CYP

CDPS-CS9
Universal Device Controller

Operation Manual

HDMI®

HIGH-DEFINITION MULTIMEDIA INTERFACE

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SAFETY PRECAUTIONS

Please read all instructions before attempting to unpack, install or operate this equipment and before connecting the power supply. Please keep the following in mind as you unpack and install this equipment:

- Always follow basic safety precautions to reduce the risk of fire, electrical shock and injury to persons.
- To prevent fire or shock hazard, do not expose the unit to rain, moisture or install this product near water.
- Never spill liquid of any kind on or into this product.
- Never push an object of any kind into this product through any openings or empty slots in the unit, as you may damage parts inside the unit.
- Do not attach the power supply cabling to building surfaces.
- Use only the supplied power supply unit (PSU). Do not use the PSU if it is damaged.
- Do not allow anything to rest on the power cabling or allow any weight to be placed upon it or any person walk on it.
- To protect the unit from overheating, do not block any vents or openings in the unit housing that provide ventilation and allow for sufficient space for air to circulate around the unit.
- Please completely disconnect the power when the unit is not in use to avoid wasting electricity.

VERSION HISTORY

REV.	DATE	SUMMARY OF CHANGE
RDV1	2021/03/15	Preliminary release
RDV2	2021/05/24	Revised to preliminary phase 2 feature set
RDV3	2021/12/27	Finalized Phase 2 feature set
RDV4	2022/07/12	Added Phase 2.2 commands & new screenshots
RDV5	2023/05/23	Added web login timeout settings

CONTENTS

1. INTRODUCTION

The Universal Device Controller is a powerful and flexible solution for controlling a wide range of controllable equipment within same local network. With this unit connected to the local network, natively supported devices can be automatically detected, monitored, and controlled via a convenient unified WebGUI interface with the ability to manually add control functionality for 3rd party devices as well. Devices can be assigned, as desired, across multiple rooms with individually defined usage scenarios, with automation events, in each room. Additionally, this unit supports individual scenario configuration scripts and provides a comprehensive, visually structured, automation event editor to assist installers in building their imagined event space. The powerful automation event editor supports scheduling, physical trigger activation, device monitoring and direct device polling to control the actions of devices. It's the ideal central control unit for conference rooms or large event venues!

The unit's WebGUI can be accessed remotely via a standard web browser, or it can be controlled locally by connecting the unit to an HDMI display with a USB mouse and keyboard. Naturally, it can also be connected to an HDMI touchscreen for a sophisticated and user friendly control option. For when a simpler, and more compact, direct control option is needed, a trigger input interface has been provided. This allow the easy addition of a remote control keypad, or other trigger-supporting product, which can be installed within a podium or within a table in a conference room or classroom. Standard control is available via WebGUI (remote or local), RS-232, Telnet, and triggers.

2. APPLICATIONS

- Meeting room display and control
- Security surveillance and control
- Commercial advertising, display and control
- Home theaters with smart home controls
- Retail sales and demonstration

3. PACKAGE CONTENTS

- 1× Universal Device Controller
- 1× 5V/2.6A DC Power Adapter
- 1× Terminal Block (3-pin)
- 3× Terminal Block (5-pin)
- 1× Shockproof Feet (Set of 4)
- 1× Operation Manual

4. SYSTEM REQUIREMENTS

- An active network connection from a switch or router for control of compatible devices.
- HDMI receiving equipment such as an HDTV or monitor for direct local control and monitoring.

5. FEATURES

- HDMI output displays the WebGUI and system status
- Enables the management, configuration, and control of all detected compatible devices through a single WebGUI
- WebGUI provides a detailed dashboard and control interface for controlling and monitoring compatible devices
- Automatic discovery of compatible devices within the local network
- Supports multiple simultaneous customized room configurations with multiple user definable scenarios per room for easy large venue device management
- Supports creation of highly flexible, per-scenario, device automation tasks
- Supports the use of a USB mouse and keyboard to locally control the WebGUI (Optional)
- Can be powered by Ethernet switches supporting the IEEE 802.3af 2003 PoE standard (Optional)
- Trigger Control Keypad support for easy, single-button, automation task activation (Optional)
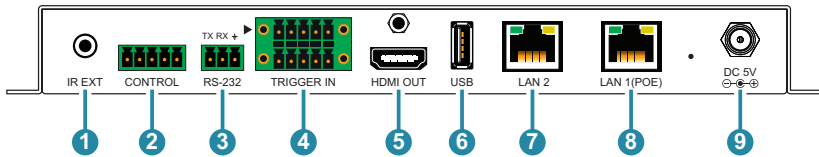- Standard control is available via WebGUI (remote or local), RS-232, and Telnet

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6. OPERATION CONTROLS AND FUNCTIONS

6.1 Front Panel

POWER   IR

Devic Contro r

1 **2**
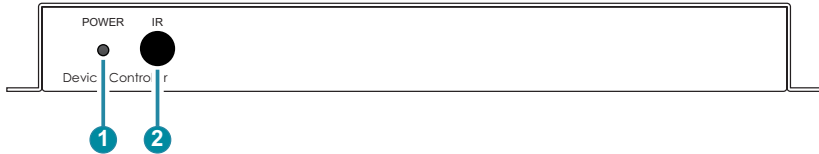
1 **POWER LED:** This LED will illuminate to indicate the unit is on and receiving power.

2 **IR Window:** This functionality is reserved.

6.2 Rear Panel

TX RX

IR EXT   CONTROL   RS-232   TRIGGER IN   HDMI OUT   USB   LAN 2   LAN 1(POE)   DC 5V

1   **2**   **3**   **4**   **5**   **6**   **7**   **8**   **9**

1 **IR EXT Port:** This functionality is reserved.

2 **CONTROL 5-pin Terminal Block:** Connect to a PC, laptop or other serial control device with a 5-pin adapter cable to control another device via RS-232/422/485.

3 **RS-232 3-pin Terminal Block:** Connect to a PC, laptop or other serial control device with a 3-pin adapter cable to control the unit via RS-232.

4 **TRIGGER IN 10-pin Terminal Block:** Connect to the Trigger Control Keypad (Optional) or any device with trigger switch functionality such as window security alarms, motion detectors, door switches, etc. Each of the 8 trigger inputs will activate the associated automation task when triggered.

Note: A minimum of 5V DC is required to activate each trigger.

5 **HDMI OUT Port:** Connect to a standard HDMI display to view the unit's current status information and access the WebGUI directly without a PC.

Note: HDMI output is locked to a resolution of 1080p@60Hz.

6 **USB Port:** Connect a USB mouse and keyboard to control the unit's WebGUI displayed on the HDMI output port.

Note: Specialized USB control devices, such as a touch panel, should be connected before the unit is powered on.

7 **LAN 2 Port:** Connect directly, or through a network switch, to your PC/laptop to control the unit via WebGUI/Telnet.

Note: Both LAN 1 & LAN 2 can be used to control this unit, however only LAN 1 supports the remote device discovery and control functionality.

8 **LAN 1(POE) Port:** This port is used to connect to the network devices to be controlled. Connect to the controlled device's private network, either directly or through their dedicated network switch, to enable detection and control over those units.

Note: If the connected network switch supports the IEEE 802.3af-2003 PoE (Power over Ethernet) standard, this unit can optionally be powered directly via this Ethernet port.

9 **DC 5V Port:** Plug the 5V DC power adapter into the unit and connect it to an AC wall outlet for power.
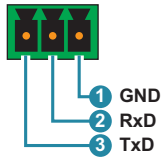
Note: Optional, not required if the unit is powered via PoE.

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6.3 RS-232 Pinout and Defaults

Serial Port Default Settings	
Baud Rate	19200
Data Bits	8
Parity Bits	None
Stop Bits	1
Flow Control	None

RS-232 Port

3-pin Terminal Block

1 GND
2 RxD
3 TxD

Control port

5-pin Terminal Block

1 GND
2 TxD
3 RTS
4 CTS
5 RxD
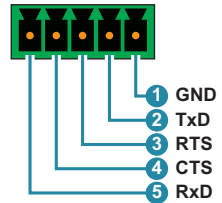
6.4 WebGUI Control

• **Device Discovery**

Please obtain the "Device Discovery" software from your authorized dealer and save it in a directory where you can easily find it.

Connect the unit and your PC/Laptop to the same active network and execute the "Device Discovery" software. Click on "Find Devices on Internet" and a list of devices connected to the local network will show up indicating their current IP address.

Note: This unit defaults to DHCP mode. The current IP address can be verified using the HDMI output or RS-232 if the Device Discovery software is not available.
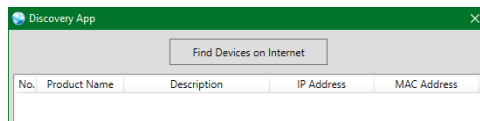
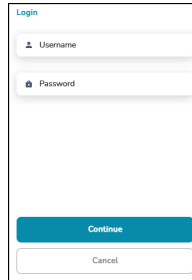By clicking on one of the listed devices you will be presented with the network details of that particular device.
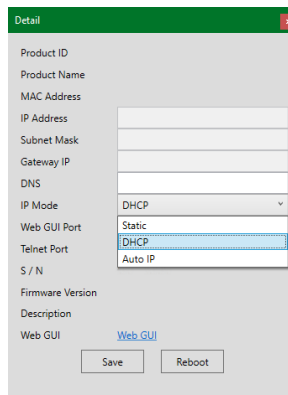
1) **IP Mode:** If you choose, you can alter the static IP network settings for the device, or switch the unit into DHCP mode to automatically obtain proper network settings from a local DHCP server. To switch to DHCP mode, please select DHCP from the IP mode drop-down, then click "Save" followed by "Reboot".

2) **WebGUI Hotkey:** Once you are satisfied with the network settings, you may use them to connect via Telnet or WebGUI. The network information window provides a convenient link to launch the WebGUI directly.

• WebGUI Overview

When connecting to the WebGUI's address in a web browser for the first time you will be presented with a mostly blank screen with a login icon (👤) in the upper right corner. If the unit has already had scenarios for the last viewed room defined, their buttons will be displayed on this screen as well and they can be activated without logging in. Click on the login icon (👤), enter the appropriate user name/password, then click "Continue" to log in.

Note: The default user name and password is "admin".

After logging in, the upper right corner will now display 4 navigation icons. Clicking on the "Dashboard" icon (🔵) will take you to the main dashboard page where setup and configuration of the unit is performed. Clicking on the "Home" icon (🏠) or the unit's logo at the top of the page will return you to this home page. Clicking on the "Language" icon (🌐) allows you to change the interface display language between English and Traditional Chinese. Clicking on the red "Logout" icon (🔴) will log out the current user.

Note: When not logged in, only pre-defined scenarios for the last viewed room are available.
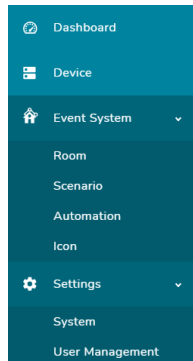
After loading the main dashboard page, the left side of the browser will display a compressed version of the above menu tabs where all functions of the unit are controllable. Click on the "Hamburger" icon (≡) to expand the list. The individual functions will be introduced in the following sections.

6.4.1 Home Page

This page provides immediate easy access to any pre-defined scenarios, commands, and automation functions for the currently selected room, as well as providing a way to change the currently controlled room. Selecting a new scenario will activate any associated scripts or automation commands.
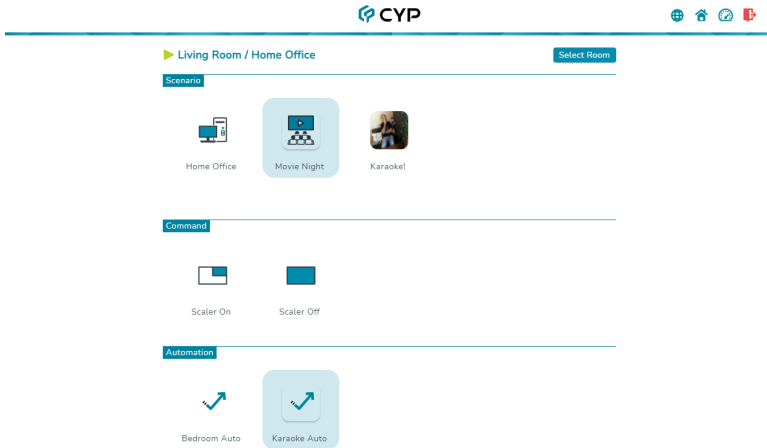
Note: The Home page's availability prior to logging in, as well as the features and functions presented within it, are defined by the User Management settings which are covered in detail within section 6.4.5.2. The "Select Room" option is only available when a user with room edit access has logged in.

1) **Select Room:** To select a room to control, click the "Select Room" link in the upper-right corner of the page. This will display a list of the currently defined rooms. After selecting a room, the Home page will display the scenarios configured within with a text label at the top that identifies the current room and selected scenario, if any.

Note: For additional information about room configurations, please see section 6.4.4.1.

2) **Select Scenario:** Click on the icon of the preferred scenario to select it and activate all associated scripts and automation. After selection, the scenario will become highlighted. Scripts are a sequence of functions or commands that can be assigned to a scenario, and they are executed immediately upon selection of the scenario. Automation is a collection of automated tasks and behaviors can be assigned to a scenario which will continue to operate as long as the scenario is selected.

   Note: Changing between rooms will not disable or pause the automation tasks defined by any currently selected scenarios. If the same scenario exists within multiple rooms and is activated, it will become active in all rooms at the same time.

3) **Activate Command:** Click on any of the available command icons to activate the function or command configured within it. After selection, the button will remain highlighted for a short time. The command is executed immediately upon selection.

4) **Activate Automation:** Click on any of the available automation icons to enable or disable the associated automation functions. When an automation function is active, the button will be highlighted. More than one automation function can be active at the same time, and the current room's native automation functions will also continue to be active regardless of the state of these optional automation functions.

6.4.2 Dashboard Page

The Dashboard page displays information about the status of all devices currently controlled by the Universal Device Controller as well as providing a list of detected, but not currently controlled, devices within the local network. Supported devices can be easily added to the system, once detected, for direct control or for use within room scenario configurations. Batch firmware updates for multiple identical devices can also be performed from this page.
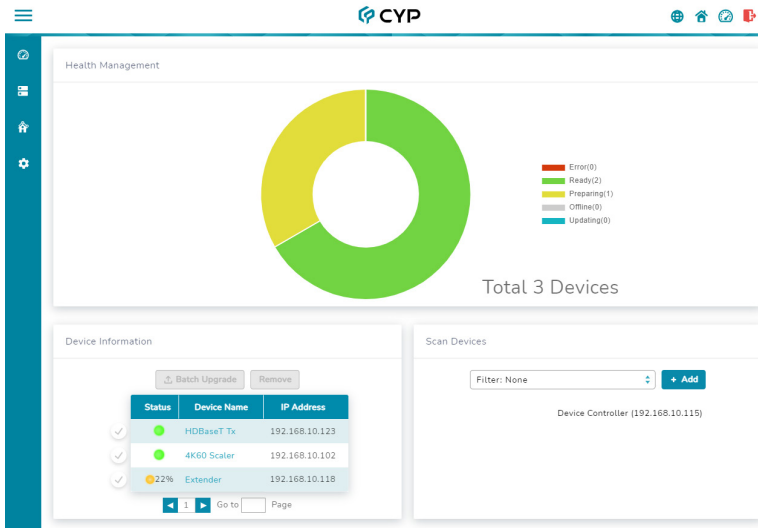
1) **Health Management:** This section displays a visual quick summary of the state and status of all devices currently selected for control by the Universal Device Controller. The visual status information updates dynamically based on the reported states from all added units.

2) **Device Information:** All of the devices that have been added to the Universal Device Controller for monitoring and control will be listed here.
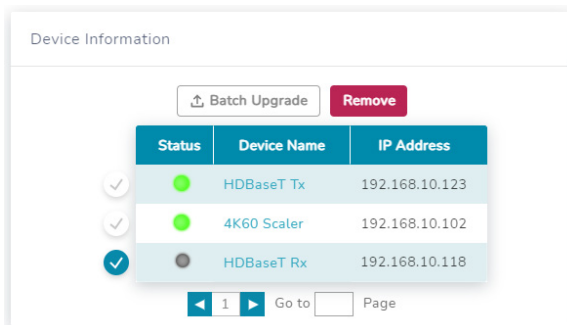
- **Batch Upgrade:** A single firmware update can be applied to multiple devices. To perform a batch firmware update, select all of the devices to be updated and then click on the "Batch Upgrade" button to open the file selection window and then select an appropriate firmware update file (typically in *.bin format) located on your local PC. After selecting the file, the system will ask if you are sure you wish to proceed. If everything looks correct, click "OK" to begin the firmware update process on all of the selected units. Once the firmware update process has completed the units will reboot.

  Note: If devices are selected that do not support the firmware, the update process will automatically skip them.

- **Remove:** To remove one or more units from this list, select them and then click on the "Remove" button. They will immediately be removed from the system and within a few seconds they will reappear in the "Scan Devices" list on the right.

  Note: Removing units from this list will NOT remove any associated commands that might be part of existing scripts or automation. Be sure to edit those as well, if necessary.

- **State:** Displays each device's current status with a colored icon. Hovering the mouse over the icon will give a text description of the status as well.

- **Device Name:** Display's each device's currently assigned name as well as providing a clickable link that leads to the device's main control page. Please see section 6.4.3 for more details.

  Note: When connecting to a device for the first time, the listed name will be based on the device's default product name, if available. Otherwise the device's MAC address and/or model type will be used.

- **IP address:** Displays each device's current IP address.

3) **Scan Devices:** All devices on the local network that support the discovery functionality, which are not already being controlled by the Universal Device Controller, will be listed here. To make finding specific devices easier, a filter can be applied to the list by selecting the preferred filtering type from the dropdown (Product ID, Product Name, or MAC Address) and then typing an appropriate keyword into the provided space.

To add one or more devices to the unit for control simply select them from the list and then click on the "+ Add" button. All selected devices will be transferred to the "Device Information" section on the left and the unit will begin the process of preparing the new devices for control.

Note: Hovering the mouse over a discovered device will show additional details about that device.

6.4.3 Device Page

The Device page provides a listing of all devices that have been added to the Universal Device Controller for management and control along with their current status, IP address, and clickable links leading to each device's control page. To make finding a specific device easier, the list can be filtered based on name or device state. Devices are added to this list via the Dashboard page. Please see section 6.4.2 for more details.
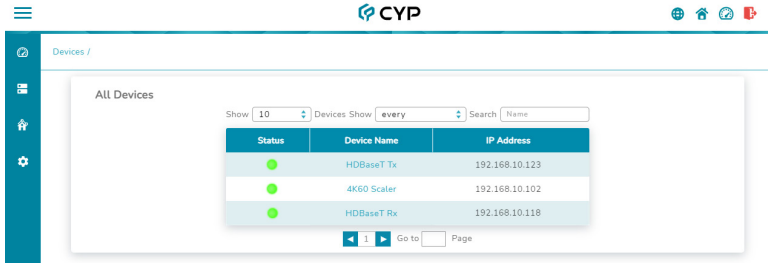
Clicking on a device's name opens up that device's control page which is comprised of a collection of category icons that encompass all functions supporting remote control on that device. To return to the device selection screen, click on the "Device" text in the header.
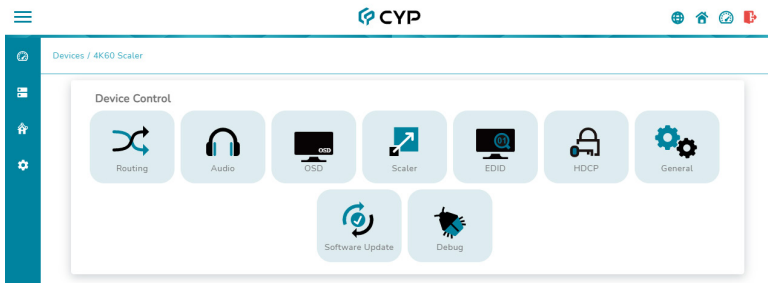
Clicking on a control category icon will open up a screen containing all available controls within that specific category. Each section can be expanded or collapsed as needed, and most functionality is activated as soon as it is selected from the available dropdowns. Control items requiring additional confirmation will have an "Apply" or "Save" button associated with them. To return to the category selection screen, click on the device's name in the header text.
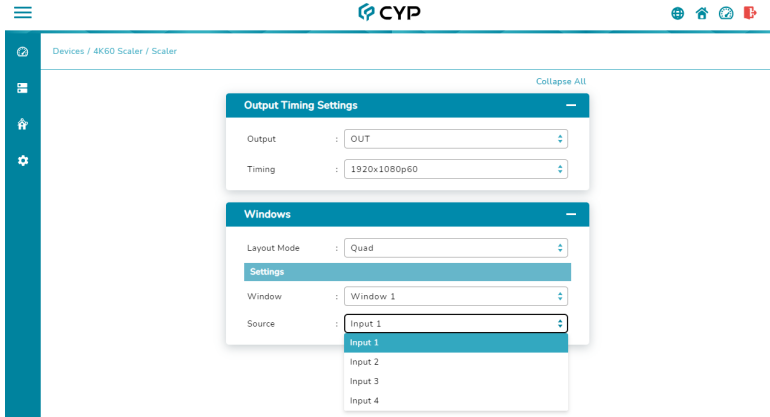
Note: The category icons displayed, and the controls presented within each, are generated dynamically based on the functionality reported to the Universal Device Controller by the device, therefore not all devices will display all category types/controls.

Device Control Categories	
	Routing Controls relating to video input/output routing and source selection.
	Audio Controls relating to audio input/output routing and audio level adjustments.
	OSD Controls relating to the device's On Screen Display functionality and configuration.
	Scaler Controls relating to input/output resolution and multiviewer (PiP/PoP/etc.) configuration.
	Video Wall Controls relating to the configuration and assignment of video wall devices.

	Automation Controls relating to the configuration of the device's internal automation functionality.
	Streaming Controls relating to the streaming functionality of the device, including streaming target and scheduling.
	Record Controls relating to the configuration and activation of local or remote video recording.
	CEC Controls relating to CEC communication between this device and other connected devices.
	EDID Controls and information relating to the use of EDID on the unit's inputs and outputs.
	HDCP Controls and information relating to HDCP usage on the device's inputs and outputs.
	General Controls for general device configuration, including network setup, fan control, and power.
	I/O Controls relating to the configuration and behavior of the RS-232, USB, IR, etc. interfaces on the device.
	Power Monitor Information and testing relating to the device's power supply as well as control over power relay functionality.
	Software Update Controls relating to updating the device's software or firmware.
	Cable Testing Diagnostic controls relating to HDBaseT extension and signal integrity.

	Debug Device control and communication diagnostic tools.
	Dante Controls relating to the Dante streaming audio functionality of the device. *Note: Currently only supports renaming endpoints.*
	Time Controls relating to setting the device's system time.

6.4.4 Event System Pages

The Event System pages are a collection of four configuration pages containing controls for configuring rooms, defining scenarios, assembling automation tasks, and managing icons. Clicking the Event System icon () on the left-side navigation bar will present you with an option of which configuration page (Room, Scenario, Automation, Icon) to open.
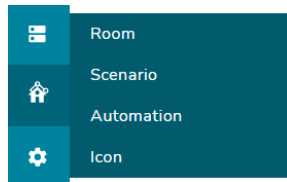
6.4.4.1 Room Page

This page provides a way to create a new room or edit existing ones by adding or removing pre-defined scenarios. Rooms are utilized via the WebGUI's Home page and typically contain multiple "scenarios" which can do anything from activating a single feature of a unit to performing a series of scripted commands and activating specific automation behavior. Each room also has a unique ID index number which is assigned when the room is created. This page also provides a way to import or export rooms for easy transport or archival.
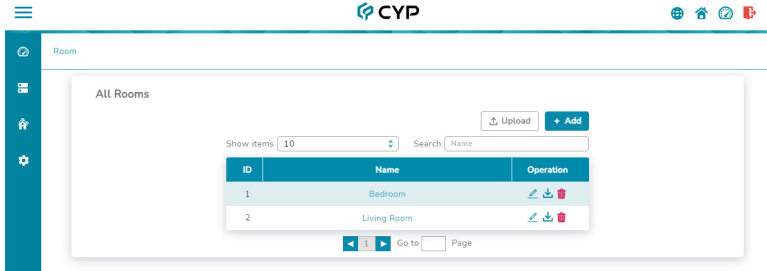
Note: Scenarios are created and managed via the Scenario page. Please see section 6.4.4.2 for more details.

1) **Upload Room:** To load a previously saved room configuration from your PC, click the "Upload" button to open the file selection window and then select the preferred room configuration (*.room.json format) located on your local PC. After selecting the file, click the "Open" button to import the new room. If the selected room to upload has the same name as an existing room, a warning message will be displayed and the room can be renamed, or the upload process can be aborted. Once importation is complete, the new room will be added to the list and immediately available for editing.

   Note: When importing to a new Universal Device Controller, any references to devices with different MAC addresses will be marked as "Unknown Device" and will need to be manually corrected.

2) **Add:** To create a new room, click on the "+ Add" button and a window will pop up allowing you to add a new empty room, or duplicate an existing room. After entering the new room's name, click "Add" and the new room will be added to the list.
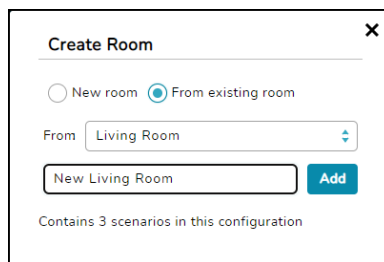
3) **Edit Room:** Click on any room name from the displayed list to edit the room's contents by opening the room management page.

4) **Edit Room Name:** The name of a room can be changed by clicking on the associated edit icon (✎). After making changes to a name, please click the "Save" button to store the changes.

![CYP logo]

5) **Download Room:** To download a room configuration to your PC, click the download icon (⬇) next to the room's name in the list and select the preferred save location on the local PC. Next, click the "Save" button to complete the file export.

Note: The filename may be changed, if desired, but it MUST end with ".room.json" in order to be re-imported.

6) **Delete:** To delete a room completely, click on the associated trash icon (🗑) and then click "OK" to confirm to the deletion.

7) **Room Management:** After selecting a room to edit by clicking on its name, the room management page will open. This page lists all scenarios, commands, and automations currently used by the room and provides a way to add, remove, reorder, or edit those functions.
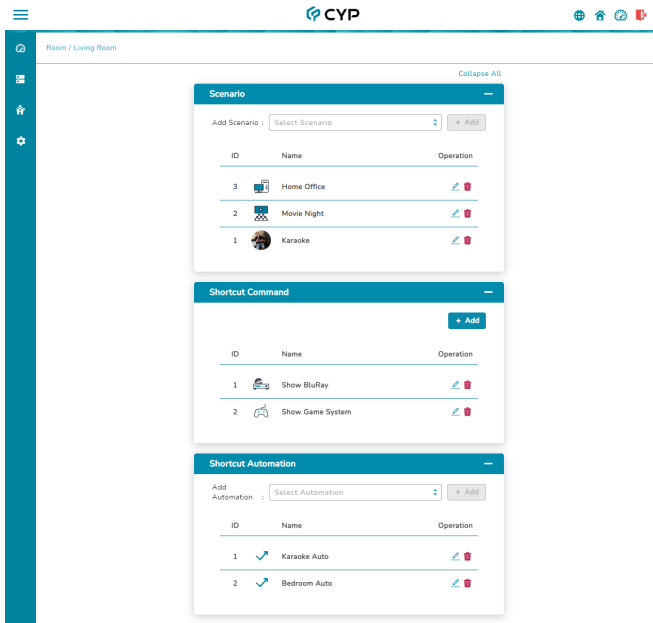
- ■ **Scenario:**
  - **Add Scenario:** Use the dropdown to select an existing scenario and then click the "+Add" button to add it to the current room's list.
  - **Reorder Scenarios:** The order of this list controls the order that the scenario buttons are displayed on the main Home page. To change the listing order of the room's scenarios, click on any scenario and drag it to the new position in the list.

- **Change Scenario Icon:** To change the icon that is displayed with the scenario, click on the icon's image to the left of the name. This will open the icon select window and allow a new icon to be picked. After selecting the new icon, click on "Save" to assign it and close the window.

  Note: Please see section 6.4.4.4 for details about uploading and managing icons.

- **Edit Scenario:** To edit a scenario's scripting and automation settings quickly, without going to the main scenario page, click the scenario edit icon (✎). This will open up a local "Scenario Edit" window.
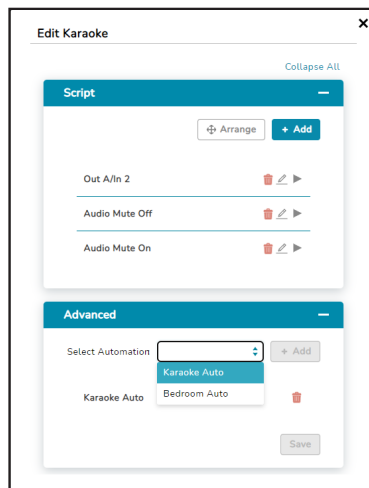
Note: Please see section 6.4.4.2 for details about editing scenarios.

- **Remove Scenario:** To remove a scenario from the room, click on the trash icon (🗑) next to the scenario to be removed then click the "OK" button to confirm the removal.

  Note: This does NOT delete the scenario, it only removes it from this specific room.

■ **Shortcut Command:**

- **Add Command:** To create a new shortcut command, click the "+Add" button to open the "Add Command" window which provides a way to name the command as well as configure the behavior and then add it to the room's list. Every shortcut command also has a unique ID index number which is assigned when it is created.

  Note: Adding a command follows the same procedure as adding a single step to a scenario script. Please see section 6.4.4.2 for more details.

- **Reorder Commands:** The order of this list controls the order that the command buttons are displayed on the main Home page. To change the listing order of the room's commands, click on any command and drag it to the new position in the list.

- **Change Command Icon:** To change the icon that is displayed with the command, click on the icon's image to the left of the name. This will open the icon select window and allow a new icon to be picked. After selecting the new icon, click on "Save" to assign it and close the window.

  Note: Please see section 6.4.4.4 for details about uploading and managing icons.

- **Edit Command:** To edit a command's settings, click the command edit icon (✎). This will open up a local "Command Edit" window.

- **Remove Command:** To remove a command from the room, click on the trash icon (🗑) next to the command to be removed then click the "OK" button to confirm the removal.
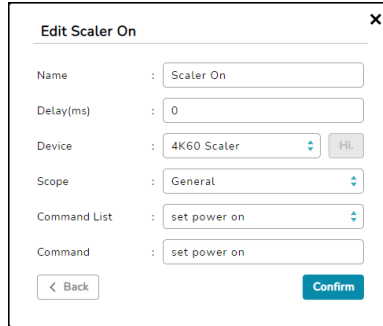
■ **Shortcut Automation:**

- **Add Automation:** Use the dropdown to select an existing automation and then click the "+Add" button to add it to the current room's list. Every shortcut automation also has a unique ID index number which is assigned when it is created.

- **Reorder Automations:** The order of this list controls the order that the automation buttons are displayed on the main Home page. To change the listing order of the room's automation functions, click on any automation and drag it to the new position in the list.

- **Edit Automation:** To edit an automation function's settings quickly, click the automation edit icon (✎). This will jump directly to the Automation Edit grid page for that function.

  Note: Please see section 6.4.4.3 for details about editing and configuring automation functions.

- **Remove Automation:** To remove an automation function from the room, click on the trash icon (🗑) next to the automation to be removed then click the "OK" button to confirm the removal.

  Note: This does NOT delete the automation, it only removes it from this specific room.

6.4.4.2 Scenario Page

This page provides for creation, configuration, and control over the scenarios that can be assigned to rooms. Each scenario can contain a scripted command sequence (activated whenever the scenario is first selected) as well as multiple automation task groups which continue to be active as long as the scenario is selected. Each scenario is typically assigned to only a single room, but can be assigned to multiple rooms if desired. Every scenario also has a unique ID index number which is assigned when it is created.

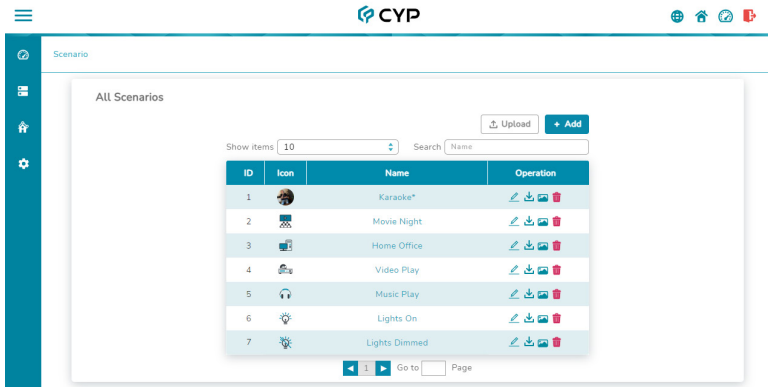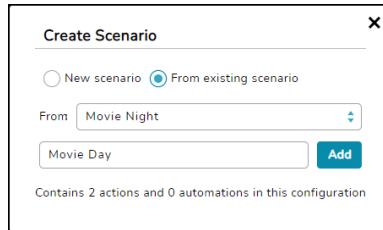1) **All Scenarios:** The main scenario page displays a list of all currently defined scenarios as well as controls for creation, editing, and deletion. Existing scenarios can be viewed or edited by clicking on the name of the scenario. This will open a scenario edit page displaying the scenario's current script and assigned automation groups, if any.

   Note: Scenarios that include automation task groups will display an asterisk (*) after the name.

   ■ **Upload:** To load a previously saved scenario from your PC, click the "Upload" button to open the file selection window and then select the scenario (*.scene.json format) located on your local PC. If the selected scenario to upload has the same name as an existing scenario, a warning message will be displayed and the scenario can be renamed, or the upload process can be aborted. After selecting the file, click the "Open" button to import the new scenario. Once importation is complete, the new scenario will be immediately available for editing.

   Note: When importing to a new Universal Device Controller, any references to devices with different MAC addresses will be marked as "Unknown Device" and will need to be manually corrected.

■ **Add:** To create a new scenario, click on the "+ Add" button and a window will pop up allowing you to create a new empty scenario, or duplicate an existing scenario. After entering the new scenario's name, click "Add" and the new scenario will be added to the list.

■ **Edit Name:** The name of the scenario can be edited by clicking on the edit icon (✏).

■ **Download:** To export a scenario to your PC, click the download icon (⬇) next to the preferred scenario and then select the preferred save location on the local PC. Next, click the "Save" button to complete the file export.

Note: The filename may be changed, if desired, but it MUST end with ".scene.json" in order to be re-imported. The associated icon image will not be included in the exported file.

■ **Change Icon:** To add or change the icon image assigned to a scenario, click on the scenario's associated icon, or on the change image icon (🖼), and the "Select/Add Icon" window will open up.

Note: Scenarios without an icon currently assigned will display a generic placeholder icon (⊙).

■ **Select/Add Icon:** This window is opened by clicking on a scenario's icon and allows the assignment of an existing icon to the scenario. Simply find the preferred icon in the list, select it, and then click on "Save" to assign it. The image will now be displayed next to the scenario in the list and used as the scenario's button on the Home page.
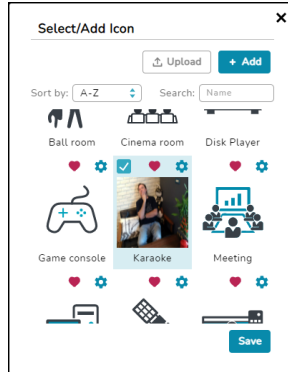
Note: Please see section 6.4.4.4 for details about uploading and managing icons.

- **Delete:** To completely delete a scenario from the unit, click on the trash icon (🗑) next to the scenario to be deleted then click the "OK" button to confirm the deletion.
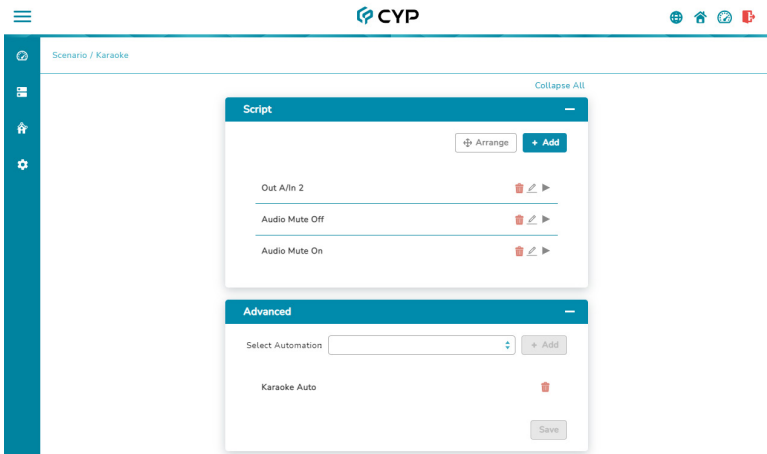
2) **Scenario Edit:** The Scenario Edit page will open after clicking on the name of the scenario to edit. This page provides control over the script commands and automation task groups that are included with the scenario being edited. The name of the current scenario is displayed in the upper left corner of the page.

3) **Script:** This section contains the current scenario's scripted action list. These actions are executed, sequentially, whenever the scenario is clicked on the Home page. Each action consists of a single command which is transmitted to the target device via the network or serial connection.

Note: The execution order is same as the listed order.

■ **Arrange:** To change the execution order, click on the "Arrange" button and then move the actions around using the mouse. Once you are happy with the new order, click on the "Save" button. To exit without saving the changes, click on the exit icon (⊗).

■ **Add:** To add a new script action to the list, click on the "+ Add" button. This will open the "Create New Action" window where you can select the preferred action type to create (CYP Action, TCP Action, UDP Action, CONTROL Action). After selecting the type, click on the "Next: Setup Action" button to open a Create Action window.
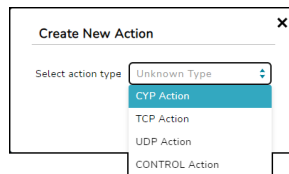
■ **Delete:** To remove a single script action from the list, click on the trash icon (🗑) associated with the action then click the "OK" button to confirm the removal.

■ **Edit:** To edit an existing script action, click on the edit icon (✎) associated with the action. This will open the "Edit Action" window.

■ **Test:** To test the functionality of a script action, click on the test icon (▶) associated with the action.

■ **Edit/Create CYP Action:** Defines actions to be sent to natively supported devices, which have been detected by the Universal Device Controller, via the network address and method specified by the device. Commands may be entered manually, or they can be selected from a sorted list provided by the device. After you have completed defining the command, click on the "Confirm" button to save it. Clicking on the "Back" button will allow you to select a new action type.

- **Name:** Enter the preferred name for the script action.
- **Delay(ms):** Enter the length of time to wait before executing the command, in milliseconds.
- **Device:** Use the dropdown to select the native device to send the command to. Clicking on the "Hi" button will activate a device's "Hello" function (if supported) and cause the selected device to flash their LEDs for easy identification. To stop the flashing, click on the new "Sh!" button.

  Note: Not all products support the "Hello" command, please check the individual device's manual.

- **Scope:** After a device has been selected, use this dropdown to select the category of command to be sent.
- **Command List:** After the command scope has been selected, use this dropdown to select the command to send to the device. This selection will automatically fill in the "Command" field.
- **Command:** Contains the command to be sent to the selected device. Automatically generated commands may be edited, if desired.

  Note: If the "Scope" and "Command List" fields were not used, this field must be completed manually.

■ **Edit/Create TCP/UDP Action**: Actions to be sent to non-native networked devices via TCP or UDP. After you have completed defining the command, click on the "Confirm" button to save it. Clicking on the "Back" button will allow you to select a new action type.
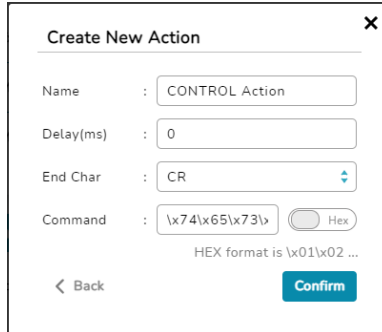
- **Name:** Enter the preferred name for the script action.
- **Delay(ms):** Enter the length of time to wait before executing the command, in milliseconds.
- **NIC:** Use the dropdown to select which Ethernet port on the unit the command should be sent through.
- **IP/Port:** Set the IP address and port number to use when sending the command.
- **End Char:** Use the dropdown to select the termination character(s), if any, to attach to the end of the command when it is sent.
- **Command:** Enter the command to be sent to the specified IP address. Clicking on the "Plain/Hex" switch will toggle the command type between plain ASCII or hex.

  Note: When entering characters in hex mode, each character's two digit hex code must be preceded by "\x".

■ **Edit/Create CONTROL Action:** Actions to be sent to non-native devices via the local serial port.

Note: Serial port settings, such as baud rate, are managed via the System page. Please see section 6.4.5.1 for more details.
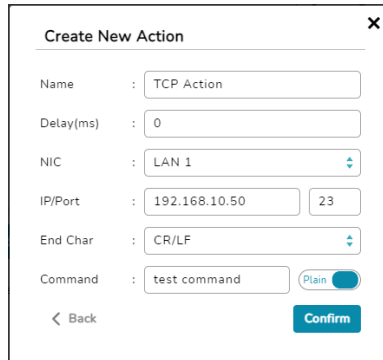

- **Name:** Enter the preferred name for the script action.
- **Delay(ms):** Enter the length of time to wait before executing the command, in milliseconds.
- **End Char:** Use the dropdown to select the termination character(s), if any, to attach to the end of the command when it is sent.
- **Command:** Enter the command to be sent to the specified IP address. Clicking on the "Plain/Hex" switch will toggle the command type between plain ASCII or hex.

  Note: When entering characters in hex mode, each character's two digit hex code must be preceded by "\x".

4) **Advanced:** This section provides a way to add or remove automation task groups to be used when the scenario is active. Use the dropdown to select an existing automation group and click on the "+ Add" button to add it to the scenario. To remove an automation group, click on the trash icon (🗑) next to the group to be removed. After making all desired changes to this section, click on the "Save" button to commit them to the scenario.

Note: Automation groups are created and managed via the Automation page. Please see section 6.4.4.3 for more details.

6.4.4.3 Automation Page

This page provides for the creation, editing, and management of automation event groups which can be added to scenarios to facilitate automatic device behavior based on triggers, polling, or scheduling. Each automation group consists of a collection of "Event", "Logic", and "Action" objects which are linked together to form a basic set of rules, or logic chains, controlling device behavior. Multiple logic chains can be placed within a single automation group, but to help avoid confusion in complicated systems it's recommended to create separate groups defined by their general purpose. Every automation event group also has a unique ID index number which is assigned when it is created.
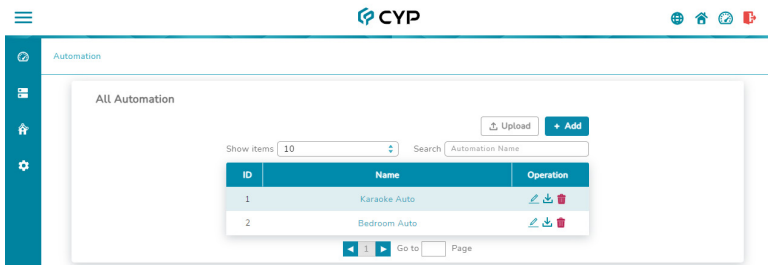
1) **All Automation:** The main automation page displays a list of all currently defined automation groups as well as controls for creation, editing, and deletion. Existing automation groups can be viewed or edited by clicking on the automation name in the list. This will open an automation edit page displaying all of the currently defined automation objects and their associated logic chains.

   ■ **Upload:** To load a previously saved automation group from your PC, click the "Upload" button to open the file selection window and then select the automation group (*.auto.json format) located on your local PC. If the selected automation group to upload has the same name as an existing automation group, a warning message will be displayed and the automation group can be renamed, or the upload process can be aborted. After selecting the file, click the "Open" button to import the new automation group.

   ■ **Add**: New automation groups are created by clicking on the "+ Add" button. A window will pop up allowing you to create a new empty automation group, or duplicate an existing one. After entering the new automation group's name, click "Add" and the new automation group will be added to the list.

New Automation

- **Edit Name:** The name of the automation group can be edited by clicking on the edit icon (✎).
- **Download:** To export an automation group to your PC, click the download icon (⬇) next to the appropriate group and then select the preferred save location on the local PC. Next, click the "Save" button to complete the file export.
- **Delete:** To delete an automation group, click on the trash icon (🗑) then click the "OK" button to confirm the deletion.

2) **Automation Edit:** After opening an automation group for editing, this gridded page will be displayed. All objects and logic chains that are currently a part of the automation group, if any, will be displayed. The work space can extend beyond the edges of the browser window, if necessary, and the workspace view can be moved around using the move icon (✥). Objects contain details about their function, control icons to configure them, as well as draggable hooks to allow them to be connected to other objects.
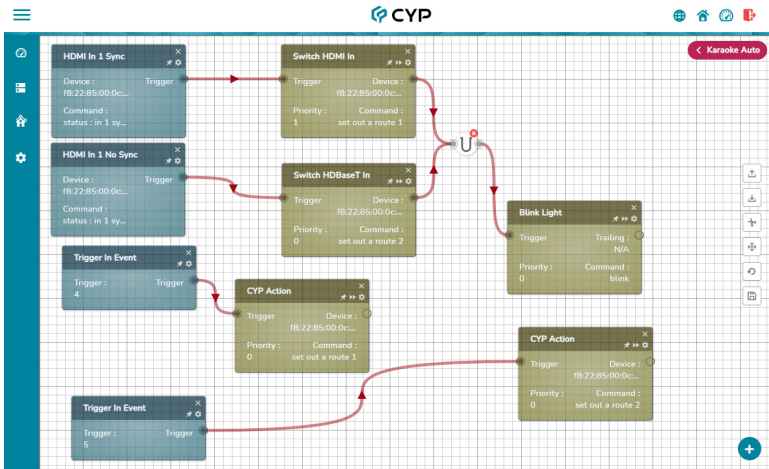
■ Return Button: In the upper right corner there is a large red button containing the name of the current automation group. Clicking this button will return you to the "All Automation" page.

Note: Remember to save any changes made to the automation group before leaving this screen or the changes will be lost.

■ **Upload:** To load a previously saved automation group from your PC, click the upload icon (⬆) to open the file selection window and then select the automation group (*.auto.json format) located on your local PC. After selecting the file, click the "Open" button to import the new automation group.

■ **Download:** To export the current automation group to your PC, click the download icon (⬇) and then select the preferred save location on the local PC. Next, click the "Save" button to complete the file export.

■ **Cut:** Clicking on the scissors icon (✂) will put the mouse into cut mode, allowing the user to remove the connection lines between objects. To exit cut mode, click on the exit mode icon (❌).

■ **Move:** Clicking on the move icon (✛) will put the mouse into move mode, allowing the user to move the workspace by clicking and dragging the mouse on any open space. To exit move mode, click on the exit mode icon (❌).

■ **Undo:** Clicking on the undo icon (↩) will undo any changes made since the last save.

■ **Save:** Clicking on the save icon (💾) will store the current state of the automation group in the unit.

3) **Add Object:** Clicking on the large add object icon (➕) in the bottom right will open up the Add Object window. This window presents all of the potential automation objects, divided by type (Event, Logic, or Action). Clicking on any of them will create a new blank object in the main window of the selected type.

Add ✕

Event	Logic	Action
One-Time	And	CYP Action
Repeat Event	Or	TCP Action
CYP Devices	Not	UDP Action
Telnet Message		CONTROL Action
CONTROL Message		
Trigger In		
Polling		
Customized Command		

■ **Event Object:** This type of object defines a triggering event and is always the starting object in an automation logic chain. Event objects can be configured by either clicking on the object, or the associated gear icon (⚙), and they can be locked in place within the workspace by clicking on the pin icon (📌). Event objects only have a single hook point on the right side for connecting to additional objects. To delete this object click on the close icon (✕) in the upper right corner.

- **One-Time:** Trigger event that activates once at a set date and time.

- **Repeat Event:** Trigger event that can activate multiple times within a set date and time range. The frequency of activation within the set timeframe is configurable.

- **CYP Devices:** Trigger event that is activated when specific data is received from a native device, that is currently being monitored, via Telnet. The trigger data may be entered manually, or can be selected from a sorted list of common status text provided by the device.

- **Telnet Message:** Trigger event that is activated when specific data is received, via the Telnet protocol, from a specified IP address and port. The trigger data is entered manually.

- **CONTROL Message:** Trigger event that is activated when specific data is received from via the unit's Control port. The trigger data is entered manually.

- **Trigger in:** Trigger event that is activated when the specified trigger pin on the unit's Trigger port is closed.

- **Polling:** Trigger event that repeatedly (approximately once every 3 seconds) sends a status request to a specified IP address and activates when the specified data is received. The status request and expected response data is entered manually.

- **Customized Command:** Trigger event that is activated when specific raw data is received from a specified IP address over TCP port 5000 or UDP port 50000. The trigger data is entered manually.

■ **Logic Object:** These objects are basic Boolean logic gates and are used to define the logical relationship between multiple Event Objects used to activate a single logic chain. Multiple Logic Objects can be chained together to create more complicated logical equations. The automation event will only be executed when the final result of all combined event and logic objects results in a "true" state. To delete this object click on the close icon (✖) in the upper right corner.

- **AND (∩):** This object will output a value of "true" when all input objects report a "true" result at the exact same time, otherwise it will output "false".

- **OR (∪):** This object will output a value of "true" if any one of the input objects report a "true" result, otherwise it will output "false".

- **NOT (✖):** This object will invert the Boolean value of the object that is fed into it.

  Note: This can only be used with a single source object.

■ **Action Object**: This type of object defines the actions or commands to execute when the logic chain before it evaluates to a "true" state. Action Objects have both input and output hook points allowing for multiple Action Objects to be linked together to create more complicated actions and they will be executed based on their chain location, or by their priority value (0 = lowest priority) if they are at the same chain location. Action objects can be configured by either clicking on the object, or the associated gear icon (⚙) and they can be locked in place within the workspace by clicking on the pin icon (📌). To test the defined function of an Action Object, click on the test icon (▶). To delete this object click on the close icon (✖) in the upper right corner.

Note: Configuration is the same as for Scenario actions. Please see section 6.4.4.2 for more details.

- **CYP Action:** Actions to be sent to natively supported devices via the network address and method specified by the device. Commands may be entered manually, or they can be selected from a sorted list provided by the device.

- **TCP/UDP Action:** Actions to be sent to non-native networked devices via TCP or UDP.

- **CONTROL Action:** Actions to be sent to non-native devices via the local serial port.

6.4.4.4 Icon Page

This page provides a way to manage the icon images used by the unit for scenarios. By default, the unit comes pre-loaded with a large number of icons that are appropriate for most common devices or actions. However, if the user needs additional icons, they can be easily uploaded here. Important, or commonly used, icons can be marked as "favorites" and unneeded icons can be deleted.
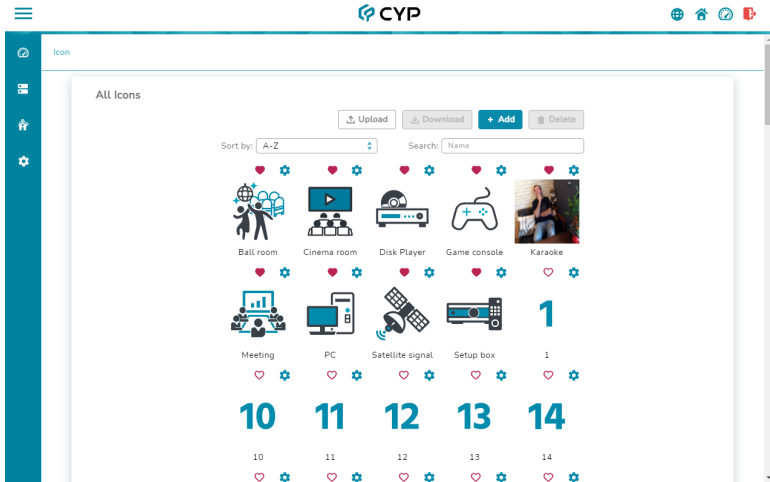
1) **All Icons:** The main icon page displays all currently loaded icons and provides controls to manage them. Favorited icons are always listed at the top of the list.

   ■ **Upload:** To load a previously saved group of icons from your PC, click the "Upload" button to open the file selection window and then select the icon group (*.icon.tgz format) located on your local PC. If the selected icon group contains icons with the same name as existing icons, a warning message will be displayed and you can choose how to handle naming conflicts, or the upload process can be aborted. After selecting the file, click the "Open" button to import the new icon group.
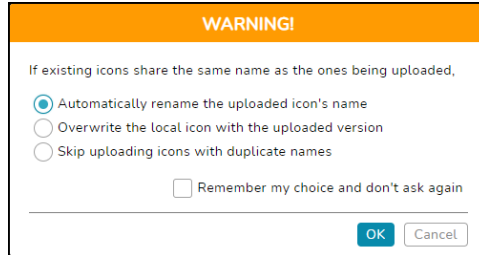
Note: For additional information about icon upload configuration, please see section 6.4.5.1.

■ **Download:** To export a group of icons to your PC, first click on all relevant icons to select them (a check icon (☑) will be displayed), and then click the "Download" button. Next, select the preferred save location on the local PC. Next, click the "Save" button to complete the file export.

Note: The filename may be changed, if desired, but it MUST end with ".icon.tgz" in order to be re-imported.

■ **Add:** New icons are created by clicking on the "+ Add" button. This will open the "Add Icon" window which allows you to enter a name for the icon, and then upload an image file from your PC. Click on "Choose" to select the preferred image file (*.jpg, *.png, *.gif, *.svg, and *.bmp formats are accepted) located on your local PC. After selecting the file, click the "Open" button to import the image.

Note: While image files of any resolution or size can be used, it is strongly recommended to only use images with a square (1:1) aspect ratio and a file size below 1MB.

■ **Delete**: To delete one or more icons, first click on all relevant icons to select them (a check icon (☑) will be displayed), and then click on the "Delete" button. Click the "OK" button to confirm the deletion.

Note: If the built in icons are deleted, the only way to restore them is to upload a previously saved icon group containing them, or performing a factory reset.

■ **Favorite:** To mark an icon as a favorite and have it pinned to the top of the list, click on the heart icon (♡).

■ **Edit Icon:** To edit an icon, click on the gear icon (⚙). This will open a window that allows the icon's name to be changed, and, if desired, a new image to be uploaded over the existing one.

6.4.5 System Setting Pages

The System Setting pages are a collection of two configuration and information pages containing controls for configuring the unit's Ethernet settings, RS-232 configuration, user management, and system backup as well as providing a way to update the unit's firmware. Clicking the System Settings icon (⚙) on the left-side navigation bar will present you with an option of which configuration page (System, User Management) to open.

6.4.5.1 System Page

This page provides access to system configuration options including IP configuration for both LAN ports, device name, clock settings, UART configuration, as well as backup and firmware update functionality.
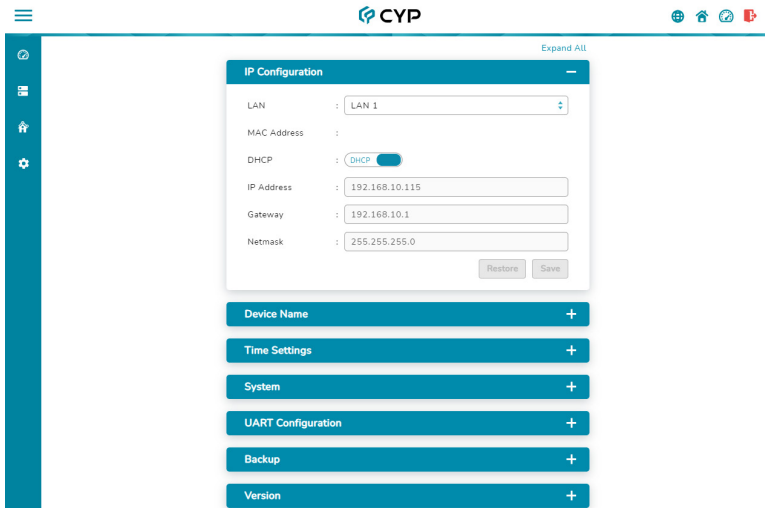
1) **IP Configuration:** The IP mode for each LAN port (DHCP or Static IP), IP address, netmask, and gateway can be set here. When a LAN port is set to "DHCP" mode, it will automatically attempt to obtain proper configuration information from the local DHCP server. To configure the network settings manually, please set the LAN port to "Static IP" mode and enter the information as appropriate for the connected network. Click on the "Restore" button to undo any changes made since the last save.
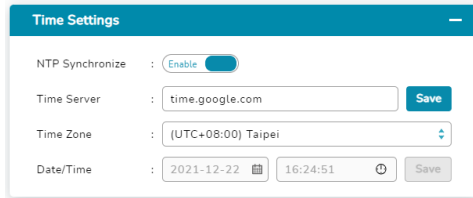
Click on "Save" to store any changes made.

Note: Both LAN ports default to "DHCP" mode. The current IP address can be verified using the HDMI output or RS-232 if the Device Discovery software is not available.

2) **Device Name:** Enter a new name for the unit, if desired. Click on the "Restore" button to undo any changes made since the last save. Click on "Save" to store any changes made.

Device Name	—
Name : Device Controller	
	Restore Save

3) **Time Settings:** This section controls the configuration of the unit's built in clock.

Time Settings	—
NTP Synchronize : Enable	
Time Server : time.google.com	Save
Time Zone : (UTC+08:00) Taipei	
Date/Time : 2021-12-22	16:24:51	Save

- **NTP Synchronize:** Enable or disable using the defined Time Server to automatically set the unit's internal clock. When disabled, the time and date must be manually configured.
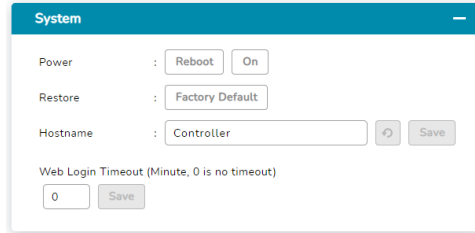
- **Time Server:** Enter the address of the preferred Time Server to use when NTP Synchronize is enabled. Click on "Save" to store any changes made.

  Note: By default this is set to "time.google.com", which should be OK in most cases, but it might be necessary to change this to your network provider's preferred NTP server.

- **Time Zone:** Use the dropdown to set the unit's time zone.

- **Date/Time:** Use the dropdowns to manually set the unit's date and time. Click on "Save" to store any changes made.

  Note: Only available when NTP Synchronize is disabled.

4) System: Provides control over a number of central system functions.
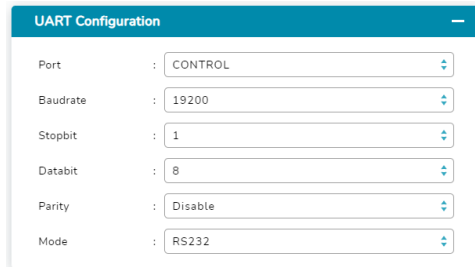
- **Power:** Click on the "Reboot" button to force the unit to reboot.
- **Restore:** Click on the "Factory Default" button to reset the unit back to its factory default settings.
- **Hostname:** Enter a new hostname for the unit, if desired. Click on the restore icon (⟳) to undo any changes made since the last save. Click on "Save" to store any changes made.

  Note: When connecting to the unit by using its hostname, the format should be "http://hostname.local".

- **Web Login Timeout:** Enter a WebGUI inactivity timeout value. Setting it to 0 means there is no timeout. Click on "Save" to store any changes made.

5) UART Configuration: Provides controls to configure the settings (baud rate, data length, parity, and stop bits) and operational mode of the unit's CONTROL serial port.

6) **Backup:** Provides easy access to unified configuration upload and download functions for the Room Configuration, Scenario Configuration, Automation Configuration, and Icon Configuration tabs.
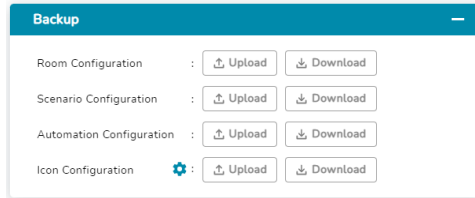
■ **Upload:** To load a previously saved configuration or icon group from your PC, click the "Upload" button to open the file selection window and then select the associated configuration (*.grp.json or *.icon.tgz format) located on your local PC. If the selected file contains an item with the same name as one that already exists on the unit, a warning message will be displayed and you can choose how to handle the naming conflict, or the upload process can be aborted. After selecting the file, click the "Open" button to import the new configuration. The associated configuration will then be restored.
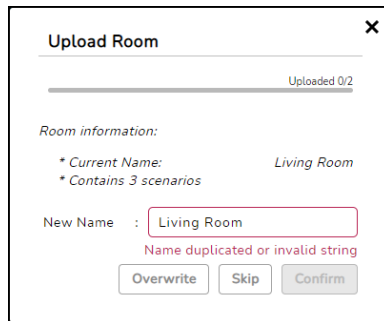
- **Icon Upload Configuration:** The default duplicate name behavior used when uploading an icon group can be configured by clicking on the gear icon (⚙). If "Remember my choice and don't ask again" is checked, then the warning popup will never be displayed when icon groups are uploaded, otherwise the choice made here will become the default selection within the warning popup.
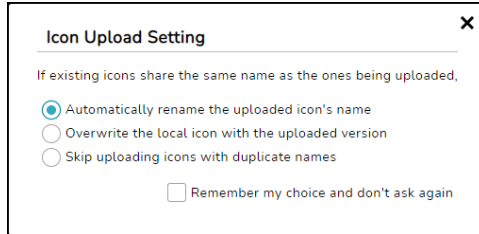
- **Download:** To export a configuration to your PC, click the "Download" button next to the preferred configuration and then select the preferred save location on the local PC. Next, click the "Save" button to complete the file export.

  Note: The filename may be changed, if desired, but it MUST end with ".room.grp.json" (Room Configuration), ".scene.grp.json" (Scenario Configuration), ".auto.grp.json" (Automation Configuration), or ".icon.tgz" (Icon Configuration) in order to be re-imported.

7) **Version:** Displays the unit's current firmware and command version as well as providing a way to update the unit's firmware.
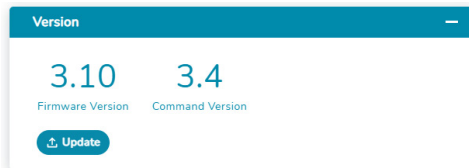
- **Upgrade:** To update the unit's firmware click the "Upgrade" button to open the file selection window and then select an appropriate firmware update file (*.bin format) located on your local PC. After selecting the file, click the "Open" button to begin the firmware update process. Once the firmware update process has completed the unit will reboot.

6.4.5.2 User Management Page

This page provides access to user management controls for the unit. All currently defined users will be listed here and a light icon to the left of the name will indicate if they are currently logged in or not. To create a new user, click on the "Create" button. To remove a user, click on the trash icon (🗑) next to the appropriate user name. The admin and guest users are built into the system by default.

Note: The default password for the admin account is "admin". Only the admin account can create new users. The "admin" and "guest" users can't be deleted and their permissions can't be modified.
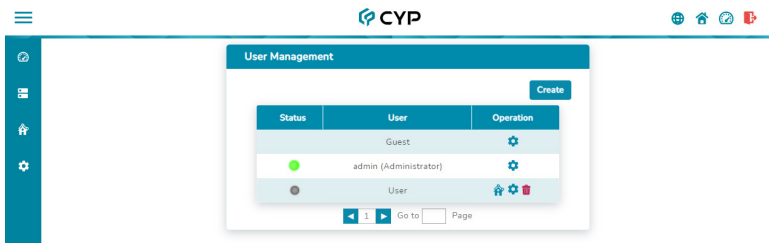
1) **User Edit:** Click on the edit icon (⚙) next to the user you would like to change access permissions for. This will open up the "User Permission" window. After all changes have been made, click the "Save" button to apply them to the unit. To exit without making changes, click on the exit icon (✖).

Within the permissions window there are two main types of settings that must be configured, via dropdowns, for each of the unit's WebGUI page types. Page view permissions (View All, Assigned Only, Disable View) define the user's ability to access the specified page and edit permissions (Full Control, Edit Only, No Control) define the user's ability to modify settings on the specified page.

Note: The "admin" account always has full access to the unit. When editing the "admin" account, only the password and name may be changed.

- **Username:** Set the preferred username for the user.
- **Password:** Set the preferred password for the user.
- **Default Settings:** Select either the "Administrator", "Power User", or "User" pip to set your permissions starting point. "Administrator" enables all permissions, "Power User" contains a powerful, but balanced configuration, while "User" contains a minimal permission set.

- **Detailed Settings:** Provides an expandable list of system permission categories for controlling the access restrictions for the current user.
  - **Dashboard:** Permissions controlling access to the Dashboard page's features.
  - **Device Control:** Permissions controlling access to each control category of the Device page.
  - **Event:** Permissions controlling access to the Event System pages.
  - **System Page:** Permissions controlling access to the network management functionality of the System page.
  - **User Management:** Permissions controlling access to user management.
  - **Assign Room:** Permissions controlling the ability of the user to assign rooms to other users.

2) **Assigned Room:** Click on the house icon (🏠) next to the user you would like to change the room assignments for. This will open up the "Assigned Room" window. All the rooms contained within the unit are displayed here and rooms may be assigned to multiple users if desired. These settings control which rooms are available for the specified user to select on the Home page as well to configure within the main interface (if their user permissions allow it). This access also extends to all scenarios and automation groups that are included within the selected rooms. After all changes have been made, click the "Save" button to apply them to the unit. To exit without making changes, click on the exit icon (✕).

3) **Guest User Edit:** The guest user is a special system user with no password that can only access the unit's home page. Clicking on the edit icon (⚙) provides control over room visibility on the home page when no user is logged in. After all changes have been made, click the "Save" button to apply them to the unit. To exit without making changes, click on the exit icon (✕).

6.5 Telnet Control

Before attempting to use Telnet control, please ensure that both the unit and the PC are connected to the same active networks.

Start your preferred Telnet/Console client, or use the built in client provided by most modern computer operating systems. After starting the client, connect by using the current IP address of the unit and port 23 (if the communication port number used by the unit has not been changed previously). This will connect us to the unit we wish to control and commands may now be entered directly.

Note 1: If the IP address of the unit is changed then the IP address required for Telnet access will also change accordingly.

Note 2: This unit defaults to DHCP mode. The current IP address can be verified using the HDMI output or RS-232 if the Device Discovery software is not available. The default communication port is 23.

6.6 Serial and Telnet Commands

COMMAND
Description and Parameters
help↵
Show the full command list.
help N1↵
Show details about the specified command.
N1 = {Command}
?↵
Show the full command list.
? N1↵
Show details about the specified command.
N1 = {Command}

COMMAND
Description and Parameters
get fw ver↵
Show the unit's current firmware version.
get command ver↵
Show the unit's current command version.
get mac N1 addr↵
Show the MAC address of the specified LAN port.

Available values for **N1**:
  1   [LAN port 1]
  2   [LAN port 2]

get model name↵
Show the unit's model name.
set factory default↵
Reset all settings to the factory defaults.
set factory ipconfig default↵
Reset the unit's network settings to the factory defaults.
get update filename↵
Show the unit's update firmware filename.
set nickname N1↵
Set the unit's nickname.
N1 = {Name}   [ASCII, 32 characters max]
get nickname↵
Show the unit's current nickname.
get power↵
Show the unit's current power state.
s**et system reboot**↵
Reboot the unit.

COMMAND

Description and Parameters

set room N1 scenario N2 N3↵

Enable/disable the specified scenario in the specified room.

Available values for **N1**:
1~256   [Room index number]

Available values for **N2**:
1~256   [Scenario index number]

Available values for **N3**:

ON   [Enable scenario]
OFF   [Disable scenario]

get room N1 scenario N2↵

Show the current state of the specified scenario in the specified room.

Available values for **N1**:
1~256   [Room index number]

Available values for **N2**:
1~256   [Scenario index number]

set room N1 command N2 activate↵

Trigger the control system to activate the specified command in the specified room.

Available values for **N1**:
1~256   [Room index number]

Available values for **N2**:
1~256   [Command index number]

COMMAND

Description and Parameters

set room N1 automation N2 N3↵

Enable/disable the specified automation in the specified room.

Available values for **N1:**
1~256	[Room index number]

Available values for **N2:**
1~256	[Automation index number]

Available values for **N3:**
ON	[Enable automation]
OFF	[Disable automation]

get room N1 automation N2↵

Show the current state of the specified automation in the specified room.

Available values for **N1:**
1~256	[Room index number]

Available values for **N2:**
1~256	[Automation index number]

set uart 1 baudrate N1↵

Set the baud rate of the CONTROL serial port.

Available values for **N1**:
2400	[2400 baud]
4800	[4800 baud]
9600	[9600 baud]
19200	[19200 baud]
38400	[38400 baud]
57600	[57600 baud]
115200	[115200 baud]

get uart 1 baudrate↵

Show the current baud rate of the CONTROL serial port.

CYP

COMMAND
Description and Parameters

set uart 1 stop bit N1↵

Set the number of stop bits for the CONTROL serial port.

Available values for **N1**:
1	[1 stop bit]
2	[2 stop bits]

get uart 1 stop bit↵

Show the current number of stop bits of the CONTROL serial port.

set uart 1 data bit N1↵

Set the data bits for the CONTROL serial port.

Available values for **N1**:
7	[7 data bits]
8	[8 data bits]

get uart 1 data bit↵

Show the current number of data bits of the CONTROL serial port.

set uart 1 parity N1↵

Set the parity of the CONTROL serial port.

Available values for **N1**:
0	[Disable]
1	[Odd]
2	[Even]

get uart 1 parity↵

Show the current parity setting of the CONTROL serial port.

set uart 1 mode N1↵

Set the operational mode of the CONTROL serial port.

Available values for **N1**:
1	[RS-232]
2	[RS-485]
3	[RS-422]

get uart 1 mode↵

Show the current operational mode of the CONTROL serial port.

COMMAND

Description and Parameters

get telnet maximum user↵

Show the maximum number of users allowed to connect simultaneously via Telnet.

set lan N1 ip mode N2↵

Set the IP address assignment mode of the specified LAN port.

Available values for **N1**:
1	[LAN port 1]
2	[LAN port 2]

Available values for **N2**:
STATIC	[Static IP mode]
DHCP	[DHCP mode]

get lan N1 ip mode↵

Show the current IP address assignment mode of the specified LAN port.

Available values for **N1**:
1	[LAN port 1]
2	[LAN port 2]

get lan N1 ipconfig↵

Show the specified LAN port's current IP configuration information.

Available values for **N1**:
1	[LAN port 1]
2	[LAN port 2]

get lan N1 ipaddr↵

Show the specified LAN port's current IP address.

Available values for **N1**:
1	[LAN port 1]
2	[LAN port 2]

get lan N1 netmask↵

Show the specified LAN port's current netmask.

Available values for **N1**:
1	[LAN port 1]
2	[LAN port 2]

COMMAND

Description and Parameters

get lan N1 gateway↵

Show the specified LAN port's current gateway address.

Available values for **N1**:
1	[LAN port 1]
2	[LAN port 2]

set lan N1 static ipaddr N2↵

Set the specified LAN port's static IP address.

Available values for **N1**:
1	[LAN port 1]
2	[LAN port 2]
N2 = X.X.X.X	[X = 0~255, IP address]

get lan N1 static ipaddr↵

Show the specified LAN port's current static IP address.

Available values for **N1**:
1	[LAN port 1]
2	[LAN port 2]

set lan N1 static netmask N2↵

Set the specified LAN port's static netmask.

Available values for **N1**:
1	[LAN port 1]
2	[LAN port 2]
N2 = X.X.X.X	[X = 0~255, netmask]

get lan N1 static netmask↵

Show the specified LAN port's current static netmask.

Available values for **N1**:
1	[LAN port 1]
2	[LAN port 2]

COMMAND
Description and Parameters

set lan N1 static gateway N2↵

Set the specified LAN port's static gateway address.

Available values for **N1**:
1	[LAN port 1]
2	[LAN port 2]

N2 = X.X.X.X   [X = 0~255, gateway address]

get lan N1 static gateway↵

Show the specified LAN port's current static gateway address.

Available values for **N1**:
1	[LAN port 1]
2	[LAN port 2]

set hostname N1↵

Set the unit's hostname.

N1 = {hostname}   [ASCII, 19 characters max]

get hostname↵

Show the unit's current hostname.

set date N1.N2.N3↵

Set the real time clock's year, month, and day (yyyy.mm.dd format).

N1 = 1970~2037   [Year]

N2 = 1~12   [Month]

N3 = 1~31   [Day]

get date↵

Show the real time clock's current date (yyyy.mm.dd format).

set time N1:N2:N3↵

Set the real time clock's time (hh.mm.ss format).

N1 = 0~23   [Hour]

N2 = 0~59   [Minute]

N3 = 0~59   [Second]

COMMAND

Description and Parameters

get time↵

Show the real time clock's current time (hh.mm.ss format).

set utc time zone index N1↵

Set the unit's UTC time zone index value.

N1 = 1~139   [UTC time zone index]

get utc time zone index↵

Show the unit's UTC time zone index value.

get utc time zone index list↵

Show the unit's UTC time zone index table.

set ntp server url N1↵

Set the network time protocol's server URL value.

N1 = {NTP}   [NTP server URL or IP Address]

get ntp server url↵

Show the network time protocol's current server URL value.

set ntp sync duration N1↵

Set the network time protocol's re-synchronization frequency.

Available values for **N1**:
0   [Disabled]
1~24   [Number of hours between syncs]

get ntp sync duration↵

Show the network time protocol's current re-synchronization frequency value.

set ntp sync renew↵

Force the unit to start the network time protocol's time synchronize process immediately.

COMMAND
Description and Parameters
set webgui login timeout N1↵
Set the WebGUI inactivity timeout value.
Available values for **N1:** 0   [Disabled] 1~65535   [Timeout in minutes]
get webgui login timeout↵
Show the current WebGUI inactivity timeout value.

Note: Commands will not be executed unless followed by a carriage return. Commands are not case-sensitive.

7. CONNECTION DIAGRAM

Serial/Ethernet Port Equipped PC

Trigger Control Keypad

Serial Input

LAN

Trigger Input

Network Switch for Public Network

LAN

Power Supply

Serial Controlled Device

LAN

Network Switch for Private Network

Ethernet Controlled Device

LAN

HDMI Output

USB Hub

USB

LAN

Local Monitor

Keyboad & Mouse

Ethernet Controlled Device
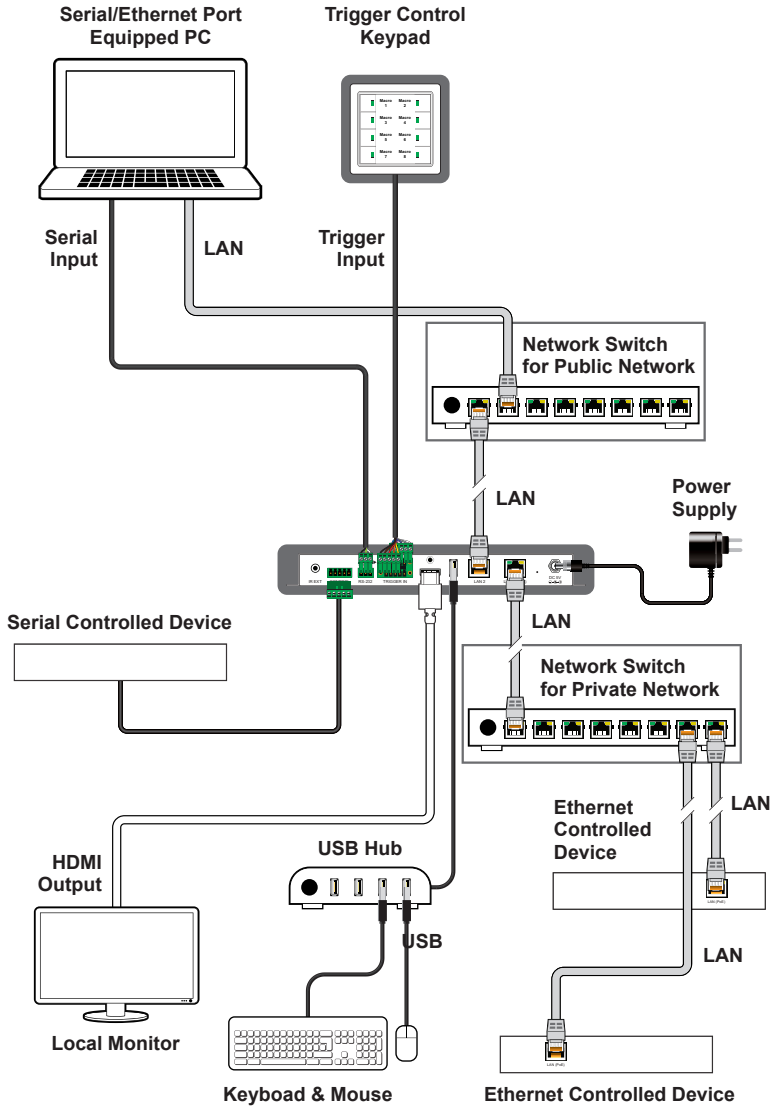
8. SPECIFICATIONS

8.1 Technical Specifications

HDMI Output Resolution	1920×1080@60Hz
Output Port	1×HDMI (Type-A)
	1×Control (5-pin Terminal Block)
Control Ports	1×RS-232 (3-pin Terminal Block)
	8×Trigger (10-pin Terminal Block)
	2×LAN (RJ-45)
	1×USB 2.0 (Type-A)
Baud Rate	19200
Power Supply	5V/2.6A DC
	(US/EU standards, CE/FCC/UL certified)
	or
	PoE (802.3af) from LAN Port 1
ESD Protection (HBM)	±8kV (Air Discharge)
	±4kV (Contact Discharge)
Dimensions (W×H×D)	231.5mm×25mm×108mm [Case Only]
	231.5mm×25mm×117mm [All Inclusive]
Weight	250g
Chassis Material	Metal (Steel)
Chassis Color	Black
Operating Temperature	0˚C – 40˚C/32˚F – 104˚F
Storage Temperature	-20˚C – 60˚C/-4˚F – 140˚F
Relative Humidity	20 – 90% RH (Non-condensing)
Power Consumption	2.99W

CYP

8.2 Video Specifications

Supported Resolutions (Hz)	Output
	HDMI
720×400p@70/85	×
640×480p@60/72/75/85	×
720×480i@60	×
720×480p@60	×
720×576i@50	×
720×576p@50	×
800×600p@56/60/72/75/85	×
848×480p@60	×
1024×768p@60/70/75/85	×
1152×864p@75	×
1280×720p@50/60	×
1280×768p@60/75/85	×
1280×800p@60/75/85	×
1280×960p@60/85	×
1280×1024p@60/75/85	×
1360×768p@60	×
1366×768p@60	×
1400×1050p@60	×
1440×900p@60/75	×
1600×900p@60RB	×
1600×1200p@60	×
1680×1050p@60	×
1920×1080i@50/60	×
1920×1080p@24/25/30	×
1920×1080p@50/60	60
1920×1200p@60RB	×

Supported Resolutions (Hz)	Output
	HDMI
2560×1440p@60RB	×
2560×1600p@60RB	×
2048×1080p@24/25/30	×
2048×1080p@50/60	×
3840×2160p@24/25/30	×
3840×2160p@50/60 (4:2:0)	×
3840×2160p@24, HDR10	×
3840×2160p@50/60 (4:2:0), HDR10	×
3840×2160p@50/60	×
4096×2160p@24/25/30	×
4096×2160p@50/60 (4:2:0)	×
4096×2160p@24, HDR10	×
4096×2160p@50/60 (4:2:0), HDR10	×
4096×2160p@50/60	×

8.3 Cable Specifications

Cable Length	1080p		4K30	4K60
	8-bit	12-bit	(4:4:4) 8-bit	(4:4:4) 8-bit
High Speed HDMI Cable				
HDMI Output	15m	✕	✕	✕

Bandwidth Category Examples:

- **1080p (FHD Video)**
  - Up to 1080p@60Hz, 12-bit color
  - Data rates lower than 5.3Gbps or below 225MHz TMDS clock
- **4K30 (4K UHD Video)**
  - 4K@24/25/30Hz & 4K@50/60Hz (4:2:0), 8-bit color
  - Data rates higher than 5.3Gbps or above 225MHz TMDS clock but below 10.2Gbps
- **4K60 (4K UHD[+] Video)**
  - 4K@50/60Hz (4:4:4, 8-bit)
  - 4K@50/60Hz (4:2:0, 10-bit HDR)
  - Data rates higher than 10.2Gbps

9. ACRONYMS

ACRONYM	COMPLETE TERM
ASCII	American Standard Code for Information Interchange
Cat.5e	Enhanced Category 5 cable
Cat.6	Category 6 cable
Cat.6A	Augmented Category 6 cable
Cat.7	Category 7 cable
CLI	Command-Line Interface
DHCP	Dynamic Host Configuration Protocol
EDID	Extended Display Identification Data
GUI	Graphical User Interface
HDCP	High-bandwidth Digital Content Protection
HDMI	High-Definition Multimedia Interface
HDR	High Dynamic Range
IP	Internet Protocol
IR	Infrared
LAN	Local Area Network
LED	Light-Emitting Diode
MAC	Media Access Control
NTP	Network Time Protocol
OSD	On-Screen Display
PD	Powered Device
TCP	Transmission Control Protocol
4K UHD	4K Ultra-High-Definition (10.2Gbps max)
4K UHD+	4K Ultra-High-Definition (18Gbps max)
USB	Universal Serial Bus