



Snell
Advanced
Media

User Manual

RollMap

RollCall Schematic Viewer

Information and Notices

Copyright and Disclaimer

Copyright protection claimed includes all forms and matters of copyrightable material and information now allowed by statutory or judicial law or hereinafter granted, including without limitation, material generated from the software programs which are displayed on the screen such as icons, screen display looks etc.

Information in this manual and software are subject to change without notice and does not represent a commitment on the part of SAM. The software described in this manual is furnished under a license agreement and can not be reproduced or copied in any manner without prior agreement with SAM, or their authorized agents.

Reproduction or disassembly of embedded computer programs or algorithms prohibited.

No part of this publication can be transmitted or reproduced in any form or by any means, electronic or mechanical, including photocopy, recording or any information storage and retrieval system, without permission being granted, in writing, by the publishers or their authorized agents.

SAM operates a policy of continuous improvement and development. SAM reserves the right to make changes and improvements to any of the products described in this document without prior notice.

Contact Details

Customer Support

For details of our Regional Customer Support Offices please visit the SAM web site and navigate to Support/Contact Support.

www.s-a-m.com/support/contact-support/

Customers with a support contract should call their personalized number, which can be found in their contract, and be ready to provide their contract number and details.

Contents

Information and Notices	2
Copyright and Disclaimer	2
Contact Details	2
1. Introduction	8
1.1 RollMap Versions	8
2. Installation	9
2.1 Prerequisites	9
2.2 Install RollMap	9
2.2.1 Setup Type	9
2.2.2 Editing/Monitoring Workstation	10
3. General Operation	11
3.1 Screen Components	11
3.2 Main Toolbars	12
3.2.1 New	12
3.2.2 Open	12
3.2.3 Save	12
3.2.4 Cut	12
3.2.5 Copy	12
3.2.6 Paste	12
3.2.7 Print	12
3.2.8 Back One Level/Forward One Level	12
3.2.9 Home Schematic	12
3.2.10 Edit Schematic	12
3.2.11 Login	13
3.2.12 Lock/Unlock Views	13
3.2.13 Log Logic	13
3.2.14 Cascade	13
3.2.15 Tile Horizontally	13
3.2.16 Tile Vertically	14
3.2.17 Minimize/Un-Minimize	14
3.2.18 Zoom	14
3.2.19 Scale to Fit Window	14
3.2.20 Fullscreen	14
3.2.21 Previous/Next	14
3.3 Customize Screen Layout and Color Theme	15
3.3.1 Docking Windows	15
3.3.2 Customize Toolbars	16
3.3.3 Set a Color Theme	17
4. Configuring RollMap	18
4.1 Set the Log Server Connection	18
4.1.1 TCP/IP Input	18
4.1.2 File Input	19
4.1.3 Control Connection	19
4.1.4 Thumbnail Server Connection	20
4.2 Set up the Unit List	20
4.2.1 Set up Keyword Headers	21
4.2.2 Special Keyword Headers	22
4.3 Set the Global Time Format	24
4.4 Manage Users	24
4.4.1 Add a User	24
4.4.2 Edit a User	26
4.4.3 Delete a User	27
4.5 RollMap Client Logging	27
4.6 Snap Shot IDs	28

4.7 Enable SNMP	28
4.8 Set up Global Alarm Triggers and Actions	29
4.8.1 About Alarm Triggers	30
4.8.2 About Alarm Actions	30
4.8.3 Add an Alarm Trigger	31
4.8.4 Configure Alarm Triggers	32
4.8.5 Add an Alarm Action	34
4.8.6 Alarm Action Operations	34
4.8.7 Trigger Operations	34
4.8.8 Multi Alarm Triggers	34
4.8.9 Configure Alarm Actions	35
4.8.10 Global Alarm Actions Versus Object Auto Command Actions.	52
4.9 Configure Email Messages	53
4.9.1 Create a Transport Profile	53
4.9.2 Create a Message Profile	54
4.10 Specify the Location of the Home Schematic	56
4.11 Set up Search Paths	57
4.12 Multi-window Configuration	58
4.12.1 Define Target Windows	59
4.12.2 Rules for Opening Schematics	59
4.12.3 Full Screen Options.	59
4.12.4 Manually Display Schematics Outside of the RollMap Window	59
4.12.5 Edit Released Windows	60
4.13 Configure Shortcut Links	60
4.14 Other Configuration Options	61
5. System Alarms Window	62
5.1 Description	62
5.2 Connect to Units	62
5.3 Mask Units	62
5.3.1 Mask Setup	62
5.3.2 Mask Unit / Unmask Unit	63
5.3.3 Mask Unit Until Green	63
5.3.4 Mask Unit Until Time	63
5.3.5 Mask Cell / Unmask Cell	63
5.3.6 Mask Cell Until Green	63
5.3.7 Mask Cell Until Time	63
5.3.8 Unmask All Cells	63
5.4 Query the State of a Unit	64
5.5 Change View Options	64
5.5.1 Aggregate State	64
5.5.2 Highlight Changes	64
5.5.3 Auto-arrange Column Widths	64
5.5.4 Show Error State in Network Tree	65
5.6 Override Keyword Headers	65
5.7 Log Field Logic	65
5.8 View Unit Details	68
5.9 Printing	69
5.9.1 Page Setup Options	69
5.9.2 Printer Setup Options	69
5.9.3 Print Preview	69
5.9.4 Print	69
5.10 User Alarms	70
5.10.1 Set up an Alarm Document	70
5.10.2 Unit State	70
5.10.3 Mask/Unmask Units	71
5.10.4 Set Viewing Mask	71
5.10.5 Move Faulty Units	71
5.10.6 New Alarm	72
5.10.7 Hide the Mask Window	72

5.10.8 Print the User Alarm window	72
5.11 Configure Headers	73
5.11.1 Select Columns	73
5.11.2 Deselect Columns After Pin.	74
5.11.3 Edit Header	74
5.11.4 Create All Headers	74
5.11.5 Sort Headers By Name	74
5.11.6 Delete Unused Headers	74
5.11.7 Fix Header Position	74
5.11.8 Auto-arrange Column Widths	74
6. Network Tree	75
6.1 Description	75
6.2 Auto Discovery	76
6.3 Load Control Screen	77
7. User Tree	78
7.1 Description	78
7.1.1 Filtered Groups	79
8. History Tabs	82
8.1 Description	82
8.2 Managing History Tabs	82
8.2.1 Create Complimentary Tab	82
8.2.2 Create New Tab	82
8.2.3 Move Tab Order Left / Right	83
8.2.4 Delete Tab	83
8.2.5 History Tab Log File Setup	83
8.2.6 Columns	84
8.2.7 History Tab Properties	86
8.3 History Tab Example	87
9. Schematic Window	90
9.1 Description	90
9.2 Working with Schematic Documents	90
9.2.1 Starting a New Schematic Document	90
9.2.2 Run and Design Modes	91
9.2.3 Full Screen Navigation	91
9.2.4 Setting Document Properties	92
9.2.5 Basic Editing Functions	96
9.2.6 Viewing Item Properties	96
9.2.7 Ordering Items in the Schematic Window	97
9.2.8 Opening Schematics in the Same Window	97
9.2.9 Printing a Schematic	97
9.3 Basic Drawing Tools	98
9.3.1 Select Tool	98
9.3.2 Line Tool	98
9.3.3 Rectangle Tool	99
9.3.4 Round Rectangle Tool	99
9.3.5 Ellipse and Circle Tool	99
9.3.6 Triangle Tool	99
9.3.7 Polygon Tool	99
9.3.8 Text Tool	100
9.3.9 Picture Tool	103
9.4 Advanced Drawing Tools	103
9.4.1 Schematic Link Tool	103
9.4.2 Status Control	106
9.4.3 Thumbnail Tool	108
9.4.4 Web Browser Tool	110
9.4.5 Streaming Control Tool	111

9.4.6 Pie Chart Tool	112
9.4.7 Meter Tool	113
9.4.8 Exception Monitoring Widget	115
9.4.9 Insert Component	117
9.4.10 Load Control Screen Template From Cache	118
9.5 Components	118
9.5.1 Component Documents.	118
9.5.2 Inserting a User Component	118
9.6 Control Objects	120
9.6.1 Control Objects and Addressing	122
9.7 Adding ActiveX Objects.	123
9.7.1 Inserting an ActiveX Object.	123
9.8 Snell ActiveX Objects	125
9.8.1 Snell State LED ActiveX Object	126
9.8.2 Snell General Button	128
9.8.3 Snell State Text	137
9.8.4 Snell State Frame	139
9.8.5 Snell State Meter	142
9.8.6 Snell Check Box	145
9.8.7 Snell Roll Clock Object	153
9.8.8 Snell XY Router Panel	155
9.8.9 Snell BPX Router Panel	159
9.8.10 Snell Dial-up Router Panel	162
Appendix A. RollMap Command Line Parameters	166
A.1 Replacing a schematic variable	168
Appendix B. SNMP Setup for RollMap	170
B.1 Installing SNMP Services for Windows XP	170
B.2 Installing SNMP Services for Windows 7 / 2008.	173
Appendix C. Deferred Addressing	176
C.1 Hierarchic Principle.	176
C.2 Set the Schematic Address	177
C.3 Set the Address of a Component, Tool, or ActiveX Object.	177
C.4 Setting the Alarm Trigger Address	178
Appendix D. Integrating RollMap with Volicon Observer	179
D.1 Overview.	179
D.2 Configuring Shortcut Links	179
D.3 Setting up the INFORMATION2 Log Field	180
D.4 Setting up the RollMap History Tabs	181
D.5 Working with Volicon Observer.	181
Appendix E. Virtual Units.	182
E.1 Overview.	182
E.2 Troubleshooting	182
E.2.1 Cannot see virtual unit in User Alarms View	182
E.2.2 Cannot see the virtual header in User Alarms View	182
Appendix F. Rules Engine	183
F.1 Overview	183
F.2 Rule Editor	183
F.2.1 Rule Editor Settings	183
F.3 Example Rules	184
F.3.1 Example 1	184
F.3.2 Example 2	185
Appendix G. RollMap Parameterization	189
G.1 Relative Paths	189

G.2 Search Paths	189
G.3 Macros	190
G.4 Dynamic Log Field Insertion.....	191
G.5 Dynamic Data Insertion	191
G.6 Variables.....	193
G.6.1 Variables replacement.....	195
G.6.2 Variables and Addressing	195

1. Introduction

RollMap, the RollCall Schematic Viewer, is a companion program to the existing RollCall set of programs for logging and control. In addition to a configurable System Alarm window, there is a schematic drawing package built into RollMap to provide a visual representation of the network and connectivity of your system. Alarms from the units can be assigned to trigger events in objects in the schematic. RollMap is a full ActiveX container; hence it can use some ActiveX objects registered in the Windows operating system.

1.1 RollMap Versions

RollMap is available in three different versions:

RollMap 10	Management of up to 10 RollCall enabled Enclosures, ideal for the management of small systems. RollMap10 includes the following licenses: 1 x Schematic Creation license 2 x Schematic Viewing licenses Prerequisites RollCall Middleware services are required. Options RollSNMP is an option with this product
RollMap 30	Management of up to 30 RollCall enabled Enclosures, ideal for the management of medium sized infrastructure systems. RollMap30 includes the following licenses: 1 x Schematic Creation license 5 x Schematic Viewing licenses Prerequisites RollCall Middleware services are required Options RollSNMP is an option with this product
RollMapENT	RollMap Enterprise Edition offers totally scalable systems management of unlimited RollCall enabled Enclosures. RollMap Enterprise Edition includes RollMap Middleware services and RollSNMP. It is the best option for customers that wish to implement an integrated monitoring environment for medium to large infrastructure systems. RollMapENT includes the following licenses: 2 x Schematic Creation licenses 10 x Schematic Viewing licenses 1 x RollCall Middleware license 1 x RollSNMP Framework license 1 x RollMechanic license

2. Installation

2.1 Prerequisites

RollMap requires a fully working version of RollCall Middleware Services to be installed, either on the same machine as RollMap, or on a network-connected machine. Without a running RollCall LogServer, RollMap has no functionality. The recommended configuration is a single, dedicated log server PC, with one or more workstation PCs running RollMap, connected to the server via a TCP/IP LAN. Only a single log server can collect log data from any RollCall device, but multiple log viewers like RollMap can connect to a server.

RollMap has the facility to generate V1 Simple Network Management Protocol (SNMP) Trap events. These traps are sent to co-operating SNMP Managers and can be used as an additional alarm monitoring system. RollMap relies on the Microsoft "SNMP" and "SNMP Trap" services to be installed on the computer. These services are available on the Windows installation media as standard. For more information about installing and configuring SNMP for use with RollMap, See SNMP Setup for RollMap on page 170.

2.2 Install RollMap

RollMap is installed by means of a Windows installation executable file. To install RollMap, run the installation executable and follow the on-screen instructions.

Note: When installing on a PC running Windows 7, Vista, or Server 2008, it may be necessary to set the User Account Control settings to "Never notify". This is set from the Windows control panel.

2.2.1 Setup Type

After accepting the Licence agreement and installation directory you will be asked which type of install you would like.

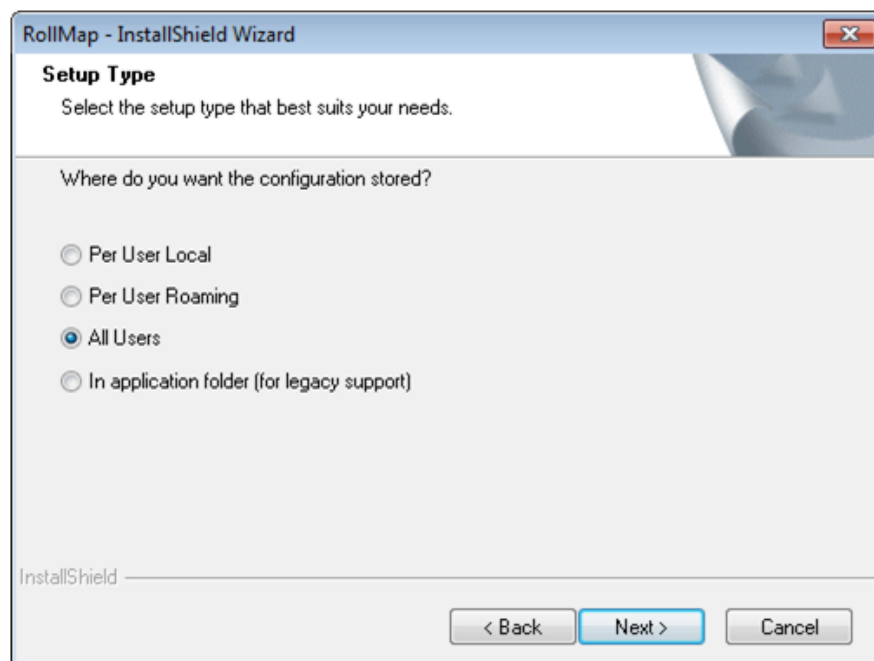


Figure 1 Setup Type

Per User Local - Each user has their own configuration, and is stored in their local user profile

%LOCALAPPDATA%\SAM\RollMap\Configuration\

Per User Roaming - Each user has their own configuration as above, but will integrate with domain roaming profiles if enabled.

%APPDATA%\SAM\RollMap\Configuration\

All Users - All users on that PC will share the same configuration file.

%ALLUSERSPROFILE%\SAM\RollMap\Configuration\

In Application Folder - This will install the configuration files to the same directory as the application. This is for legacy support of previously configured environments and does not fully support Windows User Account Control.

[Install Directory]\Configuration\

2.2.2 Editing/Monitoring Workstation

The next dialogue will ask if you want to be able to use this workstation to be able to modify schematics. If it is to be used for operators only, the recommendation is to select Monitoring Workstation.

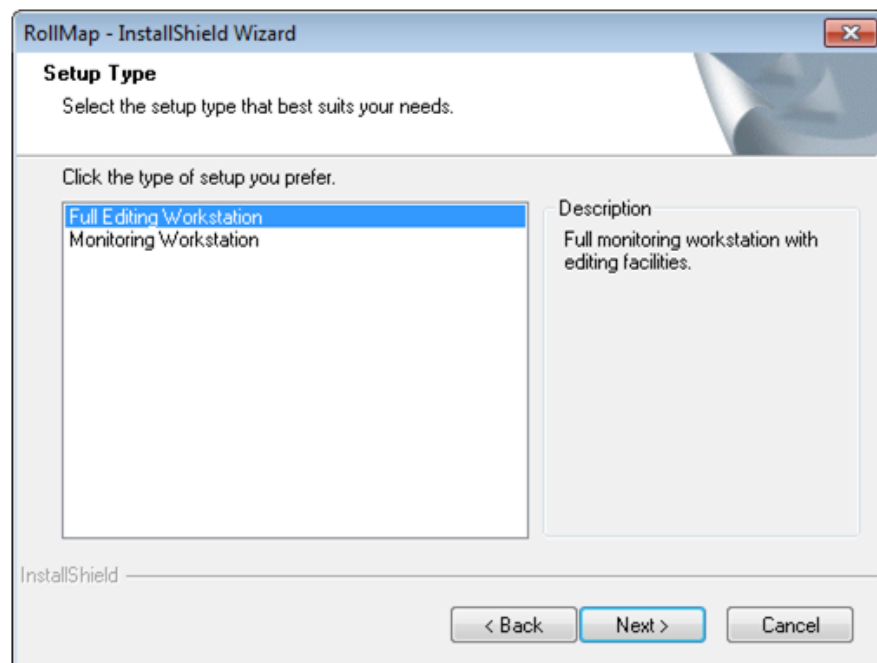


Figure 2 Editing/Monitoring Workstation

3. General Operation

3.1 Screen Components

The diagram below shows the layout of the main components.

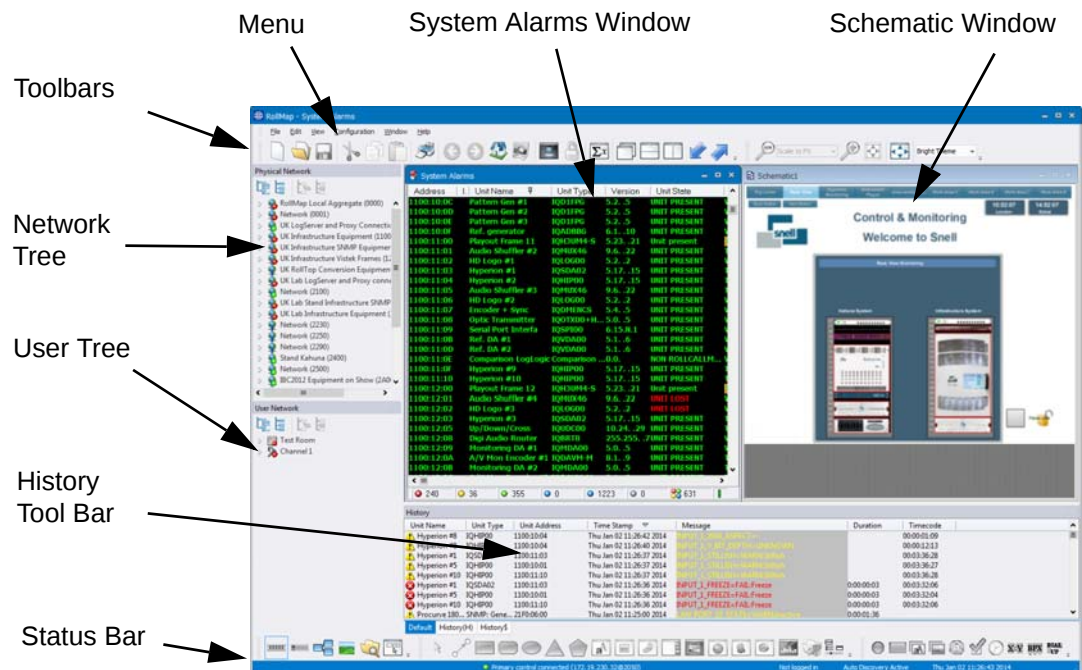


Figure 3 Main Window

- **Network Tree**

The Network Tree displays a physical view of the units on the network.

- **User Tree**

The User Tree is used to create a customized display of selected units, allowing easy access to units of particular relevance.

- **History Tool Bar**

The History Tool Bar displays tabs providing a means of viewing and saving previous states. There are two type of tabs, current status and history. Current status tabs display events as they occur, and history tabs display a record of events that have occurred.

- **System Alarms Window**

The System Alarms Window is a table made from units in the system and their alarm headers. Each entry in the table is a trigger event for an alarm.

- **Schematic Window**

The Schematic window allows you to compose a graphical representation of the system, using the drawing tools provided. Certain drawing components can be connected to alarm events enabling them to dynamically display system state information, for example, display a red border when an error state occurs.

- **Toolbars**

The main toolbars are very similar to a standard Windows-type toolbar with some of the more familiar file and view options. See "Main Toolbars" on page 12.

Other Toolbars are explained in each relevant section according to the Window with which they are associated.

- **Status Bar**

The Status Bar displays some information about the current state of RollMap, and provides quick access to the Control Connection redundancy controls.

- **Menus**

A set of menus display at the top of the screen. The majority of these menus are similar to standard Windows type menus and need no further explanation here.

The Configuration menu provides shortcuts to some of the features available in the various Windows. See “Configuring RollMap” on page 18.

Right-clicking in a window displays a further menu related to that window.

3.2 Main Toolbars

The main toolbars, immediately below the menu, have the following tools available:

3.2.1 New

Start a new User Alarm Screen, Schematic, or Component file.

3.2.2 Open

Open an existing User Alarm Screen, Schematic, or Component file.

3.2.3 Save

Save the current User Alarm Screen, Schematic, or component to a Component file.

3.2.4 Cut

Cut a component from a schematic.

3.2.5 Copy

Copy a component from a schematic.

3.2.6 Paste

Paste a previously cut or copied component to the current schematic.

3.2.7 Print

Print the current User Alarm Screen, Schematic, or component.

3.2.8 Back One Level/Forward One Level

Selects the previous or next schematic. The order of selection is the same as the order in which the schematics were opened.

3.2.9 Home Schematic

Displays the home schematic as set up in the Configuration menu. Any previous schematic is still available, but the home schematic becomes the currently active schematic.

3.2.10 Edit Schematic

This button toggles between edit mode and run mode.

3.2.11 Login

By creating different log in templates, it is possible to provide restrictions on parts of the system for certain users. For example, an “administrator” will have system-wide access, whereas different “users” may only have access to specified parts of the system.

See “Manage Users” on page 24.

3.2.12 Lock/Unlock Views

With a schematic running, it is possible to lock the screen to protect against accidental changes to the system. Click the Lock icon to lock the current schematic. Click the icon again to unlock. It is also possible to trigger this option from a button placed on a schematic using alarm actions.

3.2.13 Log Logic

Enables Log Logic to be added/edited.

See “Log Field Logic” on page 65.

3.2.14 Cascade

Displays all non-minimized templates as a cascade. This is the default setting.

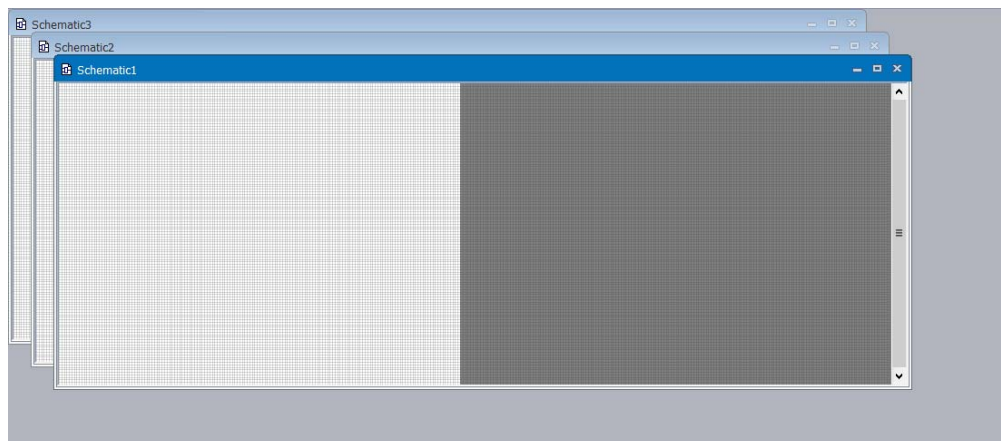


Figure 4 Cascade

3.2.15 Tile Horizontally

Displays all non-minimized templates in a horizontal tile.

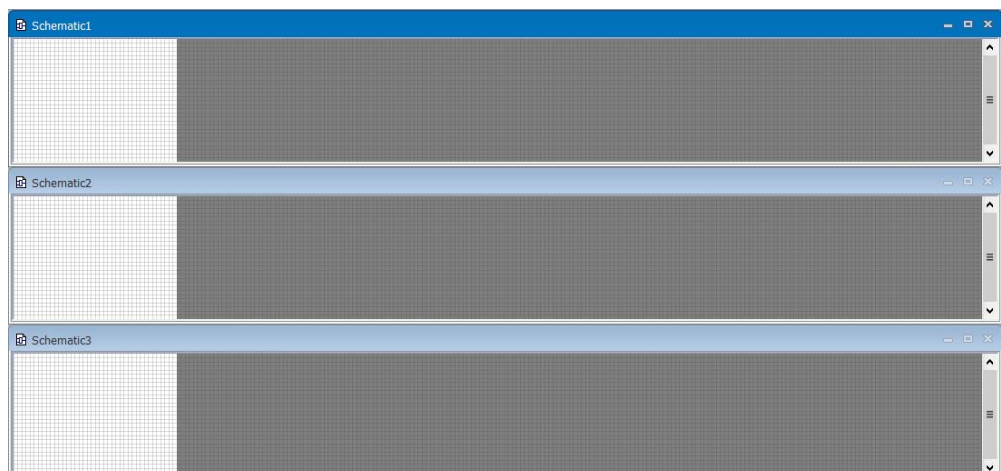


Figure 5 Tile Horizontally

3.2.16 Tile Vertically

Displays all non-minimized templates in a vertical tile.

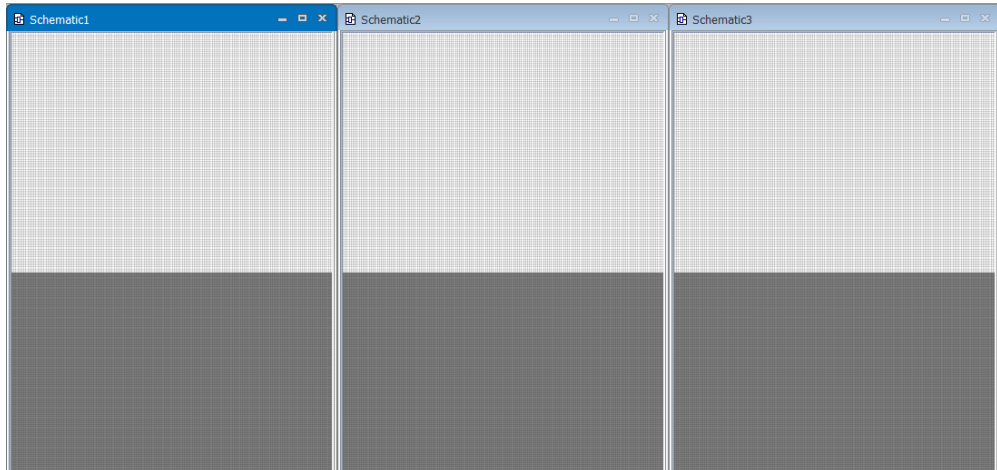


Figure 6 Tile Vertically

3.2.17 Minimize/Un-Minimize

Minimize - minimizes all opened templates.

Un-Minimize - restores all opened templates.

3.2.18 Zoom

Click on the + or - icons to increase or decrease the zoom factor on the current schematic, or select a specific zoom factor from the drop-down list.

3.2.19 Scale to Fit Window

With this button selected the schematic scales to fit within its window. If the window size is subsequently changed, the schematic dynamically scales to fit at the maximum possible size within the window.

3.2.20 Fullscreen

This button which switches the current schematic or alarms window to fullscreen mode. In fullscreen mode, the full window is occupied, and the toolbars, Network Browser and Connected Units are hidden.

To return to normal mode, select Exit full screen mode from the on-screen menu. Alternatively, use the keyboard shortcut Alt-Enter to toggle between fullscreen mode and normal mode.

3.2.21 Previous/Next

Selects the previous or next non-minimized template. The order of selection is the same as the order in which the templates were opened.

3.3 Customize Screen Layout and Color Theme

The size and position of the component windows within the screen may be changed to suit a particular application. Tool bars can be configured to show only those items that are being used. Choose from the dark and light color themes according to preference.

Any changes to the windows and toolbars are saved on closing RollMap, and are restored automatically when reopening the application.

The layout settings are stored in an external file that, if required, can be copied to other RollMap clients to give a standard look across clients, or, a number of alternative layouts can be saved in other folders, and restored depending on the application.

To reference an alternative saved layout file: in the Configuration.cfg file enter the following line in the [Rollmaster] section:

LayoutFile=(insert the path of the saved file)Layout.xml

3.3.1 Docking Windows

The Network Tree and User Tree windows, and the History and Status Tabs are dockable windows. Dockable windows can be arranged to suit working practices. Windows can either be floating windows, or docked in different positions around the working area. All windows can be resized, whether docked or floating, by clicking on the edge of a window and dragging to a new size. Docked windows can only be resized and repositioned within the confines of the RollMap application screen.

If a window is dragged to a new position without docking, it stays as a floating window.

To move a window to a different docked position:

1. Click on the title bar of a window and drag. Several position markers show the possible docking positions.
2. Drag the window over the position markers that display in the centre of the screen and at the edges denoting the available positions. A colored rectangle indicates the destination position of the window if it is docked at the current marker. Release the window to dock it in the required position.

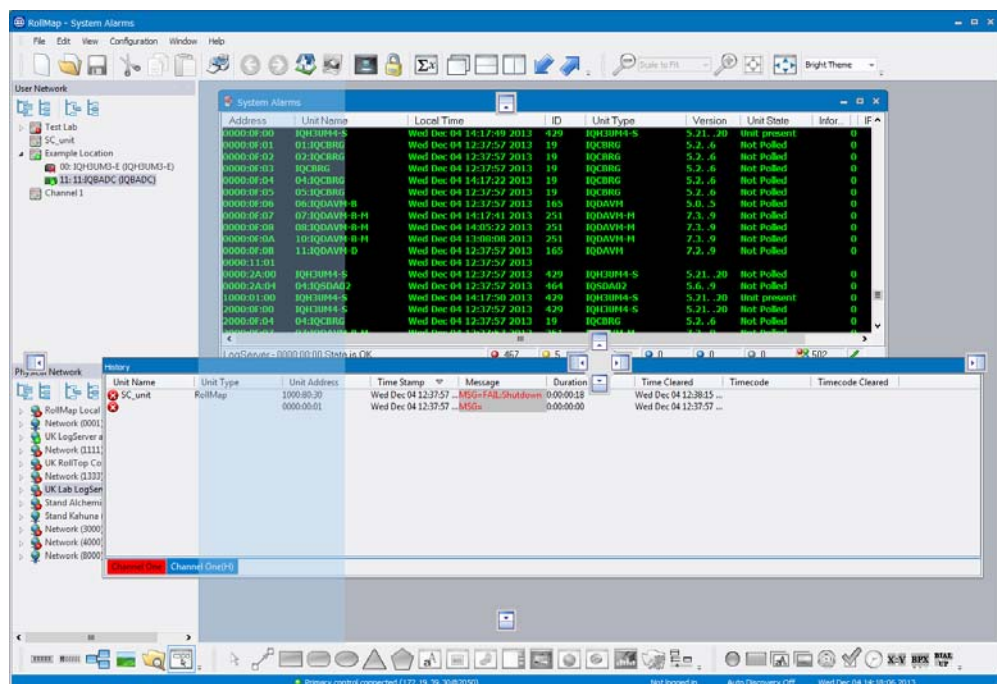


Figure 7 Docking Windows

Docking a window directly over an existing window, causes the two windows to be tabbed allowing selection of either of them.

Docked windows can be pinned to the edge of the screen so that they become tabbed windows.

- To pin a window to the edge of the screen, click the  button.

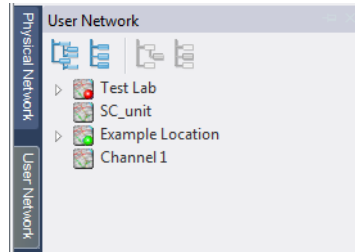


Figure 8 Pinned Windows

- To restore the window, click the  button.

3.3.2 Customize Toolbars

The buttons on the toolbars at the top of the screen can be customized to remove or add buttons, as required.

To remove buttons from a toolbar:

1. Click on  at the right of a toolbar.
2. Click on Add or Remove Buttons.
3. Select the toolbar to customize.
4. From the list of buttons that displays uncheck the buttons not required in the toolbar.

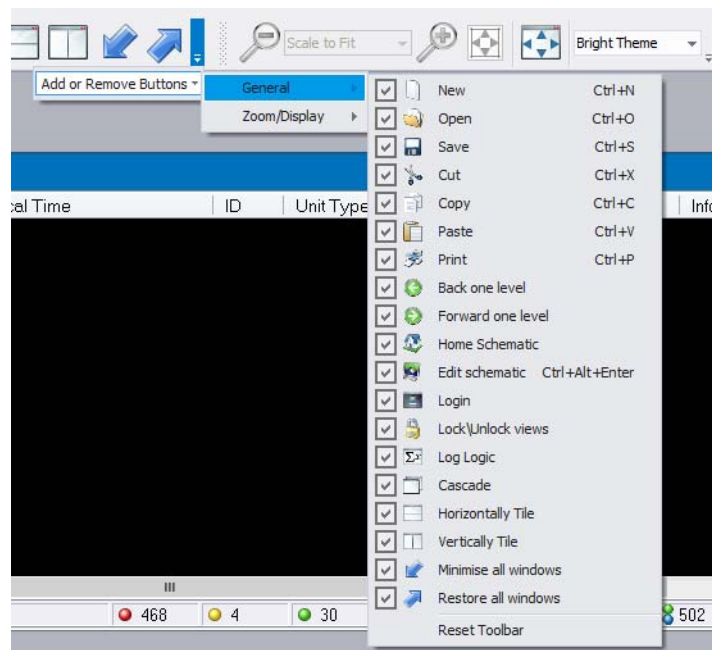


Figure 9 Add and Remove Toolbar Buttons

To add buttons back in to a toolbar:

1. Click on  at the right of a toolbar.
2. Click on Add or Remove Buttons.
3. Select the toolbar to customize.
4. From the list of buttons that displays check the buttons required, or click on Reset Toolbar to add all buttons.

Note: When using Reset Toolbar a prompt display asking for confirmation of the reset.

3.3.3 Set a Color Theme

Color themes are available from the drop-down list at right-hand side of the main toolbar.

Select from Dark Theme or Light Theme.

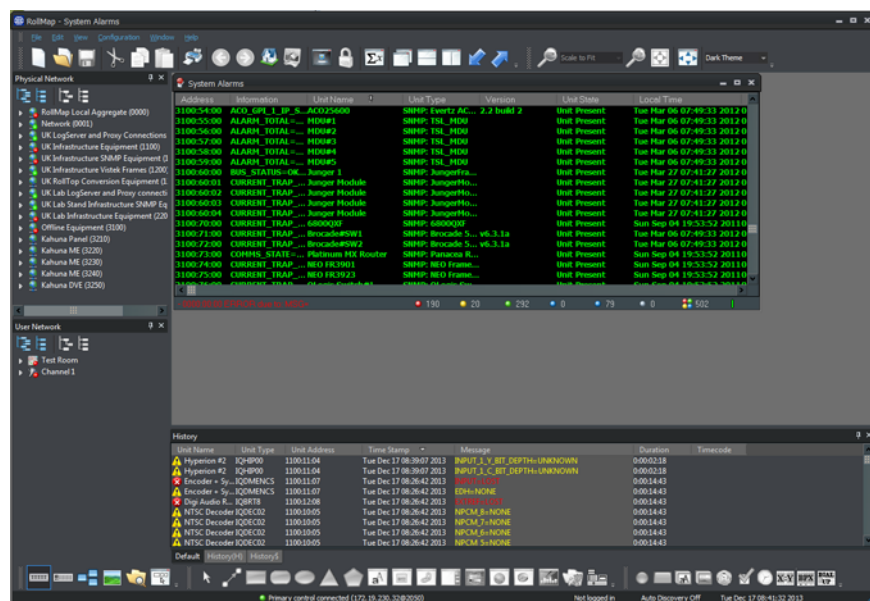


Figure 10 Dark Theme Example

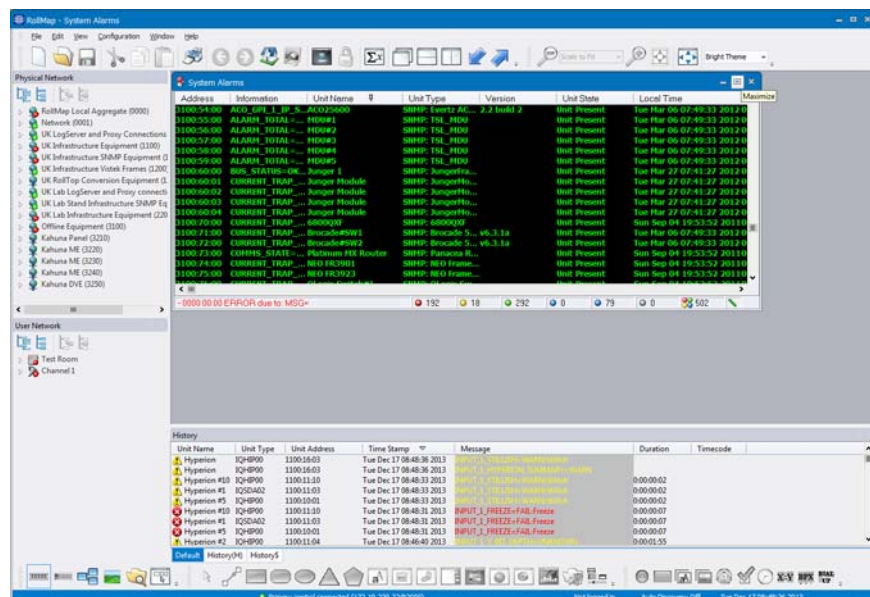


Figure 11 Bright Theme Example

4. Configuring RollMap

4.1 Set the Log Server Connection

In order for RollMap to have any functionality, it must be connected to a RollCall Log Server, which is in turn connected to and monitoring a RollCall enabled network.

To configure RollMap's connection to the Log Server:

- From the **Configuration** menu, select **Log Server Connection**.

The Log Server Connection dialog displays.

Figure 12 Log Server Connection

The configuration for the current status file allows selection of saved file for input, or by direct TCP/IP input.

The Control Connection is the address of the RollCall Network proxy or chassis. That is, the same address used to connect the RollCall Control Panel to the network.

4.1.1 TCP/IP Input

Check the Use TCP/IP Log server checkbox to make a TCP/IP connection to a RollCall Log Server. This has significant speed improvements over the polling status file method above, and is recommended for all installations.

When using a TCP/IP connection to the Log Server, the File Input parameters are ignored.

In the Log Server IP Address field, enter the IP address or name of the Log server. If the Log server program is running on the same PC as RollMap, the IP "localhost" address of 127.0.0.1 can be used. (Note: For RollCall Version 3.3, set AllowSockets=1 in the [RollLog] section of the ROLLCALL.INI file in the Windows directory, and then restart the Log Server).

The default Log Server port is 2052, but a different port can be specified as <ipaddress:port>, or any of the other allowable IP formats.

Note: All IP address fields can be input as any of the following formats: ipaddress:port, ipaddress@port, port:ipaddress or port@ipaddress

A Connection Retry Time of 5 seconds is the default. This retry time can be changed if required, using the up and down arrow buttons.

4.1.2 File Input

Note: If using a current status file, the file must have been previously generated by the Log Server.

Click on the **Browse** button and navigate to the location of the status file.

RollMap reads data from this status file every "Status File Poll Time" seconds. Define the Poll Time (in seconds) and set a Time out. The Status file timeout is in multiples of polling intervals.

4.1.3 Control Connection

The control connection is required for Control Objects. See "Control Objects" on page 120.

Set the IP address of the Control Connection. The Control Connection is the address of the RollCall Network proxy or chassis. That is, the same address used to connect the RollCall Control Panel to the network.

The default Control Connection port is 2050, but a different port can be specified as <ipaddress:port>, or any of the other allowable IP formats.

If required, check the Auto reconnect check box, and define a Retry Time (in seconds).

A secondary Control Connection IP may be added allowing redundancy. Check the Enable Redundancy checkbox, and enter an IP address in the Secondary Address field, or select an address from the drop-down list.

When using Control Connection redundancy priority can be given to the primary connection, by selecting the Priority Primary radio button. Select the Priority None radio button if priority is not required for the primary connection.

The primary and secondary connections can be controlled from the status bar.

Right click on the "Control" part of the status bar to display the control menu:

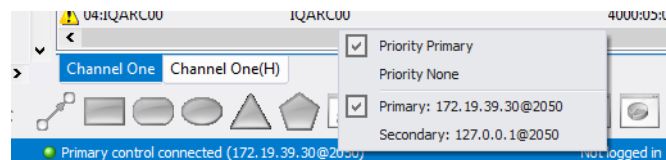


Figure 13 Control Connection Menu

- **Priority Primary**—Sets the Primary Connection as the priority connection. The application will always attempt to connect to the primary address if a connection can be established.
- **Priority None**—No priority given to primary or secondary connection. Attempts to switch back to the primary address only if the secondary connection is lost.
- **Primary <ipaddress>**—forces the connection to the Primary Connection.
- **Secondary <ipaddress>**—forces the connection to the Secondary Connection.

4.1.4 Thumbnail Server Connection

The thumbnail server is a Windows service installed as part of the RollMap installation, which is used to retrieve thumbnail images from remote units, in readiness for use in RollMap.

A thumbnail service is always available on the loopback address (127.0.0.1). However, this location can be changed and, if required, an additional location added for redundancy.

RollMap connects to the thumbnail server on port 2064. This can be changed by specifying a different port address, for example, 127.0.0.1:60000. The thumbnail service must be running on the port specified.

RollMap requires a connection to a server containing thumbnail images for use within schematics.

To set the IP address of a thumbnail server:

- Enter the IP address in the Primary Address field in the Thumbnail Server Connection section.

To add a redundant server:

- Check the Enable Redundancy checkbox, and enter an IP address in the Secondary Address field, or select an address from the drop-down list.

When using Thumbnail server redundancy priority can be given to the primary connection, by selecting the Priority Primary radio button. Select the Priority None radio button if priority is not required for the primary connection.

Note:

The thumbnail server port can be specified in the Windows registry at this location: HKEY_LOCAL_MACHINE\SOFTWARE\Snell & Wilcox\ThumbnailService\[RollMapPort]

4.2 Set up the Unit List

The Unit List specifies which unit's alarms to monitor. This is usually the list of units available from the current status file.

To set up the Unit List:

- From the **Configuration** menu, select **Unit List**.

The System Alarms Setup window displays.

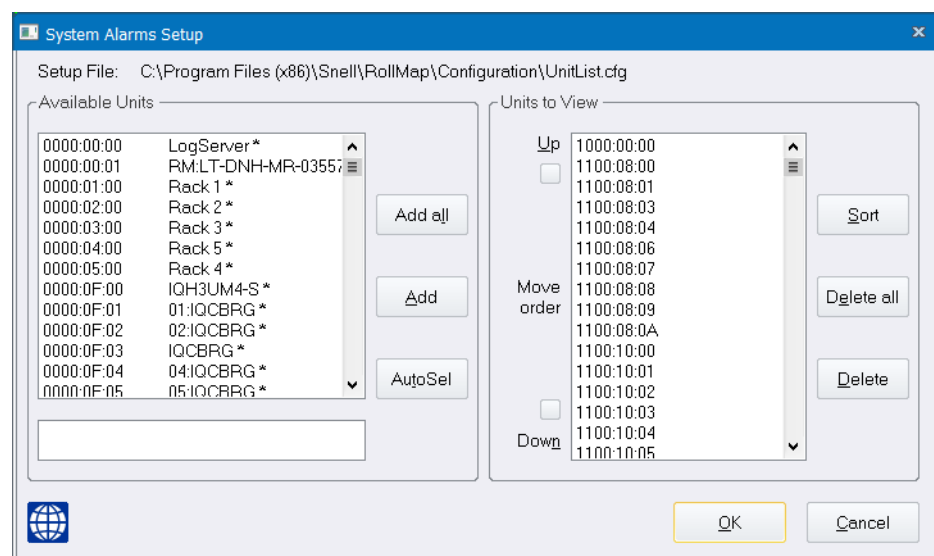


Figure 14 System Alarms Setup

The address of each unit must be added to the Units to View list. The addresses that display in the current status file are displayed on the left. You can select all or a sub-set of addresses available. The **AutoSel** button selects only those items currently present on the network. The Add button adds all the selected items. To delete an item, select the item in the Units to View list and select the Delete Item button. Only units that are present in the Units to View list are displayed by the System Alarms. The display order is set by the list order, which can be changed by pressing Sort, (sorts numerically by address), or by using the Up and Down buttons to move individual units.

4.2.1 Set up Keyword Headers

Keyword Headers are the column headings that display at the top of the unit list. Keyword headers are identical to those used by the RollCall Log Viewer, (RollView). Changes made to these settings also affect settings in the RollView package. Each column is listed by position number. The first column is numbered 0.

To delete, add or modify the keyword headers (column headings):

- From the **Configuration** menu select **Keyword Headers > Edit Headers**.

The Headings dialog displays.

Figure 15 Keyword Headers

The column is identified by the Header Keyword listed in the current status file. One of the header keywords available in the current status file can be selected using the Browse button. The display line for the unit can be made to change color depending on the words matched in the Warning Keyword and Failure Keyword fields. The Warnings field generates a -Yellow State Failure field generates a -Red State

The Magenta and Cyan parameters can be configured in the same way as Green, Yellow, etc states. They are used to highlight a condition that isn't necessarily a fault; for example, if you had a network switch, you could have all the ports running at 10 Mb be Cyan and all the ports running at 100 Mb as Magenta.

The Exclude Keyword field removes the assigned words from the column and does not display in any state. Multiple word match can be separated with a semicolon (;) character, wild card matching can be assigned using the asterisk (*) character, and the EMPTY keyword can be used to match a blank string. If no keywords are matched to generate any specific state, the state is assigned the Default State. If the checkbox Show only on warning or failure is selected, only items that are either in Warning or Failure state display.

If the column header contains numerical values such as temperature, the state can be set by entering a set of number ranges as a Number Field. To skip a band, enter the same values for its range.

In the example shown in Figure 16:

- Values below 10 generate an error condition.
- Values between 10 and 20 generate a warning.
- Values between 20 and 30 are considered good.
- Values between 30 and 40 generate a warning.
- Values greater than 40 generate an error condition.

Figure 16 Number Field

The column header positions can be changed from this setup dialog box by entering the new column number into the "Column Number" field. Alternatively, the header can be selected and then dragged to its new position using the mouse.

The Enable SNMP Trap on change checkbox enables and disables SNMP traps for this header. This allows only specific events of interest to generate SNMP traps.

Create All Headers searches the header list and automatically creates a column for each header found.

4.2.2 Special Keyword Headers

Keyword	Description
ADDRESS	The alarm list should always contain the column ADDRESS. This is the only true identifying reference to a unit on the network.
INFO	All other header keywords in the current status file that are not assigned to a column are shown in the INFO column. This column is always present and cannot be deleted. Note that this column contains the full display of HEADER=VALUE so the warning and failure keywords must also contain the header keyword and its value. Note that by default, there are several failure keyword conditions separated by ; (semicolon) and that the TIME keyword is excluded from this column (Uses UCT instead).
MSG	Messages for this keyword header can be generated by the unit or artificially by the LogServer program. It is normally used to show presence on the network of a device. If a unit responds to a polling request by LogServer, then the message MSG=Unit present is generated, otherwise MSG=Unit lost is generated.

Table 1. Special Keyword Headers

Keyword	Description
TIME / UCT	The LogServer program generates two time keywords for each unit in the current status file. The first is TIME. This is the ASCII version of the time at which the event was logged according to LogServer using its local PC time. However, this TIME field when viewed by a LogViewer on a PC in a different time zone (Wide area network system), indicates incorrect local time. The second keyword is UCT (Universal Co-coordinated Time). This is a numerical value indicating the number of seconds elapsed since 1st January 1970. LogViewers can use this value to generate local or GMT time depending on its own time zone settings. For example: If a LogServer in San Francisco, California, USA is configured to collect information on a network of RollCall units, it may generate an entry similar to the one below for an IQD1FPG. <pre data-bbox="544 636 1474 725">NAME=01:IQD1FPG-0, ADDRESS=0000:A0:01, TIME=Thu Apr 30 10:52:41 1998, MSG=Unit present, UCT=893929961, EXTREF=N/A, STD=625, SN=270207,</pre> The time that the event occurred was Thu Apr 30 10:52:41 1998. This is in San Francisco local time. If a monitoring site in Rome, Italy, was configured to view the same status file as generated by the LogServer in San Francisco, then the monitoring site in Rome would also see Thu Apr 30 10:52:41 1998 which is wrong respective to Rome local time. In order to adjust for local time anywhere in the world, the UCT header keyword should be used instead. Each PC should have its Time Zone variable set either by the environmental variable TZ or by setting it within the COMMTROL program. (See COMMTROL: Setting Time Zone). If the Time Zone for San Francisco is set to GMT+8, and Rome to GMT-2, then the LogViewer in San Francisco automatically converts the UCT value (in this example 893929961) into the ASCII string Thu Apr 30 10:52:41 1998. The LogViewer in Rome converts the same UCT value to Thu Apr 30 20:52:41 1998. The LogViewers also have the options of showing the UCT value in GMT time which is identical for both sites (Thu Apr 30 18:52:41 1998 GMT).

Table 1. Special Keyword Headers

Note:

Keyword headers can be overridden in the unit list. See “Override Keyword Headers” on page 65.

4.3 Set the Global Time Format

The global time format defines how the Time stamps display in the History Toolbar.

- From the **Configuration** menu, select **Time Format...**

The Global Time Display Format screen displays.

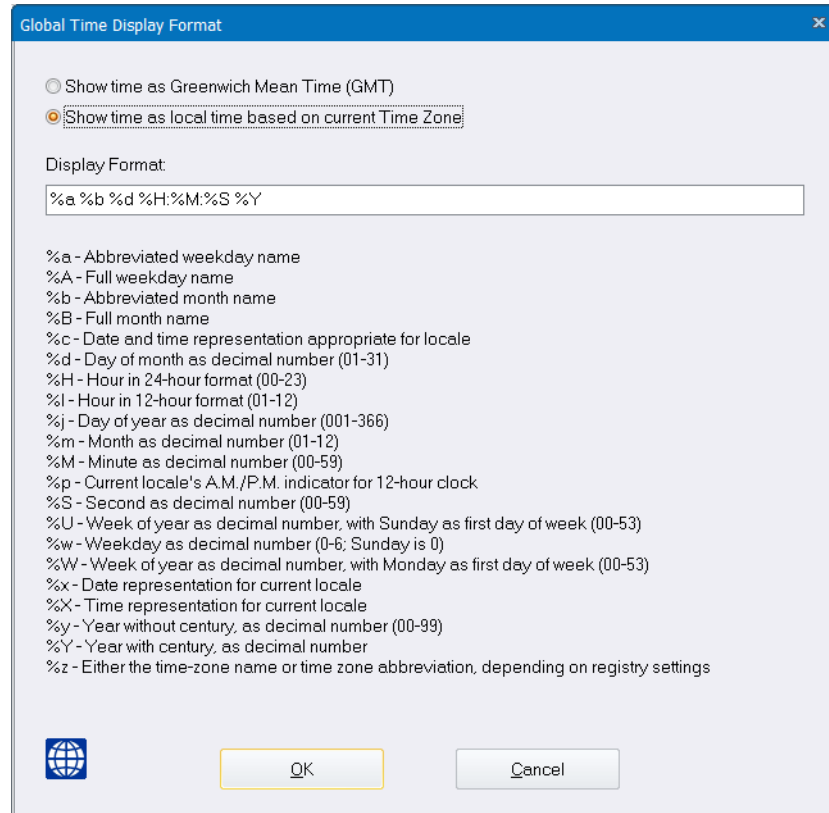


Figure 17 Time Format

Configure the time format as per the on-screen instructions, and click **OK**.

Note: Changing this time format does not change the time format in the status bar at the bottom of the screen.

4.4 Manage Users

Setup user types and control user access. Users can have differing levels of read and write access to schematics in the system. Also, an “Administrator” can have full user management capabilities.

The system works on a hierarchical scale, with two scales, one for read, and one for write, allowing different users to have unique access to schematics within a RollMap System.

User access is also controlled by the authentication level set for each schematic. See Authentication Levels Properties on page 95.

4.4.1 Add a User

To add a user:

- From the **Configuration** menu, select **User Authentication > Manage Users**

Note: The first user added must be an “Administrator” user, and be used for adding, editing and deleting further users. A Username and Password must be entered.

The Users screen displays.

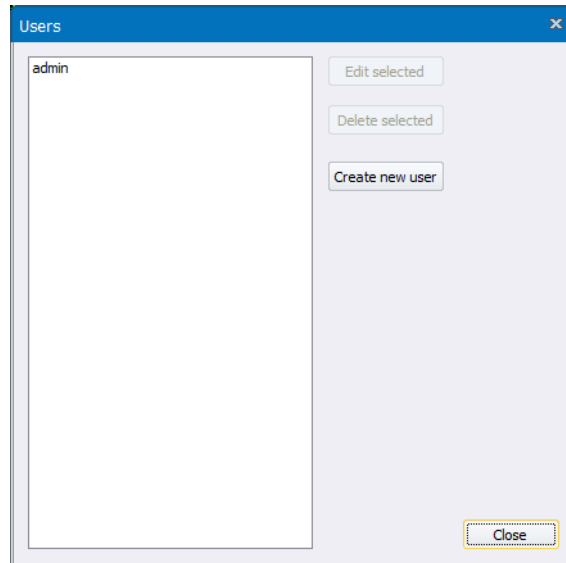


Figure 18 Create User

2. Click on the **Create new user** button.

The Edit User screen displays.

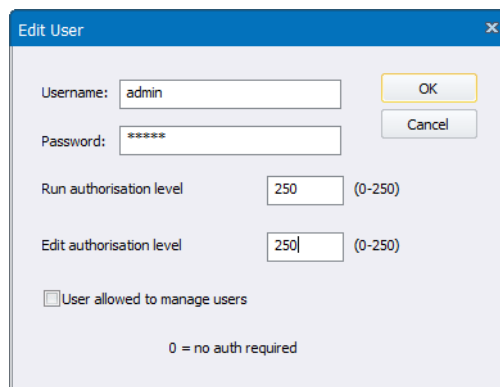


Figure 19 Edit User Screen

3. Type a Username and Password.
4. Enter a Run authentication level (0-250 - the higher the number the higher the access level for running schematics)
5. Enter an Edit authentication level (0-250 - the higher the number the higher the access, for editing none, some or all schematics)
6. If this user is expected to manage users (usually limited to an Administrator) check the check box.
7. Click **OK**.

Table 2. An example of a user access structure using the hierarchical authentication levels.

Username	Access levels	Manage users
Administrator	Run = 250	Yes
	Edit = 250	
Engineer	Run = 150	No
	Edit = 150	
Operator	Run = 50	No
	Edit = 50	

Table 2. User Access Levels

Table 3. An example of how to setup schematics so that they can be read, and/or written to by some user levels and not others.

Schematic Name	Read / Write	User access to Schematic
Top Level menu	Read = 0	All users
	Write = 250	Administrator only
Engineering Settings	Read = 100	Administrator and Engineer
	Write = 100	Administrator and Engineer
System Monitoring	Read = 0	All users
	Write = 100	Administrator and Engineer

Table 3. Example Schematic Read / Write Authentication Levels

The range of numbers used to allocate both access levels and schematics read/write abilities can be as simple or complex as necessary to ensure each user has the right access.

Schematic authentication levels are set in the Schematic Document Properties. See Authentication Levels Properties on page 95.

4.4.2 Edit a User

1. From the **Configuration** menu, select **User Authentication > Manage Users**

The Authentication Required screen displays.

Figure 20 Authentication Required

Note: An “Administrator” Username and Password must be entered to edit a user.

2. Enter a Username and password, and click **OK**.

The Users screen displays.

3. Select the user to edit, and click the Edit selected button.

The Edit User screen displays.

4. Amend the details as required and click **OK**.

4.4.3 Delete a User

1. From the **Configuration** menu, select **User Authentication > Manage Users**

The Authentication Required screen displays.

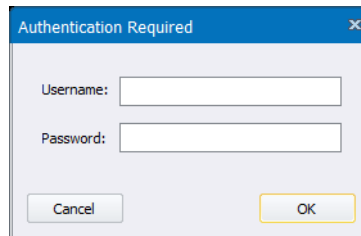
A dialog box titled "Authentication Required" with a close button (X) in the top right corner. It contains two text input fields: "Username:" and "Password:". Below the fields are two buttons: "Cancel" and "OK".

Figure 21 Authentication Required

Note: An "Administrator" Username and Password must be entered to delete a user.

2. Enter a Username and password, and click **OK**.

The Users screen displays.

3. Select the user to delete, and click the **Delete selected** button.

4.5 RollMap Client Logging

This feature sends RollMap system information to the Logserver, where it is treated as a unit. So by creating a new unit, the system details can be viewed in RollMap, added to schematics, or viewed by other RollMap clients on the same Logserver.

To setup the new unit:

1. Enable the RollMap Client Logging, by checking the checkbox.
2. Enter a unique name for the unit.
3. Enter a RollMap address.
4. Click **OK**.

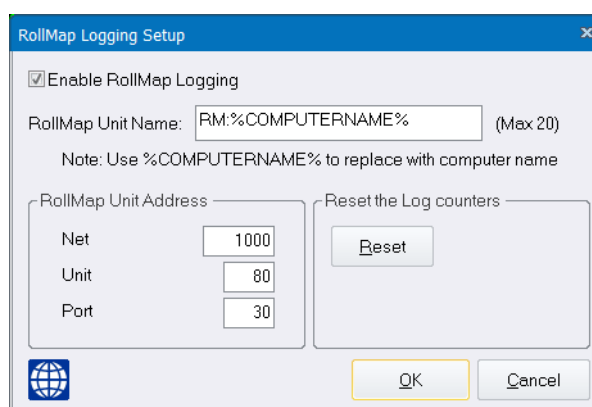
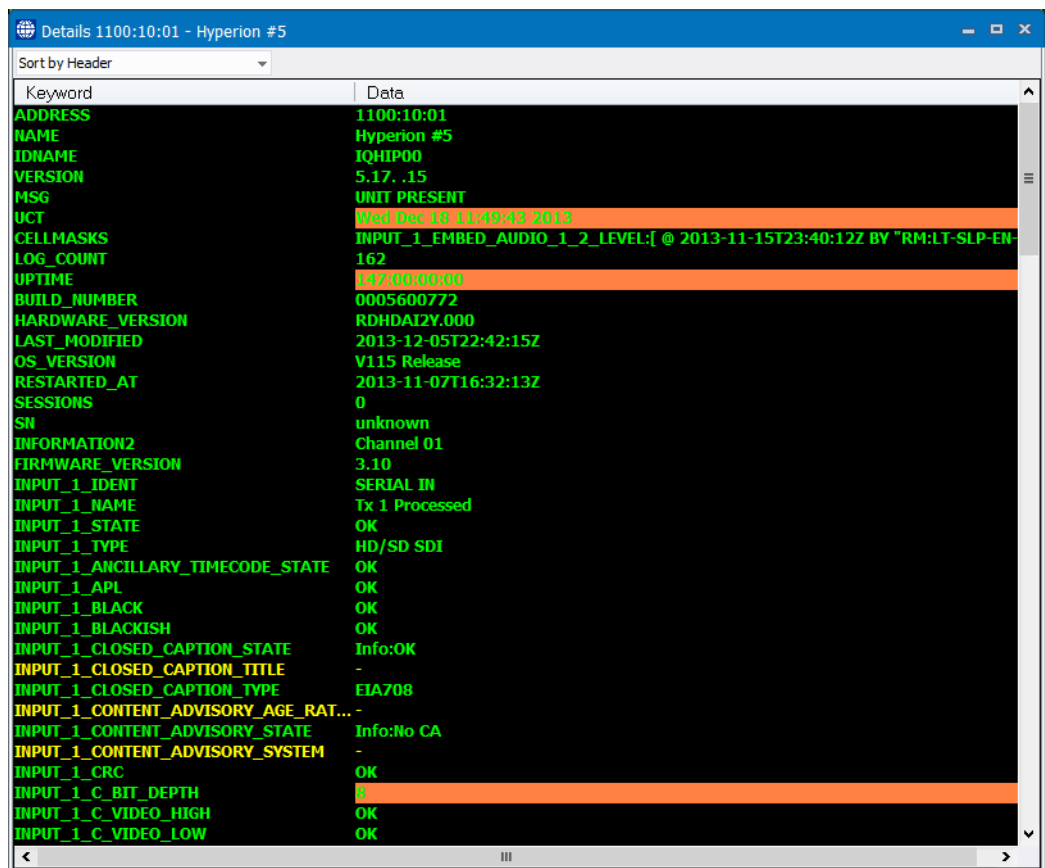
A dialog box titled "RollMap Logging Setup" with a close button (X) in the top right corner. It contains a checkbox labeled "Enable RollMap Logging" which is checked. Below it is a text input field for "RollMap Unit Name" with the value "RM:%COMPUTERNAME%" and a "(Max 20)" label. A note below the field says "Note: Use %COMPUTERNAME% to replace with computer name". There are two sections: "RollMap Unit Address" with three input fields for "Net" (1000), "Unit" (80), and "Port" (30); and "Reset the Log counters" with a "Reset" button. At the bottom are "OK" and "Cancel" buttons, and a small globe icon on the left.

Figure 22 RollMap Client Logging

Once the RollMap Client Logging has been enabled, add the new address via the Unit List dialog. Details of the unit can then be displayed in the normal way.

To view the Client Logging details:

- Right-click on the device in the network tree, and select **Details...** from the menu.



Keyword	Data
ADDRESS	1100:10:01
NAME	Hyperion #5
IDNAME	IQHIP00
VERSION	5.17. .15
MSG	UNIT PRESENT
UCT	Wed Dec 18 11:49:43 2013
CELLMASKS	INPUT_1_EMBED_AUDIO_1_2_LEVEL:[@ 2013-11-15T23:40:12Z BY "RM:LT-SLP-EN-
LOG_COUNT	162
UPTIME	147:00:00:00
BUILD_NUMBER	0005600772
HARDWARE_VERSION	RDHDAI2Y.000
LAST_MODIFIED	2013-12-05T22:42:15Z
OS_VERSION	V115 Release
RESTARTED_AT	2013-11-07T16:32:13Z
SESSIONS	0
SN	unknown
INFORMATION2	Channel 01
FIRMWARE_VERSION	3.10
INPUT_1_IDENT	SERIAL IN
INPUT_1_NAME	Tx 1 Processed
INPUT_1_STATE	OK
INPUT_1_TYPE	HD/SD SDI
INPUT_1 Ancillary Timecode State	OK
INPUT_1 APL	OK
INPUT_1 BLACK	OK
INPUT_1 BLACKISH	OK
INPUT_1 CLOSED_CAPTION_STATE	Info:OK
INPUT_1 CLOSED_CAPTION_TITLE	-
INPUT_1 CLOSED_CAPTION_TYPE	EIA708
INPUT_1 CONTENT_ADVISORY_AGE_RAT...	-
INPUT_1 CONTENT_ADVISORY_STATE	Info:No CA
INPUT_1 CONTENT_ADVISORY_SYSTEM	-
INPUT_1_CRC	OK
INPUT_1_C_BIT_DEPTH	8
INPUT_1_C_VIDEO_HIGH	OK
INPUT_1_C_VIDEO_LOW	OK

Figure 23 Client Logging Details

4.6 Snap Shot IDs

A "Snap shot" of current unit IDs and types can be made so that if any unit is replaced and its type does not match the previous snap shot, it generates a warning or error for that unit's ID and IDNAME field.

To take a snap shot, select the **Configuration > Snap Shot IDs > Take Now** menu. This deletes all previously stored ID and IDNAME overrides and generates a new override for each unit present.

The current snap shot can be cleared by the **Configuration > Snap Shot IDs > Clear All Snap Shots** menu.

4.7 Enable SNMP

RollMap contains a SNMP extension agent that can generate V1 SNMP traps. The format of the trap is defined by the SAM-ROLLMAP.mib. A trap can be configured to occur for any state of each log field. Individual keyword headers can be configured to generate SNMP traps.

To enable SNMP traps:

1. From the **Configuration menu**, select **SNMP**.

The SNMP Configuration dialog displays.

2. Select **Enable SNMP Traps** and then specify the state or states that generate SNMP Traps.

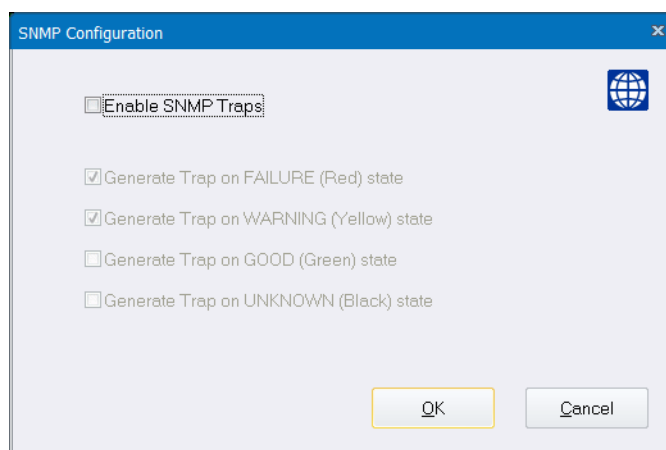


Figure 24 SNMP Configuration

See "SNMP Setup for RollMap" on page 170.

4.8 Set up Global Alarm Triggers and Actions

Alarm actions can be configured to generate internal alarms or send external messages when a specified alarm trigger occurs.

To access the alarm actions setup dialog:

- From the **Configuration** menu, select **Alarm Actions**.

The Actions dialog displays. If no actions have been previously configured, this screen will be blank.

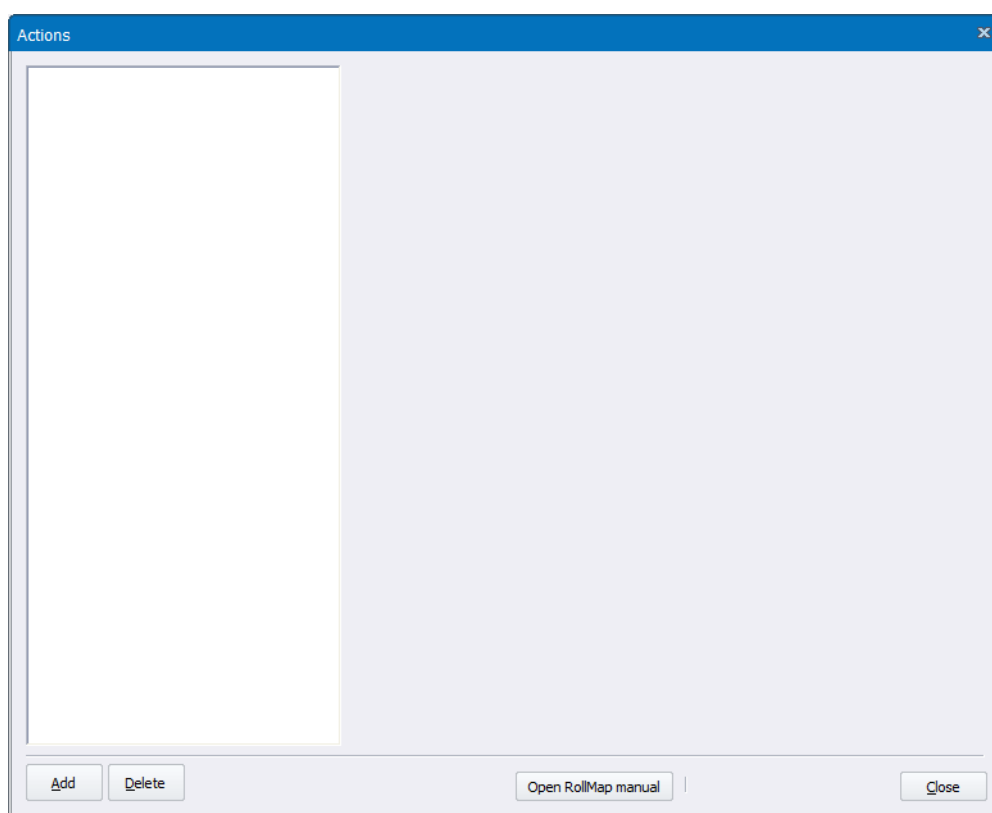


Figure 25 Blank Actions Screen

4.8.1 About Alarm Triggers

Alarm triggers are the specified events that initiate an alarm action. The alarm triggers that can be specified in the alarm window are:

- **State Trigger**—initiates the specified alarm actions when the state of specified units on the network changes.
- **Logserver Lost Trigger**—initiates the specified alarm actions when the connection to the log server is lost.
- **Control Connection OK Trigger**—initiates the specified alarm actions when control connection changes to an OK state.
- **Control Connection Warning Trigger**—initiates the specified alarm actions when control connection changes to a Warning state.
- **Control Connection Lost Trigger**—initiates the specified alarm actions when control connection is lost.
- **Auto**—trigger initiates the specified alarm action when RollMap is started.
- **Time Based Trigger**—trigger initiates an alarm after a defined period of time.

See Configure Alarm Triggers on page 32.

4.8.2 About Alarm Actions

Alarm actions are the actions that are carried out when the alarm trigger event occurs. They include:

- **Command Line**—executes a specified command line.
- **Macro**—runs a specified macro command.
- **Play Sound**—plays a specified .wav audio file.
- **Send RollTrack**—sends a specified RollTrack command.
- **Get RollTrack**—gets a specified RollTrack command. The way that the action is handled can be configured.
- **Send Message**—sends an email message.
- **Send SNMP**—sends an SNMP message (OID set).
- **Get SNMP**—executes a specified SNMP get.
- **Mask Unit**—masks specified units.
- **UnMask Unit**—unmasks specified units.
- **Mask Header**—masks specified headers of specified units.
- **UnMask Header**—unmasks specified headers of specified units.
- **Login**—prompts for user login.
- **Logout**—logs out of the current schematic.
- **Lock**—locks all schematics.
- **Unlock**—unlocks all schematics.
- **Toggle Lock**—provides a panel lock and unlock function for when the alarm trigger is activated or deactivated.

- **QC Report**—configures a report from an existing history or status tab. Report can be output as HTML, XML or CSV format.
- **Logging**—allows the History/Current Status tabs logging feature to be configured via actions.
- **Ping IP Address**—sends a ping command to an IP address and returns a pre-defined result which sets a log field.
- **SAM MV Control**—control a SAM multiviewer, using the Hydra Open Protocol.
- **Streaming Control**—control a video stream (play, pause, stop).

See “Configure Alarm Actions” on page 35.

4.8.3 Add an Alarm Trigger

To add an alarm trigger, right-click in the actions list and, from the menu that displays, select one of the following:

- Add Trigger > State Trigger
- Add Trigger > Logserver Lost Trigger
- Add Trigger > Auto

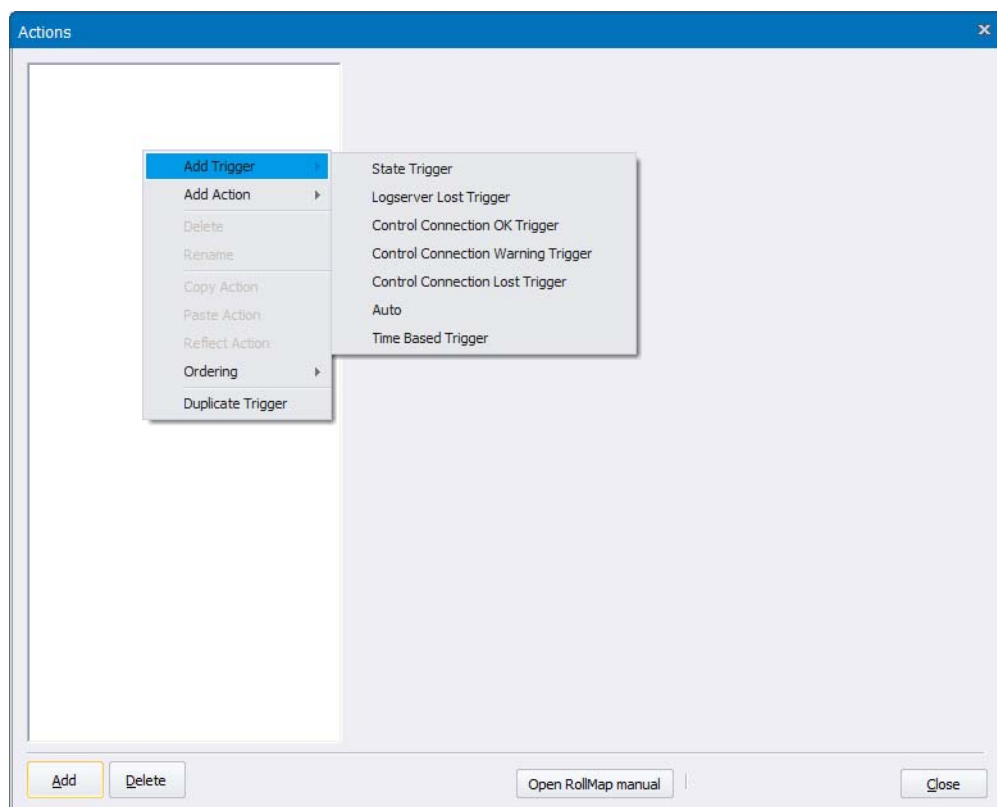


Figure 26 Alarm Triggers

Alternatively, click the **Add** button and, from the list that displays, select an alarm trigger.

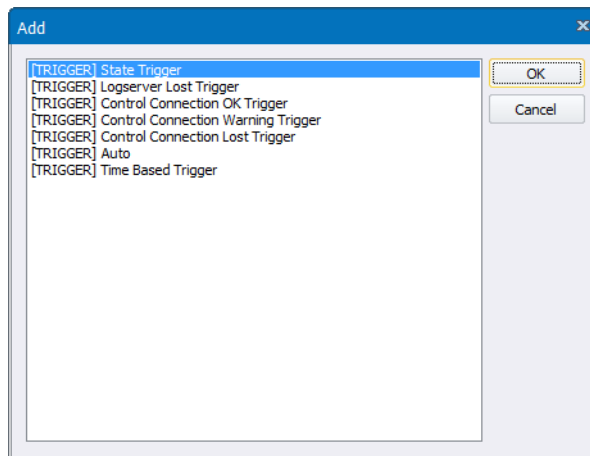


Figure 27 Add Trigger

4.8.4 Configure Alarm Triggers

The Logserver Lost Trigger requires no configuration; however, the State Trigger has several configuration options.

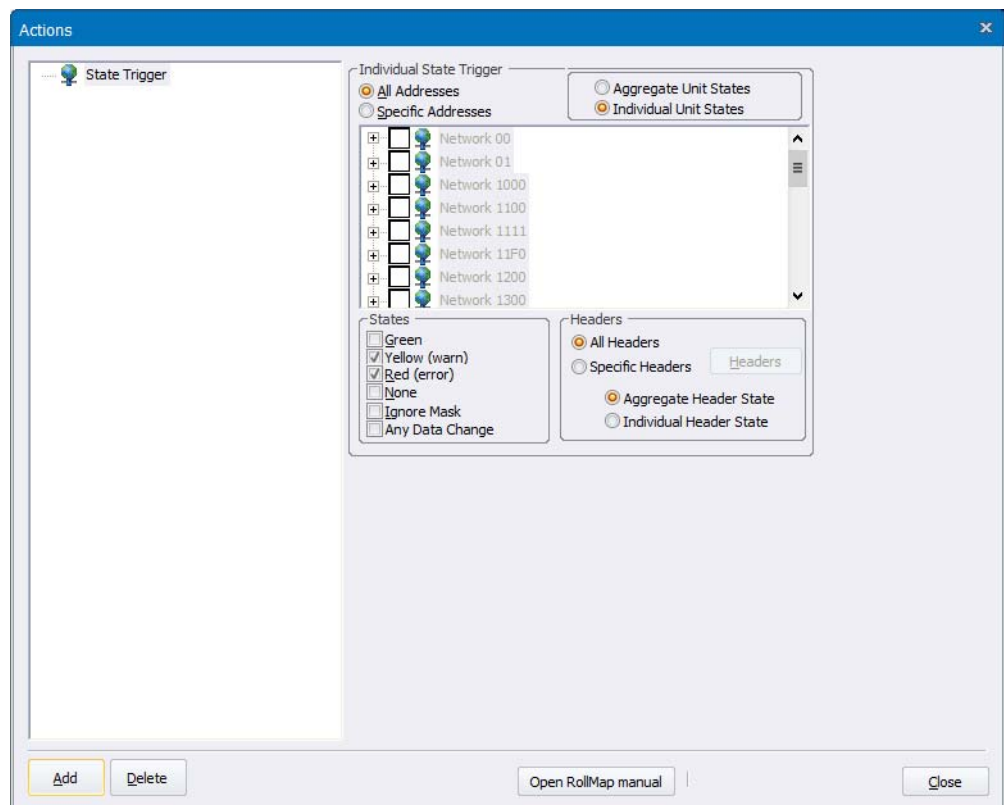


Figure 28 Configuring Alarm Triggers

In the Individual State Trigger section, specify:

- Whether the alarm is to be applied to **All Addresses** in the RollCall Network, or only to be applied to **Specific Addresses**. If Specific Addresses is selected, select the addresses to which the alarm applies in the network tree below.
- Whether the alarm should be triggered by the **Aggregate State** of the units, or by the **Individual State** of units.

- **Aggregate State**—triggers actions based on the overall state of the selected units. If one unit triggers the alarm, the alarm condition is considered to apply to all units. If a second unit also reaches an alarm state a new alarm is not triggered.
- **Individual State**—triggers actions based on the individual state of the selected units. If one unit triggers an alarm, and then a subsequent unit reaches an alarm state. A separate alarm is raised for each unit.
- The States that trigger the alarm.
 - **Green, Yellow, Red**—alarm triggers on any selected state. When the states make a transition from one color to another, if both of the states are selected as triggers, it is still treated as a single event. For example, if Yellow and Red are both selected as the state triggers, when a Yellow warning condition arises, the alarm is triggered, if the state then transitions to Red, a new alarm is not triggered.
 - **None**—alarm is not triggered, regardless of state.
 - **Ignore**—if selected, an alarm is triggered whether masked or not.
 - **Any Data Change**—triggers the alarm on any data change so long as the states match.

Note:

Care should be used when selecting the Any Data Change option because it can generate a very large number of alarms.

In the Headers section, specify whether the trigger is to be applied based upon the **Unit State** or upon the state of the **Headers**. If **Headers** is selected, specify whether the header state should be determined by the **Aggregate Header State** or **Individual Header State**.

- **Aggregate State**—triggers actions based on the overall state of the selected headers. If one header triggers the alarm, the alarm condition is considered to apply to all headers. If a second header also reaches an alarm state a new alarm is not triggered.
- **Individual State**—triggers actions based on the individual state of the selected headers. If one header triggers an alarm, and then a subsequent header reaches an alarm state. A separate alarm is raised for each header.

To select specific headers, click the **Headers** button.

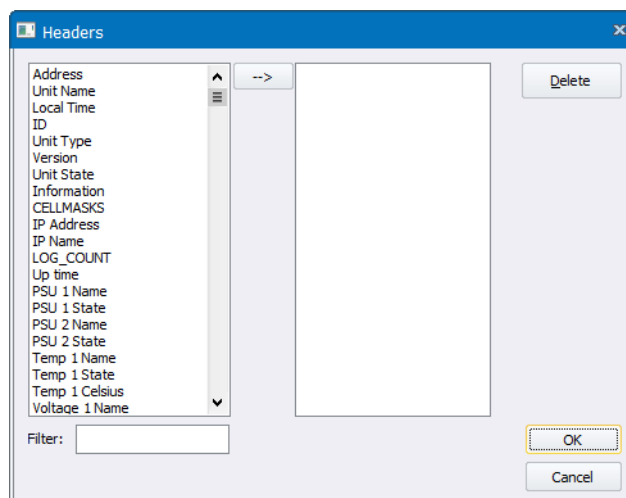


Figure 29 Headers

4.8.5 Add an Alarm Action

After adding an alarm trigger, to add an action to it, right-click on the trigger and, from the menu that displays, select one of the actions.

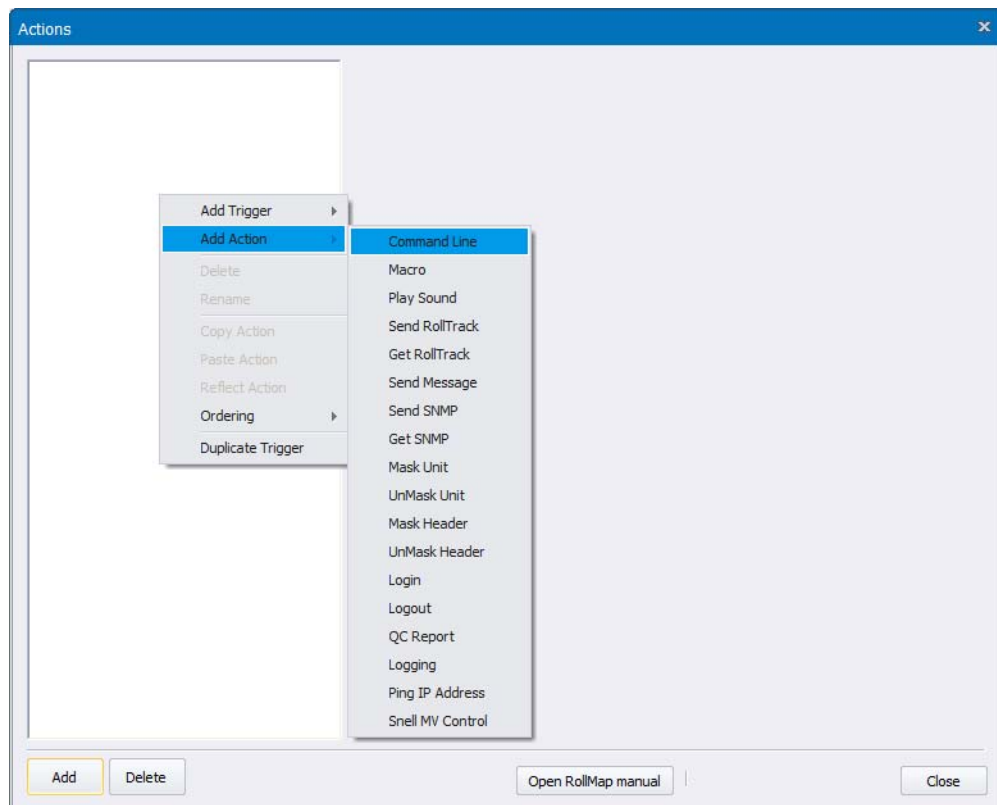


Figure 30 Add an Alarm Action

Alternatively, click the **Add** button and, from the list that displays, select an alarm action.

Multiple alarm actions can be added to the same alarm trigger. For example, both an email message and an SNMP message could be sent to a system administrator in the event of a log server loss.

4.8.6 Alarm Action Operations

Alarm actions can be copied and pasted via the Windows clipboard. They can also be changed into their corresponding opposite action by using Reflect Action (for example, Mask Header becomes UnMask Header).

4.8.7 Trigger Operations

Triggers and all their actions can be duplicated.

4.8.8 Multi Alarm Triggers

Associating a single Alarm action with more than one Alarm Trigger creates a Multi Alarm Trigger type.

To create a Multi trigger, add the first trigger and create an action for it, then add a second trigger at the same level in the tree as the action.

In the example shown in Figure 31 the same Email message has been linked to both a Logserver Lost Trigger and a State Trigger.

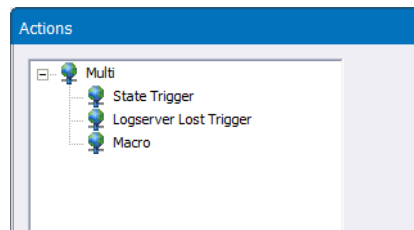


Figure 31 Multi Alarm Triggers

4.8.9 Configure Alarm Actions

When an alarm action (either global or object) is added its configuration parameters display on the right side of the Actions window.

- **Command Line**

The Command Line action allows the execution of programs via the command line interpreter.

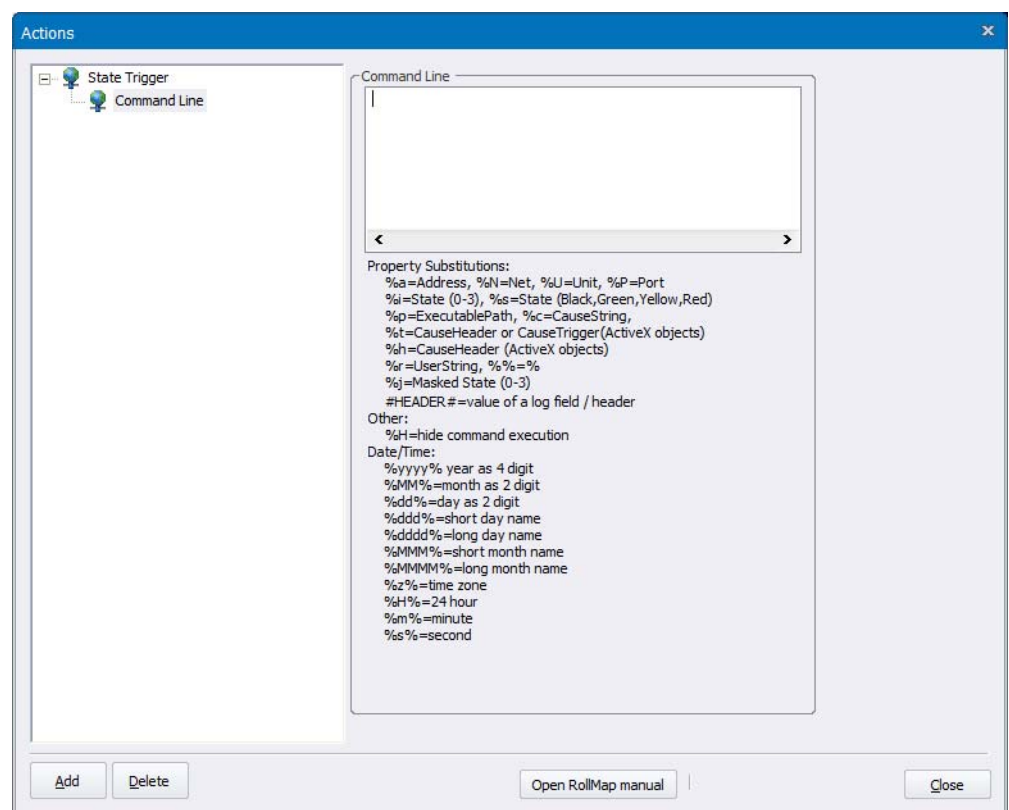


Figure 32 Command Line

To configure a command line action, enter the command to be run in the text box.

The Command Line action supports several property substitutions, which are listed in the dialog.

- **Macro**

The Macro action allows you to select a pre-configured macro command to be run. As well, the dialog provides access to the Macro Commands Setup dialog, from which new macros can be created and existing macros can be edited.

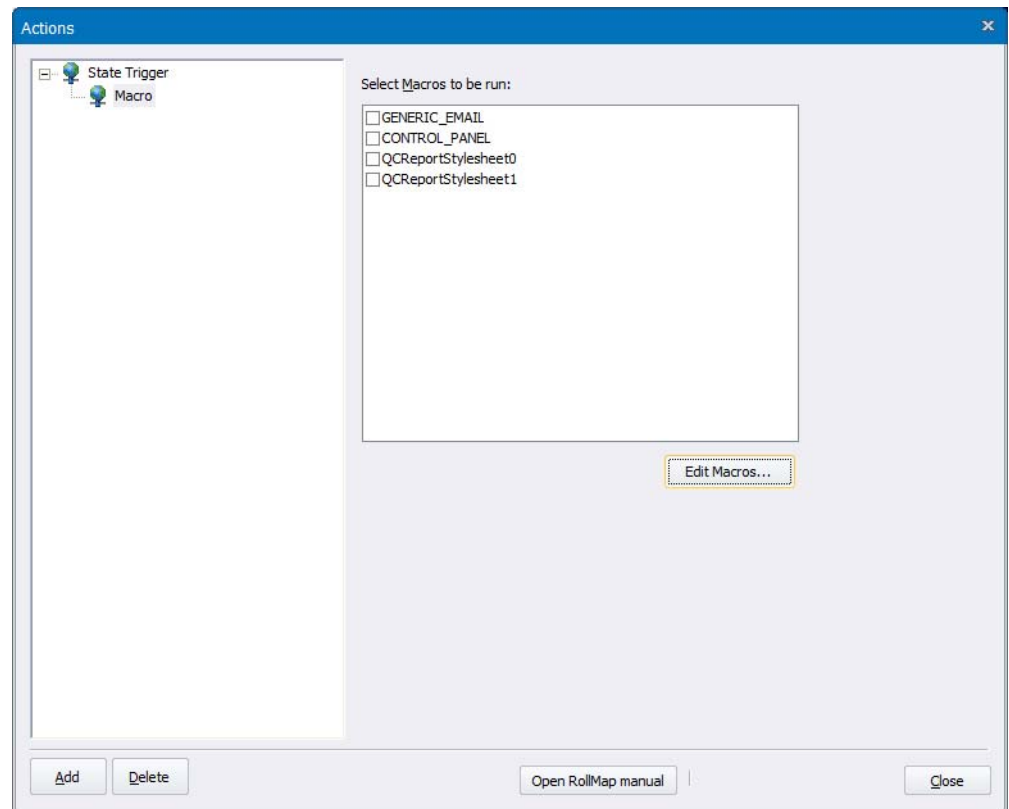


Figure 33 Macro

To specify the macro to be run, select the corresponding check box. More than one macro can be selected.

To edit the existing macros, or to create a new macro, click **Edit Macros....** The Macro Commands Setup dialog displays.

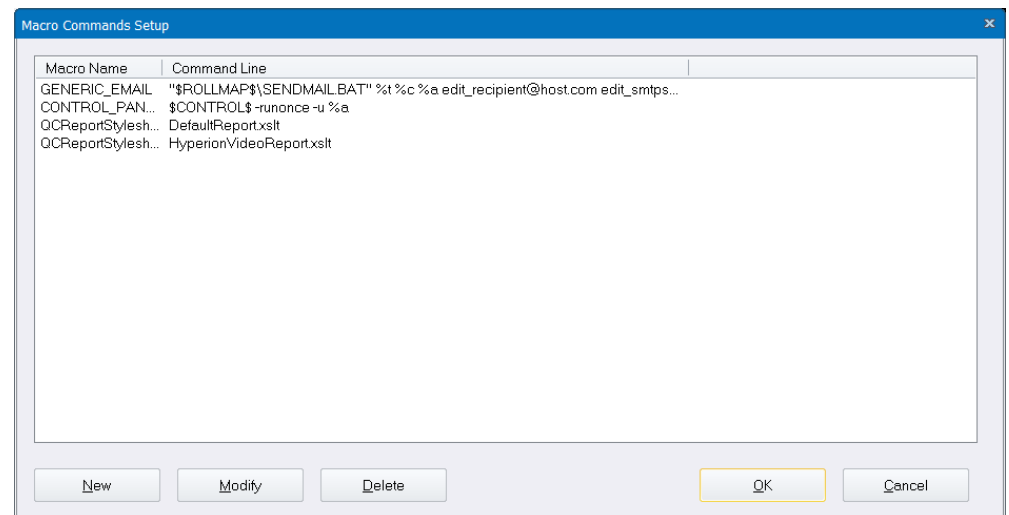


Figure 34 Macro Commands Setup

The Macro Commands Setup dialog displays all of the macros that have already been defined.

- To edit an existing macro, select it from the list and then click **Modify**.
- To create a new macro, click **New**.

In both cases, the Command Macro Setup dialog displays.

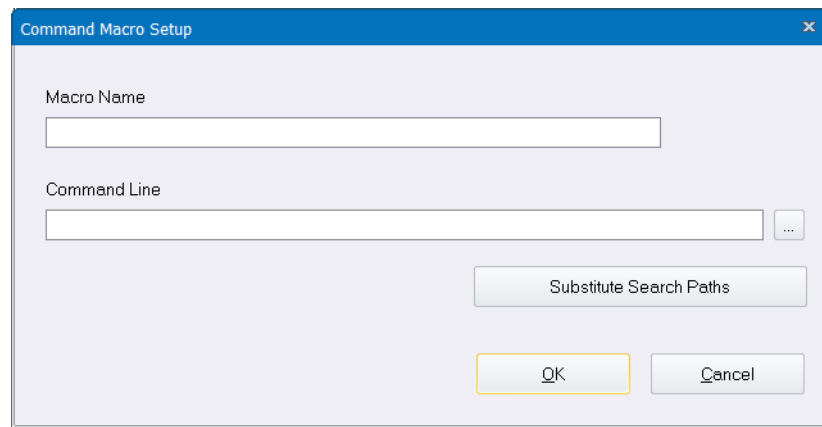


Figure 35 Command Macro Setup

In the Macro name field, enter or modify the name of the macro, and in the Command Line field, enter the macro command to be run. The **Substitute Search Paths** option replaces the path to the macro with the pre-defined RollMap search path (if the macro resides in a directory for which a RollMap search path has been defined).

- **Play Sound**

This action plays a specified .WAV file when the alarm trigger occurs.

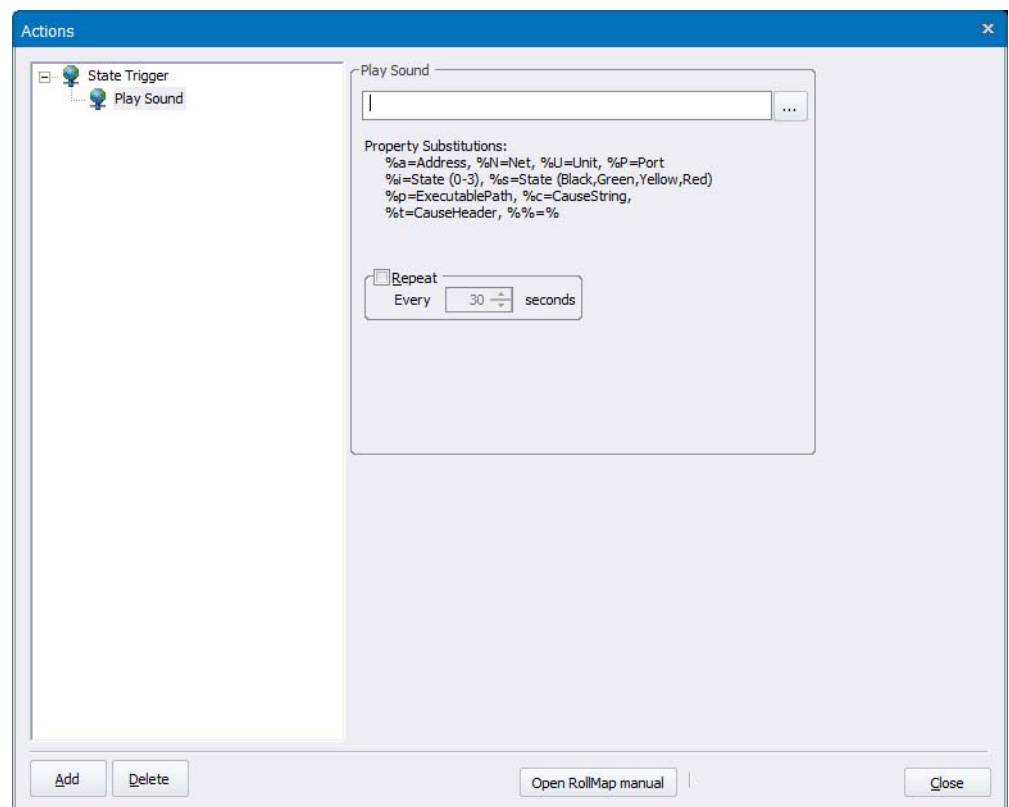


Figure 36 Play Sound

In the text field, type the path to the .wav file to be played, or click the  button to browse for the file.

- Select **Repeat** and specify an interval at which the sound is played for the duration of the alarm condition.
- **Send RollTrack**

This action sends a specified RollTrack command when the alarm trigger occurs.

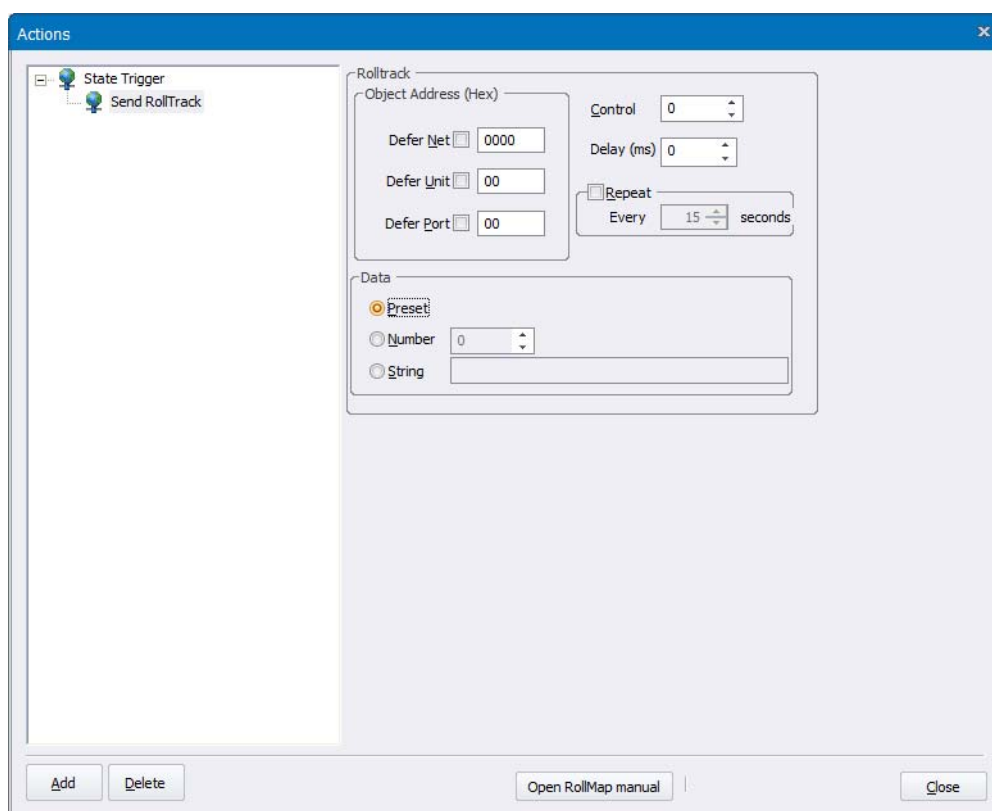


Figure 37 Send RollTrack

- **Get RollTrack**

This action gets a specified RollTrack command when the alarm trigger occurs. The way that the action is handled depends on the configuration of this screen.

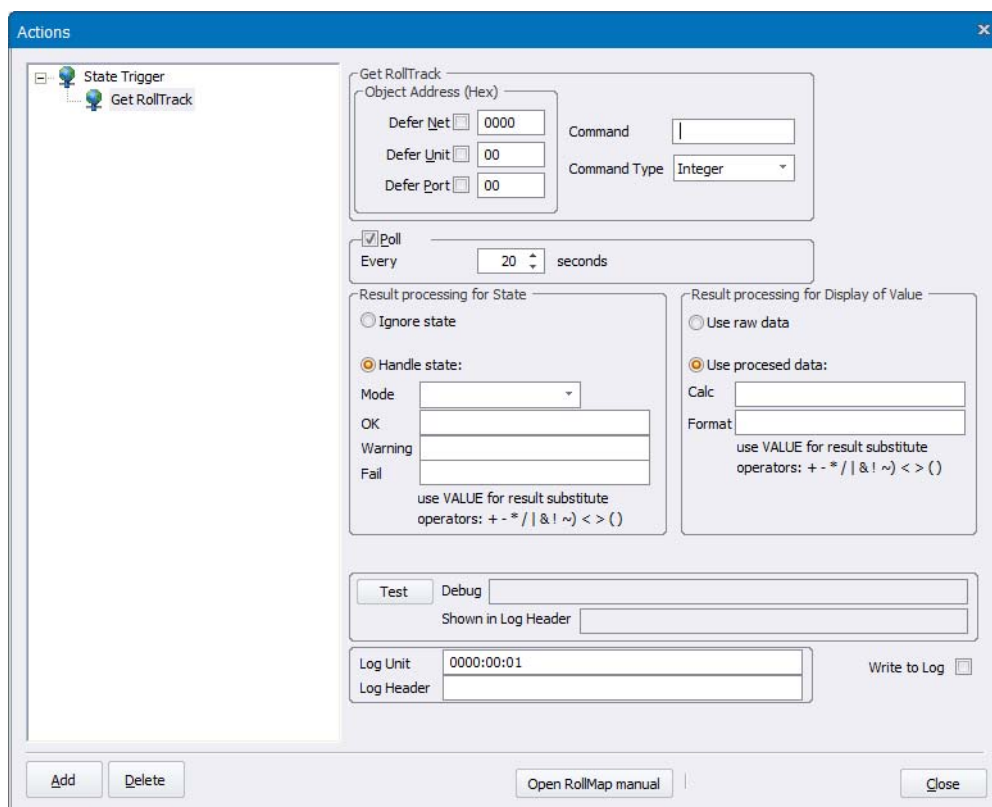


Figure 38 Get RollTrack

To handle the state of a unit, define the values for the OK, Warning, and Fail States. To display the results in a meaningful format, process the received data, converting to an actual value with the appropriate unit, for example, mV, °C.

Use the **Test** button to apply values to the definition and check for the expected results.

Define the address for the unit to which Get RollTrack is sent. Also define the Log Header address.

The log unit and log header fields are used to specify the destination of the Get action. It will populate the field on the specified unit with the processed data. This can be either an additional field on an already existing live unit or on a "virtual" unit by choosing an unused address.

- **Send Message**

This action sends an email to a specified recipient or recipients when the alarm trigger occurs. Before emails can be sent as alarm actions, at least one email profile must be configured. See "Configure Email Messages" on page 53.

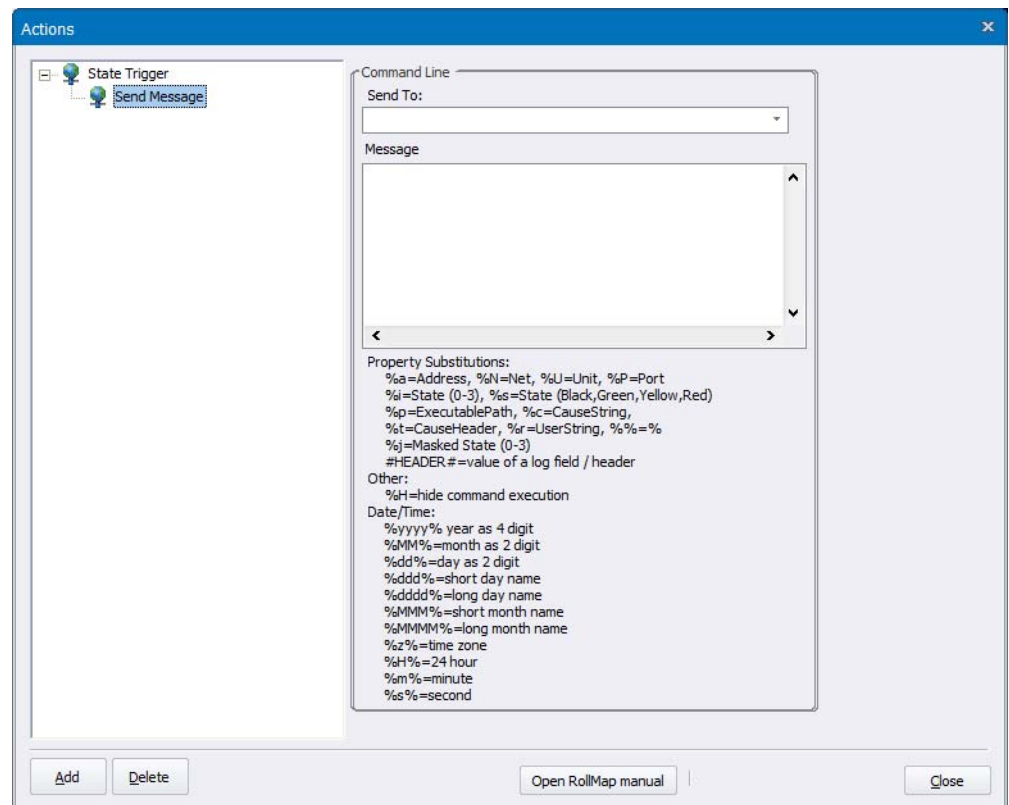


Figure 39 Send Message

To configure a Send Message action:

- In the Send To: field, specify a recipient.
- In the Message text box, create the message body. You can include any log field header into this email message and RollMap inserts the correct data.

For example: To receive an email that says the following:

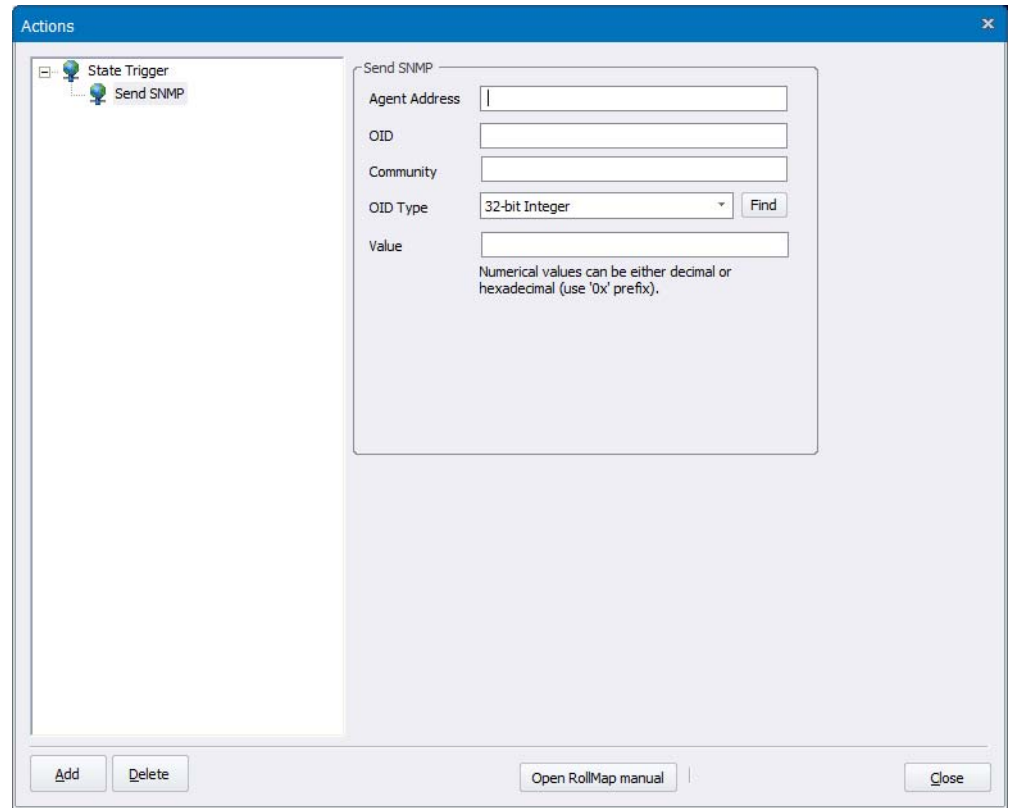
"Unit: Hyperion 1, Type: IQSDA02, at Address: 1100:10:01, has triggered an alarm at Time=15:13:56, 19 November 2015."

You would insert the following into the Message section:

"Unit: #NAME#, Type: #IDNAME#, at Address: #ADDRESS#, has triggered an alarm at Time=#TIME#, #UCT#."

- **Send SNMP**

This action sends a parameter value set via SNMP when the alarm trigger occurs.



The screenshot shows a software window titled "Actions" with a close button (X) in the top right corner. On the left, there is a tree view containing "State Trigger" and "Send SNMP". The "Send SNMP" action is selected, and its configuration details are shown on the right. The configuration fields include: "Agent Address" (text input), "OID" (text input), "Community" (text input), "OID Type" (dropdown menu set to "32-bit Integer" with a "Find" button), and "Value" (text input). Below the "Value" field, a note states: "Numerical values can be either decimal or hexadecimal (use '0x' prefix)." At the bottom of the window, there are buttons for "Add", "Delete", "Open RollMap manual", and "Close".

Figure 40 Send SNMP

In this window, enter the details of the SNMP message to be sent. Dynamic data insertion can be used on the Agent Address, OID and community fields. See Dynamic Data Insertion on page 191.

- **Get SNMP**

This action gets a value via SNMP when the alarm trigger occurs. The log unit and header destination for the value can be specified.

The screenshot shows the 'Actions' window with the 'Get SNMP' configuration. The left pane shows a tree view with 'State Trigger' and 'Get SNMP'. The right pane contains the following sections:

- Get SNMP:** Fields for Agent Address, OID, and Community. Number of retries is set to 4. Poll is checked, and the interval is 20 seconds.
- Result processing for State:** Options for Ignore state or Handle state. Handle state is selected with Mode set to 'Match by list'. Fields for OK, Warning, and Fail are present. A note says 'use VALUE for result substitute operators: + - * / | & ! ~) < > ()'.
- Result processing for Display of Value:** Options for Use raw data or Use processed data. Use raw data is selected. Fields for Calc and Format are present. A note says 'use VALUE for result substitute operators: + - * / | & ! ~) < > ()'.
- Log Unit:** Field set to 0000:00:01.
- Log Header:** Field.
- Write to Log:** Check box.

Buttons at the bottom include Add, Delete, Open RollMap manual, and Close.

Figure 41 Get SNMP

In this window, enter the details of the SNMP data to be requested. Dynamic data insertion can be used on the Agent Address, OID and community fields. See Dynamic Data Insertion on page 191.

The results can be processed into states by entering lists of possible values to be matched separated by semi-colons.

The virtual unit and log field header that the result is sent to can also be configured. If no specific Log Header is given the OID is used.

- **Mask Unit**

This action masks a specified selection of unit(s) with the option of only masking until they become green.

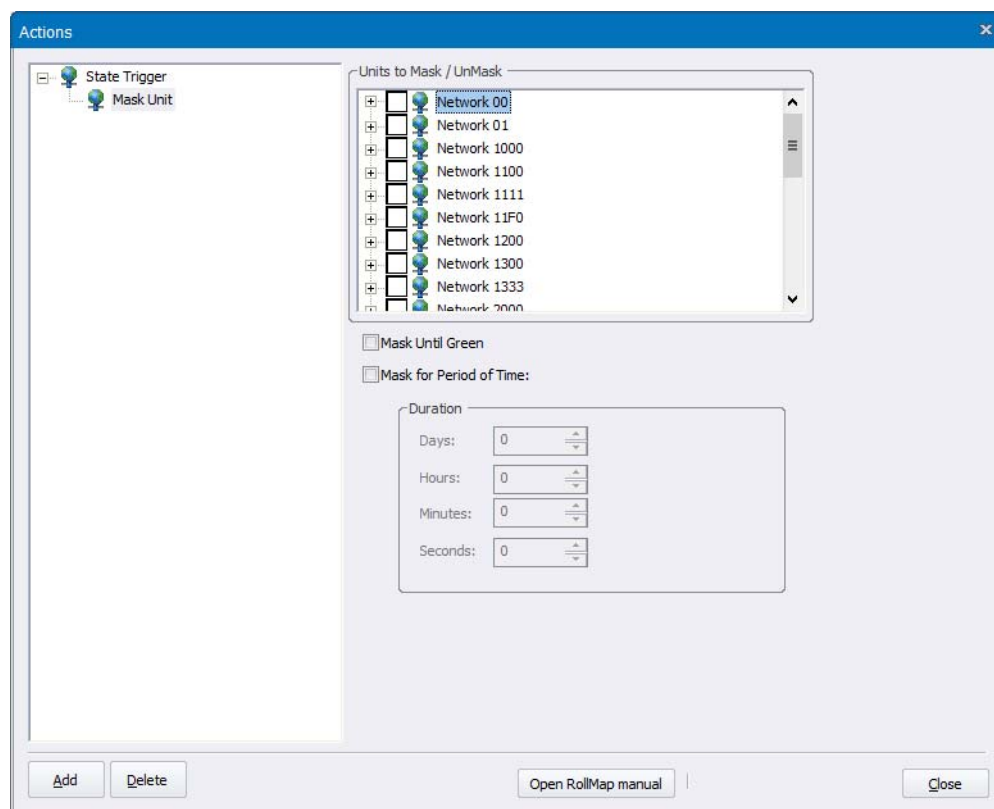


Figure 42 Mask Unit

In this window select from the tree which unit are to be masked, there is also the option to mask until green.

By right-clicking on the Mask Unit action in the actions tree you can use Reflect Action to convert a Mask Unit Action into an UnMask Unit action.

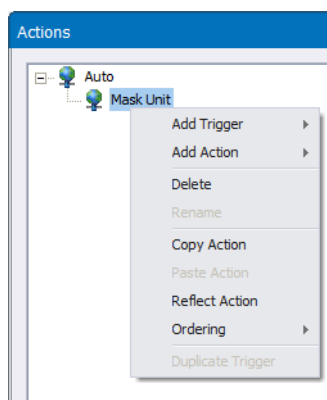


Figure 43 Actions - Reflect Action

- **Unmask Unit**

This action unmasks a specified selection of unit(s) with the option of only masking until they become green.

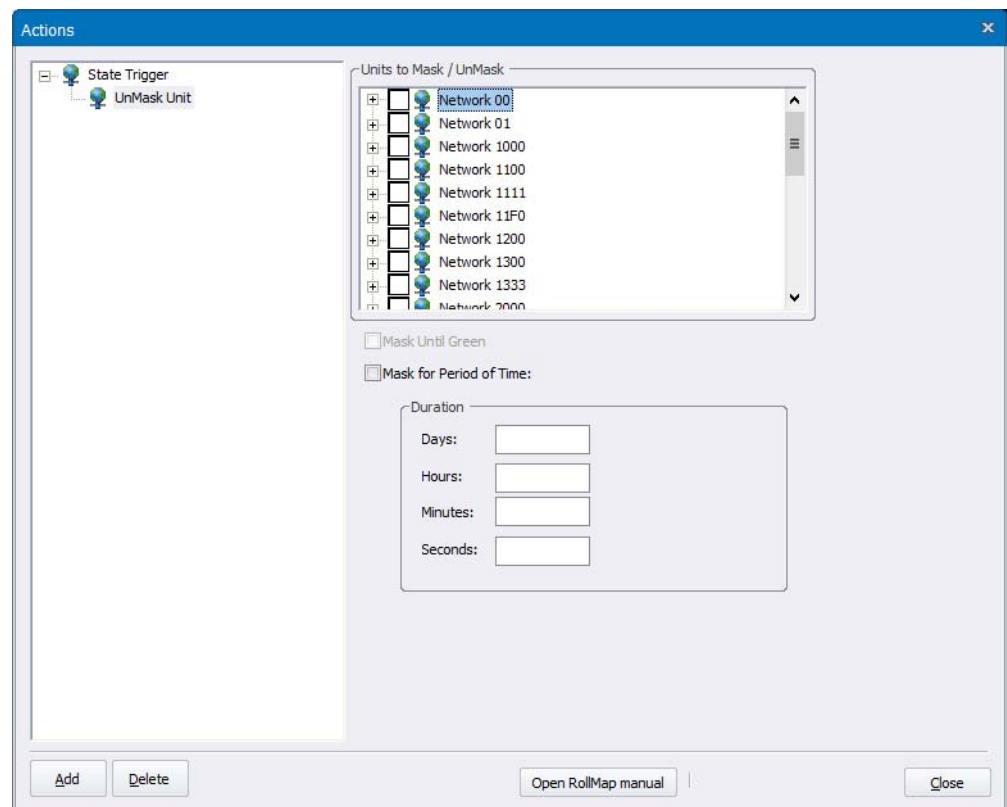


Figure 44 Unmask Unit

In this window select from the tree which unit are to be unmasked.

By right-clicking on the UnMask Unit action in the actions tree you can use Reflect Action to convert a UnMask Unit Action into an Mask Unit action.

- **Mask Header**

This action masks a specified selection of header(s) for a selection of unit(s) with the option of only masking until they become green.

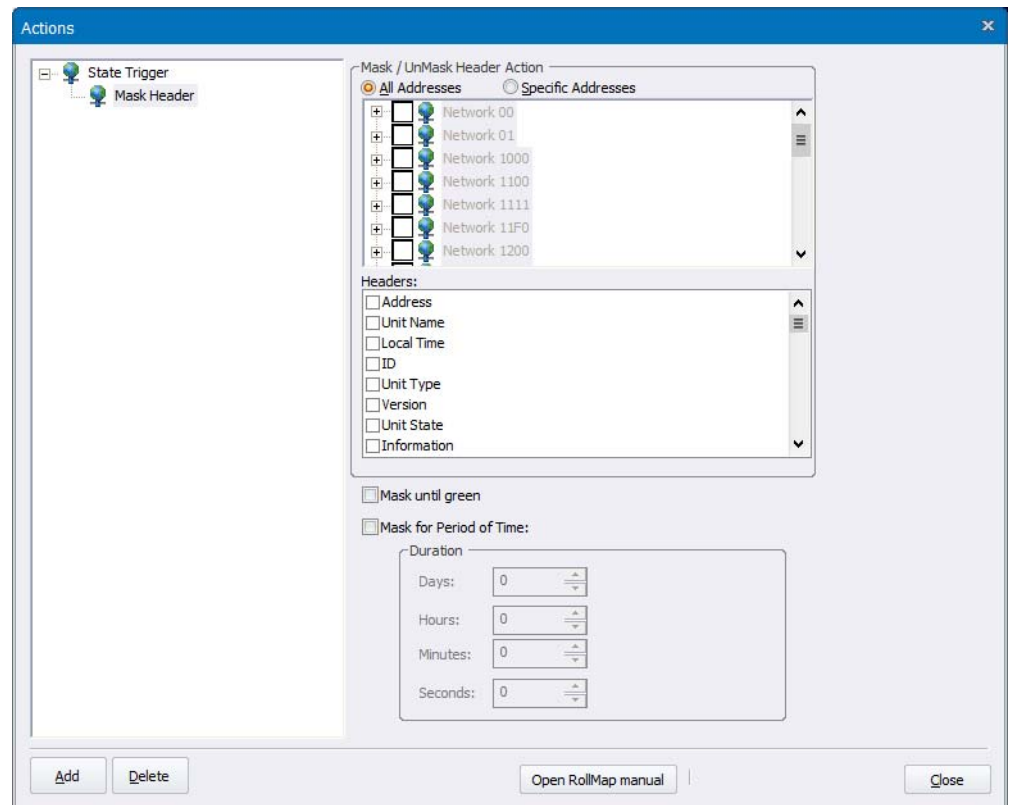


Figure 45 Mask Header

In this window select from the tree which headers of which units are to be masked, there is also the option to mask until green.

By right-clicking on the Mask Header Unit action in the actions tree you can use Reflect Action to convert a Mask Header Action into an UnMask Header Unit action.

- **Unmask Header**

This action unmasks a specified selection of header(s) for a selection of unit(s) with the option of only masking until they become green.

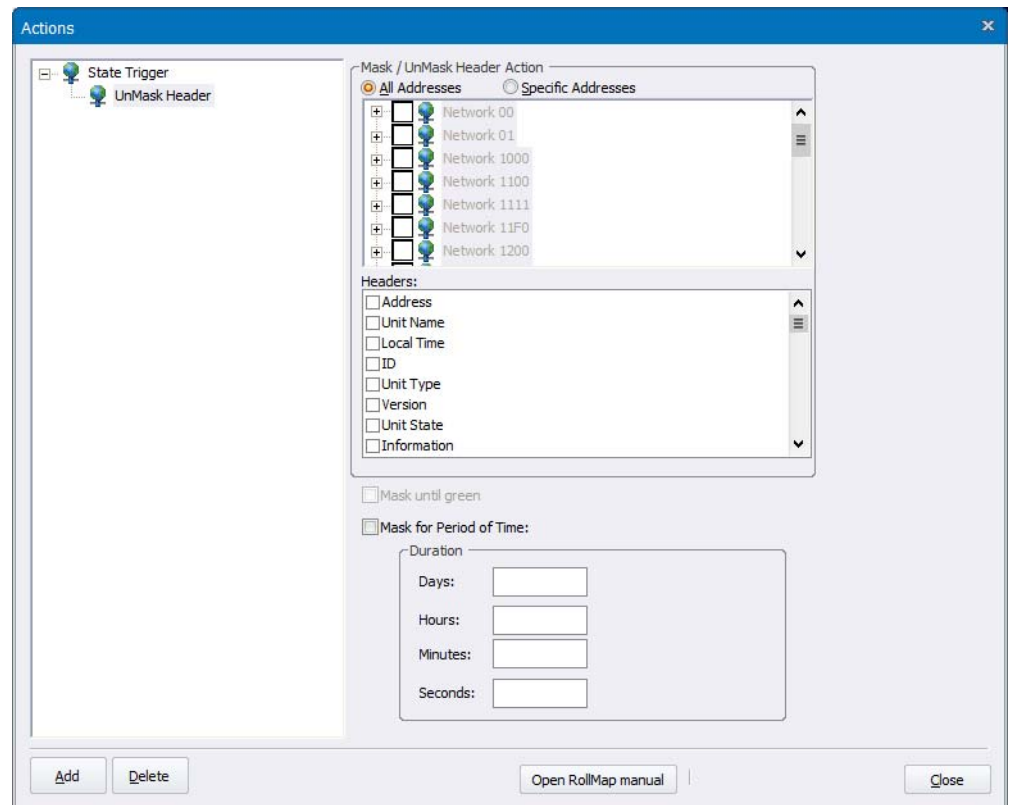


Figure 46 Unmask Header

In this window select from the tree which headers of which units are to be unmasked.

By right-clicking on the Mask Header Unit action in the actions tree you can use Reflect Action to convert a UnMask Header Action into an Mask Header Unit action.

- **Login**

The Login action provides a means of user access to a schematic. When in run mode, a username and password must be entered to gain access.

There are no extra parameters available with this action.

- **Logout**

The Logout action provides a means of logging out of the current schematic, thus requiring a login operation to regain access.

There are no extra parameters available with this action.

- **Lock**

Provides a means of locking the panel in run mode, so that it is in a read-only state.

There are no extra parameters available with this action.

- **Unlock**

This action deactivates a previously locked panel.

There are no extra parameters available with this action.

- **Toggle Lock**

Combines the panel lock and unlock function into a single action. If this action is active the panel remains unlocked. Deactivating the action locks the panel.

There are no extra parameters available with this action.

- **QC Report**

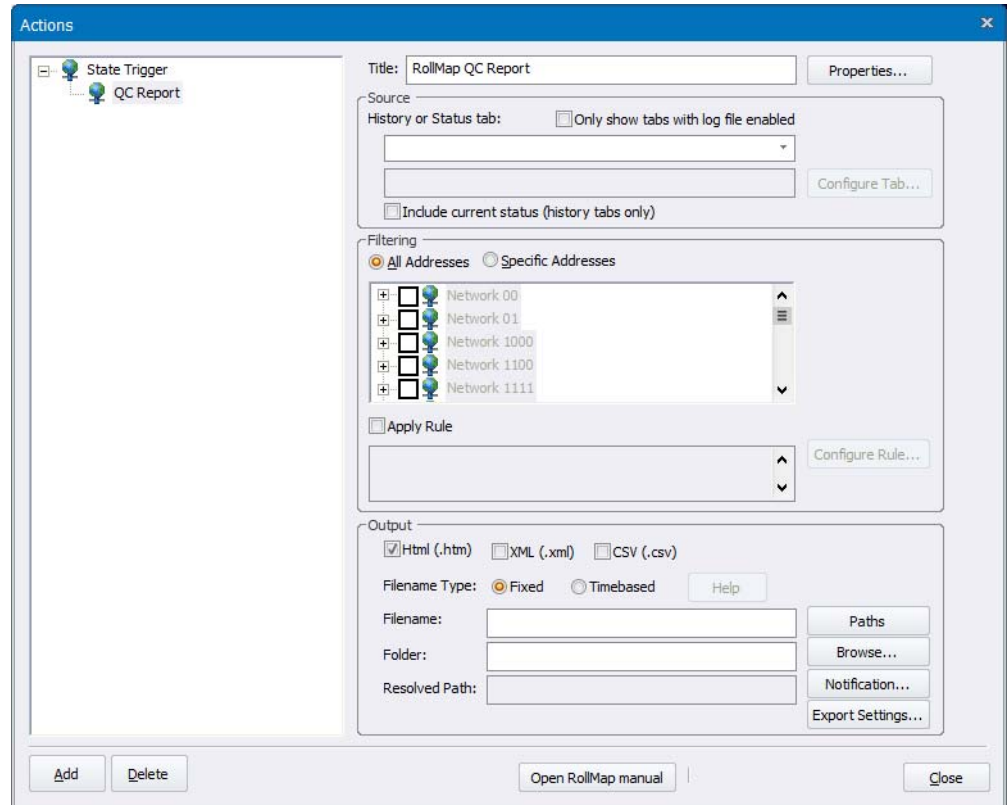


Figure 47 QC Report

This action allows an HTML, XML, or CSV file to be created from the data of any of the status tabs (current status or history tabs) in the form of a report. Filtering and styling features are provided for the report.

Specify a report title, and the source of the data for the report.

Define which addresses are to be used in the report, either All, or Specific Addresses selected by checking the appropriate checkboxes in the Filtering window.

Apply any rules, as required. See Rules Engine on page 183.

Define the output format and filename for the report.

Click on the **Properties** button next to the report name, to display the Report Properties window. From here the styling of the report is set.

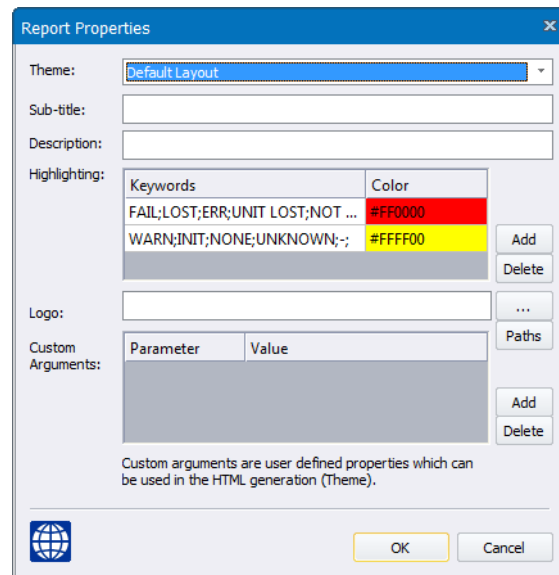


Figure 48 Report Properties

Select the theme. This is a style-sheet used to create the report. Additional style-sheets can be referenced from [Install Directory]/Configuration/Configuration.cfg, and then selected from this drop-down box.

Add a subtitle and description, as required.

The Highlighting section defines the colors to be used for highlighting the report rows containing the specified keywords.

A custom logo can be added to the output report. Click on the browse button () and navigate to the folder containing the logo.

User-defined arguments can be passed to the style-sheet. For example, in Figure 48 a parameter “custom_arg” is defined with a string value. The theme “Default Layout” is rendered using the style-sheet [Install Directory]/Configuration/DefaultReport.xslt. This file can be edited using a text editor, to make use of the custom parameter.

Click on the **Notifications** button to define an action to take place after the report is generated:

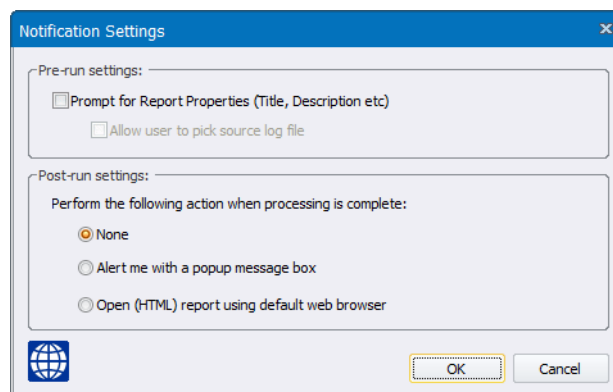


Figure 49 Notification Settings

Select from None, Alert with a popup message box, or Open the report using a web browser.

Reports are processed as a background task, and may take some time to generate. While processing a “QC” indicator displays on the right-hand side of the status bar.

- **Logging**

Allows the History/Current Status tabs logging feature in RollMap to be configured via actions. For example, a button could be placed on a schematic which enables/disables logging.

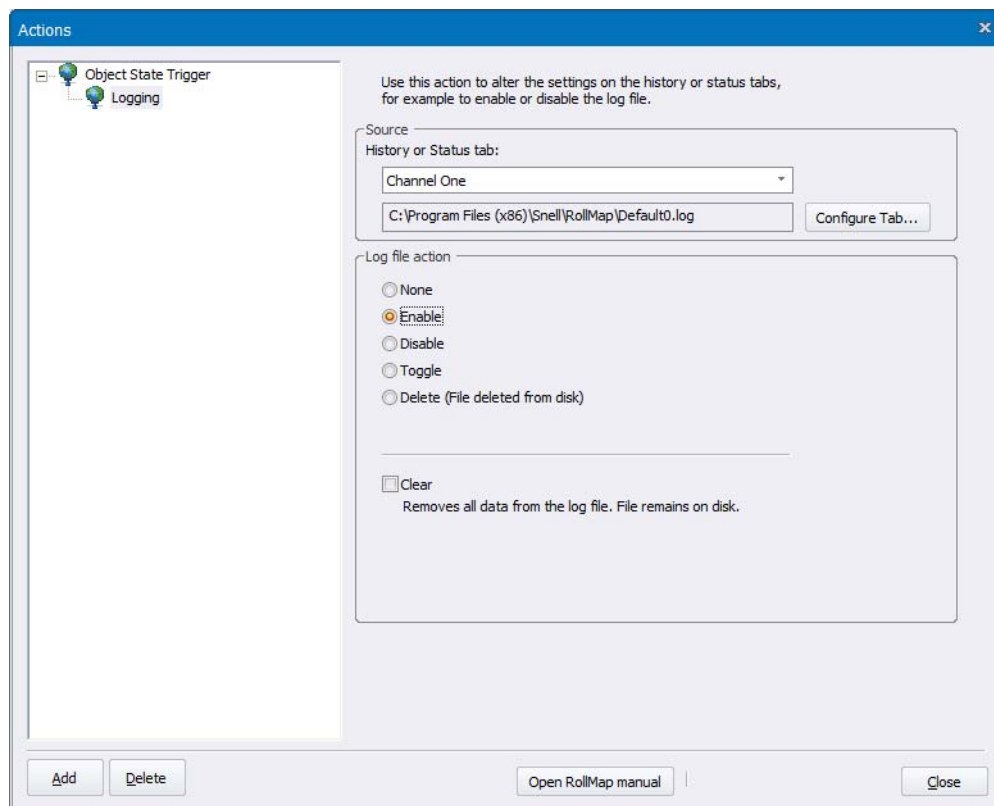


Figure 50 Logging

Select a source from the History or Status tab drop-down list.

Determine the action by selecting the appropriate radio button.

- **Ping IP Address**

The screenshot shows the 'Actions' configuration window in RollMap. On the left, a tree view shows 'Object State Trigger' expanded, with 'Ping IP Address' selected. The main area contains the configuration for this action:

- Ping:**
 - Address:
 - IP Address: 172 . 31 . 9 . 1
 - Timeout: 500 ms
 - ☒ Poll Every 20 seconds
 - Result Strings:**
 - Define success and failure strings:
 - OK: Yes
 - Fail: No
 - Test:** Debug Received response; Received from 172.31.9.1; Shown in Log Header OK:Yes
 - Virtual Unit:**
 - Log Unit: 0000:00:01
 - Log Header: PING_STATUS
 - Write to Log: ☐

At the bottom, there are buttons for 'Add', 'Delete', 'Open RollMap manual', and 'Close'.

Figure 51 Ping IP Address

Set the IP address of the unit to send the ping command to.

Define additional text for the success and failure results, if required.

Set the address for the virtual log unit. Check the Write to Log checkbox if the result is to be sent to the Log Server so it is visible to other clients.

- **SAM MV Control**

A SAM multiviewer, using the Hydra Open Protocol, can be controlled using the commands available on this screen.

When an action is triggered the command is sent to the multiviewer.

Figure 52 Snell MV Control

The address of the multiviewer can be set as IP, FQDN, or #field# specifying the value from another log field.

Select the type of multiviewer from the drop-down list, and select the relevant Module.

Set command type from the drop-down list:

- Adjust border - updates the border of an object
- Adjust UMD - updates the UMD text of an object
- Adjust Text - Updates the lines in a text object
- Get Source Tally - Gets the state of a tally for a source
- Get Version - Gets the version of firmware running
- Load Layout and Update - Loads a layout and send it to the screen
- Set Source Name - Sets the name (UMD) for a source
- Set Source Tally - Sets the state of a tally for a source

The arguments table, immediately below the command type, dynamically updates according to the command type selected.

Arguments can be entered as fixed strings or #fields# specifying the value from another log field (using the deferred unit address or address override syntax #??:??,field#).

The result of the GetVersion and GetSourceTally commands can be set on the virtual log unit.

- Get version creates fields MV_FIRMWARE_VERSION and MV_OS_VERSION
- Get source tally creates MV_TALLY_SOFT1_SRC_[N], MV_TALLY_SOFT2_SRC_[N] and MV_TALLY_HARDWARE_SRC_[N] where [N] is a numeric source id.

Check the write to log server checkbox to send the virtual unit (and headers) to log server, so they are viewable in other clients.

Poll causes the action to be repeated (when the action is placed on an auto trigger). Set a poll interval time accordingly

Comms timeout specifies the network timeout communicating with the MV. Set the timeout in ms.

- **Streaming Control**

A streaming control allows a video stream to be controlled using the Play, Pause and Stop actions.

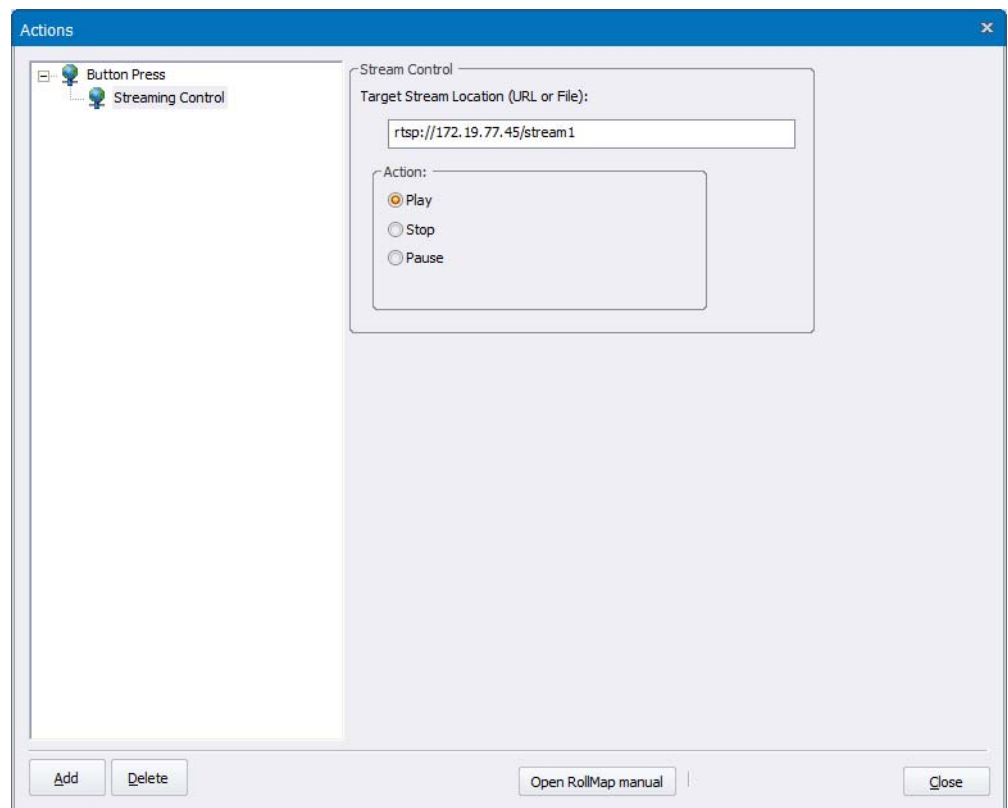


Figure 53 Streaming Control

This action takes the stream URL and a command. When triggered it finds the player controlling that stream and invokes the action on it.

Note:

Because the streams are shared between objects with the same location, pausing has the affect of pausing all objects.

VLC Requirement

This feature requires VLC player. If you have not got VLC player installed then it will popup a dialog when you use the tool for the first time.

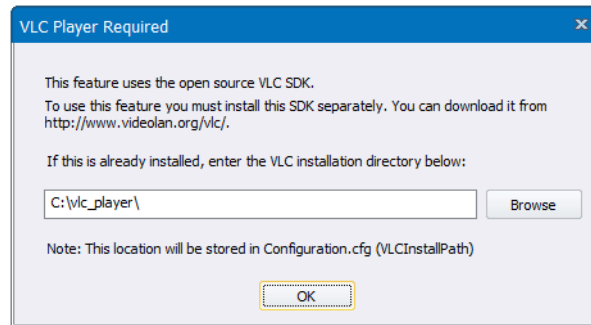


Figure 54 VLC Player Required

You can enter the location of VLC player. It should be the directory which includes the libvlc.dll.

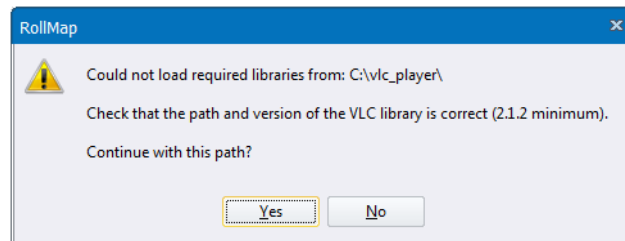


Figure 55 VLC Library

Enter a bad directory and you will get the dialog in Figure 55. The code has tested that it can load libvlc.dll and the methods it needs are available.

Note: The code automatically searches the default install directory for VLC player, so in all likelihood you won't see these dialogs at all.

4.8.10 Global Alarm Actions Versus Object Auto Command Actions

Auto triggers or state triggers can either be "Global" or "Object" specific.

If an Auto trigger is defined under the Configuration / Alarm Actions section of RollMap then it will be active the whole time RollMap is open, and not linked to a specific schematic. This has the benefit of field values being present at all times and can be used as general triggers, for example, initiating other actions such as sending emails or triggering GPIs.

If an Auto trigger is assigned to an object, it will only run when the schematic on which the object resides is open. This is more efficient with regards to server load; however field values will get lost when navigating away from that schematic (assuming the option of opening one schematic at a time has been chosen) and re-appear when navigating to the schematic with the auto trigger assigned to an object.

It is advisable not to use a high number of Auto triggers per machine as they can have a high cost on hardware resources.

4.9 Configure Email Messages

Before any emails can be sent as alarm actions:

1. A transport profile, which specifies the method by which emails are to be sent, must be created. See “Create a Transport Profile” on page 53.

By default RollMap includes the Open Source SMTP tool `blat.exe` for sending mail messages. The arguments for this tool can be configured in the **Configuration > Message Configuration > Transports** dialog. For full details, refer to the online documentation at <http://www.blat.net/syntax/syntax.html>

2. A message profile, which specifies the email recipients and structure, must be created. See “Create a Message Profile” on page 54.
3. A Send Message alarm action must be created.

To access the email configuration dialogs:

- From the **Configuration** menu, select **Message Configuration**.

The Profiles dialog displays.

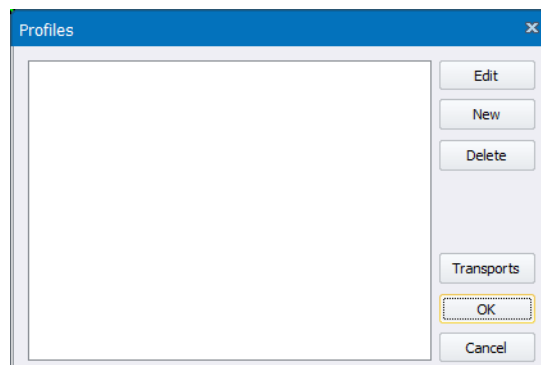


Figure 56 Profiles

4.9.1 Create a Transport Profile

- From the Profiles window, click **Transports**.

The Transports dialog displays.

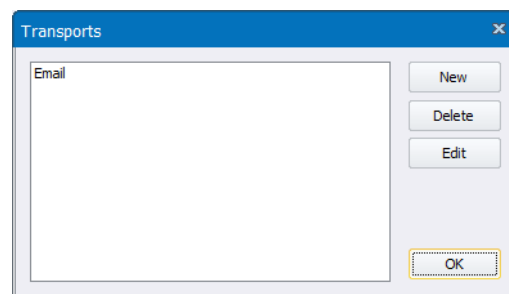


Figure 57 Transports

To add a new profile, click **New**, or to modify an existing profile, select the profile and then click **Edit**. The Transport window displays.

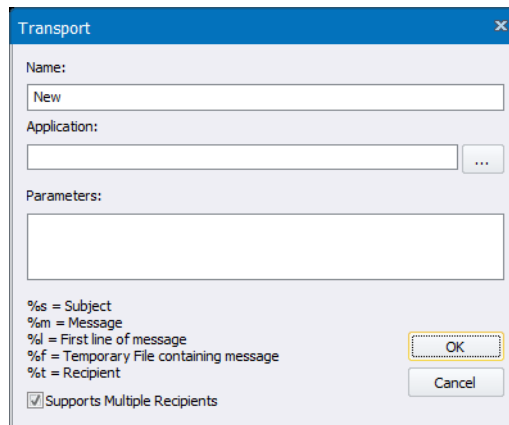


Figure 58 Transport Window

In the Transport window:

- Give the profile a unique name.
- In the Application field, enter or browse to the location of the blat.exe file. By default this is located in the RollMap installation folder, for example, C:\Program Files (86)\SAM\RollMap\blat.exe.
- In the Parameters field, enter the command line to be run by blat.exe using the listed substitution strings. The following string can be used by replacing the necessary fields with your sender address and mail server address:

```
%f -subject "%s" -to %t -f sender@Address.com -server
serverAddress
```

In the above example, RollMap replaces %f with the email text, and %s is replaced by the subject line.

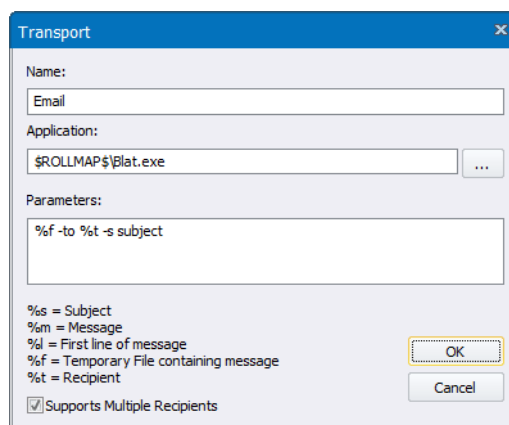


Figure 59 Transport Details

- Click **OK** to close the Window, and then click **OK** again.

4.9.2 Create a Message Profile

To create a message profile that specifies the recipients and emails options. From the Profiles window, click **New**, or to modify an existing profile, select the profile and then click **Edit**. The Recipients window displays.

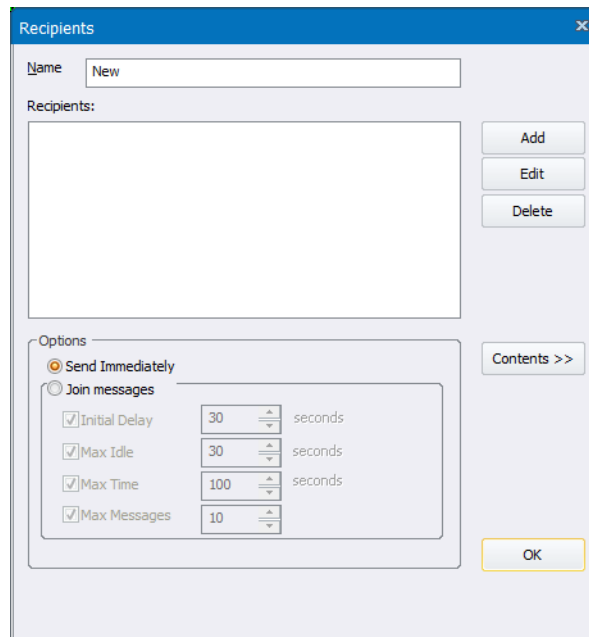


Figure 60 Recipients

- Give the profile a unique name.
- Click **Add**, and in the window that displays, enter the name of a recipient. Then, select the transport type (which was set up in the previous section) and click **OK**. If required, multiple email addresses can be added at this stage.

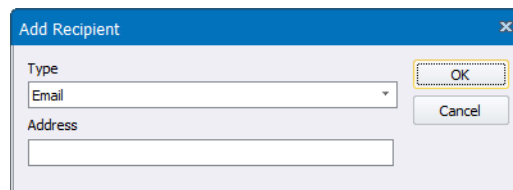


Figure 61 Add Recipient

The Options sections at the bottom of the window specify whether emails should be sent immediately or joined into larger messages. If you choose to join messages, RollMap waits for a specified period to see if any subsequent alarms follow. If this does occur, the details of both alarms are sent in one message.

A scenario in which this is useful would be if a modular frame was turned off. If messages are sent immediately, one email would be sent to alert of the loss of the Gateway card, a second email would be sent to alert of the loss of the card in slot 1, a third email to alert of the loss of the card in slot two, and so on. By joining messages, these alerts would be combined into a single message.

The parameters for joining messages are:

Initial Delay—specifies how long the system waits after receiving the first alert before it assumes that no further alerts are coming and sends the message.

Max Idle—specifies how long the system waits after receiving another alert before it assumes no more are coming.

Max Time—specifies the maximum amount of time from the first alert to the last. When this time limit is reached, the system sends a message, even if more may be coming.

Max Messages—specifies the maximum number of messages that the system queues before sending.

- Click the **Contents** button to open the Message Text window, in which the email subject line, header text and footer text can be specified.

Figure 62 Message Text Window

After completing this configuration, email alarm actions can be set up.

4.10 Specify the Location of the Home Schematic

To specify the location of the Home Schematic:

- From the **Configuration** menu, select **Home Schematic**.

This function sets up the Home Schematic command path. Once you have built a schematic, it can be saved and the command path entered into the Home Schematic parameter as shown in Figure 63

Figure 63 Home Schematic Setup

The Home Schematic can then be recalled by pressing the "Home" button in the toolbar.

4.11 Set up Search Paths

RollMap can use search path macros to locate the full path name of a file.

To access the Search Path Setup dialog:

- From the **Configuration** menu, select **Search Paths > Edit**.

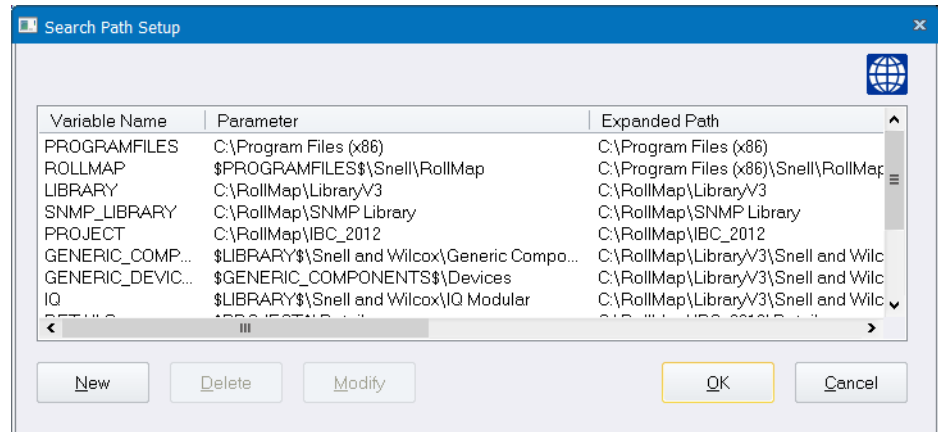


Figure 64 Search Path Setup

A macro can be set up so that it can be used in any path field within the schematic or object properties.

For example:

Macro definition: `ROLLMAP=C:\RollMap`

Use of macro: `RollMap.exe $ROLLMAP$\Schematic.sch`

At run time, the above command line expands to: `RollMap.exe`
`C:\RollMap\Schematic.sch`

A macro may contain only ONE other macro definition.

For example:

`TEST=$ROLLMAP$\Test`

Expanding the macro `$TEST$` becomes `C:\RollMap\Test`

A predefined set of macros is provided for use with the current RollMap component libraries.

If the **Use Search Paths Automatically** option is enabled and a path field is entered by browsing, the path is scanned and may be reduced by the use of path macro substitutions. This allows the target files to be relative to the current schematics and fixed path names can be avoided. For this feature to work, the schematic being edited must have a filename so that its current location can be found. A manual "Paths" button is also available next to most fields that support search path substitutions.

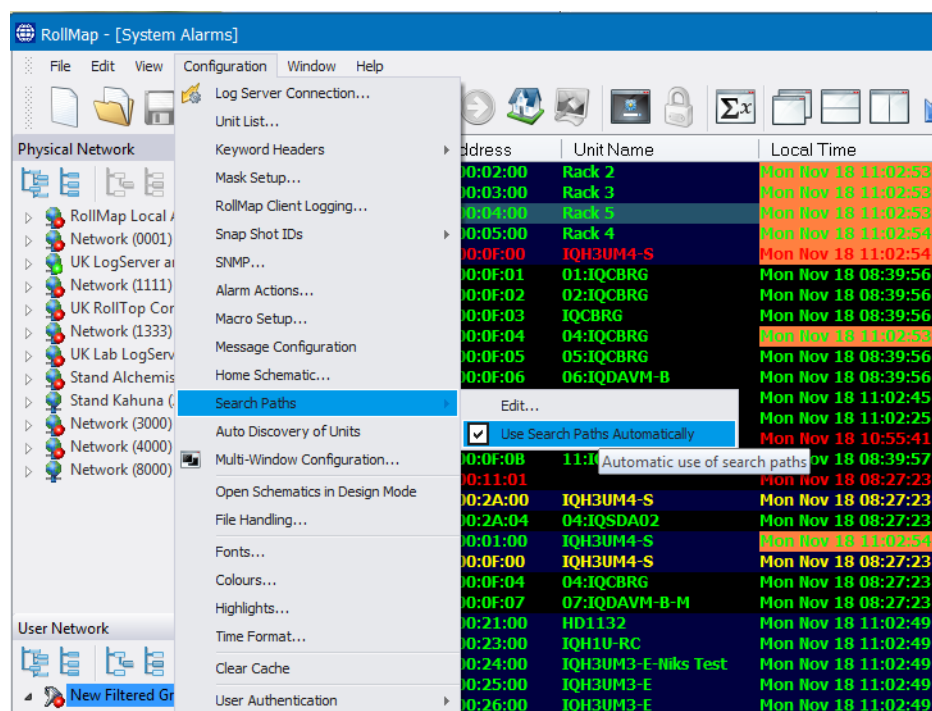


Figure 65 Search Paths Automatically

4.12 Multi-window Configuration

Schematics can be opened automatically in separate windows, under certain conditions, allowing them to be placed outside of the main RollMap application, enabling the use of multiple monitors and large displays within the control and monitoring system.

Select the Multi-window Configuration option from the Configuration menu.

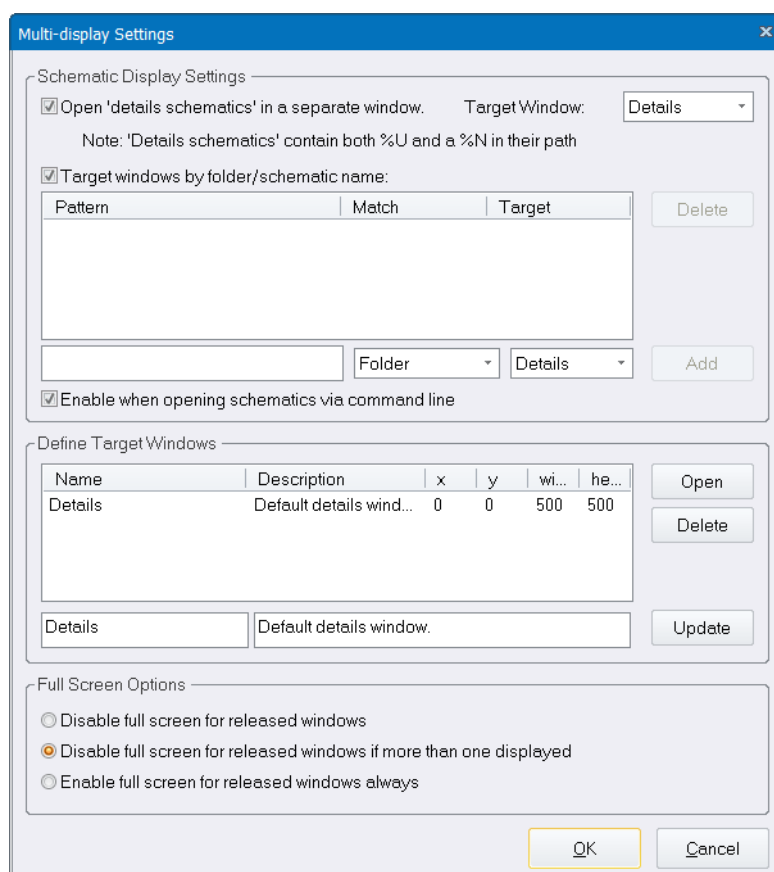


Figure 66 Multi-display Settings

The following can be set from the dialog:

- Target windows, names and locations
- Rules specifying which schematics to open in which window
- Actions upon selection of full screen mode

4.12.1 Define Target Windows

A Details window is always present and cannot be removed. However, its location and description can be edited. Configure further target windows in the Define Target Windows section.

Enter a name and a description for a new window. Click on the **Add** button.

The name and description are displayed in the title bar when opened. The dynamic strings %N and %U can be used in the description.

Note: If this window is targeted by a Details schematic, these fields are replaced with the unit's NET and UNIT address components.

4.12.2 Rules for Opening Schematics

Schematics can be set to automatically open and run in different windows in the following ways:

- Check the Open 'details' schematics in a separate window checkbox to ensure that schematics containing %N and %U in the path are detected and opened in the details window (by default).
- A schematic filename, or the folder in which a schematic resides, can be checked, and upon matching a rule opened in a window as defined in the rule.
- Specify a target window directly from a schematic link - defined in the schematic properties dialog.

4.12.3 Full Screen Options

The following options are available for controlling which screens can show as full screen:

Disable full screen for released windows—The main application screen can be set to full screen, but other windows remain as pop-ups, which can be placed over the main screen.

Disable full screen for released windows if more than one displayed—Allows the main screen and one other to be displayed as full screen. In the event of there being more than one released screen, only the main screen can be displayed full screen.

Enable full screen for released windows always—In this case only one of the released windows will be displayed along with the main screen, but both will be full screen.

4.12.4 Manually Display Schematics Outside of the RollMap Window

To display the current schematic outside of the RollMap window, right-click, and from the menu select **Release Window**.

Note: To release a schematic it must be in Run Mode not Design mode.

To return a window to the main screen, right-click, and from the menu select **Restore Window**.

4.12.5 Edit Released Windows

Released windows can only be edited in the main application screen.

To edit a released window, right-click and from the menu select **Restore Window to Edit**. The window is placed back into the main application screen and Edit Mode is selected.

4.13 Configure Shortcut Links

The links menu provides a set of shortcut links that can be configured if desired. After configuring the links menu, the links menu shown below can be used.

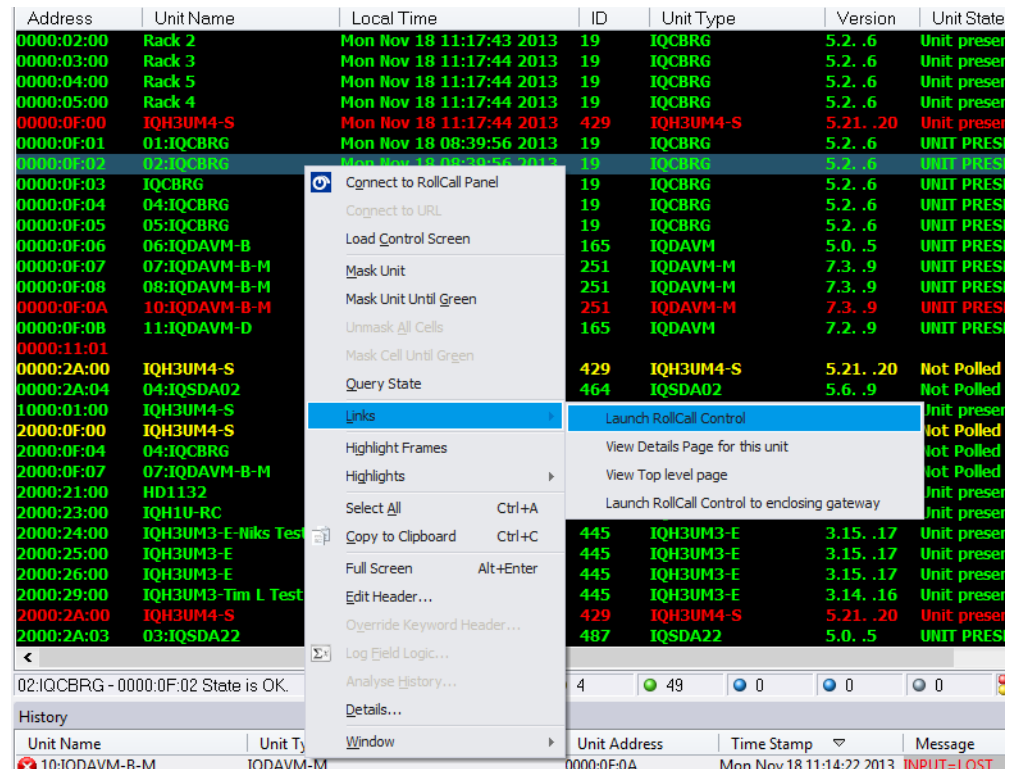


Figure 67 Shortcut Links

To add the links option, add the following parameters to the Configuration.cfg file, which is located in the Configuration folder of the installation directory. By default, the location of this file is:

C:\Program Files\SAM\RollMap\Configuration\Configuration.cfg.

Note:

RollMap must be closed before opening the configuration file, and not restarted until the changes in the files have been saved.

The parameters to add are:

```
[AlarmViewRightClickAllUnits]
Item0=System Home page,$PROJECT$\Schematics\Home.sch
Item1=Sub-system home page,$AREAS$\%N.sch
[AlarmViewRightClickPortZero]
Item0=View unit details,$DETAILS$\%N_%U.sch
[AlarmViewRightClickPortNonZero]
Item0=View module details,$DETAILS$\%N_%U_%P.sch
Item1=View rack details,$DETAILS$\%N_%U.sch
```

4.14 Other Configuration Options

The options described in this section set several other preferences that allow you to customize RollMap.

- **Open Schematics in Design Mode**—specifies whether RollCall Schematics open in Run or Design Mode.

To open RollCall schematics in design mode, from the **Configuration** menu, select **Open Schematics in Design Mode**. If this option is not selected, RollCall schematics open in run mode.

- **Fonts**—specifies the font used in the System Alarms window.

To change the font used in the System Alarms display, from the **Configuration** menu, select **Fonts**. A font selection dialog displays, from which the font can be selected.

- **Colors**—specifies the state and system colors used in the System Alarms window.

To change the state and system colors, from the **Configuration** menu, select **Colors**.

To change the color for an item, select the item from the drop-down list and click **Change**. A color selection palette box displays. Any custom or predefined color can be selected. The system can store up to 16 custom colors.

To reset any field, click **Default**.

- **Highlights**—configures the highlight behavior displayed when a field in the System Alarms window changes.

When a field changes, it can be highlighted using a "Highlight Color". To change the highlights settings, from the **Configuration** menu, select **Highlights**.

The color can be set from the **Color** menu.

The highlight duration can be set from 1 to 32000 seconds. If the Manual reset checkbox is selected, the highlight remains on the field. To manually reset the highlight, from the **View** menu, select **Highlight Changes > Clear All** or **Clear Line**.

- **Time Format**—configures the time format used by RollMap.

To specify the time format, from the **Configuration** menu, select **Time Format**.

Specify whether the time should be displayed as Greenwich Mean Time or Local Time, and using the parameters shown in the dialog, construct the desired time display format.

The time and date are displayed at the bottom of the RollMap main window, and also displayed in the System Alarm window under the "Network Time" heading.

- **Auto Discovery**—enables Auto Discovery mode. See Auto Discovery on page 76.
- **Clear Cache**—deletes all files in the RollMap cache directory.

5. System Alarms Window

5.1 Description

The System Alarms Window is a table made from units in the system and their alarm headers. Each entry in the table is a trigger event for an alarm.

System Alarms Window

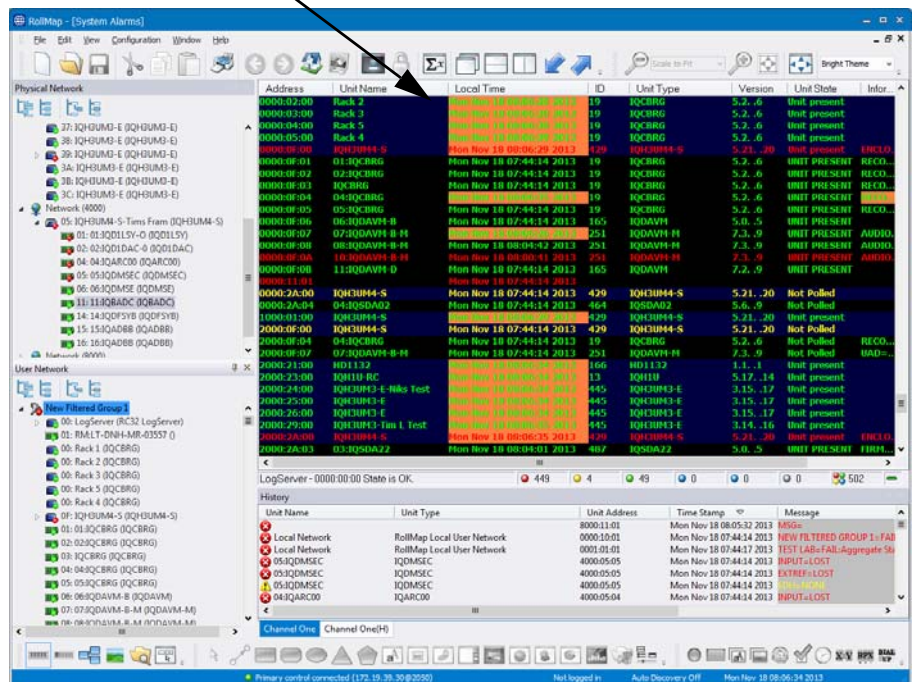


Fig 68. System Alarms Window Configuration

5.2 Connect to Units

RollMap can connect to the RollCall Control Panel and open a specified unit's template; or, if the unit has an IP Address log field, connect to its Web-based management interface.

- To open a unit in the RollCall Control panel, right-click on the unit in the System Alarms window and from the menu, select **Connect to RollCall Panel**. The unit's template displays in the RollCall Control Panel.
- To open a unit's Web-based management interface (if the unit has an IP Address log field), right-click on the unit in the System Alarms window and from the menu, select **Connect to URL**. The unit's management interface displays.

5.3 Mask Units

5.3.1 Mask Setup

The Mask Setup option specifies whether item masks are saved locally, or received from a server.

To change the Mask Setup:

- From the **Configuration** menu, select **Mask Setup**.

The Mask Setup dialog displays.

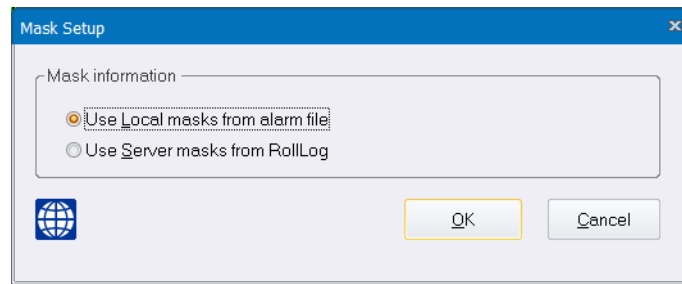


Figure 69 Mask Setup

Select either Use Local masks from alarm files or Use Server masks from RollLog.

- In local mode, items that are masked are saved to the Alarm File. Changes saved locally are not reflected in other RollMap clients.
- On the other hand, remote masking from the LogServer allows all other RollMap clients to see the same masking information. This option only functions when using the RollCall V4 suite or higher.

The unit masking options described below are accessed by right-clicking on a unit in the System Alarms window.

5.3.2 Mask Unit / Unmask Unit

This sets and clears the mask of an item. If an item is masked, then no alarms are generated for it and its state displays as UNKNOWN to schematic and component objects.

5.3.3 Mask Unit Until Green

Mask Unit Until Green masks the unit until its status returns to green or it is unmasked by means of the Unmask Unit option. This option behaves as though the unit using local masks from the alarm file (even if using server masks).

5.3.4 Mask Unit Until Time

Mask Unit Until Time masks the unit for the specified period of time (either preset or custom). Once the time has elapsed the unit is automatically unmasked by the LogServer. This feature is accessible from all menus where the current unit can be masked.

5.3.5 Mask Cell / Unmask Cell

This sets and clears the mask of an individual cell. To mask/unmask a cell, click on a unit in the System Alarms window to select it, click on the cell, right-click on the selected cell, and then select Mask/Unmask Cell.

5.3.6 Mask Cell Until Green

Mask Cell Until Green masks the cell until its status returns to green or it is unmasked by means of the Unmask Cell option.

5.3.7 Mask Cell Until Time

Mask Cell Until Time masks the cell for the specified period of time (either preset or custom). Once the time has elapsed the cell is automatically unmasked by the LogServer. This feature is accessible from all menus where the current cell can be masked.

5.3.8 Unmask All Cells

This option unmasks all cells.

5.4 Query the State of a Unit

To view the details of any warnings or errors with a unit, right-click on the unit in the System Alarms window and select **Query State**. A dialog displays indicating warnings or errors currently being generated by the unit.

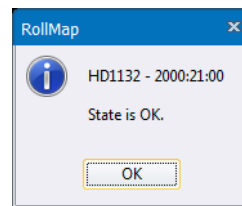


Figure 70 Query State

5.5 Change View Options

There are eight tool/status bars available on the System Alarm window. The General Toolbar, Schematic Toolbar and Alarm Objects Toolbar appear just beneath the menus. The Status bar contains six boxes with colored icons, displaying the total number units in each state and the total number of units. Their description can be viewed by placing the cursor over the boxes and a tool tip will appear. The green bar at the right of the status bar is an activity indicator only. Full Screen - expands the System Alarm window to fill the monitor screen. Show text on Tool bars - places the function name of a tool icon under the icon Hide When Minimized - hides the RollMap icon in the bottom right system tray.

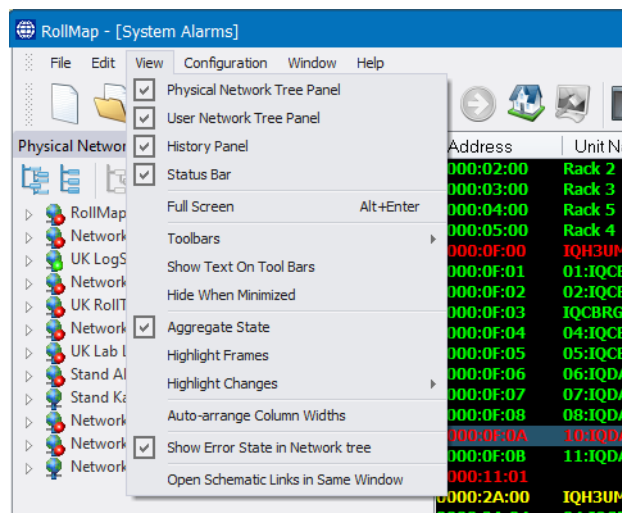


Figure 71 View Options

5.5.1 Aggregate State

The display can be set to show the total aggregate of a unit based on the states of all its triggers. This shows the unit as a single colored line. Turning off the aggregate state displays each trigger field as its actual state color.

5.5.2 Highlight Changes

When "Highlights" are enabled, recent changes are shown in a different color. The duration and reset mode can be changed in the **Configuration > Highlights** menu.

5.5.3 Auto-arrange Column Widths

Selecting this option automatically adjusts the column widths to fit all data.

5.5.4 Show Error State in Network Tree

Selecting this option displays unit states in the network tree by placing a dot corresponding to the states color on the object icons.

5.6 Override Keyword Headers

A single cell of the System Alarms window can be selected by first selecting the row with the left mouse button, then clicking on a cell within the selected row. This highlights the cell with a dotted rectangle. Right-click in a selected cell and from the menu that displays, select **Override Keyword Headers**.

This cell's state can be given a different set of keywords, similar to the overall keywords for the whole column. If an override exists for that cell, its background color is set by the "Header Override Color" in the Color setup dialog box.

The 'Headings' dialog box is used to configure the display of keywords for a specific column in the System Alarms window. The 'Column Selection' is set to 'ADDRESS' and the 'Column Number' is 0. The 'Header keyword' is 'ADDRESS' and the 'Display Title' is 'Address'. The 'Text Field' option is selected. The 'Universal Coordinated Time Field' section has 'Use Global Time Format' checked and 'GMT' selected. The 'Number Field' section shows a table with columns for Error, Warning, Good, and Warning, and rows for 0, 0, 0, and 0. The 'Text Field' section contains fields for 'Exclude keyword(s)', 'Good / Green state keyword(s)', 'Cyan display keywords if state is Good', 'Magenta display keywords if state is Good', 'Warning / Yellow state keyword(s)', 'Failure / Red state keyword(s)', and 'Default State' (Good (Green)). Buttons for 'New', 'Delete', 'OK', and 'Cancel' are at the bottom.

Figure 72 Override Keyword Headers

5.7 Log Field Logic

Log Field Logic outputs a value to a Log Field that depends on the value of two or more input Log Fields. Input Fields can be added or logically compared.

To access the Log Field Logic dialog:

- Right-click on a log field in the System Alarms window and select **Log Field Logic** from the menu.

The **Log Data Logic** window is divided into several sections:

- Input Log Fields:** Contains a **Simple Query** section with an **Address** dropdown, a **Log Header** dropdown, and an **Add** button. Below this is a large text area for the query and a **Remove** button. There is also an **Advanced Query** section with a larger text area and an **Edit Rule** button.
- Output Log Field:** Contains an **Address** dropdown (set to 0000.00.01), a **Log Header** dropdown (set to NAME), and a **Unit Name** dropdown.
- Comparison Logic:** Includes a radio button for **Use Comparison Logic**. Below it are two text areas: **Data when all log data are EQUAL** and **Data when any log data are NOT EQUAL**.
- Summation Logic:** Includes a radio button for **Use Summation Logic**, with sub-options for **Decimal Values** (selected) and **Hexadecimal Values**.
- Alarm Actions:** Contains buttons for **Create State Trigger** and **Alarm Actions**.
- Bottom Bar:** Includes a globe icon, **Delete**, **OK**, and **Cancel** buttons.

Figure 73 Log Field Logic Screen

Within the Log Field Logic screen there are shortcut buttons at the bottom of the screen allowing quick access to create a State Trigger, and to open the Alarm Actions screen.

Example:

Log Field Logic is used to compare the Input PID to the Output PID on an IQSDA02 and raise an alarm if the values differ.

1. Create a new Keyword Header for the comparison output. See Set up Keyword Headers on page 21.

The **Headings** window is used to configure keyword headers. It includes the following sections:

- Setup File:** Set to **CurrentHeaders.cfg**.
- Column Selection:** A dropdown menu showing **3 - COMPARE_PID_HOUSE_ID**.
- Column Number:** A text field containing the value **3**.
- Header keyword:** A text field containing **COMPARE_PID_HOUSE_ID**.
- Display Title:** A text field containing **COMPARE_PID_HOUSE_ID**.
- Field Type:** Radio buttons for **UCT Field**, **Number Field**, and **Text Field** (selected).
- Universal Coordinated Time Field:** Includes a checkbox for **Use Global Time Format** (checked), radio buttons for **GMT** (selected) and **Local Time**, and a **Display Format** text field.
- Number Field:** Includes a section for **Display Format** with a table of values:

Error	Warning	Good	Warning	Error
0	0	0	0	0
- Text Field:** Includes several text areas for keywords:
 - Exclude keyword(s):**
 - Good / Green state keyword(s):**
 - Cyan display keywords if state is Good:**
 - Magenta display keywords if state is Good:**
 - Warning / Yellow state keyword(s):**
 - Failure / Red state keyword(s):**
 - Default State:** A dropdown menu set to **Good (Green)**.
- Bottom Bar:** Includes a globe icon, **New**, **Delete**, **OK**, and **Cancel** buttons.

Figure 74 Example Screen 1

2. In the alarm list, select the COMPARE_PID_HOUSE_ID field for the IQSDA02 module to be monitored. Right-click in the field and select **Log Field Logic**.

3. In the Log Field Logic dialog, select the Address and Log Header of the Input PID, then click **Add**.

Figure 75 Example Screen 2

4. Select the Address and Log Header of the Output PID, then click **Add**.

Figure 76 Example Screen 3

5. In the **Comparison Logic** section, enter the text to be displayed when the log data is equal and when the log data is not equal.

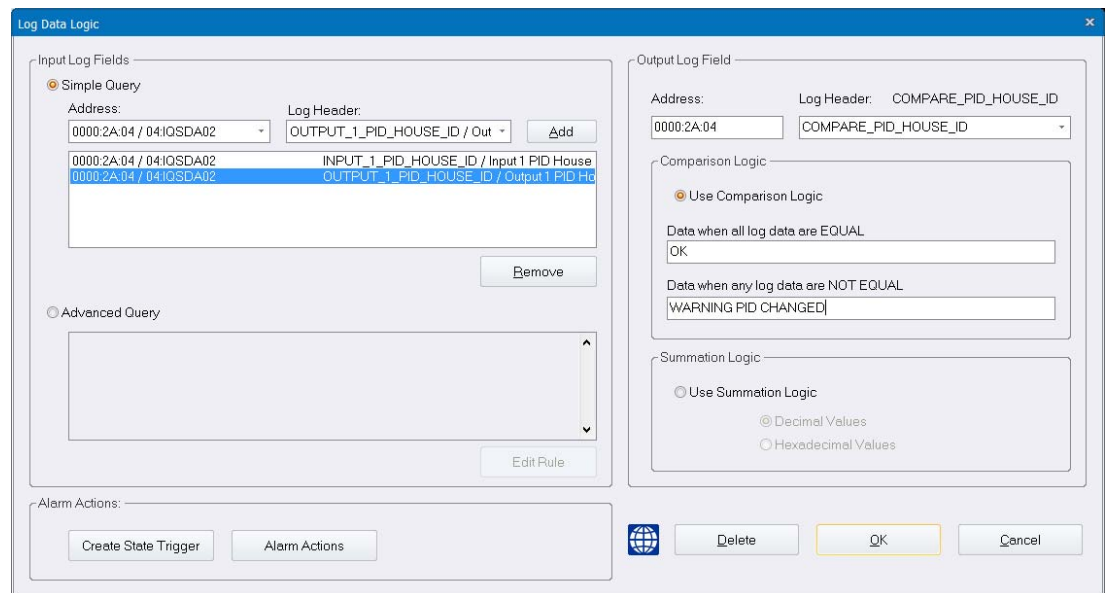


Figure 77 Example Screen 4

6. Click **OK** to close the dialog and save the changes.

The COMPARE_PID_HOUSE_ID displays:

- **OK** when the Input PID and Output PID match.
- **WARNING:PID Changed** when the Input PID and Output PID do not match.

5.8 View Unit Details

The Details option brings up a popup dialog box showing only the headers and fields for the selected item. This box also allows drag operations onto ActiveX objects in the schematic and component windows for trigger assignment.

- To open the Details dialog, right-click on a unit in the System Alarms window and select **Details** from the menu.

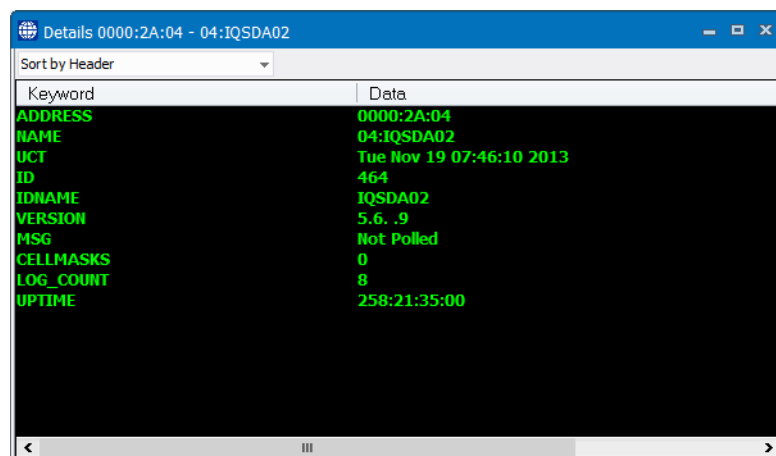


Figure 78 Viewing Unit Details

At the top of the unit details screen is a drop-down list allowing the screen information to be sorted. Details can be sorted by:

- **Header** - This is the default sort, and is based on the system alarm window order, and then alphabetically by name.
- **Keyword** - Alphabetically by name

- **Data** - Alphabetically by data
- **Status** - Errors are reported first, followed by warnings, followed by everything else
- **Mask** - Masked cells followed by unmasked cells

5.9 Printing

The current state of the System Alarms window can be printed.

5.9.1 Page Setup Options

To change the page setup options:

- From the **File** menu, select **Page Setup**.

The Page Setup for Printing dialog displays.

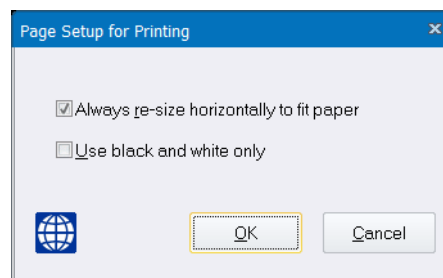


Figure 79 Page Setup

There are two print setup options available in this dialog:

- **Always resize horizontally to fit paper**—configures RollMap to print all headers across a single page, re-scaling if necessary. If this option is not selected, only the fields that fit on the first page using the current font are printed.
- **Use black and white only**—produces a clearer monochrome gray scale output on a black and white printer.

5.9.2 Printer Setup Options

To change the printer setup option:

- From the **File** menu, select **Print Setup**.

The standard printer setup dialog for your printer displays. The options that can be specified here depend on the printer.

5.9.3 Print Preview

To view a preview of the print job before printing:

- From the **File** menu, select **Print Preview**.

This displays the exact layout of the page to be printed.

5.9.4 Print

To print the contents of the System Alarms window:

- From the **File** menu, select **Print**.
The printer setup dialog displays.
- Specify any required print options and then click **OK** to continue.

5.10 User Alarms

User Alarm documents can be created to manage smaller numbers of units. This can be a subset of the units available from the System Alarms window. The Alarm window is split into two windows. The left window is the Active state window. This shows the current status of user-selected units. The right hand window is the masked window. This shows the status of units that you have masked, or have already noticed and wish to ignore. Using a combination of viewing masks, you can be informed of changes quickly and accurately.

File Open, Close, Save and Save As are standard file options for an alarm document. Settings for each User Alarm document can be saved with the extension .ALM. Edit options Cut, Copy and Paste from the System Alarms window can be used to aid editing of the alarm document.

Configuration options are the same as those available in the System Alarms window.

5.10.1 Set up an Alarm Document

To create a new User Alarm document:

- From the **File** menu, select **New**.

The New File dialog displays.

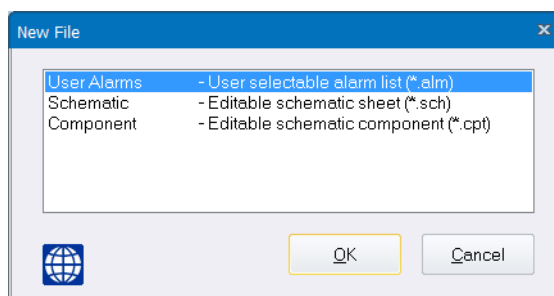


Figure 80 New Alarm Document

- Select **User Alarms** and then click **OK**.

The default list of units and column headings reflect those available from the System Alarms window.

5.10.2 Unit State

The left-hand window indicates the active state of the units and the right hand window indicates the status of masked units. Each window has a viewing mask for each of the states. Click on the right hand mouse to bring down a context menu. The drop-down menu has options to view Errors, Warnings, Unknowns and OK states.

Address	Unit Name	Local Time	Address	Unit Name	Local Time
0000:0F:01	01:IQCBRG	Tue Nov 19 10:25:38			
0000:0F:02	02:IQCBRG	Tue Nov 19 10:25:38			
0000:0F:03	IQCBRG	Tue Nov 19 10:25:38			
0000:0F:04	04:IQCBRG	Tue Nov 19 11:10:23			
0000:0F:05	05:IQCBRG	Tue Nov 19 10:25:38			
0000:0F:06	06:IQDAVM-B	Tue Nov 19 10:25:38			
0000:0F:07	07:IQDAVM-B-M	Tue Nov 19 11:09:52			
0000:0F:08	08:IQDAVM-B-M	Tue Nov 19 11:08:07			
0000:0F:0A	10:IQDAVM-B-M	Tue Nov 19 10:52:33			
0000:0F:0B	11:IQDAVM-D	Tue Nov 19 10:25:38			
0000:11:01		Tue Nov 19 10:25:38			

07:IQDAVM-B-M - 0000:0F:07 State is OK. 454 4 44 0 0 0 502

Figure 81 Unit State

5.10.3 Mask/Unmask Units

An item can be masked by selecting a mask menu option or by selecting the unit and then dragging it across to the masked window (right hand window). Unmasking a unit is performed by selecting one of the unmask options or by dragging the item from the right hand window to the left hand window.

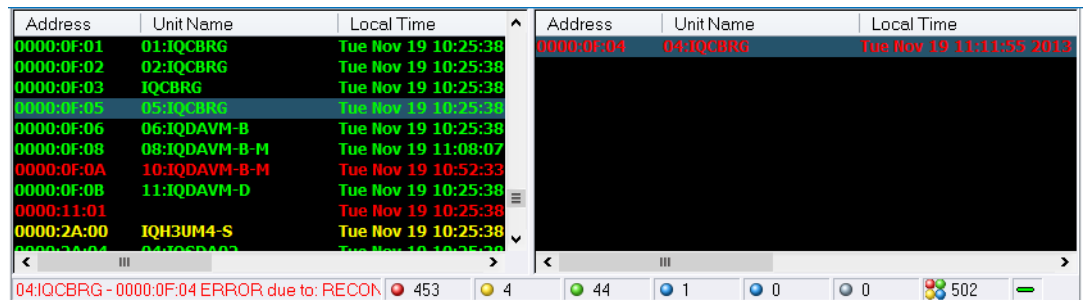


Figure 82 Masking/Unmasking Units

This masking effect allows you to remove unwanted items from the Active window so that known faults can be put aside for action. With a combination of viewing masks, the Active window can be made to show only new errors that have not been masked.

5.10.4 Set Viewing Mask

Set viewing mask to Errors and Warnings only. (Remove check for Unknown and OK states).

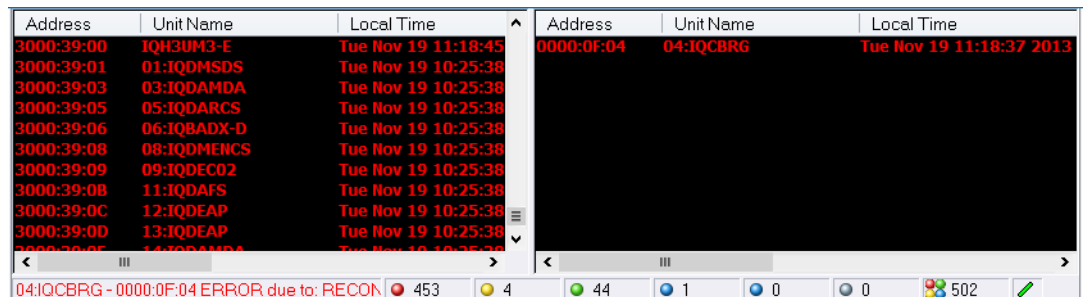


Figure 83 Set Viewing Mask

5.10.5 Move Faulty Units

Now we can move all the known faulty units to the mask window by selecting all the units and then dragging them across to the mask window.

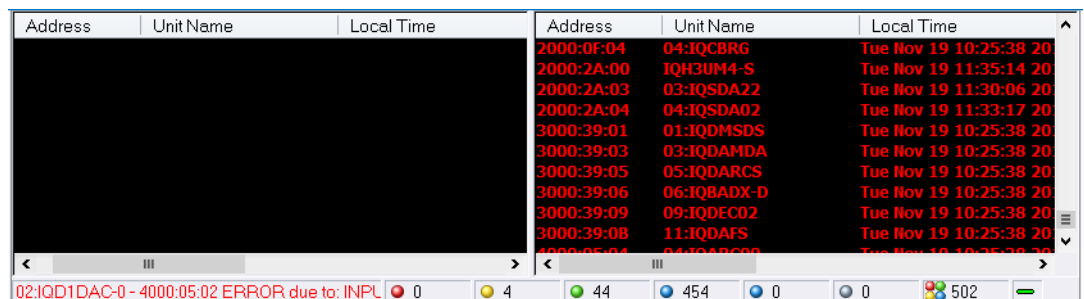


Figure 84 Move Faulty Units

The left-hand Active window is now free of unwanted information and only new changes to error or warning states display. If a previously good unit develops a fault, then it changes from its OK state to an ERROR state.

5.10.6 New Alarm

Address	Unit Name	Local Time	Address	Unit Name	Local Time
2000:2A:04	04:IQSDA02	Tue Nov 19 11:37:23 2013	2000:2A:00	IQH3UM4-S	Tue Nov 19 11:37:23 20
			2000:2A:03	03:IQSDA22	Tue Nov 19 11:37:06 20
			3000:39:01	01:IQDMSDS	Tue Nov 19 10:25:38 20
			3000:39:03	03:IQDAMDA	Tue Nov 19 10:25:38 20
			3000:39:05	05:IQDARCS	Tue Nov 19 10:25:38 20
			3000:39:06	06:IQBADX-D	Tue Nov 19 10:25:38 20
			3000:39:09	09:IQDEC02	Tue Nov 19 10:25:38 20
			3000:39:0B	11:IQDAFS	Tue Nov 19 10:25:38 20
			4000:05:04	04:IQARC00	Tue Nov 19 10:25:38 20
			4000:05:02	02:IQD1DAC-0	Tue Nov 19 10:25:38 20

01:IQDMSDS - 3000:39:01 ERROR due to: INPU 1 4 44 453 0 0 502

Figure 85 New Alarm

The faulty unit now displays in the Active window. This indicates that a new change of status has occurred and action needs to be taken.

5.10.7 Hide the Mask Window

The Mask window can be reduced or made hidden by dragging the centre splitter pane to the right hand side.

Address	Unit Name	Local Time	ID	Unit Type	Version	Unit	Address
2000:2A:04	04:IQSDA02	Tue Nov 19 11:37:23 2013	464	IQSDA02	5.6. .9	UNIT 1	2000:2A:0
							2000:2A:0
							3000:39:0
							3000:39:0
							3000:39:0
							3000:39:0
							3000:39:0
							3000:39:0
							4000:05:0
							4000:05:0

01:IQDMSDS - 3000:39:01 ERROR due to: INPU 1 4 44 453 0 0 502

Figure 86 Hide Mask Window

5.10.8 Print the User Alarm window

The page setup is similar to that in the System Alarms window, except that you must select either the active or masked window to print or preview.

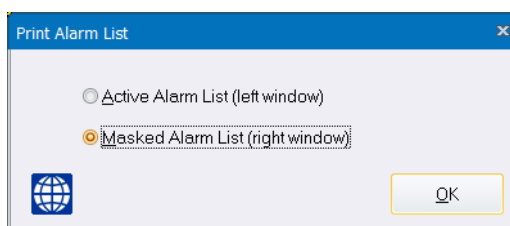


Figure 87 Print Alarm List

5.11 Configure Headers

Any of the column headers available from the System Alarms window can be added to the User Alarms windows. Columns can also be deleted if not required.

A header can be selected and dragged to a new position with the mouse.

The Edit menu provides access to Copy, Paste and Select All options. Unit entries can be copied to the clipboard for use in the User Alarm window. Items in this window can be dragged onto the User Alarm windows for faster editing operations.

Right-click on the header bar in the System Alarms window to display a context menu and select the required option.

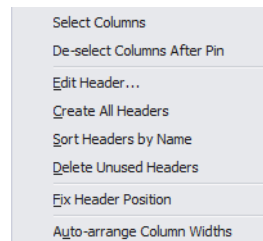


Figure 88 Headers Menu

The User Alarms window has a similar menu, but with a subset of these features.

5.11.1 Select Columns

Selecting this option brings up a dialog box with all the available column headers on the left, and the currently used headers, in the order that they display in the system alarms screen, on the right.

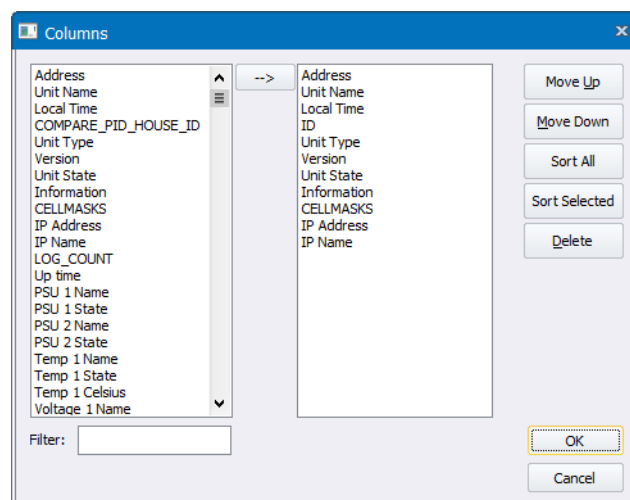


Figure 89 Select Columns

To add a new header:

1. Select a header name from the left column, and click on -->
2. The new header is added to the bottom of the list. Use the Move Up and Move Down buttons to position the new header where required.

Note: This dialog can be resized, if required.

5.11.2 Deselect Columns After Pin

This function can only be performed after fixing a header. See “Fix Header Position” on page 74.

Select to remove all columns to the right of the fixed header from the alarm window.

5.11.3 Edit Header

See “Set up Keyword Headers” on page 21.

5.11.4 Create All Headers

Headers are created dynamically. However, if a new unit is added which contains new header information stored in the Information field, selecting this option creates the new headers from that header data. The header data from the Information field is deleted after the headers have been created.

Once the new headers are created they are updated in the normal way along with all other headers.

5.11.5 Sort Headers By Name

When a fixed header is set, this function sorts all headers after the fixed header into alphabetical order. See “Fix Header Position” on page 74.

Without a fixed header, all headers may be sorted into alphabetical order. A dialog displays asking for confirmation that all columns are to be sorted.

5.11.6 Delete Unused Headers

When units are removed the header information for the units remains. It is good practice, after removing a number of units, to delete the headers from these units that are no longer used.

5.11.7 Fix Header Position

Select to fix the current header. A pin  in the header indicates the current fixed header position, a position after which all other headers may be sorted or deselected.

This is used in conjunction with the Deselect Columns After Pin and Sort Headers By Name functions.

Note:

Only one header may be fixed (pinned) at any one time.

5.11.8 Auto-arrange Column Widths

Column widths are automatically set so that each column displays all data without truncation. Each column width is set to accommodate the longest item in that column.

6. Network Tree

6.1 Description

The Network Tree is displayed on the left of the RollMap window, as with the RollCall Control panel, when the network is first displayed, all nodes are collapsed.

Click the  sign next to a node to display the units contained within it.

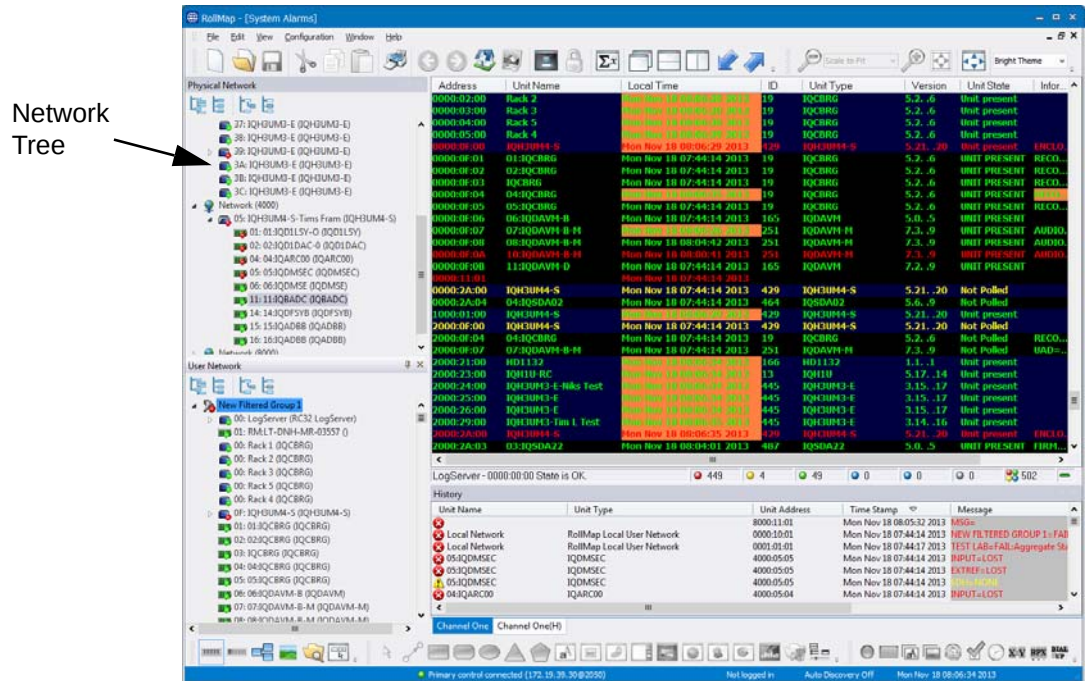


Figure 90 Network Tree Window

The Network Tree displays a physical view of the units on the network.

To add a unit to the lower portion of the Network Tree, drag and drop it from the top portion. The order of the two sections can be changed by using the **User Tree above Network Tree** menu option (this requires a restart of RollMap).

Units that are online can be renamed. Right-click on a unit, and from the menu that displays, select **Rename**.

Units can be dragged to a schematic, automatically adding the unit's information. The Network Tree toolbar specifies the behavior of drag and drop options as follows:



Insert as Front Component



Insert as Rear Component



Insert as Device Component



Insert as Graphics Object



Always Browse for Component



Assign Address to Object

There are additional icons on the toolbar which can be used to show and hide elements in Network Tree View:



Expands all units, and other sub-components, in the network tree



Collapses all components in the network tree



Expands the selected unit only



Collapses the selected unit only

6.2 Auto Discovery

Auto discovery mode can be enabled from the configuration menu, and "Auto Discovery Active" displays on the status bar when it is operational.

When active, auto discovery automatically adds new cards/frames/networks/devices to the current list without.

In combination with Filtered groups there is the possibility to instantly monitor new network items as soon as they are added to the network.

The expected usage of this mode is first manually add all the units to the unit list. Then activate "Auto discovery Mode".

Auto discovery mode is disabled if you change the unit list manually and on startup of RollMap.

6.3 Load Control Screen

Control screens from active units can be cached for use in schematics.

- Right-click on a unit in the network tree window, and select **Load Control Screen**.

The control screen is cached and can be selected from within a schematic. See Load Control Screen Template From Cache on page 118.

7. User Tree

7.1 Description

The User Tree window is used to build custom tree views of network components. To organize components within the User Tree there are:

- **Location**—For creating trees within.
- **Filtered Groups**—Automatically add components based upon user-defined rules.
- **Folders**—For organizing components within Locations or Filtered groups.

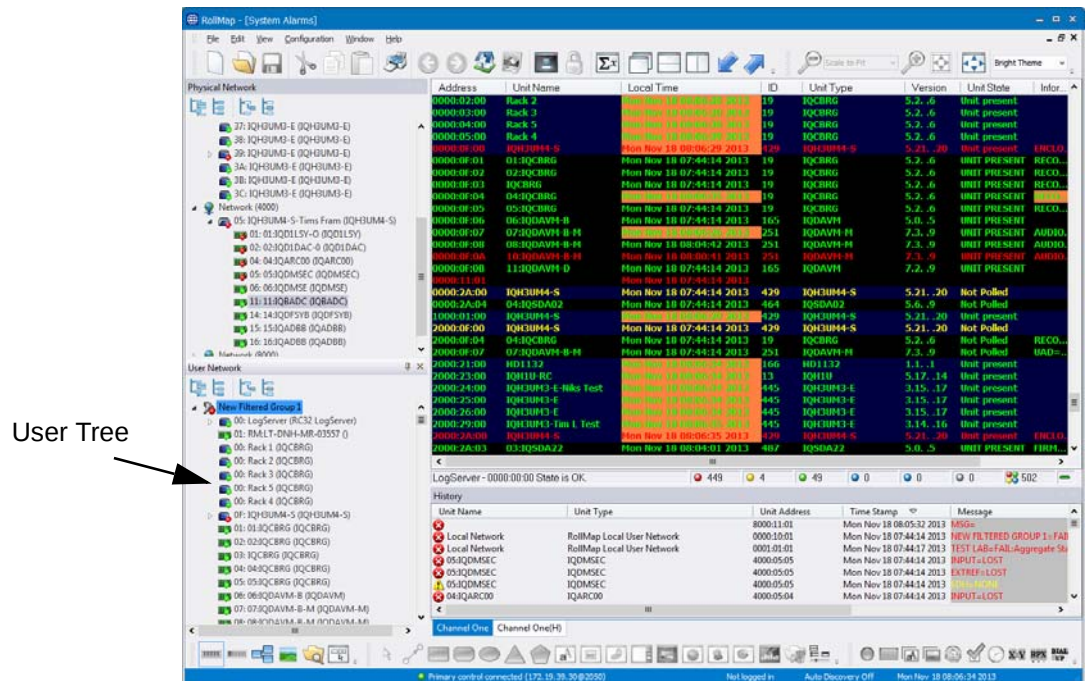


Figure 91 User Tree Window

The User View can be customized to display selected units, allowing easy access to units of particular relevancy.



Expands all units, and other sub-components, in the User Tree



Collapses all components in the User Tree



Expands the selected unit only



Collapses the selected unit only

Each of these show an aggregated state of all the components contained within them. This aggregated state is added as a header to a virtual unit. (see Appendix E) The address of the virtual unit can be specified on a per item basis by right-clicking on the item selecting the Virtual Unit menu option.

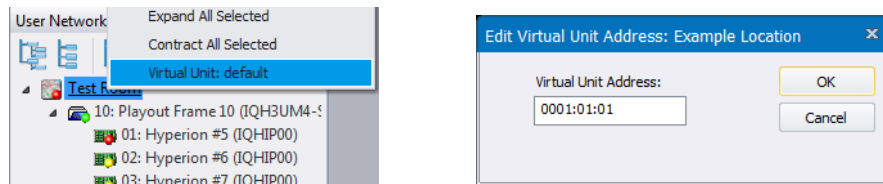


Figure 92 Virtual Unit

If no virtual unit address is specified then the default address is used from the setting `UserTreeVirtualUnitAddress` in `Configuration.cfg`. Headers are created with names made up of the path to the tree item. For the example below the virtual headers would be:

- Test Room
- Test Room: Channel 2

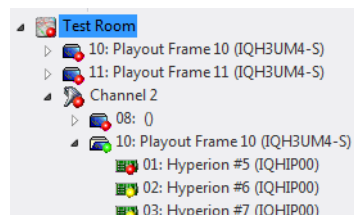


Figure 93 Default Headers

Using the popup menu, items in the User Tree can be reordered by using the move up/down options, expand and contract.

7.1.1 Filtered Groups

Filtered groups are an auto-generated group of units based upon user-defined rules. Rules are defined using the Rules Engine (See Rules Engine on page 183.). The following example shows how to create a rule which adds all units that have Channel 01 OR Channel 2 in their INFORMATION2 header field.

1. From the User Tree popup menu select **New Filtered Group**.
2. Choose whether the new filtered group is added to the Test Room location or be the start of a new tree.

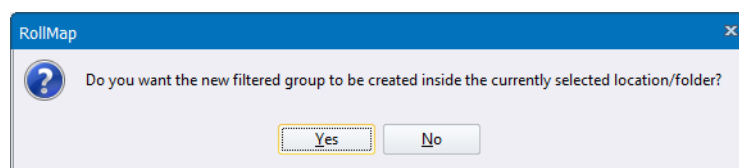


Figure 94 New Filtered Group Location

3. Select **No**.

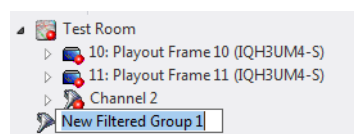


Figure 95 Add Filtered Group Name

4. Click on the new filtered group icon, and the Rule Editor screen displays.

Figure 96 New Rule Screen

5. Select **INFORMATION1** from the header list, select the “Equal to” operator, and enter **Channel 1** in the String/Number field.

Figure 97 New Rule Part

6. Click **Insert**.

The expression is added to the rule.

7. Select the “OR” join operator, select **INFORMATION2** from the header list, and change the String /Number field to **Channel 2**.
8. Click **Insert**.

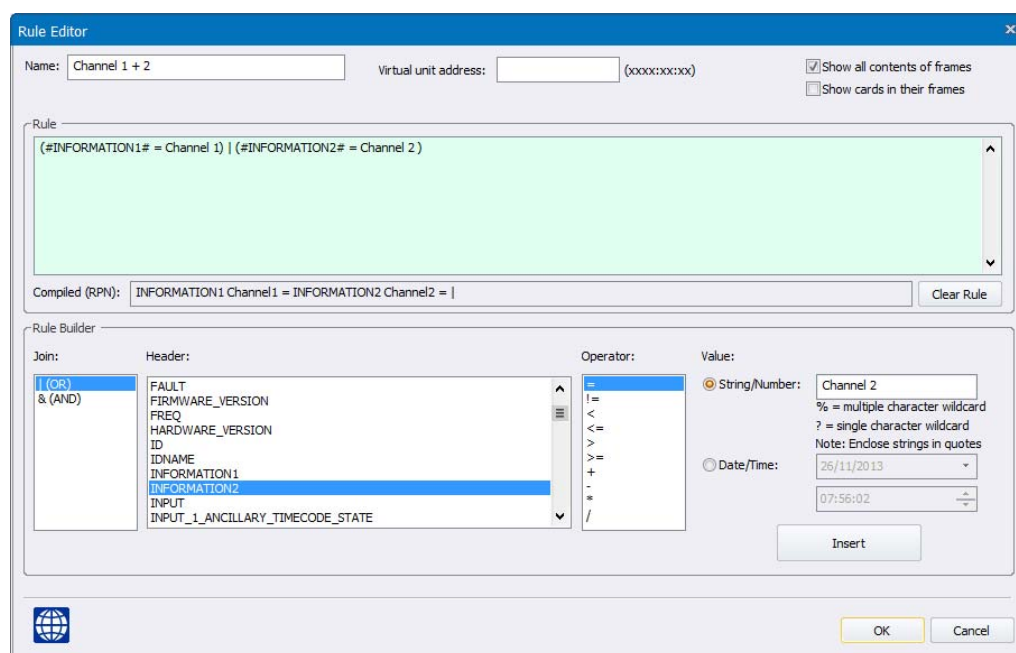


Figure 98 Rule Added

The editor automatically wraps the existing expression in brackets, and inserts the new expression.

9. Click **OK**. The changes are saved.

Note:

The rule can be manually edited within the edit box, to remove brackets, or to change the rule. If the edit box displays red instead of green the rule is invalid and the syntax should be checked.

10. Click **OK** and the new Filtered Group Channel 1 displays in the User Tree View and it automatically list all units that have their INFORMATION2 field as Channel 01.

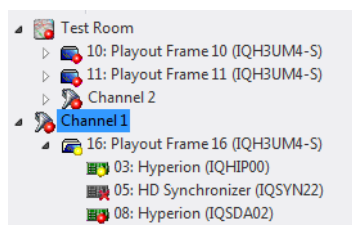


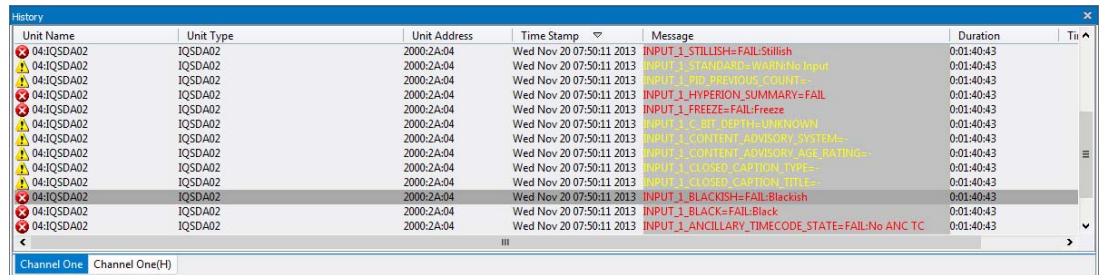
Figure 99 Unit List

Other options include "Show all contents of frames", with this enabled if a card or a frame is matched by the rule then all the other cards within that frame are added. Also the option Show cards in their frames" adds the frame of a matched card and shows the card within it.

8. History Tabs

8.1 Description

The history tabs provide a means of viewing and saving previous states. There are two type of tabs, current status and history. Current status tabs display events as they occur, and history tabs display a record of events that have occurred.



Unit Name	Unit Type	Unit Address	Time Stamp	Message	Duration
04:IQSDA02	IQSDA02	2000:2A:04	Wed Nov 20 07:50:11 2013	INPUT_1_STILLISH=FAIL:Stillish	0:01:40:43
04:IQSDA02	IQSDA02	2000:2A:04	Wed Nov 20 07:50:11 2013	INPUT_1_STANDARD=WARREN=Input	0:01:40:43
04:IQSDA02	IQSDA02	2000:2A:04	Wed Nov 20 07:50:11 2013	INPUT_1_STOP=PREVIOUS=20447	0:01:40:43
04:IQSDA02	IQSDA02	2000:2A:04	Wed Nov 20 07:50:11 2013	INPUT_1_HYPERION_SUMMARY=FAIL	0:01:40:43
04:IQSDA02	IQSDA02	2000:2A:04	Wed Nov 20 07:50:11 2013	INPUT_1_FREEZE=FAIL:Freeze	0:01:40:43
04:IQSDA02	IQSDA02	2000:2A:04	Wed Nov 20 07:50:11 2013	INPUT_1_1_BIT_DEPTH=SHUTDOWN	0:01:40:43
04:IQSDA02	IQSDA02	2000:2A:04	Wed Nov 20 07:50:11 2013	INPUT_1_CONTENT_ADVISORY_SYSTEM=	0:01:40:43
04:IQSDA02	IQSDA02	2000:2A:04	Wed Nov 20 07:50:11 2013	INPUT_1_CONTENT_ADVISORY_AGE_RATINGS=	0:01:40:43
04:IQSDA02	IQSDA02	2000:2A:04	Wed Nov 20 07:50:11 2013	INPUT_1_CLOSED_CARTON_TWE=	0:01:40:43
04:IQSDA02	IQSDA02	2000:2A:04	Wed Nov 20 07:50:11 2013	INPUT_1_CLOSED_CARTON_TITLE=	0:01:40:43
04:IQSDA02	IQSDA02	2000:2A:04	Wed Nov 20 07:50:11 2013	INPUT_1_BLACKISH=FAIL:Blackish	0:01:40:43
04:IQSDA02	IQSDA02	2000:2A:04	Wed Nov 20 07:50:11 2013	INPUT_1_BLACK=FAIL:Black	0:01:40:43
04:IQSDA02	IQSDA02	2000:2A:04	Wed Nov 20 07:50:11 2013	INPUT_1 Ancillary Timecode State=FAIL:No ANC TC	0:01:40:43

Figure 100 History Tabs

8.2 Managing History Tabs

To configure the history tabs, right-click on a tab to display the following menu options.

8.2.1 Create Complimentary Tab

This option creates a tab that is the opposite of its originating tab. That is, if you create a complimentary tab to a history tab, it is a current status tab, and vice versa.

To create a complimentary tab, right-click on a tab, and from the menu that displays, select **Tab Configuration > Create Complimentary Tab**.

8.2.2 Create New Tab

This option creates a new history tab. To create a new history tab, right-click on a tab, and from the menu that displays, select **Tab Configuration > Create New Tab**. Then, in the History Tab Properties window, specify the following:

- **Window Name**—In the Window name field, type a name for the tab.
- **Window Type**—To specify the type of information that is recorded on the tab, in the Window Type section, select either History or Current Status.
- **Address Range or Ranges**—Specify the address range, or address ranges, that are shown on the tab. To add an address range, enter new start and end points for the range as required, or click to browse. Then click Add. To change an address range, select a range from the list and then in the fields below the list enter new start and end points for the range as required, or click to browse. To delete an address range, select the range from the list, and then click Delete. Click OK to save changes to the properties and close the window, or click Cancel to close the window with out saving.

Note:

A new tab can also be created by right-clicking in the User Tree section of the Network Tree window, and selecting the Create Tab option. From here an auto-named History tab or a Current Status tab can be created.

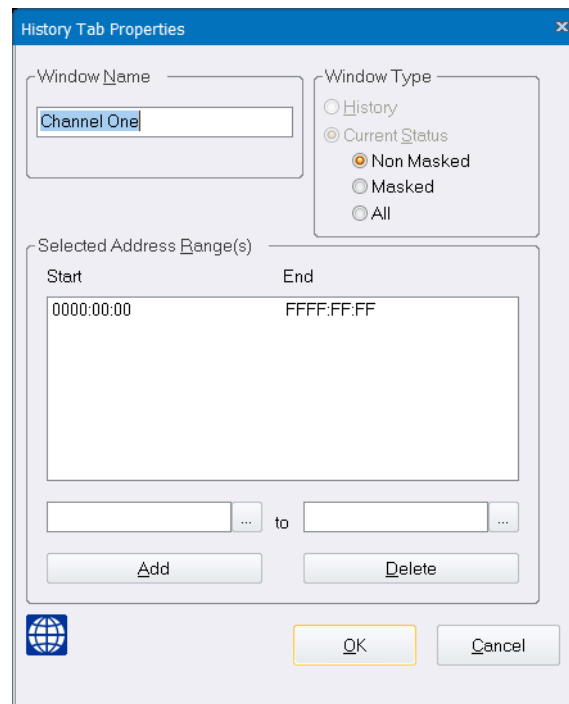


Figure 101 History Tab Properties

8.2.3 Move Tab Order Left / Right

Use these options to rearrange the order in which the tabs are displayed. To move a tab to the right, right-click on it and select **Tab Configuration > Move Tab Order Right**. To move a tab to the left, right-click on it and select **Tab Configuration > Move Tab Order Left**.

8.2.4 Delete Tab

To remove a tab, right-click on it and select **Tab Configuration > Delete Tab**.

8.2.5 History Tab Log File Setup

Use this option to enable or disable log file creation for a tab, and to specify the location and file-naming convention to be used for the log file.

To enable log file creation, select Enable log file. The log file is created according to the parameters specified. To use an automatically generated file name, which is based on time and date, select Use automatic filename based on Time/Date. Then, in the Automatic filename section, specify the path to the directory in which the generated log files are to be stored. This must be in a local or network accessible directory. The file name is in the format dd-mm-yy.log.

When using automatic file names, the following variables can be used to add additional information to the file name:

- %a Abbreviated weekday name (3 characters)
- %b Abbreviated month name (3 characters)
- %d Day of the month as a decimal number (01-31)
- %H Hour in 24-hour format (00-23)
- %I Hour in 12-hour format (01-12)
- %j Day of the year as a decimal number (001-366)
- %m Month as a decimal number (01-12)

- %M Minute as a decimal number (00-59)
- %p Current locale's AM/PM indicator for a 12-hour clock
- %S Second as a decimal number (00-59)
- %U Week of the year as a decimal number, with Sunday as the first day of the week (00-51)
- %w Weekday as a decimal number (0-6; Sunday is 0) %W Week of the year as a decimal number, with Monday as the first day of the week (00-51)
- %y Year without the century as a decimal number (00-99)
- %Y Year with the century as a decimal number
- %% As single % sign.

To use a single log file, with a fixed name, clear the Use automatic filename based on Time/Date check box. And in the Fixed filename section, enter the path, or browse to the location, and name of the log file to be created. This file must be located in a local or network accessible directory. Then, specify the maximum size for the log file (set to 0 to allow unlimited file size).

Click **OK** to save changes and close the properties window, or click **Cancel** to close the window without saving changes.

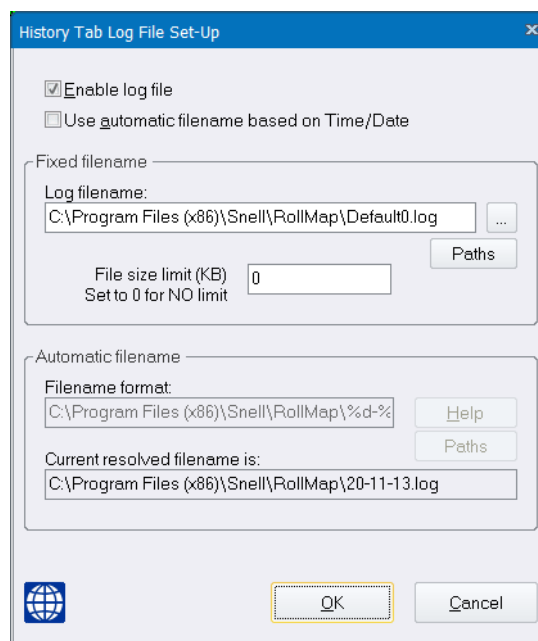


Figure 102 History Tab Log File Setup

8.2.6 Columns

Use this option to configure the columns to be displayed on tabs, and the order in which they are displayed. To configure columns, right-click on a tab and select **Tab Configuration > Columns**.

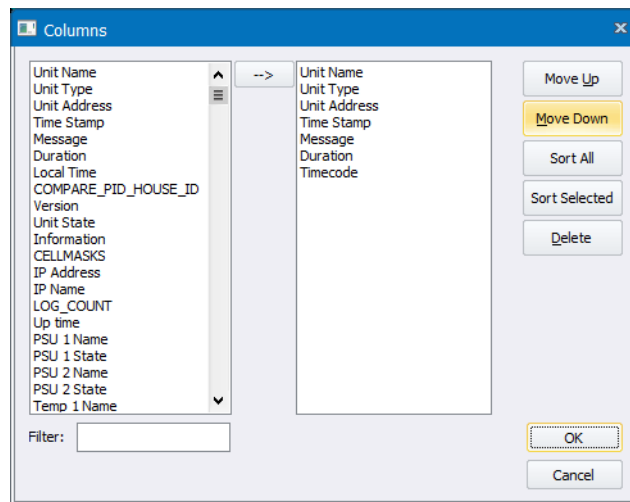


Figure 103 Columns

In the Columns window, the list on the left shows the columns that are available and the list on the right shows the columns to be displayed.

To move a column to the right, select it on the left and click the  button.

The columns at the top of the displayed columns list display on the left of the tab and the columns at the bottom of the list display on the right of the tab. To move a column up or down in the list, select it and then click either **Move Up** or **Move Down** as required.

Certain columns can be displayed specifically on error or on the clearance of an error. To specify this criterion, select the column in the display list and, in the mode section, click **On Error** or **On Cleared** as required.

Click **Ok** to save changes and close the window, or click **Cancel** to close the window without save.

In the log files, the column headings are not displayed. The order in which the default columns are shown in the files are as follows:

Current Status

Column1=Unit Name,NAME

Column2=Unit Type,IDNAME

Column3=Unit Address,ADDRESS

Column4=Time Stamp,UCT

Column5=Message,MESSAGE

Column6=Duration,DURATION

History

Column1=Unit Name,NAME

Column2=Unit Type,IDNAME

Column3=Unit Address,ADDRESS

Column4=Time Stamp,UCT

Column5=Message,MESSAGE

Column6=Duration,DURATION

Column7=Time Cleared,TIMECLEARED

Column8=Timecode,TIMECODE

Column9=Timecode Cleared,TIMECODE

8.2.7 History Tab Properties

To display the History Tab Properties window at any time, right-click on a tab and select **Tab Configuration > Properties**.

The screenshot shows the 'History Tab Properties' dialog box. It has a title bar with a close button. The dialog is divided into several sections: 'Window Name' with a text field containing 'Channel One'; 'Window Type' with radio buttons for 'History', 'Current Status' (selected), 'Non Masked', 'Masked', and 'All'; 'Selected Address Range(s)' with a table showing 'Start' as '0000:00:00' and 'End' as 'FFFF:FF:FF'. Below the table are two empty text fields separated by 'to', and 'Add' and 'Delete' buttons. At the bottom left is a globe icon, and at the bottom right are 'OK' and 'Cancel' buttons.

Start	End
0000:00:00	FFFF:FF:FF

Figure 104 History Tab Properties

8.3 History Tab Example

This section illustrates how History Tabs and Complimentary tabs work together. In the following sequence, a Hyperion (IQSDA02) card is monitoring its input while the input goes from 100% Color Bars to Black and then back to 100% Color Bars again. Thus, in terms of the field state, the INPUT_1_BLACK field goes from OK (Green) to WARN:Black (Amber) to FAIL:Black (Red), then back to OK (Green).

The Complimentary Tab shows the current active event. When an event is deemed OK (for example, the state is Green), the event does not display on the Complimentary Tab.

The History Tab only displays states that are not Green (OK) and have completed; that is, the state of the event is now in another state.

Starting State: INPUT_1_BLACK=OK

Complimentary Tab

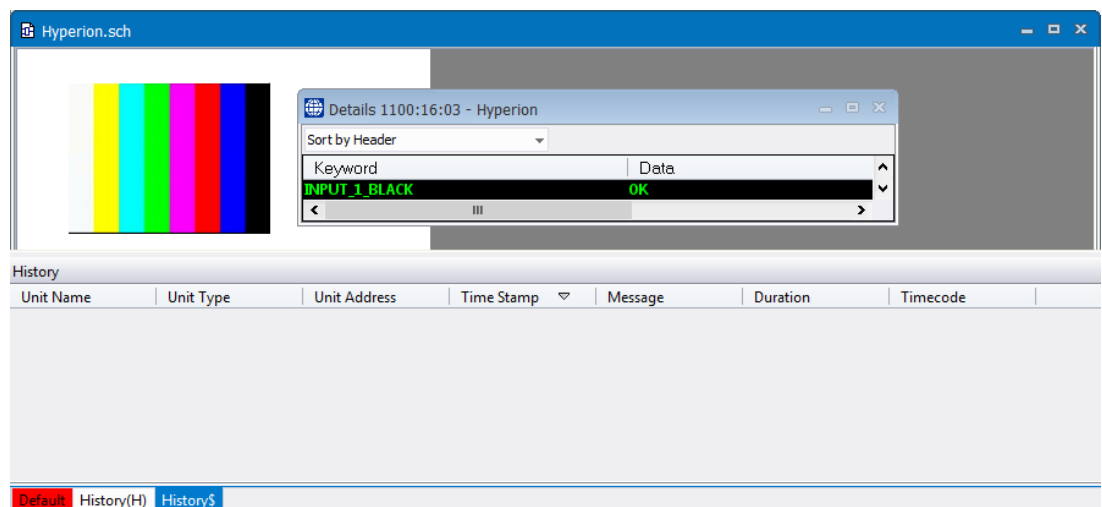


Figure 105 Complimentary Tab - Black=OK

At first, while the state is still OK (Green), neither tab displays any information.

State: INPUT_1_BLACK=WARN:Black

Complimentary Tab

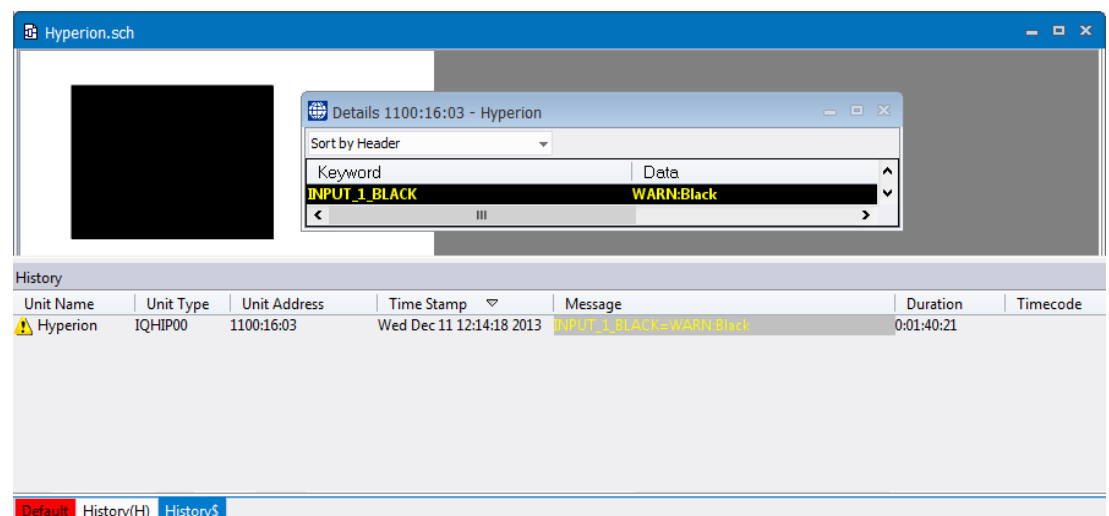


Figure 106 Complimentary Tab - Black=WARN:Black

When the state changes to INPUT_1_BLACK=WARN:Black (Amber), because it is no longer Green and is an active event, the state is displayed on the Complimentary Tab. However, because it has not yet completed, nothing is displayed on the History Tab.

State: INPUT_1_BLACK=FAIL:Black

Complimentary Tab

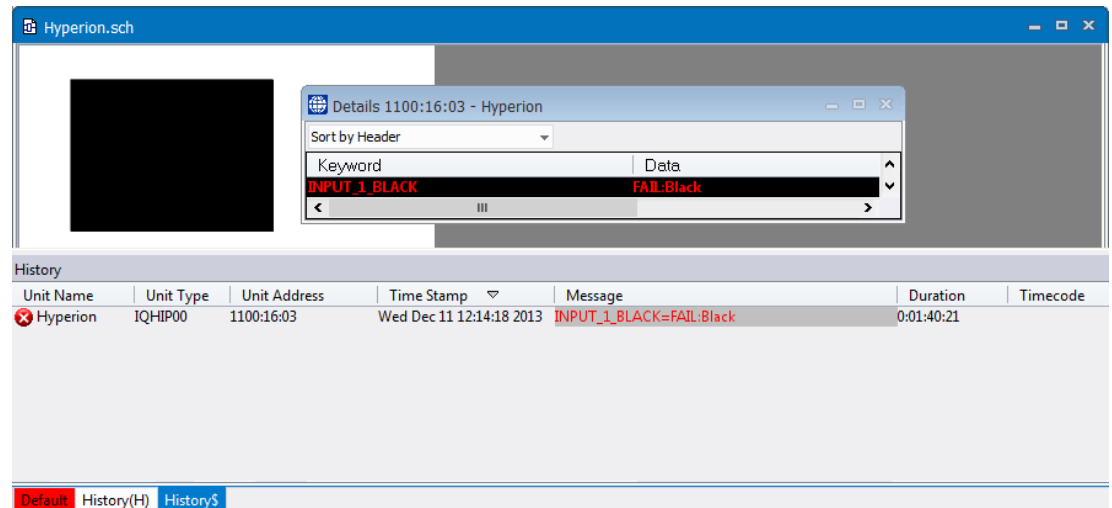


Figure 107 Complimentary Tab - Black=FAIL:Black

History Tab

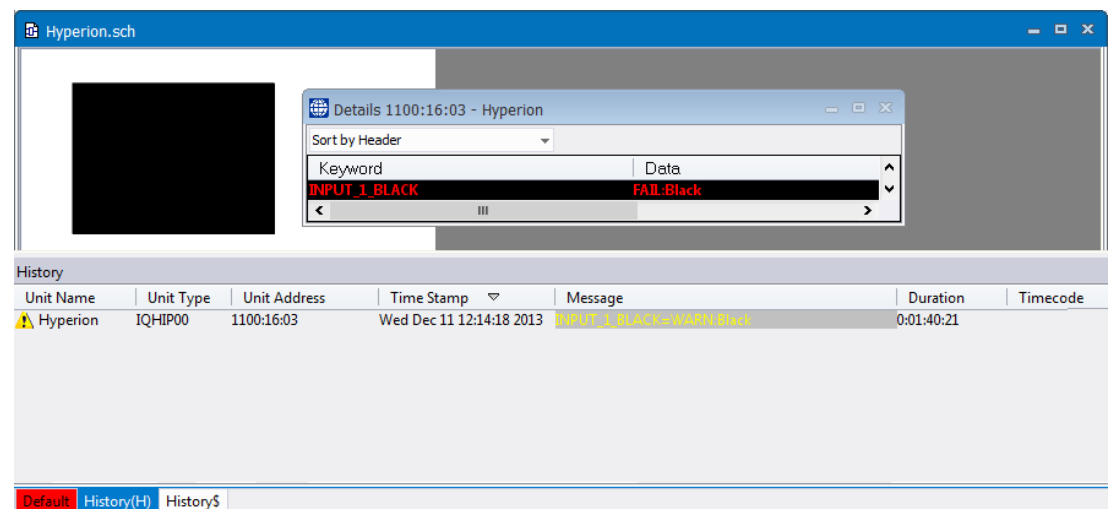


Figure 108 History Tab - Black=FAIL:Black

When the state changes from INPUT_1_BLACK=WARN:Black (Amber) to INPUT_1_BLACK=FAIL:Black (Red), the active event (INPUT_1_BLACK=FAIL:Black) is displayed on the Complimentary Tab. The event that has just completed (INPUT_1_BLACK=WARN:Black) is now displayed on the History Tab.

State: INPUT_1_BLACK=OK

Complimentary Tab

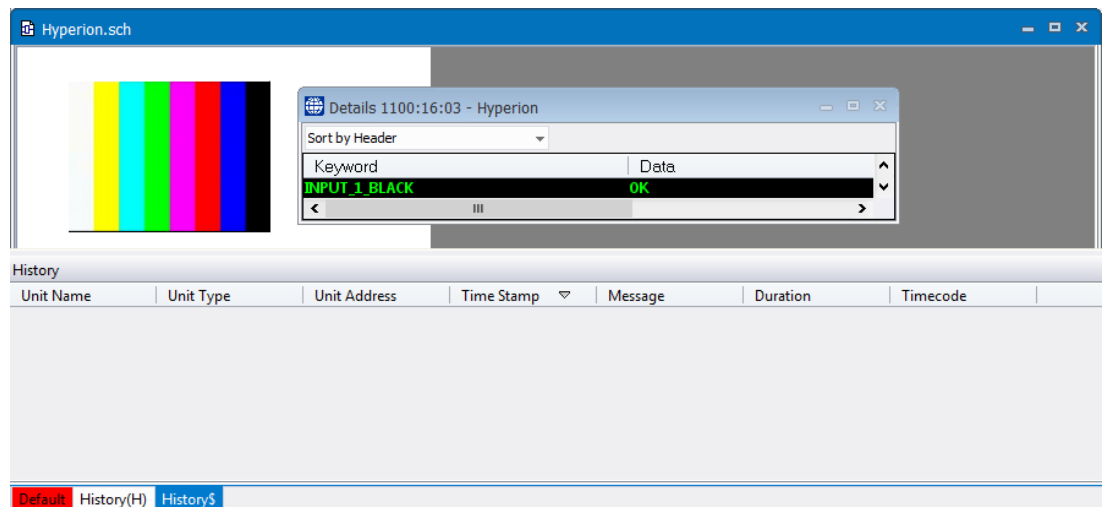


Figure 109 Complimentary Tab - Black=OK

History Tab

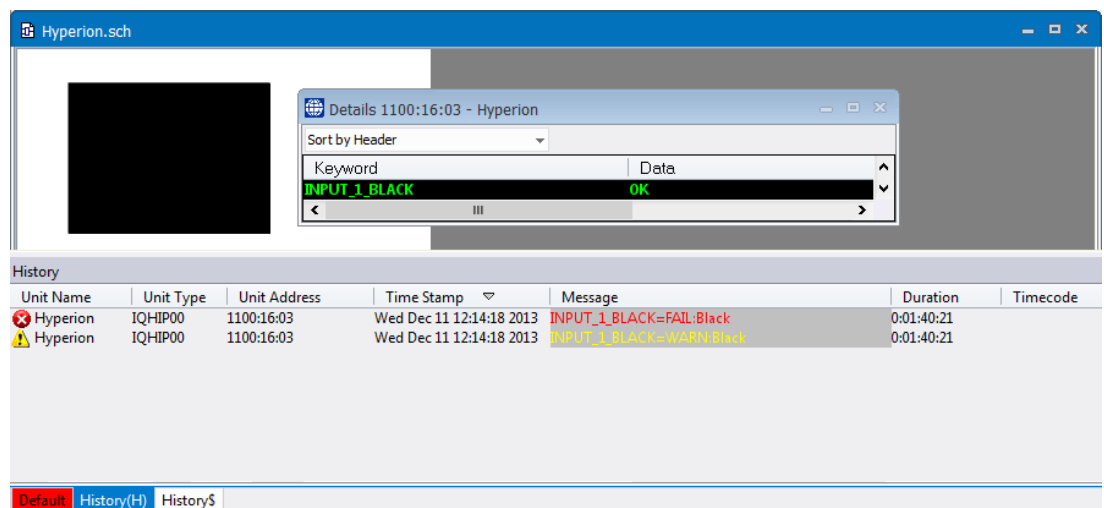


Figure 110 History Tab - Black=OK

Finally, when the state returns to OK (Green), because there are no longer any active events, the Complimentary Tab displays nothing. The History Tab now displays both completed events, INPUT_1_BLACK=WARN:Black (Amber) and INPUT_1_BLACK=FAIL:Black (Red).

Table 4. summarizes the above example.

State	Complimentary Tab displays...	History tab displays...
OK (Green)	Nothing	Nothing
WARN (Amber)	INPUT_1_BLACK=WARN:Black	Nothing
FAIL (Red)	INPUT_1_BLACK=FAIL:Black	INPUT_1_BLACK=WARN:Black
OK (Green)	Nothing	INPUT_1_BLACK=WARN:Black INPUT_1_BLACK=FAIL:Black

Table 4. History Tab Displays

9. Schematic Window

9.1 Description

The Schematic window allows you to compose a graphical representation of the system, either in its logical or physical layout. Special ActiveX objects from a library can be placed on the screen to receive alarm events configured from the System Alarms window. An alarm Trigger event is a table entry in the System Alarms list uniquely identified by the unit address and the keyword header (column). All Trigger entries contain a state and a caption (text message) associated with it.

The schematic document contains some simple drawing tools for editing of the schematic. The schematic window is an ActiveX container, which enables third party objects to be included into the document such as MS Paint pictures, MS Word documents etc.

Schematic Window

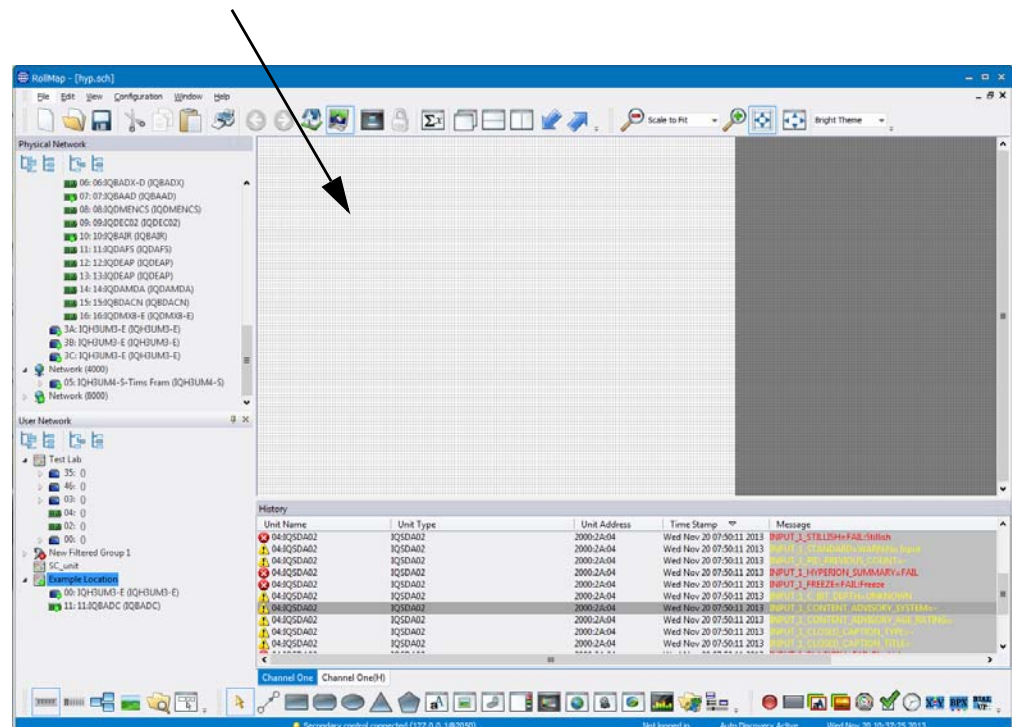


Figure 111 Schematic Window

9.2 Working with Schematic Documents

9.2.1 Starting a New Schematic Document

To start a new schematic document, from the **File** menu, click **New**. The New File dialog displays.

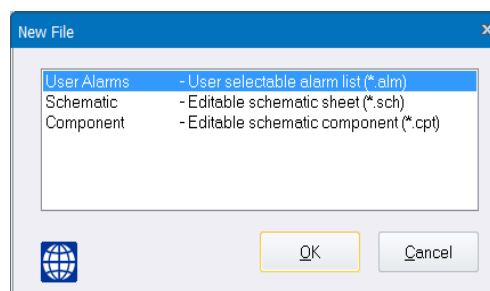


Figure 112 New File

Select **Schematic** and then click **OK**. A default (blank) schematic displays:

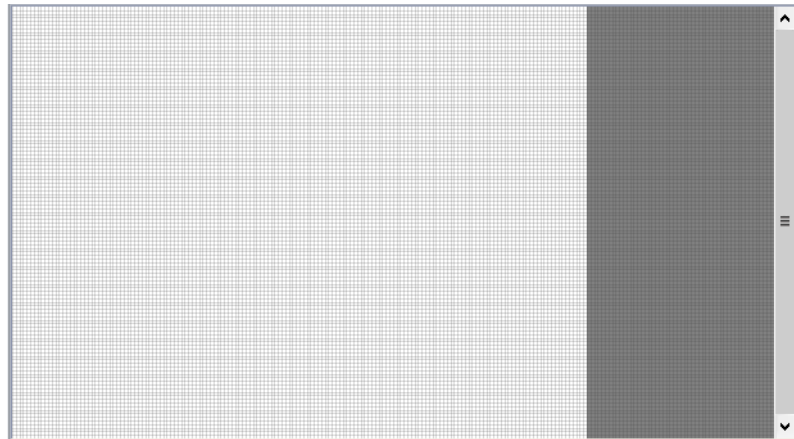


Figure 113 Blank Schematic

The Schematic and Custom Objects tool bars are activated. These provide a selection of the most often used features. In this state, the schematic is in Design mode.

9.2.2 Run and Design Modes

The Edit Schematic button  in the toolbar toggles the schematic between Run mode and Design mode.

9.2.3 Full Screen Navigation

The Full Screen button  in the toolbar switches the current schematic, whether in Run mode or Design mode, to display full screen.

Once in full screen a navigation bar is available by hovering at the bottom left of the screen.



Figure 114 Full Screen Navigation Bar

-  Exit full screen
-  Step back to the previous schematic
-  Step to the next schematic
-  Go to the home schematic
-  Opens an on-screen keypad (for touch screen use only)
-  Login / Logout
-  Schematic Lock / Unlock
-  Move and pin the navigation bar to a different part of the screen.
Click and hold the pin to move the position of the navigation bar.
Click on the pin to fix the navigation bar to the current position on the screen.
Once fixed the navigation bar does not fade.

The transparency of the navigation bar (when not fixed) can be changed, so that it is partially visible when not being hovered over.

- Right-click anywhere on the navigation bar to display a menu, and select the transparency level required from this menu.

9.2.4 Setting Document Properties

To set the general document properties, double-click on the background of the schematic window or if the properties box is already visible, just click on the background of the window.

9.2.4.1 General Properties

The border, fill color and fonts properties are used as default values for new objects that are added to the schematic. The background color of the schematic window can also be set.

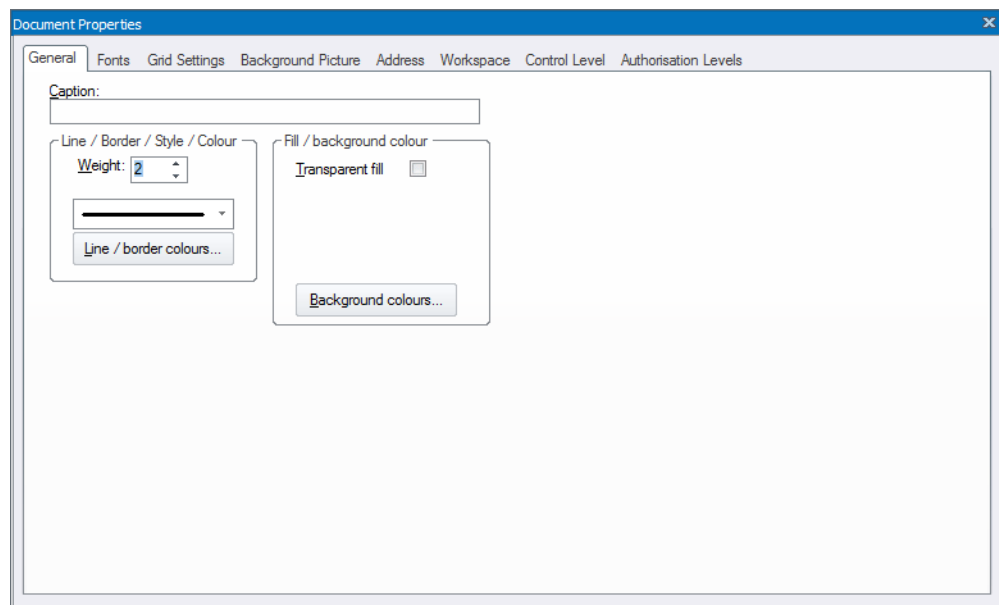


Figure 115 General Properties

9.2.4.2 Fonts Properties

The font properties enable the text style and font to be specified.

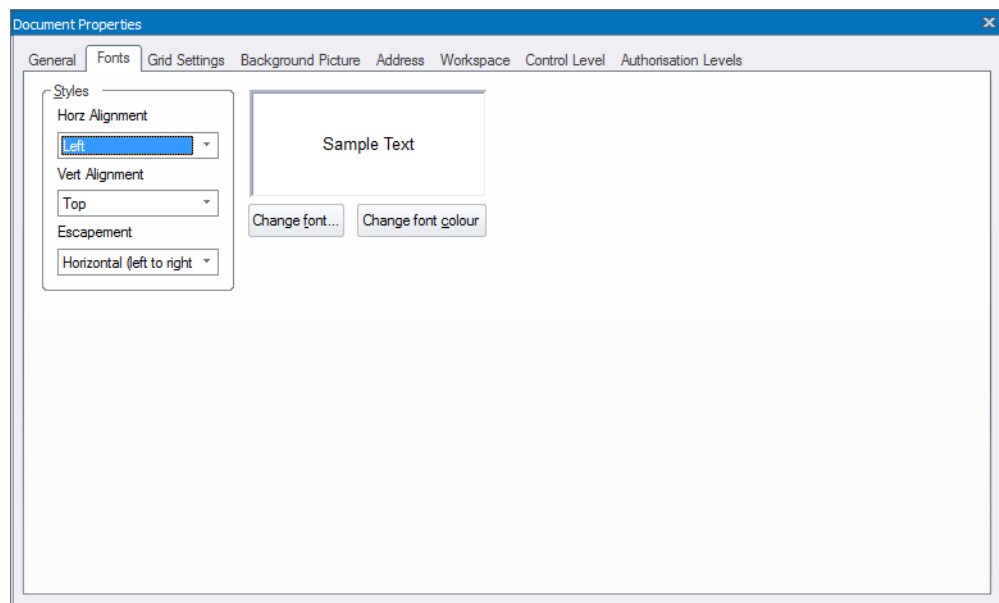


Figure 116 Fonts Properties

9.2.4.3 Grid Settings Properties

In design mode, you can change the size of the drawing grid, show or hide the grid, and select whether items placed should snap to position. The grid size value is arbitrary and has no units.

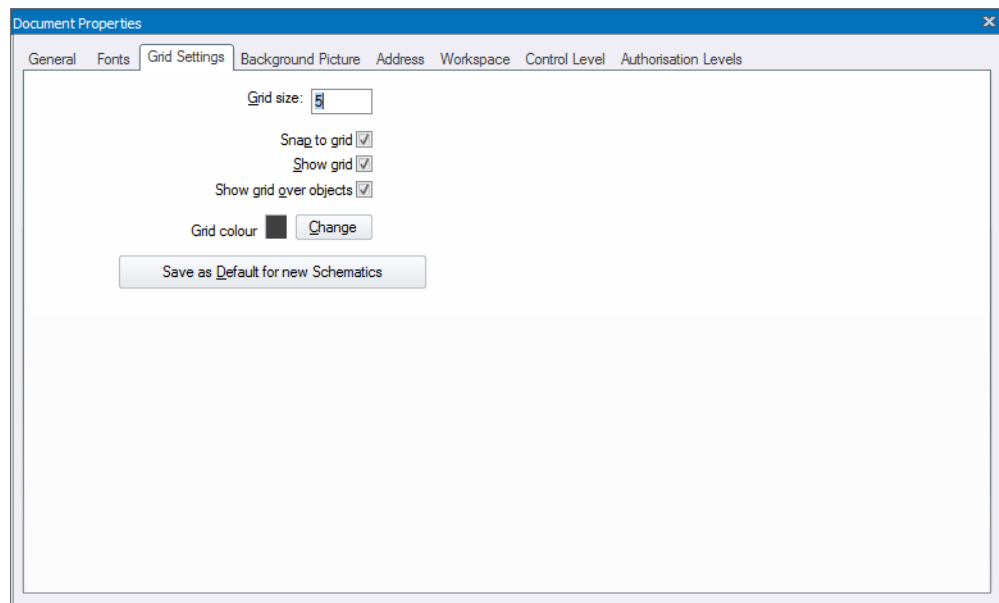


Figure 117 Grid Settings Properties

9.2.4.4 Background Picture Properties

A background picture can be used for the schematic. Select the picture file from the Background Picture tab of the property box. The picture displays relative to the window and not to objects placed within it and hence it should not be used as part of the schematic content.

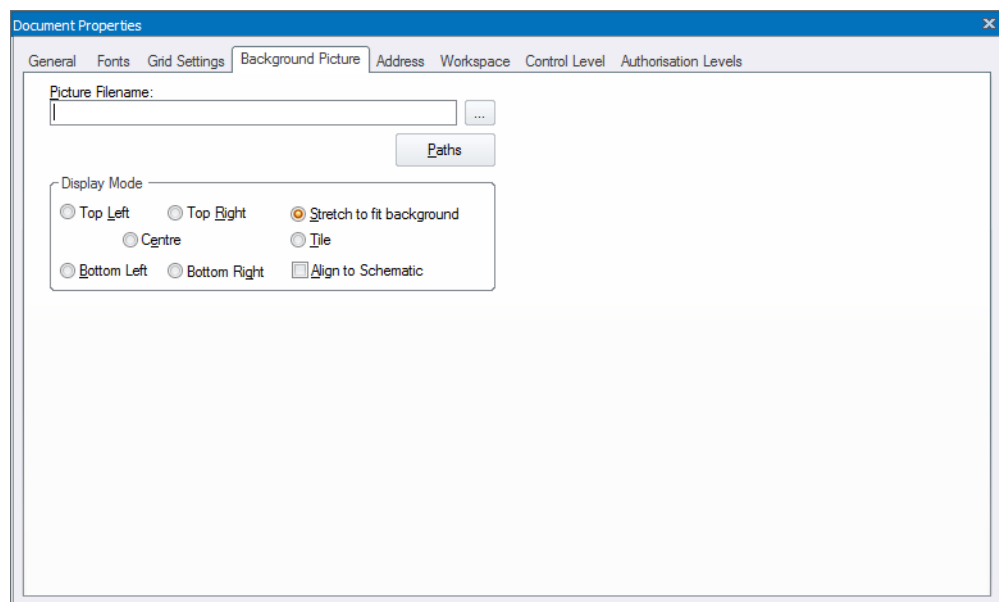


Figure 118 Background Picture Properties

9.2.4.5 Address Properties

The Address tab sets the highest address level for this schematic. If components or objects have deferred addresses, they are finally resolved by this address. It takes the standard RollCall unit address format.

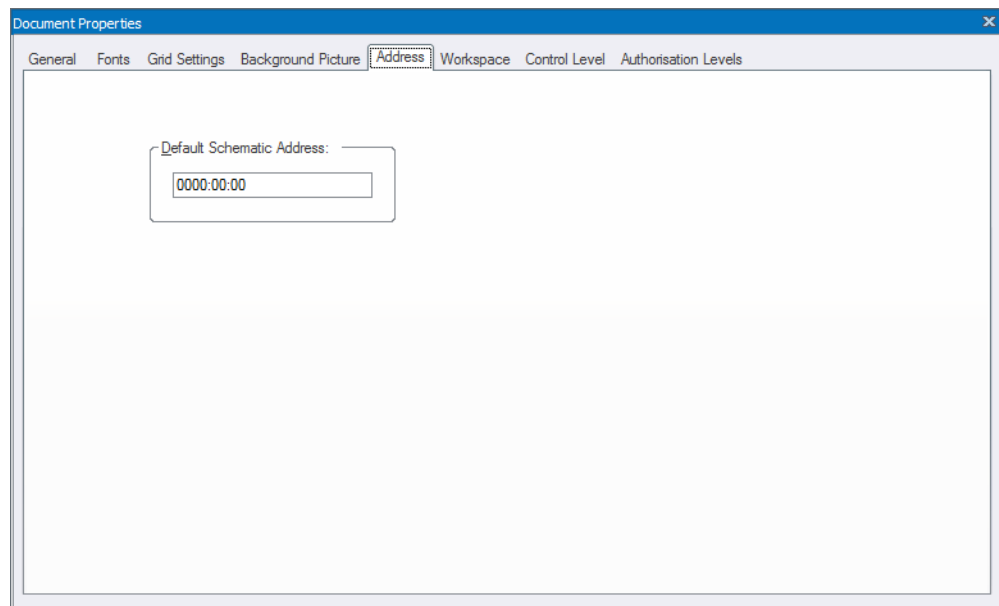


Figure 119 Default Schematic Address

The Default Schematic Address can also be set by dragging and dropping a unit from the Network Tree to the Schematic.

9.2.4.6 Workspace Properties

The Workspace settings enable the size of the schematic window to be defined.

Select **Size to fit objects** to have the window dynamically adjust to fit all the objects in the schematic. This option ensures that the whole document is always visible within the schematic window. This removes all scroll bars from the window. The aspect ratio of the original document is always maintained. If the schematic window is larger than the original document, then the zoom ratio is set to 100% and aligned with the top left corner of the window.

Alternatively, select **Fixed page size** and enter width and height values to specify an exact window size.

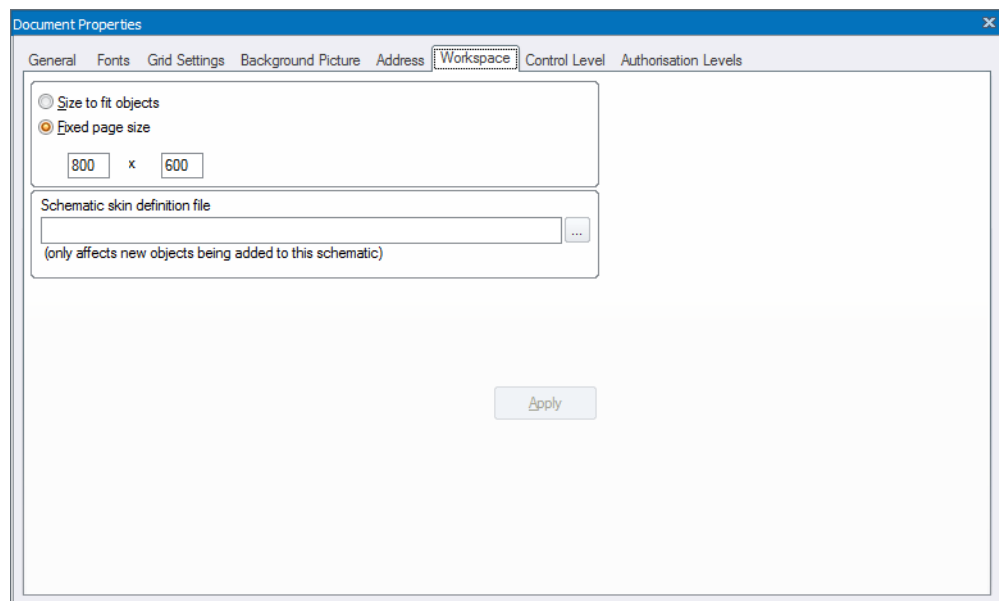


Figure 120 Workspace Properties

9.2.4.7 Control Level Properties

The Control Level properties are for enabling and disabling the interactive controls on the schematic. This is a page-wide setting that can be overridden on an individual basis.

To set the default for the schematic to be enabled, click on the Control enabled radio button.

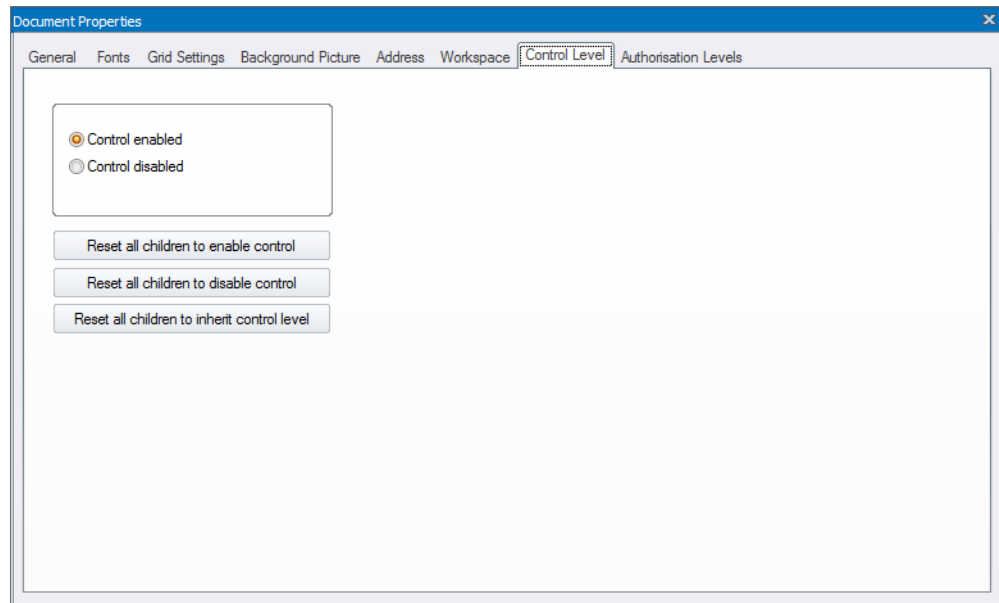


Figure 121 Control Level Properties

The three buttons on the screen allow for the resetting of all interactive control objects on the schematic. This also allows the enabling of features on controls on schematics which were designed in previous versions.

Reset all children to enable control — Reset all interactive control objects on the schematic to be enabled

Reset all children to disable control — Reset all interactive control objects on the schematic to be disabled

Reset all children to inherit control level — Reset all interactive control objects on the schematic to inherit from the selection above

9.2.4.8 Authentication Levels Properties

The Authentication Levels allow access control settings for schematics, defining which users may or may not access a particular schematic. Set read and write settings in a hierarchical scale to allow the level of user permitted to access the current schematic.

These settings must be used in conjunction with the user access settings. See Manage Users on page 24.

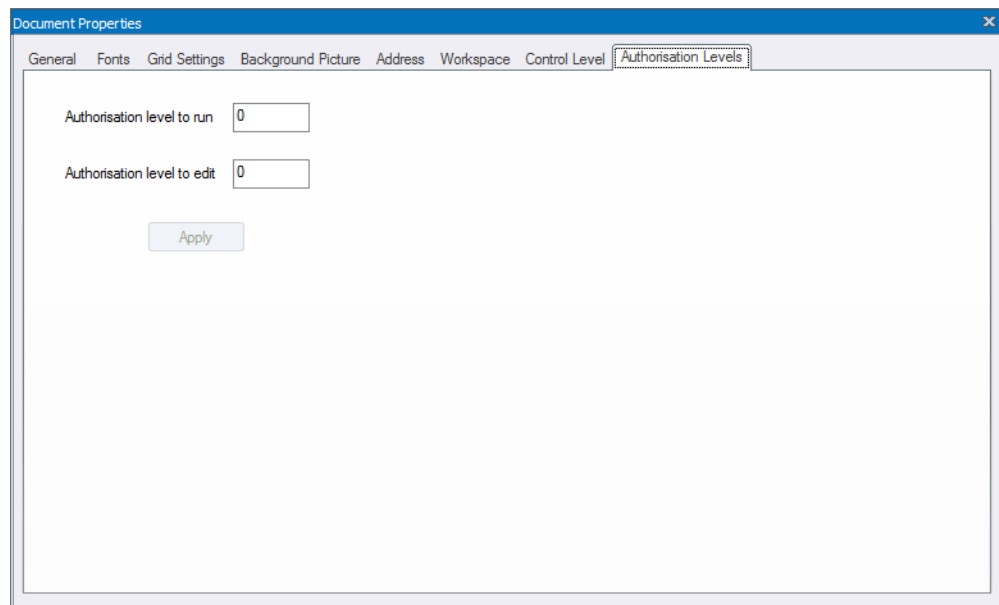


Figure 122 Authentication Levels Properties

9.2.5 Basic Editing Functions

9.2.5.1 Cut, Copy, Paste, Delete, Undo and Redo

These are standard editing features. Draw items and objects can be selected and copied to other schematics via the clipboard. Standard select operators are implemented when in Select mode.

- Left-click to select item.
- Right-click for drop-down context menu on item.
- Shift+left-click to select / deselect of multiple objects.
- Ctrl+left-click drag for copy of selected item.
- Ctrl+C for copy to clipboard of selected item.
- Ctrl+V for paste from clipboard.
- Del key to delete item.
- Ctrl+Z to undo the last operation.
- Ctrl+Y to redo the last undo.

9.2.6 Viewing Item Properties

When an item is selected, its properties can be edited via the properties box. Depending on the item type, different property pages display. See properties for individual items for details.

9.2.7 Ordering Items in the Schematic Window

These menus re-order the selected item in the display list. Items that are at the front of the list display on top of other items.

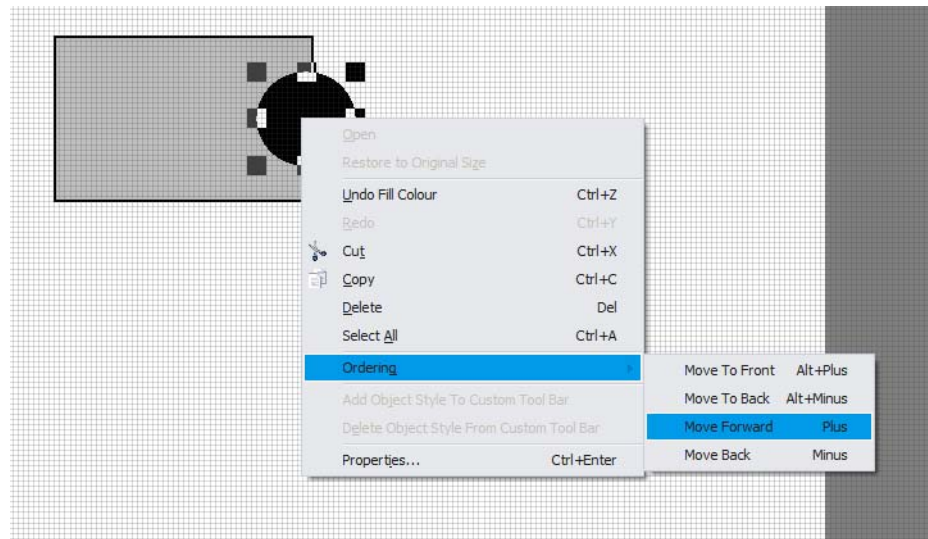


Figure 123 Ordering Items

To change the display order of items in the Schematic Window, right-click on an item and from the menu that displays, select **Ordering** and one of the following options:

- **Move To Front**—places the selected object in front of all other objects.
- **Move To Back**—places the selected object behind all other objects.
- **Move Forward**—moves the object one level nearer to the front.
- **Move Back**—moves the object one level nearer to the back.

9.2.8 Opening Schematics in the Same Window

This re-uses the current window to open new schematics. Otherwise each schematic opens in a different window.

To set this option, from the **View** menu, select **Open Schematic in Same Window**.

Note: This option applies only to schematics and schematic links opened through the command line. It does not affect **File > Open** or **File > New**, which always open a new window for the selected schematic.

9.2.9 Printing a Schematic

The current schematic can be printed with a using the menus below.

9.2.9.1 Print

To print the contents of the Schematic window, from the **File** menu, select **Print**.

9.2.9.2 Print Preview

To view a preview of the print job before printing, from the **File** menu, select **Print Preview**. This displays the exact layout of the page to be printed.

9.2.9.3 Printer Setup

To change the printer setup options, from the **File** menu, select **Print Setup**. The standard printer setup dialog for your printer displays. The options that can be specified here depend on the printer.

9.3 Basic Drawing Tools

The Schematics window includes the following basic drawing tools:

- Select Tool
- Line
- Rectangle
- Round Rectangle
- Ellipse
- Polygon
- Text
- Picture

To access the drawing tools, do one of the following:

- From the **Edit** menu, select **Drawing Objects** and select the tool.
- Click the desired tool's icon in the **Schematic Edit** toolbar.

9.3.1 Select Tool

The Select tool allows the selection of items. Multiple selections are allowed and items can be moved, copied and deleted.

9.3.2 Line Tool

Use the Line tool to draw a simple line. After selection, place cursor over window and click and hold the left mouse button and then drag across window. Release left mouse button to draw the line.

To edit the line's properties, do one of the following:

- Click on the line, and from the **Edit** menu, select **Properties**.
- Right-click on the line and from the menu that displays, select **Properties**.
- Double-click on the line.

Click on the General tab to specify options such as the line's weight, border and color.

Click Line / border colors to display a color selection dialog from which the line's color can be selected.

Click the Position tab to specify the line's position and size.

9.3.3 Rectangle Tool

Use the rectangle tool to draw a simple rectangle. After selection, place cursor over window and click and hold the left mouse button and then drag across window. Release left mouse button to draw the rectangle.

To edit the rectangle's properties, do one of the following:

- Click on the rectangle, and from the Edit menu, select Properties.
- Right-click on the rectangle and from the menu that displays, select Properties.
- Double-click on the rectangle.

Settings for its caption, border width, border color, transparency, fill color, and position are available. The background colors options has no effect.

Note: Holding down shift while drawing allows an even sided square to be drawn. This works for round rectangle, ellipse, text box, picture, schematic link and status control.

9.3.4 Round Rectangle Tool

Select and place as rectangle tool. Adjust the radius of the corners by clicking on the top right hand marker and then dragging it from the centre to the outer edge of the rectangle. The round rectangle has the same properties as the rectangle.

9.3.5 Ellipse and Circle Tool

Select and place as before. The ellipse and circle has the same properties as the rectangle.

9.3.6 Triangle Tool

Select and place as before. The triangle has the same properties as the rectangle, with the addition of selecting a triangle style and orientation using radio buttons.

9.3.7 Polygon Tool

Select the polygon tool. Click to start the first point of the polygon. Move and click the left mouse button to join more points to the object. To finish, double-click the left mouse button and the last point is automatically connected to the first starting point. Use the grab handles to re-shape the polygon. This has the same properties as the rectangle object.

9.3.8 Text Tool

This is a general text item that can be placed on the screen.

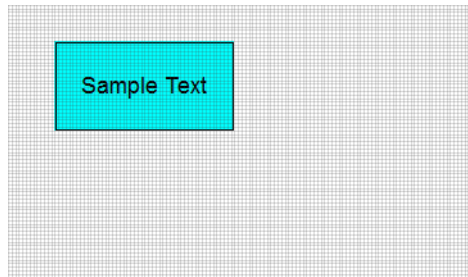


Figure 124 Text Tool

The text tool has the following properties:

9.3.8.1 Text General Properties

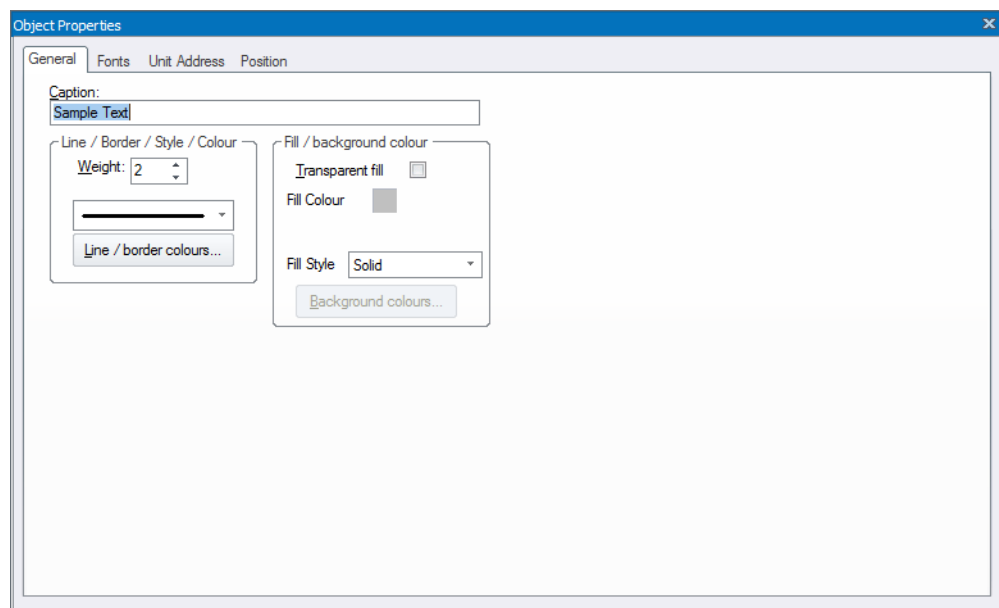


Figure 125 Text General Properties

- **Caption**—In the caption field, enter the text to display. This text can be either a static entry or it can be a header expansion variable.

For example, inserting #ADDRESS# into the caption field displays the actual unit address when the schematic is run.

- **Line/Border/Style/Color**—Use these options to specify the outer border of the text object.
- **Fill/background color**—Use these options to specify the fill and background colors of the text object.

9.3.8.2 Text Fonts Properties

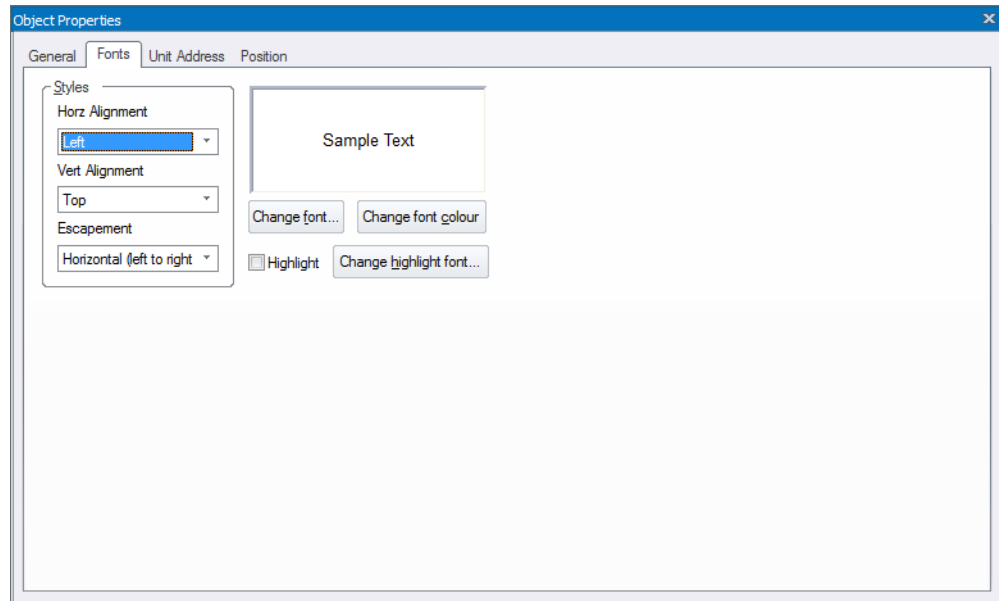


Figure 126 Text Fonts Properties

- **Styles**—These settings allow the horizontal and vertical alignment of the text within the text object to be specified. The escapement options specify the direction in which the text is displayed.
 - Horizontal (text runs left to right)
 - Vertical Down (text runs from top to bottom)
 - Vertical Up (text runs from bottom to top)
- **Change font**—Click **Change font** to specify the font type, style and size for the text. The font options specified by this setting determine the font that is normally displayed in run mode.
- **Highlight / Change highlight font**—If required, a different font can be specified as a highlight font. The specified highlight font is displayed in run mode when the mouse pointer passes over the text object (a rollover).

To use a highlight font, select the **Highlight** check box and then click **Change highlight font** to specify the font.

9.3.8.3 Text Unit Address Properties

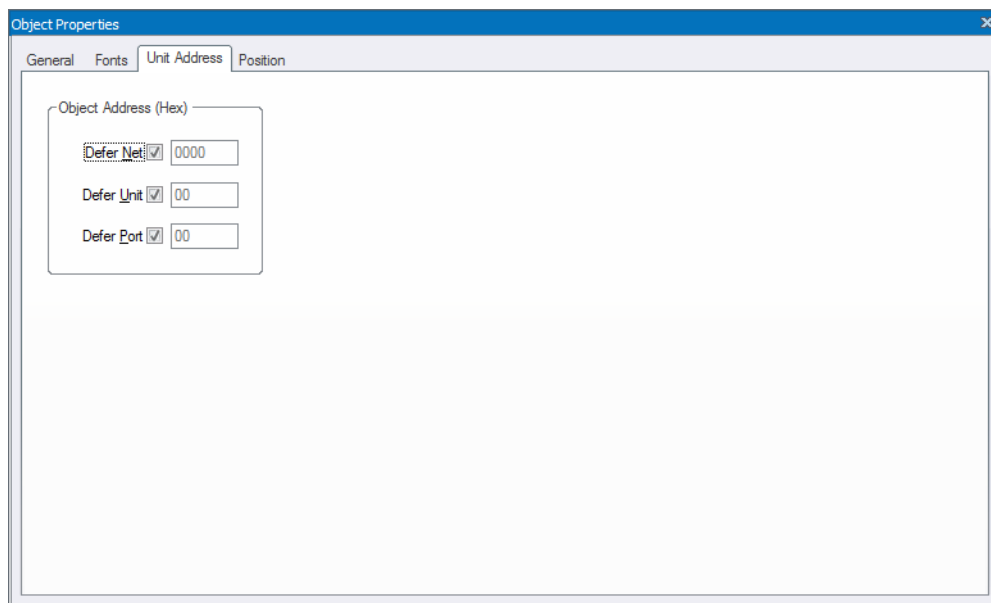


Figure 127 Text Unit Address Properties

These settings allow a unit address to be associated with the text object.

9.3.8.4 Text Position Properties

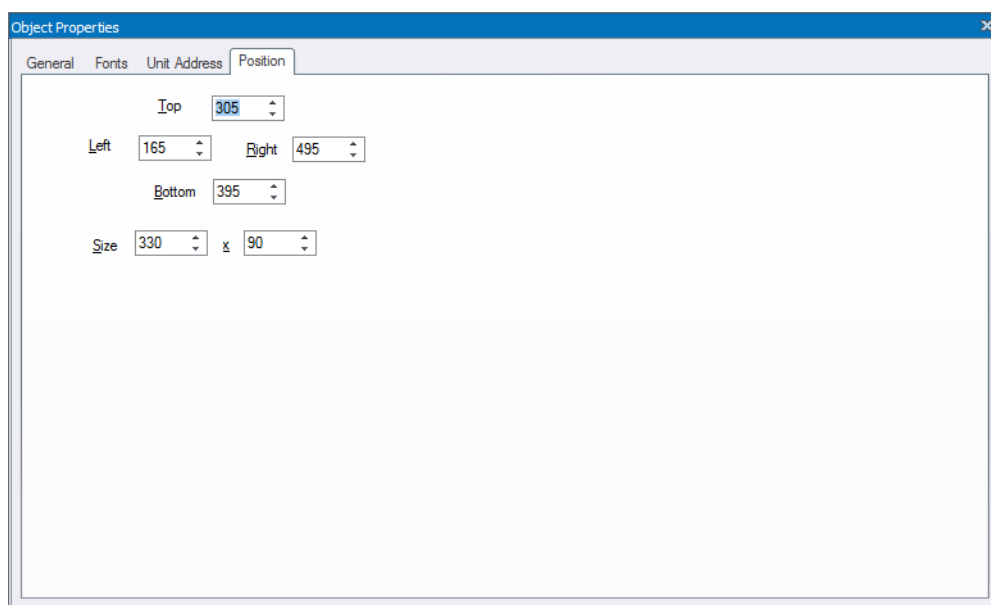


Figure 128 Text Position Properties

These settings allow the position and size of the text object to be specified.

9.3.9 Picture Tool

This is a static picture object. It has properties similar to the rectangle tool with the addition of a picture. The picture can be made to stretch to fit the frame boundaries or centered with its original aspect ratio.

To set the picture, use the "Picture" tab of the properties box to enter or browse to the picture to be inserted.

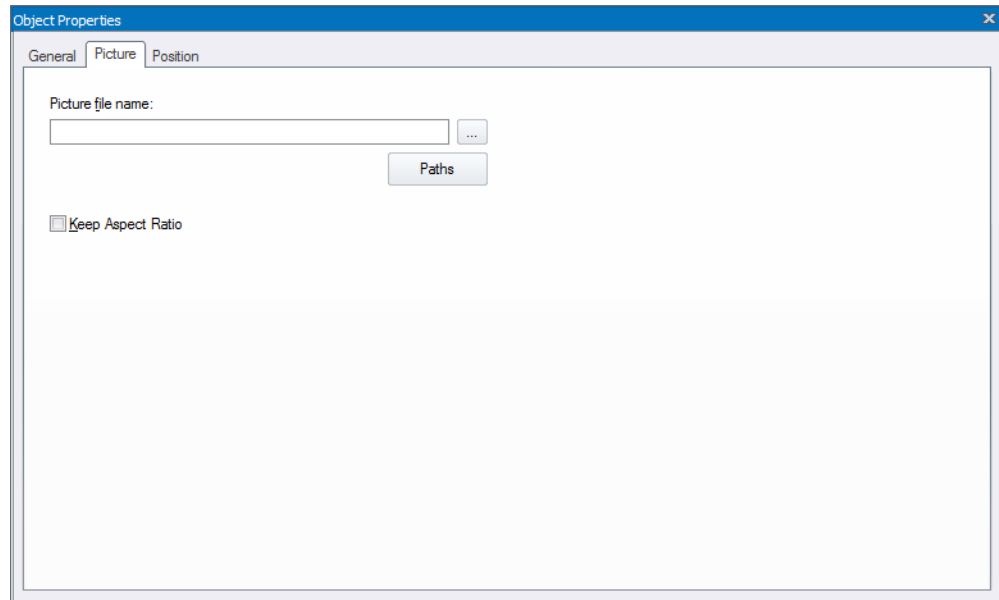


Figure 129 Picture Properties

9.4 Advanced Drawing Tools

As opposed to the drawing tools described in the previous section, which only provide graphical elements to the schematic, these tools gather information from the RollCall logs and changing appearance, providing information and adding functionality to the schematic.

The tools described in this section are:

- Schematic Link
- Status Control
- Thumbnail Control
- Web Browser Control
- Pie Chart Tool
- Meter Control

9.4.1 Schematic Link Tool

The Schematic Link tool provides an active link to another schematic document when the schematic is in Run mode. It has similar properties to the rectangle tool but its border color is not set manually - the color reflects the overall state of the schematic to which it links. For example, if all objects in the linked schematic are in the green (OK state), then the border is colored green; otherwise the border is colored yellow or flashing red depending on the most serious error in that schematic.

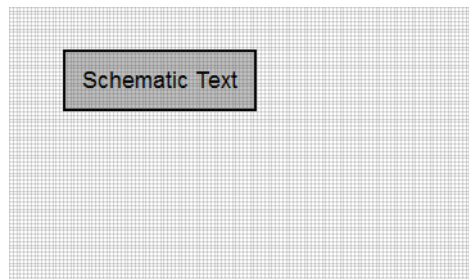


Figure 130 Add Schematic Link

In addition to the general properties and font settings, a schematic document can be assigned to this object. Use the browse button to locate a schematic.

To enable a set of linked schematics to be moved from one directory or PC to another, you should use relative paths rather than absolute paths. For example, if you enter a file name with no drive or directory, this is searched for in the same directory as the parent schematic file.

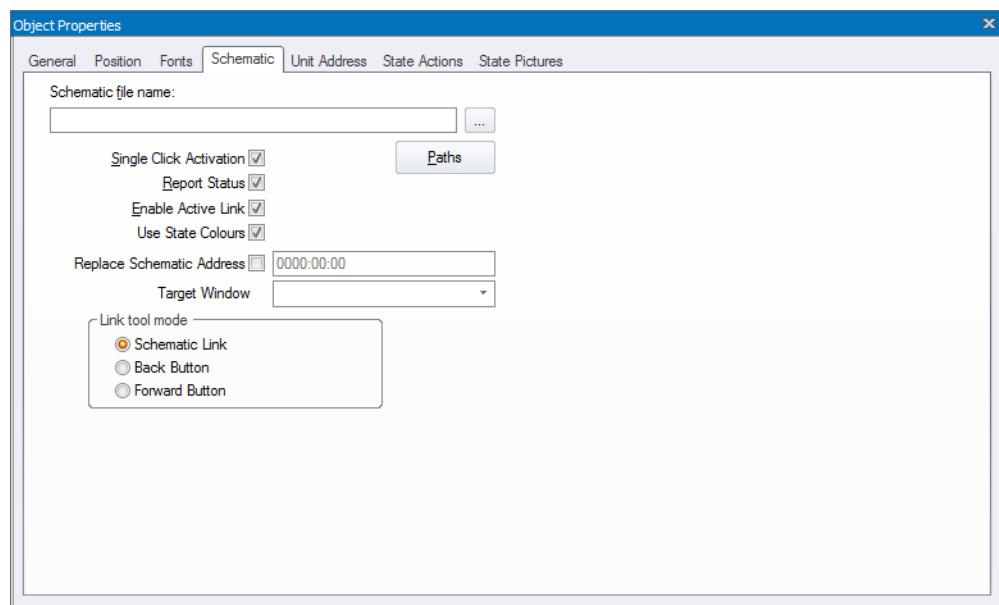


Figure 131 Schematic Properties

The Report status checkbox indicates whether the state of this schematic object should be included as part of the overall status of all objects in the current schematic. Disabling this option makes the state of the object display as UNKNOWN to the current schematic.

For correct and intuitive operation with a set of linked schematics, the Report status checkbox should be set as follows, assuming that schematic A is being edited, and includes a link to schematic B:

- If schematic B represents a true child or sub-set of schematic A, then Report status should be checked
- If B represents a peer or parent of A, then Report status should not be checked.

The on-screen rectangle representing the schematic link displays the border color appropriate to the state of all the objects on the linked schematic, whether Report status is checked or not. Uncheck the Use State Colours check box if this is not required.

The Replace Document Address option allows a single schematic, containing monitoring and/or control elements for a particular product type, to be used for multiple units of the same type. This option is useful in instances where there are unit 'detail' screens for a group of units that all need to be identical, except for the unit address that they relate to.

At runtime, the address entered here replaces the default address specified in the schematic. Any changes made to the schematic file is automatically applied to all uses of the schematic for different units and addresses.

Link tool mode allows for setting a link directly to another named schematic, returning back to the previous schematic, or stepping forward to the next schematic.

In Run mode, selecting the schematic object opens a window with the assigned schematic document. If that document is already open, it is moved to the front of all other windows.

The State Actions properties page allows Alarm Triggers and Alarm Actions to be configured.

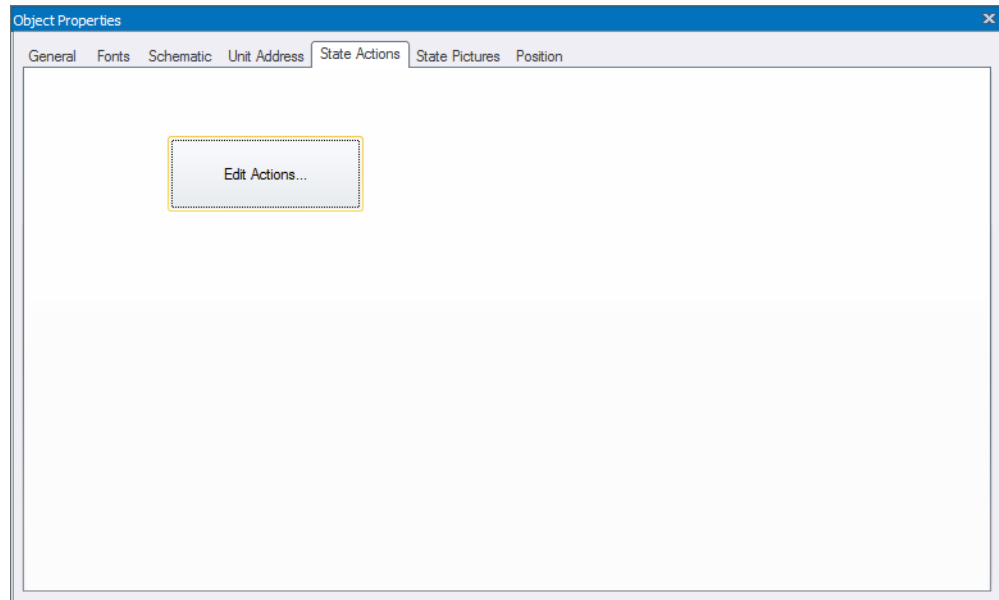


Figure 132 State Actions Properties

Click the **Edit Actions** button to open the Actions window.

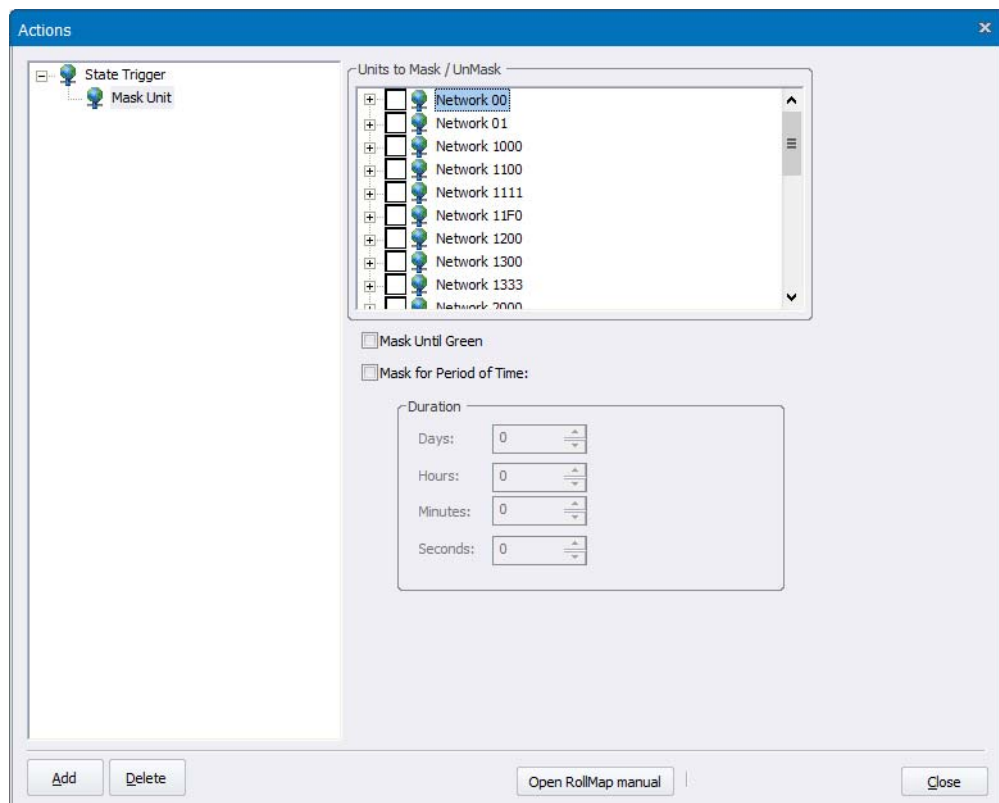


Figure 133 Edit Actions

The following triggers can be specified for a Schematic Link:

- Object State Trigger - actions initiated when the state of the assigned unit changes
- Button Press - actions initiated when the button is pressed
- Auto - actions are initiated when either:
 - a schematic containing the object with the auto trigger is loaded or goes into Run mode from Design mode
 - RollMap starts if in global alarm
- CheckBox Checked Press - actions are initiated when a checkbox is pressed when in checked state.
- CheckBox Un-checked Press - actions are initiated when a checkbox is pressed when in unchecked state.

For details of the attributable alarm actions, see “Configure Alarm Actions” on page 35.

Log fields can be used with a SAM General Button. See “Dynamic Log Field Insertion” on page 191.

The State Pictures properties page allows a different picture to be shown in the object dependent on its state. If a single static picture is required independent of state, select the Use Default Picture Only checkbox and enter a path to the picture in the Default / Black Picture field. Different pictures can also be defined for when a mouse pointer is over the object (Alt).

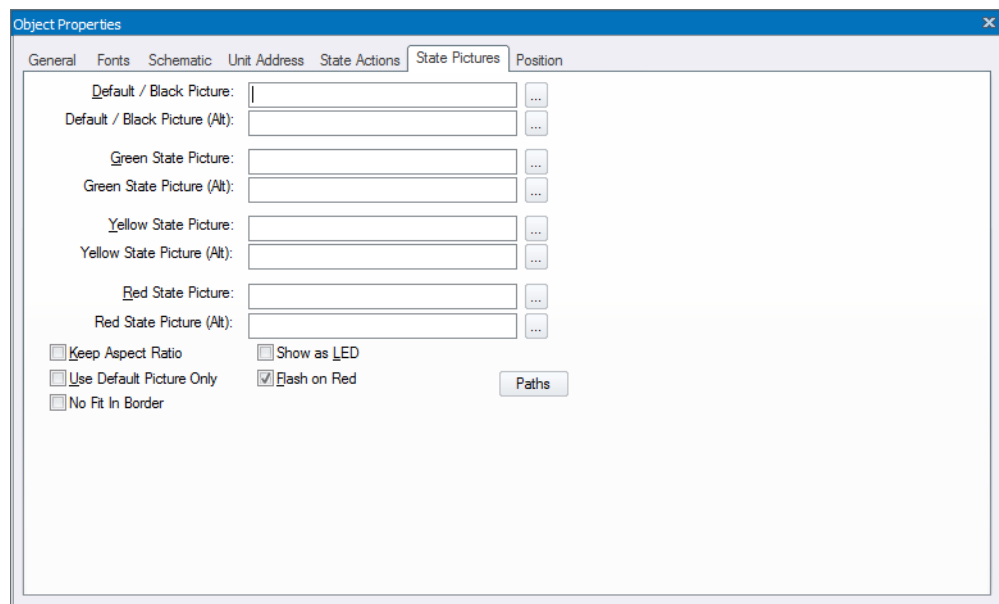


Figure 134 State Pictures Properties

9.4.2 Status Control



The Status Control adds a box that displays status messages from a unit on the network, specified by the address property. Error conditions, Warnings and Informational messages are displayed. Messages can be copied from the Schematic window when in run mode, and the messages history can be manually cleared. The object has two configuration modes:

- **Simple Mode**—in which only basic information is displayed.
- **Custom Mode**—in which any or all available headers can be displayed by the control.

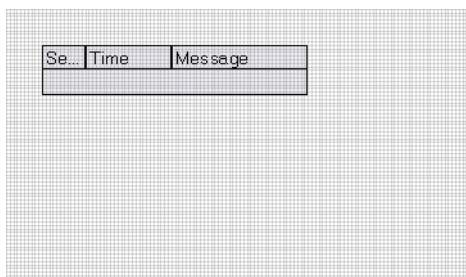


Figure 135 Add Status Control

To configure the object's operational mode, open the Object Properties dialog and click the **Mode** tab.

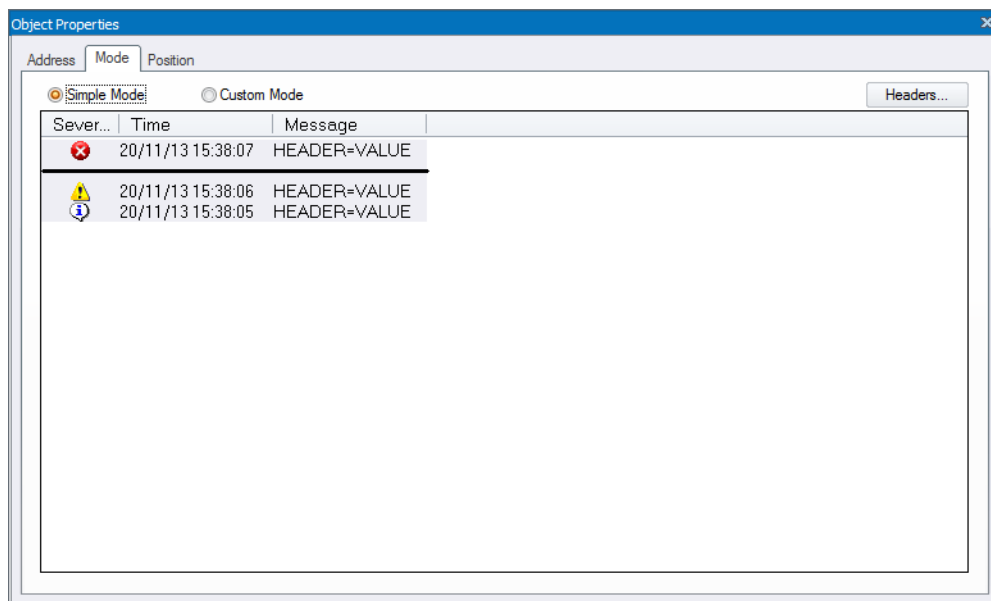


Figure 136 Mode Properties

To display only basic information (Severity, Time, and Message), select **Simple Mode**.

Alternatively, to specify the headers to be displayed by the control, select **Custom Mode** and then click **Headers**. A new dialog opens in which you can select the headers to be included.

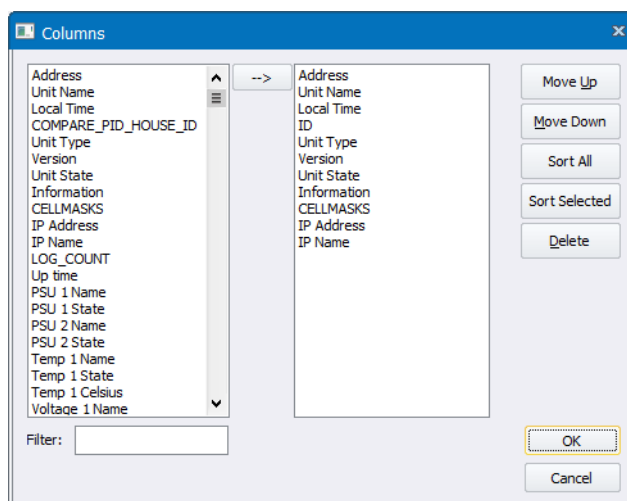


Figure 137 Select Headers

Select the headers to be displayed by the control and then click **OK**.

9.4.3 Thumbnail Tool

The Thumbnail tool displays "Thumbnails" from Hyperion; by inputting the RollCall address of the Hyperion card, whatever the Hyperion card is monitoring at that time is displayed in the Thumbnail window. A number of Thumbnails can be added to the schematic window.

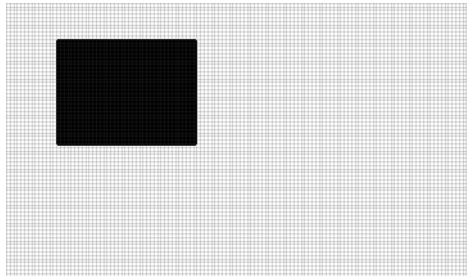


Figure 138 Add Thumbnail

To set the general object properties, double-click on the background of the Thumbnail or if the properties box is already visible, just click on the background of the Thumbnail.

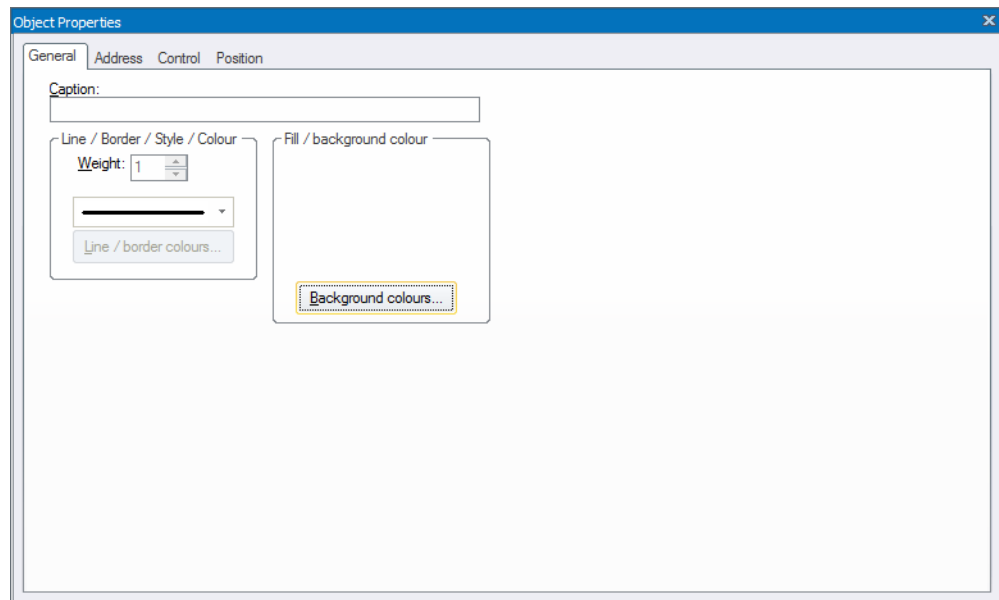


Figure 139 General Properties

To connect to the Hyperion card manually, either:

- Uncheck the Defer check boxes and enter the card's RollCall address in the three boxes (RollMap uses the IP Address and IP Port from the frame's log fields to connect to the Hyperion card), or

- Check the Use manual IP address checkbox and enter the IP Address and IP Port.

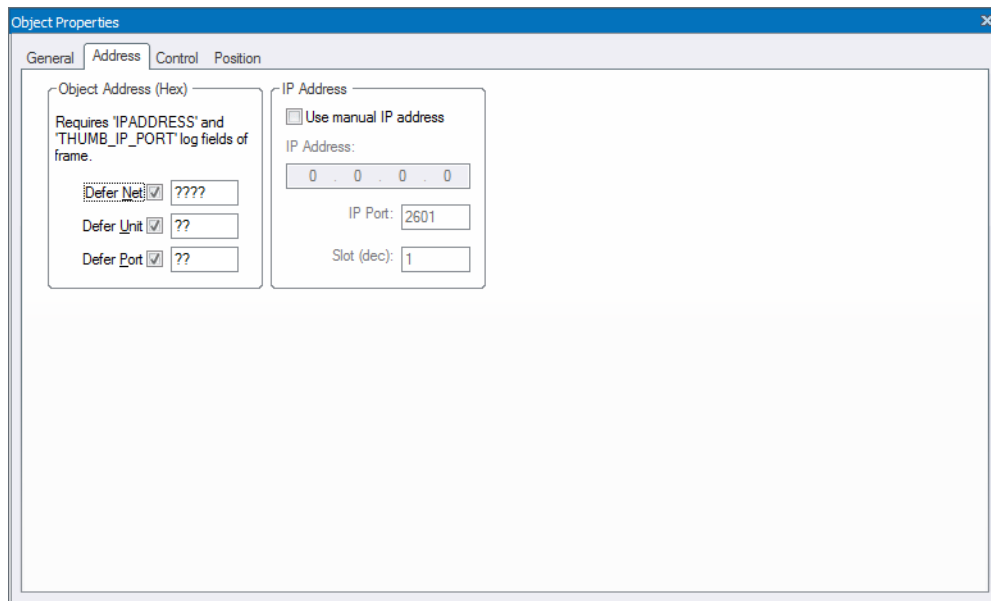


Figure 140 Address Properties

The aspect ratio for the Thumbnail image is set on the Control tab.

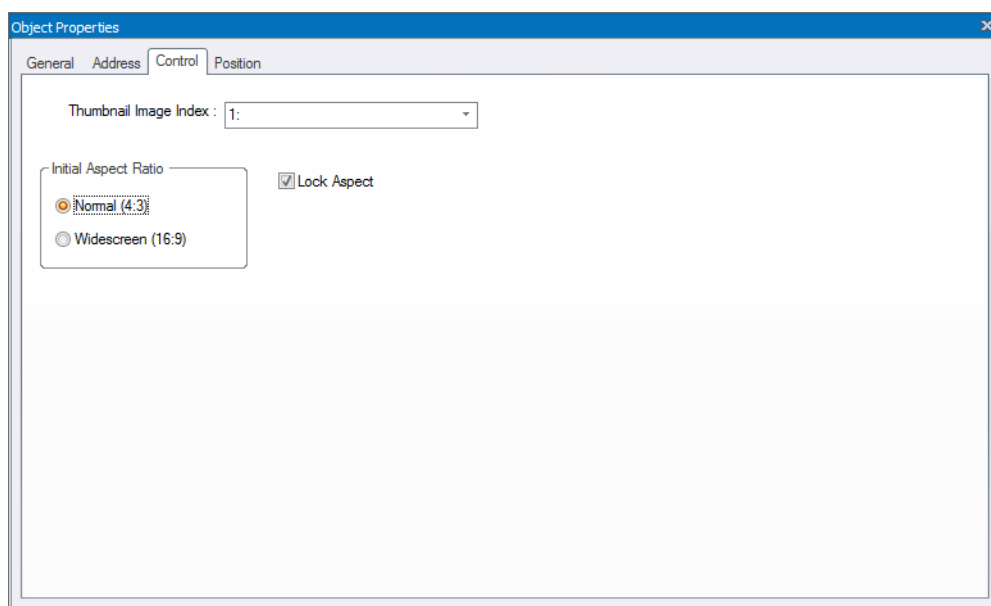


Figure 141 Control Properties

The size and placement of the Thumbnail image can be specified on the Position tab.

9.4.4 Web Browser Tool

This function inserts a "Web Browser" control into the schematic window, this works the same as Internet Explorer™. This would be used for web based control using applications such as RollCall Control Panel.

1. Click on the Web Browser tool in the tool bar.
2. Click on the schematic window and expand out the required area for the Web Browser as shown in Figure 142

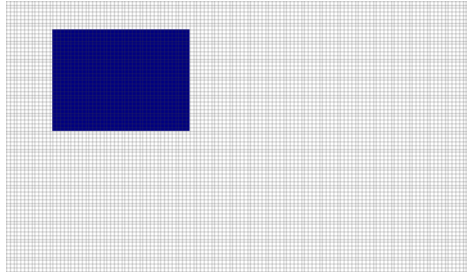


Figure 142 Add Browser

3. With the Web Browser window still selected right-click with the mouse within the Browser window and select **Properties...**

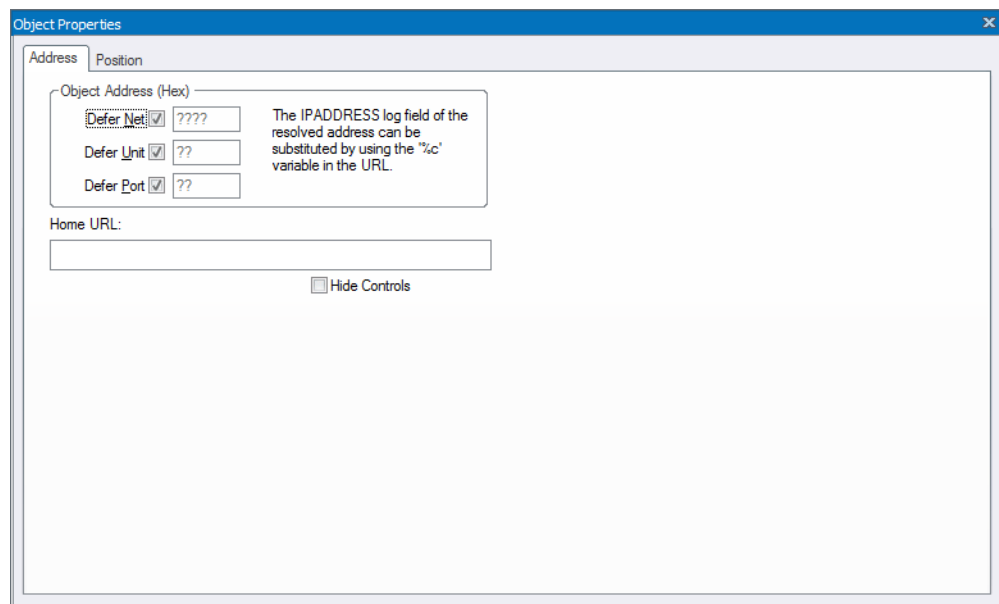


Figure 143 Browser Address Properties

4. Enter an IP address to connect directly to external servers, or URL can be entered directly into the Home URL box.
5. Click the **Edit Schematic** button, and either save the Schematic or open the Web Browser.

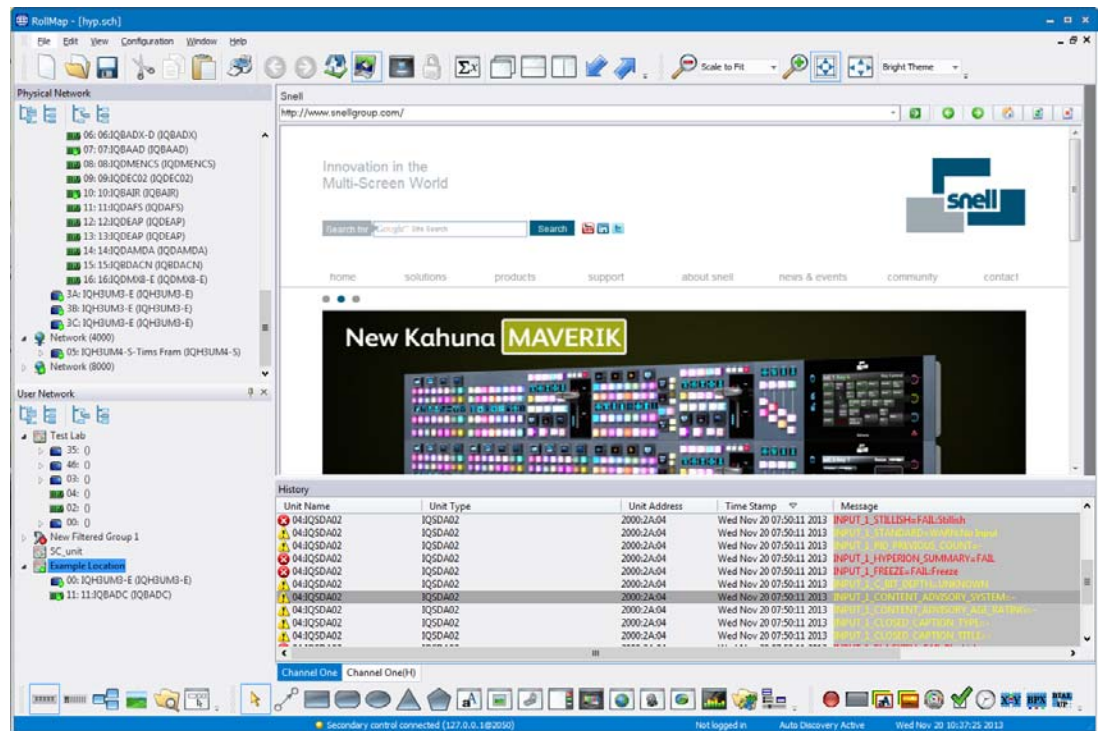


Figure 144 Web Page

9.4.5 Streaming Control Tool



This function inserts a "video stream" control into the schematic window.

1. Click on the Streaming Control tool in the tool bar.
2. Click on the schematic window and expand out the required area for the Streaming Control, as shown in Figure 145

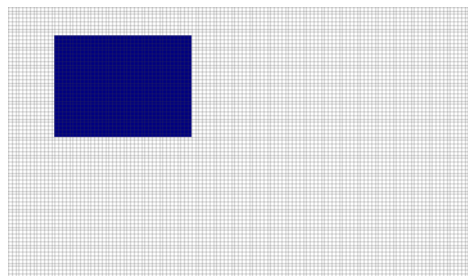


Figure 145 Add Streaming Control

3. With the streaming control selected right-click with the mouse and select **Properties....**

Object Properties

Address Position

Object Address (Hex)

☒ Defer Net

☒ Defer Unit

☒ Defer Port

The IPADDRESS log field of the resolved address can be substituted by using the "%c" variable in the URL OR use #Field#.

Location:

Type ☐ File ☒ Network Stream Aspect

Figure 146 Streaming Control Properties

4. Enter an IP address to connect directly to external servers, or URL or file path can be entered directly into the Location box. Alternatively use a #field# to look for any other header.
5. Select the appropriate radio button for whether the video stream is a file or a network stream.
6. If required, change the aspect ratio, selecting from the options in the drop-down list.

Note:

By default the aspect ratio of the source is used. If the aspect ratio is changed the target aspect ratio stretches the source to fit., No cropping or zooming takes place, so the source may appear squashed, If the box does not fit, black borders are added.

7. Click the **Edit Schematic** button, and either save the Schematic or start the video stream.

RollMap provides the ability to start, stop, and pause the streams via a command action which can be applied to any trigger, including a button press trigger. See "Configure Alarm Actions" on page 35.

9.4.6 Pie Chart Tool

This function displays a "Pie Chart" diagram that takes its values from parameters in the RollCall Log fields. It is used to display information, for example, hard drive capacity levels.



Figure 147 Add Pie Chart

The Address is the RollCall address of the unit the information for the Pie Chart is taken from, and the Trigger is the Log field that is being monitored, the values that are output from the log field are used to draw the Pie Charts.

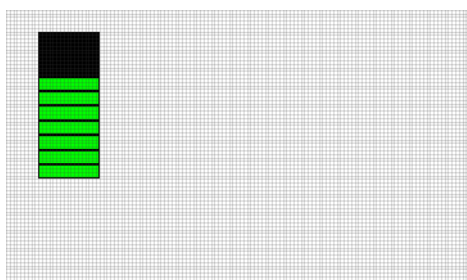
Figure 148 Values Properties

The Value and Total Format Strings set the text label below the chart. For example: %0.1 sets the value as a floating point number, with 1 digit after the decimal point. %0.2 returns a value of 2 digits after the decimal point.

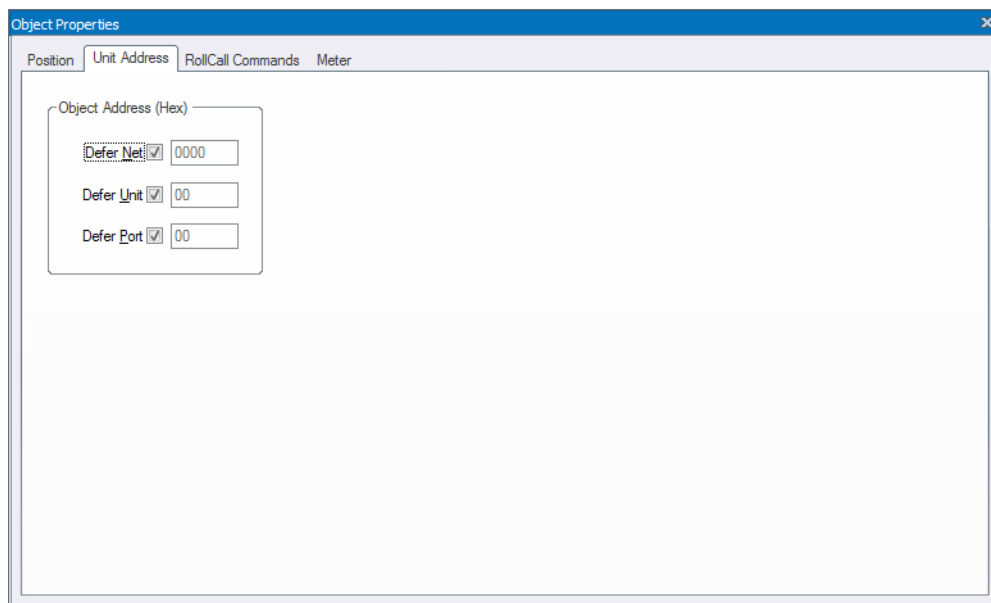
Figure 149 Display Properties

9.4.7 Meter Tool

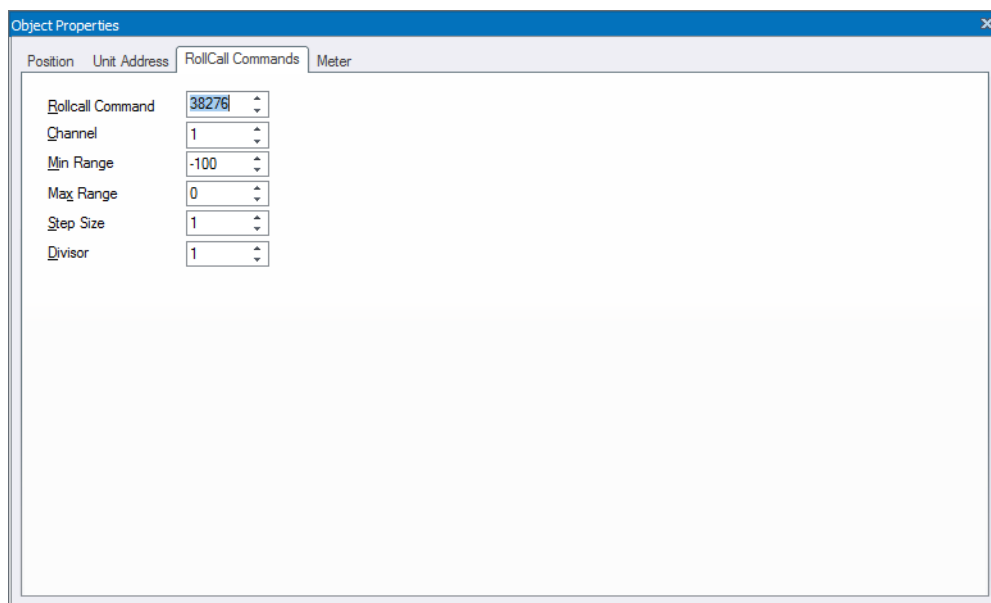
This function displays an Audio "Bar" Meter used to display audio values taken from a RollCall Command value such as data from each of the audio output channels in Hyperion.

**Figure 150 Add Meter**

Select the addressing components as required. Only a single component may be edited at a time, select the properties from the menu and enter values as required.

**Figure 151 Unit Address Properties**

Set the RollCall Command, or select from the pull down menu, then set the minimum and maximum ranges.

**Figure 152 RollCall Commands Properties**

RollCall Commands settings need to match the settings of the particular item being monitored; these can be found by enabling the **Show Command Numbers** preference in the RollCall Control Panel.

Meter tab can be used to turn on a "Peak Marker" to display a peak audio level. The fall time determines how quickly the Peak Marker falls down to the current audio level.

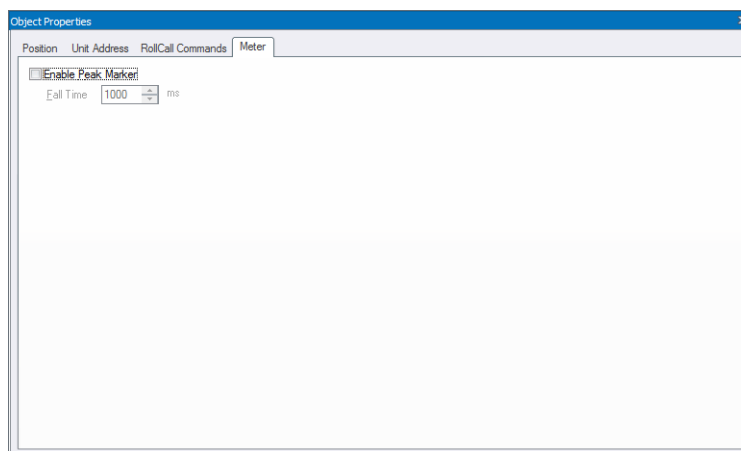


Figure 153 Meter Properties

9.4.8 Exception Monitoring Widget

This is the exception monitoring tool. Use this tool in order to create a widget which displays a dynamically updating list of 'alarming' units and an optional history of alarms. This provides a very visible way of informing an operator of an alarm and the current state of the system.

When in assign address mode, you can drag and drop units (including virtual units) from the network tree onto the widget to build up a list of items to monitor.

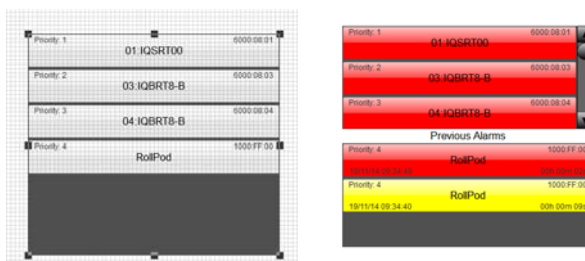


Figure 154 Configuration mode / run mode

Items can also be added though the exception monitoring properties window as shown below:

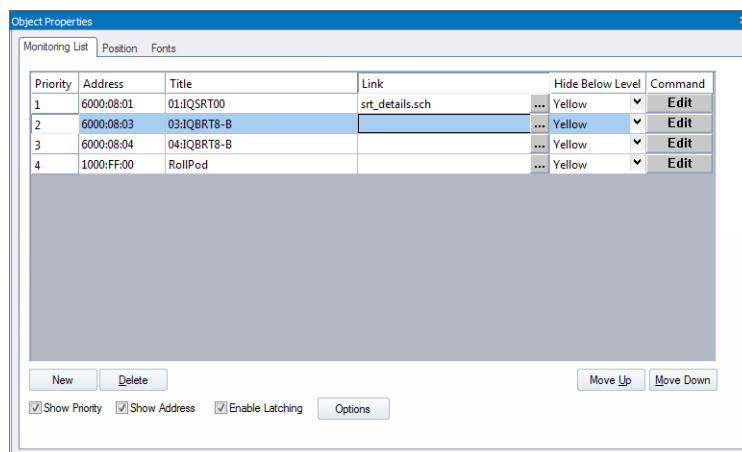


Figure 155 Properties window

The following options are available:

- The **Monitoring List** tab enables the address and title to be specified.
- **Link** - Select a schematic link to open when the item is clicked in run mode.
- **Hide Below Level** - Select the warning level after which this item should be displayed in the list (options are: Never Hide, Yellow, Red).
- **Command** - Open the command actions dialog box to define triggers/commands for this item (valid triggers are: button press, item visible, item hidden).
- **New** - Add a new item to the list.
- **Delete** - Delete selected items from the list.
- **Move Up/Down** - Move the selected items Up/Down in priority.
- **Show Priority** - Display the priority number in the top left of the item.
- **Show Address** - Display the address in the top right of the item.
- **Enable Latching** - When enabled, previous alarms remain on display within the widget (see Latching below).

9.4.8.1 Latching

If a unit goes red and then green again whilst the operator is not looking at the screen, then the fact that an error occurred, is not visible to the operator. This is the purpose of the latching option. When this option is enabled, a second list appears below the first and displays all previous alarms until they are acknowledged by the operator.

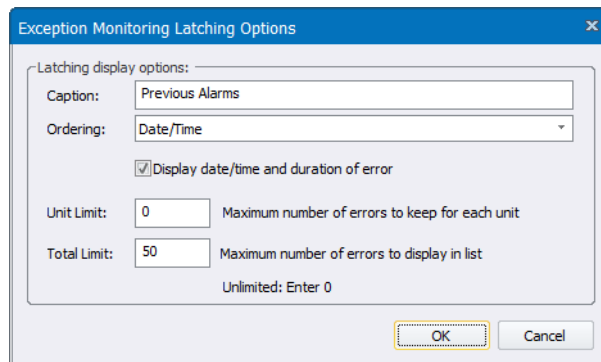


Figure 156 Latching options

The following options are available:

- **Caption** - The caption to display above the latched alarm list. If empty, the list consumes this space.
- **Ordering** - The order in which the latched alarms are displayed (Address, Date/Time, Priority or Severity). Note that the order is used in conjunction with the Unit and Total Limit options, in order to decide which items to remove.
- **Display date/time** - If enabled, the date/time of when the error occurred and the length of time it was in the error state, is displayed at the bottom of the latched item.
- **Unit Limit** - The total number of latched errors to display for any given unit. For example, to only display the fact that an error occurred for a unit, set this to 1.
- **Total Limit** - The total number of latched errors to display in the list.

The limits can be disabled by entering 0 as the value.

9.4.8.2 Latched Error Dismissal

Latched errors can be dismissed by right clicking on an item and selecting one of the clear options.



Figure 157 Latching dismissal

The following options are available:

- **Clear latched error** - Removes just this error from the list.
- **Clear all latched errors** - Fully clears the list.
- **Clear all latched errors for unit** - Clears the item clicked on, plus any other errors for the same unit address.

9.4.8.3 Masking

In addition to the standard options, right clicking an item provides a shortcut to mask, mask until green or create a duration based mask.

You can also open the item details using right click, and perform any detailed operations as normal.



Figure 158 Masking

9.4.9 Insert Component

Insert a component into the current schematic.

Select a component file (.CPT) using the Open dialog box that displays.

9.4.10 Load Control Screen Template From Cache

Add a control screen template into a Schematic to allow for control of a unit.

Clicking on this icon displays a screen from which to select the control screen template. Select the appropriate screen and click **Add** to insert the control screen template into the schematic.

Control screen templates must first be cached before they can be selected for inclusion into a schematic. See "Load Control Screen" on page 77.

9.5 Components

9.5.1 Component Documents

The general facilities for a component document are the same as for a schematic document. The exception is that a component document does not have a "Run" mode. A component document must be included into a schematic document for it to become active. The idea of a component is to enable you to build a library of re-usable objects that represent more complex pieces of equipment. The alarm triggers for ActiveX objects can have deferred addressing and hence can be assigned at the schematic link level.

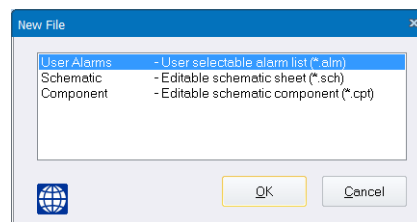


Figure 159 New Component

Refer to the Schematic Window section for details of menu options. The file options for a component are similar to those of the schematic with the exception that the default file extension is .CPT.

9.5.2 Inserting a User Component

This allows the selection of a user-created component file with the extension .CPT. A component is similar to a schematic document with the exception that it cannot be made to Run by itself. It must be included as part of a schematic document. This gives you the ability to create re-usable objects. Select Insert User Component from the menu or the Component button from the toolbar.

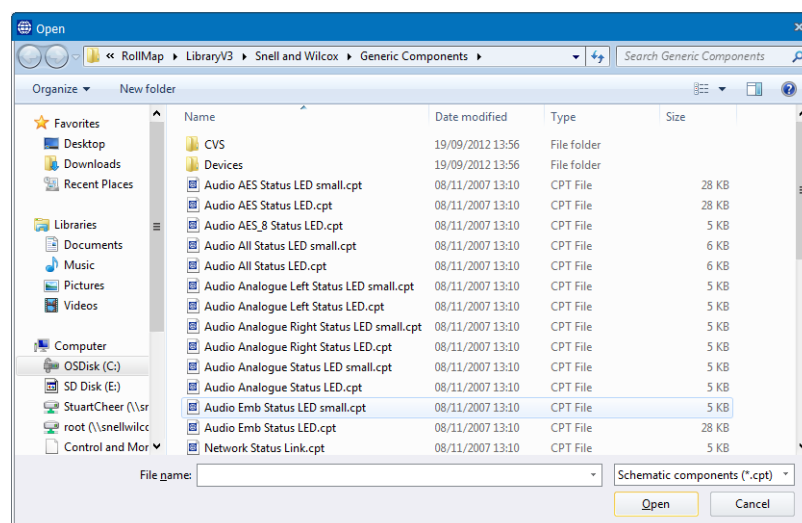


Figure 160 Open Component File

Use the Open dialog box to select a component file.

The component displays as one object and can be move and edited just like any other drawing object. A component has Component, Addressing, and Position tabs in its properties box.

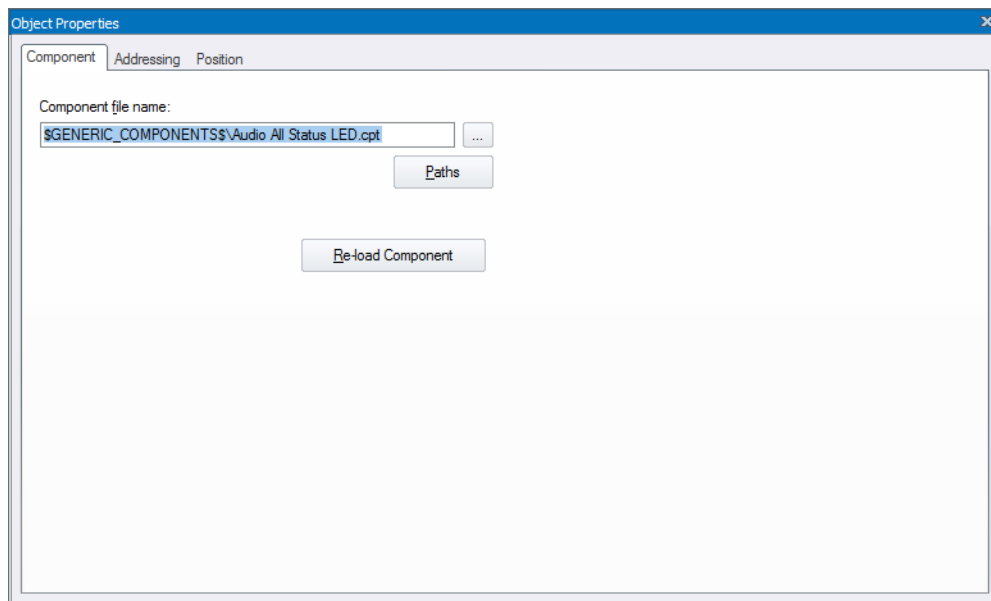


Figure 161 Component Properties

- Click the **Re-load Component** button to refresh a component.

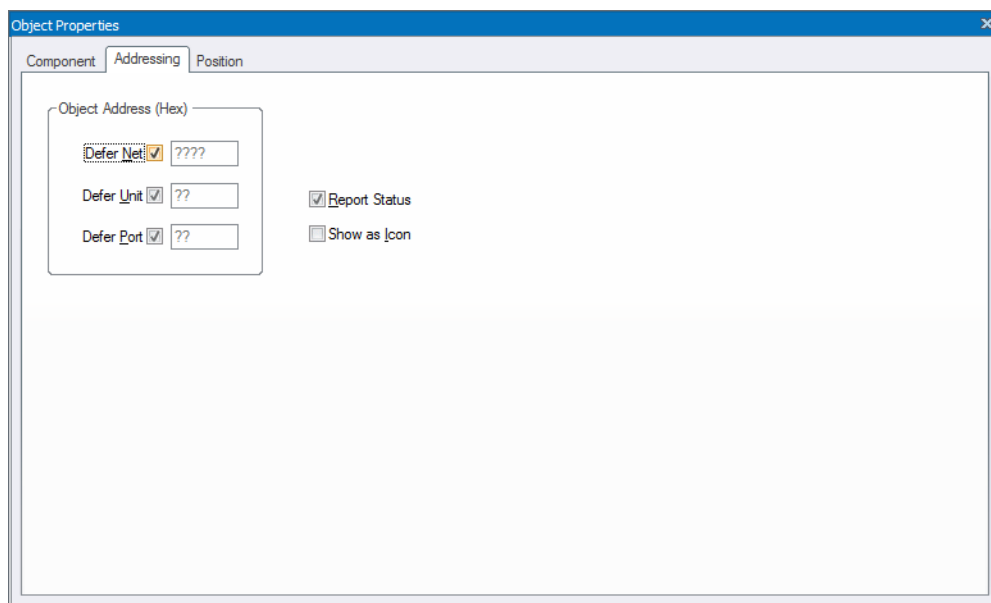


Figure 162 Addressing Properties

Objects inside the component may have deferred addresses assigned. These deferred addresses can be assigned at this level or left so that it is assigned by the next level schematic document.

See Deferred Addressing on page 176.

The settings on the Position tab define the placement and size of the Component.

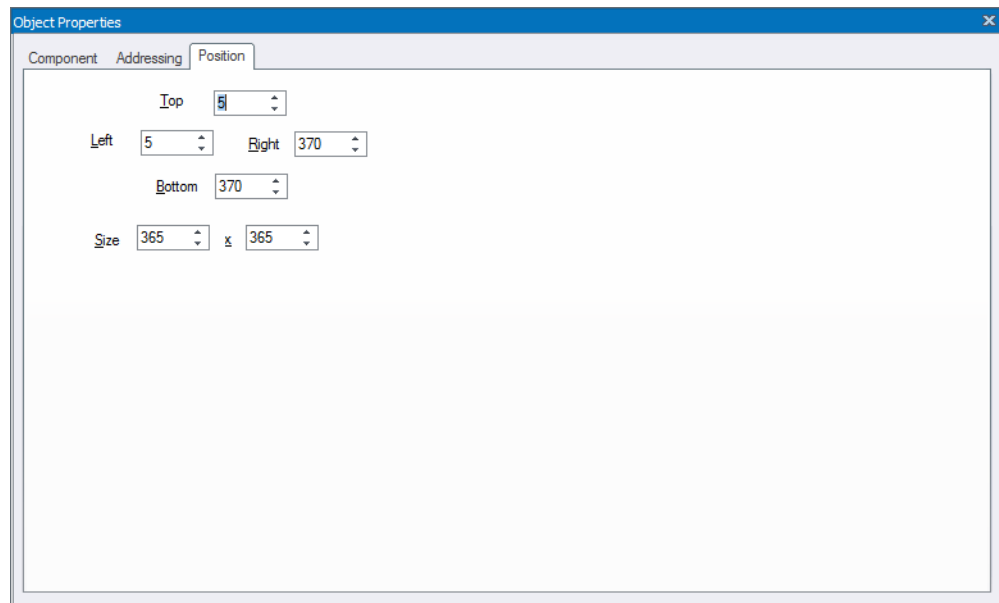


Figure 163 Position Properties

9.6 Control Objects

The Load Control Screen contextual menu item downloads a selected unit's template, enabling any control from the template to be embedded in a schematic. Using this feature, a custom user-interface can be created, enabling the unit to be monitored and adjusted as required from the schematic viewer.

To add control objects to a schematic:

With a schematic open in Drawing Mode, from the Network List on the right, right-click the unit from which to download the template, and then select **Load Control Screen**.

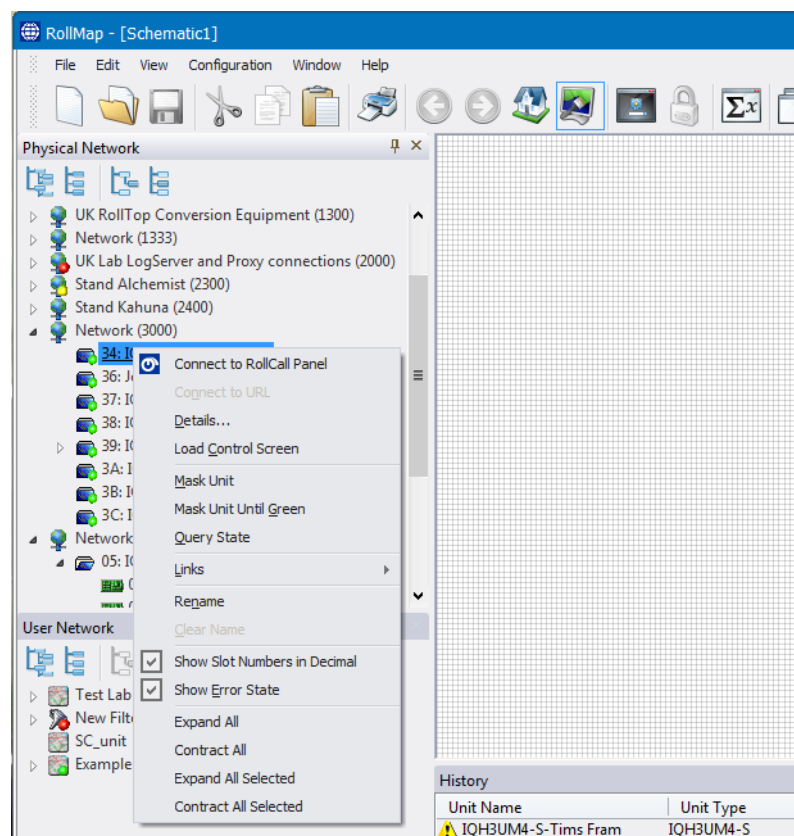


Figure 164 Load Control Screen

The unit's template is downloaded, and a window displaying the unit's RollCall control panel is displayed.

To add a control to the schematic, drag any item from the template display and drop it on to the schematic.

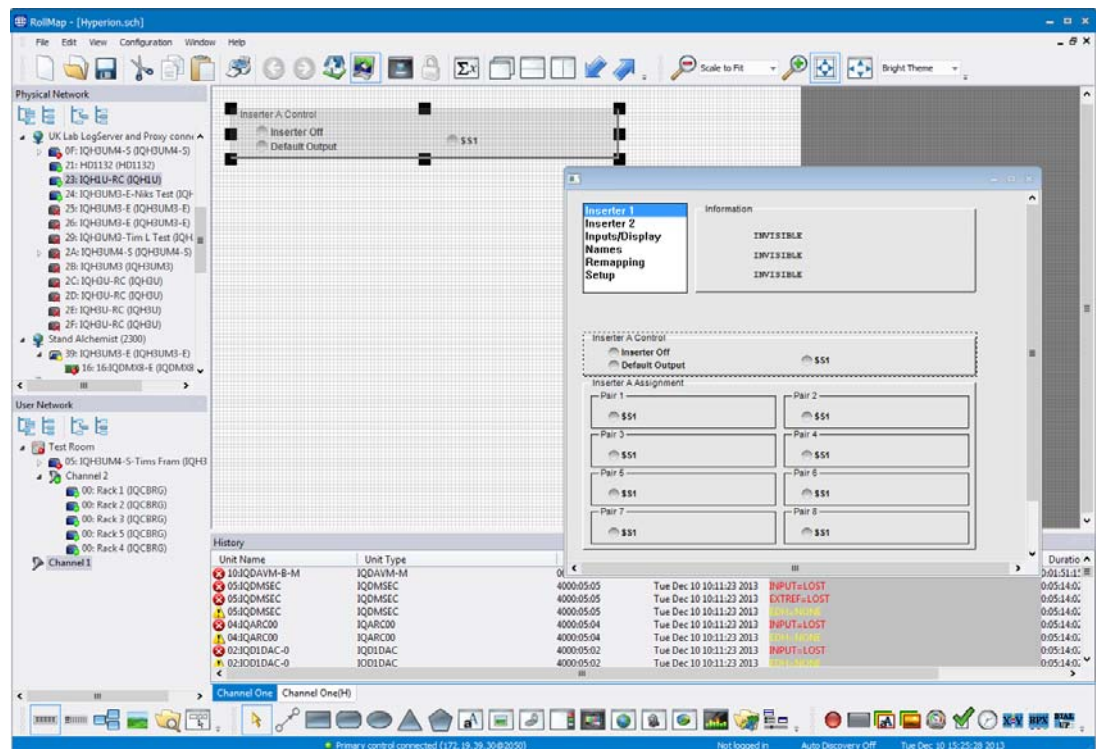


Figure 165 Add Control

Continue using this method to place all of the required controls on the schematic. Once a control has been placed on the schematic, it can be resized or moved like any of the other drawing objects.

The control can be set to be live (enabled) or read only (disabled). This can be set once for the whole schematic. See "Control Level Properties" on page 95.

To disable or enable an individual control, double-click on the control and select the desired behavior from the Control Level tab.

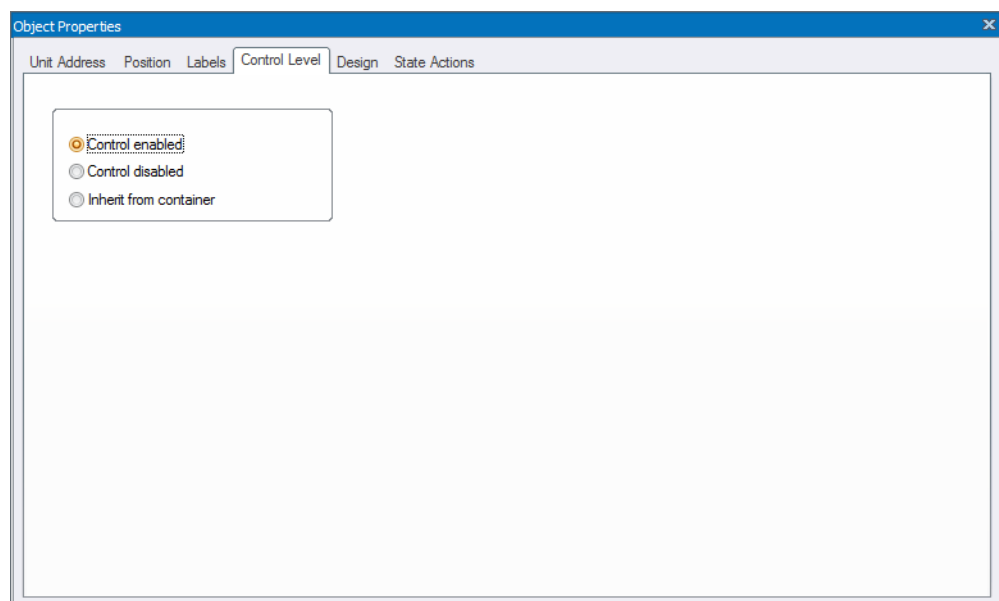


Figure 166 Control Level Properties

When the schematic is switched to Run Mode, the control becomes active on the screen and can be used to monitor and adjust the module's settings as necessary.

Note: If the unit is not present at runtime, a red border displays around the control.

9.6.1 Control Objects and Addressing

The RollCall addresses of Control Objects are relative to the network point identified by the **Control Connection** specified in the Log Server Connection settings. See "Set the Log Server Connection" on page 18. In some configurations, this may not be the same address that is seen by the Log Server, and consequently the rest of RollMap.

In order for Control Objects to function correctly, it is essential that the Control Connection IP address presents the same view of the RollCall network as the IP address to which the Log Server is pointing (not the IP address of the Log Server itself).

If, for example, all units show a red border at runtime, it is highly likely that the IP address of the Control Connection is down, or on a different segment of the network from the IP address used for the logging connection.

Control Objects may have deferred addresses assigned. These deferred addresses can be assigned at this level or left so that it is assigned by the next level schematic document.

When a Control Object is added to a schematic, the schematic records the command numbers and menu lines required to operate the controls; however, the schematic does not record the type of unit (unitID) that the controls came from.

If the actual unit present at runtime is of a different type (or command set version), the Control Object will not function correctly. This problem will likely result in a flashing red border around all controls for the unit; but, in some cases, the object may appear to function correctly while adjusting other settings. Therefore, extreme caution must be exercised when including Control Objects in components and schematics.

Note: It is highly recommended that Control Objects are only used with the actual unit from which the controls were taken.

See Deferred Addressing on page 176.

9.7 Adding ActiveX Objects

Registered ActiveX objects are globally available to any program. Many default objects are pre-installed by MS Windows itself such as Bitmap Image, WordPad document. MS Office installs other objects such as Word document, Excel Chart and PowerPoint Slide. Several RollMap ActiveX objects are installed for the specific use with the Schematic document and are available on the custom tool bar. These objects contain special properties (variables) and methods (function calls) that allows events from the System Alarm window to be passed into the object.

The two primary events are:

1. State property

This can be a property or a method of numeric type. The object's property can be a character, 16 bit integer, 32 bit integer, a floating point value or a long floating point value. The object's State property is set to one of the following values when in Run mode.

- 0 State is UNKNOWN
- 1 State is OK
- 2 State is WARNING
- 3 State is ERROR

2. Caption property

This can be a property or method of ASCII text type. The object's property must be a text value made from 8 or 16 bit characters (UNICODE). The object's caption property is set to the text as displayed by the Systems Alarms window for the assigned trigger.

9.7.1 Inserting an ActiveX Object

To add an ActiveX object into the schematic, select the **Edit > Insert ActiveX Object** menu.

If using Microsoft Windows 2000 or XP operating system an option box displays. All SAM ActiveX objects are listed under "ActiveX Controls".

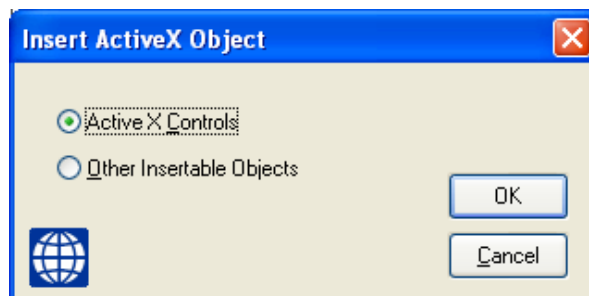


Figure 167 Insert ActiveX Object

The dialog box displays a list of available objects. Many of these can be used as static objects. The standard objects installed by RollMap start with the name SAM.

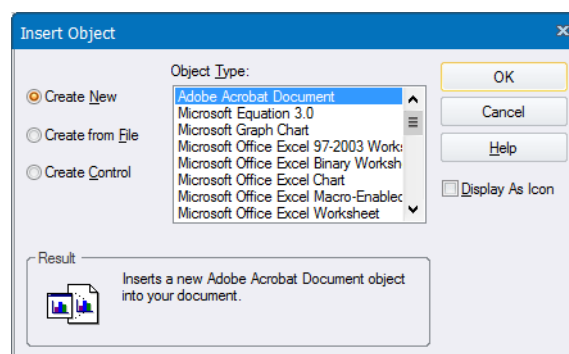
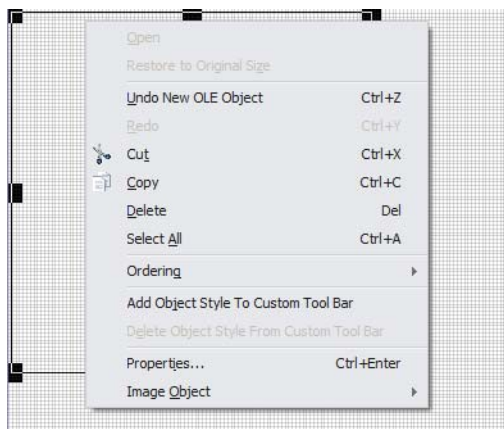


Figure 168 Insert ActiveX Control Object

After selecting an object, the object is placed in a default position. Use the grab handles to re-position the object on the screen. The object can be copied, pasted and moved just like any of the basic drawing objects. ActiveX objects have their own **Properties...** menus and their behavior depends on their implementation.

**Figure 169 ActiveX Object Menu**

The context menu for an ActiveX object has more options. The **Properties...** menu brings up the property box for the object (dependent on object).

9.8 Snell ActiveX Objects

The Snell ActiveX objects are a subset of the ActiveX objects available to RollMap. They are included in the Insert ActiveX object menu, but are also available from the Alarm Objects toolbar.

The Snell ActiveX objects are:

- Snell State LED
- Snell General Button
- Snell State Frame
- Snell State Text
- Snell State Meter
- Snell Check Box
- Snell Roll Clock
- XY Router Panel
- BPX Router Panel
- Dial Up Router Panel

Each ActiveX object has a selection of triggers that can be attributed. See the relevant section for details of the triggers available.

All ActiveX objects can have actions added based on a trigger. The actions available are the same for all object triggers. See “Actions” on page 165.

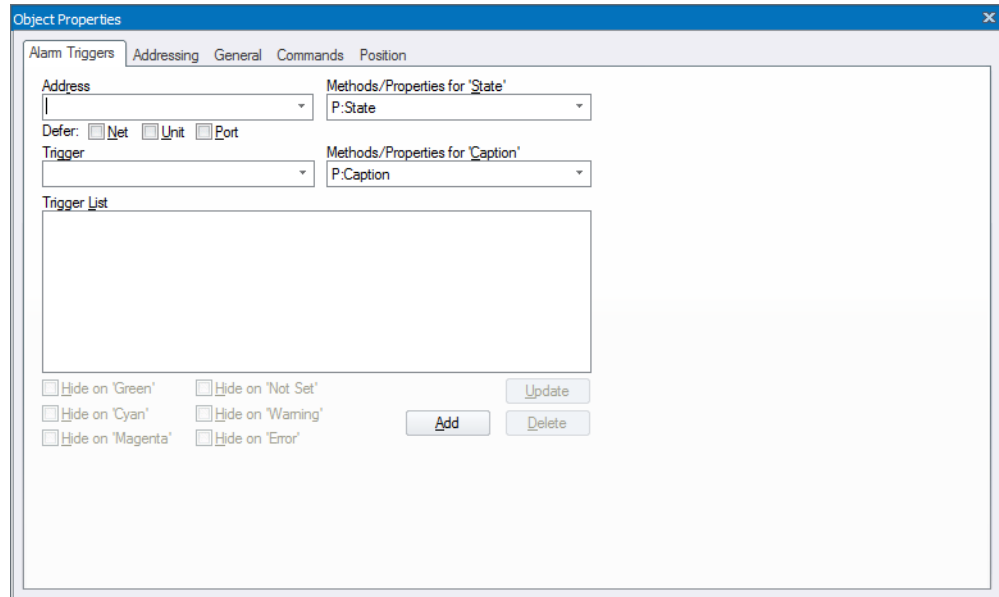


Figure 170 Alarm Triggers Properties

Use the editing buttons to Add, Update and Delete alarm triggers. The current object on the schematic may be hidden during specific circumstances using the check boxes at the bottom of the screen. If an item is checked and the described situation is true, the object is hidden, until the state changes.

9.8.1 Snell State LED ActiveX Object

This object allows an alarm trigger event to be represented as a LED in a schematic window. The global system registered name for this ActiveX object is Snell State LED.

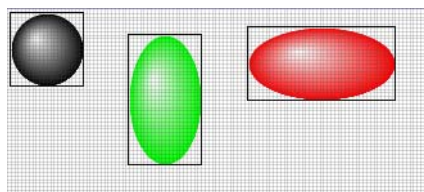


Figure 171 Add LED ActiveX Object

To resize an LED double-click on the object, or select **Snell State LED Object > Properties** from the main or context menu to show its properties box.

9.8.1.1 General Properties

You can set the initial color state of an LED, or the LED can be made to flash on any color. Or, it can be made to flash only on RED, for example. The LED object does not have a user-editable Caption property.

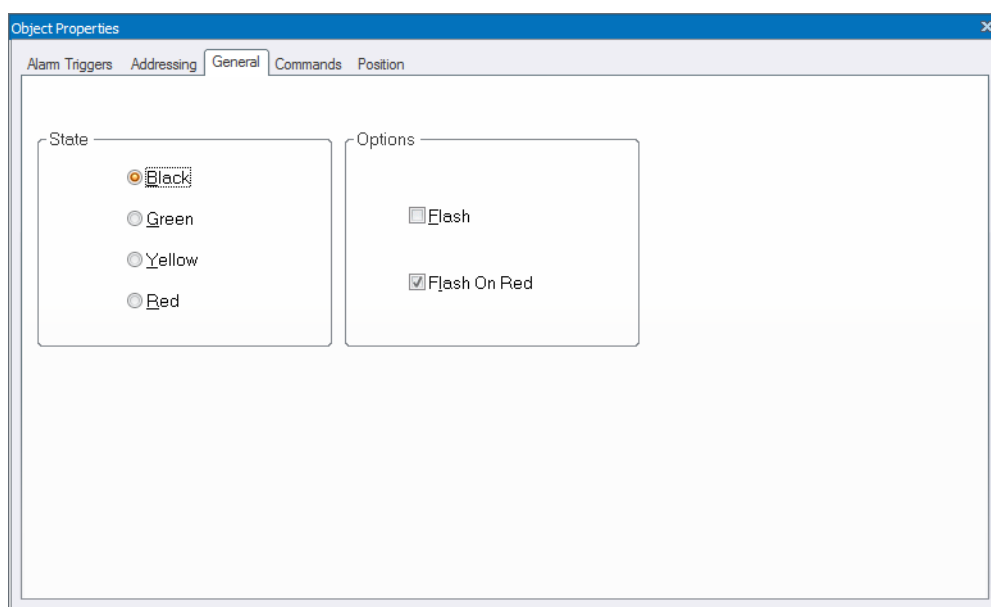


Figure 172 General Properties

9.8.1.2 Commands Properties

The Commands properties page allows Alarm Triggers and Alarm Actions to be configured.

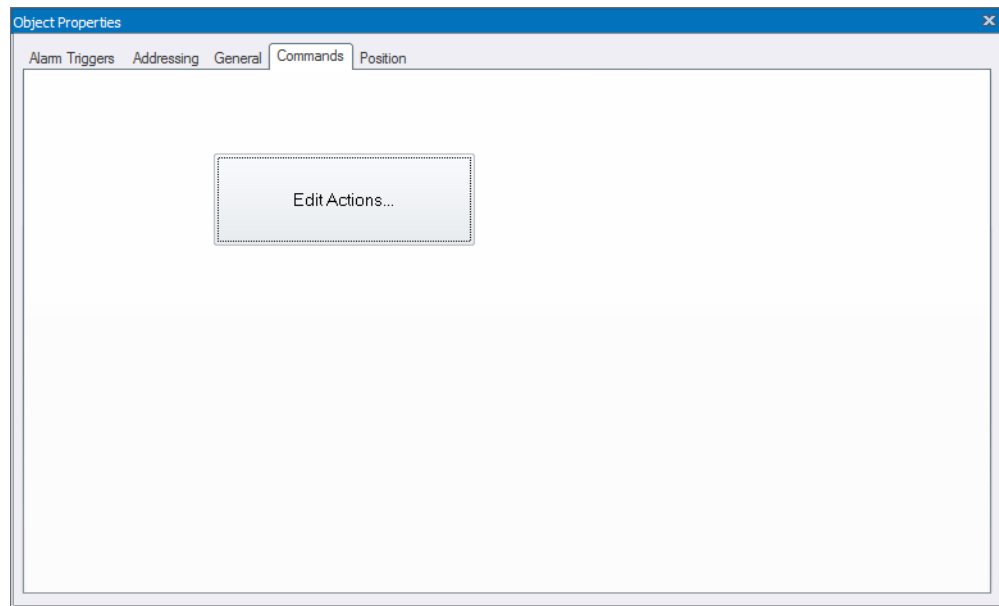


Figure 173 Command Properties

Click the **Edit Actions** button to open the Actions window.

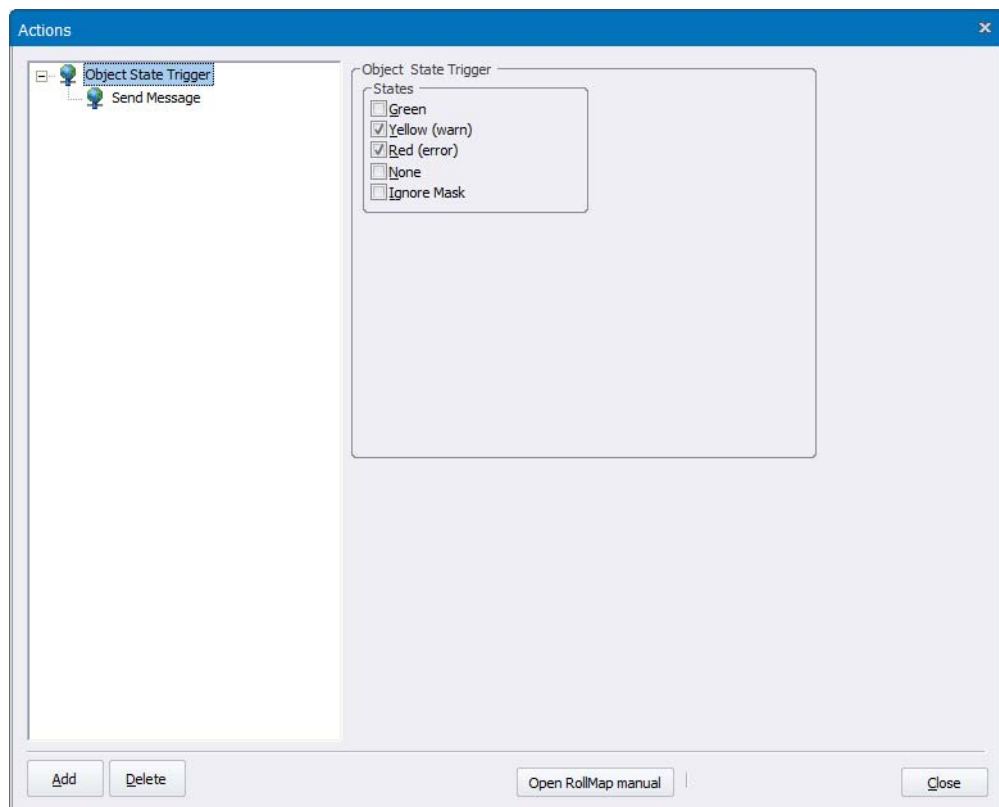


Figure 174 Edit Actions

The following triggers can be specified for a Snell State LED ActiveX Object:

- Object State Trigger - actions initiated when the state of the assigned unit changes
- Auto - actions are initiated when either:
 - a schematic containing the object with the auto trigger is loaded or goes into Run mode from Design mode

- RollMap starts if in global alarm

For details of the attributable alarm actions, see “Configure Alarm Actions” on page 35.

9.8.1.3 External Properties

This object exposes many properties. Only the ones listed below should be used as alarm trigger properties.

Properties (read and write variables)

External Name	Type	Valid Values
State	VT_12 (16 bit integer)	0 - Black, 1 - Green, 2 - Yellow, 3 - Red
Caption	VT_BSTR (text string)	Caption for command line substitution
UserString	VT_BTSTR (text string)	%r substitution field

Table 5. External Properties

9.8.2 Snell General Button

This object allows has no alarm trigger facilities. It is a general ActiveX button that can be used in a schematic to invoke a command line parameter. The command line is passed to the standard MS Window's command line interpreter.



Figure 175 Add Snell General Button

To resize the Snell General Button double-click on the object, or select **Snell General Button Object > Properties** from the main or context menu to show its properties box.

9.8.2.1 General Properties

This tab enables the button caption to be entered and provides access to the command actions.

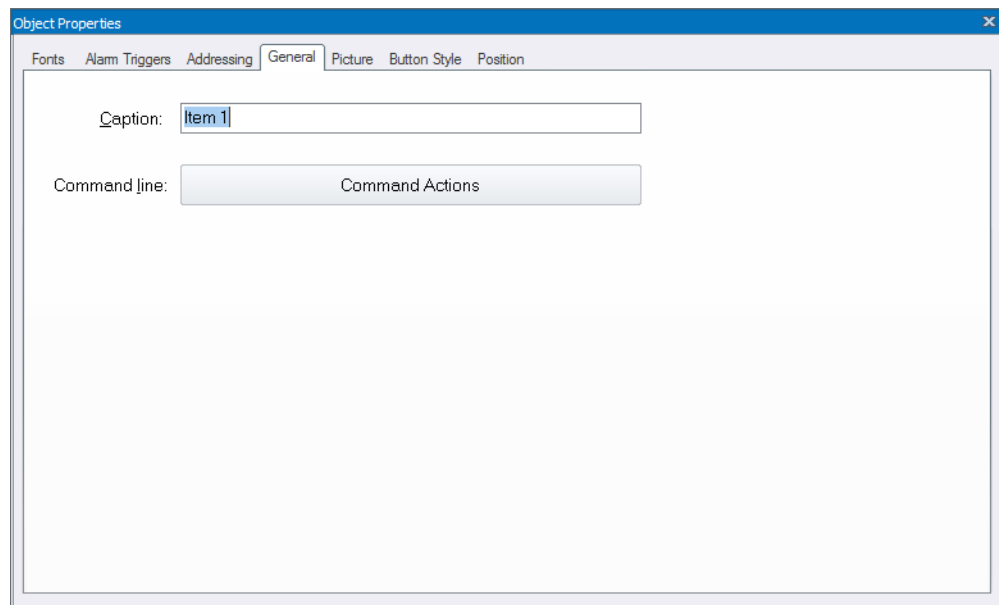


Figure 176 General Properties

Click the **Command Actions** button to open the Actions window.

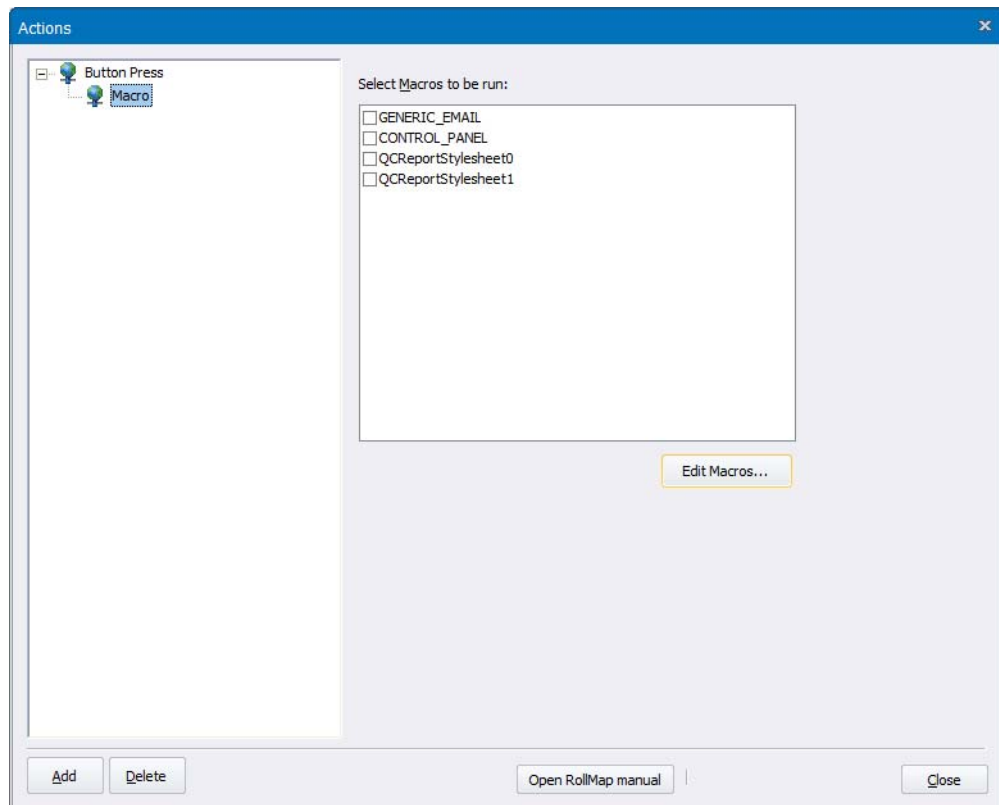


Figure 177 Actions Window

The following triggers can be specified for a Snell General Button:

- Object State Trigger - actions initiated when the state of the assigned unit changes
- Button Press - actions initiated when the button is pressed
- Auto - actions are initiated when either:
 - a schematic containing the object with the auto trigger is loaded or goes into Run mode from Design mode

- RollMap starts if in global alarm
- CheckBox Checked Press - actions are initiated when a checkbox is pressed when in checked state.
- CheckBox Un-checked Press - actions are initiated when a checkbox is pressed when in unchecked state.

For details of the attributable alarm actions, see “Configure Alarm Actions” on page 35.

Log fields can be used with a Snell General Button. See “Dynamic Log Field Insertion” on page 191.

9.8.2.2 Font Properties

The font style, size and color can be changed, as can the position of the text within the button face. Highlight text may be added to change the font properties for when the button is hovered over.

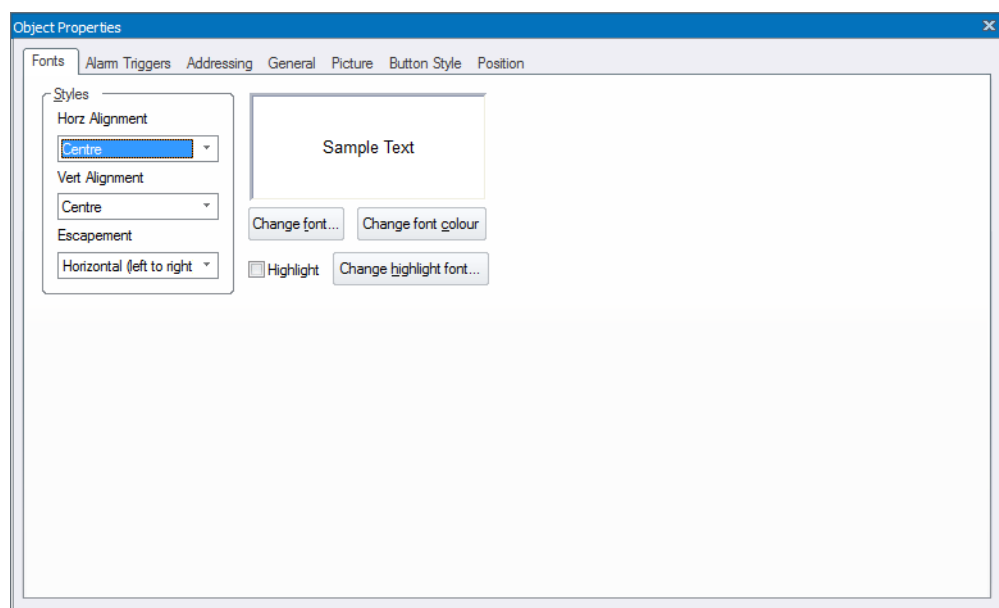


Figure 178 Font Properties

9.8.2.3 Picture Properties

The standard button face can be replaced with a picture. The original aspect ratio of the picture can be maintained and the caption displayed over it. The button bevel and button background can be removed by deselecting the corresponding check boxes.

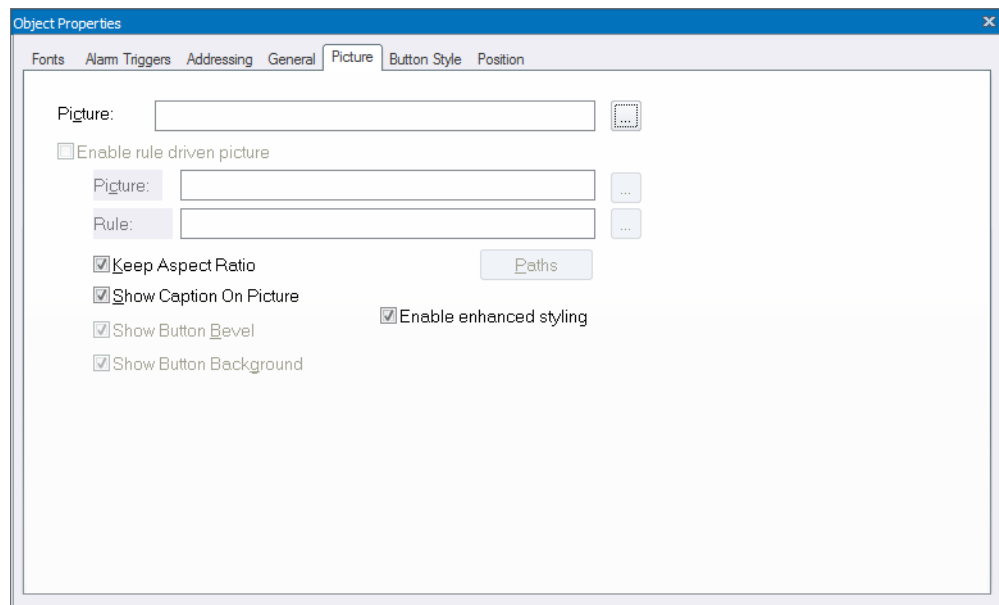


Figure 179 Picture Properties

A rule can be added to the button to dynamically display a different picture when the rule evaluates to true (based on current log data). To enable this option, check the enable rule driven picture checkbox and enter the picture and rule in the boxes provided.

The rule and picture can also be edited from the Button Style properties tab.

9.8.2.4 Button Style Properties

Buttons can have custom designs to enable them to have a specific look and feel. On the Roll Button Style Properties Page check the Enable custom design checkbox.

From here you can change the design of both the unpressed (Normal) state, and also of the pressed state.

Either a solid color, gradient fill, or a button shine can be used. Or, an external image, for example, a jpeg file can be applied to the button face.

The shape of the button (rectangular through to circular) and the opacity may be customized to suit the application.

Changes in format may be copied to all other button modes by clicking on the Copy style to all button modes button. This button is always active for normal mode. To copy styles from other modes, first check the checkbox for that mode, then click on the copy style button.

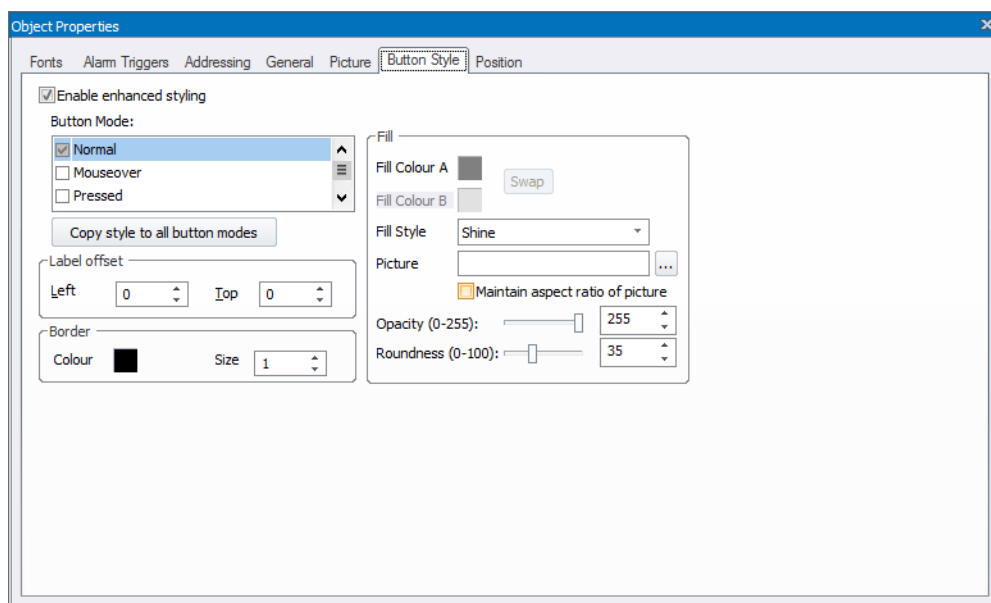


Figure 180 Button Style Properties

A rule can be added to the button to dynamically display a different picture when the rule evaluates to true (based on current log data). To enable this option, check the enable rule driven picture checkbox and enter the picture and rule in the boxes provided.

The rule and picture can also be edited from the Picture properties tab.

9.8.2.5 External Properties

This object exposes many properties. Only the ones listed below should be used as alarm trigger properties.

Properties (read and write variables)

External Name	Type	Valid Values
State	VT_12 (16 bit integer)	0 - Black, 1 - Green, 2 - Yellow, 3 - Red
Caption	VT_BSTR (text string)	null terminated string (%c field)
UserString	VT_BTSR (text string)	%r substitution field

Table 6. External Properties

9.8.2.6 Common uses for the General Button

Invoking the RollCall Control Panel

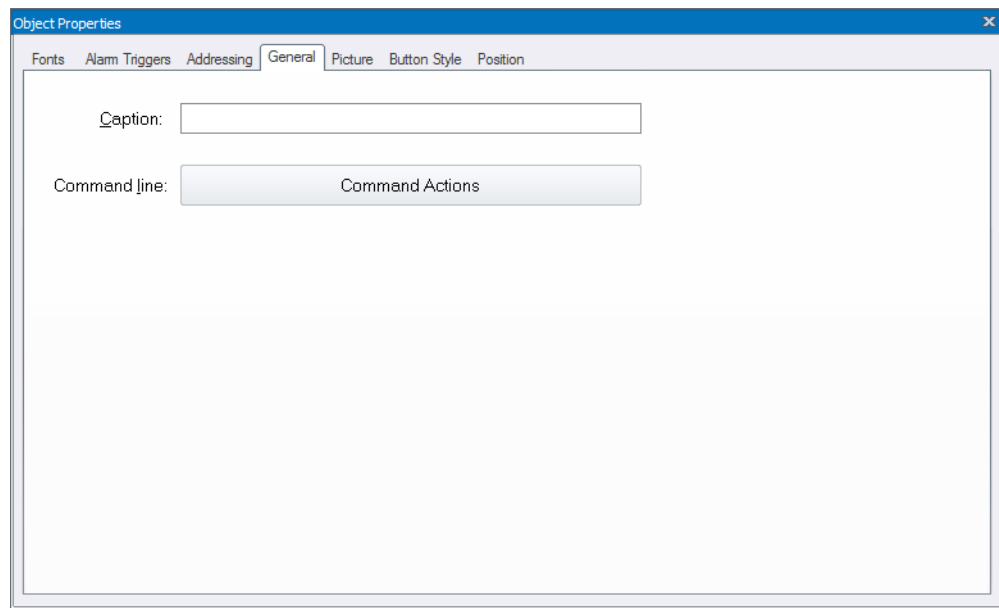


Figure 181 General Button Setup

1. On the General tab, click **Command Actions** button.
2. Add a Button Press trigger with a Command Line action.
3. In the Command Line, enter: \$ROLLCALL\$\RollCall.EXE /u %a

Where the search path macro ROLLCALL is set to:

"C:\RollCall" (when using 16-bit application), or
 "C:\Program Files\SAM\RollCallSuite" (32-bit application), or
 "C:\Program Files (x86)\SAM\RollCallSuite" (when using Windows 7)

The "%a" field and the ROLLCALL macro is expanded at run time.

For example:

"C:\RollCall\RollCall.EXE /u 0000:10:01", or
 "C:\Program Files\SAM\RollCallSuite\Control Panel\Rollcall Control Panel.exe /u 0000:10:01", or
 "C:\Program Files (x86)\SAM\RollCallSuite\Control Panel\Rollcall Control Panel.exe /u 0000:10:01".

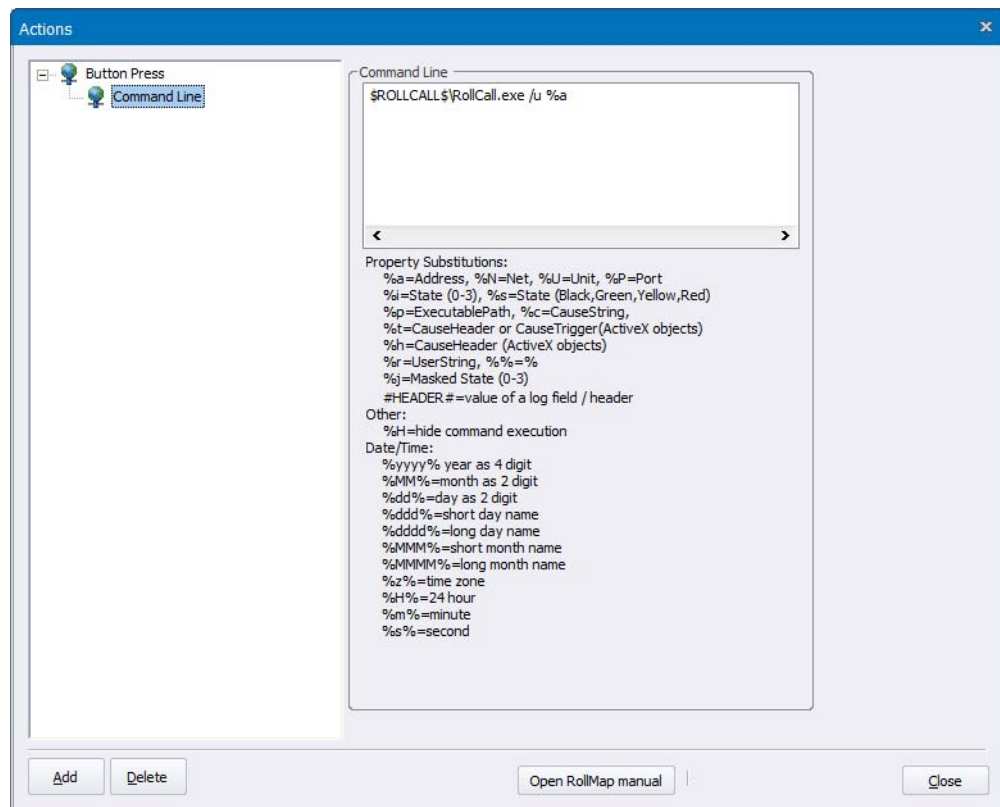


Figure 182 Enter Command Line

Operating the System Alarms Window from a Schematic

To add a button that loads the Systems Alarms window, set the General Button to call the RollMap application itself, using the "-sys" command line parameter to specify the Systems Alarm window.

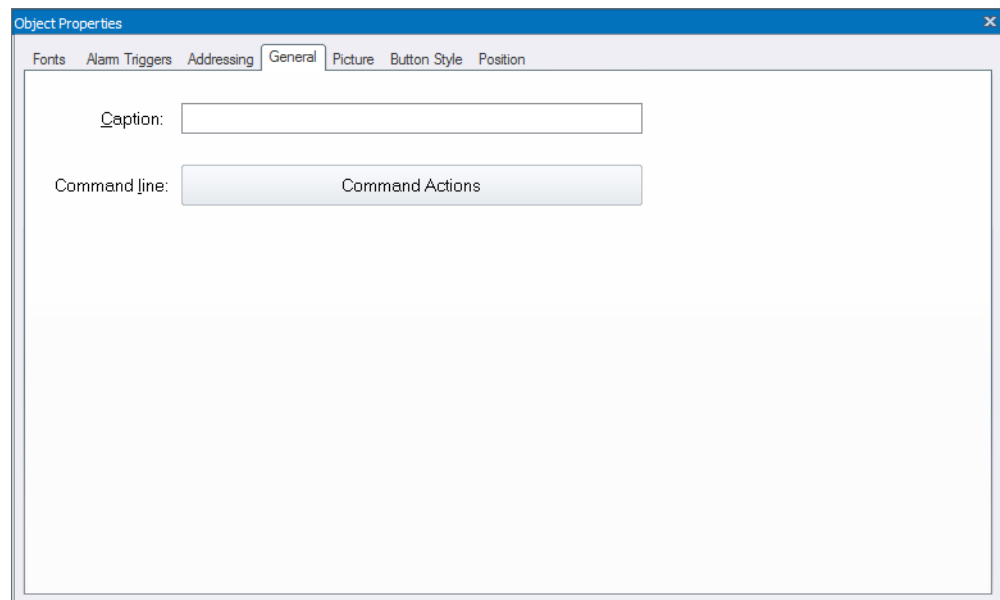


Figure 183 General Button Setup

1. On the General tab, click **Command Actions** button.
2. Add a Button Press trigger with a Command Line action.
3. In the Command Line, enter: \$ROLLMAP\$\RollMap.EXE -sys

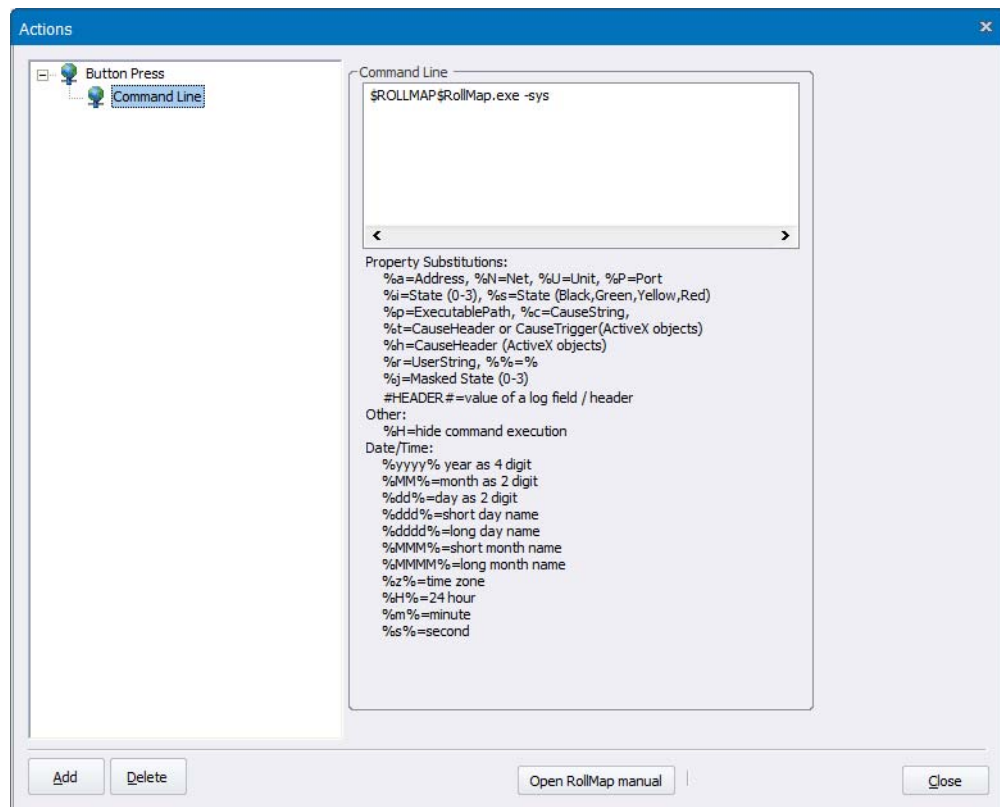


Figure 184 Enter Command Line

Playing sound (WAV) files through RollMap

RollMap is capable of playing standard sound (WAV) files through the system sound device. Only file names with the extension .WAV are played. For example:
 RollMap.exe "sound file.wav" \$ROLLCALL\$\RollCall.EXE%p\alarm.wav

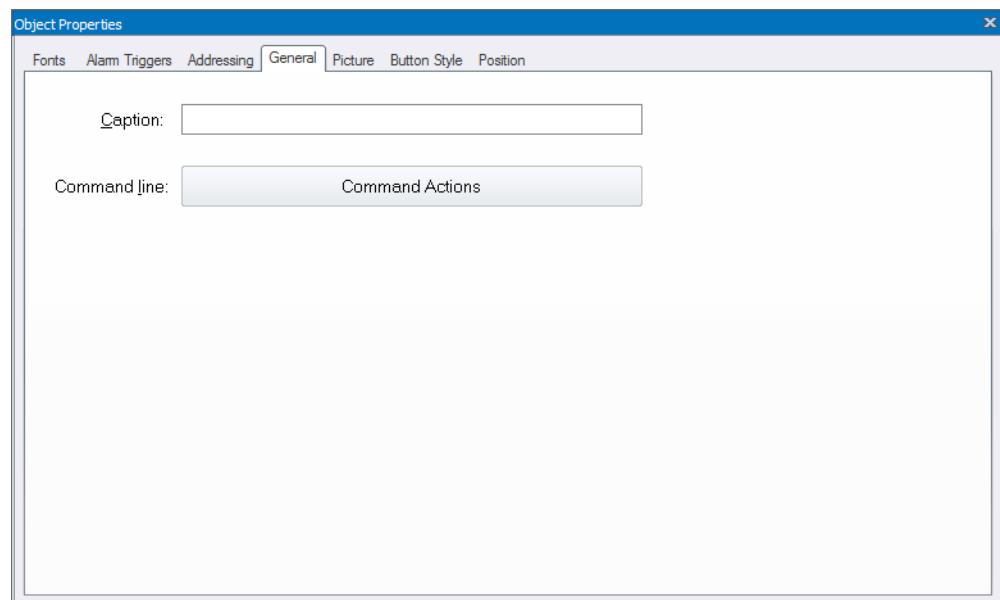


Figure 185 General Button Setup

1. On the General tab, click **Command Actions** button.
2. Add a Button Press trigger with a Play Sound action.

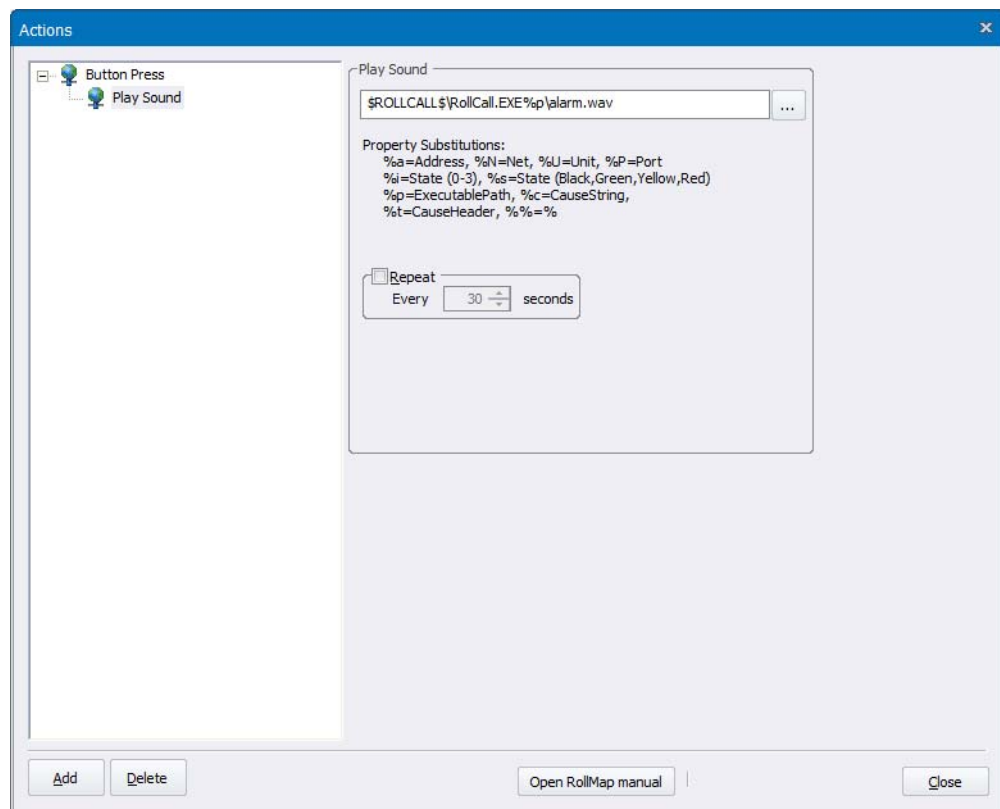


Figure 186 Enter Command Line

Loading a Document

Any document available on the computer can be loaded by a General Button. The exact syntax of the command line depends on the document and application required.

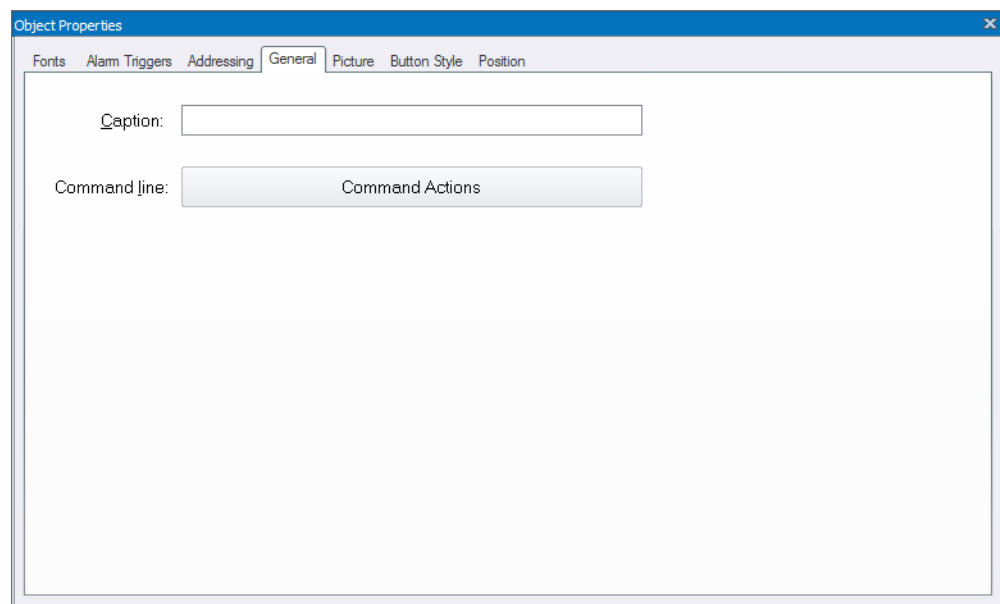


Figure 187 General Button Setup

For example, to load the RollMap User Manual (Assuming it is located in the RollMap installation directory).

1. On the General tab, click **Command Actions** button.
2. Add a Button Press trigger with a Command Line action.
3. In the Command Line, enter: \$ROLLMAP\$\RollMapManual.pdf

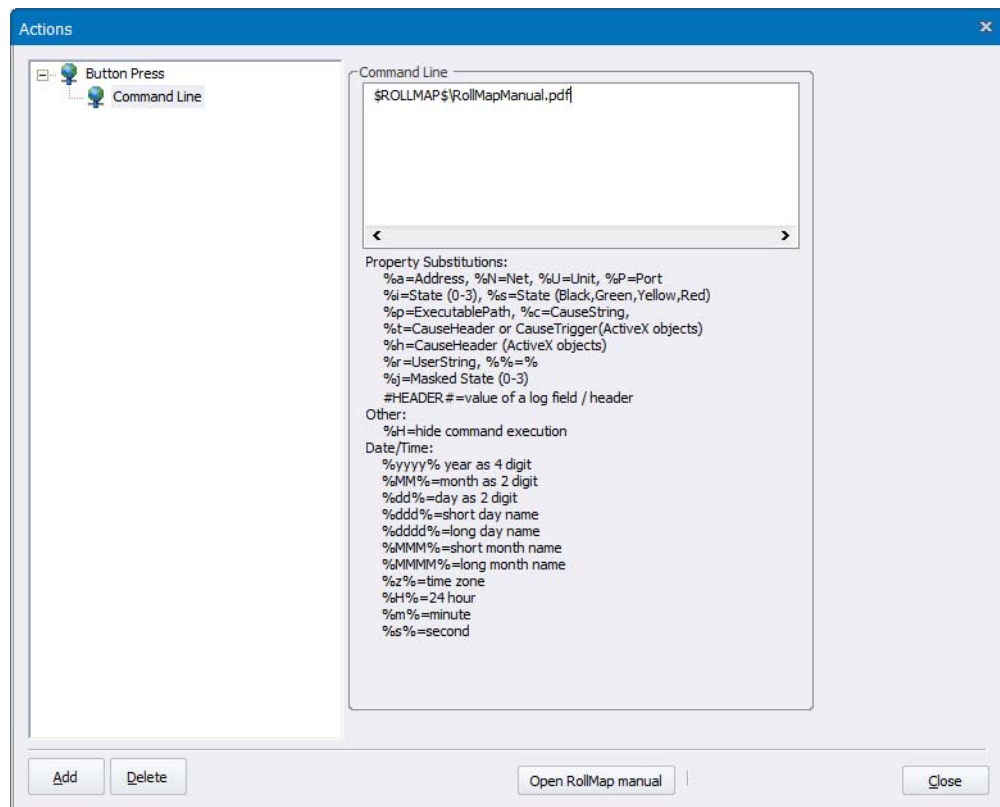


Figure 188 Enter Command Line

Loading an Internet URL

If your system has internet access, the button object can be used to access an URL address. For example: iexplore "www.s-a-m.com".

Header Expansion

Variables can be used in command actions to insert column headers.

For example, inserting #ADDRESS# into the command displays the actual unit address when the command is run.

9.8.3 Snell State Text

This object allows an alarm trigger event to be represented as a color text item in a schematic window. The global system registered name for this ActiveX object is Snell State Text.



Figure 189 Add Snell State Text

To resize the State Text Box double-click on the object, or select **Snell State Text Object > Properties** from the main or context menu to show its properties box.

9.8.3.1 General Properties Page

The text color can be set according to the State property of the object. If Use State Color is not set, then you can change the text color to any available color in the Fonts or Colors property pages. Text alignment properties are similar to the generic Fonts property page. The border frame and text can be made to flash or flash only on red (error state). The border can be made visible or invisible. The border width is always 1 pixel.

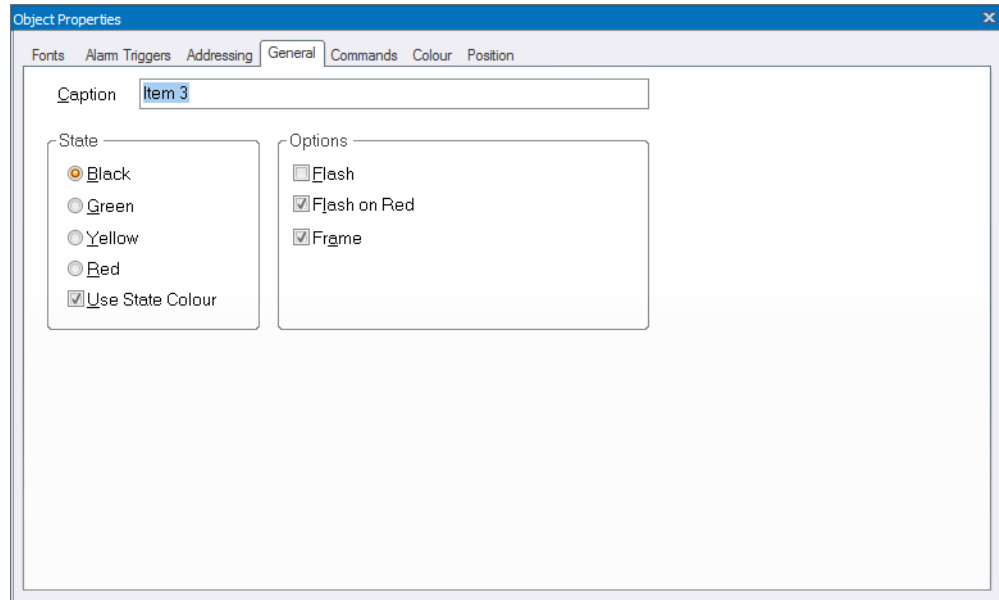


Figure 190 General Properties

9.8.3.2 Fonts Properties Page

The horizontal, vertical and escapement (orientation) of the font can be set from this page. Some combinations of style allow multi-line formatting. Select Change Font to select a font available in the system. The font color can also be set from this dialog if the Use State Color property from the General page is not set.

9.8.3.3 Commands Properties Page

The Commands properties page allows Alarm Triggers and Alarm Actions to be configured.

Click the **Edit Actions** button to open the Actions window.

The following triggers can be specified for Snell State Text Box:

- Object State Trigger - actions initiated when the state of the assigned unit changes
- Auto - actions are initiated when either:
 - a schematic containing the object with the auto trigger is loaded or goes into Run mode from Design mode
 - RollMap starts if in global alarm
- Caption Changed - actions are initiated when the caption of an object is changed. This could be via control panel or an alarm trigger.

For details of the attributable alarm actions, see “Configure Alarm Actions” on page 35.

9.8.3.4 Colors Properties Page

Sets the font and foreground colors of the text box.

9.8.3.5 External Properties

This object exposes many properties. Only the ones listed below should be used as alarm trigger properties.

Properties (read and write variables)

External Name	Type	Valid Values
State	VT_12 (16 bit integer)	0 - Black, 1 - Green, 2 - Yellow, 3 - Red
Caption	VT_BSTR (text string)	null terminated string (%c field)
UserString	VT_BSTR (text string)	%r substitution field

Table 7. External Properties

9.8.4 Snell State Frame

This object allows an alarm trigger event to be represented as a bordered frame in a schematic window. The global system registered name for this ActiveX object is Snell State Frame.

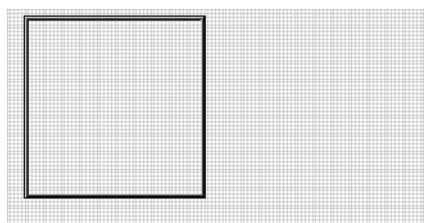


Figure 191 Add Snell State Frame

To resize the State Frame double-click on the object, or select **Snell State Frame Object > Properties** from the main or context menu to show its properties box.

9.8.4.1 General Properties

You can set the initial state of the border. There are different styles of frames to select: rectangular, rectangular with variable rounded corners, elliptical (circular), and diagonal lines.

The border width is in arbitrary units. 3D shading puts shadow effects on the borders of the frame. The Transparent checkbox makes the inside area of the frame transparent and hence allows any drawing objects behind the frame to become visible. The borders can be made to flash or flash only on RED state. The Caption property may be replaced by external trigger events.

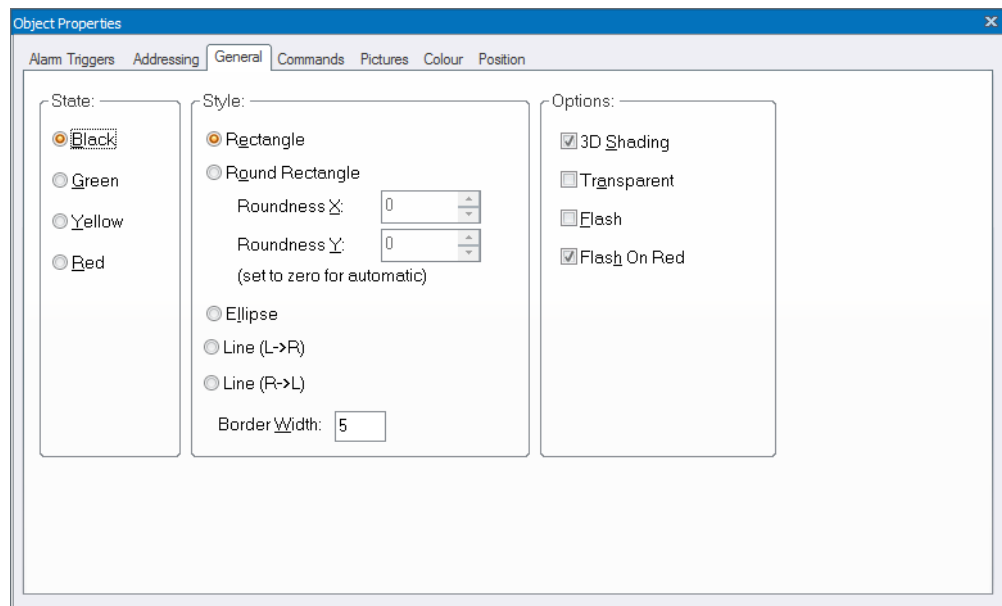


Figure 192 General Properties

9.8.4.2 Commands Properties

The Commands properties page allows Alarm Triggers and Alarm Actions to be configured.

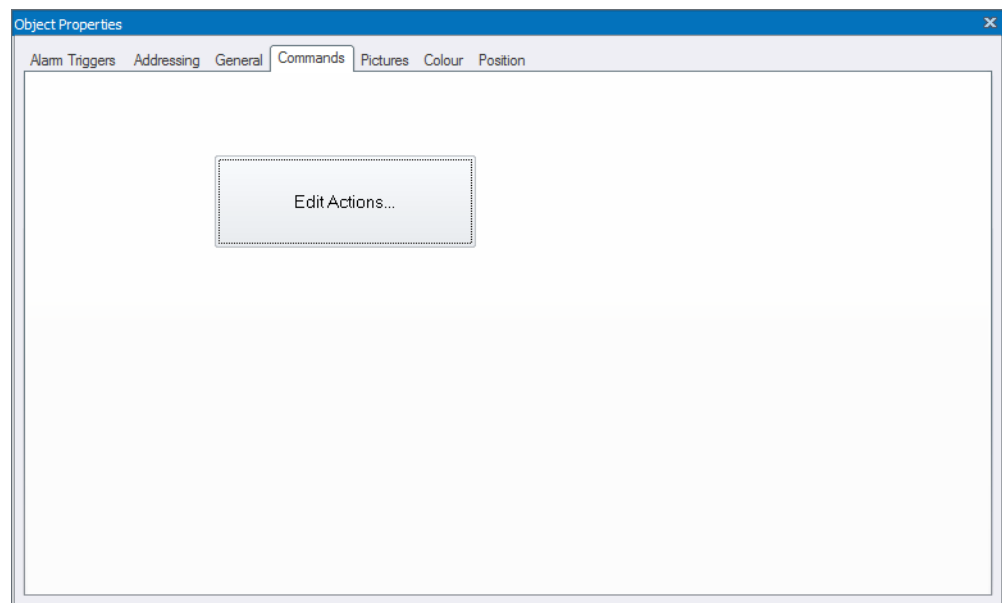


Figure 193 Commands Properties

Click the **Edit Actions** button to open the Actions window.

The following triggers can be specified for a Snell State Frame:

- Object State Trigger - actions initiated when the state of the assigned unit changes
- Auto - actions are initiated when either:
 - a schematic containing the object with the auto trigger is loaded or goes into Run mode from Design mode
 - RollMap starts if in global alarm

For details of the attributable alarm actions, see “Configure Alarm Actions” on page 35.

Log fields can be used with a Snell State Frame. See “Dynamic Log Field Insertion” on page 191.

9.8.4.3 Pictures Properties

A picture may be assigned to each state of the object. If a single picture is required regardless of state, then the "Use Default Picture Only" checkbox should be checked. If a picture has not been assigned to a particular state, when that state occurs, the Default Picture is used.

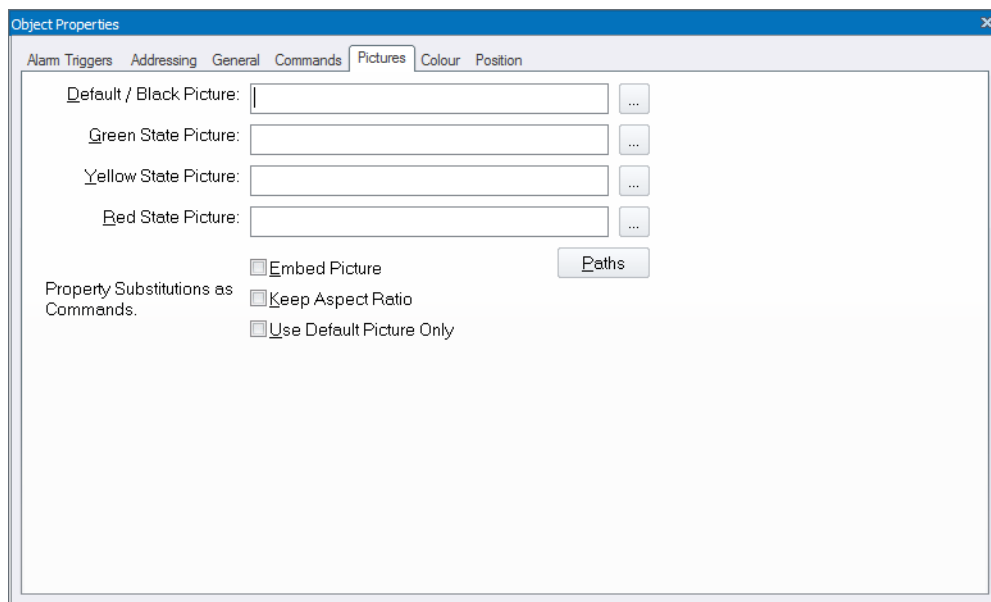


Figure 194 Pictures Properties

The Embed Picture checkbox is available for embedding all picture files into the schematic. The content of the picture files are stored in the schematic itself and hence do not require the link to the picture file afterwards. This feature should be avoided as the schematic files can become very large in size and changes to the pictures are reflected until the picture is reselected and re-saved.

The Keep Aspect Ratio checkbox maintains the original aspect of the picture.

9.8.4.4 Colors Properties

This sets the colors for the Foreground Color.

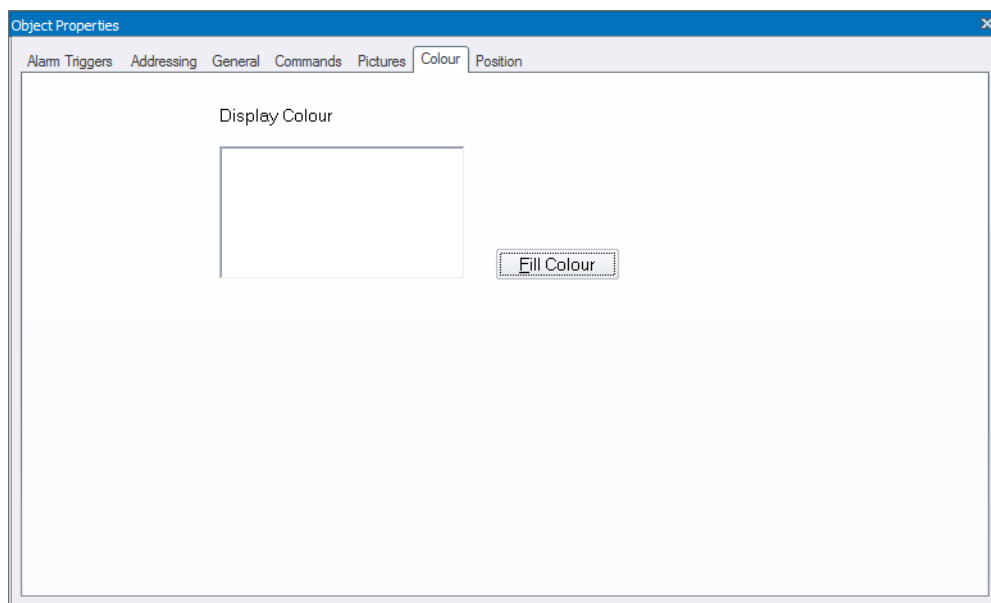


Figure 195 Color Properties

9.8.4.5 External Properties

This object exposes many properties. Only the ones listed below should be used as alarm trigger properties.

Properties (read and write variables)

External Name	Type	Valid Values
State	VT_12 (16 bit integer)	0 - Black, 1 - Green, 2 - Yellow, 3 - Red
Caption	VT_BSTR (text string)	Null terminated string. Can be used in command line substitutions as %c
UserString	VT_BSTR (text string)	%r substitution field

Table 8. External Properties

9.8.5 Snell State Meter

This object allows an alarm trigger event to be represented as a segmented bar or numerical meter with up to five color level ranges in a schematic window. The global system registered name for this ActiveX object is Snell State Meter. This object is useful when the Caption of an alarm trigger is a number value (the EDHERR header or FAN_SPEED header). The Caption can be assigned to the ValueString property and the meter converts the ASCII text into a real number for display.

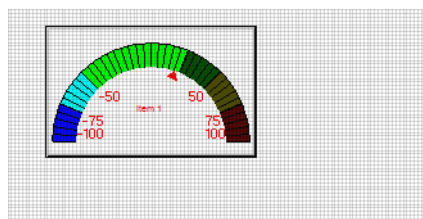


Figure 196 Add Snell State Meter

To resize the Snell State Meter double-click on the object, or select **Snell State Meter Object > Properties** from the main or context menu to show its properties box.

9.8.5.1 General Properties

The initial state and caption can be set in the General properties. The meter object has three basic styles: elliptical, rectangular (bar) or digital (numeric). In elliptical mode, the meter can be made to maintain its circular aspect ratio and show its range values in numbers. In rectangular mode, the meter is represented as a bar meter. If the width dimension is greater than its height, then the bar is drawn as a horizontal bar meter, else a vertical bar meter.

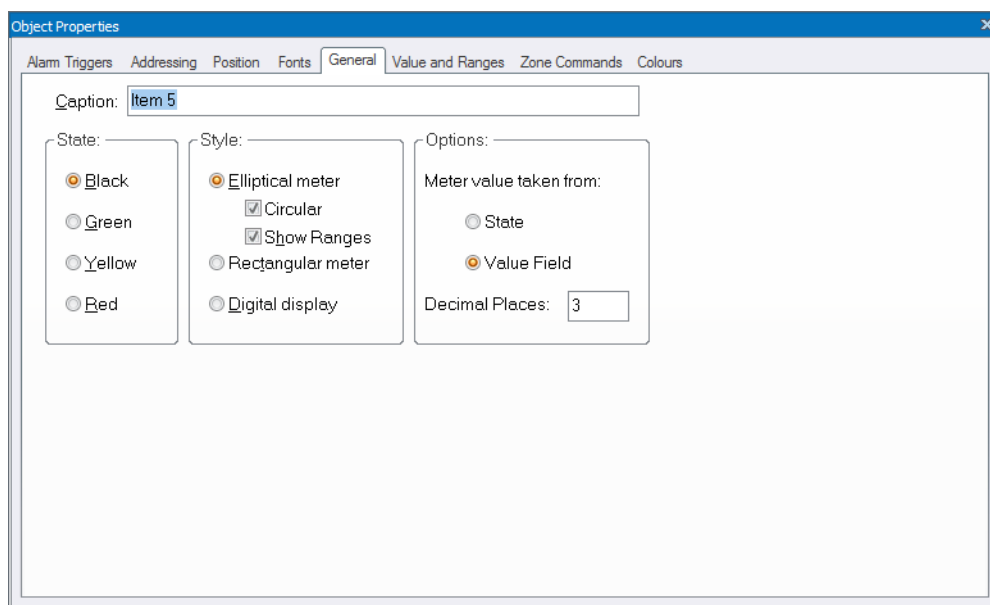


Figure 197 General Properties

The displayed value can be taken from the absolute value as set by its Value or ValueString property or from its general State value. In digital display mode, the number of decimal points can be set.

The caption can be split over several lines by using '\n' as a line break. (Line one/nLine two/nLine three/n)

9.8.5.2 Value and Ranges Properties

Up to five separate ranges can be set-up. By default, the minimum and maximum danger zones are shown in red, the minimum and maximum warning zones are in yellow and the safe zone is shown as green.

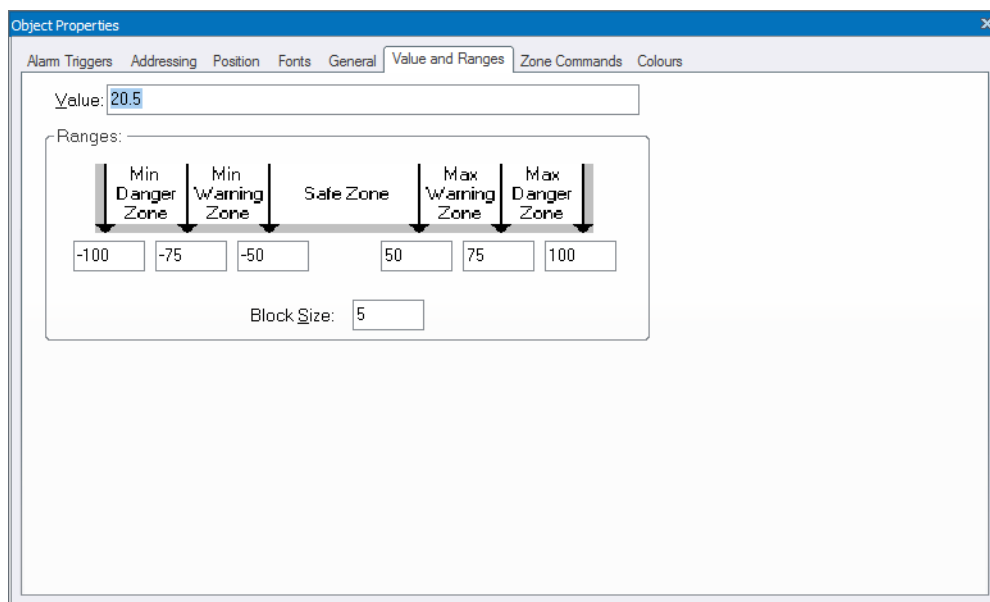


Figure 198 Value and Ranges Properties

9.8.5.3 Commands Properties

The Commands properties allows Alarm Triggers and Alarm Actions to be configured.

Click the **Edit Actions** button to open the Actions window.

The following triggers can be specified for a Snell State Meter:

- Object State Trigger - actions initiated when the state of the assigned unit changes
- Button Press - actions initiated when the button is pressed
- Meter Zone Change - actions initiated when a change in value causes a change to a different meter zone, for example from a safe zone to a minimum warning zone.
- Meter Value Change - actions initiated when the value of the meter changes.

For details of the attributable alarm actions, see “Configure Alarm Actions” on page 35.

9.8.5.4 Colors Properties

The colors for the background, foreground, danger, warning and safe area colors can be set from the Colors properties.

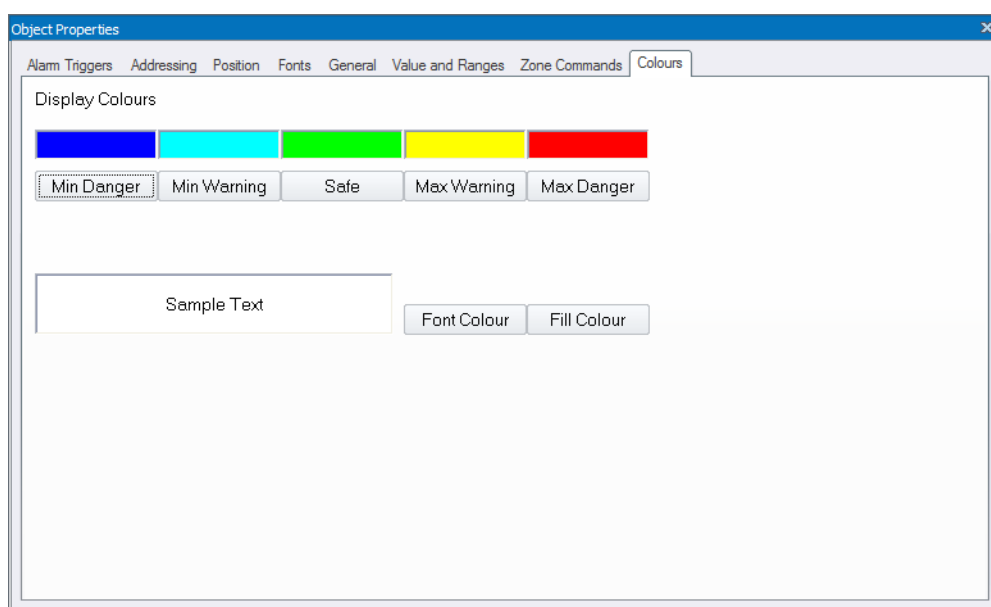


Figure 199 Colors Properties

9.8.5.5 External Properties

This object exposes many properties. Only the ones listed below should be used as alarm trigger properties.

Properties (read and write variables)

External Name	Type	Valid Values
State	VT_12 (16 bit integer)	0 - Black, 1 - Green, 2 - Yellow, 3 - Red
Caption	VT_BSTR (text string)	null terminated string
ValueString	VT_BSTR (text string)	converted to a real value
UserString	VT_BSTR (text string)	%r substitution field

Table 9. External Properties

9.8.6 Snell Check Box

The Snell Check Box works in a similar way to the Snell General Button, but can have two actions/states assigned to it.

To place a check box onto a schematic or component:

- Click the check box icon in the toolbar.

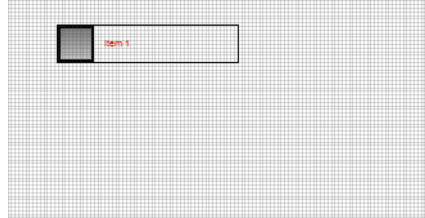


Figure 200 Add Snell Check Box

Double-click on the new object, or select **Snell Check Box Object > Properties** from the main or context menu to display the properties window.

9.8.6.1 General Properties

In this General tab, enter a name for the check box.

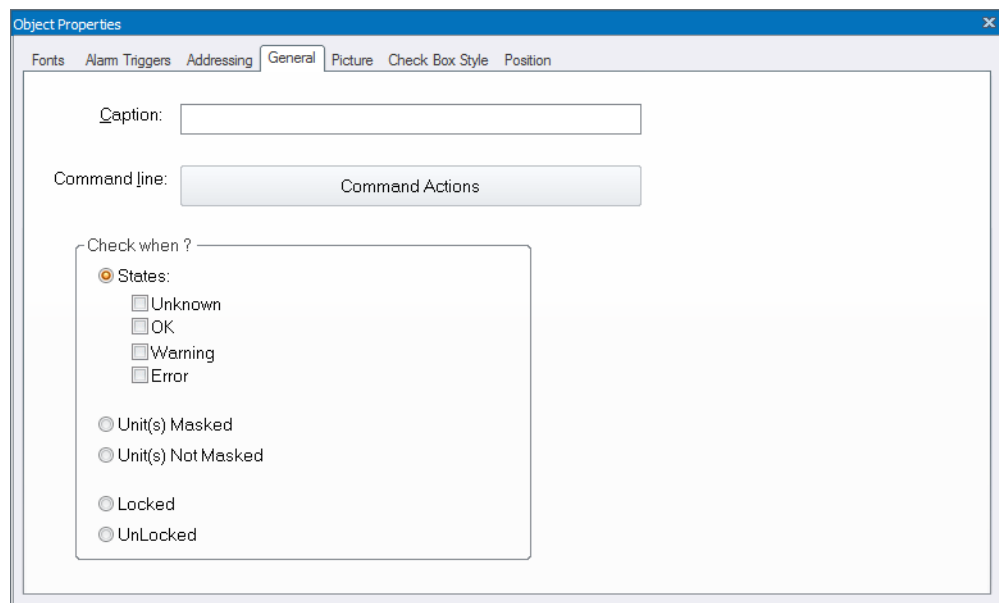


Figure 201 General Properties

- Click the **Command Actions** button to open the Actions window to configure the actions of the check box.

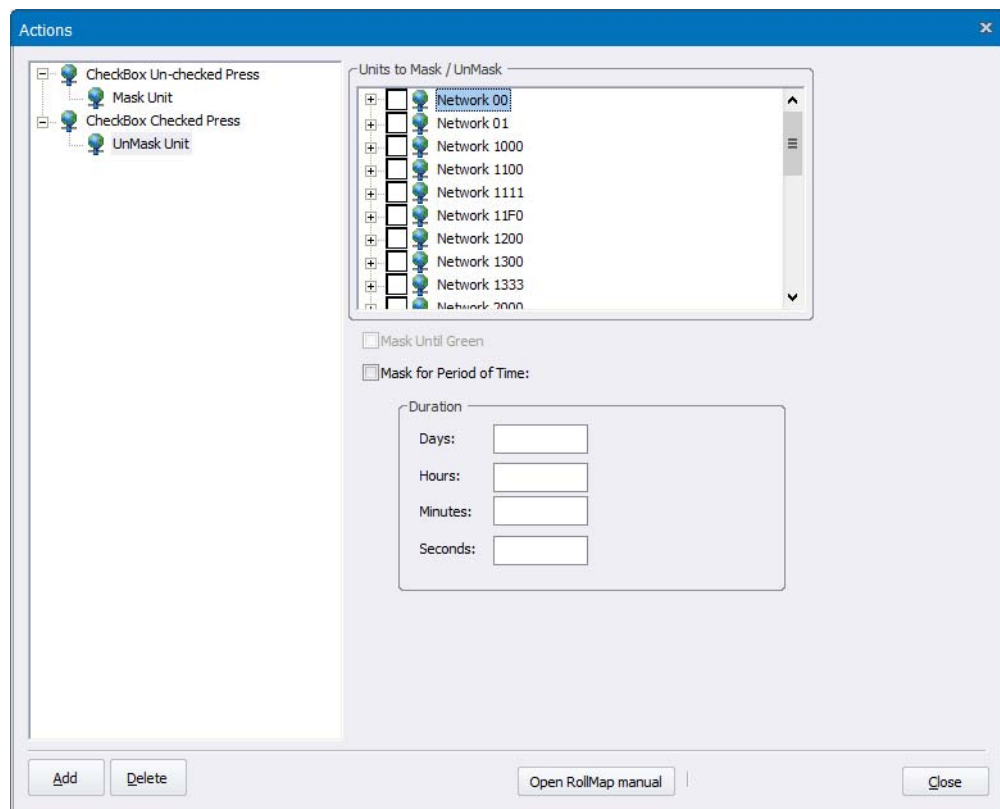


Figure 202 Actions

The following triggers can be specified for a Snell Check Box:

- Object State Trigger - actions initiated when the state of the assigned unit changes
- Button Press - actions initiated when the button is pressed
- Auto - actions are initiated when either:
 - a schematic containing the object with the auto trigger is loaded or goes into Run mode from Design mode
 - RollMap starts if in global alarm
- CheckBox Checked Press - actions are initiated when a checkbox is pressed when in checked state.
- CheckBox Un-checked Press - actions are initiated when a checkbox is pressed when in unchecked state.

For details of the attributable alarm actions, see “Configure Alarm Actions” on page 35.

A check box can have an un-checked and a checked state action defined by the state of the check box.

In the example above, when the box is in an un-checked state and then pressed, to check, then it will mask the selected unit. Similarly, when the checkbox is in a checked state, and then clicked, to un-check, then the unit is unmasked.

in the Actions windows select the criterion to set the checkbox to a checked state. In this example it will automatically check the box even if the unit is masked by a third party giving an indication to its current state.

9.8.6.2 Font Properties

The font style, size and color can be changed, as can the position of the text within the button face. Highlight text may be added to change the font properties for when the button is hovered over.

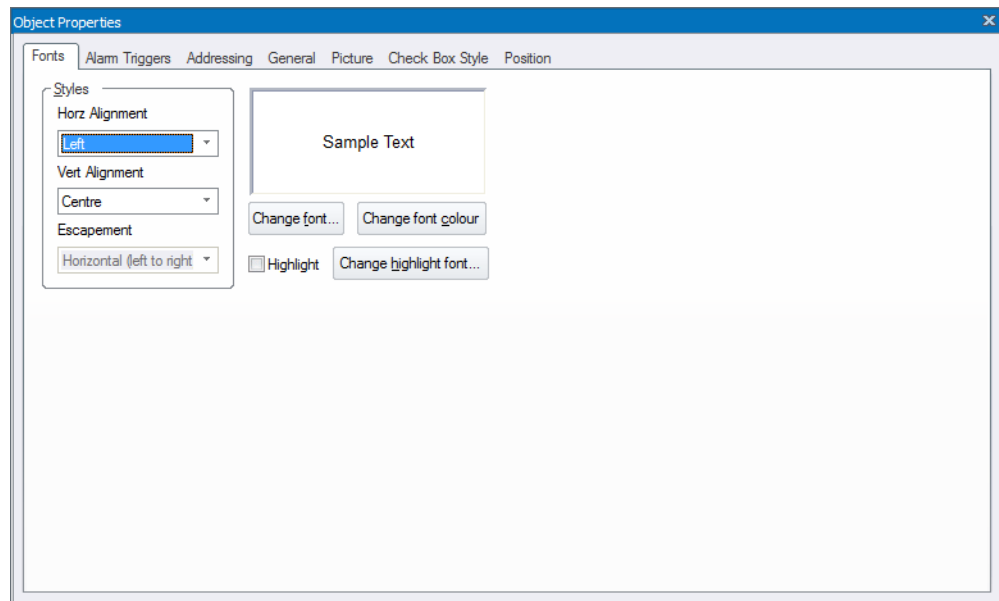


Figure 203 Fonts Properties

9.8.6.3 Picture Properties

The check box face can be replaced with a picture based on the Unchecked and checked state defined. The original aspect ratio of the picture can be maintained and the Caption displayed over it. Also, the button bevel and button background can be removed by deselecting the corresponding check boxes.

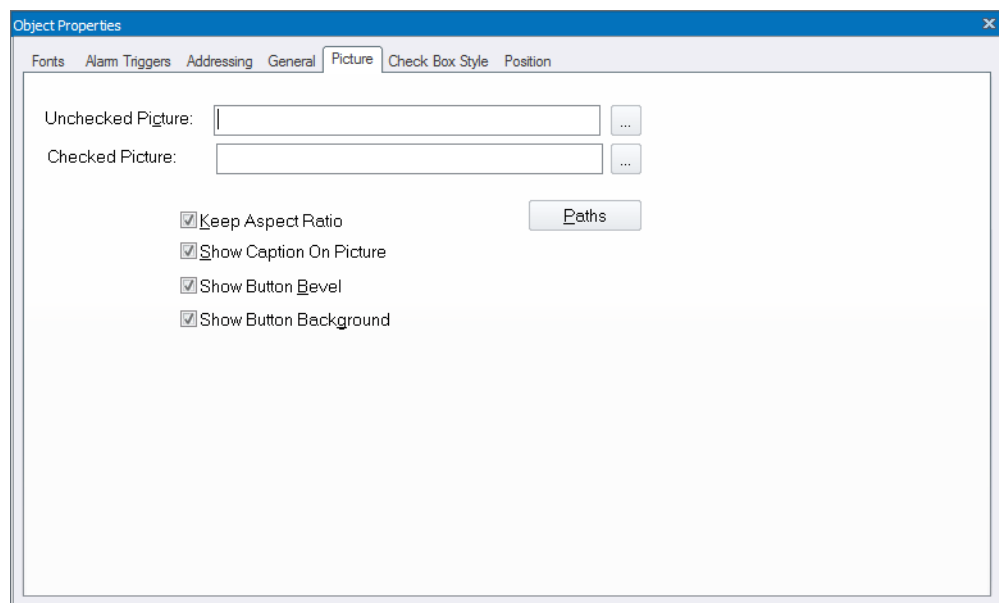


Figure 204 Picture Properties

9.8.6.4 Check Box Style Properties

There are a number of ways the appearance can be altered, these can be done via the Check Box Style properties page.

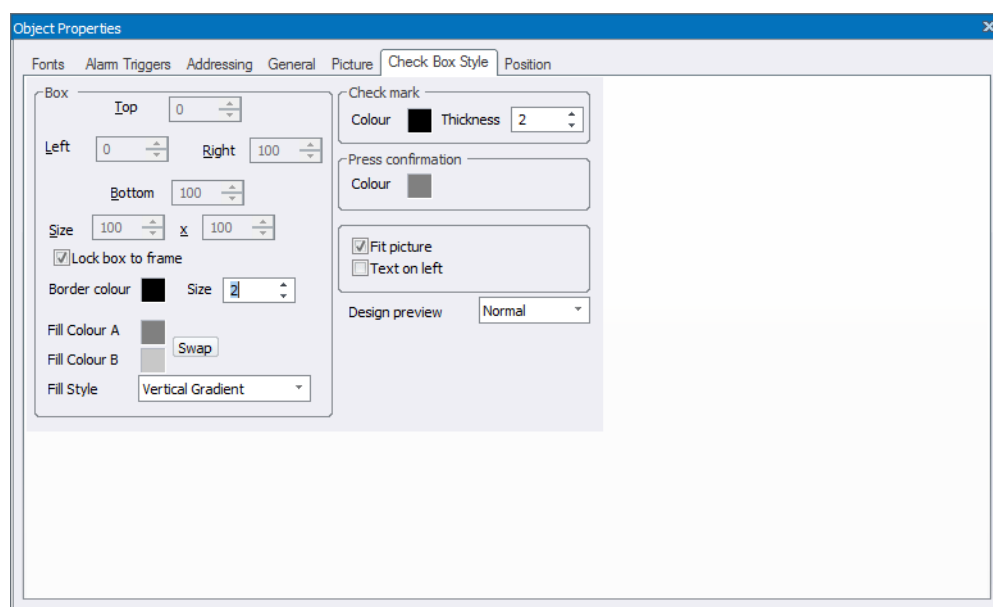


Figure 205 Check Box Style Properties

9.8.6.5 External Properties

This object exposes many properties. Only the ones listed below should be used as alarm trigger properties.

Properties (read and write variables)

External Name	Type	Valid Values
State	VT_12 (16 bit integer)	0 - Black, 1 - Green, 2 - Yellow, 3 - Red
Caption	VT_BSTR (text string)	null terminated string (%c field)
UserString	VT_BTSR (text string)	%r substitution field

Table 10. External Properties

Check Box Example 1:

This example shows how to create a check box to turn a LAN port on and off, and report the state to a virtual unit, F000:36:00, under the header "LAN_PORT_ADMIN_STATE". With the check box checked, the port is Up and OK.

1. Open a new schematic.
2. Add a check box, and double-click on it to open the Properties.
3. From the General tab, click the **Command Actions** button.
4. In the Actions screen add an **Auto** trigger, and add a **Get SNMP** action.

This will poll the SNMP field on the unit to get the current value.

5. Enter the Get SNMP details, and Polling, as required.

Figure 206 Check Box Example - Actions

6. Click on the Handle state: radio button.
7. From the mode drop-down list select Match by List, and enter the following parameters:

OK	1	The value received by the virtual unit when the check box is set to On.
Warning	0	No action
Fail	2	The value received by the virtual unit when the check box is set to Off.

8. In the Actions screen add a **CheckBox Un-checked Press** trigger, and add a **Send SNMP** action.
9. Enter the unit details, and a Value of 1.

This sets the check box such that when checked, the LAN port is set to On.

Figure 207 Check Box Example - LAN Port On

10. In the Actions screen add a **CheckBox Checked Press** trigger, and add a **Send SNMP** action.
11. Enter the unit details, and a Value of 2.

This sets the checkbox such that when unchecked, the LAN port is set to Off.

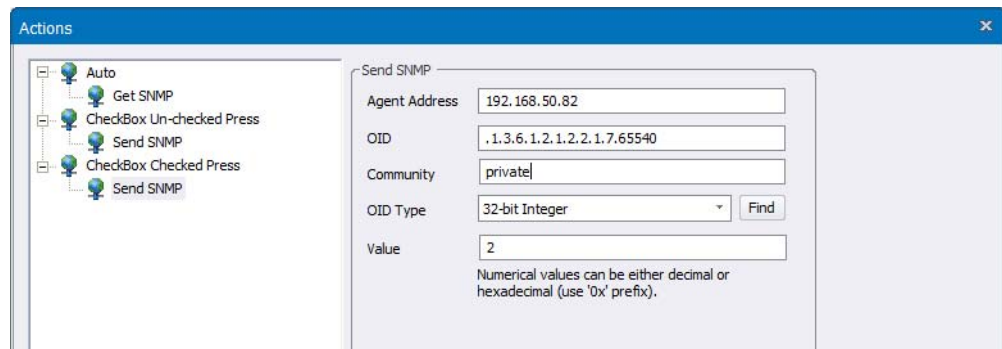


Figure 208 Check Box Example - LAN Port Off

12. Enter the virtual unit address (F000:36:00) into the Log Unit field.
13. Enter "LAN_PORT_ADMIN_STATE" into the Log Header field.
14. Click **OK**.

For further details about triggers and actions, see "Unit Triggers and Actions" on page 164.

To ensure the checkbox is checked even if an external source changes the value:

- In the General Properties tab, click on the States: radio button in the Check When? section, and check the OK checkbox.

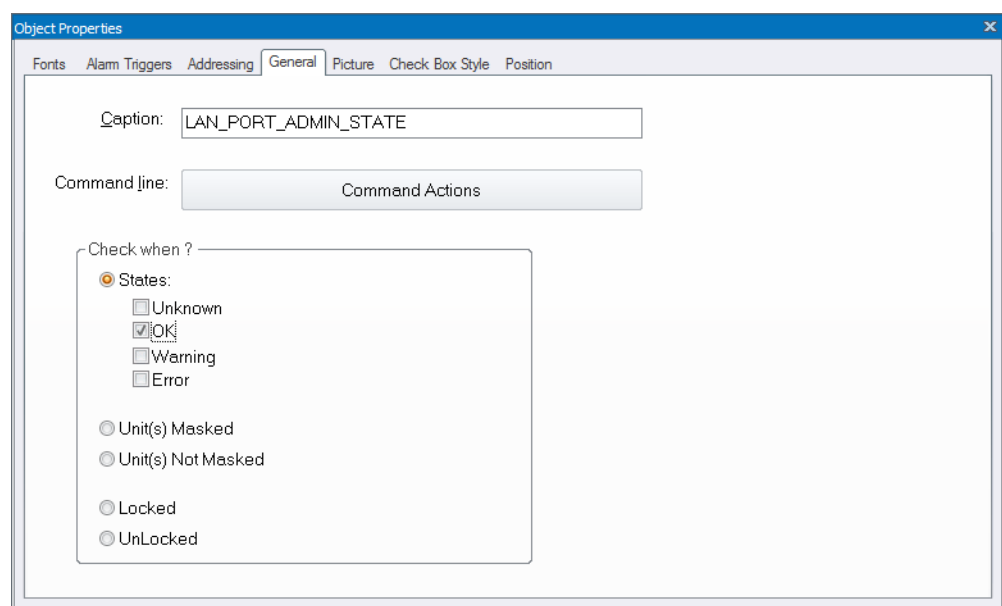


Figure 209 Check Box Example - General Properties

- In the Alarm Triggers tab, select an address from the drop-down list, and click **Add**, or defer the address using the Defer checkboxes.

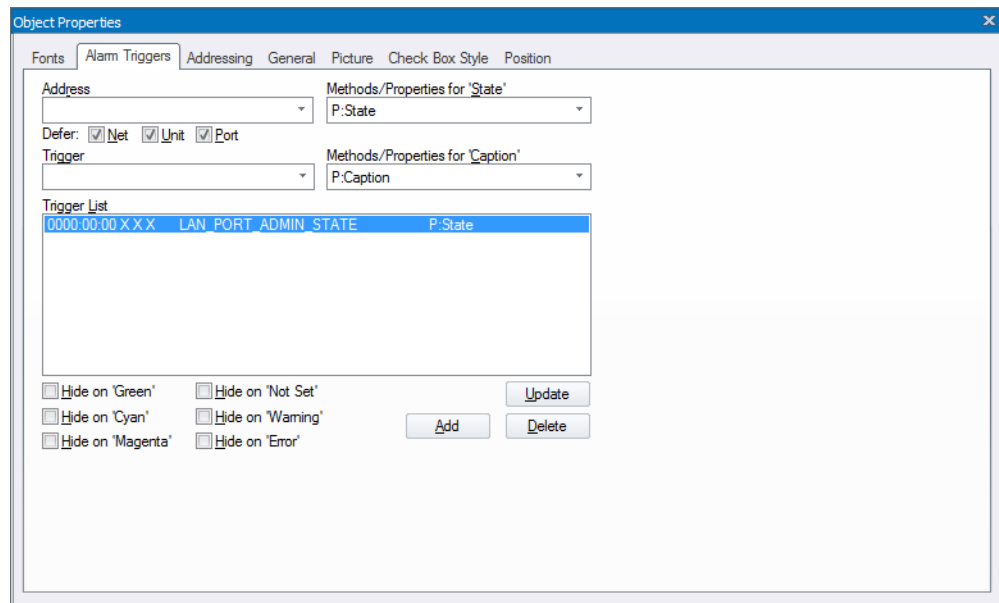


Figure 210 Check Box Example - Alarm Triggers

After running this schematic, if a new header is chosen, you will need to "create all headers". See "Set up Keyword Headers" on page 21.

Check Box Example 2:

This example shows how to create a check box to add a Panel Lock/Unlock feature to a schematic. When the panel is locked the screen will "grey-out" not allowing any input, other than clicking on Unlock to give back access to the panel.

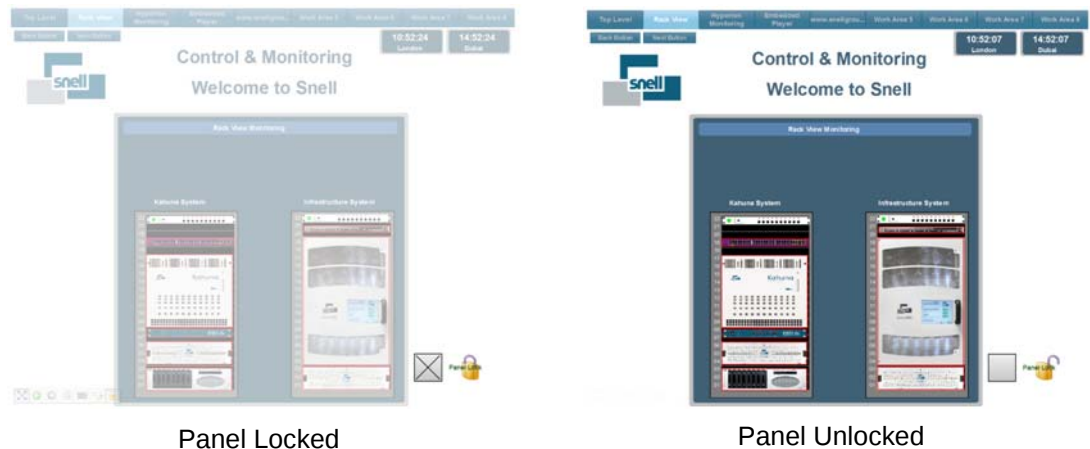


Figure 211 Check Box Example - Panel in Locked and Unlock State

1. Open a new schematic.
2. Add a check box, and double-click on it to open the Properties.
3. From the General tab, add a caption "Panel Lock."
4. Select the Locked radio button in the Check when? section.

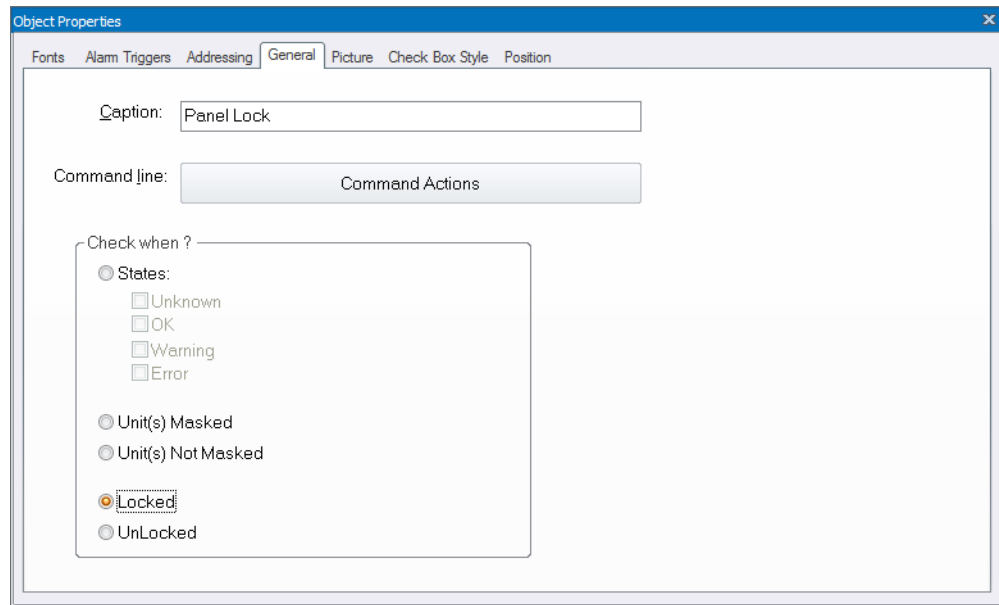


Figure 212 Check Box Example - General Properties

5. Click on the **Command Actions** button.
6. In the Actions screen a **Checkbox Checked Press** trigger, and add an **Unlock** action to it.
7. Add a second trigger, **Checkbox Un-Checked Press** trigger, and add an **Lock** action.

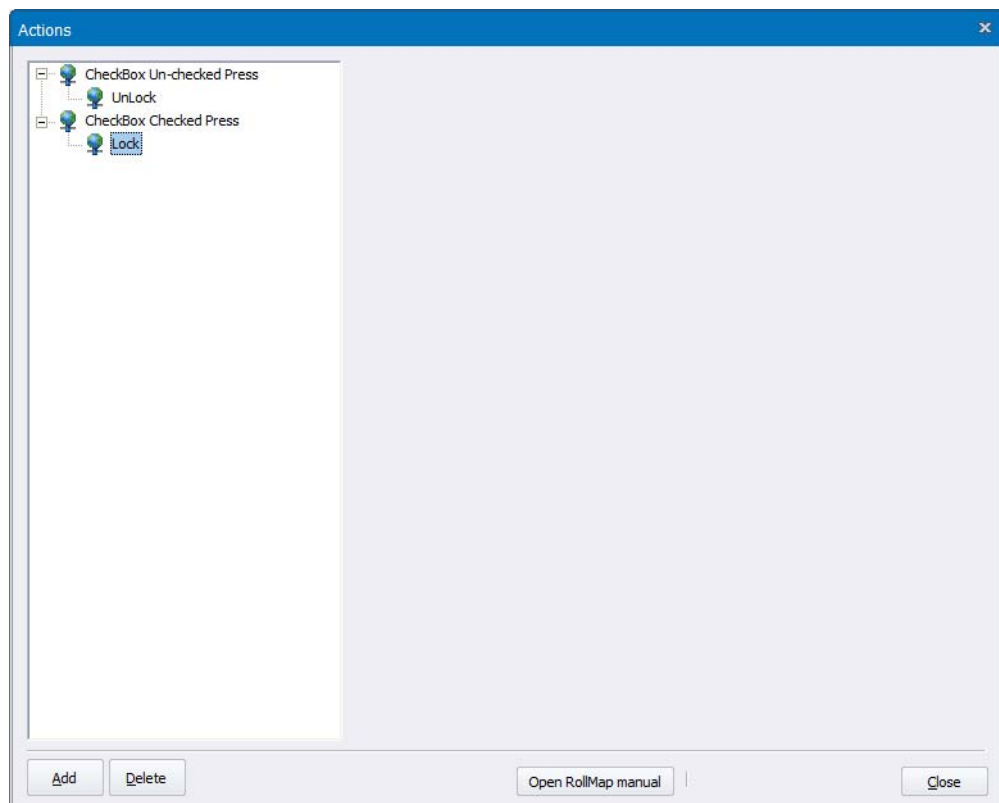


Figure 213 Check Box Example - Actions

8. Click **OK**.

The appearance and functionality of the control can be changed, for example the caption highlight, font style and color, from within the Fonts tab.

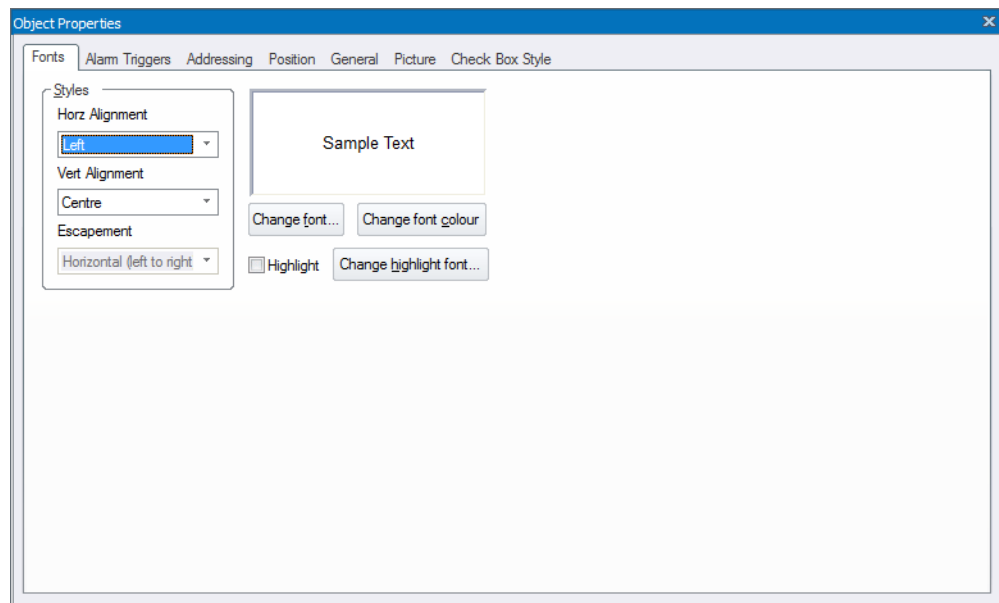


Figure 214 Check Box Example - Fonts

The style of the checkbox itself may also be changed, using the parameters within the Check Box Style tab.

Images can be added to the display as an additional aid to indicate when the checkbox is locked or unlocked. In this example an open or closed padlock displays to show the current state of the check box. Add images in the Picture tab.

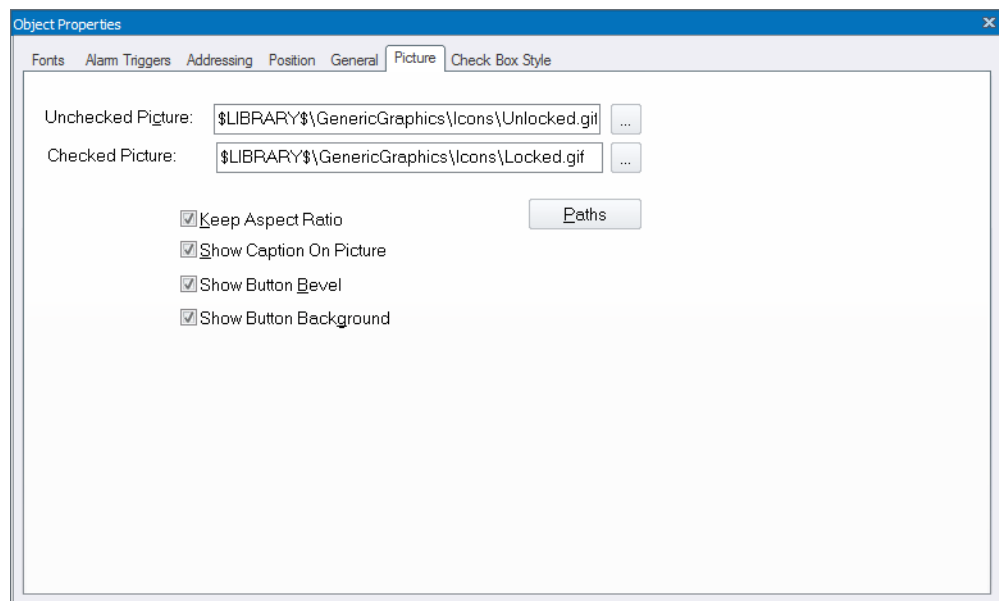


Figure 215 Check Box Example - Pictures

9.8.7 Snell Roll Clock Object

This object allows an alarm trigger event to be represented as a clock item in a schematic window. The global system registered name for this ActiveX object is Snell Clock.

9.8.7.1 General Properties

The initial state is set in the General properties. The clock object has two basic styles: analogue or digital.

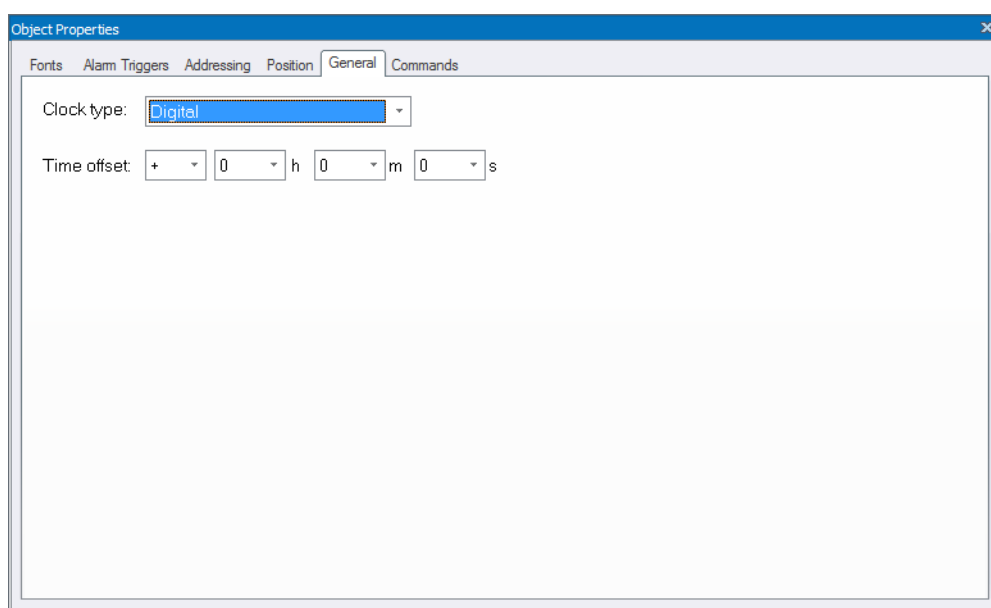


Figure 216 General Properties

From the Clock type drop-down list select Analogue or Digital.

An offset (either plus or minus) may be added to the time by selecting the appropriate values from the drop-down lists.

To resize the clock, click on the object and drag the desired size, or select **Properties** from the main or context menu, and select the Position tab. From here a size and position may be entered numerically.

9.8.7.2 Commands Properties

The Commands properties tab allows Alarm Triggers and Alarm Actions to be configured.

Click the **Edit Actions** button to open the Actions window.

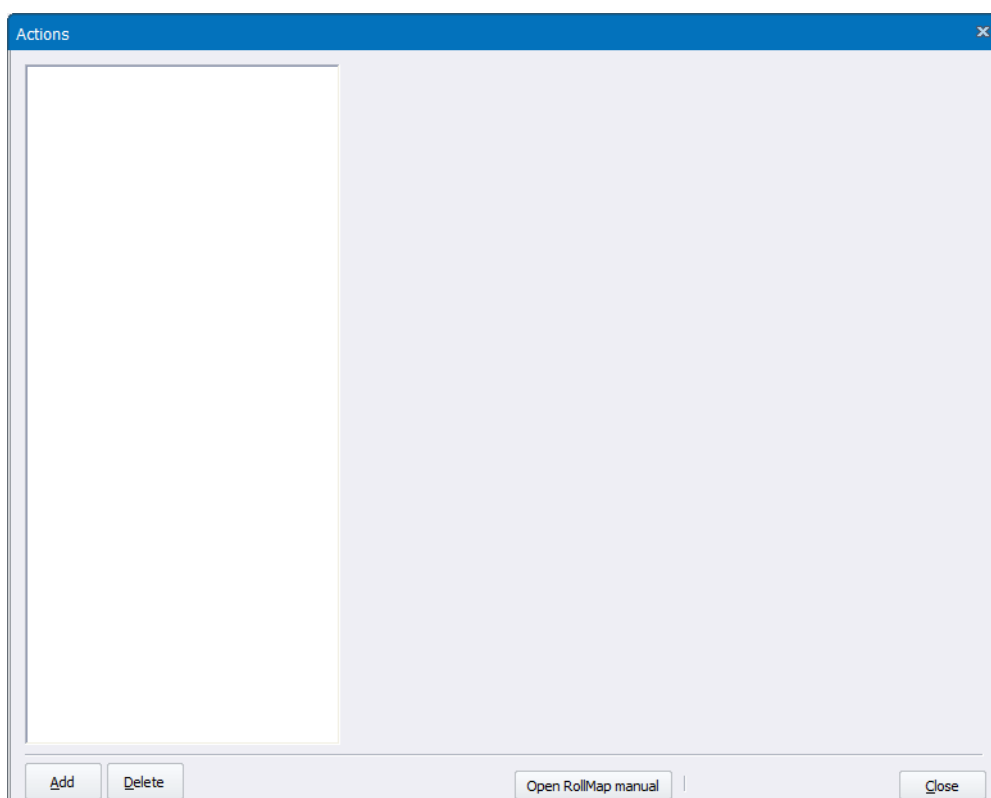


Figure 217 Actions

The following triggers can be specified for a Snell Roll Clock Object:

- Object State Trigger - actions initiated when the state of the assigned unit changes
- Auto - actions are initiated when either:
 - a schematic containing the object with the auto trigger is loaded or goes into Run mode from Design mode
 - RollMap starts if in global alarm

For details of the attributable alarm actions, see “Configure Alarm Actions” on page 35.

9.8.8 Snell XY Router Panel

This object allows an XY router panel to be added to a schematic window. The XY router panel can be configured, and the display of the panel adapted, as required.

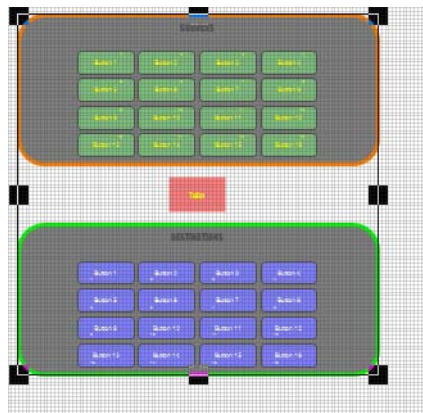


Figure 218 Default XY Router Panel

In addition to the normal alarm triggers, addressing and position properties, there are three properties tabs relating to the setup of the router panel:

- Presets - quick setup for each of the basic router types
- Configuration - define the number of buttons, and the layout and style of the panel
- Routing - configure individual source and destination button operation

9.8.8.1 Presets Properties

When a new panel is added to a schematic, the default Custom type is selected. To start the configuration using one of the preset routers, select the relevant radio button according to the router type connected to. This will configure the correct commands and numbers, and will display a default grid size, according to the router selected.

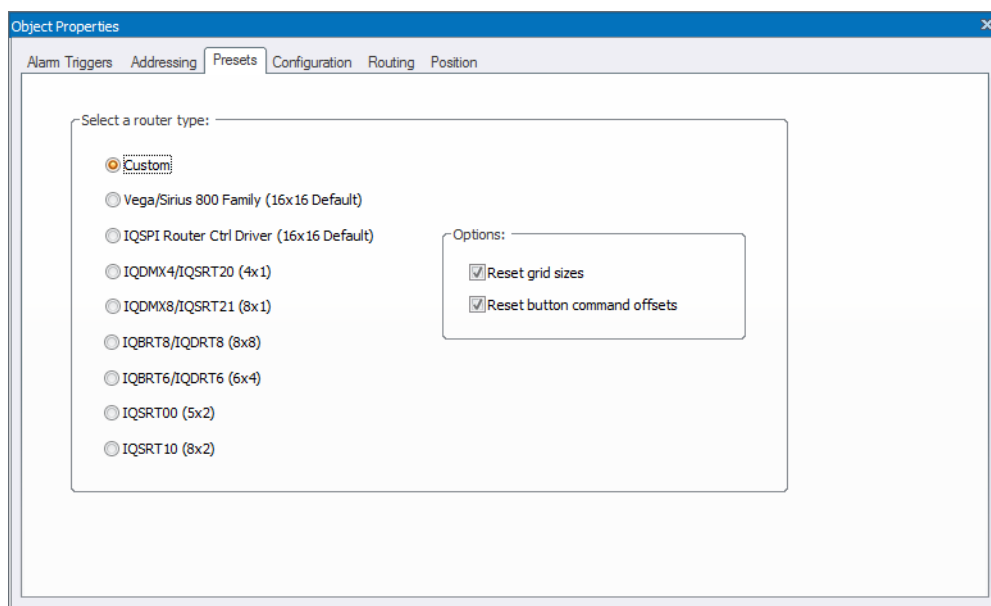


Figure 219 Router Presets

Two option checkboxes, one to reset the button grid size according to the selected router, and one to retain the router command numbers, are both checked by default. These can be unchecked, if the functions are not required.

9.8.8.2 Configuration Properties

In this tab, set up the number of sources and destinations required for the panel, and define the format of the router panel layout, and the style of each of the elements of the panel.

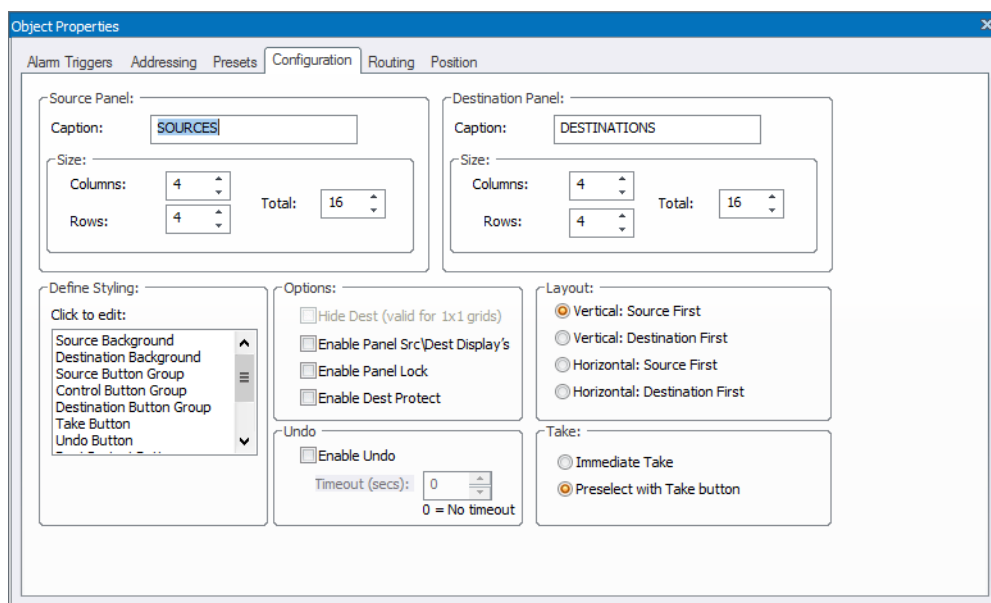


Figure 220 XY Panel Configuration

For both sources and destinations, define a title caption and set the number of rows and columns of buttons to display for each. By default, the Total number of buttons adjusts in line with the number of columns and rows selected. However, this can be overridden, if required.

Note:

The number of columns and rows defines the area allocated for the buttons. If the total number of buttons is subsequently reduced the buttons do not spread to fill the allocated space.

In the Define Styling: section, click on any of the items in the list to display the format styling properties for that item.

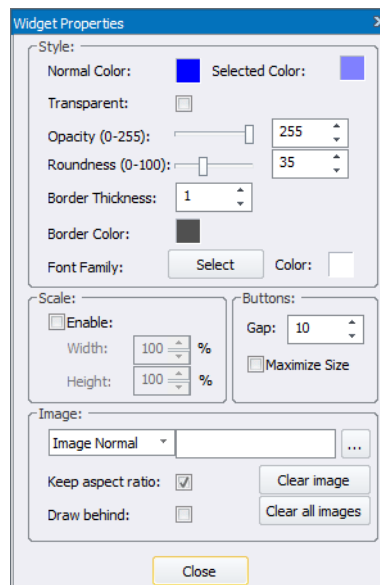


Figure 221 Panel Style Properties

From within this properties screen, the button color, text font, and scaling can be adjusted. Images may also be imported to some buttons, if required.

Note: Any of the items in the Define Styling: section of the Configuration tab may be selected whilst this format styling screen is open. The properties change according to what is selected.

Additional buttons may be added to or removed from the panel, for example, Undo, Destination Protect, Panel Lock, and Take. Also, tally displays showing the current source and destination may be included in the panel.

Source and destination buttons may display left to right, or up and down. Select the desired layout, either vertical or horizontal from the Layout: section.

9.8.8.3 Routing Properties

In this tab, set up the source and destination buttons. The Source Value and Routing Commands are used to perform the routing. It is also possible to define how buttons are named, either queried from the unit, or using a fixed button name.

Use a combination of the drop-lists and the **Next** and **Previous** buttons to navigate to each button and allocate a name/command as required.

Figure 222 Routing Properties

Set Up Source Buttons

To set buttons numerically using auto fill:

1. Select the first source button (button 1).
2. Set a source value from which the routing should begin (either 0 or 1 depending on the router type being configured).
3. Click on the **Auto Fill** button.

The Auto Fill screen displays.

Figure 223 Auto Fill

The source value displays as was set in the source value on the main screen (and cannot be edited on this screen).

4. Set the Increment after value to define how many buttons are to be set with the current fill attributes
5. Set the Increment by value to determine how much the value increments after each button allocation.
6. Click **OK**.

All buttons are setup sequentially from the starting source value.

To use fixed button names:

1. Check the Fix button name checkbox.
2. Either, enter text to fix the button name, or select the command radio button and enter a command number for a command that will be queried from the unit.

If using a command, auto fill can be used to set commands for a number of subsequent buttons, as defined in the auto fill screen.

The Name Command Base/Offset Source and Destination fields specify the RollCall command number to use to obtain a name. Depending on the router type the Base Command Number is added to the Source Value to obtain the full command number, or in the case of routers where they have the same command number, this value specifies what the command number is. Whichever of these is applicable is determined automatically.

Set up Destination Buttons

1. Select the first destination button (button 1).
2. Define the full command number in the Command (Base + Offset) field. The offset is automatically calculated from this value.

Alternatively, define the Routing Base, and define the Routing Command Offset (the number to add to the Routing base to obtain the full command number).

Each destination will have a different command offset, incremental from 0 or 1 typically.

3. Enter the value in the Base Protect field for the base command that defines the destination protect function (applicable routers only).

9.8.9 Snell BPX Router Panel

This object allows a BPX router panel to be added to a schematic window. The BPX router panel can be configured, and the display of the panel adapted, as required.

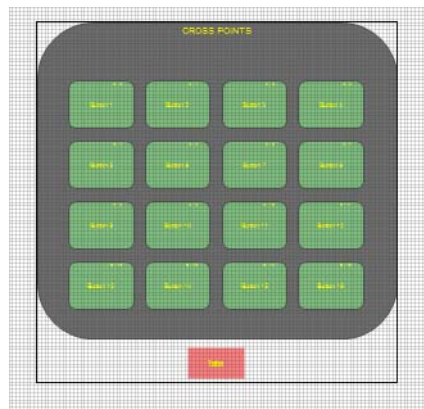


Figure 224 Default BPX Router Panel

In addition to the normal alarm triggers, addressing and position properties, there are two properties tabs relating to the setup of the router panel:

- Presets - quick setup for each of the basic router types
- Configuration - define the number of buttons and their operation, and the layout and style of the panel

9.8.9.1 Presets Properties

When a new panel is added to a schematic, the default Custom type is selected. To start the configuration using one of the preset routers, select the relevant radio button according to the router type connected to. This will configure the correct commands and numbers, and will display a default grid size, according to the router selected.

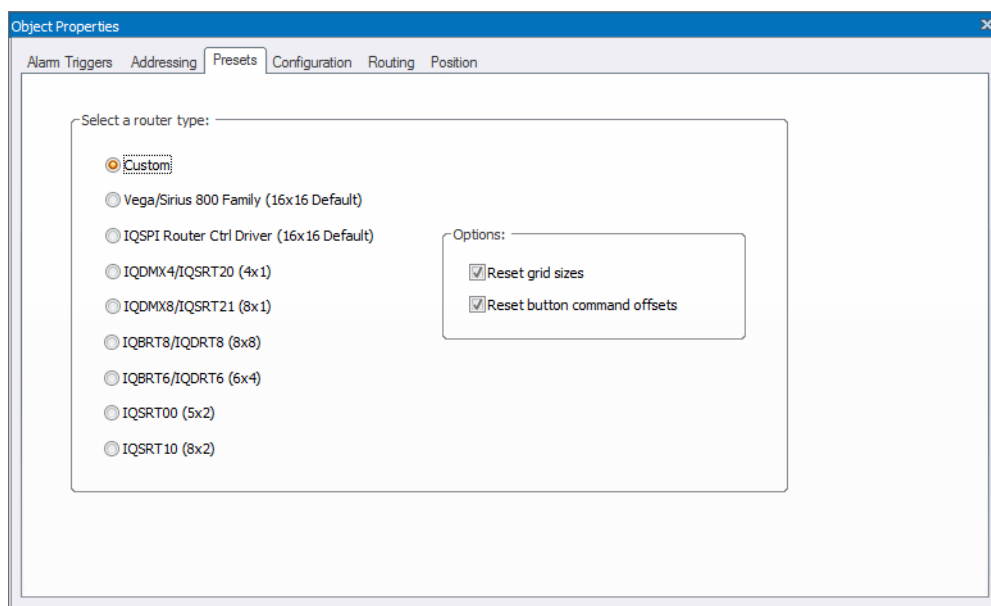


Figure 225 Router Presets

Two option checkboxes, one to reset the button grid size according to the selected router, and one to retain the router command numbers, are both checked by default. These can be unchecked, if the functions are not required.

9.8.9.2 Configuration Properties

In this tab, set up the number of buttons required for the panel, and define the format of the router panel layout, the style of each of the elements of the panel, and define the crosspoints.

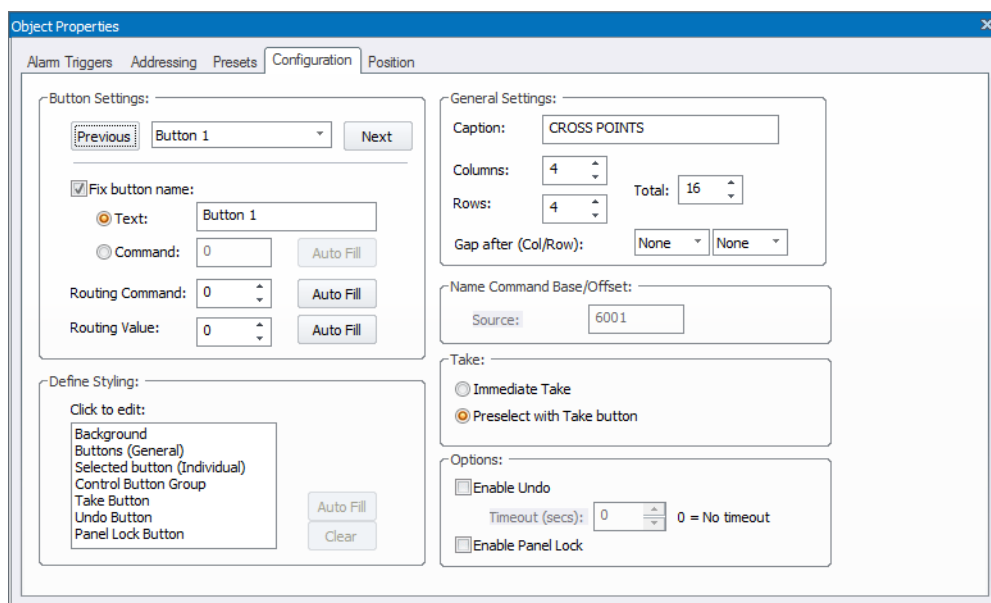


Figure 226 BPX Panel Configuration

For the panel, define a title caption and set the number of rows and columns of buttons to display. Rows and columns may be spaced to divide buttons into different groups. By default, the Total number of buttons adjusts in line with the number of columns and rows selected. However, this can be overridden, if required.

Note:

The number of columns and rows defines the area allocated for the buttons. If the total number of buttons is subsequently reduced the buttons do not spread to fill the allocated space.

Use a combination of the drop-list and the **Next** and **Previous** buttons, navigate to each button and allocate a name/command as required.

Each button can either take the name of the source directly from the router, or a fixed button name can be added manually. Command numbers may also be attributed to buttons.

To set button names:

1. Check the Fix button name checkbox.
2. Either, enter text to fix the button name, or select the command radio button and enter a command number for a command that will be queried from the unit.

If using a command, auto fill can be used to set commands for a number of subsequent buttons, as defined in the auto fill screen.

The Name Command Base/Offset field specifies the RollCall command number to use to obtain names. Depending on the router type the Base Command Number is added to the Source Value to obtain the full command number, or in the case of routers where they have the same command number, this value specifies what the command number is. Whichever of these is applicable is determined automatically.

To set crosspoints:

1. Enter a value in the Routing Command field (the command number that corresponds to a specific destination). Use the **Auto Fill** button to fill subsequent buttons, if required.
2. Enter a value in the Routing Value field (the command number that corresponds to a specific source). Use the **Auto Fill** to fill subsequent buttons, if required.

In the Define Styling: section, click on any of the items in the list to display the format styling properties for that item.

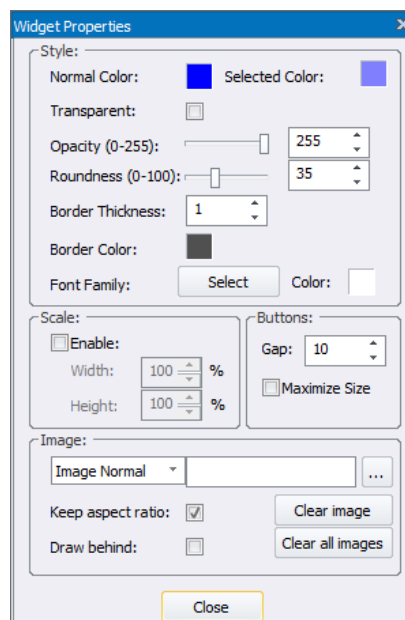


Figure 227 Panel Style Properties

From within this properties screen, the button color, text font, and scaling can be adjusted. Images may also be imported to some buttons, if required.

Note:

Any of the items in the Define Styling: section of the Configuration tab may be selected whilst this format styling screen is open. The properties change according to what is selected.

Additional buttons may be added to or removed from the panel, for example, Undo, Destination Protect, Panel Lock, and Take. Also, tally displays showing the current source and destination may be included in the panel.

Source and destination buttons may display left to right, or up and down. Select the desired layout, either vertical or horizontal from the Layout: section.

9.8.10 Snell Dial-up Router Panel

This object allows a Dial-up router panel to be added to a schematic window. The dial-up router panel can be configured, and the display of the panel adapted, as required.



Figure 228 Default Dial-up Router Panel

In addition to the normal alarm triggers, addressing and position properties, there are three properties tabs relating to the setup of the router panel:

- Presets - quick setup for each of the basic router types
- Configuration - define the number of buttons, and the layout and style of the panel
- Routing - configure individual source and destination button operation

9.8.10.1 Presets Properties

When a new panel is added to a schematic, the default Custom type is selected. To start the configuration using one of the preset routers, select the relevant radio button according to the router type connected to. This will configure the correct commands and numbers, and will display a default grid size, according to the router selected.

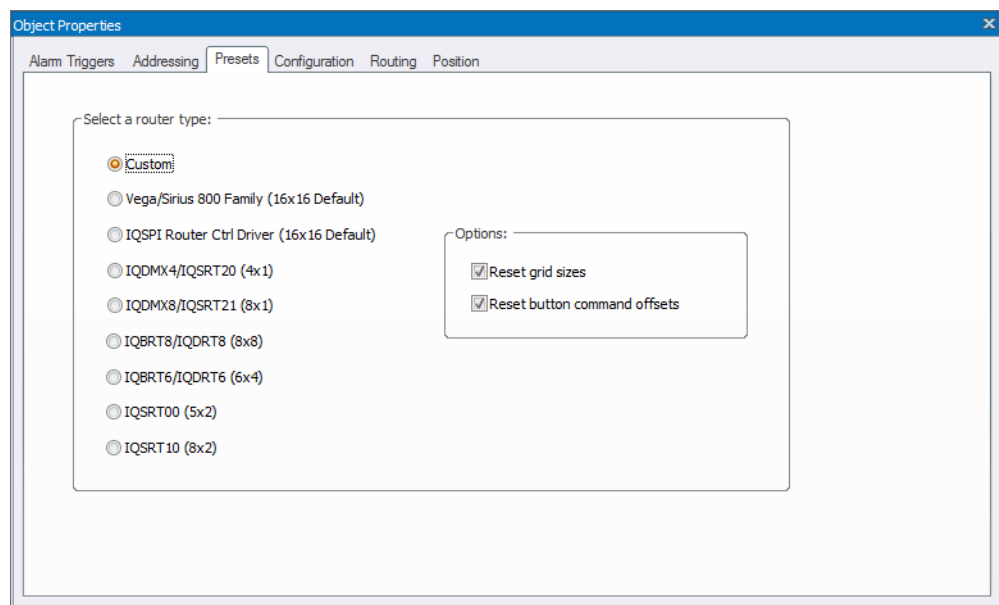


Figure 229 Router Presets

Two option checkboxes, one to reset the button grid size according to the selected router, and one to retain the router command numbers, are both checked by default. These can be unchecked, if the functions are not required.

9.8.10.2 Configuration Properties

In this tab, set up the number of sources and destinations required for the panel, and define the format of the router panel layout, and the style of each of the elements of the panel.

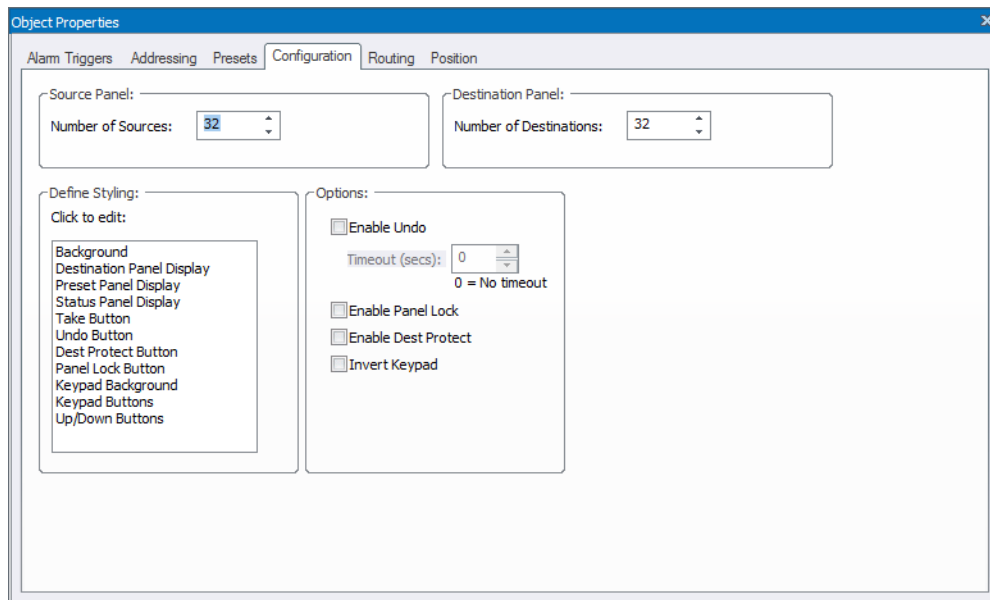


Figure 230 Dial-up Panel Configuration

In the Define Styling: section, click on any of the items in the list to display the format styling properties for that item.

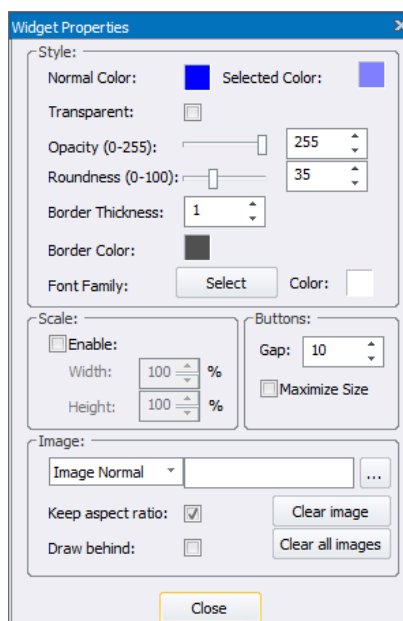


Figure 231 Panel Style Properties

From within this properties screen, the button color, text font, and scaling can be adjusted. Images may also be imported to some buttons, if required.

Note:

Any of the items in the Define Styling: section of the Configuration tab may be selected whilst this format styling screen is open. The properties change according to what is selected.

Additional buttons may be added to or removed from the panel, for example, Undo, Destination Protect and Panel Lock.

The dial-up panel numeric buttons may be inverted.

9.8.10.3 Routing Properties

In this tab, set up the source and destination buttons. The Source Value and Routing Commands are used to perform the routing. It is also possible to define how buttons are named, either queried from the unit, or using a fixed button name.

Use a combination of the drop-lists and the **Next** and **Previous** buttons to navigate to each button and allocate a name/command as required.

Figure 232 Routing Properties

Set Up Source Buttons

To set buttons numerically using auto fill:

1. Select the first source button (button 1).
2. Set a source value from which the routing should begin (either 0 or 1 depending on the router type being configured).
3. Click on the **Auto Fill** button.

The Auto Fill screen displays.

Figure 233 Auto Fill

The source value displays as was set in the source value on the main screen (and cannot be edited on this screen).

4. Set the Increment after value to define how many buttons are to be set with the current fill attributes

5. Set the Increment by value to determine how much the value increments after each button allocation.
6. Click **OK**.

All buttons are setup sequentially from the starting source value.

To use fixed button names:

1. Check the Fix button name checkbox.
2. Either, enter text to fix the button name, or select the command radio button and enter a command number for a command that will be queried from the unit.

If using a command, auto fill can be used to set commands for a number of subsequent buttons, as defined in the auto fill screen.

The Name Command Base/Offset Source and Destination fields specify the RollCall command number to use to obtain a name. Depending on the router type the Base Command Number is added to the Source Value to obtain the full command number, or in the case of routers where they have the same command number, this value specifies what the command number is. Whichever of these is applicable is determined automatically.

Set up Destination Buttons

1. Select the first destination button (button 1).
2. Define the full command number in the Command (Base + Offset) field. The offset is automatically calculated from this value.

Alternatively, define the Routing Base, and define the Routing Command Offset (the number to add to the Routing base to obtain the full command number).

Each destination will have a different command offset, incremental from 0 or 1 typically.

3. Enter the value in the Base Protect field for the base command that defines the destination protect function (applicable routers only).

Appendix A. RollMap Command Line Parameters

RollMap can be run from any MS Windows command line interpreter or shortcut. The format is: RollMap.exe [-min | -max] [-sys] [-mask= | -unmask=] [-maskcell= | -unmaskcell=] [-snmp=] [-maxframe | -minframe] [-details=] [-address=] [-replace=] [T1 | T2 | B2 | L2 | R2 | TL4 | TR4 | BL4 | BR4] [-hide] [-fullscreen] [filenames...]

Where [] are optional parameters:

-min

Starts the program with child windows minimized.

-max

Starts the program with child windows maximized.

-sys

Opens the home schematic.

-home

Opens the Systems Alarms window.

-mask=NNNN:UU:PP

Mask unit at address NNNN:UU:PP (standard RollCall address of unit).

-maskuntilgreen=NNNN:UU:PP

Mask unit at address NNNN:UU:PP (standard RollCall address of unit) until green.

-unmask=NNNN:UU:PP

Unmask unit at address NNNN:UU:PP (standard RollCall address of unit).

-maskcell=NNNN:UU:PP:HEADER

Masks a cell on a specified unit where HEADER is the header keyword and NNNN:UU:PP is the RollCall address of the unit.

-maskcelluntilgreen=NNNN:UU:PP:HEADER

Masks a cell on a specified unit where HEADER is the header keyword and NNNN:UU:PP is the RollCall address of the unit, until green.

-unmaskcell=NNNN:UU:PP:HEADER

Unmasks a cell on a specified unit where HEADER is the header keyword and NNNN:UU:PP is the RollCall address of the unit.

-maskcellallunits=HEADER

Masks a cell on all units where HEADER is the header keyword.

-maskcellallunitsuntilgreen=HEADER

Masks a cell on all units where HEADER is the header keyword, until green

-unmaskcellallunits=HEADER

Unmasks a cell on all units where HEADER is the header keyword.

-snmp="NNNN:UU:PP,UnitName,ID,IDName,EventTime,EventState,LogMessage"

This causes RollMap to generate a SNMP trap in the format specified by the ROLLSNMP MIB. The fields are as follows:

- NNNN:UU:PP Standard RollCall unit address
- UnitNameASCII name of unit.
- IDUnique ID of unit type (1 to 65535)
- IDName Corresponding type name for ID.
- EventTimeASCII display of time of event. For example, "Tue Feb 20 12:00:01 2003".

- EventStateNumerical value indicating state of event. 0 is UNKNOWN, 1 is GOOD, 2 is WARNING and 3 is FAILURE.
- LogMessageRollCall log message that generated this event. For example, "INPUT=LOST"

All fields must be comma separated and hence the fields themselves must not contain commas. Any field that contains a space must be enclosed by double quotes.

Example: -snmp="0000:50:05,DA5,56,IQDVDA,Wed Feb 21 12:00:00 2003,3,INPUT=LOST"

-maxframe

This maximizes the whole RollMap window.

-minframe

This minimizes the whole RollMap window.

-details=NNNN:UU:PP

This brings up the "Details" window for the unit at address NNNN:UU:PP.

-address=NNNN:UU:PP filename.sch

Overrides the background address of a schematic specified by filename with the specified address. Note that the schematic file is not affected, so the same file can be opened multiple times with different address overrides.

-replace=NNNN:UU:PP~NNNN:UU:PP filename.sch

This finds all instances of the first RollCall address (NNNN:UU:PP) and replaces them with the second RollCall address. The -replace option supports wildcard substitution as follows:

- "-" or "*" can be used in place of any nibble (character) in the original address, preserving the total length of the string pattern to 10 characters.
- "-" wildcard means don't replace that particular address nibble.

The total length of the parameter following -replace= must be 21 characters, even when some of the source address nibbles are set to "don't replace", and the replacement value is therefore unused. Only hex digits and wildcard characters are allowed in the pattern; command-line arguments that do not match this fixed pattern are ignored. Any deferred addresses are ignored by the replacement process (left as deferred).

The -replace command should come before the schematic path on the command line.

Example: -replace 1---:---:--8000:00:00 filename.sch

This command changes any RollCall Networks beginning with 1 into networks beginning with 8.

Note:

No user feedback is given by the -replace command - the modified schematic is automatically opened and closed. After running the -replace command, the results should be verified by opening the RollMap GUI.

filename -T1

Open file and place new window as full screen of client area within RollMap

filename -T2

Open file and place new window at top half of the client area within RollMap

filename -B2

Open file and place new window at bottom half of the client area within RollMap

filename -L2

Open file and place new window at left half of the client area within RollMap

filename -R2

Open file and place new window at right half of the client area within RollMap

filename -TL4

Open file and place new window at top left quarter of the client area within RollMap

filename -TR4

Open file and place new window at top right quarter of the client area within RollMap

filename -BL4

Open file and place new window at bottom left quarter of the client area within RollMap

filename -BR4

Open file and place new window at bottom right quarter of the client area within RollMap

-hide

Hides the RollMap window and places a small icon in the Taskbar icon area.

-fullscreen

Starts the program in Fullscreen mode

filename is the paths of 1 or more Alarm, Schematic or Component files with the extensions ALM, SCH or CPT respectively. Long file names with spaces in them must be enclosed with double quotes. If the file name has the extension .WAV, it is assumed to be a standard sound file and RollMap plays the file through the standard sound device.

-logdata

Allows a RollCall message to be sent to the currently configured LogServer. The client logging must be enabled and the following text must be a valid RollMap sentence to work correctly. Also, the source address may be embedded in the message in one of the following formats:

- ADDRESS=XXXX:XX:XX
- or the first characters in the message may be either 'XXXX:XX:XX' or '=XXXX:XX:XX'.

If no source address is found, the system sends the message from RollMap.

Example:

-LogData=2000;29;0C,ID=432,NAME=FooBar,MSG=UNIT_PRESENT,MYVAR=Hello

A.1 Replacing a schematic variable

The RollMap command line can be used to replace a schematic variable in a schematic or component. This is useful if there are a lot of schematics to change at once, in which case it is scriptable.

The syntax is:

RollMap.exe -replacevariable=VAR_NAME:VAR_VALUE FilePath

For example:

Rollmap.exe -replacevariable=IP:0.0.0.0 c:\testschematic.sch

Note:

If the value contains spaces, then include quotes around it

Rollmap.exe -replacevariable=VAR_NAME:"Some String" c:\testschematic.sch

Multiple variables can be specified on the same command line, by delimiting them with a comma.

For example:

```
Rollmap.exe -replacevariable=VAR_NAME:"Some String",VAR_NAME2:"Some String2"  
c:\testschematic.sch
```

Appendix B. SNMP Setup for RollMap

RollMap uses the standard Microsoft SNMP services to generate V1 SNMP trap events. This feature can be enabled or disabled from the RollMap menu. The computer where RollMap is to be run on must have the "SNMP Service" and "SNMP Trap Service" installed and running correctly. These services are available in Windows 2000 and XP as standard components. For Windows NT4, these may be found on the Service Pack CD (SP6 is recommended). SAM do not support the operation of SNMP traps on Windows '95, '98 or ME. The following guide is for setting up the SNMP services in Windows XP. For Windows 2000 the procedures are similar but some names of components may vary. Please refer to Microsoft SNMP installation guide for further details.

B.1 Installing SNMP Services for Windows XP

Use the Control Panel and select Add or Remove Programs. Then select the Add / Remove Windows Components option.

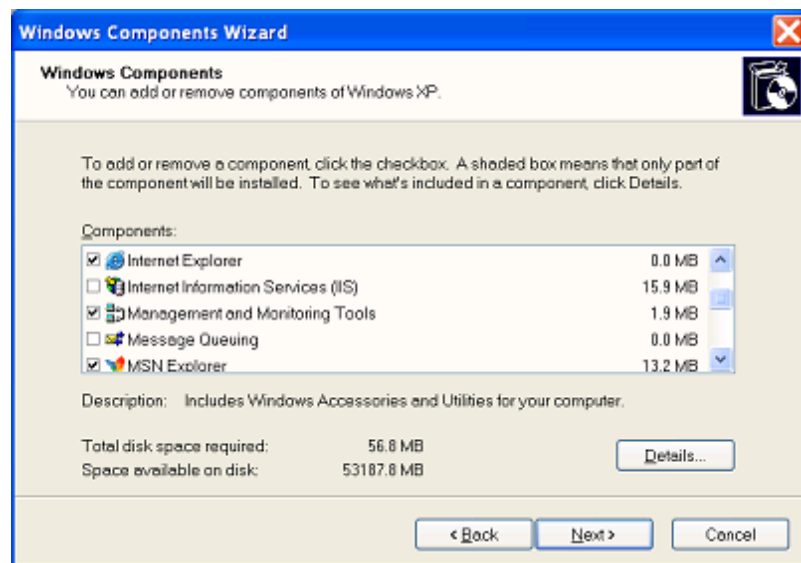


Figure 1 Windows Components

From the selection box, select the Management and Monitoring Tools component. To view more details about the component, click the **Details...** button.

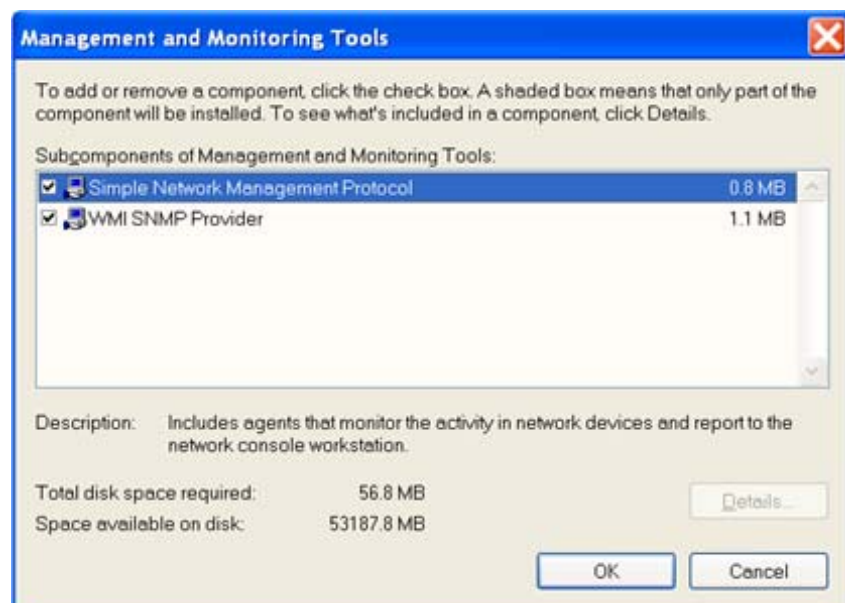


Figure 2 Management and Monitoring Tools

Ensure both the "Simple Network Management Protocol" (SNMP) sub-component is selected. Click **OK** to continue and install the components.

To configure the services, use the Service Manager under **Control Panel > Administration Tools > Services**.

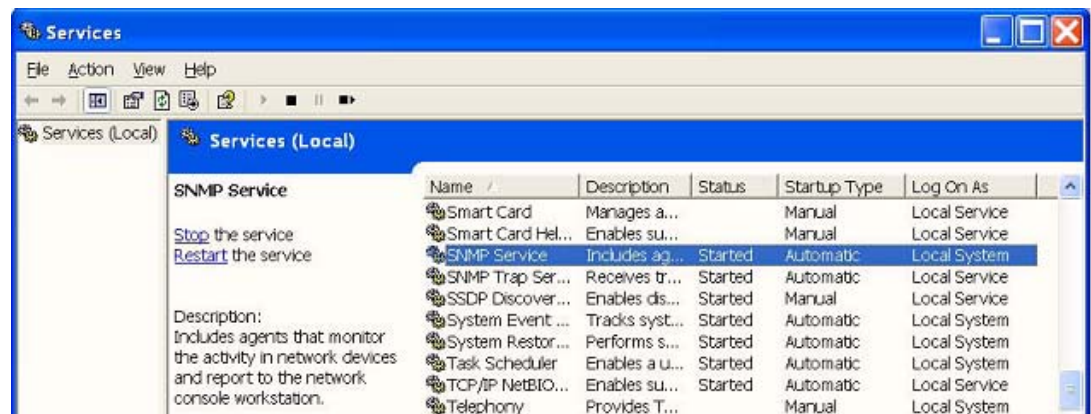


Figure 3 SNMP Services

Right-click on SNMP Service and click **Properties**. Select the Agent control tab and enter a contact name and location.

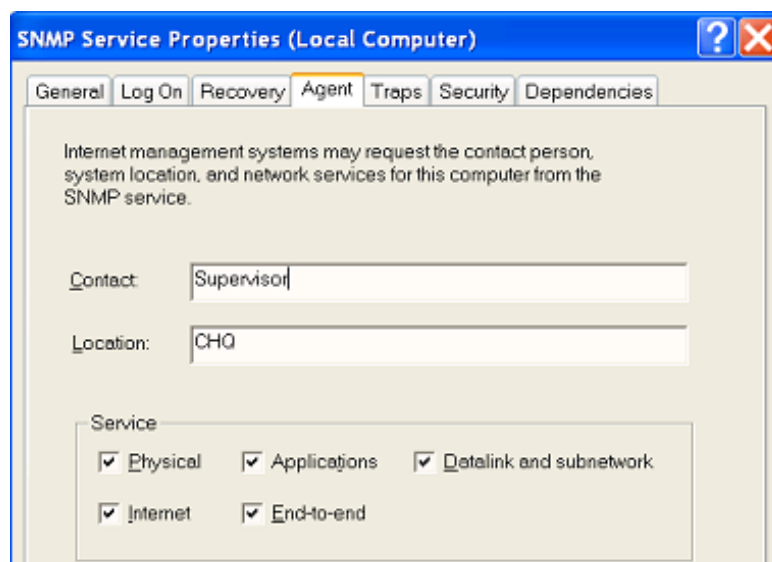


Figure 4 SNMP Service Agent Properties

Select the Traps tab. The default community name is "public". If required, add a new community name. For each community required, add one or more IP addresses for the trap destination (location of the SNMP manager). If a SNMP manager is to be run on the same computer as RollMap, then add the name "localhost" or the IP address 127.0.0.1 to the list. The corresponding SNMP manager must have the same community name configured to receive traps from RollMap.

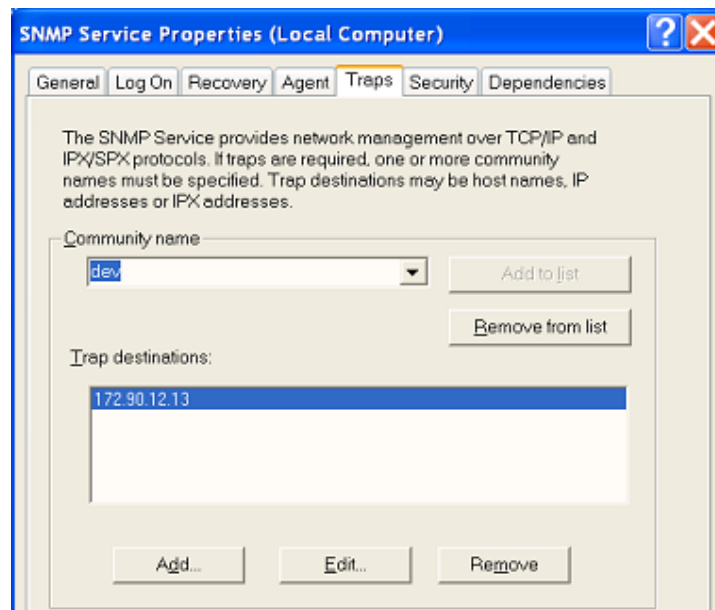


Figure 5 SNMP Service Traps Properties

The Security tab sets up the access modes of the SNMP variables and which sources to accept messages from (for SNMP managers).

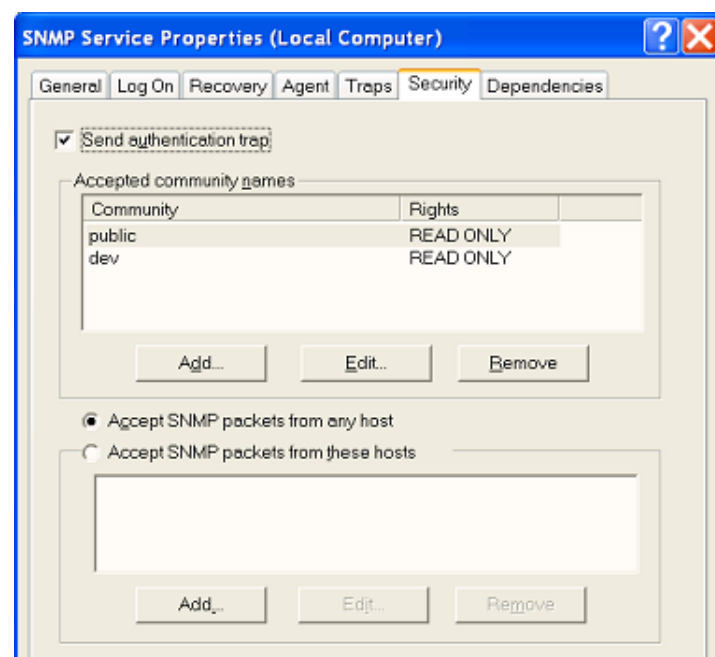


Figure 6 SNMP Service Security Properties

All RollMap SNMP trap variables are READ ONLY so changing the access mode makes no difference to RollMap. This however does affect other SNMP devices which may use the same community name but require READ/WRITE access. The Send authentication trap checkbox allows the basic SNMP system to generate an authentication error trap when an invalid access occurs.

All other tab controls should be left as default. The SNMP Trap Service is not required by RollMap. The SNMP Service can be manually stopped or re-started, but must be running in order for RollMap to generate SNMP traps. Both the SNMP Service and SNMP Trap Service can be manually stopped or restarted.

B.2 Installing SNMP Services for Windows 7 / 2008

Use Control Panel from Programs select the Programs and Features option. Select the Turn Windows features on or off option.

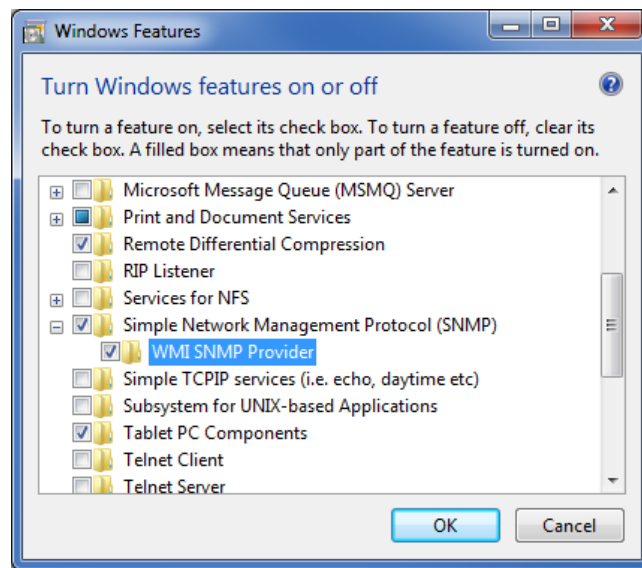


Figure 7 Windows Features

Ensure both the Simple Network Management Protocol (SNMP) component and the WMI SNMP Provider sub-component are selected. Click **OK** to continue and install the components.

To configure the services, use the Service Manager under **Control Panel > System and Security > Administration Tools > Services**.

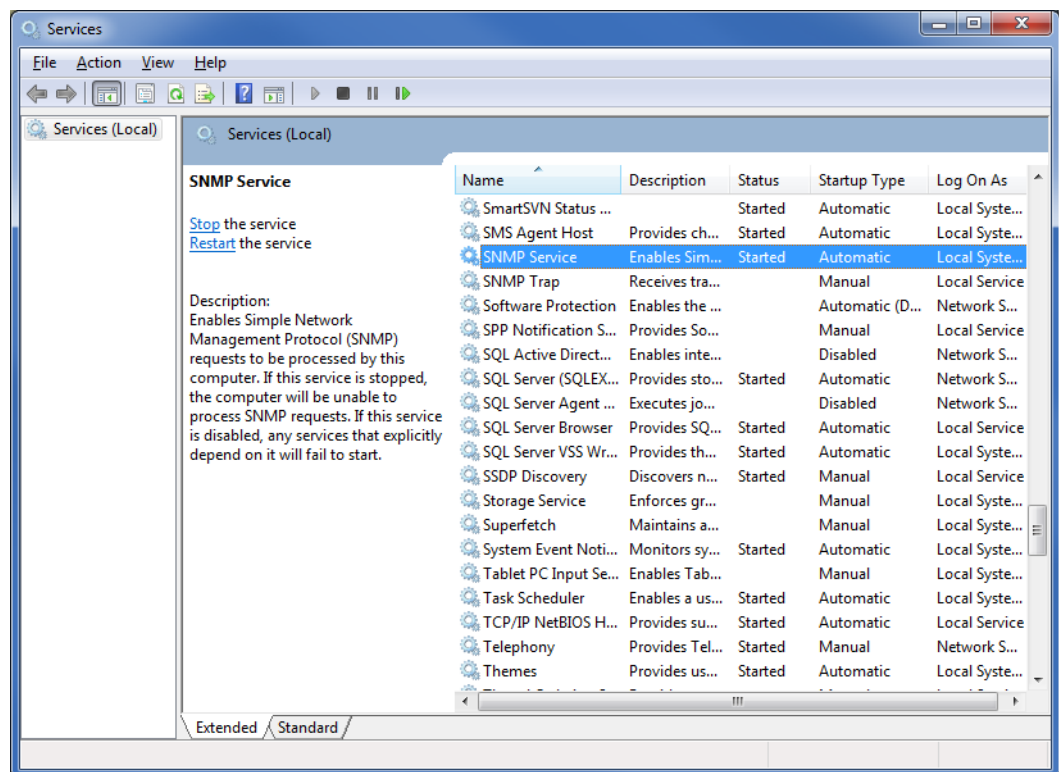


Figure 8 SNMP Services

Right-click on SNMP Service and click **Properties**. Select the Agent control tab and enter a contact name and location.

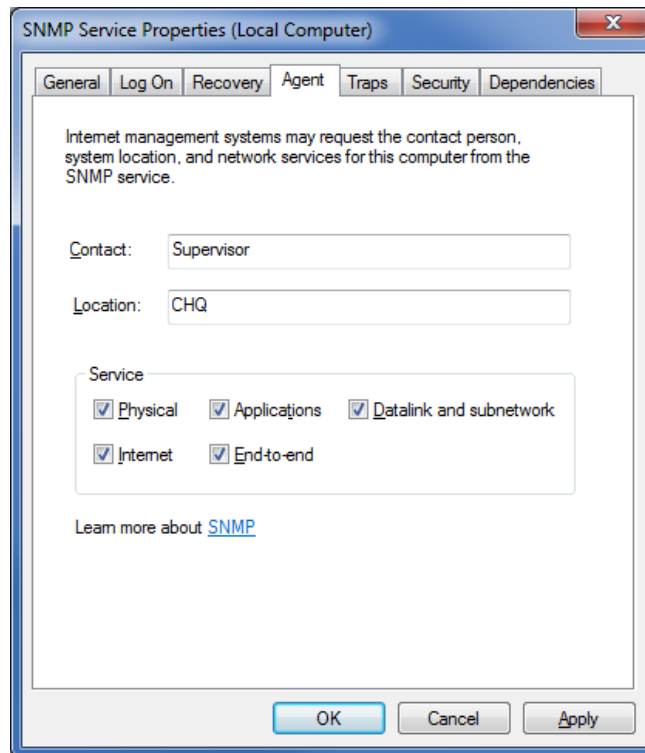


Figure 9 SNMP Services Agent Properties

Select the Traps tab. The default community name is "public". If required, add a new community name. For each community required, add one or more IP addresses for the trap destination (location of the SNMP manager). If a SNMP manager is to be run on the same computer as RollMap, then add the name "localhost" or the IP address 127.0.0.1 to the list. The corresponding SNMP manager must have the same community name configured to receive traps from RollMap.

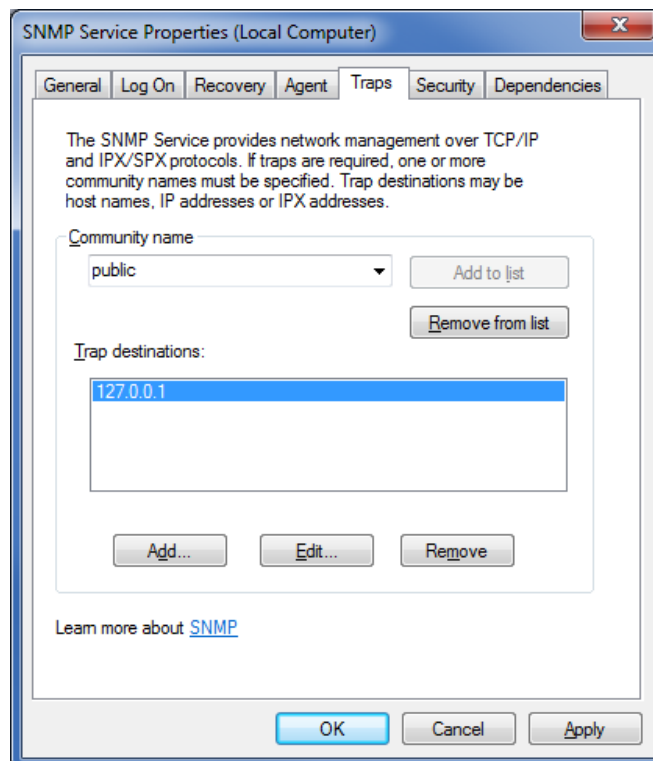


Figure 10 SNMP Services Traps Properties

The Security tab sets up the access modes of the SNMP variables and which sources to accept messages from (for SNMP managers).

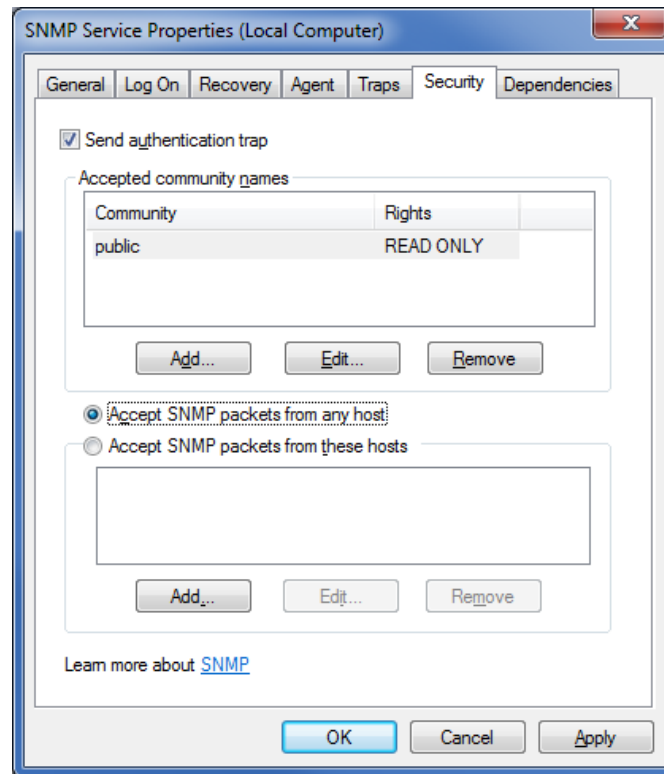


Figure 11 SNMP Services Security Properties

All RollMap SNMP trap variables are READ ONLY so changing the access mode makes no difference to RollMap. This however does affect other SNMP devices which may use the same community name but require READ/WRITE access. The Send authentication trap checkbox allows the basic SNMP system to generate an authentication error trap when an invalid access occurs.

All other tab controls should be left as default. The SNMP Trap Service is not required by RollMap. The SNMP Service can be manually stopped or re-started, but must be running in order for RollMap to generate SNMP traps. Both the SNMP Service and SNMP Trap Service can be manually stopped or re-started.

Appendix C. Deferred Addressing

C.1 Hierarchic Principle

On assigning an alarm trigger for an ActiveX object, the entry for the address can be deferred to the next level. A hierarchy of address exists for the schematic document down through a component and then to an individual ActiveX object.

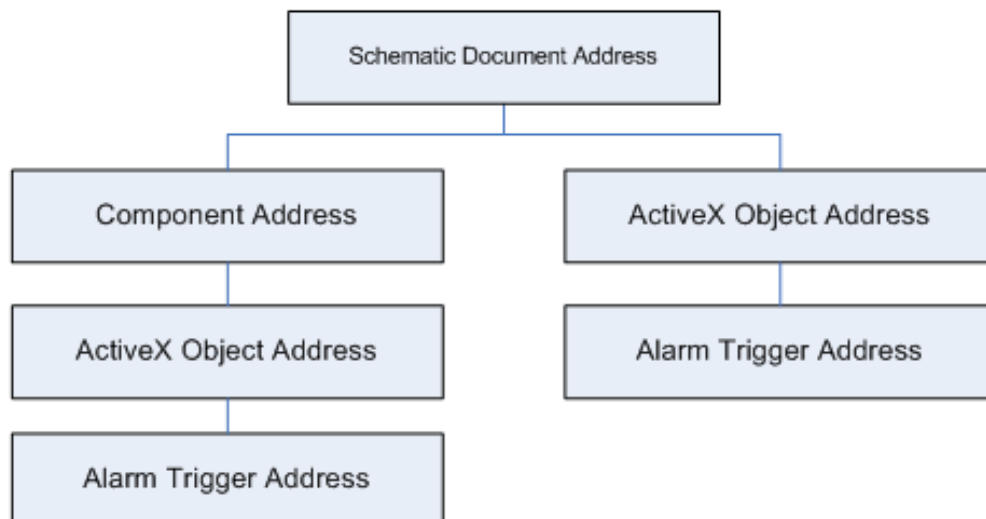


Figure 1 Hierarchic Principle

All RollCall addresses have 3 parts. The network, unit and port address. At each stage of address entry, each part of the address can be left blank and deferred to a higher level. The topmost level of the schematic does not have a deferrable address. This allows components to be created without the need to assign the actual addresses until its use in a schematic document.

For example:

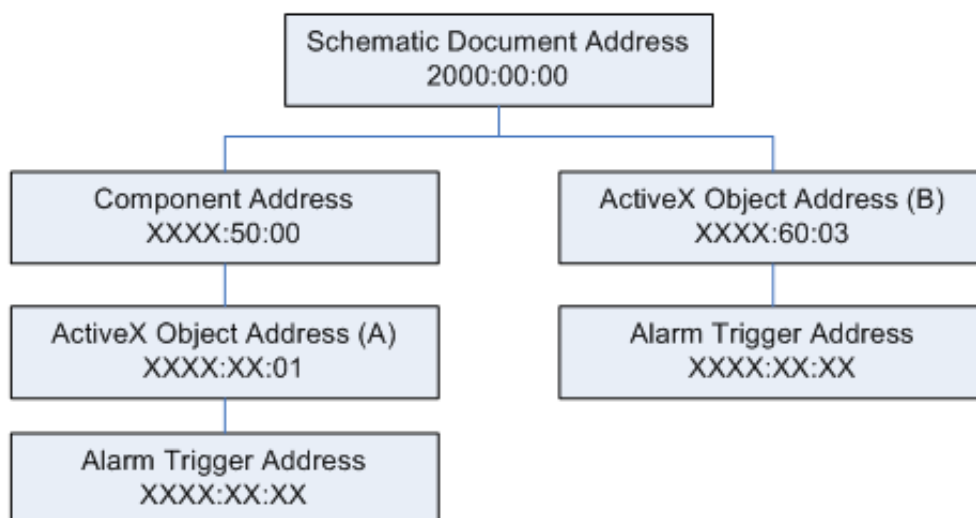


Figure 2 Example Addresses

The value X represents a deferred address.

The alarm trigger address for ActiveX object A resolves to 2000:50:01

The alarm trigger address for ActiveX object B resolves to 2000:60:03

Note that components may contain a compound of other components and ActiveX objects so the deferred addressing scheme may be extended to many more levels.

C.2 Set the Schematic Address

With no items selected, select the Properties option from the menu. This brings up the Document properties box. Select the Address tab.

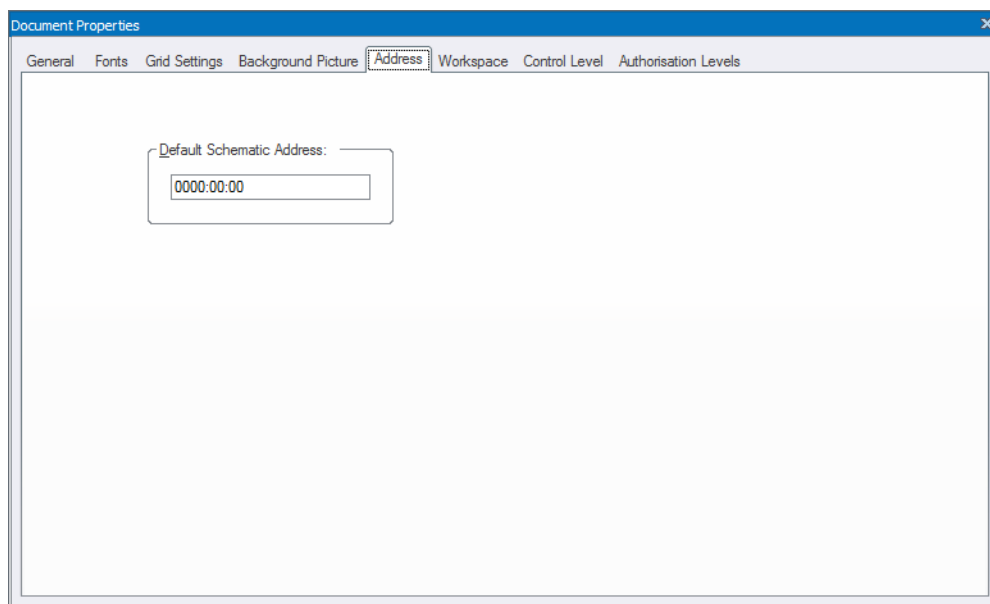


Figure 3 Address Properties

Note: The Default Schematic Address can be over-ridden by the use of a Schematic Link using Address Replacement. See Schematic Link Tool on page 103.

C.3 Set the Address of a Component, Tool, or ActiveX Object

Select the item. Only a single item may be edited at a time. Select Properties from the menu, and select the Address tab. Enter values as required.

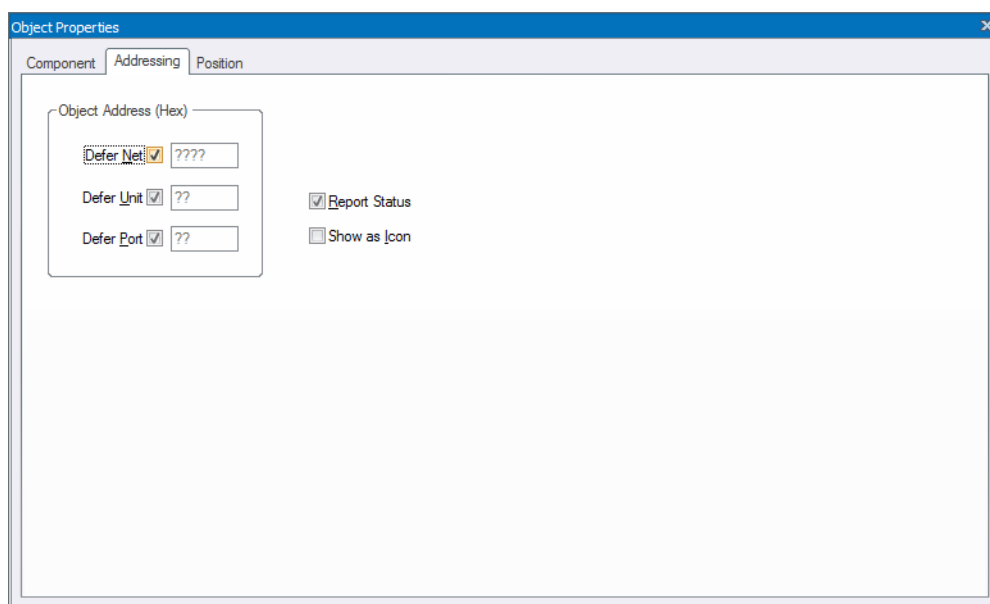


Figure 4 Component Address

C.4 Setting the Alarm Trigger Address

Select the ActiveX object required. Select Alarm Triggers from the menu. Enter the address as required. Note that after adding to the main list, the entry contains 0000:00:00 X X X. The 'X' denotes which part of the address is deferred.

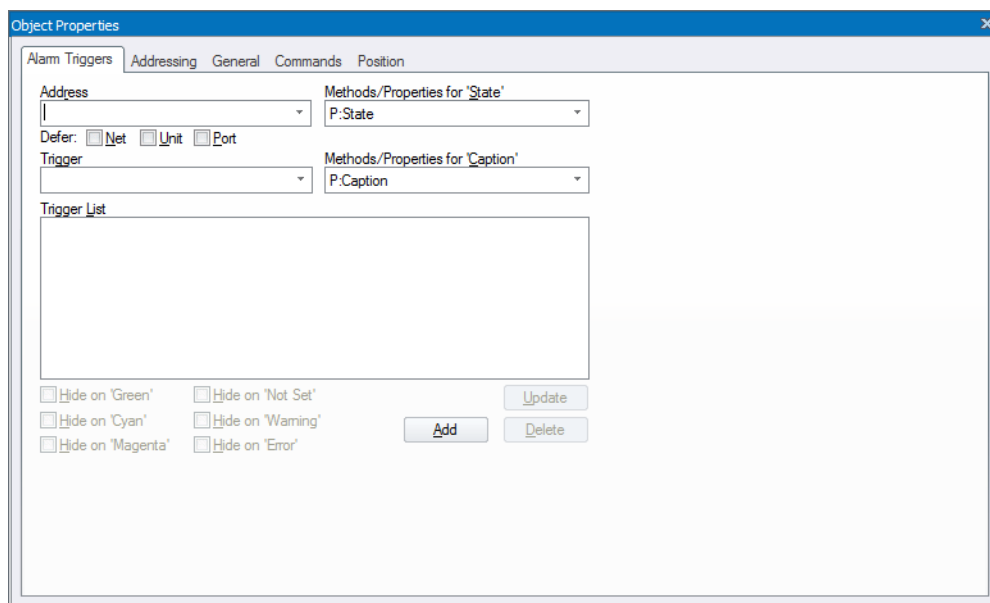


Figure 5 Alarm Trigger Address

In general, all Components and its internal objects should be built using partial or fully deferred addressing. This allows greater re-usability of components anywhere in the system. All SAM library components use deferred addressing and search path substitutions.

Appendix D. Integrating RollMap with Volicon Observer

D.1 Overview

RollMap can be integrated fully with Volicon Observer monitoring and logging software.

To configure Volicon integration:

1. Install and configure Volicon Observer. This is not described in this manual; please refer to the Volicon documentation.
2. Set up the RollMap Links menu in the Configuration.cfg file. See Configuring Shortcut Links below.
3. Edit the Gateway template pages to set the correct INFORMATION2 log field (for the IQHIP00). See Setting up the INFORMATION2 Log Field on page 180.
4. Create History Tabs and Complimentary Tabs monitoring each Hyperion (IQHIP00) card per Volicon channel. See Setting up the RollMap History Tabs on page 181.

The system is now ready to use. See Working with Volicon Observer on page 181.

D.2 Configuring Shortcut Links

After Volicon Observer is set up and running, the RollCall Links menu must be set up to access Observer.

To configure the Links menu, edit the Configuration.cfg file, which is located in the installation directory. By default, the location of this file is:

C:\Program Files\SAM\RollMap\Configuration\Configuration.cfg, or
C:\Program Files (x86)\SAM\RollMap\Configuration\Configuration.cfg

Open this file in a text editor such as Notepad, and in the [AlarmViewRightClickAllUnits] section, add an entry similar to this:

```
Item1=View video in Volicon Observer,"C:\Program Files\  
Internet Explorer\iexplore.exe"  
192.168.50.90/monitor.php?ch=#Information2#&time=#UCT#
```

Where:

View video in Volicon Observer
is the name that displays in the links menu.

"C:\Program Files\Internet Explorer\iexplore.exe"

is the link to the Internet Explorer Program. This can be set to another type of browser if required.

192.168.50.90

is the IP address of the Volicon Server PC. This can also be a DNS recognizable name.

/monitor.php?ch=#Information2#&time=#UCT#

is the text required by the Volicon Server. This text should always be exactly as displayed here.

For example:

```
[AlarmViewRightClickAllUnits]
```

```
Item0=System Home page,$PROJECT$\Schematics\Home.sch
```

```
Item1=View video in Volicon Observer,"C:\Program Files\  
Internet Explorer\iexplore.exe"
```

```
192.168.50.90/monitor.php?ch=#Information2#&time=#UCT#
```

After editing the Configuration.cfg file, save the changes and restart RollMap. To check that the Links menu has been changed, highlight a unit in the System Alarms window, right-click on it and follow the Links entry. The Links menu displays as shown in Figure 1

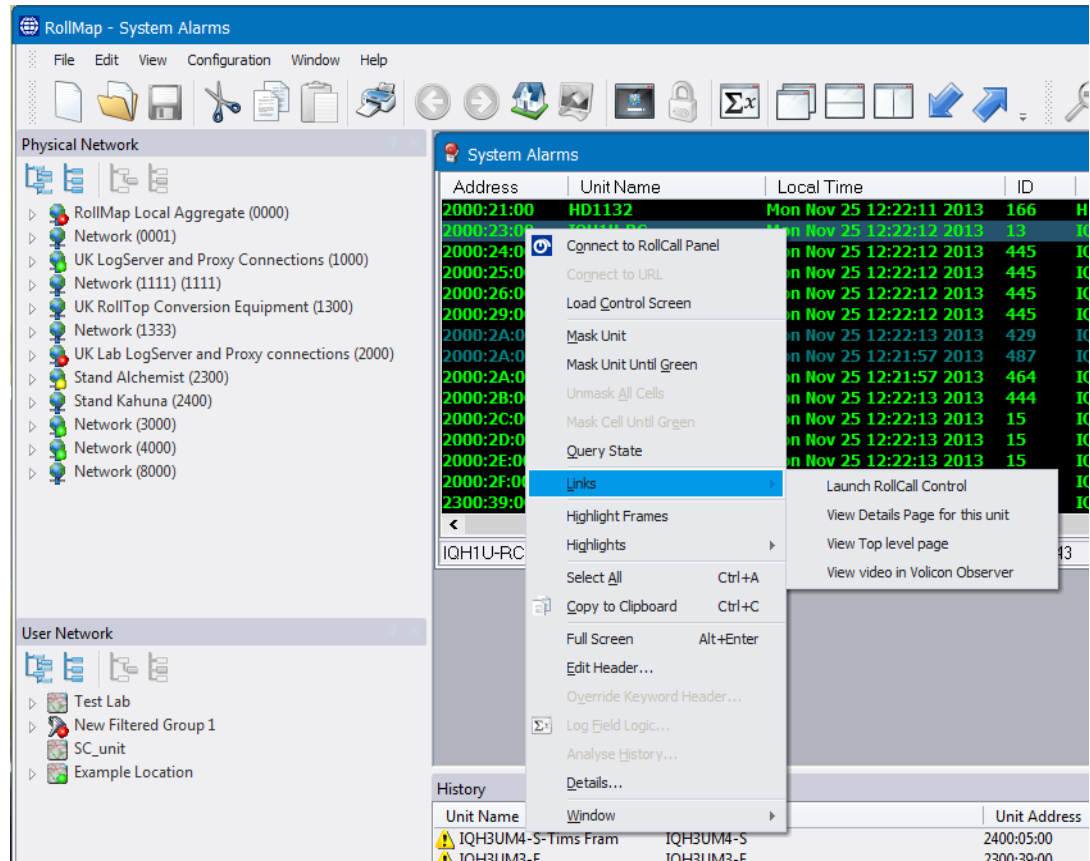


Figure 1 Links Menu

D.3 Setting up the INFORMATION2 Log Field

A Volicon Observer system is normally set up to monitor four video feeds. A Hyperion-enabled card (IQSDA02 or IQHIP00) monitors the video, then the feed goes on to the Volicon Observer system. Volicon Observer can only integrate Hyperion cards that have a specific log field enabled, INFORMATION2. When integrating the systems, the standard convention is to edit the INFORMATION2 field on each IQSDA02 or IQHIP00 card and set to Channelxx, where xx identifies a number (i.e. Channel01, Channel02, Channel04 etc.).

To set up the INFORMATION2 log field, open the RollCall Control Panel of the Gateway card hosting the Hyperion card. Navigate to the relevant Slots dialog page and edit the 2nd Information Field. For more information, refer to the IQH3 chassis operator's manual.

D.4 Setting up the RollMap History Tabs

For each Hyperion card monitoring a Volicon channel, create a History Tab and a Complimentary Tab. It is important to set up both a History Tab and a Complimentary Tab. The Complimentary Tab will display the current alarm (any non-green event), while the History Tab records the last changed state and its duration.

To make using the tabs easier, mask any event that you are not interested in.

See Auto discovery mode is disabled if you change the unit list manually and on startup of RollMap. on page 76.

D.5 Working with Volicon Observer

Volicon Observer records video and allows review of previous material using a TIMECODE key. To view an event with Volicon, select the event from either the History Tab or the Complimentary Tab. Right-click and navigate to View video in Volicon Observer. This opens the Volicon viewer at the specified TIMECODE event.

Appendix E. Virtual Units

E.1 Overview

Virtual units are used in number of different ways:

- Reporting of aggregate states from the User Network Tree
- Receiving data from the Get SNMP action

The virtual units and their virtual headers can be treated in exactly the same way as real units and headers. You can use them in Alarm Actions, History Tabs, etc.

E.2 Troubleshooting

E.2.1 Cannot see virtual unit in User Alarms View

Check that they have been added to the Unit List.

E.2.2 Cannot see the virtual header in User Alarms View

Ensure that you have either added the column manually to the User Alarms View or have run Create All Headers.

Appendix F. Rules Engine

F.1 Overview

The rule editor allows you to create complex expressions based upon data from units and their log fields. Rules that evaluate to True/False are typically used for filtering data (for example, when used in filtered groups and QC reports), however, rules may also be defined that evaluate to a string or decimal; which are often used in log field logic for the creation of new log fields, from existing ones.

F.2 Rule Editor

The Rule Editor is shown in Figure 1

Figure 1 Rule Editor

The Rule Editor provides the following features:

- Syntax checking of rules in each key press
- A rule builder for inserting queries into the rule
- Operators: Equal to, Not equal to, Less than, Less than or equal to, greater than, greater than or equal to, addition, subtraction, multiplication, and division
- Query on string, number (decimal, integer, RollMap unit address), or date and time

F.2.1 Rule Editor Settings

Name	The name of the filtered group. This name can be edited. For QC reports and Log Logic this field is unused.
Virtual Unit Address	Used to define a new virtual unit that is used to store the aggregate result from the rule.
Show all contents of frames	Frames displayed in the filtered group also display the cards within the frames.
Show cards in their frames	Cards displayed in the filtered group display the frame they belong to.
Compiled RPN	A read-only information field, that reads from right to left, and is used to help with debugging a rule. For example, it may help indicate if brackets are required around parts of the rule.

F.3 Example Rules

F.3.1 Example 1

The following example creates a rule that matches any unit that has the INFORMATION2 field as either Channel 01 or Channel 02.

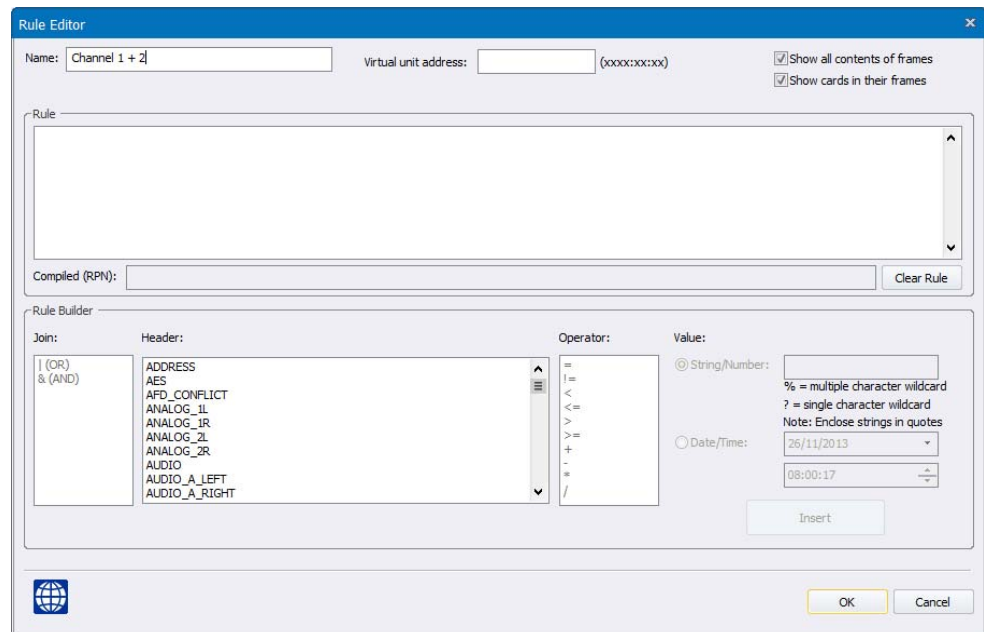


Figure 2 New Rule Screen

1. Select **INFORMATION1** from the header list, select the “Equal to” operator, and enter **Channel 1** in the String/Number field.

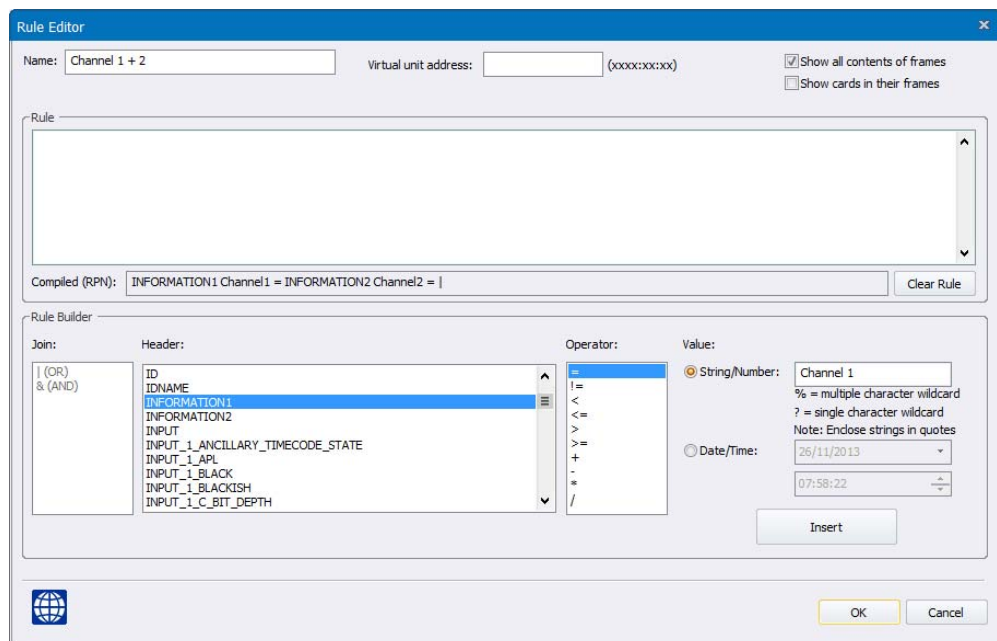


Figure 3 New Rule Part

2. Click **Insert**.

The expression is added to the rule.

3. Select the “OR” join operator, select **INFORMATION2** from the header list, and change the String/Number field to **Channel 2**.

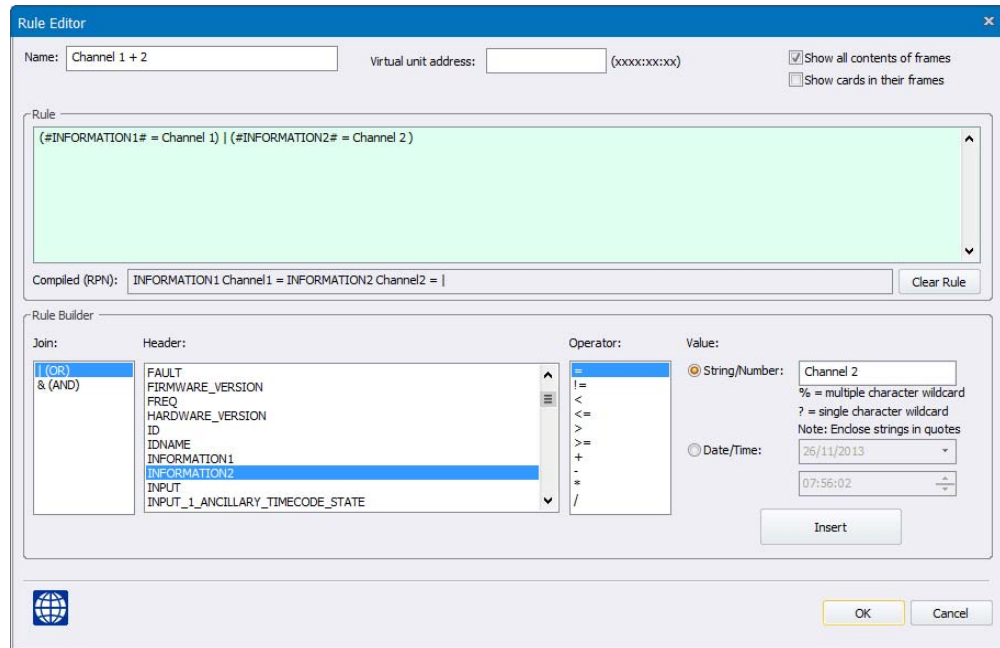
4. Click **Insert**.

Figure 4 Rule Added

The editor automatically wraps the existing expression in brackets, and inserts the new expression.

5. Click **OK**.

The changes are saved.

Note: The rule can be manually edited within the edit box, to remove brackets, or to change the rule. If the edit box displays red instead of green the rule is invalid and the syntax should be checked.

F.3.2 Example 2

The following example creates a rule within Log Field logic to add two separate numeric log fields and display the result formatted as a string.

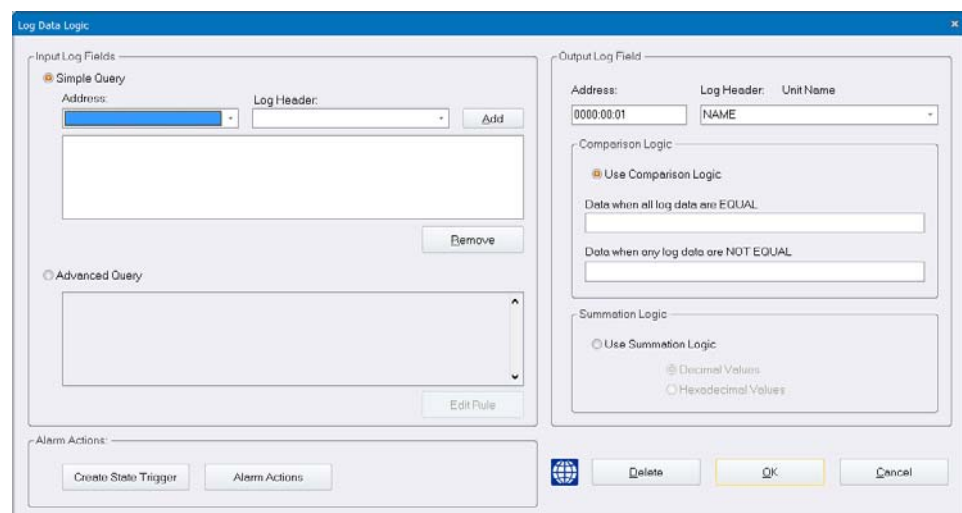


Figure 5 Log Field Logic Screen

1. Open the Log Field Logic screen (right click on a system alarm, and select **Log Field Logic** from the menu).

2. Select the Advanced Query radio button, and click on the **Edit Rule** button.

The Rule Editor displays.

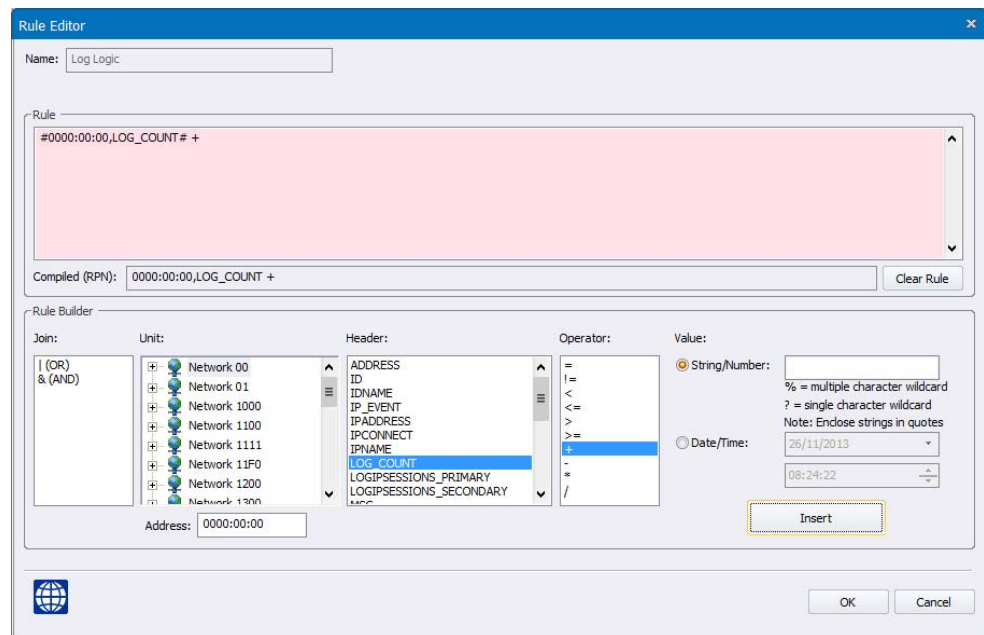


Figure 6 Rule Editor

When used in Log Logic, the Rule Editor screen has an extra Unit field, allowing a unit address to be selected.

3. Select a unit that contains the first numeric field to add, and select the “Addition” operator.
4. Click **Insert**.

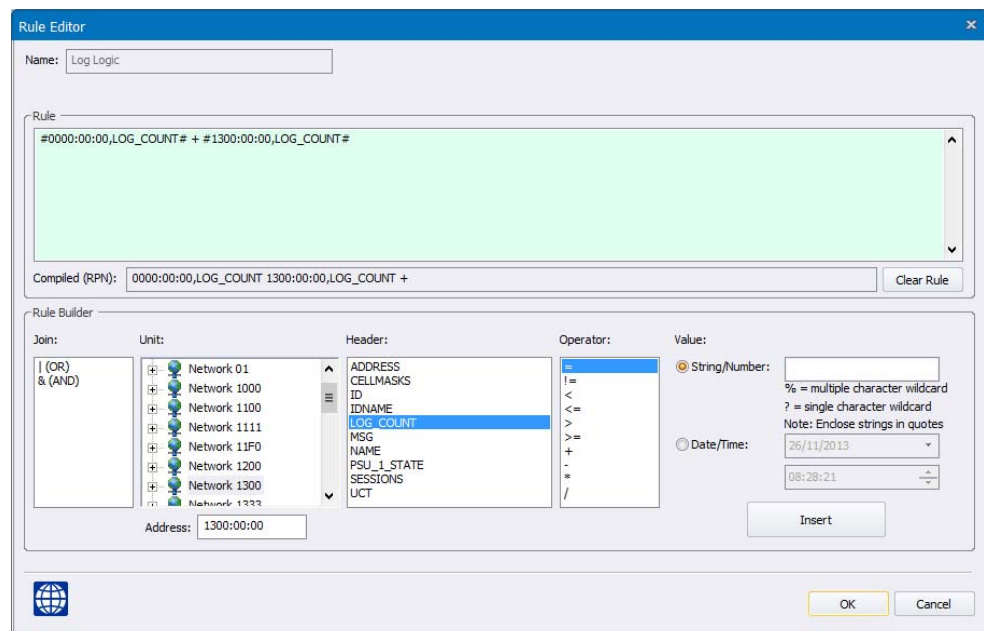


Figure 7 Valid Rule

5. Select the second unit, and the appropriate header.
6. Manually edit the rule to remove the trailing “Addition” operator.
7. Click **OK**.

The rule is displayed in the Log Field Logic screen.

Figure 8 Log Field Logic Screen with Rule

The rule may be manually edited within this screen.

8. Select the Use Rule Output Logic radio button in the Rule Logic section, and ensure that the Raw Values radio button is also selected.
9. Click **OK**.

The result displays in the main alarms window of RollMap.

Test Header	Address
30	0000:00:00

Figure 9 Alarm Window Display

If required, text string formatting can be added to the result by editing the rule.

- Open the Log Logic window and add some text as shown in Figure 10.

Figure 10 Edit the Rule

Note:

In this instance brackets are required around the numeric part of expression, so that it is evaluated before it is converted to a string value.

Test Header	Address
COMBINED RESULT: 30	0000:00:00

Figure 11 Alarm Window Display with Text String

Note:

The Create State Trigger and Alarm Actions buttons provide a convenient means of creating a global action on the logic driven field. Taking a different example, where two input fields (INPUT1=FAIL and INPUT2 = FAIL) are aggregated together by a Log Logic rule into a new field AGG_INPUT, the "Create State Trigger" button can be used to generate a state trigger on this field, and the "Alarms Actions" button provides a shortcut to the global alarm actions dialog where a standard action can be configured. Only when both fields go to FAIL will the trigger be fired.

Appendix G. RollMap Parameterization

G.1 Relative Paths

Everywhere in RollMap that a path is entered, (for example links to images, links to components within schematics or other components, links between schematics, and links to external commands to execute), you can enter a relative path, which is considered relative to the starting directory of the enclosing file.

Example:

If `c:\myfolder\screen1.sch` has a navigation button that links to `c:\myfolder\screen2.sch`, the link could be defined simply as `screen2.sch`.

The huge advantage of storing the relative path is that you can move the entire set of files from `c:\myfolder` to `D:\newlocation` and all the relative links still work.

`D:\newlocation\screen1.sch` containing a relative link to `screen2.sch` now automatically links to `D:\newlocation\screen2.sch`, with no editing required.

This allows the control & monitoring system to be maintained, moved between local and server-shared locations, moved between PCs with different hard drive structures, without tedious changes.

RollMap design mode automatically finds the best relative path when you browse for files, for example, when editing the link from `c:\myfolder\screen1.sch` and browsing to target file `c:\myfolder\screen2.sch`, RollMap automatically identifies the common relative path and inserts just `screen2.sch` into the configuration. (Unless superior methods such as search paths are used - see below.)

G.2 Search Paths

Everywhere in RollMap that a path is entered, (for example links to images, link to components within schematics or other components, links between schematics, and links to external commands to execute), you can enter a combination of a base variable search path prefix, with a hard-coded suffix. The syntax is `$varname$` where `varname` is the defined name of the search path variable. Search paths can be defined with absolute hard-coded values, or with nested values referencing other search paths. The key point is that you can edit the search path definitions in one central place, and have the changes ripple through to every use of that search path within the configured system.

Worked example, as used in the SAM standard RollMap library:

Variable `$LIBRARY$` defined hard-coded on each PC as required:
`$LIBRARY$=C:\WhateverPathYouLike\MyLibraryRoot`

Variable `$IQ$` defined in a nested relative way: `$IQ$=$LIBRARY$\SAM\IQ Modular`

Within a typical control and monitoring system, there may be thousands of file links referencing entries from the RollMap library for IQ Modular devices, which take the form `$IQ$\static_suffix`, for example: Insert component from path `$IQ$\QAAD00\Device-1A.cpt`.

The library itself contains thousands of cross-references between library entries, and also the customer-specific project files. Schematic screens, for example, contain numerous links to entries from within the library. All of these are defined based on the IQ search path.

In this example, the link defined to `$IQ$\QAAD00\Device-1A.cpt` is expanded at run-time to the actual file location:

`C:\WhateverPathYouLike\MyLibraryRoot\SAM\IQ Modular\QAAD00\Device-1A.cpt`.

But if somebody decided to move the library to a shared network location to reduce maintenance workload, (or wanted to move the data to the D: drive, or ...), they could simply edit the one central definition for the \$LIBRARY\$ search path:

```
$LIBRARY$=M:\SharedLocation\NewLibraryRoot and all the thousands of
references automatically change to use this new location. The link defined to
$IQ$\IQAAD00\Device-1A.cpt is expanded at run-time to the new file location
M:\SharedLocation\NewLibraryRoot\SAM\IQ Modular\
IQAAD00\Device-1A.cpt.
```

RollMap design mode automatically finds the best search path suffix when you browse for a file. In the example above, if you browsed for the target file

```
M:\SharedLocation\NewLibraryRoot\SAM\IQ Modular\
IQAAD00\Device-1A.cpt, RollMap would automatically find the best matching search
path, (the one requiring the smallest hard-coded suffix), and insert into the configuration
$IQ$\IQAAD00\Device-1A.cpt.
```

RollMap does allow a single search path to be defined with multiple destination folders, and RollMap searches for the target file within the sequence of target folders, hence the name "search path". This is an advanced feature and rarely used by SAM when we build RollMap systems.

Search paths are intended to be case INsensitive, so \$iq\$ should work the same as \$IQ\$.

G.3 Macros

Everywhere in RollMap that an executable command is specified, (for example an action triggered by pressing a configured button, or an action triggered from a customised right-click context menu, or an action triggered by a defined status from the live monitoring system), RollMap allows you to reference command macros. The syntax is <macro name> to reference a defined macro, and the macros are defined centrally.

Q: What is the difference between macros and search paths?

A: Search paths are intended to be used for paths, for example, directory names and/or file names. Macros can contain paths, but in addition they can contain other data, typically command line parameters being passed to the external program.

Worked example, as used in the SAM standard RollMap library:

Macro definition:

```
<CONTROL_PANEL>=$CONTROL$ -runonce -u %a
```

Search path definitions:

```
$CONTROL$=$ROLLCALL$\Control Panel\Rollcall Control Panel.exe
```

```
$ROLLCALL$=C:\Program Files (x86)\SAM\RollCallSuite
```

Many places within the RollMap library or a customer's configured system may call the macro <CONTROL_PANEL>. At run-time, this is expanded through the various nested macro and path definitions to resolve to an absolute external path reference:

```
C:\Program Files (x86)\SAM\RollCallSuite\Control Panel\Rollcall
Control Panel.exe with various command line parameters appended: -runonce -u
%a. (See below for explanation of %a.)
```

On a different PC, the RollCall Control Panel could be installed in a different location:

```
C:\Program Files\... on a 32-bit PC, or C:\Programme\... on a French-language
PC, or indeed any location chosen by the customer. By simply editing the one global search
path definition for each PC, all of the buttons and other links to the Control Panel are
automatically updated appropriate to each installed PC.
```

Macros are intended to be case INsensitive, so <control_panel> should work the same as <CONTROL_PANEL>.

G.4 Dynamic Log Field Insertion

Everywhere in RollMap that string parameters are entered, dynamic data from the monitoring system can be included using the syntax `#logfieldheader#`, which is replaced dynamically at run-time with the current contents of the specified log field header. For example, by entering the string `#PSU_1_STATE#`, this is replaced dynamically at run-time with the current value of the `PSU_1_STATE=` log field header for the appropriate unit. The string values might be OK or FAIL.

Q: What string parameters support dynamic `#logfield#` processing?

A: Examples include:

- Text labels displayed, for example, static text objects within a schematic design. These automatically update any time that the referenced log field value changes.
- Command line paths and parameters executed by RollMap, for example, the subject or body of an email being sent via the command line `blat` tool. The live value is used each time the command is executed, whether this is triggered interactively, (a configured button press), or automatically, (in response to a configured status condition). Note that updating of the log field value does not necessarily cause the command to be executed again - this is determined by the configuration of the command trigger.
- Paths to displayed images. These automatically update, with corresponding image redraws, any time that the referenced log field value changes.
- Address specification. For example, `#1234:56:78,NAME#` takes the NAME log field from the unit address 1234.56.78. Deferred addressing may also be used by replacing numerals with ? where required. See "Deferred Addressing" on page 176.

Q: What string parameters do NOT support dynamic `#logfield#` processing?

A: Path references to schematic or component file links. RollMap's structure requires the link structure to be known and fixed from the point the application starts up. This allows status propagation to work correctly. Undefined behavior results from attempting to use dynamic log field values within schematic links or embedded component links.

`#logfield#` codes are intended to be case INsensitive, so `#psu_1_state#` should work the same as `#PSU_1_STATE#`.

G.5 Dynamic Data Insertion

The following codes can be entered in RollMap strings, and are replaced dynamically at run-time with the live values, and also trigger redraws when the value changes. These are used in the same string parameters explained above for `#logfields#`, with the same exclusions, (sch and cpt paths).

Code	Meaning	Example Output Value From Code
%a	Full RollCall address of current unit, in NNNN:UU:PP form	0000:10:03
%N	RollCall address route of current unit, in NNNN form	0000
%U	RollCall unit address (hex switch) of current unit, in UU form	10
%P	RollCall port address (slot number) of current unit, in PP form	03
%p	Directory containing RollMap.exe in long format (see below for use within ActiveX objects)	C:\Program Files(x86)\SAM\RollMap\
%H	Cause RollMap to hide the executed program - empty string returned for this code	

Table 1. String Fields Codes

Code	Meaning	Example Output Value From Code
%%	Literal percent character, escaping the normal %code handling	%

Table 1. String Fields Codes

% Codes applicable to most string fields within RollMap

Code	Meaning	Example Output Value From Code
%i	Numerical state assigned to this object (0=Black including Masked, 1=Green, 2=Yellow, 3=Red)	1
%j	Numerical state assigned to this object ignoring any masking, (0=Black, 1=Green, 2=Yellow, 3=Red)	1
%s	Textual state assigned to this object	Green
%v	Textual state assigned to this object, ignoring any masking	Green
%c	Observed behavior: current value of caption property of object Documented feature in manual: Cause string. For example, contents of log field that produced the state of this object	This is my button label FAIL
%t	Cause header. For example, name of log field that produced the state of this object	PSU_1_State
%r	Value of UserString property, which can be written to via alarm triggers	OK
%p	Directory containing RollMap.exe in 8.3 format	C:\PROGRA~2\SAM\RollMap\

Table 2. ActiveX Components Codes

% Codes only applicable to string fields within embedded ActiveX components within RollMap schematics and components

Note: %v and %j appear to be triggered only by the overall unit state, whereas %s and %i takes the specified cell state.

Note: RollMap treats these % codes in a case SENSITIVE manner, so %P is not the same as %p for example.

Note: Different % fields are used within RollMap time field definitions.

G.6 Variables

Everywhere in RollMap that string parameters are entered, variables can be included using the syntax {VARIABLE_NAME}, which is replaced dynamically at run time with the current value of this variable. This feature can be used to create generic components which can be customized when placed inside a schematic.

In a similar way that search paths can be used to centralise the location of file path parameters, variables can be used to centralise the location of other inputs, for example, captions, IP address, stream URLs, etc... They provide a degree of adaptability to schematics and components, as these can be built using variables as placeholders, which can simply be updated as required in a single location, without requiring each and every schematic/component to be edited separately.

Variables can be defined at three levels:

- Global level (Configuration > Variables menu)

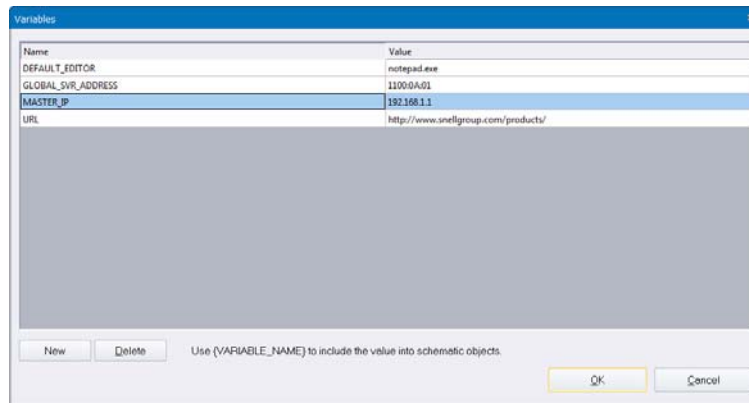


Figure 1 Global variable definitions

- Schematic level (Schematic properties dialog box)
- Component level (Component properties dialog box)

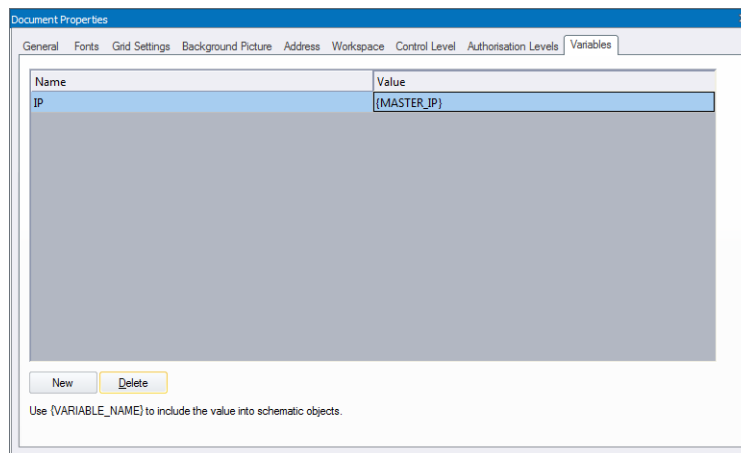


Figure 2 Schematic/Component Variable definitions

This forms a hierarchy with global variables at the top. During variable resolution, if the variable can not be found at the current level, the level above is checked. This allows a default value to be defined globally and then redefined within schematics or components at a later time.

The other place variables can be overridden is when a component is included in a schematic. The component properties window also shows the variables tab, which is automatically populated with all variables defined in the component. This dialog only allows existing values to be changed, it does not allow variables to be created or deleted (this must be done in the component itself).

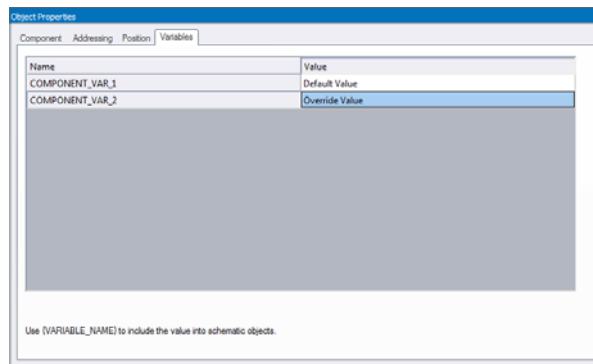


Figure 3 Component object variables (overriding)

Using this feature, a single component can be created and then used in multiple schematics, or multiple times within the same schematic but customized to work with a different set of data. For example, it can use a different trigger list or stream URL.

Note: To revert to the original values, click the "Reload-Component" button on the Component Tab. Reloading after a change to the component retains existing overrides.

To pass a schematic variable to a component, use the schematic variable name as the component override. For example, type {IP} into the value box to pass the IP value defined at schematic level to the component.

Variables work well in combination with dynamic log field inserted parameters and allow entries such as this:

#INPUT_{SOURCE_NUM}_VALUE#

Here, the {SOURCE_NUM} is resolved first to a number and then the #field is resolved using the log data.

Example:

We can define a component to trigger of a log field where the source number is a variable {INPUT} in this case:

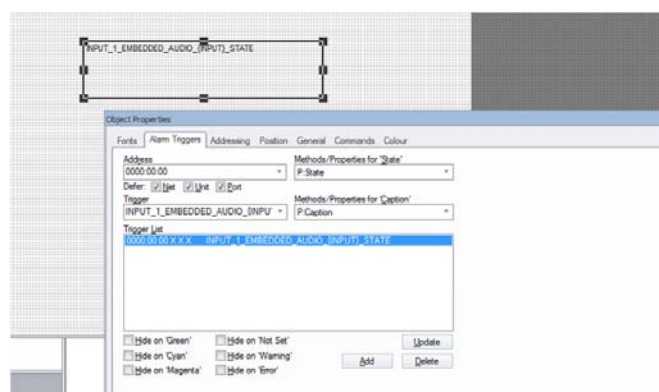


Figure 4 Dynamic log fields

We then include this component in the same schematic twice and override the INPUT variable to hook each instance of the component to different sources.

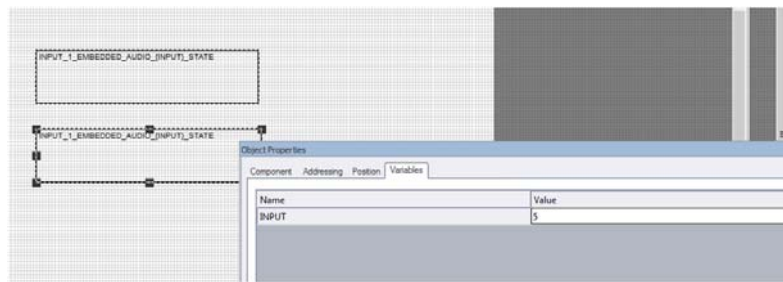


Figure 5 Overriding the INPUT variable

Then when run mode is enabled, the same component is used to display the state of different sources:

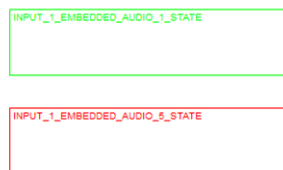


Figure 6 Displaying source state

G.6.1 Variables replacement

The RollMap command line can be used to replace a schematic variable in a schematic or component. See “Replacing a schematic variable” on page 168.

G.6.2 Variables and Addressing

Variables can be used in the addressing tab of any object to specify an address which is resolved at runtime. Resolution is performed in the normal way, so addresses can be defined at component, schematic or global level.

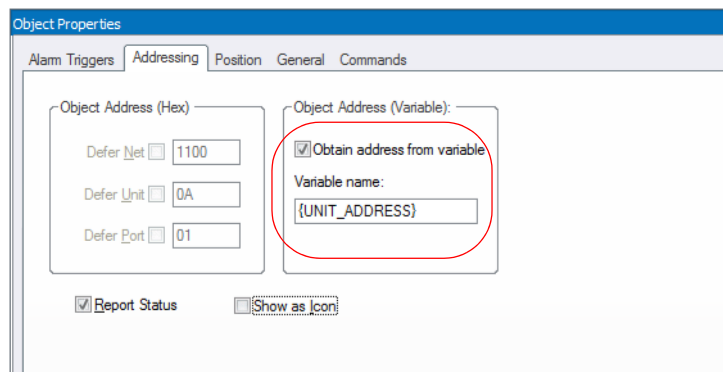


Figure 7 Specifying the object address using variables

This feature enables components to be created which interrogate data from multiple different units, rather than being limited to a single unit by using the standard deferred address approach.

For example:

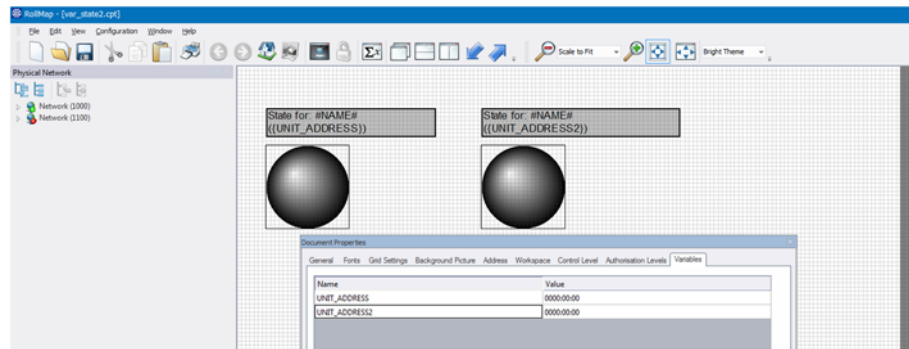


Figure 8 Defining variables on the component for each address

1. First create a component and define component level variables for any "customisable" addresses.

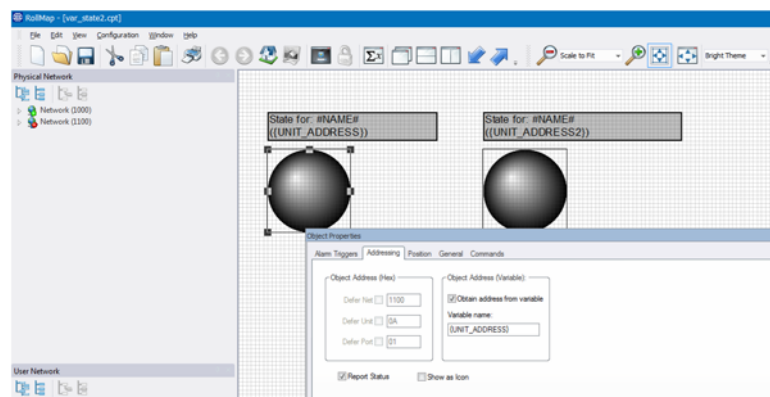


Figure 9 Configure the objects to use the variable address

2. Add any objects and configure them to use the variable address. Within the Alarm Triggers tab, you can continue to use the deferred address which is now taken from {UNIT_ADDRESS} at runtime.

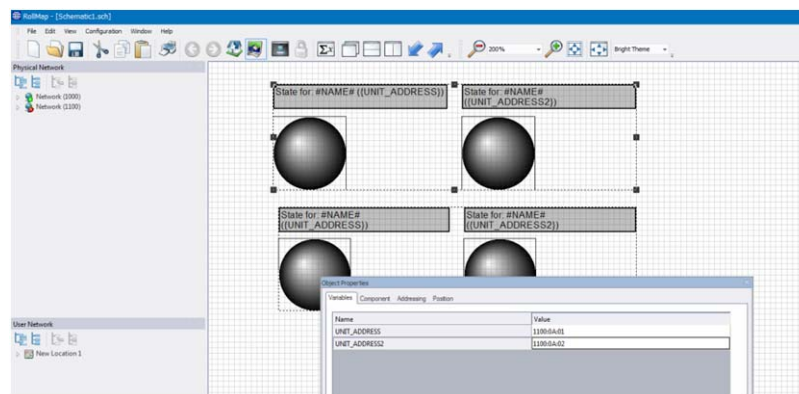


Figure 10 Changing the address when including the component in a schematic

3. Include the component into any schematics as many times as required. The example above includes the component twice. Override the component variables as required with the real address.

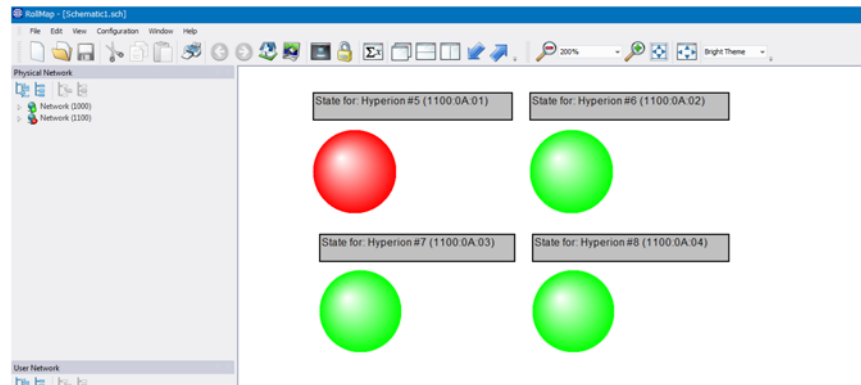


Figure 11 The component in run mode pulls the data from multiple different units

Now when running the schematic, the objects are correctly wired up to 4 different unit addresses.

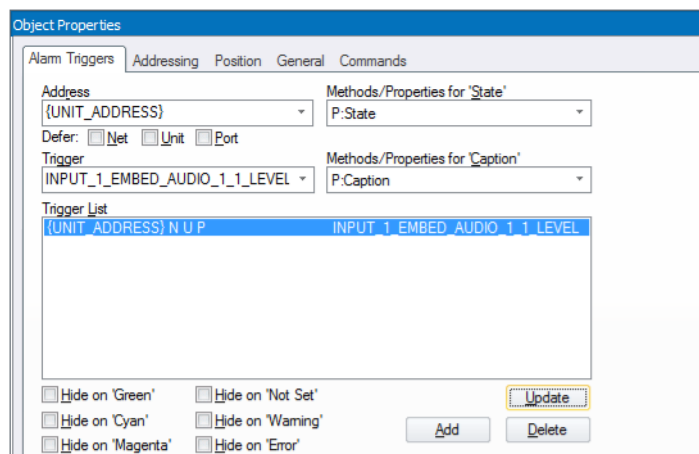


Figure 12 Specifying the variable address in the trigger list

Note: It is possible to specify the unit address directly in the trigger list as shown above.