ATLONA
a PANDUIT company

IP to Relay
Command Converter
for Velocity Control System

AT-VCC-RELAY

Atlona Manuals
Command Converter
Velocity Accessory

Version Information

Version	Release Date	Notes
1	Nov 2019	Initial release
2	Mar 2020	Added Firmware Update instructions
3	Apr 2020	Updated screen shots for Velocity version 2.1.0
4	Jan 2024	Updated warranty information

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Operating Notes

IMPORTANT: Visit https://atlona.com/product/at-vcc-relay-kit/ for the latest firmware updates and User Manual.

Warranty

To view the product warranty, use the following link or QR code:
https://atlona.com/warranty/.

Important Safety Information

CAUTION: TO REDUCT THE RISK OF ELECTRIC SHOCK
DO NOT OPEN ENCLOSURE OR EXPOSE TO RAIN OR MOISTURE.
NO USER-SERVICEABLE PARTS INSIDE REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance instructions in the literature accompanying the product.

The information bubble is intended to alert the user to helpful or optional operational instructions in the literature accompanying the product.

1 Read, follow, and keep these instructions.

2 Heed all warnings.

3 Do not use this product near water. Keep away from wet places, such as: spas, pools, sinks, laundries, wet basements, etc.

4 When cleaning, unplug the unit and wipe with a dry cloth. Do not use damp cloths, cleaning fluids, or aerosols which may result in electric shock, fire, or unit damage.

5 Operate this product using only the included power supply and/or power cable. Use of an unapproved power implement may impair performance, damage the product, or cause fires.

6 Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.

7 Do not install or place this product near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.

8 Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the product.

9 Only use attachments/accessories specified by Atlona to avoid fire, shock, or other hazards.

10 To reduce the risk of electric shock and/or damage to this product, never handle or touch this unit or power cord if your hands are wet or damp. Do not expose this product to rain or moisture.

11 Unplug this product during lightning storms or when unused for long periods of time.

12 Never open, remove unit panels, or make any adjustments not described in this manual. Attempting to do so could result in electric shock, damage to the unit, or other hazards.

Norway: This product was intended for TN power distribution system and IT power system of Norway.

FCC Statement

FCC Compliance and Advisory Statement: This hardware device complies with Part 15 of the FCC rules. Operation is subject to the following two conditions: 1) this device may not cause harmful interference, and 2) this device must accept any interference received including interference that may cause undesired operation. This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a commercial installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed or used in accordance with the instructions, may cause harmful interference to radio communications. However there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures: 1) reorient or relocate the receiving antenna; 2) increase the separation between the equipment and the receiver; 3) connect the equipment to an outlet on a circuit different from that to which the receiver is connected; 4) consult the dealer or an experienced radio/TV technician for help. Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment. Where shielded interface cables have been provided with the product or specified additional components or accessories elsewhere defined to be used with the installation of the product, they must be used in order to ensure compliance with FCC regulations.

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Introduction

The Atlona AT-VCC-RELAY-KIT is an accessory for the Atlona Velocity™ Control System that provides conversion between IP control commands and relay / sensor signals. This Velocity Control Converter is very compact and can be placed anywhere a device requires control and is not IP-capable. The VCC-RELAY-KIT is remotely powered through Power over Ethernet (PoE), or locally from a USB power source. The primary unit installs onto any surface via a convenient mounting dock. A simple “click” locks it into place for a secure, reliable installation. The control port module supports DIN rail installation, and features four relay outputs plus four sensor inputs. The inputs and outputs are both configurable for various operating modes.

Features

- Provides conversion between IP and relay / sensor control signals for the Velocity Control System
- Compact form factor – inconspicuous and easily concealable
- Easy to set up and configure using the Velocity Control Suite
- Remotely powered via PoE (Power over Ethernet)
- Also can be powered through USB from a nearby USB power source
- Primary unit installs onto any surface via a convenient mounting dock – simple “click” locks device into place
- Control port module includes four relay outputs and four sensor inputs
- Relay outputs configurable to support common relay types – Single Pole Single Throw (SPST), Single Pole Double Throw (SPDT), and Double Pole Double Throw (DPDT)
- Sensor inputs can be configured to support voltage or contact closure sensing
- Push-in terminal blocks for relay and sensor connections
- 4.5 foot (1.4 meter) cable
- Control port module supports DIN rail installation
- Award-winning 10 year limited product warranty

Package Contents

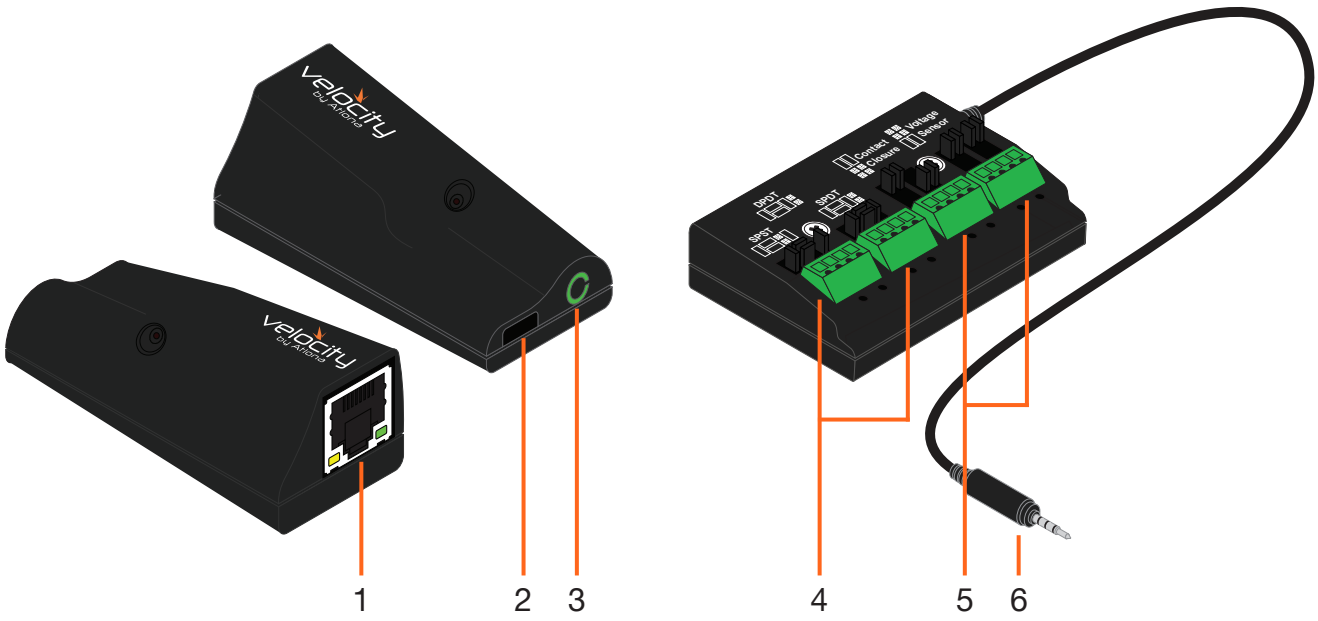
1 x AT-VCC
1 x AT-VCC-RELAY

Operating Notes

- The Velocity Command Converter must be on the same network as the Velocity Gateway (AT-VGW-250) or it will be unable to sync for control.
- The AT-VCC-RELAY-KIT is PoE, to power the unit, simply plug it into a PoE compatible network switch. If the network switch is not PoE capable, a PoE injector (purchased separately) or USB can be used.
- All devices (AT-VCC, Velocity, AT-VTP, switchers, etc) should be set to static IPs or the DHCP IP address reserved for each individual device.

IMPORTANT: Velocity Gateway (AT-VGW-250) must be set up before the AT-VCC-RELAY-KIT is fully functional.

Panel Description



1 Ethernet
Connect an Ethernet cable from this port to the same network as the Velocity Gateway.

2 USB
Optional - Connect a mini USB to USB cable here for power.

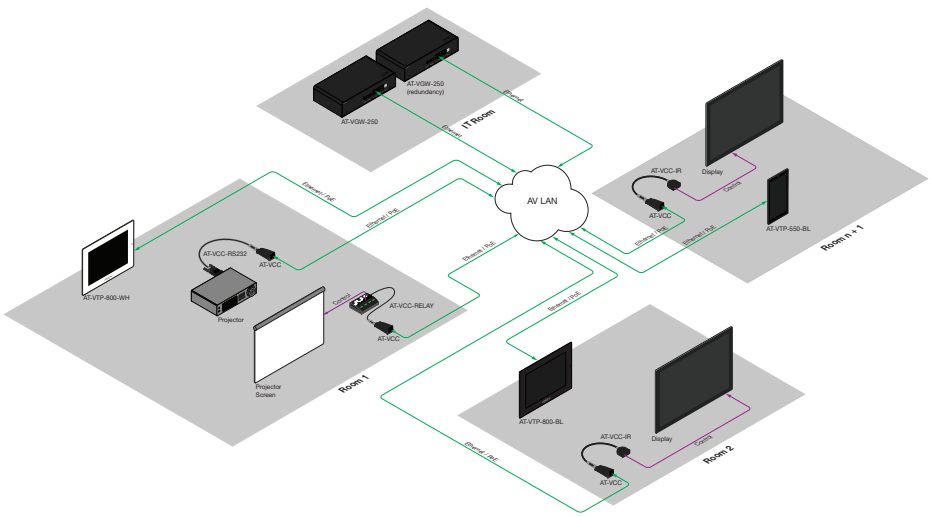
3 3.5mm Port
Connect to a VCC relay connector.

4 Relay
Connect relay here, adjusting the jumpers to set the unit to the correct mode.

5 Sensor
Connect sensor here, adjusting the jumpers to the correct mode.

6 3.5mm Connector
Connect the 3.5mm connector to the 3.5mm port of the VCC.

Connection Diagram



Configuration

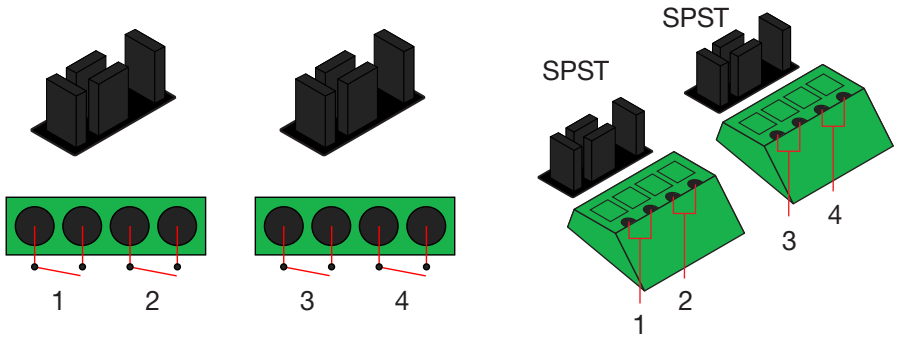
Relay

The relay has 4 terminals which vary in function depending on how the jumpers above the ports are set.

NOTE: Relays can only work up to a maximum of 24V and 500 mA current.

Single Pole, Single-Throw (SPST)

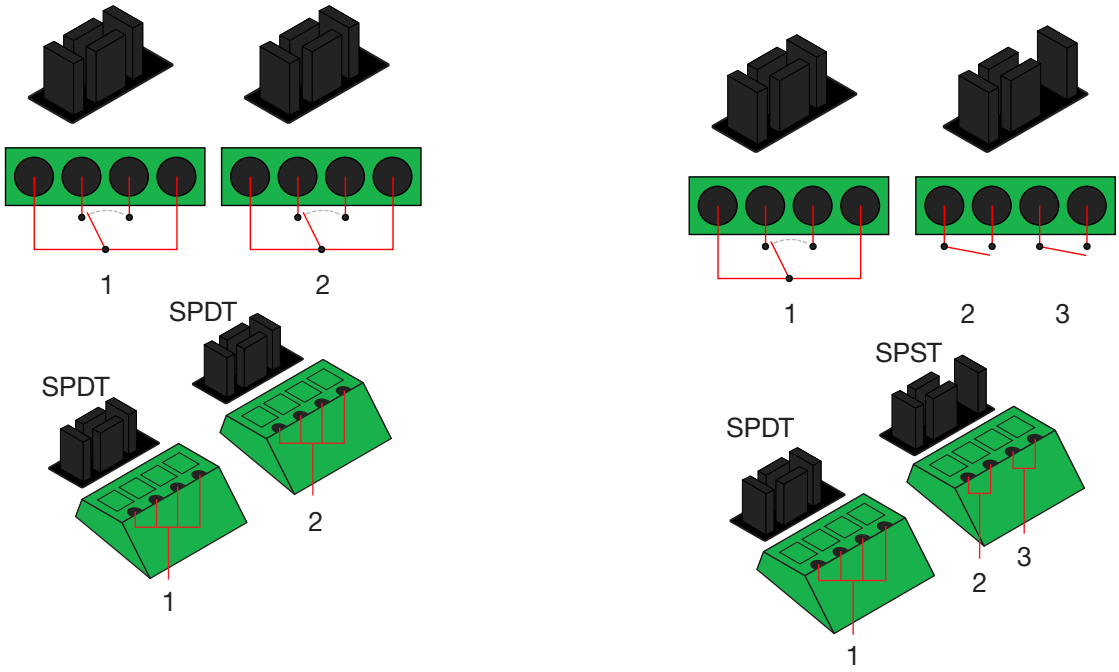
Place the jumpers as shown below, this can be done to a single connector or to both to create up to 4 independent relays.



Single Pole, Single-Throw is best used when using a device with a simple open/close (off/on) circuit is being used.

Single Pole, Double-Throw (SPDT)

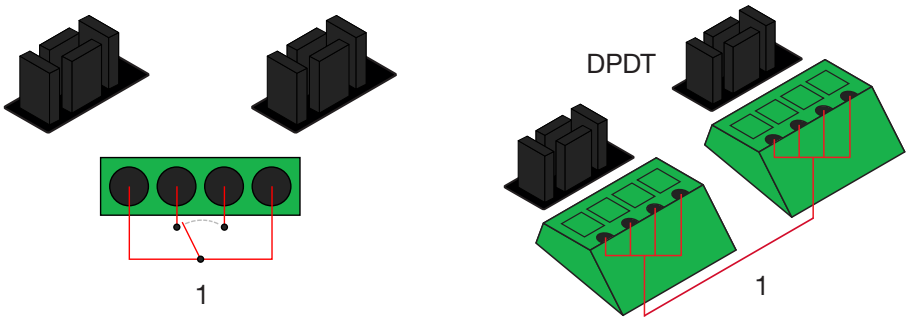
Place the jumpers as shown below, this can be done to a single connector or to both to create up to 3 independent relays.



Single Pole, Double-Throw is best used when two circuits are going to one common, such as: switching between two input circuits or selecting two power sources.

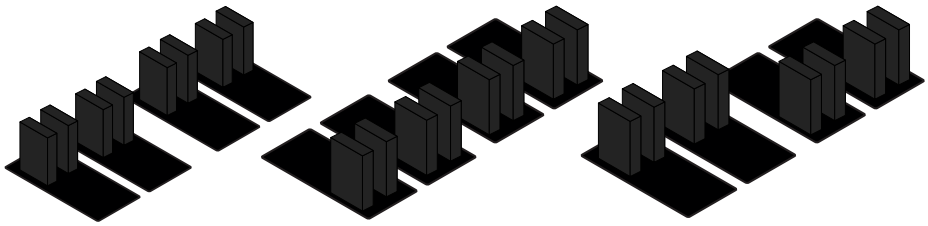
Double Pole, Double-Throw (DPDT)

When DPDT is selected within Velocity, it will create 2 relays that work simultaneously. If one port is opened, the other will open at the same time. The DPDT is a variant of the SPDT and the jumpers must be placed exactly as below to work.



Sensor

The ports can be set to sense either voltage or contact closure. Contact closure will react to the change in current, while voltage will react to voltage as low as +/- 3V or as high as +/- 24V.



Both ports are set to Contact Closure

Both ports are set to Voltage Sensor

The ports are set to Contact Closure for the first two ports and Voltage Sensor for the last two.

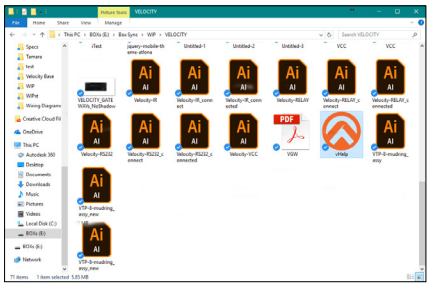
IP

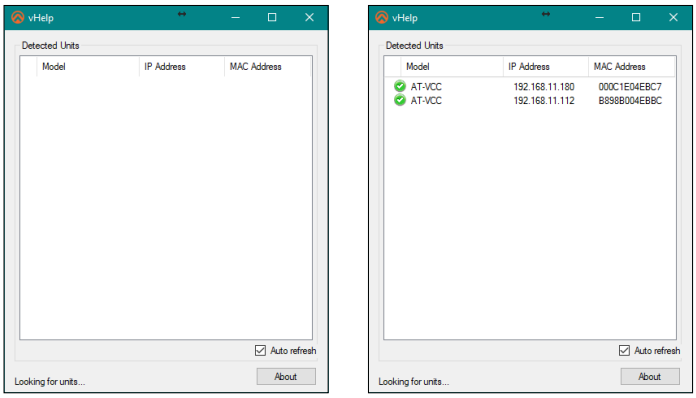
The AT-VCC is set to DHCP by default. If the network does not support DHCP, it will automatically set the AT-VCC to the static IP of 192.168.1.70 after 30 seconds.

VHelp and webGUI

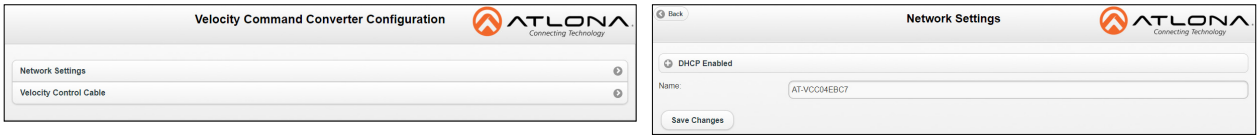
Velocity will find the VCC when scan network is used, but if the VCC needs to be set up off site first, the software VHelp can be used.

1. Connect the Relay connector into the 3.5mm port on the unit.
2. Connect the AT-VCC to a network switch (PoE is best if a PoE switch is not available, a power injector or mini USB to USB cable may be used).
3. Download VHelp from the resource tab of https://atlona.com/product/at-vcc-relay-kit/.
4. Unzip the file to the local PC
5. Double-click the VHelp executable to open the program. Vhelp will start discovery as soon as the program is opened.



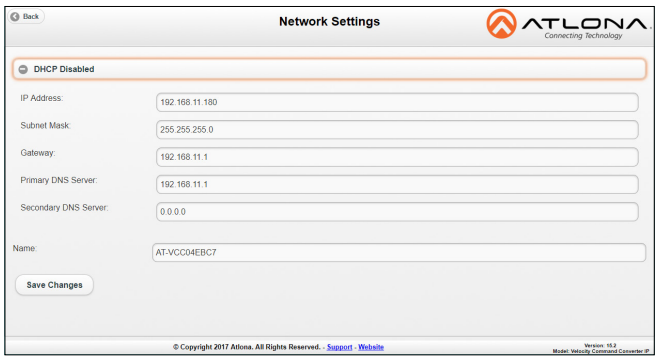


6 Double click on the VCC (to determine the correct one, look on the bottom of the VCC for the MAC address). The PC default browser will open to the AT-VCC webGUI.



7 Select Network Settings to open the IP configuration page.

8 Select the DHCP Enabled header, this will disable DHCP and allows IP settings to be edited.

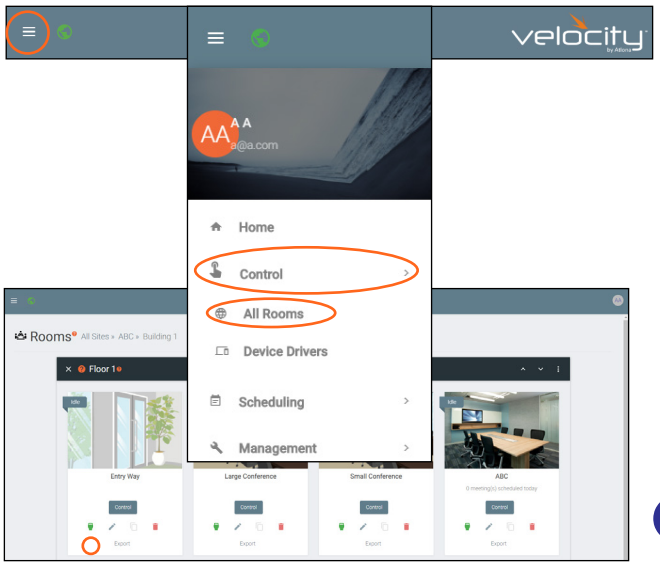


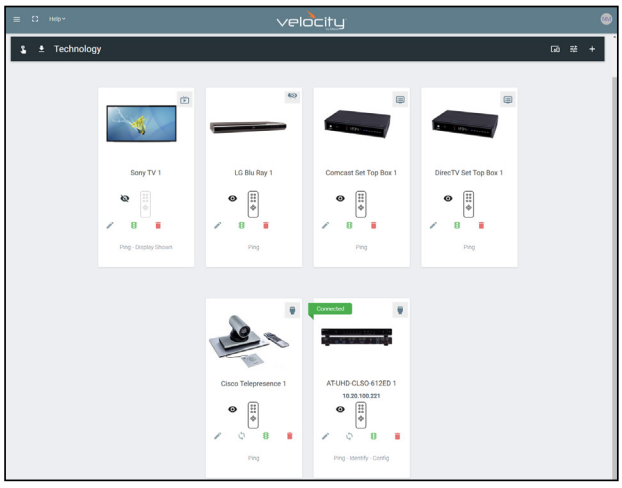
9 Type in the IP details to match the network details of the Gateway. e.g. If the Velocity gateway is located at the IP of 192.168.12.15, then the VCC should be set to an IP within the 192.168.12.XXX range that has not already been used.

10 Press the Save Changes button.

11 Open any browser on the network and type in the IP address of Velocity.

12 Select the = button from the top left corner and select **Control**.



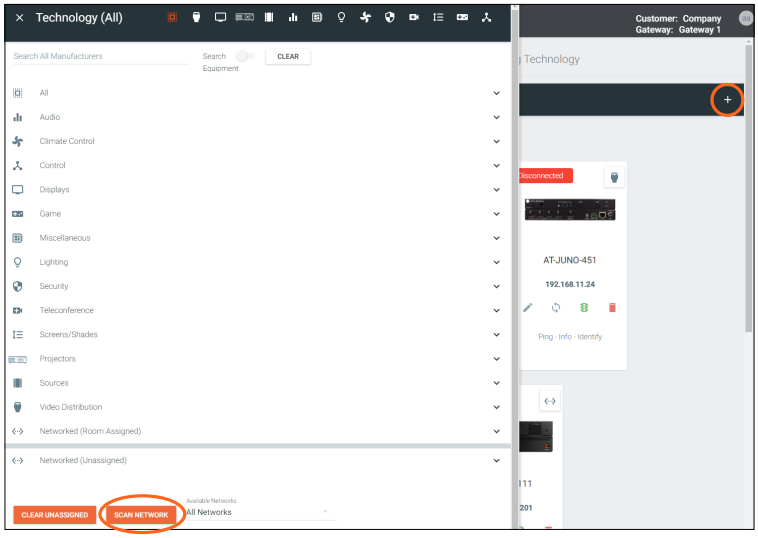


NOTE: Connecting the VCC to Velocity can only be done once Velocity has been set up. View the Velocity Manual for instructions.

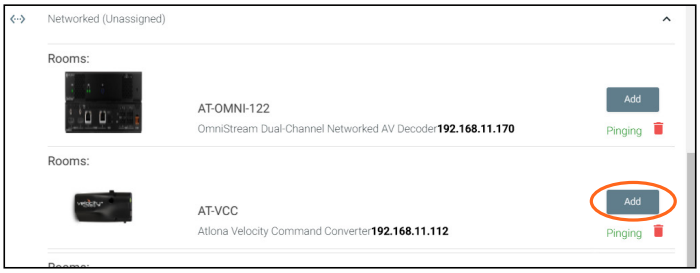
13 Select **All Rooms**. A new screen will take over.

14 Select the room the VCC is located in. A new screen will take over the window and display the technology in the room.

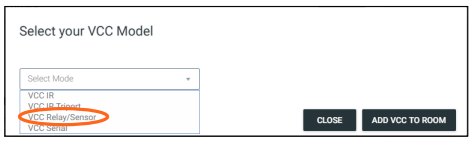
15 Select the **+** button located at the top right corner of the room. A new menu will open.



16 Press the scan network button. All Atlona devices found will appear in the unassigned list.



17 Select the Add button next to the VCC. A new pop up will appear.



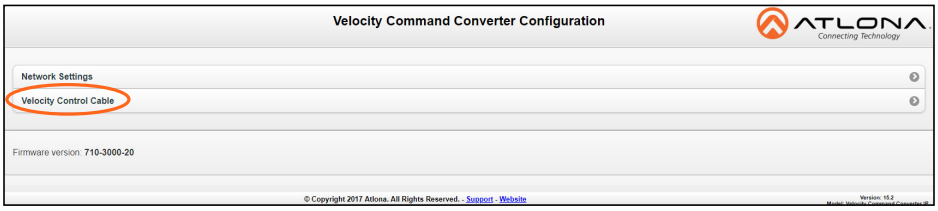
18 Select the **VCC Relay/Sensor** from the drop down menu.

19 Press the **ADD VCC TO ROOM** button. A VCC tile will appear in the room.

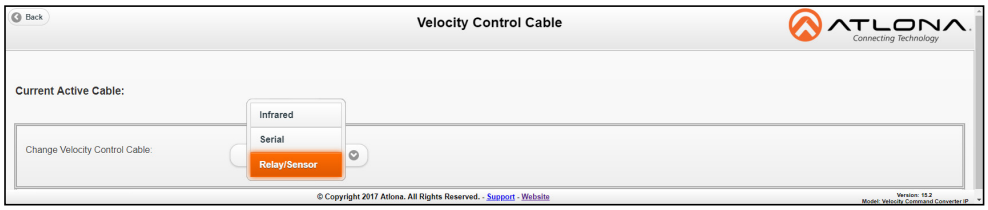
The VCC is now ready to use. Refer to the Macros, Event Macros, and Room Triggers section of the Velocity manual for setting up relay control.

NOTE: If for some reason the unit isn't syncing or the settings aren't being set, they can be set up manually through the VCC webGUI.

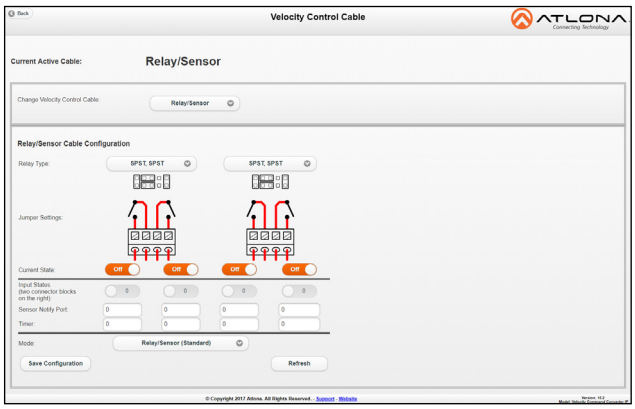
- Type the VCC's IP into a web browser to open the Velocity Command Converter Configuration.
- Select **Velocity Control Cable** from the two options.



- Select **Relay/Sensor** from the drop down menu.



- Select the Relay/Sensor configurations.



NOTE: Ensure to select the Relay type that matches how the connector was pinned. Refer to Relay and Sensor sections if unsure how to set up the connector.

Firmware Update

To update the VCC the most recent vHelp software will be needed. The vHelp has the firmware built into the software and will automatically detect if the VCC is on the most recent firmware.

1 Connect the AT-VCC to a network switch (PoE is best if a PoE switch is not available, a power injector or mini USB to USB cable may be used).

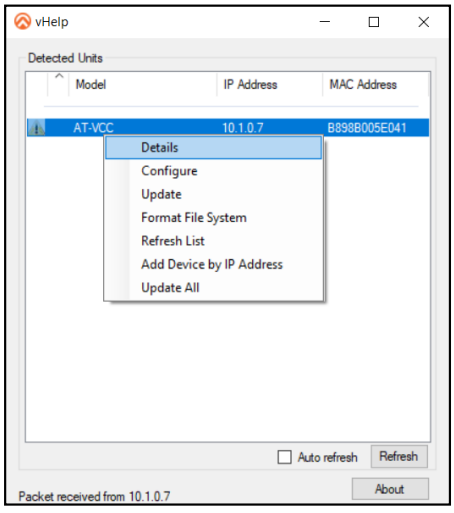
2 Download VHelp from the resource tab of https://atlona.com/product/AT-VCC-RS232-KIT.

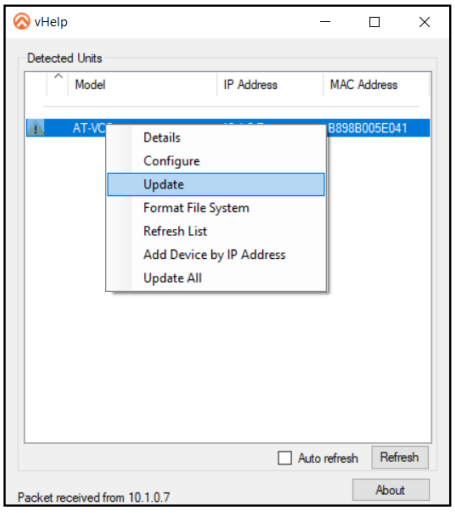
3 Unzip the file to the local PC

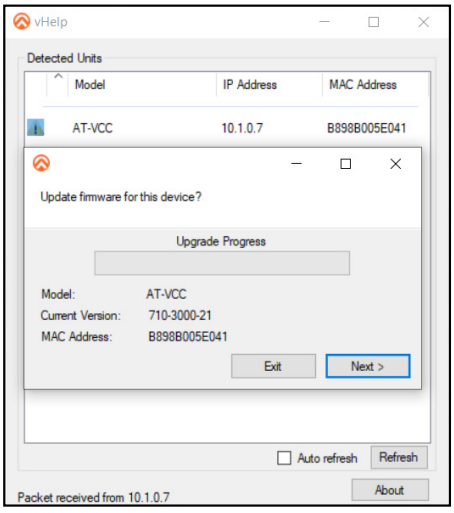
4 Double-click the VHelp executable to open the program. Vhelp will start discovery as soon as the program is opened.

5 Once the unit is found, if it is out of date an exclamation mark will display next to it. Right click to open the drop down menu.

6 Select Update from the drop down list. A new pop up will appear.

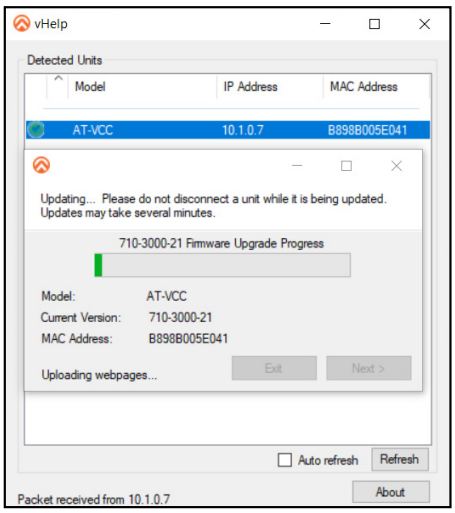


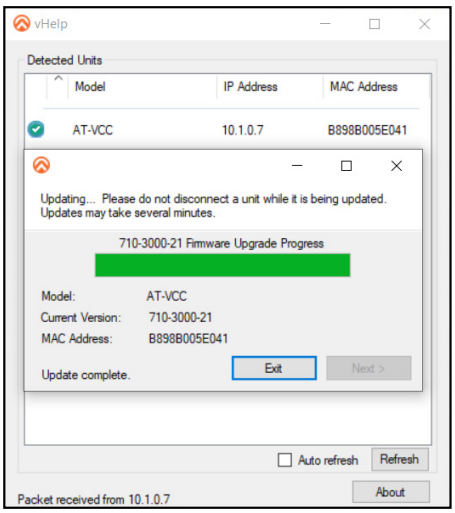


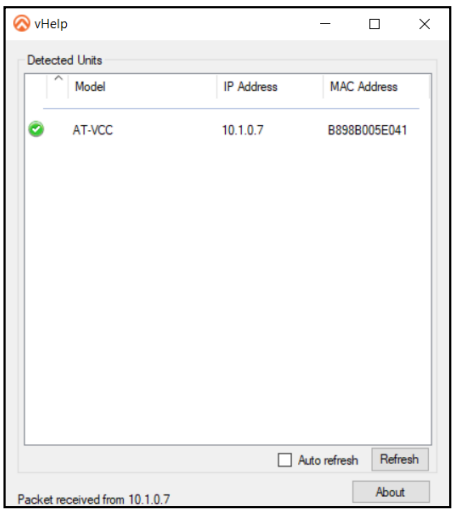


7 Press the Next button to start the update. The progress bar will cycle through green. This process can take up to 2 minutes.

8 Once the update is complete, press Exit. The unit will now show a green check mark next to it to show the unit is up to date.



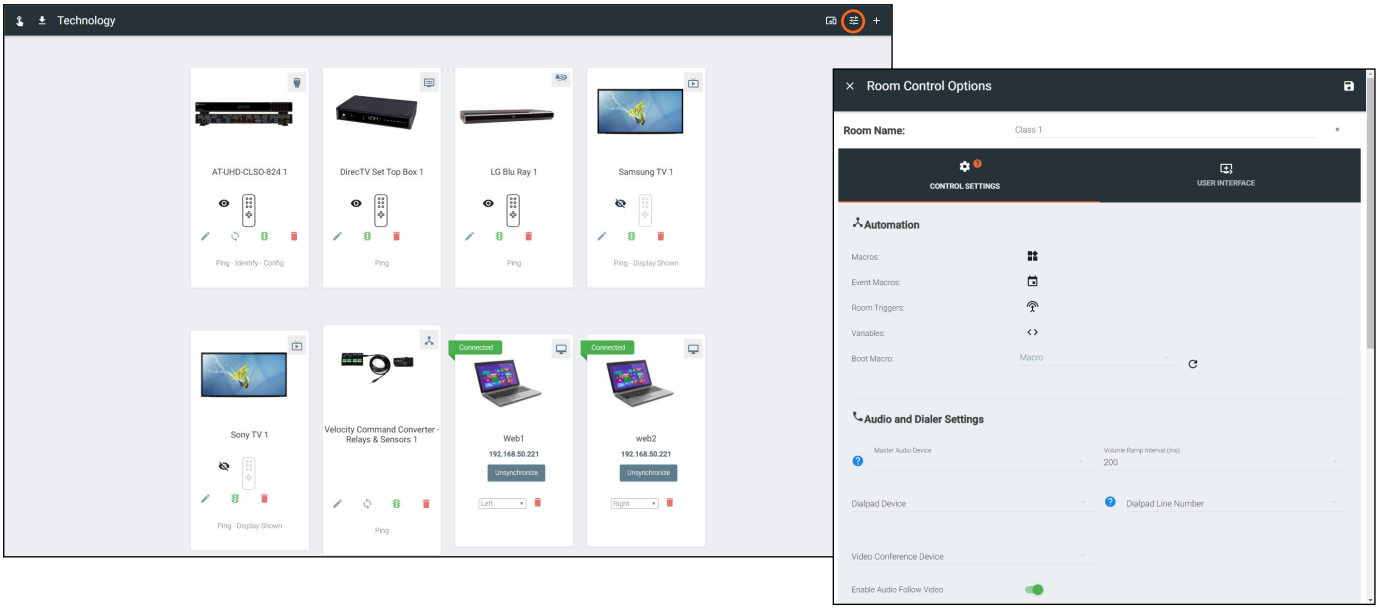




Control

Once the VCC has been connected and configured, control can be set up. The VCC can be set to control devices through manual button selection, or automatic controls with event or room triggers.

NOTE: It is best to have Velocity and the room set up before setting up control. Ensure all devices are added and assigned correctly.



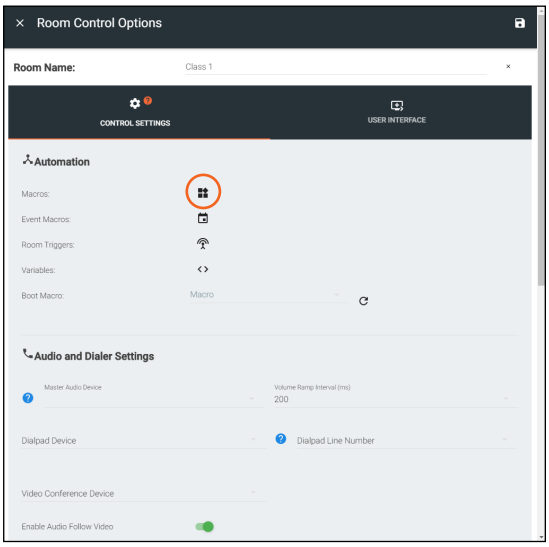
1 Select Room options from the right corner of the Technology page.

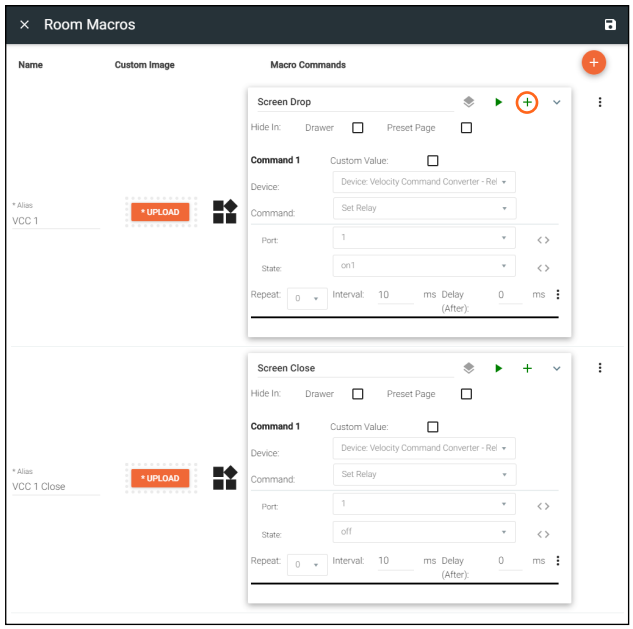
Macros

Macros can be used to manually open and close the relay ports, this can be used to control projector screens, room dividers, and more.

2 Select the Macros button. A new screen will take over the Room Control Options menu.

3 Press the orange and white + button in the top right corner. New options will appear.





4 Press the green + arrow to open the macro options.

5 Set the Device to Velocity Command Converter - Relay.

6 Select the port that will be associated with the command.

7 Select the state that will be activated with the macro.

8 *Optional* Provide a command name and Alias name.

9 Press the save button in the top right corner of the screen.

In the first example, the Macro: Screen Drop will provide a macro button to select from the control screen and close port 1 of the VCC-Relay to trigger the projector screen to drop down.

In the second example, the Macro: Screen Close will be available in the macro section in the control screen and will open port 1 of the VCC-Relay to trigger the projector screen to go back up.

NOTE: On1 and On2 are used when the VCC is set to Double Pole, Double-Throw. While in this mode, off will not be functional.

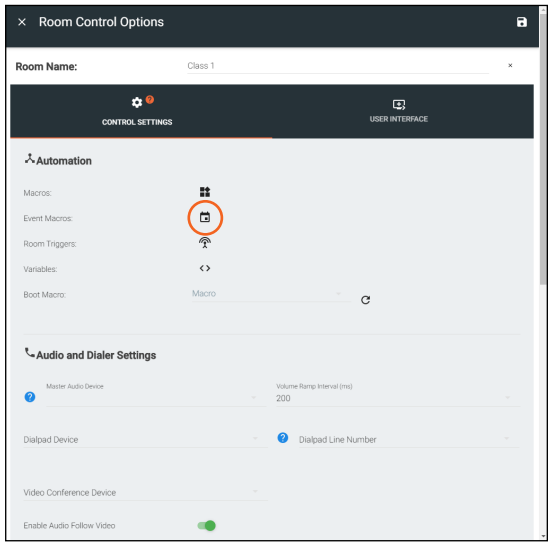
NOTE: These are just general examples for control. The VCC-Relay can be used to control anything that use relay controls.

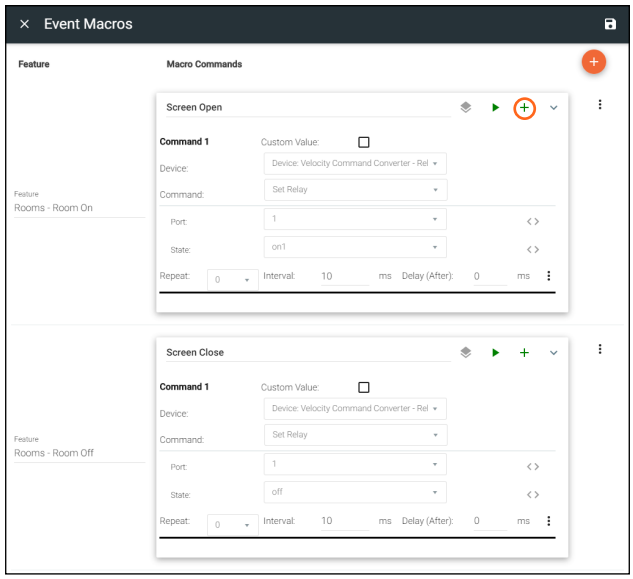
Event Macros

Event Macros can be set up to trigger the Relay to open and close when certain commands are sent. This enables automatic control of devices such as drop down screens, lights, etc.

2 Select the Event Macros button. A new screen will take over the Room Control Options menu.

3 Press the orange and white + button in the top right corner. New options will appear.





4 Press the green + arrow to open the macro options.

5 Set the Device to Velocity Command Converter - Relay.

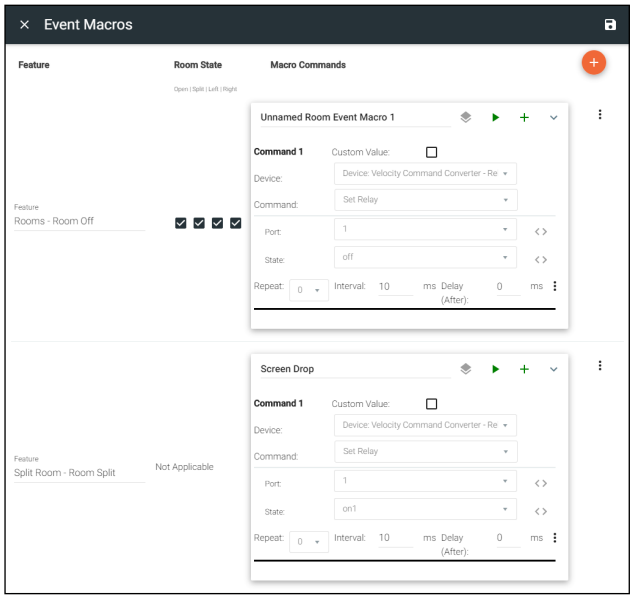
6 Select the port that will be associated with the command.

7 Select the state that will be activated with the macro.

8 *Optional* Provide a command name and Alias name.

In the first example, the Event Macro: Screen Open will close port 1 of the VCC-Relay to trigger the projector screen to drop down when the Room On command within Velocity is used.

In the second example, the Event Macro: Screen Close will open port 1 of the VCC-Relay to trigger the projector screen to go back up when the Room Off command within Velocity is used.



9 *Only when Split Rooms is enable within Room Options* Select which room states this event will be active in.

10 Press the save button in the top right corner of the screen.

In the first example, the Event Macro is triggered by the Room Off command, and will only take effect when the room is Split. This will trigger port 1 of the relay to open and break the circuit for the connected device.

In the second example, the Event Macro is triggered by the room mode being set to split room. Room state is not an option for this triggering event. The room being split will trigger port 1 of the relay to close and complete the circuit for the connected device.

NOTE: On1 and On2 are used when the VCC is set to Double Pole, Double-Throw. While in this mode, off will not be functional.

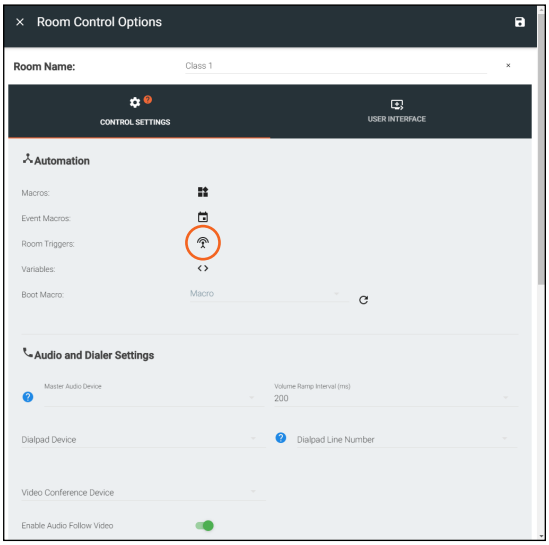
NOTE: These are just general examples for control. The VCC-Relay can be used to control anything that use relay controls.

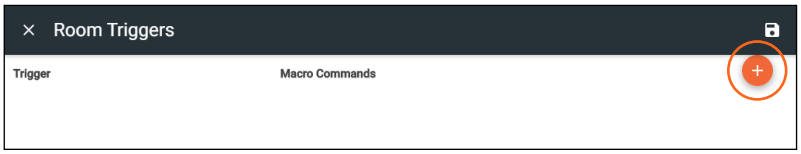
Room Trigger

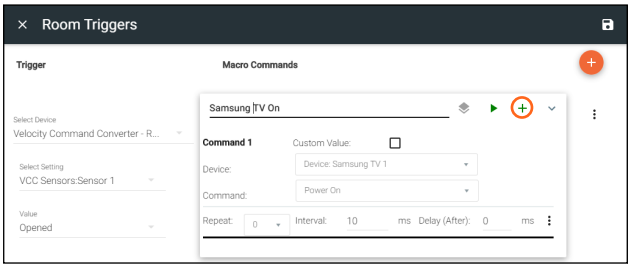
Room Triggers can be used to create automated events when the VCC sensors are opened or closed. This can be used to trigger Velocity to send commands, macros, and more.

2 Select the Event Macros button. A new screen will take over the Room Control Options menu.

3 Press the orange and white + button in the top right corner. New options will appear.







4 Select the Velocity Command Converter - Relay from the Device drop down.

5 Select the sensor that will be associated with the command.

6 Select the value that will activate the command.

7 Select the Device and command that will be controlled when the sensor is triggered.

8 *Optional* Provide a command name and Alias name.

9 Press the save button in the top right corner of the screen.

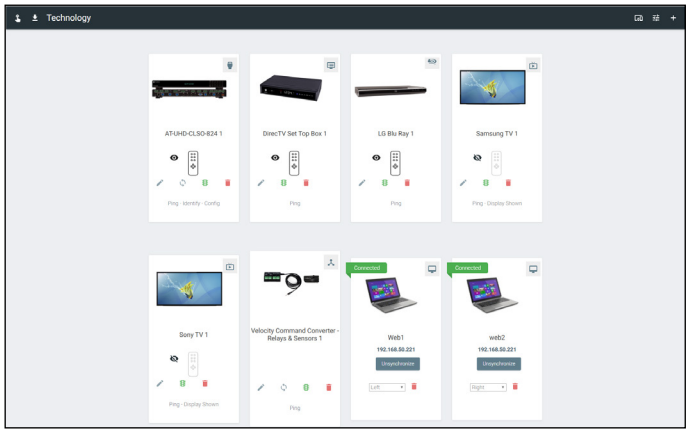
In this example, the sensor being broken will trigger Velocity to send the command Power On to the Samsung TV. The VCC sensors can be programmed to trigger any number of events.

In this example, the sensor being broken will trigger Velocity to set the VCC-Relay port 1 to open. This example will cause the VCC's connected screen to close. It can also be used to trigger the events from the Event Triggers at the same time.

Split Rooms

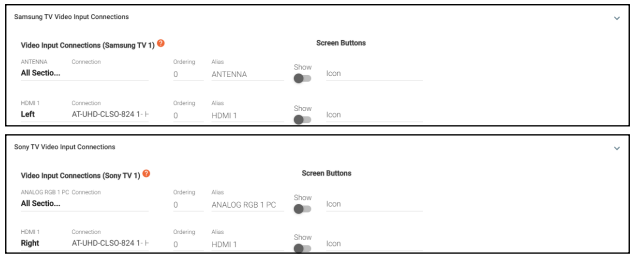
A big use of the Room Triggers is for Split Rooms. This will provide a way to automate rooms when sensors are triggered by opening and closing of a room divider and much more.

1 Set up the room with all the devices.

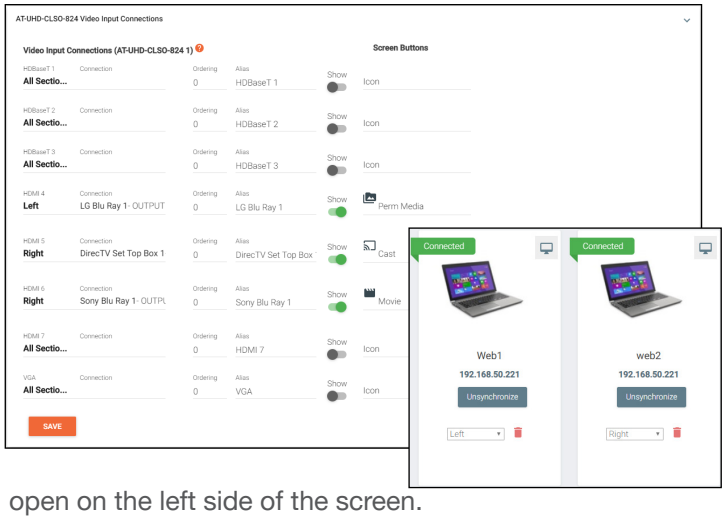


NOTE: Connect the sensor of the VCC-Relay to the room divider, so that when the divider is opened and closed it will complete or break the circuit.

2 Ensure all devices are set to their side of the room. When using a switcher, the inputs can be set within the switcher menu.

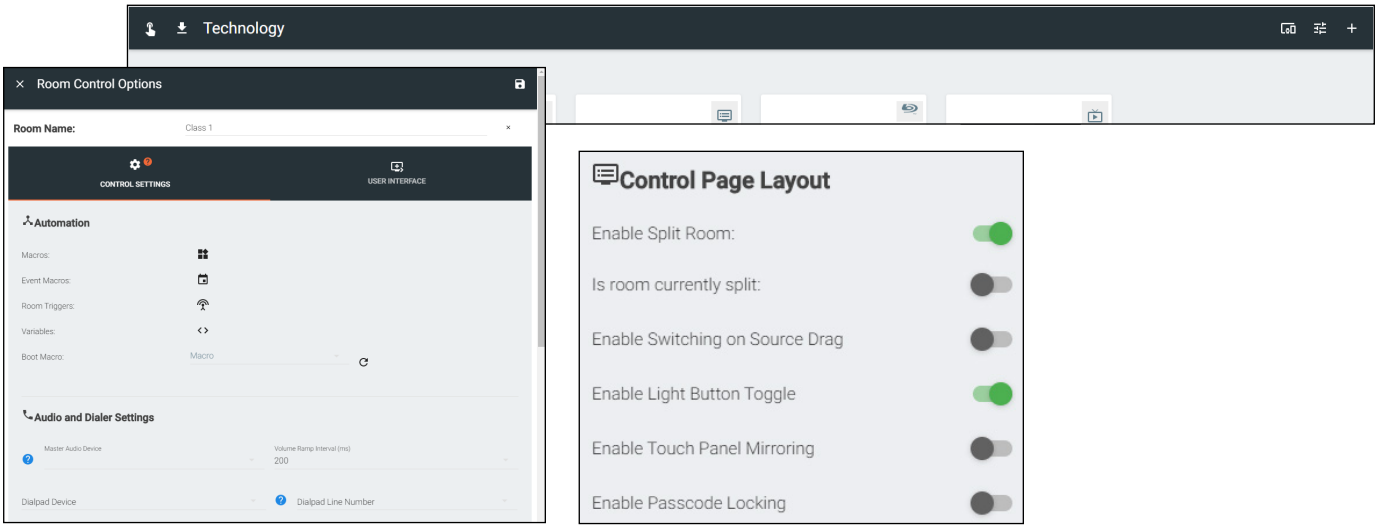


NOTE: If a device is set to All Sections, when the room is split, either side of the room can control that device. It is best to set to one section so neither presenter will accidently control the wrong source.

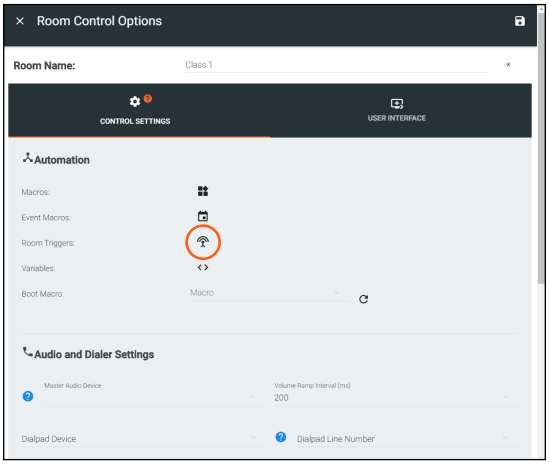


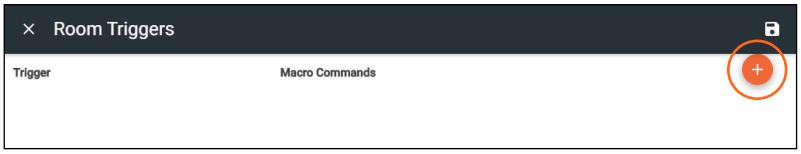
3 Select Room Options from the top right. A menu will open on the left side of the screen.

4 Scroll down to the Control Page Layout section and Select the Enable Split Room slider. A new option will appear below. Enable the Is room currently split if the room is currently set up as split, this is not required for setting up the rest of the control.



5 Scroll back to the top of the room options and select Room Triggers.





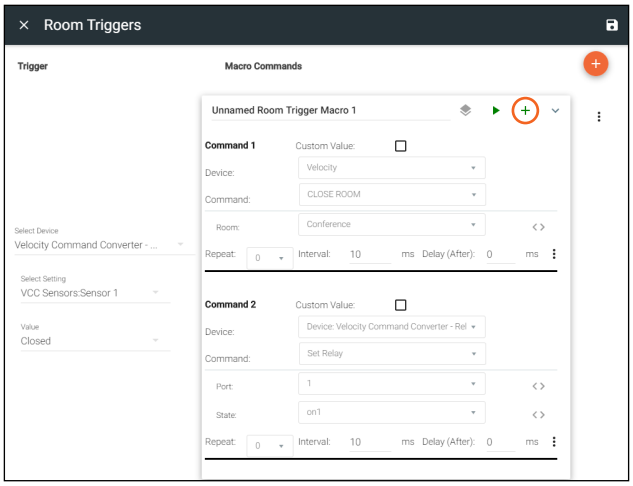
4 Select the Velocity Command Converter - Relay from the Device drop down.

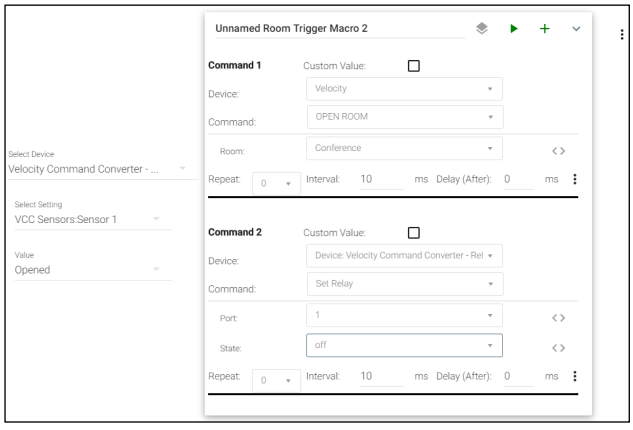
5 Select the sensor that will be associated with the command.

6 Select the value that will activate the command.

7 Select Velocity from the Device drop down menu of the command.

8 Select the command Close Room from the drop down menu.





9 Select the room that will be triggered. Only rooms that have split rooms enabled will be selectable in the drop down menu.

10 *Optional* Select the green + arrow, to set up another command triggered by the same value.

11 *Optional* Select Velocity Command Converter-Relay from the device drop down, Set Relay from the command relay, port 1, and on1 for the state.

12 Select the orange and white + button at the top right corner.

13 Select the Velocity Command Converter - Relay from the Device drop down.

14 Select the sensor that will be associated with the command.

15 Select the value that will activate the command.

16 Select Velocity from the Device drop down menu of the command.

17 Select the command Open Room from the drop down menu.

18 *Optional* Select Velocity Command Converter-Relay from the device drop down, Set Relay from the command relay, port 1, and off for the state.

NOTE: On1 and On2 are used when the VCC is set to Double Pole, Double-Throw. While in this mode, off will not be functional.

19 Press the save button in the top right corner of the screen.

The room will now switch back and forth between Split and Open based on if the room divider is open or closed. With the optional steps it will also trigger the display screen open and closed at the same time.

Appendix

Specifications

Ports	
Network Connection	RJ-45, 100/10 Mbps Ethernet Protocol
Relays	4 x SPST with transient voltage suppression 24 V AC/DC or 0.5 A NO contact
Relay Configurations	Single Pole Single Throw (SPST) Single Pole Double Throw (SPDT) Double Pole Double Throw (DPDT)
Sense Modes	Voltage: AC/DC voltages ± 3 V to ± 24 V (RMS) Contact Closure: Use for input from devices or feedback from external relays

Power	
USB	Micro-B
PoE	802.3af-compliant

Dimensions	Inches	Millimeters
H x W x D (AT-VCC-RELAY)	0.90 x 3.24 x 2.00	22.86 x 82.29 x 50.80
H x W x D (AT-VCC)	0.82 x 1.22 x 2.58	20.82 x 30.98 x 65.53

Weight	Pounds	Kilograms
AT-VCC-RELAY	0.15	0.06
AT-VCC	0.05	0.02

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