

## Selecting the Appropriate A/V Controller

Selecting the appropriate controller for a classroom requires important considerations with regards to the initial installation process, equipment features, support and the impact on future equipment upgrades. A controller solution represents an investment to the perceived educational experience of the students. A controller solution that does not satisfy the needs of the educator and the school can ultimately negate its purpose of simplifying equipment control, resulting in additional cost from lost productivity and continuous support needs.

The supported control types offered by a controller are the most important consideration. Before selecting a controller solution, the first step is to identify the control type of the equipment that will be installed in the classroom. Devices such as DVD and Blu-ray players are primarily controlled through Infrared (IR) whereas projectors and displays utilize RS232. Although projectors and displays can also be controlled through IR, it is not always preferred due to interference from florescent lights. Since most classroom installations consist of devices that utilize both IR and RS232, a controller with the ability to handle both control types is recommended. Matching the control types offered by the classroom controller to the protocols required by the classroom's A/V devices will ensure that all devices will accept commands from the classroom controller. If the classroom controller is not able to control all of the devices, then individual remotes for the devices in addition to the controller would be required to operate the A/V system which will increase the complexity.

The process of programming the controller must fit the needs of the installer. A controller that offers a simple and flexible installation process will save time and offer support for future equipment upgrades. Controller solutions on the market are configured by using one of a few common methods such as programming scripting command lines or using a Graphical User Interface (GUI). Writing command line scripts can be very time consuming and often results in complications from improper entries and programming errors. A controller programmed using a GUI offers fast and reliable configurations. Rather than writing individual command lines through programming, a user friendly interface allows the user to select the operations and configuration desired. The GUI will write the code for the user based on the user's selected inputs. Most control codes are preloaded in a database library that the GUI can utilize to reduce programming time. When equipment is upgraded years later, the controller can be easily reprogrammed to support the new equipment. Some controllers offer programming through the wall plate. This allows the installer to bypass scripting command lines or using the GUI. Typically this programming method is limited to an IR learning function. Controller with an IR learning feature will have an IR target on the front of the wall plate which will allow the user to program IR commands using a device's original remote.

The information that has been programmed by scripting commands or using the GUI must be uploaded to the controller by making a connection to a computer or a USB memory stick. The controller is commonly connected to a computer through USB or an Internet Protocol (IP) network connection. USB On-The-Go (OTG) is another method which allows the user to download a controller configuration from a wall plate that has been programmed to a USB memory stick. The user then connects the USB memory stick to a different wall plate controller and uploads the configuration. This eliminates the need to connect the controller directly to a computer and can reduce installation time.

The final factor in selecting a controller is the support for timed events. Timed events allow the installer to set up a sequence of commands that will occur at a specified time of day. An example would be to set up an event that will turn off all of the A/V devices in a classroom at 6:00PM. This provides a cost savings for the school by reducing power consumption from A/V equipment that is not in use and may extend the life of the equipment. To support the timed events an important feature is a battery backup. The battery backup allows the controller to support a real-time clock so that events still occur in the event of a power outage. If a controller does not have a battery backup, then each controller may need to be reprogrammed.

