presentation, otherwise all your changes will be discarded. Please note the original file used to import the image is not affected by any edits, as the changes are only applied to the local copy stored within the presentation.

5.11.2 Supported formats

You can import the following image formats:

- BMP
- GIF
- TIFF/TIF
- PNG
- JPG/JPEG
- PDF

5.12 Audio

Audio files can be used in various aspects of a presentation, as they can be played during certain states and also used within a button or automatic action set. It is important to note that all of these audio files will be embedded in the presentation file (ZPV format) upon saving, and so once an audio file is added, there is never a need to provide the original separate audio file.

5.12.1 Supported formats

You can import the following audio formats:

- WAV
- MP3
- WMA
### 5.13 Available actions

In various parts of this manual you will have encountered references to actions and action sets. Any button or element allows the programming of click actions to be executed whenever the user mouse clicks on the element. Also, Automatic Actions allow the execution of actions when certain conditions are met. All of these share a set a basic actions which are described in the table below.

<table>
<thead>
<tr>
<th>Condition</th>
<th>Detail / Target</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Show page</td>
<td>Page</td>
<td>Show a particular page.</td>
</tr>
<tr>
<td>Show this page</td>
<td></td>
<td>Show the page that this element is associated with.</td>
</tr>
<tr>
<td>Show idle</td>
<td></td>
<td>Show the Idle/3D mode.</td>
</tr>
<tr>
<td>Show previous screen</td>
<td></td>
<td>Re-show the previous graphics screen, which could be a page or idle mode.</td>
</tr>
<tr>
<td>Show next screen</td>
<td></td>
<td>Only valid if a Show Previous Screen action was executed and no new screens have been shown since. This will show the screen that was displayed before Show Previous Screen was executed.</td>
</tr>
<tr>
<td>Show message</td>
<td>Message content</td>
<td>Display a message box. Please note this should be used with caution as the presentation will not process any new events until the message is closed.</td>
</tr>
<tr>
<td>Show question</td>
<td>Question content</td>
<td>Displays a question, and allows actions to be skipped in response to the user’s response. Please note this should be used with caution as the presentation will not process any new events until the question has been answered.</td>
</tr>
<tr>
<td>Skip actions</td>
<td>Value</td>
<td>Skips a set number of following actions. Useful when combined with the Show Question action.</td>
</tr>
<tr>
<td>Device location override</td>
<td>Enable/disable</td>
<td>Controls the location override mode. When this mode is enabled, any actions that are associated with a page device (i.e. a device placed upon a floor), the location information for that page device will override any locations stored within all actions. A common use of this is a shared context menu that is consumed by a device, which can issue network commands targeted at the actual page device location.</td>
</tr>
<tr>
<td>Manual location override</td>
<td>Enable/disable</td>
<td>Behaves in the same way to Device Location Override, except this enforces the manually entered location instead. This is often used in overlay popups that take location information and execute some kind of network action.</td>
</tr>
<tr>
<td>Delete environment variable</td>
<td>Environment variable</td>
<td>Deletes an environment variable.</td>
</tr>
<tr>
<td>Set environment variable</td>
<td>Environment variable and value</td>
<td>Sets the value of an environment variable.</td>
</tr>
<tr>
<td>Skip actions on environment variable</td>
<td>Environment variable and value</td>
<td>Skips a set number of following actions if the provided environment variable matches the value. The value supports * based matching, e.g. <code>wh*</code> will match any value that starts with <code>wh</code>.</td>
</tr>
<tr>
<td>Play audio</td>
<td>Audio file</td>
<td>Simply plays an audio file once.</td>
</tr>
<tr>
<td>Execute auto action</td>
<td>Auto action</td>
<td>Execute all the actions in an Automatic Action. This still occurs even if the Automatic Action is disabled.</td>
</tr>
<tr>
<td>Clear all selections</td>
<td></td>
<td>This will clear any page or device that is in a selected state.</td>
</tr>
<tr>
<td>Select all in search list</td>
<td>Select/unselect</td>
<td>This will select or unselect all items found within the selection list.</td>
</tr>
<tr>
<td>Select self</td>
<td>Select/unselect</td>
<td>This allows a page or device to select or unselect itself. This is useful when used in a context menu or a click action.</td>
</tr>
<tr>
<td>Reset manual location</td>
<td></td>
<td>Resets the manually entered location fields.</td>
</tr>
<tr>
<td>Reset manual test event</td>
<td></td>
<td>Resets the manually entered test event fields.</td>
</tr>
<tr>
<td>Set manual location</td>
<td>Location</td>
<td>Sets the manual location to particular value. Useful when combined with Device Location Override.</td>
</tr>
<tr>
<td>Issue global mute</td>
<td>Location</td>
<td>Issues a Global Mute on to a network, providing the targeted network supports this command.</td>
</tr>
<tr>
<td>Issue global silence</td>
<td>Location</td>
<td>Issues a Global Silence on to a network, providing the targeted network supports this command.</td>
</tr>
<tr>
<td>Issue global reset</td>
<td>Location</td>
<td>Issues a Global Reset on to a network, providing the targeted network supports this command.</td>
</tr>
<tr>
<td>Issue global evacuate</td>
<td>Location</td>
<td>Issues a Global Evacuate on to a network, providing the targeted network supports this command.</td>
</tr>
<tr>
<td>Enable</td>
<td>Location</td>
<td>Issues an appropriate enable command to a network, providing the network supports this command and for this location.</td>
</tr>
<tr>
<td>Disable</td>
<td>Location</td>
<td>Issues an appropriate disable command to a network, providing the network supports this command and for this location.</td>
</tr>
<tr>
<td>Enable IO</td>
<td>Location</td>
<td>Issues an enable IO command to a network, providing the network supports this command and for this location.</td>
</tr>
<tr>
<td>Disable IO</td>
<td>Location</td>
<td>Issues a disable IO command to a network, providing the network supports this command and for this location.</td>
</tr>
<tr>
<td>Enable sounders</td>
<td>Location</td>
<td>Issues an enable sounders command to a network, providing the network supports this command and for this location.</td>
</tr>
<tr>
<td>Disable sounders</td>
<td>Location</td>
<td>Issues a disable sounders command to a network, providing the network supports this command and for this location.</td>
</tr>
</tbody>
</table>
### 5.13.1 Skipping actions

As the table identifies, some actions allow you to skip further actions. This effectively allows you to create complex action sets that can branch their behaviour based on user input. For example, clicking a button could result in a popup that asks the user a question. Then using action skipping, two sequences of actions could potentially be executed depending on the user’s choice. Also, skip actions with a large number are an effective way to prevent any further processing of actions in that set.

### 5.14 Dynamic text (Auto replaced tags)

Every text property field, on almost any overlay element (button, text box, frame...etc.) can be enriched with dynamic text tags. These tags will then automatically get replaced with the relevant information on a per screen basis. The table below defines the available dynamic tags.
5.15 Adding packages

Graphical visualisation software is designed for almost any network type, but as it is primarily used with Eaton products, the software includes a selection of packages that can be added to a presentation. These packages/components contain various images, audio files and items such as device images and context menus, that are pre-configured for a presentation. Adding a package will reduce the time required to create a presentation for Eaton product families. To add any of the packages, access the Tools drop down menu and select Add packages.

5.16 Importing from site installer

If the site you are working on has used Site Installer 3 to commission the panels, then you can import this data directly into Graphical visualisation software. This can vastly simplify the creation of a presentation, as some or most of the work may have already been completed within Site Installer. To import from Site Installer, access the Tools drop down menu and select Import.

To begin, first select the required commissioning file using the Browse button. The Network address (Start) field is only required if you are creating a multi-network presentation. The next step is to select what you want to import. If your commissioning file contains floor design data, then you likely want to import everything. However, if you are only interested in adding contents to the Imported devices toolbox, then please only select the option Add devices to imported toolbox. Clicking OK will run the import, which may take several seconds depending on the size of the commissioning file.

If you are manually adding imported devices to floors/pages, you can now navigate to any page and add items from the Imported devices toolbox.

<table>
<thead>
<tr>
<th>Tag</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>{{devicestatetime}}</td>
<td>Displays the date-time of the event that caused the current state of the current device.</td>
</tr>
<tr>
<td>{{devicestatedetailed}}</td>
<td>Displays a detailed state message of the current device.</td>
</tr>
<tr>
<td>{{devicevalues}}</td>
<td>Displays any values (analogue values, current, voltage…etc) of the current device.</td>
</tr>
<tr>
<td>{{devicetype}}</td>
<td>Displays the device type of the current device.</td>
</tr>
</tbody>
</table>
5.17 Setup wizards

If you’re creating a presentation from scratch, you can speed up the initial configuration by using one of the many wizards provided in the software. These wizards take basic information and generate content, usually much more quickly than is possible manually. To run a wizard, simply select the area where you want to generate content (or select the root Presentation item in Presentation explorer) and then access the Tools drop down menu and select Setup Wizard.

5.17.1 Site setup wizard

This wizard runs automatically when you create a new graphics presentation, but it can also be run when you have selected the root item in the Presentation Explorer (which is defaulted to ‘Presentation’). This wizard will guide you through a complete configuration of the presentation, and is capable of filling in the important site information as well as generating all the required buildings, floors, devices and overlays.

5.17.2 Add buildings wizard

This wizard becomes available when you select Pages and Floors in the Presentation Explorer. This simplified wizard focuses on purely generating new buildings, floors and devices. It should be noted that buildings will still require user input on the 3D View and Buildings area, to place them in the correct position.

5.17.3 Add pages wizard

This wizard becomes available when you select a building in the Presentation Explorer. This simplified wizard focuses on purely generating new floors and devices.

5.17.4 Add devices wizard

This wizard becomes available when you select a page in the Presentation Explorer. This simplified wizard focuses on purely generating new devices. It should be noted that the devices will still require user input to place them in the correct position.

5.17.5 Menu generation wizard

This wizard allows you to generate a comprehensive menu system for the presentation, this includes mapping buttons to all floors, control commands, significant pages and status windows.

5.17.6 Page/overlay wizard

To help expand the features of your presentation and simplify many routine configuration tasks, you can run this wizard multiple times and add various generic components to the presentation. This includes log views, active status lists, testing buttons, welcome/about screen, ground level imagery, device navigation screens, event simulator and more.

5.17.7 Automatic actions wizard

The Automatic Actions feature of presentations can be difficult for some to understand, and so to allow your presentation to leverage the powerful nature of this feature, you can use this wizard to add various commonly used action sets. This includes handling mouse input, keyboard input, automatic log viewing and converting your presentation into autonomous mode.

5.18 Testing presentations

Because presentations can be complex and large, it is important that you test them in a non-live environment. Graphical visualisation software includes this has a standard feature and is accessible at any time by pressing the F5 key (or by selecting the Test button). When this occurs, it will launch an instance of the presentation that emulates the Monitor Service. This means any actions that attempt to broadcast a command onto a network have no effect.

5.18.1 Creating test buttons

Because there are several actions that exist that can generate fake network events (the test actions), we recommend you create a selection of buttons that can be used to drive the test mode. Ideally, these can be added using the built Test Buttons wizard which is part of the Pages/Overlays wizard.

5.19 Optimising and performance

When dealing with large and complex sites, it’s important that the graphics presentation is optimised and the PC is configured correctly. The following sections help clarify what you can do to ensure the animations operate smoothly and the user’s experience when interacting with the viewer are reasonable and run at a high frame rate. It should be noted that the majority of presentations will run as is without any special configuration, it is generally only the large presentations with hundreds of pages/floors that require any special attention.

5.19.1 Enable optimisation features within the graphics designer

When using the designer, you have several ways in which you can improve the performance. These options either reduce image quality or disable specific features, each of which releases processing power and increases animation quality.

Page image quality

The option “Optimise Gfx” on each page enables you to reduce image quality.

Show Devices in 3D/Idle Mode

The “Show Dev. on Mouse” option available on the 3D View and Buildings section allows you to improve performance by disabling device displaying when a user hovers the mouse over a page in 3D mode.
Show HD Imagery in 3D/Idle Mode
The “HD Images on Mouse” option available on the 3D View and Buildings section allows you to improve performance by disabling high resolution floor plan displaying when a user hovers the mouse over a page in 3D mode.

5.19.2 Use images with a lower resolution
Every image you load into the Graphics system consumes computer and graphics hardware memory, and increases the burden on the CPU. Although the graphics system automatically reduces the quality of extra-large imagery, these overly large images can still have an impact on performance. Generally, we recommend you don’t use images larger than the screen resolution, as the extra resolution will usually not be required. The exception to this rule is if you expect users to be frequently zooming into imagery. If you find that your pages/floors require the floor plan to be scaled down, then it is usually an indicator that the imagery is too large.

For large graphics systems, where you find performance is poor, we suggest you reduce image quality even further, aiming to strike a balance between performance and the desired minimum quality. Generally, the lower the image quality, the less memory required by the presentation and the higher the frame rate.

5.19.3 Update your graphics card drivers
Developers of graphics hardware often release updates that improve stability and enhance performance. We recommend you ensure that your graphics driver is always up to date. The same applies to Windows’s updates.

5.19.4 Use the primary graphics accelerator
Many computers now come with multiple graphics accelerator options; the high-performing dedicated hardware and often a lower-performing integrated feature within the CPU. To ensure that your presentation runs smoothly, we suggest you ensure that the high-performing dedicated graphics hardware is used while rendering. These options can normally be found in your graphics settings. Some computers even include the option to disable the low-performing graphics system.

The impact of not using correct graphics hardware is that large presentations will vastly underperform and may not even run at all!

5.19.5 Prevent ‘Glitching’ images with higher Z values
If you find that imagery in 3D mode seems to ‘glitch’, looks torn or flickers between two different images, the likelihood is that two images are occupying the same Z vertical space. The Z value is used in the Graphics Designer to define how high an image/page/floor appears in 3D mode.

The solution is to ensure that floor gaps are set high enough in the building settings, and that buildings (and pages not in a building) are all set to high enough Z values to lift them away from each other. The larger the site is, and the further out the 3D view camera has to extend, the resulting effect value will be higher. Therefore larger sites will generally use higher Z values.