FSR

FLEX CONTROL BUILDER

Training Exercise Manual

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New Features with the Flex Control Builder

- Fully downward compatible with Flex Configurator Projects.
- Custom graphics for screens as well as buttons.
- Resize button graphics.
- Move or resize buttons on a window or screen, and not lose commands underneath.
- Custom alternate button graphics feature as well.
- Option to place buttons and text outside of templates.
- Drag and drop Tree View configuration.
- End user: Time / Date setting capability.
- Input window (Dialers supported).
- Easier synchronization of Flex panels.
- Built in diagnostic to help prevent ADF errors.
- Multiple Bar Graph placement and device assignment.
- ADF file viewer built in.
- Project history. Reload up to 4 previously loaded projects.
- Load multiple projects into Flex Control Builder and click between the projects.
- Save projects to any location.

- Retrieve projects from anywhere they are stored.
- Simplified library building.
- Single click FSR website for updates to Flex Control Builder, Library files, or Firmware.
- Single page Flex panel status.
- Faster uploads and downloads of projects.
- Full functionality of all 4 serial ports.
- IR Pass Thru. IR signal received at front Flex panel will be repeated out all 4 IR ports of the Flex. This feature can be turned on or off through command line actions.
- Computer font magnification level does not interfere with pixel coordinates of project.
- Log file action commands on Flex connection screen.
- Action markers added to reveal buttons where commands have been assigned.
- Copy and Paste screens from one project to another.

Flex Control Builder Installation

Run the installer program as System administrator and use the default settings. The Flex Control Builder program will not overwrite or uninstall any previously created projects created with the Flex Configurator program. While a new Project Folder will be created with this install, any previously created projects can be imported into the Flex Control Builder.

UPDATES

The above screen is available from the ABOUT screen of the program. Please refer back to this often and check for Program, Library, and Firmware updates.

The first time the Flex Control Builder is started, you should check for program updates, and yo must click on Get Library Update to download all of the available library files.

TRAINING

REQUIREMENTS

This is a hands-on exercise to familiarize the technician with the entire FLEX system. Before you begin it is important to have the proper functioning equipment. You will need the following: FLEX LT-200 Control Panel, Flex Control Builder Software, Laptop or Desktop Computer with a Serial Port or Functioning USB to Serial Converter Operating System, or an IP connection on a network within the same domain as the Flex panel: Windows 8, Windows 7, or Vista.

IMPORTANT NOTE: Prior to the exercise be sure the Flex Control Builder is properly installed and communication between the computer and the FLEX panel is tested, and fully functioning.

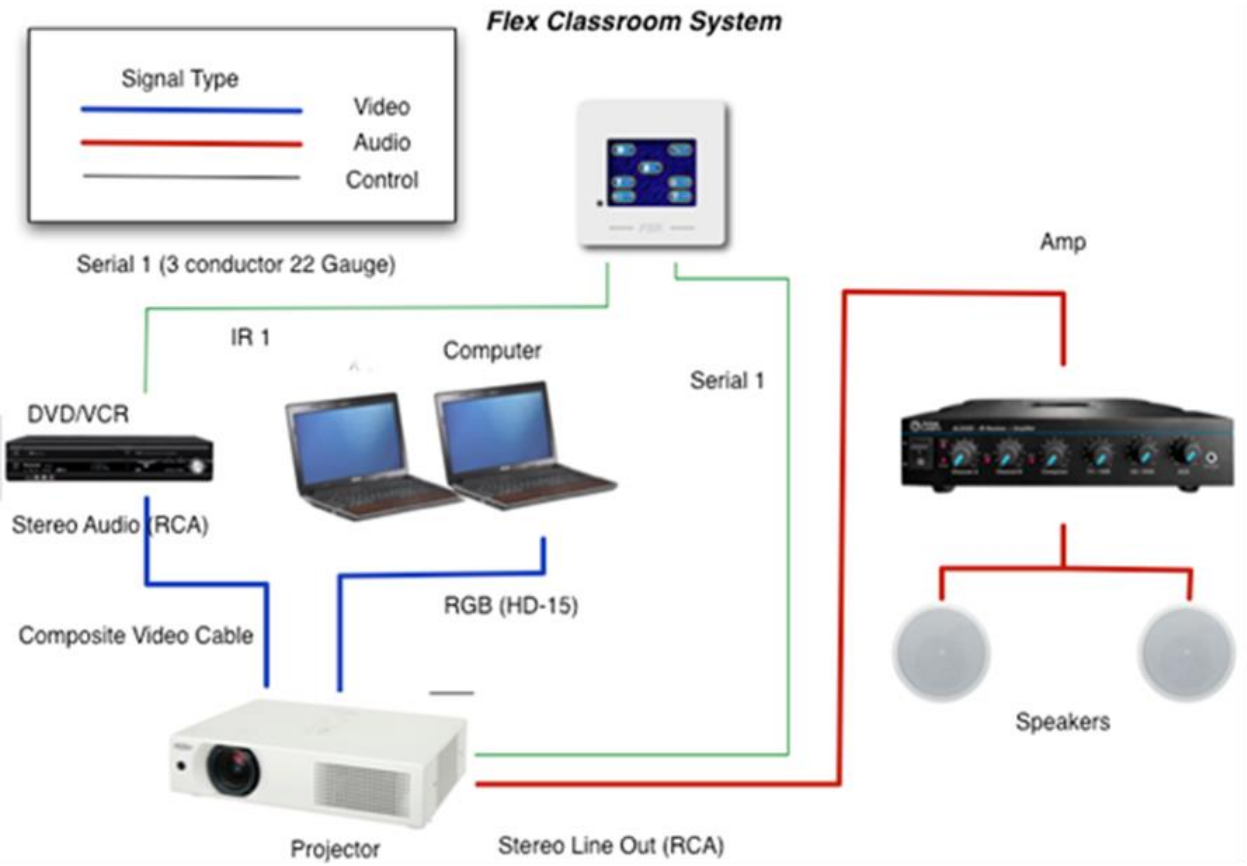
INTRODUCTION

In this module of the FLEX training program we will follow a step by step process to create a Project and download it to a Flex control system. A Project defines how the Flex panel will look as well as how it will behave.

The first step to creating a project is to define what devices are being used, how they will be connected together and determine what capabilities of a device we want the Flex to control.

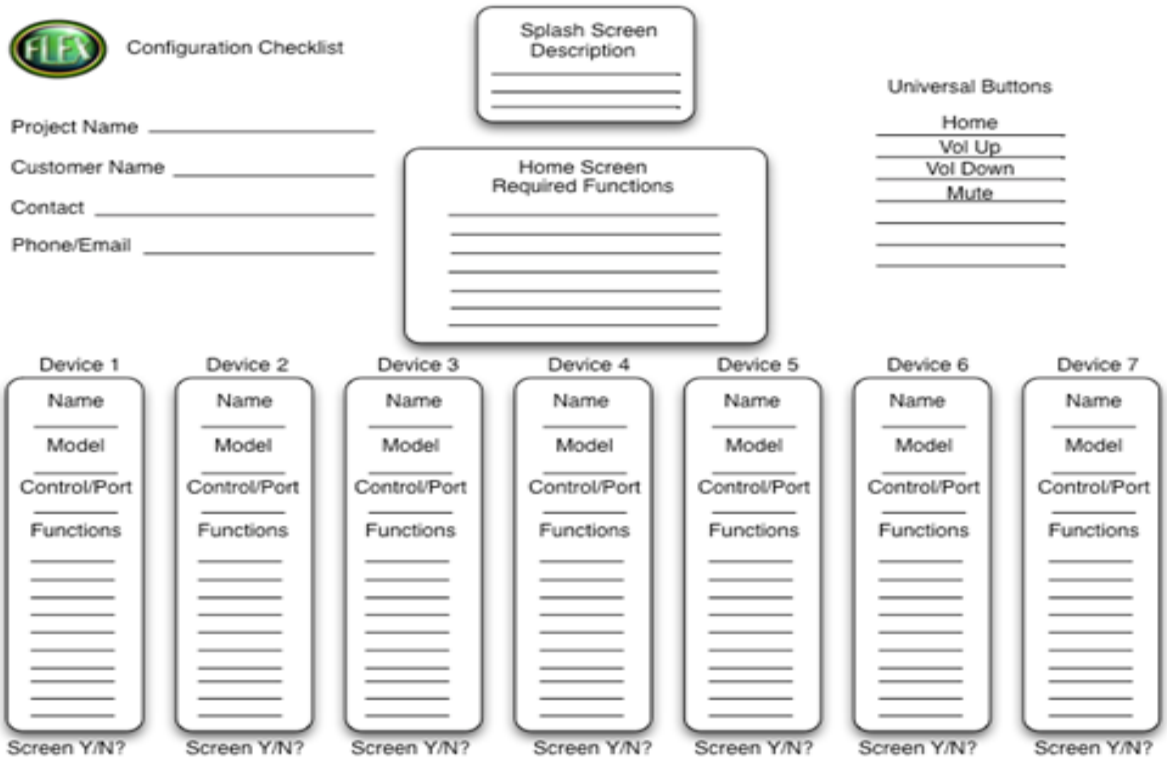
THE SYSTEM

Below is a diagram of the AV system that we want to control. As you can see it is a simple system with a projector, DVD/VCR player and Laptop PC.



The next step in creating a FLEX project is to make some decisions on which devices we want control. We have created a simple checklist which will allow you to visually see all of the screens that you will need for each device that you want to control.

In this system we will use the FLEX to control the projector as our switcher. It will also handle volume control. We will add screens to control the DVD/VCR Player



Okay let's get started.

The first step is to open the Flex Control Builder. The steps we are going to follow to build this project are as follows:

1. Configure the FLEX

2. Load the Device Libraries

3. Create our screens

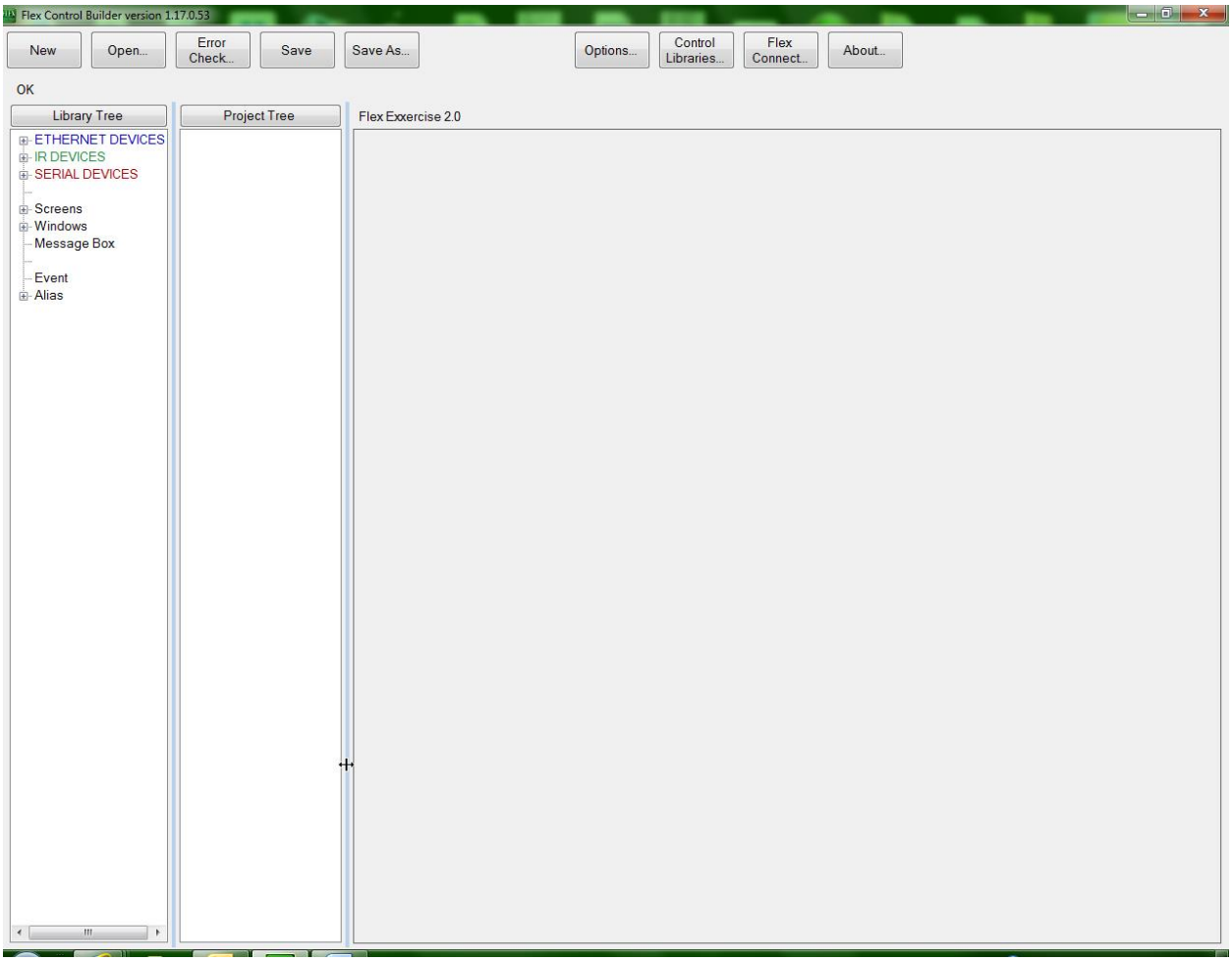
4. Add buttons to our screens

5. Assign commands to the buttons

6. Download our project to the FLEX.

WORKING with the Flex Control Builder

This is the first screen you see when you open the Flex Control Builder program.



CONFIGURE THE FLEX

Options

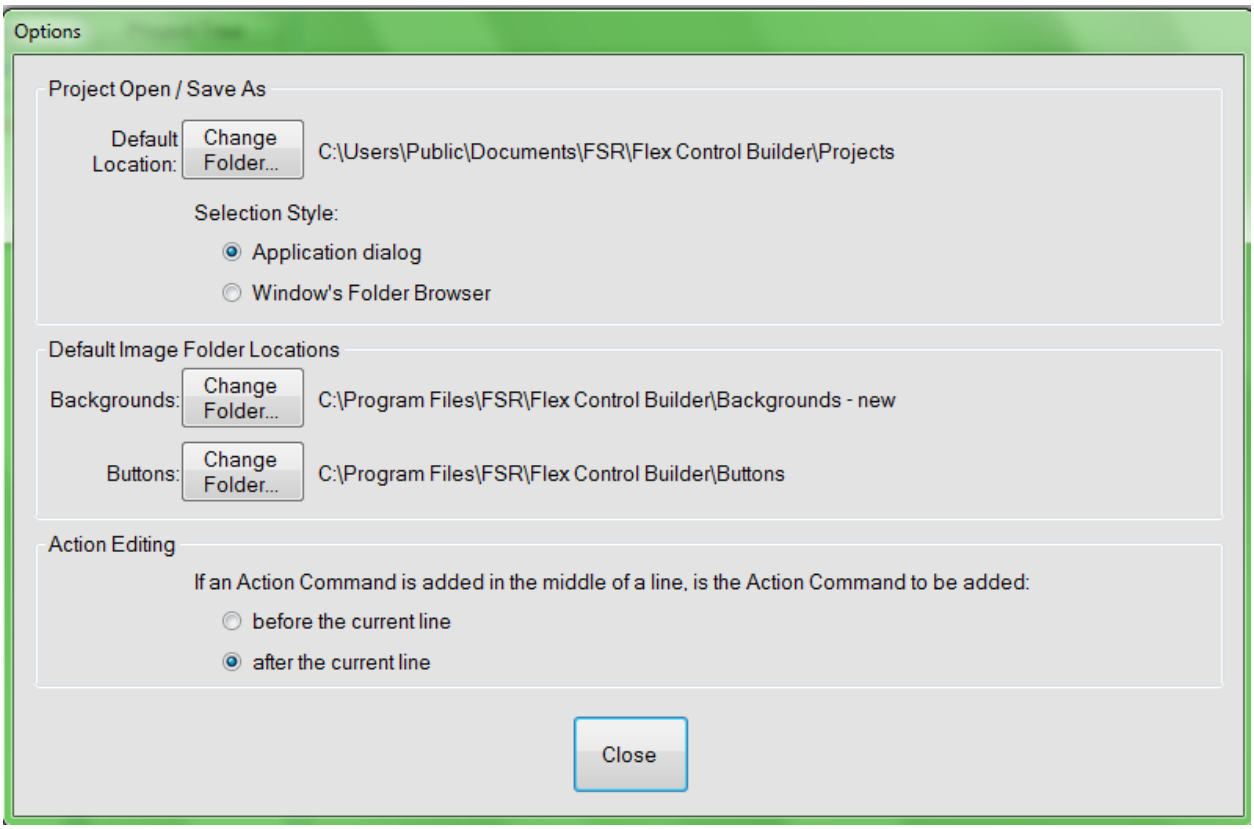
You may select various options for how the Flex Control Builder will handle your project locations.

You can select between the Application dialog and Windows Folder Browser styles.

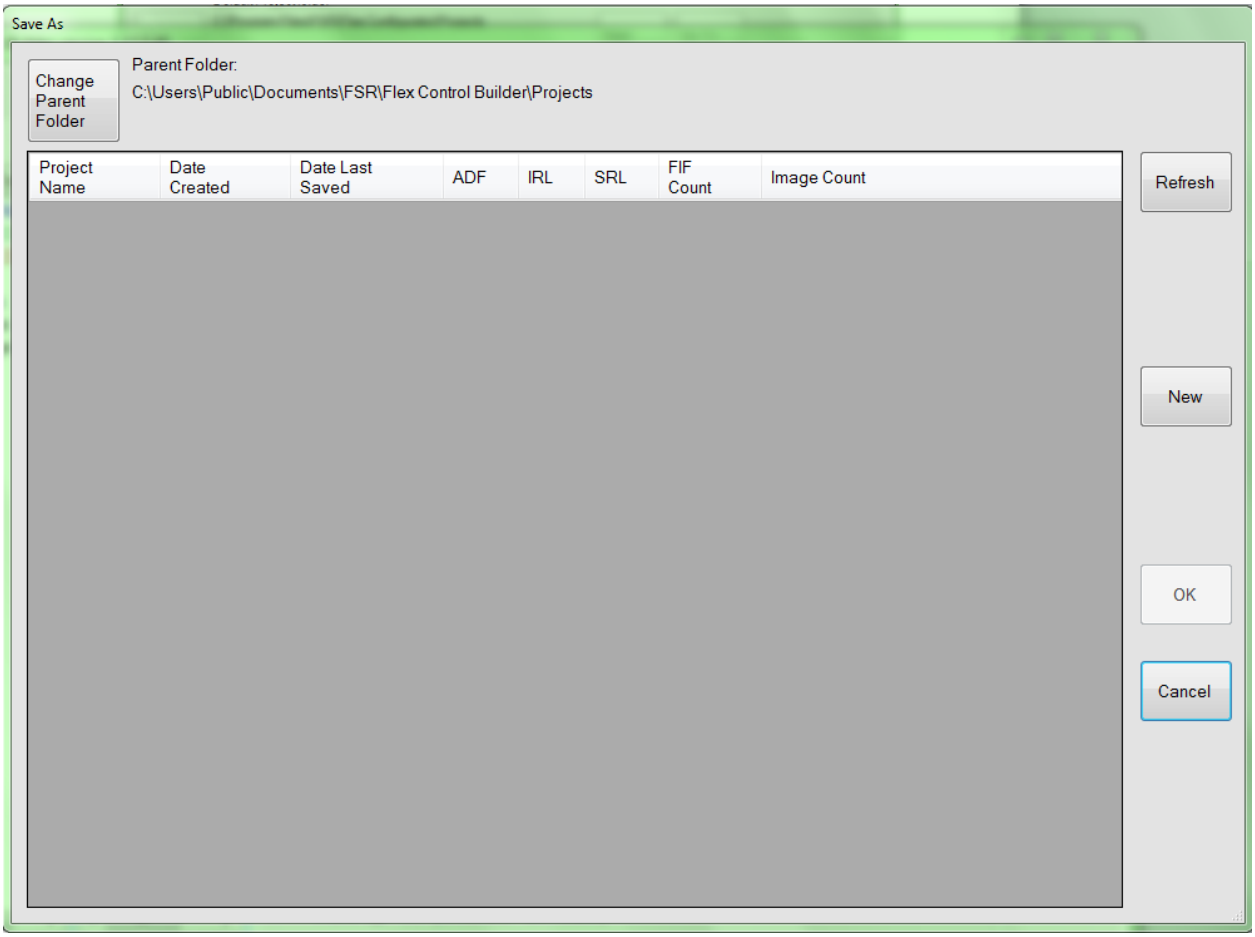
Additionally, default folder Locations can be specified as well as Action Editing.

Action editing

Action editing is merely and editing tool which allows for the positioning of new command functions based on where the curser is positioned when the command is added. This will make more sense later on and in more advanced project creation.



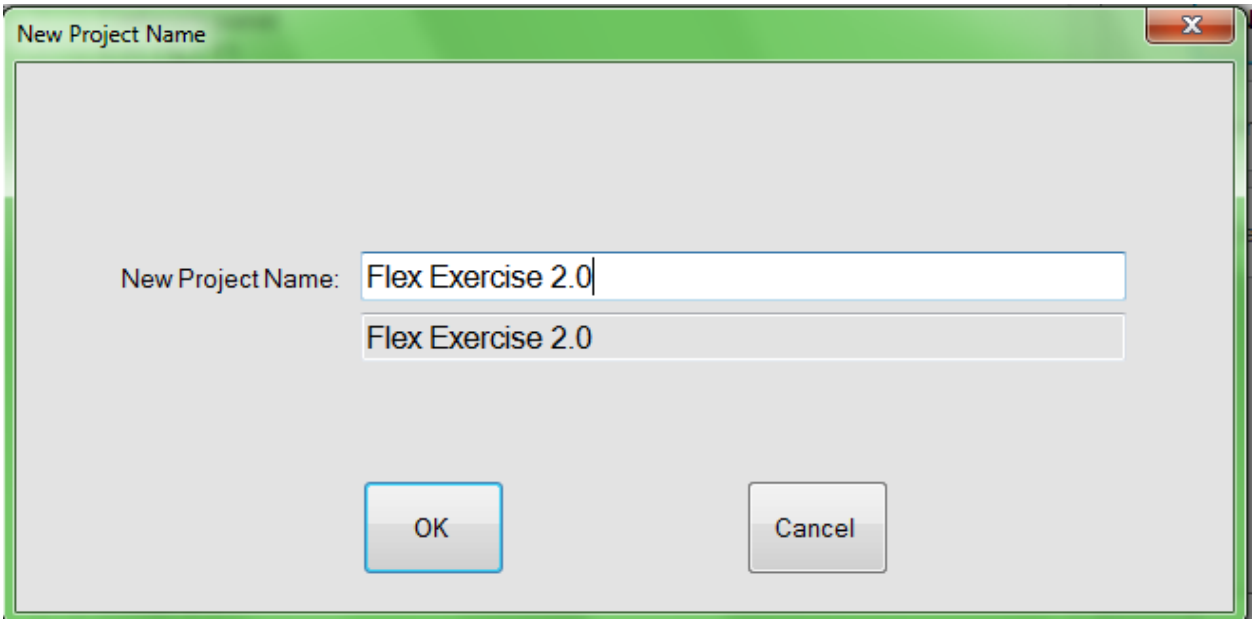
Click on the "**New Project**" button.



Here the Parent folder for yoru projects may be changed or you may keep the new default folder.

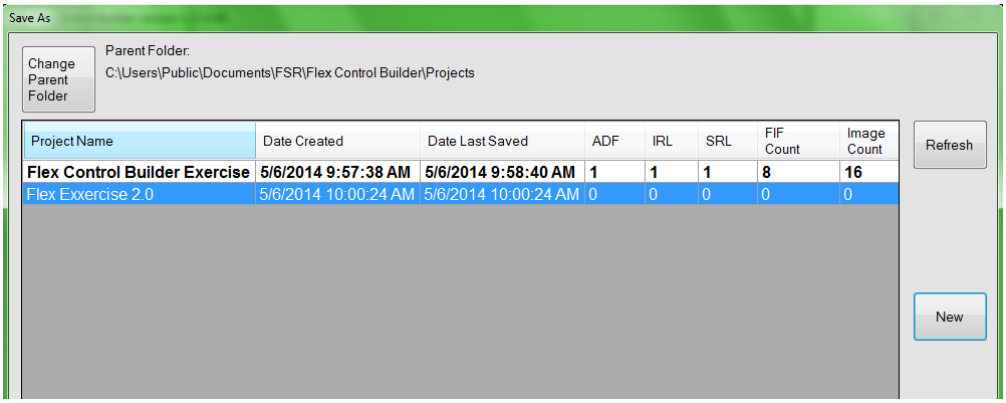
Click the NEW button and type in a name for the new Project.

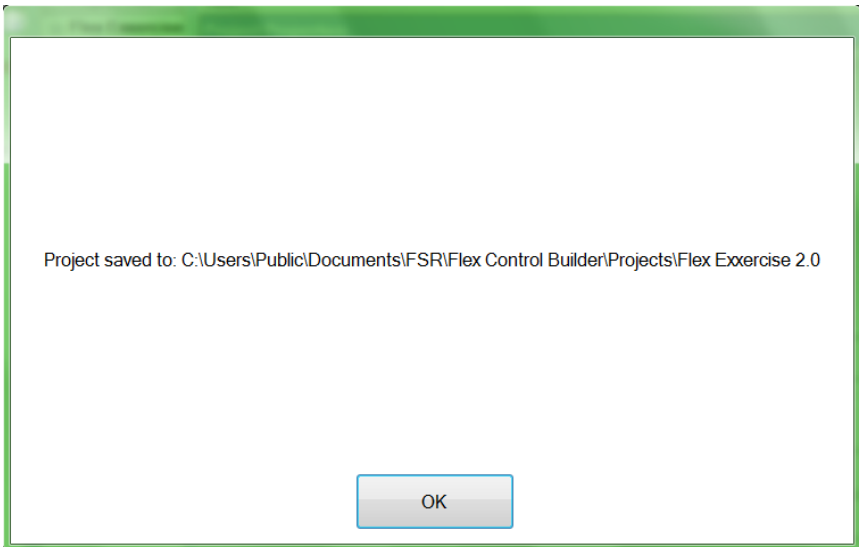
Let's give our project a name. For this example I'm going to use Flex Exercise 2.0. Enter the name in the project name window and click set new project.



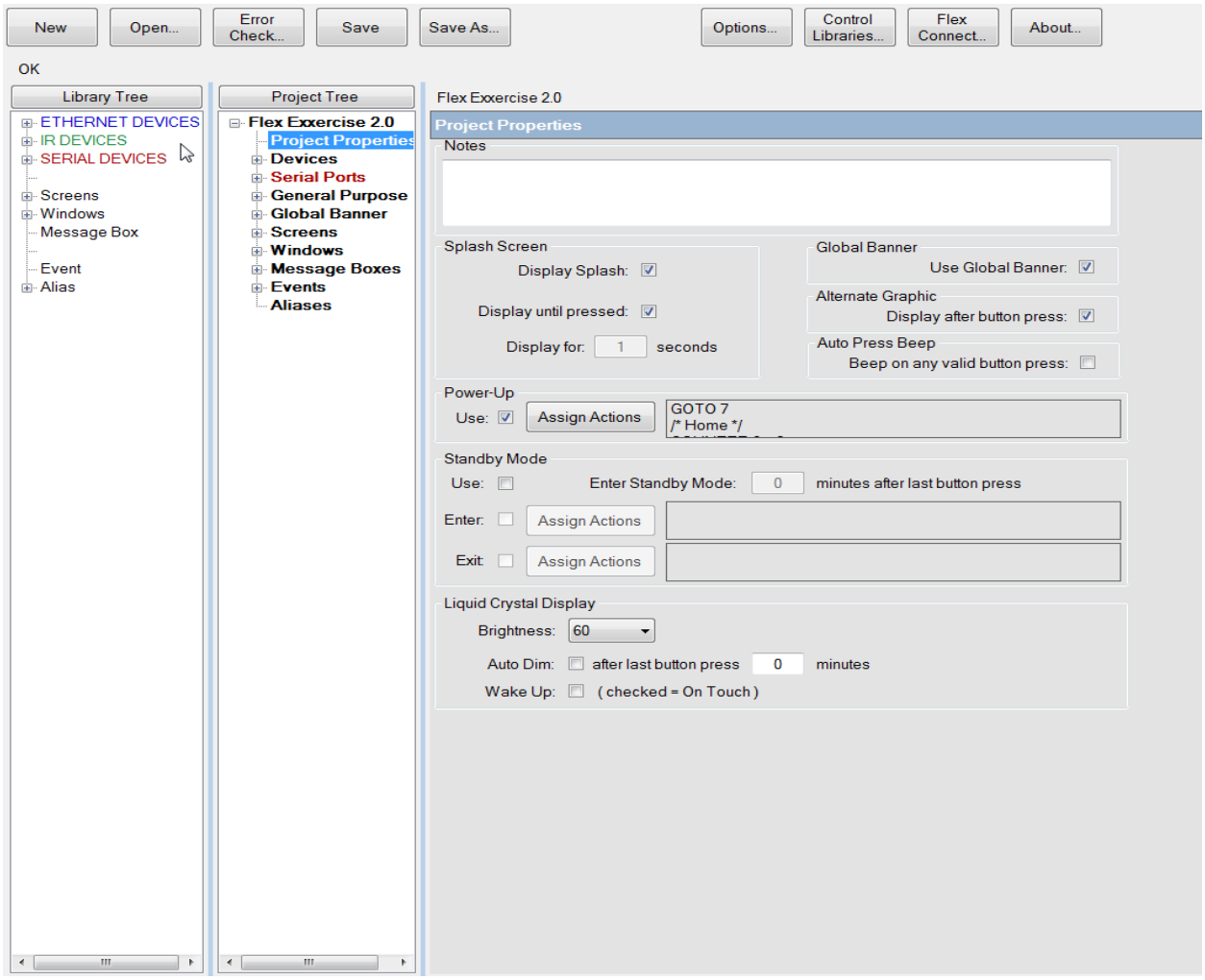
Click OK, Note a new folder has been created named Flex Exercise 2.0.

Now click OK again.





Project Properties



As with most windows applications, standard full screen, and resizing of screens and column widths apply here as well. You may want to make the CU full screen and widen the columns for easier display. Additionally, to widen the Library Tree or the Project Tree, click on either of those tabs on the top of the column and they will expand so all the contents can be read in full. Clicking again will return the column to its original size.

Notes

The large notes area is used to enter information about the project we are working on. From here we can also set up a few global Characteristics of the Flex as well as define how the Flex will operate under certain conditions.

POWER UP

With this feature set to Yes, the FLEX will perform a series of actions when power is applied to the panel. This is commonly used to reset the system to a predetermined state after a power failure. This will be discussed in more detail later on as well.

AUTO PRESS BEEP

This sets the FLEX to provide audio feedback when any button is pressed.

AUTO ALTERNATE GRAPHIC

This sets the FLEX to show an alternate color button with a button press.

LCD BRIGHTNESS

This sets the level of brightness for the LCD panel in a range from 60% down to 1%. The actual full brightness as determined when the Flex was developed was 60%, It was considered washout at any brightness level above that. Earlier versions of the program had 100% listed on the configuration page. In reality that was setting the Flex panel to 60% brightness. This version of the FCB will give the programmer and end user much more control over brightness so it was decided to show the actual brightness levels.

LCD DIM

The LCD can be set to dim when the panel has not been used for a predetermined period of time after the last button press. It will dim to 50% of the LCD BRIGHTNESS setting.

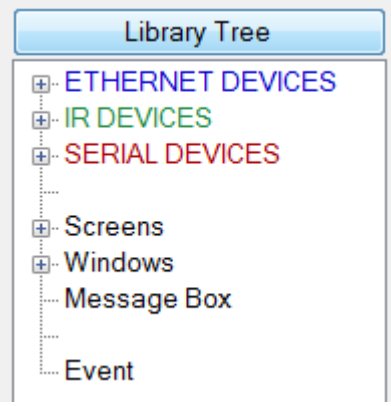
SPLASH SCREEN SET UP

The Splash screen is a full screen graphic image. It can be a school or corporate logo or any other graphic. Splash screens can be displayed at power-up as well as be used when the Flex is in standby mode. In this area, there are two options. The first simply asks if the Project will have a splash screen. The second asks if you want the Splash screen displayed until it is pressed (Yes) or if you choose (No) then it will be displayed for a predetermined period of time.

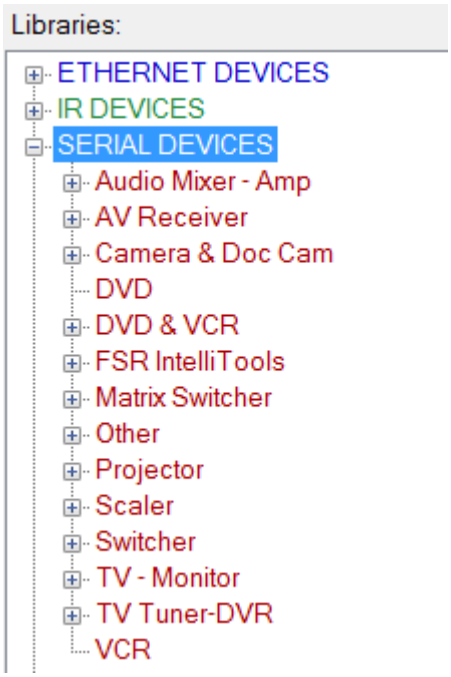
Libraries

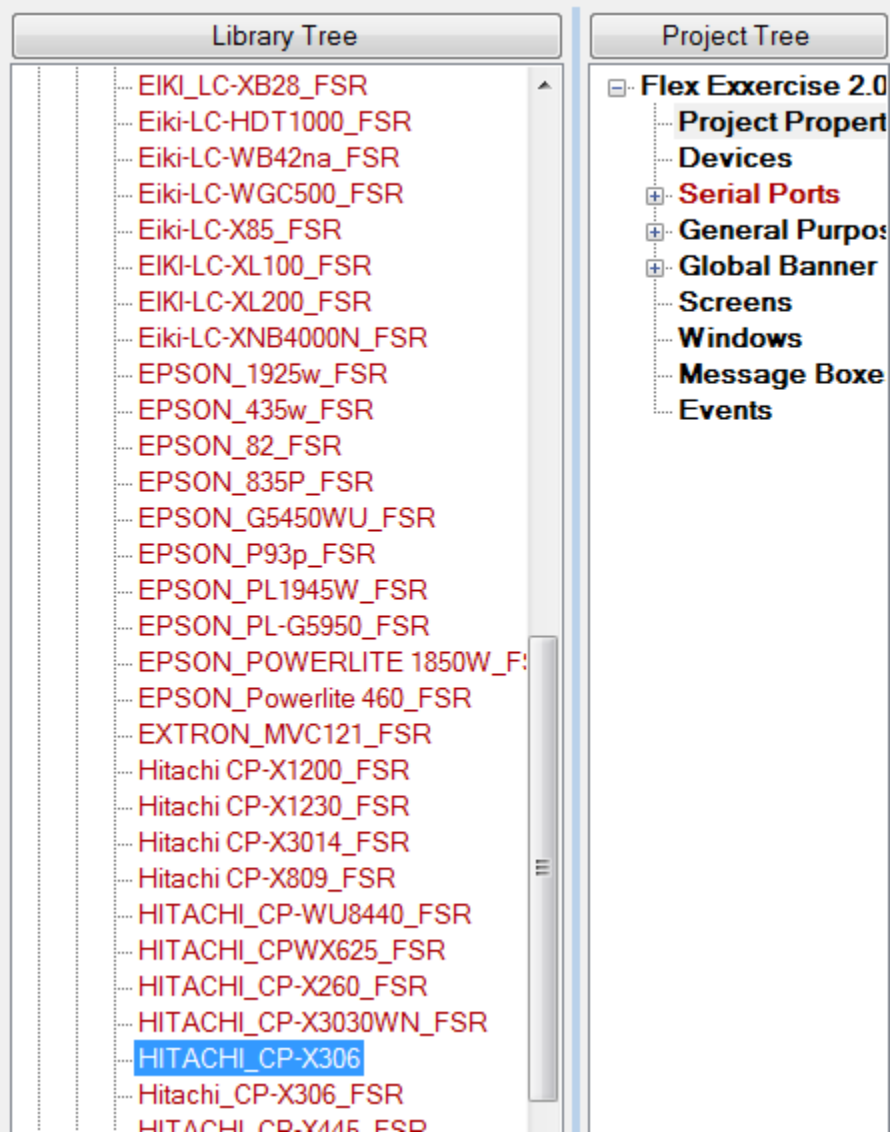
ADDING DEVICES

TIP: To quickly widen the Library tree or the Project tree, simply click on the column header. This will widen the column to the largest width of text within the tree and branches.

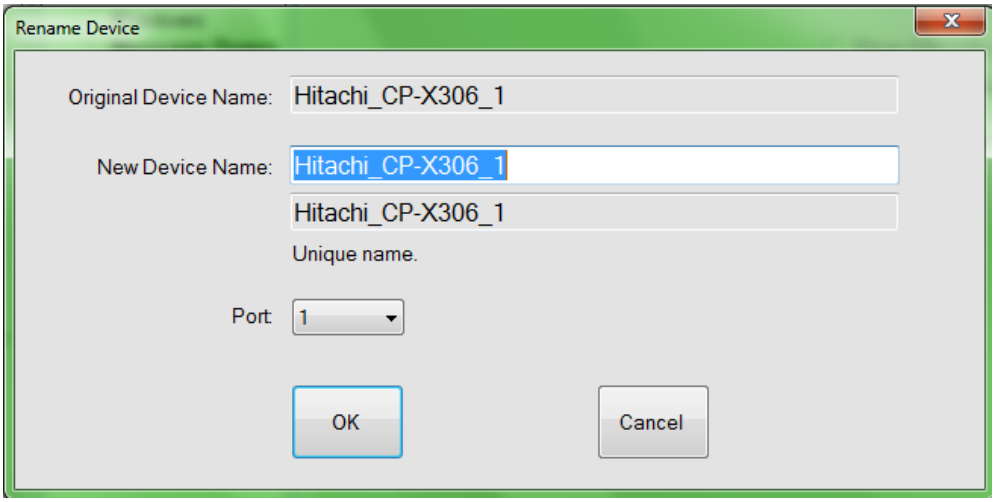


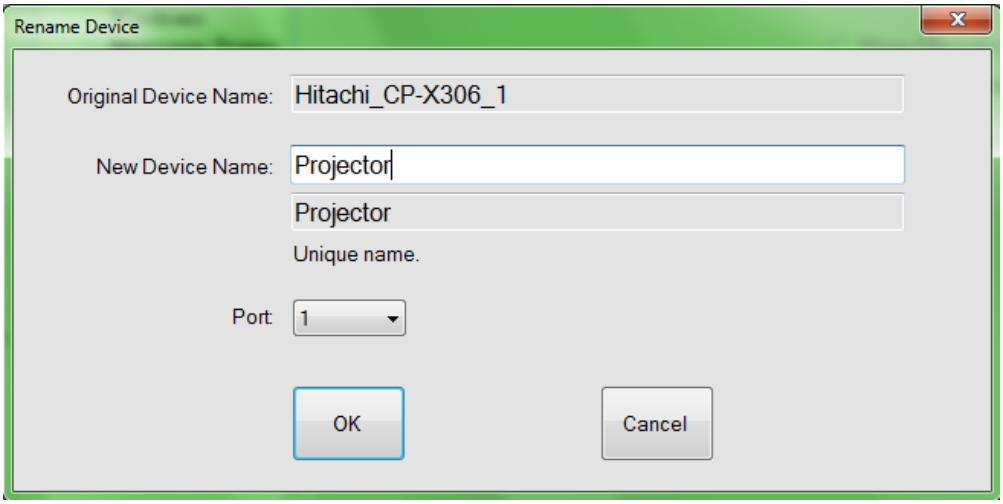
From the Library tree, select SERIAL DEVICES and then Projector. Now click on the Hitachi _CP-X306 and while holding the left mouse button down, drag the device to the Project tree and drop the device anywhere within the project tree.


Libraries:
ETHERNET DEVICES
IR DEVICES
SERIAL DEVICES
Audio Mixer - Amp
AV Receiver
Camera & Doc Cam
DVD
DVD & VCR
FSR IntelliTools
Matrix Switcher
Other
Projector
Scaler
Switcher
TV - Monitor
TV Tuner-DVR
VCR



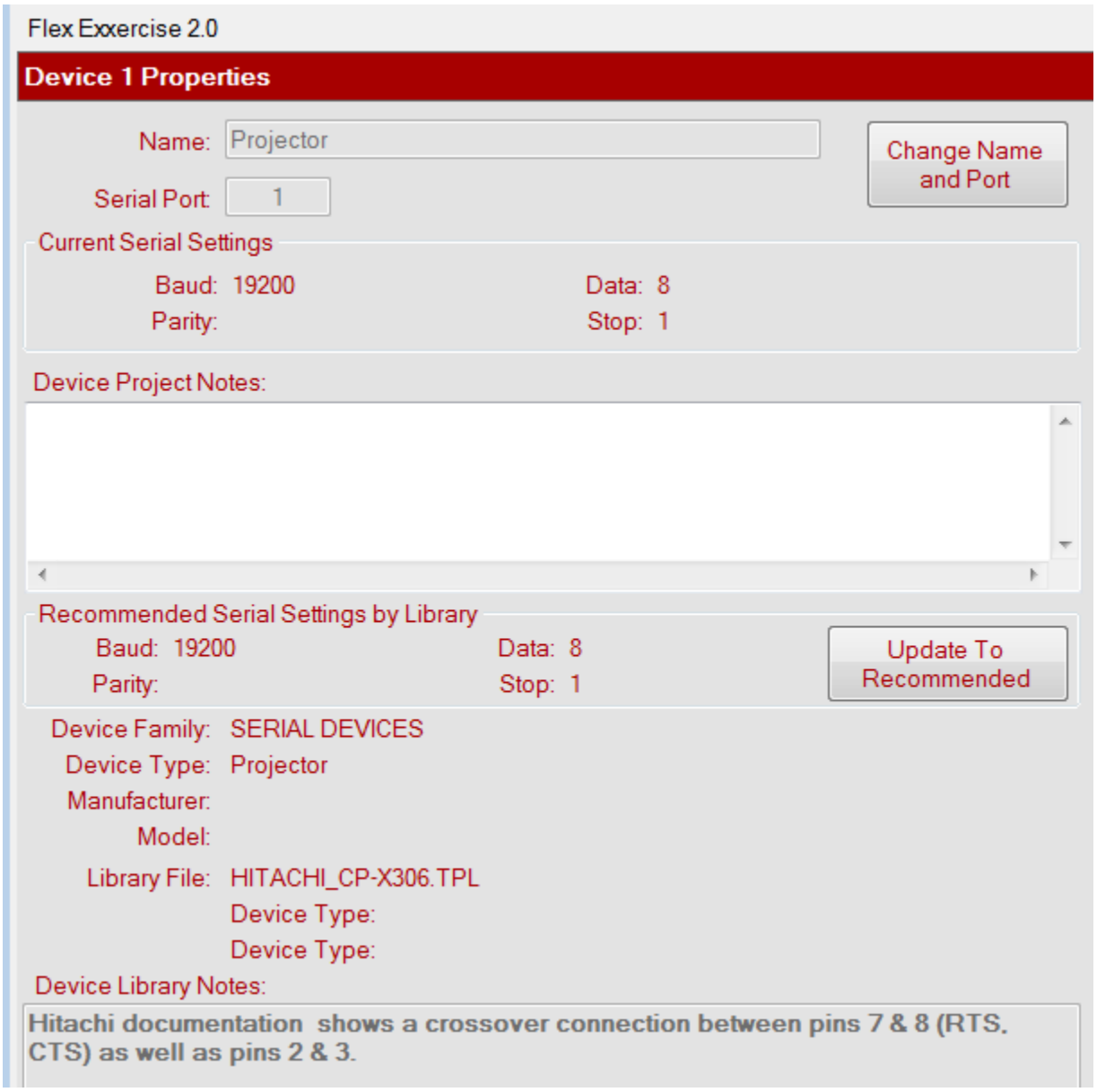
Serial Device

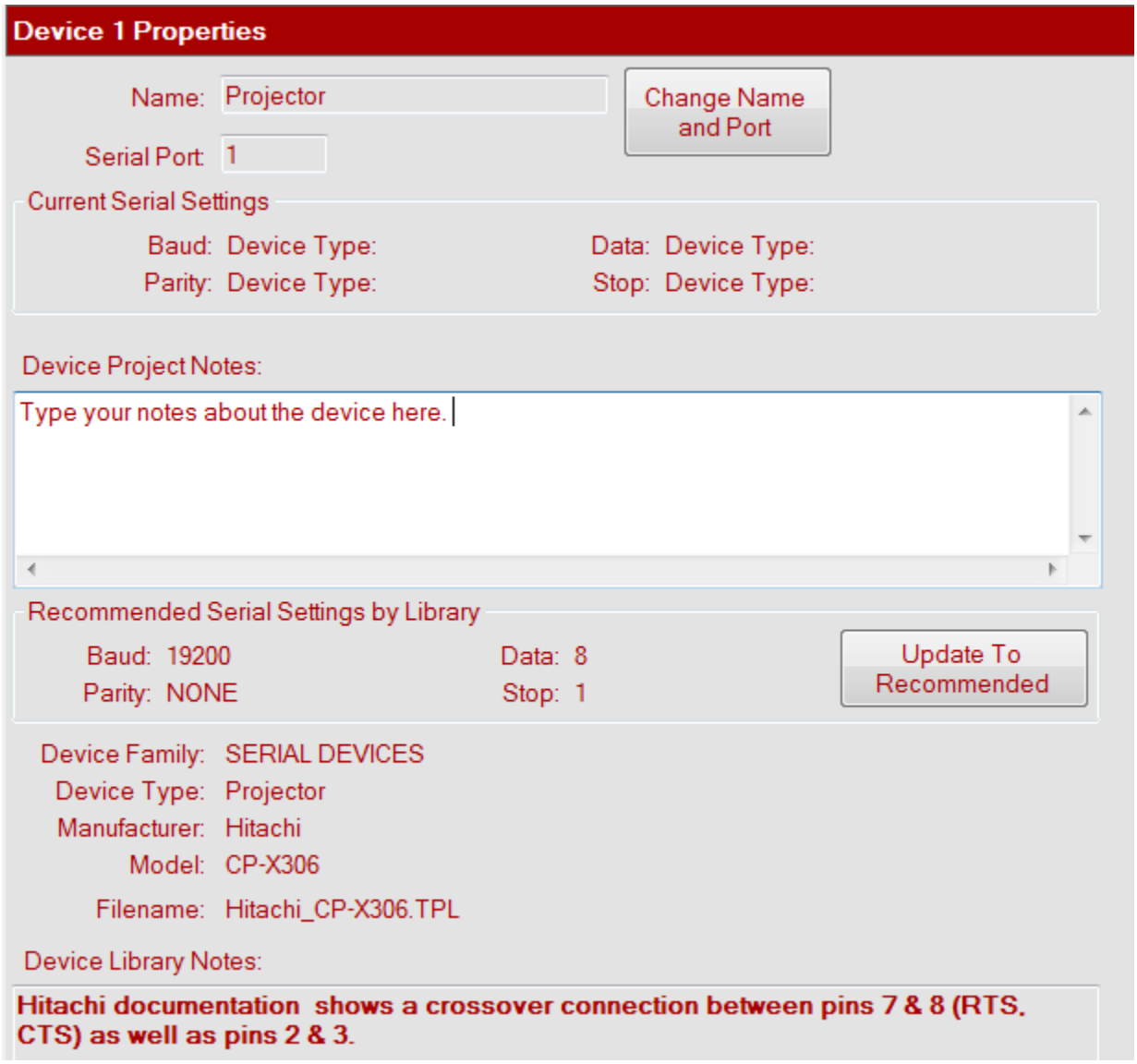

Rename Device
Original Device Name:
Hitachi_CP-X306_1
New Device Name:
Hitachi_CP-X306_1
Hitachi_CP-X306_1
Unique name.
Port:
1
OK
Cancel


Rename Device
Original Device Name:
Hitachi_CP-X306_1
New Device Name:
Projector
Projector
Unique name.
Port:
1
OK
Cancel

Com Port

Select Port from drop down list.



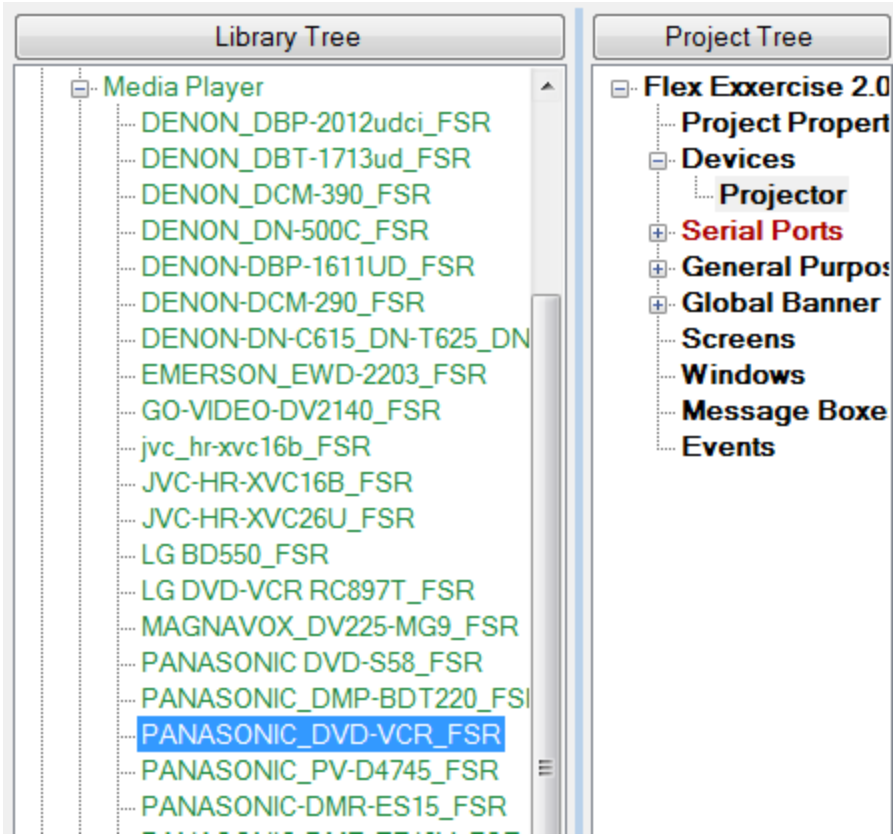


To change the name of the device or any port settings, click on the Change Name and Port box.

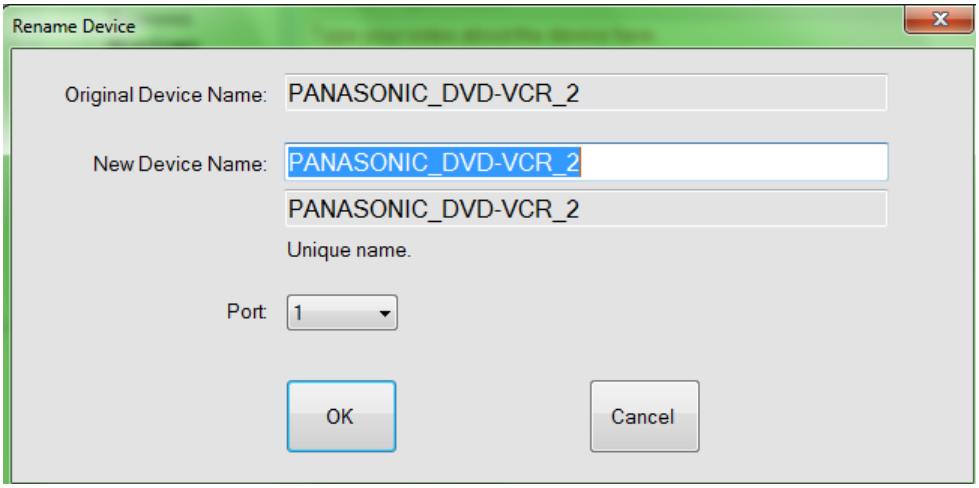
If there were any device library notes entered by this particular library creator, they will be displayed in the Device Library Notes box.

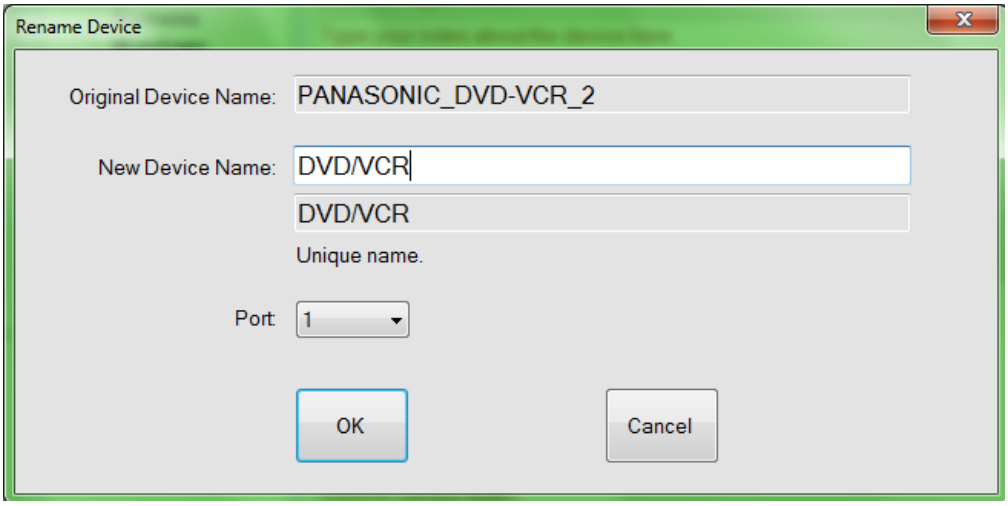
IR DEVICE

From the Library tree, select IR DEVICES and then Media Player. Now click on the Panasonic_DVD-VCR and while holding the left mouse button down, drag the device to the Project tree and drop the device anywhere within the project tree.



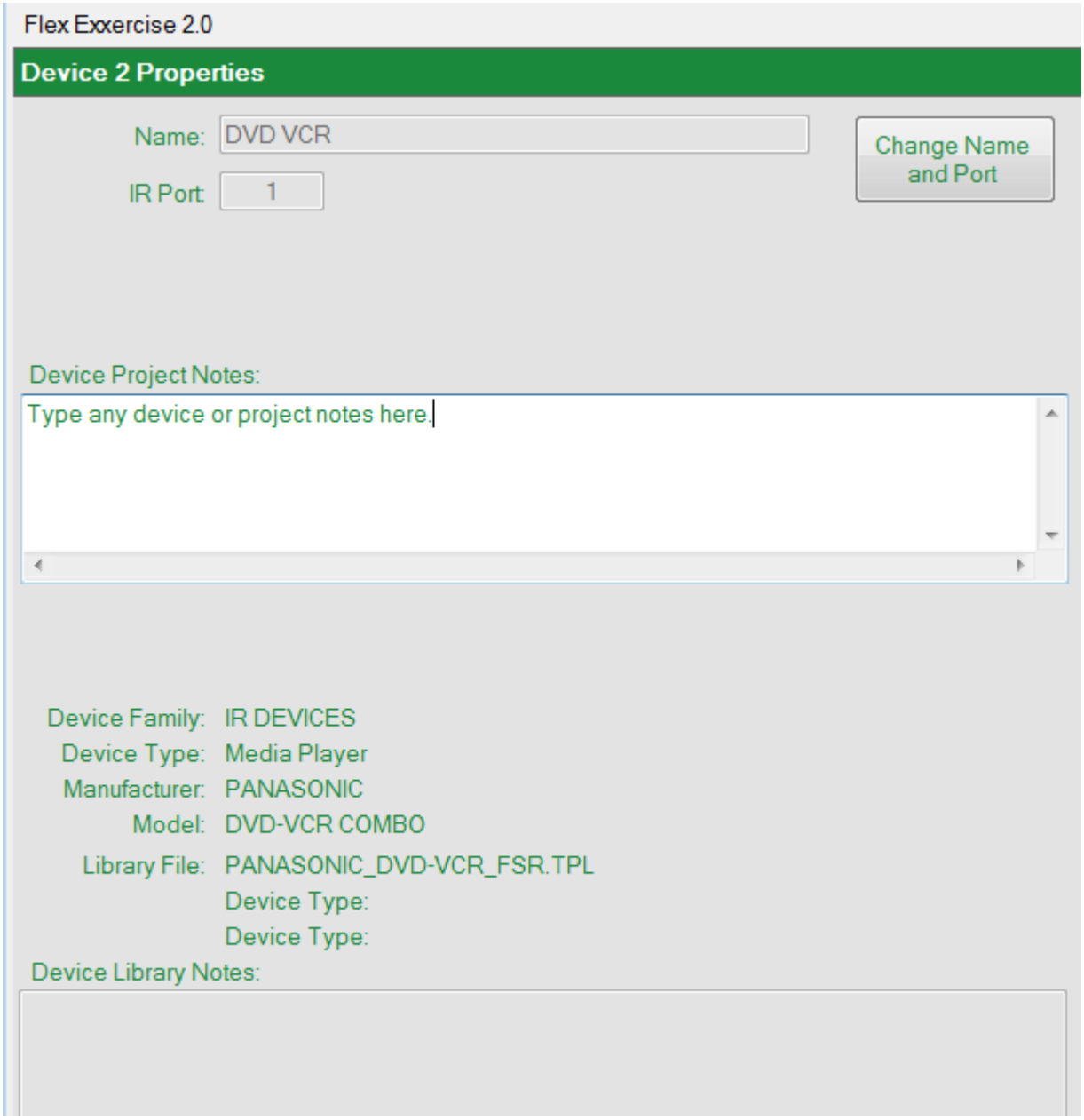
Pick Panasonic_DVD-VCR from list and drag it to the Project Tree.





Rename to DVD/VCR

Select Port from drop down list.



To change the name of the device or any port settings, click on the Change Name and Port box.

If there were any device library notes entered by this particular library creator, they will be displayed in the Device Library Notes box.

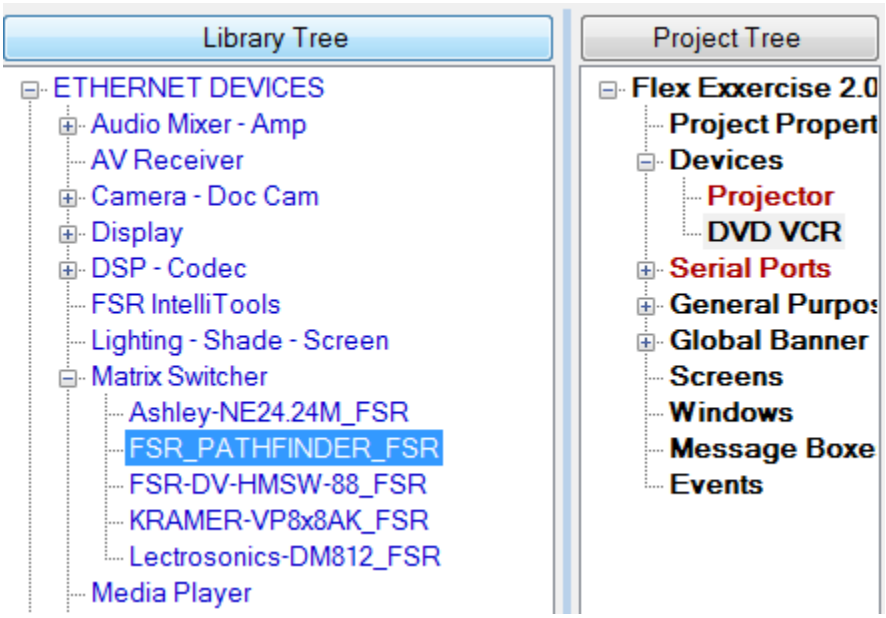
Add New Ethernet Device

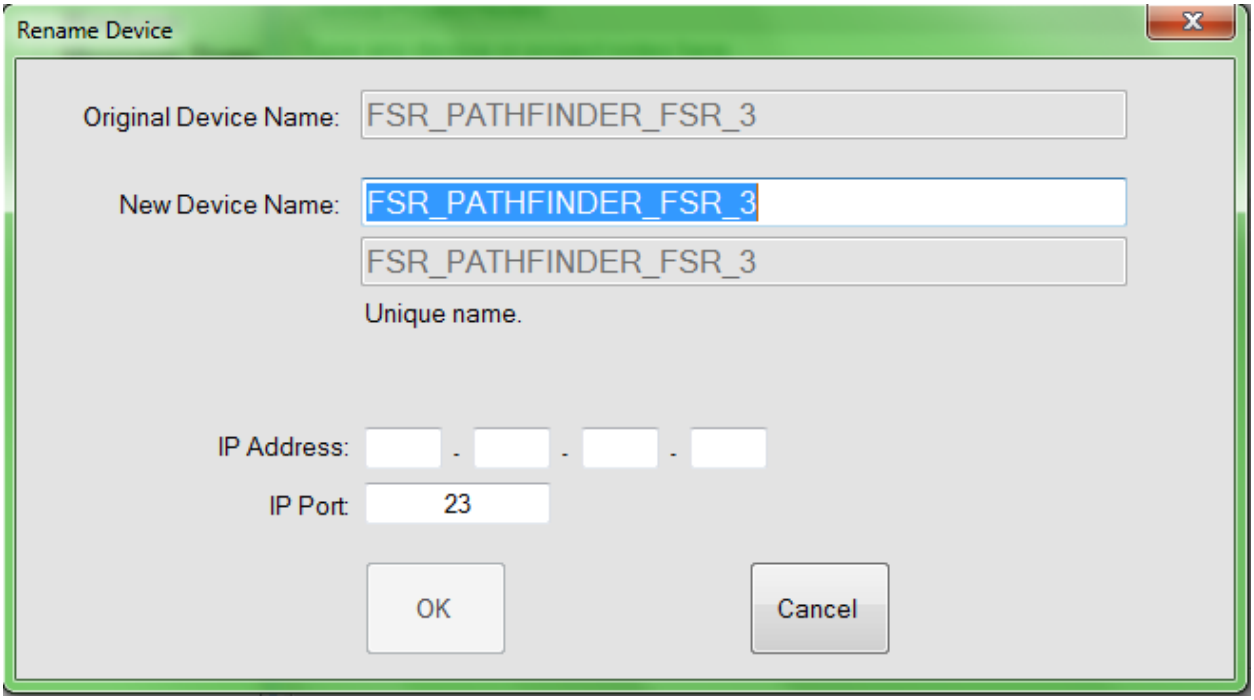
The process is similar to adding an IR device or a serial device.

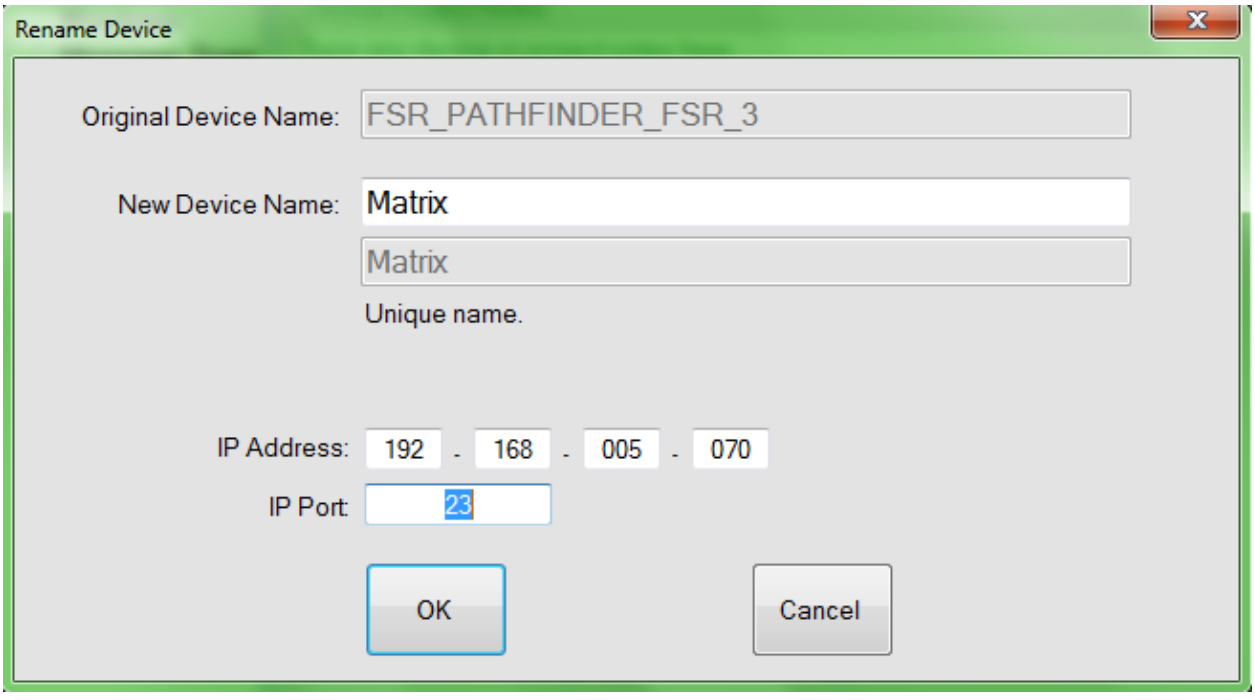
The differences are as follows:

While this project will not utilize an Ethernet type device, we will enter one to show a typical setup.

From the Library tree, select ETHERNET DEVICES and then matrix Switcher. Now click on the FSR_PATHFINDER and while holding the left mouse button down, drag the device to the Project tree and drop the device anywhere within the project tree.







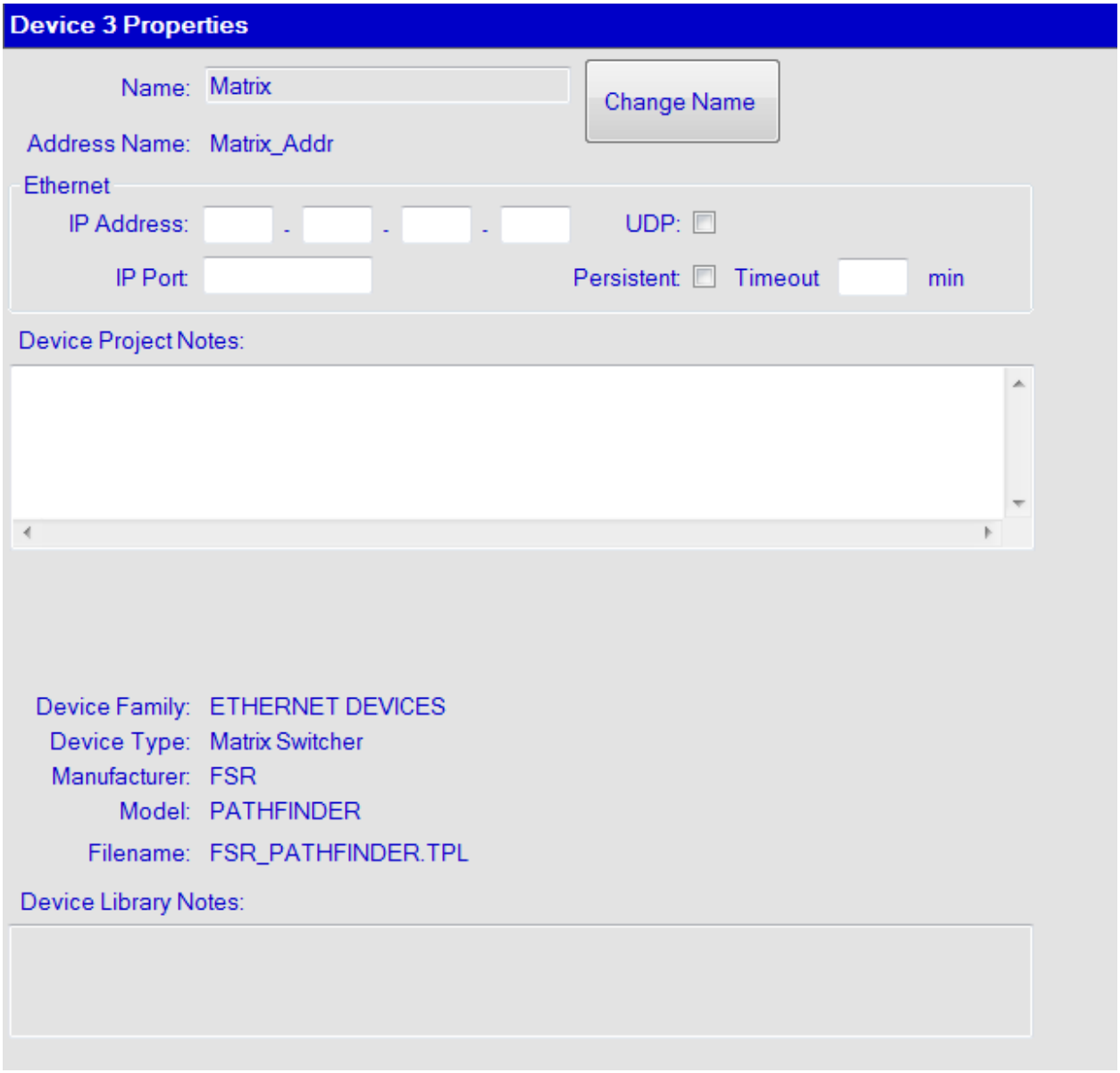
To change the name of the device or any port settings, click on the Change Name and Port box.

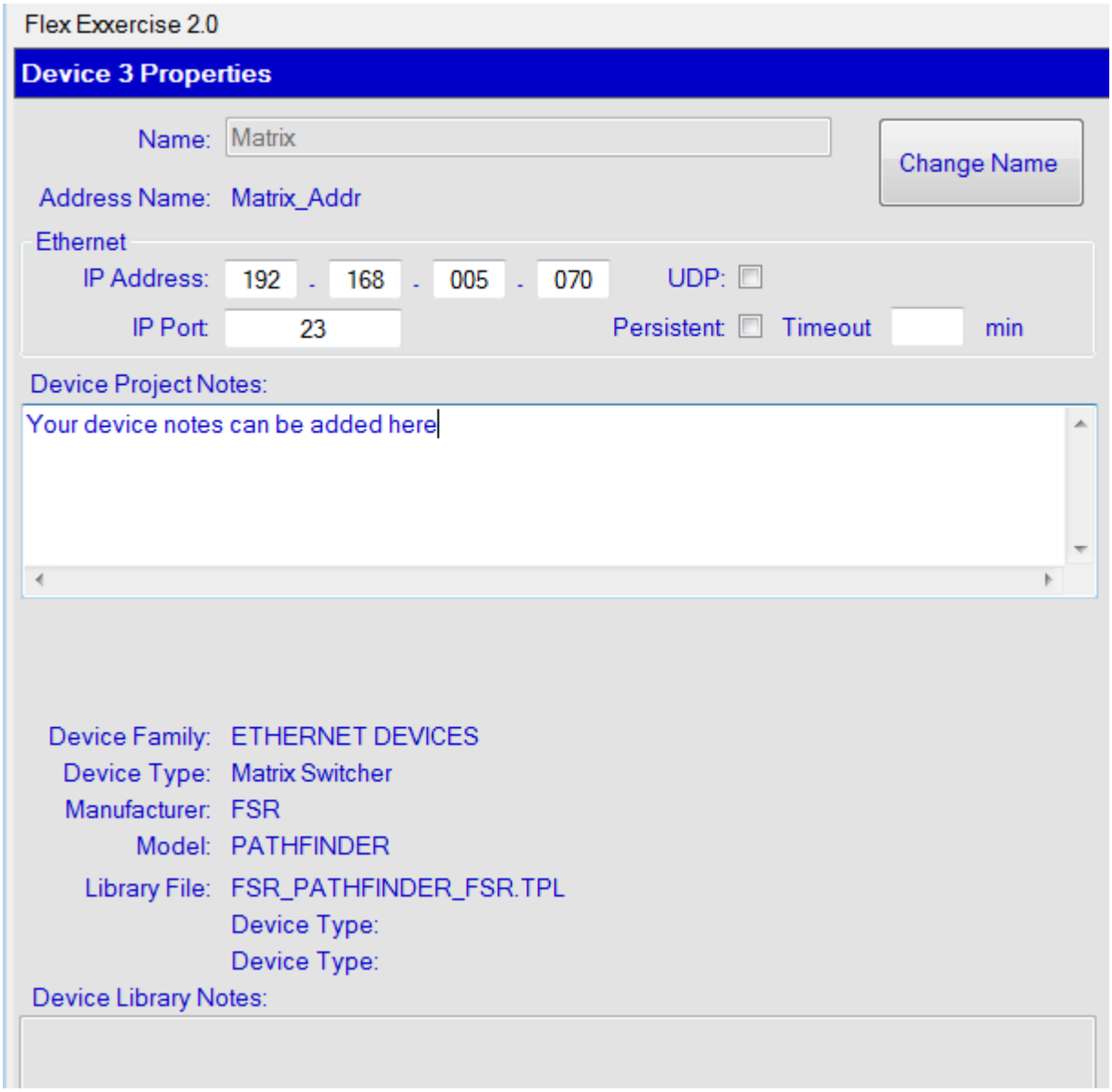
If there were any device library notes entered by this particular library creator, they will be displayed in the Device Library Notes box.

An IP address and port number have to be added. Additionally the Persistent or the UDP protocol for the device must be set.

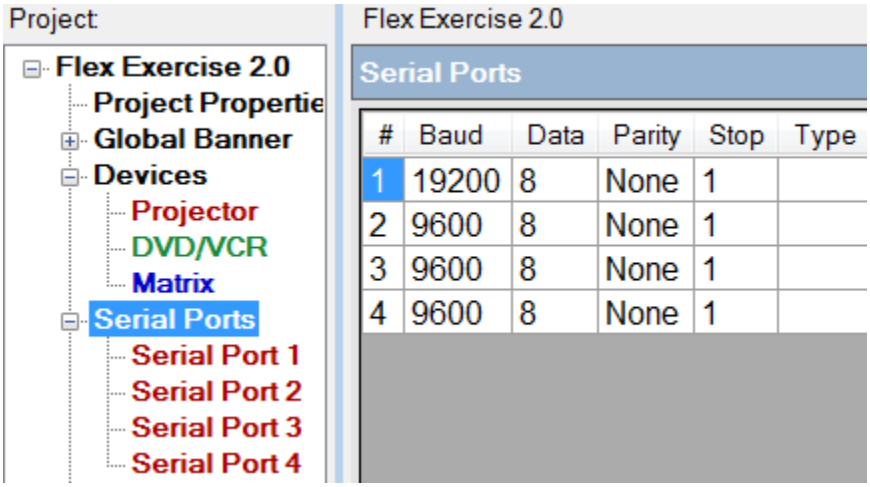
Persistent, if selected, has a timeout set to 1 minute. This is here to allow the user to set the connection timeout of any misbehaving Ethernet devices. The default setting should remain as is unless instructed to change it by FSR Customer support or the manufacturer of the device you are trying to control.

TCP or Transmission Control Protocol and UDP or User Datagram Protocol: TCP is the default protocol however; UDP may be selected for devices requiring such connectivity. When UDP is selected, the persistent setting is automatically turned off.


Device 3 Properties
Name: Matrix
Change Name
Address Name: Matrix_Addr
Ethernet
IP Address:
UDP:
IP Port:
Persistent:
Timeout
min
Device Project Notes:
Device Family: ETHERNET DEVICES
Device Type: Matrix Switcher
Manufacturer: FSR
Model: PATHFINDER
Filename: FSR_PATHFINDER.TPL
Device Library Notes:

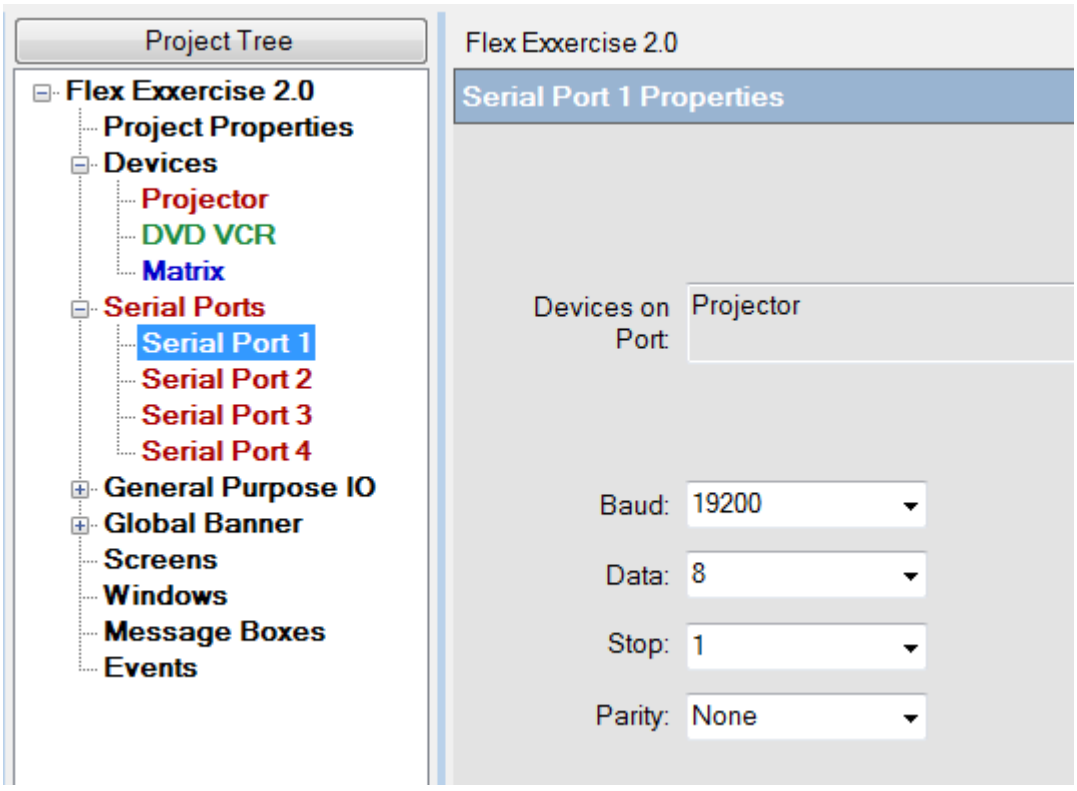

Flex Exxercise 2.0
Device 3 Properties
Name: Matrix
Change Name
Address Name: Matrix_Addr
Ethernet
IP Address: 192 . 168 . 005 . 070 UDP:
IP Port: 23 Persistent: Timeout min
Device Project Notes:
Your device notes can be added here
Device Family: ETHERNET DEVICES
Device Type: Matrix Switcher
Manufacturer: FSR
Model: PATHFINDER
Library File: FSR_PATHFINDER_FSR.TPL
Device Type:
Device Type:
Device Library Notes:

Serial Ports



Click on Serial ports on the Project tree.

Select individual Serial ports in order to change any of the ports parameters.

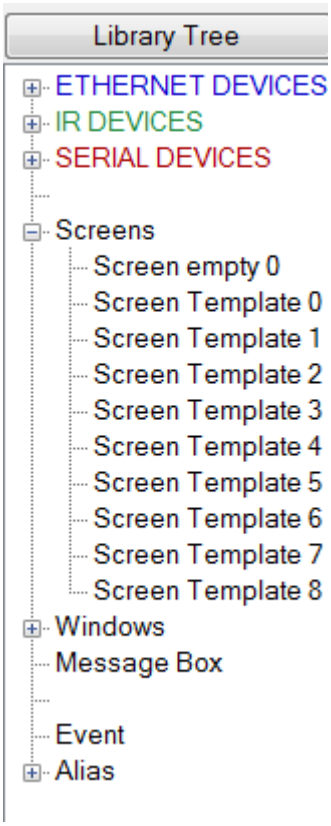


Serial port 4 is restricted to a MAX baud rate of 57600. None of the other ports are restricted.

We have now completed our device setup.

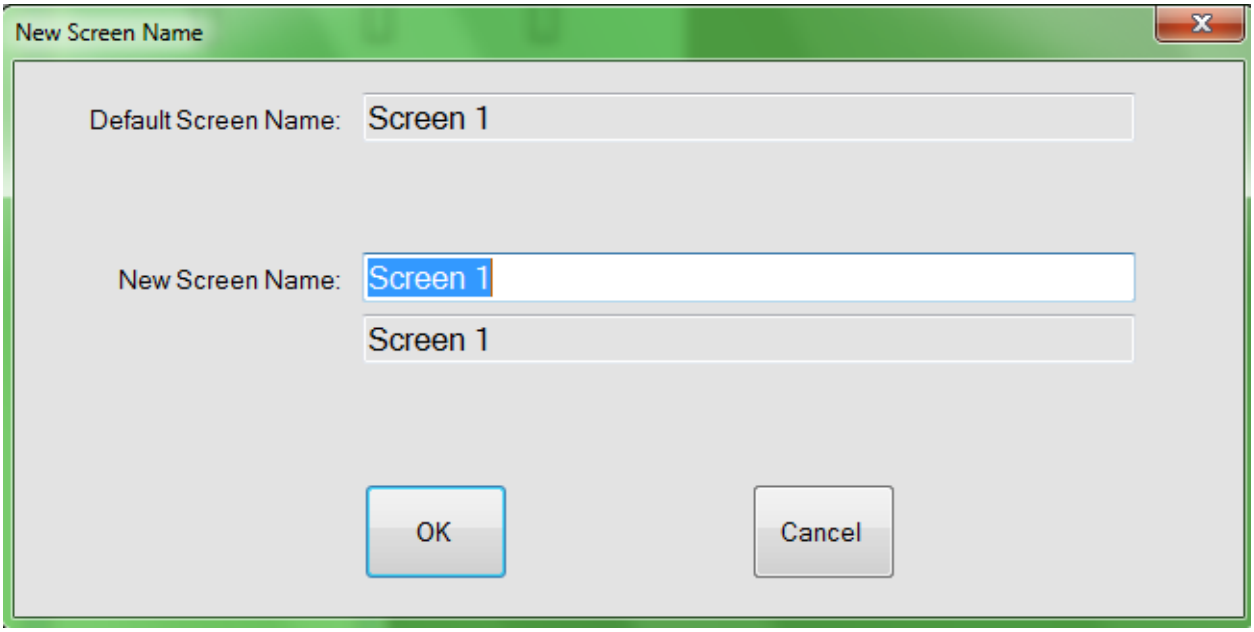
DEFINE SCREENS

Now we are going to build the screens that we require for this Project.

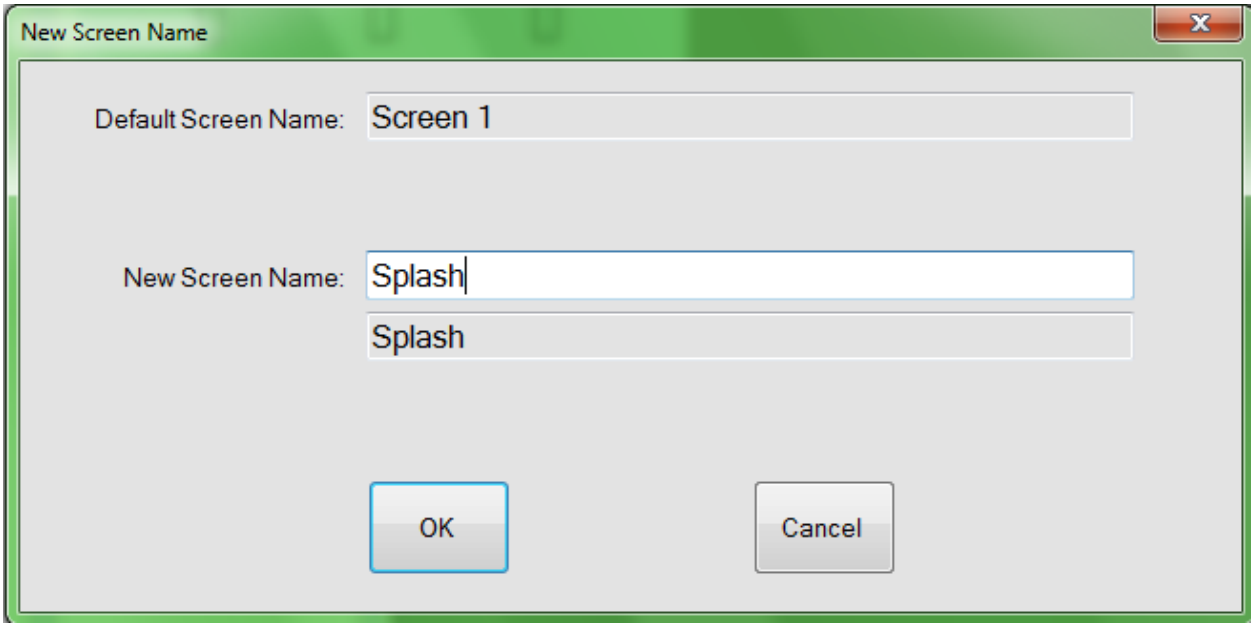


From the Library tree, select a Screen Template to be used as the splash screen. Screen empty0, and Screen template 0 and are typical templates for the splash screen. Keep in mind that Screen Template0 will not allow buttons to be added. Therefore, use of this template should be used for Splash screens or screens that do not require button commands.

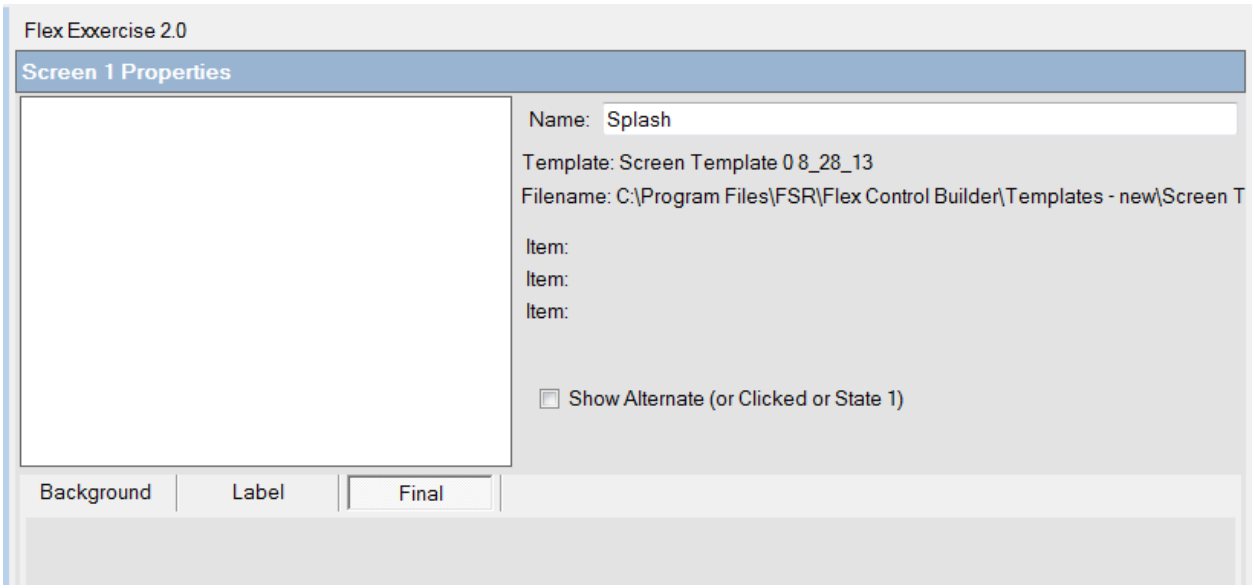
Select by left clicking on the template and dragging it and then dropping it over the Project tree.



I selected Splash screen template 1. Once dropped onto the project tree the above screen appears allowing you to rename the screen if you like for clarity purposes later on. Renaming is not mandatory and the screen name can be changed at any time later on while building the project.

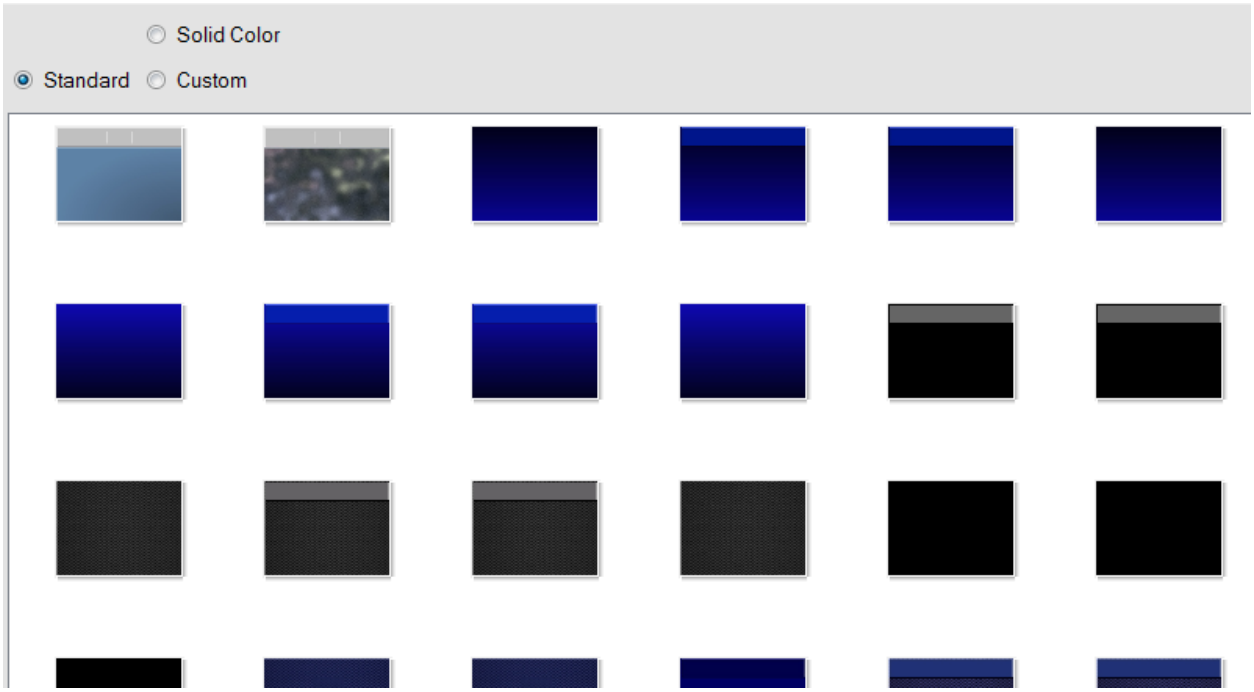


This screen has been renamed Splash.

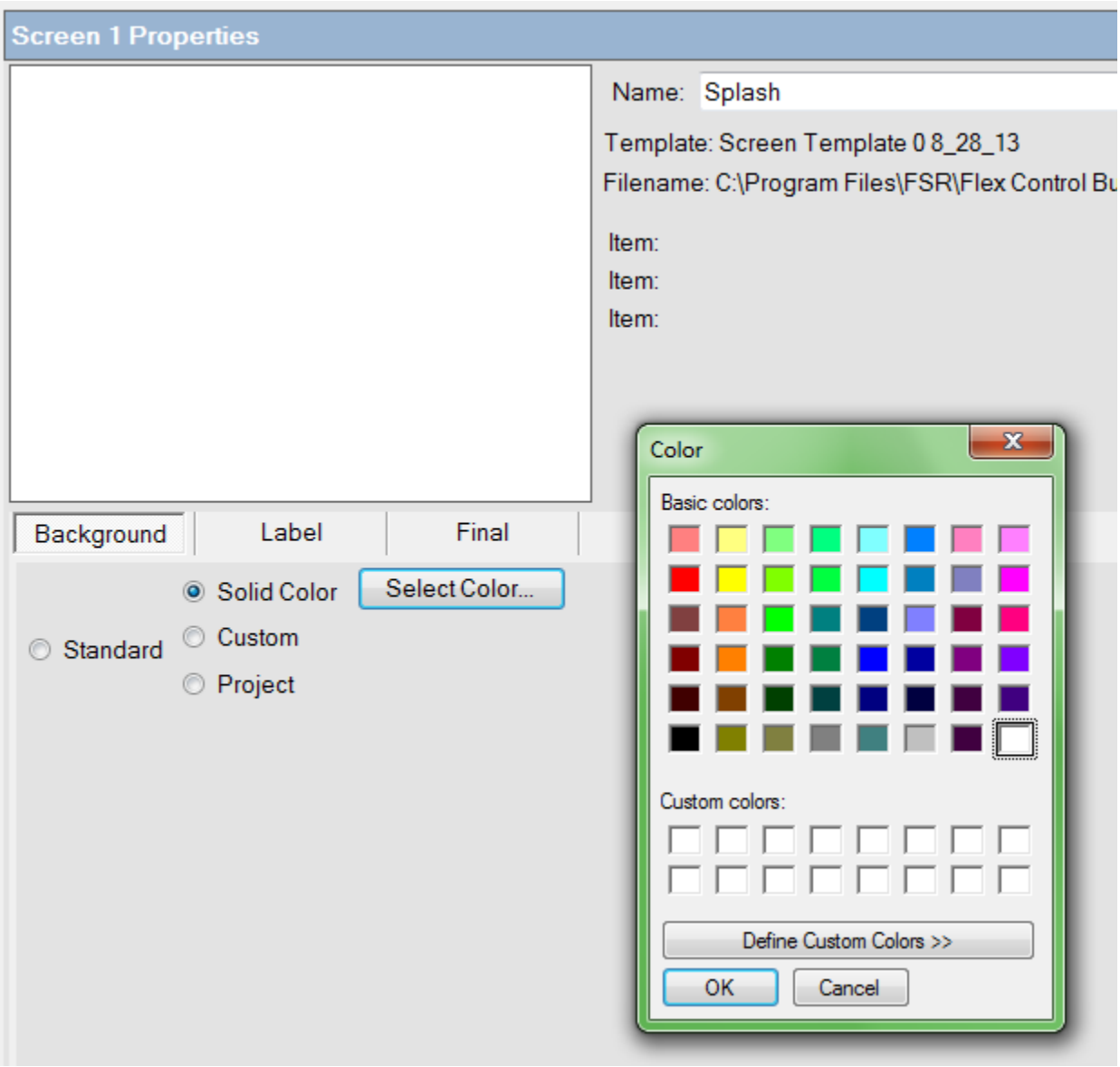


Typically a splash screen will consist of a background and possibly some text.

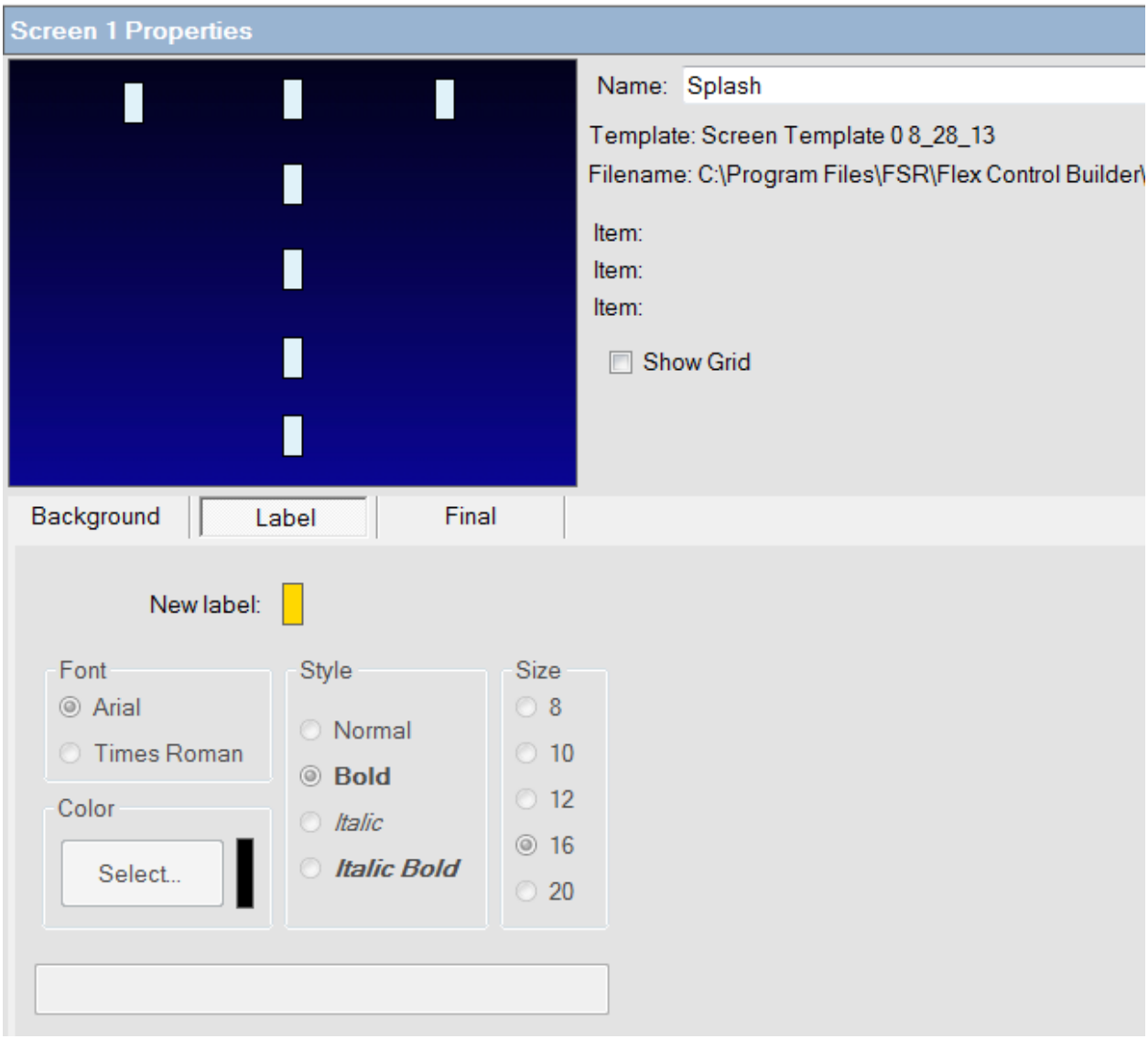
Backgrounds can be selected from the FSR stock folder, a Custom folder or a Solid Color



Solid color will present the following screen to choose from.

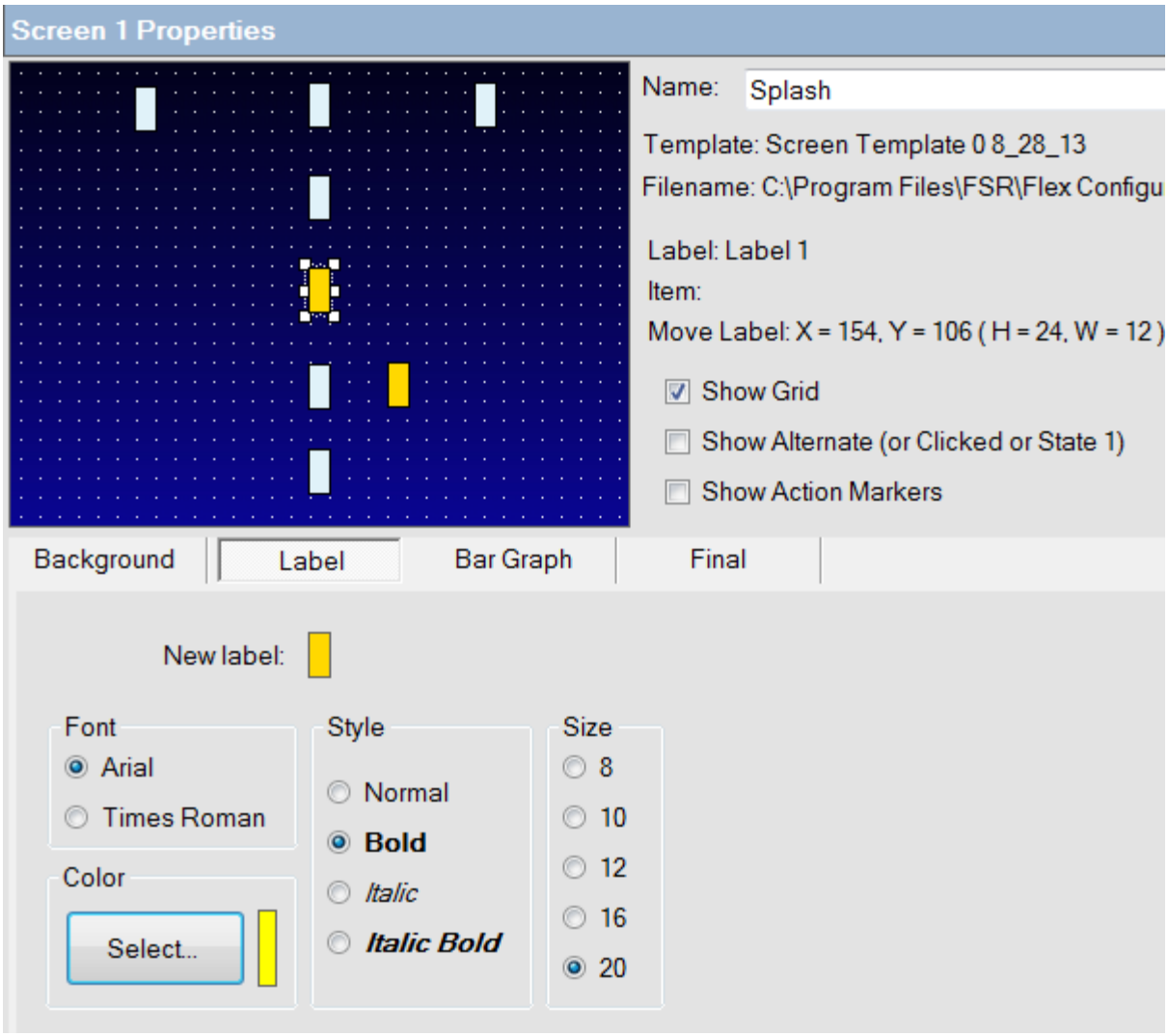


Selecting custom folder will show a Change Folder button to press. You will then be able to select a folder where you have custom graphics. These graphics only need to be BMP, JPG, or GIF formatted graphics. The CU will automatically resize the graphic for the background.



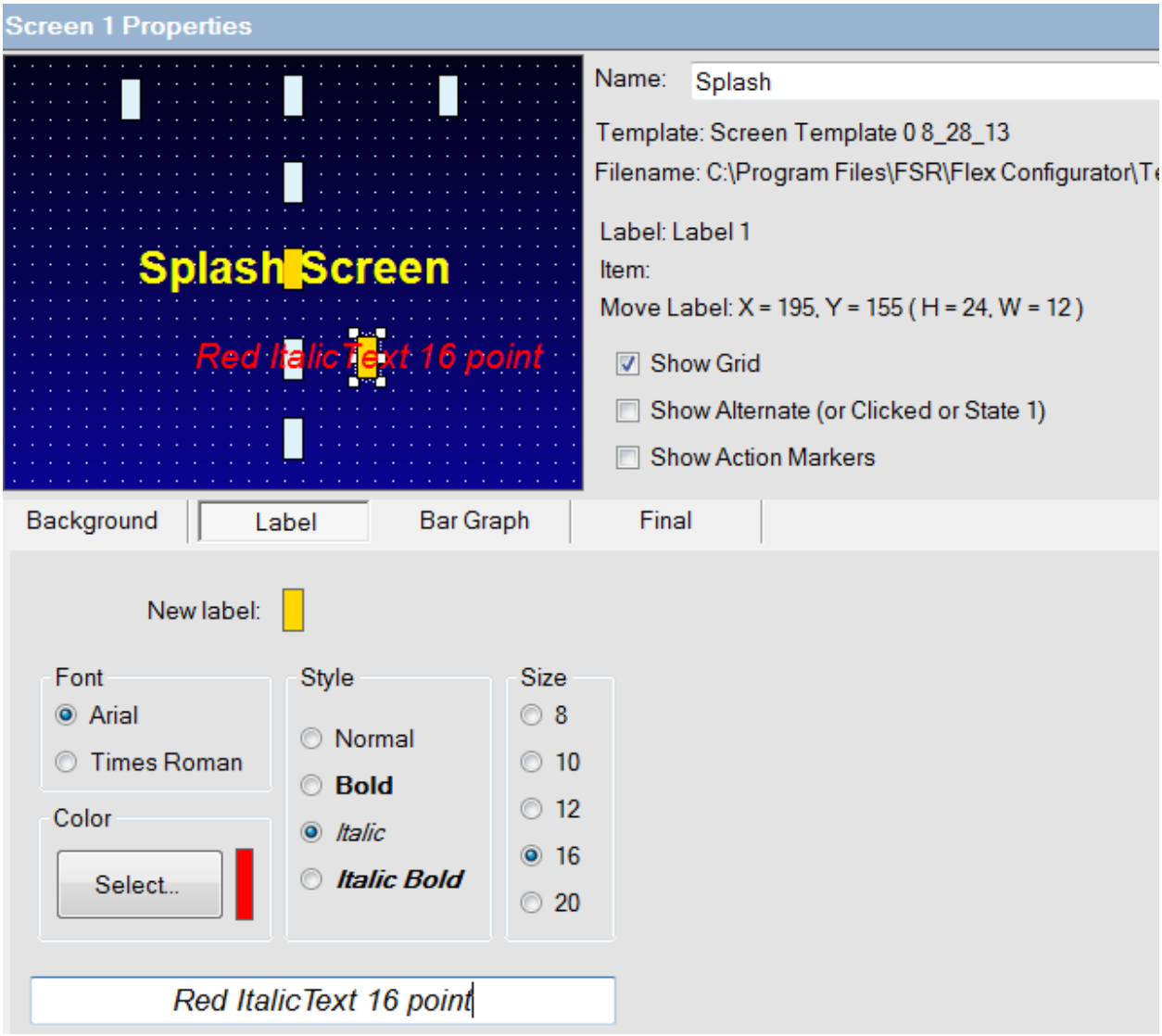
Once a background has been selected, you may add a label to the screen. Notice the small vertical boxes. They are standard text place holders. These place holders are used throughout the CU. However, this version of the CU does not limit you to using the place holders. Text can be put anywhere on the screen. The template is provided for ease of use.

To add a label, click on the yellow New Label box and drag and drop it either on a place holder of anywhere else you desire. If you are not using the template you may find clicking on the Show Grid box helpful for aligning text. Again this feature is available throughout the CU for text and button placement.

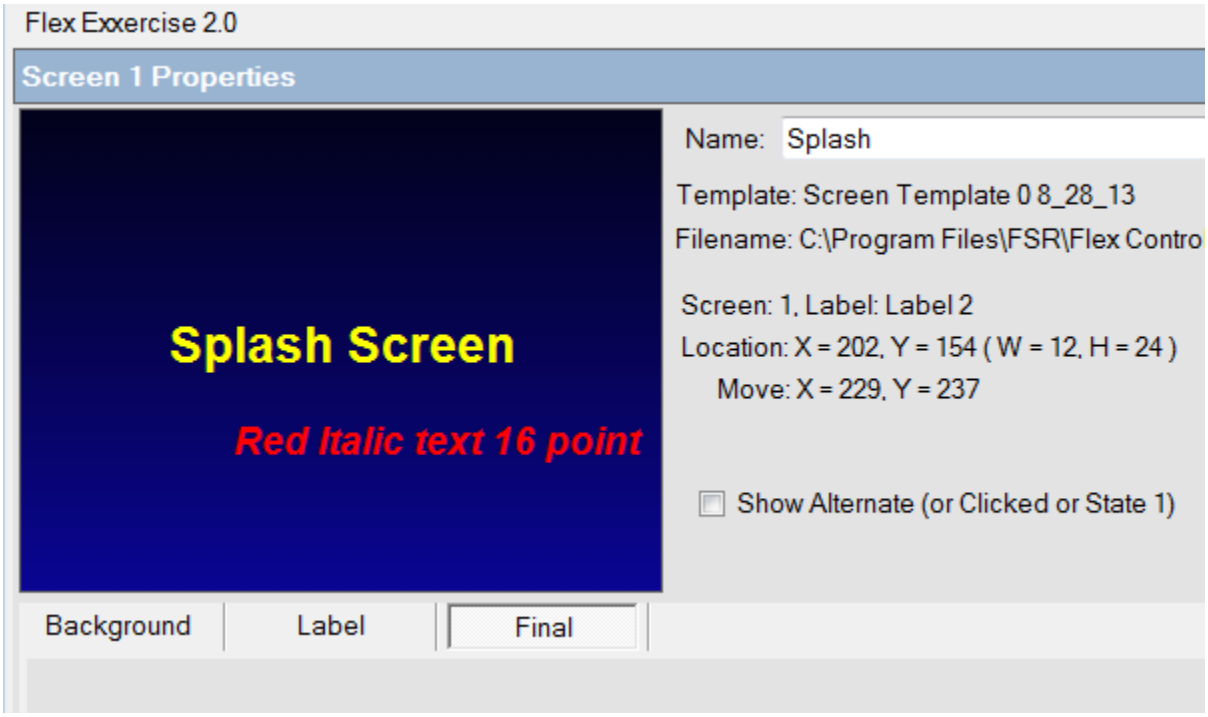


Above shows two text boxes added. The one in the middle is selected and you can now change the color, Font, Style, size and text within the box. Once complete select the other text box and select

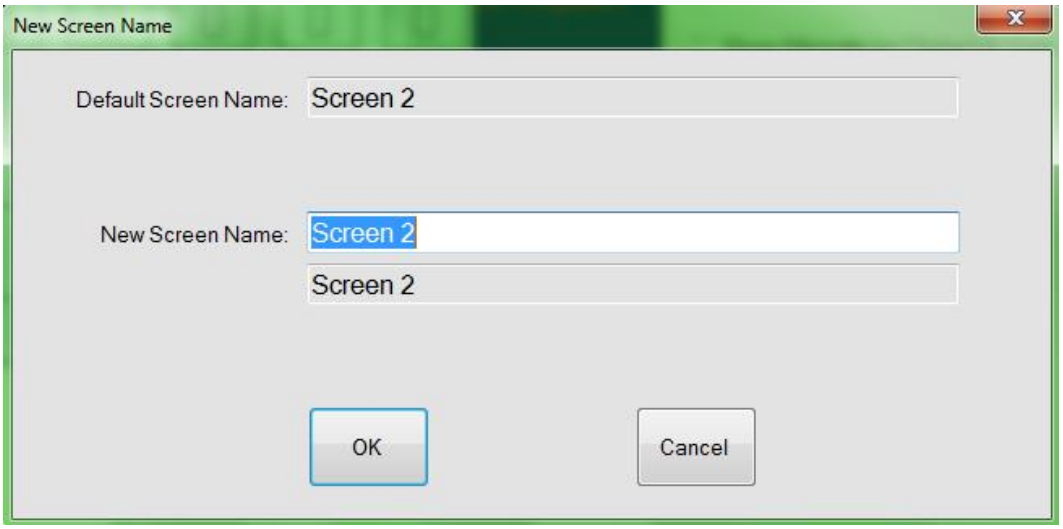
preferences and text.



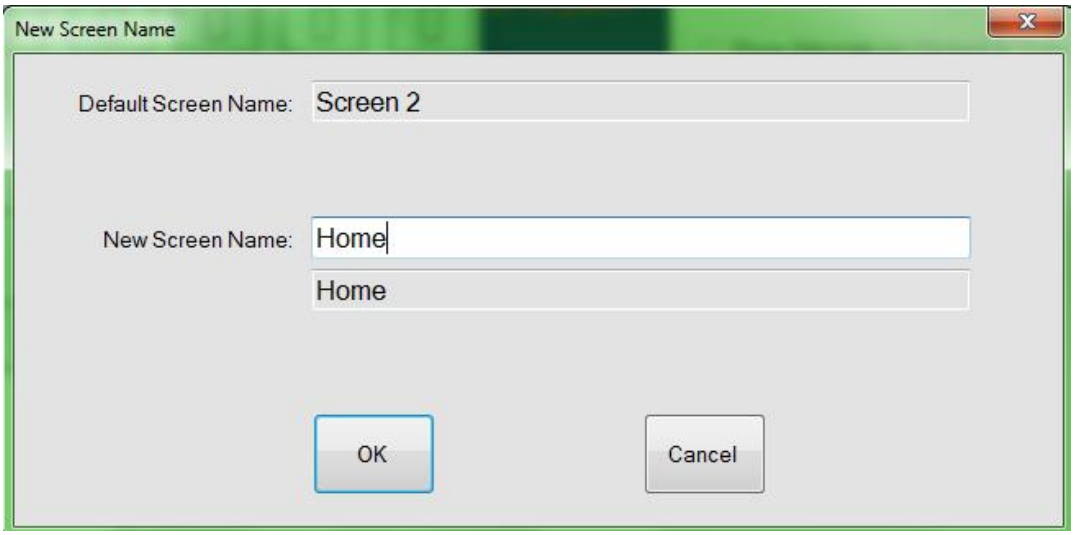
Click on Final tab and see how the final screen looks.



Next select screen template 4. This will be used for our HOME screen. Note below it appears as Screen 2

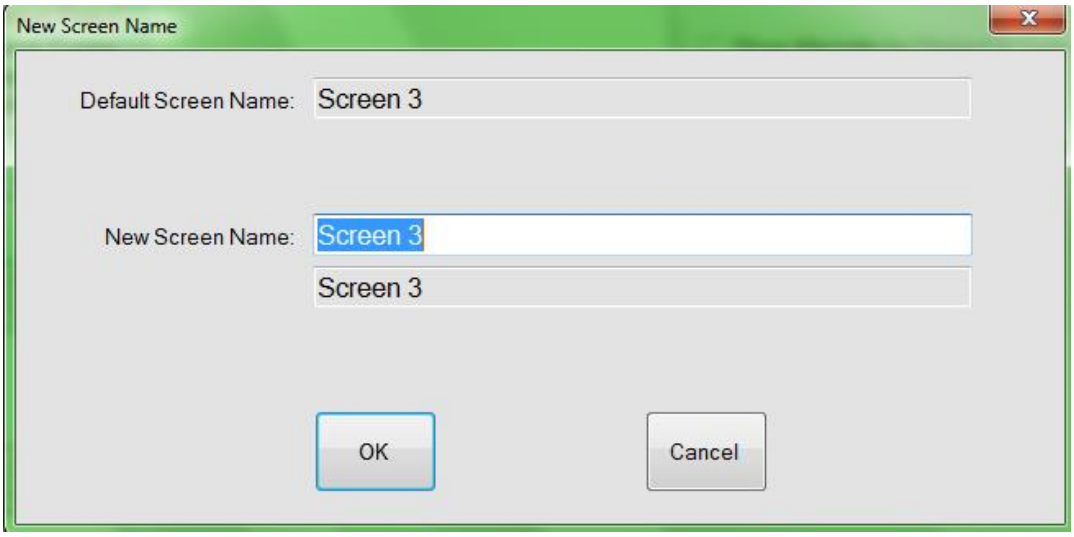


Let's rename it HOME

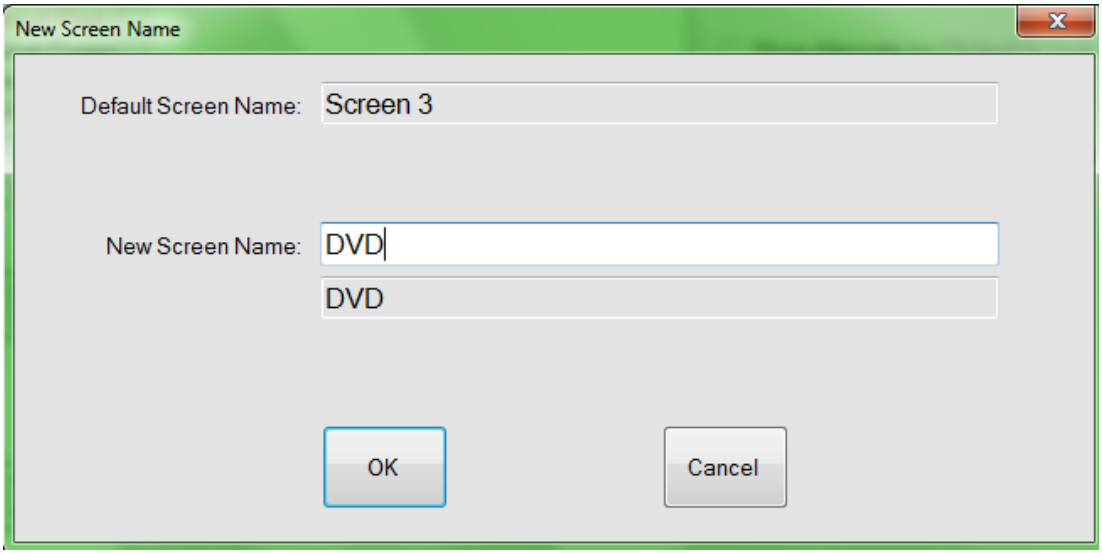


Now click OK

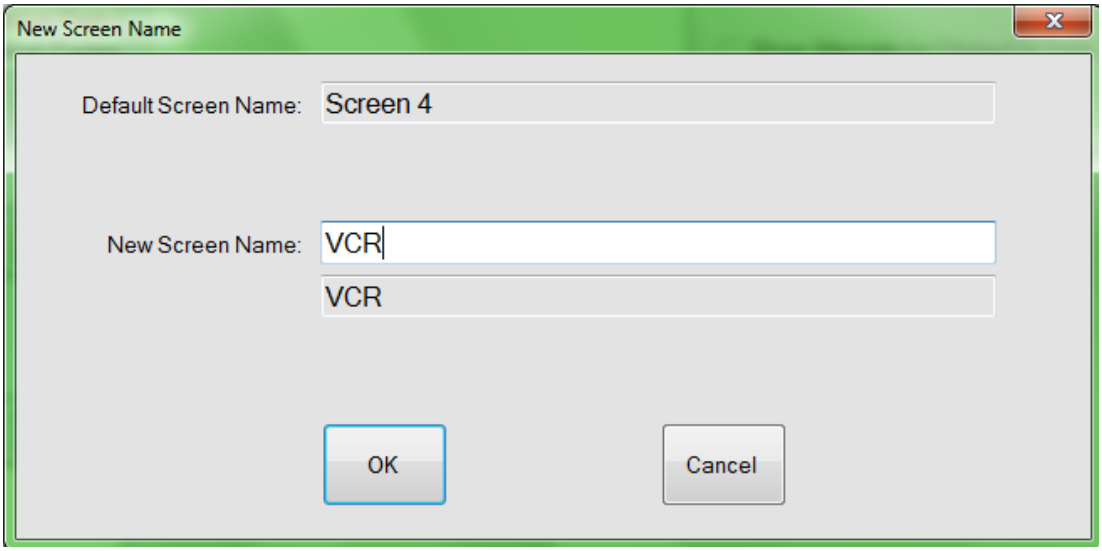
We can add all the screens we will be using in our project now or start populating the screens as we go. I prefer to define all the screens ahead of time so I have a good reference. As such I will now add my DVD screen. Select Screen template 7 for this and drag and drop it to the Project Tree.



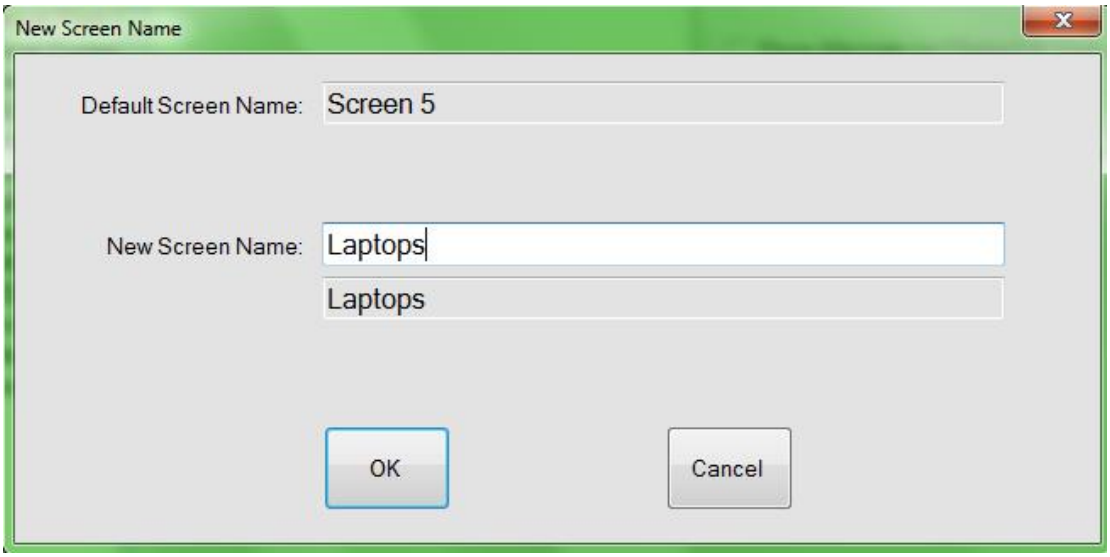
Now rename it DVD



Now select another Screen template 7 and drag and drop it to the Project tree and rename it VCR



Now select Screen template 3 and drag and drop it to the Project Tree and rename it Laptops

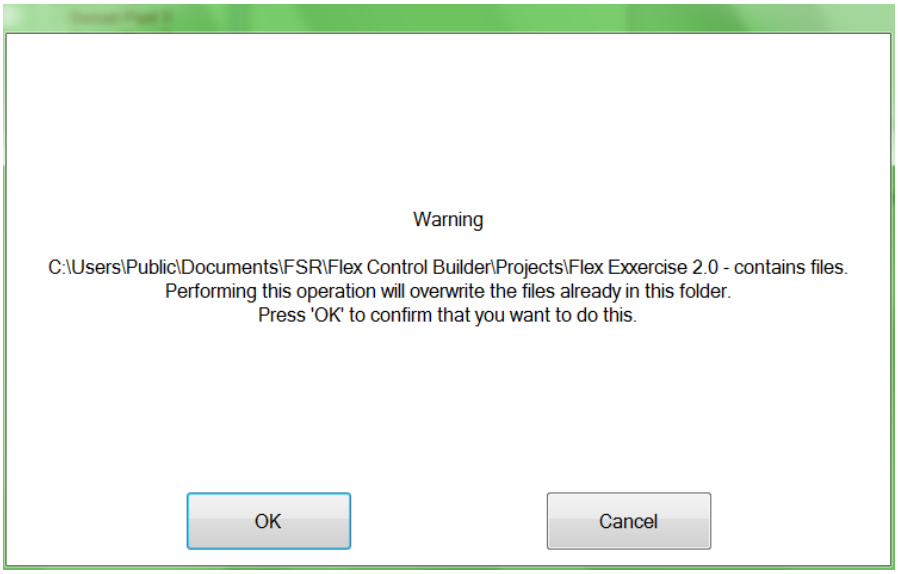


Now add a test screen that can be populated with buttons to further define action items which will not necessarily be part of the basic project being built here.

Select Screen template 1 and drag and drop it to the Project Tree. Rename it Test.

Save Project

This is a good time to do a project save. Click the save button to save the contents of the current project. Save As will prompt to create a new project folder similar to when this project was first named.

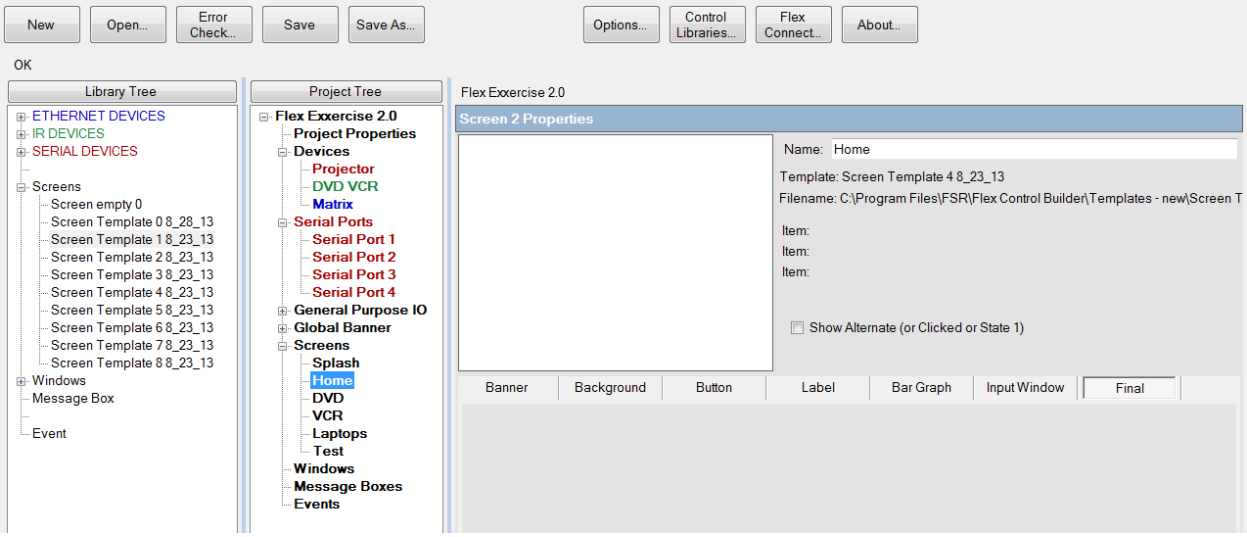


Click OK to overwrite the contents of the folder with the additional information added since the project was started.

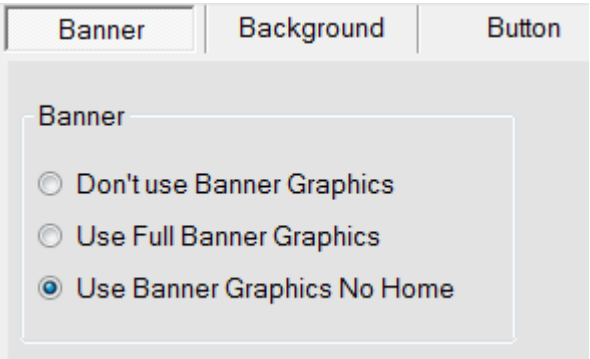
A confirmation screen will follow shortly

All the screens are now added and we will go back to each one and add background, buttons, banner, and text as applicable.

Since the splash screen has already been designed, pick the home screen from the Project Tree list.

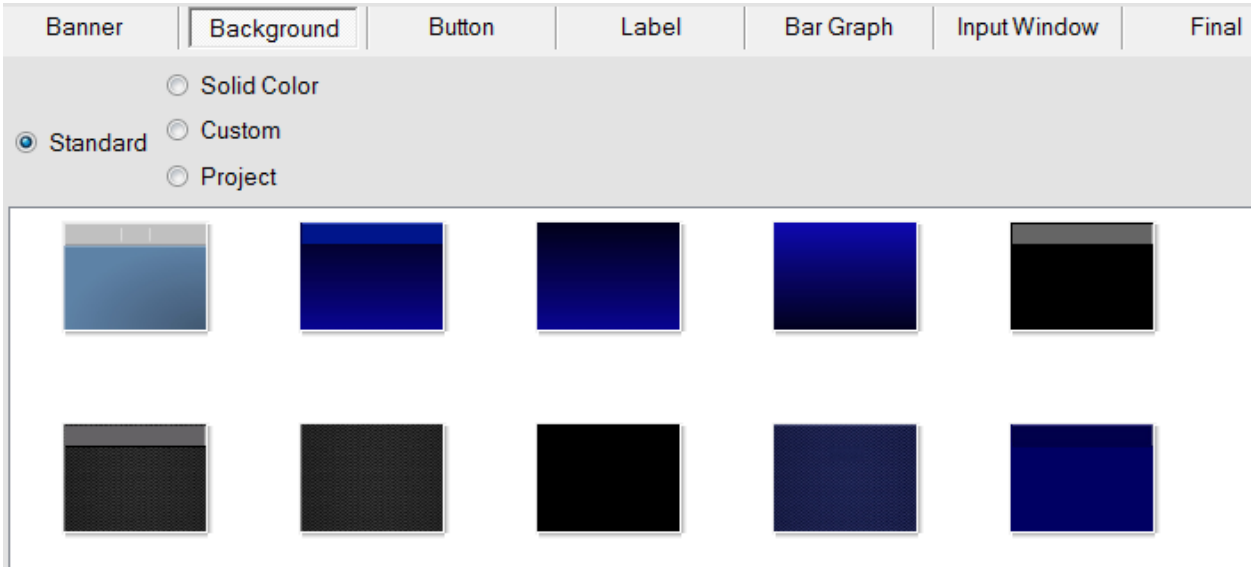


Click on the Banner tab and select the type of banner to use. Since this is the HOME screen, pick the use Banner Graphics No Home.



Now click Background tab and select a background as we did in the Splash Screen.

Again choose from Standard, Solid Color or Custom.

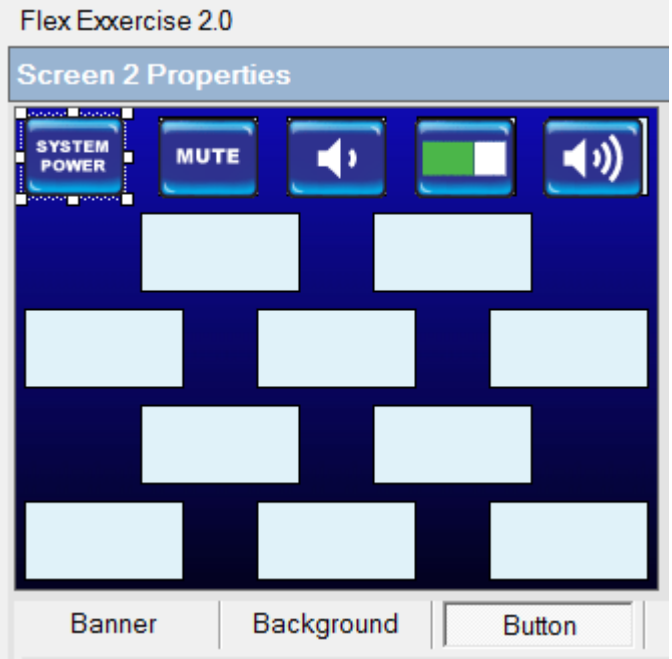


Click on the Button Tab and then select Small. This will show the standard Small button library. Again, you can pick Solid Color for solid color buttons or Custom. Custom will allow you to select a different folder of graphics and allow you to place a custom graphic into any template location, or any other position on the screen. Additionally, these buttons can be re-sized following conventional windows graphics techniques.

Procedurally, Custom buttons and solid colors are selected in a similar manner as custom backgrounds. The difference being the ability to re-size the button graphic once it has been dropped onto the screen.

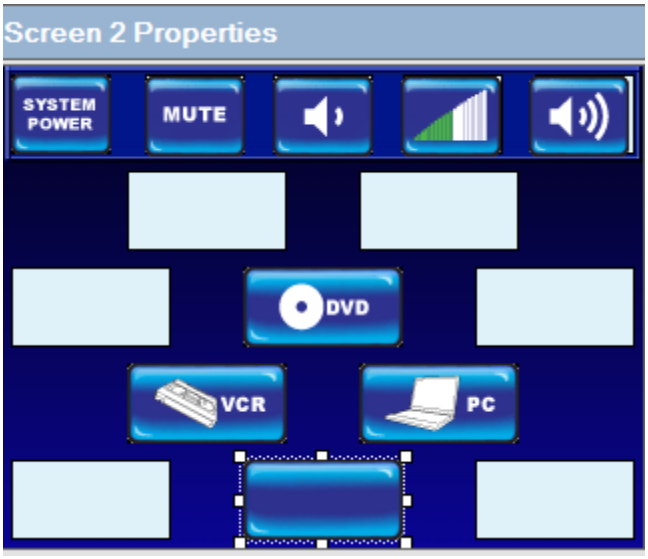
This exercise will use standard buttons. Select the 

button and drag, then drop it to the top left corner template box. When dragging and dropping buttons, use the top left corner of the graphic as a guide to dropping the graphic. Once the top left corner is within the template box, the mouse button can be released and the button will automatically be centered and re-sized if necessary.

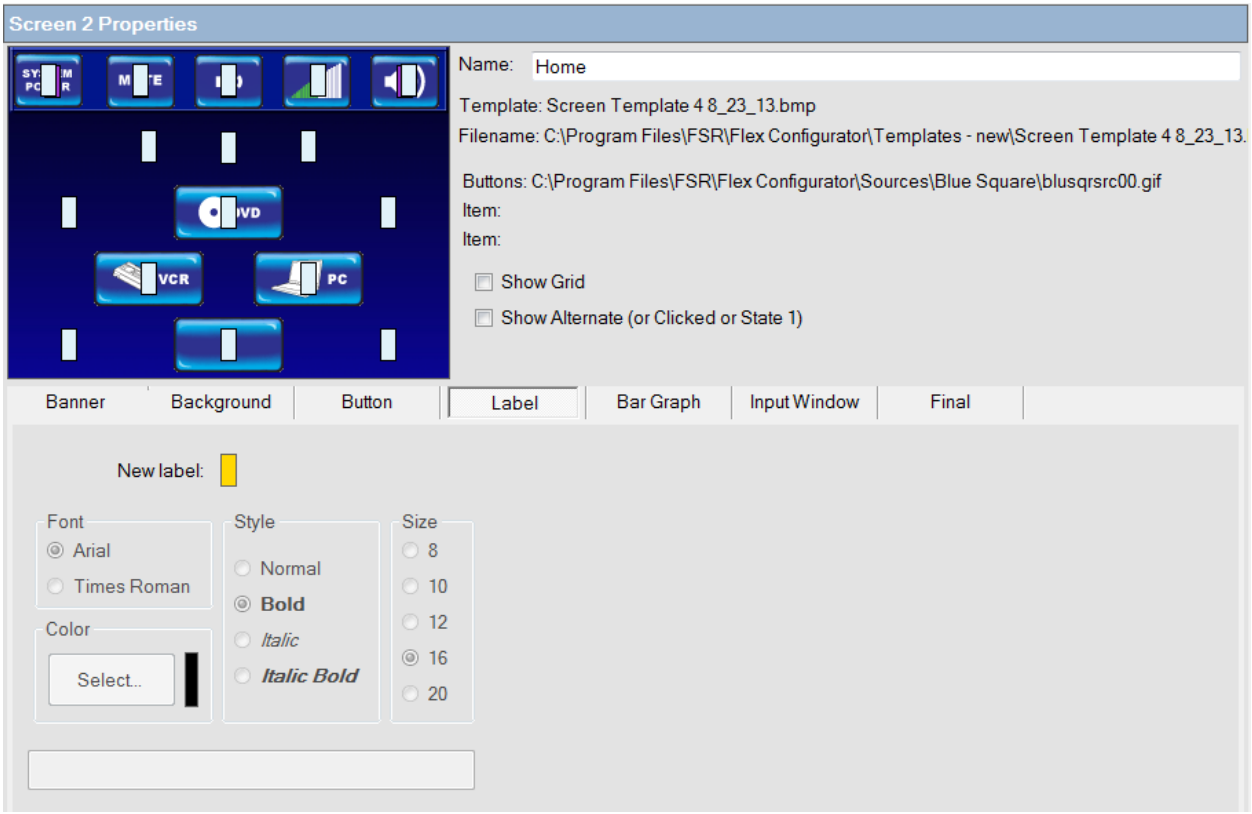


Additionally, notice to the right of the template screen there are 3 boxes that can be checked. Show grid will present a grid pattern which is very helpful in aligning buttons outside of the template. The show Alternate box is used to reveal the alternate graphic of a button. Notice this exercise is using the Blue Square as the primary color and red Square as the alternate. To change either primary or alternate color, select from the drop down menu and drag and drop the new graphic accordingly. Should a custom graphic been used, this will also reveal the custom graphic used as the alternate.

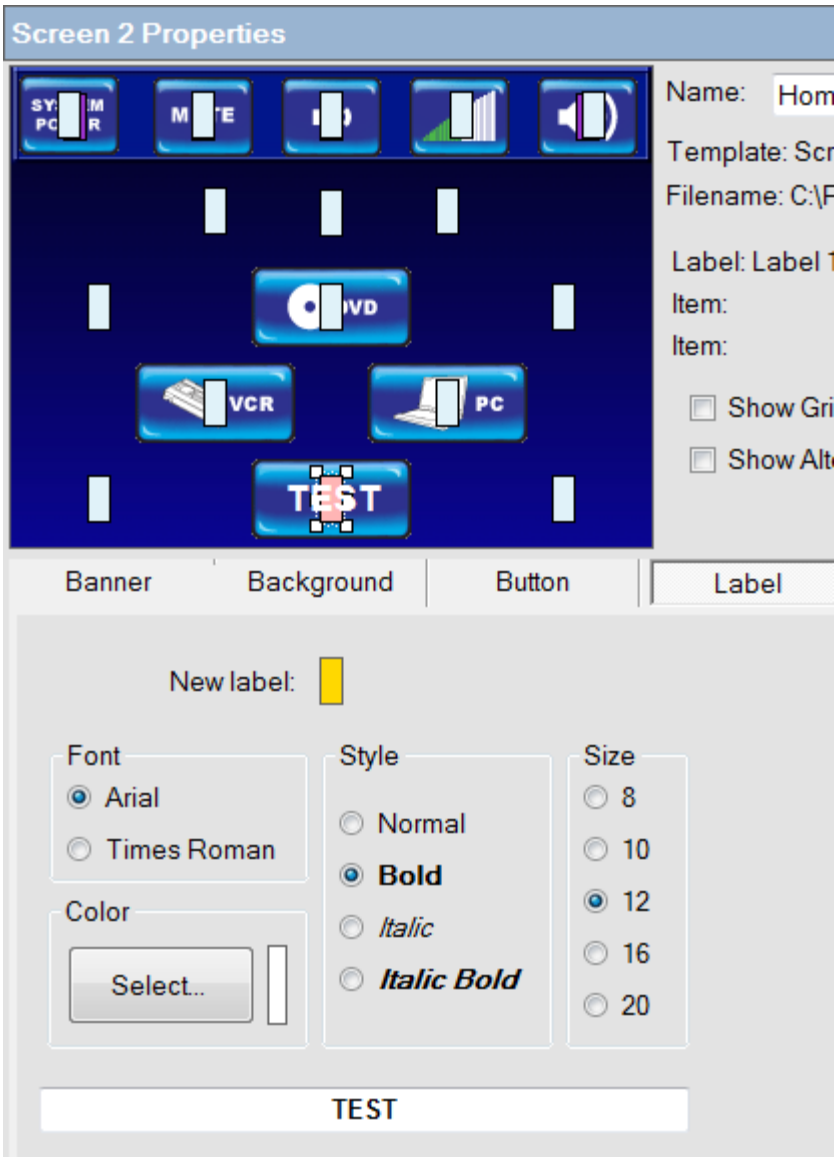
Click on Large for the large button selections and fill in the remainder of the screen by dragging and dropping the graphics as shown below. Note the Blank button.



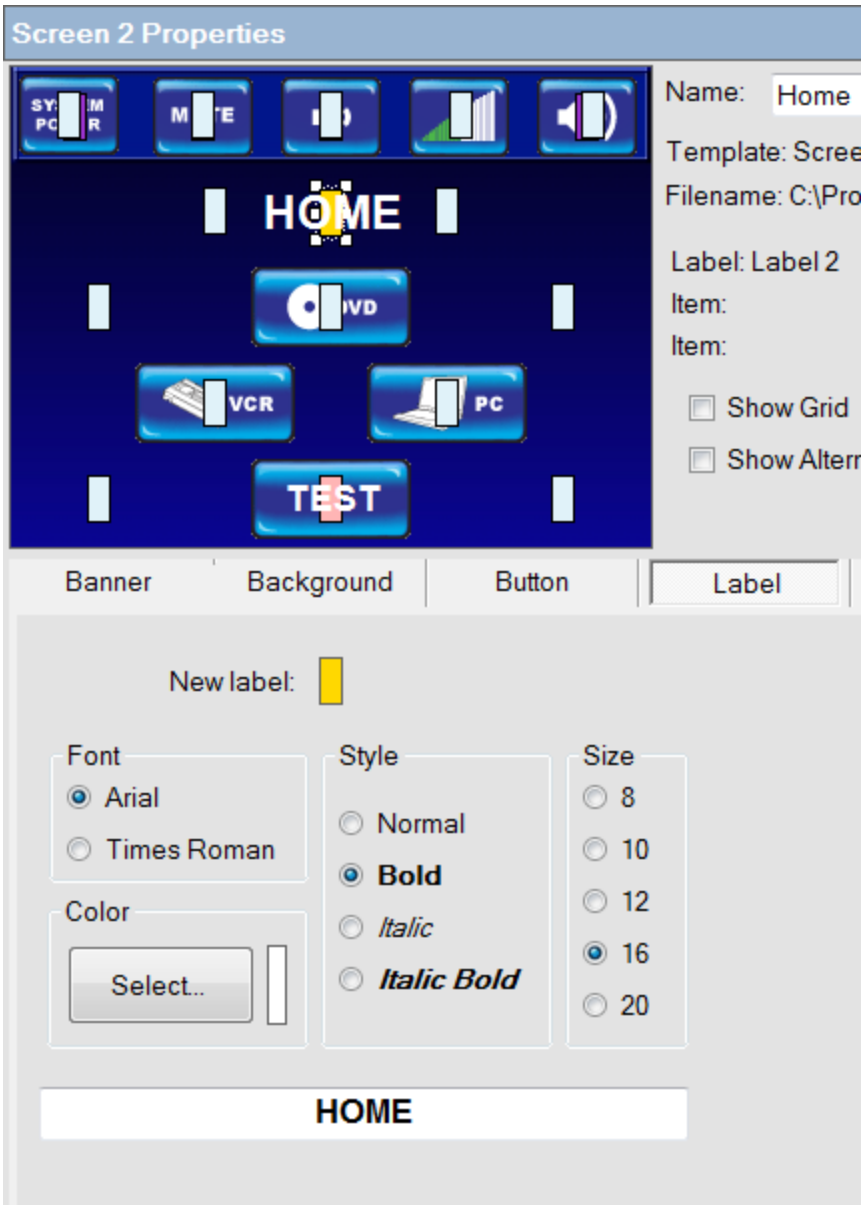
Now click on the Label Tab.



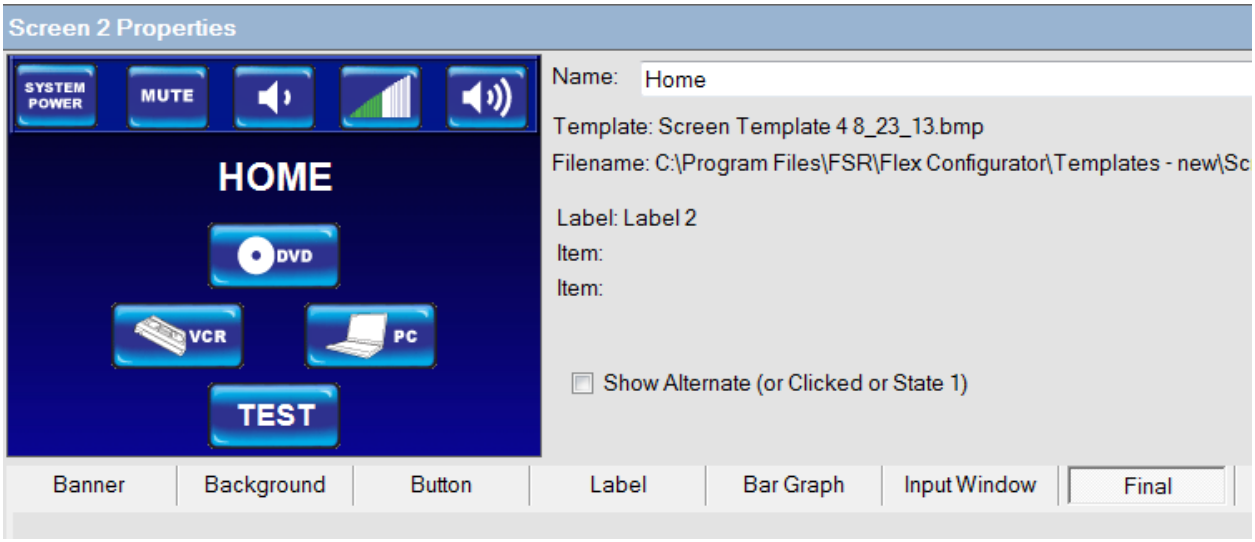
Notice the small verticle rectangular place holders. The labeling process is the same as was instructed for the Splash screen.



Drag a new label to the blank button, Pick a color (White) and label it TEST. Then Label the screen as shown below (HOME)

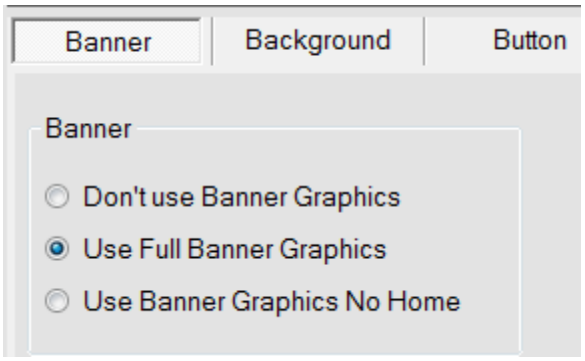


The Bar Graph, and Input Window tabs will be discussed later in this exercise. They are more advanced and are not part of the basic project being built right now. Select the Final tab to show exactly how the screen will look.

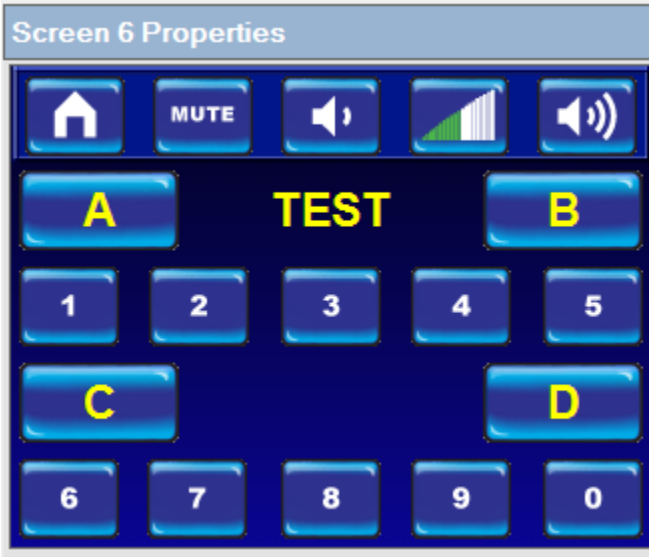


Complete the DVD, VCR, Laptops and TEST screens in a similar manner using the following screen shots as a guide.

Note, for the following screens the Use Full Banner Graphics option will be chosen.



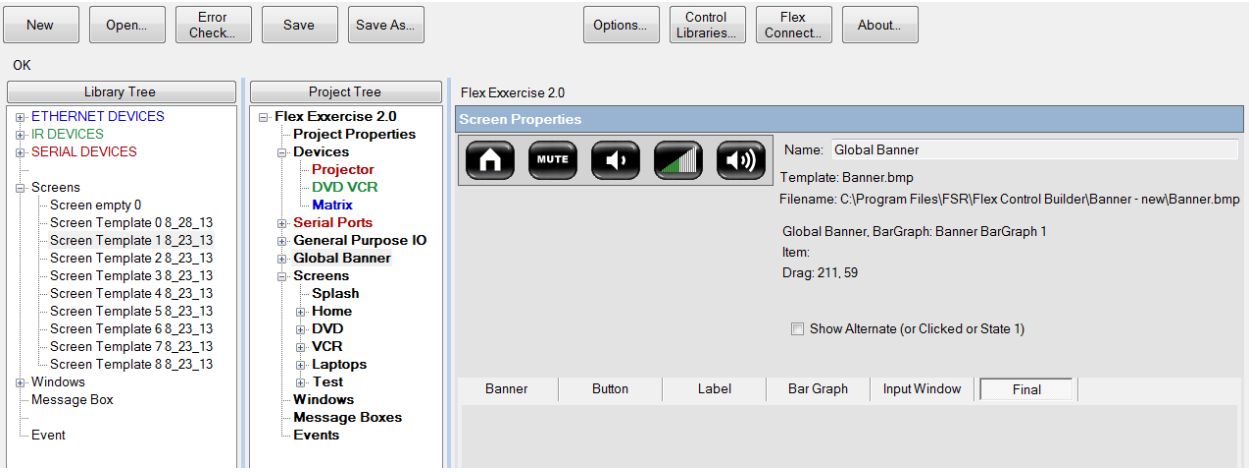
Note: On the test screen below, the numberd buttons were selected directly from the available standard buttons and the Large ABCD buttons were the large blank button and a label was added to each.

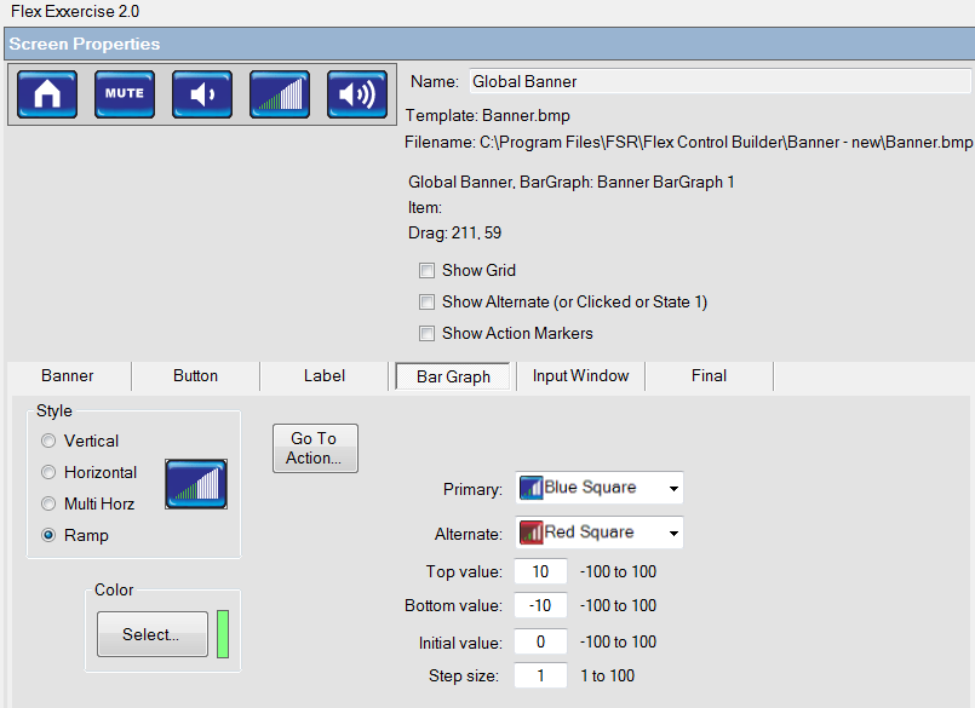


GLOBAL BANNER SET UP

Global banners are designed to eliminate repetitive steps when configuring audio controls. When used the Flex Control Builder designates the 5 buttons across the screen as Home, Mute, Volume down, a volume ramp and volume up. The global banners set-up is tabbed to work left to right as the banner is configured. Select the second tab BAR GRAPH STYLES.

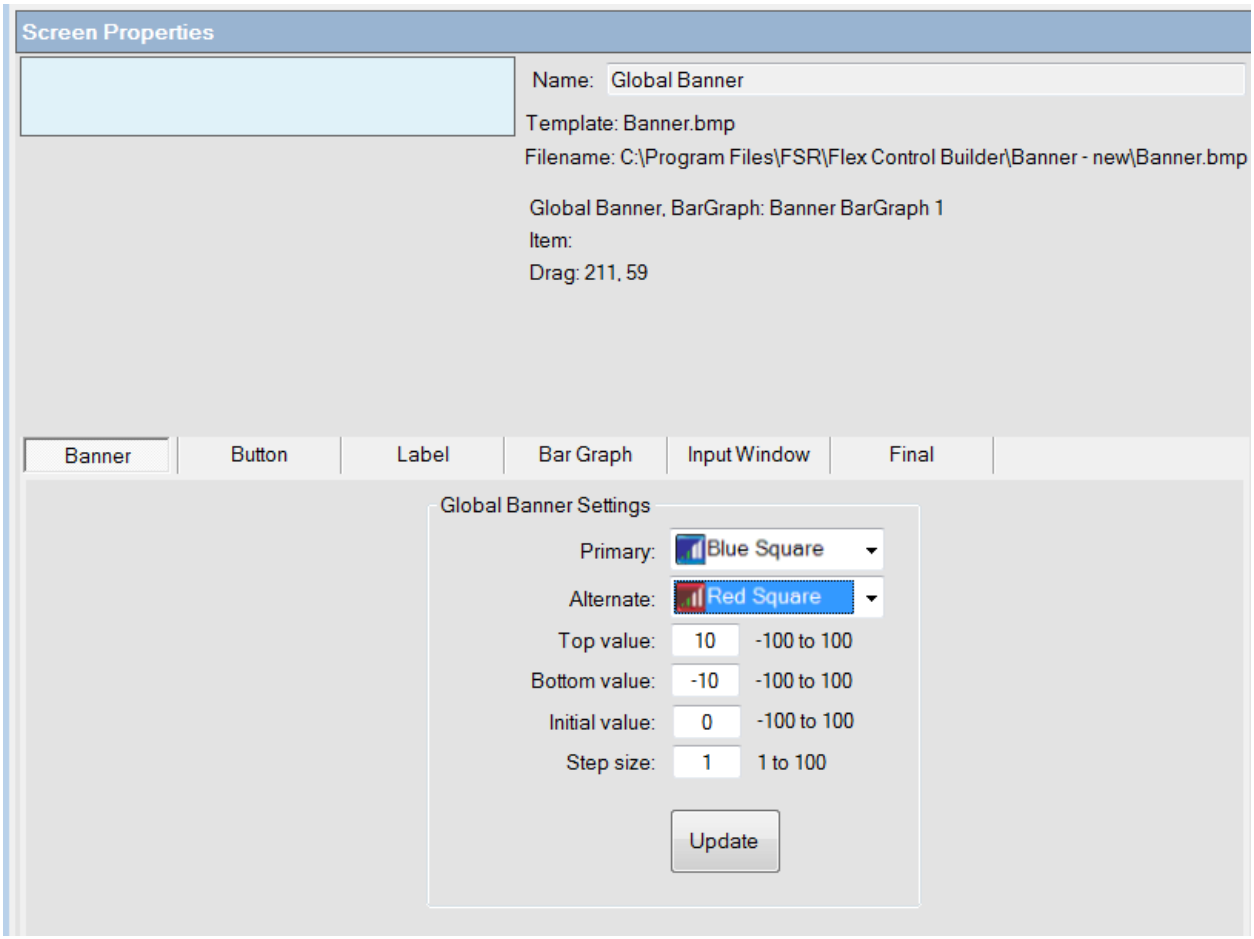
We already chose the banner type we want to use on our screens, now we can define the graphic options and function assignments to the banner.



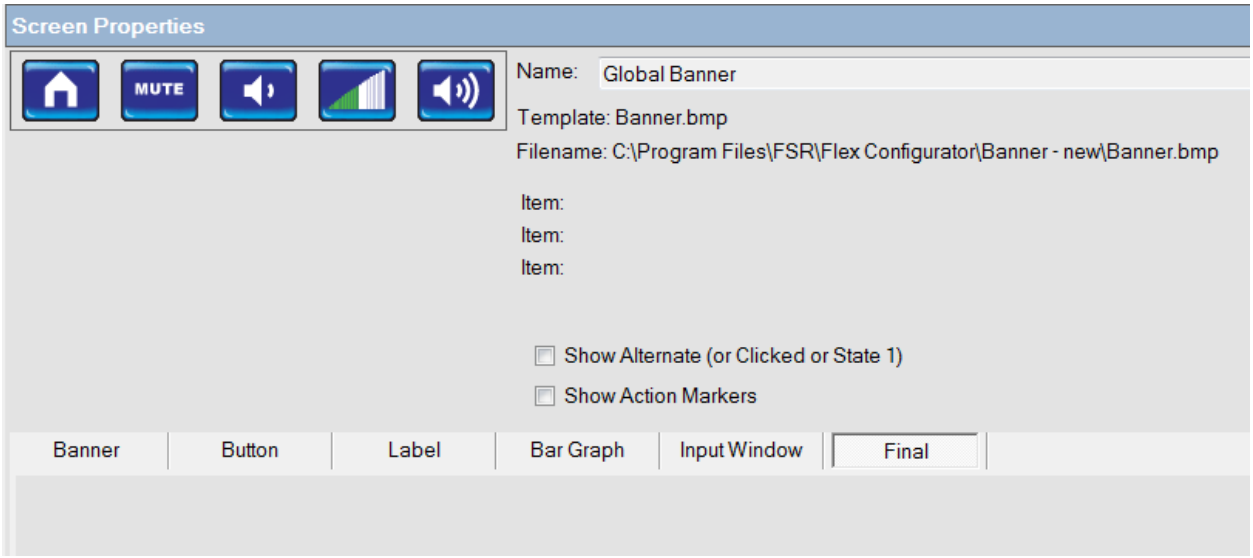


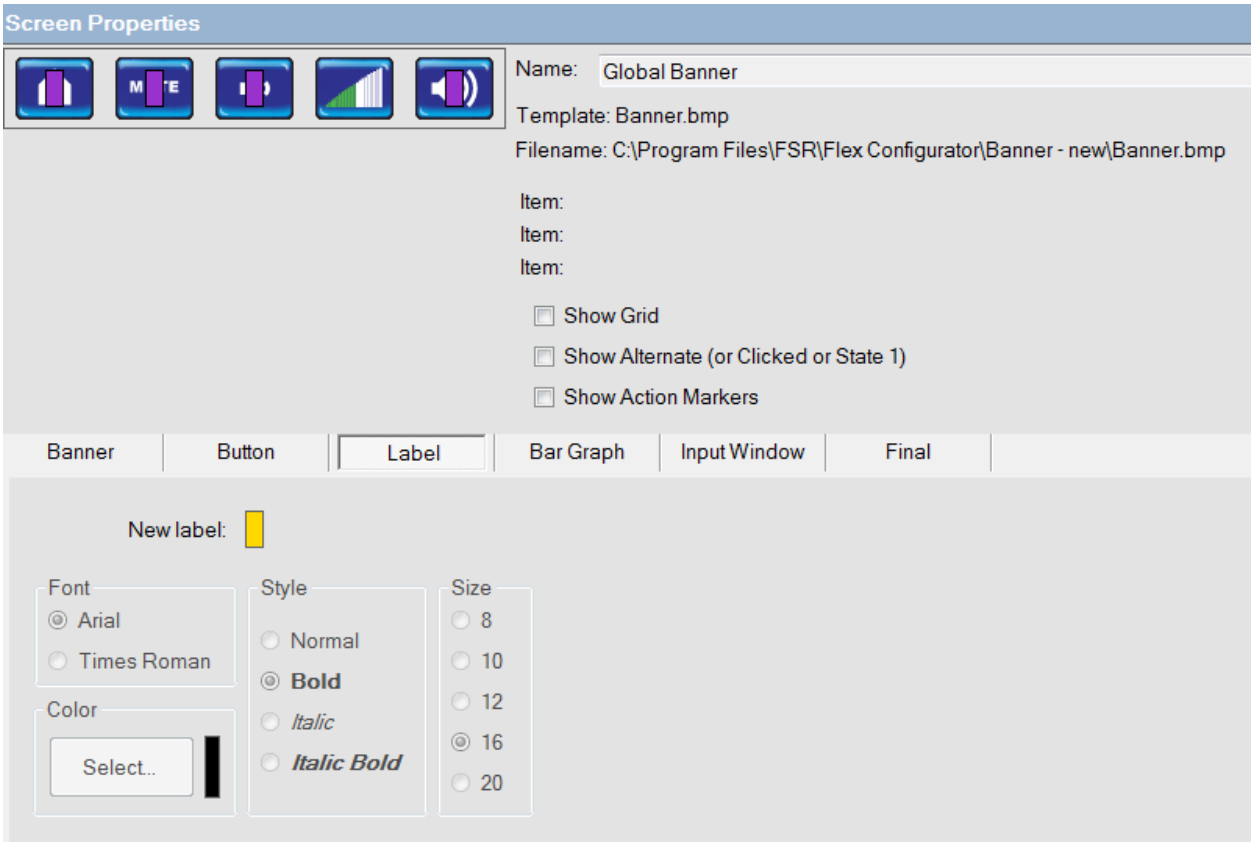
Select the style of banner, Interior color of Bar Graph, and the Primary and Alternate Color schemes.

Depending on the device properties, the Top value, Bottom value, Initial value and Step size can be changed.



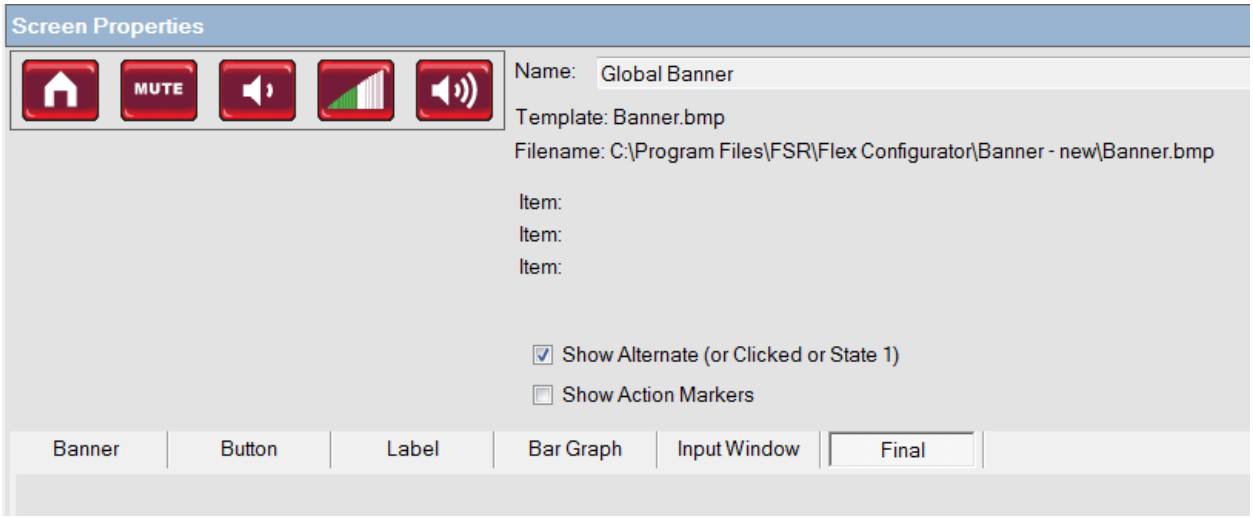
Clicking on the final tab will show haw the banner will look on all screens where banner has been selected for use.





Labels can be setup in the same manner as shown earlier for buttons.

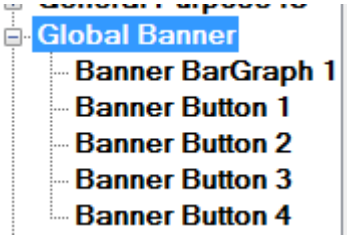
Input windows will be discussed in more detail later as well.

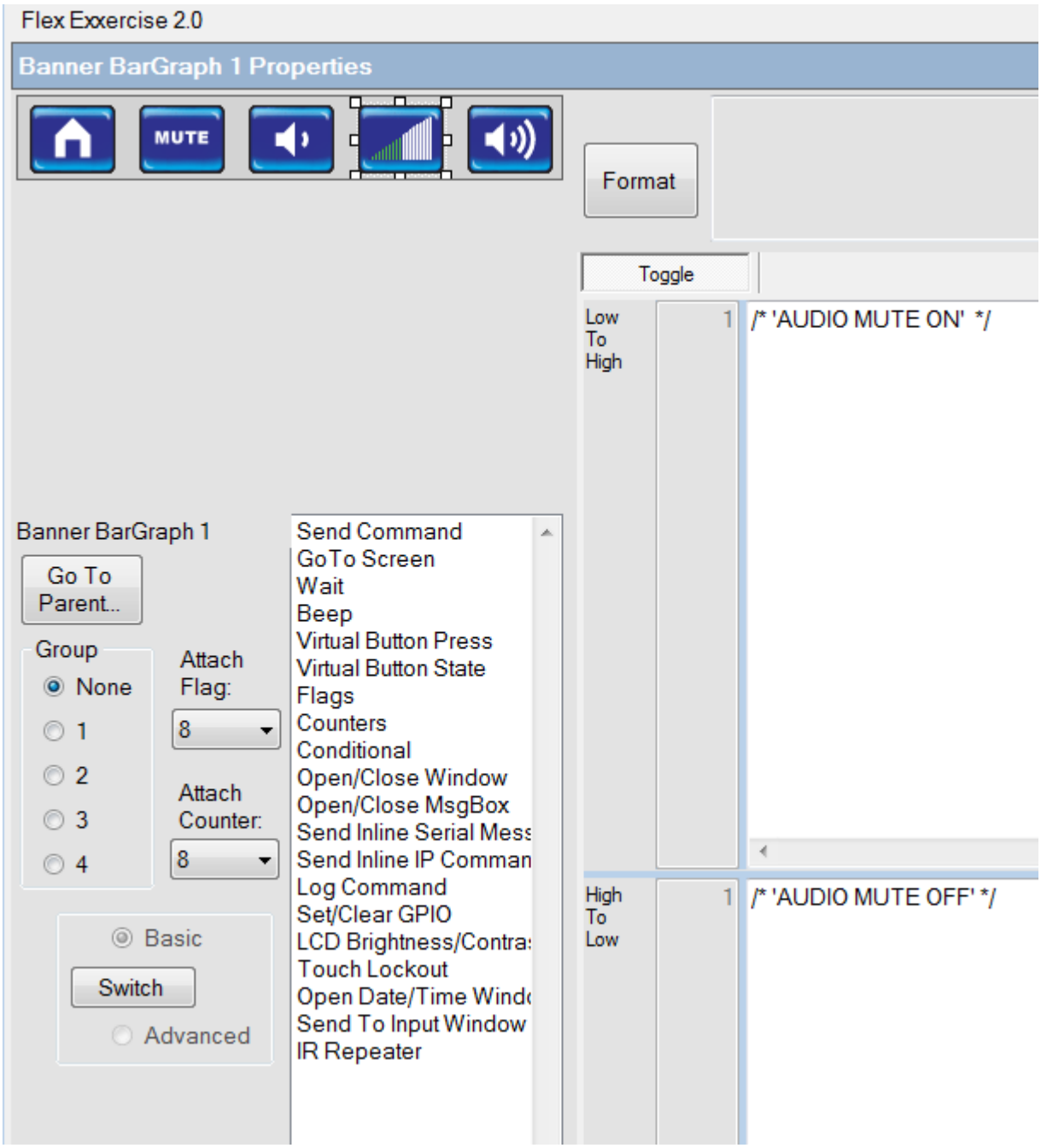


Clicking Final will reveal the final layout of the banner. By also checking off the Show Alternate box, the alternate color for each button will be displayed.

Assign Actions to Global Banner

To assign or review default actions for buttons, Click on the + next to the Global banner in the Project. This will reveal the banner buttons and numbers. Click on the banner BarGraph.



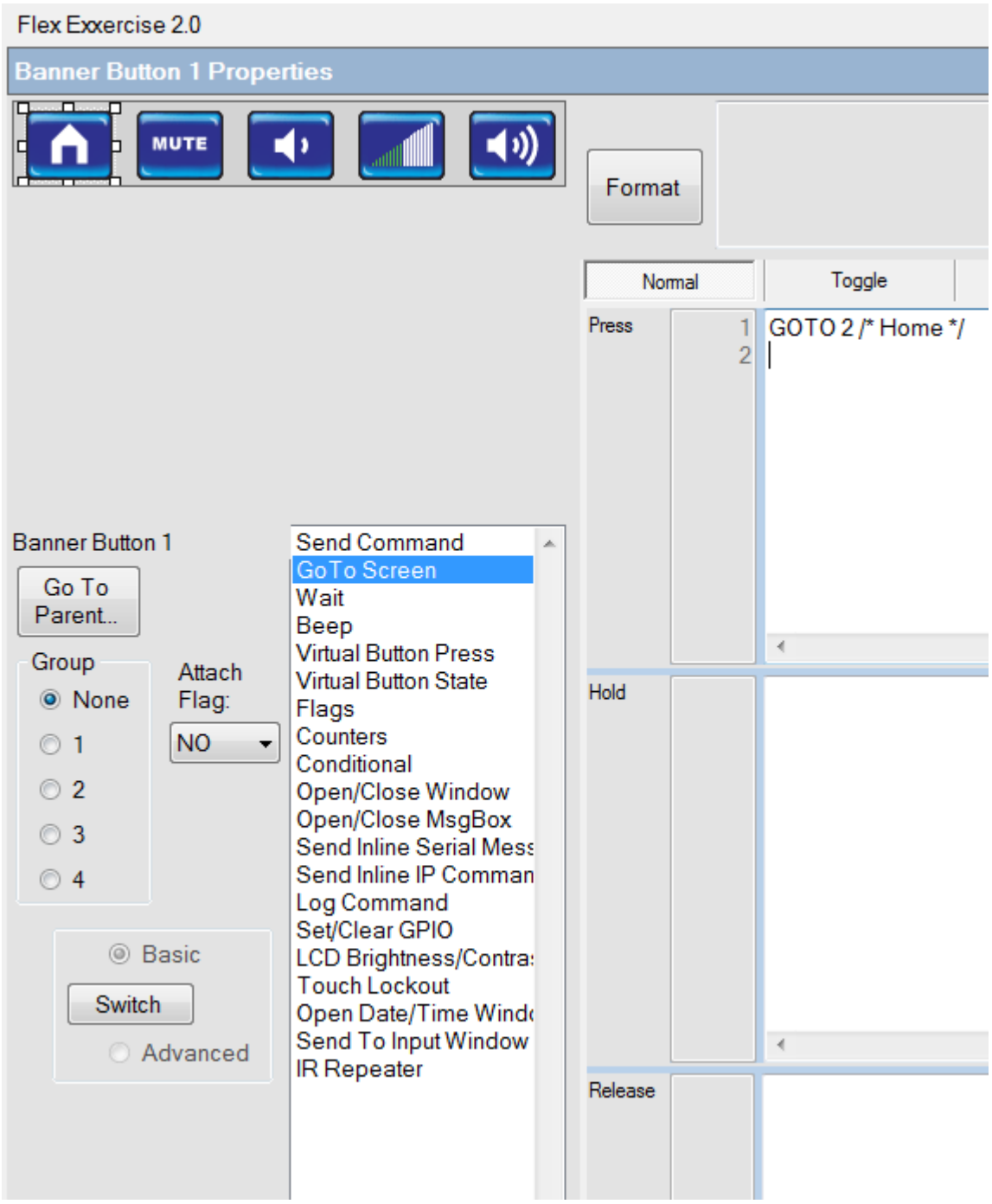


Note the Banner BarGraph is now hi-lighted and the set of actions list is now visible.

Now let's complete the **BANNER FUNCTIONS**.

Select Home Actions Tab.

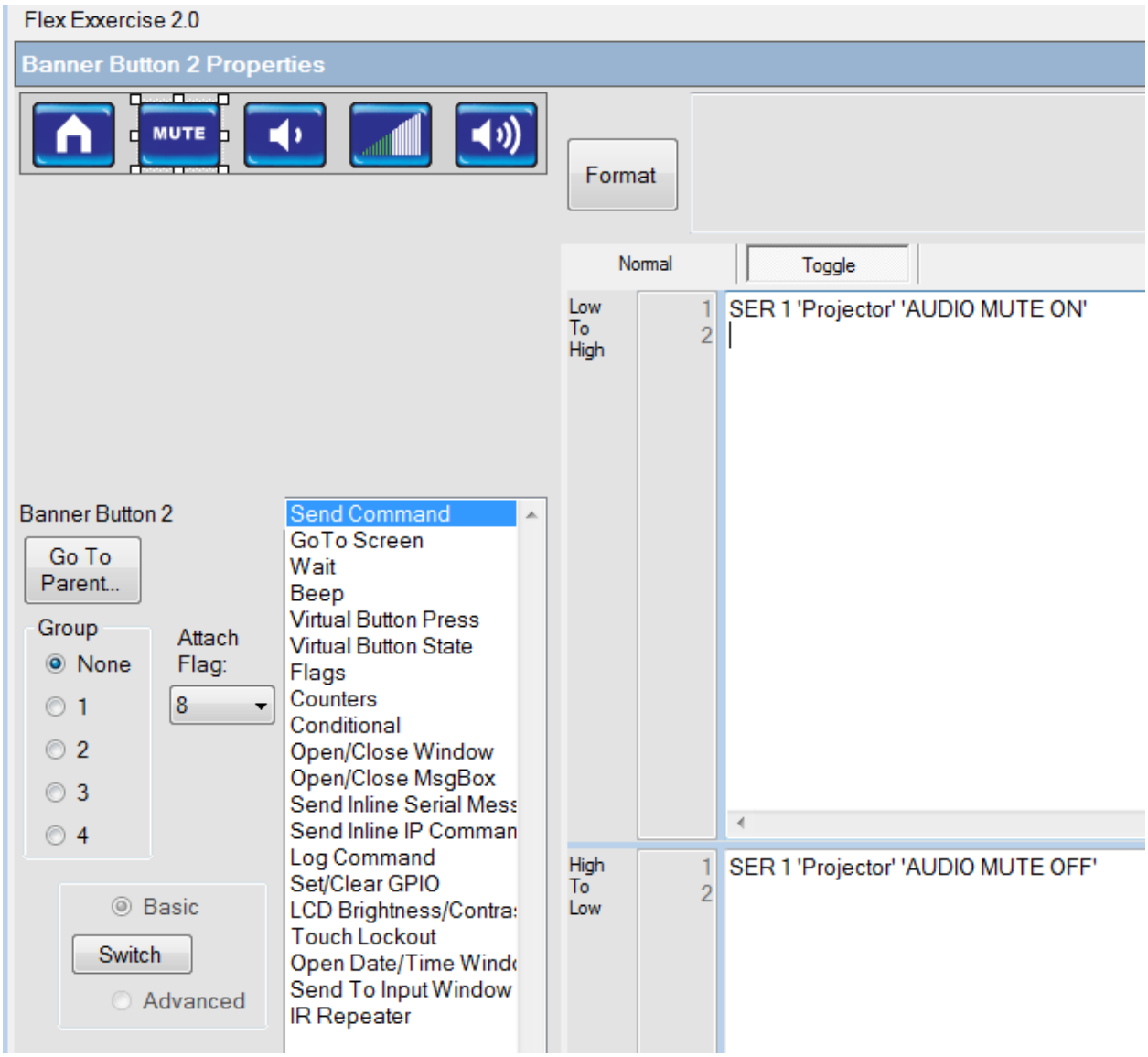
Click on the Go To Screen command, HOME, and then press the save button.



Now select the **Mute Actions** Tab.

Select Send command, select projector and then '**AUDIO MUTE ON**' and press OK

Now select the lower box and repeat steps for '**AUDIO MUTE OFF**'



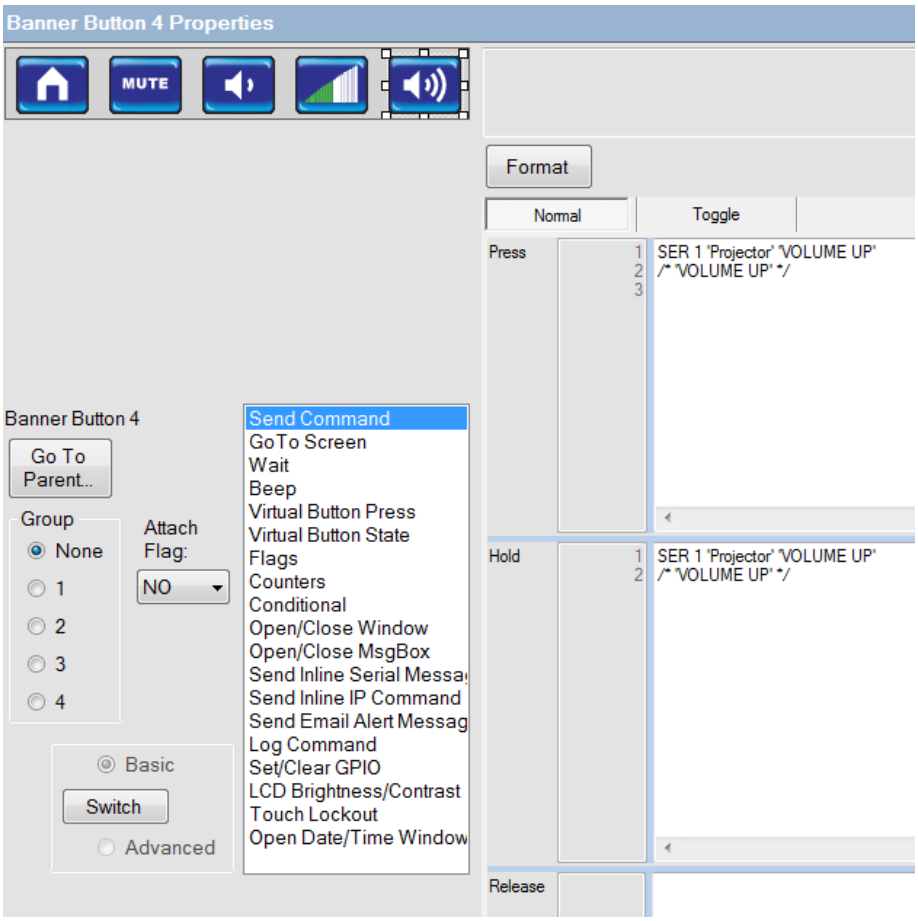
Volume

Volume controls are versitle. They offers the capability of independently controlling volume press actions and hold actions and has a separate Volume release action set of commands should a particular device require it.

To differentiate, the Volume up press command will require the user to repeatedly touch the volume up button in order to increase volume. However if the same volume up command is repeated in the Volume Up Hold Actions, the user can press and hold the volume up button in order to increase volume. Likewise the volume down command window works the same way.

First click in the volume up press actions box, and then click on send Command from available actions.

Completed screen will look like this.



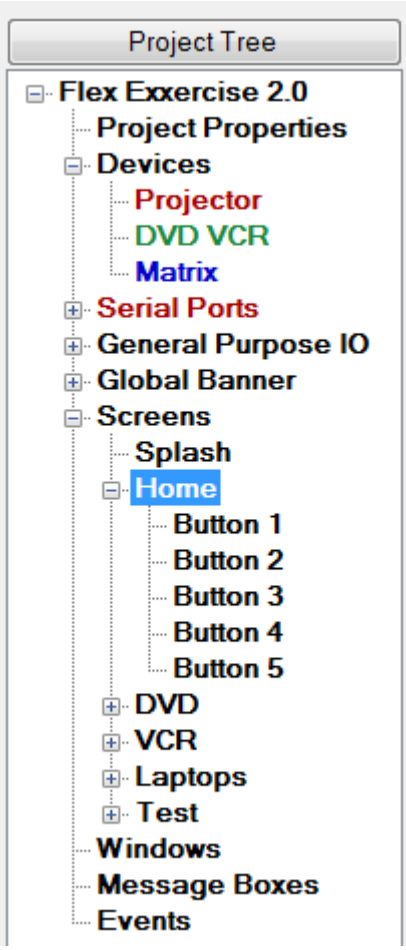
Note: Some devices require a release action for volume control. If required, enter the command in the Volume Up release actions.

Now click on the Volume down tab and enter the volume down actions as you did for the volume up.

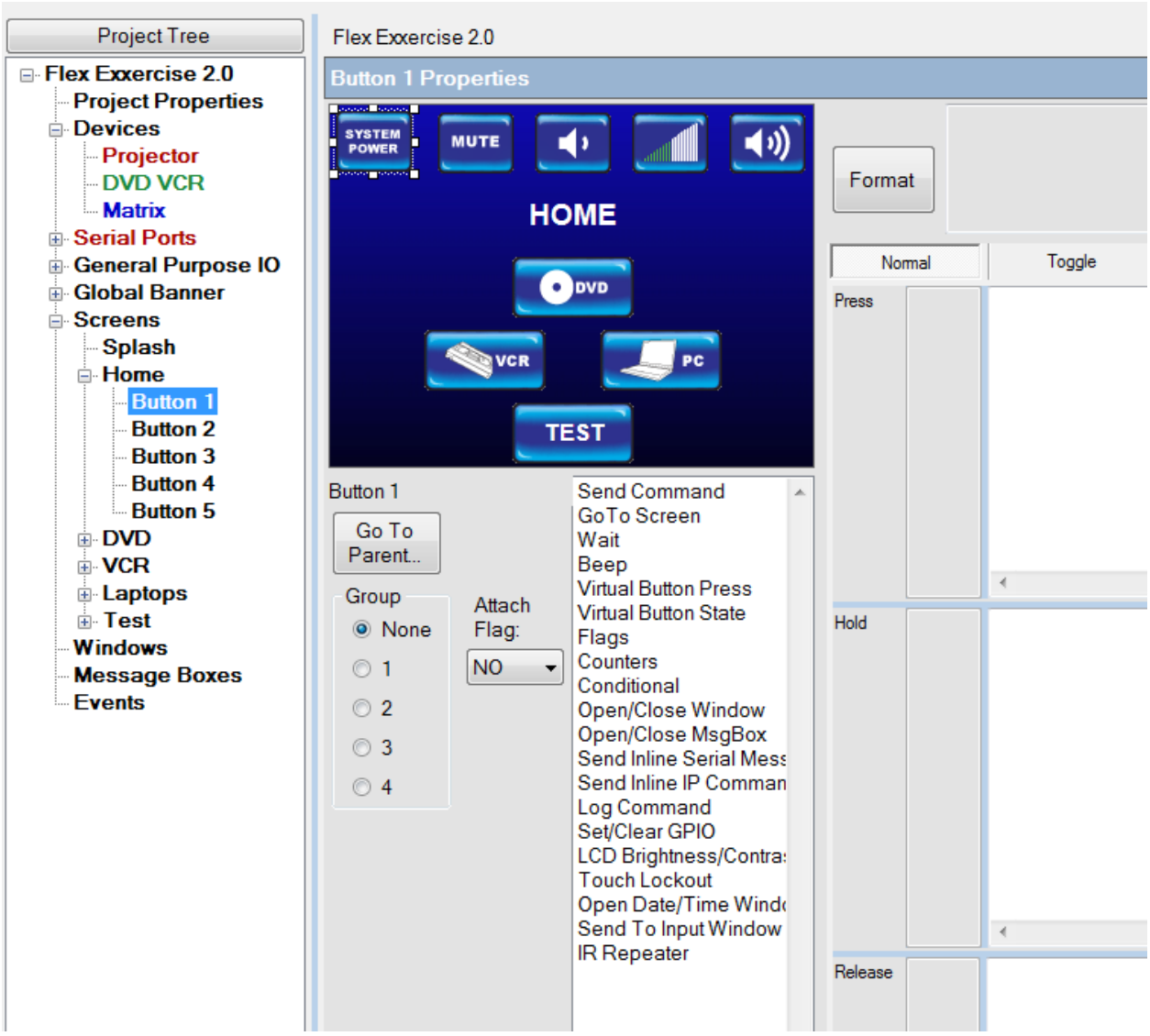
Assigning Actions

Now we have to go back and assign actions to the graphic buttons. Note: Assigning actions can be done at any previous point where the graphic screen was laid out. We are following this order for clarity sake and to keep like actions together.

Since the Splash screen does not allow any buttons, the first screen where we may add actions is the Home screen. Notice the screens in the Project Tree now have the + symbol in front of them. Click the + in front of the Home screen.



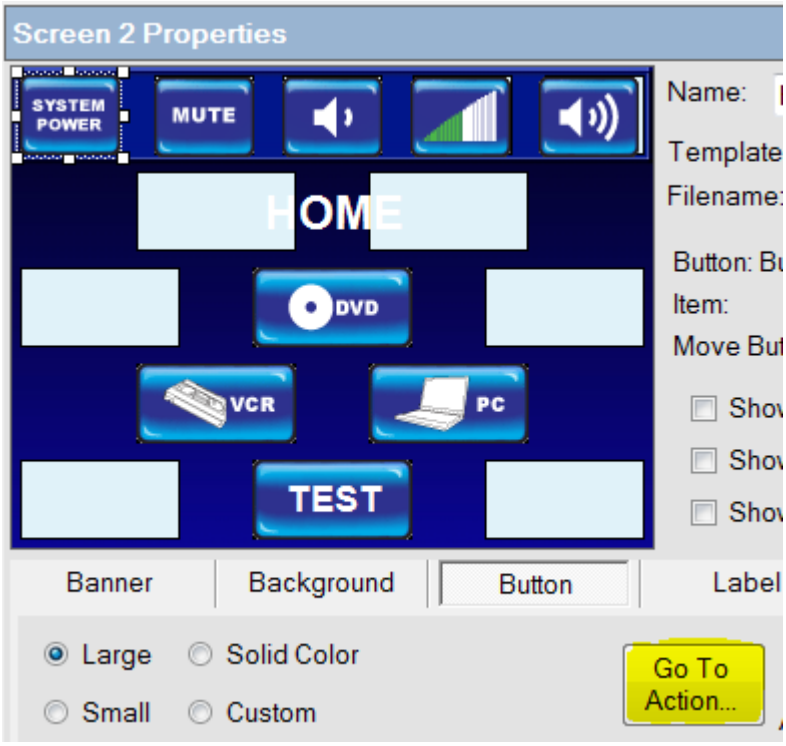
All the buttons added to the Home screen are now revealed in the tree. Select Button 1



Notice the System power button is selected and on the screen it is outlined.

Before we begin assigning actions, the options on the screen need to be defined:

Go To Parent button will bring the attention back to the graphic design screen where the buttons can be added, changed or deleted. Should you do so, return to this screen either by clicking the Button 1 in the project tree or by clicking the Go To Action button on the Button Screen.



Groups:

When a Normal button is part of a group, and it is pressed, the alternate graphic is shown until another button within the group is pressed. This is used with source select buttons. On a transport control screen we want only one button pressed at a time. When any of the buttons are pressed, its alternate graphic is displayed until any other button in the group is pressed at which point, the first button will go back to its main graphic and the 2nd button pressed will show the alternate graphic. In this exercise, the DVD, VCR and PC screens will be in group 1.

Attach Flag will be discussed in detail later on in this exercise as it is a more advanced feature not used in this basic project being worked on.

The Format button will simply re-format the actions entered for reviewing purposes.

Button touch types:

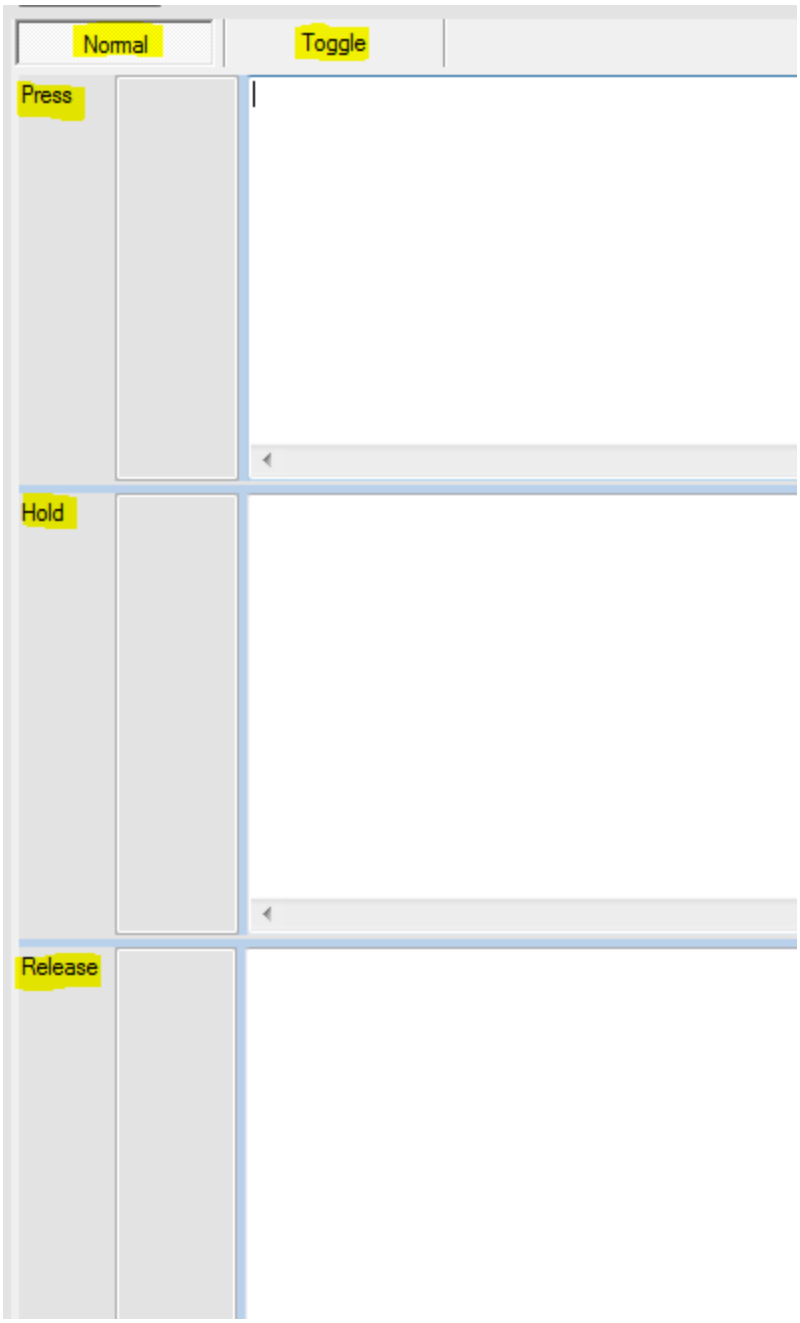
There are four different **Button Touch Types**. The first type is a normal button. When the button is pressed the actions that are listed in the window on the right are executed. Also, when the button is pressed, the alternate graphic is shown briefly to visually acknowledge the press. The exception to this is when Normal buttons are part of a group.

The next type is **Press / Release**. When the button is pressed, the actions in the Press Action window are executed. When you remove your finger from the button, the actions in the Release Actions window are executed. You do not have to populate a Press / Release button with Press and Release actions. When a Press / Release button is pressed, the alternate graphic is shown until the button is released.

The third type of button is a **Press / Hold / Release button**. In this case the Press actions occur when you press the button. If you hold the button for more than ½ second, the Hold actions occur repeatidly until you remove your finger from that button. At that point, the Release actions occur. It is not necessary to populate the Press, Hold and Release areas. They can be used in any combination to achieve the desired effect. When a Press / Hold / Release button is pressed, the alternate graphic is shown until the button is released.

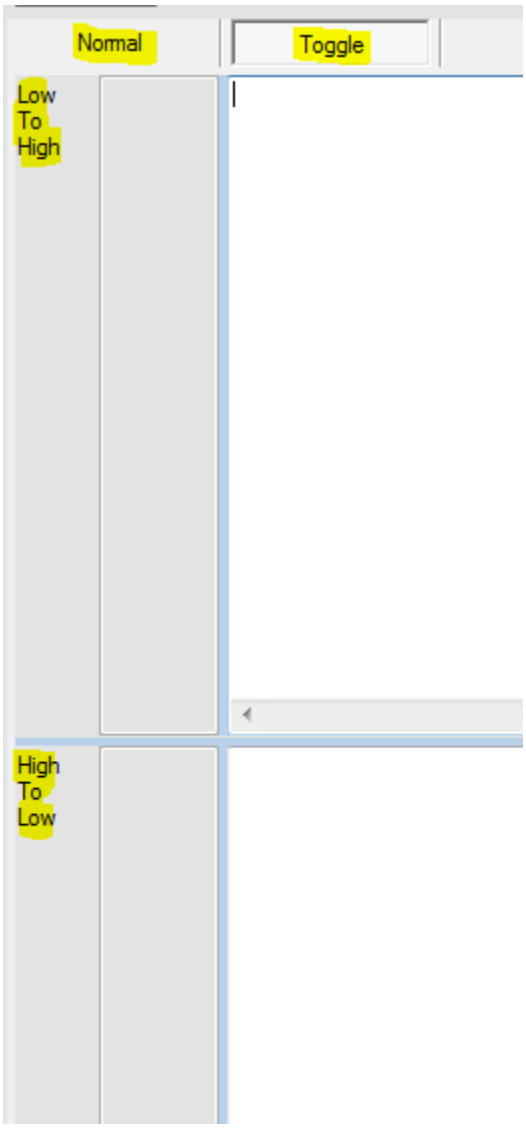
The final button type is a **Toggle Button**. A Toggle Button is one that you press once to do something and press again to do something else. In this case, the First Press Actions occur the first time that the button is pressed. When the button is pressed again, the Second Press Actions occur. Press the Toggle Button Tab to see this type.

Note: Whichever style is selected Toggle or Press / Hold / Release, the style selected last will be the style saved to the project. That is to say that if you selected a press action, filled in some actions and then decided to make it a Toggle style button and fill in actions there, the Toggle will be the one saved to the project. There is no need to delete the actions in the press window as long as the tollgle was last selected before going on to the next button to add actions to.



Above: Press Hold and action boxes

Below: Toggle Low to High and High to Low action boxes.



Now we will start to add real actions.

Select button 1 again (System Power). Since we want one set of actions to "Turn the System On" and another set to "Turn the System Off", we will setup the System Power button as a toggle button.

Select the Toggle button type.

This button operates by itself, so select No under Button Group Number.

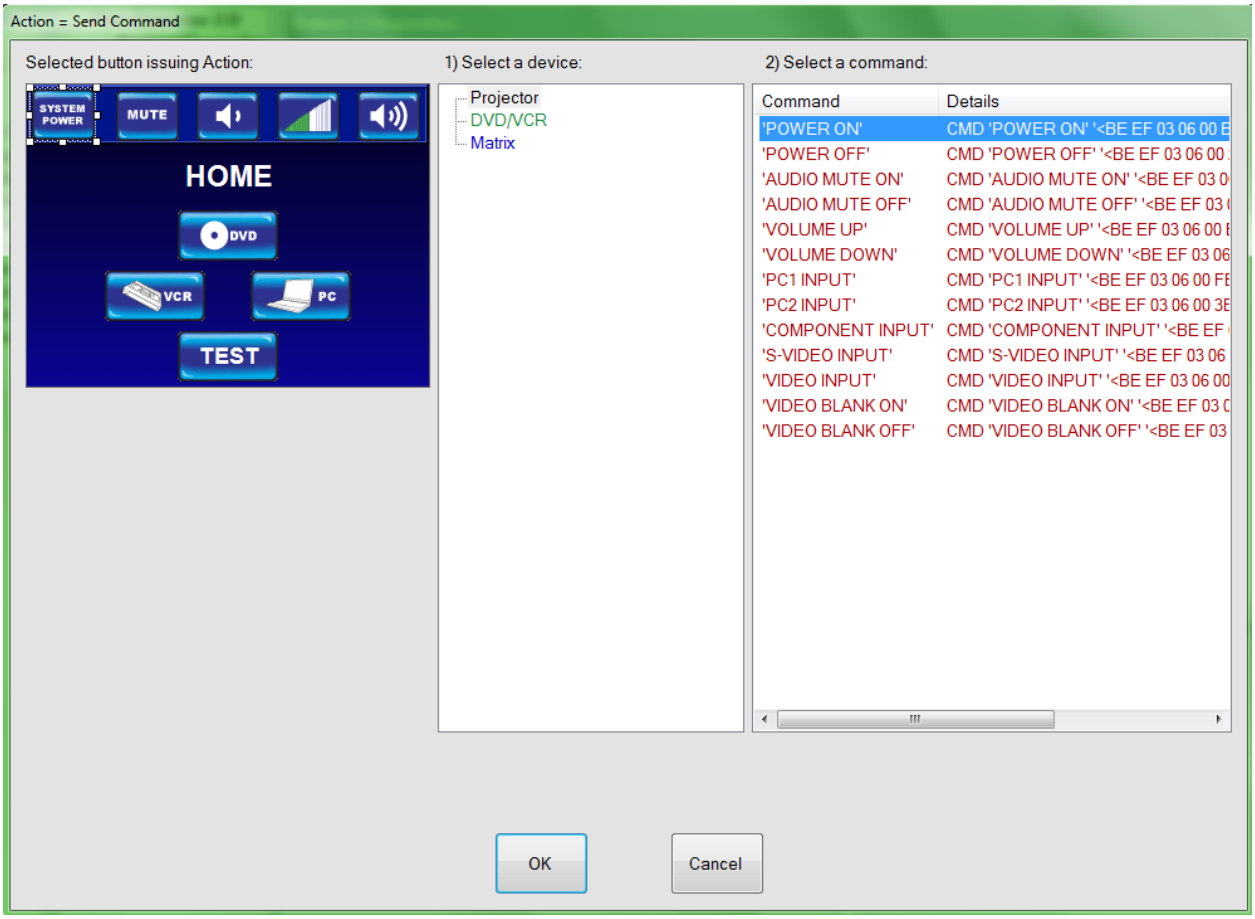
Notice the 2 Action windows, Low to High and High to Low.

Click within the Low to High box first.

Click on Send Command.

Click on Projector.

Select ‘Projector’ ‘Power On’. This will tell the projector to switch on.



Click on the ‘OK’ button.

Click on Send Command.

Click on DVD VCR

Select ‘DVD VCR’ ‘POWER’

Click the 'OK' button.

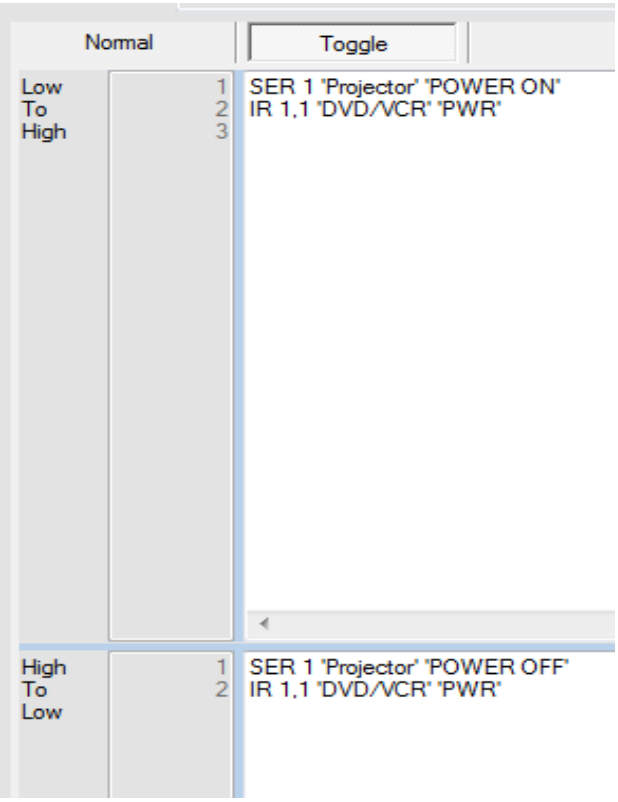
In the Second Press Actions window reverse the process.

Following the same steps used above, click on the High to Low Window and do the following:

Send a command to the projector to power off.

Send a command to the DVD VCR to power off.

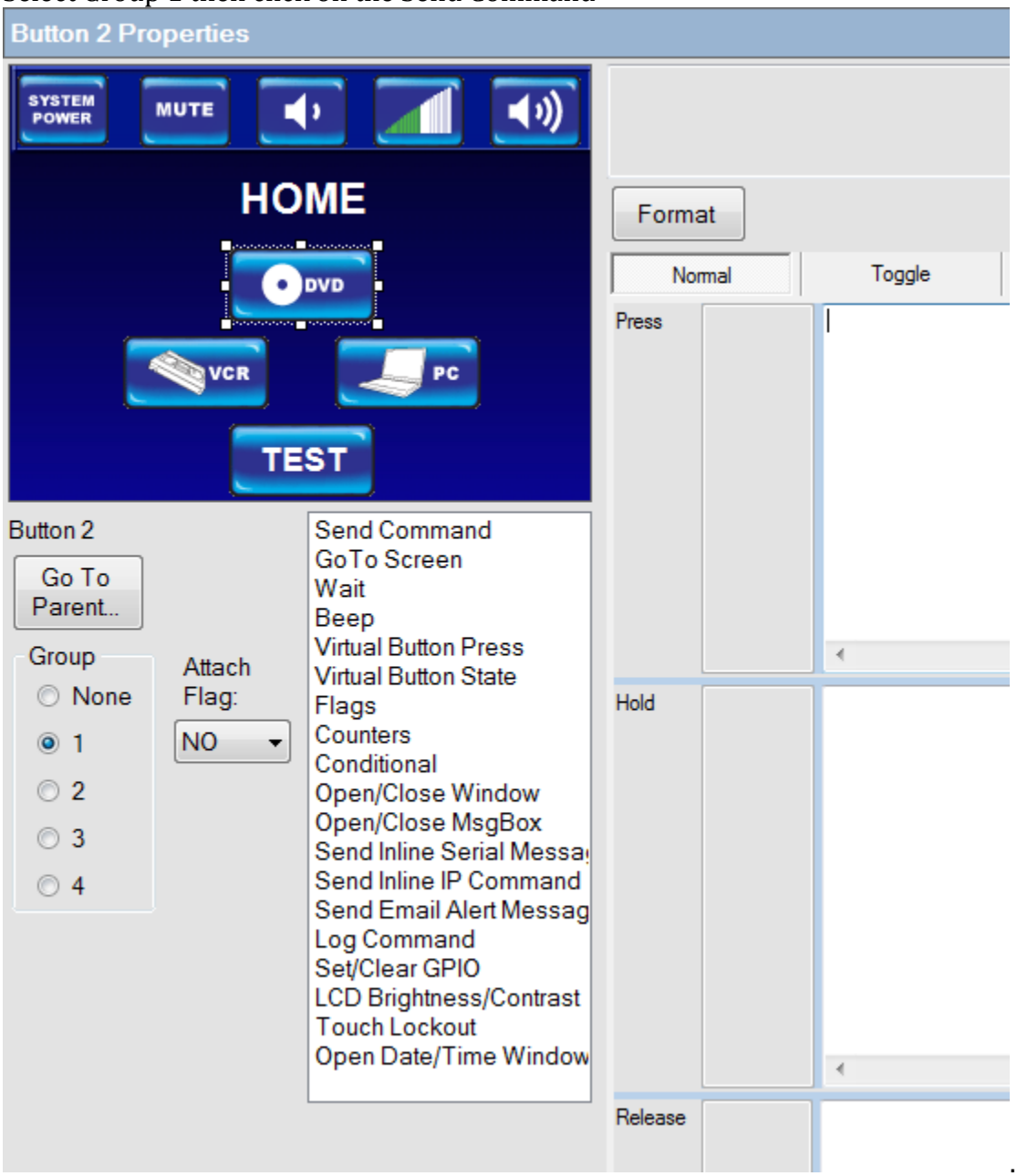
When completed the window will look like this.



Click on the DVD button.

Select a **Normal Button Type**.

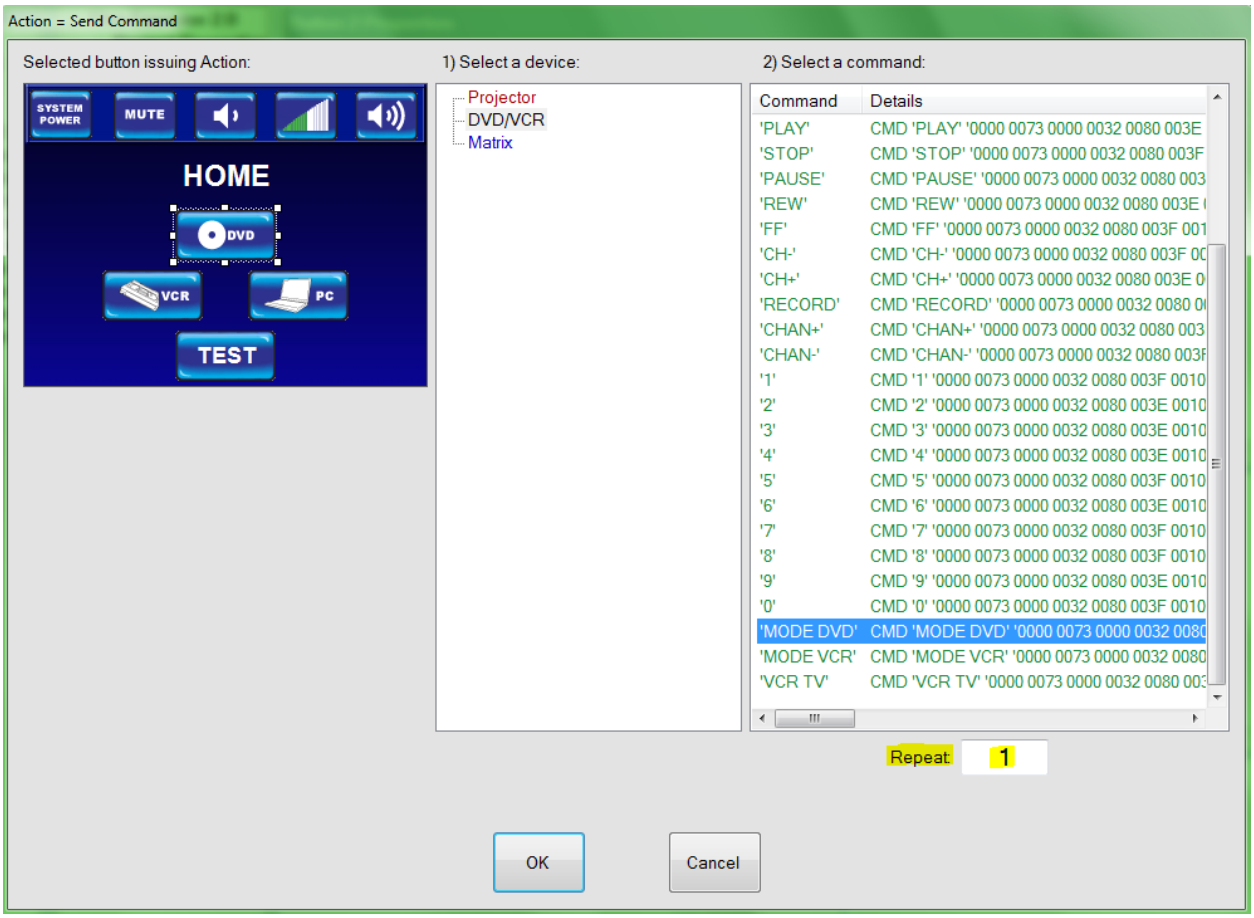
Select Group 1 then click on the Send Command



Click Send Command then select DVD/VCR Device.

Select 'MODE DVD'. This command will tell the DVD VCR to switch to the DVD Mode.

Note: The enter Repeat IR Code Times. Some IR devices require the code to be sent out multiple times. Should this arise, set the number of repeats here. This is also an editable item which you can go back to at a later time if necessary.

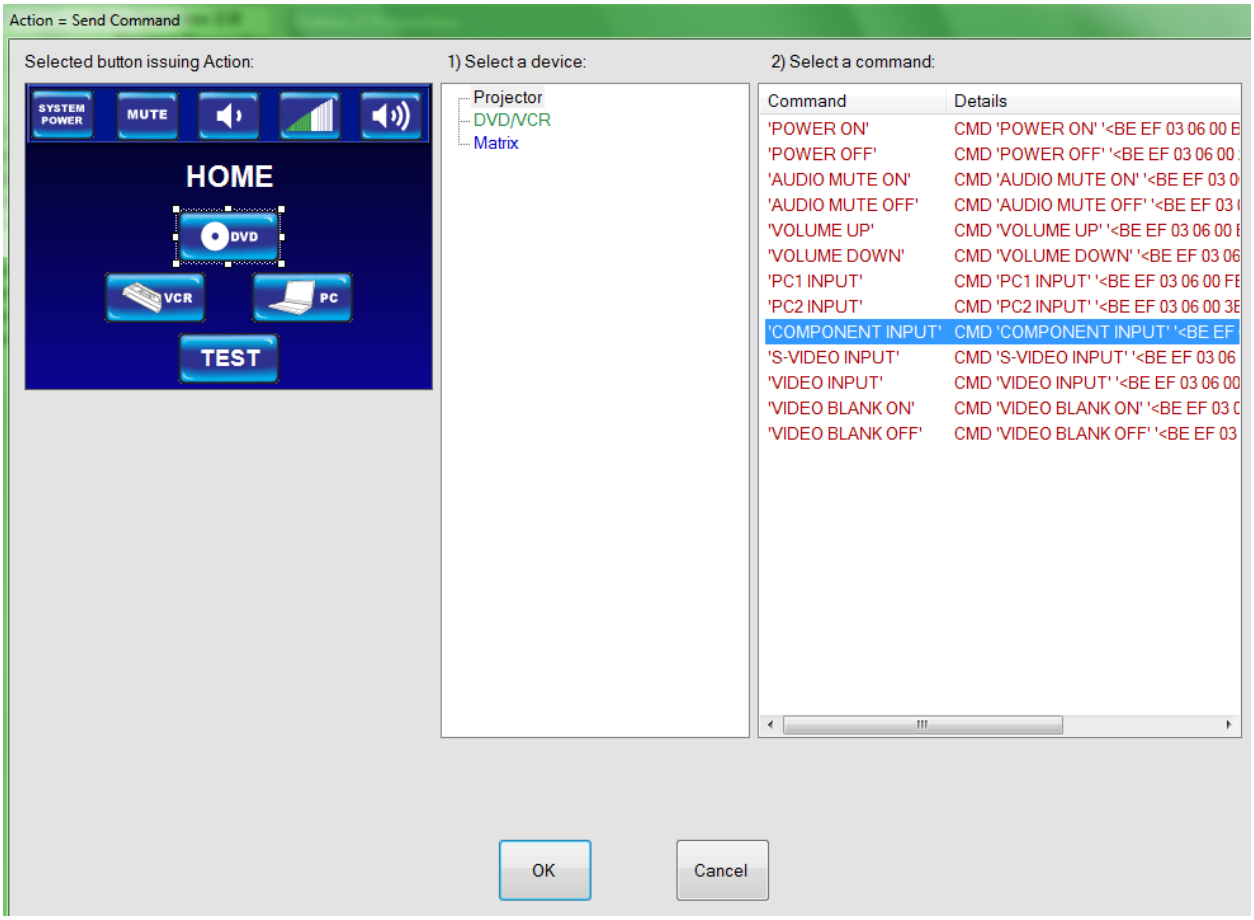


Click the ‘OK’ button.

Click on Send Command.

Select Projector.

Select the command ‘COMPONENT INPUT’.



Click the ‘OK’ button.

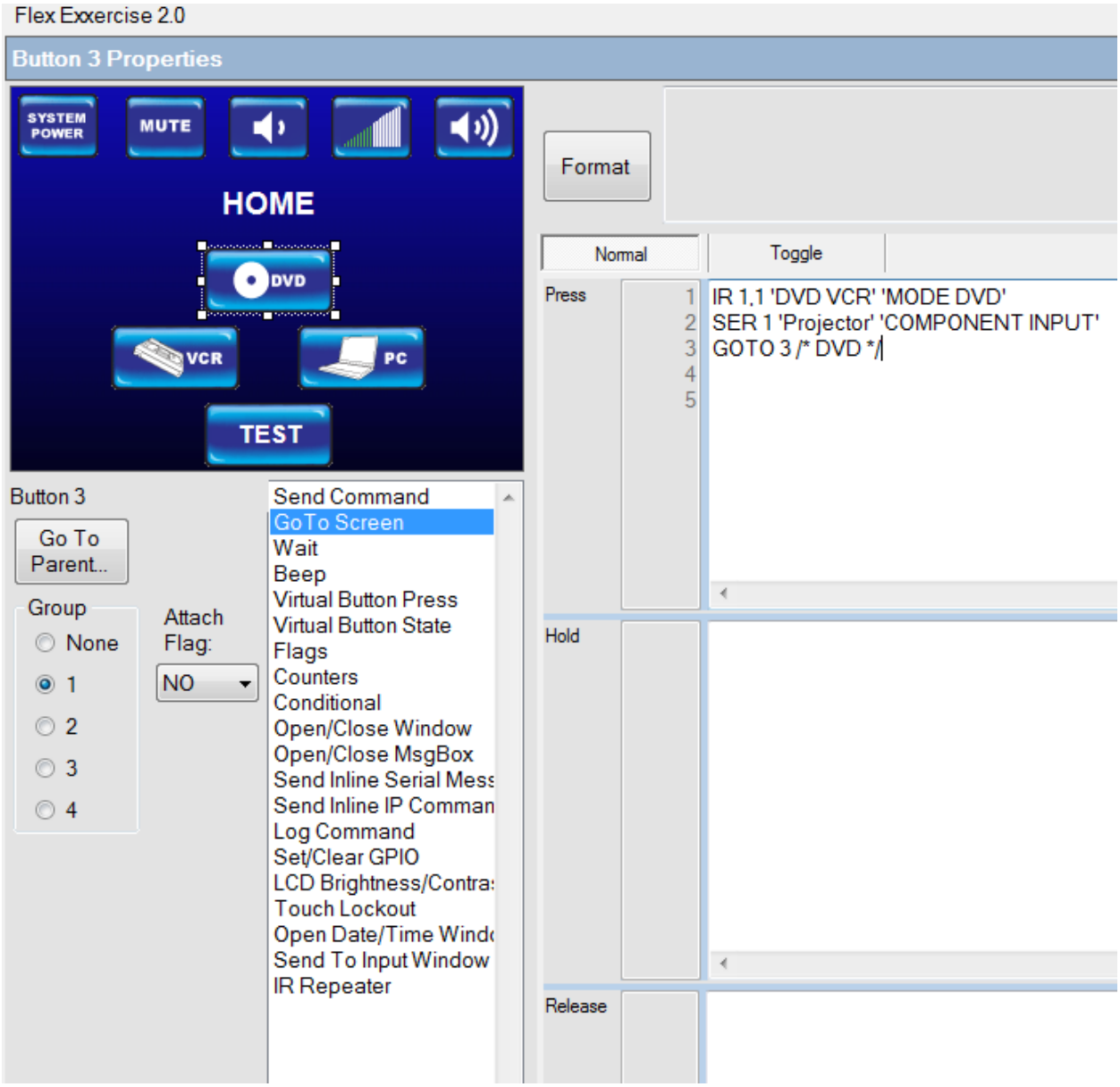
Click on Go to Screen.

Select DVD.

Click the ‘SAVE’ button.

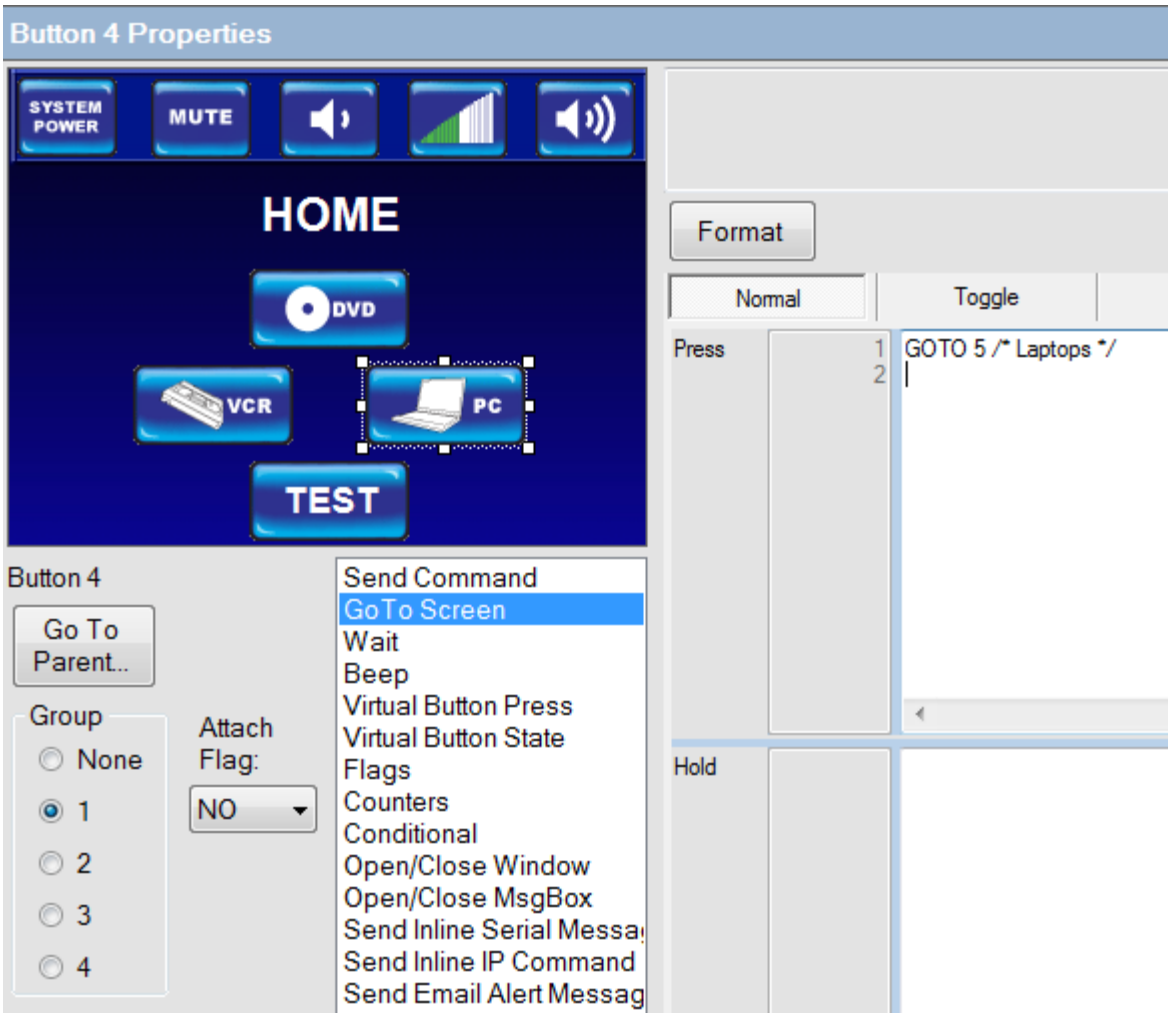
The completed DVD button should look like the following.

The input screen will look like this.



Now select the VCR button and perform similar actions to the DVD however this time select the S-VIDEO INPUT, DVD VCR Mode VCR and the GOTO screen will be VCR.

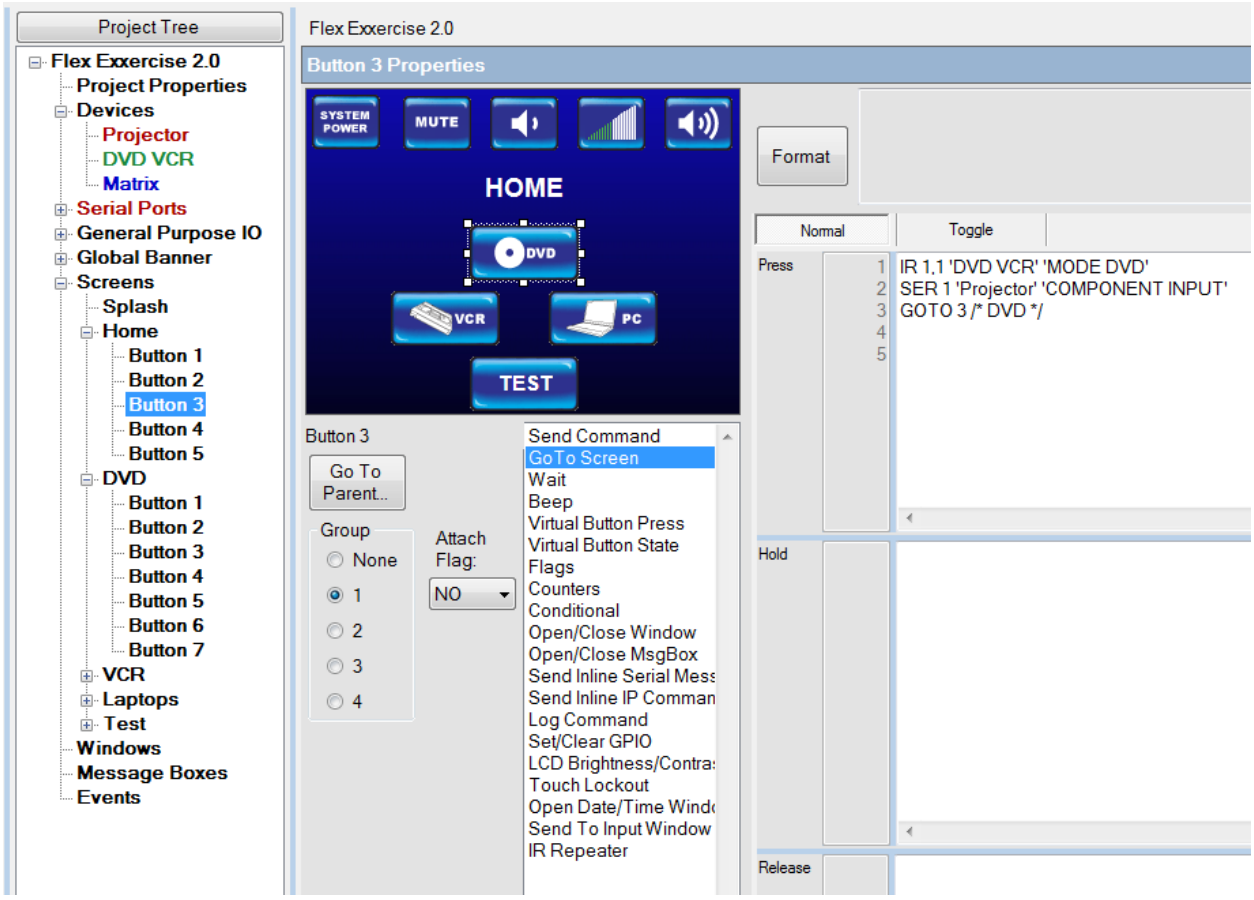
The PC screen will only be placed into Group 1 and have a command to GOTO the laptop screen as shown below.



The TEST button will only use the GO TO screen command. Choose the TEST screen from the GO TO Screen list.

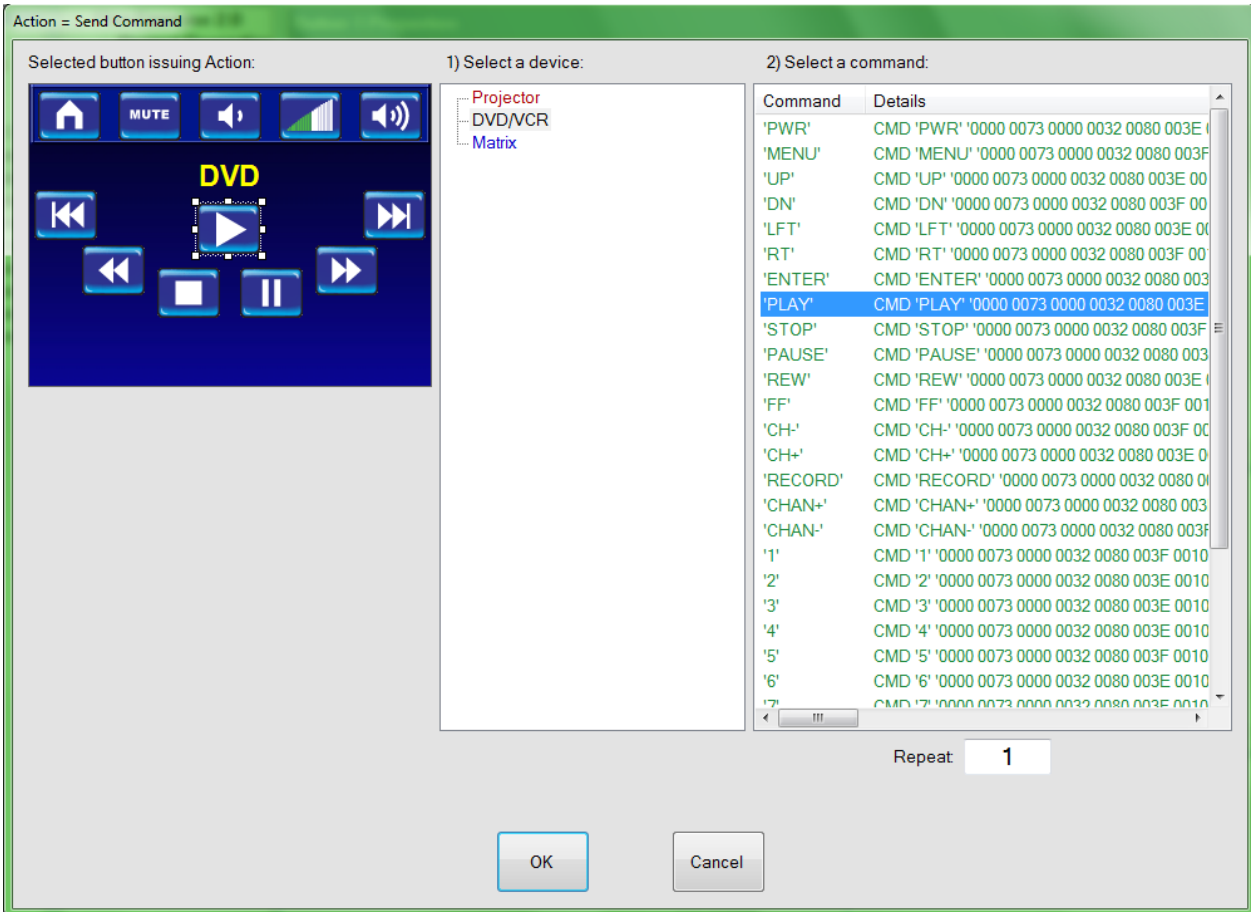
The home screen is now complete and we can move on to the DVD button commands.

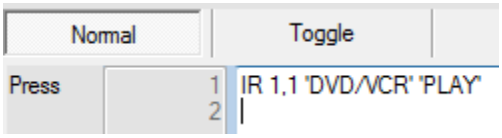
Click on the + to the left of the DVD in the Project Tree and select Button 1.



The button types, and command options are the same as the previous screen.

Starting with the Play button  we will then click the Send Command, select the DVD VCR, and click the Play





Repeat this for all of the other buttons on the page.

Note: You have the option to put any or all of the buttons into groups if you want to display the last option selected such as a stop or pause. Again since this is an IR command there is also the Repeat Option if the device requires it.

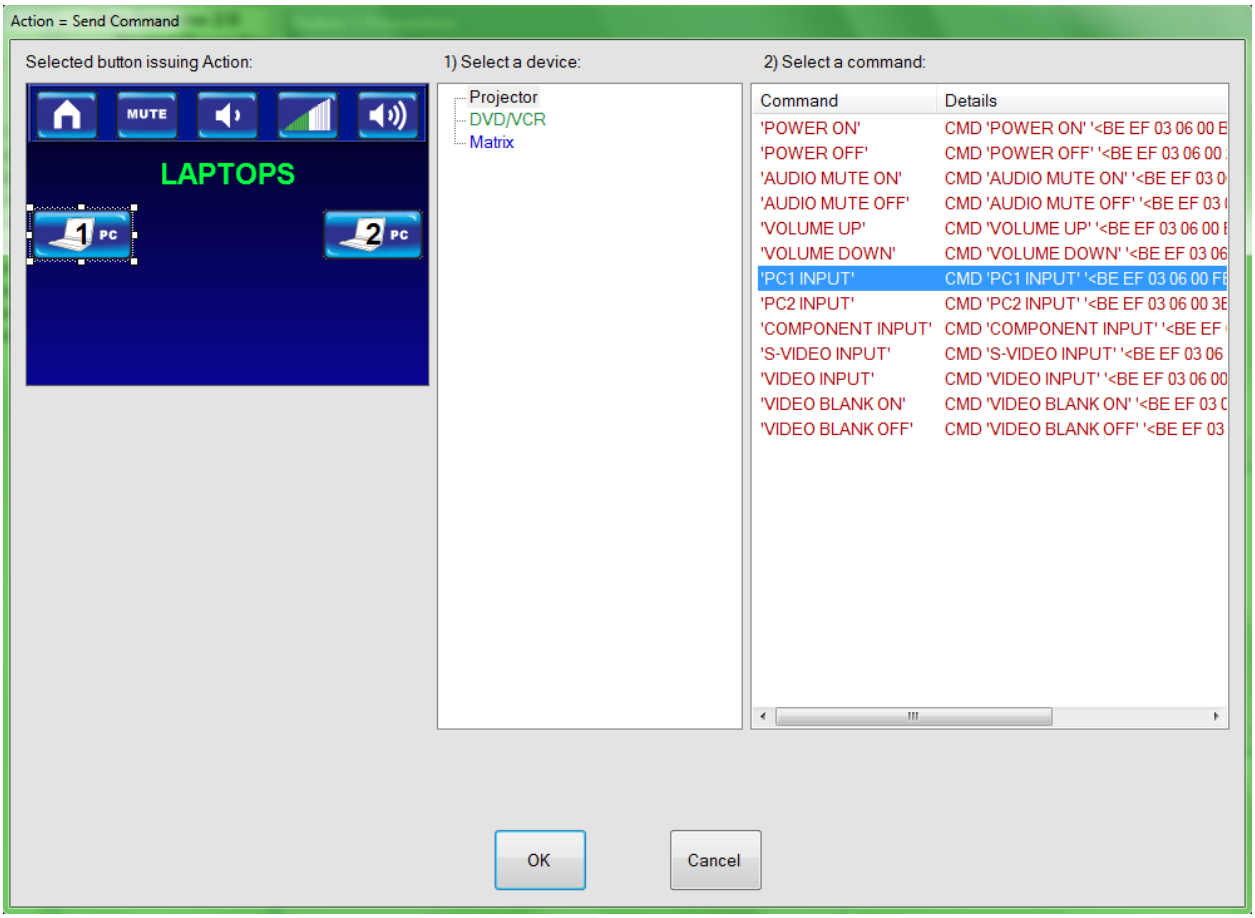
Click on the +VCR and select Button 1 and repeat the commands in a similar manner as was done for the DVD screen.

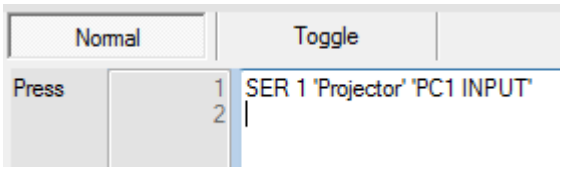
Once completed, click the +PC screen

This one will be a little different since we have two PC inputs to select from.

Click Button 1

This will be a normal button press action. Select group 1, click on send Command, select Projector and then select PC1 INPUT.



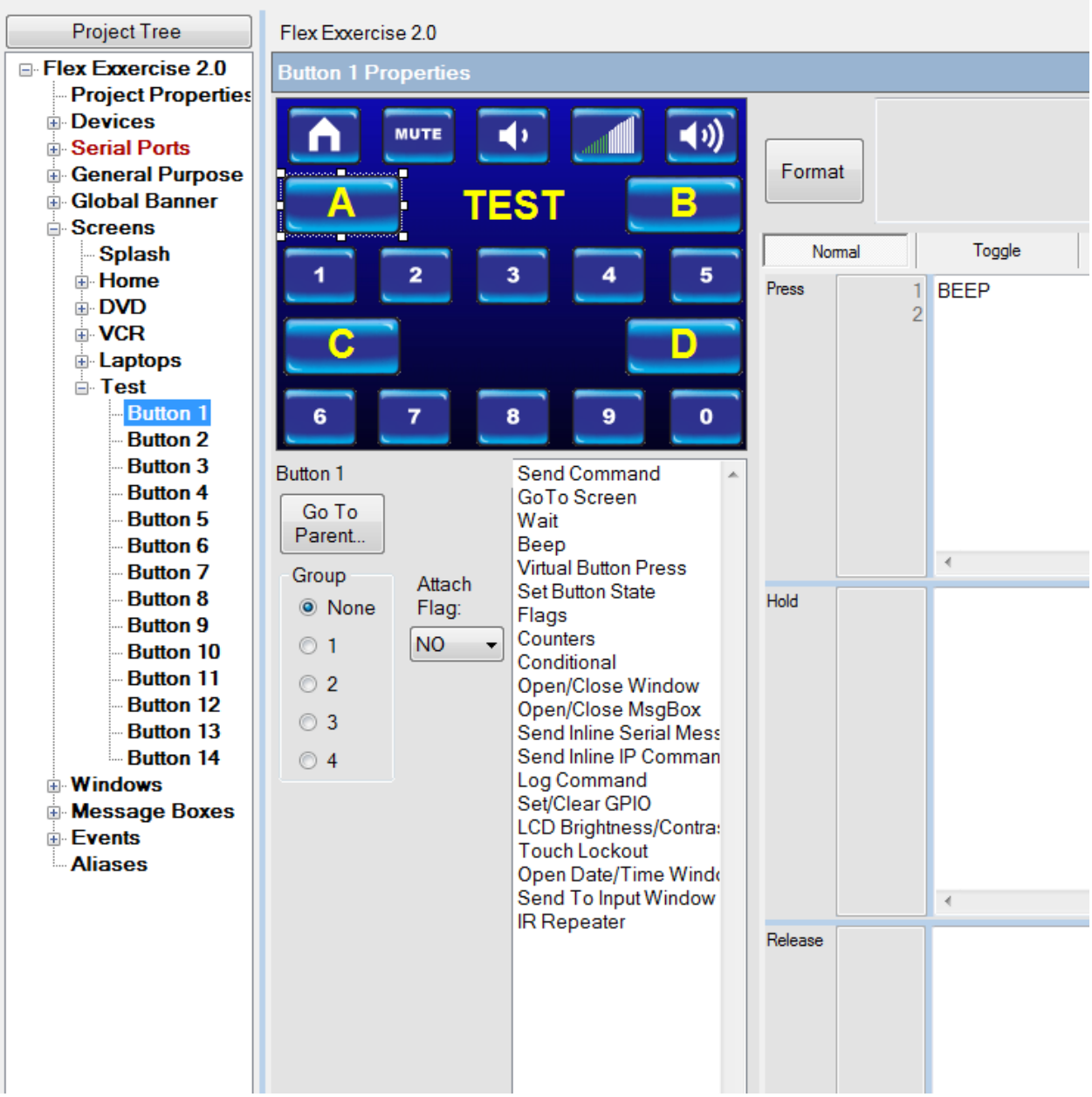


Now select PC 2, select group 1 again, then send command and select PC2 INPUT.

This completes the basic screens for a project. Next we will select the TEST screen and define all of the other command actions available.

BEEP

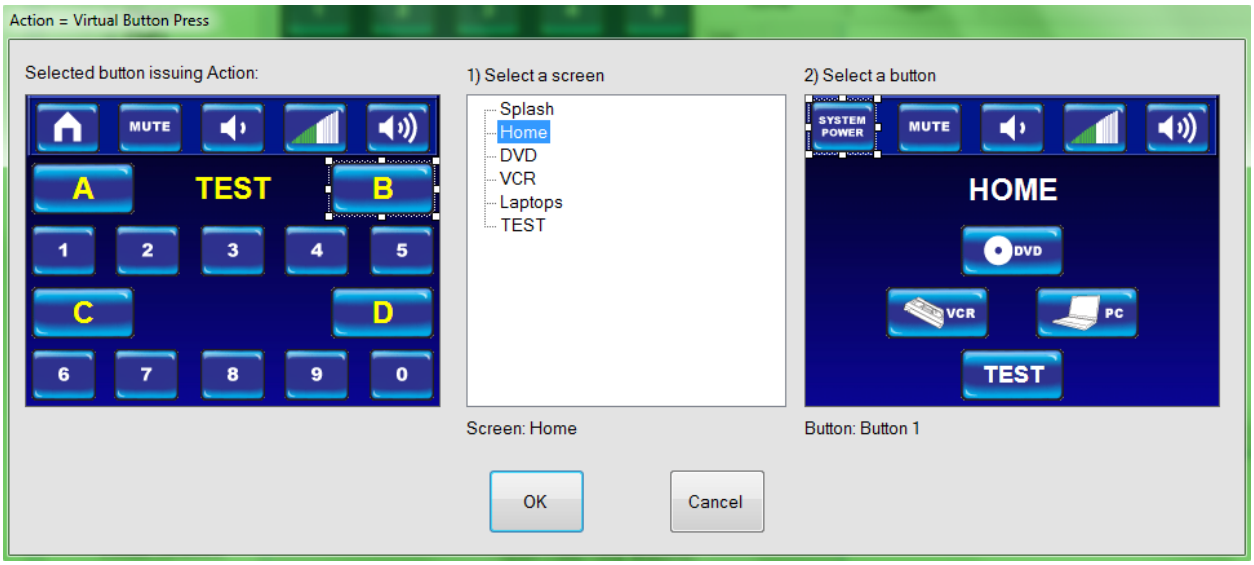
A beep command can be added to any buton press or event. To demonstrate this, click the +TEST on the Project Tree and then button 1 on the Project Tree which is the A button on the screen.
This will be a press only action. On the command list, click the BEEP command.
This command tells the Flex to beep. This can be used at anytime to provide audible feedback. For example, if you turn Auto Press Beep off, but you want certain buttons to beep to provide feedback, you can add the beep command to those buttons.



Virtual Button Press

Virtual button press gives the user the ability to invoke actions without an actual button press. For example, when you pressed the mute button on one screen, you want the mute button to appear selected on all other screens and visa versa.
For ease of explanation, we will setup a virtual button press and virtual button state to power our system on and off from the TEST screen.

Select the B button. This will be a toggle button type so click on the toggle tab to enter actions.
Now select virtual button press from the actions list.
Select the Home screen rom the list and then click on the System Power button on the HOME screen displayed on the right.



Click OK
Now click into the actions box labeled High to Low and repeat the commands above to perform a Power off now.

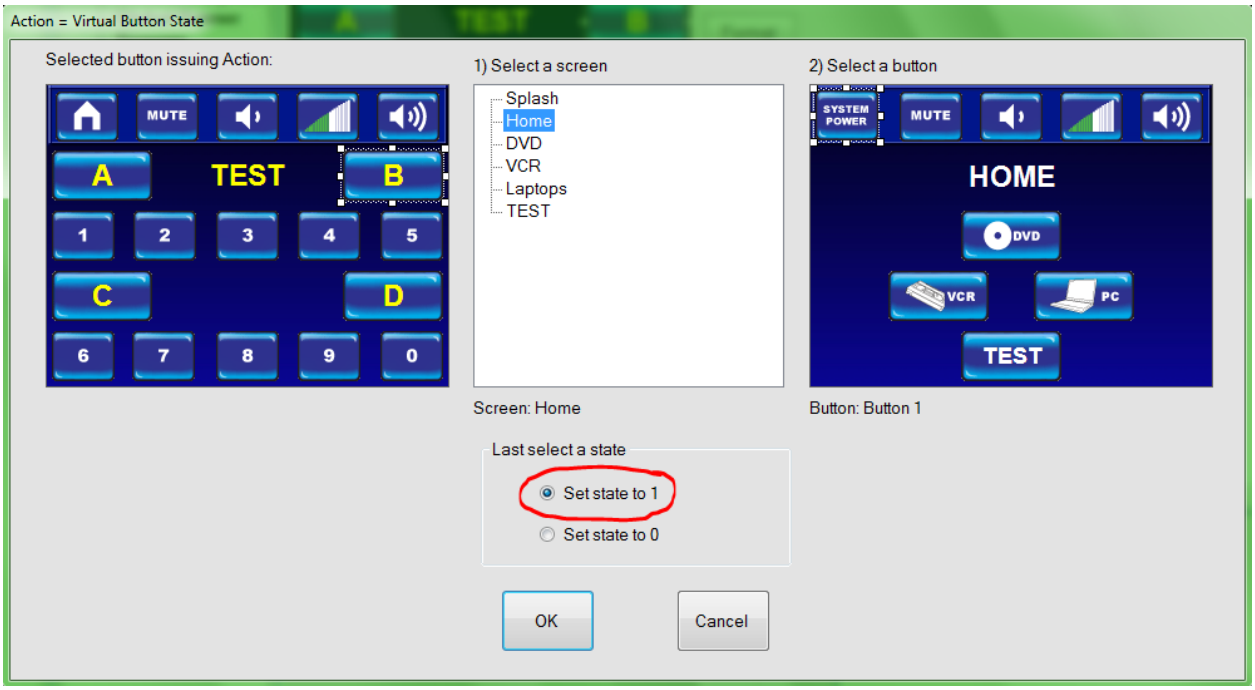
Virtual Button State

Now that the virtual button has been set, we want to show the state of the virtual button pressed.

Click back into (Low to High) box and then click on Virtual button state command.

Now click on the HOME screen.

Click on the System Power button. By default, the Set State to 1 is selected as shown below.



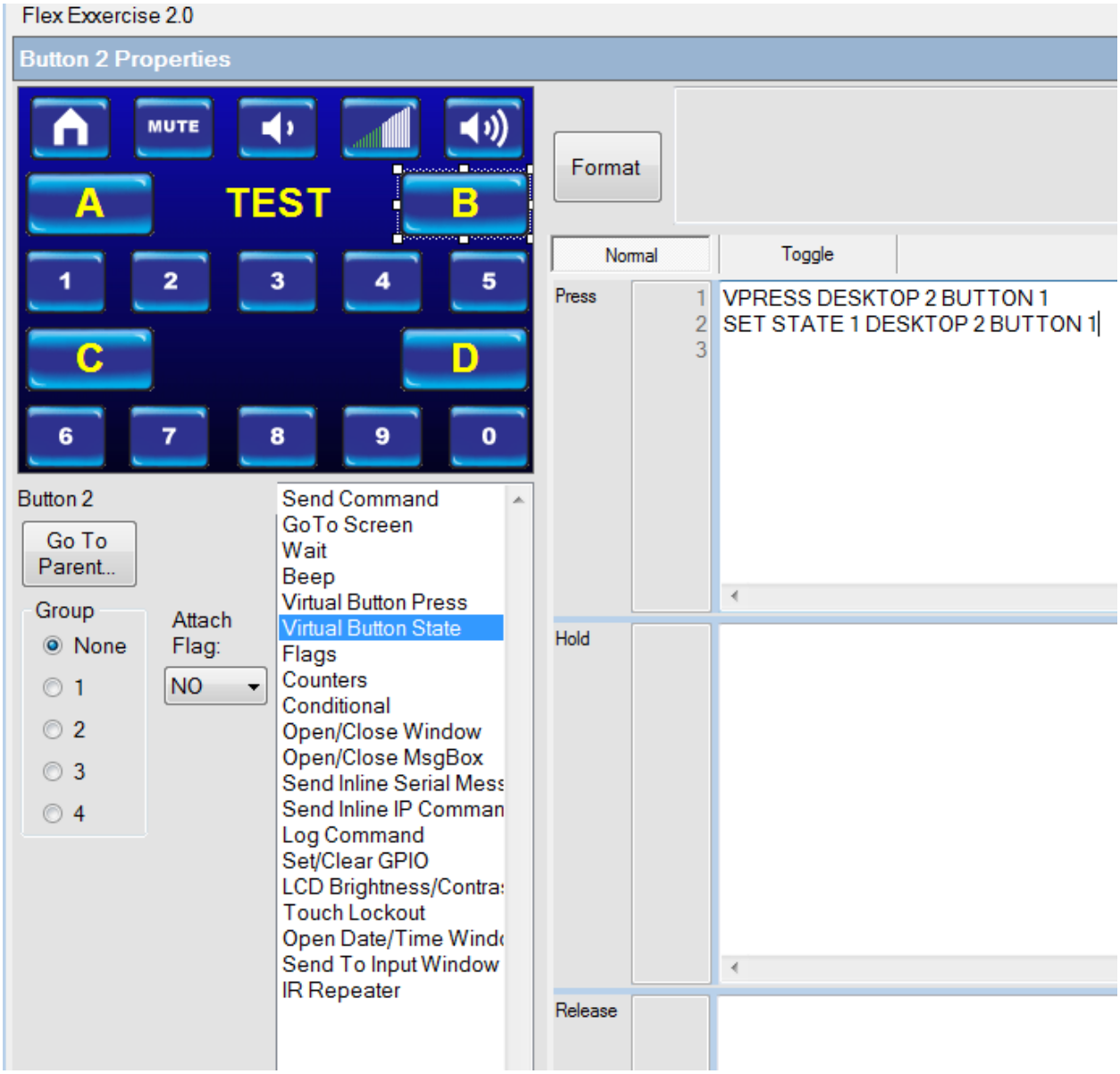
Click OK

Now click into the Second Press Actions (High to Low) box and select Virtual Button State again.

Select home and then the System Power Button again.

This time click on Set State to 0 and press the OK button.

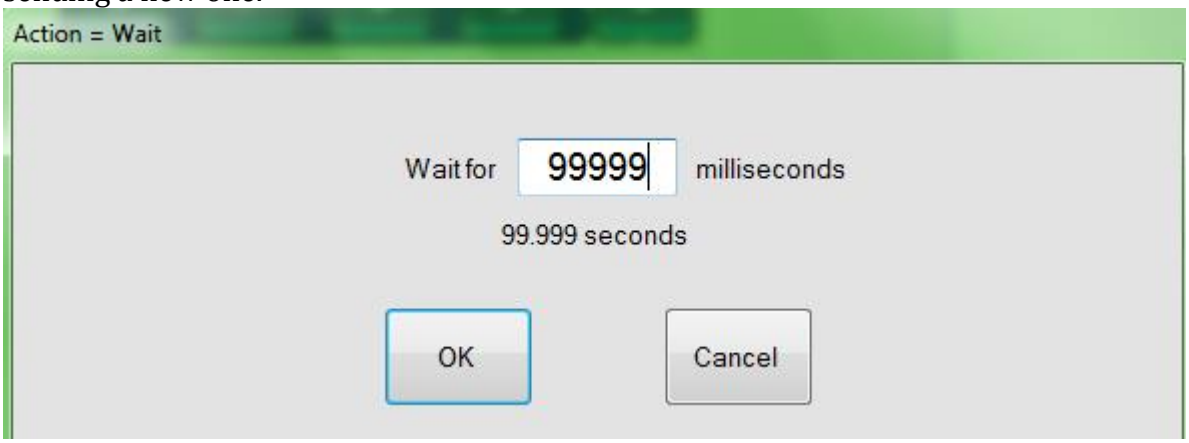
The screen will now look like the screen below.



Wait

The FLEX can be told to wait for a predetermined period of time. This has the effect of pausing the execution of the list of actions in a button. You can delay the next action from 1 millisecond to 100 seconds. This can be added between any commands. This is commonly used between commands to allow the device time to process the prior command before

sending a new one.



Counters

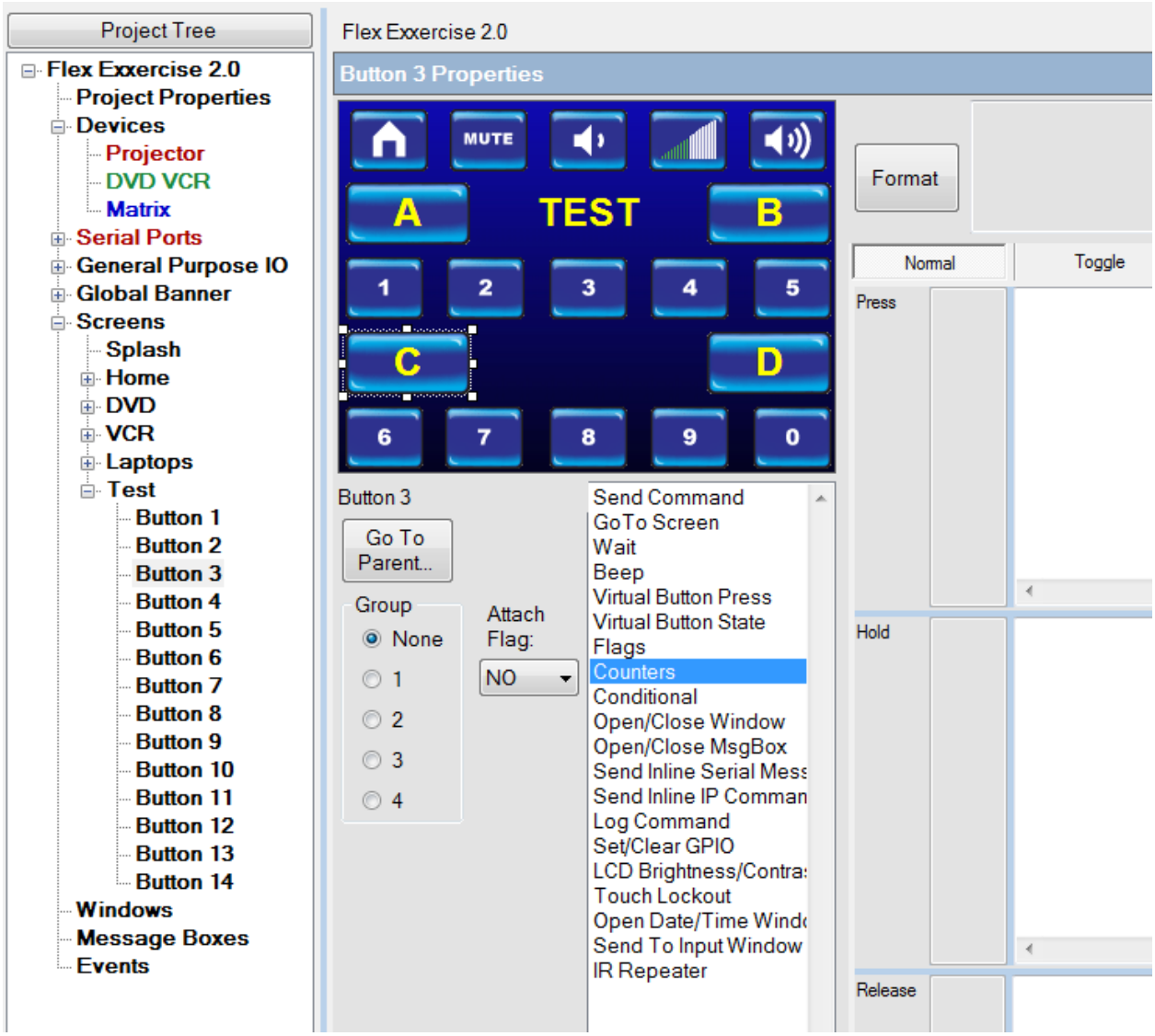
First let's look at how counters and flags are used. In this example we will be doing a very simple command set which will set a counter to increment by 1 each time the button is pressed, and then once the counter equals 5 we will have the flex panel beep once, go to the splash screen, then wait there for 2 seconds, and then return to the Home screen and zero out counter 1.

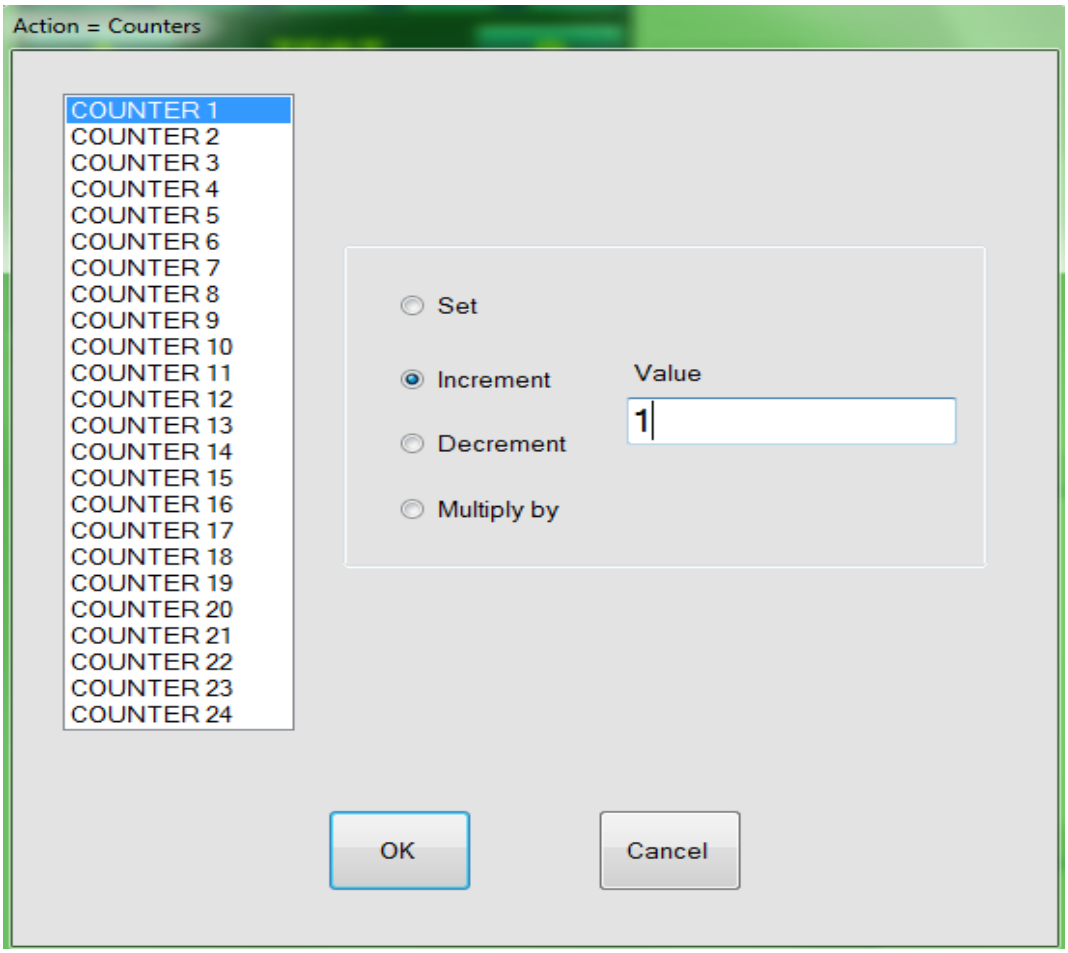
Select Button C on the TEST screen.

Now click on the Counters action command.

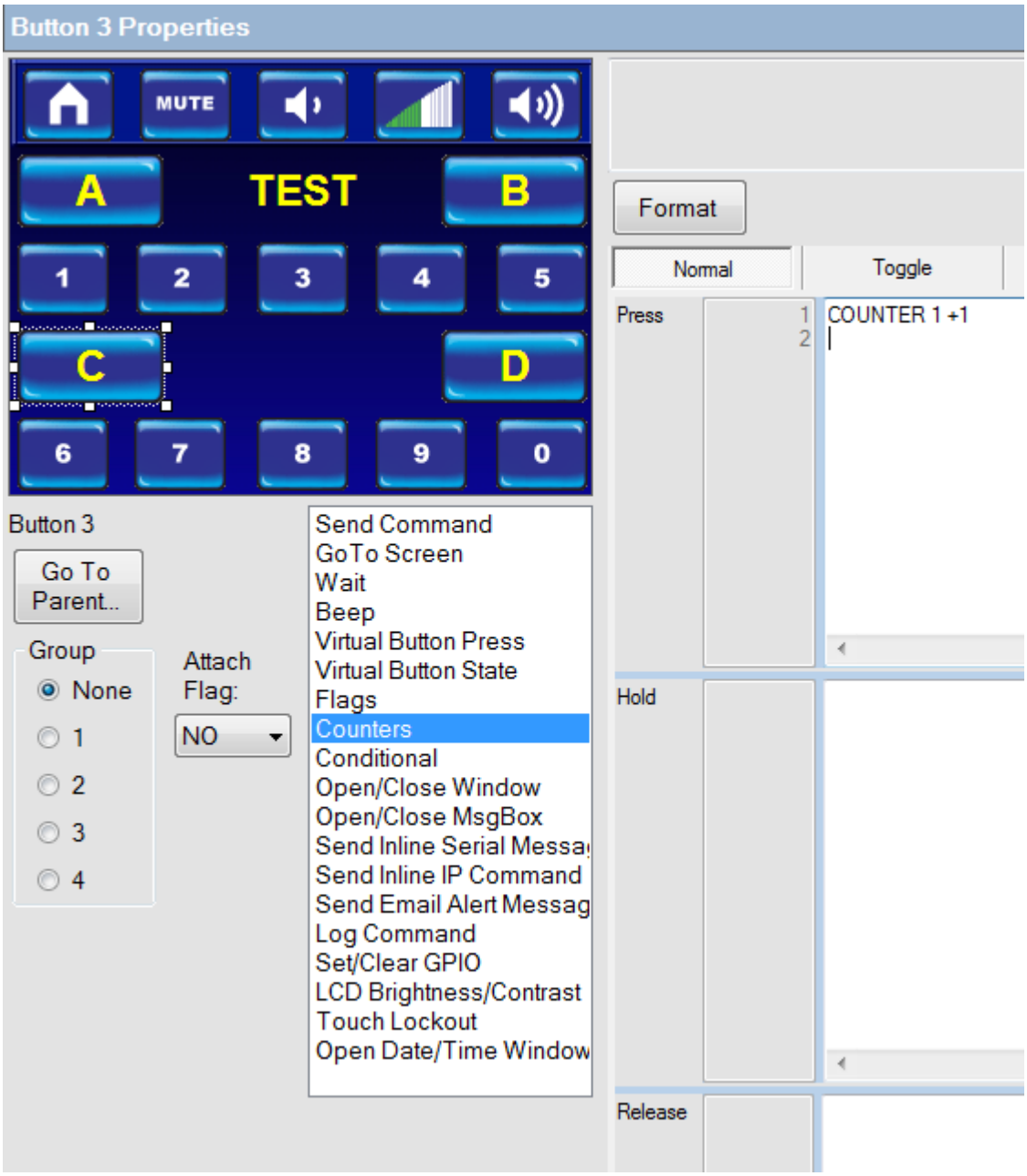
Select counter

Select COUNTER 1 and then select increment and put in a value of 1.


Project Tree
Flex Exxercise 2.0
Project Properties
Devices
Projector
DVD VCR
Matrix
Serial Ports
General Purpose IO
Global Banner
Screens
Splash
Home
DVD
VCR
Laptops
Test
Button 1
Button 2
Button 3
Button 4
Button 5
Button 6
Button 7
Button 8
Button 9
Button 10
Button 11
Button 12
Button 13
Button 14
Windows
Message Boxes
Events
Flex Exxercise 2.0
Button 3 Properties
MUTE
A
TEST
B
1
2
3
4
5
C
D
6
7
8
9
0
Format
Normal
Toggle
Press
Hold
Release
Button 3
Go To Parent...
Group
None
1
2
3
4
Attach Flag:
NO
Send Command
GoTo Screen
Wait
Beep
Virtual Button Press
Virtual Button State
Flags
Counters
Conditional
Open/Close Window
Open/Close MsgBox
Send Inline Serial Mess
Send Inline IP Comman
Log Command
Set/Clear GPIO
LCD Brightness/Contra
Touch Lockout
Open Date/Time Wind
Send To Input Window
IR Repeater

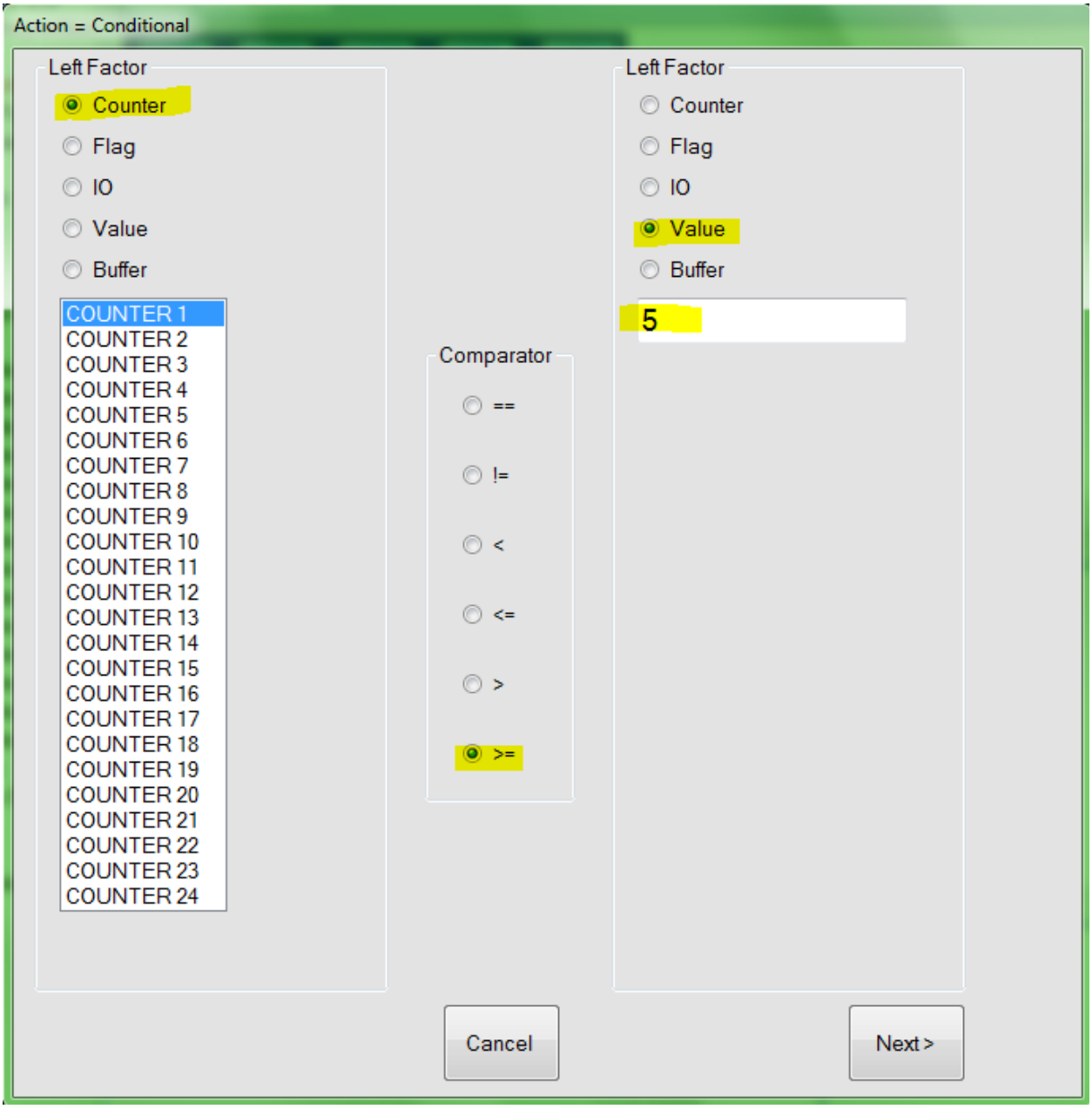

Action = Counters
COUNTER 1
COUNTER 2
COUNTER 3
COUNTER 4
COUNTER 5
COUNTER 6
COUNTER 7
COUNTER 8
COUNTER 9
COUNTER 10
COUNTER 11
COUNTER 12
COUNTER 13
COUNTER 14
COUNTER 15
COUNTER 16
COUNTER 17
COUNTER 18
COUNTER 19
COUNTER 20
COUNTER 21
COUNTER 22
COUNTER 23
COUNTER 24
Set
Increment
Decrement
Multiply by
Value
1
OK
Cancel

Click OK


Button 3 Properties
MUTE
A
TEST
B
1
2
3
4
5
C
D
6
7
8
9
0
Button 3
Go To Parent...
Group
None
1
2
3
4
Attach Flag:
NO
Send Command
GoTo Screen
Wait
Beep
Virtual Button Press
Virtual Button State
Flags
Counters
Conditional
Open/Close Window
Open/Close MsgBox
Send Inline Serial Messa
Send Inline IP Command
Send Email Alert Messag
Log Command
Set/Clear GPIO
LCD Brightness/Contrast
Touch Lockout
Open Date/Time Window
Format
Normal
Toggle
Press
1
2
COUNTER 1 +1
Hold
Release

Now select **Conditional**

Select Counter again. Then select COUNTER 1 and select >= and set the value to 5.



Click on the Next> button

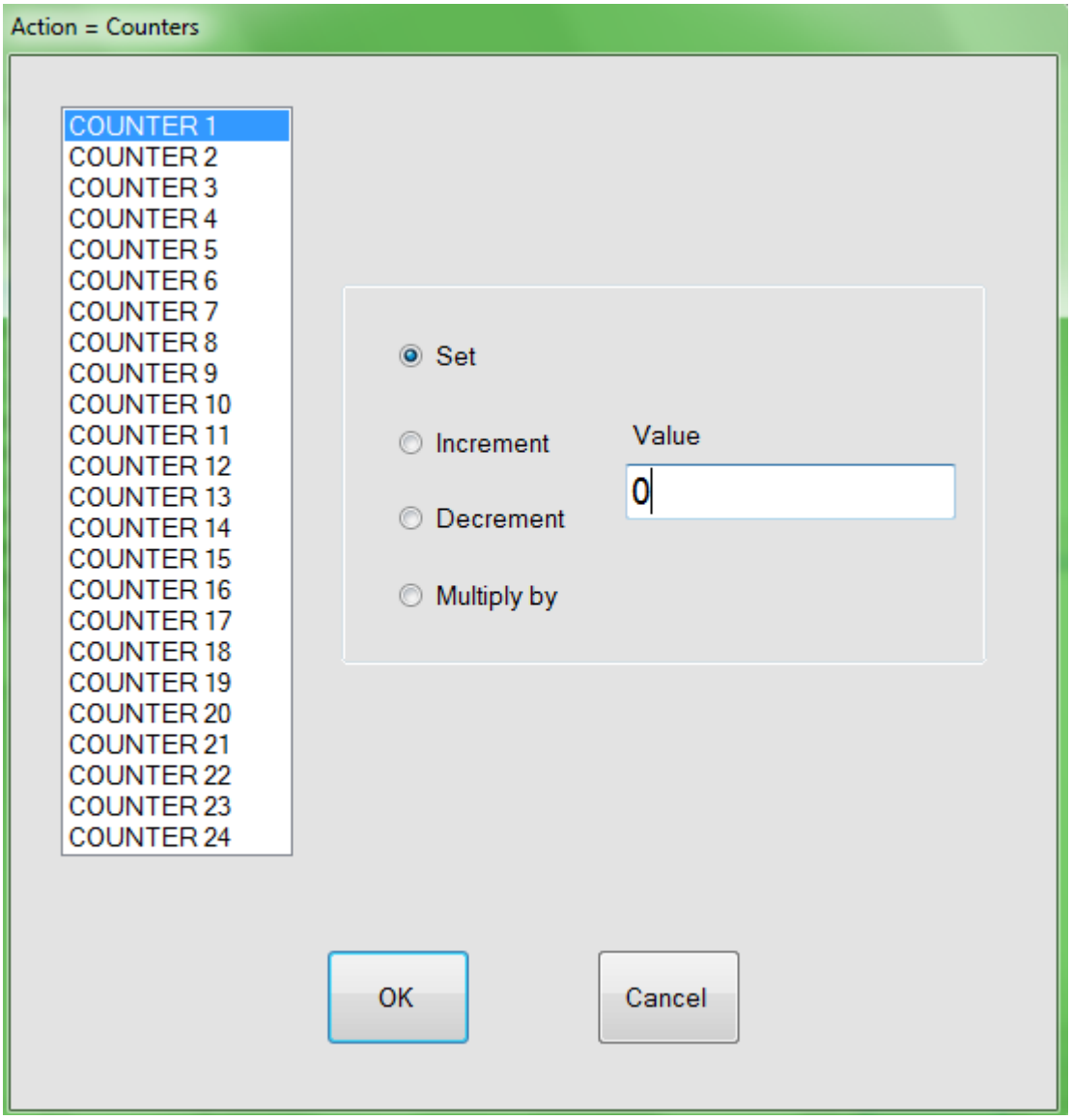
Now we will add an action. Under “Add Actions to perform”, select Beep.

Now we will go to the splash screen. Click on “Go To Screen” and select “Splash Screen”

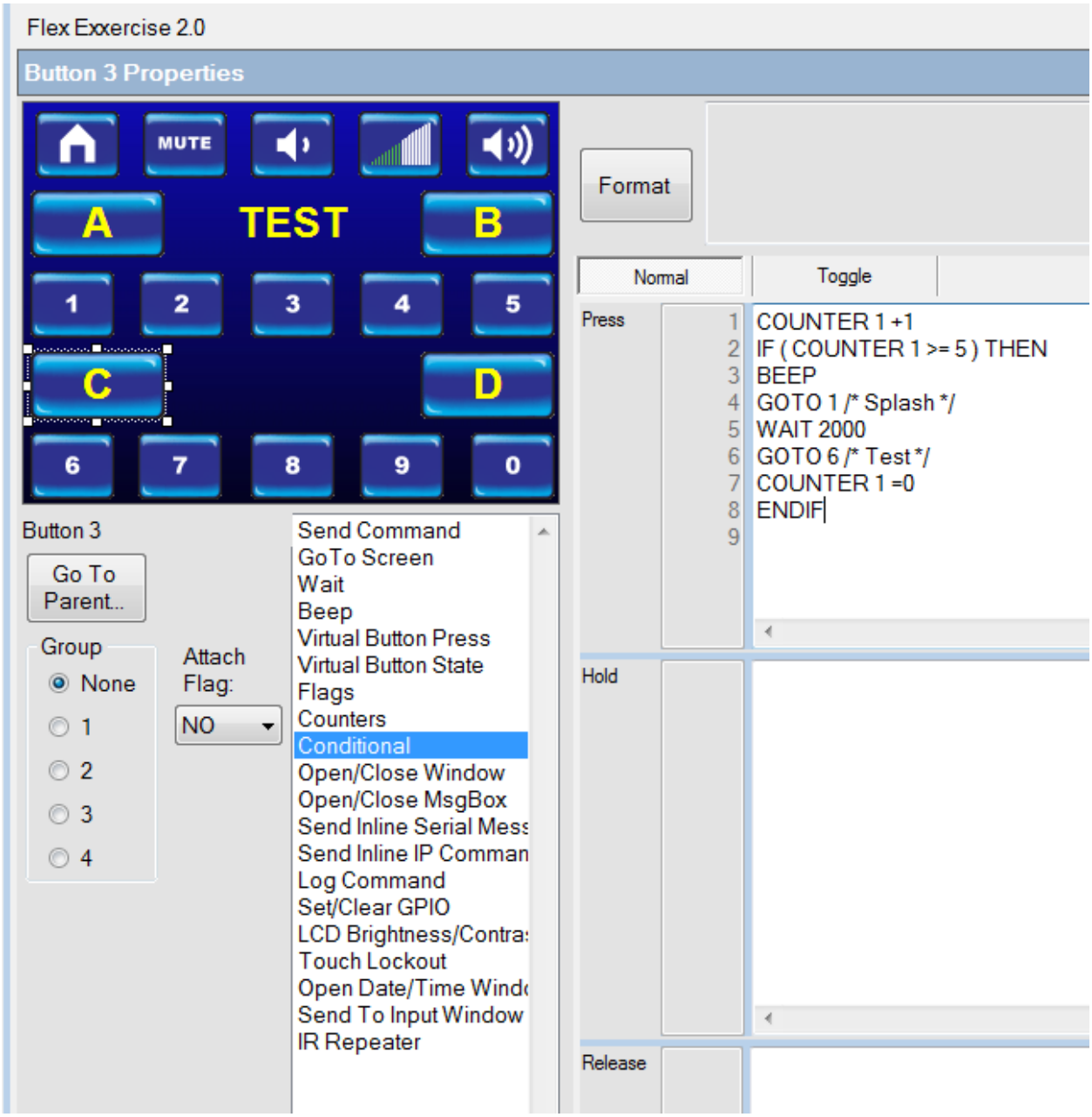
We will also add a wait state. Click on wait and enter 2 seconds.

Now select “Go To Screen” and select “TEST”.

Now we will clear the counter. Select “Flags/Counters” and set Counter 1 to 0.

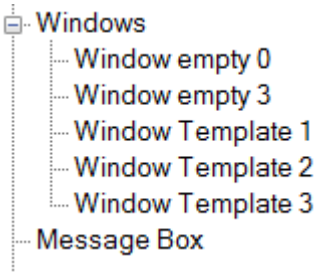


This is what the final screen will look like.



Before we can go onto defining the next set of commands for Open/Close Window and Open/ Close MsgBox, we have to add Windows and message boxes to our project.

On the Library tree you will see +Windows. Clicking on the + will reveal the 5 different types of windows or Global windows as they were called in previous versions of the Flex Control Builder Utility. (Flex Configuration Utility)

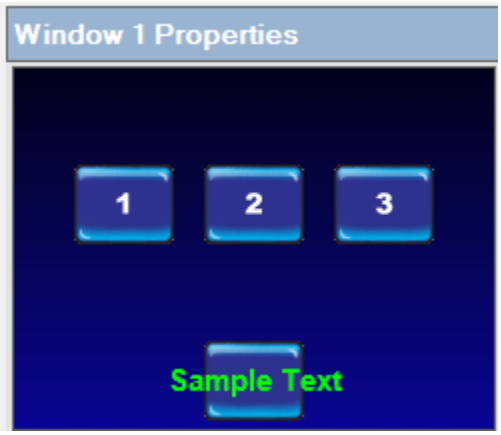


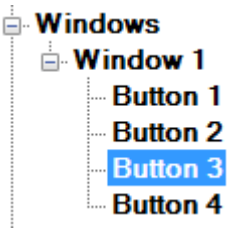
Window styles 0 and 3 do not have a template associated with them, and vary by overall window size. Window Templates 1, 2, and 3 have various preset templates to chose from. Note that Template 3 was sdesigned for Input Window use. For this example we will use Template 2 .

As with screen template selection, merely drag and drop the window template to the Project Tree panel.

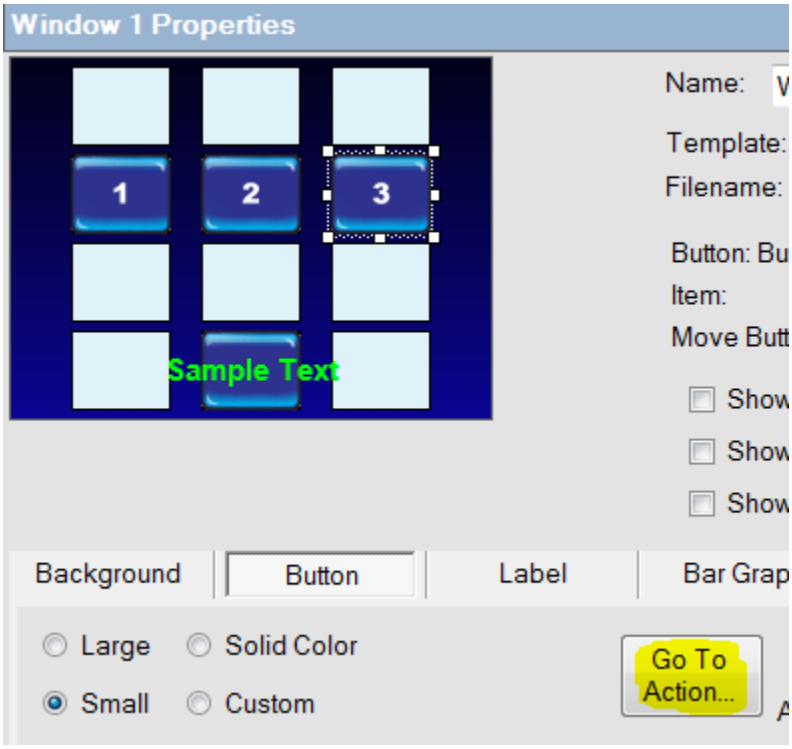
Creating a window is the same as creating a Screen.

Select a background, add buttons and some label text similar to the window below.

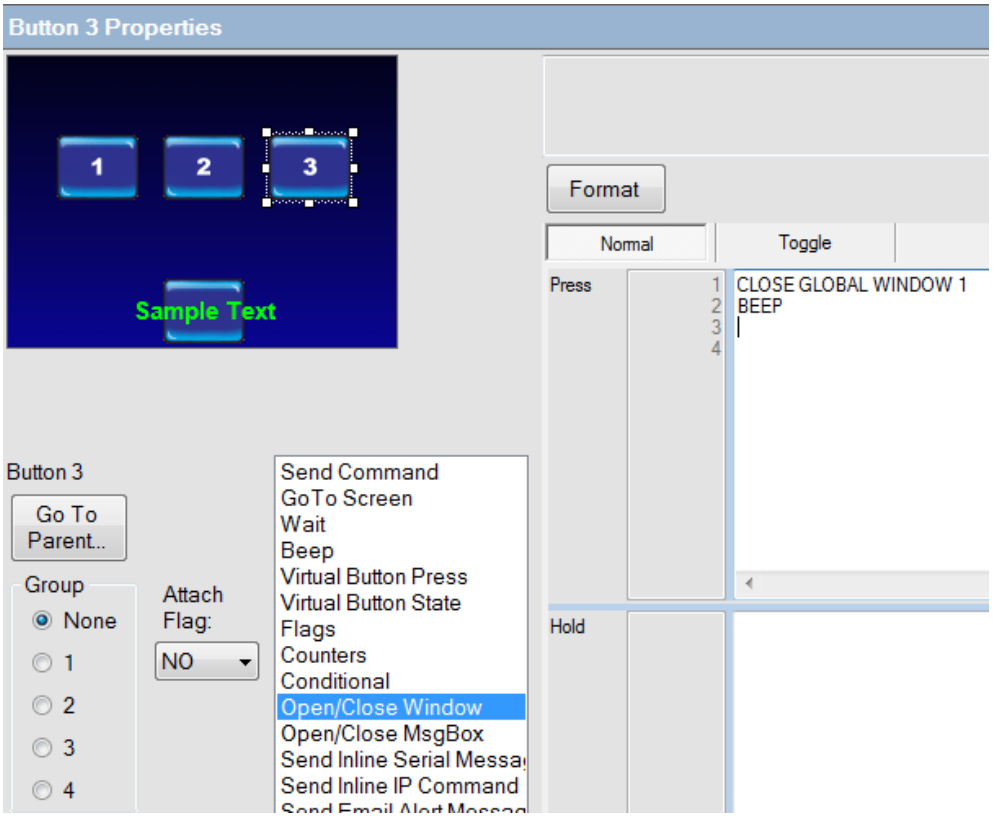


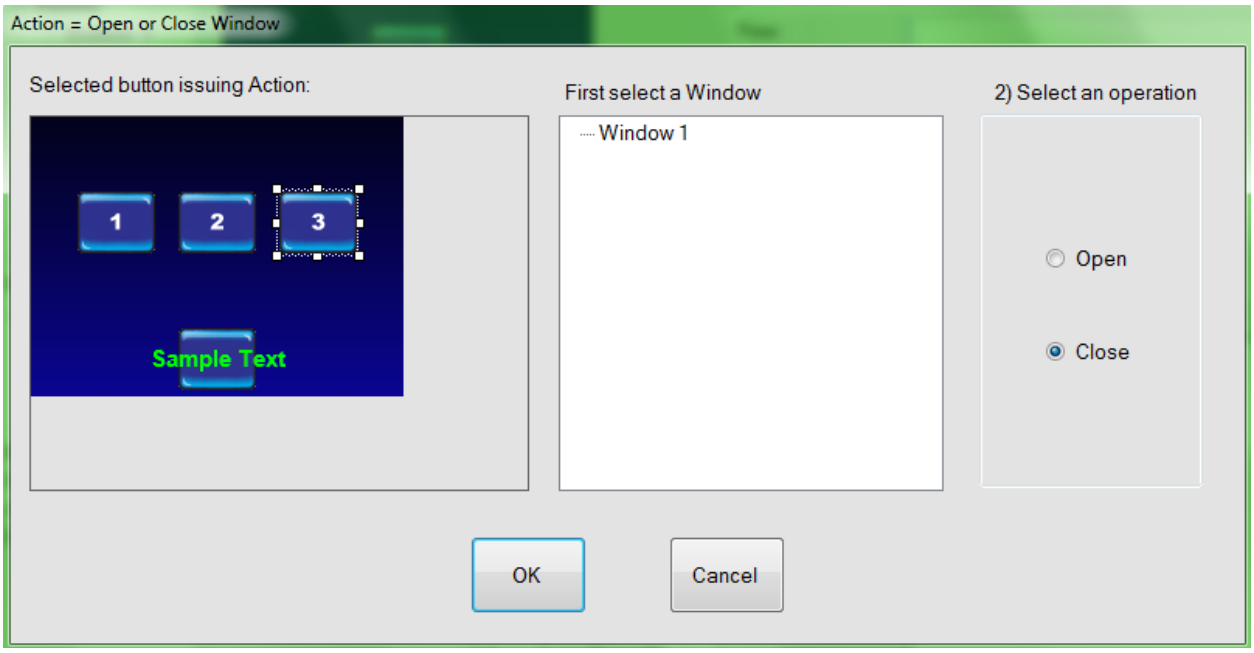


First select any button from the Window 1 list or click button tab under the window screen, select a button and then select on a button on the window and select Go to action button.

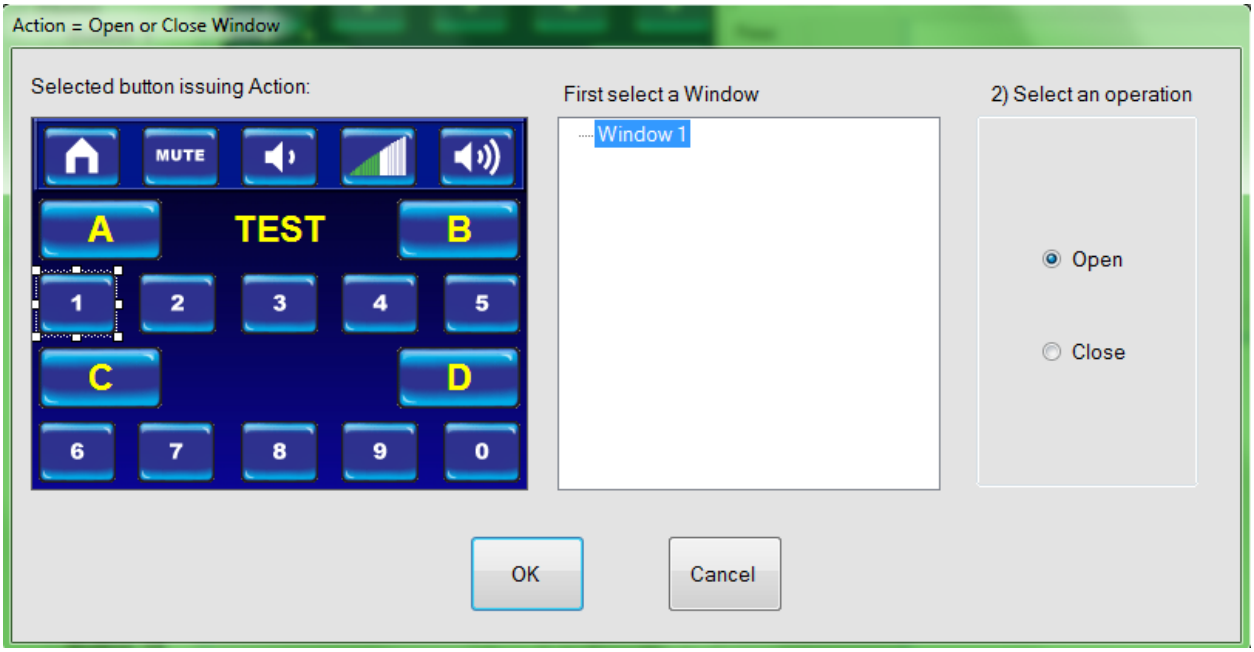


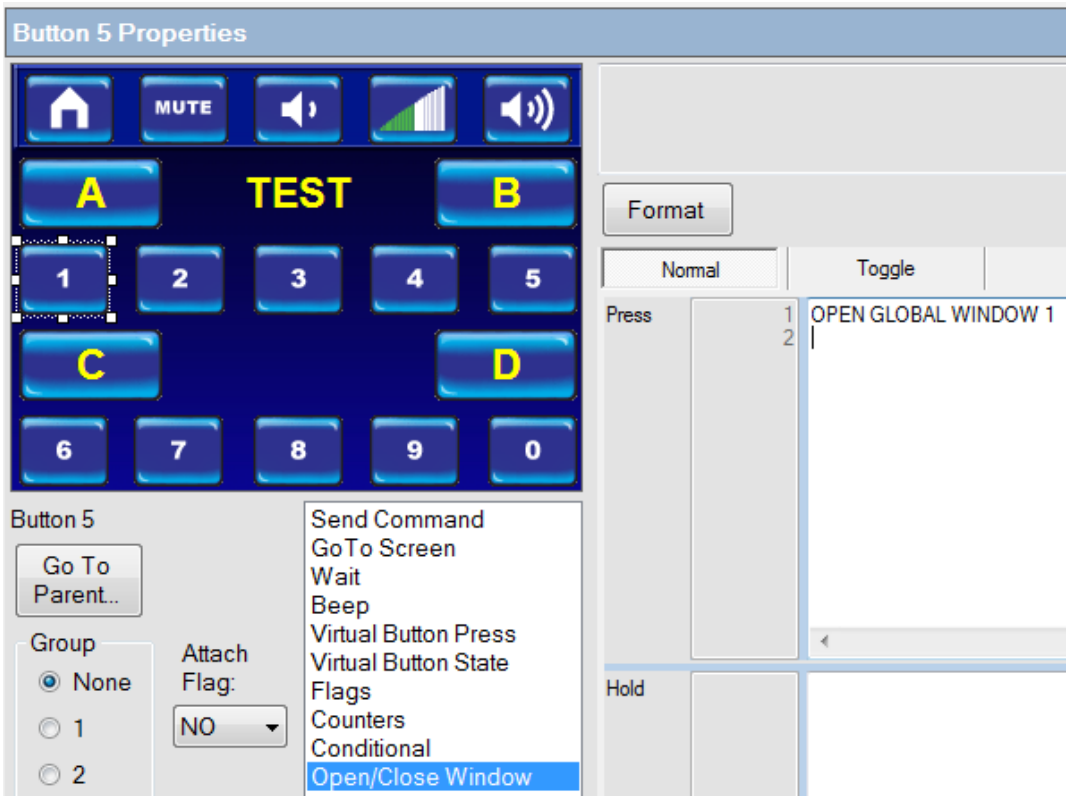
Assign an action to one or all of the buttons. Add a beep command for example. Then from the action list select Open/Close Window. Select Window 1 and the close option, then OK.





The above is the process of creating and assigning actions to a Window. Now to use or bring up a window in your project you just have to chose the button you want to open the window, click on Open/Close Window from action list, select the window, chose to open or close the window with this action and then click OK.

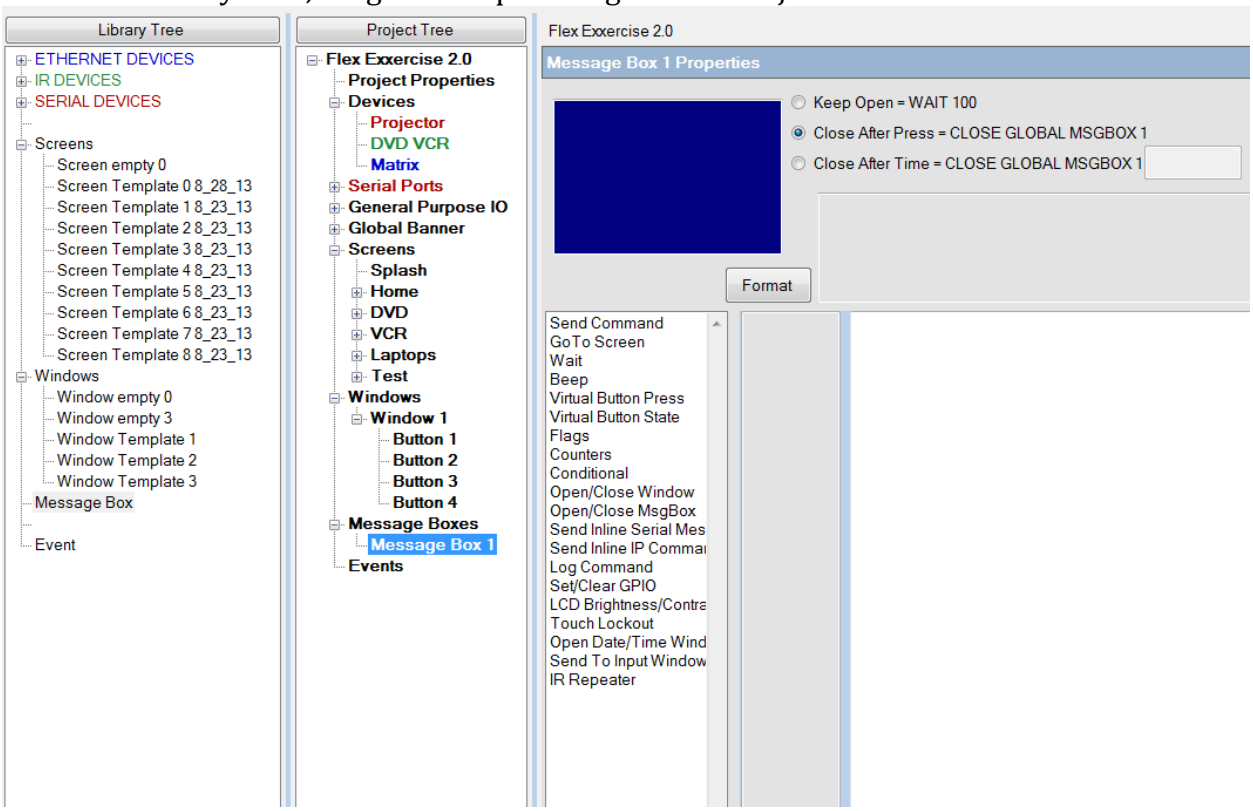



Button 5 Properties
MUTE
A
TEST
B
1
2
3
4
5
C
D
6
7
8
9
0
Button 5
Go To Parent...
Group
None
1
2
Attach Flag:
NO
Send Command
GoTo Screen
Wait
Beep
Virtual Button Press
Virtual Button State
Flags
Counters
Conditional
Open/Close Window
Format
Normal
Toggle
Press
1
2
OPEN GLOBAL WINDOW 1
Hold

MESSAGE BOX SET UP

Creating a message box is done in a similar manner as setting up a Window.

From the Library Tree, drag and drop Message to the Project Tree.



Message Boxes are a simple way to convey information to the end user. The background will always be blue and the text will always be white.

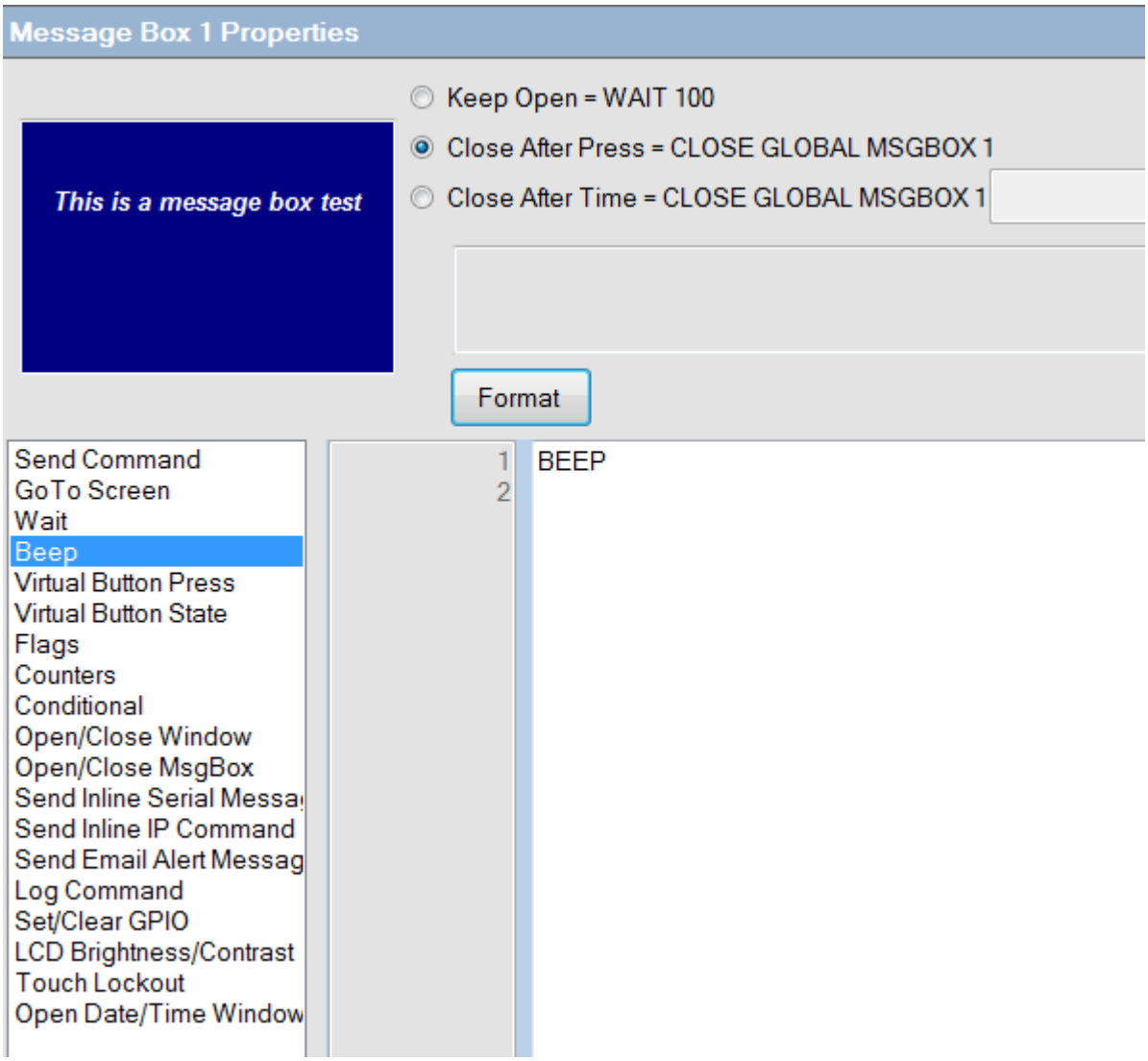
Simply type a message in the Blue message box area and then choose one of the options:

Keep Open This will keep the message box open until another command or event closes the message box from within the project.

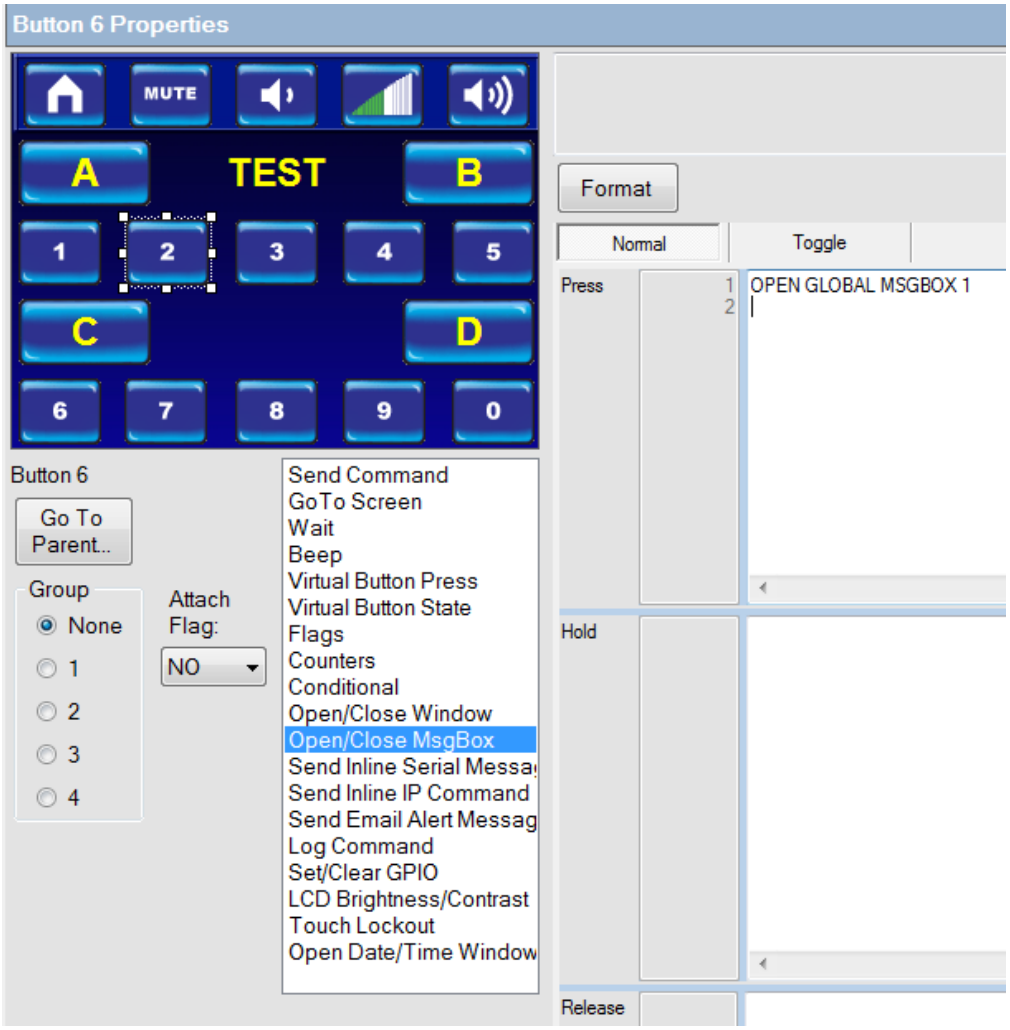
Close After Press: This method will display an OK button on the Flex screen when this window is opened. Touching the OK button will then close the mesaage box.

Close After Time: This method will keep the message box open for a period of 1 – 100 seconds.

Additionally, no matter which option is selected, you can include other actions just as you would to a Window or Screen button. Simply click on an option from the command list. For now just click on Beep.



Just as with windows, you can add a message box open to any button or event simply by selecting Open/CloseMsgBox from the command list, selecting the message box and then the open or close option.



SEND INLINE SERIAL MESSAGE

Click on Inline Serial Message.

The Send Inline Serial Message command is used to send a command to a device “On the Fly” in two ways. First, it allows a command to be sent that is not contained in the library of serial commands. Second, it allows a command that is in a Library to be edited and sent.

First select a serial port for the device.

This is very handy when controlling matrix switchers. It is impractical to have a command for every switch combination for a matrix switcher in a library. (Consider all of the possible ways to connect 8 inputs to 8 outputs, let alone 32 inputs to 32 outputs.) Instead, the

library contains a single sample switch command that can be edited for the desired parameters.

Another place that this comes in handy is with mixers and volume controls that have discrete level commands. Again, it is impractical to place a command for every posssible level in the library. Instead a sample command is in the library that can be edited with the desired parameters.

For this example we will send a command to an FSR Intelli-Tools VCM. This is a serially controlled volume control.

To Send an Inline Serial Message, follow these steps:

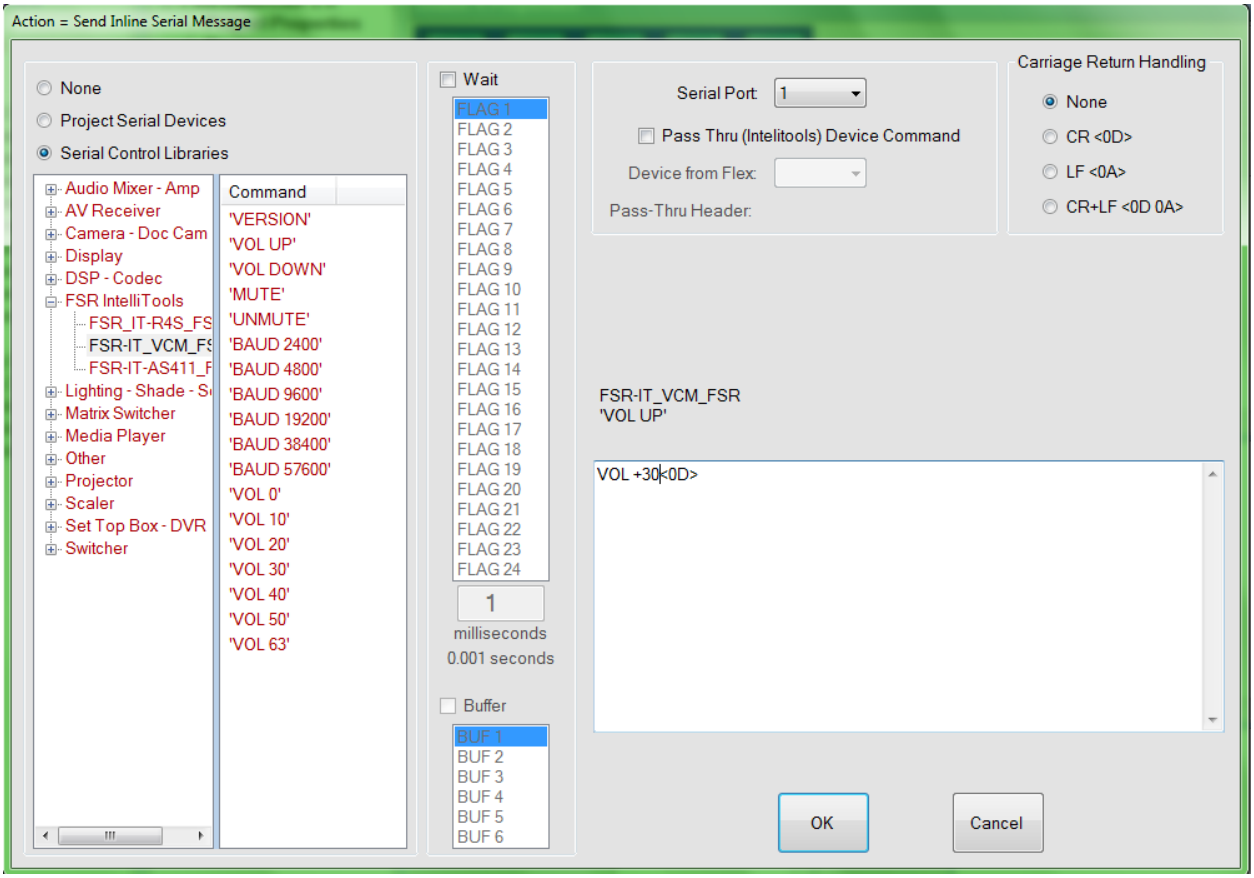
First select the IT-VCM from the serial control Library FSR Intelli Tools folder.

Now use the drop-down menu to select the serial port that the IT-VCM is connected to.

The Flex CU can automatically add a carriage return <CR> or a carriage return and line feed <CRLF> to the end of the command that you enter. You should consult the manual of the device that you are controlling to know if a <CR> or <CRLF> are needed.

Note: If you are going to edit a command from an existing serial library, the carriage return or carriage return and line feed will already be in place and you should select No carriage return.

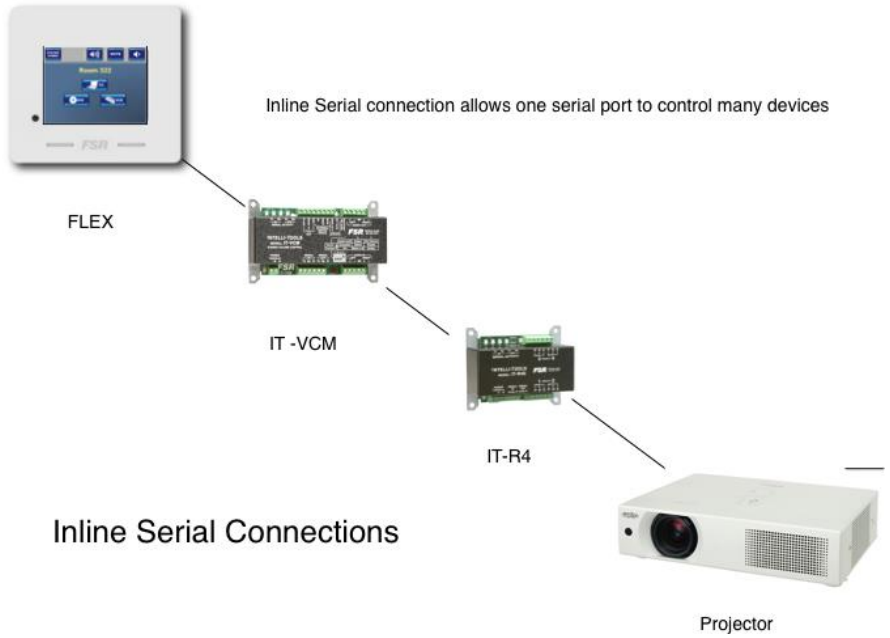
Make the appropriate selection under Carriage Return Handling.



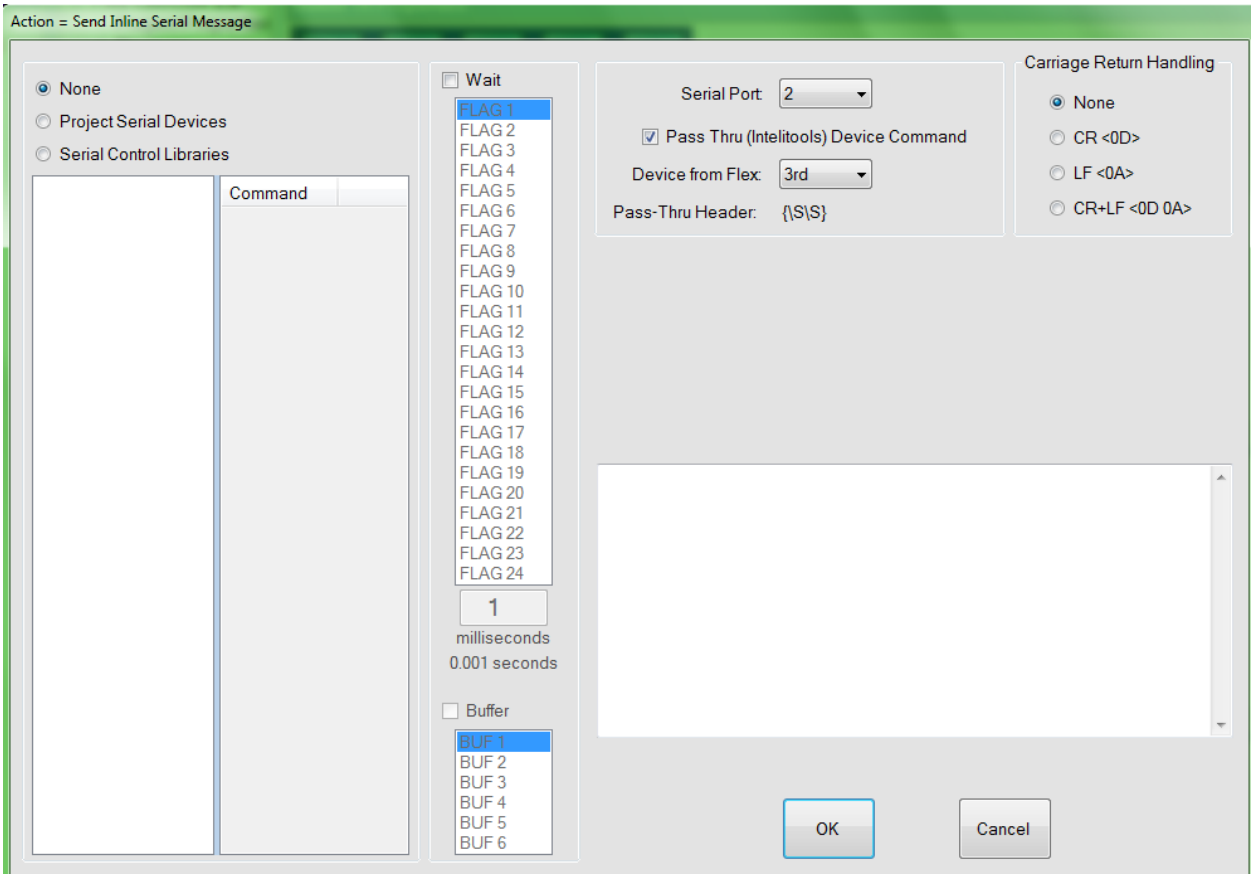
Pass-Through Command.

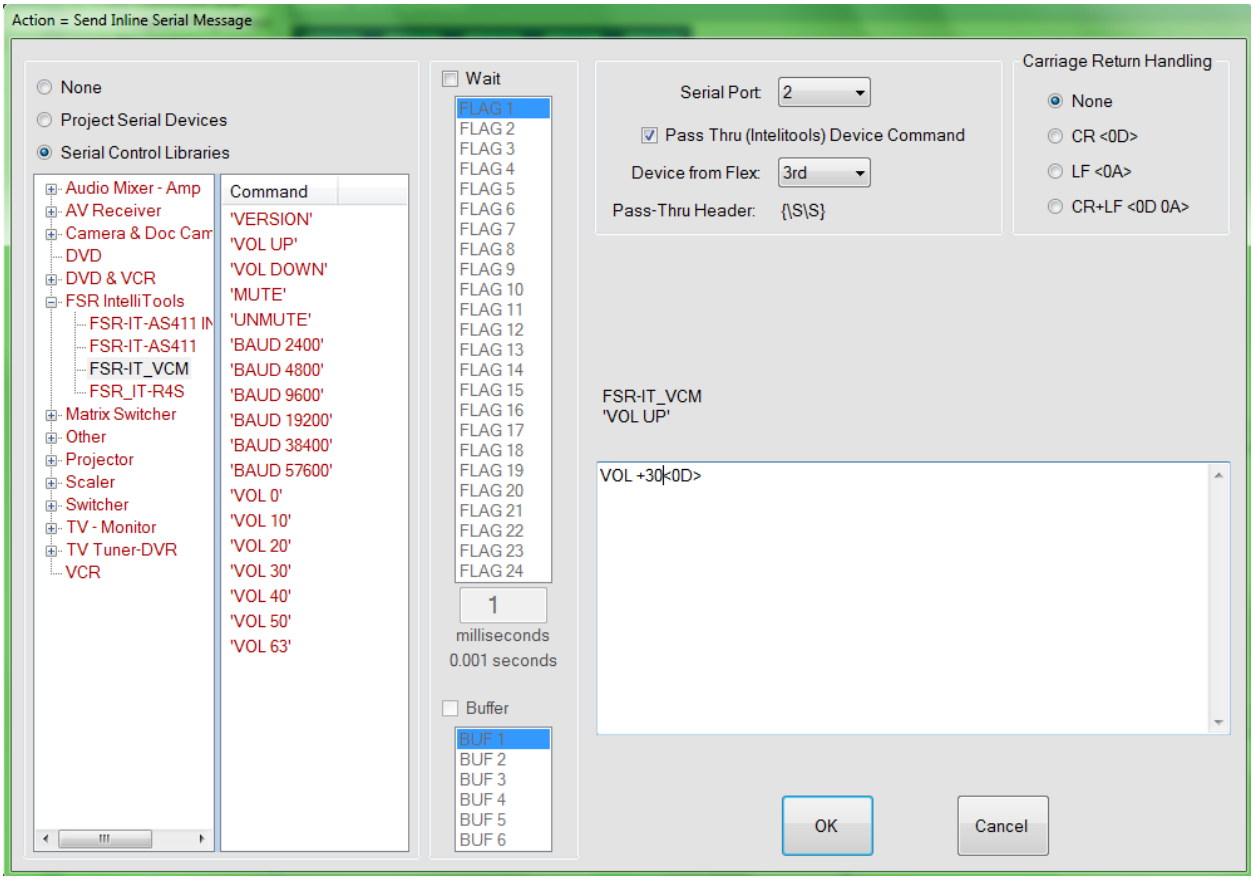
This is a feature on all FSR Intelli-Tools modules as well as the PathFinder matrix switchers. These devices have an inbound serial port, like any other serial device, but they also contain a second, pass-through port that can be connected to another device. This allows 1 serial port on the Flex control system to control multiple devices.

If you are going to use a device with serial pass-through capabilities and you intend to pass commands through to an additional device, check this box. If you are only going to talk to the device itself and not pass anything through, do not check this box.



If you check this box, you will need to know the order in which the devices are connected together. You will also need to know the pass-through header. If you are using FSR devices, the header is supplied for you.





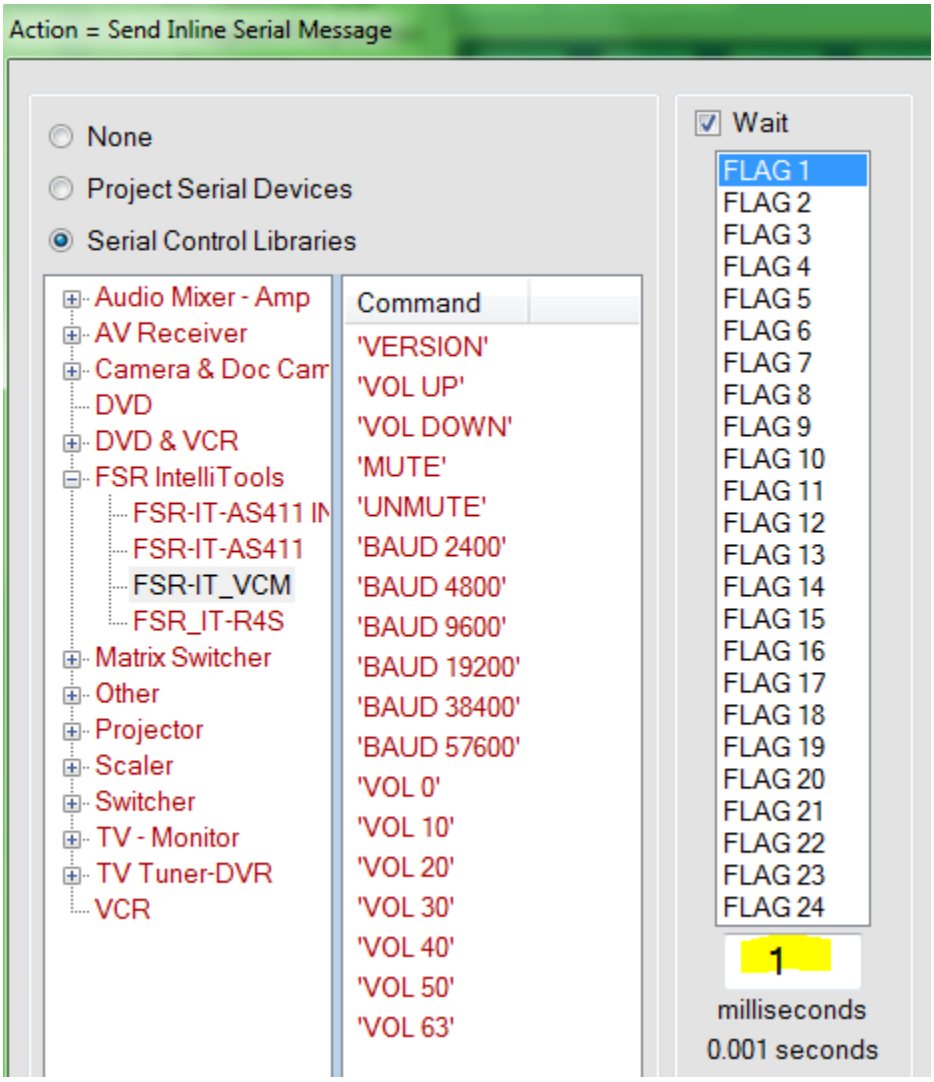
To the right, you will see the list of command contained in the library. Select the Volume Up command.

In the box under Enter Serial Message Here… you will see the command VOL+<0D>. This command increments the volume by 1 dB. Instead what we want to do is set the volume level to a known comfortable level of +30. Place your cursor in the box and change the command to read VOL +30<0D>.

When you click OK, this new command will be added to the list of actions under a button.

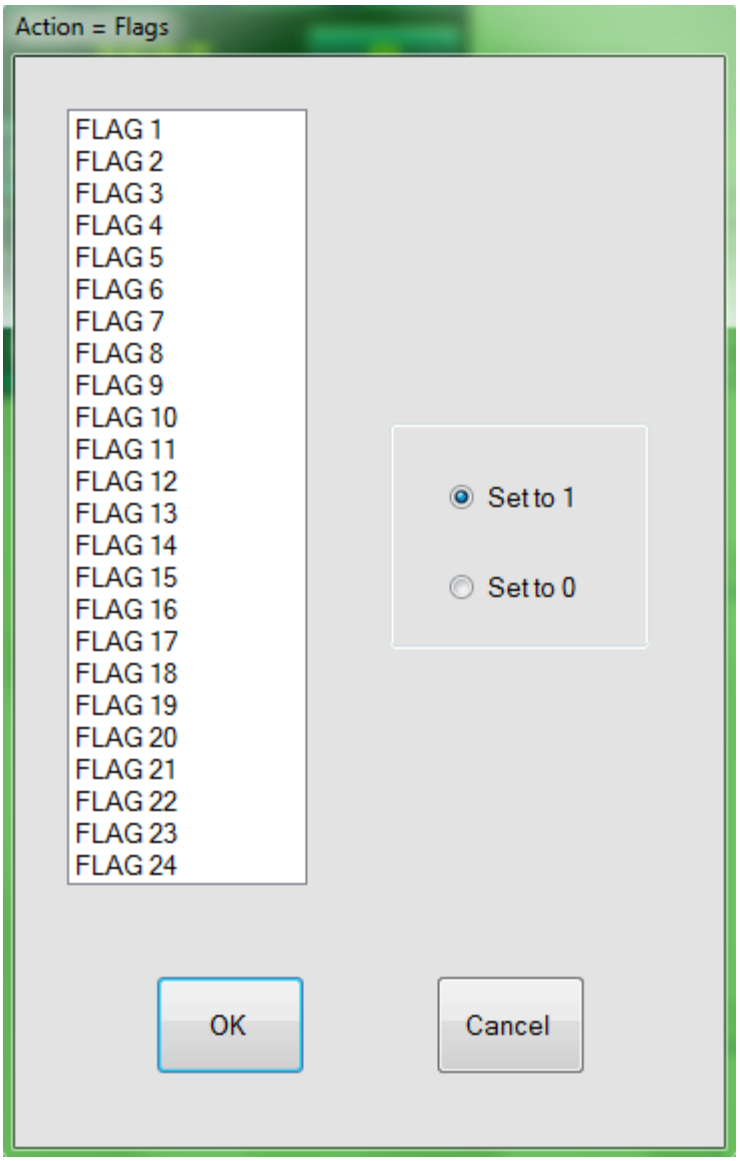
Wait for response

Whether a response is received will be noted in a FLAG specified by the user. There is also an option to specify an amount of time to wait for a response that the response can be captured in. The FLAG will allow the user to subsequently act on the response.

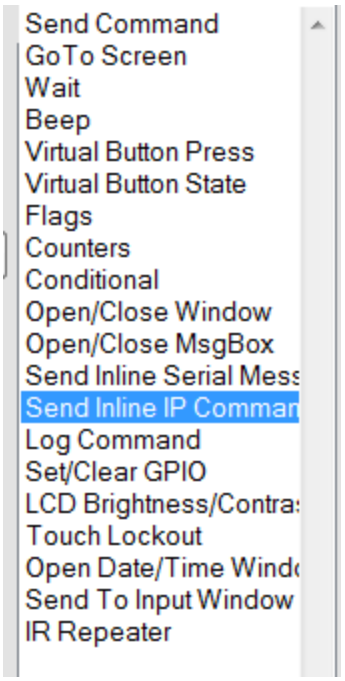


FLAGS

Whether a response is received will be noted in a FLAG specified by the user. There is also an option to specify an amount of time to wait for a response that the response can be captured in. The FLAG will allow the user to subsequently act on the response.

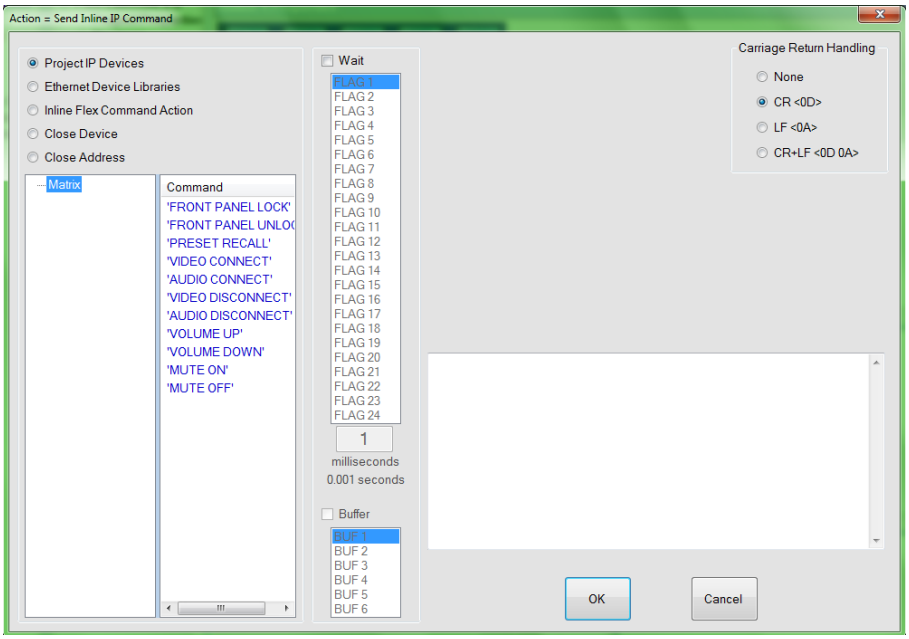


Send Inline IP Command

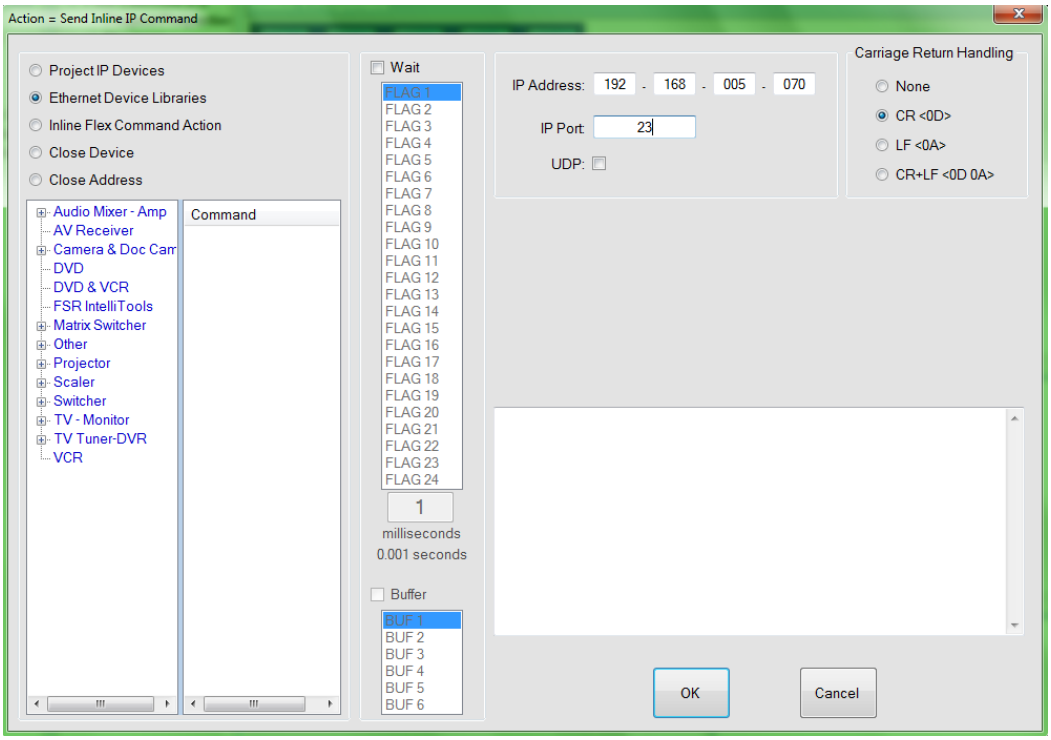


Similar in principle to the Inline Serial commands except for the addition of the IP address and port.

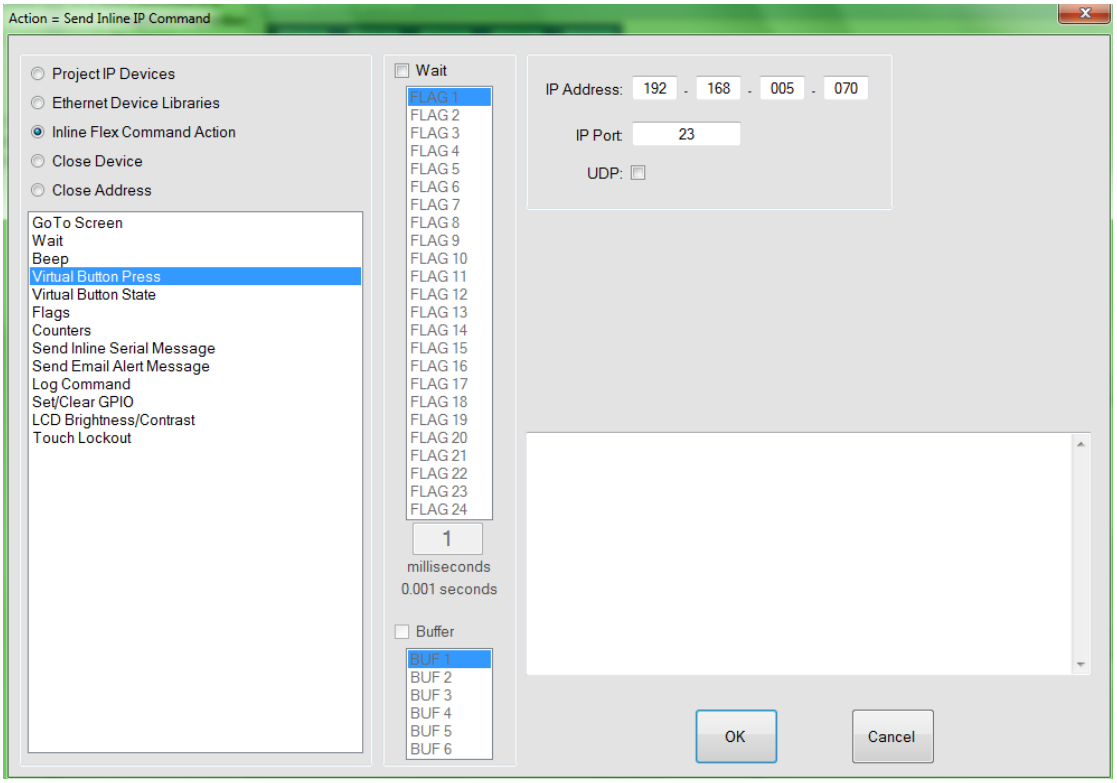
Inline command for existing Ethernet Device provides the capability to send a command directly to an Ethernet device currently defined within the project

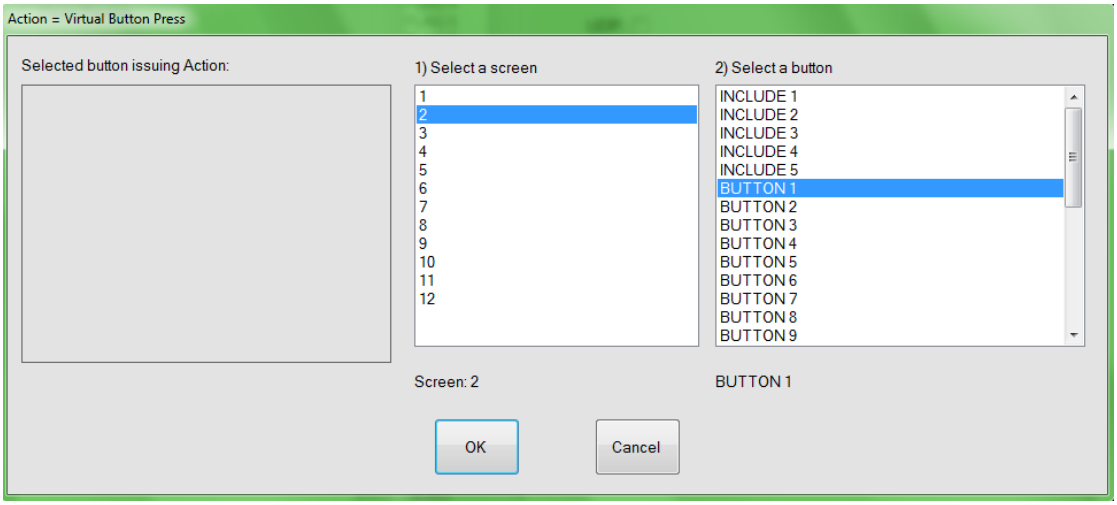


Inline command for other Ethernet Device provides the capability to send a command directly to an Ethernet device which is not currently within the project but has a known IP address and port. Here you can also select UDP if required as well as the wait for response.

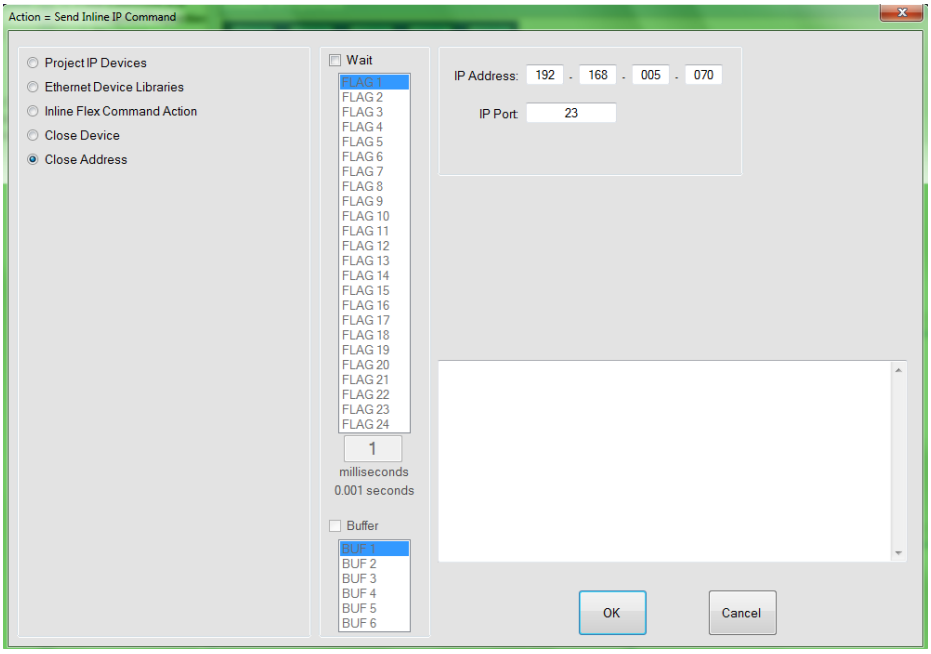


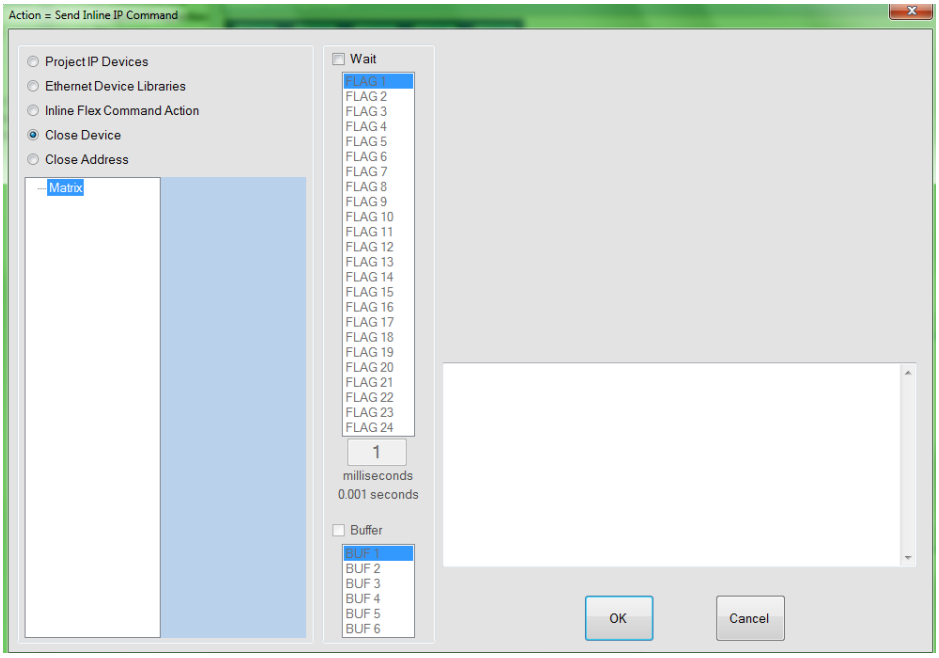
Inline Flex command action provides the ability to address any other Ethernet connected Flex panel and perform actions directly associated with that Flex panels button commands. Use of the virtual button press and state commands only require knowledge of the screen and button numbers on the other Flex panel's project.





Close Device IP Connection (Project devices) provides for the closing of the TCP-IP connection should it require an actual close command. (TCP-IP Persistent connections only)

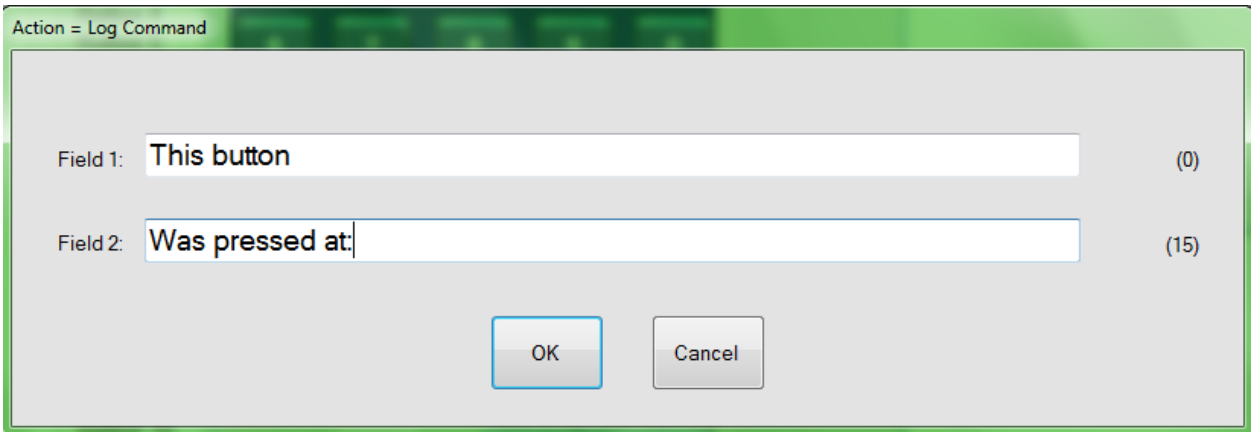

Action = Send Inline IP Command
Project IP Devices
Ethernet Device Libraries
Inline Flex Command Action
Close Device
Close Address
Wait
FLAG 1
FLAG 2
FLAG 3
FLAG 4
FLAG 5
FLAG 6
FLAG 7
FLAG 8
FLAG 9
FLAG 10
FLAG 11
FLAG 12
FLAG 13
FLAG 14
FLAG 15
FLAG 16
FLAG 17
FLAG 18
FLAG 19
FLAG 20
FLAG 21
FLAG 22
FLAG 23
FLAG 24
1
milliseconds
0.001 seconds
Buffer
BUF 1
BUF 2
BUF 3
BUF 4
BUF 5
BUF 6
IP Address: 192 . 168 . 005 . 070
IP Port: 23
OK
Cancel

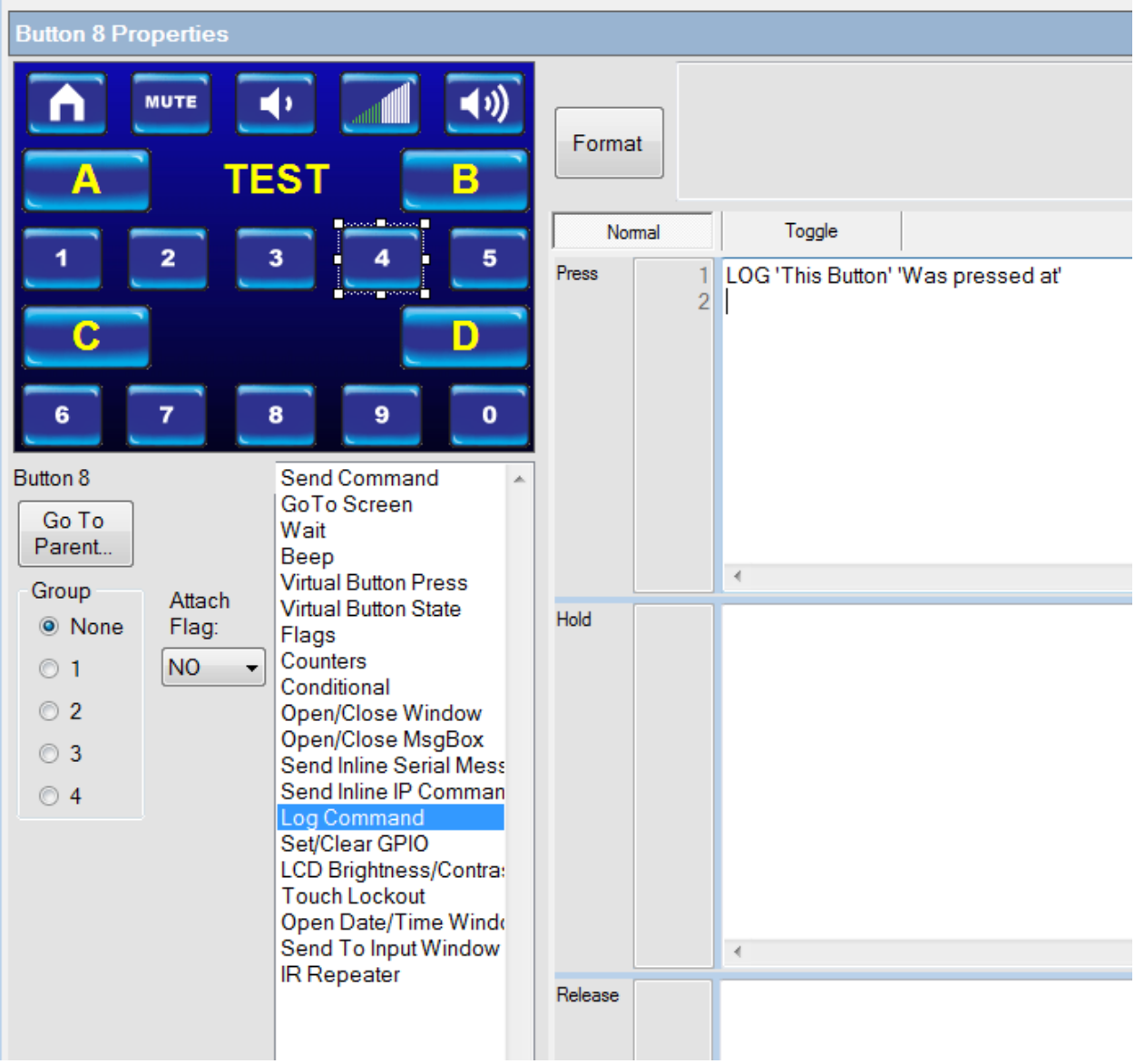

Action = Send Inline IP Command
Project IP Devices
Ethernet Device Libraries
Inline Flex Command Action
Close Device
Close Address
Matrix
Wait
FLAG 1
FLAG 2
FLAG 3
FLAG 4
FLAG 5
FLAG 6
FLAG 7
FLAG 8
FLAG 9
FLAG 10
FLAG 11
FLAG 12
FLAG 13
FLAG 14
FLAG 15
FLAG 16
FLAG 17
FLAG 18
FLAG 19
FLAG 20
FLAG 21
FLAG 22
FLAG 23
FLAG 24
1
milliseconds
0.001 seconds
Buffer
BUF 1
BUF 2
BUF 3
BUF 4
BUF 5
BUF 6
OK
Cancel

Log Command

This is a feature that is not a usable function on the Flex Panels for end users. It is here to be used with a companion program called FLEX Manager. Within the FLEX Manager, reports can be generated by the fields entered below and a log file can be maintained which can report on number of button pushes, duration of use of a projector for example and further uses of FLEX Manager include Lamp Life reporting and scheduling. This program is to be used in a network environment where a centralized computer will be used to monitor multiple FLEX Panels.

However, Log Commands can be added for debugging and programming purposes. These log command can be revealed when you use the CONNECT command within the Flex Control Builder. This will be discussed later.

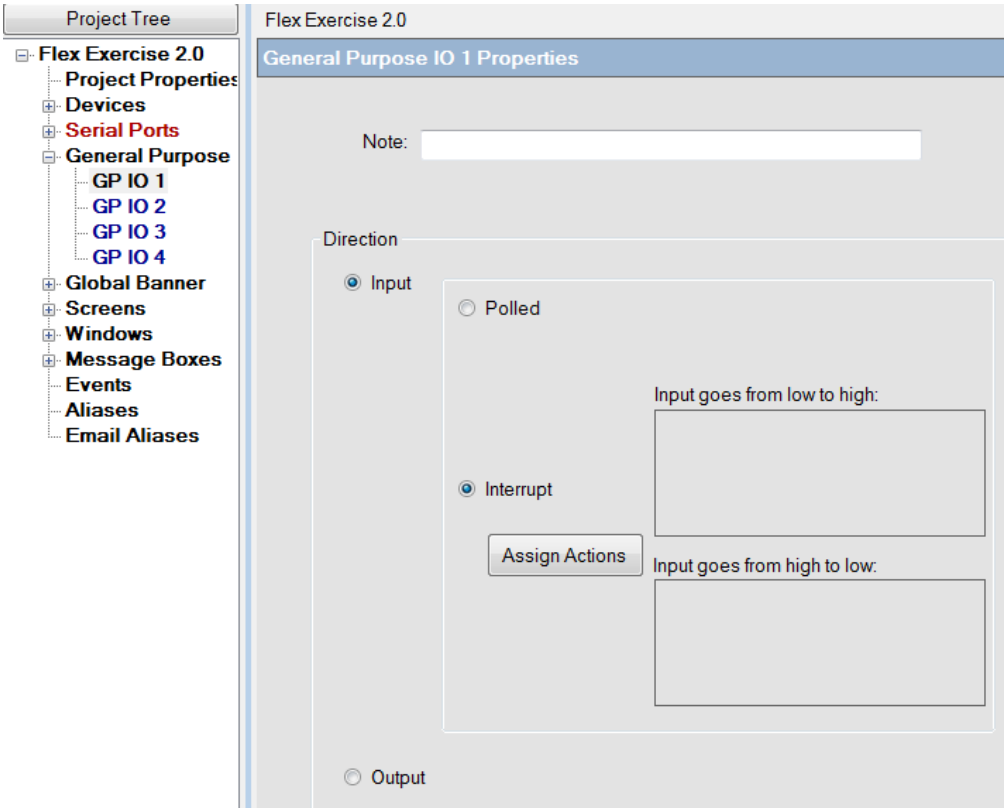




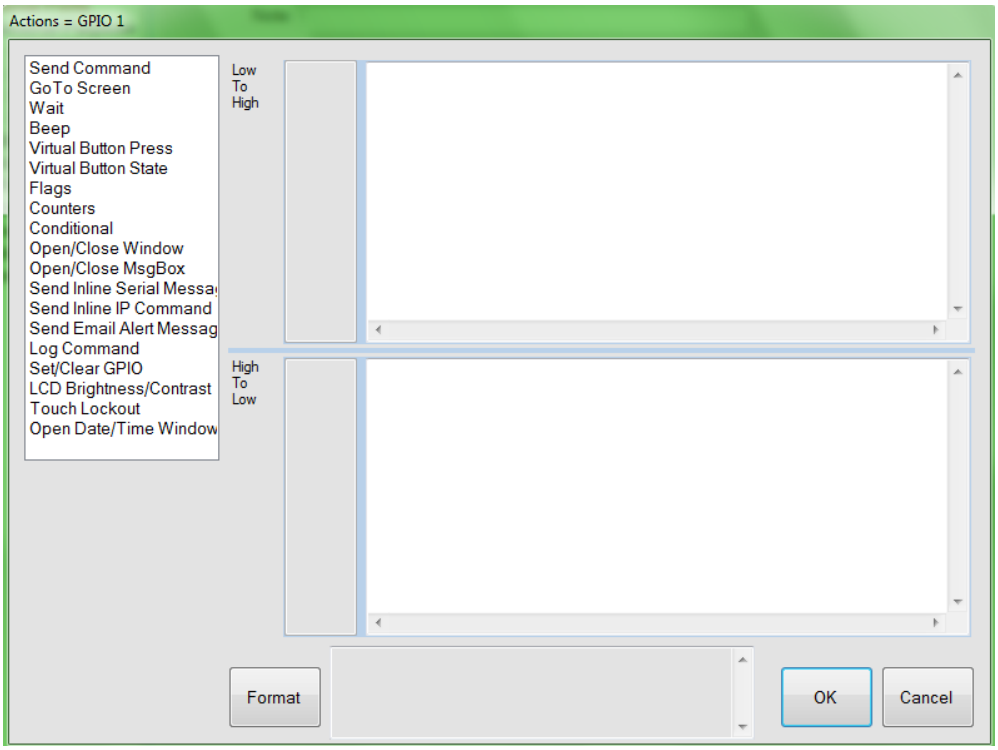
SET/Clear GPIO

The Flex LT 200 and LT-300 have four General Purpose I/O ports. Each port can be set as Open, Close or it can be Pulsed. These are TTL level low current ports and should only be used with compatable devices. If higher voltage and / or current switching is required, then the GPIO ports should he used to control compatible relays such as FSR K10-D relays. When this action is selected the following window appears:

By default, all ports are set to Output. To change port settings, click the +**General Purpose** in the Project Tree and select a port to change.



The port can be set as an input in either Polled or Interrupt. To set actions for an interrupt, select Interrupt and then click on the assign Actions Actions.



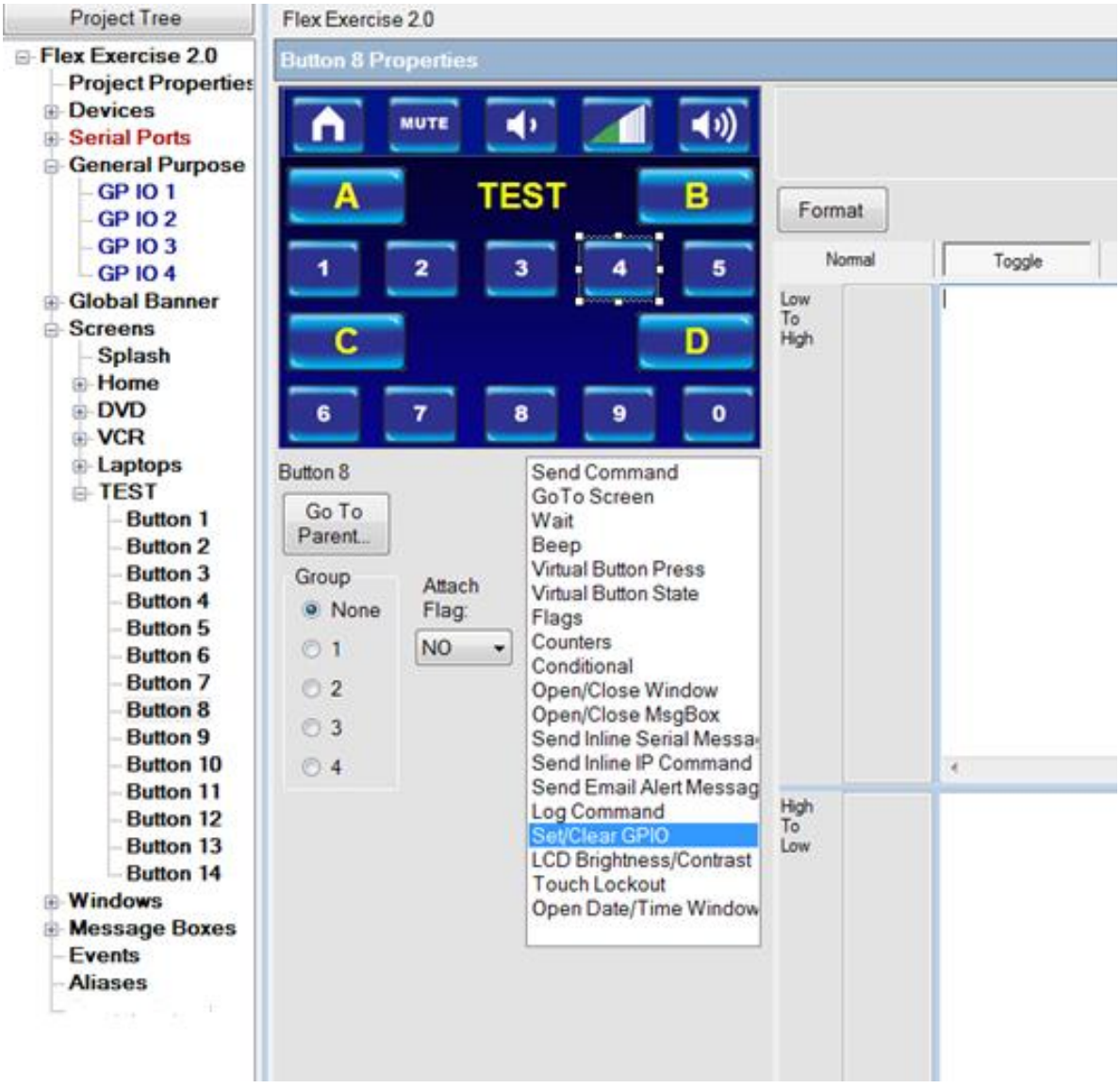
Actions can be set in the Low to High and the High to Low action blocks.

Note: Best practice is to use a relay such as FSR's K10-D to interface the contactors. Check hardware manual and white paper on the FSR Web Page for further details.

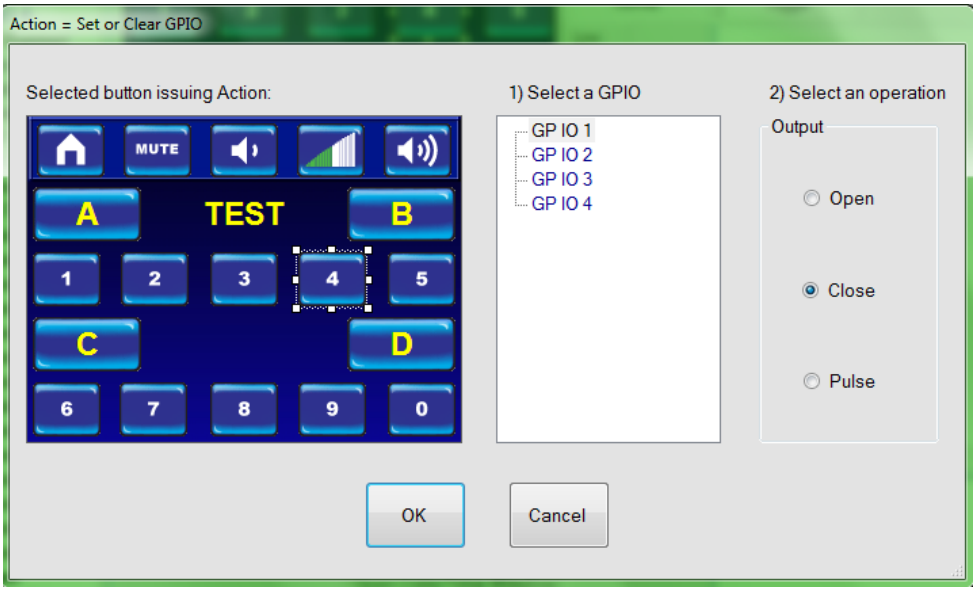
Adding a GPIO command to a button:

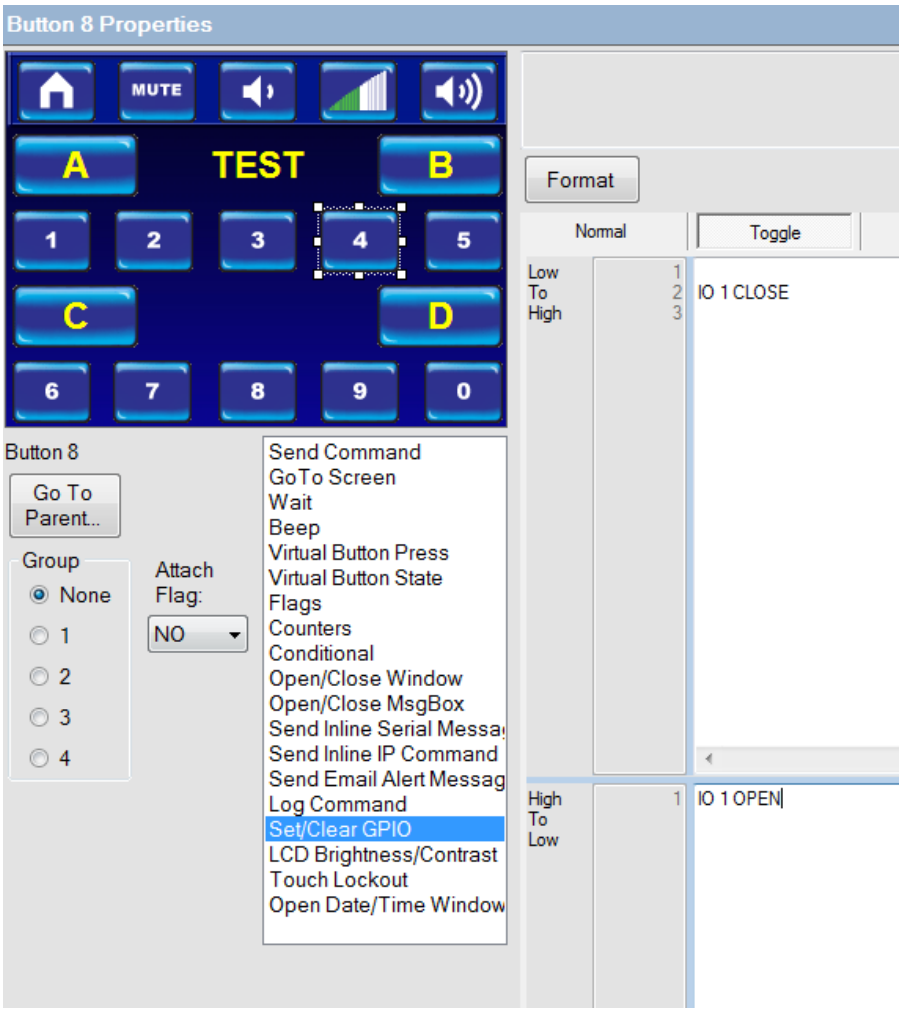
Generally speaking these will be a toggle button style so for this exercise select the toggle tab.

For this exercise, select a button and then Set/Clear GPIO from the actions list.



Click on the appropriate GPIO. select either open close or pulse, and click ***'OK'***.



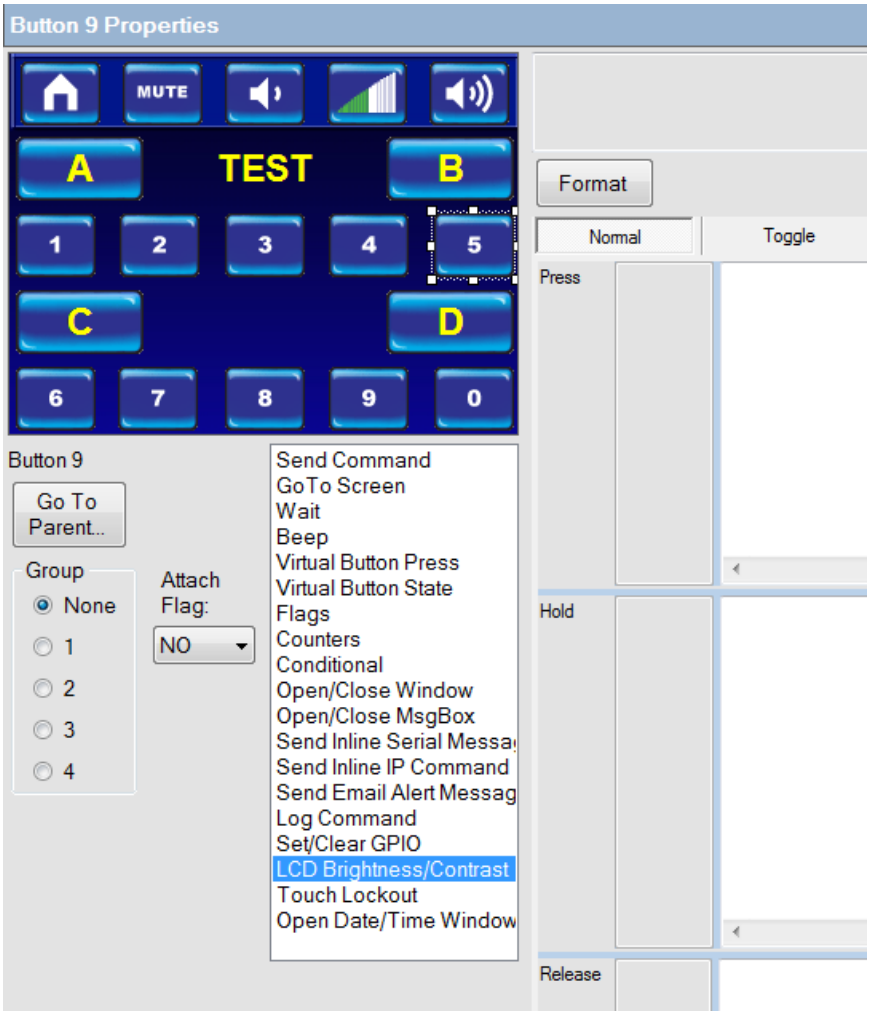


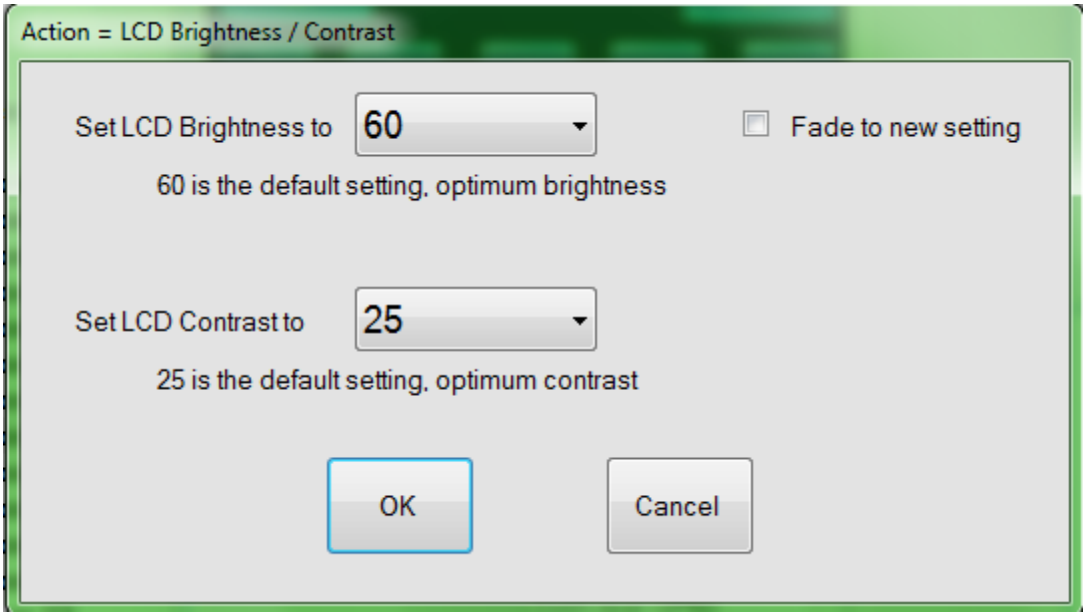
LCD Brightness Control

From the drop down boxes, select brightness levels of from 60 (full brightness) to 0 (black screen) and LCD Contrast from 25 to 1. Additionally the Fade to new setting may be checked to allow a gradual transition to the new setting. Caution: It is not recommended that you set brightness to 0 unless it is a timed event, or another event will trigger a visible brightness level.

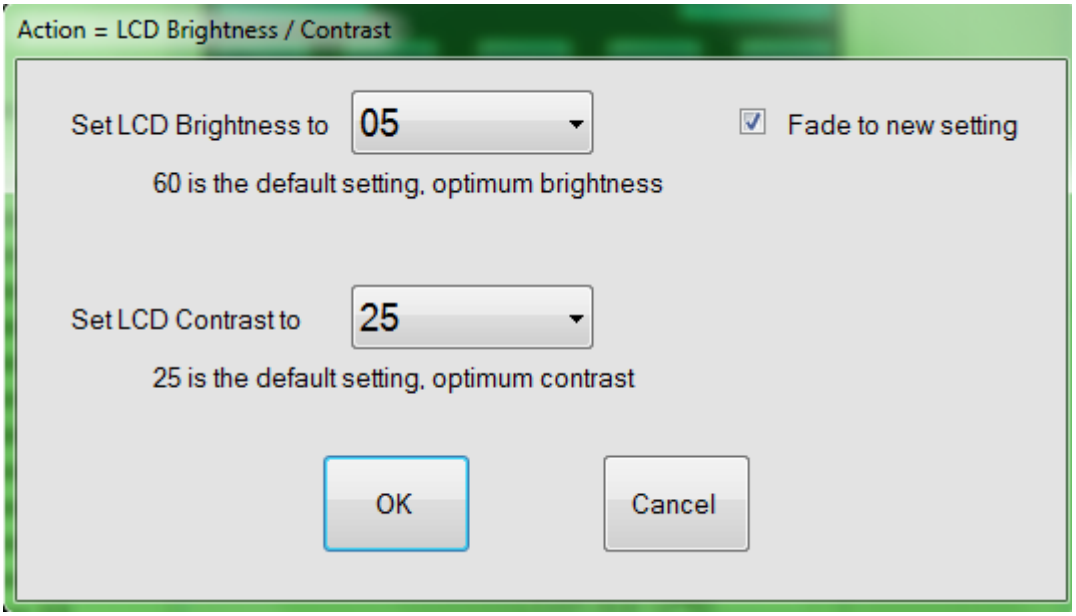
In this project we will set the brightness demonstration on a button however, a more practical use of brightness control for the end users would be to utilize a Window and set each button there to different brightness levels.

Now select a button to add the brightness control to.

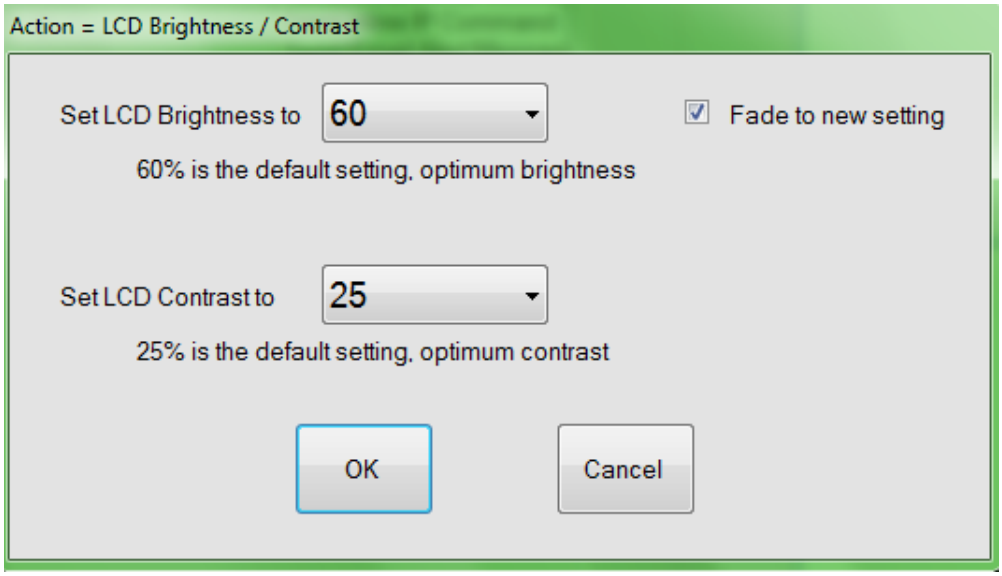

Button 9 Properties
MUTE
A
TEST
B
1
2
3
4
5
C
D
6
7
8
9
0
Format
Normal
Toggle
Press
Hold
Release
Button 9
Go To Parent...
Group
None
1
2
3
4
Attach Flag:
NO
Send Command
GoTo Screen
Wait
Beep
Virtual Button Press
Virtual Button State
Flags
Counters
Conditional
Open/Close Window
Open/Close MsgBox
Send Inline Serial Messa
Send Inline IP Command
Send Email Alert Messag
Log Command
Set/Clear GPIO
LCD Brightness/Contrast
Touch Lockout
Open Date/Time Window



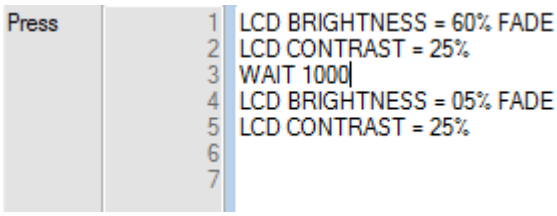
Here select 05 from the drop down box and check the fade to new setting box.



Add a wait of 1 second and then change the Brightness back to 60.



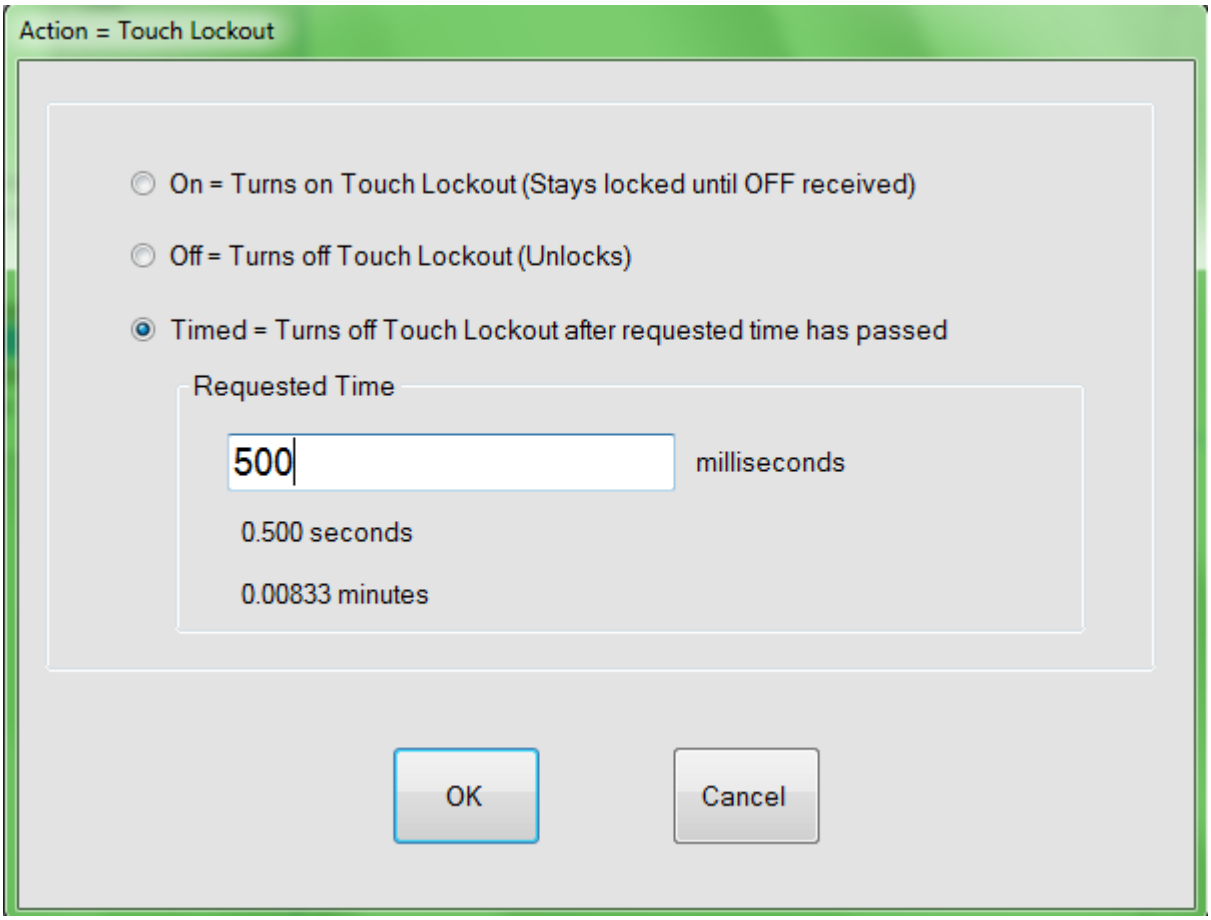
Command set will look like this

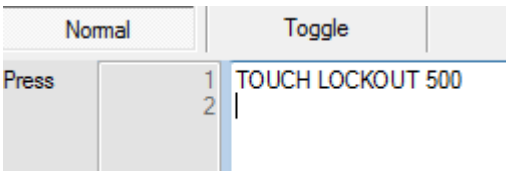


Touch lockout

The touch lockout command disables the touchscreen for a predetermined length of time. Commands will continue to execute during the lockout. This is useful when you don't want the control system to process any button presses while waiting for something else to happen such as waiting for the projector to warm up.

Select the desired function. **On, Off** or **Timed** and then enter the length of time. Click on '***OK***'. : Time displayed in the action window You may further refine the length of time by editing the number of milliseconds if you so wish.

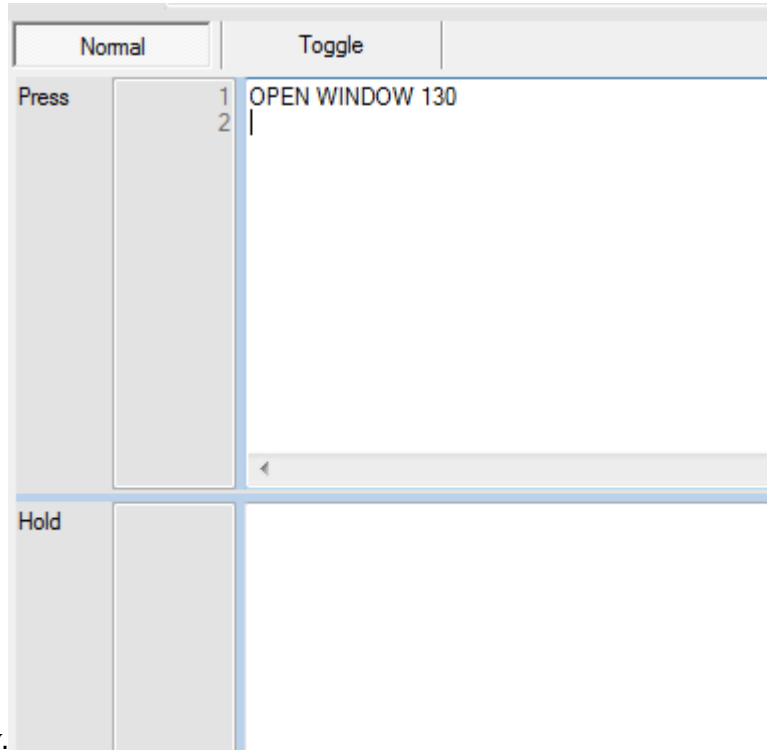




Date/Time Window

The Date / Time Window is usefull in projects that have timed events. This command allows the end user to set the date and time on their Flex Panel. This becomes important for timed events, and then the need to accuratly reset the time during Dalight Savings Time for example. The user will simply press a button on the Flex Panel and a window will open.

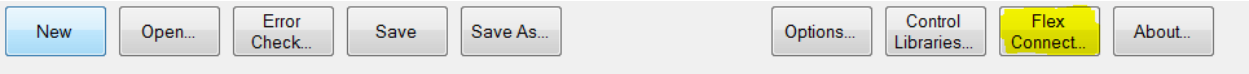
allowing the user to set the date and time

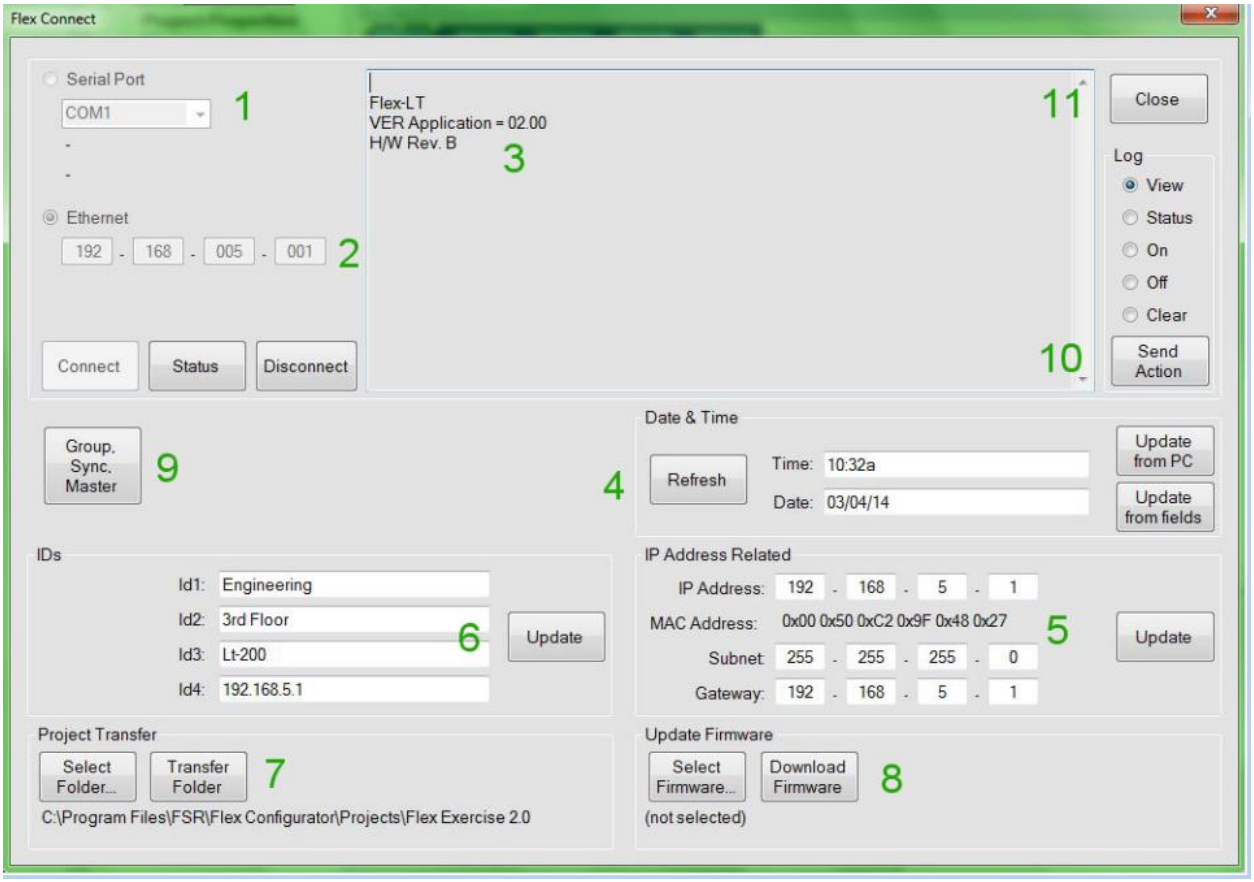


directly.

Flex Connect

Connecting to the Flex unit and utility functions including cloning are performed through the Flex Connect button.





1: Serial com port selection

2: Ethernet connect. Type IP address of Flex Panel.

3: Once connected shows Firmware version and hardware version of the Flex panel

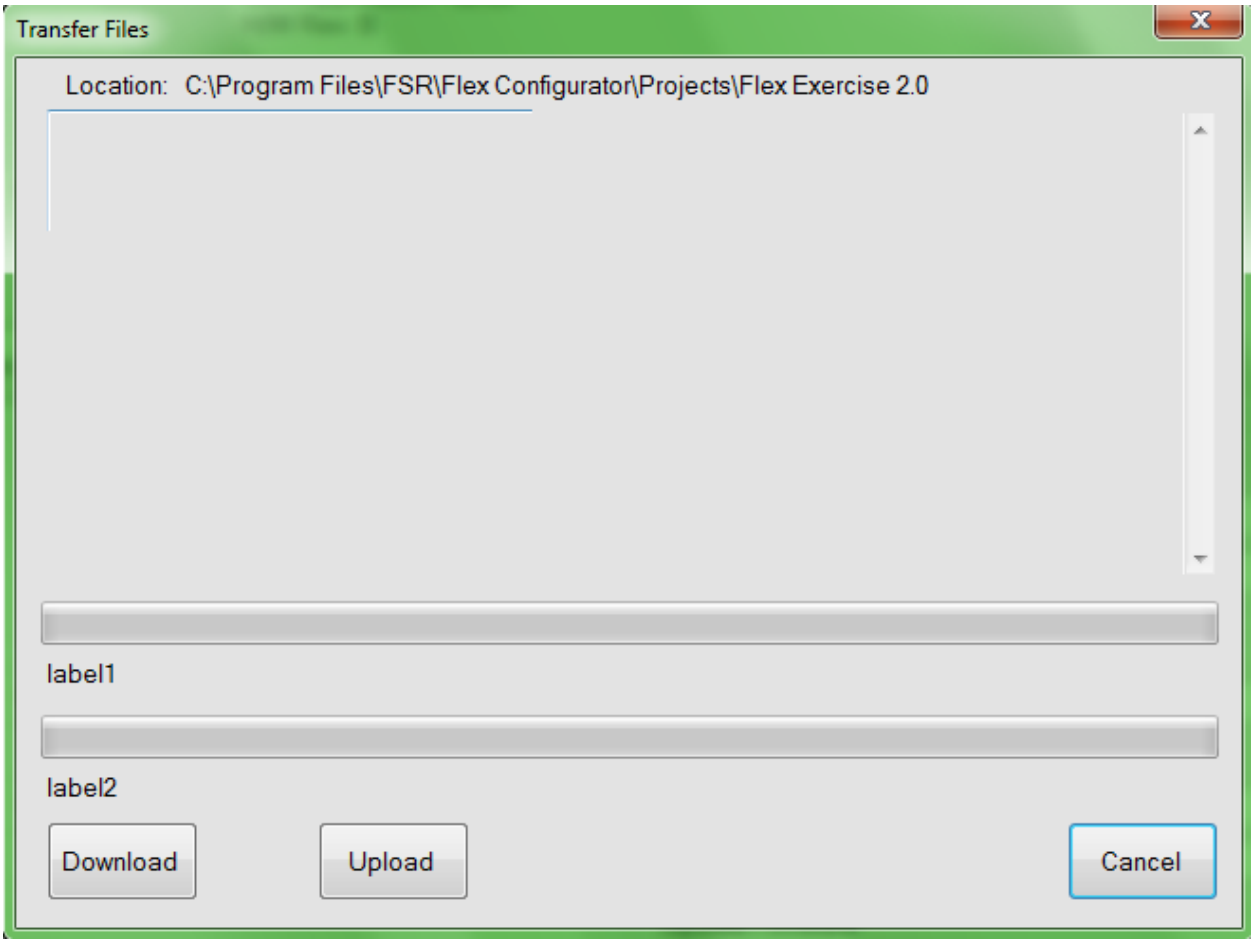
4: Date and Time can be updated. Refresh button will show current date and time of panel. If fields are blank then flex panel does not have date and time set. Either click on Update from PC or type into the fields and click on Update froem fields.

5: Shows current IP address of flex panel. Type new address, subnet, and Gateway and click on Update to change the IP address of flex panel.

6: Shows the current Identification fields which can be populated for each Flex panel. Identification fields are not mandatory however, they can be usefull to track Flex panels where multiple panels are installed. Fill in fields and click Update.

7: To down load of upload a project to or from a Flex Panel. Select project folder button will open selection tree. Currently opened project wil be the default folder.

Next click Transfer folder. Select either Download to download current project to the Flex, or Upload if you are loading a project directly from a Flex panel to the Flex Control Builder.



8: Updating Firmware. New firmware should be copied into the Firmware folder. Click Select Firmware, chose the version from the listing, click OK and then click download Firmware.

9: Flex Panel Syncronization process. Click the Group Sync Master button.

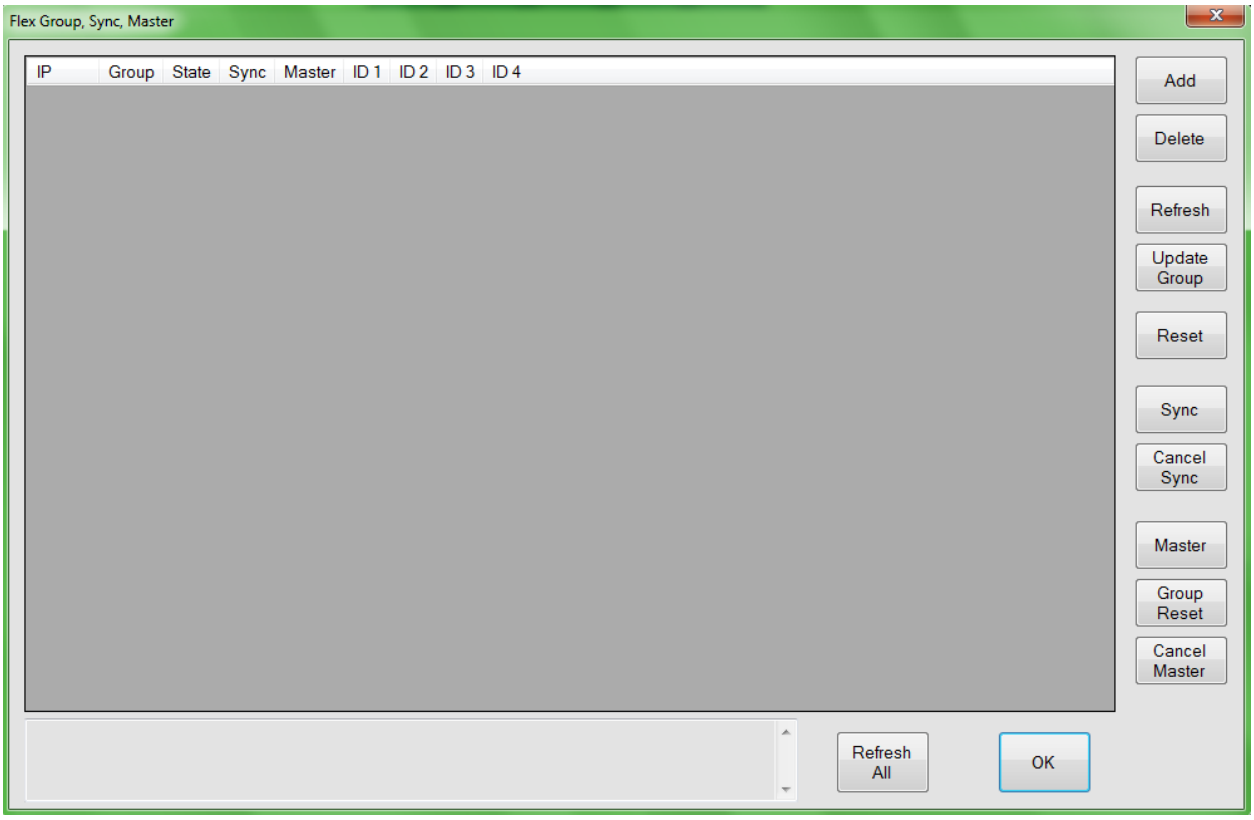
Enable/ Disable Sync.

A word about synchronization. Syncing panels allows a single project to be loaded into more than one flex panel, and have actions on all synced panels work, and display uniformly. As a dual light switch works in a large room, so may a set of Flex panels. Room control can be driven form any of the panels within the same synchronized group. Please note: The same project must be loaded into each of the synchronized panels in order to perform properly. Subtle differences such as background and button colors may be different, but the underlying commands must be the same.

To enable or disable Sync, select from the Flex sys/Enable/Disable Sync menu.

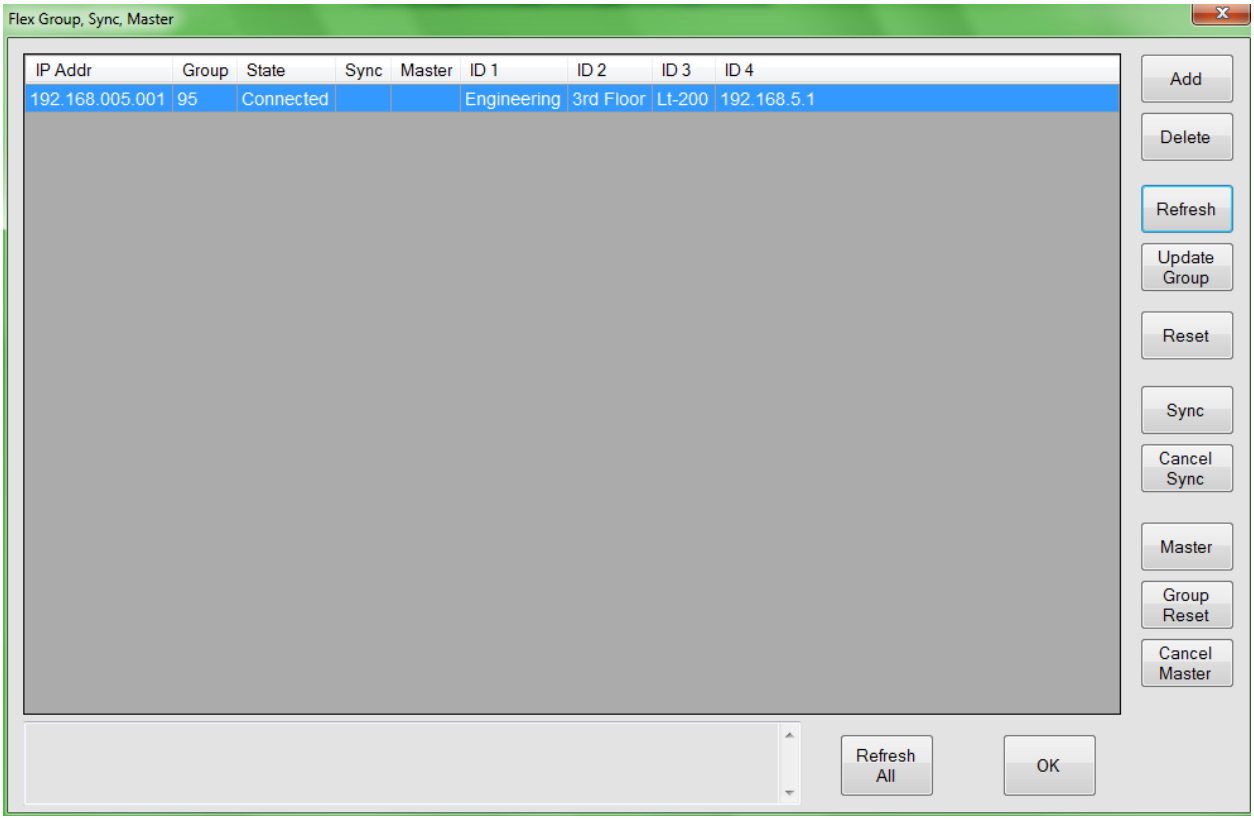
Again you are given the option to connect via Serial Port or Ethernet. You are synchronizing several Flex LT panels. Therefore it is faster to connect via Ethernet since all the panels should be networked already.

Click the Add button and then enter the IP address of the first Flex Lt panel you want to have in the synchronized group and click on connect.



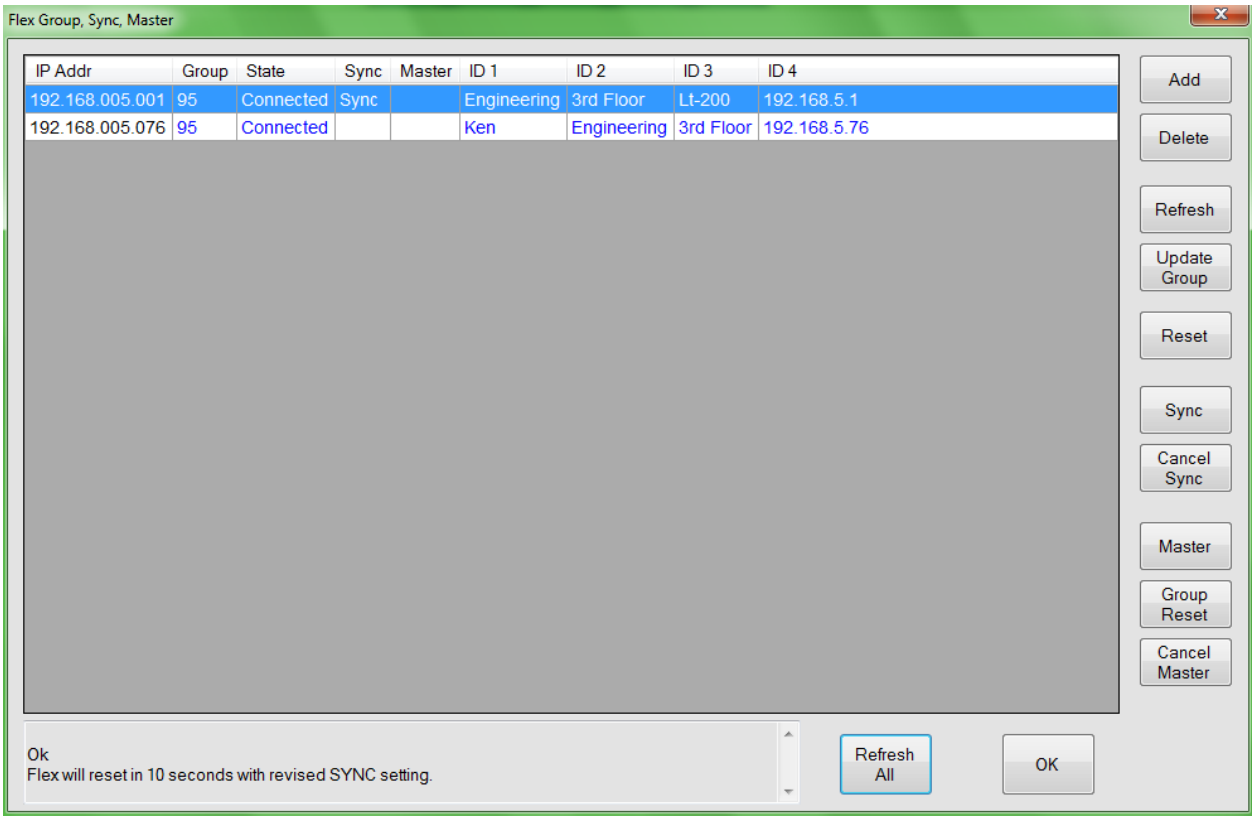
Click on the Add button. Click into the IP box and type the IP address of the first Flex panel you want to Sync. Now repeat to add each Flex panel IP address that will be part of this group.

Click the Refresh All button on bottom of screen..



You must now enter a Group number from 1-100 that each Flex-LT panel will share. Then click on Update Group. Note your group number since you will repeat this set of actions for each Flex-LT panel you synchronize within the same Group.

Now click on Sync. In 10 seconds the Flex-LT be reset. Now you can repeat this on every other Flex-LT panel you wish to synchronize.



Once all the panels have been synced, select one to be the master. Simply select the Flex panel to be the master and click Master button.

Note: Each time a project is sent to a Flex-LT panel or is reset by any means; all the panels in the synchronized group will rest in succession. All projects must be the same for each panel in the synchronized group.

To disable master, select the master flex panel, click on Cancel Master. Likewise to Disable Sync, select the Flex panel, click on Cancel Sync. Repeat disabling Sync on the other Flex panels by selecting them and clicking on the cancel Sync button. There is no need to change the group number at that time unless you are placing the panel in a different synchronized group.

The Refresh All button will update the synchronization status of all Flex Panels in your listing.

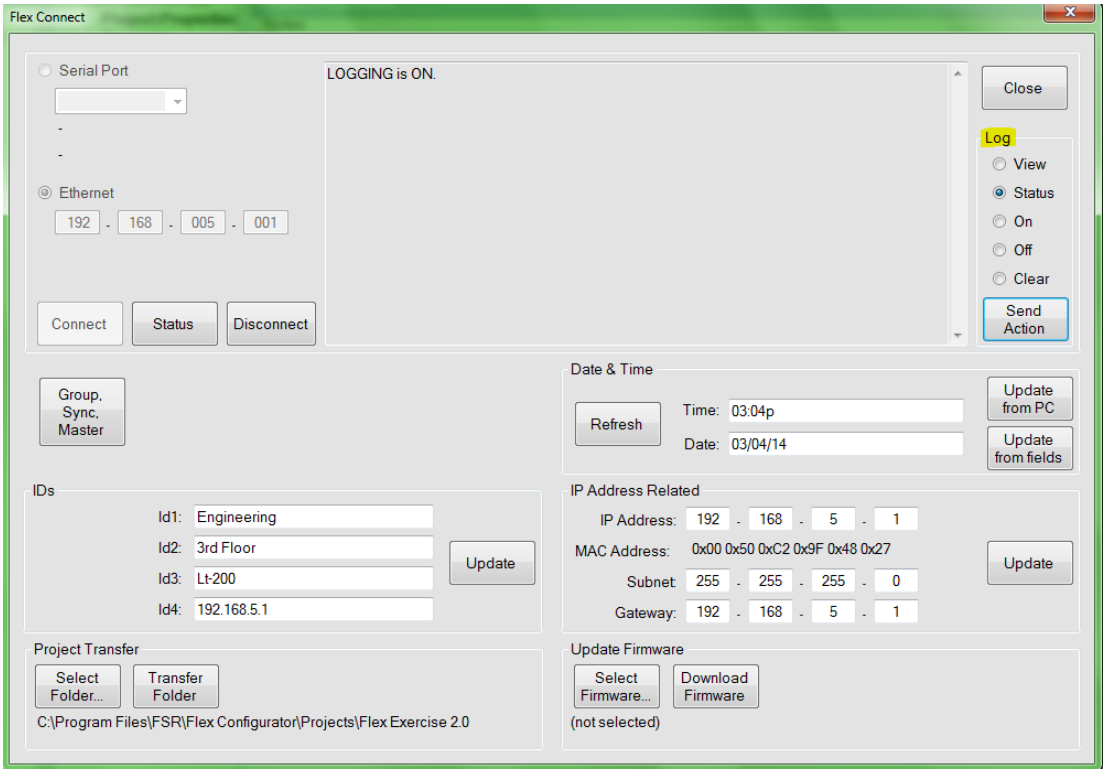
Reset button will reboot the Flex panel.

Group Reset will reboot all Flex panels within the same group.\

Log Command while connected through the Connect Window of Flex Control Builder:

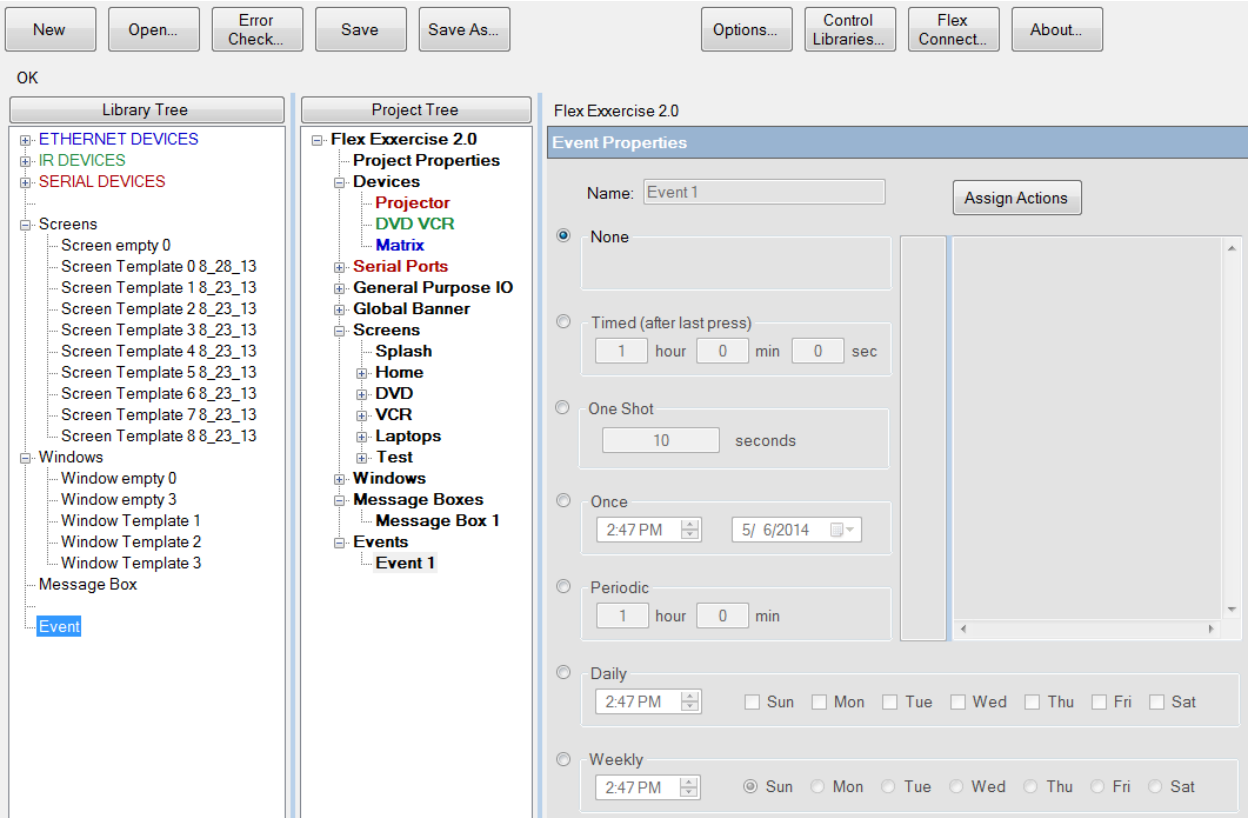
Once a connection has been established, the Log file can be viewed.

Should a log command be given to a button action as was discussed earlier in this exercise, it could be viewed using this version of the Flex Control Builder. Select the View option then click on Send Action. Shown below is the status of Logging for that particular Flex Panel. Log files can be set to On, Off, or cleared entirely by simply selecting that option and clicking the Send Action button.



Events

Using the scheduler



The FLEX has a real-time clock and event timers built into the system The event timers can be used to perform any actions that a button can perform

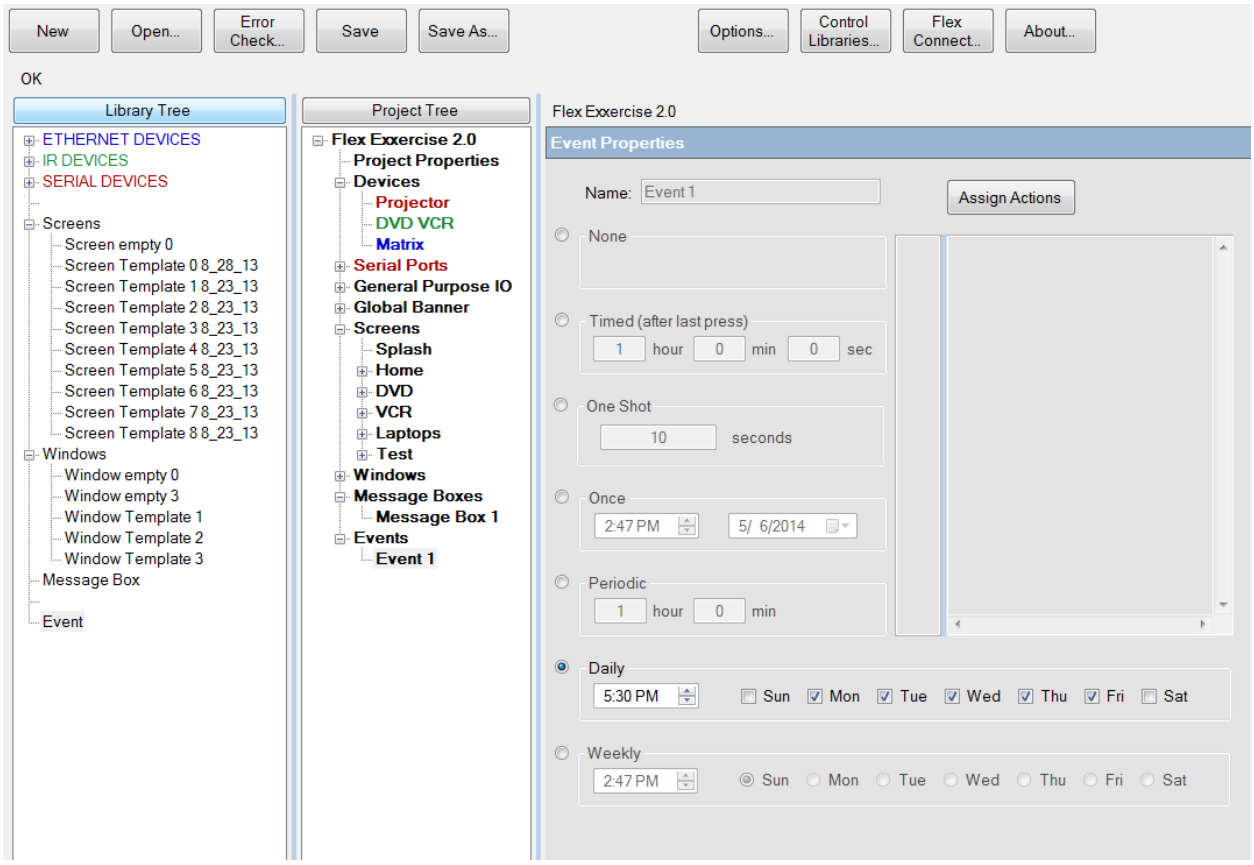
Drag and drop an Event from the Library Tree to the Project Tree. Select the event (Event1) from the project tree. From here we can set one of the many timed events types. After which actions can be assigned to the event as yo would assign an action to a button command.

Select scheduler Event 1 and click on the event type you wish to schedule.

You have several options for when an event can occur. They are: Timed After last Press, One Shot, Once, Periodic, Daily, and Weekly. You also have the option of deleting an event, by selecting the None option.

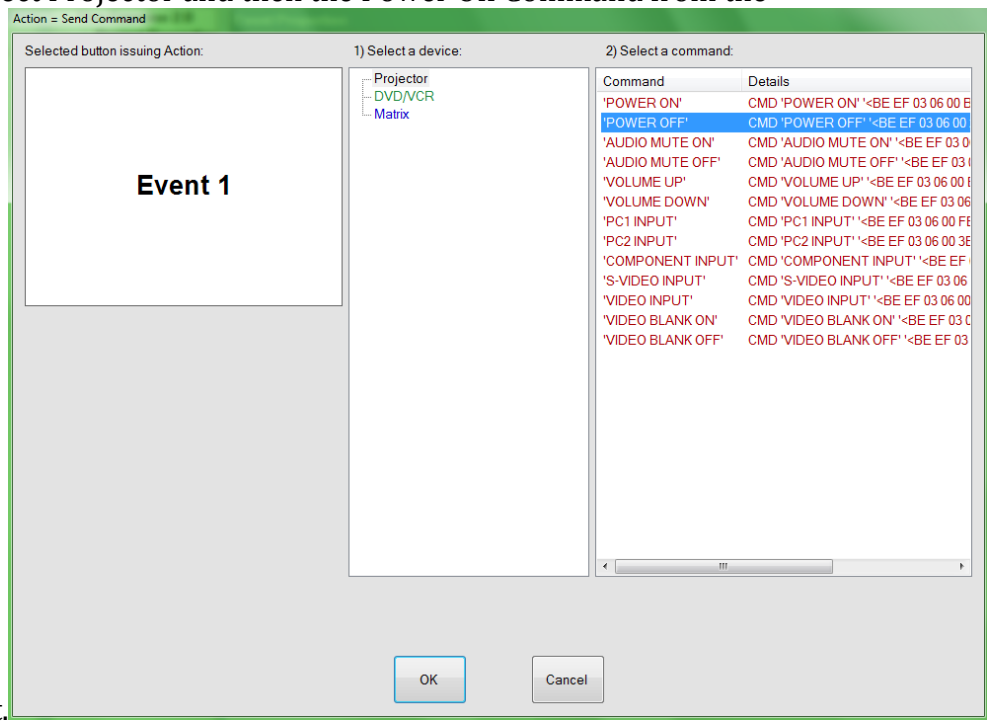
For this example let's set up a daily event. The event is to power down the projector at 5:30 PM every weekday.

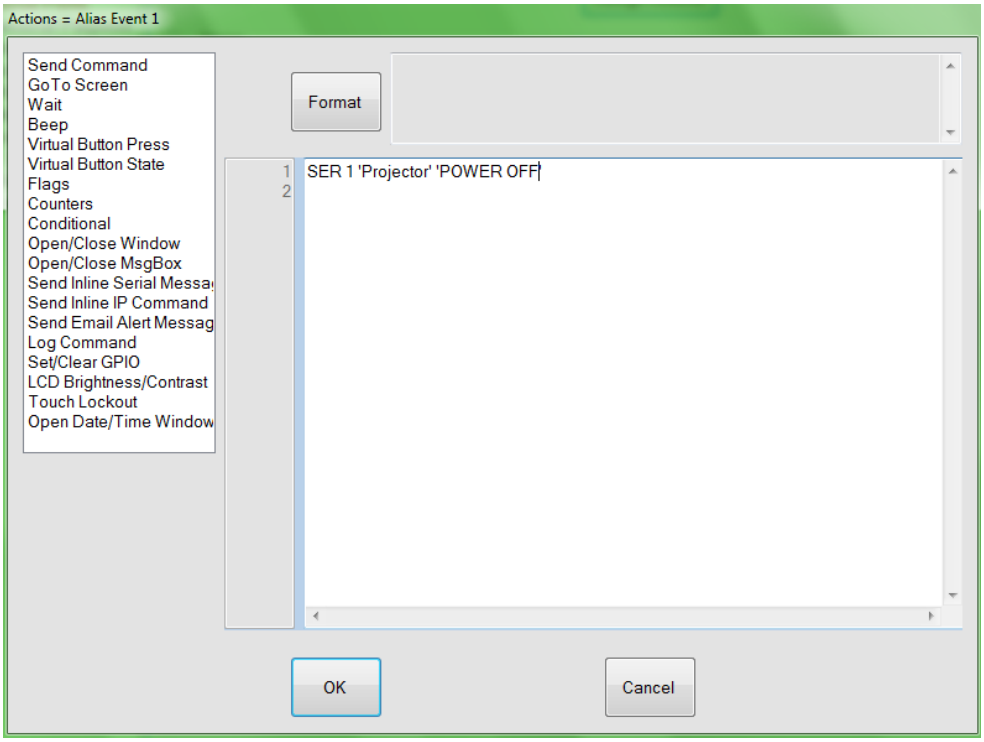
Create an event by dragging event from Library Tree to the Project Tree. Now select the event on the Project Tree. Select the daily option and then complete the selection for time and days of week. Click on Assign Actions.

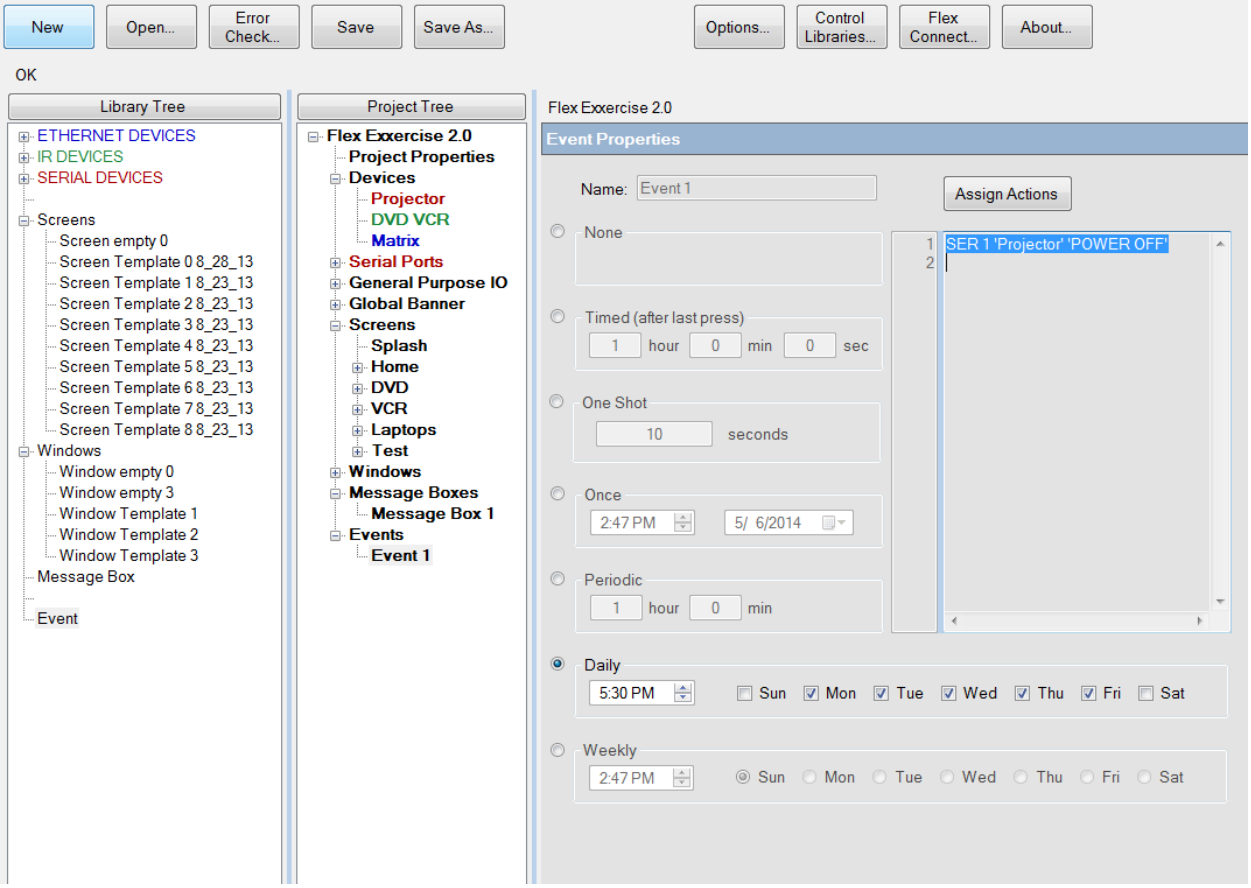


Click on ‘Send Command’.

Select Projector and then the Power Off Command from the list.

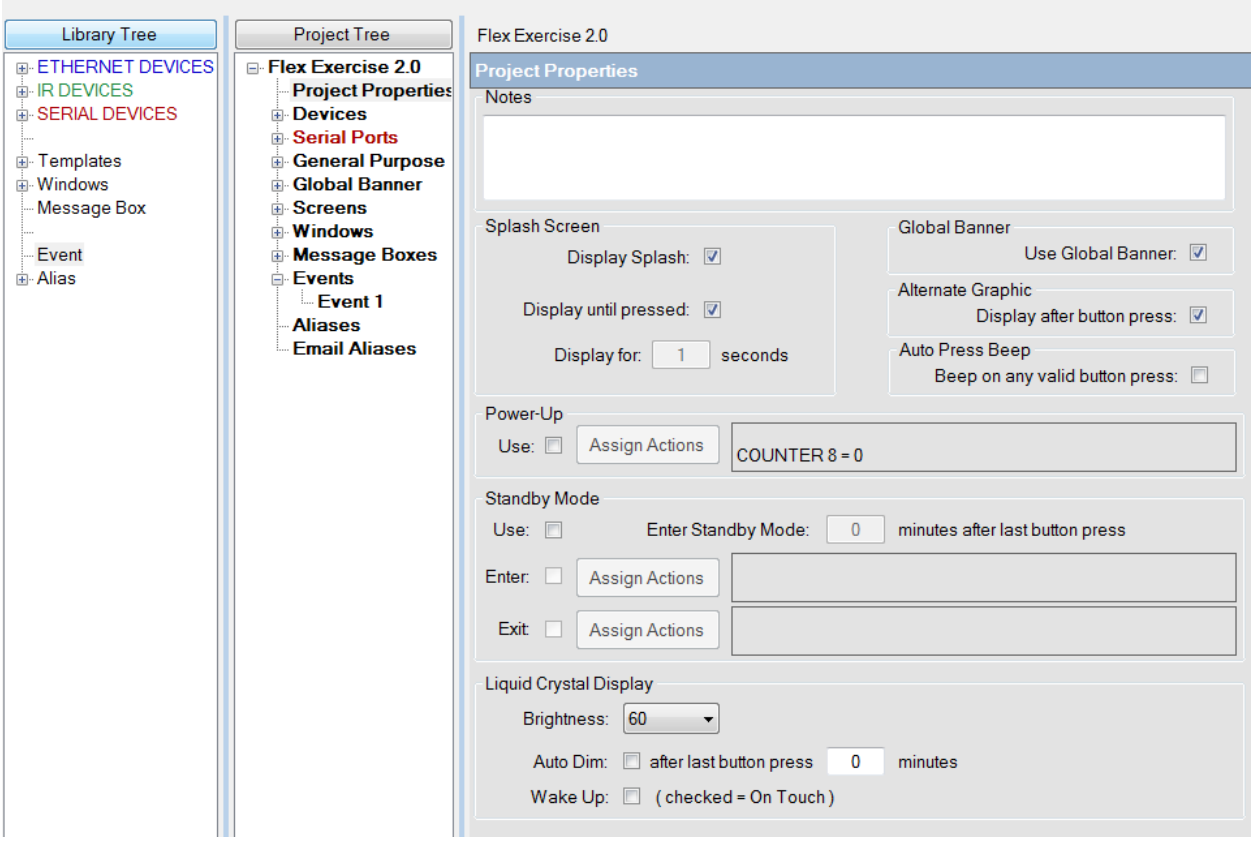






**** Note: You should only use this type of function when there are discreet Power On and Power Off commands. Typically, serial controlled devices have these commands, but IR controlled devices may not. In this particular project we had selected a DVD/VCR which did not have a discreet power off command. Therefore it is best not to add a PWR command here for the DVD/VCR which might just end up turning the unit on at 5:30PM.

Using Power up actions.



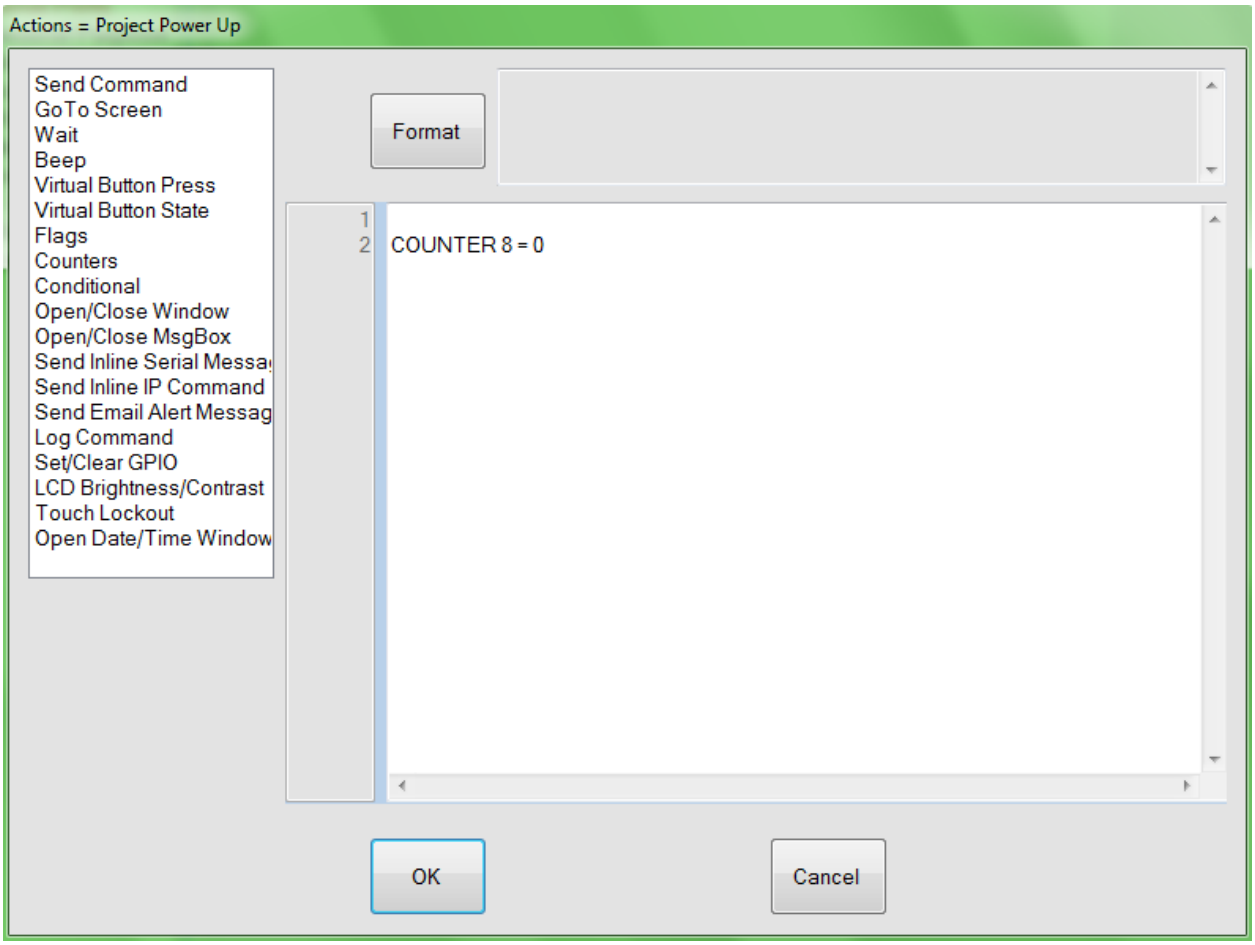
The Flex has the option of executing actions when the power is applied to the panel. In the event of a power outage, the Flex can perform a series of actions to put the components in sync with the control system.

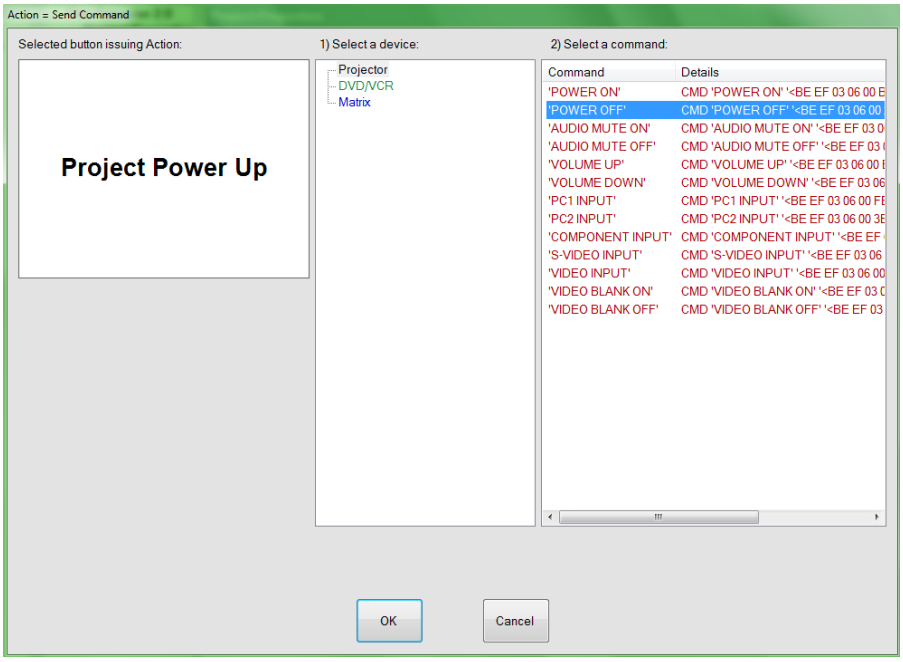
In this example when power is applied to the Flex, we want to make sure that the Projector is off. This will ensure that the projector is turned on only when the System Power button is pressed.

**** Note: You should only use this type of function when there are discreet Power On and Power Off commands. Typically, serial controlled devices have these commands, but IR controlled devices may not.

Click on Project Properties in the Project Tree.

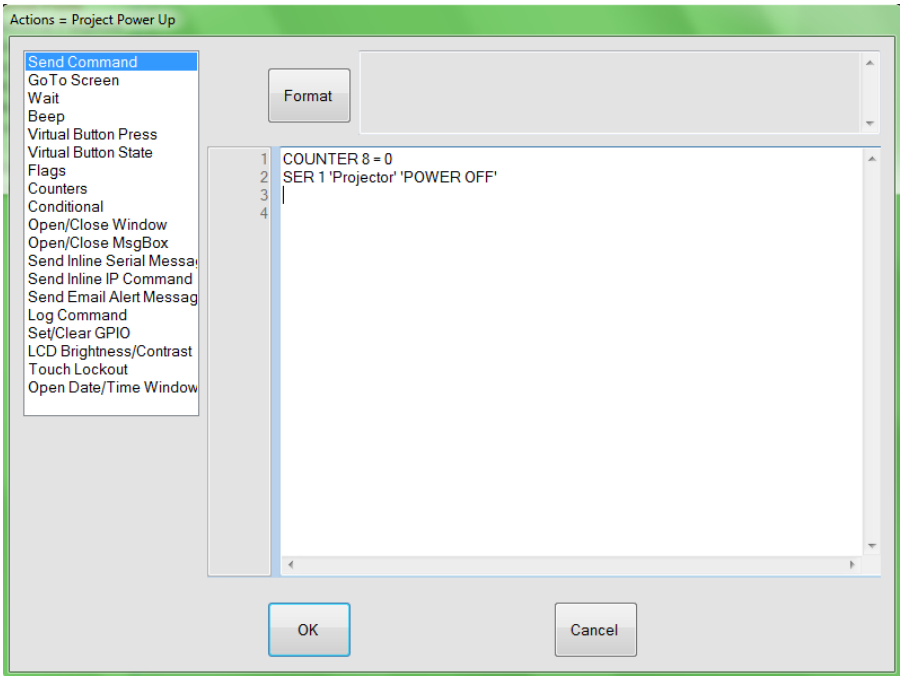
Click the Power-Up Use box, and then the **Assign Actions** button.





Note: Since we have defined our volume setting, counter 8 is set to 0.

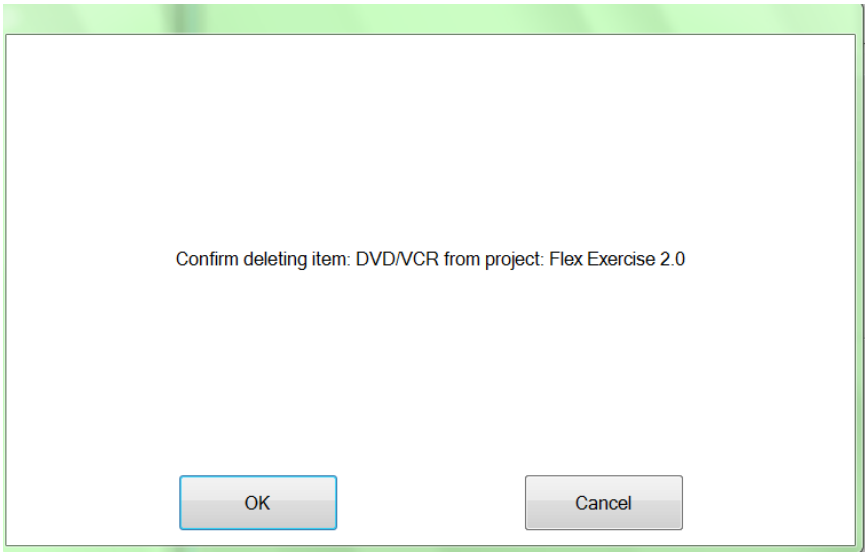
From here, you can assign any set of actions just like any other button.



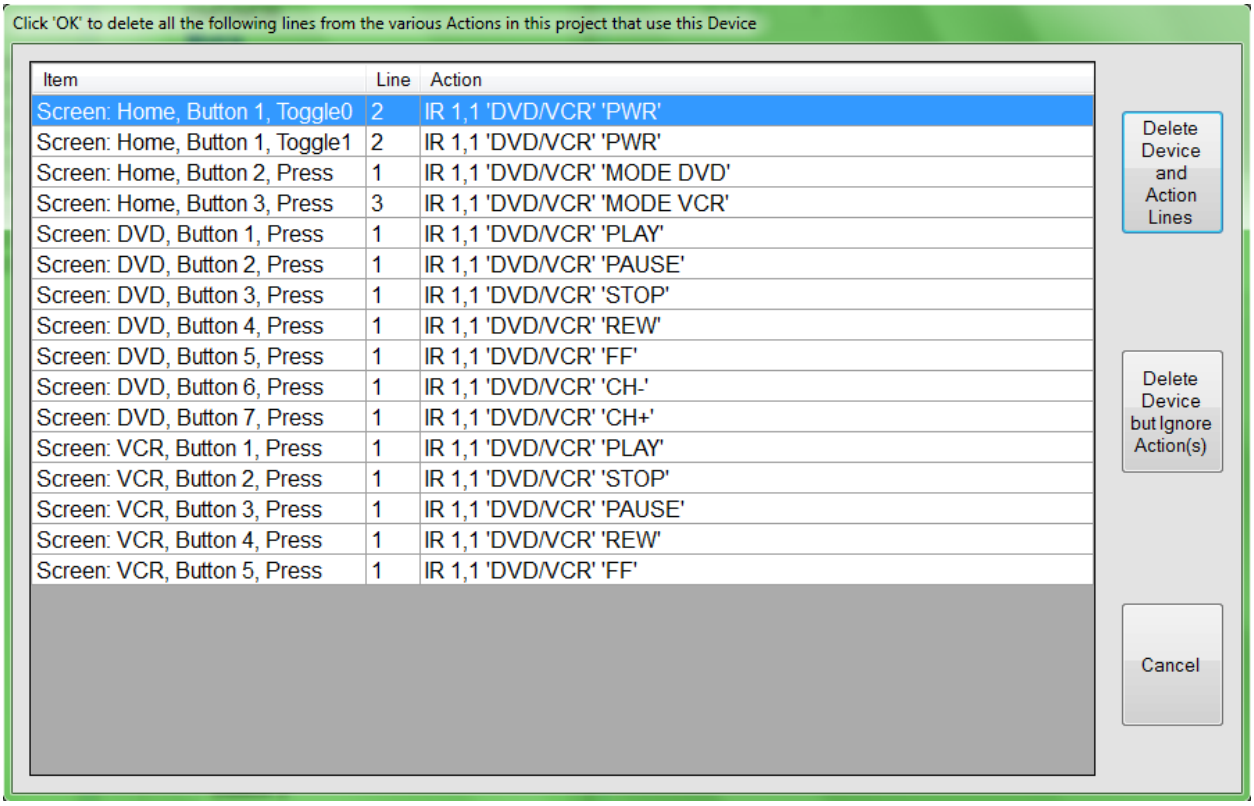
Deleting Devices From Project

To delete a device from a project is a simple task, and will give you the option to delete all associated commands that are associated with that device.

Right click on the DVD/VCR device to delete, and select Delete Item and see the confirmation window below.



Click OK and the following will appear.



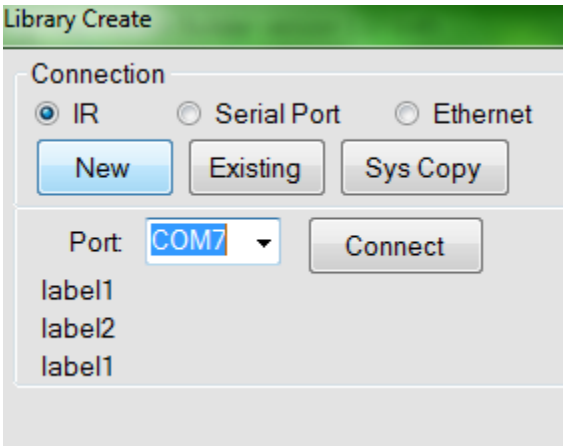
Note the listing of all the places where this device is used within the project, and the options to delete device and all actions or to delete the device but Ignore Actions. . We will not actually delete the device in this exercise so click cancel.

CONTROL Libraries

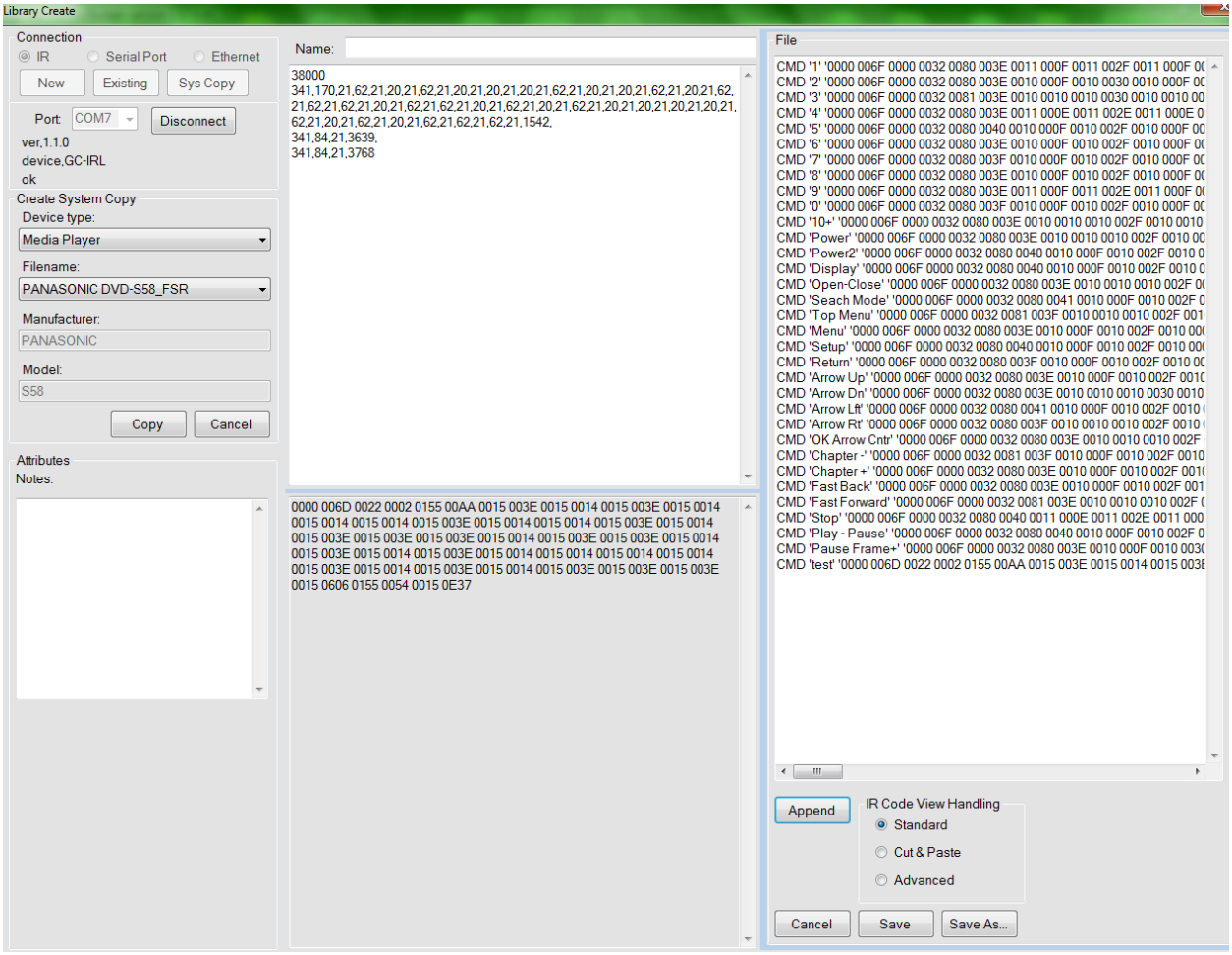
Control libraries can be updated from FSR through the ABOUT screen. All library files created by FSR will have the suffix FSR at the end of their name in the library file. In order to modify any of these libraries you must first do a Sys Copy from the Library Create screen. New Libraries may be created by clicking the new button and Libraries you have created maybe edited by clicking the Existing button. For this exercise we will add to an existing FSR library file.

For IR commands to be learned, a learner must be attached to the computer prior to launching the Flex Control Builder. If this is not the case now, simply save the project, close the program, re-

launch the Flex Control Builder, right click in the Project tree column and select **RECENT PROJECTS**.



Now you can type a comman into the NAME box, then aim the remote at the learner, press the desired command button and the code will appear in the window. Once satasfied, click on the Append button. Add additional command if necessary and once complete, click on the save or save as button and the library will be available in the control devises list.



Similarly, IP and Serial libraries can be modified in the same manner as IR by using copy and pasting or typing the commands in directly.

Input Windows

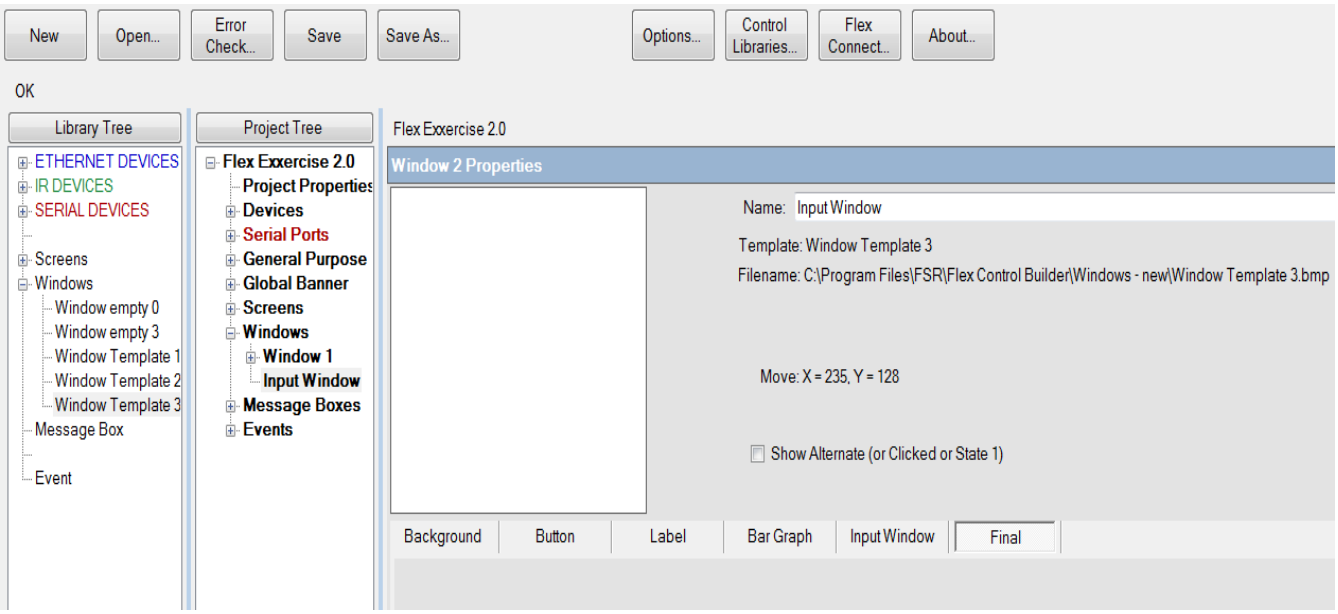
Input windows can be created for various control input functions such as dialers, pin security, or lighting control for example.

Add a new device to the project. Add the

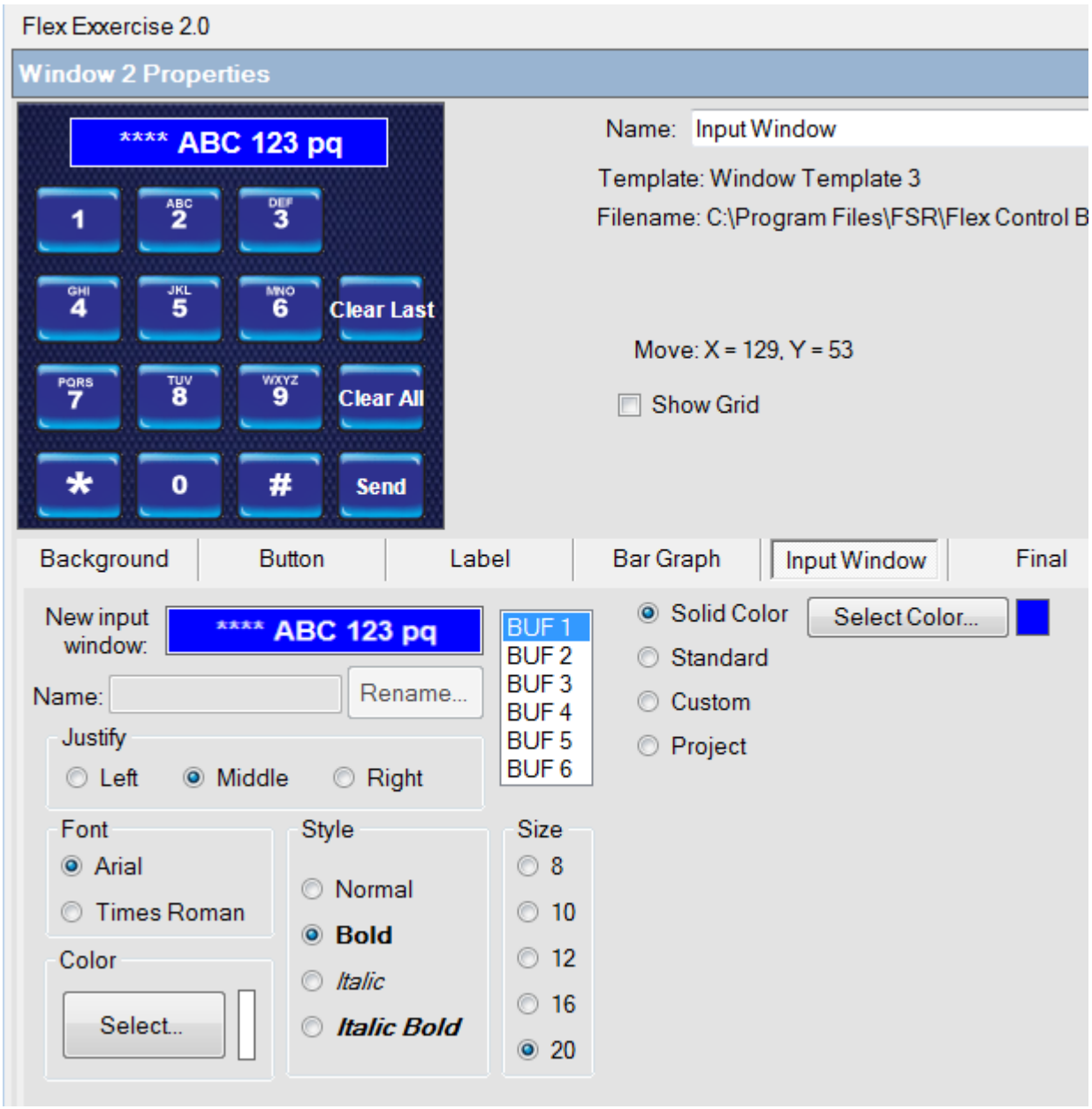
to the available devices for this project, and rename it Dialer.

For this example select Window Template 3 and then rename it Input Window.

Input Windows

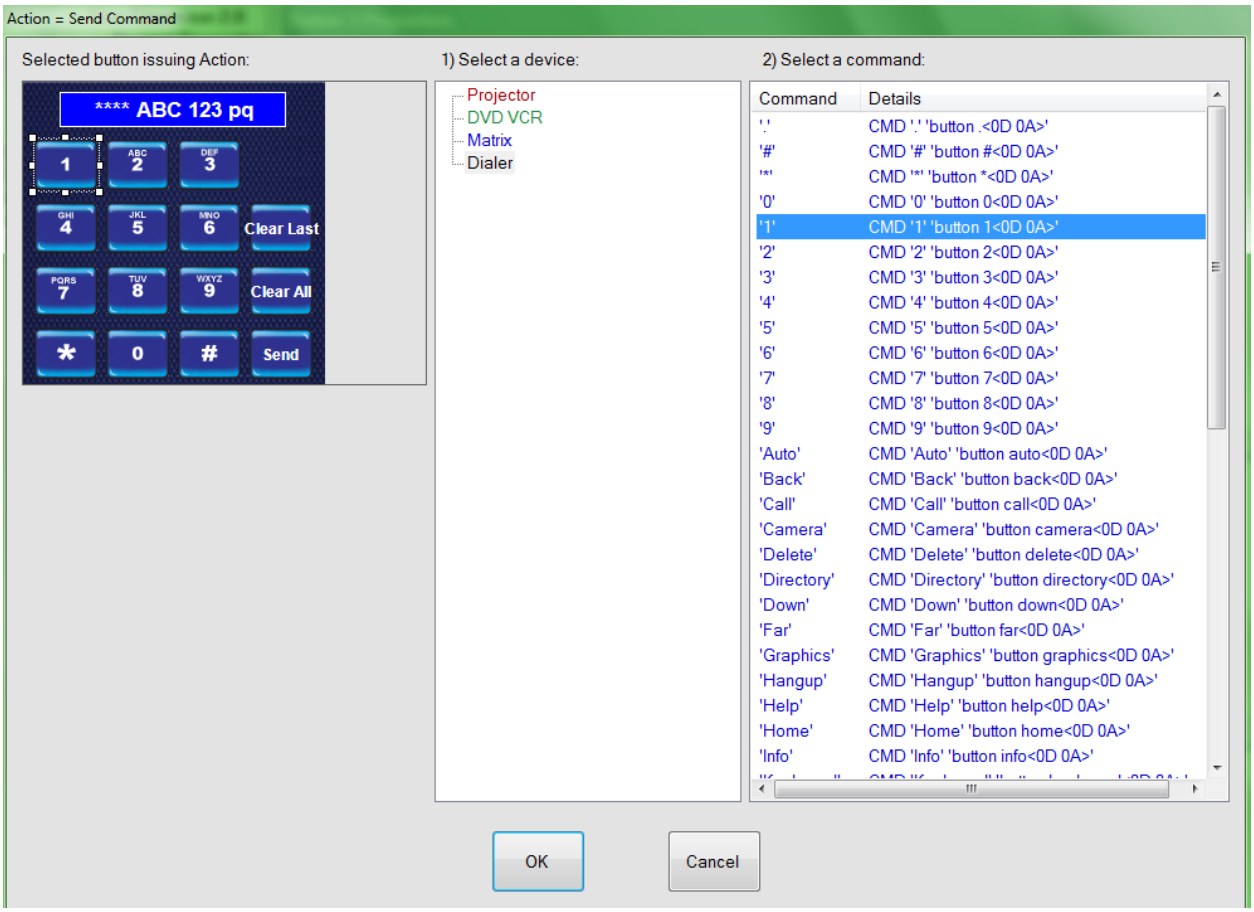


Select a background, and add buttons. Then select Input window and drag and drop an input window in place. Refer to screen below for options and layout of buttons.



Now click on button to add command actions.

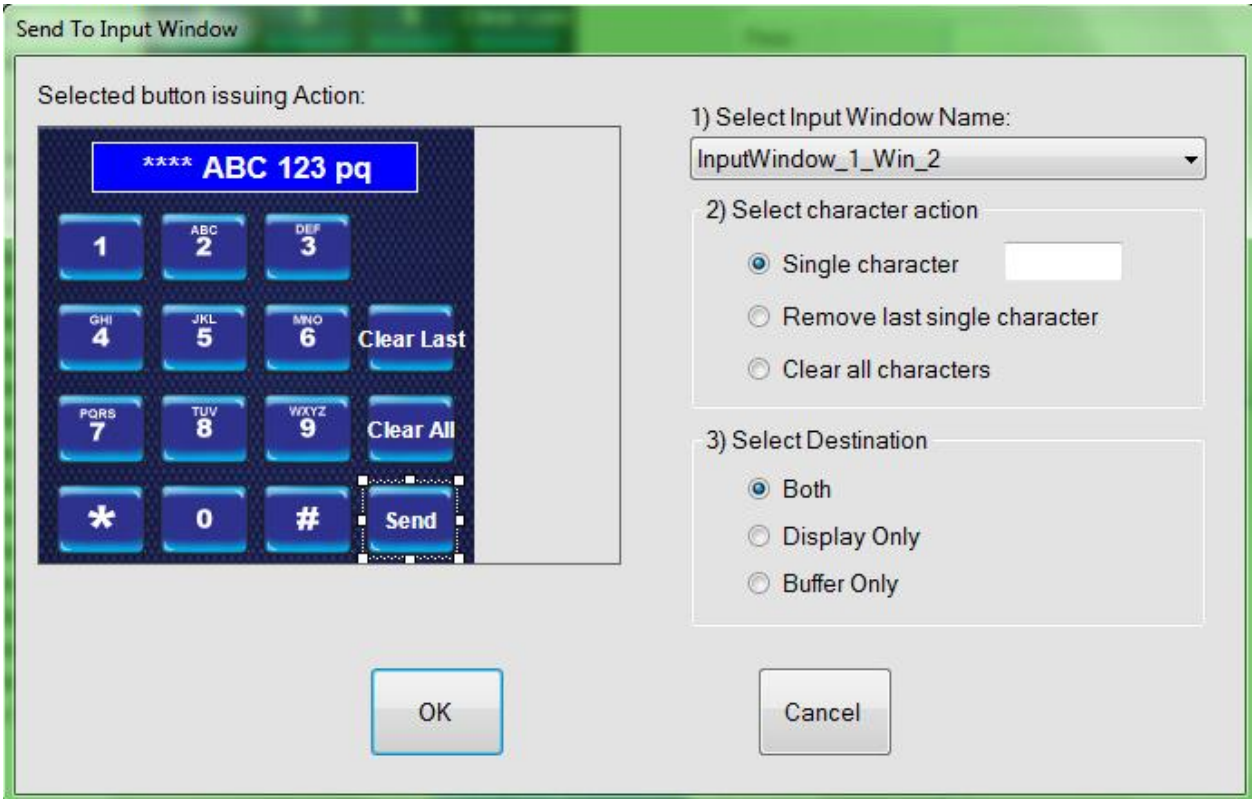
Click on button 1 and click on send command. Select the Dialer and then the command shown below.



Repeat adding commands to buttons 2- 9 and 0.

For demonstration purposes the # and * Buttons will not be assigned commands.

Select the Send button now and select the Send To Input Window command.

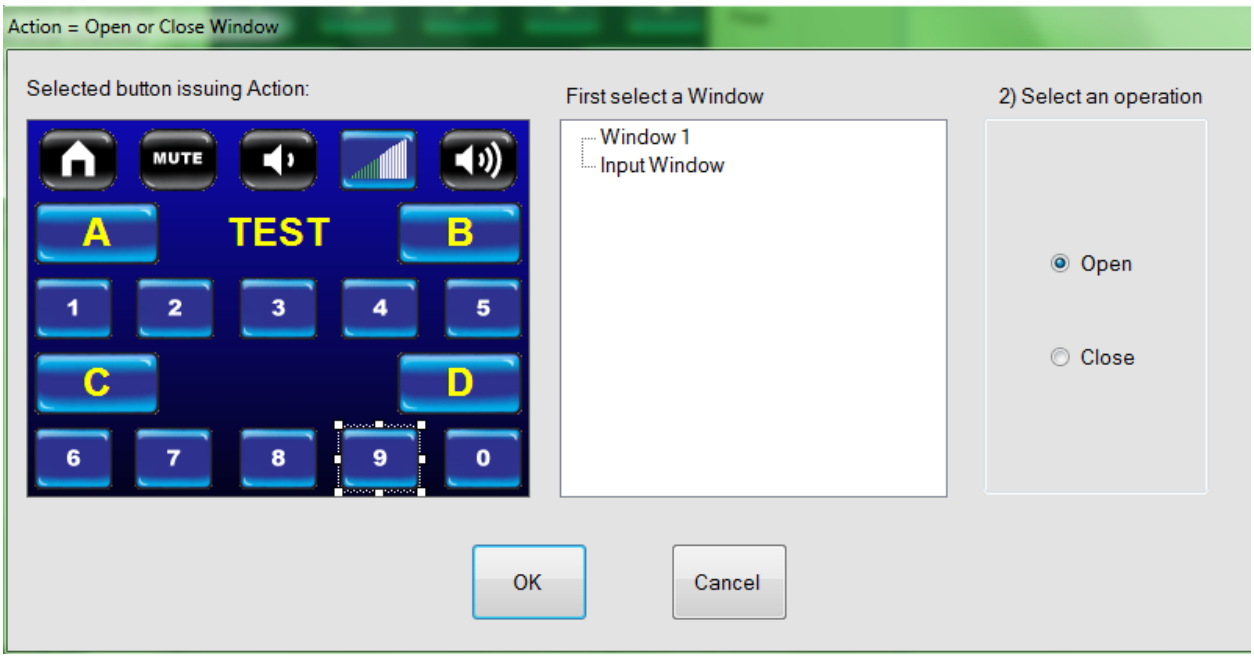


This selection will send the character to the input window display as well as the buffer.

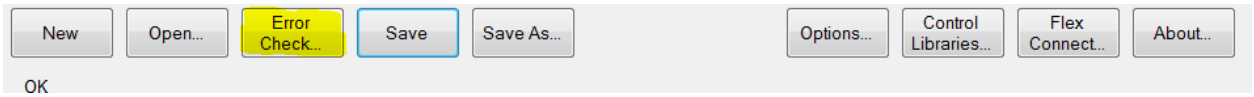
Next select the Clear All button and select Clear all characters.

Clear Last will obviously be set to remove last single character.

To add this input window to the project, select a button from the TEST screen for example.



ERROR CHECKING



At any time during the building of a project you can click on the ERROR CHECK button. Should there be a potential error, the error will be listed. To view the ADF file, right click in the Project Tree column and select View Current ADF.

There you will see the entire ADF file where you can scroll down to the line number where the error was reported and view possible clues as to where the error was created. Additionally, as you exit a command box you may press on the Format button. This will reveal any errors as you proceed to create the project.

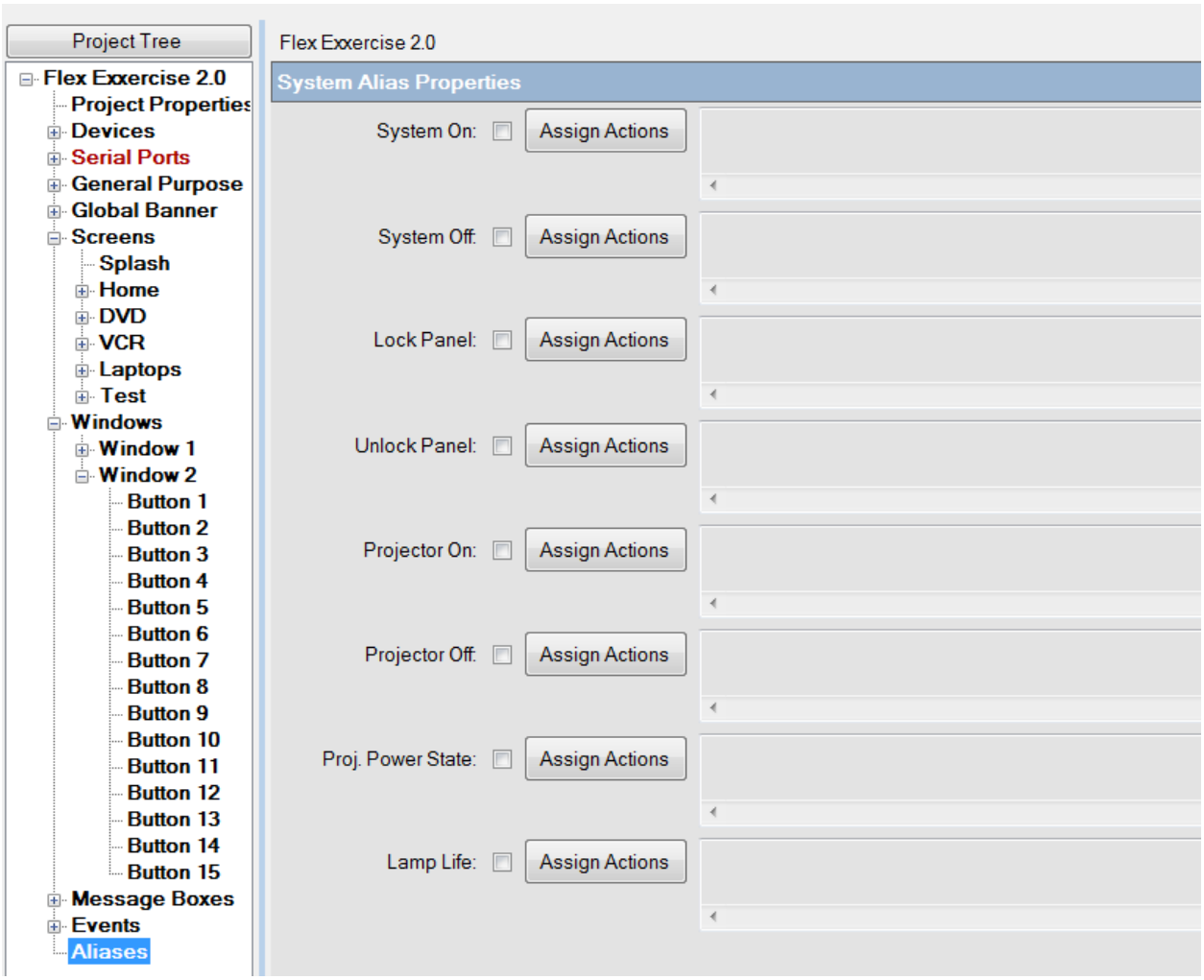
```
BEGIN
   SYS ADMIN BEGIN
      PID = '16:06 5/6/2014 Flex Control Builder.adf'
      POWERUP ACTION = COUNTER 8 = 0
      AUTOBEEP ENABLED
      AUTOACK ENABLED

      IO 1 OUTPUT

      IO 2 OUTPUT

      IO 3 OUTPUT

      IO 4 OUTPUT

      SERIALPORT 1
         BAUDRATE = 19200
         DATABITS = 8
         STOPBITS = 1
         PARITY = None
```

Alias

The Aliases are to be used in conjunction with the FLEX Manager program and will be required to utilize the commands contained in this module.

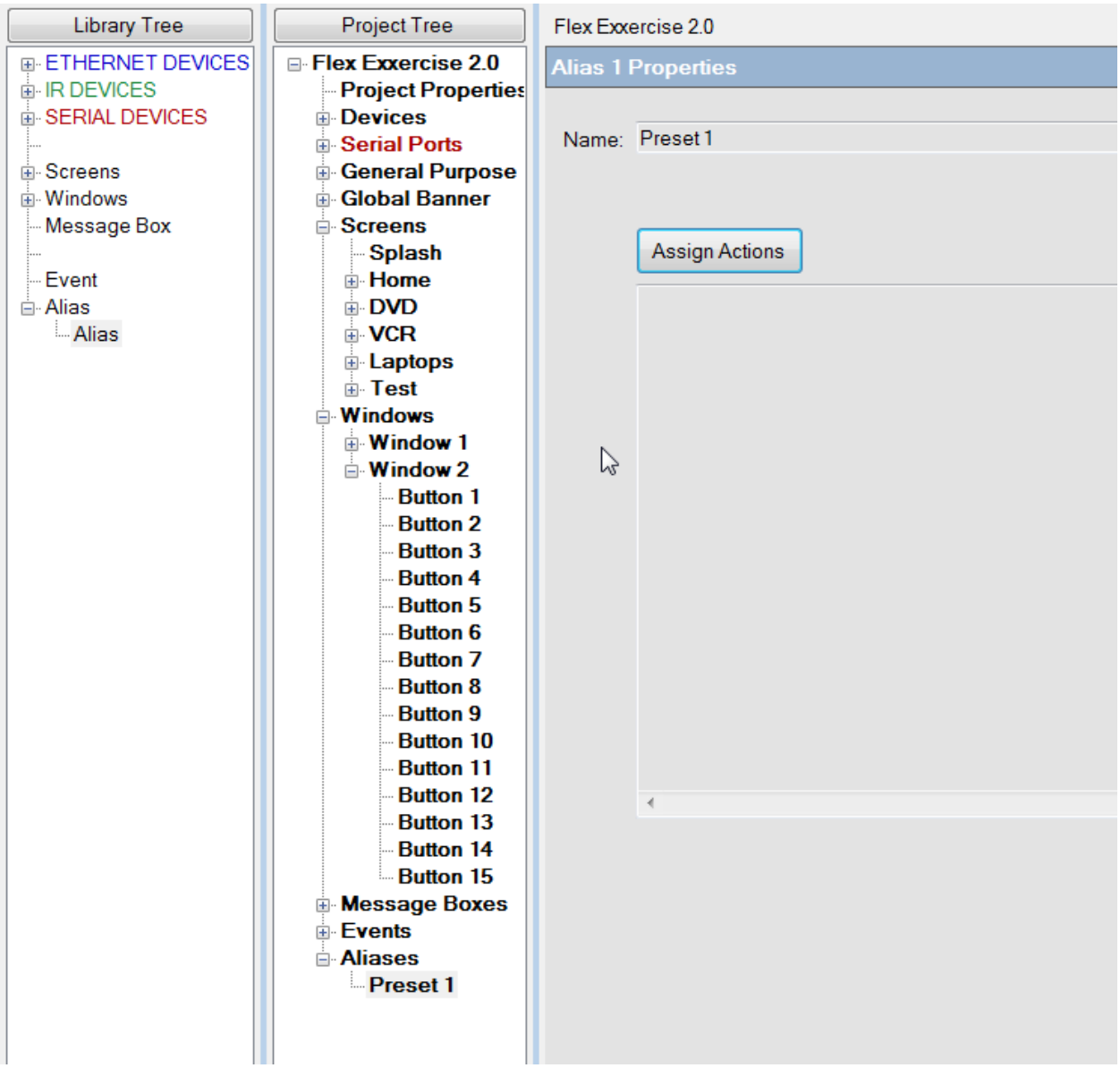
16 aliases can be defined, however the first 8 have fixed identifiers and serve as the most common alias names to use within the FLEX Manager program.

From the Project Tree. select alias and the following screen will appear.



From here, select the alias to define check box, then assign actions as you would any normal button press.

Should a preset alias be required, expand the Alias branch on the Library Tree and drag the alias to the Project Tree. The following screen will appear.



The preset can now be named as it would be broadcast from the Flex Manager Program, and actions can be assigned as you would for a normal button press.

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