

## TECHNICAL NOTE

> XAP GWARE 127

### Controlling 3rd-party Equipment with the Tabletop Controller

#### Description

This document covers how to control third party equipment using ASCII serial strings from a XAP system.

The Tabletop Controller is a software configurable device that includes five user-definable buttons that can be programmed to control third-party devices that accept ASCII serial commands. While the Tabletop Controller does not directly control these devices, it can instruct a XAP 800 or XAP 400 to send RS-232 commands using the `STRING` command that is available in the XAP system.

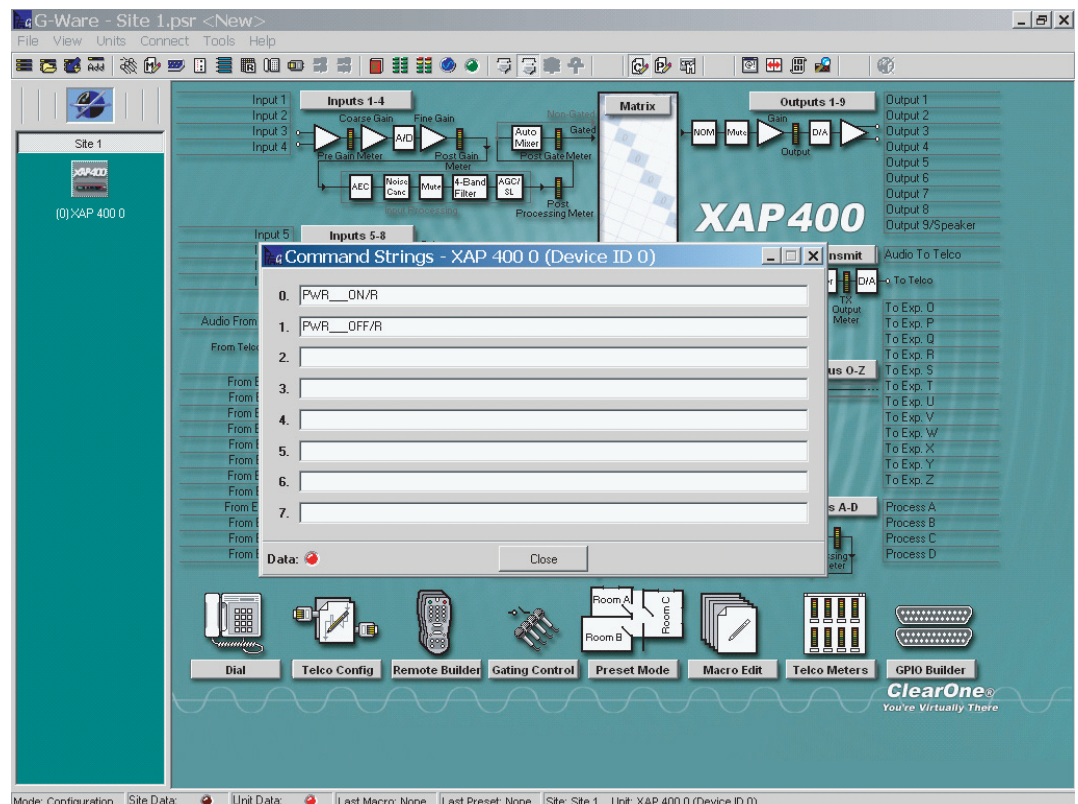
#### Command Strings

The XAP 800 and XAP 400 have the ability to send up to eight individual Command Strings via the RS-232 port. In order for a command string to be sent out the RS-232 port, there needs to be a port available to connect to the third-party device. The command strings are programmed into the XAP unit using G-Ware. The Command Strings screen (see Figure 1) can be used to input an ASCII string of up to 80 characters. HEX commands are not supported. Consult the documentation for the device to be controlled for the proper ASCII strings. You can then input the commands into the Control Strings screen similar to Figure 1. To open the input screen in G-Ware, click on **View** and then select **Command Strings**.

> Figure 1

#### Epson 830p projector command strings

**Note:** If a single unit is being controlled by the Wired Tabletop Controller, the RS232 port will not be available. Another option to consider is using the GPIO port on the unit to control external devices instead of the serial port. Consult the Tabletop Controller GPIO Control technical note for information on how to configure this function.



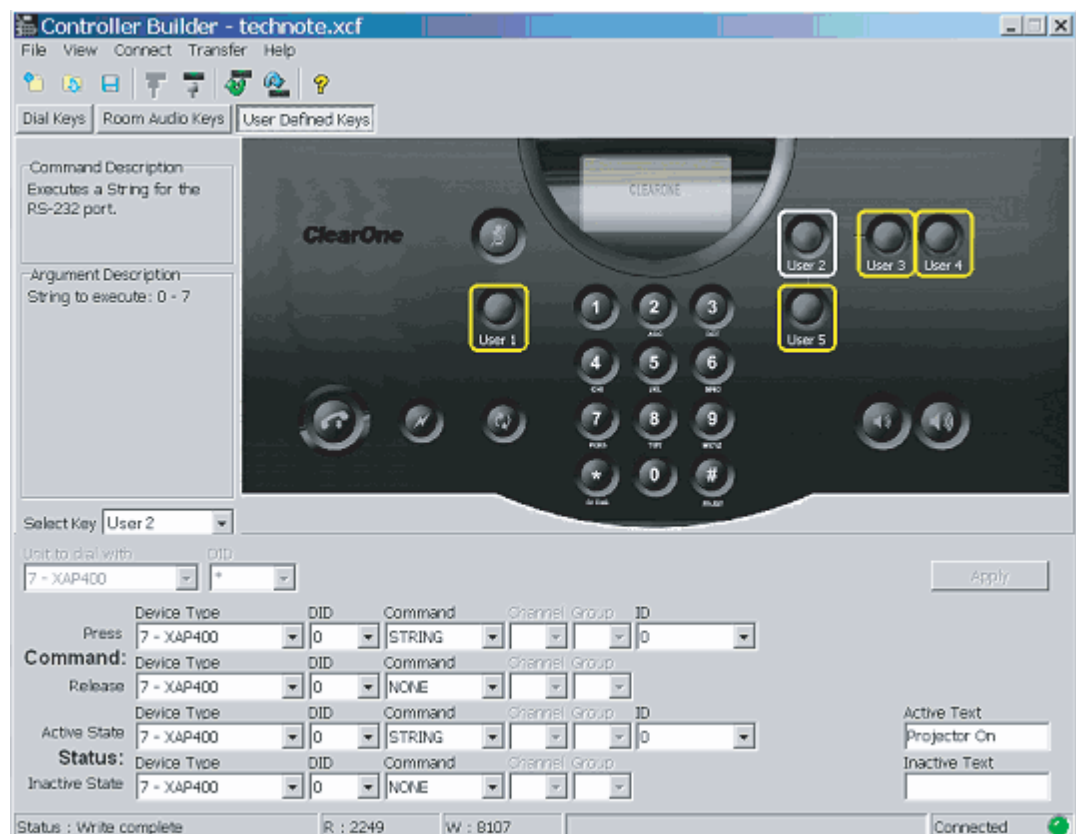
## Configuring the Tabletop Controller User Keys to Execute Command Strings

The Tabletop Controller has five configurable user-defined keys that can be programmed for functions such as calling command strings. In the following examples, user-defined keys 2 and 5 have been programmed to instruct a XAP 400 to execute command strings that control a projector.

Both command and status functions can be programmed in the controller. In Figure 2, user-defined key 2 is programmed to instruct the XAP 400 to send `STRING 0` to turn a projector on. This occurs when the key is pressed. No command is programmed for the key release since only one string needs to be sent. The active state for user-defined key 2 can be programmed to track when the key is pressed and to display the active text *Projector On* in the controller's LCD screen when this occurs.

> **Figure 2**

Programming user-defined key 2



In Figure 3, user-defined key 5 has been programmed to instruct the XAP 400 to send `STRING 1` to turn the projector off. Again, no programming is necessary for the release command, as no instruction needs to be sent. Also, the active state command has been programmed to track when the key is pressed and to display *Projector Off* in the controller's LCD screen when this occurs.

> **Figure 3**

Programming user-defined key 5



### RS-232 Considerations

The RS-232 port on the XAP products can be configured for baud rates from 9600 to 57600 with flow control off or on (hardware), 8 bit, 1 stop bit, and no parity. When configuring the XAP unit that will be used to control a third device, serial echo needs to be turned off for that unit. To do this in G-Ware, right-click on the unit icon and select **Unit Properties**. Select the **Comm** tab and turn off **Serial Echo**. Also be sure that the **Serial Mode** is **Text**.

### Cabline Considerations

The serial cable connecting the XAP to the device it is controlling only requires a transmit connection on pin 2 of the XAP and a ground pin. The receive connection is not necessary as the XAP does not process the response from the third-party device. Make sure that pin 3 is not connected as the responses could cause the XAP to lock up.

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