



ATEN Configurator User Manual

User Information

Online Registration

Be sure to register your product at our online support center:

International	http://eservice.aten.com
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Telephone Support

For telephone support, call this number:

International	886-2-8692-6959
China	86-400-810-0-810
Japan	81-3-5615-5811
Korea	82-2-467-6789
North America	1-888-999-ATEN ext 4988 1-949-428-1111

User Notice

All information, documentation, and specifications contained in this manual are subject to change without prior notification by the manufacturer. The manufacturer makes no representations or warranties, either expressed or implied, with respect to the contents hereof and specifically disclaims any warranties as to merchantability or fitness for any particular purpose. Any of the manufacturer's software described in this manual is sold or licensed *as is*. Should the programs prove defective following their purchase, the buyer (and not the manufacturer, its distributor, or its dealer), assumes the entire cost of all necessary servicing, repair and any incidental or consequential damages resulting from any defect in the software.

The manufacturer of this system is not responsible for any radio and/or TV interference caused by unauthorized modifications to this device. It is the responsibility of the user to correct such interference.

The manufacturer is not responsible for any damage incurred in the operation of this system if the correct operational voltage setting was not selected prior to operation. PLEASE VERIFY THAT THE VOLTAGE SETTING IS CORRECT BEFORE USE.

Product Information

For information about all ATEN products and how they can help you connect without limits, visit ATEN on the Web or contact an ATEN Authorized Reseller. Visit ATEN on the Web for a list of locations and telephone numbers:

International	http://www.aten.com
North America	http://www.aten-usa.com

About this Manual

This user manual explains how to configure control system projects and design control interfaces using ATEN Configurator.

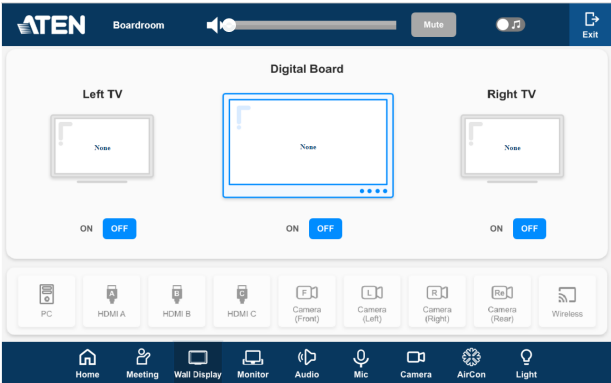
Note: The product may be updated, with features and functions added, improved, or removed since the release of this manual. For an up-to-date user manual, visit <http://www.aten.com/global/en/>

Conventions

This manual uses the following conventions:

- Monospaced Indicates text that you should key in.
- [] Indicates keys you should press. For example, [Enter] means to press the **Enter** key. If keys need to be chorded, they appear together in the same bracket with a plus sign between them: [Ctrl+Alt].
- 1. Numbered lists represent procedures with sequential steps.
- ◆ Bullet lists provide information, but do not involve sequential steps.
- > Indicates consecutive selecting options (such as on a menu or dialog box). For example, Start > Run means to open the *Start* menu, and then select *Run*.
-  Indicates critical information.

Terminology

Terminology	Description
ATEN Controller, controller	ATEN Controller or controller refers to all models of ATEN Control Box and ATEN Control Pad.
Control Box Gen. 2, Control Box	<i>Control Box Gen. 2</i> or <i>Control Box</i> refers to all models of ATEN Control Box Gen.2.
controller	A controller refers to any model of ATEN Control Box Gen. 2 or Control Pad.
Viewer	A Viewer is a software control interface that system operators use to control and operate devices managed by ATEN control system. The Viewer is fully configurable and customizable using ATEN Configurator. For example: 
Project	A project is a configuration file, generated using ATEN Configurator to specify settings of an ATEN Control System, including one or multiple controllers, managed devices, and control interfaces.

What's New in Configurator (v.4.0)

New & Improved Features	For More Information
Project import to enable reuse of existing project setups	See <i>Import Project</i> , page 13.
Supports SSH-enabled Ethernet devices	See <i>Ethernet Device Properties</i> , page 33.

Contents

User Information	ii
Online Registration	ii
Telephone Support	ii
Product Information	iii
About this Manual	iii
Conventions	iii
Terminology	iv
What's New in Configurator (v.4.0)	v
Contents	vi

1. Introduction

Overview	1
Benefits	2
Intelligent Control	2
Features	4
ATEN Configurator	4
Database Generator	5
Compatible Products and Accessories	5

2. ATEN Configurator

Installing ATEN Configurator	7
Getting Started Tasks	10
Main Screen	12
Overview	12
Menu Bar	13
Creating Projects	19
Configuring Controller-Managed Devices	22
The Device Tab	22
Left Sidebar	23
Device List	23
Adding Devices to the Device List	25
Adding Non-KNX-Compliant Devices to ATEN Configurator	25
Adding KNX Devices	27
Device Properties	28
Controller Properties	28
Expansion Box (Expander)	29
Serial Device Properties	30
I/O Device Properties	31
IR/Relay Device Properties	32
Ethernet Device Properties	33

Replacing a Controller	36
Moving a Controller-managed Device to another Controller	38
Moving a Controller-managed Device to Another Room	39
Device Library	40
Configuring the Control Interface (Viewer)	42
Getting Started with Configuring Viewers	42
The Design Tab	43
Viewer List	44
Monitor / Control List	46
Configuration Panel	47
Library	47
Simulator	47
Adding Viewers	48
Deciding How Many & What Viewer to Create	48
Configuring a Viewer	49
Adding / Removing a Page	52
Configuring a Subpage	53
Duplicating a Viewer	56
Viewer Control Objects	56
Understanding Control Objects	56
Configuring Control Objects	57
Control Object Properties	62
Buttons	62
Groups	66
Labels	67
Slider Bars	68
PowerPoint Control and Media Control Templates	70
Images	71
Layering Images	72
Videos	73
Dial Kit	77
QR Code	79
Webview	80
Frame & Line	82
Object Properties for ATEN Keypad / Control Pad	83
Button / Slider Bar / Dial Kit Actions	86
Understanding Button/Slider Bar/Dial Kit Actions	86
Configuring Button/Slider Bar Actions	89
Functions	90
Device Functions	92
Applications of Device Functions	95
Example: Configuring actions of dial keys	95
Advanced Functions	96
Applications of Advanced Functions	102
Set Flag	102
Condition	103

Change Button State	108
Change Label	110
.	110
Change Group Button State	111
Change Slider Bar Level	112
Change Button Name	113
Design Library	115
Graphic Library	116
Button	116
Background	117
Image (Device Icon)	117
Device Interface	118
Flag	119
Monitor	121
Understanding Monitor	121
Monitor Page Options	121
Condition Types	123
Functions	125
Creating an If Monitor	126
Creating a Switch Monitor	130
Creating a Bypass Monitor	134
Creating a While Loop Monitor	136
Creating a Professional Monitor	137
Duplicating a Created Monitor	142
Macro	143
Scheduled Events	145
Creating a Scheduled Event	145
Duplicating a Scheduled Event	146
Variables	147
Understanding Variables	147
Creating a Variable for Devices that Return Feedback Messages	148
Creating a Variable for Devices that Do Not Return Feedback Messages	150
Creating a Button for Bypassing Feedback to a Variable	154
Timers	156
Configuring a Timer Event	157
Centralized Monitoring and Control via Unizon™	162
Overview	162
Unizon™	162
Monitor ATEN-controller-managed Devices via Unizon™	162
Control ATEN-controller-managed Devices via Unizon™	162
Enabling Monitoring and Control via Unizon™	163
Uploading Viewers	170
Viewing Controller Information	172

3. ATEN Database Generator

Accessing the Database Generator	173
My Library	175
Function Tabs	176
Controls on the My Library Window	178
Editing / Adding a New Device	180
Serial Device	181
Text Command Tools	184
IR Device	185
Digital Output Device	187
Relay Device	188
Ethernet Device	189
Testing Commands	194
Configuring Queries	196
ATEN Device Library	198

Appendix

Technical Support	199
International	199
Control System Project Specifications	200
Datapoint Types (DPTs)	201

Chapter 1

Introduction

This chapter provides an overview of ATEN Control System, and its capabilities and benefits. The following topics are covered:

- ♦ *Overview*
- ♦ *Benefits*
- ♦ *Features*
- ♦ *Compatible Products and Accessories*

Overview

The ATEN Control System is an Ethernet-based management system that incorporates ATEN controllers (ATEN Control Box and/or ATEN Control Pad) and control interfaces (ATEN Keypads, ATEN Touch Panel, or mobile devices) for connection, configuration, and operation of all hardware devices in a room or large facility to provide convenient control. The ATEN controller works as the main controller that provides connectivity to hardware devices commonly seen in settings such as meeting rooms, conferences, boardrooms, and classrooms.

After connecting the hardware, the ATEN Configurator (VK6000) provides simple setup of the devices with easy step-by-step configuration. The ATEN Touch Panel and ATEN Control System app, for iOS, Android or Windows mobile devices, then empowers you with the mobility to control all hardware devices remotely, whenever and however you like.

ATEN Control Box/Control Pad can be easily deployed into an existing installation and integrate seamlessly with ATEN pro-AV products and nearly any other hardware devices found in a room, including AV equipment, lighting, conference systems, air conditioning, motion sensors, power switches and many more. The controller serves as the central platform where hardware devices are connected — to be monitored, managed, and controlled directly via a tailor-made GUI — a Viewer — from any iOS, Android, or Windows mobile device or an ATEN Touch Panel.

The control system project and its control interface is configured using an intuitive program — the ATEN Configurator (VK6000). The ATEN Configurator

walks you through configuring the hardware, designing the control interface (Viewer), and uploading this configuration to the controller. Through an Ethernet connection, the ATEN Control System app enables you to edit and download Viewers from the controller via a point-n-tap user interface. The use of each Viewer is protected with password authentication to ensure secure access.

The ATEN Control System is the perfect solution for any meeting rooms, conferences, boardrooms, classrooms, and any other room setting that requires a centralized, mobile control of a variety of hardware devices through streamlined Ethernet-based management system with optimum efficiency and performance.

Benefits

Intelligent Control

The ATEN Control System makes the interactions between your hardware devices smarter. Programmable actions and triggers provide a fully automated series of advanced operations that allow your devices to respond to each other intelligently, making your meeting solution run smarter and smoother.

Optimized Performance

The ATEN Control System offers communication protocol optimization that not only maintains a near-zero response time but also features data encryption for ensured protection.

Simplified Setup

No matter how large the room or how complicated the hardware, the ATEN Control System can be deployed in 3 easy steps: connecting the hardware, configuring the system, and uploading Viewers for remote control access. Through an intuitive GUI, the process for setting up the controls for every room is simple and customizable, which is fulfilled via straightforward, predefined commands and macros that do not require programming skills.

Effortless Expandability

With a range of expansion boxes available, the ATEN Control System installation can be expanded to accommodate additional hardware devices with various interfaces, such as serial, relay, and IR. In addition, the ATEN Library is preloaded with 10,000+ device drivers, and can also be expanded freely by adding new device drivers through the Database Generator for convenient management, however the size or scope of the installation may be.

User-Oriented Convenience

With its advanced, single-software design, the ATEN Control System offers a comprehensive library of actions and design elements for creating intuitive control panel interfaces for convenient, customizable remote access and control by any mobile device. Various support services also provided with the solution include driver downloads, database generation, upgrade tools, etc. — to help system integrators build easy-to-control applications in a wide range of scenarios effortlessly.

On-the-Go Control

Intuitive system control can start from one room and scale up to multiple rooms, both within the same area and even across regions. Different rooms can be effectively controlled by switching between Viewers, with simple point-n-tap operations, on an iOS, Android and/or Windows mobile. For optimal flexibility, multiple mobile devices can be authorized to control the same room or multiple rooms, providing enhanced mobility.

Features

ATEN Configurator

- ◆ Simple profile setup with easy configuration steps via intuitive GUI
- ◆ Customizable profile templates to be used on mobile devices and PC
- ◆ Supports ControlAssist that allows PC control (PC shutdown, media files, PowerPoint files)

Note: For a full list of supported PC control actions, see *ControlAssist User Manual*.

- ◆ Supports Pronto formatted IR codes – IR command codes can be entered in Hex format
- ◆ Supports Modbus protocol – enables integration with Modbus devices, including TCP, RTU and its checksum data
- ◆ Supports Telnet CLI (command-line interface) mode for third-party system integration
- ◆ Built-in Database Generator for device driver setup and overall device management
- ◆ Built-in ATEN Library comprising 10,000+ device drivers and complete ATEN Pro AV product drivers
- ◆ Scheduling for repeating events
- ◆ Programming-based Script Editor for complex monitoring scenario handling
- ◆ Two-way communication enables user-defined event monitoring to automatically trigger the next actions
- ◆ Status synchronization of managed devices across multiple mobile devices
- ◆ Supports status monitoring and action control configurations of third devices implemented on ATEN Unizon.2
- ◆ Allows for Display Real-time Streaming Protocol (RTSP) and ATEN VE89 series video
- ◆ Test tool to verify commands in action before uploading the profile to the VK series controllers
- ◆ Simulator to simulate and review the customized GUI before uploading

Database Generator

- ♦ Built-in 10,000+ device drivers include ATEN products
- ♦ Allows users to create device drivers for different control interfaces, including Serial, IR, DO, Relay, and Ethernet
- ♦ Supports IR learning function for adding IR device drivers
- ♦ Built-in with default template for IR device
- ♦ Supports a variety of formulas that simplify complicated command codes
- ♦ Supports real-time command testing
- ♦ Allows TCP, UDP, Telnet, HTTP, HTTPS and WebSocket driver creation
- ♦ Supports Quick Mode for IR grouping test
- ♦ Flexible device driver import and export
- ♦ Enables user to edit the feedback processing of the device in LUA scripts and save it to a database for use in ATEN Configurator

Compatible Products and Accessories

Enhance your Control System with a wide range of products and accessories, including ATEN Unizon for centralized management of control systems, room booking systems, and standalone ATEN devices, as well as professional audio solutions for audio processing. For more information, visit the product page for your controller model or contact your local ATEN dealer.

Chapter 2

ATEN Configurator

ATEN Configurator is a GUI-based tool that helps you set up hardware to your ATEN Control System, and create control interfaces, Viewers, to be used on devices such as ATEN Keypads, ATEN Control Pads, ATEN Touch Panels, or mobile devices for management and control.

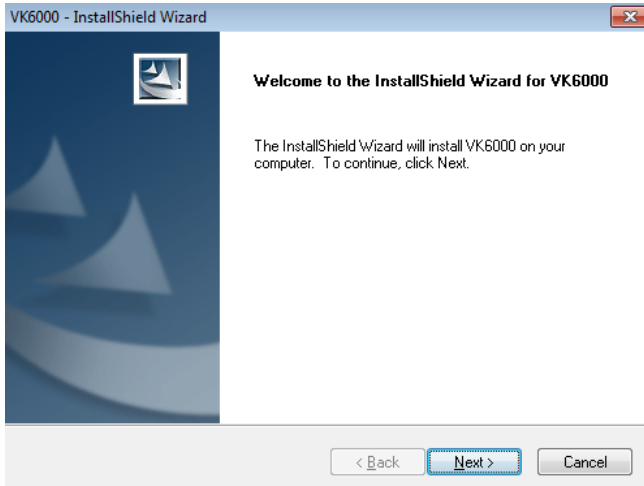
This chapter provides the following information about ATEN Configurator:

- ♦ *Installing ATEN Configurator*
- ♦ *Getting Started Tasks*
- ♦ *Main Screen*
- ♦ *Creating Projects*
- ♦ *Configuring Controller-Managed Devices*
- ♦ *Device Library*
- ♦ *Configuring the Control Interface (Viewer)*
- ♦ *Button / Slider Bar / Dial Kit Actions*
- ♦ *Design Library*
- ♦ *Centralized Monitoring and Control via Unizon™*
- ♦ *Uploading Viewers*

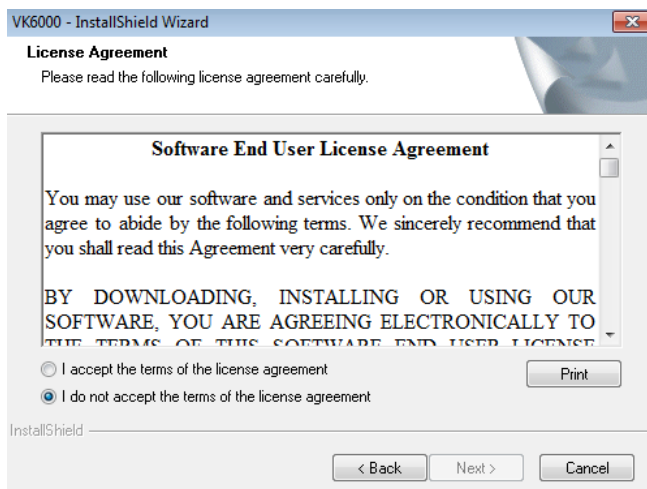
Installing ATEN Configurator

To install the ATEN Configurator software, do the following:

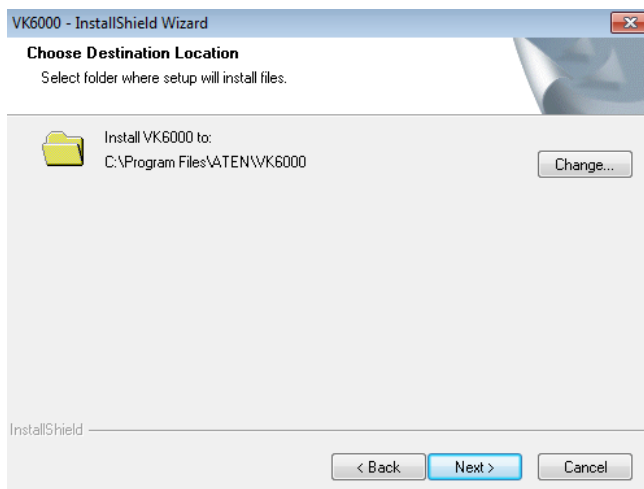
1. Download ATEN Configurator.
 - a) Visit the ATEN download page.
<http://www.aten.com/global/en/support-and-downloads/downloads/>
 - b) Search for "VK6000". A list of downloads for VK6000 appear.
 - c) Click **ATEN_configurator_software_x.x.xxx.zip** to download.
2. Open the downloaded zip file and double-click **ATEN_configurator_software_x.x.xxx.exe** to run the setup. This screen appears.



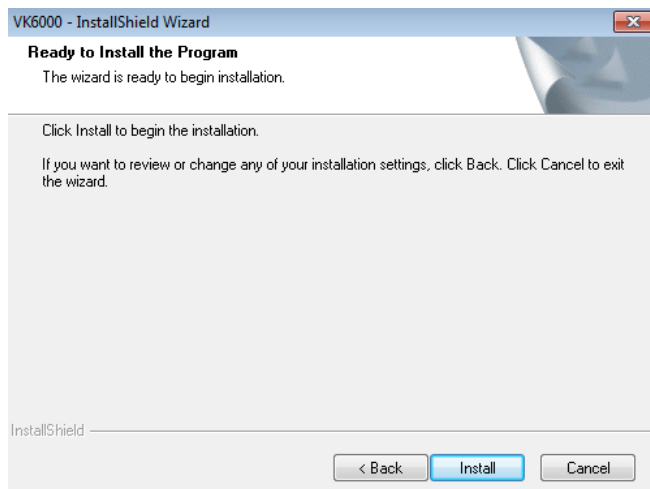
3. Click **Next**. This screen appears.



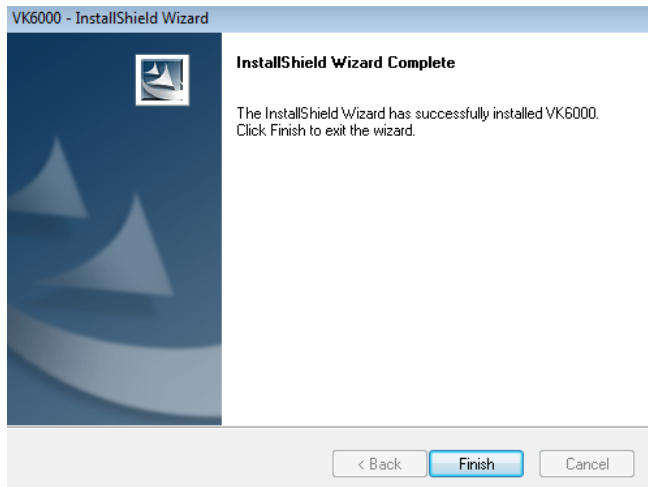
4. If you agree with the License Agreement, select **I accept the terms of the license agreement**, and click **Next**. Click **Print** to print the *Software End User License Agreement*. This screen appears.



5. To change the destination location, click **Change**. Click **Next** to proceed using the default location. This screen appears.



6. Click **Install**. When the process is complete, a confirmation message appears.



7. Click **Finish**.

Getting Started Tasks

After you have installed and launched the ATEN Configurator, the main screen (page 12) appears. You will be guided to create and configure a project using the 4 tabs in the Configurator's interface, as illustrated below.



Hint: You can click the tabs to switch among different pages for configuration.

The steps below provides an overview of the getting started tasks.

1. In the **Project** tab, do the following.
 - ◆ Provide information about the ATEN controller that you have set up.
 - ◆ (Optional) Provide client information for the specified ATEN controller.

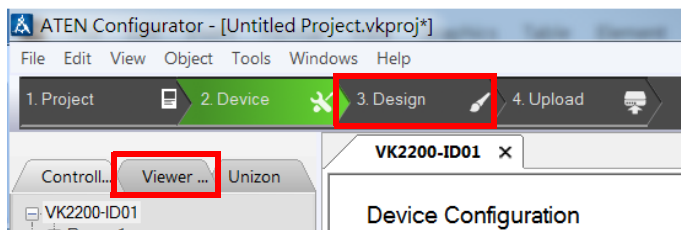
Click **Add Controller** if you have more than one controller in the environment.

Click **Start Project** to proceed.

2. In the **Device** tab, do the following.
 - ◆ Connect each controller with its managed devices by adding them to the controller's Device List, enter the connection settings, and specify the physical locations.
 - ◆ (Optional) Add another controller and/or Expansion Box to the project by clicking **Add Controller or Expander**.
 - ◆ Connect the Expansion Box with its managed devices by adding them to the Device List.

For more details, see *Configuring Controller-Managed Devices*, page 22.

Click **Design** or the **Viewer** tab to proceed.



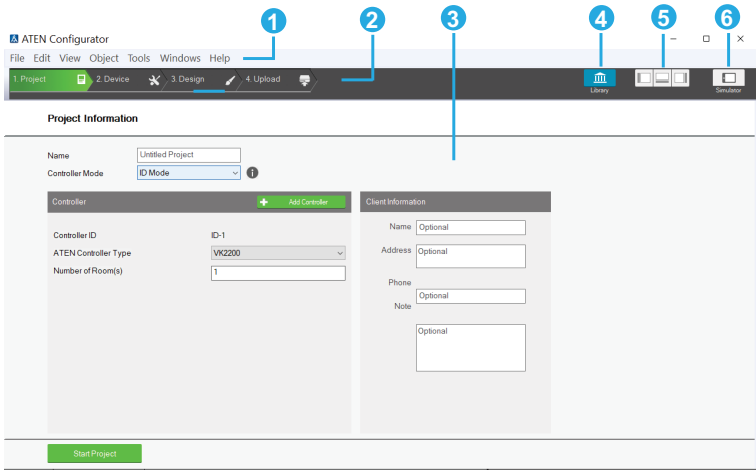
3. In the **Design** tab, do the following.

- ♦ Create and configure a control interface (Viewer). For more information, see *Configuring the Control Interface (Viewer)*, page 42.
 - ♦ (Optional) Set up scheduled events to automatically carry out specified actions.
 - ♦ (Optional) Add additional conditions and actions to buttons using Flags. For details, see *Flag*, page 119.
 - ♦ (Optional) Create a sequence of actions for a button by creating a Macro. For details, see *Macro*, page 143.
 - ♦ (Optional) Create a Variable for a device setting that is controlled by two or more objects in one control interface. For details, see *Variables*, page 147.
4. In the **Upload** tab, upload this Viewer to the controller. For details, see *Uploading Viewers*, page 170.

Main Screen

Overview

Double-click the **Configurator.exe** shortcut to open the ATEN Configurator software. The *Project* page appears:



No.	Control	Description
1	Menu Bar	The menu bar contains a group of the Configurator 's main functions by category. For details, see <i>Menu Bar</i> , page 13.
2	Project Bar	The <i>Project Bar</i> contains four tab and the Library icon. Each tab relates to a step required to set up the project. Each step and the Library can be selected by clicking on the bar.
3	Interactive Display Panel	This is the main work area. The page that appears here reflects the project tab that is selected.
4	Library	The Library contains the devices, graphic, flag, macro, and monitor databases. Each section allows you to add custom items or choose from ready-made selections.
5	Toggle Bar	These three icons are used as a toggle to show or hide the right, left and bottom control panel.
6	Simulator	The Simulator button is used to test the Viewer after it is created in <i>Design</i> . The simulator allows you to try out the interface as it would work on a mobile device but without actually controlling devices. Use the mouse to click through the page links.

Menu Bar

The menu bar contains the Configurator's main functions arranged by category. Refer to the table below to find out what each function does.

Menu	Sub-Menu		Description
File	New Project		Select to create a new project.
	Open Project		Select to browse and open a previously saved project.
	Import Project		Imports a project file. Note: Make sure that the target controller contains sufficient number of ports and allowance of library items (e.g. monitoring events, variables, etc.) for the imported profile file. For the maximum number of connection ports and library items, see <i>Control System Project Specifications</i> , page 200.
	Restore Project from Controller		Downloads a previously backed up project from a controller.
	Close		Closes the current project and returns to the Project tab.
	Save		Select to save changes to the current project.
	Save as		Use this option to save the project as a different name.
	Export Viewer to USB (Not supported by ATEN Control Pad)		Exports Viewers and an access key to a USB drive. After exporting the data onto a USB drive, plug the USB drive into the Control Box's USB port to upload the Viewer files and the access key. These files can only be read by the Control Box and are not project files that can be opened by the ATEN Configurator software.
	Project Report		Click to save a PDF file that contains detailed information about each part of the current project.
	Add KNX Device	Import ETS Project	Import an ETS project file for your KNX devices.
		Add Custom KNX Device	Click to add a KNX device. For more details, see <i>Adding KNX Devices</i> , page 27.
	Recent Projects		Select to view a list of recent projects that can be clicked on to open.
Exit		Select to close the project and exit.	

Menu	Sub-Menu	Description
Edit	Undo	Select to undo a change when editing a Viewer in <i>Create & Design Viewer</i> .
	Redo	Select to redo a change when editing a Viewer page in <i>Create & Design Viewer</i> .
	Cut/Copy/Paste	Select to cut, copy or paste text and objects when editing a Viewer page in <i>Create & Design Viewer</i> . When used to copy and paste a button, both the <i>General</i> and <i>Action</i> properties are copied.
	Paste Graphic Only	Select to paste a button's image but not its Action properties in <i>Create & Design Viewer</i> .
	Delete	Select to delete highlighted text and images when editing a page in <i>Create & Design Viewer</i> .
	Delete Action Only	Select to delete the Action properties of a button in <i>Create & Design Viewer</i> .
	Select All / Deselect All	Use either option to select or unselect all objects when editing a viewer page in <i>Create & Design Viewer</i> .
Preferences	Display Language	Use to select the language for the interface.
	SSH Destination	Click to choose the location of the executable for the SSH Client software. To execute the program, go to Tools > SSH Client .
	Interface	Check a box to enable the feature described below: ◆ Show Welcome Page: displays the Welcome screen when the ATEN Configurator software opens. ◆ Auto Page Creation: automatically creates a Viewer page in <i>Create Viewer & Design</i>, for every hardware device that is configured in <i>Select Device & Configuration</i>. ◆ Show Password: displays the characters of the access key in the Edit Access Key dialog box. ◆ Automatically check for updates: automatically checks for updates and notify the user when an update is available.

Menu	Sub-Menu	Description
View	These options are available from <i>Create Viewer & Design Edit Viewer</i> .	
	Zoom	Zooms the Viewer page to 25%, 50%, 75%, 100%, 200% or Fit in Window. Note: A mouse wheel can be used to zoom the Viewer page in or out.
	Project Information	Select to go to Project Information.
	Device Configuration	Select to go to Select Device & Configuration.
	Viewer Design	Select to go to Create Viewer & Design.
	Project Upload	Select to go to Search & Upload.
	Properties	Select to show/hide the Properties window when editing a Viewer page.
	Align to Grid	Select to automatically align objects with the grid. This places objects in perfect alignment with the grid dots when they are moved. Use Show Grid to display the grid dots. When Align to Grid is not selected, objects can be placed anywhere on the page.
	Show Grid	Select to display the grid dots on the page. Use with the Align to Grid option to set objects in perfect alignment on the page.
	Show Object ID	Select to show object ID at the top-right corner of each object. An object ID is used to specify an object in some configuration.
Object	Button	Adds a button to the Viewer page.
	Label	Adds a label to the Viewer page.
	Image	Adds an image to the Viewer page.
	Scroll View	Adds a scroll box to the Viewer page, then double-click it to add buttons. Use the box as a scroll window to easily access a list of buttons on the page.
	Video	Adds a video box which allows you to view video. The video box can be resized using the Properties sidebar or by dragging a small box on the boarder to resize it to the desired shape.
	Slider Bar	Adds a slider bar to the Viewer page. Slider bars are used to adjust the value of a device setting, such as the volume level of an audio device.

Menu	Sub-Menu		Description
Object	PowerPoint Control Template		Adds a PowerPoint Control template to the Viewer. This control template is used to control PowerPoint files saved in a target computer.
	Media Control Template		Adds a Media Control template to the Viewer. This control template is used to control media files saved in a target computer.
	Line		Adds a line to visually separate objects on the Viewer.
	Frame		Adds a frame to visually frame an object or to group a set of objects in the Viewer.
	Dial Kit		Adds a dial kit to the Viewer. The dial kit can be used for dialing a meeting.
	iFrame		Adds an iFrame to allow switching of multiple pages on a defined area of a page or Home page.
	Webview		Adds the web view based on a user-specified URL to the Viewer.
	QR code		Adds a QR code based on a user-specified URL to the Viewer.
	Group	Group	Select multiple objects and use Group to lock them together. Objects in the group will move together as one.
		Radio Group	Select multiple buttons and use Radio Group to associate them as follows: selecting a button that belongs to the radio group deselects the previously selected radio button within the same group.
		Ungroup	Select grouped objects and use Ungroup to unlock the group.
	Order	Bring to Front	Moves an object to the top position when objects are layered.
		Send to Back	Moves an object to the bottom position when objects are layered.
		Bring Forward	Moves an object up one position when objects are layered.
		Send Backward	Moves an object down one position when objects are layered.

Menu	Sub-Menu		Description
Object	Align	Left	Aligns two or more selected objects to the Left side of the object that is selected last.
		Center	Aligns two or more selected objects to the horizontal position of the object that is selected last.
		Right	Aligns two or more selected objects to the Right side of the object that is selected last.
		Top	Aligns two or more selected objects to the Top side of the object that is selected last.
		Middle	Aligns two or more selected objects to the vertical position of the object that is selected last.
		Bottom	Aligns two or more selected objects to the Bottom side of the object that is selected last.
	Make Same Size	Width	Resizes two or more selected objects to the same width of the object that is selected last.
		Height	Resizes two or more selected objects to the same height of the object that is selected last.
		Both	Resizes two or more selected objects to the same width and height of the object that is selected last.
	Space Evenly	Across Page Width	Spaces two or more selected objects evenly across the width of the page.
		Across Page Height	Spaces two or more selected objects evenly across the height of the page.
		Between Objects Horizontally	Adjusts the horizontal space between three or more selected objects to the average distance between each of the selected objects.
		Between Objects Vertically	Adjusts the vertical space between three or more selected objects to the average distance between each of the selected objects.

Menu	Sub-Menu	Description
Tools	Database Generator	Opens the ATEN Database Generator which is used to manually add and configure hardware devices. This is where you can create custom devices to add to <i>My Device Library</i> . See <i>ATEN Database Generator</i> , page 173, for details.
	Simulator	The Simulator is used to test a Viewer's interface after it has been created in <i>Design</i> . The simulator allows you to tryout the interface as it would work on a mobile device but without actually controlling devices. Use the mouse to click through the page links.
	SSH Client	This runs the SSH Client software selected under <i>Edit > Preferences > SSH Destination</i> . The SSH Client is used to communicate with the controller.
Windows	New Page	Click to create a new Viewer page or select a page to open in <i>Create Viewer & Design</i> .
Help	About	Provides the firmware version and support information for the Configurator software.
	Check for Updates	Checks if ATEN Configurator is up-to-date.
	Training Videos (Basic)	Click to see how-to videos on tasks involved in configuring a project file.
	Training Videos (Advanced)	Click to see how-to videos on using advanced features such as creating a variable, creating a driver using database generator, and more.
	Driver Downloads	Click to download drivers for third-party devices.
	What's New	Click to see new features and functions in this version.

Creating Projects

The *Project* tab allows you to enter details about the installation to start the project. Enter the information using the table below as a guide.

ATEN Configurator - []
File Edit View Object Tools Windows Help
1 Project 2 Device 3 Design 4 Upload

Library

Simulator

Project Information

Name

Untitled Project

Controller Mode

ID Mode

Controller

+ Add Controller

Controller ID

ID-1

ATEN Controller Type

VK2200

Number of Room(s)

1

Controller ID

ID-2

ATEN Controller Type

VK1200

Number of Room(s)

1

Remove Controller

Controller ID

ID-3

ATEN Controller Type

VK2200

Number of Room(s)

1

Remove Controller

Client Information

Name

Optional

Address

Optional

Phone

Optional

Note

Optional

Start Project

Control	Description
Name	Enter the project name you are setting up. You can create multiple projects but for most installations only one project is required.

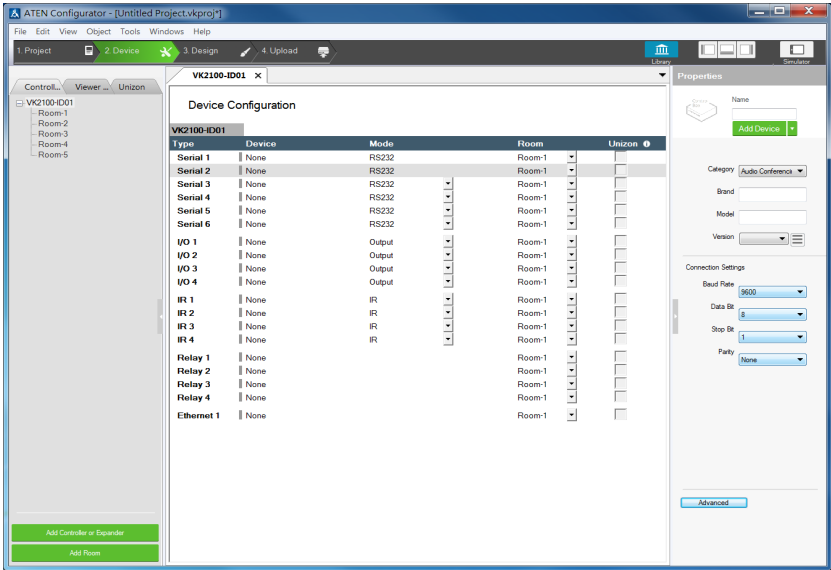
Control	Description
Controller Mode	Click to specify how controllers in this project file connect to Expansion Boxes and Keypads. ◆ ID Mode (default) ◆ Controllers connect to Expansion Boxes or ATEN Keypads by matching controller ID, as set using the controller ID switch on the controller panel and configured in the project file (see Controller ID field below) with the controller ID set on the Expansion Box or Keypad. ◆ Using the ID mode, a controller can connect up to 8 Keypads of the same model and 8 Expansion Boxes of the same model. ◆ IP Mode ◆ Controllers connect to Expansion Boxes / ATEN Keypads through their IP address. Note: When IP Mode is selected, controllers do not use any ID settings on ATEN Keypads or Expansion Boxes as the basis for their connection. However, the controller ID on the controller panel and the project file need to match to successfully apply the configuration. ◆ Using the IP mode, the maximum numbers of ATEN Expansion Boxes that controllers can connect are as follows: ◆ VK0100 / VK0200: 16 ◆ VK1100A / VK2100A: 32 ◆ VK1200 / VK2200: 64 ◆ Using the IP mode, the maximum numbers of ATEN Keypads that controllers can connect are as follows: ◆ VK0100 / VK0200: 10 ◆ VK1100A / VK2100A: 16 ◆ VK1200 / VK2200: 32
Add Controller	Click to add controllers to the project. The number added should match the number of controllers installed. A project can have up to 16 controllers.
Controller ID	Displays the controller ID. Make sure the ID in this field matches the ID on the controller so that the project file will be uploaded to the specified controller.
ATEN Controller Type	Select the model for the controller.

Control	Description
Number of Rooms	Enter the number of rooms each controller will control. Each hardware device you add will be associated with a room. When buttons are configured in the <i>Design</i> tab, you can select a Room under <i>Button Action</i> to filter the <i>Device List</i> so that only hardware in that room appears. This link between the controller, devices and room is how the Viewer knows which devices to control.
Name	Enter the client name associated with the project.
Address	Enter the client address associated with the project.
Phone	Enter the client phone number associated with the project.
Remove Controller	Click to delete a controller from the project.
Start Project	Click to begin configuring hardware devices. The <i>Select Device & Configuration</i> tab will open.

Configuring Controller-Managed Devices

The Device Tab

The Device tab is used to configure controller ports according to the connected hardware device.



Control	Description
Device List	This section lists the ports for each controller, their connected device, connection mode, device location (room) and if the device is managed by Unizon™. Click on a controller, expansion box or Room in the left sidebar to display the ports. Each port needs to be configured according to the hardware device connected to it. For details, see <i>Left Sidebar</i> , page 23.
Left Sidebar	The left sidebar provides a tree view of the ATEN Control System deployment in each project. Use the sidebar to add/remove a controller, Expansion Box, or Room.
Properties	This section allows you to add and configure controllers, Expansion Boxes, managed devices, and rooms. For details, see <i>Configuring the Control Interface (Viewer)</i> , page 42.

Control	Description
Device Library	Click this icon to open the <i>Library</i> on the Device Library tab which contains a database of hardware devices that can be added to the Device List. For details, see <i>Device Library</i> , page 40.

Left Sidebar

Controller

The *Left Sidebar* provides a tree view of the controllers, Expansion Boxes, and rooms. Each controller in the tree view represents a controller with one or more rooms it manages. Selecting a controller allows you to configure its ports. When a port is configured for a device, it appears listed under the Room.

Each controller must contain at least one room. When installing multiple controllers in one room, add a room with the same name to each controller.

Each controller name ends with an ID number: e.g. VK2200-**ID02**. This ID number is automatically generated when the controller is added into the project. You can also configure this ID in the controller properties settings.

Use this number to set the **Controller ID Switch** on the rear of the controller. This links the controller in the software to the physical device being installed.

Right-click a controller to **Add Room** or **Delete Controller**.

Room

Each room is associated with a controller and a Viewer so that the information is uploaded to the correct controller to control the hardware devices. Right click a room to **Delete** or **Rename** the room. Use the buttons at the bottom of the sidebar to **Add Room**.

Expansion Box

ATEN Expansion Boxes connect over a network to add ports to the controller via its Ethernet port. Clicking Add Controller or Expander opens a window which allows you to select a device to add.

Device List

The Device list shows the controller ports by type. Click a port to view its **Properties**. Double-click a port to open the **ATEN Device Library** and search

for the hardware device to configure the port. Configure each port according to the hardware device connected to it.

VK2100-ID01 x

Device Configuration

Type	Device	Mode	Room	Unizon
Serial 1	None	RS232	Room-1	☐
Serial 2	None	RS232	Room-1	☐
Serial 3	None	RS232	Room-1	☐
Serial 4	None	RS232	Room-1	☐
Serial 5	None	RS232	Room-1	☐
Serial 6	None	RS232	Room-1	☐
I/O 1	None	Output	Room-1	☐
I/O 2	None	Output	Room-1	☐
I/O 3	None	Output	Room-1	☐
I/O 4	None	Output	Room-1	☐
IR 1	None	IR	Room-1	☐
IR 2	None	IR	Room-1	☐
IR 3	None	IR	Room-1	☐
IR 4	None	IR	Room-1	☐
Relay 1	None		Room-1	☐
Relay 2	None		Room-1	☐
Relay 3	None		Room-1	☐
Relay 4	None		Room-1	☐
Ethernet 1	None		Room-1	☐

+ Add More Devices
 + Add More Devices
 + Add More Devices
 + Add More Devices

VK224-ID01

Type	Device	Mode	Room	Unizon
Serial 1	None	RS232	Room-1	☐
Serial 2	None	RS232	Room-1	☐
Serial 3	None	RS232	Room-1	☐
Serial 4	None	RS232	Room-1	☐

VK248-ID01

Type	Device	Mode	Room	Unizon
Relay 1	None		Room-1	☐
Relay 2	None		Room-1	☐
Relay 3	None		Room-1	☐

Control	Description
Type	Lists the ports of the controller.
Device	Lists the device name entered in Properties.
Mode	Lists the port's communication mode. Click an arrow to select options: ◆ Serial: RS-232, RS-422, or RS-485 ◆ I/O: Input (VDC), Input (Dry Contact) or Output ◆ IR: IR or R-S232
Room	Lists the room selected for a device. The rooms available depend on the number of rooms added to the controller. No drop-down menu appears if there is only one room. Each controller must have at least one room. Select the room where the device is installed.
Unizon™	Select this option to allow Unizon™ to manage and monitor the corresponding device. Note: Configuration will also be required on Unizon™ for this feature to work. For an overview of how to set up the function, see <i>Centralized Monitoring and Control via Unizon™</i>, page 162.

Control	Description
+ Add More Devices	RS-422, R-S485, LAN and IR ports can cascade additional devices that are connected to the first unit. IR ports can cascade 1 device, RS-422 and RS-485 ports can cascade up to 2 devices and LAN ports can cascade up to 25 devices.

Adding Devices to the Device List

Adding Non-KNX-Compliant Devices to ATEN Configurator

To add devices that are not KNX compliant, use one of the following methods. For a list of supported Datapoint Types (DPTs), see *Datapoint Types (DPTs)*, page 201.

■ Via ATEN Device Library or My Library

1. In the Device List, click a port where you have physically installed a device.

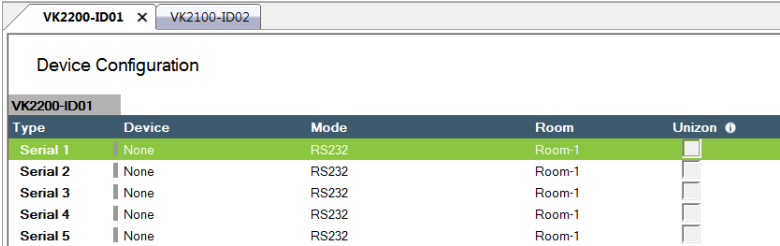
VK2200-ID01 x VK2100-ID02				
Device Configuration				
VK2200-ID01				
Type	Device	Mode	Room	Unizon
Serial 1	None	RS232	Room-1	☐
Serial 2	None	RS232	Room-1	☐
Serial 3	None	RS232	Room-1	☐
Serial 4	None	RS232	Room-1	☐
Serial 5	None	RS232	Room-1	☐

2. Click  library. In the pop-up window, click the drop-down list to select **ATEN Device Library** or **My Device Library**, and then double-click an item to add the device. The selected device is added to Device Configuration.

VK2200-ID01 x VK2100-ID02				
Device Configuration				
VK2200-ID01				
Type	Device	Mode	Room	Unizon
Serial 1	VM51616H	RS232	Room-1	☐
Serial 2	None	RS232	Room-1	☐
Serial 3	None	RS232	Room-1	☐
Serial 4	None	RS232	Room-1	☐
Serial 5	None	RS232	Room-1	☐
Serial 6	None	RS232	Room-1	☐

■ **Via the Properties Column**

1. In the Device List, click a port where you have physically installed a device.



Type	Device	Mode	Room	Unizon
Serial 1	None	RS232	Room-1	☐
Serial 2	None	RS232	Room-1	☐
Serial 3	None	RS232	Room-1	☐
Serial 4	None	RS232	Room-1	☐
Serial 5	None	RS232	Room-1	☐

2. Use one of the following to add a device.

♦ **Select from Library:**

Use this method to automatically bring in default settings for the selected device.

- (a) Click the arrow button and select **Add device from the Library** to open the Library.



- (b) Click the drop-down list to select **ATEN Device Library** or **My Device Library**, and then double-click an item to add the device.

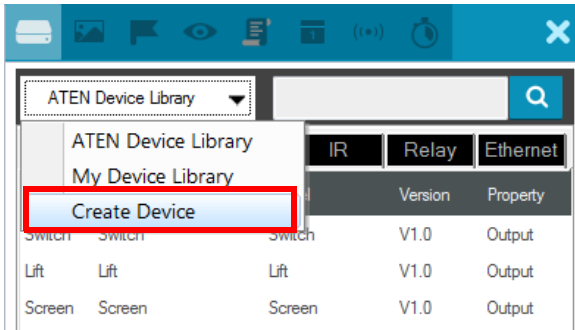
♦ **Specify and configure settings**

Use this method to type and configure each setting for the device. When the configuration is complete, click **Add Device**.



Note:

If the device is not in the Library, create the device using Database Generator. For details, see *Editing / Adding a New Device*, page 180.



Adding KNX Devices

There are two ways to add KNX devices into ATEN Control System projects:

- ◆ Add a KNX device individually (page 27)
- ◆ Import a pre-configured ETS project (page 28)

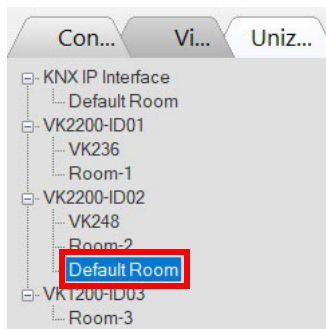
■ Adding a KNX Device

1. In the Devices tab, go to **File > Add KNX Device > Add Custom KNX Device**. A KNX IP Interface (with a default room) is added.



2. On the controller where you wish to add the KNX device, right-click the controller and then select **Add KNX Room > Default Room**.

The KNX device is added.



■ Importing an ETS Project

1. In the Devices tab, go to **File > Add KNX Device > Import ETS Project**. The configurations for your KNX devices appear in the Controller tab on the left-side bar.
2. In the Controller tab, click on **KNX IP Interface** and type its IP address and port in the Properties column.

Device Properties

The *Properties* panel provides information and configuration fields for controllers, Expansion Boxes, remote devices, or rooms. Click a device or room from the left sidebar or the Device List to display its properties.

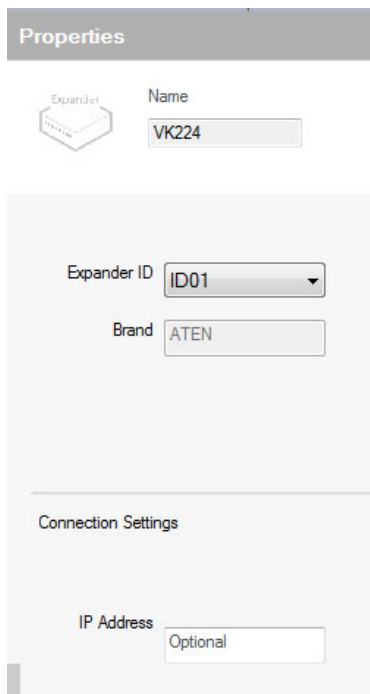
Controller Properties

Click a controller from the left sidebar or from the Device List to configure or view the following properties.

- ♦ **Name:** Displays the device model.
- ♦ **Controller ID:** Sets the controller ID. With the controller set to ID mode (*Creating Projects*, page 19), the controller connects to ATEN Expansion Box and Keypad by matching this ID with that set on the Expansion Box or Keypad.

Expansion Box (Expander)

Click an expansion box from the left sidebar or from the Device List to configure or view the following properties



The screenshot displays the 'Properties' configuration window for an 'Expansion Box (Expander)'. On the left, a sidebar shows a folder icon labeled 'Expander'. The main area is divided into sections. The top section contains a 'Name' field with the value 'VK224'. Below this, the 'Expander ID' is set to 'ID01' via a dropdown menu, and the 'Brand' is set to 'ATEN'. A horizontal line separates the top section from the 'Connection Settings' section below. In the 'Connection Settings' section, the 'IP Address' is set to 'Optional'.

- ◆ **Name:** Displays the device model.
- ◆ **Expander ID:** Select the expander ID. Make sure the ID matches the one set physically on the Expansion Box.
- ◆ **IP Address:** Specify the IP address of the expansion box. This setting is only required when the connection mode (with the controller) is set to **IP mode**. For more information, see *Creating Projects*, page 19.

Serial Device Properties

Click a serial device from the Device List to configure its properties.

- ◆ **Name:** Displays the device model.
 - ◆ **Add Device:** Use this button to add devices. For details, see *Adding Non-KNX-Compliant Devices to ATEN Configurator*, page 25.
- ◆ **Category:** Displays the category of the selected device.
- ◆ **Brand:** Displays the brand of the selected device.
- ◆ **Model:** Displays the model of the selected device.
- ◆ **Version:** Shows the firmware version selected for the device. Use the drop-down menu to select a different firmware version. Click the menu box next to the version number to open a PDF with the version history. The version history and different versions for a device can be manually added/updated via the Database Generator (see step 3 of *Editing / Adding a New Device*, page 180).
- ◆ **Connection Settings:** Click the drop-down lists to configure the baud rate, data bit, stop bit, parity settings, and flow control for the selected serial device.
- ◆ **Advance Settings:** Click **Advanced** to display the following settings.
 - ◆ **Delay Interval:** Sets a time delay for each command before they are sent to the device.
 - ◆ **Feedback Timeout:** Sets the maximum interval that the controller allows in between parts of a feedback message. The controller uses this value to identify the end of a message.
 - ◆ **End Character:** Type the end-of-text character of the device to inform controller the end of a message and to shorten the response time.
 - ◆ **Keep Connection Alive:** The controller sends a command to the serial device to maintain the connection and avoid timeout issues.
 - ◆ **Command:** Type a command to be sent to the selected device.
 - ◆ **Interval:** Type the interval at which the controller sends the command.

I/O Device Properties

Click an I/O device from the Device List and select **Input (VDC)**, **Input (Dry Contact)**, or **Output** to configure its properties.

- ◆ **Name:** Displays the device model.
 - ◆ **Add Device:** Use this button to add devices. For details, see *Adding Non-KNX-Compliant Devices to ATEN Configurator*, page 25.
- ◆ **Category:** Displays the category of the selected device.
- ◆ **Brand:** Displays the brand of the selected device.
- ◆ **Model:** Displays the model of the selected device.
- ◆ **Version:** Shows the firmware version selected for the device. Use the drop-down menu to select a different firmware version. Click the menu box next to the version number to open a PDF with the version history. The version history and different versions for a device can be manually added/updated via the Database Generator (see step 3 of *Editing / Adding a New Device*, page 180).
- ◆ **Lower Threshold & Upper Threshold:** Set the thresholds according to the hardware device you are connecting and then configure a Monitor (see page 121).
- ◆ **Advance Settings:** Click **Advanced** to display the Delay Interval setting.
 - ◆ **Delay Interval:** Sets a time delay for each command before they are sent to the device.

IR/Relay Device Properties

Click an IR/Relay device from the Device List to configure its properties.

- ♦ **Name:** Displays the device model.
- ♦ **Add Device:** Use this button to add devices. For details, see *Adding Non-KNX-Compliant Devices to ATEN Configurator*, page 25.
- ♦ **Category:** Displays the category of the selected device.
- ♦ **Brand:** Displays the brand of the selected device.
- ♦ **Model:** Displays the model of the selected device.
- ♦ **Version:** Shows the firmware version selected for the device. Use the drop-down menu to select a different firmware version. Click the menu box next to the version number to open a PDF with the version history. The version history and different versions for a device can be manually added/updated via the Database Generator (see step 3 of *Editing / Adding a New Device*, page 180).
- ♦ **Advance Settings:** Click **Advanced** to display the Delay Interval setting.
 - ♦ **Delay Interval:** Sets a time delay for each command before they are sent to the device.

Ethernet Device Properties

Click an Ethernet device to configure its properties.

- ◆ **Name:** Displays the device model.
- ◆ **Add Device:** Use this button to add devices. For details, see *Adding Non-KNX-Compliant Devices to ATEN Configurator*, page 25.
- ◆ **Category:** Displays the category of the selected device.
- ◆ **Brand:** Displays the brand of the selected device.
- ◆ **Model:** Displays the model of the selected device.
- ◆ **Version:** Shows the firmware version selected for the device. Use the drop-down menu to select a different firmware version. Click the menu box next to the version number to open a PDF with the version history. The version history and different versions for a device can be manually added/updated via the Database Generator (see step 3 of *Editing / Adding a New Device*, page 180).
- ◆ **Connection Settings**

Depending on the selected protocol, some of the following settings may not be required and are not displayed.

- ◆ **Protocol Type:** Click to select the protocol for the Ethernet device. The ATEN Control System supports control of devices via ONVIF, TCP, UDP, HTTP, HTTPS, WebSocket, Telnet, and SSH. Configure the following fields as required.
- ◆ **IP Address:** Type to assign a fixed IP address to the Ethernet device.
- ◆ **Port:** Type to assign a communication port.
- ◆ **Username & Password:** Type the device's login/access credentials.
- ◆ **VE Manager Password:** Type the administrator password of the VE Manager to allow the controller to access video sources connected to the video extenders managed by the VE Manager.
- ◆ **Auth Type:** Sets the authentication type that the device uses.
- ◆ **URIPath:** Type the part of the WebSocket URI that follows its communication port. For example, if the URI is **wss://<host>:31416/Dicentis/API**, type **Dicentis/API** in this field.
- ◆ **SubProtocol:** Type the subprotocol for the Ethernet device. This information shall be available in the device's reference or user manual.
- ◆ **WSS:** Select to encrypt the WebSocket connection.
- ◆ **Edit Additional Info:**

- ◆ **ExtHeader:** Type the required data for handshake header.
- ◆ **Extension:** Type the required data for the Sec-WebSocket-Extensions header field.
- ◆ **Edit Login Command:** Click to edit the login command.
- ◆ **Monitor Connection**
 - ◆ **Check Status (ICMP):** Select this option to allow the controller to send control messages to receive connection status for this Ethernet device.
Note: To allow the online/offline status to be accessible to Unizon™ for remote management, select the Unizon™ checkbox that corresponds to the device in the Device List.
 - ◆ **NOP (for Telnet only):** Select this option to send a no-operation command to the remote end of a telnet connection to maintain the connection status of the device with controller.
 - ◆ **Stream:** To allow video streaming to the controller via RTSP, select this option and type the streaming IP address, port, and login credentials of the Ethernet device.
 - ◆ **Advance Settings:** Click **Advanced** to display the Delay Interval setting.
 - ◆ **Delay Interval:** Sets a time delay for each command before they are sent to the device.
 - ◆ **Delay after Login (for Telnet only):** Sets a delay (to allow a connection to be established) before the First and Second Commands are sent to the device.
 - ◆ **Feedback Timeout:** Sets the maximum interval that the controller allows in between parts of a feedback message. The controller uses this value to identify the end of a message.
 - ◆ **End character:** Type the end-of-text character of the device to inform controller the end of a message and to shorten the response time.
 - ◆ **Send command after connection (for Telnet and TCP only):** Sends commands to the device after a successful connection has been established.
 - ◆ **Format:** Sets the command format.
 - ◆ **First Command:** Sets the command.
 - ◆ **Second Command:** Sets the second command.

- ♦ **Automatically reconnect if no return message is received:**
Select this option to continue reconnection attempts when no return message is received from the device.
- ♦ **Keep Connection Alive (for Telnet and TCP only):** The controller sends a command to the device to maintain the connection and avoid timeout issues.
 - ♦ Command: Type a command to be sent to the selected device.
 - ♦ Interval: Type the interval at which the controller sends the command.

Replacing a Controller

Use this feature to help you easily replace a controller and retain the device configurations.

Note: Raw commands involving devices that do not exist in the Device List will be removed upon replacement.

- Make sure the current device configuration conform to the following:
 - The new controller is equipped with enough ports to accommodate the devices managed by your current controller.
 - Since the replacement is carried out on a port to port basis, make sure the devices managed by your current controller are added to ports that also exist in the new controller.

For example, to replace a VK2200 (as shown below) with VK1200 (equipped with only 2 serial ports), move the VM5808D on Serial 3 to either Serial 1 or Serial 2.

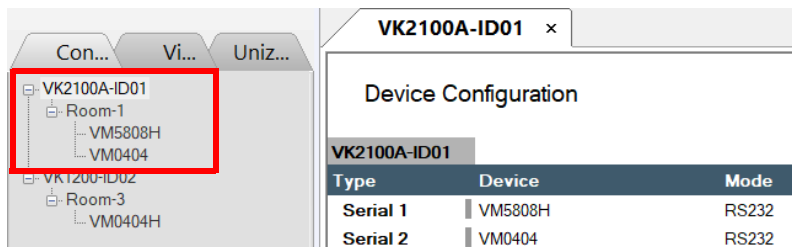
The screenshot shows the ATEN Configurator interface. On the left, a tree view shows the project structure with controllers and their associated devices. The main panel displays the 'Device Configuration' for 'VK2200-ID03'. The table below shows the configuration for each serial port.

Type	Device	Mode
Serial 1	None	RS232
Serial 2	None	RS232
Serial 3	VM5808D	RS232
Serial 4	None	RS232
Serial 5	None	RS232

- In the project file, go to the **Device** tab.
- From the left sidebar, right-click on a controller you wish to replace and go to **Replace Controller**.

The screenshot shows the ATEN Configurator interface with the 'Device' tab selected. The left sidebar shows a tree view of the project structure. The main panel displays the 'Device Configuration' for 'VK2200-ID01'. A right-click context menu is open over the 'VK2200-ID01' controller, showing the 'Replace controller' option highlighted with a red box. The menu also includes 'Delete Controller' and a list of available controllers: VK1200, VK2100A, VK1100A, VK0100, and VK0200.

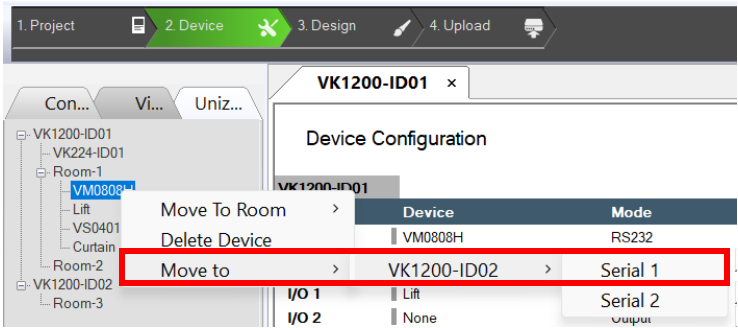
4. From the pop-up menu, click to select a controller for replacement. For example, select **VK2100A**. A warning message about removing raw commands appears.
5. Click **OK**. The controller is immediately replaced with the device configuration retained.



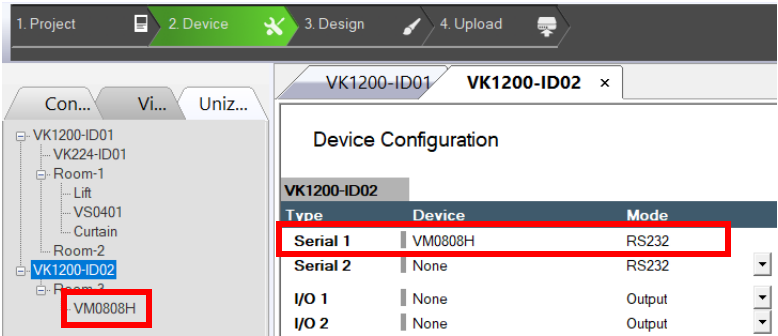
Moving a Controller-managed Device to another Controller

To move a controller-managed device, along with its configuration to another controller, follow the steps below.

- 1. In Configurator, click the **Device** tab.
- 2. In the left sidebar, right-click the device you wish to migrate, go to **Move to**, and then select a controller and a target port.



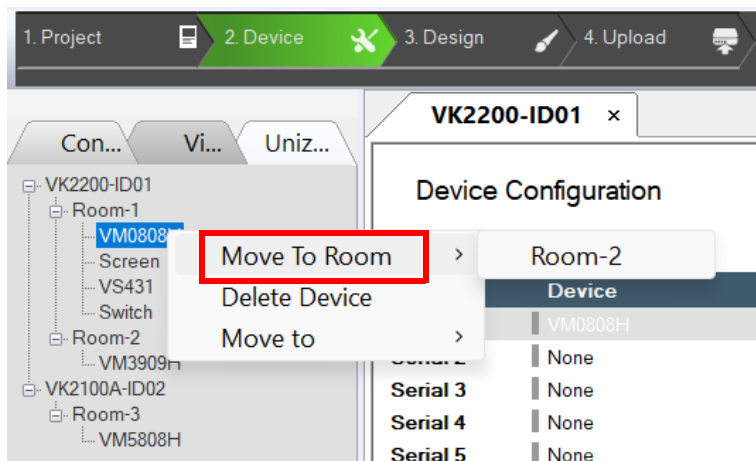
- 3. The device (along with its configuration) is moved immediately.



Moving a Controller-managed Device to Another Room

To move a controller-managed device to another room (managed by the same controller), follow the steps below.

1. From the left sidebar, right-click the target device and go to **Move to Room**. A pop-up menu appears listing other rooms of the controller.

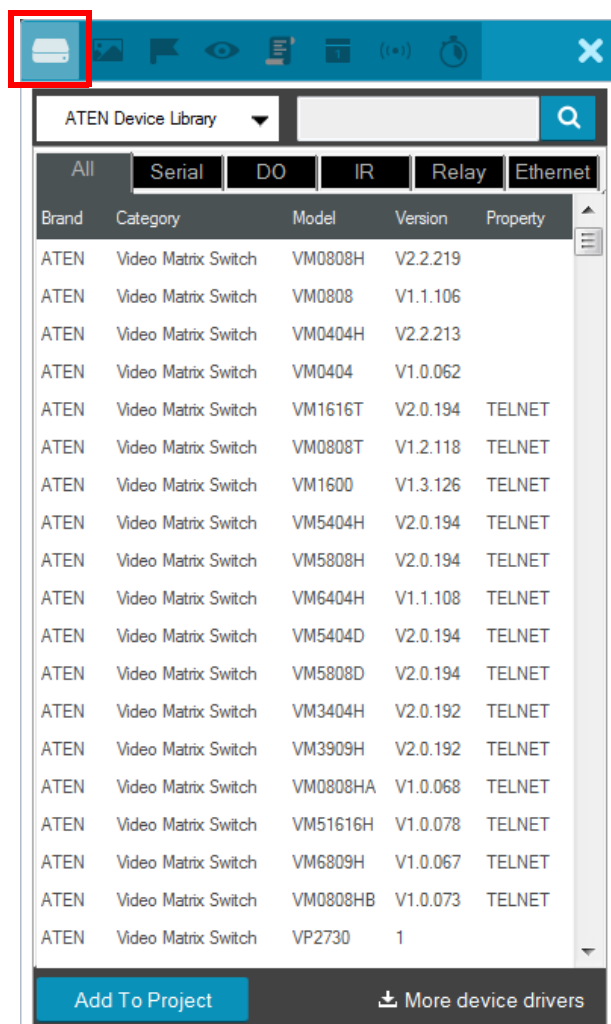


2. Click to select a destination room. The device is immediately moved. If no menu pops up, create a room first and try again.

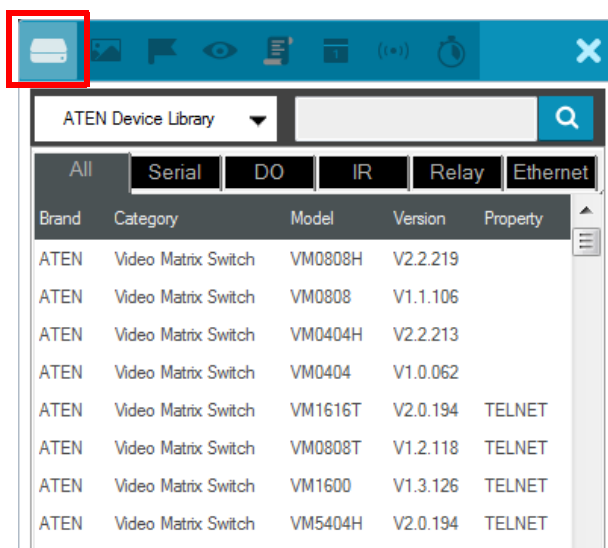


Device Library

The Project Bar provides the **Library** option. Use the *Device Library* tab (shown below) to configure controller ports according to the connected hardware devices. The Device Library provides an extensive database of hardware devices that can be double-clicked or drag-and-dropped into the **Device Configuration** page to configure controller ports. The Device Library is discussed on the next page.



The *Device Library* tab is a database of hardware devices that instantly configure controller ports. Search the library for the device connected to a controller port then add it to configure the port. For devices not in the library, use the *ATEN Database Generator* to create custom hardware (see page 173). Click **Library** on the Project bar or double-click a port on the *Device Configuration* page to open the ATEN Device Library.



- ◆ Add a device by clicking **Add to Project** or by **drag & drop**.
- ◆ To search for a device type keywords into the box and click .
- ◆ Click a tab to filter by **All**, **Serial**, **DO**, **IR**, **Relay** or **Ethernet**.
- ◆ Click headings to sort by **Brand**, **Device Type**, **Model** or **Version**.
- ◆ Use the drop-down menu to select:
 - ◆ **ATEN Device Library** – ATEN's database of hardware devices.
 - ◆ **My Device Library** – Devices added from the Database Generator.
 - ◆ **Create Device** – Opens the *Database Generator* to create custom hardware devices for *My Device Library* (page 174).

Configuring the Control Interface (Viewer)

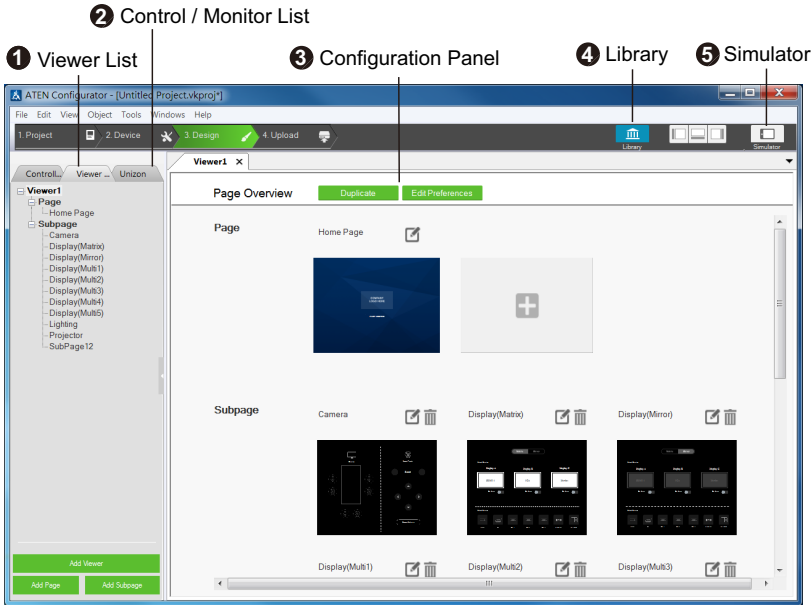
This section provides information on how to configure a control interface, the *viewer*, for your control system and the functions of different control objects.

Getting Started with Configuring Viewers

Step	Action	Refer to
1.	Understand the usages of Pages and Subpages.	<i>The Design Tab</i> , page 43
2.	Plan and consider the following before creating the viewer: ♦ required control actions and suitable control elements ♦ placement of these control elements among Pages, and on Subpages if needed	♦ <i>Control Object Properties</i>, page 62 ♦ <i>Viewer List</i>, page 44
3.	Create a viewer.	<i>Adding Viewers</i> , page 48
4.	Based on your planning, add the required Pages / Subpages.	♦ <i>Adding / Removing a Page</i>, page 52 ♦ <i>Configuring a Subpage</i>, page 53
5.	Add and configure control objects on the created Pages / Subpages.	♦ <i>Configuring Control Objects</i> , page 57

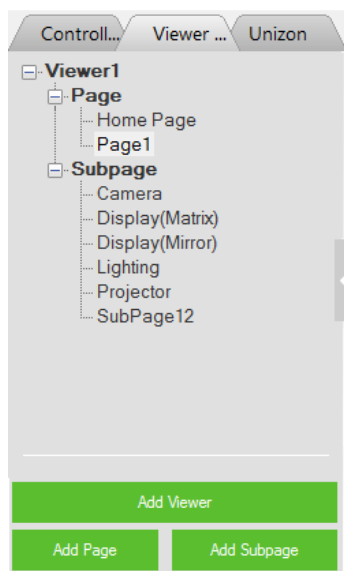
The Design Tab

Use the **Design** tab to configure viewers for your control system. A design tab contains following elements to help you create, configure, and manage your viewers:



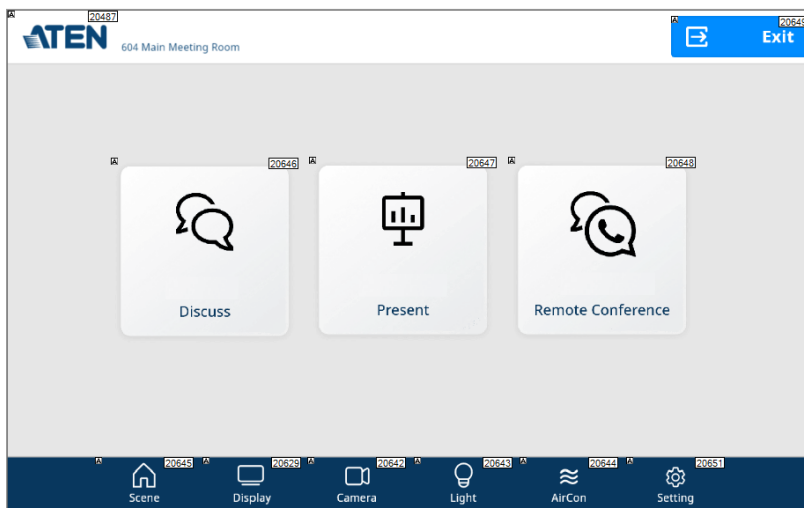
1 Viewer List

The Viewer List provides a tree view of added Viewers and the associated control pages, as illustrated on the right.

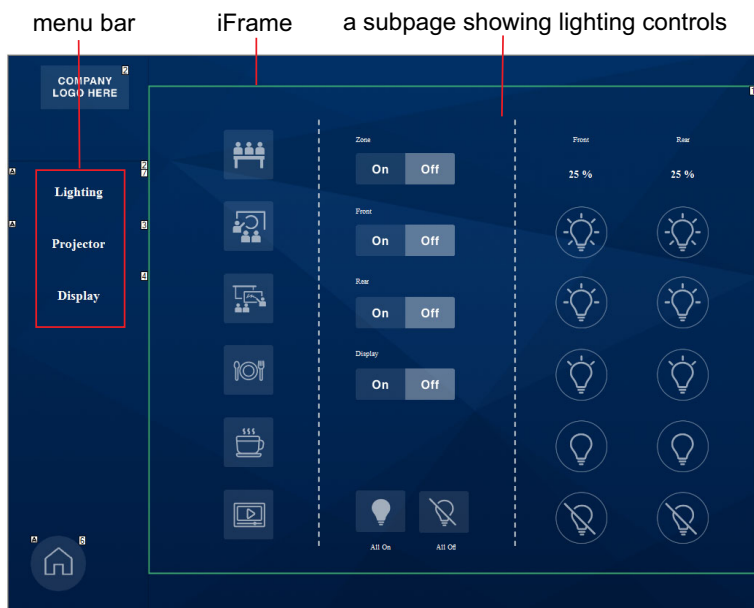


In a Viewer, you may find the following page types:

- ♦ **Home Page:** This is the main page (for mobile devices and ATEN touch panel) or the key layout (for ATEN Control Pads and Keypads). A Home Page typically contains buttons that redirect to frequently used features and control pages, such as display, lighting, air conditioning, etc.



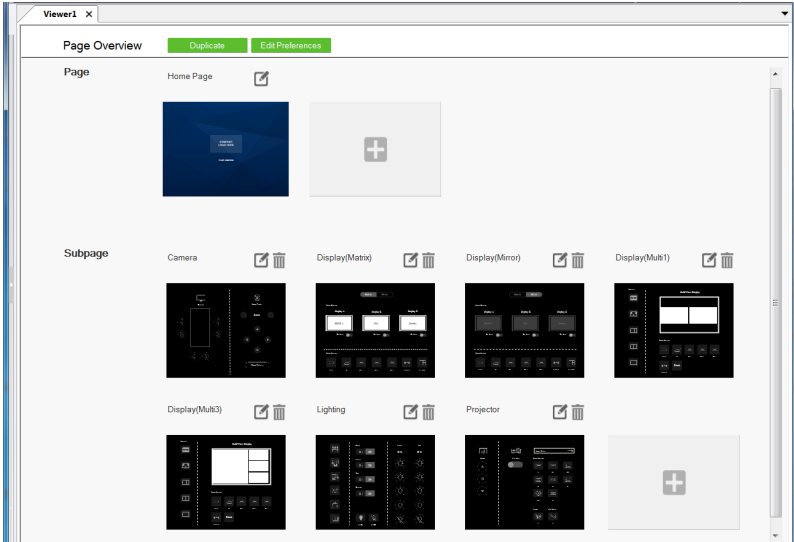
- ◆ **Page:** This is a full-size control page to which you can redirect by tapping an associated button or icon from the Home Page or other Pages.
- ◆ **Subpage:** A Subpage is a reduced-size control page that is embedded within a Home Page or Page through an adjustable frame (the green frame as illustrated below), called the *iFrame*. The advantage of using subpages is that it allows you to retain some elements of the page, such as buttons of a menu bar or a company logo, while switching among different subpages. In the example below, this page is designed to have a menu bar on the left and a reserved area (iFrame) for displaying three subpages that can be switched to by tapping the menu options on the left.



Use Viewer List to add, remove, or edit Viewers and the associated pages. More specifically, you can use the Viewer List to do the following tasks:

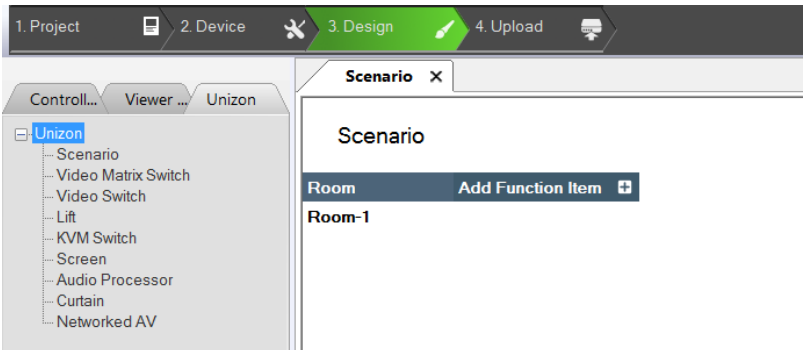
- ◆ To add a new Viewer, click the **Add Viewer** button.
- ◆ To add a new Page or Subpage, click the corresponding button at the bottom.
- ◆ To delete, rename, or copy an added page, right-click it from the list.
- ◆ To duplicate the visual design of a control page (without its configurations), right-click it to select **Copy**, and right-click the target Page or Subpage category and select **Paste**.

- ◆ To open a control page, click the Page or Subpage from the Viewer list, the Page / Subpage appears as a separate tab in the configuration panel.
- ◆ To see a thumbnail of the added control pages within a Viewer, click a Viewer from the list. This Viewer appears as a tab in the configuration panel. For example:



2 Monitor / Control List

The monitor / control list shows the functions and settings monitored or controlled by ATEN Unizon™, categorized by device type. For more information about remote management via ATEN Unizon™, see *Centralized Monitoring and Control via Unizon™*, page 162.



3 Configuration Panel

The configuration panel is where the Viewer overview and control pages open in tabs for configuration.

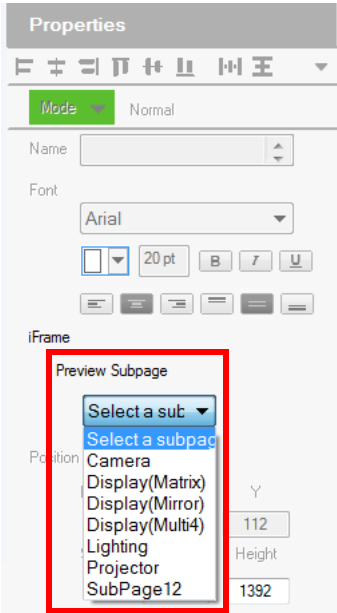
4 Library

The Library is a repository of built-in and user-created features and functions, including graphics (page 116), flags (page 119), monitoring events (page 121), macros (page 143), schedules (page 145), and variables (page 147). For an overview of these functions, see *Design Library*, page 115.

5 Simulator

Use the **Simulator** button to simulate the control elements on your Viewer (without actual effect on controller-managed devices). Use the mouse to click through the page links.

Note: To view how Subpages appear, click the iFrame of the Subpage and select the Subpage you want to preview for the Preview Subpage setting. Your configuration for the selected Subpage appears.

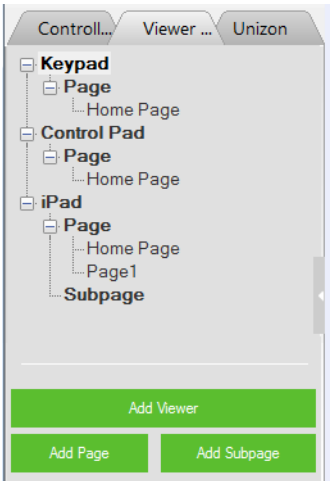


Adding Viewers

Deciding How Many & What Viewer to Create

Scenario 1

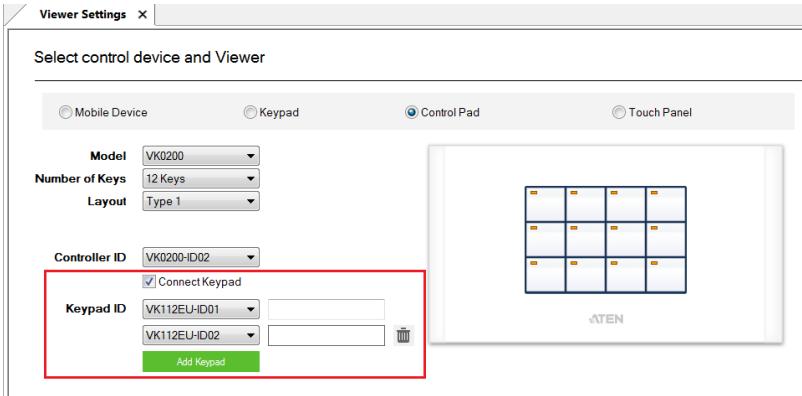
If you have 4 control devices in your project – one ATEN Control Pad, two ATEN Keypads (sharing identical key layout and control functions with each other, but different with the Control Pad), and an iPad, you will need to create 3 viewers, as illustrated on the right.



Scenario 2

If you have 3 control devices in your project – one ATEN Control Pad and two ATEN Keypads (sharing identical key layout and control functions with each other *and with the Control Pad*), you will need to:

- ♦ create one viewer for Control Pad
- ♦ enable the **Connect Keypad** setting and specify the associated Keypads. This way, the two Keypads will share the layout and control functions specified in this Viewer.



Configuring a Viewer

1. In the target project file, go to the **Design** tab. The Viewer Settings page appears. If not, click **Add Viewer** from the Viewer List.
2. Select the physical device for the Viewer.

Viewer Settings X

Select control device and Viewer

☒ Mobile Device
 ☐ Keypad
 ☐ Control Pad
 ☐ Touch Panel

Type: iPad
 Resolution: 2160 x 1620
 Display Aspect Ratio: 4:3

Done

3. Configure the settings for your selected device.
 - ♦ Mobile Device

Setting	Description
Type	Use this drop-down menu to select the mobile device that will be used to control hardware devices in a room. This sets the resolution for the Viewer to fit on the mobile device's screen. Choose a Custom selection to configure a screen size with the <i>Resolution</i> drop-down menu below it.
Orientation	Select one of the following display orientation: ♦ Landscape: A horizontal display where the width is greater than the height. ♦ Portrait: A vertical display where the height is greater than the width.
Resolution	Use this drop-down menu to set a custom screen resolution for the mobile device being used to control hardware devices. This option becomes available when you select one of the <i>Custom</i> selections from the Type drop-down menu.
Display Aspect Ratio	Indicates the aspect ratio used for the selected device.

♦ Keypad

Setting	Description
Model	Specify the Keypad model.
Number of Keys	Specify the total number of keys for your Keypad.
Layout	Specify the Keypad layout. This setting should match the physical Keypad layout. Depending on the total number of keys the Keypad has, you may have 1 or multiple options for this setting.
Controller ID	Select the ID number of the controller to which the Keypad will connect. This ID must match the controller ID set on the Keypad.
Keypad ID	Select the Keypad, distinguished by its ID number to match the Keypad ID set on the Keypad. Up to 8 Keypads can connect to one controller.
blank field (after Keypad ID)	For controller to connect to the Keypad through the Keypad's IP address, make sure the controller mode setting (in the <i>Project</i> tab) is set to IP mode , and type the IP address of the Keypad in this field.
Add Keypad	Click Add Keypad to add one or more Keypads that will connect to the same controller and share identical key layout and control functions.

♦ Control Pad

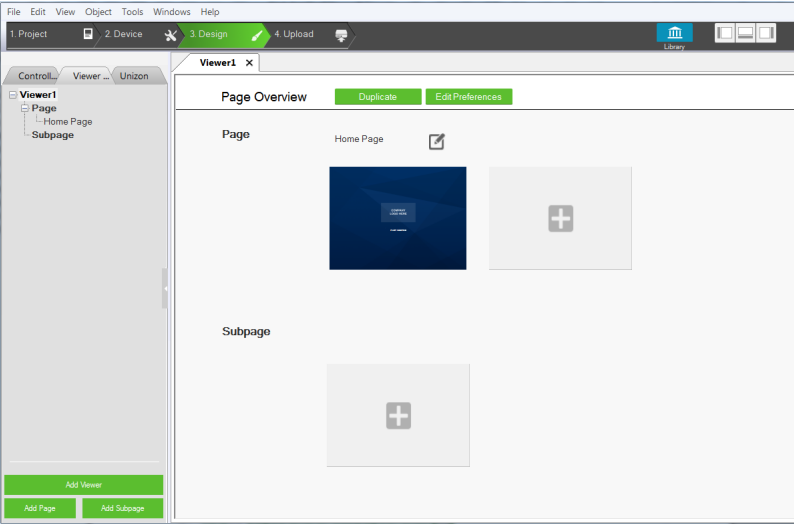
Setting	Description
Model	Specify the model for the Control Pad.
Number of Keys	Specify the total number of keys for your Control Pad.
Layout	Specify the layout for the Control Pad. This setting should match the physical layout. Depending on the total number of keys the Control Pad has, you may have 1 or multiple options for this setting.
Controller ID	Specify the ID of the Control Pad.
Connect Keypad	Select this option if the connected Keypad(s) share identical key layout and control functions with the Control Pad.
Keypad ID	Click the drop-down menu to specify the ID of the added Keypad.

Setting	Description
blank field (after Keypad ID)	(Optional) Type the IP address of the Keypad for the controller to identify and establish connection with. Use this feature when you have more than 16 Keypads in the project or when the network switch blocks multicast signals between the Keypad and the controller.
Add Keypad	Click this button to add Keypad that connects to this Control Pad and shares identical key layout and control functions.

◆ Touch Panel

Setting	Description
Type	Use this drop-down menu to select the Touch Panel that will be used to control hardware devices in a room.
Orientation	Select one of the following display orientation: ◆ Landscape: A horizontal display where the width is greater than the height. ◆ Portrait: A vertical display where the height is greater than the width.
Resolution	Indicates the screen resolution of the selected Touch Panel.
Display Aspect Ratio	Indicates the aspect ratio of the selected device.

4. Click **Done** to save the configuration. An overview appears.



5. Add or remove the Pages / Subpages to your viewer as required.

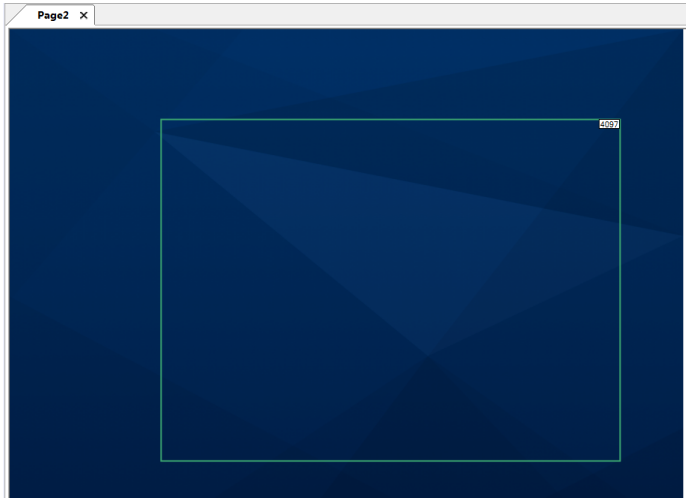
Adding / Removing a Page

- ◆ To add a Page to a viewer, click **Add Page** from the Viewer list or  from the viewer's Page Overview.
- ◆ To remove a Page, do any of the following.
 - ◆ In the viewer list, right-click the Page and select **Delete**.
 - ◆ In Page Overview, click  for the associated Page to be removed.

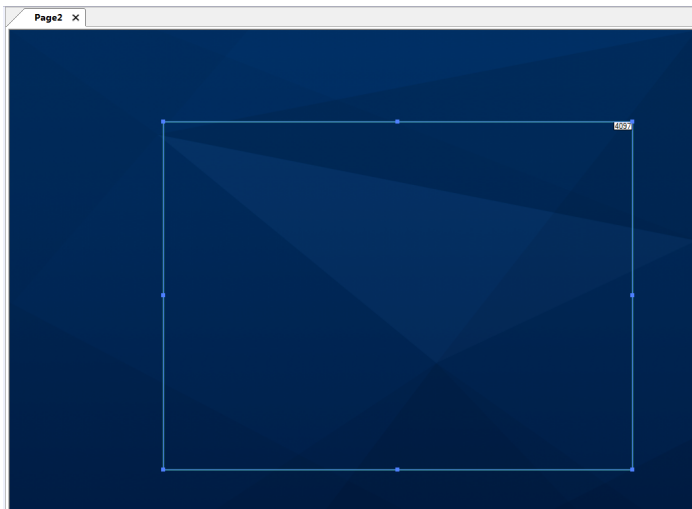


Configuring a Subpage

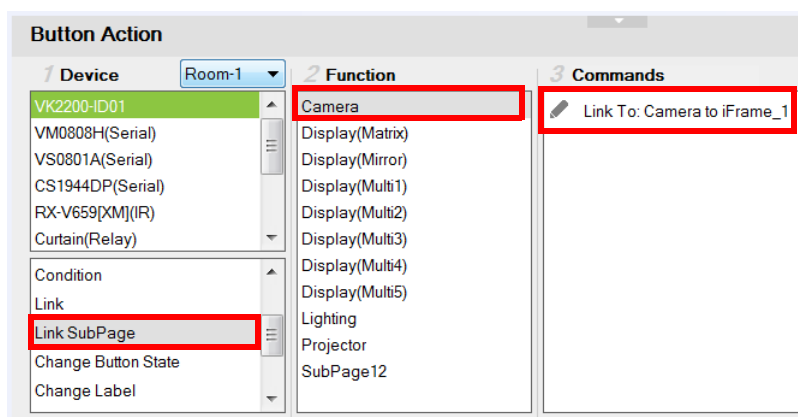
1. Click the target viewer from the Viewer List, and then click  to add one or more Subpages to the selected viewer.
2. Make sure the Page contains an iFrame for displaying Subpage controls. If not, right-click within the Page and select **Add iFrame**. A green frame (iFrame) appears.



3. Preview a Subpage within the iFrame.
 - a) Click within the iFrame. The iFrame border turns blue.



- b) Go to **Properties > Preview Subpage**, and select a Subpage that you have created. The Subpage appears in the selected iFrame.
4. Adjust the size and location of the iFrame.
 - ♦ To move the iFrame, mouse over within the iFrame and then click-and-drag the iFrame.
 - ♦ To resize the iFrame, click within the iFrame, and drag-and-drop the sides or any of the corners to resize.
5. If you have two or more Subpages sharing an iFrame, create a button for switching to each of the Subpages.
 - a) Right-click within the page and select **Add Button**.
 - b) Configure the button properties as required.
 - c) Click the button, click **Link Subpage**, and then double-click a Subpage from the Function column to add the action. For example:

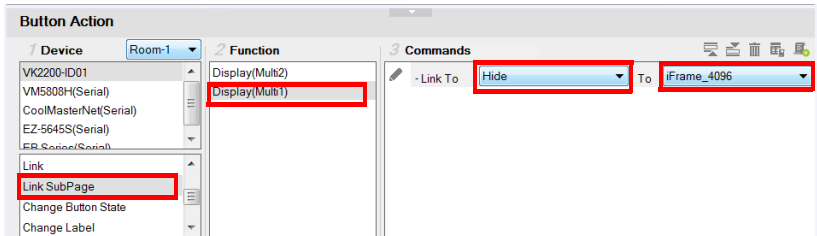


- d) Proceed to configure each button. Now the control page should contain buttons that switch to the defined Subpage.

For example:



6. If you wish to keep a set of controls on the Page and only have them shown when the iFrame is closed, follow the steps below to add and configure a button for this purpose.
 - a) Right-click within the page and select **Add Button**.
 - b) Configure the button properties as required.
 - c) Click the button in the preview area, and add a Link Subpage action of *any* Subpage.
 - d) Double-click the added command and select **Hide** and the iFrame to be hidden.



Note: The iFrame ID should match the ID indicated at the top-right corner of the iFrame in the preview area.

Duplicating a Viewer

To duplicate the Viewer along with its Pages / Subpages, do the following.

1. Click the target viewer from the viewer list. The page overview appears.
2. Click . The selected viewer is duplicated.

Viewer Control Objects

Understanding Control Objects

The ATEN control system supports a wide range of control objects, such as buttons, slider bars, videos, and PowerPoint controls that you can use and customize.

Each button has a symbol in the top left corner to indicate:

- ♦ “A” the button’s actions are configured correctly.
- ♦ “I” the button’s actions need to be modified or they will not work.
- ♦ Buttons with no symbol indicate that functions have not been added to it. For details on adding functions, see *Button / Slider Bar / Dial Kit Actions*, page 86.

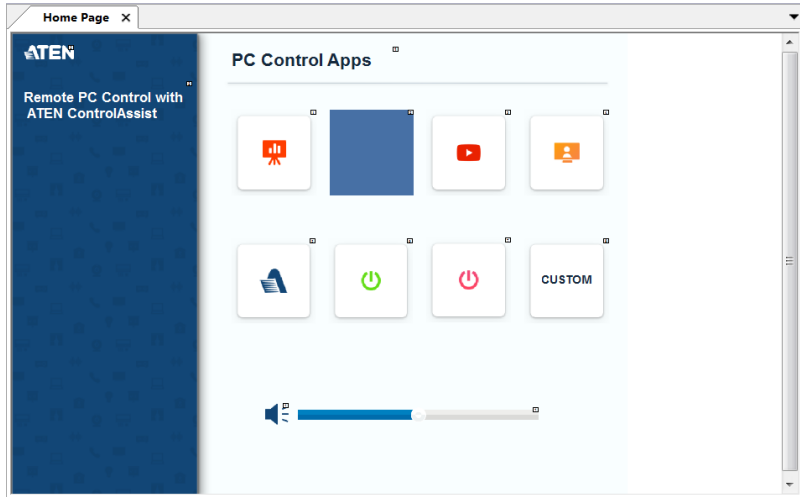


Each object is identified by an ID at the top right corner. These IDs are assigned in the order of creation. These IDs help identify a label when configuring a **Change Label** (page 109) or a button when configuring a **Change Button State** (page 108).

Configuring Control Objects

1. Use one of the following methods to open the Page you wish to configure.
 - ◆ Click the Page from the Viewer List.
 - ◆ Click its associated Viewer from the Viewer List to open the Page overview and then click  to open the Page.

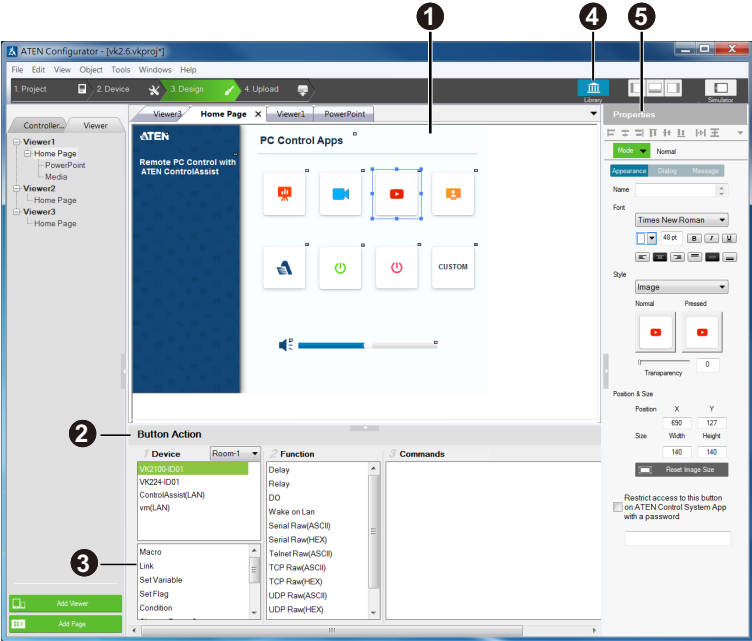
The Page opens in a tab. For example:

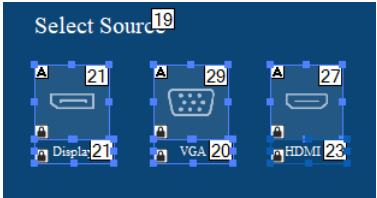


- ♦ To add a control object, right-click any space in the Page, and select an object from the pop-up menu.

Note: For detailed information of each object type, see *Control Object Properties*, page 62.

2. Click on the added object to configure its settings and/or associated actions.



No.	Element	Tasks
1	Configuration panel	Shows a preview of the selected Page. You can also do the following on the preview panel: ◆ To zoom in and out on the preview, scroll the mouse wheel. ◆ To relocate an object, drag-and-drop the object. ◆ To layer an object, right-click the object and set the Order options. ◆ To group multiple objects, drag the mouse to select the objects, right-click on any of the objects and select Group. ◆ To align object, drag the mouse to select the objects, right-click on any of the objects and select Align. ◆ To lock objects to their assigned locations, drag the mouse to select objects, right-click on any of the selected objects, and then select Lock. A lock icon appears in the bottom-left corner of each selected object.  Note: To unlock objects, right-click on one object at a time, and select unlock. ◆ To set objects in perfect alignment, use the View menu options to select Show Grid and Align to Grid.
2	Button Action or Slider Bar Action	Use this panel to define the functions of each button and slider bar. For detailed information, see <i>Button / Slider Bar / Dial Kit Actions</i>, page 86.

No.	Element	Tasks
3	Advanced functions	♦ To add additional conditions and actions to buttons, use the Flag function. For more information, see <i>Flag</i>, page 119. ♦ For a button to initiate a sequence of actions, create a Macro. For more information, see <i>Macro</i>, page 143.
4	Library 	Use Library to customize the appearance of the page and its buttons. For more information, see <i>Device Library</i> , page 40.
5	Properties panel	Use the panel to configure selected object properties. For detailed information about object properties, refer to the following sections: ♦ <i>Note: The iFrame ID should match the ID indicated at the top-right corner of the iFrame in the preview area.</i>, page 55 ♦ <i>Object Properties for ATEN Keypad / Control Pad</i>, page 83

Control Object Properties

Buttons

The *Button* properties provide options to configure the appearance of a button, and the confirmation message and progress message before carrying out the associated action.

Properties

Mode ▼ Normal

Appearance | Dialog | Message

Name

Font Times New Roman ▼

▼ 48 pt **B** *I* U

Style Image ▼

Normal Press

0

Transparency

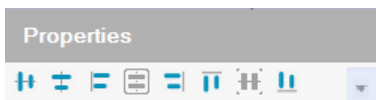
Position & Size

Position	X	Y
	366	127

Size	Width	Height
	140	140

 Reset Image Size

- ♦ **Alignment** – Aligns a group of objects. Select multiple objects for the buttons to become available:



- ♦ **Mode**

Use this drop-down menu to select one of the following button types.

- ♦ **Normal** – This is a button that stays the same when pressed.
- ♦ **Toggle** – for a button that switches between two images/colors to indicate the button status. This also splits the Commands list under **Button Action** (page 86) – to provide two commands for the button: Toggle ON and Toggle OFF.
- ♦ **Press and Release** – for a button that switches between two images/ colors when pressed and released. This splits the Commands list under **Button Action** (page 86) to provide two commands for the button: Press and Release.
- ♦ **Long Press** for a button that switches between two images/colors when pressed and released. This button continuously re-sends a command to a device as long as it is pressed, at the **Interval** specified (see *Interval*, below) and stops sending the command once the button is released.

Note: Use the **Normal** or **Long Press** option to set the image/color of the button based on its status.

- ♦ **Appearance**

Click the **Appearance** tab to configure the look of the button.

Note: The Appearance settings are applicable to all button modes. However, the **Appearance** tab only exists for Normal and Toggle buttons to categorize different sets of settings.

- ♦ **Name** – (optional) type the text you want to use for the button (or slow double-click the button on the Viewer page).
- ♦ **Font** – use the drop-down menu to select the font type.
 - ♦ **Color** – use the drop-down menu to change the color of the text.
 - ♦ **Size** – enter a number (1-200) to set the size of the text for the button.

- ♦ **Format** – formats text to *Bold*, *Italic* or *Underline* for the button.
- ♦ **Alignment** – click a box to align the text Right, Center or Left; and Top, Middle or Bottom within the button box.
- ♦ **Style** – use the drop-down menu to select the style type.
 - ♦ **Image** – Select this option from the drop-down menu and click **Normal** and **Pressed** to import an image to use as the button's standard background and when the button is pressed.
 - ♦ **Color** – Select this option from the drop-down menu to use color blocks for the toggle button and configure the colors for the normal and pressed status.
 - ♦ **Transparency** – enter a number (0-100) or use the slider-bar to set the transparency of the button.
- ♦ **Send Command Every** (Long Press mode buttons only) – use the drop-down menu to select the amount of time between each command that is sent (repeatedly) to the device while the button is pressed.
- ♦ **Position and Size** – X and Y position the button at the coordinates entered. *Width* and *Height* set the size of the button box. Click **Reset Image Size** to reset the button size.
 - ♦ **Reset Image Size** – click to reset the button size.
 - ♦ **Set Sync Condition** – automatically synchronizes the button setting to the selected variable. To create variables, see *Variables*, page 147.
- ♦ **Use as status indicator** Select this option to disable the control functioning of the toggle button and use it as a status indicator, which changes its appearance as defined by the Style settings.
- ♦ **Drag-and-drop** – (only applicable to Normal type buttons) Allows drag-and-drop actions such as source assignment to output devices.
- ♦ **Execute first** (only applicable to normal-mode buttons) – Select this option for the button to automatically initiate its actions (commands) when its located page opens.
- ♦ **Restrict access to this button on ATEN Control System App with a password**– Limit the use of the selected button by requesting a password when the button is tapped in the Viewer. To enable this function, click this option and type the password in the box below.

Note:

- ♦ This function is only supported by the Normal and Toggle mode buttons (page 63).
- ♦ A valid password should not start or end with a space and should only contain upper-case alphabets, lower-case alphabets, numerals, and/or special characters including ()~:~_
- ♦ **Dialog**

Click the **Dialog** tab to set up a confirmation message that displays in the Viewer when the button is pressed.

Note: The Dialog settings are only available for Normal and Toggle buttons.

 - ♦ **Confirm the associated action with the following message when the button is pressed** – Click the check box to enable this feature.
 - ♦ **Action** – Select a button action (**Toggle On** or **Toggle Off**) to display the confirmation message.
 - ♦ Content drop-down list – Select one of the following for customization.
 - ♦ **Background** – Customize the wording for the confirmation message. Type the message in the **Name** field and optionally customize its font and style.
 - ♦ **OK** – Customize the wording on the button for carrying out the associated action. Type in the **Name** field and optionally customize its font and style.
 - ♦ **Cancel** – Customize the wording on the button for canceling the associated action. Type in the **Name** field and optionally customize its font and style.

- ♦ **Message**

Click the **Message** tab to set up a progress message that displays while the associated action is being carried out.

Note: The Message settings are only available for Normal and Toggle buttons.

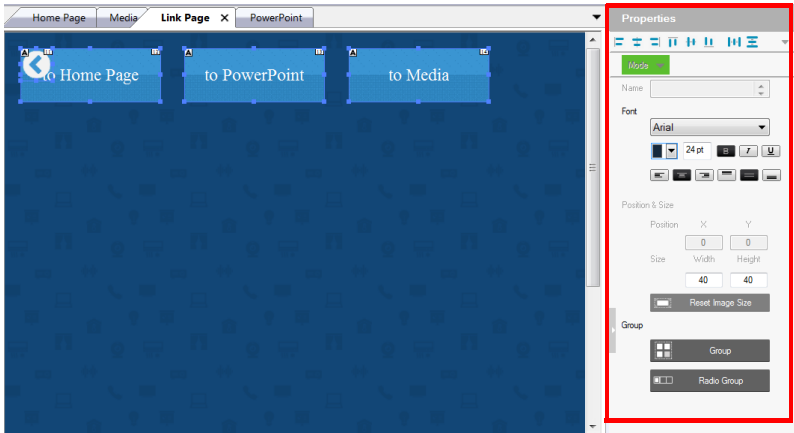
- ♦ **Confirm the associated action with the following message when the button is pressed** – Click the check box to enable this feature.
- ♦ **Action** – Select a button action (**Toggle On** or **Toggle Off**) for displaying the progress message.
- ♦ Content drop-down list – Select one of the following for customization.

- ◆ **Background** – Configure the wording for the progress message. Type the message in the **Name** field and optionally customize its font and style.
- ◆ **Progress Bar** – Configure the display duration (in seconds), font, and color of the progress indicator.

Groups

You can unify the properties of two or more control objects (buttons, slider bars, etc.) at the same time. Depending on the elements that your group of objects have, different properties will be open for configuration. Use your mouse to drag and select the objects from a page, the properties that are open for configuration appear in the Properties column.

For example, if you want to unify the text that appear on multiple buttons, drag and select these buttons and then configure their properties, as illustrated below.



Labels

Properties

Mode: Normal

Name: Label

Font: Times New Roman

51 pt B I U

Style: Image

Border/Li

Width: 10

Position & Size

Position	X	Y
	114	498

Size	Width	Height
	422	105

Reset Image Size

Set Sync Condition

The *Label* properties provide settings for the displayed text and its format.

♦ **Alignment** – Aligns a group of objects. Select multiple objects for the buttons to become available:

Properties

Alignment buttons: Left, Center, Right, Top, Middle, Bottom, and a dropdown menu.

♦ **Name** – enter the text you want to use for the label or slow double-click the label on the **Edit** page.

♦ **Font** – use the drop-down menu to select the font type.

♦ **Color** – use the drop-down menu to change the color of the text.

♦ **Size** – enter a number (1-200) to set the size of the text.

♦ **Format** – format text to *Bold*, *Italic* or *Underline*.

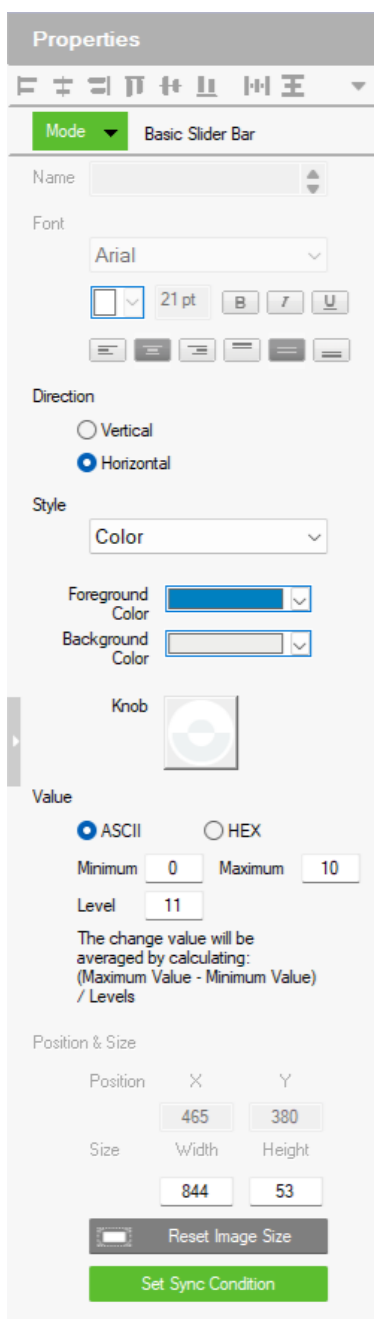
♦ **Alignment** – click a box to align the text Right, Center or Left; and Top, Middle or Bottom within the label box.

♦ **Border/Line** – select this option to configure the color, format, and width of

the display screen border.

- ♦ **Position and Size** – X and Y position the label at the coordinates entered. *Width* and *Height* set the size of the label.
- ♦ **Set Sync Condition** – Displays the value of the selected variable in percentage or its raw form. To create variables, see *Variables*, page 147.

Slider Bars



Properties

Mode **Basic Slider Bar**

Name

Font: Arial, 21 pt

Direction: ☒ Horizontal

Style: Color

Foreground Color

Background Color

Knob

Value: ☒ ASCII ☐ HEX

Minimum: 0 Maximum: 10

Level: 11

The change value will be averaged by calculating:
(Maximum Value - Minimum Value) / Levels

Position & Size

Position: X: 465 Y: 380

Size: Width: 844 Height: 53

Reset Image Size

Set Sync Condition

Right click on a Viewer page and select **Slider Bar** to add a bar. A Slider Bar can control a device, link to another page, or run a macro.

Use the **Mode** drop-down menu to select the type of slider bar (**Basic Slider Bar** or **Advanced Slider Bar**).

Basic Slider Bar

◆A slider bar where you enter the minimum and maximum values to calculate the range and levels on a slider bar, and then add one command to configure the Basic Slider Bar's action (See *Slider Value*, page 93). Choose options under **Value** to configure the slider bar's range.

◆**Direction** – sets the bearing of the slider bar.

◆**Style**:

To change the color of the slider bar, click the Style drop-down menu and select **Color**, and then click the Foreground Color and Background Color drop-down menus to set up the colors.

To change the appearance of the slider bar, click the Style drop-down menu and select **Image**. And then click on the Track and Level images to browse and upload new images.

◆**Value** – Sets the total number of levels for the slider bar.

◆ASCII / HEX – click a radio button to select the format for the slider bar values.

- ♦ **Minimum** – enter the lowest level on the bar.
- ♦ **Maximum** – enter the highest level on the bar.
- ♦ **Level** – this represents the number of levels on the slider bar. You can calculate the value of each level with the formula: **Maximum Value - Minimum Value / Level = Value Per Level**. The *Level* is automatically calculated according to the Minimum and Maximum values you enter.
- ♦ **Position and Size** – depending on whether the bar is set Vertical or Horizontal you can use either the *Size: Width or Height* box to enter a number to resize the length of the slider bar.
- ♦ **Set Sync Condition** – Automatically synchronizes the slider bar to the selected variable. To create a variable, see *Variables*, page 147.

Advanced Slider Bar

- ♦ A slider bar where you set the number of levels and add a command for each level in the bar (see *Level*, in the table, on page 86). Choose options under **Value** to configure the slider bar's range:
- ♦ **Direction** – sets the bearing of the slider bar.
- ♦ **Style** – click the drop-down menus to select the Foreground Color and Background Color for the slider bar.
- ♦ **Value** – Sets the total number of levels for the slider bar. *Level* – this represents the number of levels on the slider bar. For each level you must add a separate command in the **Slider Bar Action – Commands** list (see *Level*, in the table, on page 86).

PowerPoint Control and Media Control Templates

Properties

Mode

Normal

Name

Font

Arial

10 pt

B

I

U

Style

Image

Normal

Press

0

Transparency

Position & Size

Position

X

Y

441

15

Size

Width

Height

216

166

Reset Image Size

Select Device

ControlAssist

Click a PowerPoint control template or a media control template to configure its position, size, and the PC that controls it.

◆ **Position and Size** – X and Y position the label at the coordinates entered. *Width* and *Height* set the size of the label.

◆ **Select Device** – Select the PC that stores the PowerPoint or media files using the drop-down list.

Images

The Properties for an image provide options to change and import images to the page. Images can be layered with other objects so that they can be placed as a background or as highlights for buttons (see *Layering Images*, page 72). You can Group, Order, Align, Make Same Size or Space Evenly from the Object menu.

Note: For imported images, make sure the file names contain English alphabets and/or numerals only.

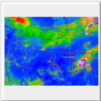
Properties

Mode: Normal

Name:

Font: Arial, 20 pt

Style: Image

Normal:  Pressed: 

Transparency: 0

Position & Size

Position	X	Y
	394	290

Size	Width	Height
	304	281

 Reset Image Size

◆ **Style** – shows the image selected. Click inside the box to import an image (*.png, *.jpg, *.jpeg, *.bmp) to the page.

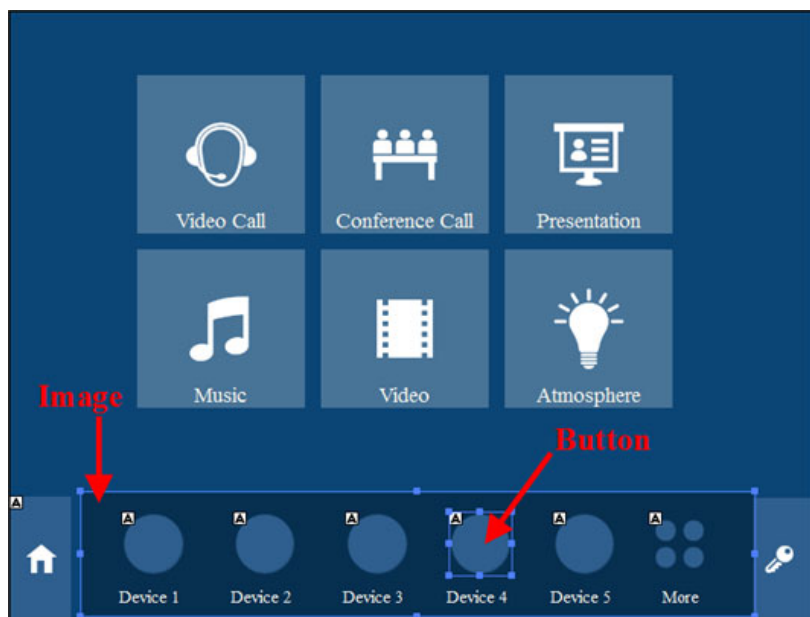
◆ **Transparency** – enter a number (0-100) or use the slider-bar to set the transparency of the image selected.

◆ **Position and Size** – X and Y position the image at the coordinates entered. Width and Height set the size of the image.

◆ **Reset Image Size** – resets the image size.

Layering Images

Images can be layered with other objects, such as labels and buttons, so that they can be placed as a background or as highlight for the page and/or other objects.



Videos

A video object is a control used for video preview, video assignment on managed displays, or video streaming by RTSP. For more details of each, see the corresponding section below:

- ♦ **Video previews:** See *Setting Up a Video Preview Window*, page 73.
- ♦ **Video assignment:** See *Setting Up a Video Control Window*, page 73.
- ♦ **Video streaming:** See *Setting Up a Video Streaming Window*, page 76.

Setting Up a Video Preview Window

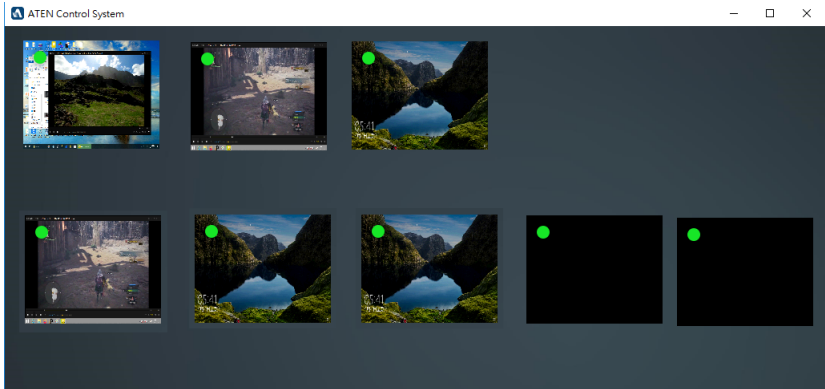
You can set up video preview windows to view video sources from ONVIF-compliant cameras managed by the controller.

1. In your project file, make sure you have added ONVIF-compliant cameras as Ethernet devices in the Device List.
2. Right-click a viewer page and select **Add Video**.
3. Click the added video object and configure the following properties.
 - ♦ **Mode:** Select **ONVIF**.
 - ♦ **Position & Size:** Configure these settings as required.
 - ♦ **Select Device:** Select the added ONVIF-compliant camera.

Setting Up a Video Control Window

Video control windows are objects on the Viewer which allow you to see previews of video sources (on a source object) or the assigned video sources (on a display object), and to switch video sources by tapping or dragging and dropping actions from the Viewer. Note that video control window is only applicable to ATEN networked video extenders.

For example, the following Viewer contains 8 video control objects, the top 3 are video source objects, each show a preview of its connected video source, and the bottom 5 are display objects, each showing its assigned video source.



To switch a video source on a display, tap a source object and then tap a display object. The switch takes effect immediately. Alternatively, you can drag-and-drop a source object onto a display object if you have this control action enabled.

To set up a video control object, follow the steps below.

1. In Configurator, you are advised to add at least one **video transmitter** as Ethernet device (to the Device List) for every 4 video control objects to use the as a gateway to obtain previews.

Important:

- ◆ Videos can only be transmitted via video transmitters to the controller.
 - ◆ To ensure preview quality:
 - ◆ Add at least one video transmitter (to the Device List) for every 4 video control objects. Adding more video control objects will likely reduce the refresh rate and smoothness of the preview.
 - ◆ Avoid concurrent viewing from more than one user via the Control System App.
 - ◆ Use the VE89 control app to preview video walls.
 - ◆ To ensure stable preview delivery, it is recommended to use the windows version of the Control System App for prolonged viewing or monitoring. Prolonged viewing on iOS platforms may result in automatic termination of the process due to the platform's protection mechanism to ensure its normal functioning.
2. Right-click a Viewer page and select **Add Video**.

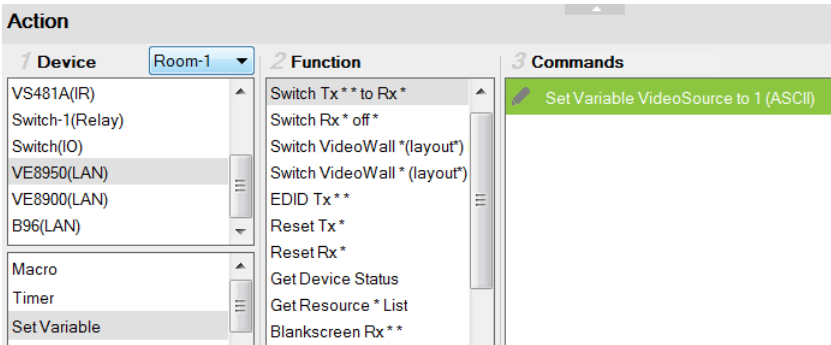
3. Click the added object and configure its properties.

- ♦ **Mode:** Select **VE89 Series**.
- ♦ **Position & Size:** Configure these fields as required.
- ♦ **Select Device:** Select a video transmitter as the gateway for obtaining a preview of what is displayed on the specified extender (as configured for **Port** and **ID**).
Important: Only connect up to 4 control objects to one device.
- ♦ **Port:** Select the device type. Select **Transmitter** for a source object and **Receiver** for a display object,
- ♦ **ID:** Type the device ID for the specific transmitter or receiver. **Allow drag-and-drop:** Select this option to allow drag-and-drop controls.

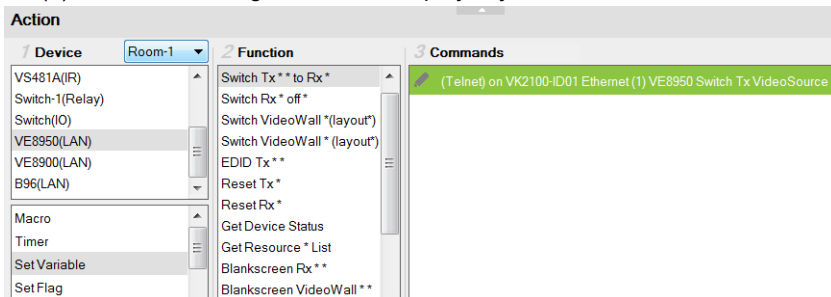
4. Click the added object and configure the action.

For example:

(a) Create a variable to store the video source on a source object.



(b) Add the switching action on a display object.



For more information about creating actions, see *Button / Slider Bar / Dial Kit Actions*, page 86.

Note: To ensure smoothness of video transmission, prevent accessing this Viewer page from two or more devices at the same time.

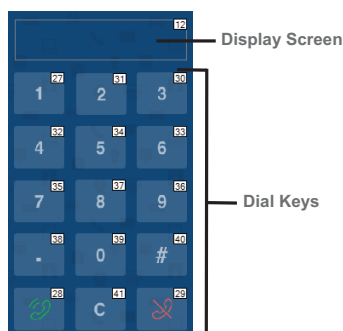
Setting Up a Video Streaming Window

You can set up a window to stream video content via RTSP.

1. In your project file, make sure you have added an RTSP-compliant device and configured the **Stream** settings.
2. In a Viewer page, right-click in the blank space and select **Add Video**.
3. Click the added video object, and configure its properties as follows.
 - ♦ **Mode:** Select **RTSP**.
 - ♦ **Position & Size:** (Optional) Specify the position and size as required. Alternatively, drag any of the object corners for resizing; mouse over the object to drag-and-drop it to reposition within the Viewer page.
 - ♦ **Select Device:** Select the added Ethernet device.
 - ♦ **RTSP Settings**
 - ♦ **Default:** Select this option to use the typical format for the RTSP URL (**rtsp://username: password@ip:port**). Type the RTSP URL of the device in the blank below.
 - ♦ **Custom:** Select this option to use a different RTSP URL format. Type the URL in the blank below.

Dial Kit

A dial kit template consists of a display screen and a set of dial keys. To configure their appearance, click on the display area or a key.



Properties for Display Screen

Properties

Mode ▼

Font

Arial ▼

51 pt B I U

Style

Image ▼

Border/Li ☒

Width 2

Position & Size

Position	X	Y
	1120	360
Size	Width	Height
	486	117

Properties for Dial Key

Properties

Mode ▼

Name

Font

Arial ▼

74 pt B I U

Style

Image ▼

Normal Pressed

3 3

Transparency 0

Position & Size

Position	X	Y
	1465	511
Size	Width	Height
	141	116

- ♦ **Font** – use the drop-down menu to select the font for the typed text.
 - ♦ **Color** – use the drop-down menu to change the color of the text.
 - ♦ **Size** – enter a number (1-200) to set the size of the text for the button.
 - ♦ **Format** – formats text to *Bold*, *Italic* or *Underline* for the button.
 - ♦ **Alignment** – click a box to align the text Right, Center or Left; and Top, Middle or Bottom within the button box.
- ♦ **Style** – use the drop-down menu to select the style type.

Note: The **image** and **color** settings are only applicable to dial keys.

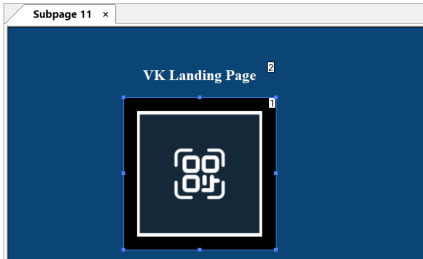
- ♦ **Image** – select this option to import different images for the dial key when it is pressed and not pressed (normal).
 - ♦ **Transparency**– enter a number (0-100) or use the slider-bar to set the transparency of the button.
- ♦ **Color** – select this option to use different color blocks to indicate a pressed and a normal dial key.
- ♦ **Border/Line** – select this option to configure the color, format, and width of the display screen border.
- ♦ **Position and Size** – X and Y position the button at the coordinates entered. *Width* and *Height* set the size of the button box. Click **Reset Image Size** to reset the button size.

Note: If you are using the **Call**  and **End Call**  dials, click the dial key to configure its action. For a detailed procedure, see *Example: Configuring actions of dial keys.*, page 95.

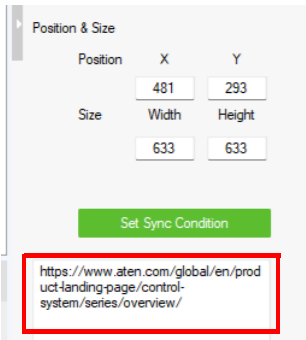
QR Code

Use a QR code object to provide quick access to web resources.

1. On a viewer page, right-click in any blank space, and then select **Add QR code**. A QR code object appears, encircled in blue.



2. From the settings panel, configure the properties as needed.



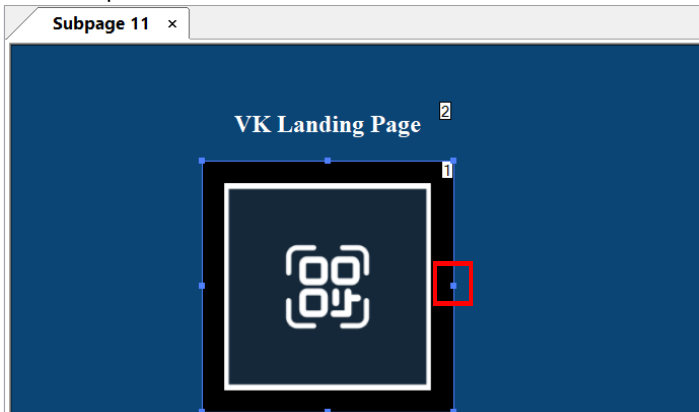
♦ **Position and Size** – X and Y position the object at the coordinates entered. *Width* and *Height* set the size of the QR code.

♦ **Set Sync Condition** – Automatically synchronizes the QR code to the selected variable. To create a variable, see *Variables*, page 147.

♦ Enter the URL of the QR code to the blank space, as indicated in the screenshot.

3. To adjust the size, hold-and-drag on any spare icon on the blue frame.

For example:



Webview

A webview object allows you to embed a web page to Control System Viewers, such as a web console of an ATEN device, making it easy to integrate control interfaces without configuring control functions from scratch.

For example, you can embed a mixer web console to Control System Viewer, as shown below.



To add a web view object:

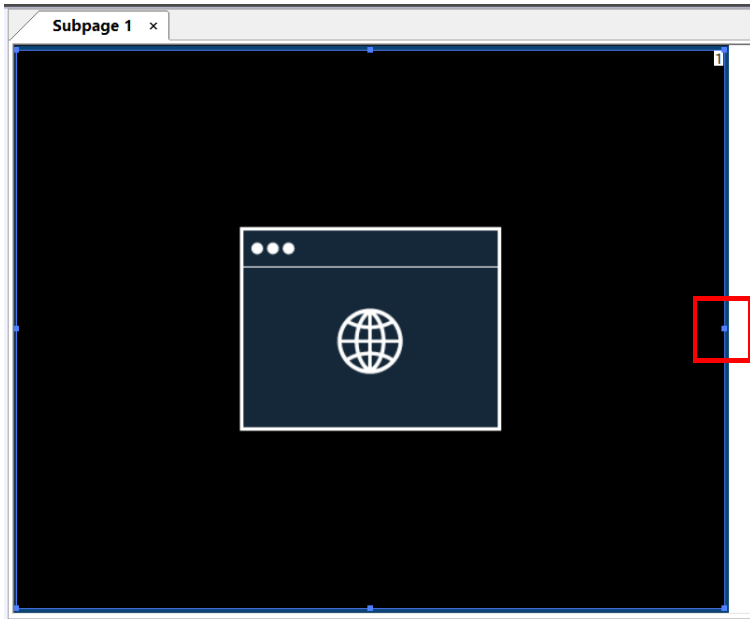
1. On a viewer page, right-click in any blank space, and then select **Add Webview**. A webview object appears, encircled with a blue frame.
2. Configure its properties as needed.

Position & Size		
Position	X	Y
	7	11
Size	Width	Height
	1734	1369
https://10.3.43.101/?username=administrator&password=123456		

◆ **Position and Size** – X and Y position the object at the coordinates entered. *Width* and *Height* set the size of the webview object.

◆ Enter the URL of the web page to the blank space, as indicated in the screenshot.

3. To adjust the size, hold-and-drag on any spare icon on the blue frame.
For example:



Frame & Line

Use frames and lines to visually group or separate control objects in your Viewer. Click a frame or line object to configure its properties.

Frame Properties

Properties

Mode 

Name

Font

Style

Round Corner

Fill ☐

Transparency

Border/Li ☒

Width

Position & Size

Position	X	Y
	300	608
Size	Width	Height
	422	423

 Reset Image Size

Line Properties

Properties

Mode 

Name

Font

Style

Round Corner

Fill ☐

Transparency

Border/Li ☒

Width

Position & Size

Position	X	Y
	499	365
Size	Width	Height
	400	0

 Reset Image Size

- ◆ **Style** – configure the color, format, and width of the line or border of the frame.
- ◆ **Rounded corner** – use the scroll bar or the number box to configure the roundness of the frame corner.
- ◆ **Fill** – select this option to fill the frame with the selected color.
- ◆ **Position and Size** – X and Y position the frame/line at the coordinates entered. *Width* and *Height* set the size of the frame/line.

Object Properties for ATEN Keypad / Control Pad

After you have added a Viewer (page 48) for your Keypad / Control, you can start configuring the Viewer. In the Viewer page, click on a button to configure its settings. The following settings appear in the Properties panel.

Properties

Mode ▼ Normal

Name

Font Times New Roman ▼

■ 40 pt B I U

≡ ≡ ≡ ≡ ≡ ≡

Style Image ▼

Normal Pressed

0

Transparency

Send Command After Holding 0.0 Seconds

Position & Size

Position	X	Y
	404	286
Size	Width	Height
	204	184

🔄 Reset Image Size

- ◆ **Mode**

Use this drop-down menu to select one of the following button types.

- ◆ **Normal** – This is a button that stays the same when pressed.
- ◆ **Toggle** – for a button that switches between two images/colors to indicate the button status. This also splits the Commands list under **Button Action** (page 86) – to provide two commands for the button: Toggle ON and Toggle OFF.
- ◆ **Press and Release** – for a button that switches between two images/colors when pressed and released. This splits the Commands list under **Button Action** (page 86) to provide two commands for the button: Press and Release.
- ◆ **Long Press** for a button that switches between two images/colors when pressed and released. This button continuously re-sends a command to a device as long as it is pressed, at the **Interval** specified (see *Interval*, below) and stops sending the command once the button is released.

Note: Use the **Normal** or **Long Press** option to set the image/color of the button based on its status.

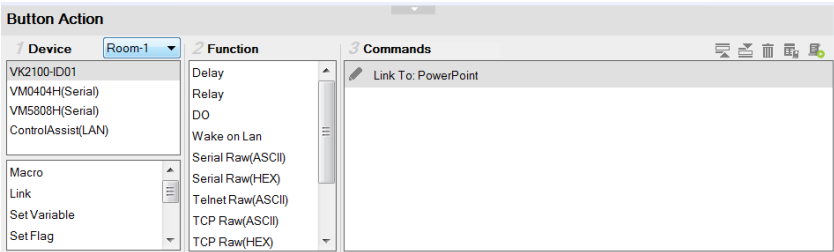
- ◆ **Name** – (optional) type the text you want to use for the button (or slow double-click the button on the Viewer page).
- ◆ **Font** – use the drop-down menu to select the font type.
 - ◆ **Color** – use the drop-down menu to change the color of the text.
 - ◆ **Size** – enter a number (1-200) to set the size of the text for the button.
 - ◆ **Format** – formats text to *Bold*, *Italic* or *Underline* for the button.
 - ◆ **Alignment** – click a box to align the text Right, Center or Left; and Top, Middle or Bottom within the button box.
- ◆ **Style** – use the drop-down menu to select the style type.
 - ◆ **Image** – imports an image to use as the button's standard background and click *Pressed* to import an image to use when the button is pressed.
 - ◆ **Color** – allows you to use drop-down menus to select the buttons color for Normal and Pressed.
 - ◆ **Transparency** – enter a number (0-100) or use the slider-bar to set the transparency of the button.

- ♦ **Send Command After Holding** – Sets the required time for holding the button to apply the action for which the button is configured.
- ♦ **Position and Size** – *X* and *Y* position the button at the coordinates entered. *Width* and *Height* set the size of the button box.
- ♦ **Set Sync Condition** – Automatically synchronizes the button to the selected variable. To create a variable, see *Variables*, **page 147**. This option is only available for toggle buttons.

Button / Slider Bar / Dial Kit Actions

Understanding Button/Slider Bar/Dial Kit Actions

After you have added a button, slider bar, or a dial kit on your Viewer, define the actions it initiates using the Button/Slider Bar Actions panel. To access the panel, click on a button, slider bar, or dial key in the Viewer. The Button/Slider Bar Action panel appears.



The Button/Slider Bar Actions panel consists of the following elements:

Setting	Description
Device	Lists the added devices and the advanced functions.
Room	Select the room that contains the devices the Viewer will control. Use this drop-down menu to select rooms in the KNX system and display KNX devices. The Viewer will only upload to a controller configured with the same Room name (see <i>Left Sidebar</i>, page 23). Select All Rooms to allow the Viewer to control all rooms. Selecting All Rooms will upload the Viewer to all controllers. The Accessible Room defines what Devices are available to configure new Actions in Button/Slider Bar Properties (see page 86). Only <i>Devices</i> listed under the same <i>Room</i> (see page 23) as the Viewer's Accessible Room will be listed for use in Button/Slider Bar Properties.

Setting	Description
Function	Lists the supported functions for your chosen device or advanced option. Double-click a function to add it to the Command List, which shows a sequence of tasks to be executed when specified conditions are met for the button, slider bar, or dial key. For details on functions, see <i>Functions</i> , page 90.
Commands	Lists the commands that initiate when the button or dial key is pressed. <i>Device</i> and <i>Advanced Option</i> functions can be added and associated in the Commands list together. Commands initiate in the order that they are added to the list. Right-click in the Commands list to use the menu selections: <i>Move Up</i> , <i>Move Down</i> , <i>Copy</i> , <i>Paste</i> , <i>Delete</i> , <i>Save as Macro</i> , or <i>Test Tool</i> .
Toggle ON / Toggle OFF or Press / Release	When the Button Mode (page 63) is set to <i>Toggle</i> or <i>Press and Release</i> , the <i>Commands</i> list splits to set the two c commands: Toggle ON / Press – lists the commands that initiate when the button is first pressed or pressed and held. Toggle OFF / Release – lists the commands that initiate when the button is pressed a second time (Toggle), or released (Press and Release). When the button is pressed again, <i>Toggle ON</i> initiates and the cycle repeats.
	The Level drop-down menu appears when an Advanced Slider Bar is selected on the Viewer page. The number of levels in the drop-down menu reflect the Level set in the <i>Advanced Slider Bar's</i> properties (page 69). Use the drop-down menu to select a level and then add a command for each of the Advanced Slider Bar's levels (see page 93 for details).
	Use Move up to move an action up in the Commands list, or Move down to move an action down in the Commands list.
	Use Delete to remove an action from the Commands list.
	Use Save as Macro to save the commands in the Commands list as a macro.

Setting	Description
	Use Test Tool to connect to a controller and test the action(s) in the Commands list.

You can configure a button with **Device** commands (On, Off, Stop, Play, etc.); as a **Macro** to send multiple commands to one or more devices; or as a **Link** to other Viewer pages. *Advanced Options* allow you to add conditions to the commands, as described on the next page.

Configuring Button/Slider Bar Actions

To add one or more actions to a button, slider bar, or dial key, follow the steps below.

1 Device	2 Function	3 Commands
Room-1 VK2100-ID01 VK224-ID01 ControlAssist(LAN) vm(LAN) Macro Link Set Variable Set Flag Condition Change Button State Change Label Change Group Button State Change Slider Bar Level Change Button Name	Delay Relay DO Wake on Lan Serial Raw(ASCII) Serial Raw(HEX) Telnet Raw(ASCII) TCP Raw(ASCII) TCP Raw(HEX) UDP Raw(ASCII) UDP Raw(HEX) HTTP HTTPS	If Variable1 = Variable1 If Variable1 = Variable1

1. In the project file, click to select the button, slider bar, or dial key in the Viewer. The Button/Slider Bar Action panel appears.
2. In the Button/Slider Bar Action panel, select a **Room**.
3. Add commands.

For details on device functions and advanced functions, see *Functions*, page 90.

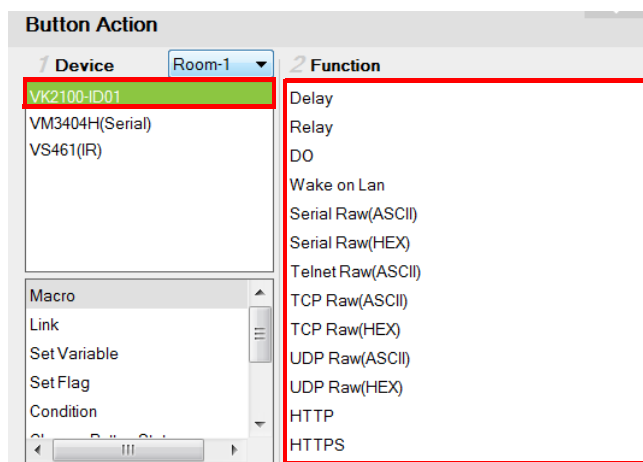
 - a) Click a device or an advanced option to display its supported functions.
 - b) Double-click a function to add it to the Commands list.
 - c) Repeat step 3a and 3b if you wish to initiate a sequence of actions.
4. In the Commands list, double-click the commands to configure them.

Functions

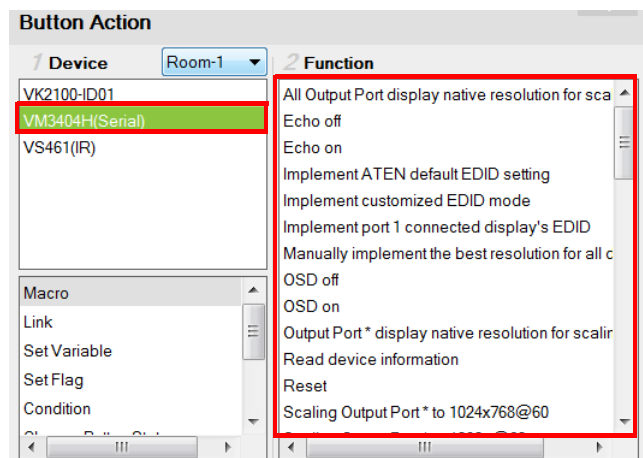
Button/slider bar functions can be understood as device functions and advanced functions.

- Device functions** – These are functions that the selected controller or a device managed by the controller initiates. The supported device functions vary depending on the device you select in the Device List, as illustrated below. For details on controller functions, see *Device Functions*, page 92.

Controller functions



VM3404H functions



- ♦ **Advanced functions** – These are functions that involve more than one devices in the project. Use the indicated column to select an advanced function, the available options are listed in the Function list. For details about each advanced function, see *Advanced Functions*, **page 96**.

Slider Bar Action

1 Device

Room-1

VK2100-ID01
VM3404H(Serial)
VS461(IR)

Macro

Link

Set Variable

Set Flag

Condition

Change Button State

Change Label

Change Group Button State

Change Slider Bar Level

Change Button Name

2 Function

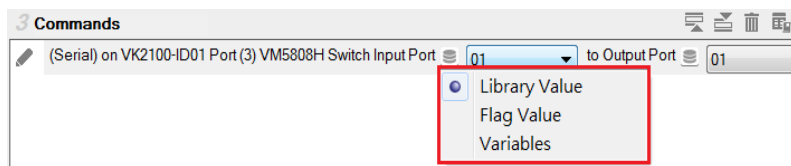
New Macro
New Macro (1)

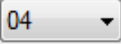
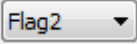
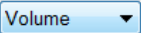
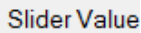
Device Functions

- ♦ Each ATEN controller supports the following functions.
 - ♦ **Delay** – adds a delay in seconds. Enter a number between 0.1-180.
 - ♦ **Relay** – adds an Open, Close, Toggle or Pulse action on the selected controller and Relay port.
 - ♦ **DO** – adds an Open, Close, Toggle or Pulse action on the selected controller and Digital Output port.
 - ♦ **Wake on LAN** – powers on the specified computer (MAC address) over Ethernet.
 - ♦ **Serial Raw (ASCII)** – adds a serial command in the ASCII mode.
 - ♦ **Serial Raw (HEX)** – adds a serial command in the HEX mode.
 - ♦ **Telnet Raw (ASCII)** – adds a telnet command in the ASCII mode.
 - ♦ **TCP Raw (ASCII)** – adds a TCP command in the ASCII mode.
 - ♦ **TCP Raw (HEX)** – adds a TCP command in the HEX mode.
 - ♦ **UDP Raw (ASCII)** – adds a UDP command in the ASCII mode.
 - ♦ **UDP Raw (HEX)** – adds a UDP command in the HEX mode.
 - ♦ **HTTP** – adds an HTTP command.
 - ♦ **HTTPS** – adds an HTTPS command.
 - ♦ **Pronto Hex Code** – adds an IR command using Pronto Hex codes.
 - ♦ **KNX Raw** – adds a KNX raw command. Note that this type of commands can only be used on a custom KNX device. For details about adding a KNX device to ATEN Control System, see *Adding KNX Devices*, page 27.
 - ♦ **SSH Raw** – adds an SSH command in the ASCII mode.

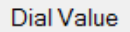
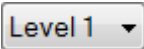
Value Types

When a device command has multiple values you can double-click it and use the **Show Flag Menu*** to select a device setting:

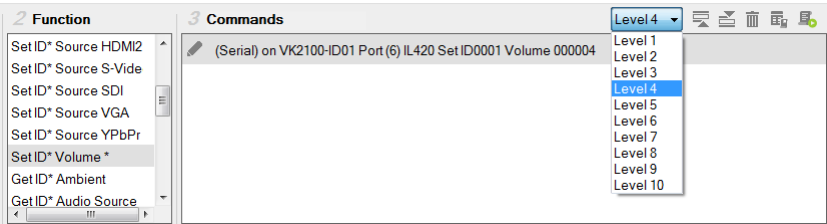


- ◆   **Library Value** – use the drop-down menu to select a device setting for the command. The selection of settings in the drop-down menu can be modified using the Database Generator to edit the command string (see *Editing / Adding a New Device*, page 180).
- ◆   **Flag Variable** – clicking this button allows a Flag with a set of values to be selected for the action. The button's action will select a setting according to the Flag value. Each value in a Flag can be set to a different device using a Set Flag (as a button to select the device). When that (Set Flag) button is pressed, the Flag value is set for that particular device, and will be used as the setting for this action, when it's button is pressed.
- ◆   **Variables** – Select this option to use a Variable in the command. After selecting the option, a drop-down menu containing a list of the Variables that you created appear.
- ◆   **Slider Value** – select this option to configure a *Basic Slider Bar's* command. The range and change levels are automatically configured according to the minimum and maximum values set for the Basic Slider Bar. This option only appears when a *Basic Slider Bar* is selected on the Viewer page and you are adding **Slider Bar Action** commands.

Note: The Show Flag Menu allows you to use a single Flag for all devices rather than adding a Conditional Flag for each device.

- ◆   **Dial Value** – select this option to use the string of values that has been dialed using the dial kit via Viewer from a mobile device.
- ◆  **Level** – When an *Advanced Slider Bar* is selected on a Viewer page, the Level drop-down menu appears above the *Commands* list. A command must be added to each level of an

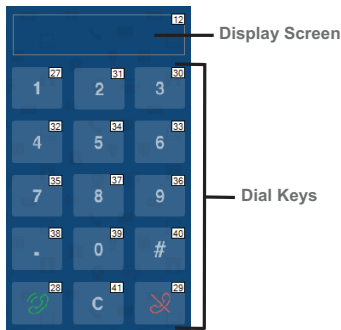
Advanced Slider Bar. To configure each level, use the drop-down menu to select a level and then add a command to it.



Applications of Device Functions

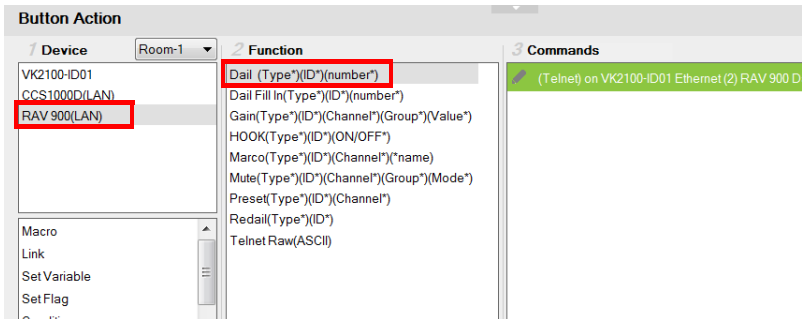
Example: Configuring actions of dial keys.

Out of the 15 keys on a dial kit, only the **Call**  and **End Call**  keys require configuration, the actions for other keys are pre-configured to send out the number or character as indicated on the keys.

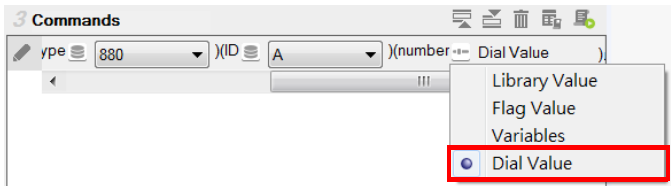


Follow the steps below to add an action to the Call key.

1. Click the **Call** key  in the Viewer to display the Button Action panel.
2. Select a device (e.g. a video conferencing system) and double-click to add a function for the key. In this case, it should be a dialing function.



3. Double-click the added command and select **Dial Value**.

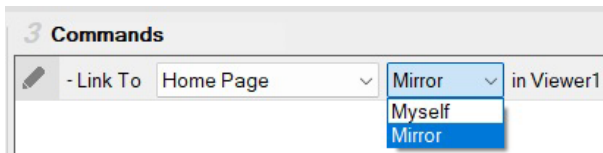


Advanced Functions

Use advanced options for button/slider actions that involve a series of actions (Macro), actions that involve page redirect (Link), or actions that involve change or update of device settings of multiple objects (Set Variable).

Note: Associate **Set Flag**, **Condition**, **Change Button State**, or **Change Label** commands with device commands in the Commands list by dragging and dropping them into a tree view list, which allows them to initiate together (see *Applications of Advanced Functions*, page 102).

- ♦ **Macro** – sends multiple commands to one or more devices. Select to add a macro command from the *Function* list. To create a macro, add multiple device actions to the Commands list, then click the **Save as Macro**  icon or access the function by clicking the *Library* icon (page 12).
- ♦ **Link** – a command used on a button to:
 - ♦ redirect a Viewer Page to another Page when the button is pressed, for example, a Home page button, which redirects the display to the home page.
 - ♦ redirect one or more Viewers to a specified Page when the button is pressed. For example, when an Exit button is pressed, you can have all Viewers (used by touch panels and/or mobile devices in one meeting room) return to their home page.
 - ♦ Configure the following fields for the command:



- ♦ Link To: Select a destination page
- ♦ Myself/Mirror: Select **Myself** to have the Viewer link to a selected page only on the tapped device; select **Mirror** to have all the devices that use the same Viewer file to return to the selected page.

For more information on configuring a button, see *Configuring Button/Slider Bar Actions*, page 89.

- ♦ **Set Variable** – creates a variable to represent a device setting (e.g. speaker volume) that can be used by two or more control objects (e.g.

slider bar or buttons) in the Viewer. This function is used when you have more than one Viewer objects controlling the same device.

Note: To complete this setting, go to Properties of the control objects and configure the **Set Sync Conditions** setting.

- ♦ **Save Variable** – saves changes to a variable immediately after receiving a new value. The default mechanism is to save new values approximately 30 minutes after receiving the changes. This is to prolong the life expectancy of flash memory of the controller.
- ♦ **Set Flag** – sets a flag value to represent the new device status when a command changes a device setting. Set Flags are added to the Commands list after device commands to change the Flag (device status).
- ♦ **Condition** – adds one or more conditions that must be met for subsequent command(s) to initiate. The conditions can be based on created Variables or feedback values that the controller receives from managed devices.
 - ♦ Use **Variable If** to add a condition by comparing a created variable to a value or another variable. For example, if you want a display a warning message on the Viewer when the volume of a speaker is at its maximum (10 dB), you will need to:
 - (a) Set up a Variable for the speaker volume.
 - (b) Select a **Variable If** condition.
 - (c) Double-click the condition to set the Variable value to **10**.
 - (d) Drag a **Change Label** command and nest it under the condition you selected in step (a).
 - (e) Double-click the Change Label command to type the warning message you wish to display when the speaker volume reaches 10 db.
 - ♦ Append a **Variable Else If** condition to a **Variable If** condition for binary conditions. To add this condition, drag-and-drop it from the Function column to a **Variable If** condition in the Commands column.
 - ♦ Append a **Variable Else** condition to a **Variable If** and **Variable Else If** pair for scenarios with 3 conditions—to describe what action to take when the previous two conditions are false. To add this

condition, drag-and-drop it to the **Variable If** condition in the Commands column

- ◆ Use **Multi-Variable If** to add multiple conditions using created Variables. For example:

- Click **+** to add conditions. You can add up to 5 conditions

- Use the drop-down menu to select between **and** and **or**.

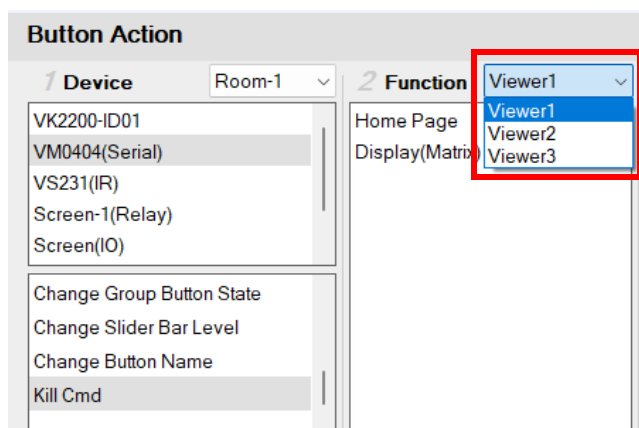
- ◆ Append a **Multi-Variable Else If** condition to a **Multi-Variable If** condition for binary conditions. To add this condition, drag-and-drop it from the Function column to a **Multi-Variable If** condition in the Commands column.
- ◆ Append a **Multi-Variable Else** condition to a **Multi-Variable if** and **Multi-Variable Else If** pair for scenarios with 3 conditions—to describe what action to take when the previous two conditions are false. To add this condition, drag-and-drop it to the **Multi-Variable If** condition in the Commands column.
- ◆ **Feedback conditions** – Use feedback conditions for the controller to carry out actions (commands) when the specified feedback value meets the specified conditions. Use **Feedback If**, **Feedback Else If**, and/or **Feedback Else** to fully cover all scenarios in your application.
Note: The Else If and Else conditions can only be nested under the If conditions and can not be used on their own.
- ◆ **Change Button State** – this command changes the image of another button when this button is pressed – allowing the image of any other button to change when the command from this button is sent. Change Button State is added to the end of the Commands lists. When adding this to a **Toggle** button it allows the image to switch with the toggle behavior: *Normal* or *Pressed*. In this situation the Change Button State is added to the end of both the **Toggle ON** and **Toggle OFF** Commands lists.
- ◆ **Change Label** – this option changes a label's text with text that you enter manually or with text from a device's return message. A Manual Change Label can be added to the beginning or end and with a Condition in the

Commands list. Adding it to a Condition guarantees the label only changes when the command initiates.

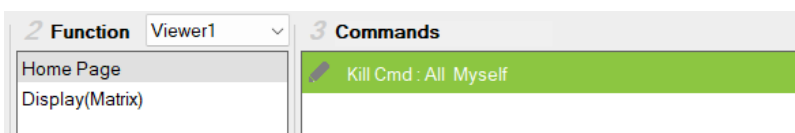
- ♦ **Change Group Button State** – this option adds a command that changes the button selected in a **Radio Group** (page 16). Create a Radio Group and then a Function will be listed for it when *Change Group Button State* is selected. Add the *Change Group Button State* to the *Commands* list of a button and use the drop-down menu to select the button in the Radio Group you want selected.
- ♦ **Change Slider Bar Level** – this option adds a command that changes the level of a **Slider Bar**. Create a Slider Bar and then a Function will be listed for it when *Change Slider Bar Level* is selected. Add the *Change Slider Bar Level* to the *Commands* list of a button and use the drop-down menus to select the **Slider Bar** and **Level** to change.
- ♦ **Change Button Name** – this option adds a command that displays specified text on another button when this button is tapped. A typical application of this command is when you want to show the assigned source on an output device as soon as the source is switched.
 - ♦ **Function** – lists the commands that can be added to the *Commands* list. Select an option under **Device**, then double-click or drag & drop commands from the *Function* list to add them to the *Commands* list.
- ♦ **Kill Cmd** – cancels received but not-yet-executed commands when the button is pressed, toggled on, or long-pressed.

Configure the following to define the targets of this kill-command action:

1. Select the target Viewer from the Function drop-down menu. The available pages of the selected Viewer are listed.



2. Double-click any listed page to add a kill command. A kill command appears in the Commands column.



3. Double-click on the added command to define the targets. Available setup combinations include:

	Myself	Mirror
All	Stop all pending actions on the Viewer device where the kill command action is initiated.	Stop pending actions on all Viewers stored on the specified controller.
Viewer		Stop all pending actions on the Viewer device where the kill command is initiated, and also on other Viewer devices that use the same Viewer.
Object	Stop pending actions for the specified control objects (elements) on the Viewer device where the kill command action is initiated.	Stop pending actions for the specified control objects (elements) on all the Viewer device where the kill command action is initiated, and also on other Viewer devices that use the same Viewer profile.

3 Commands



- Kill Cmd

All ▾

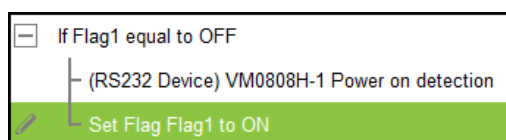
Myself ▾

Applications of Advanced Functions

Advanced Options allow you to include conditions with commands in the Commands list. Associate **Set Flag**, **Condition**, **Change Button State** or **Change Label** functions with a command in the Commands list by dragging and dropping them into a tree view listed with the command, so that they initiate in the order listed.

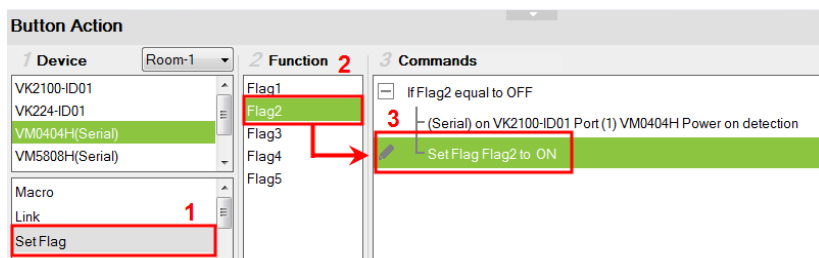
Set Flag

Adds a Set Flag to change a Flag's value when a command changes a device setting. This sets the Flag value to match the new device setting (e.g. ON or OFF). Always add a Set Flag to a Condition Flag, after the device action(s):



To add a Set Flag:

1. Under **Device**, select **Set Flag**.
2. From the Function list, select the **Flag**.
3. From the **Function** list, drag and drop the **Flag** to add it to the end of the *Condition Flag*, in a tree view list:



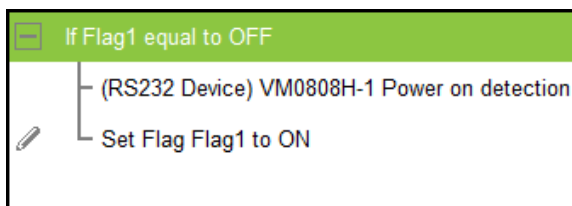
4. Double-click **Set Flag** in the Commands list to use the drop-down menus to set the **Flag** and **Value**.



Condition

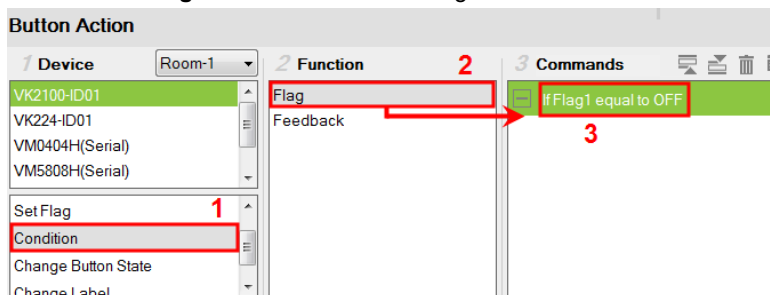
Adds a condition that must be met before the commands listed with it can initiate. When the button is pressed, the Condition's set value must equal the **Flag** or **Feedback** value for the command(s) to initiate. There are two condition types: **Flag** and **Feedback**.

- ♦ **Flag** – Adds a condition based on a Flag's value. "If **Flag** equals **Value**" is true, the condition is met and the commands listed with the Condition will initiate. Always add a **Condition Flag** at the top of the Commands list, drag and drop the device command(s) and then a Set Flag at the end, in a tree view list:

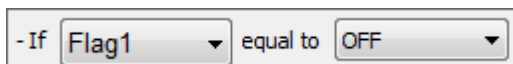


To add a Condition Flag:

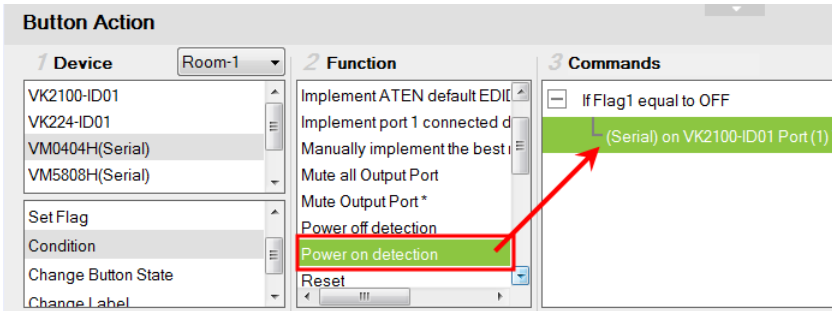
1. Under **Device**, click **Condition**.
2. From the Function list, select **Flag**.
3. Double-click **Flag** to add the Condition Flag to the **Commands** list.



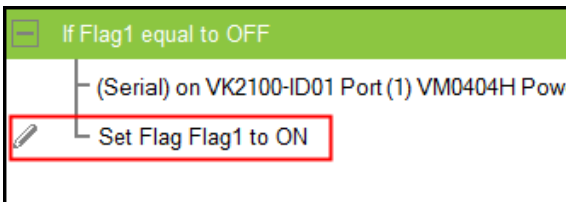
4. Double-click the **Condition Flag** in the Commands list to use the drop-down menus to set the **Flag** and **Value**.



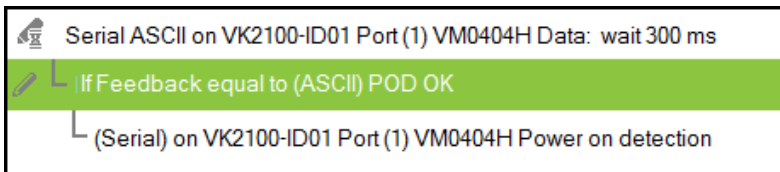
5. From the **Function** list, drag & drop device commands to add them to the **Condition Flag**, in a tree view list:



6. Add a **Set Flag** after the last device command in the **Commands** list:



- ♦ **Feedback** – adds a condition based on the **text** from a serial/telnet/SSH/TCP device's return message. Always add a **Condition Feedback** to a serial/telnet/SSH/TCP command, with command(s) added below the Condition Feedback, in a tree view list:



Receive Time – when a Feedback condition is added to a device command the **wait** to *Receive Time* drop-down menu appears allowing you to set the amount of time to wait before it stops receiving the return message from the device.

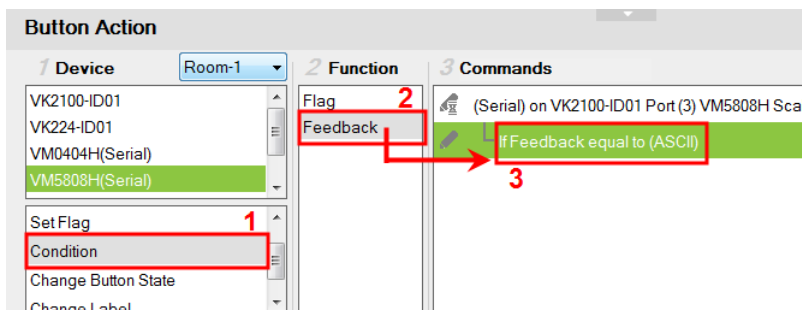
There are three Condition Feedback types:

- ♦ **Equal** – when the text sent from a serial/telnet/SSH/TCP device's return message matches **all of the text** entered for a **Condition Feedback Equals**, the commands listed below it will initiate.

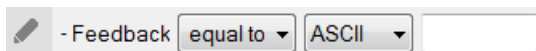
- ♦ **Include** – when the text sent from a serial/telnet/SSH/TCP device's return message matches **part of the text** entered for a **Condition Feedback Include**, the commands listed below it will initiate.
- ♦ **Bypass** – this option bypasses matching text from the serial/telnet/SSH/TCP return message and initiates a **Change Label** command. The label's text will change to the return message sent from the device (i.e. the *Feedback Result*). A **Change Label** must be added to the **Feedback Bypass** for it to work.

To add a Condition Feedback Equal/Include:

1. Under **Device**, click **Condition**.
2. From the Function list, select **Feedback**.
3. From the **Function** list, drag and drop **Feedback** to add it to the serial/telnet/SSH/TCP command, in a tree view list:

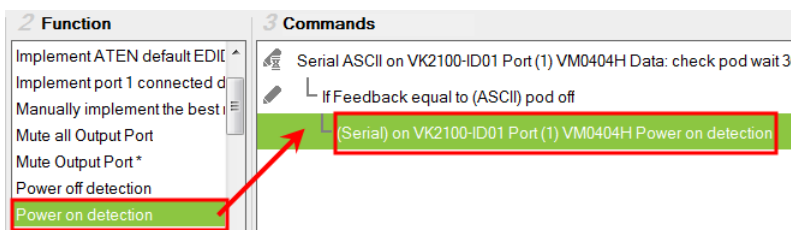


4. Double-click **If Feedback equals to** in the Commands list and use the drop-down menu to select **equal to** or **include** and enter the **Text**.



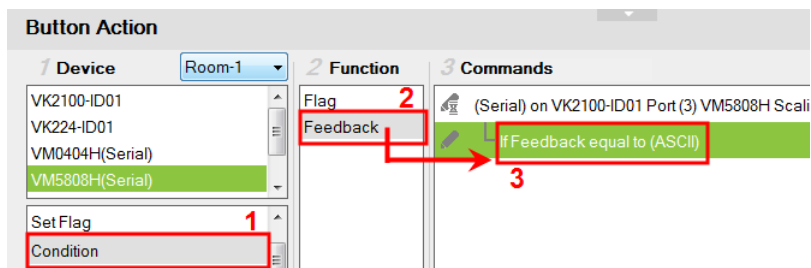
Text entered here must match **all** (equal to) or **part** (include) of the text from a serial/telnet/SSH/TCP device's return message for the command(s) to initiate. Use the **ASCII / HEX** drop-down menu to select the format.

5. From the **Function** list, drag & drop device command(s) to add them to the **Feedback Equal/Include Condition**, in a tree view list:

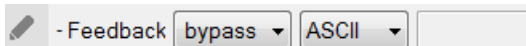


To add a Feedback Bypass Condition with Change Label:

1. Under **Device**, click **Condition**.
2. Select **Feedback** from the Function list.
3. From the **Function** list, drag and drop **Feedback** to add it to the serial/telnet/SSH/TCP command, in a tree view list:

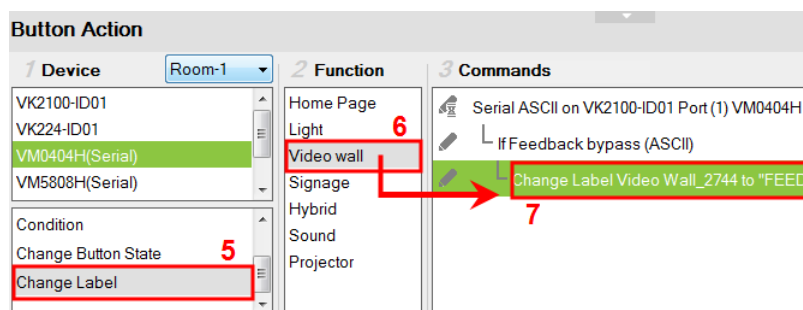


4. Double-click **If Feedback equals to** in the Commands list and use the drop-down menu to select **bypass**.

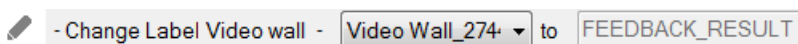


5. Under **Device**, select **Change Label**.
6. From the Function list, select the **Viewer Page** where the label is located.

7. From the Function list, drag and drop the **Viewer Page** to add it to the **Feedback Bypass Condition**, in a tree view list:



8. Double-click **Change Label** in the Commands list and use the drop-down menu to select a label. Labels are identified by object IDs (see page 61).

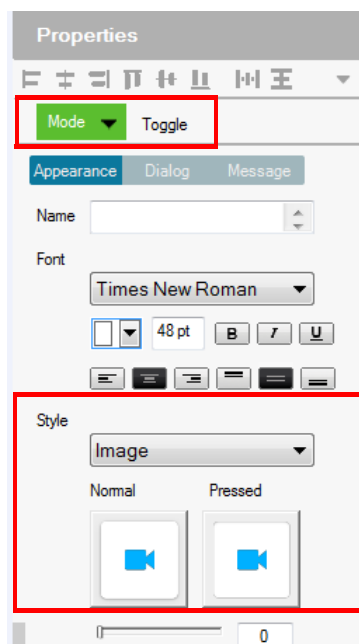


The label's text will change to the serial/telnet/SSH/TCP device's return message.

Change Button State

This option is used to change another buttons image when this button is pressed – allowing the button image to switch depending on the status: *Normal* or *Pressed*. Change Button State is added to the end of the Commands lists and should point to a **Toggle** button. Adding this to a **Toggle** button allows the image to switch with the toggle behavior: *Normal* or *Pressed*.

To add a Change Button State:

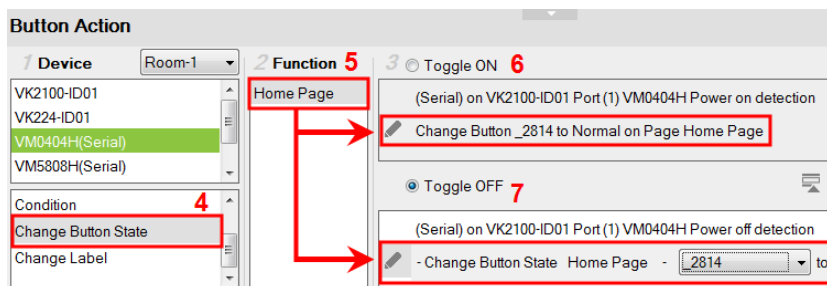


1. Under **Properties**, use the **Mode** drop-down menu to select a button type.
2. Under **Style**, click the **Normal** and **Pressed** button to select an image/ color* for the button's state.

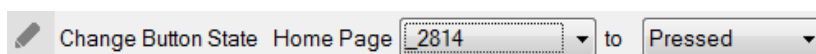
Note: Use the *Style* drop-down menu to select **Image** to import an image file for the button state, or **Color** to choose a color format for the button state.

3. Add the Toggle ON and Toggle OFF device commands to the Commands lists.
4. Under **Device**, select **Change Button State**.

5. In the Function list, select the **Viewer page**.
6. Select the **Toggle ON** radio button, then in the Function list, double-click the **Viewer page** to add it to the end of the *Toggle ON* commands in the Commands list.
7. Select the **Toggle OFF** radio button, then in the Function list, double-click the **Viewer page** to add it to the end of the *Toggle OFF* commands in the Commands list.

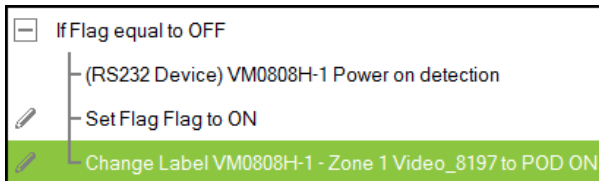


8. In each Commands list, double-click the **Change Button State** command to set the **Button** and **State** (*Normal* or *Pressed*).



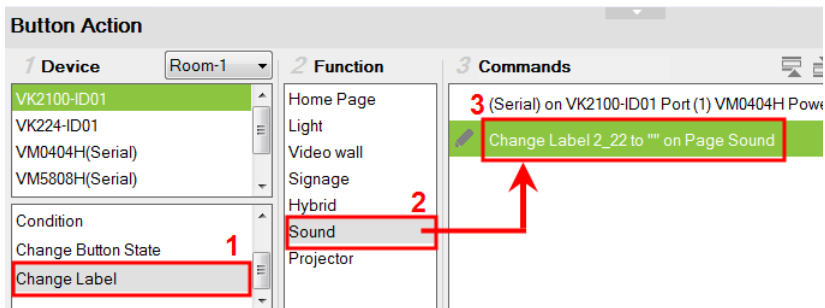
Change Label

Changes a label's text with text that you enter manually or with text from a serial/telnet/SSH/TCP device's return message (*Feedback Result*). A **Change Label** that uses a return message, must be added to a Feedback Bypass Condition (page 106). A **Manual Change Label** can be added anywhere in the Commands list. Adding it to a Condition guarantees the label changes only when the command initiates.

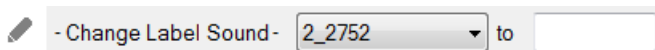


To add a Manual Change Label:

1. Under **Device**, click **Change Label**.
2. In the Function list, select the **Viewer** page where the label is located.
3. Double-click or drag and drop the **Viewer** page to add the Change Label to the **Commands** list.



4. Add a **Change Label** to *multiple* or *Toggle ON / Toggle OFF* Command lists to have the same label change text for different actions.
5. In the Commands list, double-click **Change Label** to use the drop-down menu to select a **Label** and input the **Text**. This is the text in the label that will appear when the button is pushed.



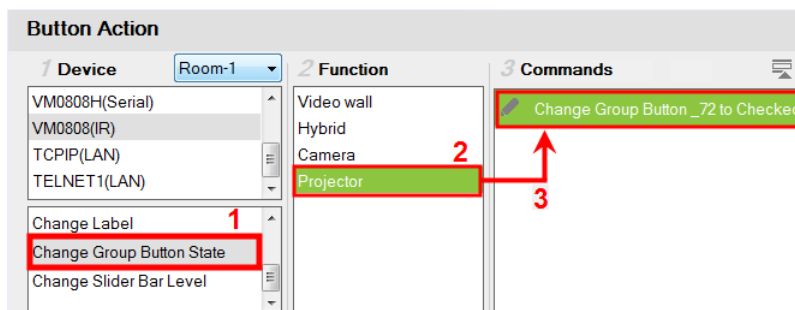
Repeat the steps to add a Change Label for the reverse action (i.g., **On** and **Off**).

Change Group Button State

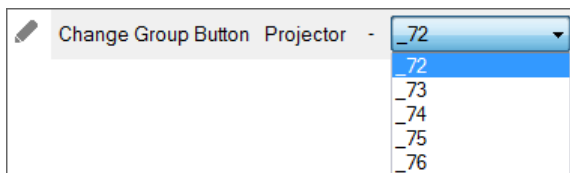
Adds a command that changes the selection in a *Radio Group* (see page 16). To use this function, first create a *Radio Group* and then add a button to the Viewer page. Add a **Change Group Button State** independently or with a device command:

To add a Change Group Button State:

1. Under **Device**, select **Change Group Button State**.
2. From the **Function** list, select the **Viewer Page** where the Radio Group is located.
3. From the **Function** list, drag and drop the **Viewer Page** to add it to the *Commands* list:



4. Double-click **Change Group Button** in the *Commands* list and use the drop-down menu to select the **Button**.

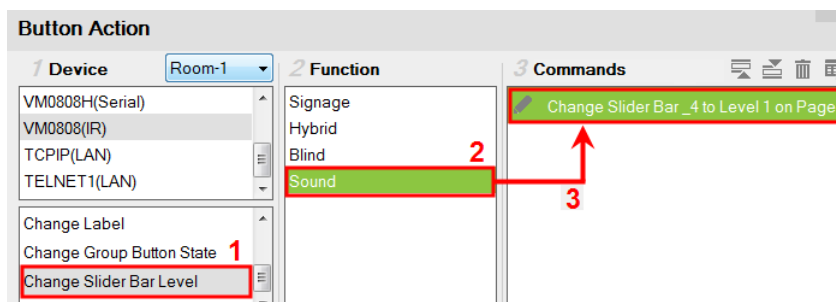


Change Slider Bar Level

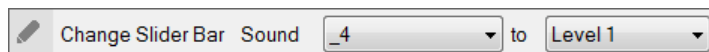
Adds a command that changes the level of a *Slider Bar*. To use this function, first create a *Slider Bar* on a *Viewer* page. Add a **Change Slider Bar Level** independently or with a device command.

To add a Change Slider Bar Level:

1. Under **Device**, select **Change Slider Bar Level**.
2. From the **Function** list, select the **Viewer Page** where the Slider Bar is located.
3. From the **Function** list, drag and drop the **Viewer Page** to add it to the *Commands* list:



4. Double-click **Change Slider Bar** in the *Commands* list and use the drop-down menus to select the **Slider Bar** and **Level**.



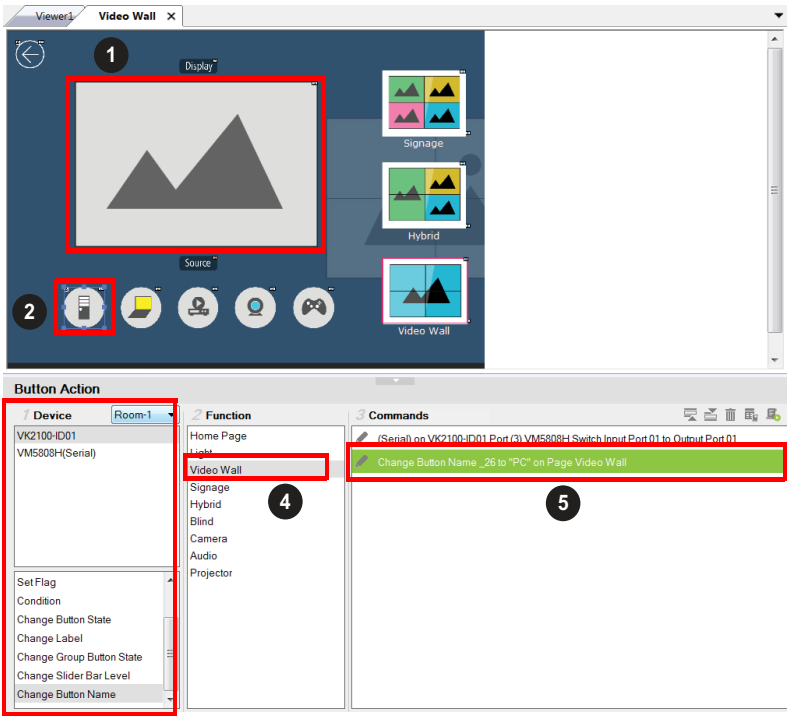
Change Button Name

The Change Button Name command is used to display specified text on a selected button when the configured button is tapped. An application of this command is indicating the assigned source for a display device on a Viewer as soon as the source is assigned. This way, you can keep track of the source that is currently showing on a particular display device.

Example:

- ◆ Indicate the currently assigned source on a display device (in the Viewer).
- ◆ Assume an environment consisting of one monitor and five sources buttons (computer, laptop, camera...etc.), as illustrated below, and that when a source button is tapped, the source will be immediately assigned to the display.

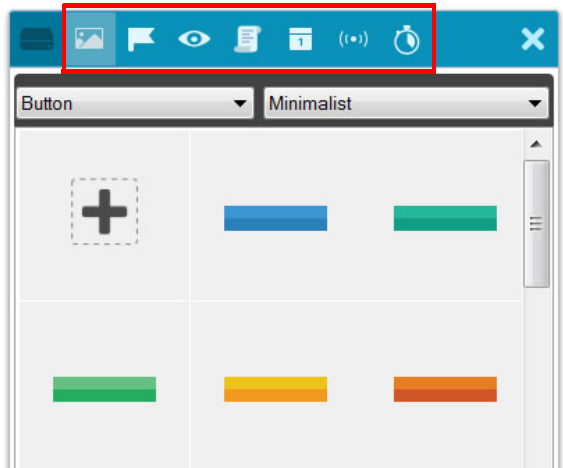
Configuration goal: To have the assigned source printing on the display button (on the Viewer page), configure each source button so that when it is tapped, the following actions (commands) initiate: (1) Display the source to the display; (2) Print the name of the assigned source onto the display device.



1. Click a source button to display the Button Action panel.
2. In the Button Action panel, select **Change Button Name**.
3. From the **Function** list, double-click the Viewer page where the source button is located. In this example, double-click the **Video Wall** option. The Change Button Name command is added.
4. From the **Commands** list, double-click the Change Button Name command and configure the following.
 - ♦ Select the ID of the display button to indicate the location of print the text. In this example, it is the video wall's ID.
 - ♦ Type the text you wish to show when the source button is tapped. In this example, enter "PC".
5. Follow steps 1 to 4 to configure each of the source buttons.

Design Library

The **Library** icon on the Project bar offers the following functions. The table below provides an overview of each function.



Control	Description
 Graphic Library	Find graphic templates such as backgrounds, buttons, device icons, and control interfaces for your viewer. For details, see <i>Graphic Library</i> , page 116.
 Flag	Flags are created to include parameters when settings are changed to indicate the current status. For details, see <i>Flag</i> , page 119.
 Monitor	Monitors allow you to set Conditions for Digital Input (dry contact) and Digital Input (VDC) signals and Flags on a port that will initiate an Action. In addition, you can create Listen to port and Query port monitors which check a device's status to initiate actions. For details, see <i>Monitor</i> , page 121.
 Macro	Macros initiate a sequence of actions on one or more hardware devices. For details, see <i>Macro</i> , page 143.
 Schedule	Click to create scheduled events. For details, see <i>Scheduled Events</i> , page 145.

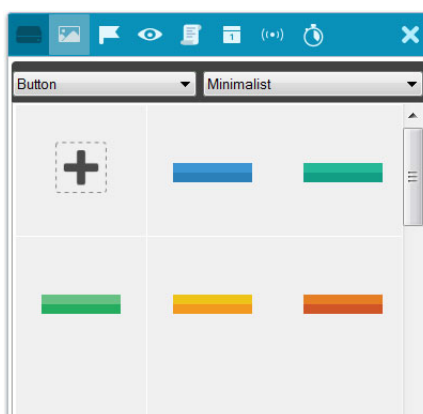
Control	Description
 Variables	Creates a Variable for a device setting (e.g. volume) that is controlled by two or more objects (e.g. slider bar or buttons) on the Viewer. When the device setting is changed through one of the objects, its setting is automatically synced and reflected on all the objects. For details, see <i>Variables</i> , page 147.
 Timer	A timer event is a device action that initiates as soon as the defined countdown time is up. The advantage of using a timer event, as opposed to a combination of delay command and device command, is that it saves time by executing the defined action while other actions (commands) within the series execute. For more details, see <i>Timers</i> , page 156.



Graphic Library

The **Library** icon on the Project bar provides a *Graphics* tab and drop-down menus with ready-to-use graphics for backgrounds, buttons, icons and device interfaces. Device Interface provides entire page layouts that you can use as templates for different types of devices. Double-click or drag and drop graphics to add them to the page. Images can be imported for icons and buttons in various formats (*.png, *.jpg, *.jpeg, *.bmp).

Button



Background

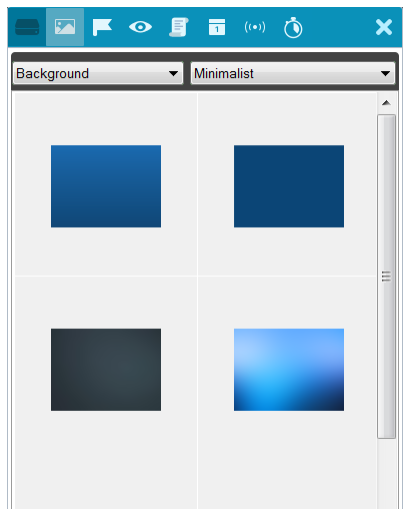
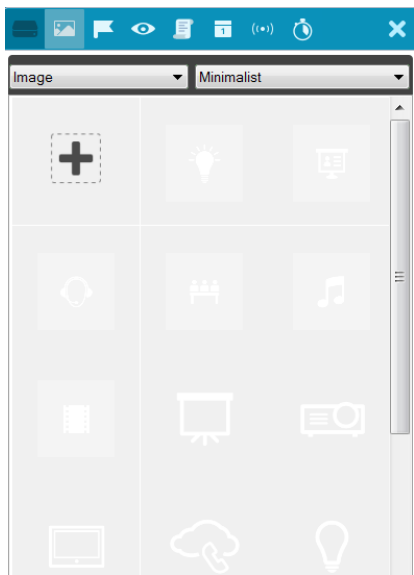
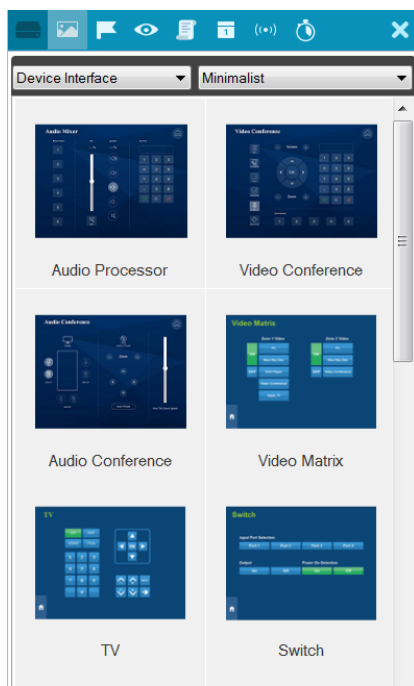


Image (Device Icon)



Device Interface





Flag

Flags are created for control buttons to include parameters for when settings are changed or requests are made to change settings on a device. Flags indicate what the status is and what action to take according to the value. Flags are added as actions to *Button Properties* as a **Condition** or **Set Flag** value.

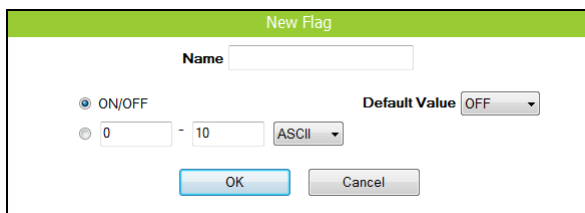
Conditions tell a button to initiate associated actions if the flag value is true: “If **Flag** equals **Value**” initiate the action. Actions are associated with a condition so that they only initiate if the flag value is correct. That way an ON command is only sent to a device if the current flag value is OFF.

Set Flag changes the flag value when a device setting has changed. So that if a device is OFF and the action turns the device ON, adding a “Set Flag 1 to ON” will change the flag value to ON. Now the flag’s value matches the device status so that actions associated with flag Conditions will initiate accordingly.

Create flags for a device and add them as a *Condition* and *Set Flag* value in the *Action – Button Properties* (see *Button / Slider Bar / Dial Kit Actions*, page 86).

To create a Flag:

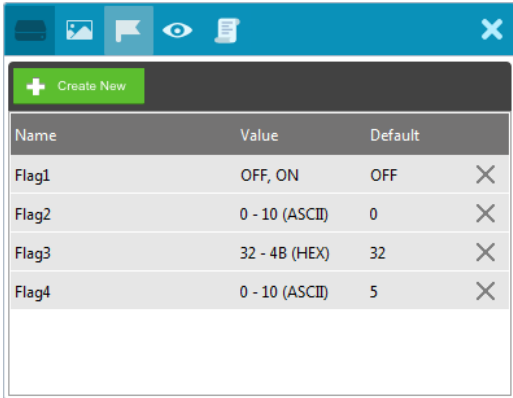
1. Select **Flag** and click . The *New Flag* menu appears.



The *New Flag* dialog box has a green title bar. It contains a text field for **Name**. Below it are two radio buttons: **ON/OFF** (selected) and **0**. To the right of the **0** radio button is a range input with a box containing **0**, a minus sign, a box containing **10**, and a dropdown menu set to **ASCII**. To the right of these is a **Default Value** dropdown menu set to **OFF**. At the bottom are **OK** and **Cancel** buttons.

2. Enter a **Name** and select a radio button to set the flag value.
 - ♦ Select **On/Off** and use the drop-down menu to select the *Default Value*.
 - ♦ Enter a range (1-100) for the values in the two boxes and use the drop-down menu to select the *Default Value*. Use the drop-down menu to select the format ASCII or HEX.

3. Click  to create more flags or double-click a flag to edit it. The flags will appear in the list, as shown below.



Name	Value	Default	
Flag1	OFF, ON	OFF	×
Flag2	0 - 10 (ASCII)	0	×
Flag3	32 - 48 (HEX)	32	×
Flag4	0 - 10 (ASCII)	5	×

- ♦ **Name** – Lists the Flag names which have been created.
 - ♦ **Value** – Lists the flag's values or range of values.
 - ♦ **Default** – Lists the flag's default value.
 - ♦ **x** – Deletes a flag from the list.
4. Select **Condition** or **Set Flag** to add flags as a command in Button Action by selecting a button on a Viewer page (see *Button / Slider Bar / Dial Kit Actions*, page 86).



Monitor

Understanding Monitor

A *Monitor* allows you to set conditions on a port using **Digital Input** (VDC) and **Digital Input** (Dry Contact) signals, return messages, and Flags. When the condition is met, the controller will initiate the desired action. Digital Input (VDC) hardware devices provide voltage signals between 1 and 24. Digital Input (Dry Contact) hardware devices provide open and closed circuit signals. Hardware devices with return messages can be monitored using **Listen to port** or **Query port** conditions via text they transmit. These signals provide indicators from sensors or switches of an event. An event can be the temperature, power, dry contact, sensor, switch status, or message from a device. There are two parts to a monitor, the **Condition** and **Action**.

Monitor Page Options

There different types of monitors you can create to fulfill different scenarios. A monitor (as illustrated below) contain the following configuration fields:

Monitor

If

Type Name

Condition Satisfy All Conditions

1 Device	2 Status	3 Condition
VK0200-ID03	Listen to port	VK0200-ID03(Serial Port 1)
	Query port	VK0200-ID03(Serial Port 2)
	Flag	VK0200-ID03(TCP Server)
	IO Input	
	Variable	

Action

1 Device	2 Function	3 Commands
Room:3	Delay	
	Relay	
	Wake on Lan	
	Serial Raw(ASCII)	
	Serial Raw(HEX)	
	Telnet Raw(ASCII)	
	TCP Raw(ASCII)	
	TCP Raw(HEX)	

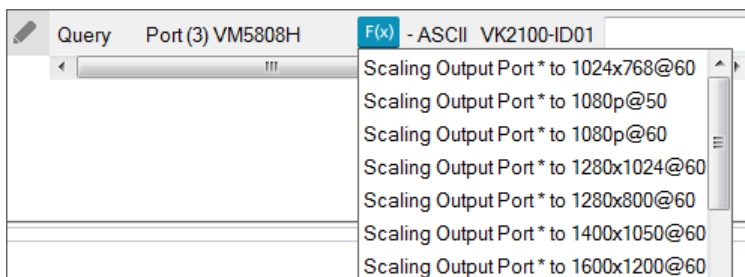
Control	Description
Type	Use this drop-down list to select a monitor type: ♦ If – select this option for a single condition monitor. “If” the single condition is met, the action initiates. For details, see <i>Creating an If Monitor</i>, page 126. ♦ Switch – select this option for multiple conditions that use more than one “If” conditions for the monitor. In this type, if one of the conditions is met, the monitor will initiate the action. For details, see <i>Creating a Switch Monitor</i>, page 130. ♦ Bypass – select this option to transmit device feedback message to the selected variable actively listening for a message or by receiving a return message from the specified devices. For details, see <i>Creating a Bypass Monitor</i>, page 134. ♦ While Loop – select this option to execute the specified actions at the defined frequency (Query Frequency). For details, see <i>Creating a While Loop Monitor</i>, page 136. ♦ Professional – select this option to create variables and load values into these variables using programming script. For details, see <i>Creating a Professional Monitor</i>, page 137.
Name	Enter a name for the monitor.
Query Frequency	Use this drop-down menu to select how frequently the monitor checks a device for a signal.
Condition	Use this section to add one or more conditions that will need to be met for the Action to initiate. You can create up to 32 conditions for each monitor. For details, see <i>Condition Types</i> , page 123.
Action	Use this section to create the commands that will initiate when the monitor’s conditions are met. For details, see <i>Device Functions</i> , page 92 and <i>Advanced Functions</i> , page 96.
	Click to hide or display the Device and Status/Function columns in the Condition and Action lists so that you can see a complete row of Conditions/Commands.
	Click to move an selected command up or down in the Commands list.
	Click to remove an selected command from the Commands list.

Condition Types

Note that you can create up to 32 conditions for each monitor.

◆ Listen to port / Query port

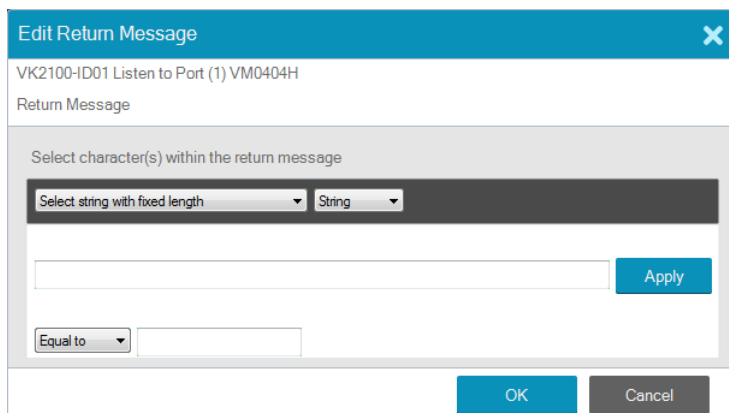
- ◆ (*Query port only*) Click **F(x)** to open the drop-down menu to select a device command to send out; or enter a command string; and then the click *Edit Return Message* icon and do as explained below.



◆ Edit Return Message

(*Listen to port / Query port*) Next configure the parameters for the return message from the device. This message must match for the condition to be met. In the **Condition** list double-click the command and then

click  to open the **Edit Return Message** window:



Use the drop-down menu and enter a string of that will represent the characters in a return message from the serial device:

- ◆ **Select string with fixed length**



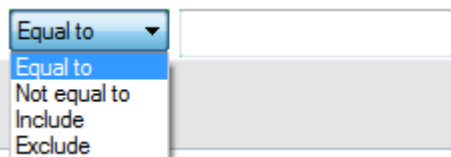
Use this to set a string of characters that are set within a fixed parameter. Enter a string of characters and use the **S** to set the start of the string and **E** to set the end and then click **Apply**. The return message will need to fit the fixed string of characters set in the text box next to the *Drop-Down Menu* (see next page) for the monitor to be triggered.

- ◆ **Select string with a non-fixed length**



Use this to set a string of characters where the parameters are variable. Enter a string of characters and use the **S** to set the start of the string and **E** to set the end and then click **Apply**. The return message will need to fit the fixed string of characters set in the text box next to the *Drop-Down Menu* (see below) for the monitor to be triggered.

- ◆ **Drop-Down Menu**



Above, enter characters that the *Select string with fixed length* or *Select string with non-fixed length* string must match and how they must be matched: **Equal to**, **Not equal to**, **Include**, or **Exclude** for the condition to be triggered.

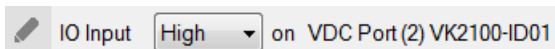
- ◆ **Flag**

Creates a flag condition for the monitor. Use the drop-down menus to set a format (how the flag value must be matched) and the flag value for the condition to be triggered.



♦ I/O Input

Create a trigger signal from a device according to the voltage. Only device with a Digital Input (dry contract) or Digital Input (VDC) port appear in the Status list. Double-click a device in the **Status** list to add it to the Condition list. Double-click the command in the **Condition** list to configure the setting:



The High or Low status tells the Monitor to initiate an Action when the device signal is above or below the threshold setting* for the port:

Digital Input (VDC)

- ♦ High - states that when the voltage signal is above the **Upper** Threshold to initiate the Action.
- ♦ Low - states that when the voltage signal is below the **Lower** Threshold to initiate the Action.

Digital Input (Dry Contact)

According to an open or closed circuit status for the port:

- ♦ Open - states that when the circuit is **Open** to initiate the Action.
- ♦ Closed - states that when the circuit is **Closed** to initiate the Action.

Functions

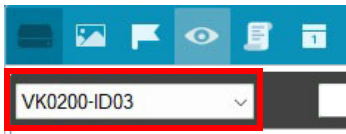
- ♦ **Delay** – adds a delay in seconds. Enter a number between 0.1-180.
- ♦ **Relay** – adds an Open, Close, Toggle or Pulse action on the selected controller and Relay port.
- ♦ **DO** – adds an Open, Close, Toggle or Pulse action on the selected controller and Digital Output port.
- ♦ **Wake on LAN** – powers on the specified computer (MAC address) over Ethernet.
- ♦ **Serial Raw (ASCII)** – adds a serial command in the ASCII mode.
- ♦ **Serial Raw (HEX)** – adds a serial command in the HEX mode.
- ♦ **Telnet Raw (ASCII)** – adds a telnet command in the ASCII mode.
- ♦ **TCP Raw (ASCII)** – adds a TCP command in the ASCII mode.
- ♦ **TCP Raw (HEX)** – adds a TCP command in the HEX mode.
- ♦ **UDP Raw (ASCII)** – adds a UDP command in the ASCII mode.

- ♦ **UDP Raw (HEX)** – adds a UDP command in the HEX mode.
- ♦ **HTTP** – adds an HTTP command.
- ♦ **HTTPS** – adds an HTTPS command.
- ♦ **TCP Feedback Raw (ASCII)** – adds a feedback in ASCII format to having received a monitored input from a TCP client device.
- ♦ **TCP Feedback Raw (HEX)** – adds a feedback in HEX format to having received a monitored input from a TCP client device.
- ♦ **Pronto Hex Code** – adds an IR command using Pronto Hex codes.
- ♦ **KNX Raw** – adds a KNX raw command. Note that this type of commands can only be used on a custom KNX device. For details about adding a KNX device to ATEN Control System, see *Adding KNX Devices*, page 27.
- ♦ **SSH Raw** – adds an SSH command in the ASCII mode.

Creating an If Monitor

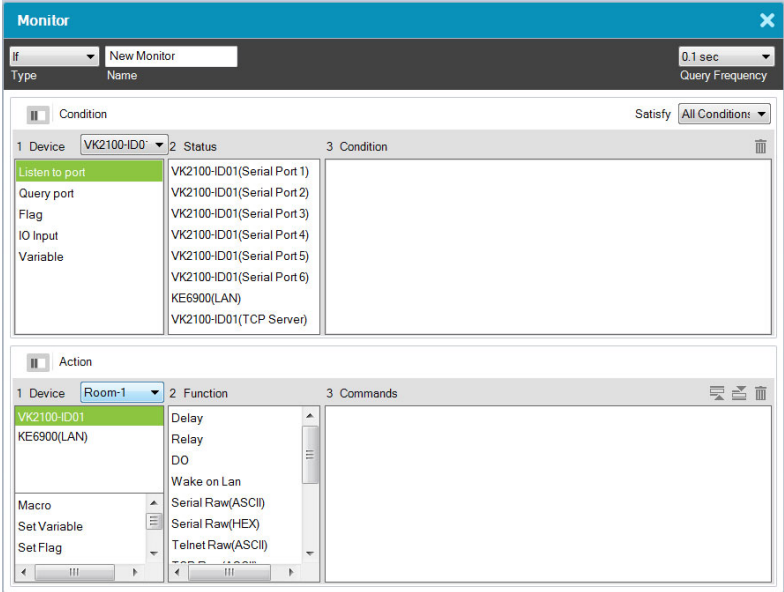
To create a monitor for a device port with a **Condition** that initiates an **Action**, do the following.

1. In the Design tab, click **Library**  and click **Monitor** .
2. Select a controller to which you want to create the monitor.



3. Click .
4. Select **If** from the drop-down menu and enter a name for the monitor.
5. Use the drop-down menu to set the **Query Frequency**.

6. Select **All Conditions** or **Any Conditions**.



These options are only for advanced setups that require multiple events from hardware devices connected to multiple conditions. Most devices only require one signal Status added to the *Condition List* to initiate an *Action*. Most installations will not need to use this option, therefore it can be ignored.

- ◆ **All Conditions:** Add multiple conditions – all of which must be met for the Action to initiate.
- ◆ **Any Conditions:** Add multiple conditions – one of which must be met for the Action to initiate.

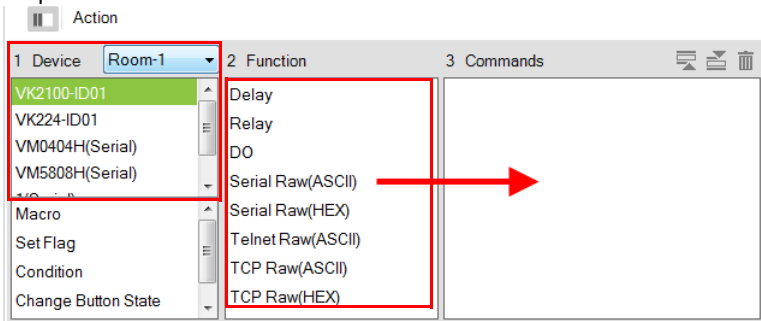
7. Under **Device**, select a **Controller** from the drop-down menu, and then choose one of the following monitor types. For details, see *Condition Types*, page 123.

- ◆ **Listen to port** – to create a monitor that actively listens for a message from the device. Under **Status**, double-click a device port to add it to the **Condition** list.
- ◆ **Query port** – to create a monitor that sends out a command to the device until a feedback message is received from the device.
- ◆ **Flag** – to create a flag condition for the monitor.

- ♦ **I/O Input** – to create a trigger signal from a device according to the voltage.
8. Under **Status**, double-click to add a device port or flag to the *Condition* list. Then double-click the device port or flag in the Condition list to configure the condition settings.

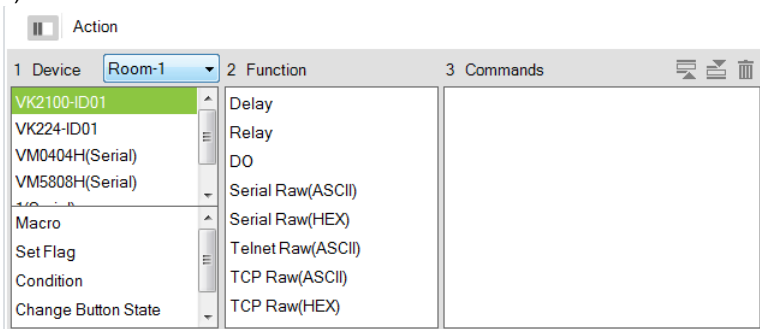
Note: To set the controller as a TCP server, use the **TCP Server** option in the Status column, and make sure to type a TCP server port in the controller's properties settings (page 28).

9. (Optional) Use the Operator option to add additional High or Low conditions (see step 4, page 127).
10. Go to the *Action* section at the bottom of the page to select the hardware **Device** and add the **Function** to the **Commands** list, as explain in the steps that follow.

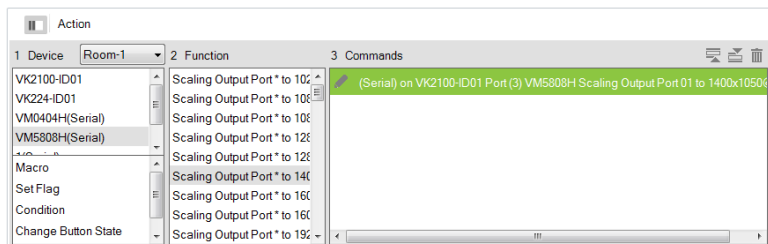


Note: For more information about Functions, see *Button / Slider Bar / Dial Kit Actions*, page 86.

- a) First select the hardware under **Devices**.



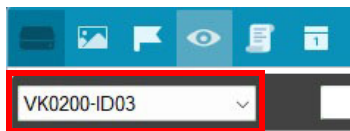
- b) Under **Function**, double-click a command to add it to the **Commands** list. This **Command** initiates when the **Condition** is met. For details on Functions and Commands, see *Device Functions*, page 92 and *Advanced Functions*, page 96.



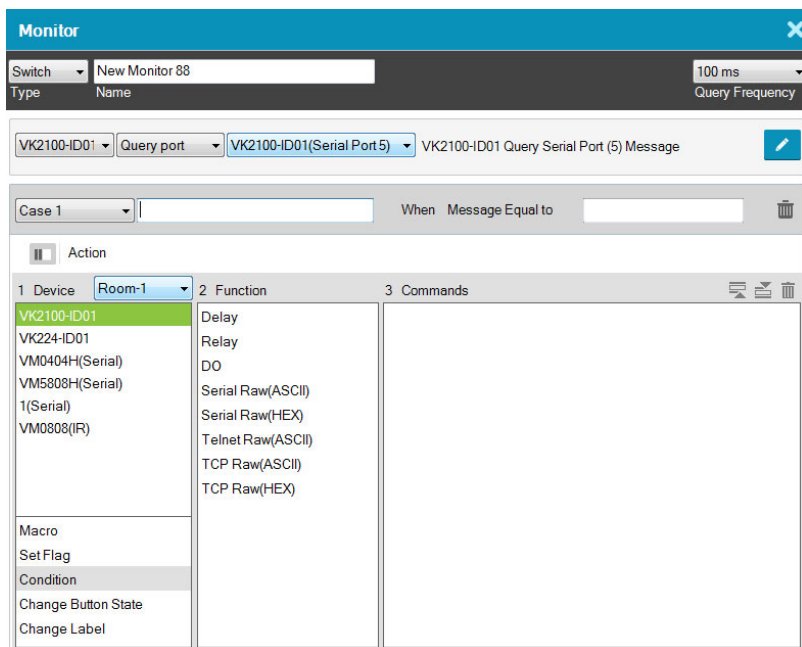
Note: If you have configured the controller as a TCP server, add **TCP Feedback Raw (ASCII)** or **TCP Feedback Raw (HEX)** command to provide feedback to the TCP client.

Creating a Switch Monitor

1. In the Design tab, click **Library**  and click **Monitor** .
2. Select a controller to which you want to create the monitor.



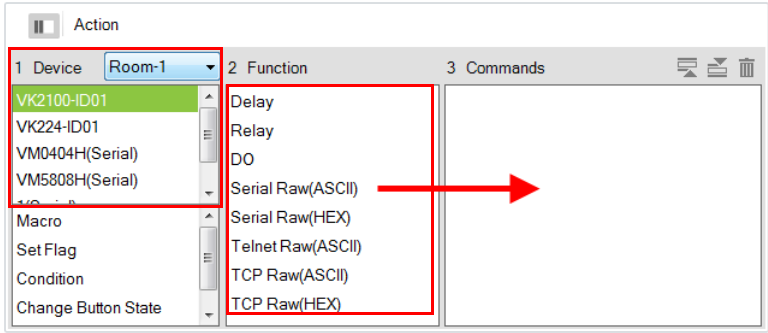
3. Click .
4. Select **Switch** from the drop-down menu and enter a name for the monitor.
5. Use the drop-down menu to set the **Query Frequency**.
6. Use the options to create multiple condition comparisons, as explained below.



1 Device	2 Function	3 Commands
VK2100-ID01	Delay	
VK224-ID01	Relay	
VM0404H(Serial)	DO	
VM5808H(Serial)	Serial Raw(ASCII)	
1(Serial)	Serial Raw(HEX)	
VM0808(IR)	Telnet Raw(ASCII)	
	TCP Raw(ASCII)	
	TCP Raw(HEX)	

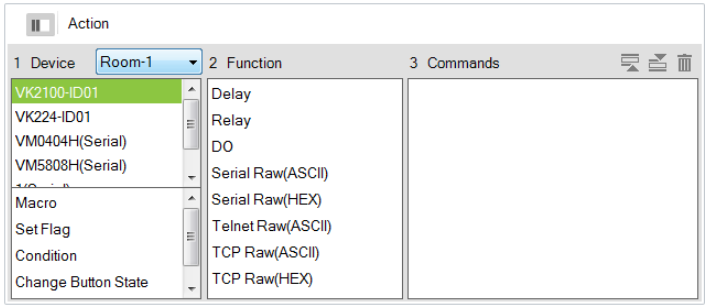
Control	Description
Type	Use the drop-down menu to select: If – select this option for a single condition comparison monitor. Switch – select this option for multi-condition comparisons that use multiple “If” comparisons for the command.
Name	Enter a unique name for the monitor.
Query Frequency	Use this drop-down menu to select how frequently the monitor checks a device for a signal. Options are: 100 ms - 1 second.
Drop-Down Menus	Under the <i>Type</i> drop-down menu are four addition drop-down menus used to configure the Switch Condition: ♦ Controller – use the first drop-down to menu select the controller for a Switch condition. ♦ Listen to port / Query port – use the second drop-down menu to select the condition type for a Switch condition (see step 4, page 127 for details). ♦ Serial Device Port ♦ Use the third drop-down menu to select a serial device port and configure <i>Edit Return Message</i> (to configure, see <i>Edit Return Message</i>, page 123). ♦ To set the controller as a TCP server, use the TCP Server option in the Status column, and make sure to type a TCP server port in the controller’s properties settings (page 28). ♦ Case – use the fourth drop-down menu to add cases by selecting Add More Cases for comparison that need to be met before monitor’s condition will initiate. In the left text box enter a name for the Case, in the right text box enter the character string that the return message should match.
Action	Use this section to create commands for the monitor. See <i>Button / Slider Bar / Dial Kit Actions</i> , page 86, for details on configuring commands.
	Click this icon to switch to the Action list view so that you can see a complete row of the command’s functions. This is a toggle button.
x	Closes the Monitor window.

- Go to the *Action* section at the bottom of the page to select the hardware **Device** and add the **Function** to the **Commands** list, as explain in the steps that follow.

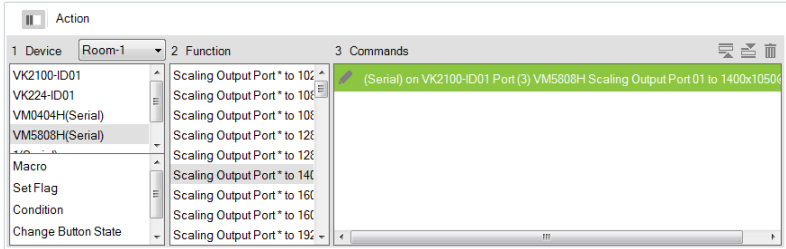


Note: For more information about Functions, see *Button / Slider Bar / Dial Kit Actions*, page 86.

8. First select the hardware under **Devices**.



9. Under **Function**, double-click a command to add it to the **Commands** list. This is the **Command** that initiates when the **Condition** is met. For details on what each function does, see *Device Functions*, page 92 and *Advanced Functions*, page 96.

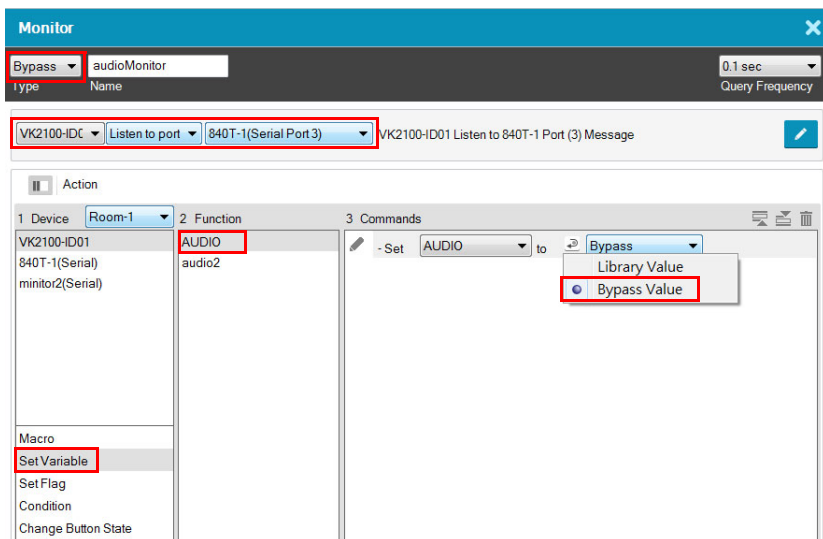


Note: If you have configured the controller as a TCP server, add **TCP Feedback Raw (ASCII)** or **TCP Feedback Raw (HEX)** command to provide feedback to the TCP client.

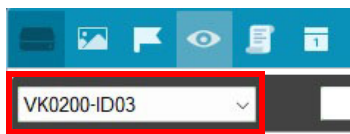
10. You can also add a **Macro**, **Link**, **Set Flag** or Monitor's **Condition**.
11. After adding all the functions to the *Commands* list, the **Switch** monitor is complete.

Creating a Bypass Monitor

Follow the steps below to create a bypass monitor.



1. In the Design tab, click **Library**  and click **Monitor** .
2. Select a controller to which you want to create the monitor.



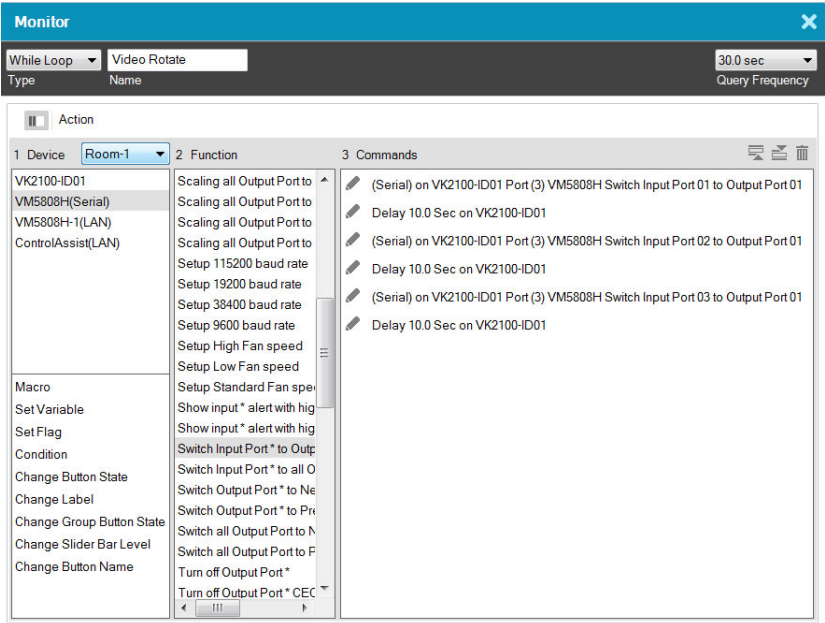
3. Click .
4. Select **Bypass** from the drop-down menu and enter a name for the monitor.
5. Configure the following settings.
 - ♦ **Query frequency:** sets how frequently the monitor checks the device for a signal. Valid values range from 100 ms to 1 second.
 - ♦ In the second drop-down list, select one of the following:
 - ♦ **Listen to port:** actively listens for a message from the specified device.

- ♦ **Query port:** when a setting is changed on the specified device, the device sends a feedback message to the controller, informing the latest setting.
 - ♦ In the last drop-down list, select the port or the device to be monitored.
6. Configure the actions.
- a) Select **Set Variable**.
 - b) Double-click the variable you wish to update when controller detects a change for the specified device setting.
 - c) For a variable, double-click the command and select **Bypass**.

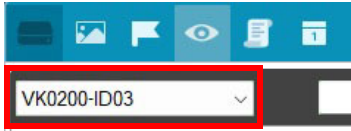


Creating a While Loop Monitor

Follow the steps below to create a while loop monitor.



1. In the Design tab, click **Library**  and click **Monitor** .
2. Select a controller to which you want to create the monitor.

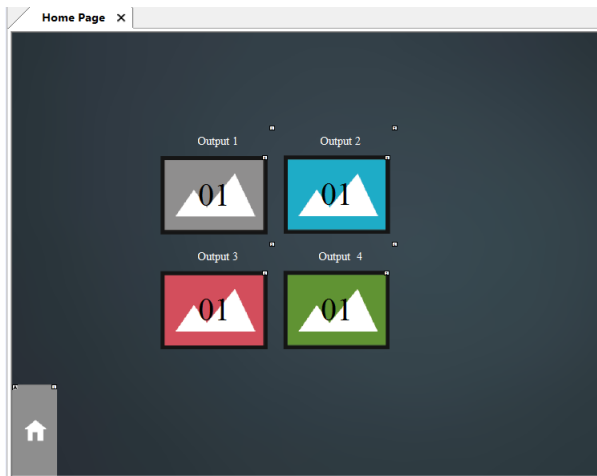


3. Click .
4. Select **While Loop** from the drop-down menu and enter a name for the monitor.
5. Use the Query Frequency drop-down menu to define the frequency at which the device checks for signals.
6. From the Device List, select a device.
7. (Optional) Select an advanced option. For details, see *Advanced Functions*, page 96.

8. Double-click a function to added it to the **Commands** list. For details, see *Device Functions*, page 92 and *Advanced Functions*, page 96.
9. Configure the added commands if required.

Creating a Professional Monitor

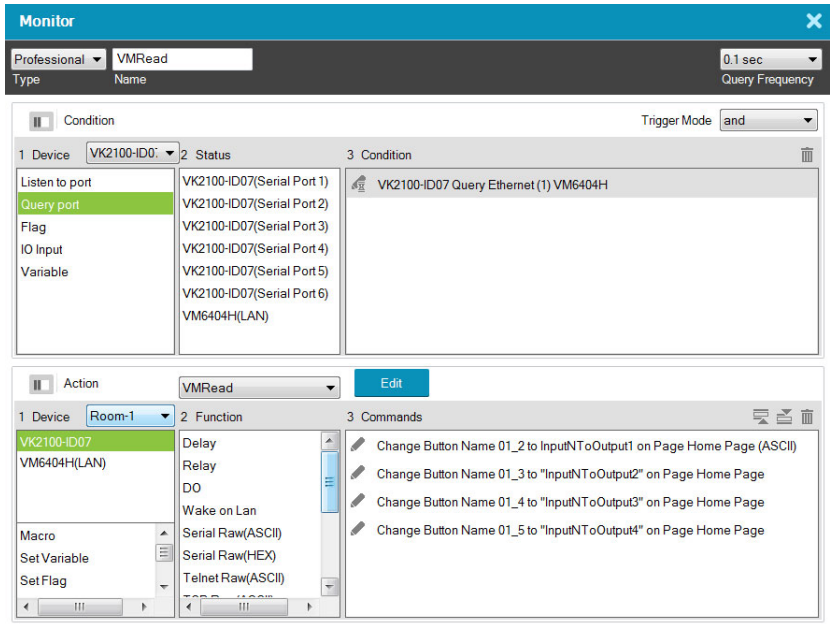
Example: Keep track of the assigned sources by indicating the input port number of the assigned source on each of the four screens on a Viewer page, as illustrated below.



For the controller to print the port number of the assigned source on each screen and keep this information up-to-date, the controller needs to:

- ♦ constantly keep track of the assigned source
- ♦ constantly print the port number on each screen icon

Follow the steps below to create a professional monitor.



1. In the Design tab, click **Library**  and click **Monitor** .

2. Click  to create a new monitor.

3. Configure the following settings.

- ◆ From the Type drop-down menu, select **Professional**.
- ◆ Name the monitor.
- ◆ Define the query frequency.

4. Configure the condition settings.

In this example, the controller VK2100 is set to query the input and output ports of the Matrix Switch, VM6404H, that connects to the controller every 0.1 second.

- ◆ Add the condition(s) that must be met for initiating actions. For details on conditions, see *Condition Types*, page 123.
- ◆ Select a **Trigger Mode** for the added conditions.

- ♦ **And:** Only initiate the added actions (commands) if the values of all specified inputs change.
- ♦ **Or:** Initiate the added actions (commands) if the value of any specified input changes.
- ♦ **Independent:** Use this option when you have multiple sets of actions. The added actions (commands) initiate if the corresponding set of inputs change in value.
- ♦ **Always:** Initiate the added actions (commands) at the specified frequency.

5. Configure the Action settings.

- a) Click **Edit** to script the codes.

Note:

- ♦ This editor follows Lua's programming rules. ATEN suggests using Notepad++ to script the codes before adding them to the Editor.
- ♦ For details on built-in commands, see *Built-in Commands*, page 140.
- ♦ When scripting codes for I/O inputs, use lower case "l" to represent the close status (e.g. `input_io == 'l'`), and "h" to represent open status (e.g. `input_io == 'h'`).

In this example, use Script Editor to:

- ♦ Convert data format.
- ♦ Create four variables representing the assigned input for each screen. In this example, *InputNToOutput1*, *InputNToOutput2*, *InputNToOutput3*, and *InputNToOutput4* are created.
- ♦ Load the input number of the assigned source to the created variables.

Below is sample of the scripts used for this scenario:

```
function vk_parser(input)
  local vminput = vk_hex_toascii(input)
  -- local vminput = input
  if vminput == nil or vminput == "" then
    return
  end

  local map = {}
  for vmout, vmin in string.gmatch(vminput, "o{[0-9]}i{[0-9]*} video [^ ]* audio [^ ]* [^\n]*") do
    map[vmout] = vmin
  end

  local vk_var_1_InputNToOutput1 = map["01"]
  local vk_var_2_InputNToOutput2 = map["02"]
  local vk_var_3_InputNToOutput3 = map["03"]
  local vk_var_4_InputNToOutput4 = map["04"]

  vk_docommands_1_VMRead(vk_var_1_InputNToOutput1, vk_var_2_InputNToOutput2, vk_var_3_InputNToOutput3, vk_var_4_InputNToOutput4)
end
```

b) Add actions.

In this example, add four Change Button Name commands:

Change Button Name SyncVM Home Page - to output ASCII

For details, see *Device Functions*, page 92 and *Advanced Functions*, page 96.

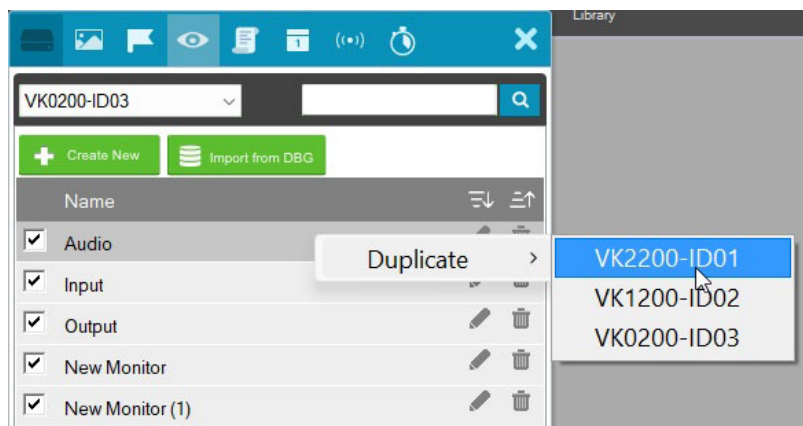
Built-in Commands

Command	Description
jsonobj	Converts JSON strings to tables.
vk_ascii_to_hex	Converts strings from ASCII to Hex.
vk_docommands_ID_name	Defines the commands to be executed, e.g., vk_docommands_1_output. A the user should define his/her own commands and their corresponding IDs. As long as the ID does not change, the command name can change. The same ID cannot be used for two different commands. The same applies to command names.
vk_hex_to_ascii	Converts strings from Hex to ASCII.

Command	Description
vk_parser(input1, input2)	◆ Use this command to indicate a start to a set of scripts. ◆ The brackets should contain equal number of inputs that you added in the Professional Monitor setup. ◆ If the Trigger Mode is set to independent, the script should contain only one input, but the number of parsers should match the number of inputs added to the Monitor, e.g. vk_parser_1(input), vk_parser_2(input).
vk_var_ID_name	Create a variable.

Duplicating a Created Monitor

To duplicate a created monitor to another controller, right-click a monitor, mouse over **Duplicate**, and then select a target controller.

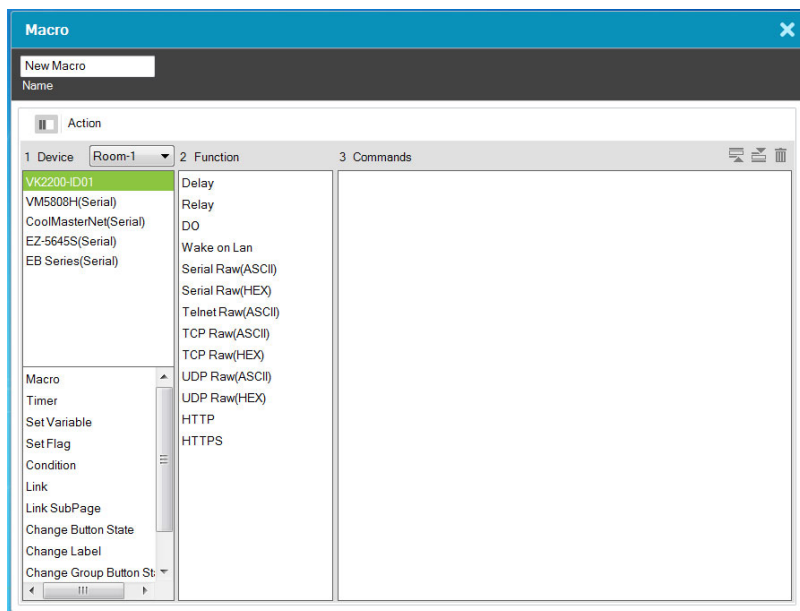




Macro

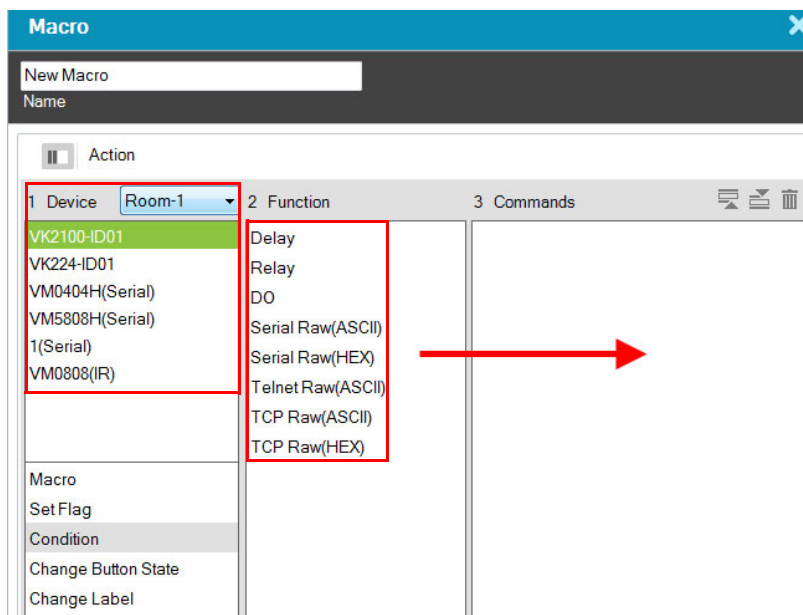
Macros allow you to create a button that will initiate a sequence of actions across the same or different hardware devices. This saves time by allowing multiple devices to initiate actions all at once from one button. For example, you can create a macro to start a video presentation by adding functions to: dim lights, power on source, power on display, lower screen and play source. You can also add time delays between actions in a macro. Each project can store up to 104 macros.

When you click  from the Library's **Macro** tab, the window opens:



To create a macro:

1. Select **Macro** and click  .
2. Enter a **Name** and select a **Viewer** from the drop-down menu, then click **OK**.
3. Go to the *Actions* section at the bottom of the page to select hardware under **Device** and add the **Function** to the **Commands** list:



Note: For more information about adding Functions, see *Button / Slider Bar / Dial Kit Actions*, page 86.

4. After adding all the functions to the *Commands* list, the macro is complete.
5. In *Create Viewer & Design*, create a button and add a macro to the *Button Action* properties (see page 86) by selecting **Macro** under *Devices* (see *Device Functions*, page 92 for details).

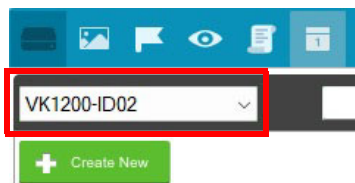


Scheduled Events

You can have one or a series of tasks execute recurringly on specified time of the day. Each project can store up to 60 scheduled events. Note that this feature is not applicable to Control Pads.

Creating a Scheduled Event

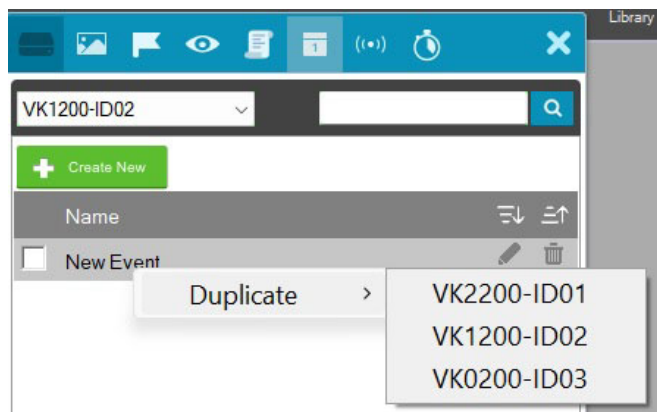
1. In the Design tab, click **Library**  and click **Schedule** .
2. Select a controller to which you wish to create an event.



3. Click . A new event window appears.
4. Name the event.
5. Click  to specify a recurring schedule for the event.
6. Configure event actions.
 - a) In the Device column, select a device.
 - b) In the Function column, double-click the desired functions. The corresponding commands appear in the Commands column. For details on what each function does, see *Device Functions*, page 92.
 - c) In the Commands column, double-click each command to configure the settings.
7. Optionally add system functions. For detailed information, see *Applications of Advanced Functions*, page 102.
8. These commands will initiate in the listed order. To change the order of the commands, click .

Duplicating a Scheduled Event

To duplicate a created event to another controller, right-click an event from the event list, mouse over **Duplicate**, and then select a target controller.

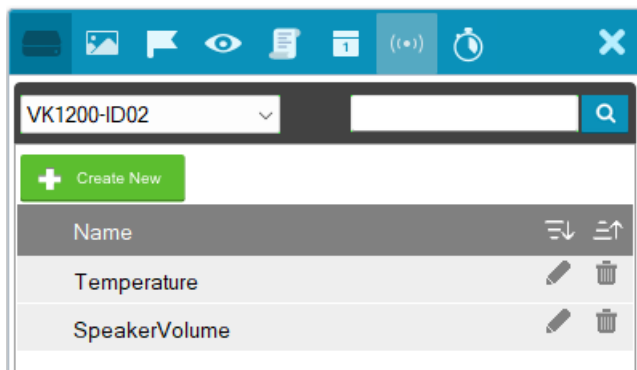


Variables

Understanding Variables

A Variable is a value holder that stores a single device setting (e.g. speaker volume) and can be assigned to multiple control objects (e.g. a slider button, a maximum volume button, and a minimum volume button). This way, when a device setting is adjusted via a Viewer object, the new setting will be loaded into this Variable and then reflected to all Viewer objects that use this Variable. Each project can store up to 128 Variables.

Below is a Variable list that has two variables created, temperature and speaker volume, for devices controlled by VK1200-ID02.



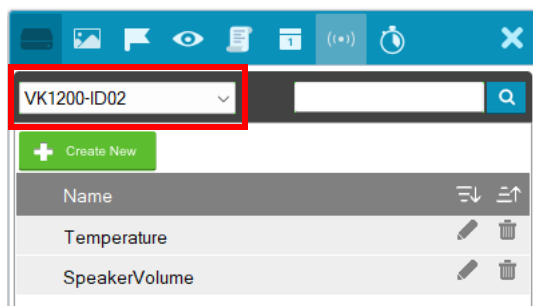
This feature is useful for automatic synchronization of device settings, especially when you have two or more objects in a Viewer controlling a single device setting. Take the example of controlling a speaker volume on a Viewer. On your Viewer, you may have a slider bar which you use to adjust the volume, a button that sets the speaker to its maximum volume, and another button for minimum volume. When you tap the maximum volume button, you would like the following status changes reflected on the Viewer:

- ♦ The maximum volume button shows a toggle-on status
- ♦ The minimum volume button synchronized with this setting and shows a toggle-off status
- ♦ The slider bar synchronizes with this setting and moves to its highest volume

Creating a Variable for Devices that Return Feedback Messages

Follow the steps below to configure a Variable if the Variable (device setting) is for a device that returns feedback messages to the controller.

1. Create a Variable for the device setting (e.g. speaker volume).
 - a) In the **Design** tab, click **Library**.
 - b) In the pop-up window, click the **Variable**  icon.
 - c) Using the indicated drop-down list, select the controller which controls the target device. The variables created for the devices managed by the selected controller are listed.



- d) Click . A Variable setup page appears.
- e) In the setup page, configure the following settings.
 - ♦ **Name:** Type a name for the Variable.
 - ♦ **String format:** Select the string format for the target device.
 - ♦ **Setting range:** Type two numbers to define the range for the variable. Valid numbers include negative numbers and numbers that contain one decimal place.
Note: If one of the numbers contains a decimal place (e.g. -5.0), make sure to specify the other number in the same format (e.g. 10.0).
 - ♦ **Unicode:** (Only available for string variables) Select this setting for multilingual text to be encoded and represented correctly in the variable.
 - ♦ **Default value:** Type a default for the setting.
 - ♦ **Description:** Optionally add additional information for the variable.

Your settings may look like this:

2. Configure control objects for the Viewer. For details, see *Configuring the Control Interface (Viewer)*, page 42.

a) In the **Design** tab, add control objects to your Viewer.

Note: The Variable function is only applicable to toggle buttons, basic-mode slider bars, and radio groups of normal buttons. Configure the **Mode** setting before you proceed.

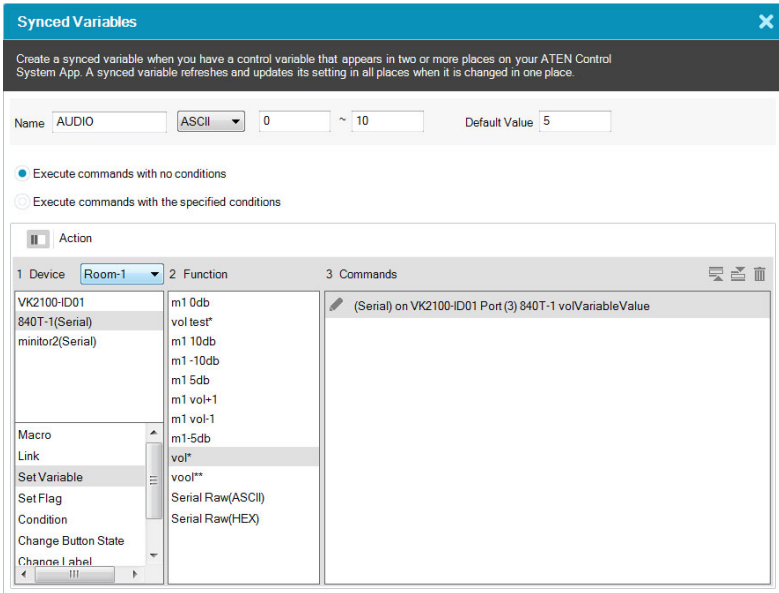
- b) For a slider bar object, click it in the Viewer page and configure the **Value** settings in Properties.
- c) In Properties, click **Set Sync Condition** and select the variable you created using the drop-down list.

3. Create a Monitor to set up the conditions for which the device sends its latest setting to the variable. For detailed steps, see *Creating a Bypass Monitor*, page 134.

Creating a Variable for Devices that Do Not Return Feedback Messages

Follow the steps below to configure a Variable if the Variable (device setting) is for a device that *does not* return feedback messages to the controller.

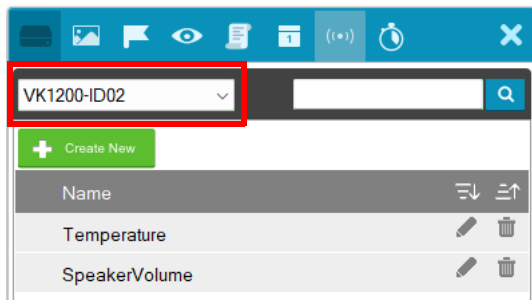
1. Create a Variable for the device setting (e.g. speaker volume).



a) In the **Design** tab, click **Library**.

b) Click the **Variable**  icon.

- c) Using the indicated drop-down list, select the controller which controls the target device. The variables created for the devices managed by the selected controller are listed.



- d) Click **+ Create New**. A Variable setup page appears.

- e) In the Setup page, configure the following settings.

- ♦ **Name:** Type a name for the Variable.
- ♦ **String format:** Select the string format for the target device.
- ♦ **Setting range:** Type two numbers to define the range for the variable. Valid numbers include negative numbers and numbers that contain one decimal place.

Note: If one of the numbers contains a decimal place (e.g. -5.0), make sure to specify the other number in the same format (e.g. 10.0).

- ♦ **Unicode:** (Only available for string variables) Select this setting for multilingual text to be encoded and represented correctly in the variable.

Note: This feature is only effective if the target controller uses firmware v3.6 or later.

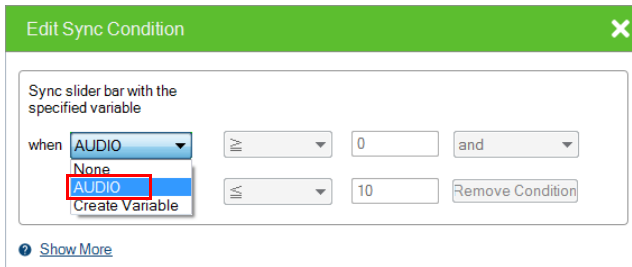
- ♦ **Default value:** Type a default for the setting.
- ♦ **Description:** Optionally add additional information for the variable.
- ♦ Select a command execution type.
 - ♦ **Execute commands with no conditions:** Execute the command (action) when the value of the specified Variable changes.
 - ♦ **Execute commands with the specified conditions:** Execute the corresponding command (action) when the value of the Variable matches.

2. Configure control objects for the Viewer.

- a) Add a control object to the Viewer. For details, see *Configuring the Control Interface (Viewer)*, page 42.

Note: Make sure to configure the mode setting before proceeding to the next step.

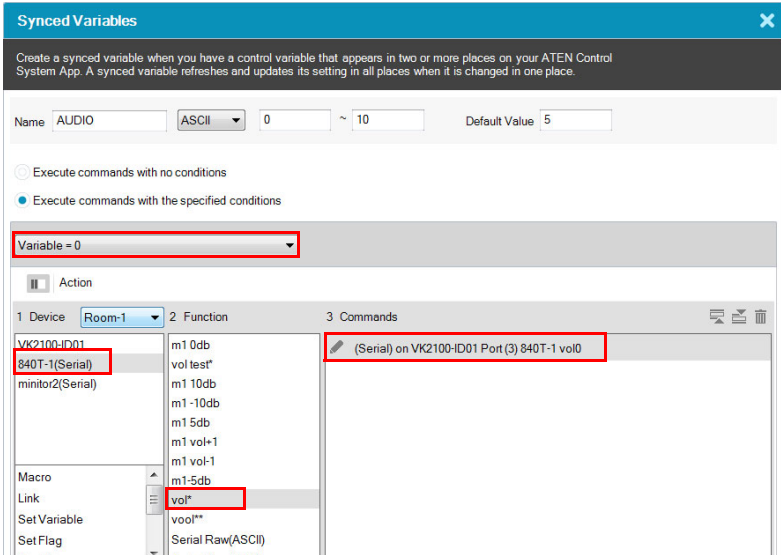
- b) For a slider bar, click it and configure value settings in Properties.
- c) Click **Set Variable**, and then double-click the Variable you created in step 1.
- d) In Properties, click **Set Sync Condition** and select the Variable you created using the drop-down list.



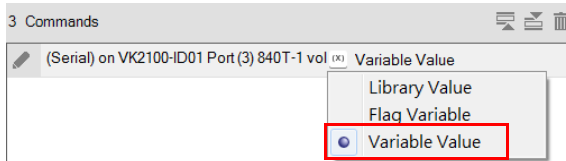
3. Repeat steps (a) to (d) with each of the objects. If you select **Execute commands with the specified conditions**, follow the steps below to add commands.
- a) Refer to step 4 to first configure the control objects.
- b) Click Library, click the **Variable**  icon, and then click the Variable you created in step 1.
- c) Click the drop-down list below the Execute commands with the specified conditions option and select a condition.

- d) Add an action (command) when this condition is met. Select a device, double-click a desired function, and then double-click the command to configure the setting.

In the case of speaker volume, when the volume changes to 0 (i.e. the condition is **Variable = 0**), the action will be “to change the speaker volume to 0”, as illustrated below.



- e) Repeat steps 2(c) and 2(d) to add one or more actions to each condition.
4. If you select **Execute commands with no conditions**, follow the steps below to add commands.
- a) In the **Device** list, click to select the device. In this example, the mixer, **840T-1(Serial)**, is selected.
- b) Double-click the action (command) and change the value type to **Variable Value**.

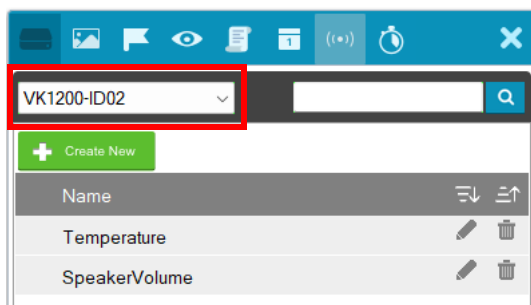


Creating a Button for Bypassing Feedback to a Variable

Instead of creating a monitor event which automatically monitors the specified parameter at a defined interval, you can save the controller bandwidth by creating a button which performs the monitoring and saves the feedback to a variable only when pressed.

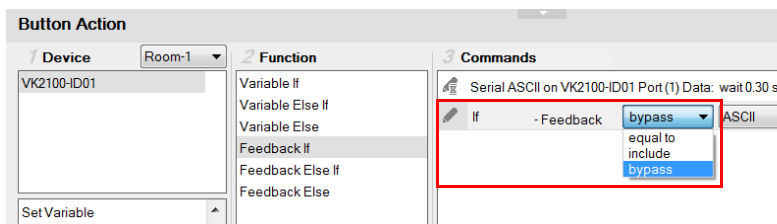
1. Create a variable for storing the received feedback. Select **STRING** for the variable. Configure other settings as required.

- a) In the **Design** tab, click **Library**.
- b) Click the **Variable**  icon.
- c) Using the indicated drop-down list, select the controller which controls the target device. The variables created for the devices managed by the selected controller are listed.

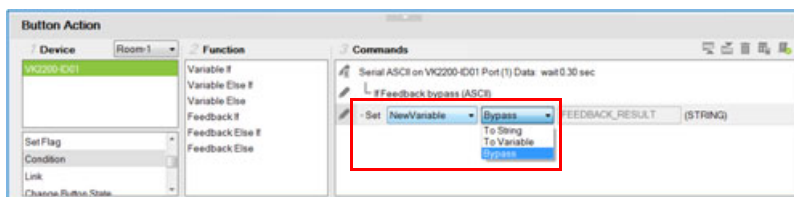


- d) Click . A Variable setup page appears.
- e) In the Setup page, configure the following settings.
 - ♦ **Name:** Type a name for the Variable.
 - ♦ **String format:** Select *STRING*.
 - ♦ **Unicode:** (Only available for string variables) Select this setting for multilingual text to be encoded and represented correctly in the variable.

- ♦ **Default value:** Type a default for the setting.
 - ♦ **Description:** Optionally add additional information for the variable.
 - ♦ Select a command execution type.
 - ♦ **Execute commands with no conditions:** Execute the command (action) when the value of the specified Variable changes.
 - ♦ **Execute commands with the specified conditions:** Execute the corresponding command (action) when the Variable matches
2. In a Viewer page, create a button object.
 3. Configure its button actions.
 - a) Add a command for receiving feedback.
 - b) Select **Condition** and then drag-and-drop a **Feedback If** command under your feedback command.



- c) Set the feedback to **bypass**.
4. Add a variable command. Select a variable to store the feedback and then select **Bypass**.



Timers

A timer event is used to initiate a device action as soon as the defined countdown time is up. It allows actions to be executed at defined times without waiting for previous actions to complete, unlike delay and device commands.

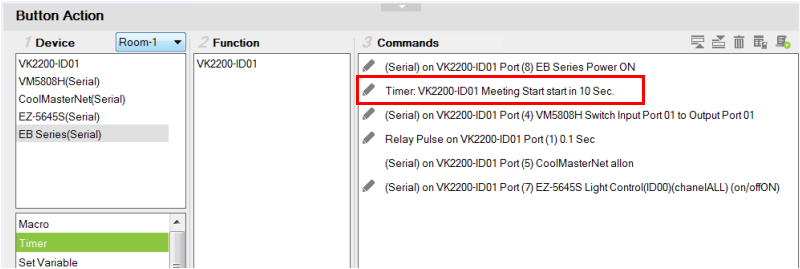
On top of initiating a specified action, you can also create additional controls on the Viewer to manually restart or stop the timer. For example, for a start meeting button, you would like to initiate the following series of actions when the button is pressed:

Sequence of Action	Target Device	Device Action	Requirements
1	projector	Turn on the projector	It takes 8 seconds for the projector to turn on and get ready.
2		Set the projector to switch to its HDMI source	This action can only be initiated when the projector is turned on.
2	ATEN Matrix Switch	Display input 1 to display 1 via ATEN Matrix Switch (VM5808H)	This action is independent of the previous one, and can be initiated at the same time.
3	projector screen	Bring down the projector screen	-
4	air conditioner	Turn on air conditioner	-
5	lighting system	Turn on the lights	-

Among these actions, action #2 (switching source on a projector) can be designed as a timer event because:

- ♦ it needs a countdown (of 8 seconds) before the action can be initiated
- ♦ the remaining actions can be initiated without action #2 being completed

The configuration for the start meeting button is as follows, with the projector source switching configured as a timer event:

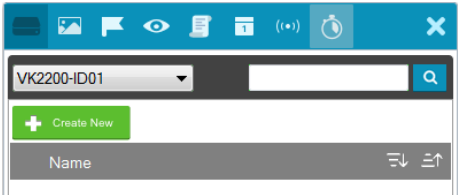


Configuring a Timer Event

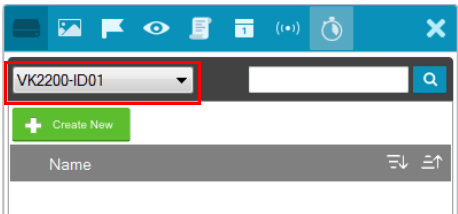
1. Create a timer event in the Library.

a) In Configurator, go to **3. Design > Library** , and then click **Timer**

 in the pop-up window. This screen appears.



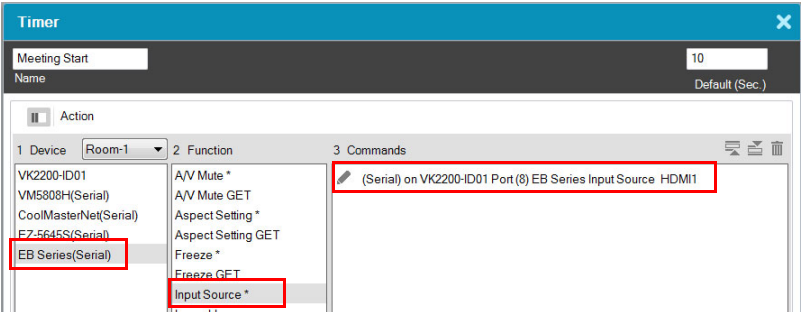
b) Select a controller to which you wish to create the timer event to.



c) Click . The Timer window appears.

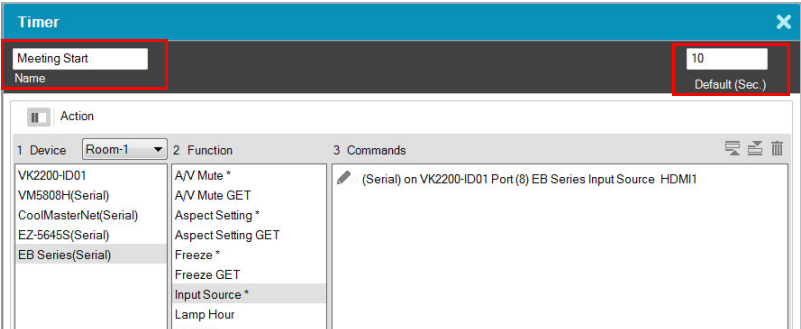
d) Add a device action (command). For more details about commands (device actions), see *Configuring Button/Slider Bar Actions*, page 89. For example, for a projector to switch its input source to HDMI, click the device in the Device column and then double-click the input source

command from the Function column. Double-click the added command to select **HDMI** for the Input Source.



To see only the added actions (commands) in this view, click .

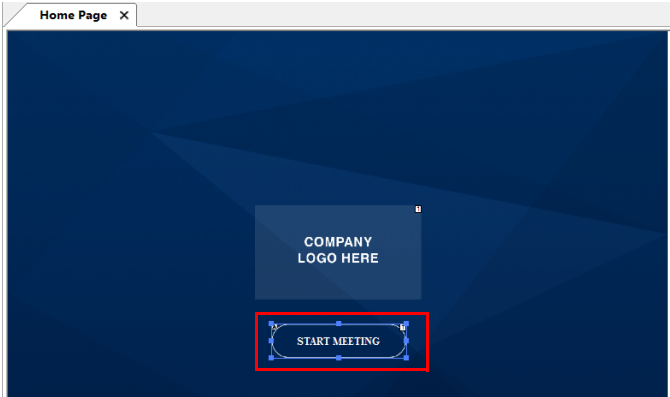
e) Rename the timer event and configure the countdown duration.



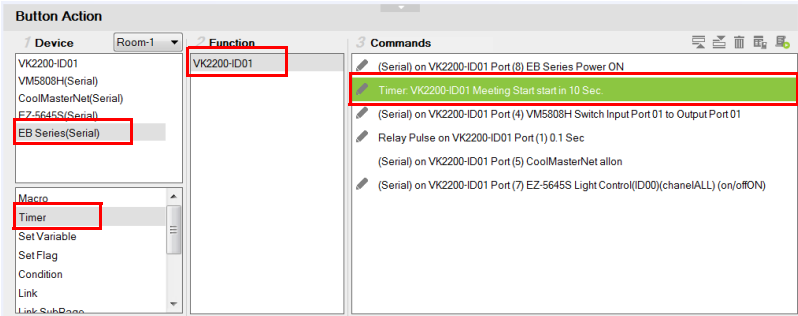
2. Apply the timer to a control element (e.g. a button or a slider bar).

a) Click the target control element.

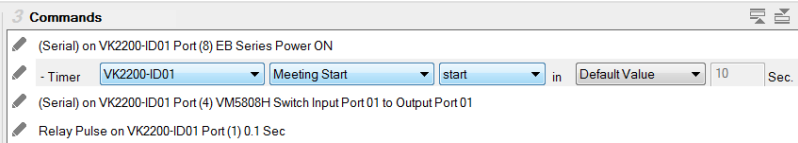
Example: a meeting start button



- b) In Action settings, click the target device (for the timer event), click **Timer**, and then double-click a function to add a timer event.



- c) To configure the timer, double-click the added timer in the Commands column and select from the drop-down menus.



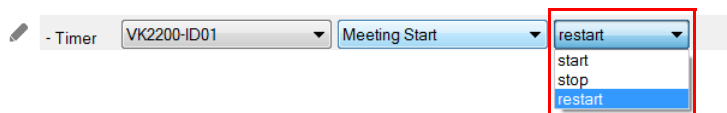
The following settings are available:

- ♦ controller:
- ♦ timer: to change the current timer to another that is already created in the Library.
- ♦ timer type: you can change the action from starting a specified action to stop or restart.
- ♦ countdown duration

The timer action starts counting down as soon as the associated control is triggered, and the action initiates when the countdown time is up.

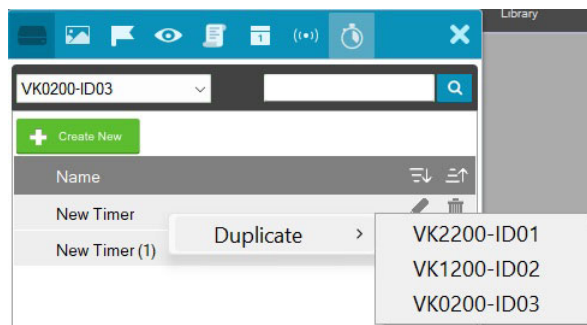
3. (Optional) Create another control (e.g. a button) for stopping or restarting the timer.
- a) Add the control element to the Viewer page.

- b) Click the control element, and add the timer event you created in step 1, and double-click the command to select **Restart** or **Stop** from the drop-down list.



Duplicating a Created Timer

To duplicate a created timer to another controller, right-click a timer, mouse over **Duplicate**, and then select a target controller.



Centralized Monitoring and Control via Unizon™

Overview

Unizon™

Unizon™ is a server-based software for centralized monitoring and control of standalone ATEN Video Matrix and ATEN-controller-managed AV devices, including ATEN and third-party devices. One ATEN control system allows management from up to two Unizon™ servers. Note that a license is required for using Unizon™. For more information, see *ATEN Unizon™ User Manual*.

Monitor ATEN-controller-managed Devices via Unizon™

When an ATEN-controller-managed AV device is added to Unizon™, the following information is available in the Unizon™ platform:

- ◆ connection status with Unizon™
- ◆ current IP address
- ◆ firmware version
- ◆ license usage (only applicable to ATEN controllers)

You can also create parameters to be monitored via Unizon™. For example, you may want to monitor the total hours used on a projector lamp so that you can arrange for replacement in advance when the accumulated lamp hour reaches a specified number. For setup details, see *Creating a Monitor Item*, page 164.

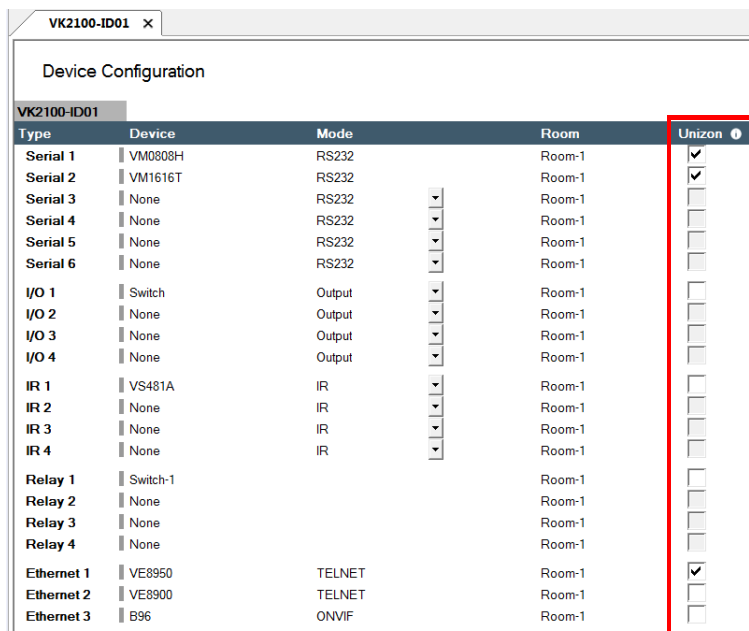
Control ATEN-controller-managed Devices via Unizon™

You can remotely operate ATEN-controller-managed devices via Unizon™, such as switching video sources on displays, changing the resolution setting, etc., by creating control items in the controller project file. For setup details, see *Creating a Control Item*, page 167.

Enabling Monitoring and Control via Unizon™

Follow the steps below to enable monitoring and control of controller-managed devices via Unizon™.

1. In Configurator, select devices to allow management via Unizon™.
 - a) Open the target project and go to the **Device** tab.
 - b) In the Unizon column, select devices for remote management via Unizon™. For example:

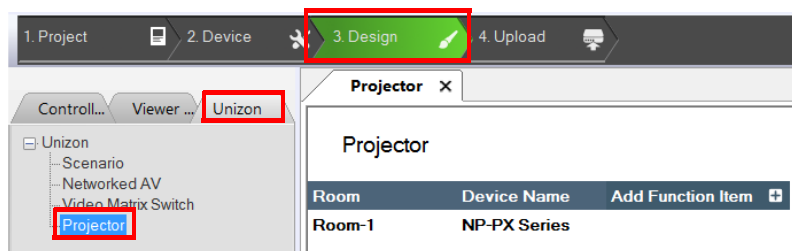


2. (Optional) Create parameters for monitoring and/or control. For detailed steps, see:
 - ♦ *Creating a Monitor Item*, page 164
 - ♦ *Creating a Control Item*, page 167
3. Upload the project to the controller.
4. On Unizon™'s web interface, add the controller. For details, see *ATEN Unizon™ User Manual*.

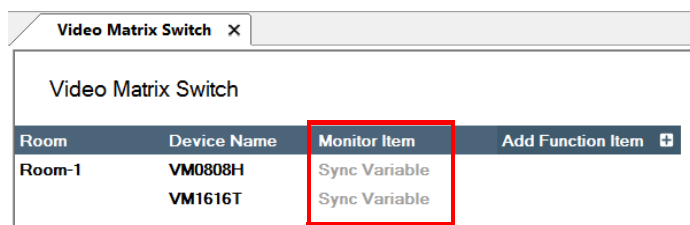
Creating a Monitor Item

1. Open the project file, go to **Design > Unizon**, and click on the device category of the target device to open the configuration page.

Example: To add a monitor item to a third-party projector, click **Projector**.

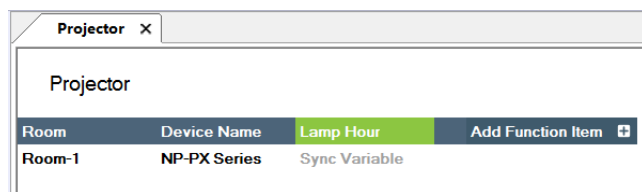


2. In the configuration page, click **Add Function Item** and then select **Add Monitor Item** in a pop-up dialog box. A new monitor item is added.



3. Double-click the header **Monitor Item** to rename the parameter.

Example: Rename it to Lamp Hour.



4. Create a variable to store the value of the parameter and optionally configure alert settings.

Example: Create a variable to store the accumulated lamp hour and set up an alert at a specific number.

- a) Under the monitor item you just created, click **Sync Variable**. The Properties panel appears on the right.

- b) In the Properties panel, click **Set Sync Condition**. The Edit Sync Condition dialog box appears.
- c) In the General tab, click the first drop-down menu and select **Create Variable** to create a variable. For details about creating variables, see *Variables*, page 147.
- d) In the General tab, select the variable you just created and configure related settings. For example:

The screenshot shows the 'Edit Sync Condition' dialog box with a green header bar containing a close button (X). Below the header are two tabs: 'General' (active) and 'Monitoring'. The dialog is divided into three steps:

- Step 1:** 'Select synchronized variables.' It contains a 'Use' label and a dropdown menu currently showing 'LampHour'.
- Step 2:** 'Variable display'. It contains a 'Select expression' label and a dropdown menu currently showing 'Raw Data'.
- Step 3:** 'Edit label unit style'. It contains a text input field with 'hr' and a label 'Ex: %, dB, ...'.

At the bottom left is a link 'Show More' with a question mark icon. At the bottom right are two buttons: 'Save' (green) and 'Cancel' (grey).

e) Optionally set up alerts for this monitor item. For example:

Edit Sync Condition

General

Monitoring

Step 1

☒ Set alert levels

Step 2

Edit Sync Condition

Moderate alert

2000

Add Condition

Critical alert

2200

Add Condition

Show More

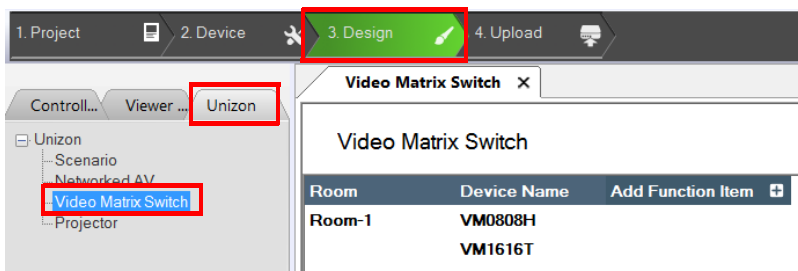
Save

Cancel

Creating a Control Item

1. Open the project file, go to **Design > Unizon**, and click on the device category of the target device to open the configuration page.

Example: To add a control item to a Video Matrix, click **Video Matrix Switch**.

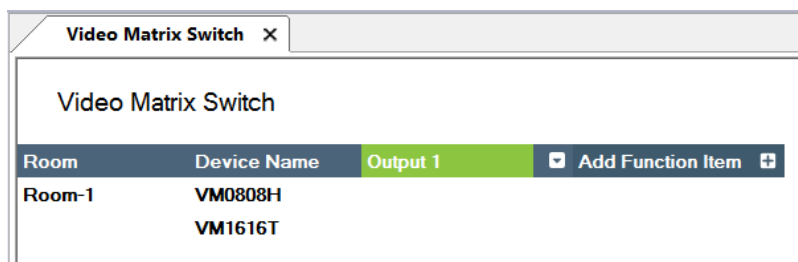


2. In the configuration page, click **Add Function Item** and then select **Add Control Item** in a pop-up dialog box. A new control item is added.

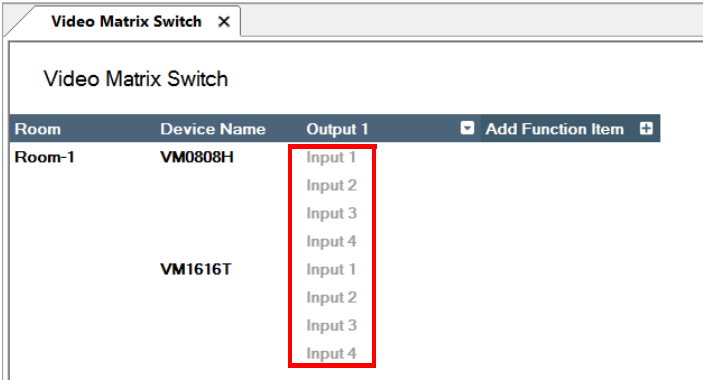


3. Double-click the header **Control Item** to rename the parameter.

Example: Rename it to Output 1.



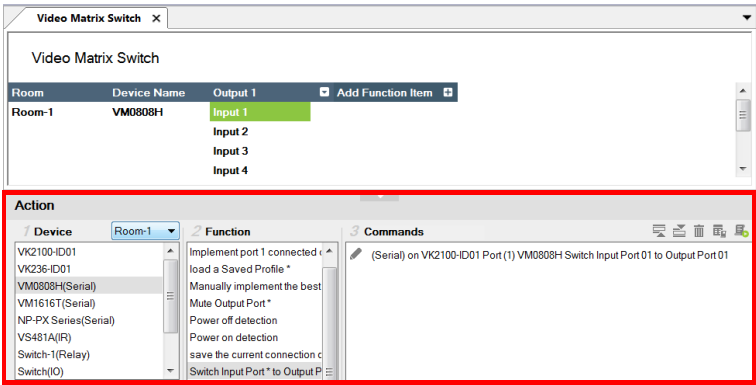
4. Add and configure control options to this item.
- Example: Create input 1 to 4 as options for switch the source on output 1.
- a) Click .
- b) In the pop-up dialog box, type the name of the control option and click **Create**. Proceed to create all the control options as required.
- Example: Type **Input 1** and click **Create**. Add Input 2, 3, and 4.



- c) Click **Input 1** and add the action in the Action panel. Proceed to configure each control action.

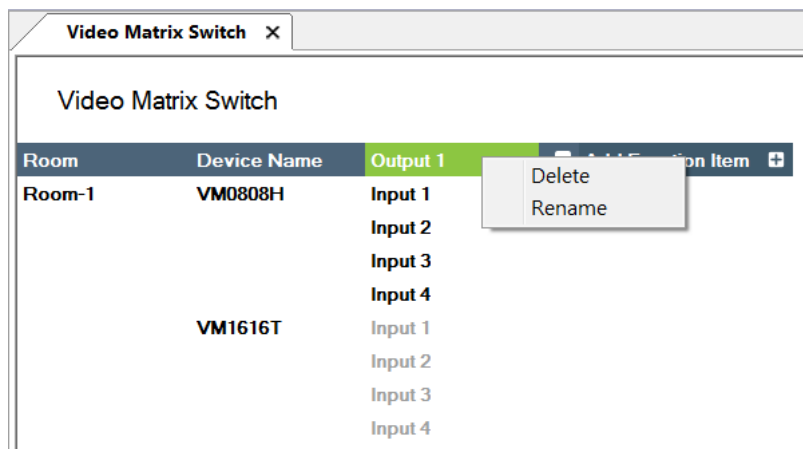
Note:

- ♦ The same entries are created for all devices in the list. Skip this step if the control action does not apply.
- ♦ For full details about configuring control actions, see *Configuring Button/Slider Bar Actions*, page 89.



Removing a Monitor / Control Item

To remove a monitor or control item, right-click the header and select **Delete**.



Uploading Viewers

The *Upload* page allows you to upload Viewers and/or back up projects to controllers.

1. Project 2. Device 3. Design 4. Upload

Start the controller search by IP address via Auto Search or manually.

Intelligent Search
 Auto Search
 Search for all controllers on the LAN

Search by IP address

Please select the viewer to upload. [Edit Access Key](#)

☒ VK1100-ID02

☒ Viewer1

☐ VK2100-01

Please check the connection and controller ID

☒ Upload this project along with the Viewer

To back up a project and its Viewers to a controller:

1. Browse for the ATEN controller where you wish to save the configured Viewers.
 - ♦ Auto Search: Browses for controllers on the same LAN with the Configurator.
 - ♦ Search by IP address: Use this function to browse for controllers that are on different LANs to the Configurator.

2. Verify the selected controller and viewer and configure the selection if required.

1. Project 2. Device 3. Design 4. Upload

Start the controller search by IP address via Auto Search or manually.

Intelligent Search
Auto Search
Search for all controllers on the LAN

Search by IP address
[Input Field] [Search Icon]

Please select the viewer to upload. [Edit Access Key](#)

☒ VK1100-ID02 [Lock Icon] [Info Icon]

☒ Viewer1

☐ VK2100-01 [Lock Icon] [Info Icon]

Please check the connection and controller ID

[Upload to Controller](#) ☒ Upload this project along with the Viewer

- ♦ Controller highlighted black: This is the controller that is found in the network and its ID matches the one you specified in this project file. The viewers created for the controller are listed below this item.
 - ♦ Controller highlighted gray: This is the controller that also exists in the network, but does not match the controller ID specified in this project file.
3. Optionally click on the following to configure password authentication settings.

Note: Due to security concerns, the access key of any ATEN controller will need to be modified at least once before the controller can be accessed for any of its functions. If you have not modified the access key, the upload will not be performed. To resolve this issue, log in to the controller's web interface and follow the on-screen prompt to modify the access key.

- ♦ **Edit Access Key:** Click to edit the access key you entered for uploading Viewers to the controller and download Viewers from a mobile device.

- ♦ **Note:** A valid access key should only contain upper-case alphabets, lower-case alphabets, and/or numerals.  : An access key is required to upload Viewers to the controller and download Viewers from a mobile device.
 - ♦  : An access key is *not* required to upload Viewers to the controller and download Viewers from a mobile device.
 - ♦   : The access key has been changed on the controller's web interface (Dashboard). To change the lock status, click on the icon and type the new access key to proceed.
4. Click **Upload to Controller**.

Note: By default, the project file is uploaded along with your selected Viewers. To only upload the selected Viewers, click **Also upload project file** to disable the function.

Viewing Controller Information

Click  to view the controller's information.

- ♦ **IP Address:** Displays the IP address.
- ♦ **MAC Address:** Displays the MAC address.
- ♦ **License:** Displays the number of licenses available and in use.
 - ♦ **Select License:** Allows you to load a new license file.
 - ♦ **Reset License:** Resets all license(s) in use by mobile devices. This will disconnect all mobile device connections to the controller.
 - ♦ **Firmware Version:** Displays the firmware version.
- ♦ **Capacity:** Displays the amount of space available for uploading Viewers.
- ♦ **Viewers:** Lists the Viewers currently stored on the controller.
 - ♦ **Remove Viewer:** Click the trash can icon to remove the Viewer stored on the controller.
- ♦ **Project:** Lists the project file currently stored in the controller.

Chapter 3

ATEN Database Generator

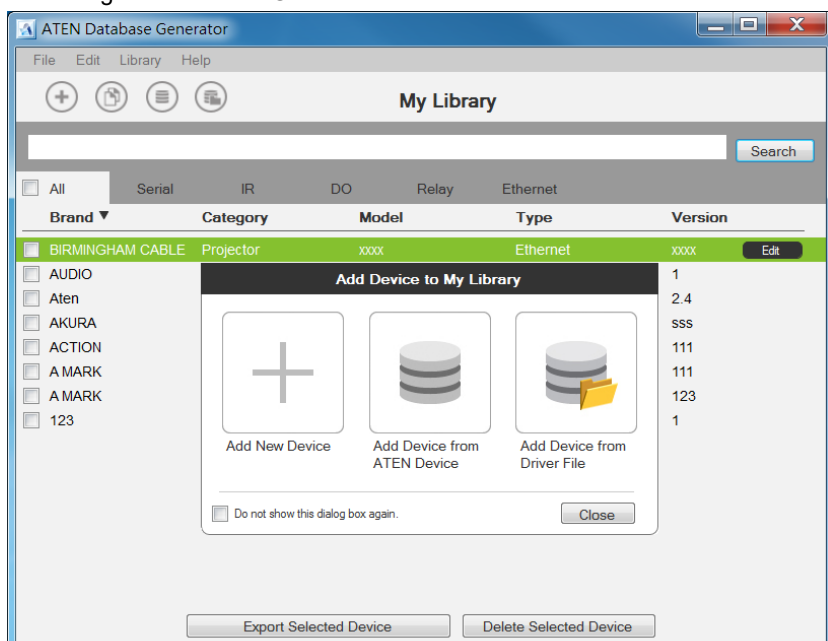
The *ATEN Database Generator* is a tool for creating and customizing device drivers when ATEN Control System does not already contain the drivers for the devices you wish to add to the system.

This chapter provides the following information:

- ♦ *Accessing the Database Generator*
- ♦ *My Library*
- ♦ *Editing / Adding a New Device*
- ♦ *ATEN Device Library*

Accessing the Database Generator

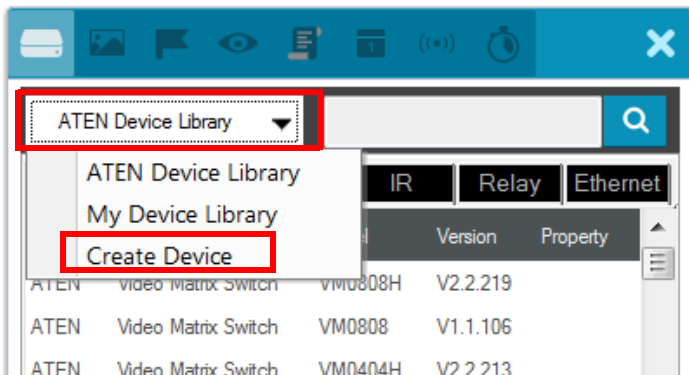
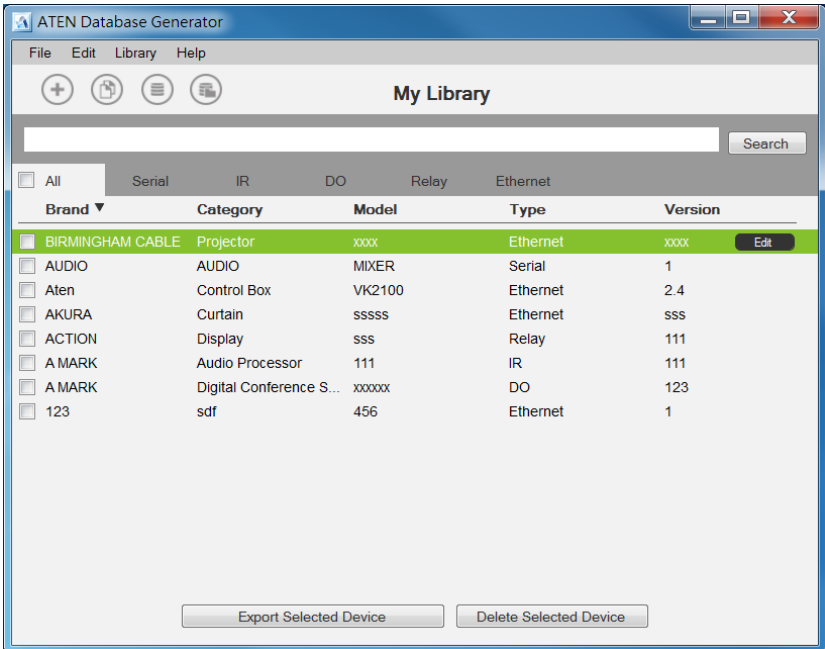
In ATEN Configurator, goto **Tools > Database Generator**. The following window appears with the Add Device to My Library dialog box opened if you are accessing the Database Generator for the first time.



Menu	Description
Add New Device	Configure a custom hardware device to add to My Library.
Add Device from ATEN Device Library	Add devices from the ATEN Device Library to My Library.
Add Device from Driver File	Add devices from a database file (*.vkd) to My Library.
Check Box	Click <i>Do not show this dialog again</i> to prevent the dialog from appearing when the Database Generator is opened. Use the Preferences menu option to bring the dialog window back.
Close	Click the Close button to exit the dialog window.
Add New Device	Configure a custom hardware device to add to My Library.

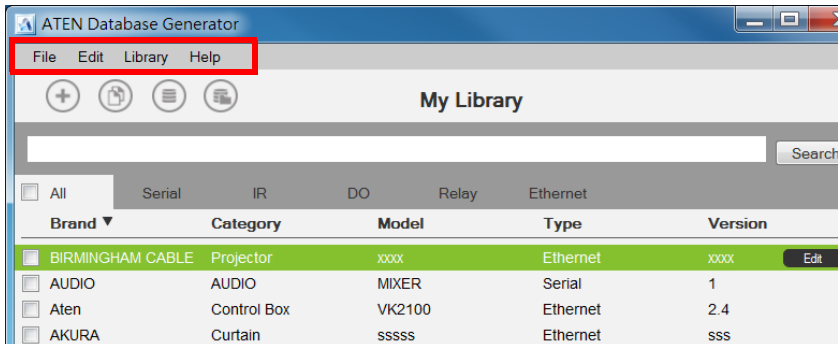
My Library

My Library allows you to create custom hardware devices which can be selected to configure ports on the controller. **My Library** lists all the hardware devices that you have created, added, and edited using the Database Generator. You can create new hardware devices or add existing devices from the ATEN Device Library (page 198). These devices can then be selected from **My Device Library** for use.



Function Tabs

More functions can be accessed from the function tabs toward the top of the My Library window. Refer to the table below for information about each function.

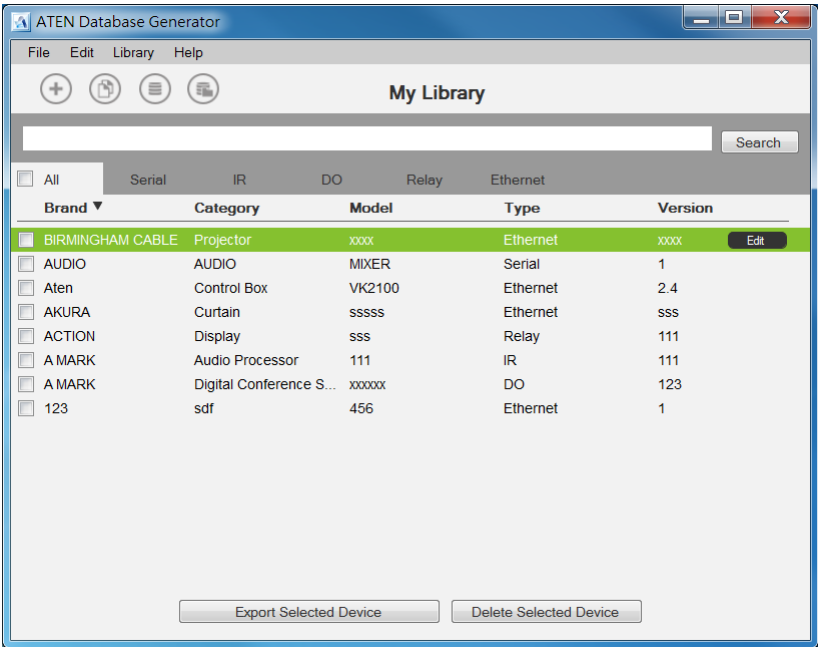


Tab	Description
File	The <i>File</i> menu provides options to: ♦ Add New Device: Configure a custom hardware device to add to Device Library. ♦ Add Device from ATEN Device Library: Add devices from the ATEN Device Library to My Library. ♦ Add Device from Driver File: Add devices from a database file (*.vkd) to My Library. ♦ Export My Library: Saves My Library as a database file (*.vkd) that can be imported later. ♦ Export Selected Device: Saves the selected device(s) as a database file (*.vkd) that can be imported later. ♦ Controller Connection: Searches for a controller to test the connection or run the learning mode for the IR port. ♦ Quit: Exits the program.

Tab	Description
Edit	The <i>Edit</i> menu provides options to: ♦ Delete: Deletes the selected devices from the database. ♦ Duplicate: Makes a copy of the selected device(s) and adds them to the library with the extension “-Copy” ♦ Preferences: Provides options to: ♦ Set the <i>Language</i> ♦ <i>Show Add Device dialog on startup</i> ♦ <i>Show IR Learning tips</i> ♦ Set the <i>IR Learning Timeout</i> - how long to attempt a connection to an IR device before IR learning stops.
Library	Provides a list of the Libraries that you can open to select devices from and edit or add to My Library. The libraries that are listed here appear when you select a database using <i>Add Device from Driver File</i>.
Help	Provides support and software version information.

Controls on the My Library Window

You can add new devices by creating a new device, duplicating an existing device, selecting a device from the ATEN Library or importing a driver file. Use the check boxes to select individual devices or **All** to select the entire list.



Click to add a new custom device to the database.



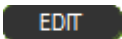
Select a device and click this icon to create a duplicate.



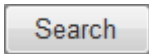
Click to add and edit a device from the ATEN Device Library.



Click to add a device from the driver file.



Select a device and click **Edit** to change the settings.



Key in word strings then click **Search** to find a device.

- ♦ Click **All**, **Serial**, **IR**, **DO**, **Relay** or **Ethernet** to filter the list by type.
- ♦ Click **Brand**, **Category**, **Model**, **Type** or **Version** to sort the devices.
- ♦ Click **Export Selected Device** to save the selected devices.
- ♦ Click **Delete Selected Devices** to remove the selected devices.

Editing / Adding a New Device

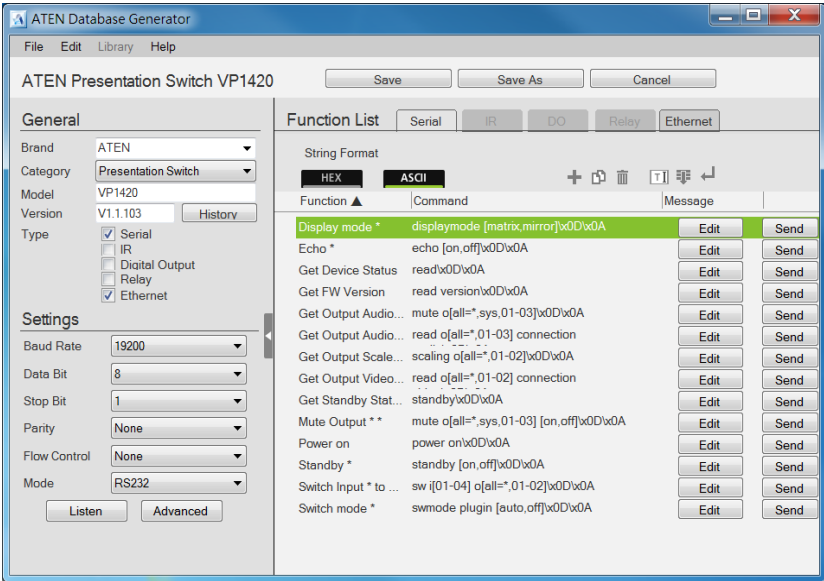
To edit or add a device to My Library, do the following:

1. From the menu select **File > Add New Device**, or select a device from My Library and click **Edit**.
2. Under **General**, use the drop-down menus or type in the *Brand Name*, *Category*, *Model* and *Version*.

Note: The *Category* determines what buttons are auto generated when a Viewer page is created for the device.

3. Use the **History** button to open the *Version History* editor and make notes about the updates being made to the device configuration. You can create and use different versions of the same device and track the changes. The version history can be viewed and different versions selected from the ATEN Configurator, under device **Properties**.
4. Check the hardware type and configure the device. ATEN database generator supports serial, IR, digital output, relay, and Ethernet devices. For more information about configuring each of these device type devices, refer to the following sections.
 - ♦ Serial: See *Serial Device*, page 181.
 - ♦ IR: See *IR Device*, page 185.
 - ♦ Digital output: See *Digital Output Device*, page 187.
 - ♦ Relay: See *Relay Device*, page 188.
 - ♦ Ethernet: See *Ethernet Device*, page 189.

Serial Device



Click to add an Action.



Click to create a duplicate of the Action.



Click to delete the selected action.



Click to enter a string within () which allows the text to be edited from the VK6000 in the *Button Action - Commands* list (see page 89).



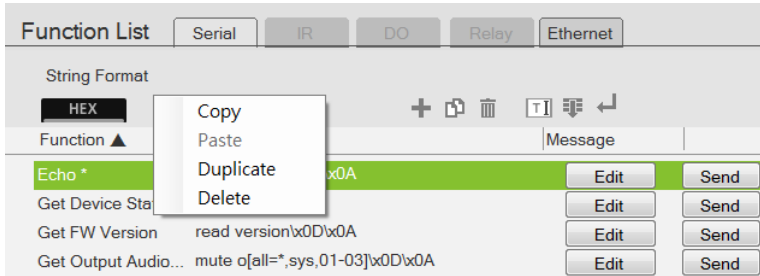
Click to add a drop menu into a Command string, and then enter the number sequence in the brackets []. The **Function** name must include an asterisk (*) for each drop menu in the Command string. The drop-down menu will appear where the (*) is entered in the Function name.

Note: To allow reserved characters to be part of the command, type a backslash “\” in the command column, followed by the special character.



Click to add an *Enter* into the Command string.

Right-click one or more serial commands to copy and paste them as Ethernet commands of all protocols (except HTTP/HTTPS):



- ♦ **Settings** – Use the drop-down menus to set the: *Baud Rate*, *Data Bit*, *Stop Bit*, *Parity*, *Flow Control* and *Mode* settings.
- ♦ **Listen** – Use this function to create a list of device parameters that you want the controller to monitor by receiving notifications on setting or status changes of the specified parameters.

Note: To set up queries for the status of a device parameter, go to the Function List and click **+** to add the querying action as a command.

♦ **Advanced**

- ♦ **Delay Interval** – Sets a time delay for each command before they are sent to the device.
- ♦ **Feedback Timeout** – Sets the maximum interval that the controller allows in between parts of a feedback message. If the controller has not received any feedback for longer than the specified Feedback Timeout, the controller identifies the last bit of the received information as the end of a feedback message.
- ♦ **Receive Duration** – Sets the allowed duration of time for the serial device to receive a complete message from the controller.
- ♦ **Checksum Type** – To have the checksum automatically calculated and filled in by the controller, select **Modbus** for this setting.
- ♦ **Keep Connection Alive** – Specify an interval that the controller waits before sending the specified command to test if the connection to the serial device is up or down.

- ♦ **Function List** – Use this section to configure the device functions by adding actions to the list.
 - ♦ **String Format** – Use the buttons to select HEX or ASCII. To use HEX strings with ASCII one, select ASCII and type \x before typing the HEX strings.

Note: HEX strings are also supported under the ASCII format.

- ♦ **Function** – Lists the actions created for a device. A Function name must include an asterisk (*) if you are adding a drop menu to the Command string. Double-click to edit the function name.
- ♦ **Command** – Shows the command string created for the action. Double-click to edit the string.
- ♦ **Message** – The Message column is used to create and store feedback and/or queries for the corresponding command.
 - ♦ For more information about adding feedback, see *Testing Commands*, page 194.
 - ♦ For more information about creating queries, see *Configuring Queries*, page 196.
- ♦ Click **Send** to connect to a controller and test the typed command.

Please select a controller.

Intelligent Search

Intelligent Search

Searches for all controllers on the LAN

Search by IP Address

	Controller ID	Model Name	IP Address	MAC Address	Firmware
☐	ID-1	VK2100	10.3.41.119	00:10:74:b2:01:74	2.7.262.002

Serial

OK
Cancel

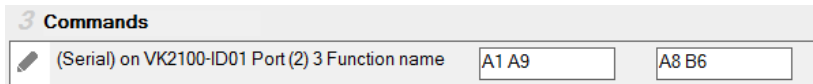
- Click to select a controller from the list. Use the **Refresh** button to refresh the list. To browse for controllers in the LAN, click the **Intelligent Search** button or type the IP address of the controller.
- Click **OK** to proceed to test the command. For details, see *Testing Commands*, page 194.

Text Command Tools

The following formats allow you to enter command strings with text that provide special features. These formats work in Serial and Ethernet commands.

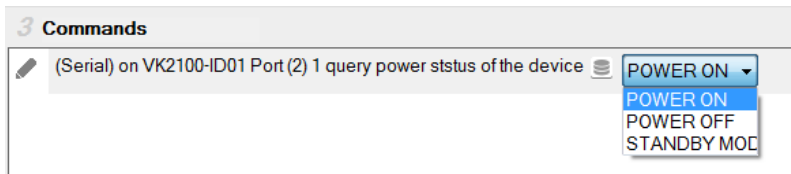
- ()** entering text in **()** allows the command to be edited in the VK6000.

Example: (A1 A9) (A8 B6) – this command string will provide two editable text boxes from the VK6000 in the *Button Action - Commands* list which allow you to change the command string:



- =** using the equals sign before a text command allows you to type in words which will show up in a drop-down menu to describe the command, rather than show the text command itself.

Example: [Power On=0A,Power Off=0B,Standby Mode=0C] – this command string will provide a drop-down menu with three choices using the text before the equal signs to describe each command – from the VK6000 in the *Button Action - Commands* list:



- Quotation marks (" ") allow three symbols (, = @) to be added to a command that uses the equal sign as described in the example above. Three symbols not allowed within the quotation marks include (" " () []). Quotation marks can be used to the left of = in a **HEX** command; on either side of = in an **ASCII** command; and anywhere in an **Ethernet** command.

HEX Example: ["Power=On"=0A,"POWER=Off"=0B]

ASCII Example: ["Power=On"=pwn,"POWER=Off"=pwf]

In the HEX example, "**Power=On**" allows the equal sign to be inserted before **=0A**. If the quotes are removed, the command **Power=On=0A** would fail as an *Invalid String*.

IR Device

The screenshot shows the ATEN Database Generator application window. The title bar reads "ATEN Database Generator". The menu bar includes "File", "Edit", "Library", and "Help". The main window is titled "Audio Conferencing" and has "Save" and "Cancel" buttons. It is divided into two main panes. The left pane contains a "General" section with fields for "Brand", "Category" (set to "Audio Conferencing"), "Model", and "Version", along with a "History" button. Below this is a "Type" section with checkboxes for "Serial", "IR" (checked), "Digital Output", "Relay", and "Ethernet". The "Settings" section at the bottom has a "Repeat" dropdown set to "2 Times (Default)" and an "Advanced" button. The right pane is titled "Function List" and has tabs for "Serial", "IR" (selected), "DO", "Relay", and "Ethernet". It features a "Quick Mode" button, a "+" icon, a duplicate icon, and a trash icon. Below these is a table with columns "Function", "IR / Pronto Code", "Status", and two buttons: "Learn" and "Test".

Function	IR / Pronto Code	Status	Learn	Test
Function name 1	00 00 00 6C 00 00 0...	Learned	Learn	Test
Function name 2	IR		Learn	Test



Click to add an Action.



Click to create a duplicate of the Action

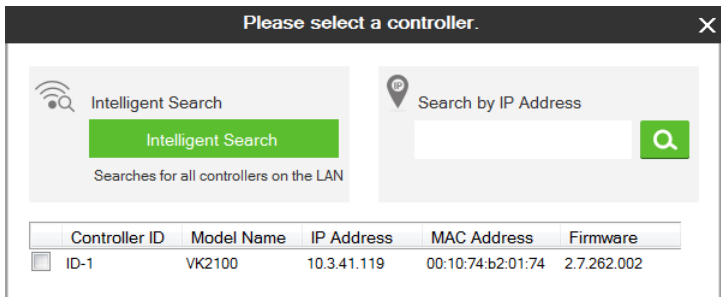


Click to delete the selected action.

- ◆ **Settings** – Use the drop-down menu to set the **Repeat** setting (number of times a signal is sent): *1 Time*, *2 Times* or *3 Times (Default)*.
- ◆ **Advanced**
 - ◆ **Delay Interval** – Sets a time delay for each command before they are sent to the IR device.
 - ◆ **Receive Duration** – Sets the allowed duration of time for the IR device to receive a complete message from the controller.

- ♦ **Function List** – Use this section to configure the IR functions by adding actions to the list.
 - ♦ Click  to add an action. In the pop-up dialog box:
 - ♦ **Auto Learn:** Select this option to add the action through learning,
 - ♦ **Manual Input:** Select this option to add the action using Pronto hex codes. Double-click the command to enter the Pronto code for the device.

Note: To obtain Pronto codes for a control system managed, third-party device, search Internet forums or the manufacturer's product web pages.
 - ♦ **Quick Mode** – Click to run Learning Mode for all IR actions in the Function List. When the Quick Mode window opens, click Start, a pop-up window appears to select a controller. Check a box to select a controller and click Select. Click Start a second time to run Quick Mode using the *Learn* instructions below.
 - ♦ **Function** – Lists the actions created for a device. Double-click to edit the Function the name.
 - ♦ **Status** – Reports the status (**Tested**, **Failed**, **Learned**) of the Learn and Test buttons.
 - ♦ **Learn** – Use to transfer commands from an IR remote to the Control Box. Click **Learn**. The Select Controller window appears.
 - ♦ Click to select a controller from the list. Use the **Refresh** button to refresh the list. To browse for controllers in the LAN, click the **Intelligent Search** button or type the IP address of the controller.



- ♦ Click **Learn** a second time to start learning mode. When the IR Learn LED flashes green, point the IR remote at the Control Box's front panel IR Receiver and push a button on the remote. Press

the button on the remote just as you would when using it with the hardware device. If the device responds to a *long hold* or *quick tap* of the remote's button then you must press the button in the same manor (long hold or quick tap) when it using for Learning mode.

The Control Box will beep and the Learn LED will light solid (then turn off) when IR learning is successful. The LED also turns off if Learning mode times out.

- ♦ **Test** – Use to test if commands are sent successfully to the Control Box and hardware device.
 - ♦ Click **Test**, a pop-up window appears to select a controller and the IR port. Check a box to choose a controller and use the drop-down menu to select the IR port and then click **Select**.
 - ♦ Click **Test** a second time to test if the IR data transmits successfully to the Control Box. Check the hardware device to confirm that it responded appropriately.
- ♦ The **Status** column reports the Learn and Test results.

Digital Output Device

The screenshot shows the 'AUDIO SOURCE Projector' application window. On the left, the 'General' tab is selected, displaying configuration options for the device. The 'Brand' is set to 'AUDIO SOURCE' and the 'Category' is 'Projector'. Under the 'Type' section, 'Digital Output' is selected with a checked checkbox. The 'Function List' tab on the right shows a table with two columns: 'Function' and 'Command'. The first entry is 'Function name 1' with the command 'Open'. Above the table, there are buttons for '+', 'x', and 'Save'. Below the table, there are buttons for 'Serial', 'IR', 'DO', 'Relay', and 'Ethernet'.



Click to add an Action.



Click to create a duplicate of the Action

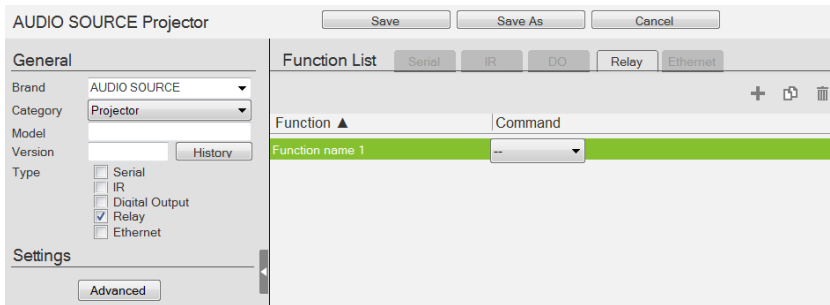


Click to delete the selected Action.

- ♦ **Advanced** – Click to use the *Delay Interval* drop-down menu to set a timed delay for each command before it is sent to the device.

- ♦ **Function List** – Use this section to configure the Digital Output device functions by adding actions to the list.
 - ♦ **Function** – Lists the actions created for a device. Double-click to edit the Function name.
 - ♦ **Command** – Shows the command selected for the action. Click the drop-down menu to select an action (Open, Close, Toggle, Pulse).

Relay Device



Click to add an Action.



Click to create a duplicate of the Action



Click to delete the selected Action.

- ♦ **Advanced** – Click to use the *Delay Interval* drop-down menu to set a timed delay for each command before it is sent to the device.
- ♦ **Function List** – Use this section to configure the Relay device functions by adding actions to the list.
 - ♦ **Function** – Lists the actions created for a device. Double-click to edit the Function name.
 - ♦ **Command** – Shows the command selected for the action. Click the drop-down menu to select an action (Open, Close, Toggle, Pulse).

Ethernet Device

General

BrandAUDIO SOURCE

CategoryProjector

Model

Version

History

Type

☐ Serial

☐ IR

☐ Digital Output

☐ Relay

☒ Ethernet

Settings

ProtocolTELNET

Port23

Advanced

Function List

SerialIRDORelayEthernet

+

Function ▲CommandFeedback

Function name 1Send



Click to add an Action.



Click to create a duplicate of the Action.



Click to delete the selected action.



Click to enter a string within () which allows the text to be edited from the VK6000 in the *Button Action - Commands* list (see page 89).



Click to add a drop menu into a Command string, then enter the number sequence in the brackets []. The **Function** name must include an asterisk (*) for each drop menu in the Command string.

Note: To allow reserved characters to be part of the command, type a backslash “\” in the command column, followed by the special character.



Click to add an *Enter* into the Command string.

Right-click one or more Ethernet commands (except HTTP/HTTPS) to copy and paste them as serial commands:

Function List

SerialIRDORelayEthernet

+

Function ▲CommandFeedback

Trun on OutputPort*sw a[01-04] on\x0D\x0A

Copy

Paste

Duplicate

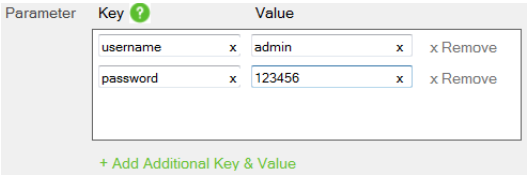
Delete

For special command string tools, see *Text Command Tools*, page 184.

◆ **Settings**

- ◆ **Protocol** – Click the drop-down list to select a protocol for the device
- ◆ **Port** – Type the port number for the device.
- ◆ **Advanced** – Click to configure the following settings. The supported settings may vary depending on the device protocol and authentication type.

Delay Interval	Sets a time delay for each command before they are sent to the device.
Delay Time after Login	Sets a time interval that the controller waits to request for login credentials of a device after establishing connection with the device.
Receive Duration	Sets the allowed duration of time for the Ethernet device to receive a complete message from the controller.
Send command after successful connection	Enter a <i>First</i> and <i>Second Command</i> to send to the device after a successful connection has been established.
Auth Type	Sets the authentication type for the device.
Timeout	Specifies the maximum time that the device allows for receiving each feedback message from the device before timing out.
URI path	Type the part of the WebSocket URI that follows its communication port. For example, if the URI is wss://<host>:31416/Dicentis/API , type /Dicentis/API in this field.
Sub-protocol	Type the subprotocol for the Ethernet device. This information shall be available in the device's reference or user manual.
ExHeader	Type the required data for handshake header.
Extension	Type the required data for the Sec-WebSocket-Extensions header field.
Login Command	Sets the command for logging in to the device.

Parameter	Sets the parameters (keys) of the device that are required for the controller to connect to the device. For example, the device username and password are required when connecting to the device, and the valid values are admin and 123456 respectively. 
Keep Connection Alive	Specify an interval during which the controller sends the specified command to make sure the it is connected to the Ethernet device.
Automatically reconnect if no return message is received	Check this box if you want to continue reconnection attempts when no return message is received from the device.
WSS	Select to encrypt the WebSocket connection.
Use Default	Click this button to restore to default settings.

- ♦ **Function List** – Use this section to configure the device functions by adding actions to the list.
 - ♦ **String Format** – Use the buttons to select *HEX* or *ASCII*. (TCP only)
 - ♦ **Function** – Lists the actions created for a device. A Function name must include an asterisk (*) for each drop menu you add to the Command string. Double-click to edit the function name. The drop-down menu will appear where the (*) is entered in the Function name
 - ♦ **Command** – Shows the command string created for the action.
 - ♦ To edit a command for a Telnet, PJLINK, ONVIF, or TCP compliant device, double-click the **Command** field (green area in the interface).
 - ♦ To edit a command for an HTTP or HTTPS compliant device, click the **Edit** button. The Edit HTTP(S) Command window appears. To write commands in JSON format, enable the **JSON format** checkbox.

Note: When **JSON format** is enabled, the drop menu function (using square brackets) will be disabled.

The screenshot shows the 'Edit HTTP(S) Command' dialog box. It features a title bar with a close button. Below the title bar, there are two dropdown menus: 'Type' (set to HTTP) and 'Method' (set to GET). To the right of these are three icons: a text icon, a JSON icon, and a refresh icon. The main area is divided into four sections: 'URI', 'Parameter', 'Header', and 'Body'. Each section has a 'Command' label and a 'Clear' button. The 'Body' section also includes a checkbox for 'JSON format'. At the bottom right are 'Save' and 'Cancel' buttons.

- ♦ **Feedback** – Stores return messages generated by testing the command strings. Double-click to manually add or remove stored messages. This function is not applicable for ONVIF devices.
- ♦ **Send** – Click this button to test the command for the function. The return messages can be saved to Feedback.

This screen appears when **Send** is clicked. Select a controller for the device to connect and configure the fields such as device IP address.

Please select a controller.

Intelligent Search
Intelligent Search
Searches for all controllers on the LAN

Search by IP Address
[Search Input Field] [Search Icon]

	Controller ID	Model Name	IP Address	MAC Address	Firmware
☐	ID-1	VK2100	10.3.41.119	00:10:74:b2:01:74	2.7.262.002
☐	ID-3	VK2100	10.3.41.97	00:10:74:b2:01:99	2.6.253.002

HTTP(S)
IP Address [Input Field]

Encryption **None** [Dropdown Arrow]

OK **Cancel**

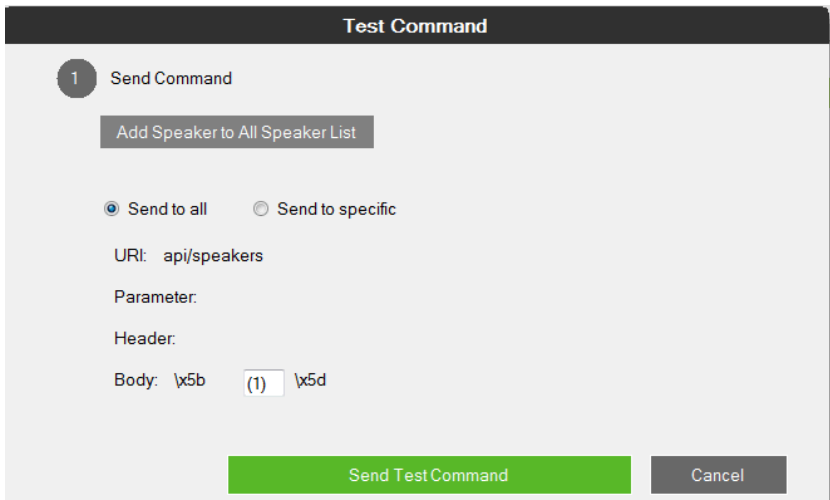
Intelligent Search	Click to locate controller without specifying an IP address. This option only searches for controllers on the same local area network. For controllers across a network device, such as a router or switch, you must specify the IP address.
Search by IP address	Enter the IP address and click Search to locate a controller.
Controller ID	Use the check box to select the Controller, fill in the IP Address, Username and/or Password and then click OK . Next use the instructions below this table.
Refresh	Click this button to refresh the Controller ID list.
IP Address	Type the IP address of the device.
Username	Type the device's username.
Password	Type the device's password to grant access right to the controller.

Receive message for	Specifies the maximum allowed time that the device receives messages from the selected controller.
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Note: The username and password are not required for UDP and TCP devices, and the username is not required for PJLINK devices.

Testing Commands

After selecting a controller for the device and configure the required settings (if any) in the select controller window, click **OK** to proceed to test the typed command. The Test Command window appears.



Test Command

1 Send Command

Add Speaker to All Speaker List

☒ Send to all ☐ Send to specific

URI: api/speakers

Parameter:

Header:

Body: \x5b (1) \x5d

Send Test Command Cancel

Select which device to send command to by choosing **Send to all** or **Send to specific** and then click **Send Test Command**. This window appears.

Test Command

2 Feedback message

Function	Feedback
Add Speaker to All Speaker List	Waiting

Add Pause

Saved Feedback Message

Add feedback...

Save & Exit Cancel

The test results will appear in the yellow area of the window and the feedback messages listed in the Feedback column.

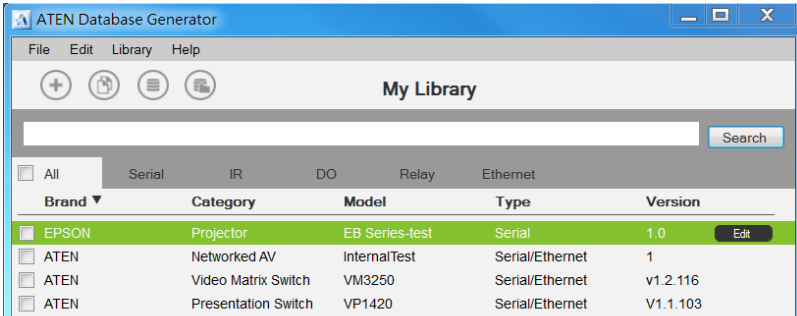
- ♦ **Add** – Click to save a feedback message in the Saved Feedback message window.
- ♦ **Pause / Continue** – Click to pause sending/receiving the command/return message.
- ♦ **Save & Exit** – Save the feedback messages to the list and close the window.

Configuring Queries

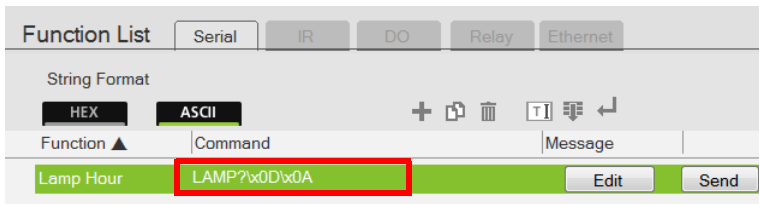
You can set up queries to actively monitor parameters of a serial or Ethernet device and store the obtained value into a variable for reuse in a control system project.

Take the example of querying the cumulative number of hours that a projector lamp has been used to be able to estimate the remaining lifespan and plan for replacement in advance.

1. In Database Generator, click **Edit** to enter the settings page for the projector.

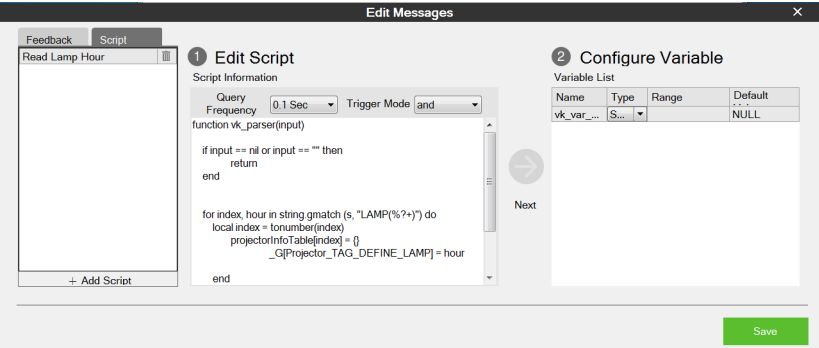


2. Add a command by clicking **+** and double-click the command column to type the command of requesting for the cumulative lamp usage (hour). Consult the user manual for the device to find out the operation command.



3. Set up a variable to store the queried value.
 - a) In the Message column, click **Edit**. The Edit Messages window appears.
 - b) Click the **Script** tab and click **+Add Script** and name the script.

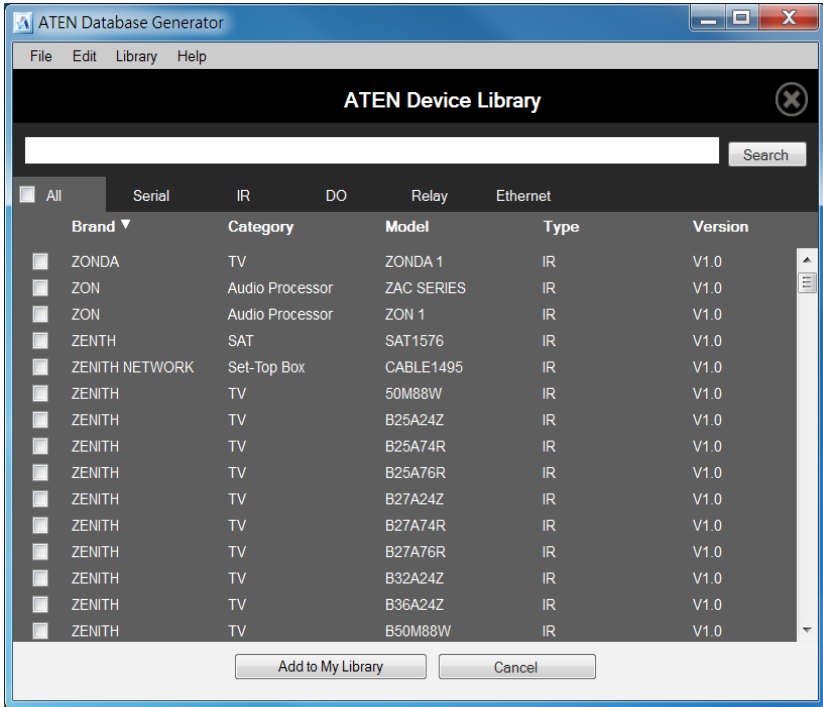
c) Write up a script to create a variable that stores the requested value, in this case, the cumulative lamp hour.



d) Click **Save**.

ATEN Device Library

The *ATEN Device Library* can be accessed from the project bar and provides the complete list of hardware devices available in the database. The You can add any device in the ATEN Library to My Library. Once a device is added to My Library, the device settings can be edited as needed.



- ◆ Use the check boxes to select devices to add to My Library. Check **All** to select all devices in the list.
- ◆ Key in word strings then click **Search** to find a device.
- ◆ Click **All**, **Serial**, **DO**, **IR**, **Relay** or **Ethernet** to filter the device list by type.
- ◆ Click **Brand**, **Category**, **Model**, **Type** or **Version** to sort the devices.
- ◆ Click **Add to My Library** to add the selected devices to My Library.
- ◆ Click **Cancel** to return to My Library.

Appendix

Technical Support

International

- ♦ For online technical support – including troubleshooting, documentation, and software updates: **<http://eservice.aten.com>**
- ♦ For telephone support, see *Telephone Support*, page ii

North America

Email Support		support@aten-usa.com
Online Technical Support	Troubleshooting Documentation Software Updates	https://eservice.aten.com
Telephone Support		1-888-999-ATEN ext 4988

When you contact us, please have the following information ready beforehand:

- ♦ Product model number, serial number, and date of purchase.
- ♦ Your computer configuration, including operating system, revision level, expansion cards, and software.
- ♦ Any error messages displayed at the time the error occurred.
- ♦ The sequence of operations that led up to the error.
- ♦ Any other information you feel may be of help.

Control System Project Specifications

Project Elements		Maximum Number
Managed IP devices	VK0100 / VK0200	8
	VK1100A / VK2100A	25
	VK1200 / VK2200	64
Rooms		16
Viewers		32
Macros		1024
Variables		1024
monitoring event	VK0100 / VK0200	10
	VK1100A / VK2100A	20
	VK1200 / VK2200	40
scheduling event	VK1100A / VK2100A	60
	VK1200 / VK2200	
Viewer pages		160 per Viewer
control objects		320 per page
commands		128 per button

Datapoint Types (DPTs)

ATEN Control System supports the following KNX Datapoint Types (DPT):

DPT ID	DPT Format	DPT Name
1.001	B ₁	DPT_Switch
1.002	B ₁	DPT_Bool
1.003	B ₁	DPT_Enable
1.004	B ₁	DPT_Ramp
1.005	B ₁	DPT_Alarm
1.006	B ₁	DPT_BinaryValue
1.007	B ₁	DPT_Step
1.008	B ₁	DPT_UpDown
1.009	B ₁	DPT_OpenClose
1.010	B ₁	DPT_Start
1.011	B ₁	DPT_State
1.012	B ₁	DPT_Invert
1.013	B ₁	DPT_DimSendStyle
1.014	B ₁	DPT_InputSource
1.015	B ₁	DPT_Reset
1.016	B ₁	DPT_Ack
1.017	B ₁	DPT_Trigger
1.018	B ₁	DPT_Occupancy
1.019	B ₁	DPT_Window_Door
1.021	B ₁	DPT_LogicalFunction
1.022	B ₁	DPT_Scene_AB
1.023	B ₁	DPT_ShutterBlinds_Mode
1.100	B ₁	DPT_Heat/Cool
2.001	B ₂	DPT_Switch_Control
2.002	B ₂	DPT_Bool_Control
2.003	B ₂	DPT_Enable_Control
2.004	B ₂	DPT_Ramp_Control

DPT ID	DPT Format	DPT Name
2.005	B ₂	DPT_Alarm_Control
2.006	B ₂	DPT_BinaryValue_Control
2.007	B ₂	DPT_Step_Control
2.008	B ₂	DPT_Direction1_Control
2.009	B ₂	DPT_Direction2_Control
2.010	B ₂	DPT_Start_Control
2.011	B ₂	DPT_State_Control
2.012	B ₂	DPT_Invert_Control
3.007	B ₁ U ₃	DPT_Control_Dimming
3.008	B ₁ U ₃	DPT_Control_Blinds
4.001	A ₈	DPT_ASCII
4.002	A ₈	DPT_Char_8859_1
5.001	U ₈	DPT_Scaling
5.003	U ₈	DPT_Angle
5.004	U ₈	DPT_Percent_U8
5.005	U ₈	DPT_DecimalFactor
5.006	U ₈	DPT_Tariff
5.010	U ₈	DPT_Value_1_Ucount
6.001	V ₈	DPT_Percent_V8
6.010	V ₈	DPT_Value_1_Count
6.020	B ₅ N ₃	DPT_Status_Mode3
7.013	U ₁₆	DPT_Brightness
8.011	V ₁₆	DPT_Rotation_Angle
9.001	F ₁₆	DPT_Value_Temp
18.001	B ₁ R ₁ U ₆	DPT_SceneControl
20.100	N ₈	DPT_FuelType
20.101	N ₈	DPT_BurnerType
20.102	N ₈	DPT_HVACMode
20.103	N ₈	DPT_DHWMMode
20.104	N ₈	DPT_LoadPriority

DPT ID	DPT Format	DPT Name
20.105	N ₈	DPT_HVACContrMode
20.106	N ₈	DPT_HVACEmergMode
20.107	N ₈	DPT_ChangeoverMode
20.108	N ₈	DPT_ValveMode
20.109	N ₈	DPT_DamperMode
20.110	N ₈	DPT_HeaterMode
20.111	N ₈	DPT_FanMode
20.112	N ₈	DPT_MasterSlaveMode
20.113	N ₈	DPT_StatusRoomSetp
23.001	N ₂	DPT_OnOff_Action
23.002	N ₂	DPT_Alarm_Reaction
23.003	N ₂	DPT_UpDown_Action
23.102	N ₂	DPT_HVAC_PB_Action