LIT1368G Flex Training Manual

Advanced Flex Control Builder Guide: Training Manual

Table of Contents

LIT1368G Flex Training Manual

LIT1368G Flex Training Manual

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.
- 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.
- 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 link to FSR website for updates to Flex Control Builder, Library files, and 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 the front Flex panel will be repeated out of all 4 IR ports. 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.
- Count up or count down timers and real time clocks can be added to any screen.
- Easily add “Comments” to any command line within a project.

DEFINITIONS

Definition of terms used in this Tutorial.

Flex Panel

A FLEX-LT Self Contained Control System.
Depending on the model, it may have:

- A Touchscreen
- 2 or 4 IR ports (output only)
- 2 or 4 Serial ports
- 4 GPIO ports
- An Ethernet port

Flex Elements

The graphic elements that can appear on the Flex's touch screen.
Possible Flex Elements are: Screens, Windows, Message Boxes, Buttons, Bar Graphs, Labels, Input Windows, Clocks, and Timers.

Device

An Audio / Video unit. A Flex can potentially communicate with a Device over IR, Serial, or Ethernet depending on what method(s) that Device supports.

Control Library

A collection of Commands that control a Device. Created by the User.
Sample Commands are: Power On, Power Off, Volume Up, Volume Down, Mute On, and Mute Off.

Control Library from FSR

A collection of Commands that control a Device. Created by FSR, found in the Update and About section of the FCB.
Sample Commands are: Power On, Power Off, Volume Up, Volume Down, Mute On, and Mute Off.

Firmware

An FSR supplied file that enhances the raw capabilities of a Flex Panel.
A Flex without Firmware can only communicate via a Serial connection. (A Flex with Firmware can communicate via a Serial or Ethernet connection.)
When a Flex boots, the Firmware loads, parses, and runs the current ADF file loaded.

Project

Defines how the Flex Panel will look as well as how it will behave.
A collection of files (Images, concatenated Control Libraries, and ADF) that allow a Flex to perform:

- customized Device commands
- customized Menu and Screen layouts
- customized Actions

RMC

Abbreviation for “Right Mouse Click”.

LIT1368G Flex Training Manual

TRAINING REQUIREMENTS

This is a hands-on exercise to familiarize a Technician with the entire FLEX system.

The following equipment is required:

- FLEX LT-200 Control Panel
- Laptop or Desktop PC
    - running Windows XP, Vista, Windows 7, Windows 8, Windows 8.1, or Windows 10
    - that has connectivity to the Flex by one of the following methods:
        - Serial cable. (Requires either a Serial Port on the Laptop or Desktop PC or a USB to Serial Adapter.)
        - Ethernet cable. (Requires the Laptop or Desktop PC to have an Ethernet Port on a network in the same domain as the Flex.)
- Flex Control Builder Software

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

Flex Control Builder Installation

Run the installer program as System administrator and use the default settings.

Note: The Flex Control Builder Installer program will not overwrite or uninstall any previously created Projects or Control Libraries.

Checklist of Things to do after FCB Installation for first time User

1. Open the FCB and on the "Update & About…" dialog, perform "Get Library Files".
   This will download the current FSR supplied Library Files to your Laptop or Desktop PC provided you are connected to the Internet and our website is running.

2. Open the "Sample Project".
   Click open the branches of the Screens to explore each Screen in the Project.
   Feel free to resize Buttons and move them around.
   Do not Save the Project.

3. Click on the "Flex Connect…" dialog and perform a "Connect" by either "Ethernet" or "Serial"Depends which way you have your Flex connected to the Laptop or Desktop PC.
   Doing this will allow you to see what version of Firmware the Flex Panel is running.

Finding the IPv4 Address of a Flex IP

There are 3 ways to get the IP Address of the Flex.

- Press the Touch Screen of the Flex in an empty section of a Screen for 10 seconds until a "Sys Admin – Network" dialog appears

- Press the Touch Screen while a reboot is in progress. A "Debug Output Window" will be displayed.

- Run the FCB, press the "Flex Connect…" button, and connect to the Flex serially.

Note: The default IP address of the Flex is 192.168.005.070

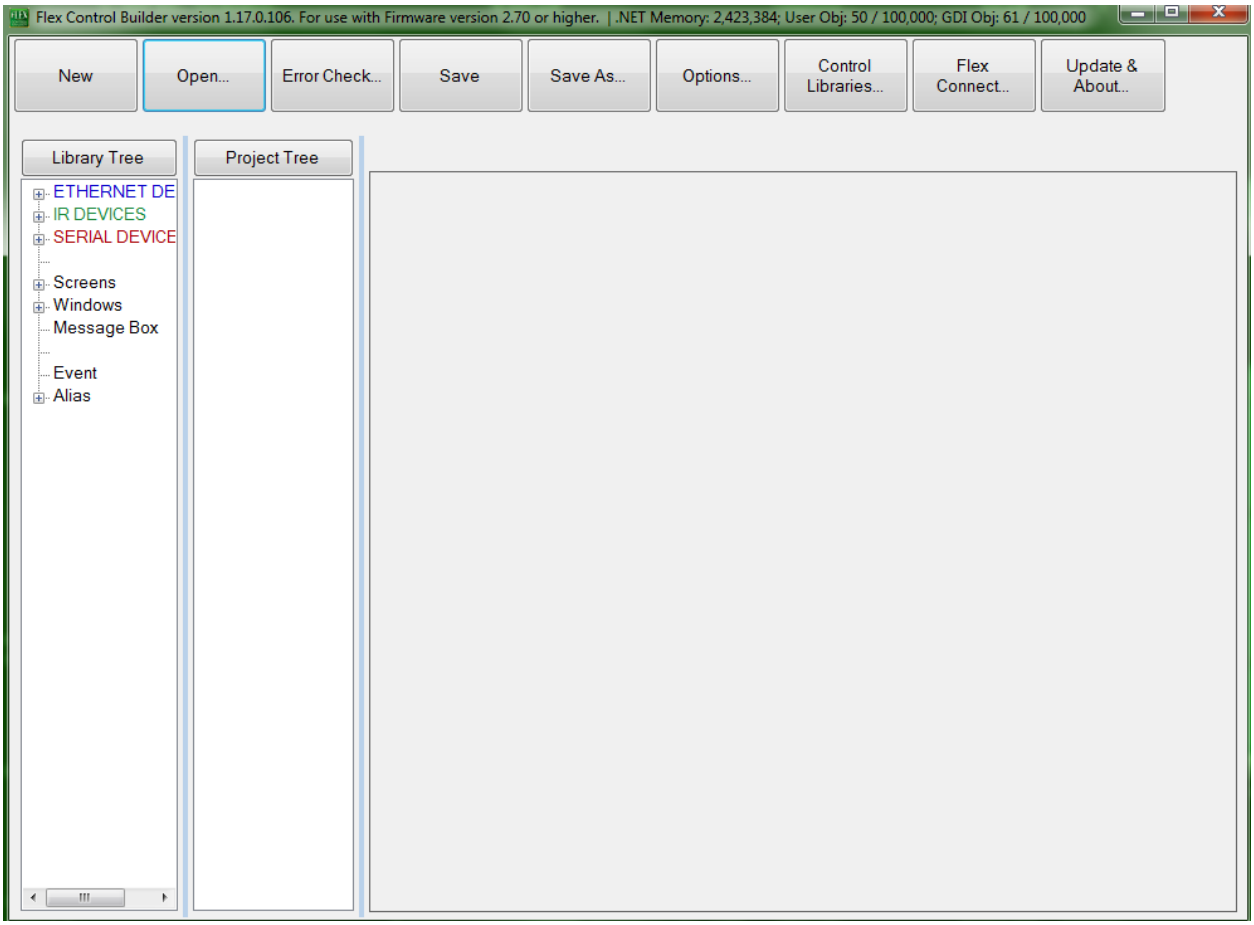
LIT1368G Flex Training Manual

Starting the Flex Control Builder

This is the Splash screen for the Flex Control Builder (or FCB) program.

After Splash screen has loaded, FCB main screen will appear as shown below:

LIT1368G Flex Training Manual



The main screen has the following features:

- Title Bar includes : current FCB Version,
  the version of the Firmware this FCB was tested with, and
  various Window's memory usage statistics (.NET Memory, User Objects, and GDI Objects).
  NOTE: If either User Objects or GDI Objects exceed 100K, Windows will close the Program.
  For this reason, do not open more than 40 Projects simultaneously in the same FCB.

Buttons to perform:
New – Create a new Project. The first step will be to create a name for the New Project.

Open… – Click Open to select and Open an existing Project from the list of Projects available.

Error Check – Check the current selected Project for Errors.

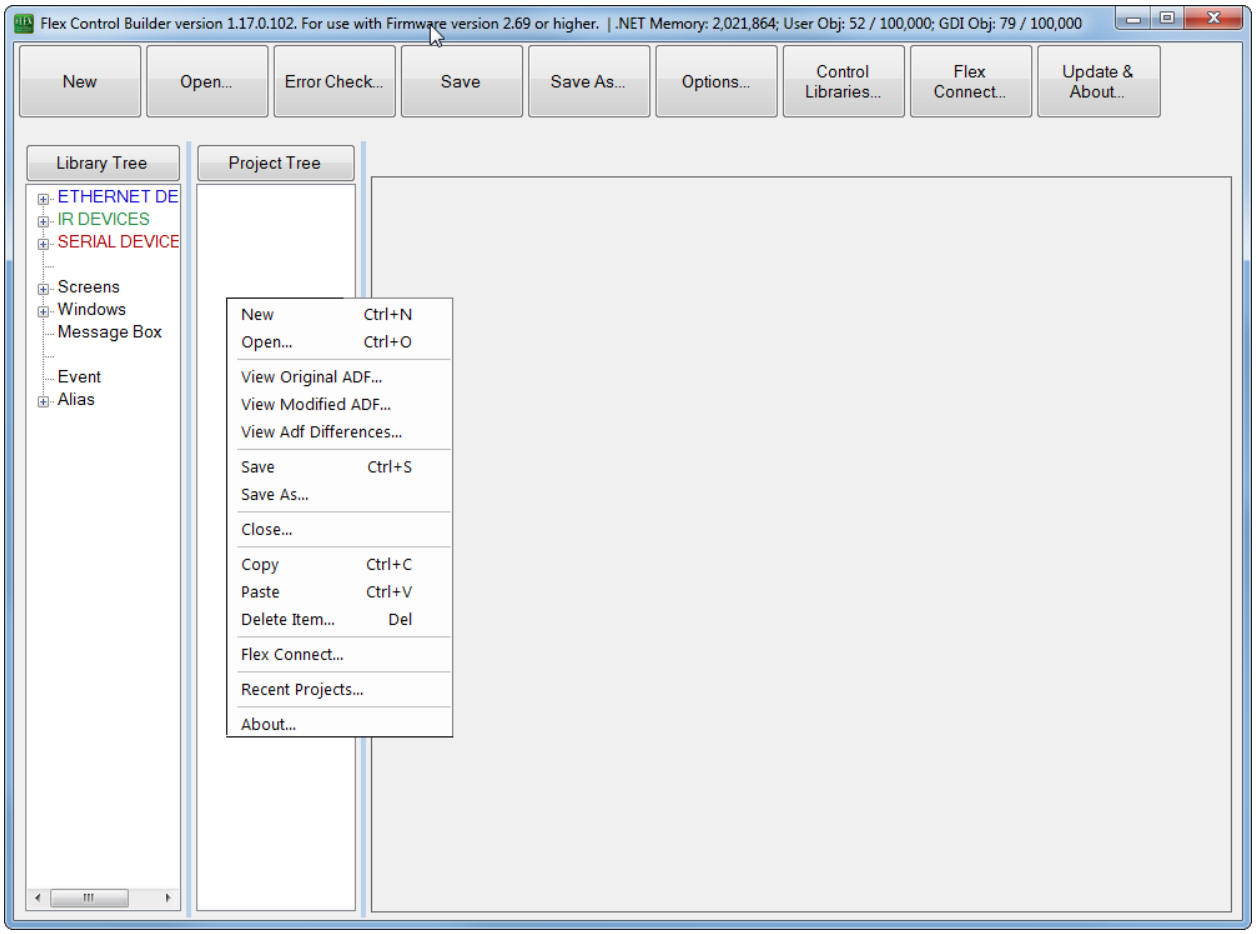
Save – Save the current selected Project under its current Name.

Save As… – Perform a "Save As" for the current selected Project and give it a new Name.
Options… Various default settings can be made here

Control Libraries… – allows for the creation and editing of a Control Library. A Control Library from FSR has to have a "Sys Copy" operation performed on it before it can be edited.

Flex Connect… –attach to a Flex panel via Serial or Ethernet connection, Download a Project, Upload a Project, Update Firmware, perform Log operations, or open dialog to perform "Group Sync Master".

Update & About… –Download Control Libraries from FSR, Download Firmware from FSR, or Check for an FCB Program Upgrade and Perform one if available (requires all Open Projects be closed).



- Menu operations (Right Mouse Click in the "Project Tree" area) to perform:
  New – (same as the "New" button)

  Open… - (same as the "Open…" button)

  View Original ADF… - shows ADF file in original state or since last Save.

  View Modified ADF… - shows ADF file in current state.

  View ADF Differences… - shows differences between original ADF and current ADF.

  Save - (same as the "Save" button)

  Save As… - (same as the "Save As…" button)

  Close… - Close the current selected Project. FCB will ask for verification before closing if any changes have been made to the Project.

  Copy – Copy current selected Screen or Window to clipboard.

  Paste – Paste Screen or Window to current selected Window from clipboard.

  Delete Item – Delete selected Flex Element from Project.

  Flex Connect… - (same as the "Flex Connect…" button)

  Recent Projects – show the 4 most recently Opened Projects.

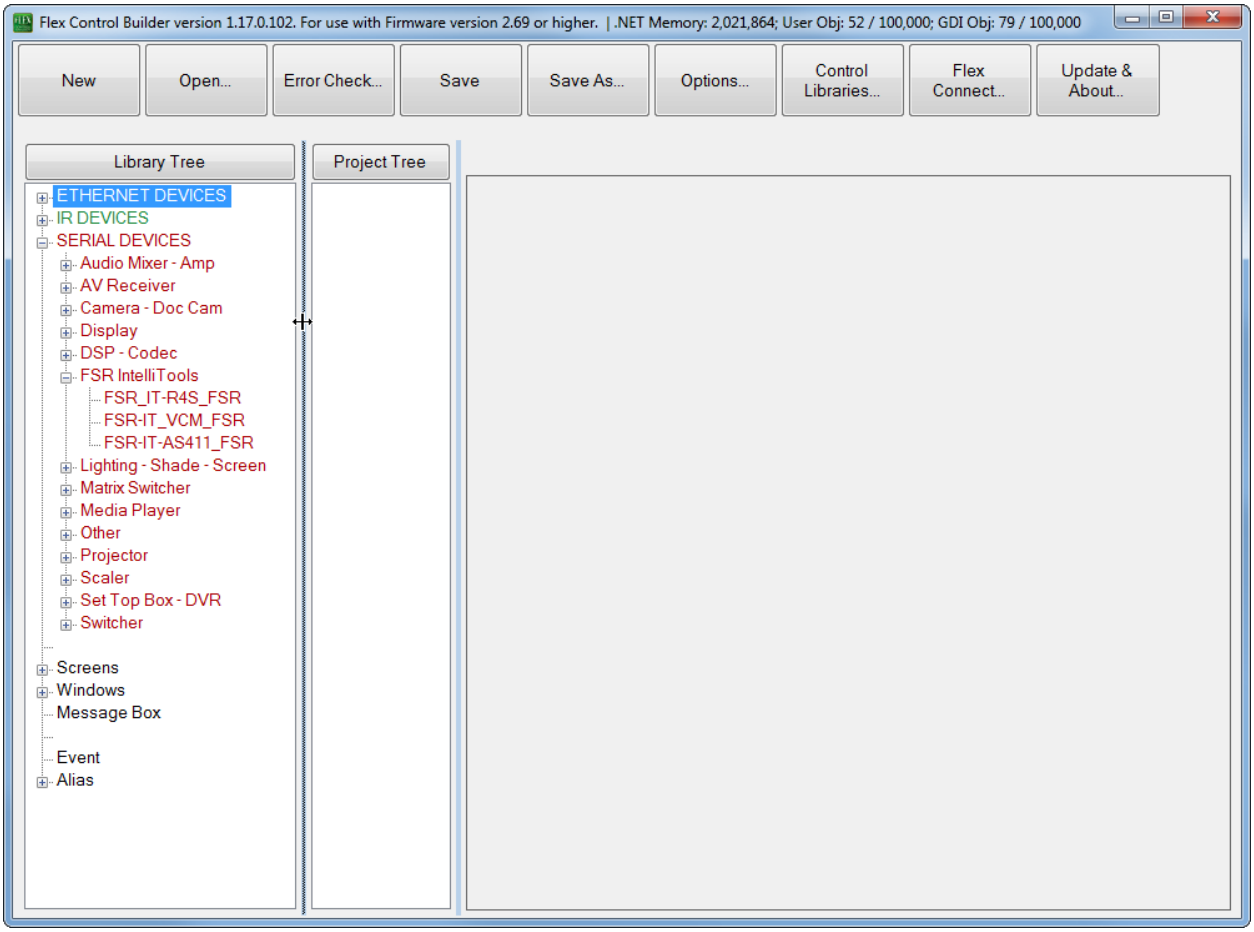
  About – (same as the "Update & About…" button)

- In the "Library Tree" area, open the branches for Devices, Screens, and Windows by clicking the branches with '+' signs as pictured below.

- Drag the horizontal bar found between the "Library Tree" and "Project Tree" to resize the areas.

- Click the "Library Tree" button to resize the "Library Tree" area so all open branches are visible.

- Click the “Project Tree” button to resize the “Project Tree” area so all open branches are visible.



Update & About

Perform various Update functions from this dialog.
This dialog also shows the FCB and Firmware version string for our current FBC.

"Check for Program Update" - (Button is disabled if any Projects are open.) Check for the availability of a newer FCB Program. If an upgrade is available a "Perform Upgrade" button will appear.

"Get Library Files" – Download the latest Control Libraries from FSR.
Button will only update FSR supplied Control Libraries.

"Get Firmware File" - Download a Firmware File from FSR.
This operation downloads the Firmware to your Laptop or PC.
(This operation does not download the Firmware to the Flex Panel. That control has to be done in "Flex Connect…")

Flex Connect

Open dialog box to connect to a Flex panel via Serial or Ethernet connection, Download a Project, Upload a Project, Update Firmware, perform Log operations, and/or open dialog box to perform "Group Sync Master".

Options

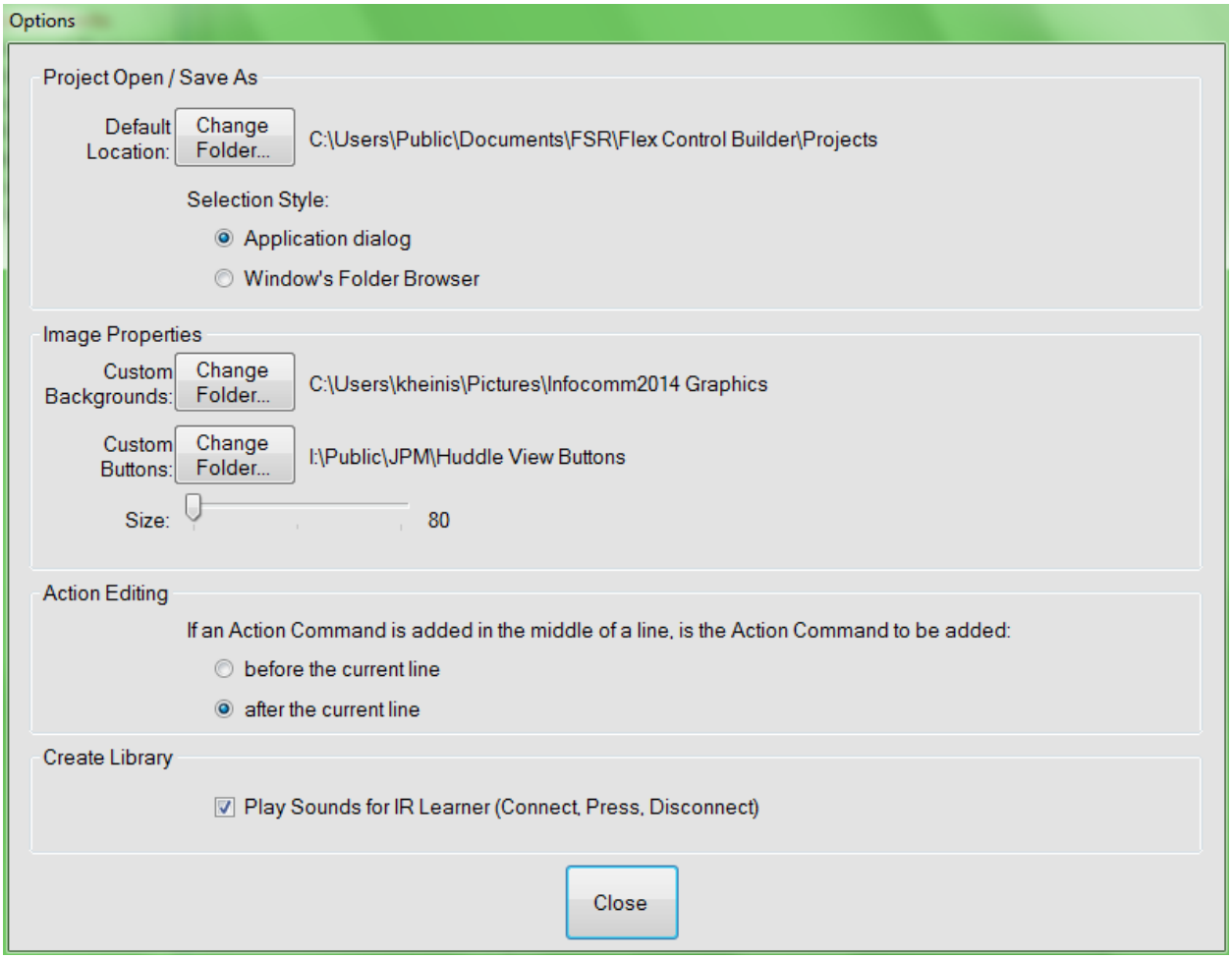
Select various options for how the Flex Control Builder will handle your project locations.

Select between the Application dialog and Windows Folder Browser styles.

Additionally, default folder Locations and Action Editing can be specified.

Action editing

Action editing is merely an 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 and in more advanced project creation.


Options
Project Open / Save As
Default Location:
Change Folder...
C:\Users\Public\Documents\FSR\Flex Control Builder\Projects
Selection Style:
Application dialog
Window's Folder Browser
Image Properties
Custom Backgrounds:
Change Folder...
C:\Users\kheinis\Pictures\Infocomm2014 Graphics
Custom Buttons:
Change Folder...
I:\Public\JPM\Huddle View Buttons
Size:
80
Action Editing
If an Action Command is added in the middle of a line, is the Action Command to be added:
before the current line
after the current line
Create Library
Play Sounds for IR Learner (Connect, Press, Disconnect)
Close

Walk Through for Creating a New Project

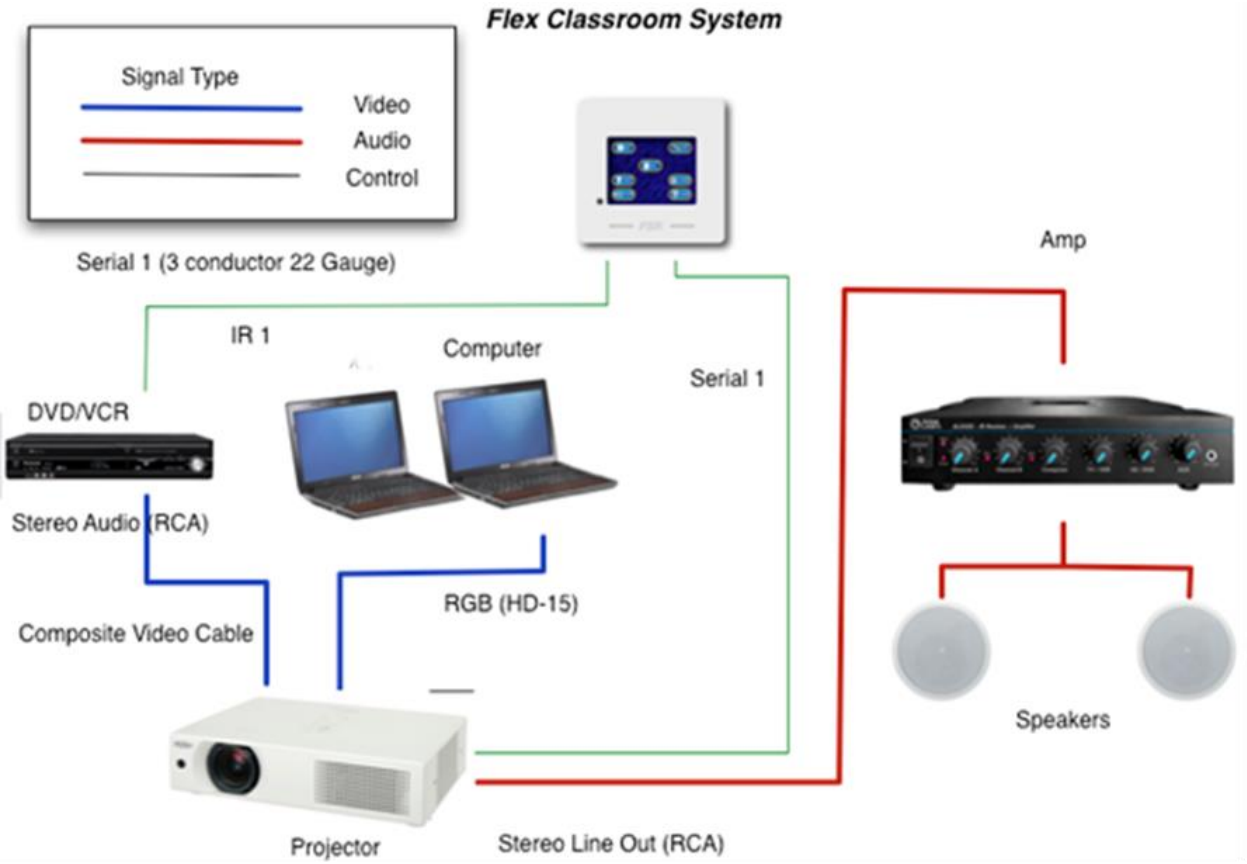
In this module of the Flex training program we will follow a step by step process to create a Project and download it to a Flex control system. A Project defines how the Flex panel will look as well as how it will behave.

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

LIT1368G Flex Training Manual

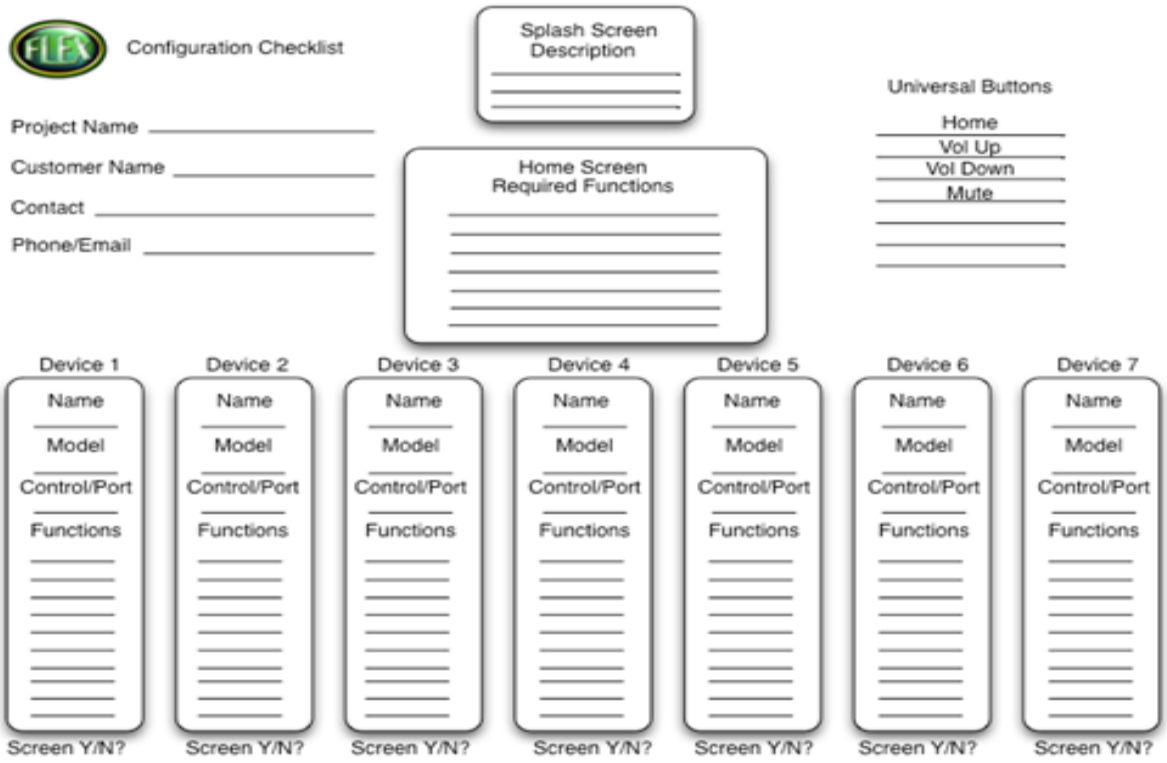
THE SYSTEM

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 to control. We have created a simple checklist which will allow you to visually see all the screens that you will need for each device you want to control.

In this system we will use the Flex to control the projector as our switcher and volume control. We will also 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

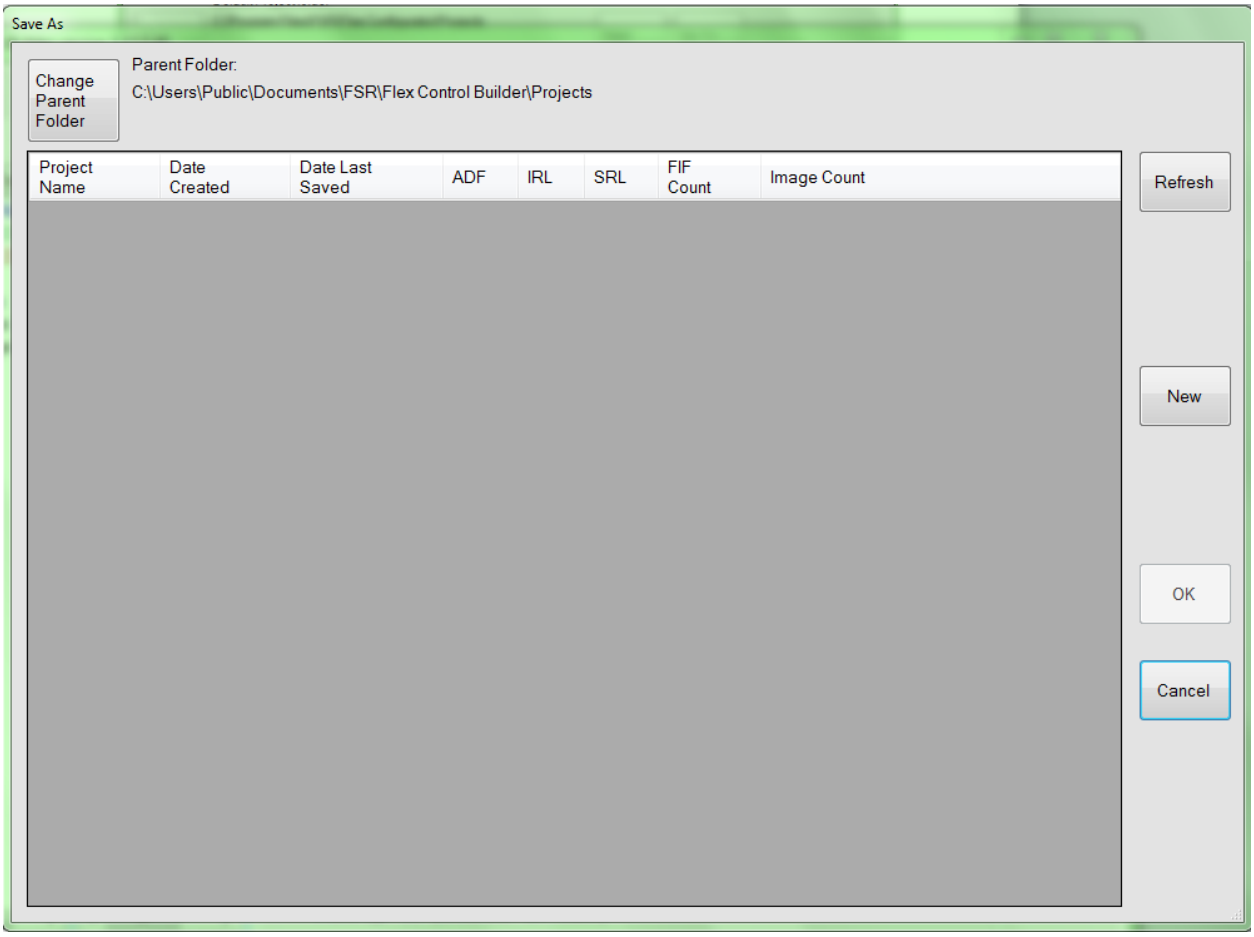
3. Create our screens

4. Add buttons to our screens

5. Assign commands to the buttons

6. Download our project to the Flex.

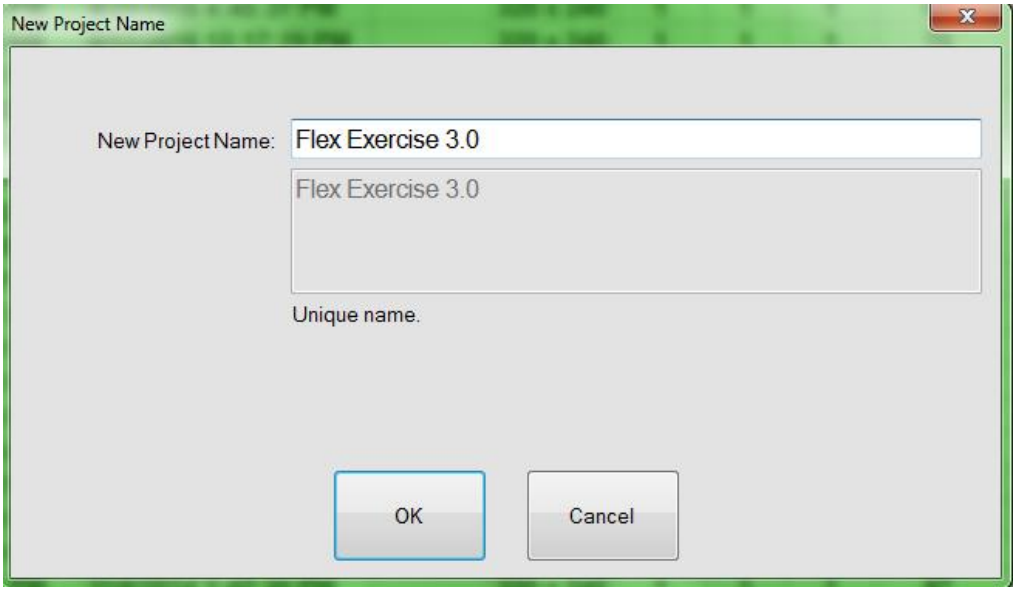
Click on the "**New Project**" button.



Here the Parent folder for your projects may be changed. Otherwise, you may keep the new default folder.

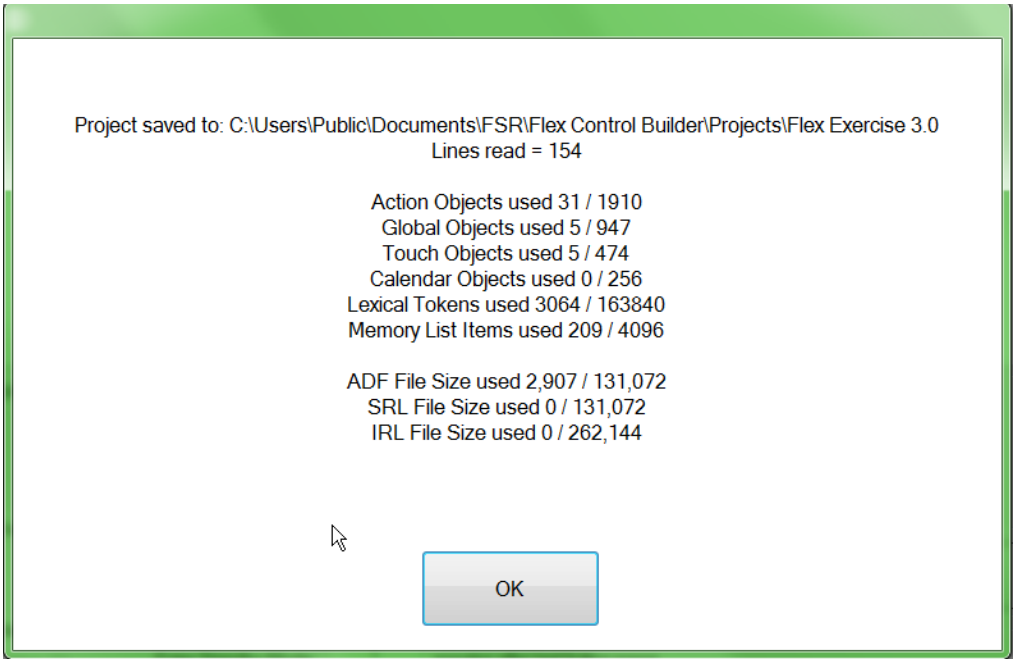
Click the NEW button and type in a name for the Project.

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.

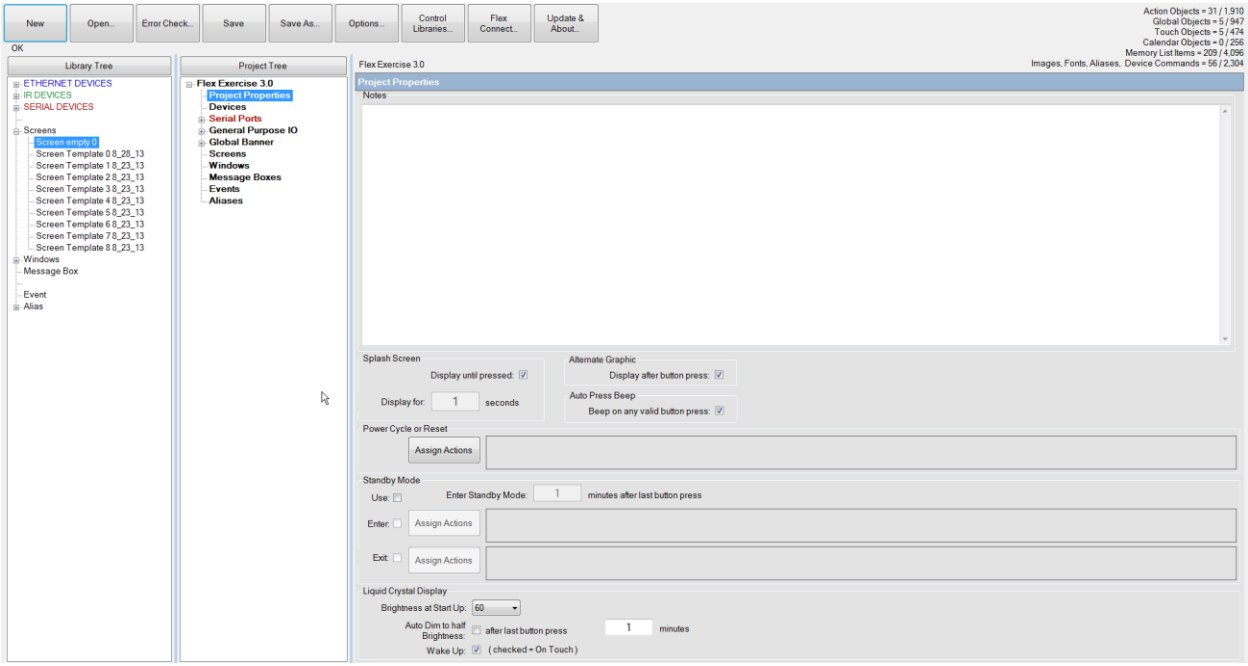


Click OK. Note: a new folder has been created named Flex Exercise 2.0.

Now click OK again.



Project Properties



As with most Window's 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 and 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 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 full brightness was determined when the Flex was developed as 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 the brightness, so it was decided to show the actual brightness levels.

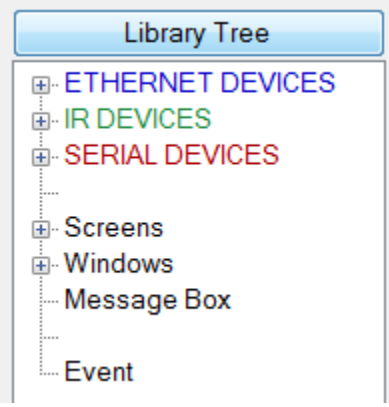
LCD DIM

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.

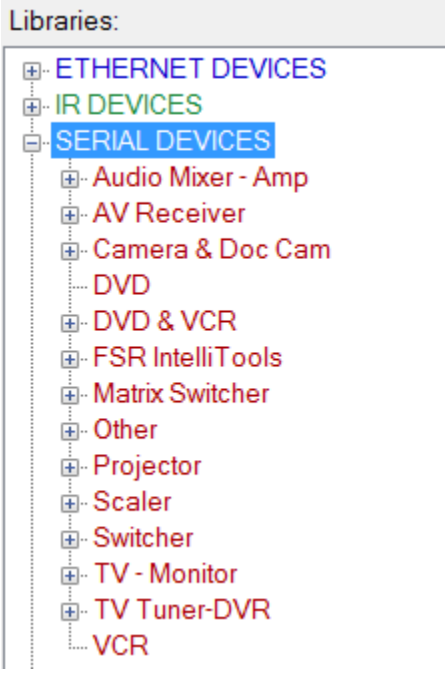
SPLASH SCREEN SET UP

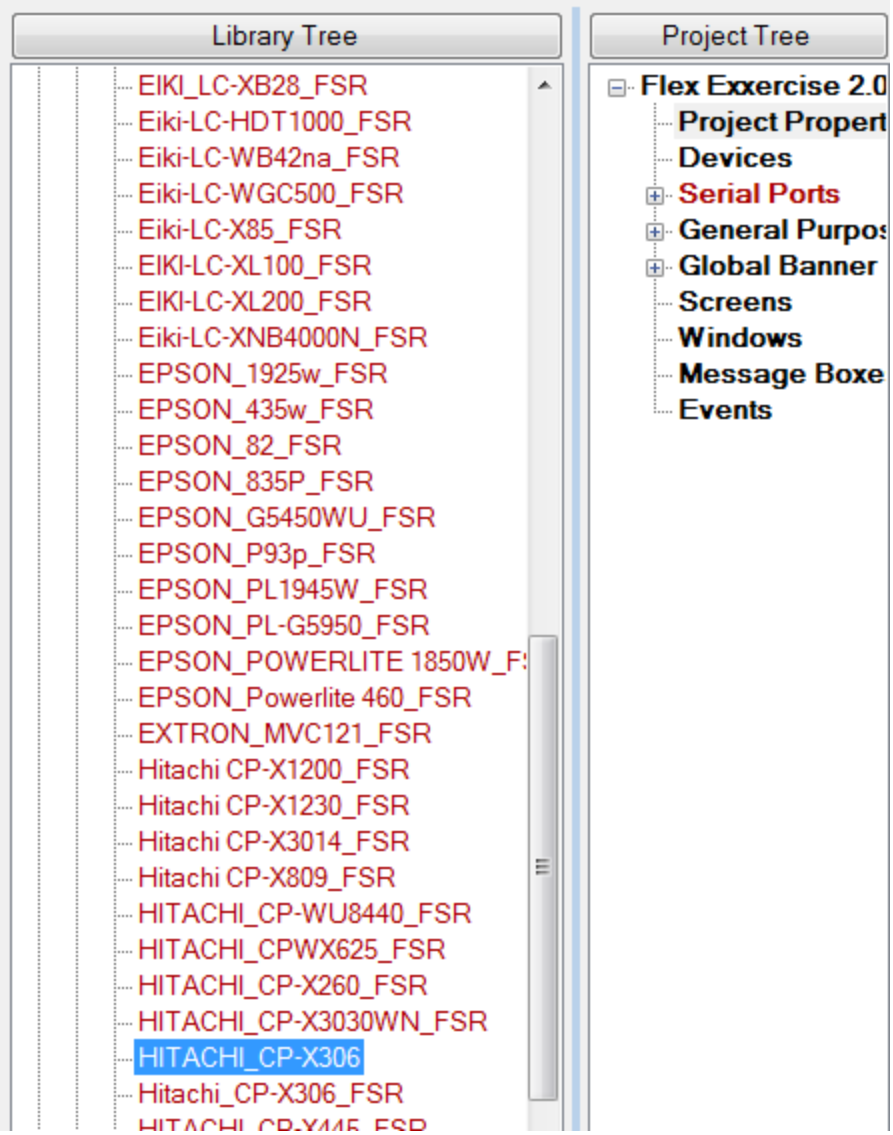
The Splash screen is a full screen graphic image. It can be a school/corporate logo or any other graphic. Splash screens can be displayed at power-up as well as standby mode. In this area, there are two options. The first simply asks if the Project will have a splash screen. The second asks if you want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

ADDING DEVICES

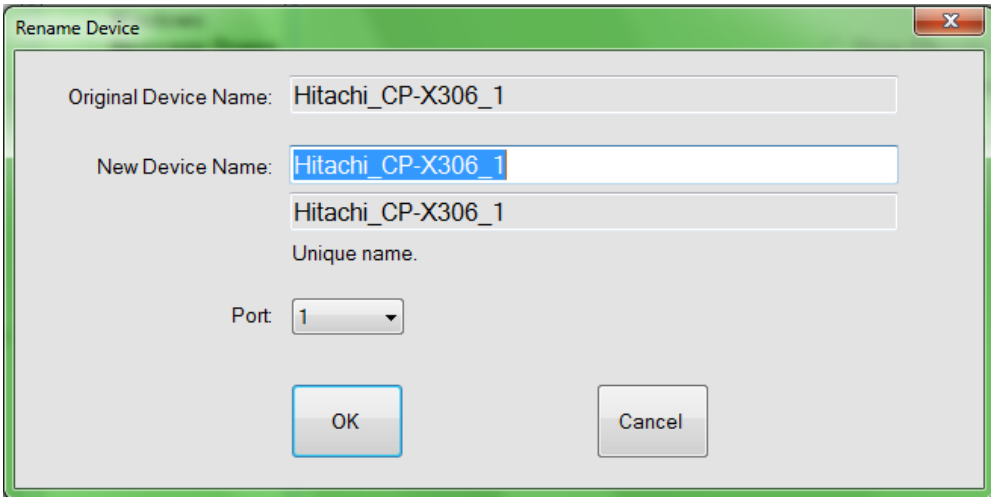


From the Library tree, select SERIAL DEVICES and then Projector. Now click on the Hitachi _CP-X306 (the projector we are using for our demonstration) and while holding the left mouse button down, drag the device to the Project tree and drop the device anywhere within the Project tree.

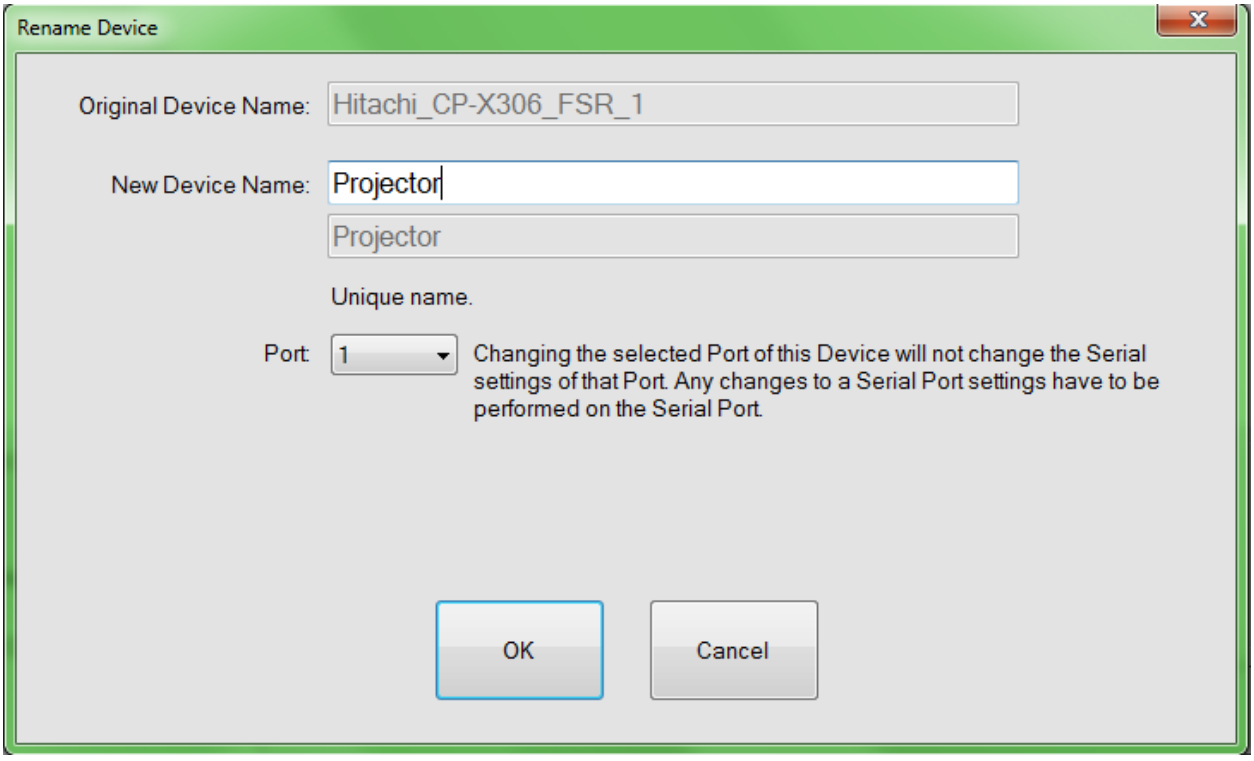




Serial Device

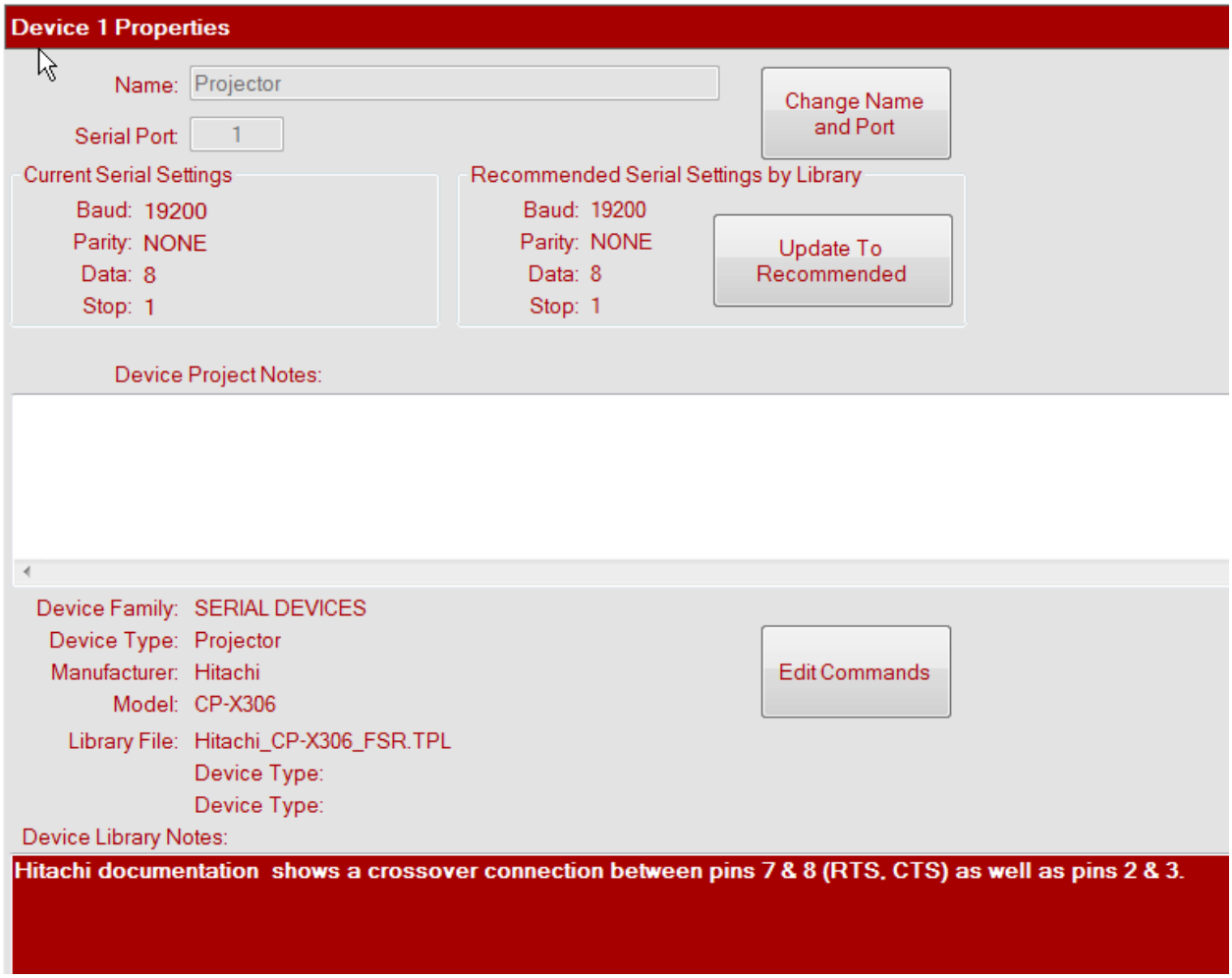


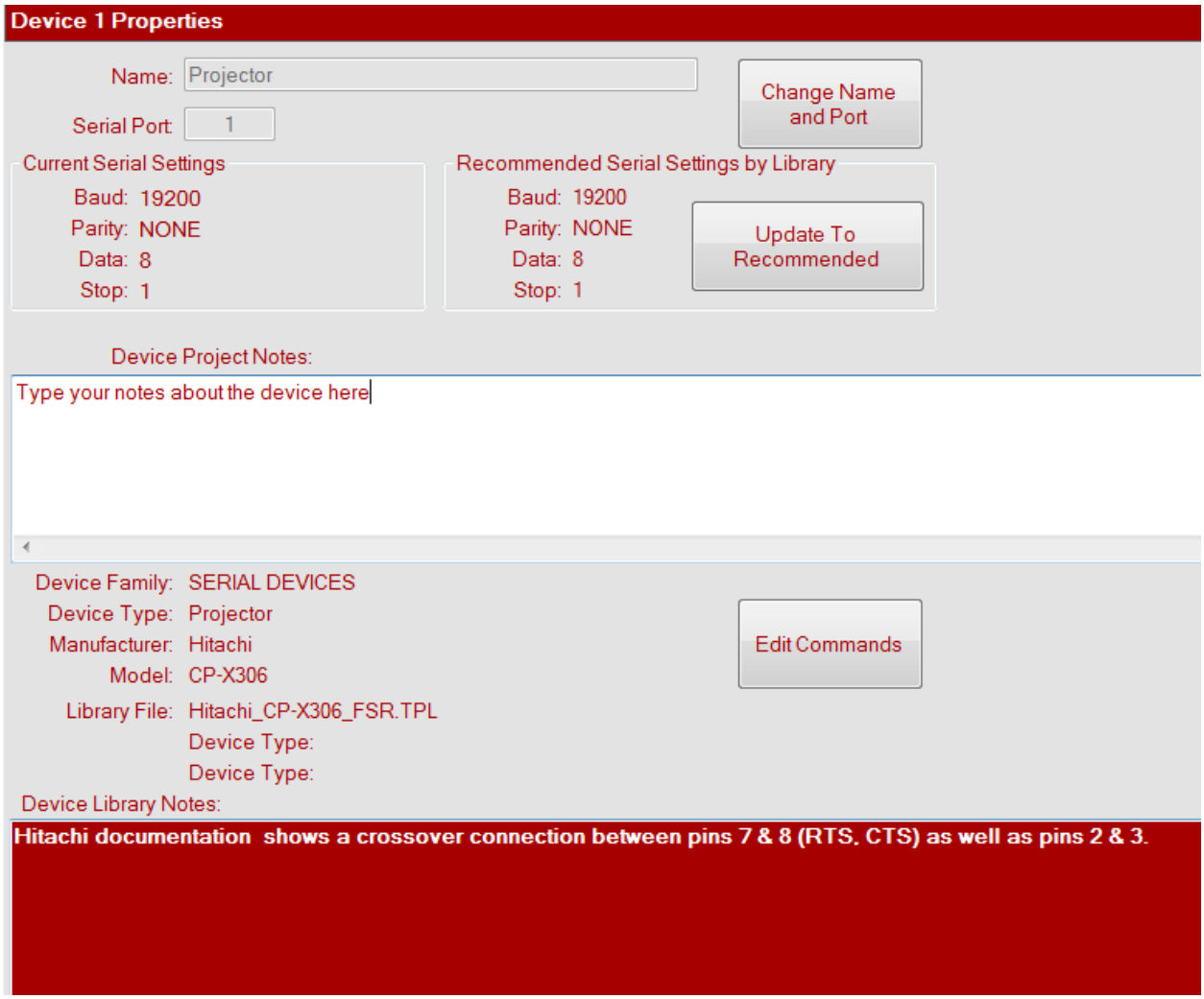
Rename the device if you like to be more generic to the project.



Com Port

Select Port from drop down list.



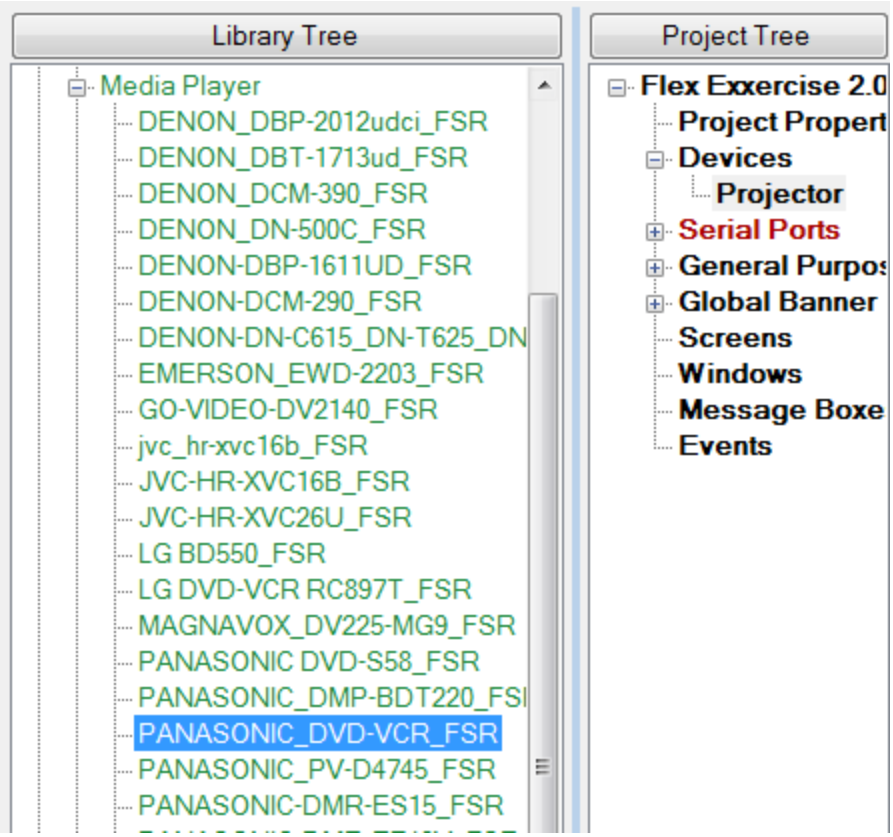


To change the name of the device or any port settings, click on the Change Name and Port box.

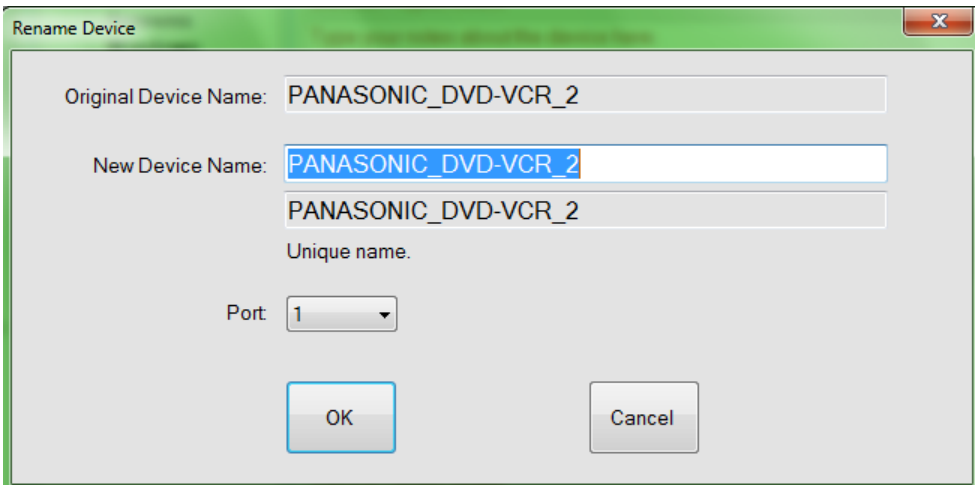
If there were any device library notes entered by the library creator, they will be displayed in the Device Library Notes box as pictured above.

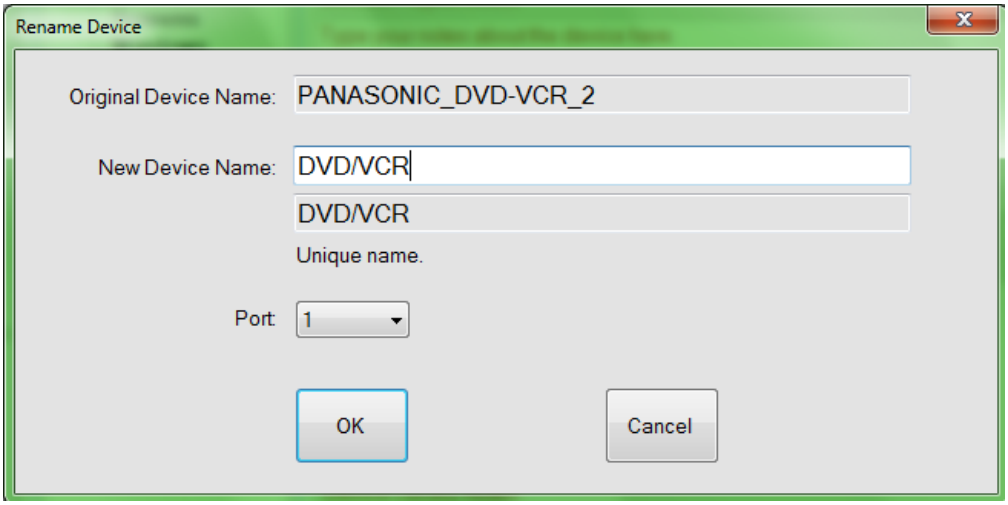
IR DEVICE

From the Library tree, select IR DEVICES and then Media Player. Now click on the Panasonic DVD-VCR (media player used in our demonstration) and while holding the left mouse button down, drag the device to the Project tree and drop the device anywhere within the Project tree.



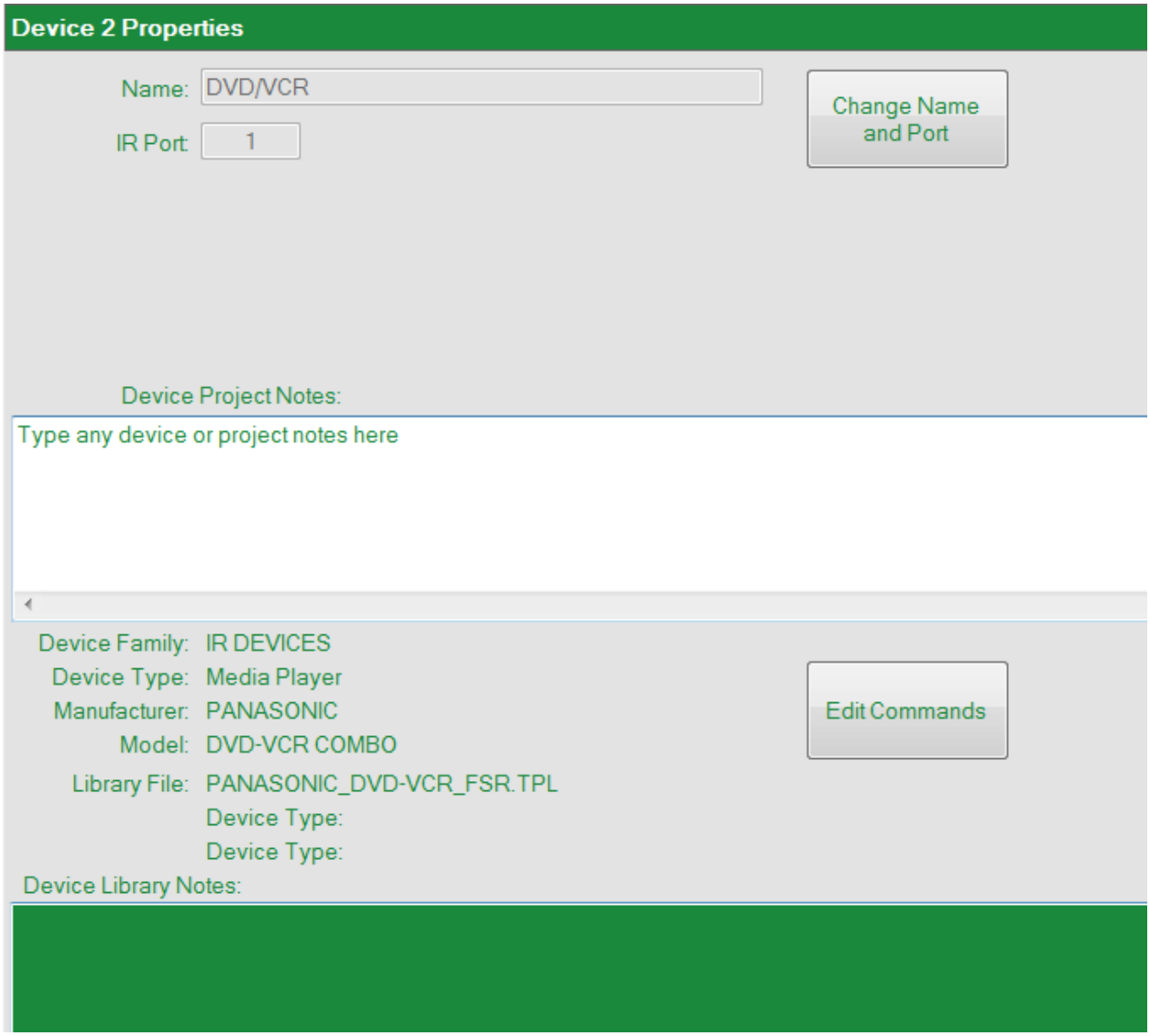
Pick Panasonic DVD-VCR from list and drag it to the Project Tree.





Rename to DVD/VCR if desired.

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.

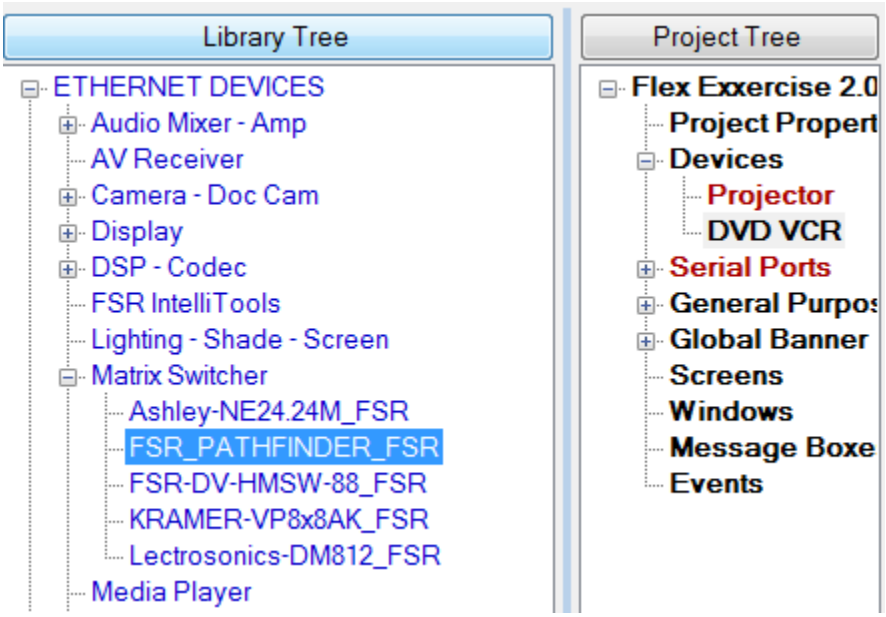
If there were any device library notes entered by the library creator, they will be displayed in the Device Library Notes box as pictured above.

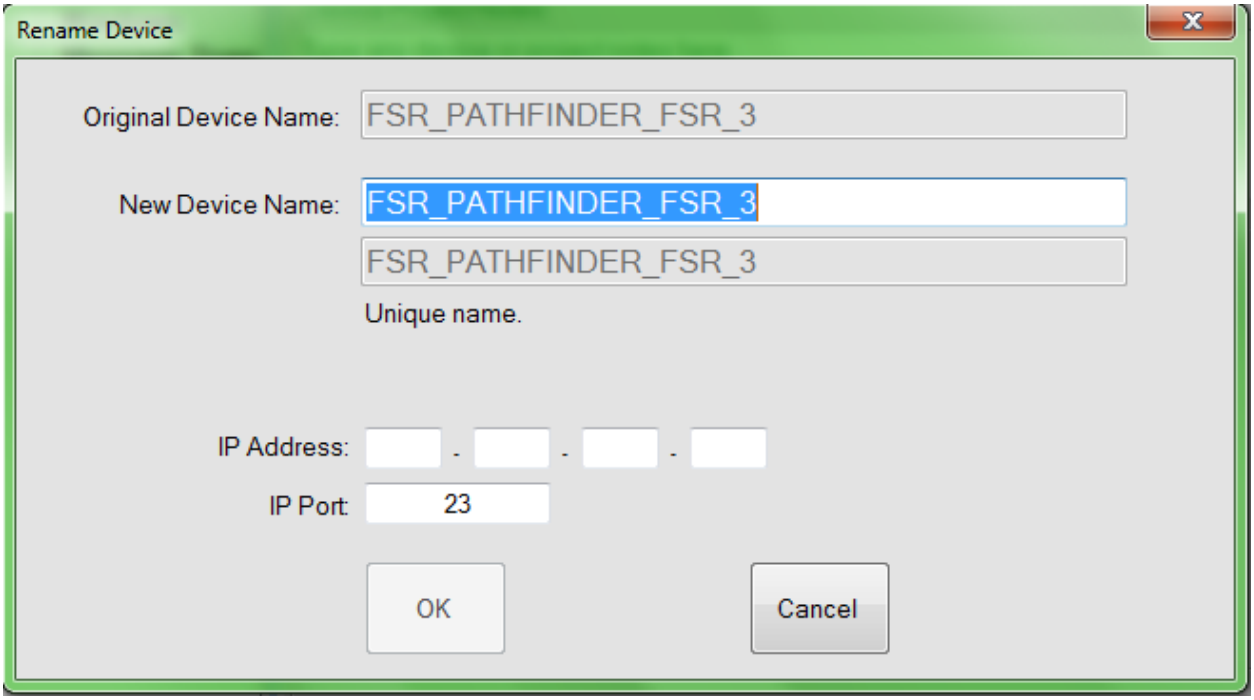
Add New Ethernet Device

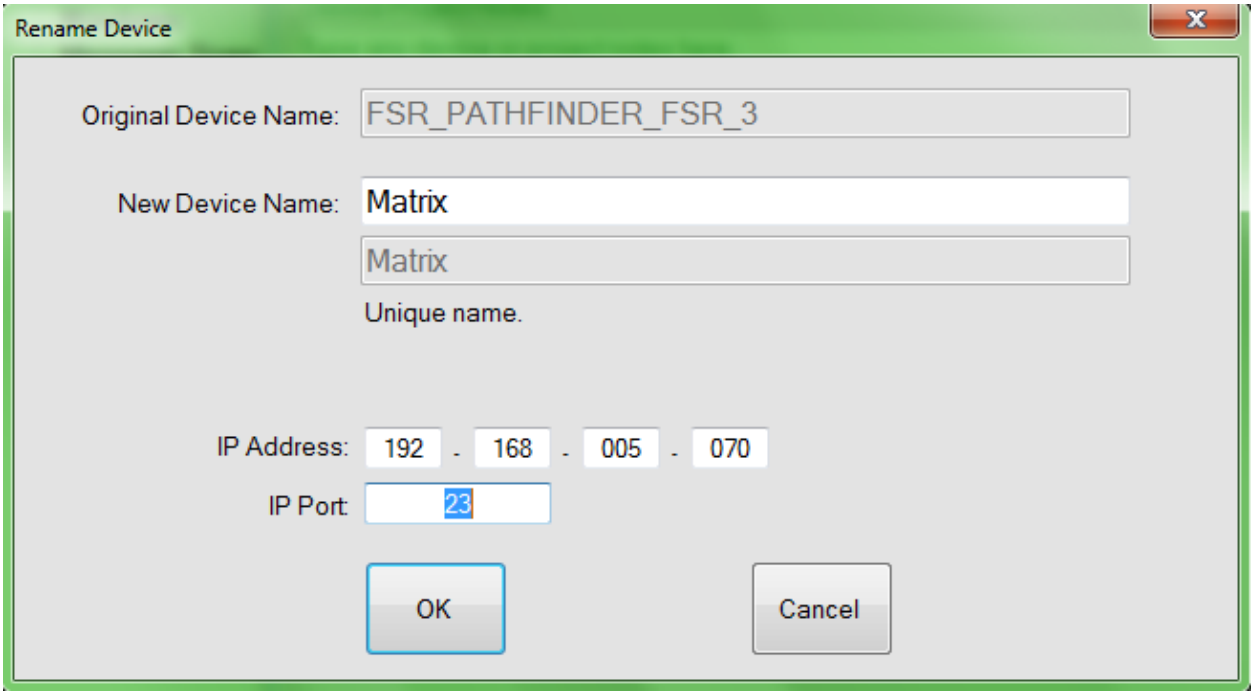
The process is similar to adding an IR or Serial device.

The difference is 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 (device used for our demonstration) 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.

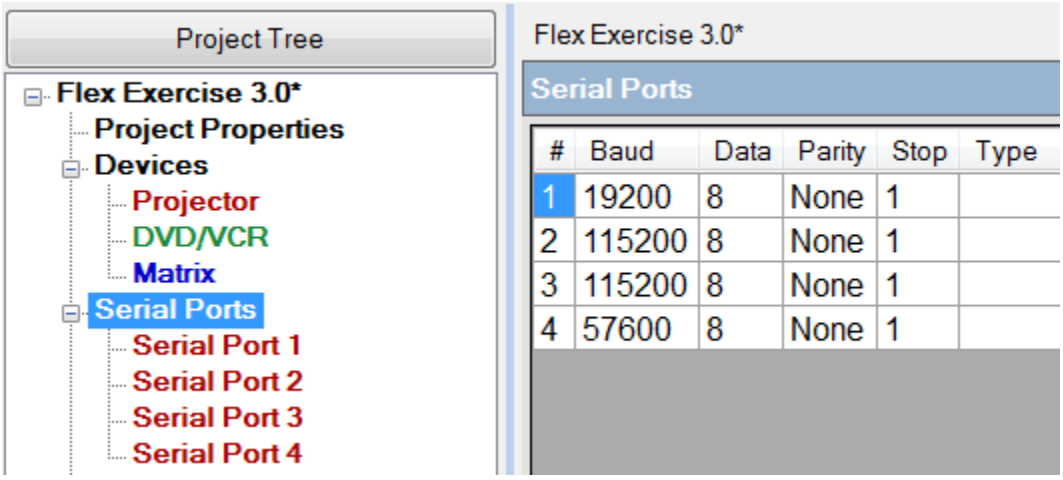
If there were any device library notes entered by the library creator, they will be displayed in the Device Library Notes box.

An IP address and port number must be added. Additionally, the Persistent or the UDP protocol for the device may 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.

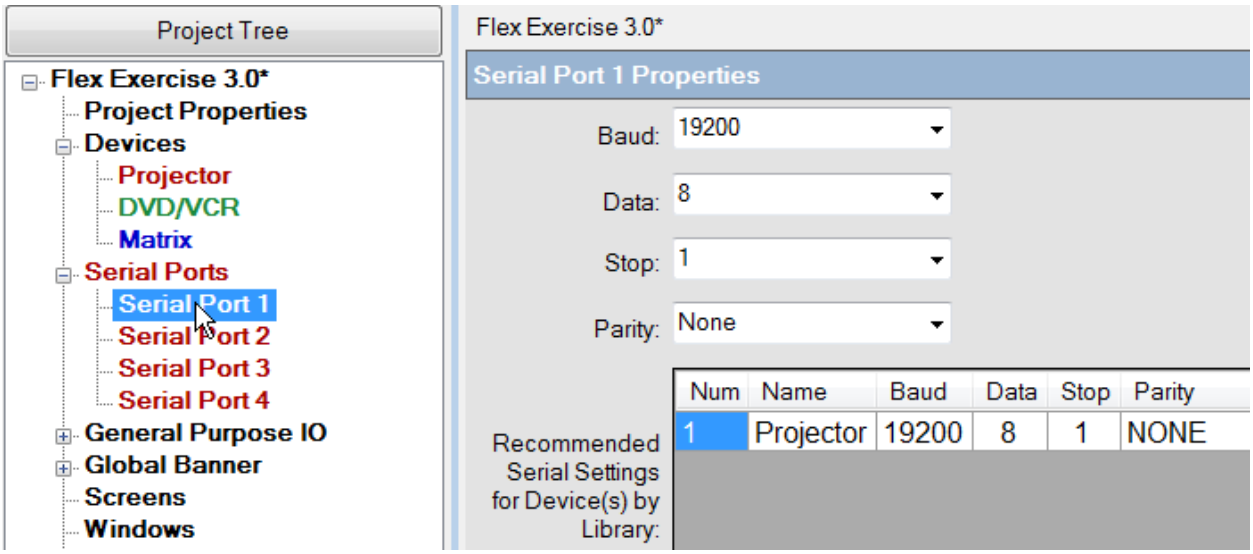
TCP or Transmission Control Protocol and UDP or User Datagram Protocol: TCP is the default protocol; however, UDP may be selected for devices requiring such connectivity. When UDP is selected, the persistent setting is automatically turned off.

Serial Ports



Click on Serial ports on the Project tree.

Select individual Serial ports to change any of the port's parameters.

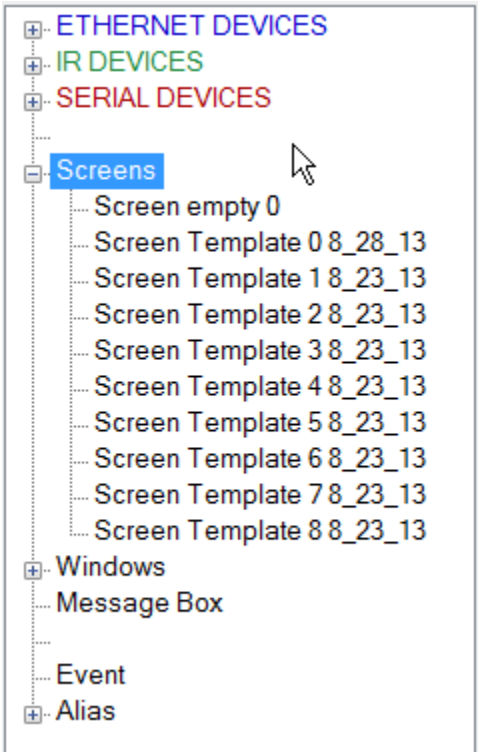


Serial port 4 is restricted to a MAX baud rate of 57600. None of the other ports are restricted.

We have now completed our device setup.

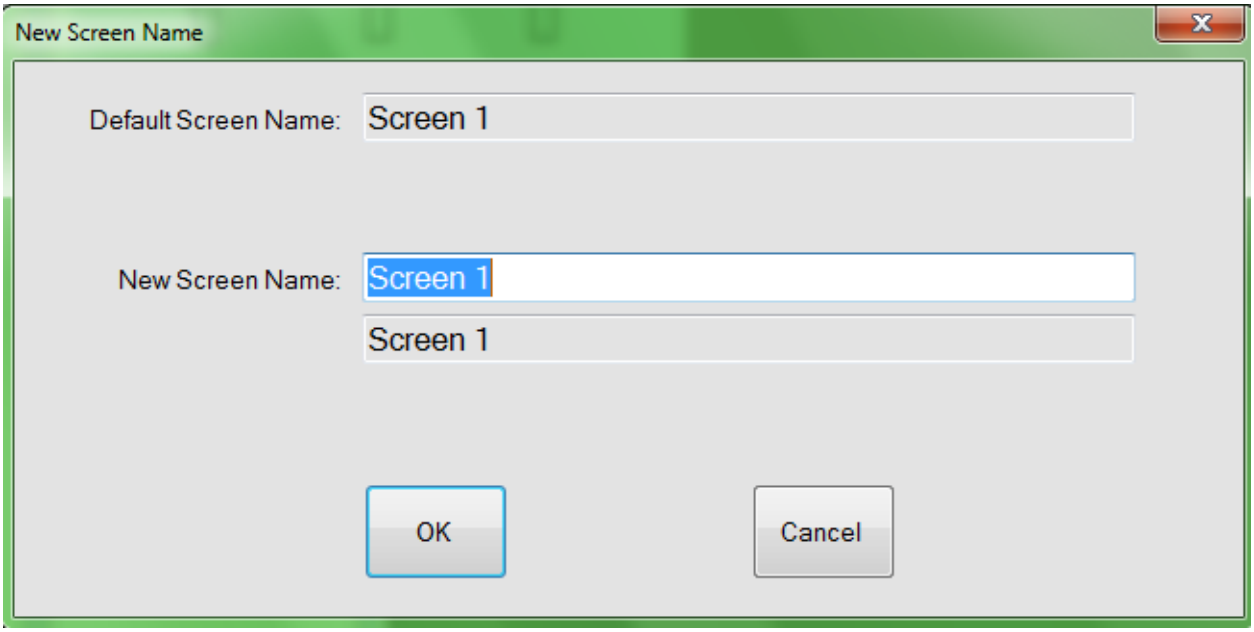
DEFINE SCREENS

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

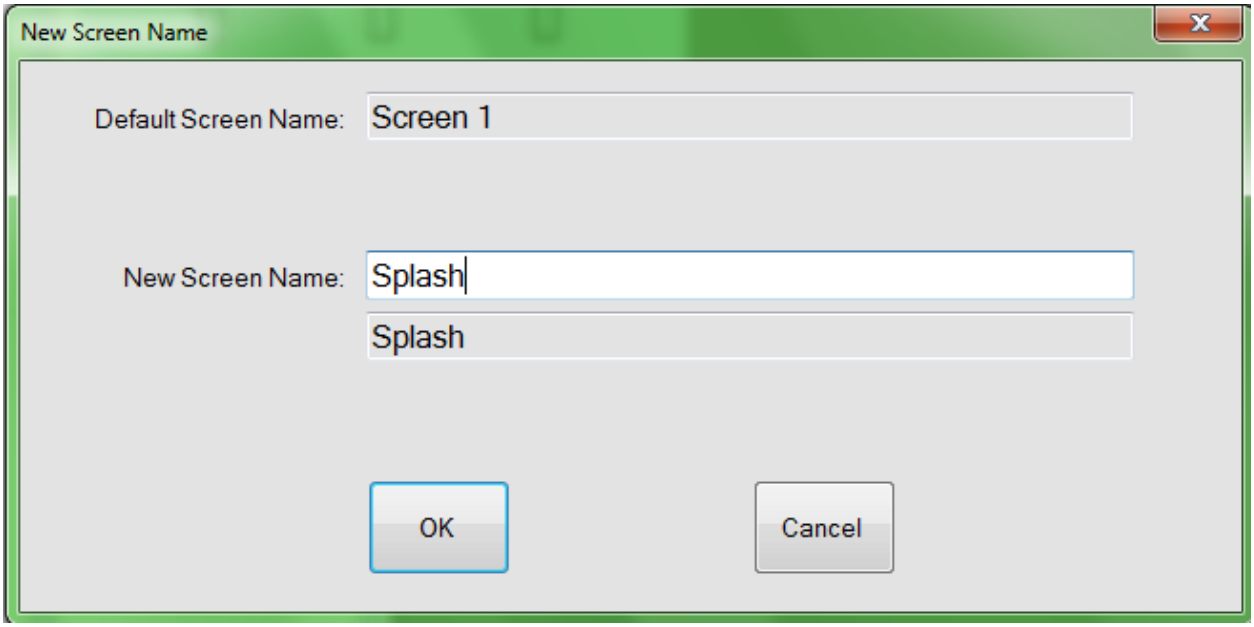


From the Library tree, select a Screen Template to be used as the splash screen. Screen empty 0 and Screen template 0 are typical templates for the splash screen. Keep in mind that Screen Template 0 will not allow buttons to be added. Therefore, use of this template should be restricted to Splash screens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

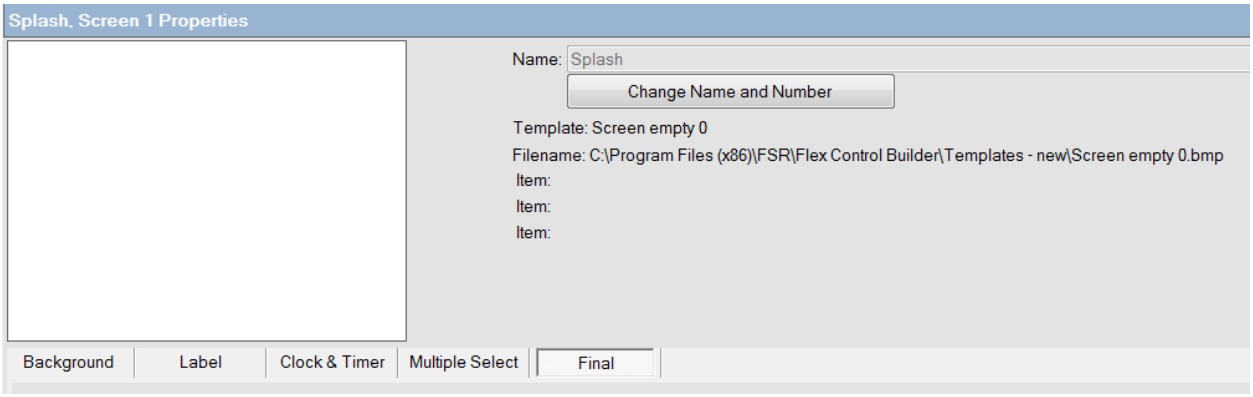
Select the screen by left clicking on the template and dragging and dropping it over the Project tree.



I selected Screen template 0 8_28_13. Once dropped onto the Project tree the above screen appears, allowing you to rename the screen if you like. Renaming is not mandatory, and the screen name can be changed at any time later while building the project.



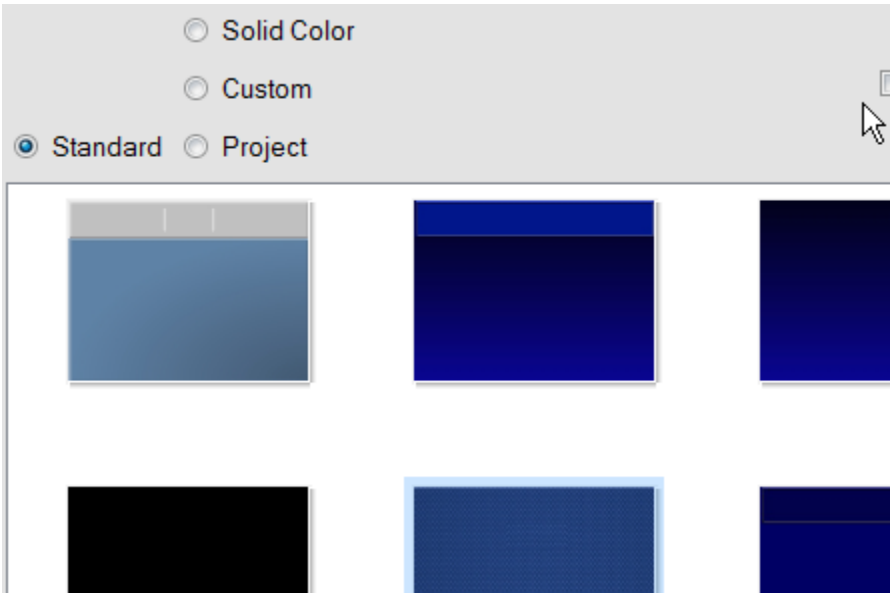
This screen has been renamed Splash.



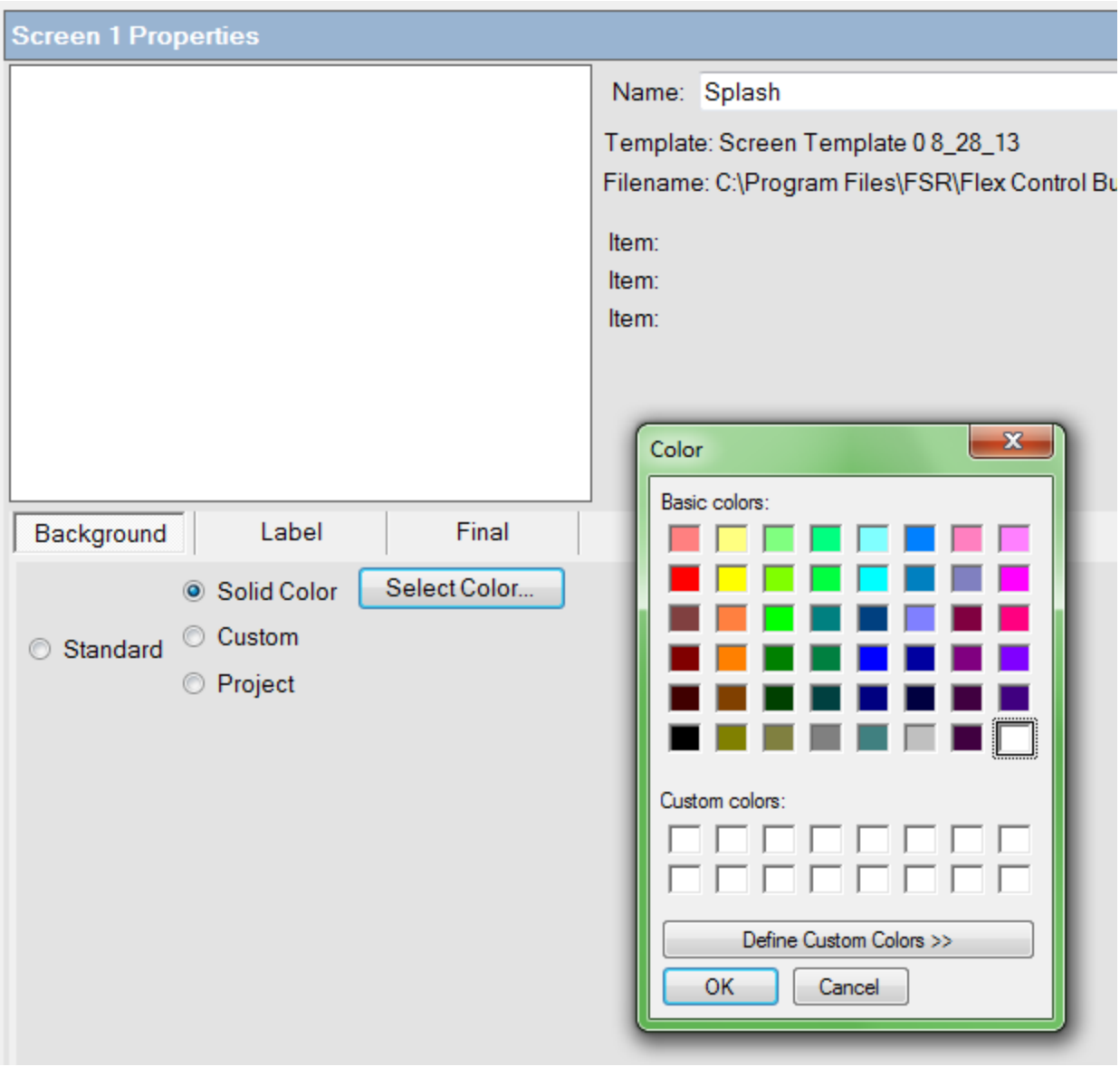
Typically, a splash screen will consist of a background and possibly some text.

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

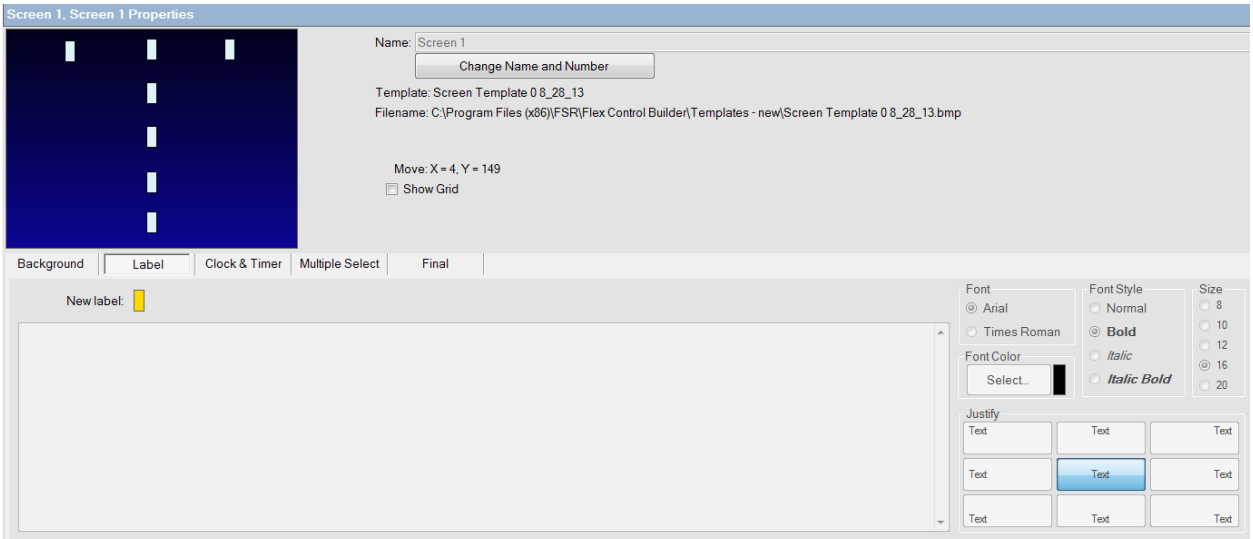
Note: The Project folder will be empty until the project has been saved for the first time.



The Solid color option will present the following screen to choose from.

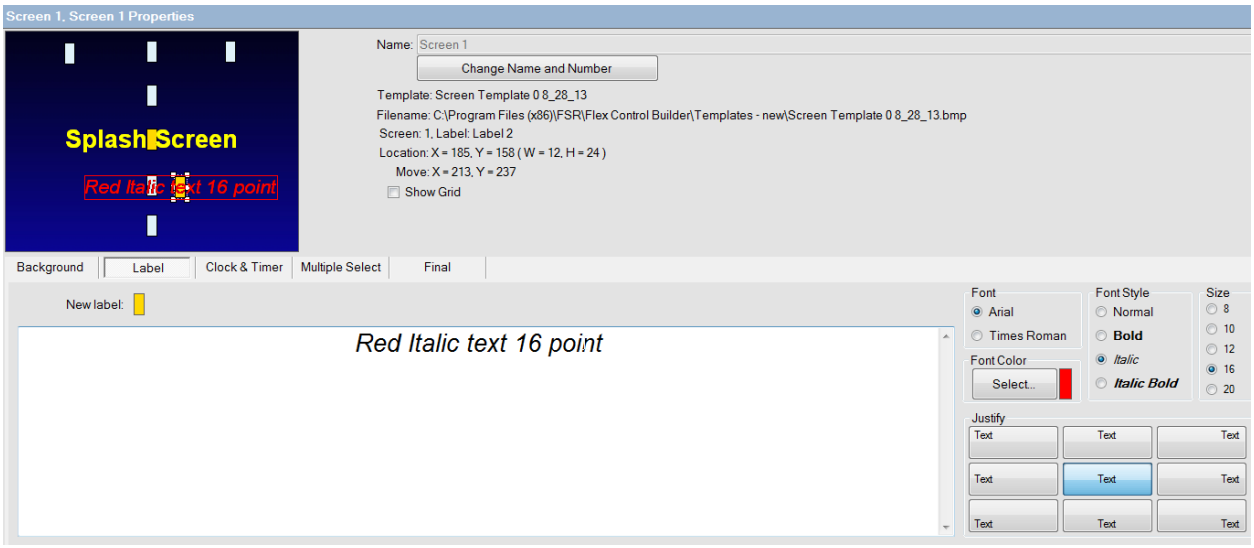


Selecting custom folder will show a Change Folder button to press. You will then be able to select a folder where you have custom graphics. These graphics need to be BMP, JPG, or GIF formatted graphics. The FCB will automatically resize the graphic for the background.



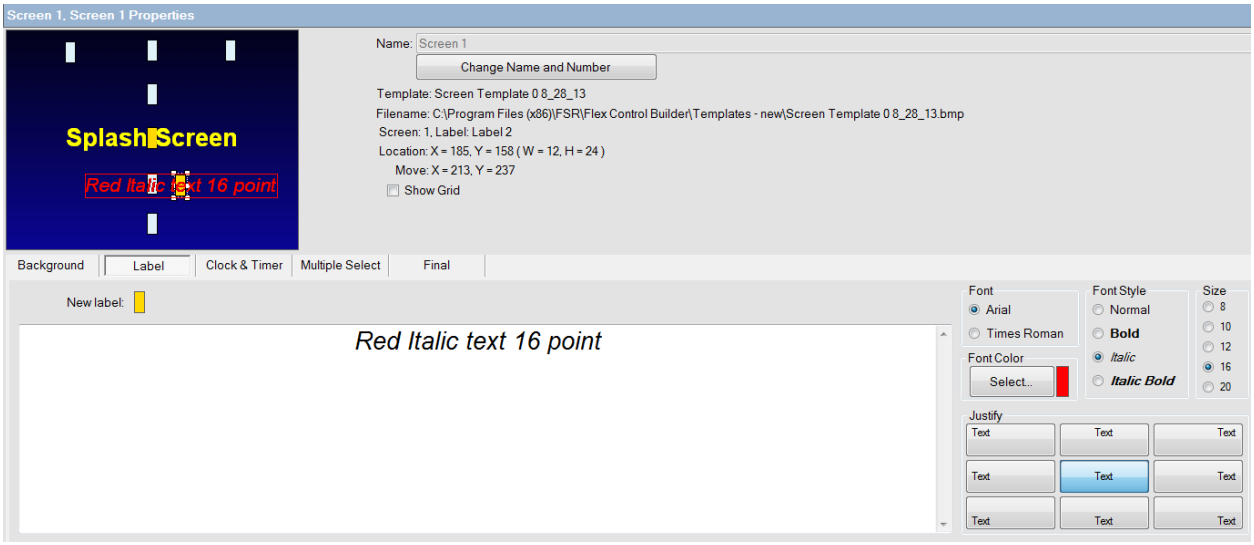
Once a background has been selected, you may add a label to the screen. Notice the small vertical boxes. They are standard text place holders. These place holders are used throughout the FCB. However, this version of the FCB does not limit you to only using the place holders. Text can be put anywhere 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 or 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 FCB for text and button placement.

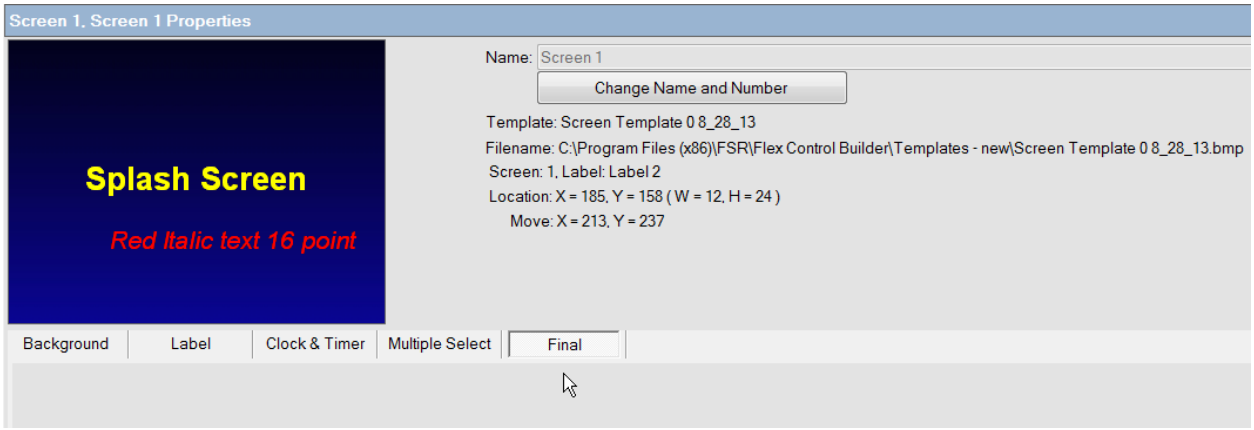


Above shows two text boxes added to the Splash screen. When a yellow box is selected, you can change the Color, Font, Style, and Font size within the box. Once completed, select the other text box and select preferences and text. Note: Multiple lines of text may be added to a label. Justification of text with relation to the text box can be adjusted as well as utilizing the justification boxes. Caution,

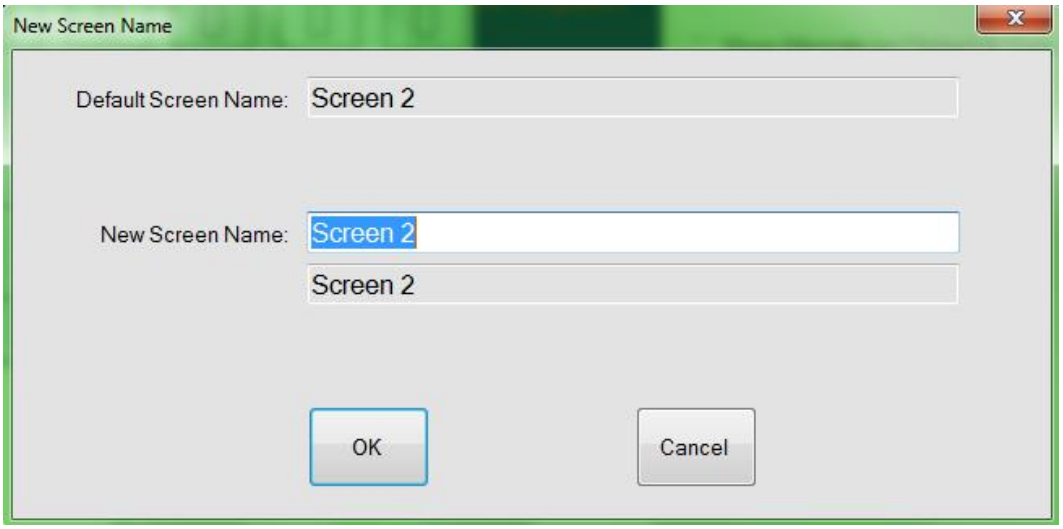
before doing so, it is a good idea to save your project first. The only way to undo the justification is to move the boxes manually or closing the project without saving and opening it up again from the last save. This is a good practice no matter where you are in a project development. Frequently save or save as while you are still deciding on the look of the project development.



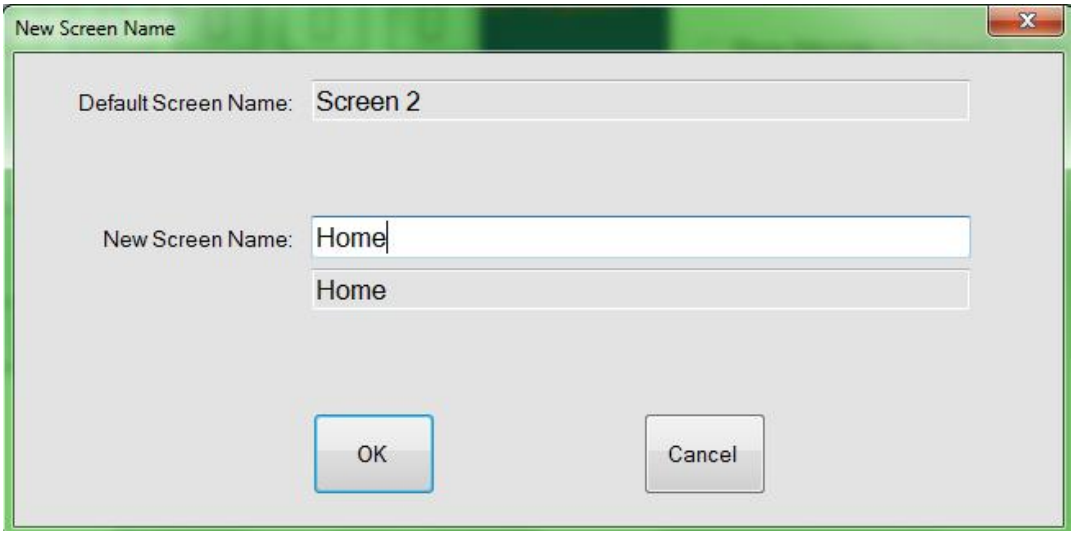
Click on the Final tab and see how the final screen looks.



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

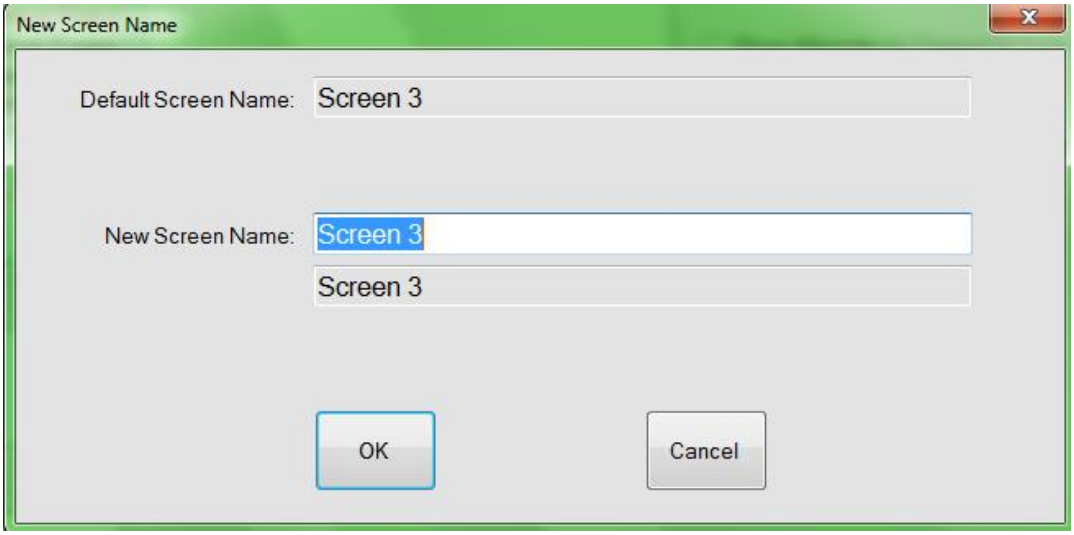


Let's rename it HOME

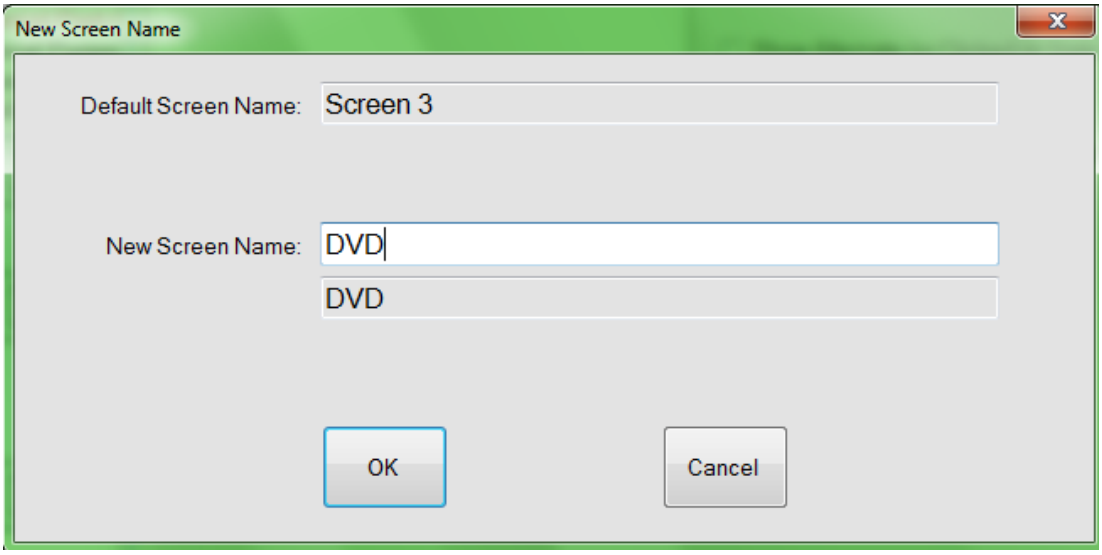


Now click OK

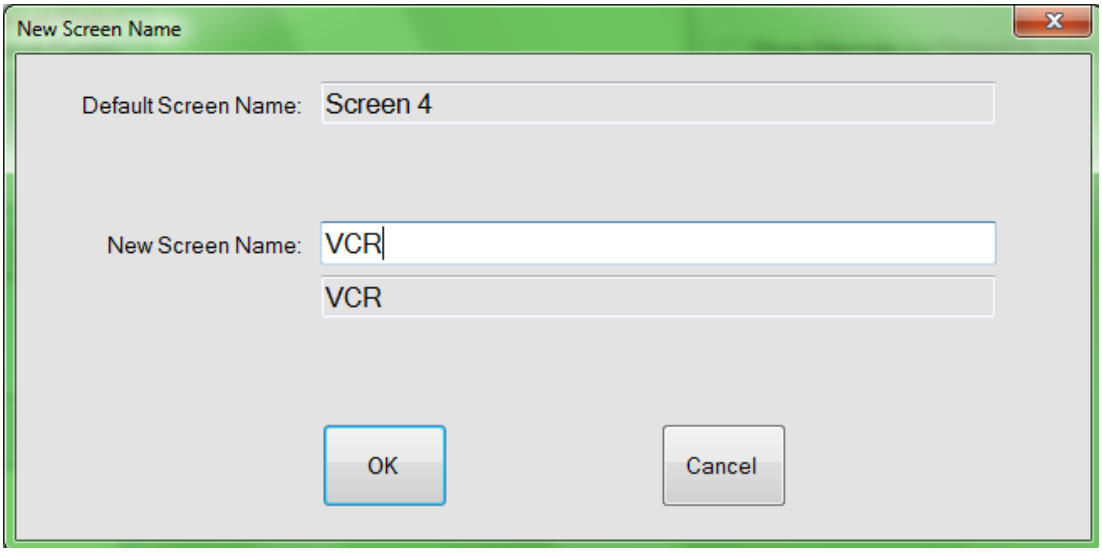
We can add all the screens we will be using in our project now or start populating the screens as we go. I prefer to define all the screens ahead of time, so I have a good reference. As such, I will now add my DVD screen. Select Screen template 7 for this, and drag and drop it to the Project Tree.



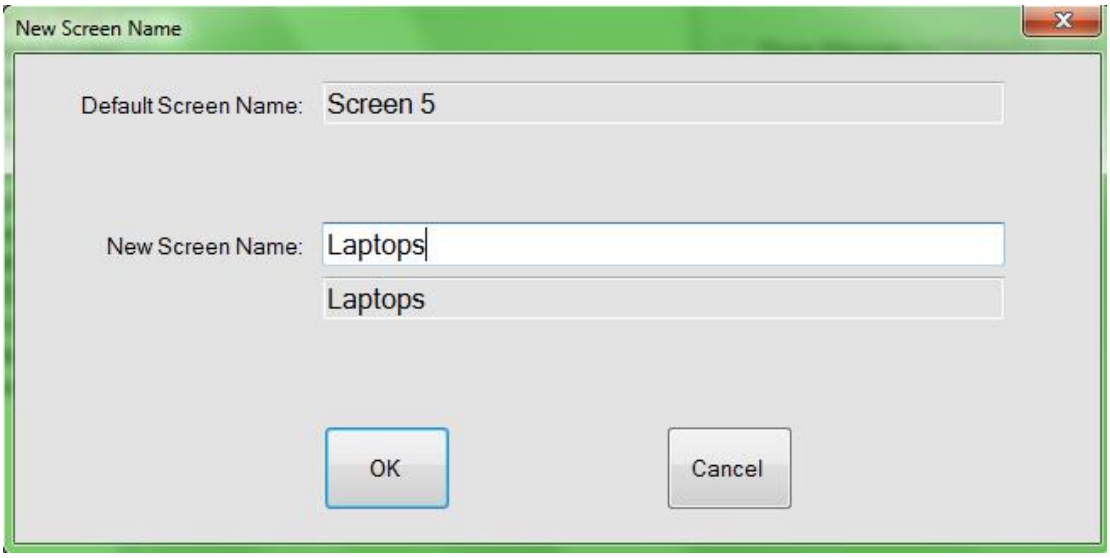
Now rename the screen DVD



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

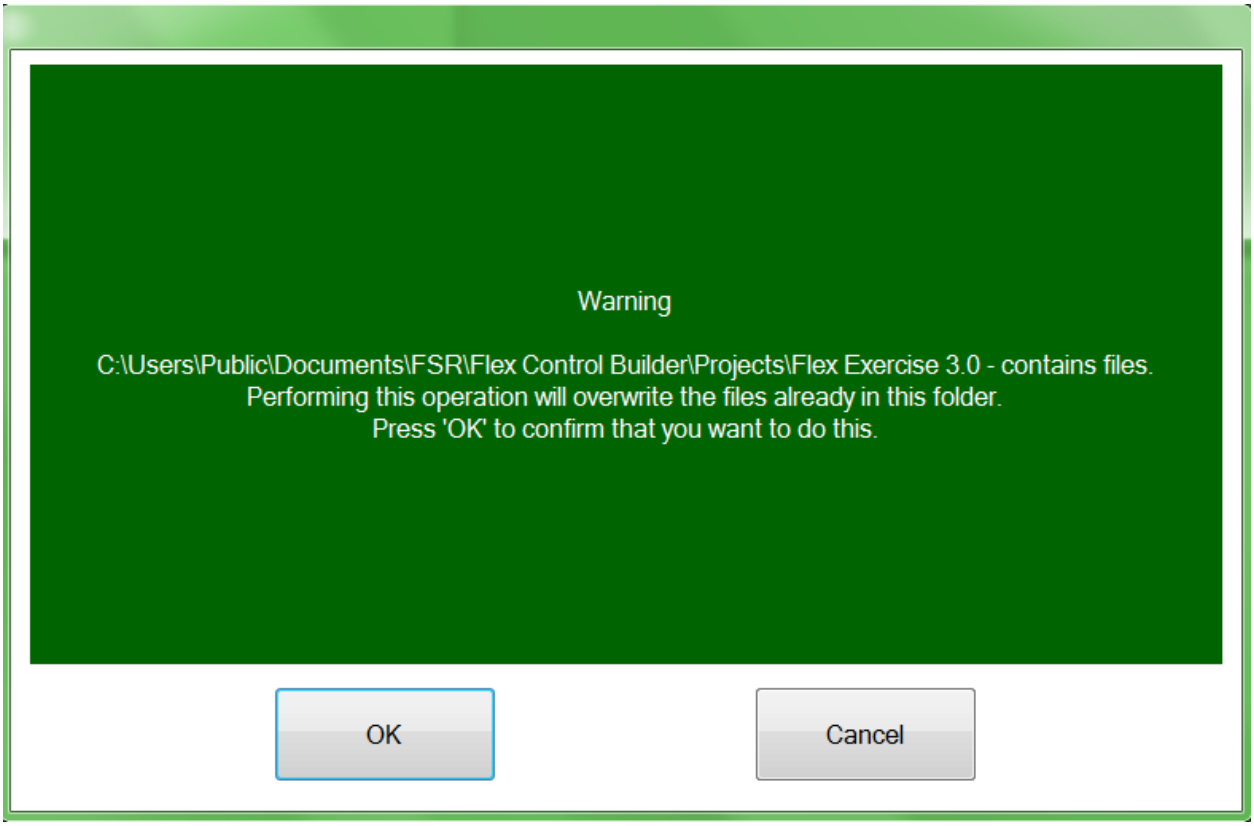


Now add a test screen that can be populated with buttons to further define action items. These will not necessarily be part of the basic project being built here.

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 like when this project was first named.

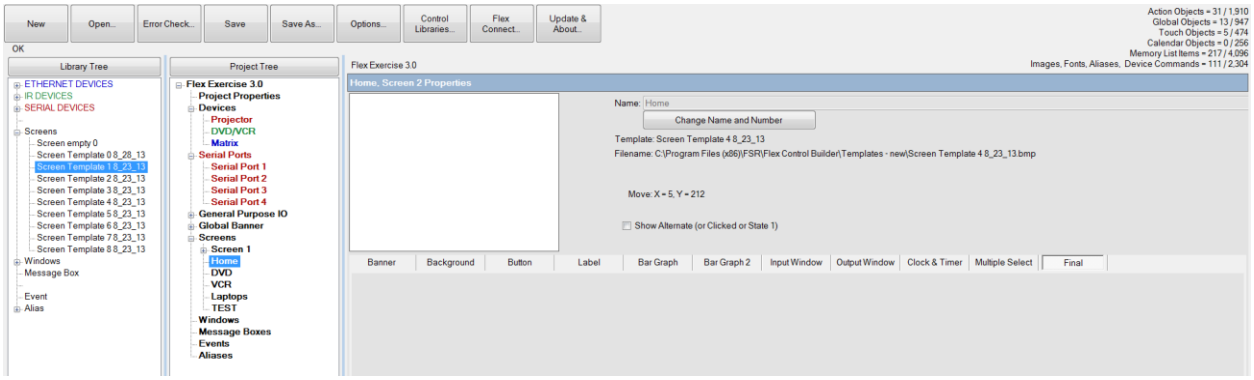


Click OK to overwrite the contents of the folder with the additional information added since the project was started.

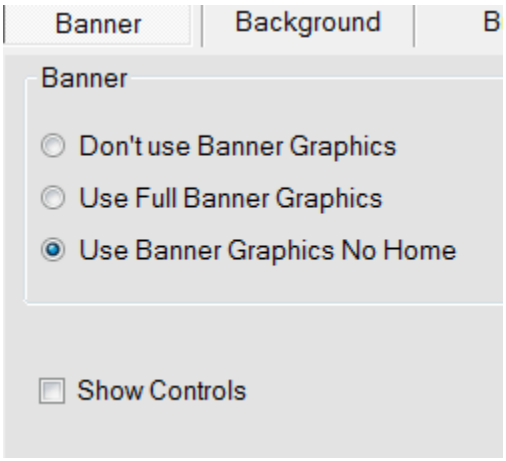
A confirmation screen will follow shortly.

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

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

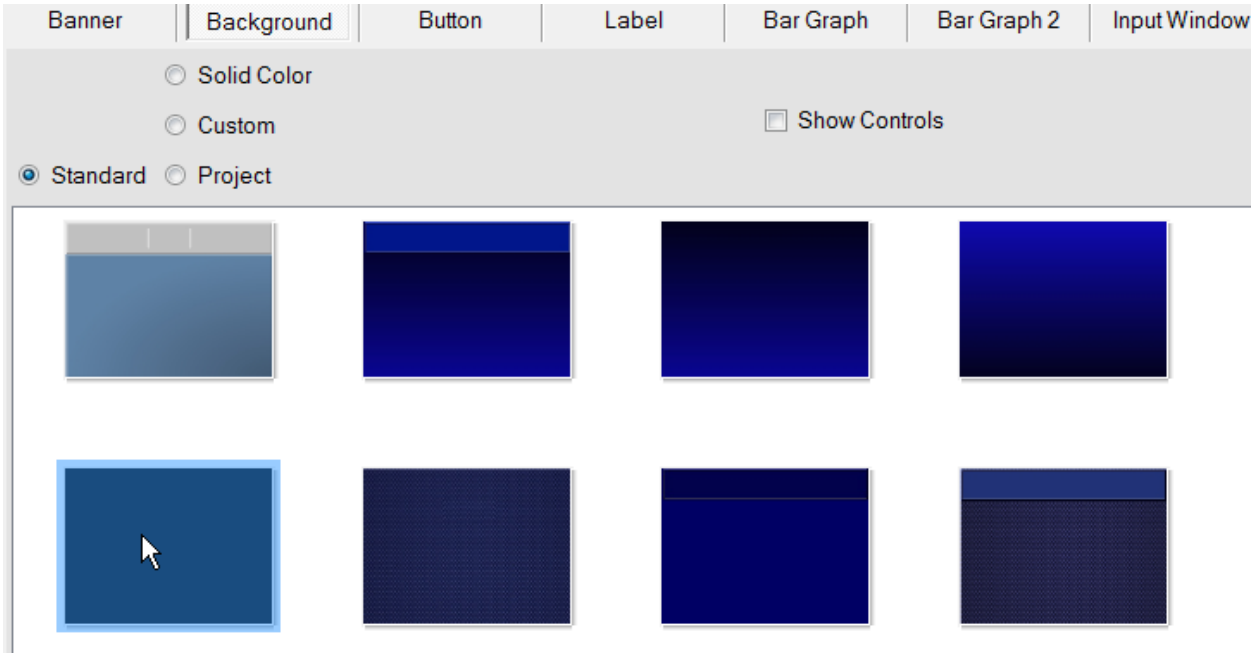


Click on the Banner tab and select the type of banner you wish to use. Since this is the HOME screen, pick the “Use Banner Graphics No Home” option.



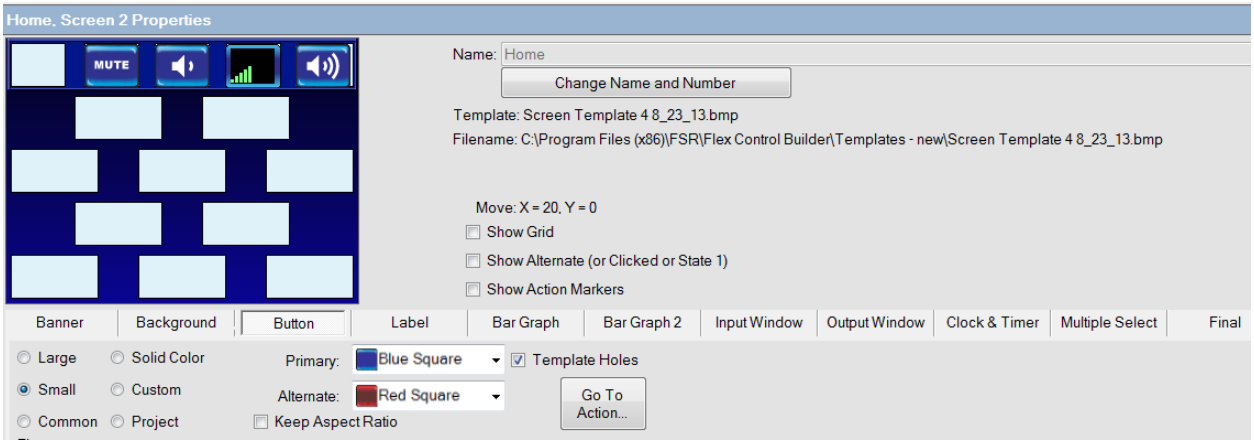
Now click the Background tab and select a background as we did in the Splash Screen.

Again, choose from a Standard, Solid Color, or Custom background.



Click on the Button Tab and then select Small. This will show the standard Small button library. Again, you can pick Solid Color or Custom buttons. Custom will allow you to select graphics from a

different folder and place a custom graphic into any position on the screen. Additionally, these buttons can be re-sized following conventional window graphic techniques.



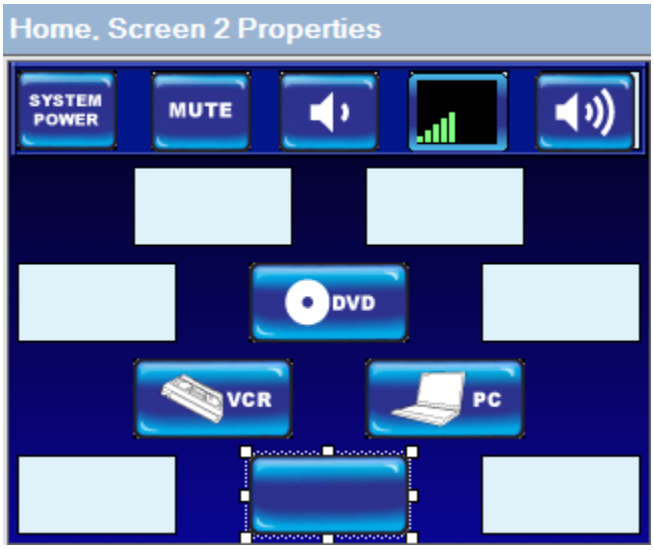
Procedurally, Custom and solid color buttons are selected in a similar manner as custom backgrounds. The difference is the ability to re-size the button graphic once it has been dropped onto the screen.

This exercise will use standard buttons. Select the 

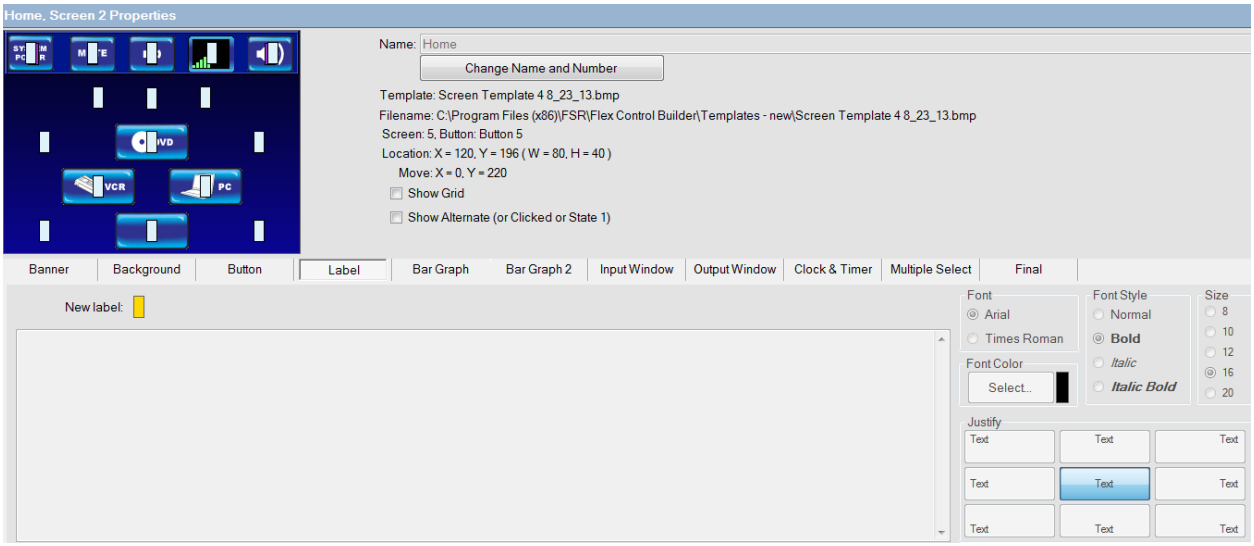
button and drag then drop it into the top left corner template box. When dragging and dropping buttons, use the top left corner of the open template box as a guide to dropping the graphic. Once the top left corner is within the template box, the mouse button can be released, and the button will automatically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

Additionally, notice to the right of the template screen there are 3 boxes that can be checked: Show Grid, Show Alternative, and Show Action Markers. Show grid will present a grid pattern which is very helpful in aligning buttons outside of the template. Show Alternate 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 your desired graphic 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.

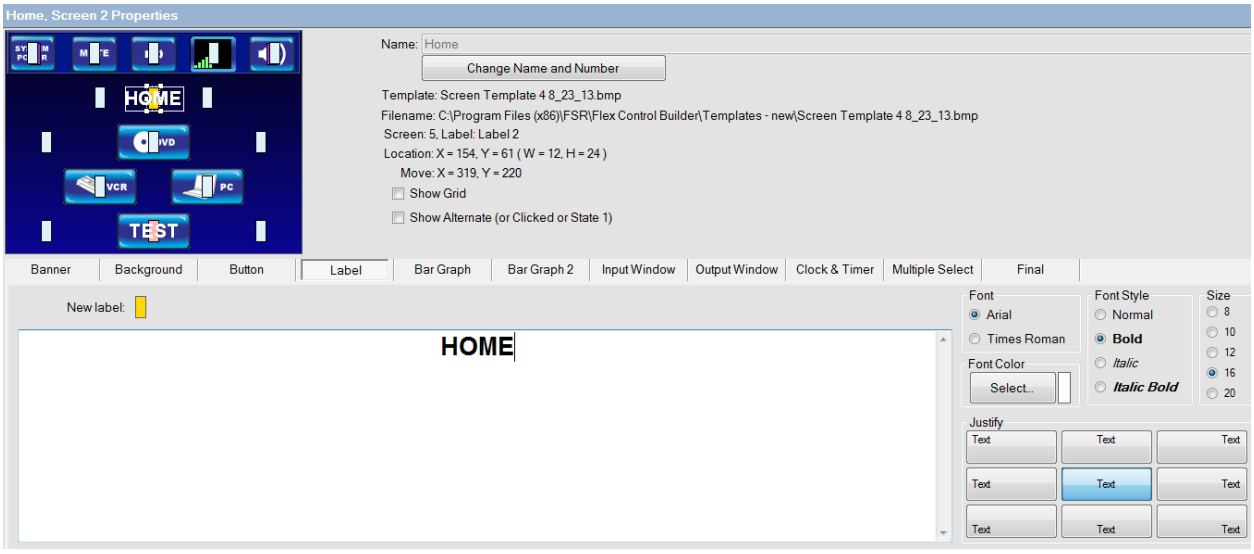
Click on Large for the large button selections and fill in the remainder of the screen by dragging and dropping the graphics as shown below. Note the Blank button.



Now click on the Label Tab.

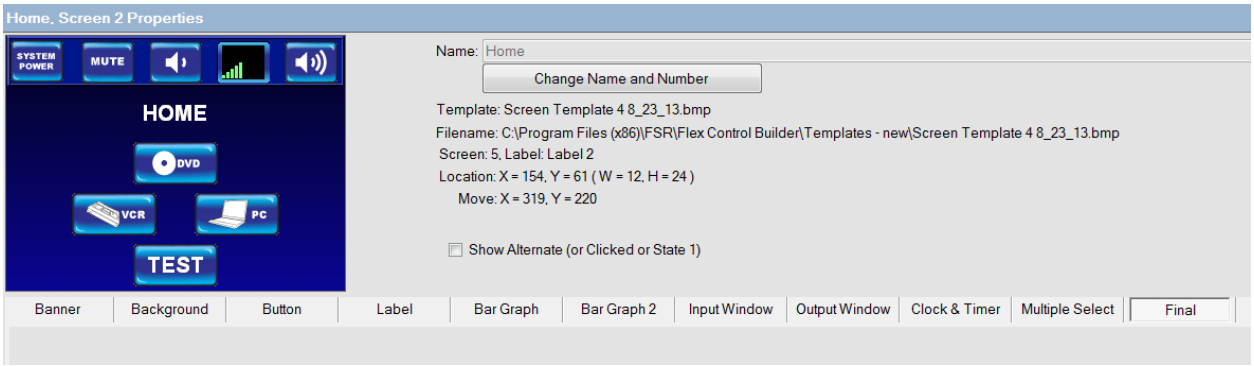


Notice the small verticle rectangular place holders. The labeling process is the same as Splash screen.



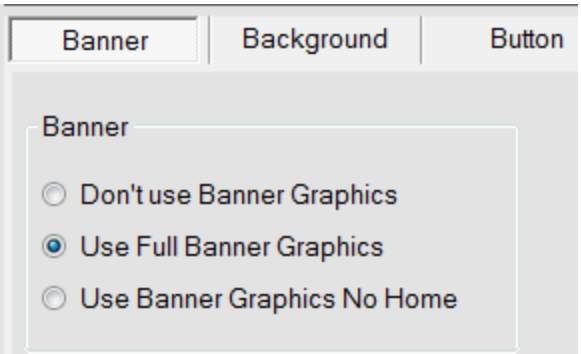
Drag a new label to the blank button, Pick a color (White) and label it TEST. Then Label the screen as shown below (HOME)

The Bar Graph and Input Window tabs will be discussed later in this exercise. Select the Final tab to show exactly how the screen will appear on the Flex.

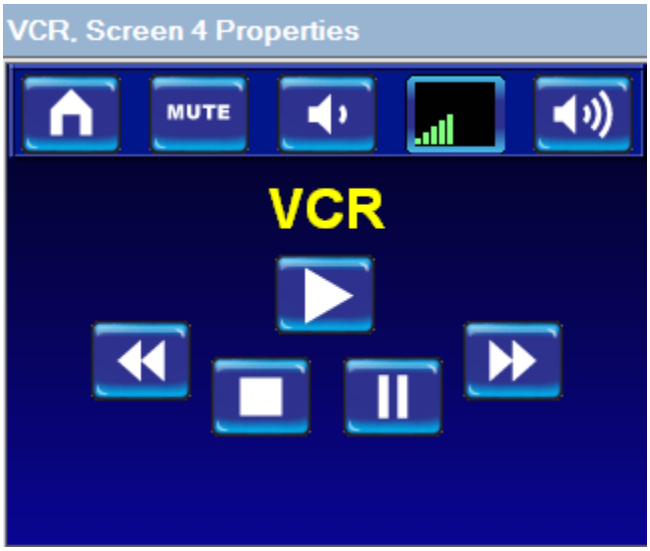


Complete the DVD, VCR, Laptops, and TEST screens in a similar manner using the following screen shots as a guide.

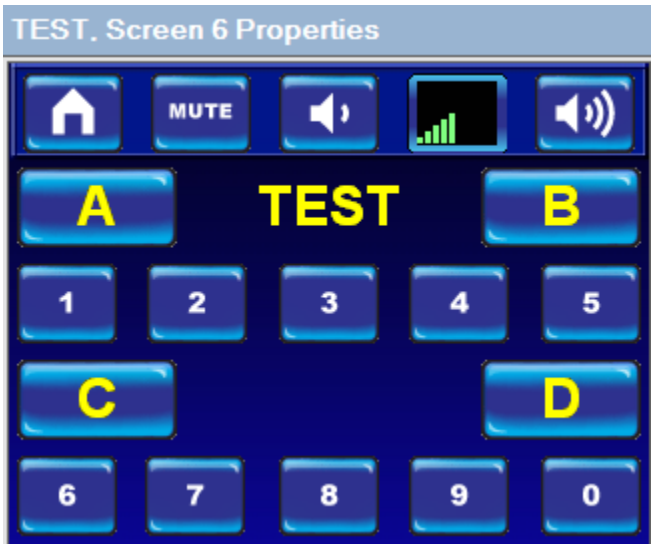
Note, for the following screens the Use Full Banner Graphics option will be chosen.


Banner
Background
Button
Banner
Don't use Banner Graphics
Use Full Banner Graphics
Use Banner Graphics No Home


DVD, Screen 3 Properties
MUTE
DVD


VCR, Screen 4 Properties
MUTE
VCR

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 buttons and a label was added to each.

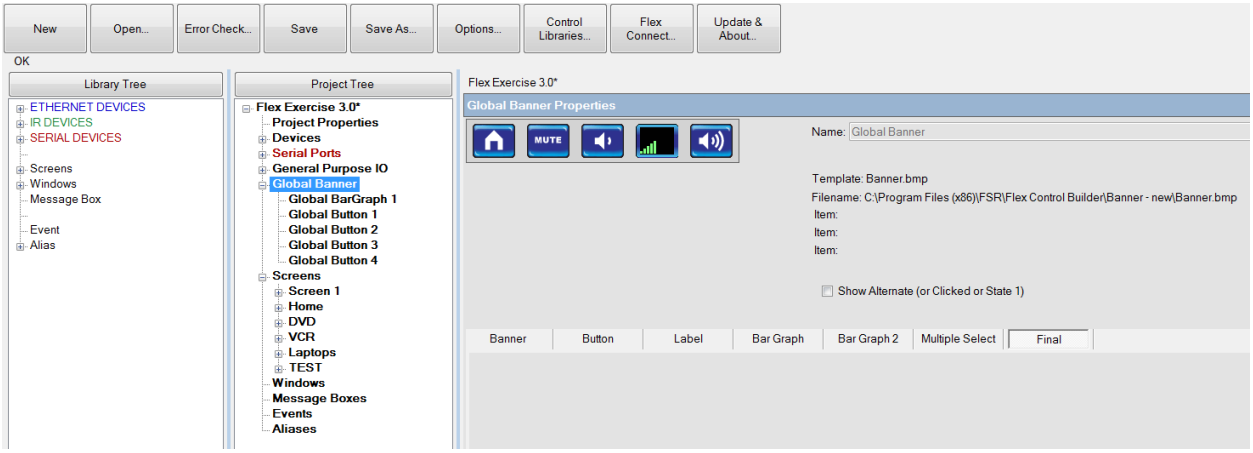


GLOBAL BANNER SET UP

Global banners are designed to eliminate repetitive steps when configuring audio controls. When used, the Flex Control Builder designates the 5 buttons across the top of the screen as Home, Mute,

Volume down, a volume ramp, and Volume up. The global banner set-up is configured to work from the left to right tabs 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.

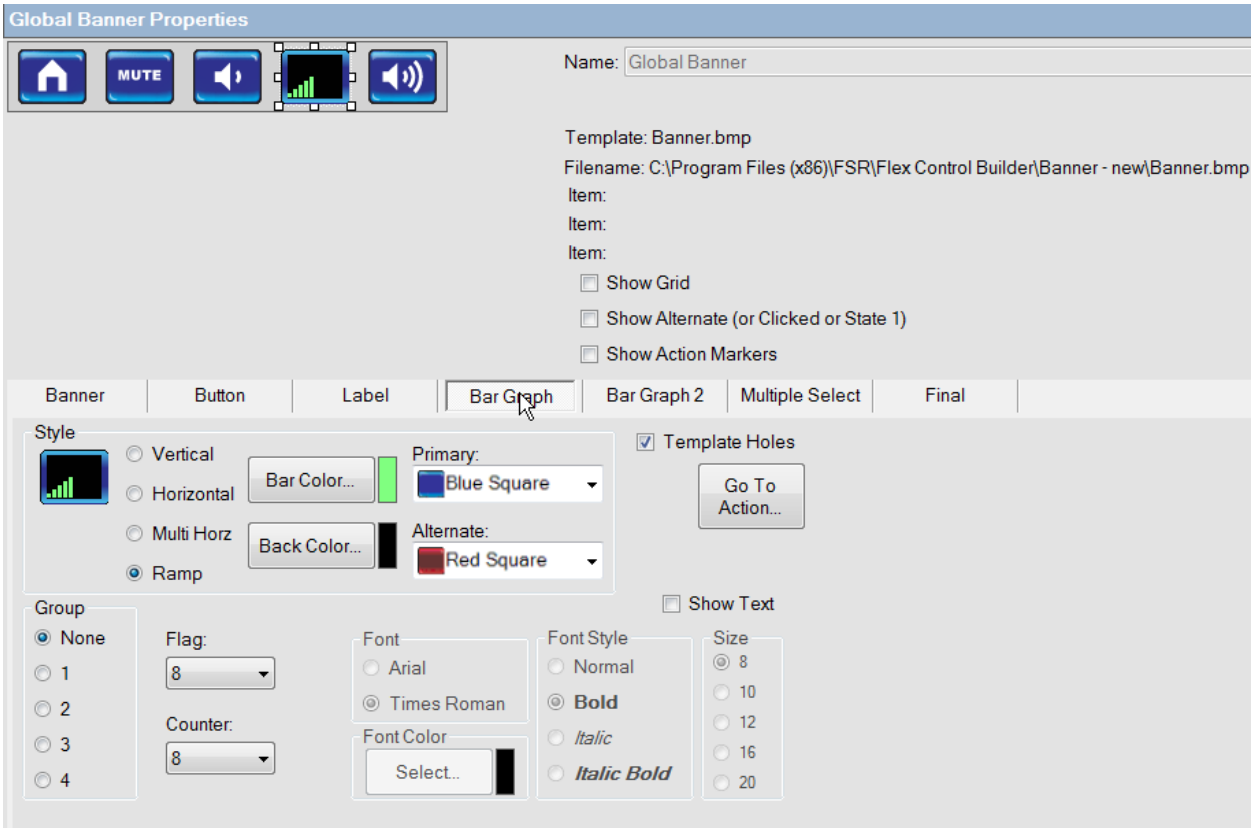


Click on the Bar Graph tab and select the color and shape options as desired.

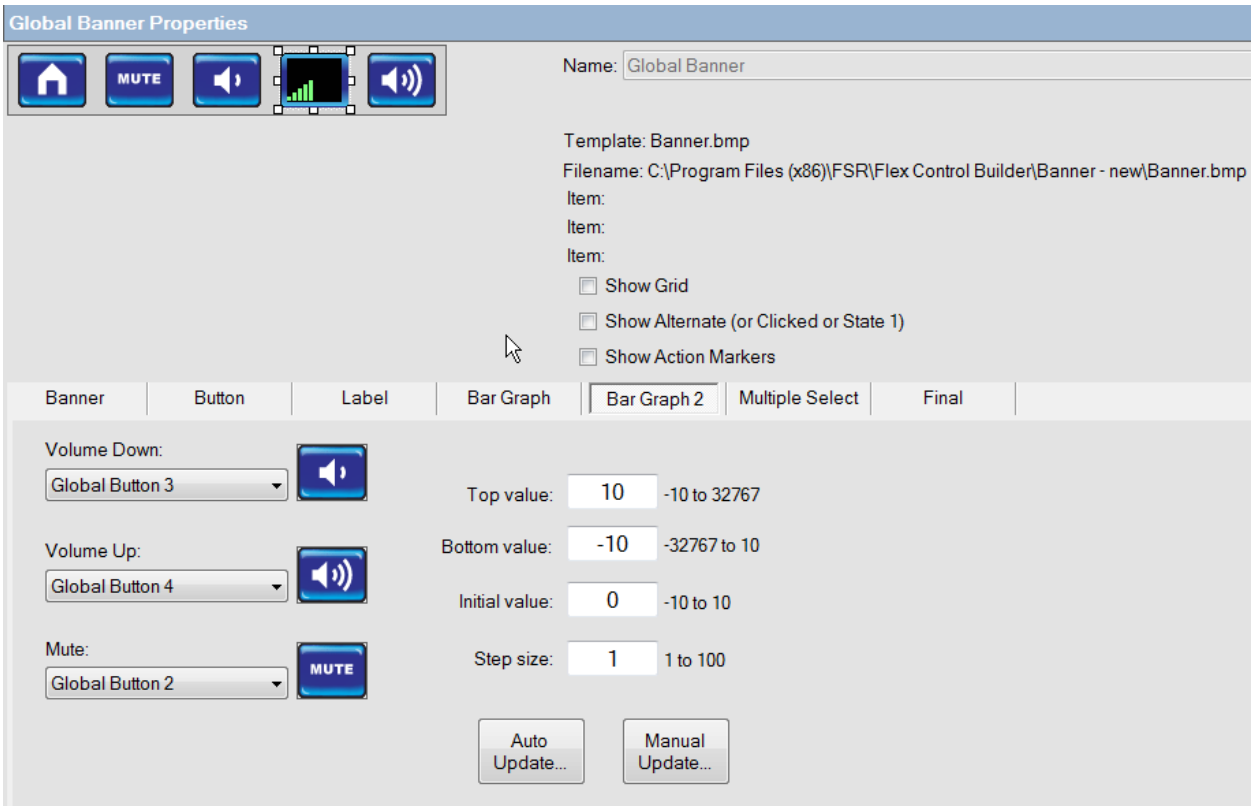
Then pick the style of Bar Graph. These include Vertical, Horizontal, Multi horizontal, and Ramped.

Numerical values can be added to the Bar Graph as well. Click the Show Text check box to the right of the color options. Doing so will show the numerical value on the graph itself. The text can also be adjusted to fit the desired format.

Select the bar and background colors.



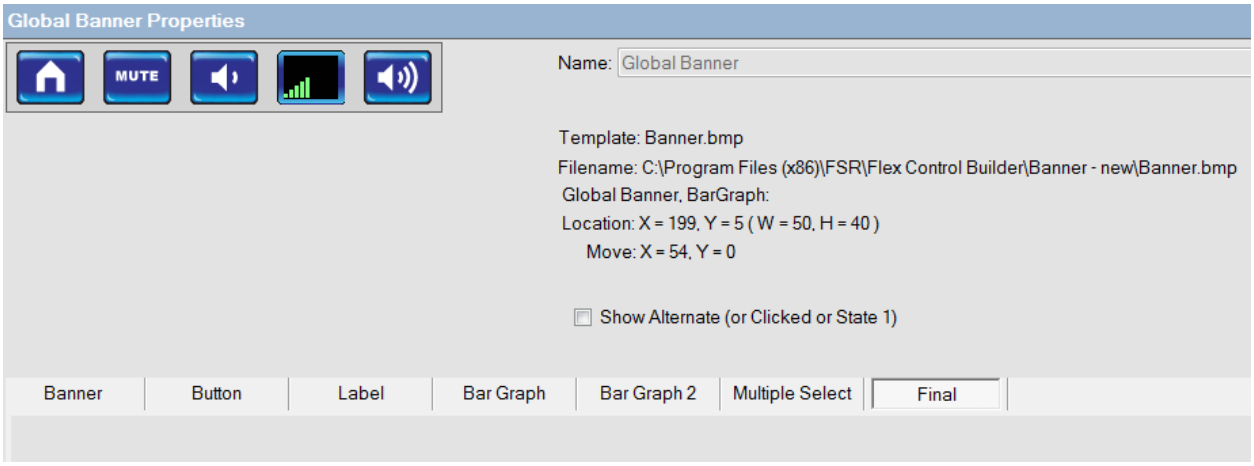
Next, click on Bar Graph 2 tab. Once in this tab, double click on the grey boxes next to the Volume Down, Volume Up, and Mute to define which buttons would correspond to each command.

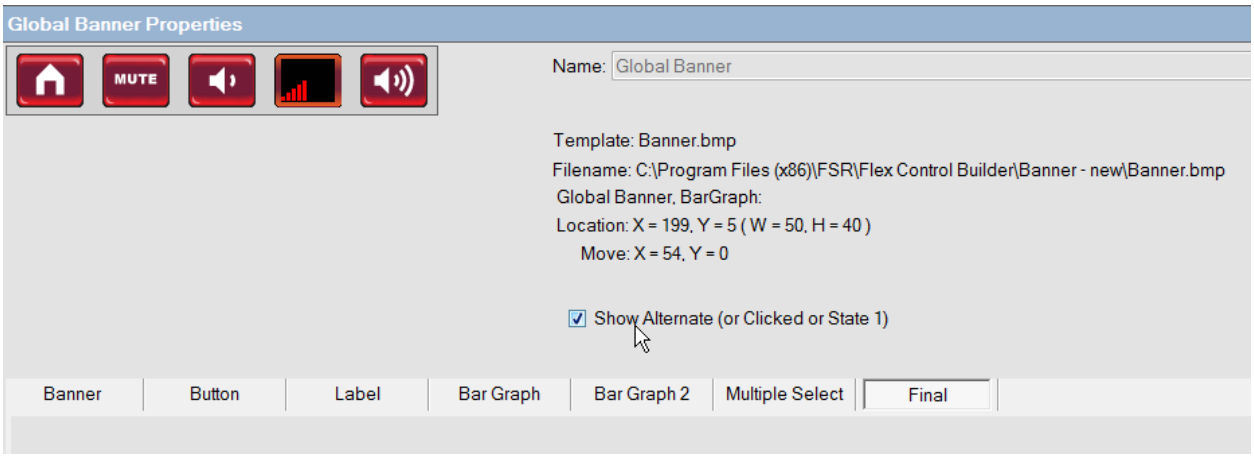


Select the style of banner, Interior color of the Bar Graph, and the Primary and Alternate Color schemes.

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

Clicking on the Final tab or the Show Controls will show how the banner will look on all screens where banner has been selected for use. By also checking off the Show Alternate box, the alternate color for each button will be displayed.



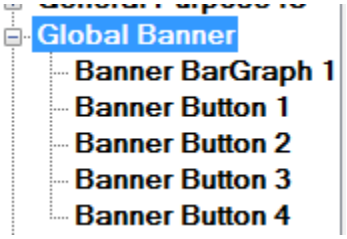


Labels can be setup in the same manner as shown earlier for buttons.

Input windows will be discussed in more detail later.

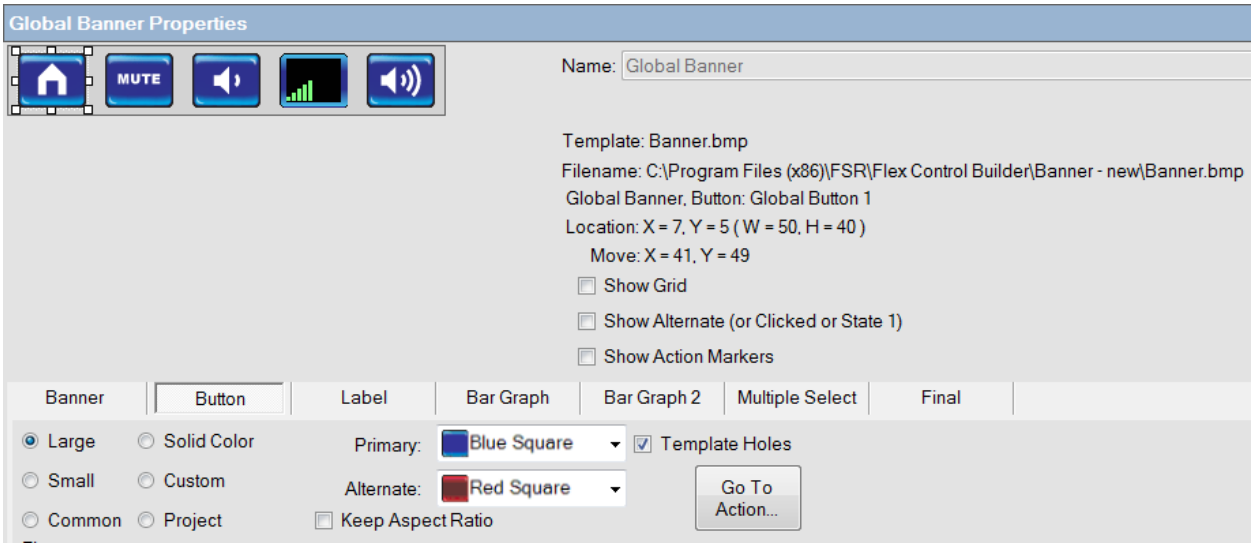
Assign Actions to Global Banner

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

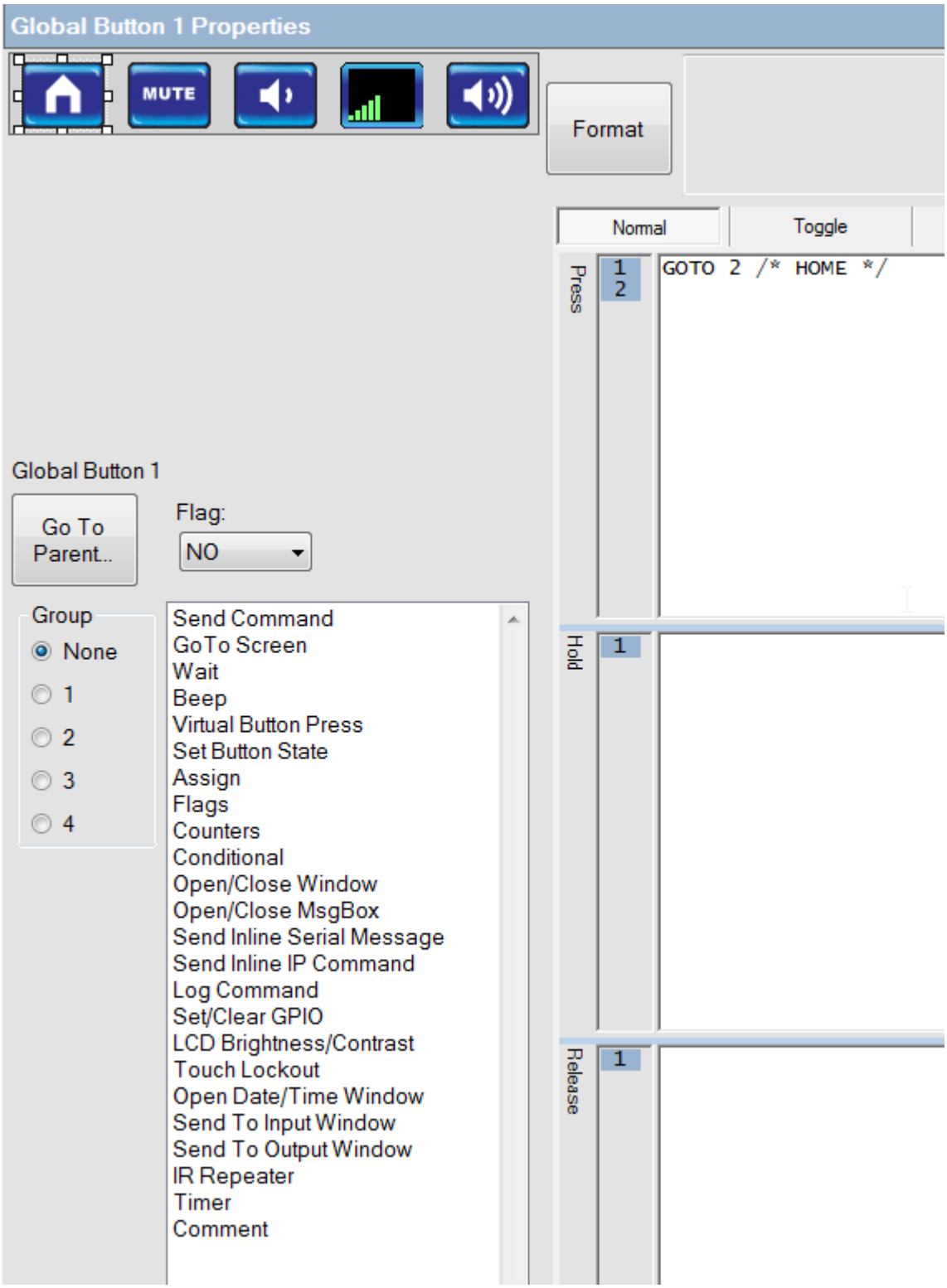


Now let's complete the **BANNER FUNCTIONS**.

Select the Home button and then click on the Go To Action radio button.



By default the Go To 2 screen, which is the Home screen, has already been entered. This can be changed by deleting the command line and then selecting the Go to Screen option in the command list and selecting a different screen.

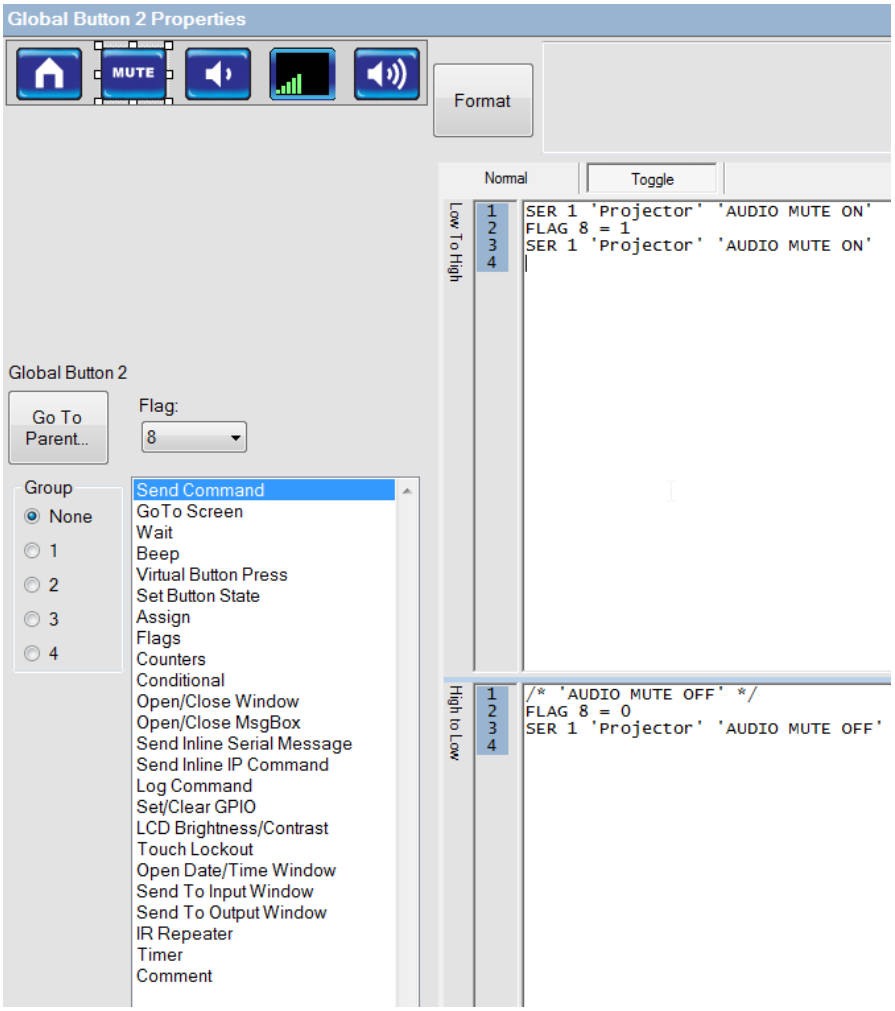


Now select the **Mute Actions** Button.

Select Send command, choose the projector and then '**AUDIO MUTE ON**' and press OK.

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

Note: These are Toggle commands.



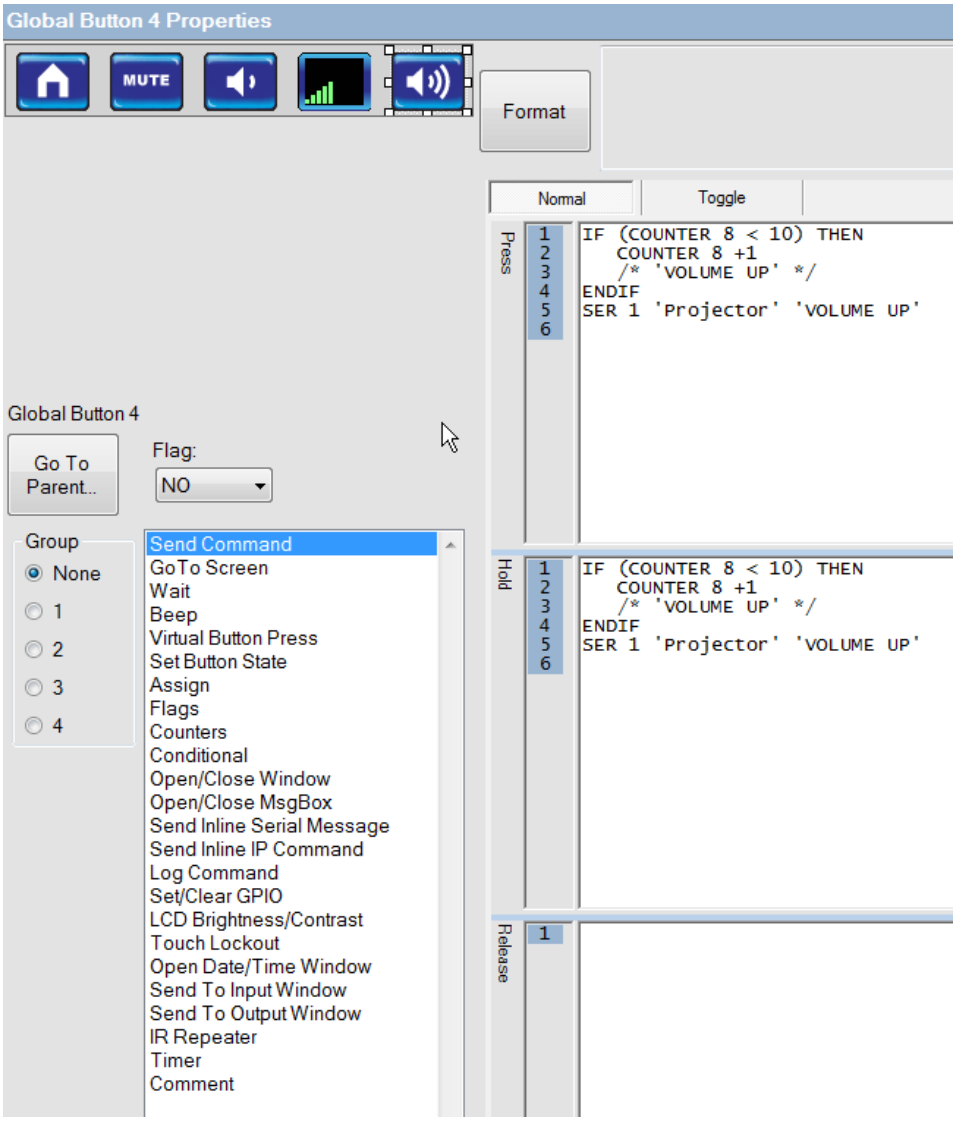
Volume

Volume controls are versitle. They offer the capability of independently controlling volume press actions and hold actions.As well, the Flex 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 the 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.

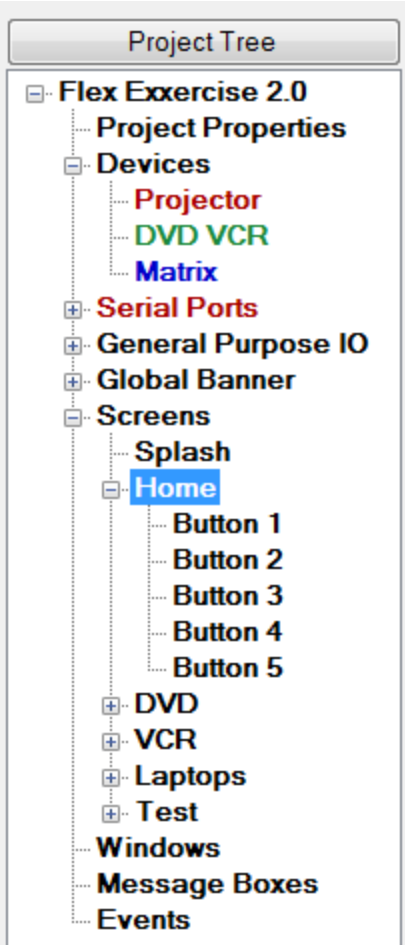
Now click on the Volume down tab and enter the volume down actions as you did for the volume up.

Assigning Actions

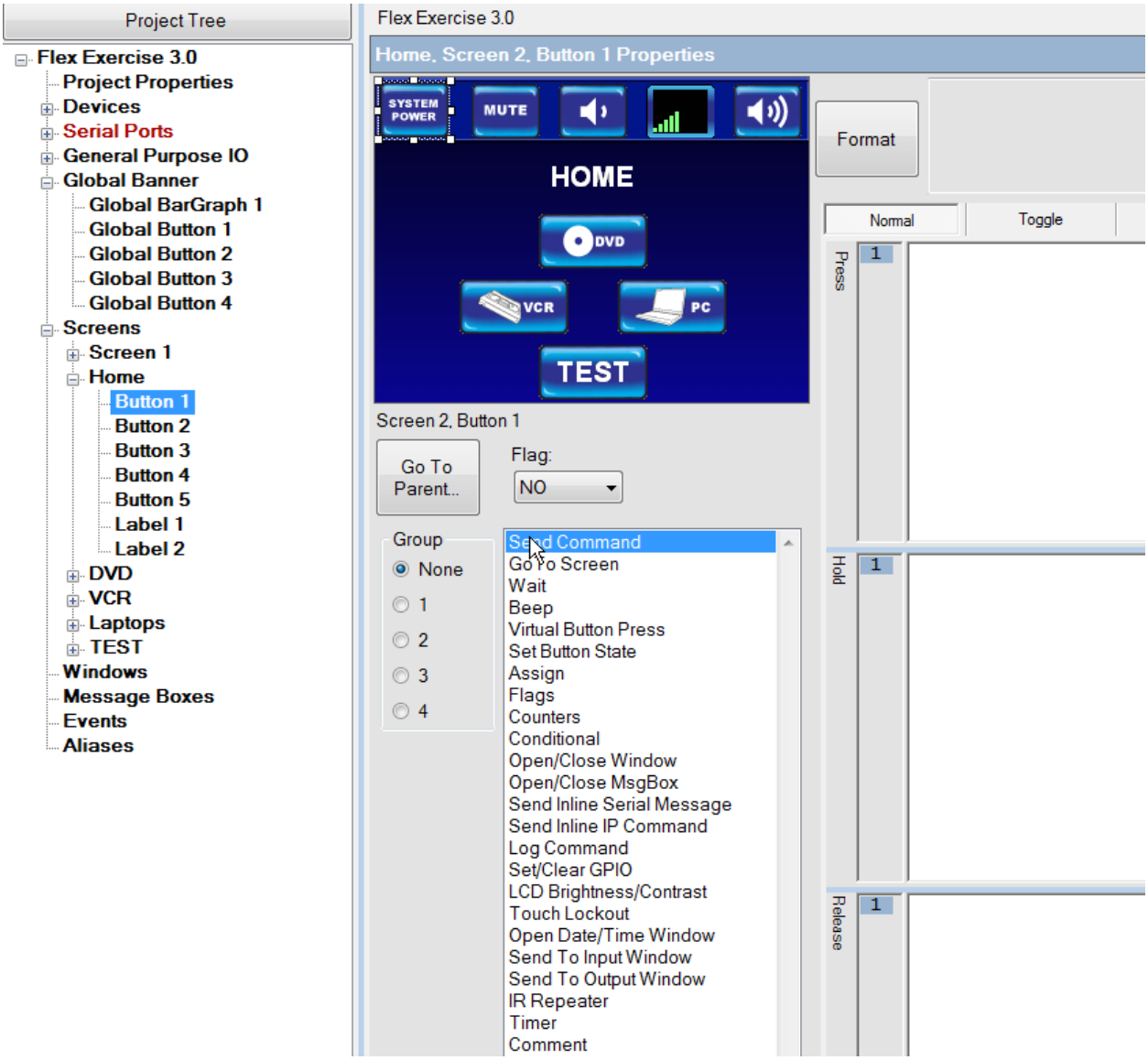
Now we must go back and assign actions to the graphic buttons.

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

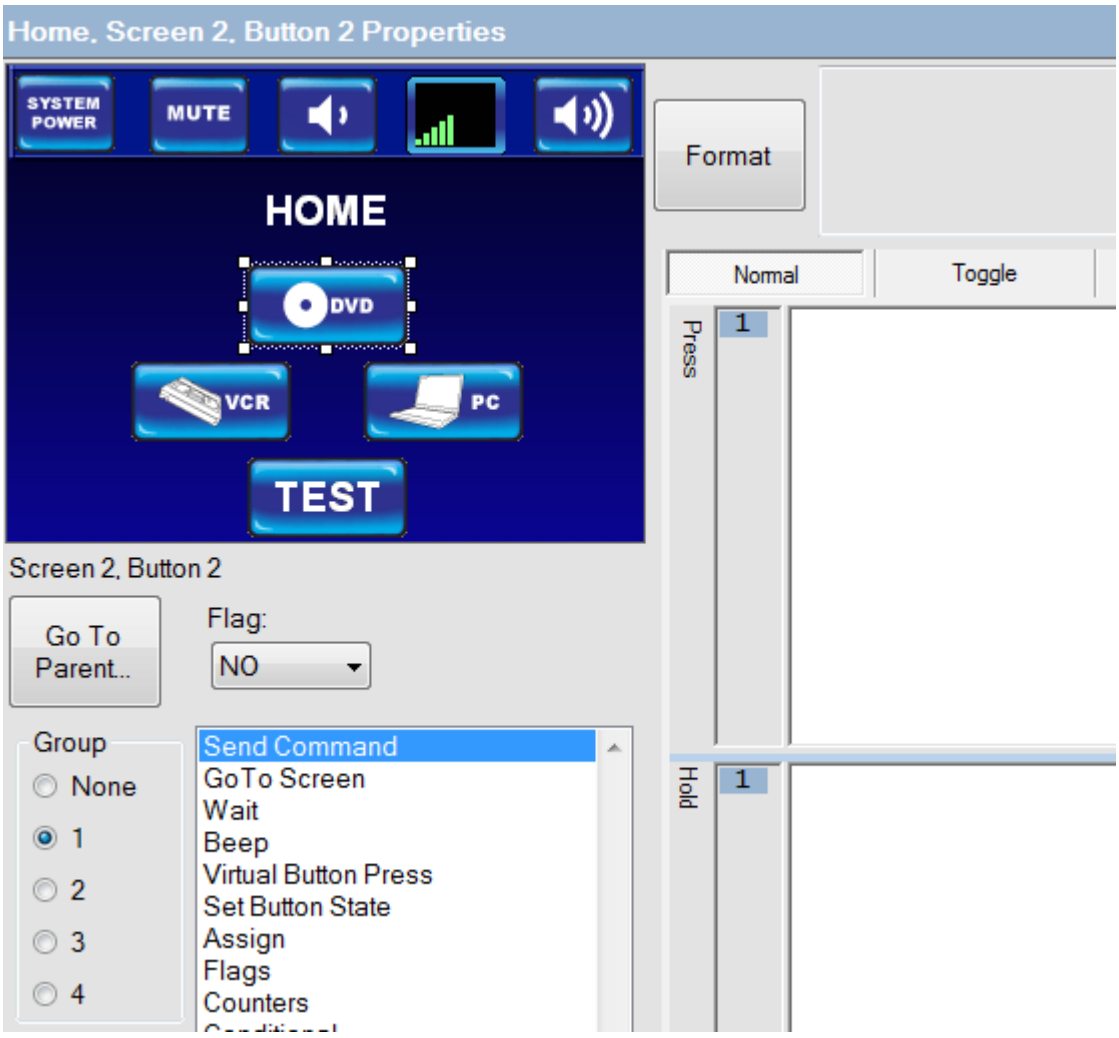


Notice the System power button is selected and outlined on the screen.

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

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.



Attaching a 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:

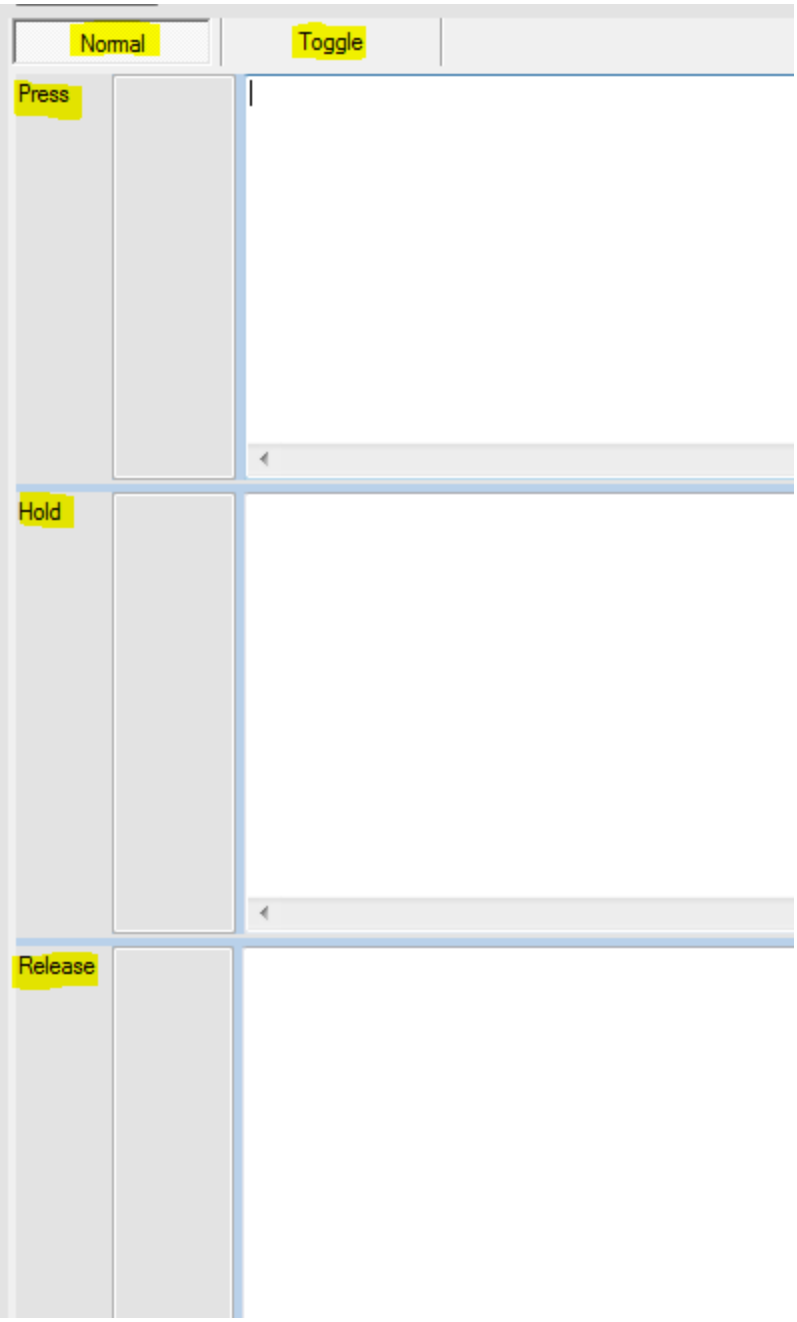
There are four different **Button Touch Types**. The first type is a **Normal** button. When the button is pressed, the actions that are listed in the window on the right are executed. Also, when the button is pressed, the alternate graphic is shown briefly to visually acknowledge the press. The exception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

The next type is **Press**. 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 **Hold 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.

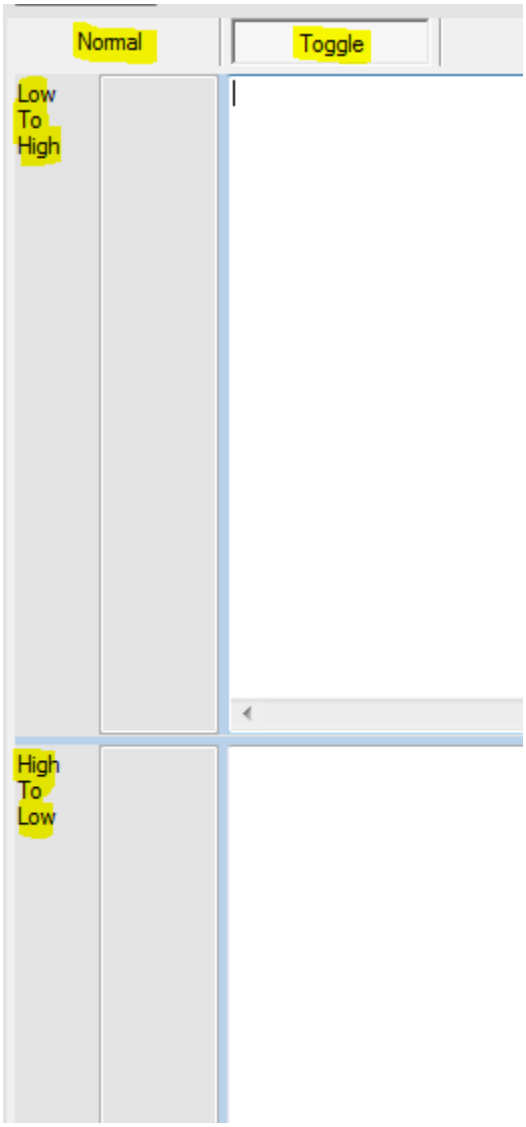
The final button type is a **Toggle Button**. A Toggle Button is one that you press once to do something and press again to do something else. In this case, the First Press Actions occur the first time that the button is pressed. When the button is pressed again, the Second Press Actions occur. Click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

Note: Whichever style is selected, Toggle or Press / Hold / Release, the style last selected 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 toggle was last selected.



Above: **Press** Hold and Release action boxes

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



Now we will start to add real actions.

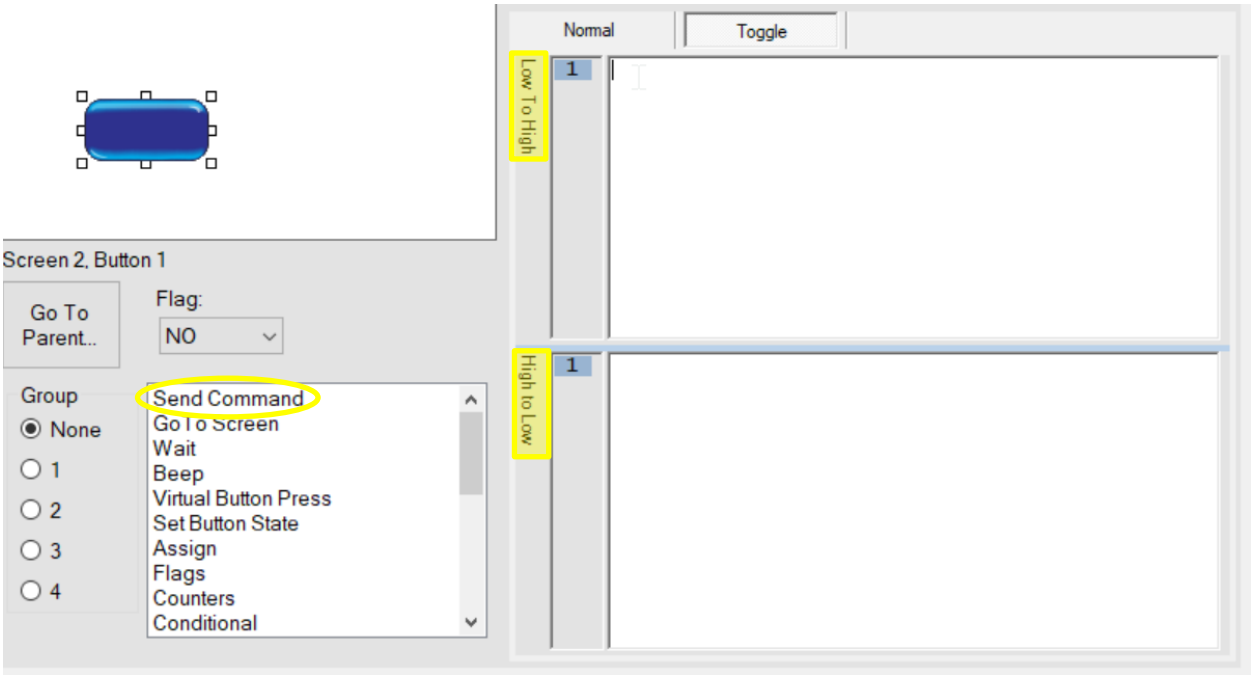
Select button 1 again (System Power). Since we want one set of actions to "Turn the System On" and another set to "Turn the System Off", we will setup the System Power button as a toggle button.

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.

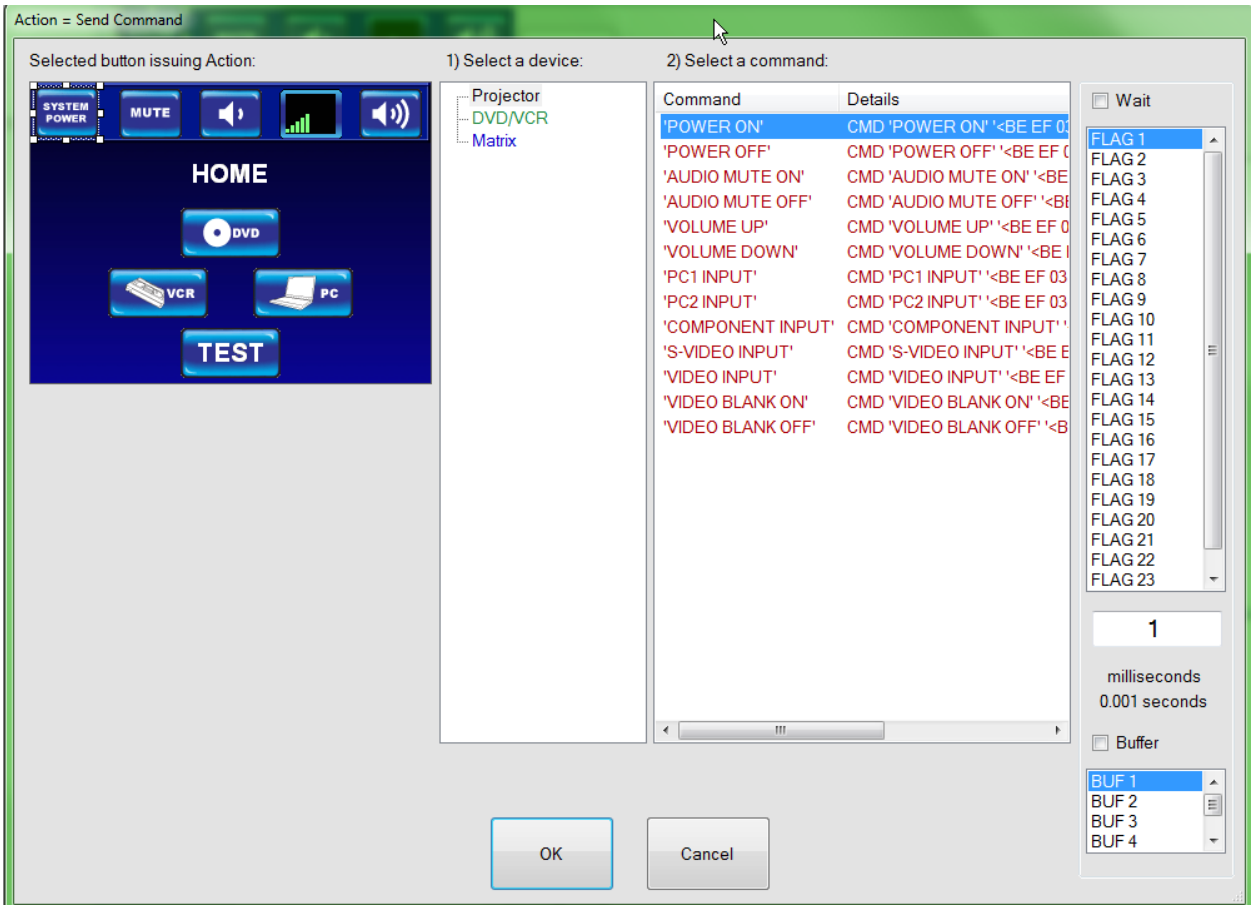
Click within the Low to High box first.



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.

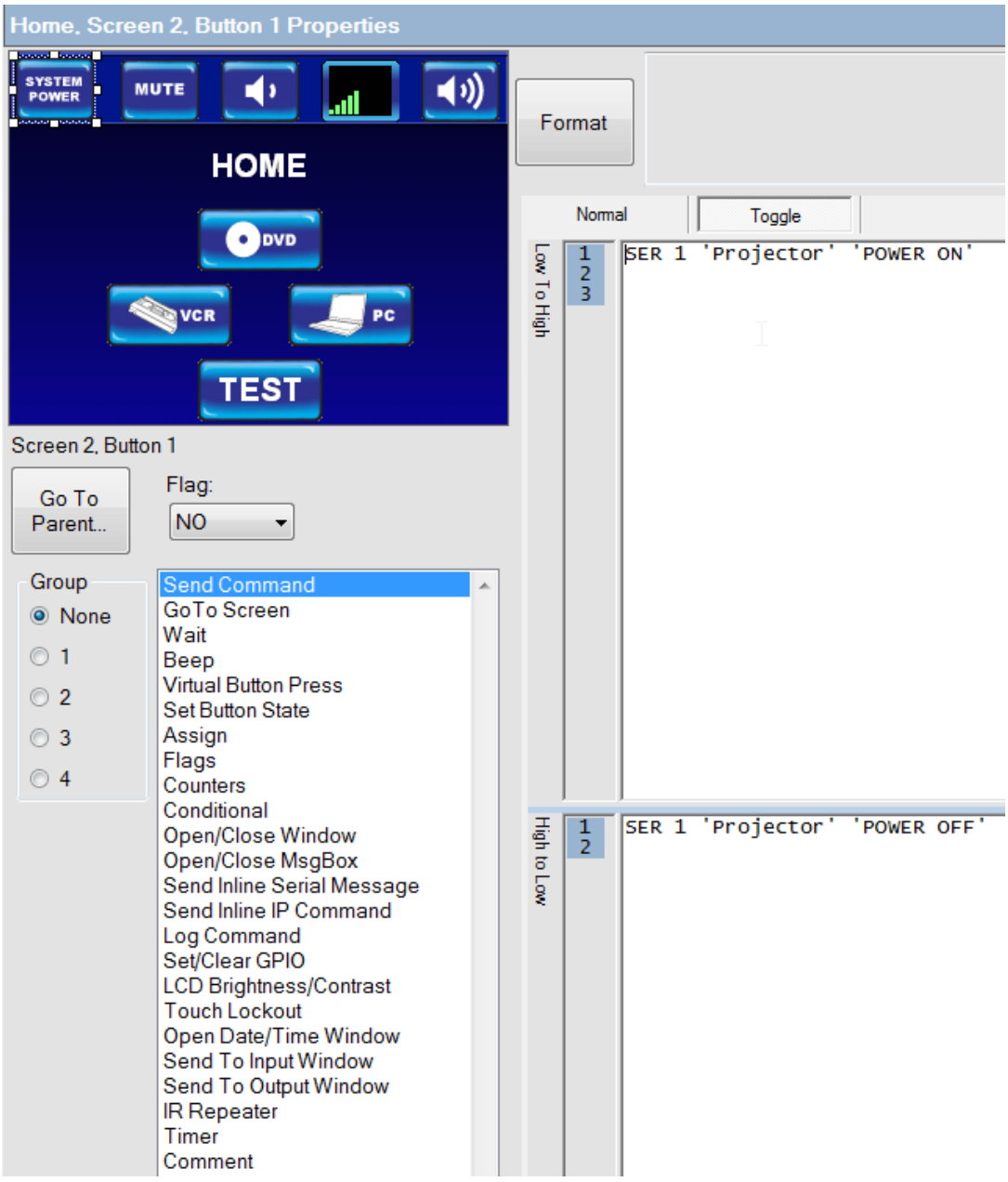
In the Second Press Actions window reverse the process selecting the “Power Off”command.

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.

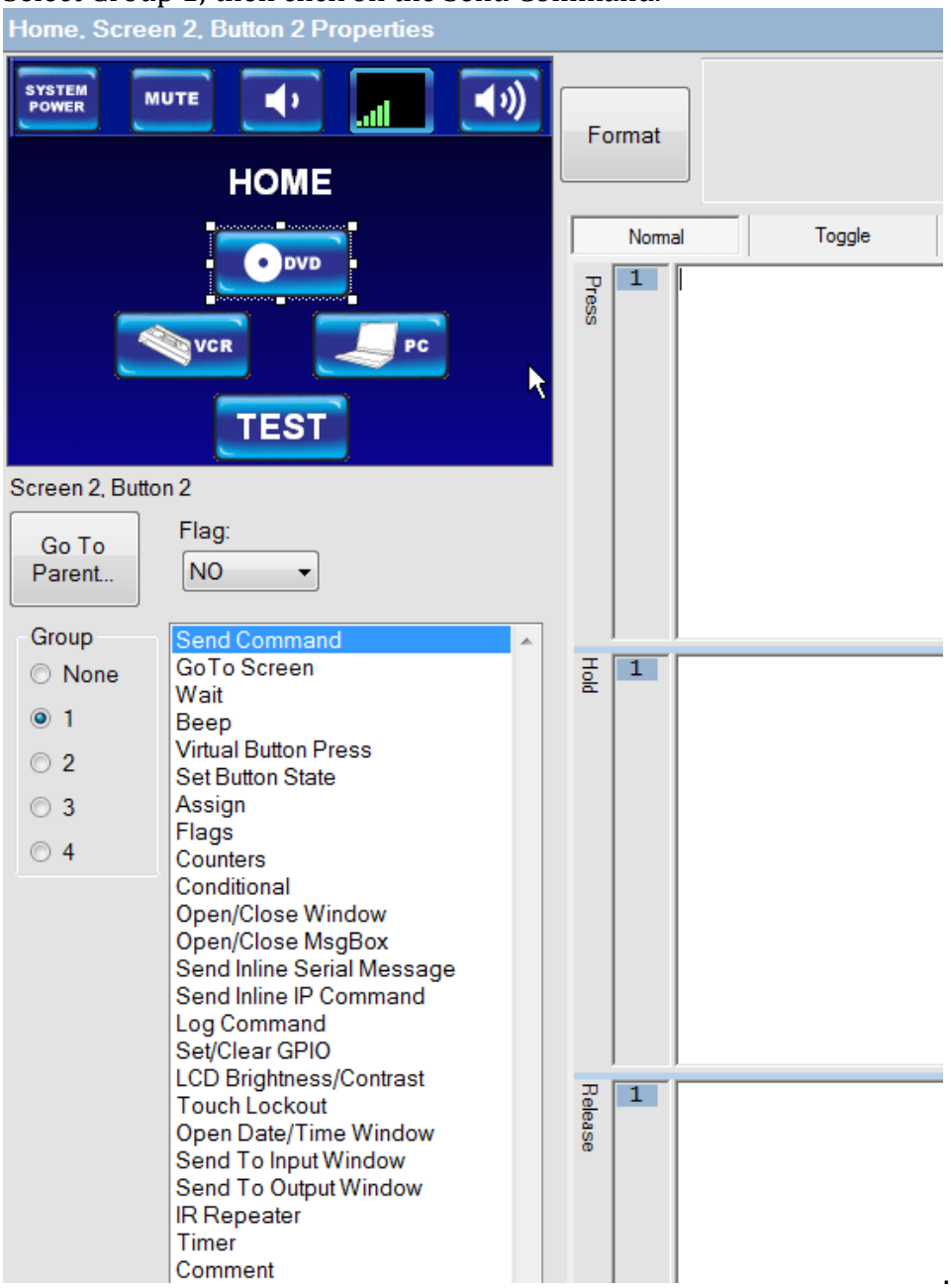
When completed the window will look like this.



Click on the DVD button.

Select a **Normal Button Type**.

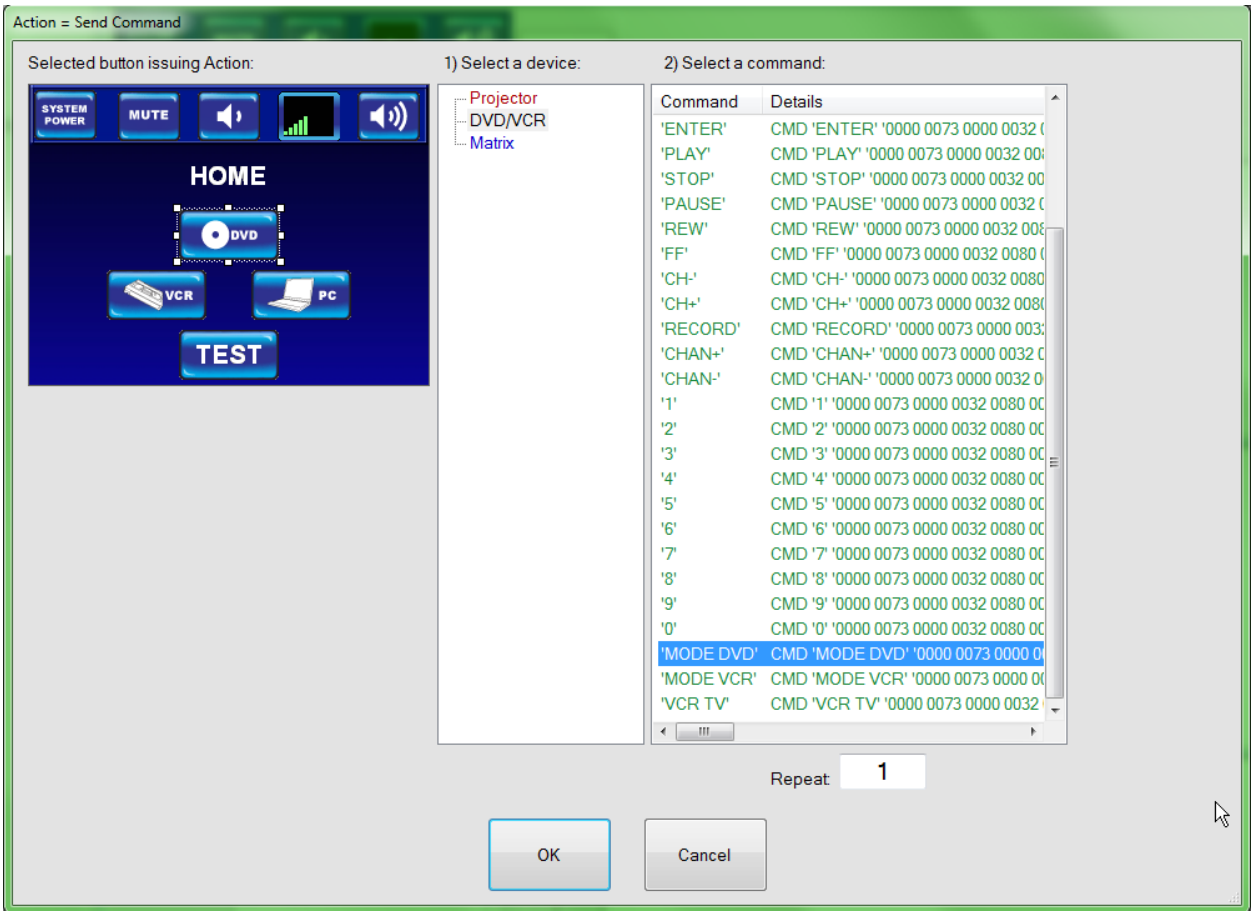
Select Group 1; then click on the Send Command.



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: Enter the 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.

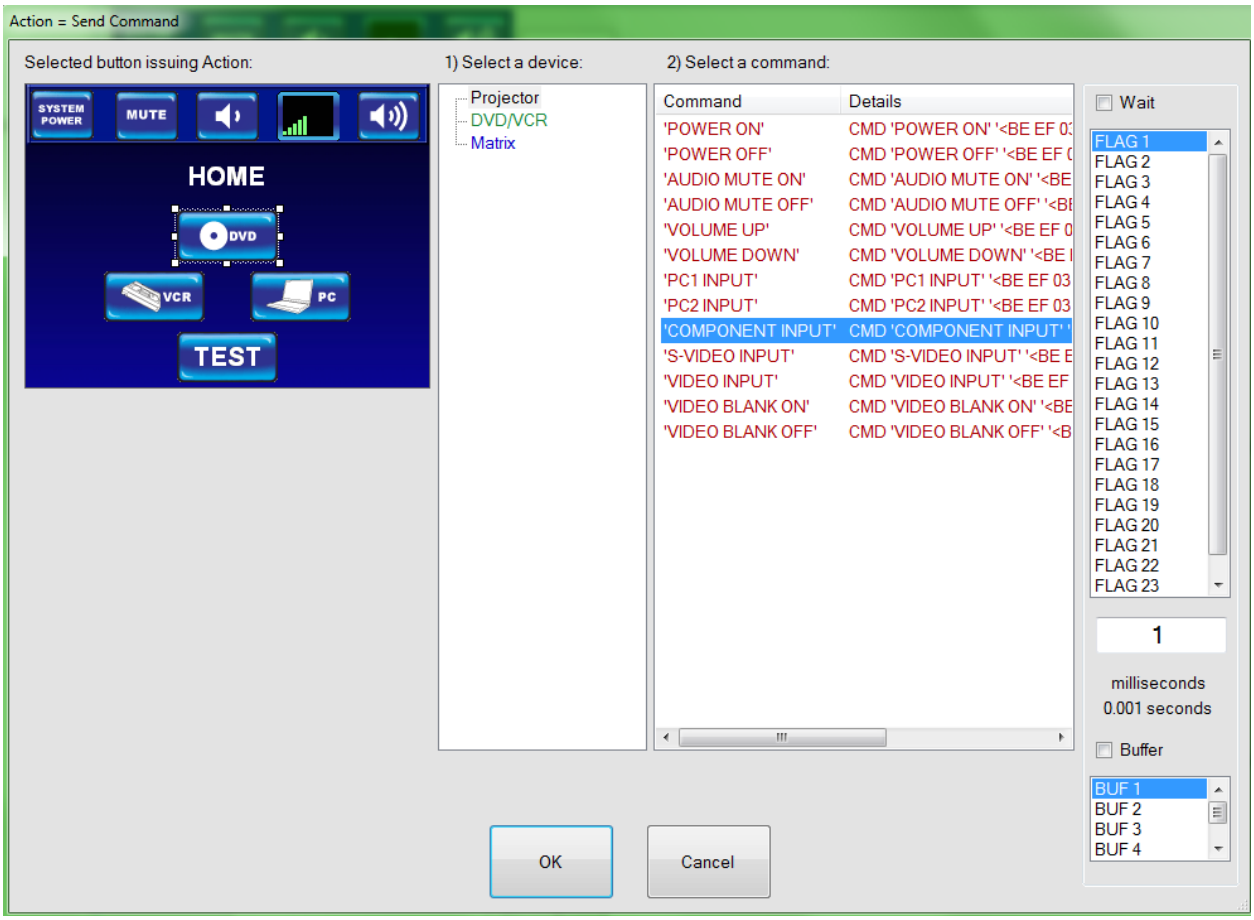


Click on Send Command.

Select Projector

Select the command ‘COMPONENT INPUT’.

Click the ‘OK’ button.



Click the ‘OK’ button.

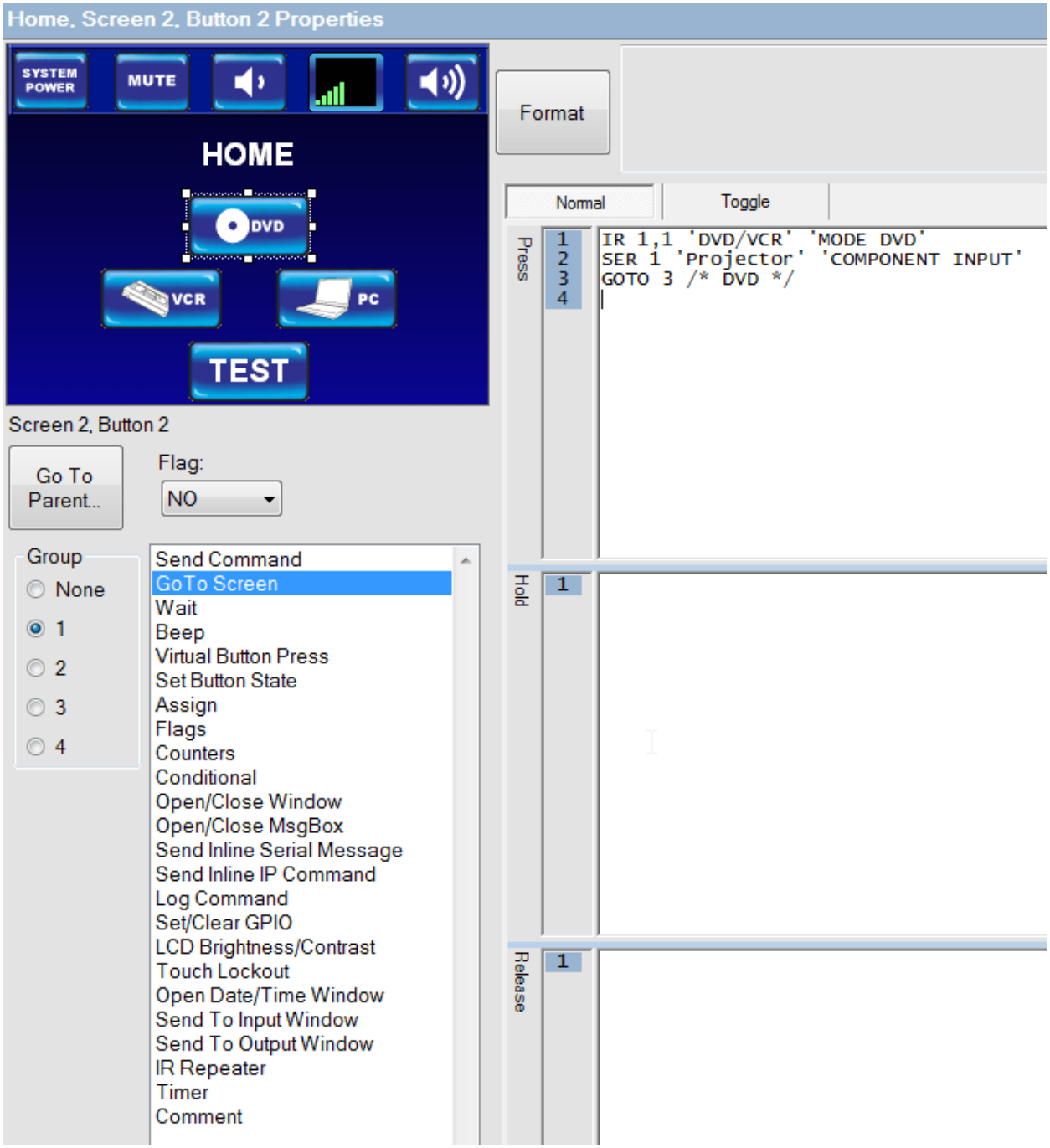
Click on Go To Screen.

Select DVD.

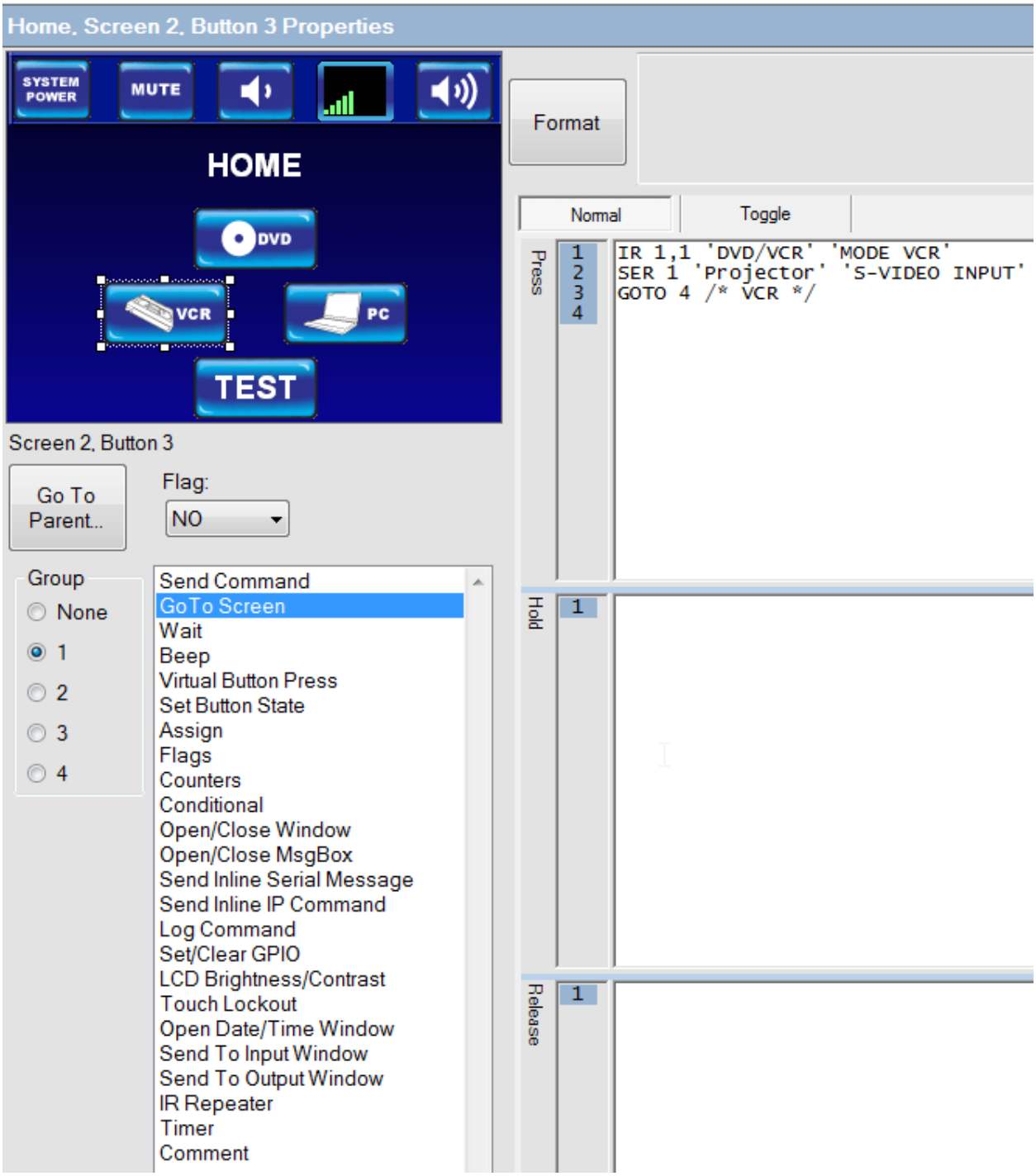
Click the ‘SAVE’ button.

The completed DVD button should look like the following.

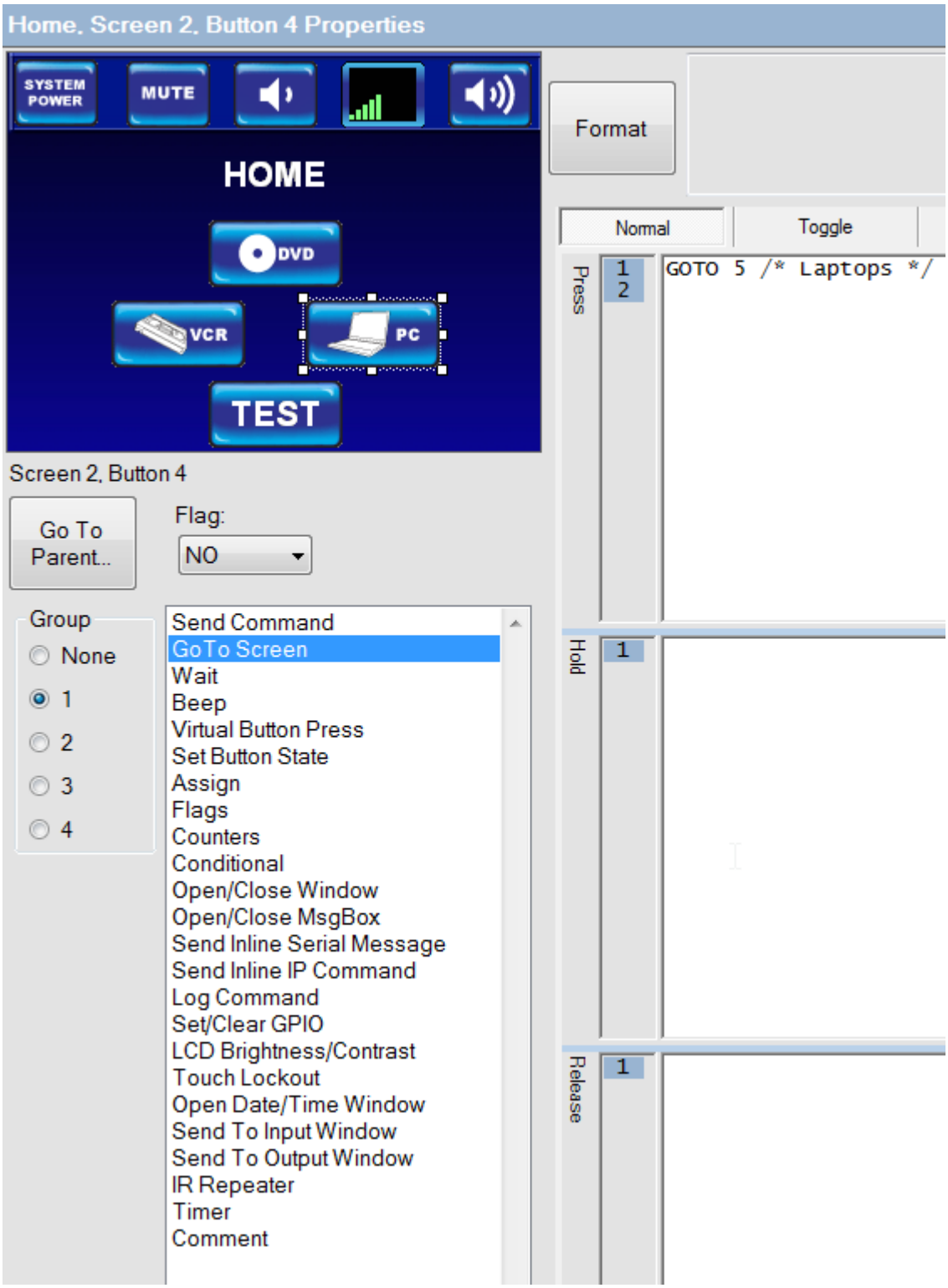
The input screen will look like this.



Now select the VCR button and perform similar actions to the DVD, including the selection of a Group. This time select the S-VIDEO INPUT, DVD/VCR Mode, then VCR.The GO TO Screen will be VCR.



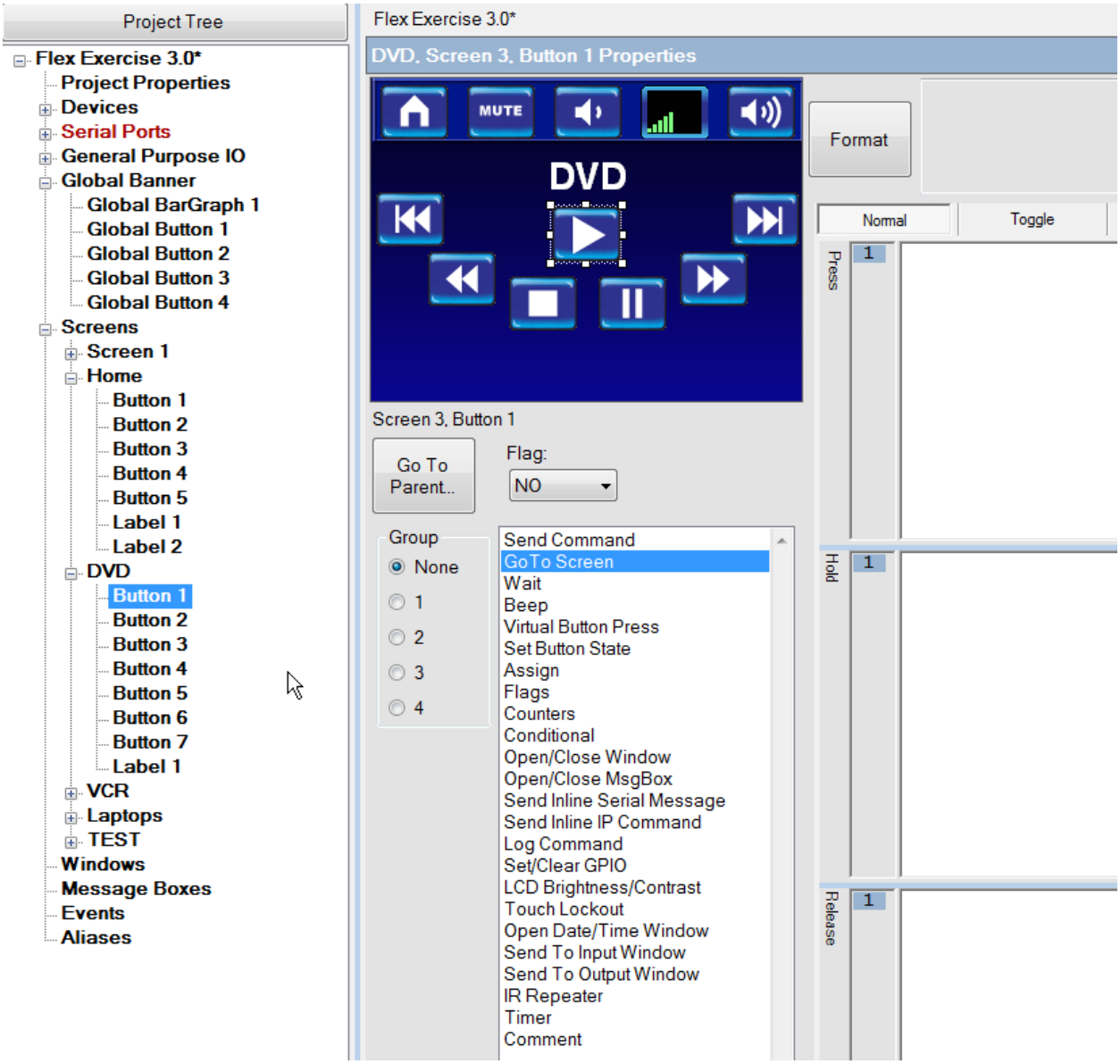
The PC screen will only be placed into Group 1 and have a command to GOTO the laptop screen as shown below.


Home, Screen 2, Button 4 Properties
SYSTEM POWER
MUTE
HOME
DVD
VCR
PC
TEST
Format
Screen 2, Button 4
Go To Parent...
Flag:
NO
Group
None
1
2
3
4
Send Command
GoTo Screen
Wait
Beep
Virtual Button Press
Set Button State
Assign
Flags
Counters
Conditional
Open/Close Window
Open/Close MsgBox
Send Inline Serial Message
Send Inline IP Command
Log Command
Set/Clear GPIO
LCD Brightness/Contrast
Touch Lockout
Open Date/Time Window
Send To Input Window
Send To Output Window
IR Repeater
Timer
Comment
Normal
Toggle
Press
1
2
GOTO 5 /* Laptops */
Hold
1
Release
1

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

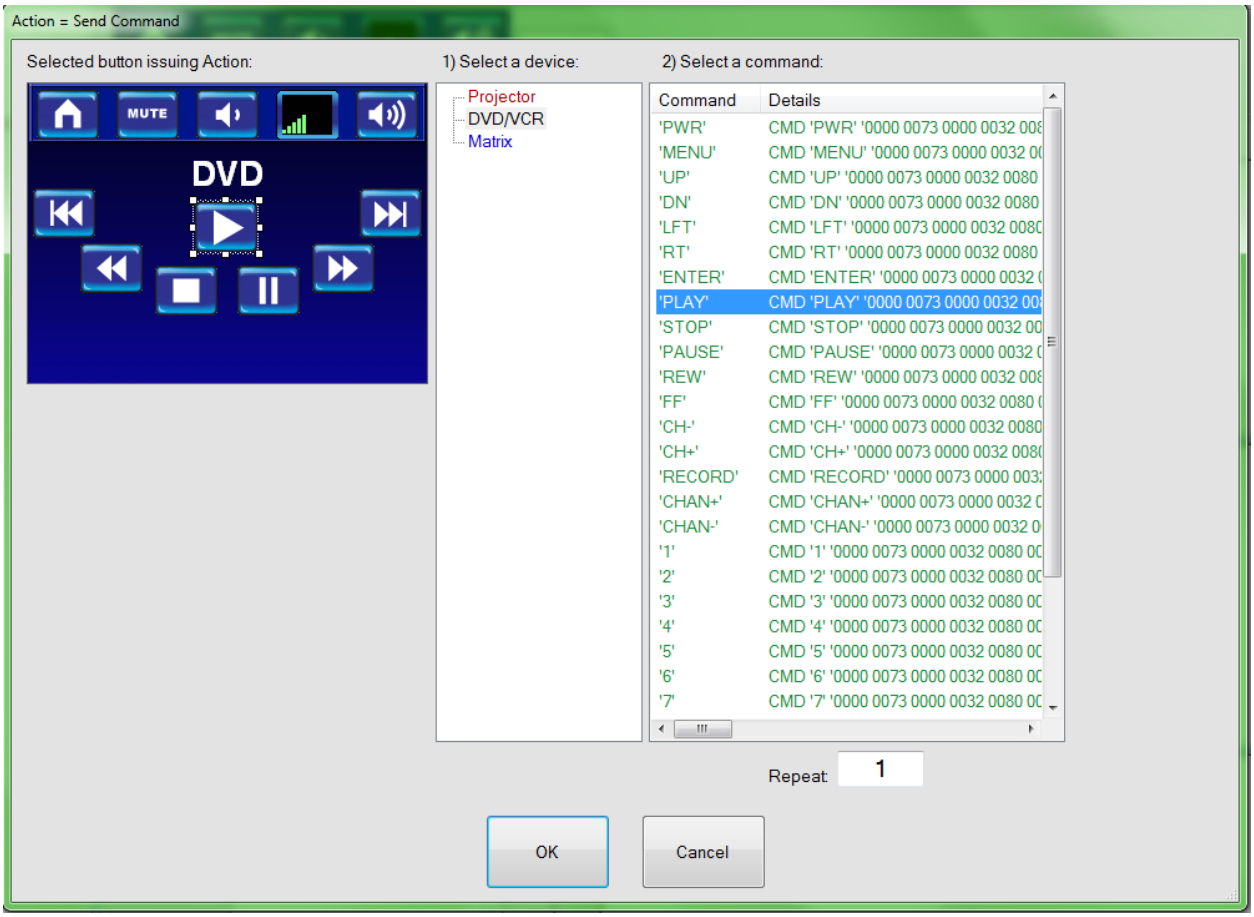
The home screen is now complete and we can move on to the DVD button commands.

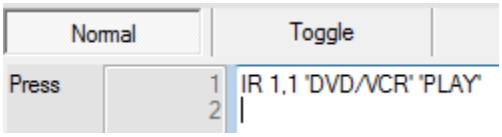
Click on the + to the left of the DVD in the Project Tree and select Button 1.



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 'Play'.





Complete actions to associate all other commands to their respectivebuttons 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 function if the device requires it.

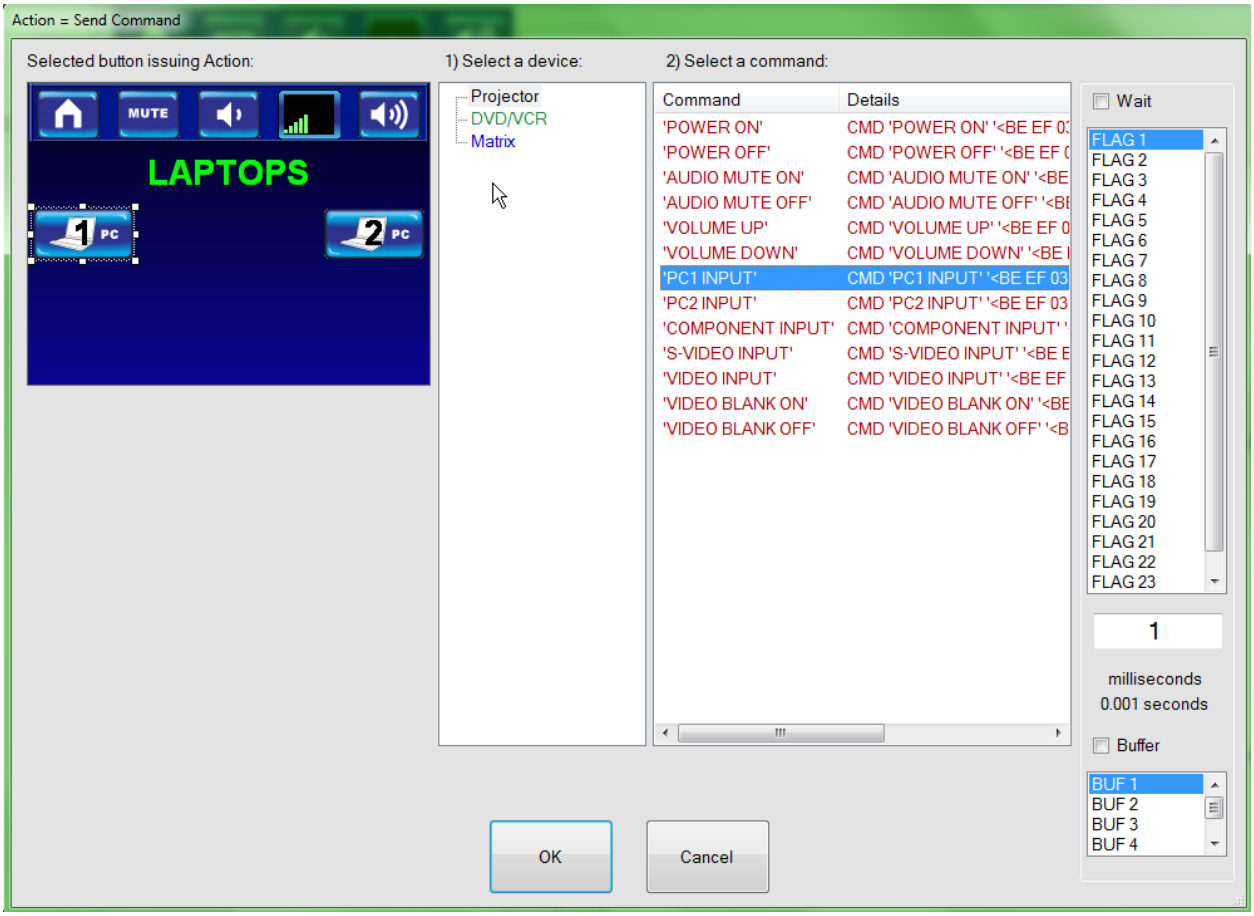
Click on the +VCR and select Button.Next select VCR Input from the projector commands; then repeat the other commands in a similar manner as was done for the DVD screen.

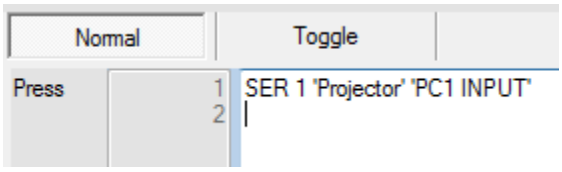
Once completed, click the +PC screen.

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.



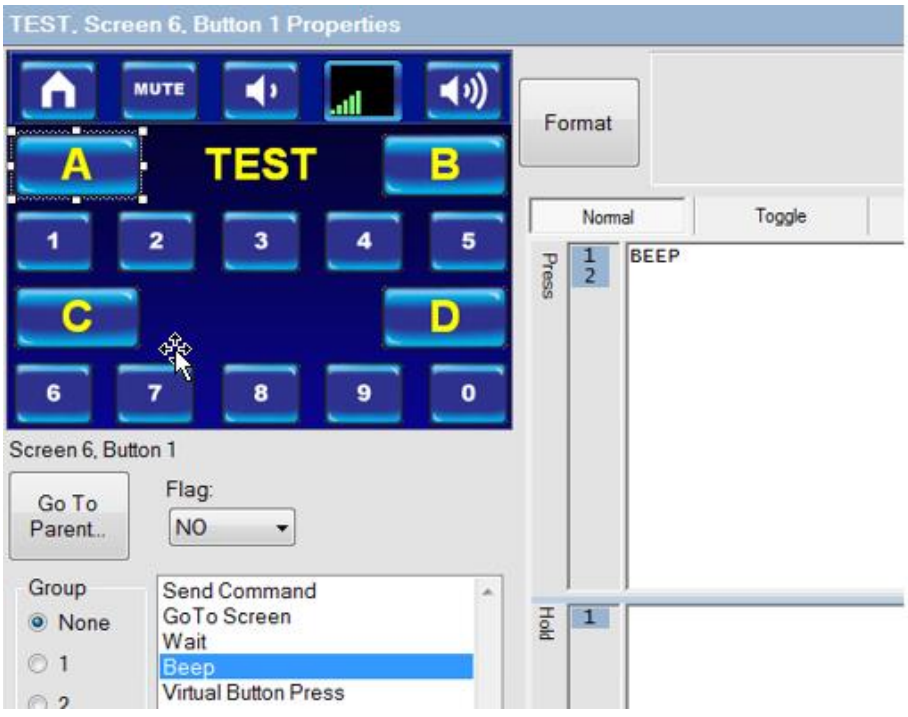


Now select PC 2, group 1 again, Send Command, and then PC2 INPUT.

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

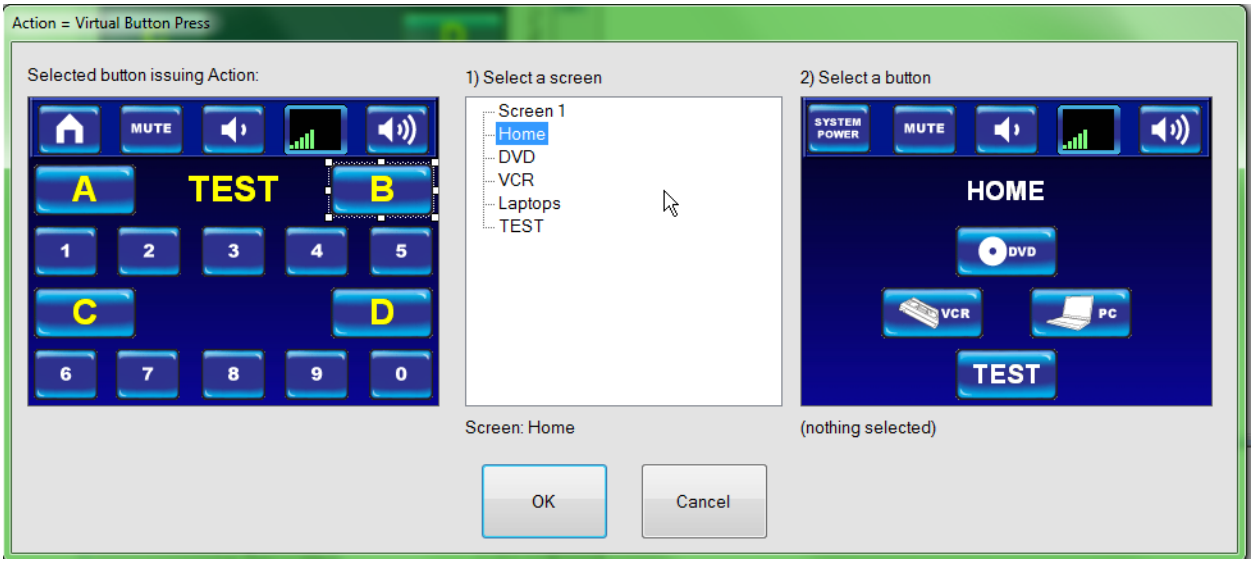
A beep command can be added to any buton press or event. To demonstrate this, click the +TEST on the Project Tree and then button 1.This is the A button on the screen.
This will be a press only action. On the command list, click the BEEP command.
This can be used at anytime to provide audible feedback. 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 vice 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 from 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 command.

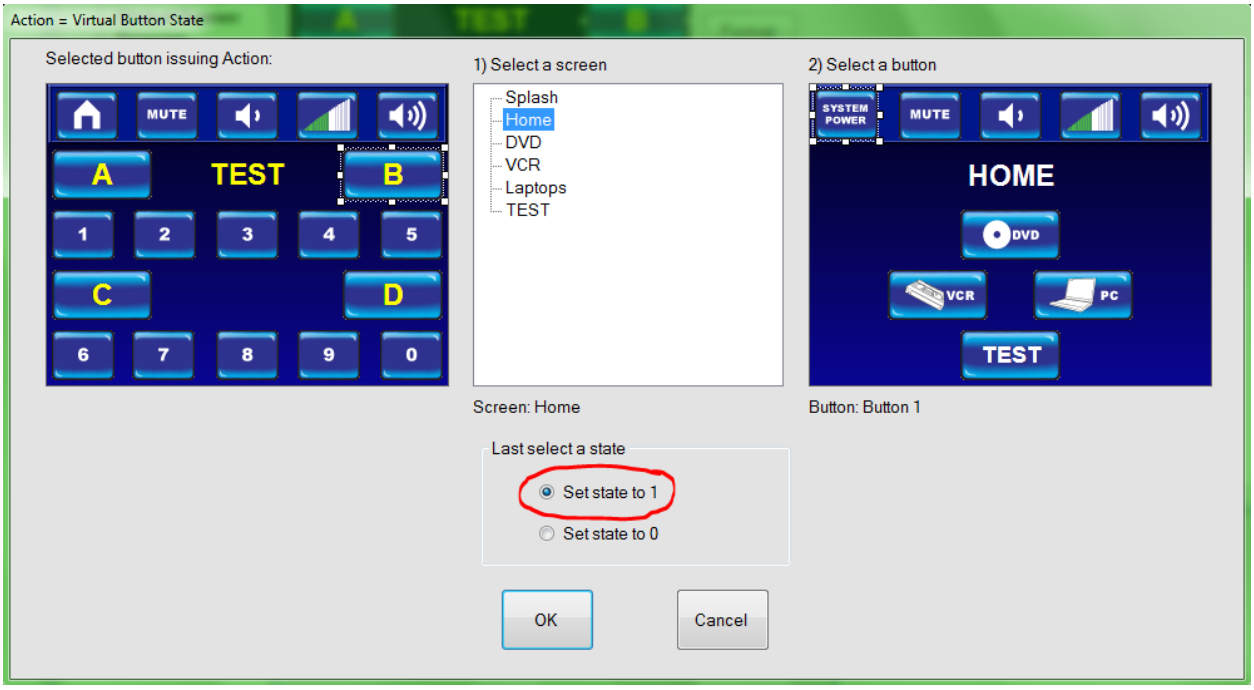
Virtual Button State

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

Click back into the 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 has been set to 1 as shown below.



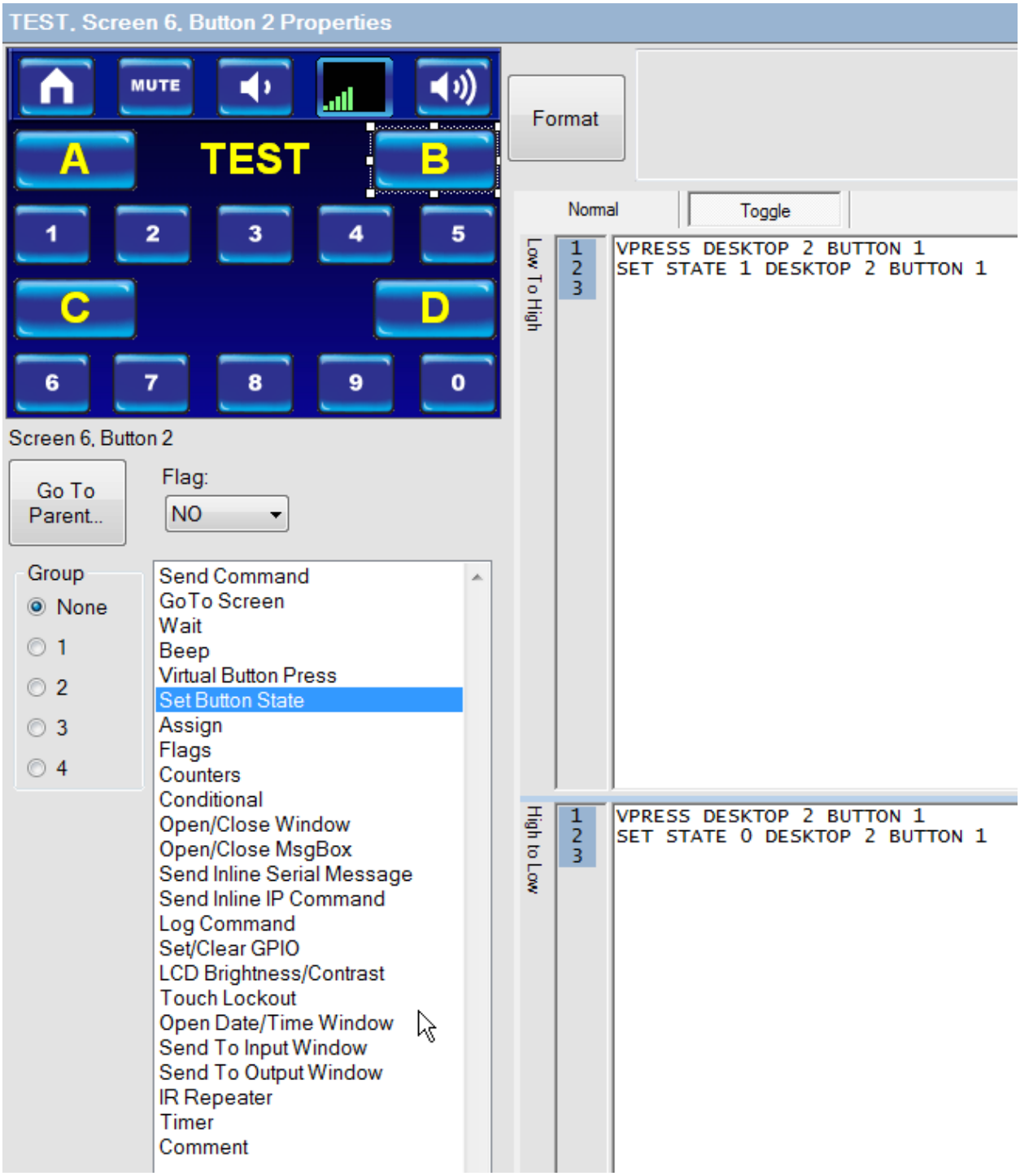
Click OK.

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

Select home and the System Power Button again.

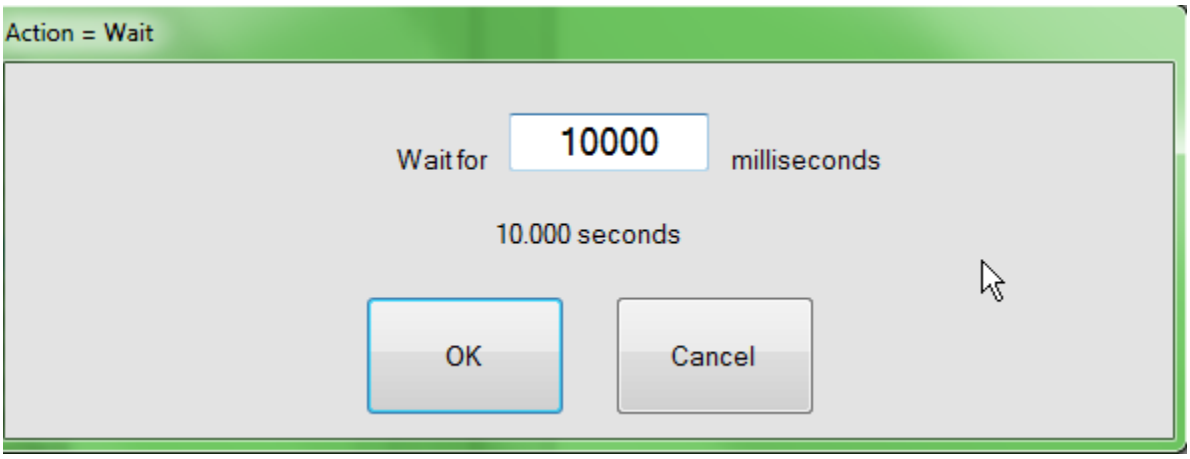
This time set the Set State to 0 and press the OK button.

The screen will now look like the screen below.


TEST, Screen 6, Button 2 Properties
MUTE
A
TEST
B
1
2
3
4
5
C
D
6
7
8
9
0
Format
Normal
Toggle
Low To High
1 VPRESS DESKTOP 2 BUTTON 1
2 SET STATE 1 DESKTOP 2 BUTTON 1
3
High to Low
1 VPRESS DESKTOP 2 BUTTON 1
2 SET STATE 0 DESKTOP 2 BUTTON 1
3
Screen 6, Button 2
Go To Parent...
Flag:
NO
Group
None
1
2
3
4
Send Command
GoTo Screen
Wait
Beep
Virtual Button Press
Set Button State
Assign
Flags
Counters
Conditional
Open/Close Window
Open/Close MsgBox
Send Inline Serial Message
Send Inline IP Command
Log Command
Set/Clear GPIO
LCD Brightness/Contrast
Touch Lockout
Open Date/Time Window
Send To Input Window
Send To Output Window
IR Repeater
Timer
Comment

Wait

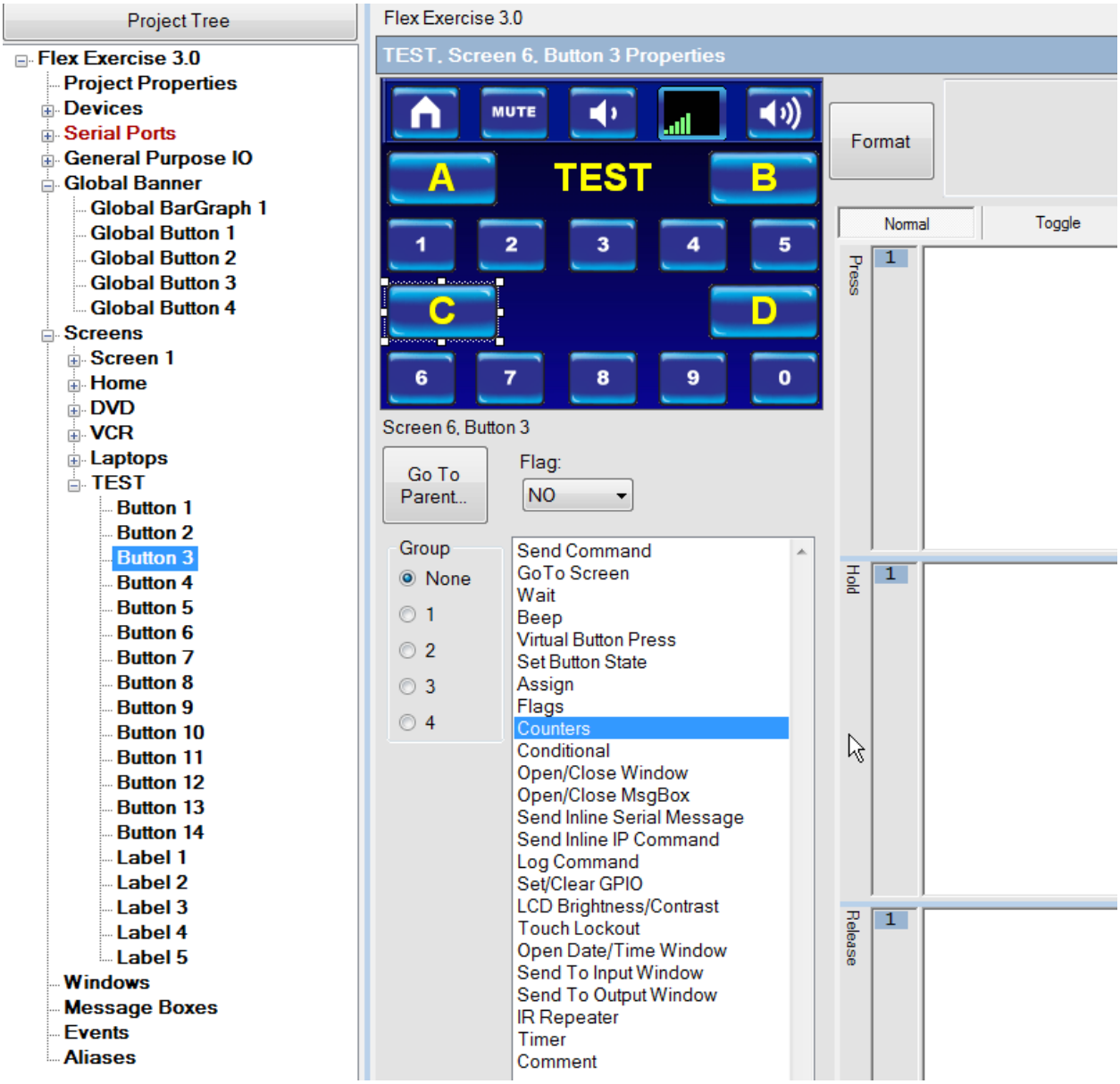
The FLEX can be told to wait for a predetermined period of time. This delaysthe execution of the list of actions in a button. You can delay the next action from 1 millisecond to 100 seconds. This can be added between any commands and is commonly used between commands to allow the device time to process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



Counters

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

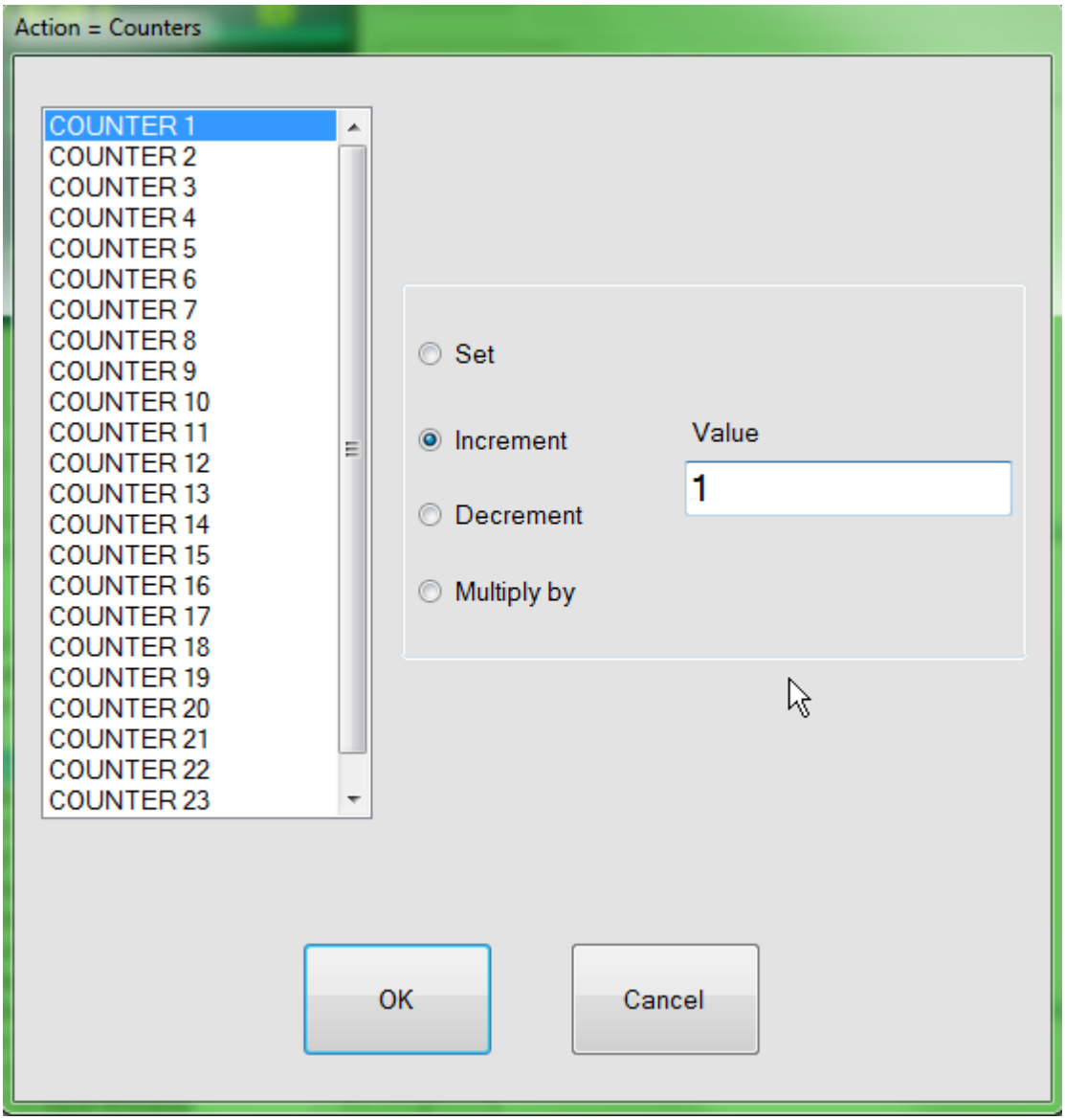
Start by selecting Button 3 on the TEST screen.



Now click on the Counters action command.

Select counter

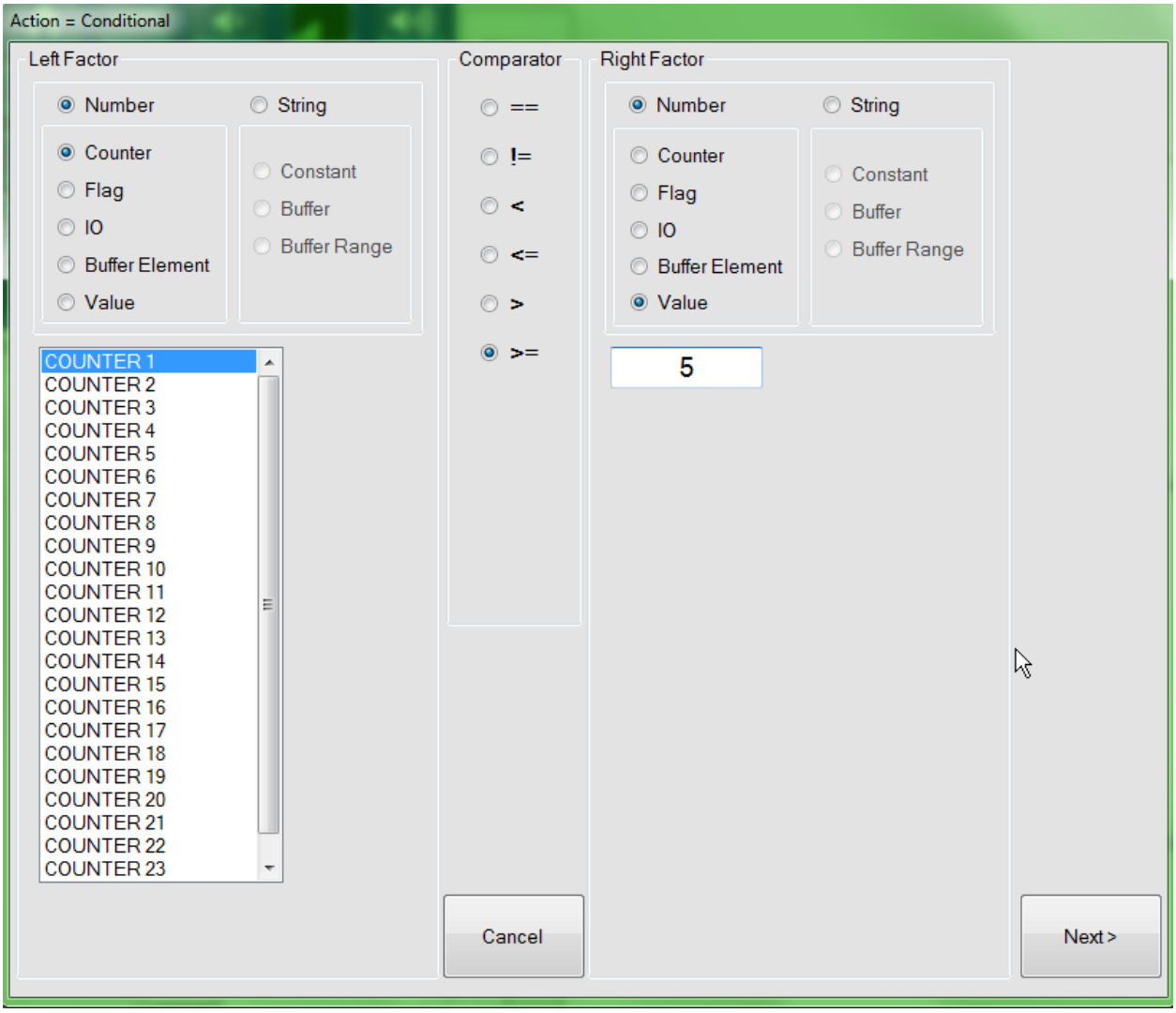
Select COUNTER 1, and then select increment. The increment can be any value you want, but for the sake of the example set the increment value to 1.


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
Set
Increment
Decrement
Multiply by
Value
1
OK
Cancel

Click OK.

Next select **Conditional**

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



Click on the Next> button.

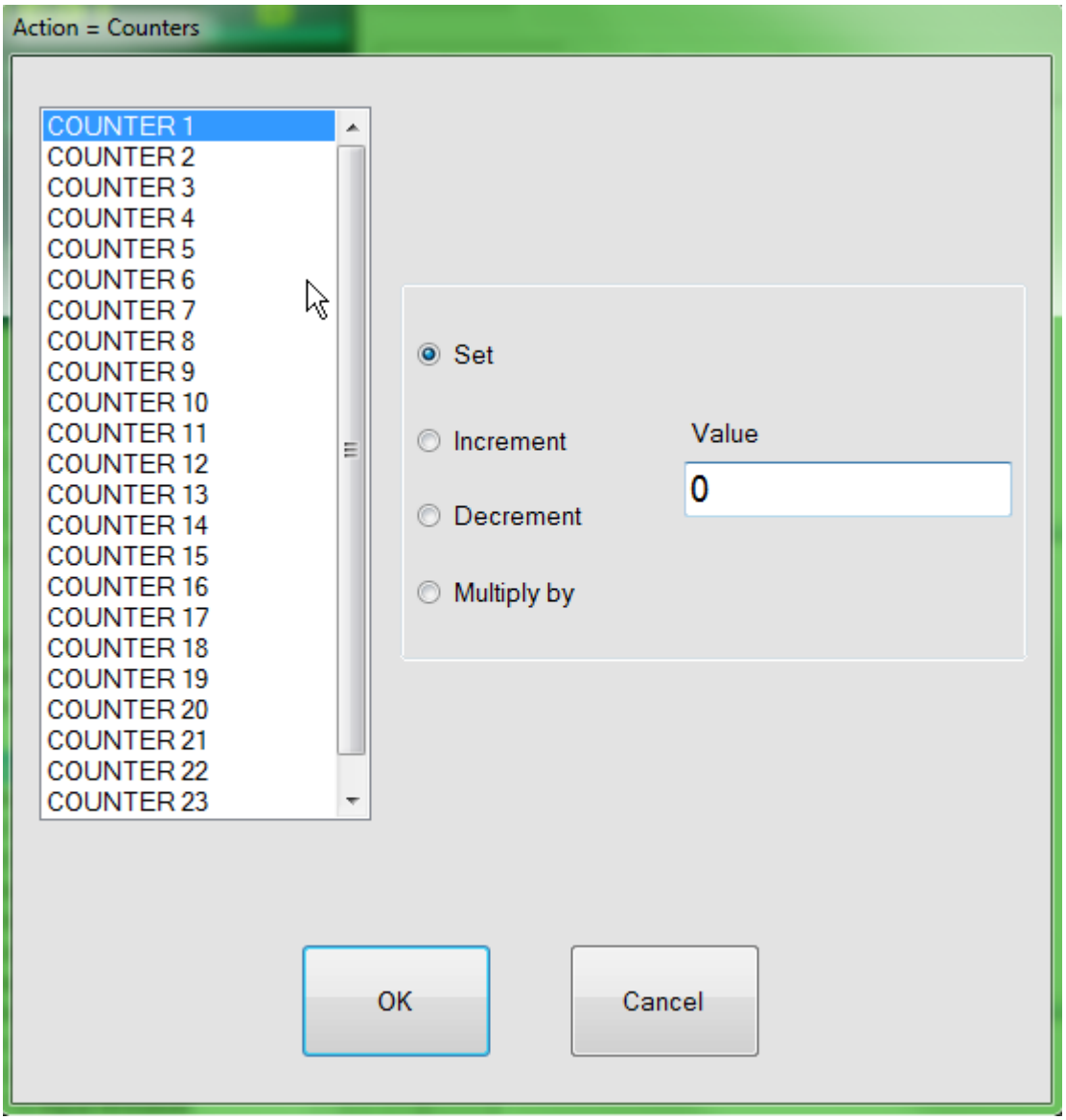
Now we will add an action. Under “Add Actions to perform”, select Beep.

Next 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.

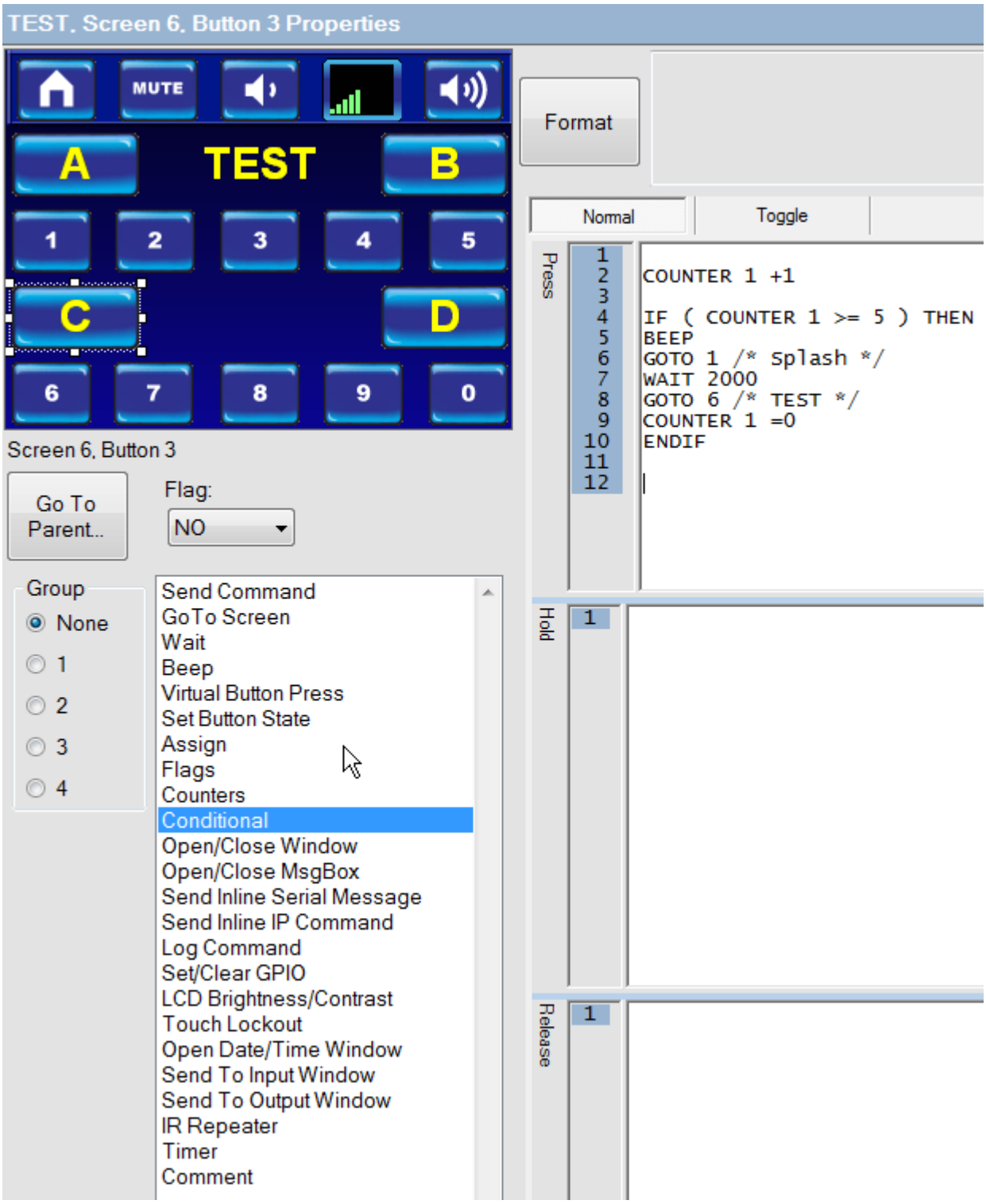
Now select “Go To Screen” and select “TEST”.

Select “Counters” and set Counter 1 to 0 to clear the counter.



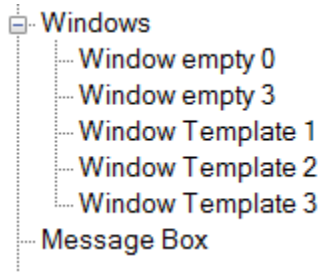
Click OK.

This is what the final screen should look like.


TEST, Screen 6, Button 3 Properties
MUTE
A
TEST
B
1
2
3
4
5
C
D
6
7
8
9
0
Screen 6, Button 3
Format
Normal
Toggle
Press
COUNTER 1 +1
IF (COUNTER 1 >= 5) THEN
BEEP
GOTO 1 /* Splash */
WAIT 2000
GOTO 6 /* TEST */
COUNTER 1 =0
ENDIF
Hold
Release
Go To Parent...
Flag:
NO
Group
None
1
2
3
4
Send Command
GoTo Screen
Wait
Beep
Virtual Button Press
Set Button State
Assign
Flags
Counters
Conditional
Open/Close Window
Open/Close MsgBox
Send Inline Serial Message
Send Inline IP Command
Log Command
Set/Clear GPIO
LCD Brightness/Contrast
Touch Lockout
Open Date/Time Window
Send To Input Window
Send To Output Window
IR Repeater
Timer
Comment

Before we can go onto defining the next set of commands for Open/Close Window and Open/ Close MsgBox, we must 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)

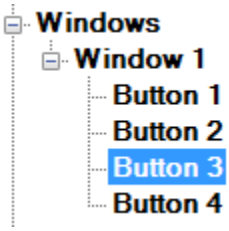


Window styles empty 0 and 3 do not have a template associated with them and vary only by overall window size. Window Templates 1, 2, and 3 have various preset templates to choose from. Note that Template 3 was designed for Input Window use. For this example we will use Template 2 .

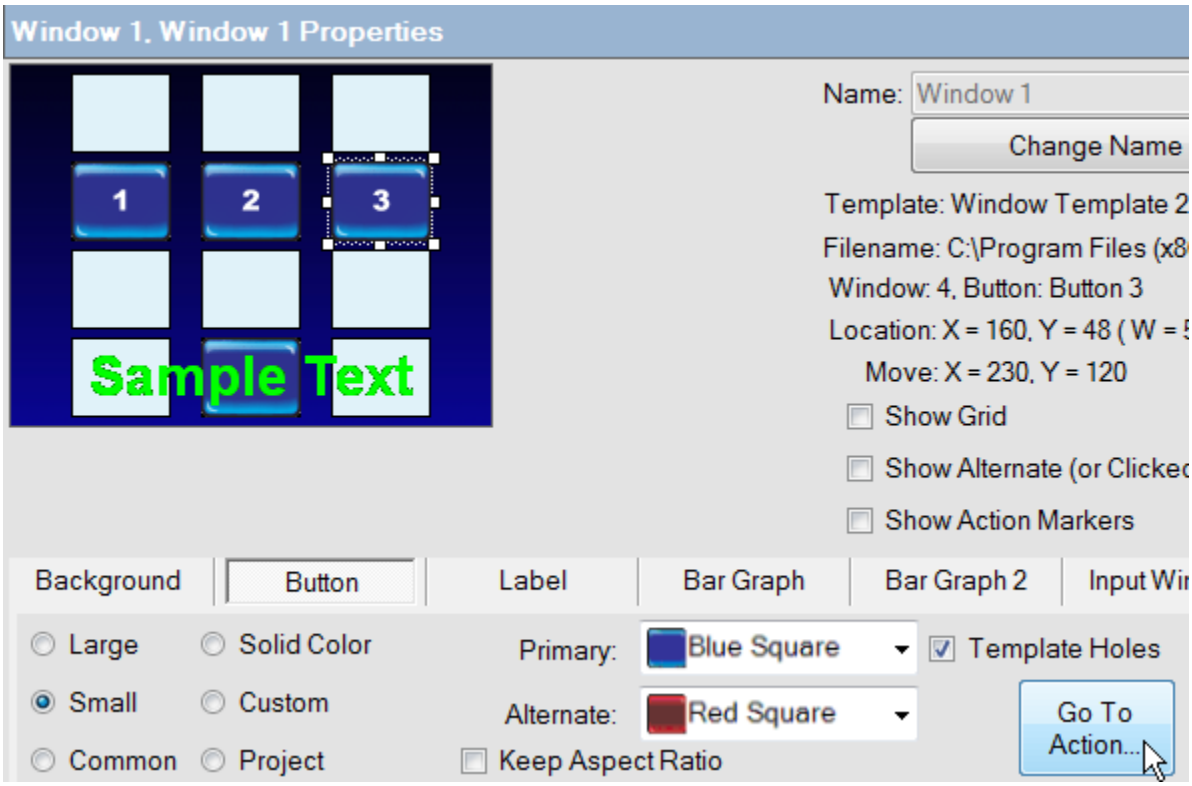
As with screen template selection, merely drag and drop the window template to the Project Tree panel.

Creating a window is the same as creating a Screen, therefore windows can be renamed if desired.

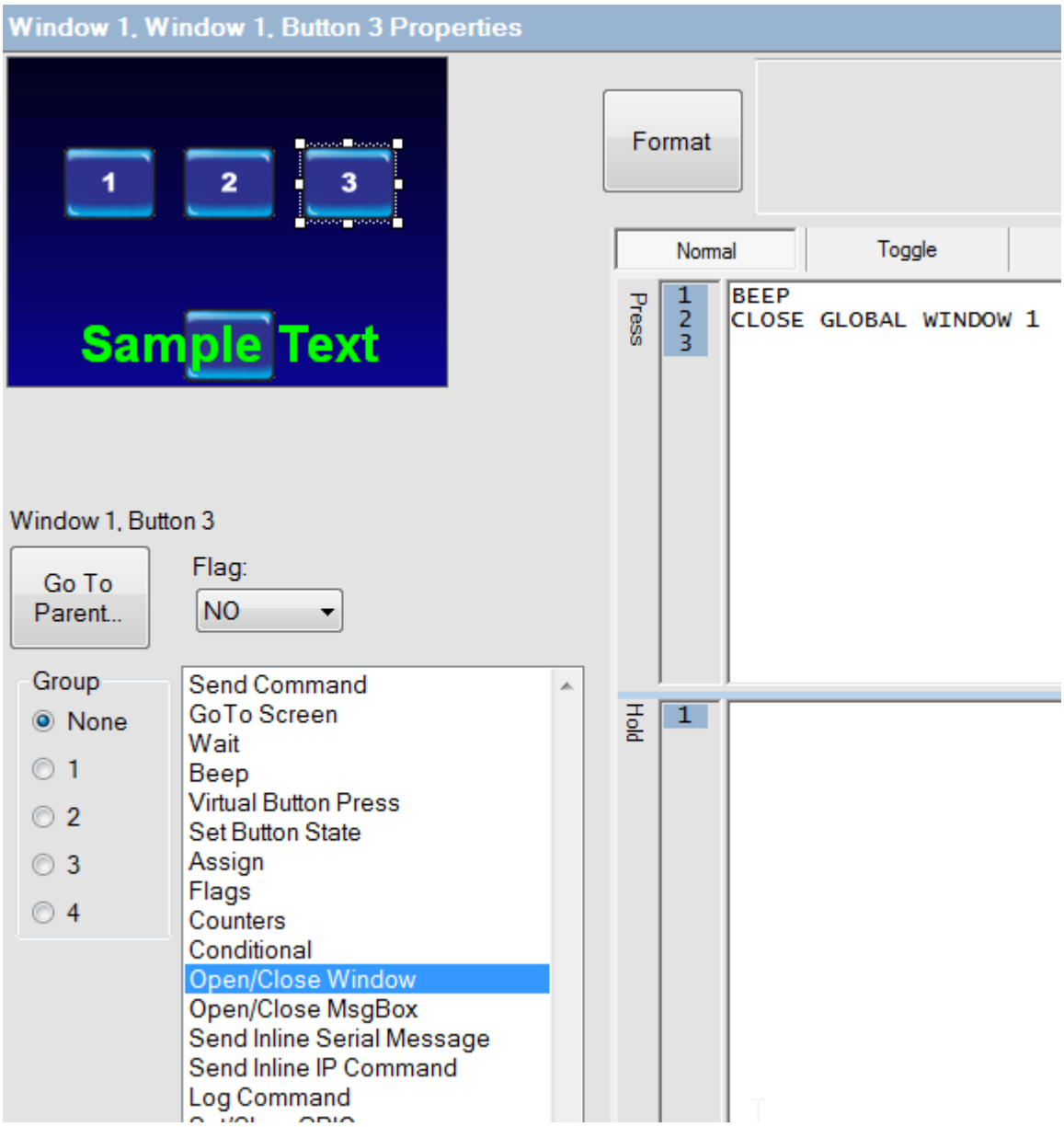
Select a background, add buttons, and some label text similar to the window below.

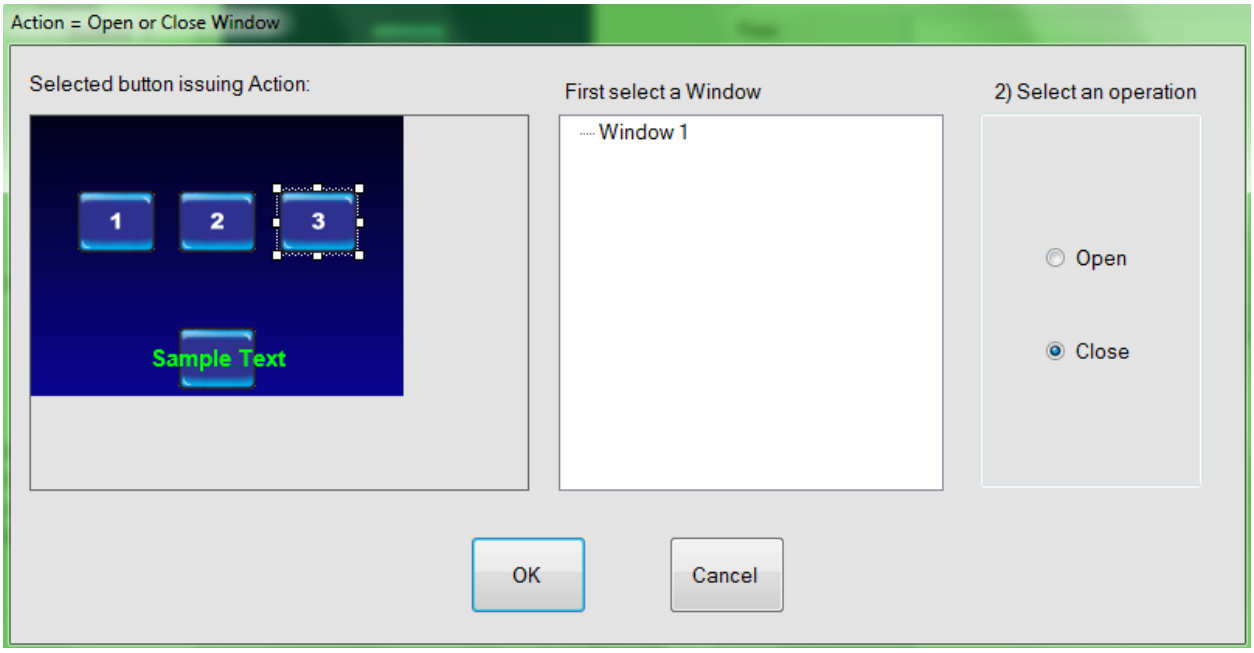


First select any button from the Window 1 list or click the button tab under the window screen. Select a button and click the Go to action button.

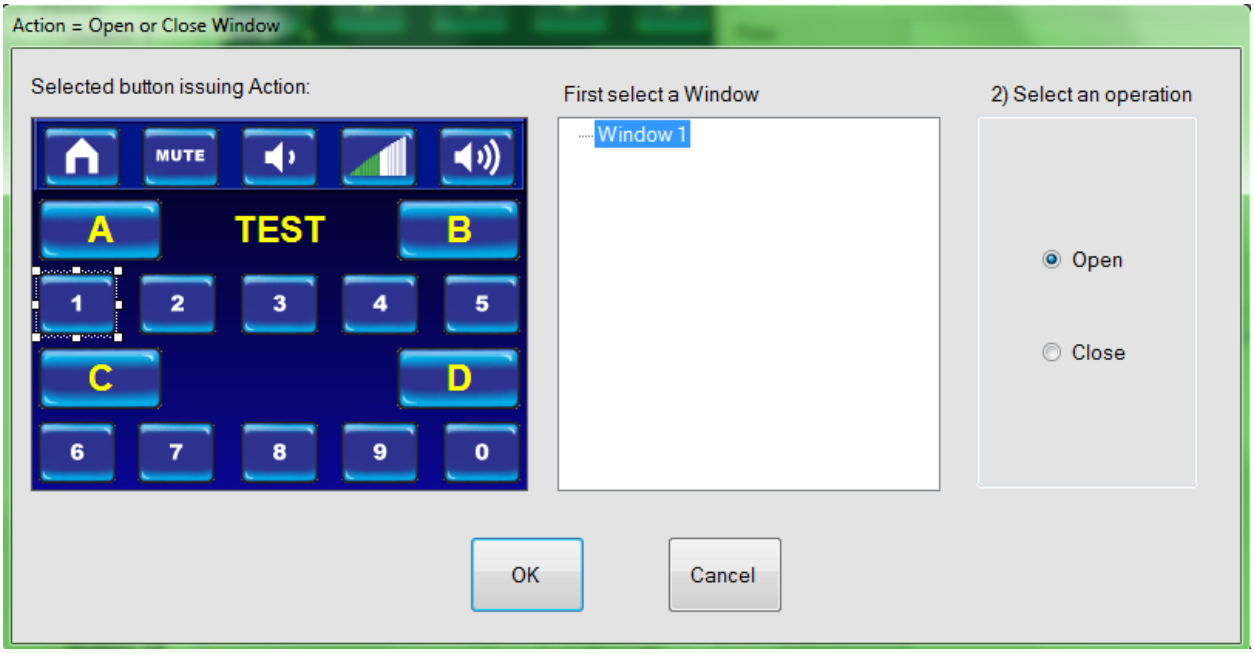


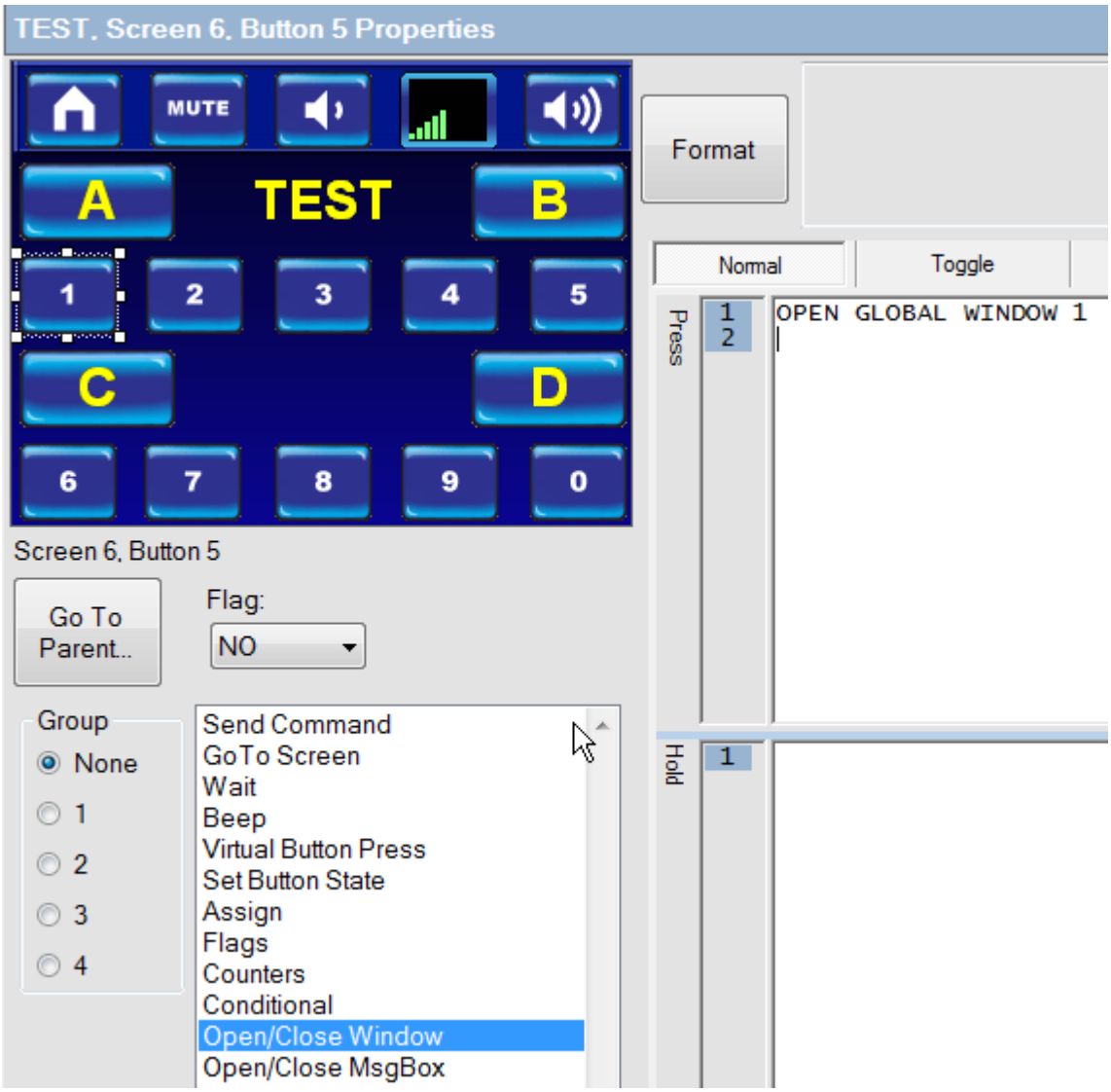
Assign an action to one or all of the buttons. Add a beep command for example. Then from the action list select Open/Close Window. Select Window 1 and the close option, then OK.


Window 1, Window 1, Button 3 Properties
1
2
3
Sample Text
Format
Normal
Toggle
Press
1
2
3
BEEP
CLOSE GLOBAL WINDOW 1
Hold
1
Window 1, Button 3
Go To Parent...
Flag:
NO
Group
None
1
2
3
4
Send Command
GoTo Screen
Wait
Beep
Virtual Button Press
Set Button State
Assign
Flags
Counters
Conditional
Open/Close Window
Open/Close MsgBox
Send Inline Serial Message
Send Inline IP Command
Log Command



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 the action list, select the window, choose to open or close the window with this action, and then click OK as pictured below.

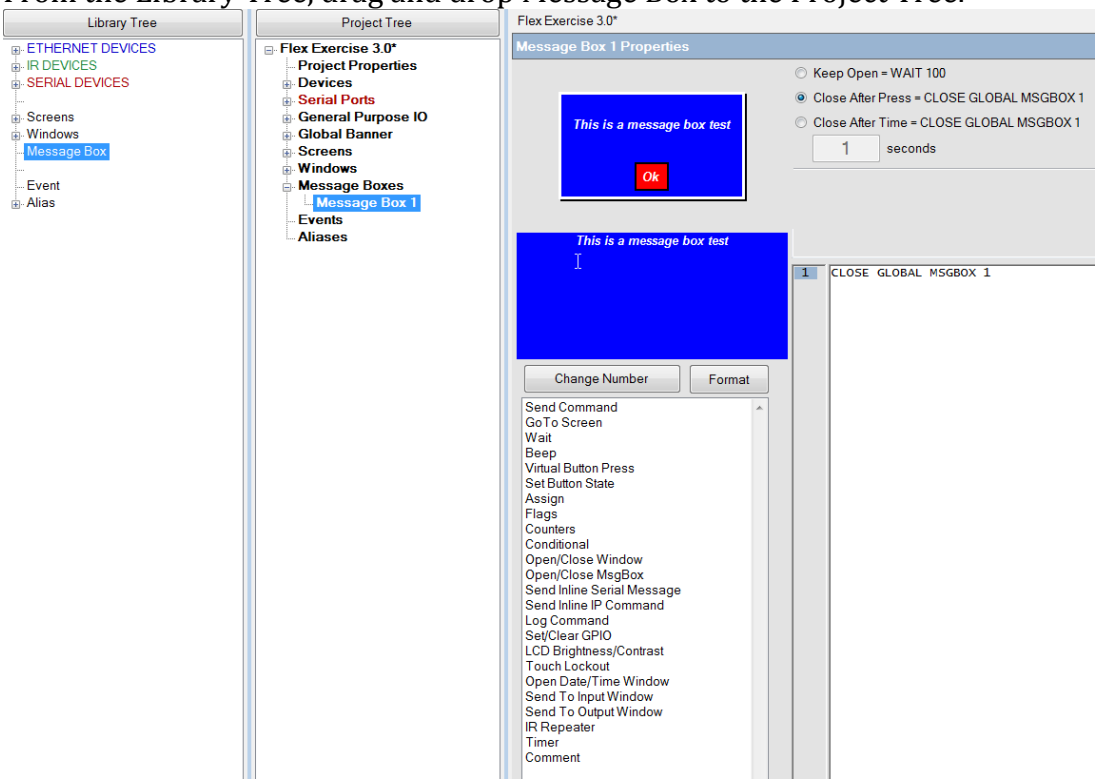



TEST, Screen 6, Button 5 Properties
MUTE
A
TEST
B
1
2
3
4
5
C
D
6
7
8
9
0
Screen 6, Button 5
Format
Normal
Toggle
Press
1
2
OPEN GLOBAL WINDOW 1
Hold
1
Go To Parent...
Flag:
NO
Group
None
1
2
3
4
Send Command
GoTo Screen
Wait
Beep
Virtual Button Press
Set Button State
Assign
Flags
Counters
Conditional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

MESSAGE BOX SET UP

Creating a message box is similar to setting up a Window.

From the Library Tree, drag and drop Message Box 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.

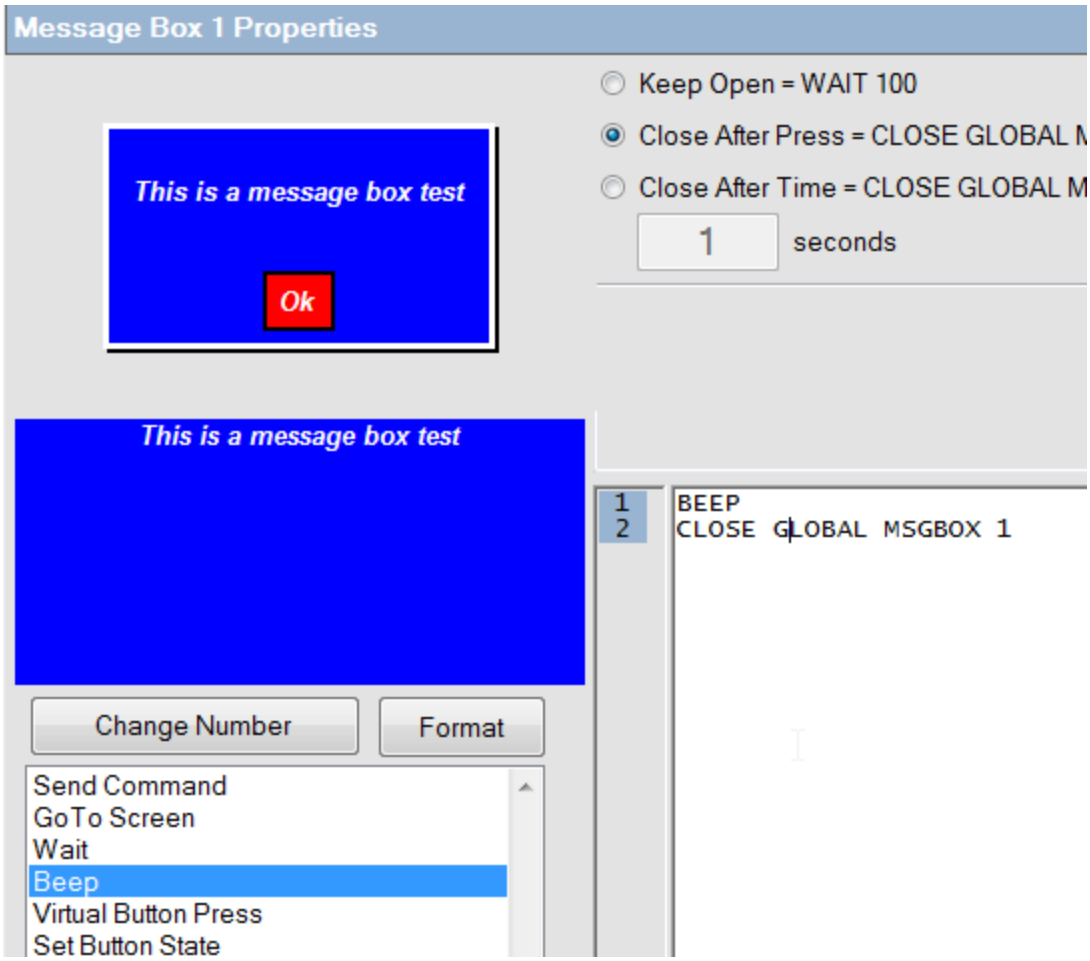
Simply type a message in the blue message box area, and then choose one of the options:

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

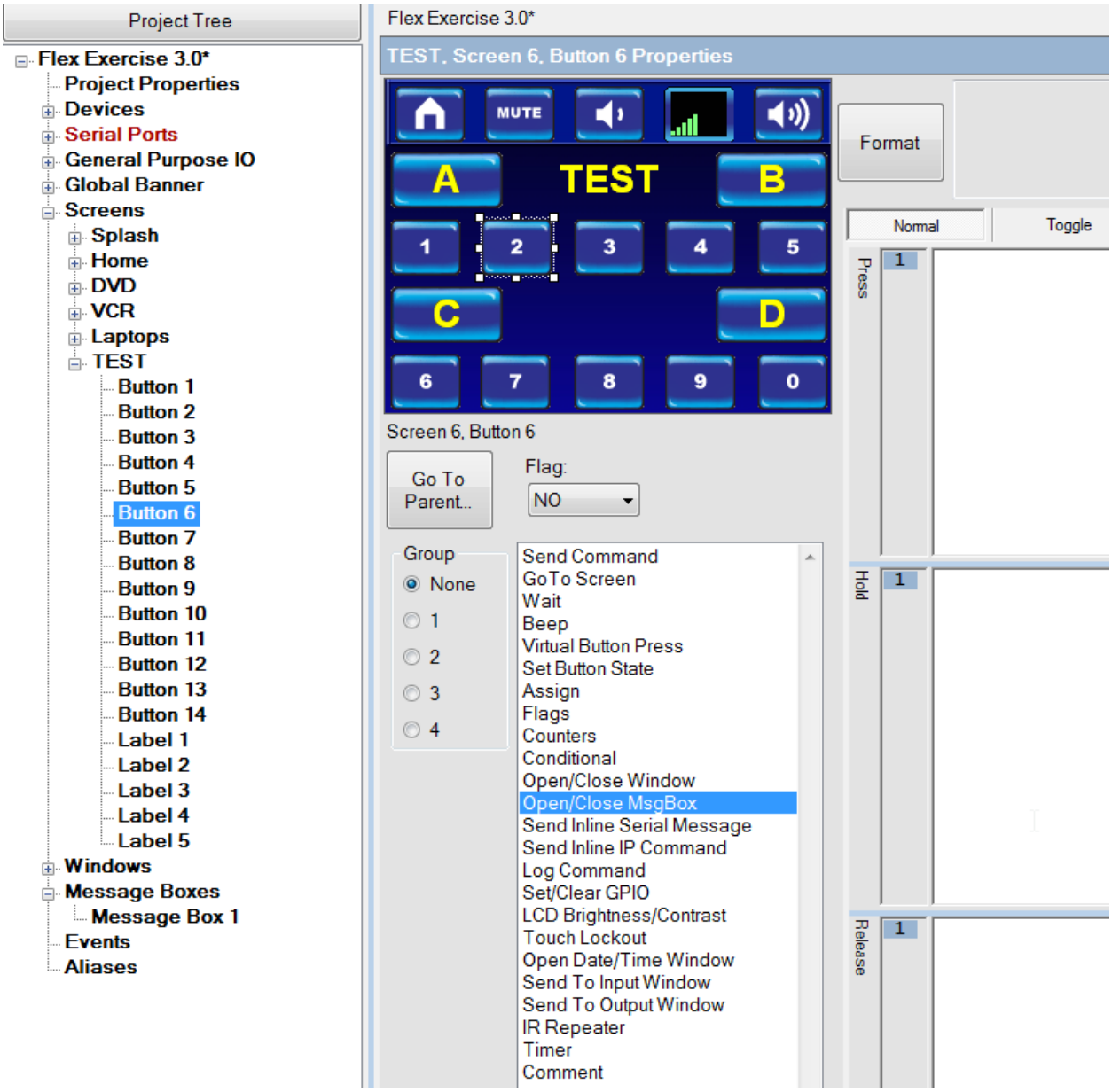
Close After Press: This method will display an OK button on the Flex screen when this window is opened. Touching the OK button will close the mesaage box.

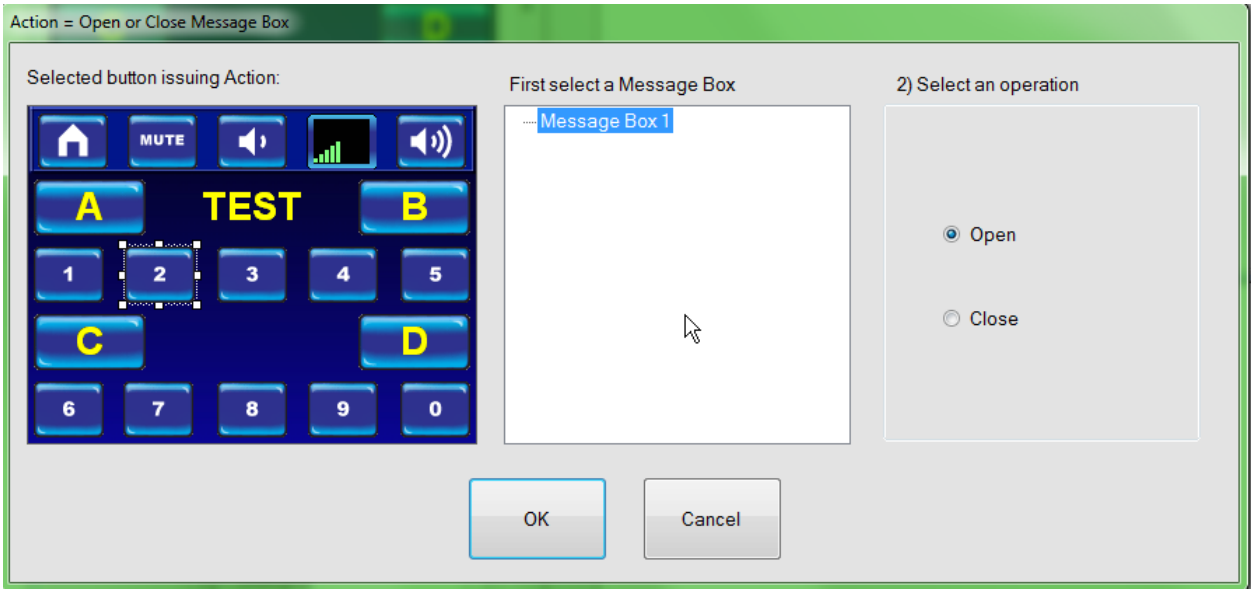
Close After Time: This method will keep the message box open for a chosen period of 1 – 100 seconds.

Additionally, no matter which option is selected, you can add other actions just as you would for 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 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.


Project Tree
Flex Exercise 3.0*
Project Properties
Devices
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
Label 1
Label 2
Label 3
Label 4
Label 5
Windows
Message Boxes
Message Box 1
Events
Aliases
Flex Exercise 3.0*
TEST, Screen 6, Button 6 Properties
MUTE
A
TEST
B
1
2
3
4
5
C
D
6
7
8
9
0
Format
Normal
Toggle
Press
Hold
Release
Screen 6, Button 6
Go To Parent...
Flag:
NO
Group
None
1
2
3
4
Send Command
GoTo Screen
Wait
Beep
Virtual Button Press
Set Button State
Assign
Flags
Counters
Conditional
Open/Close Window
Open/Close MsgBox
Send Inline Serial Message
Send Inline IP Command
Log Command
Set/Clear GPIO
LCD Brightness/Contrast
Touch Lockout
Open Date/Time Window
Send To Input Window
Send To Output Window
IR Repeater
Timer
Comment



SEND INLINE SERIAL MESSAGE

Click on Send Inline Serial Message from the command window.

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 found 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.

It is also useful 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:

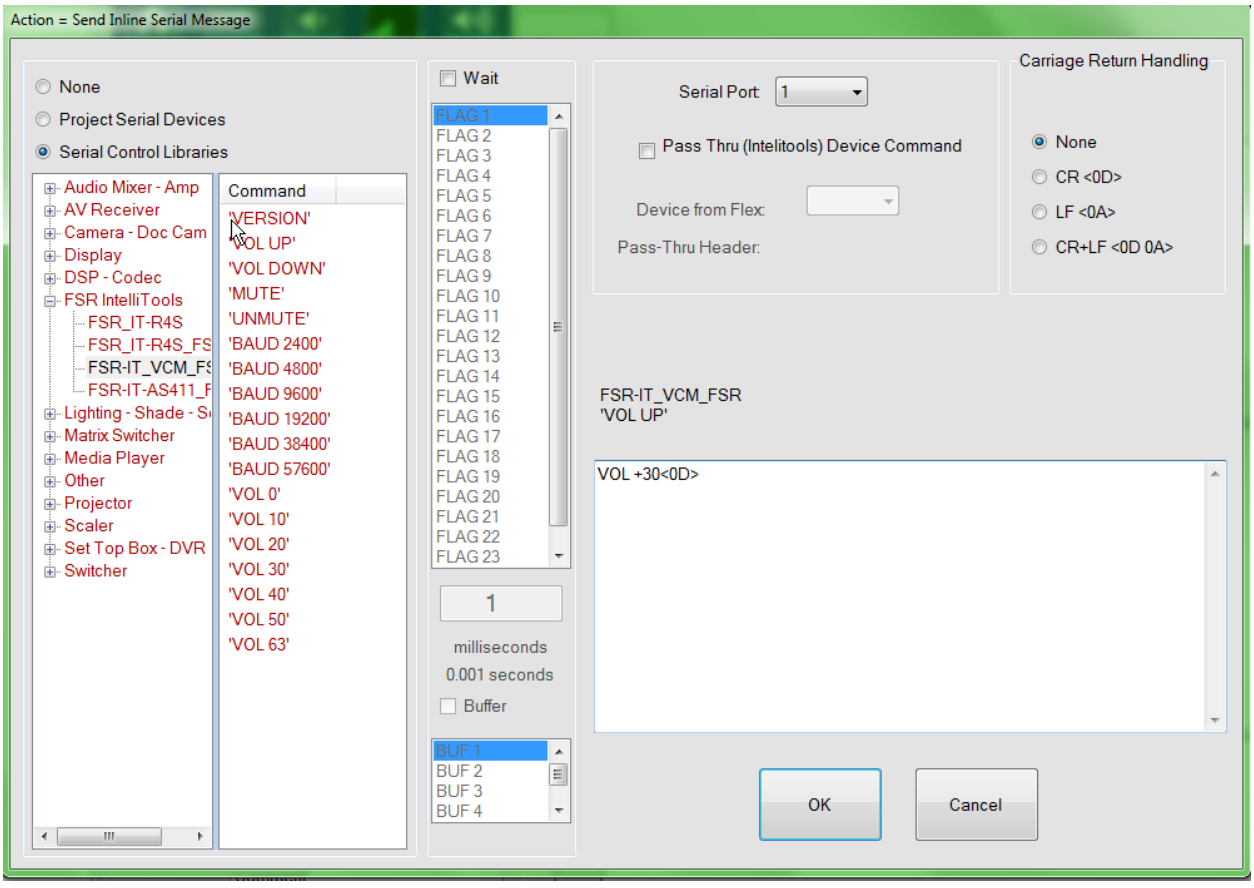
First select serial control Libraries and then choose the IT-VCM from theFSR Intelli Tools folder.

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 device's manual 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 unless otherwise needed.

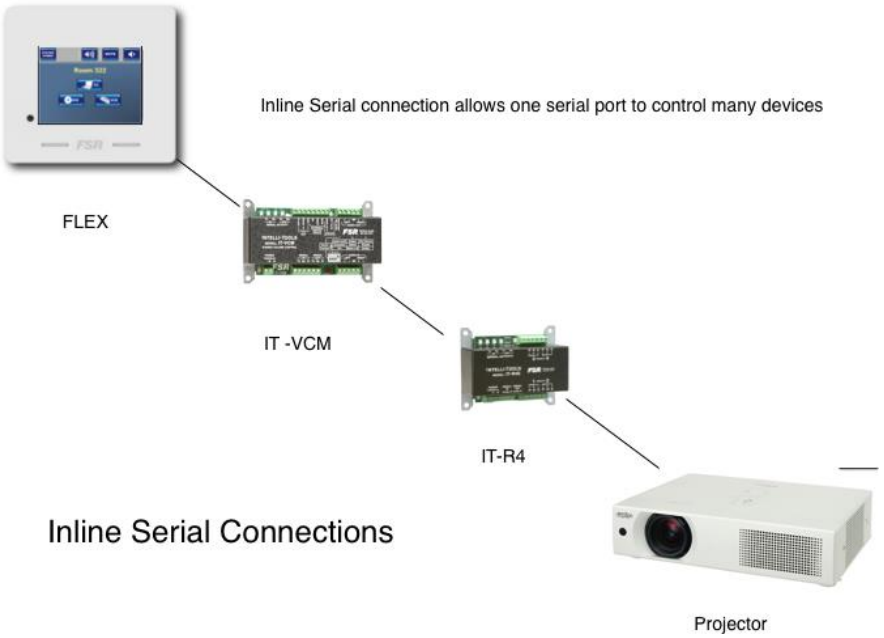
Make the appropriate selection under Carriage Return Handling.



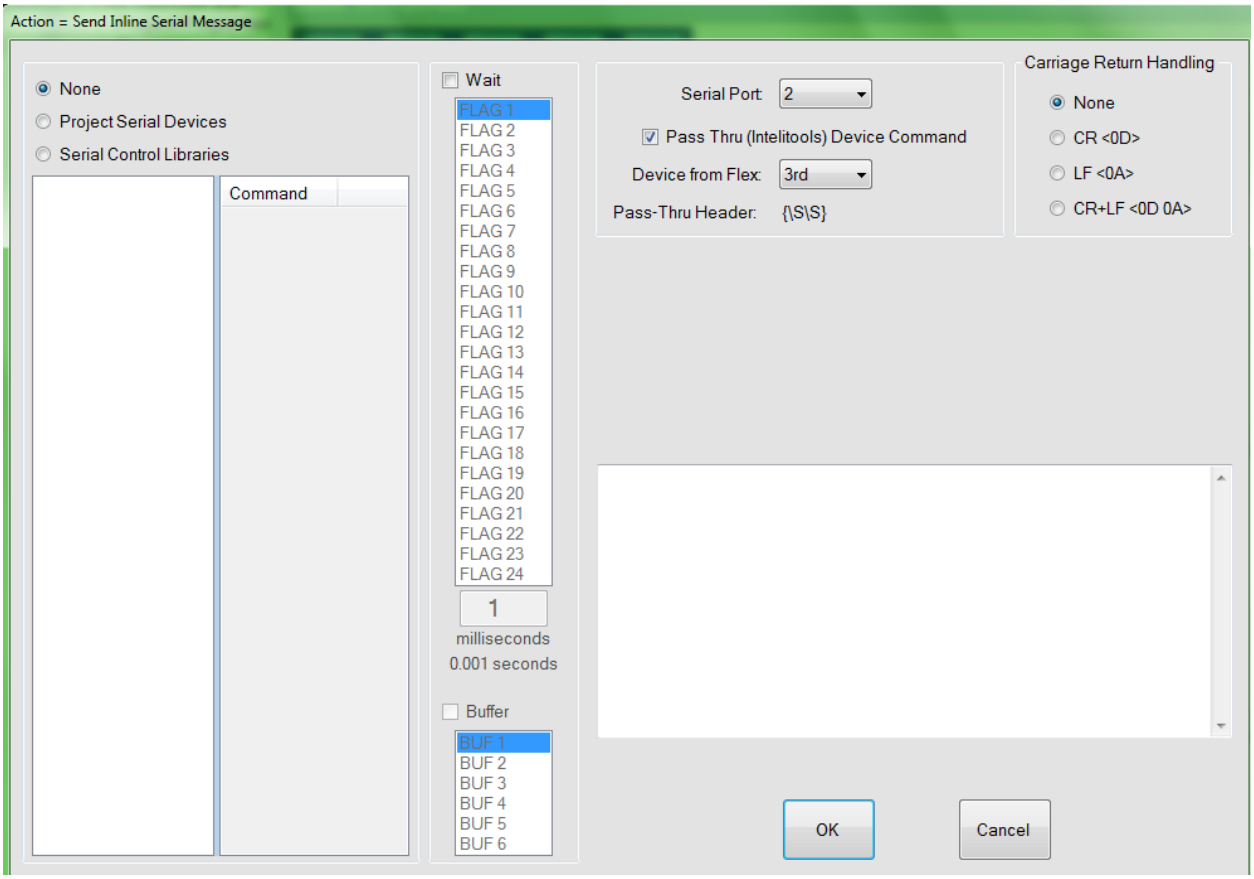
Pass-Through Command

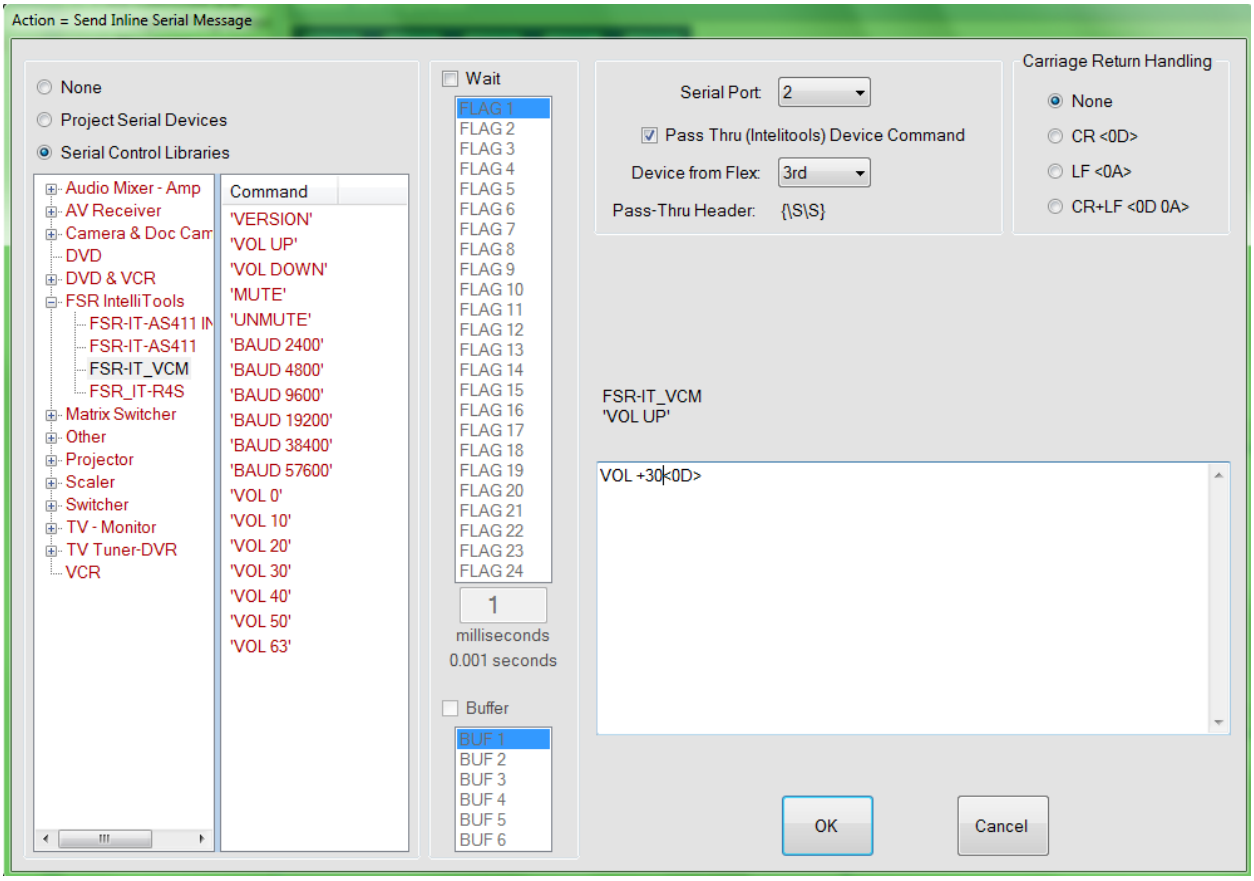
This is a feature on all FSR Intelli-Tools modules as well as the PathFinder matrix switchers. These devices have an inbound serial port, like any other serial device, but they also contain a second pass-through port that can be connected to another device. This allows 1 serial port on the Flex control 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 the Pass Thru 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. You will also need to know the pass-through header. If you are using FSR devices, the header is supplied for you.


Action = Send Inline Serial Message
None
Project Serial Devices
Serial Control Libraries
Command
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
Serial Port: 2
Pass Thru (Intelitools) Device Command
Device from Flex: 3rd
Pass-Thru Header: {\S\S}
Carriage Return Handling
None
CR <0D>
LF <0A>
CR+LF <0D 0A>
OK
Cancel



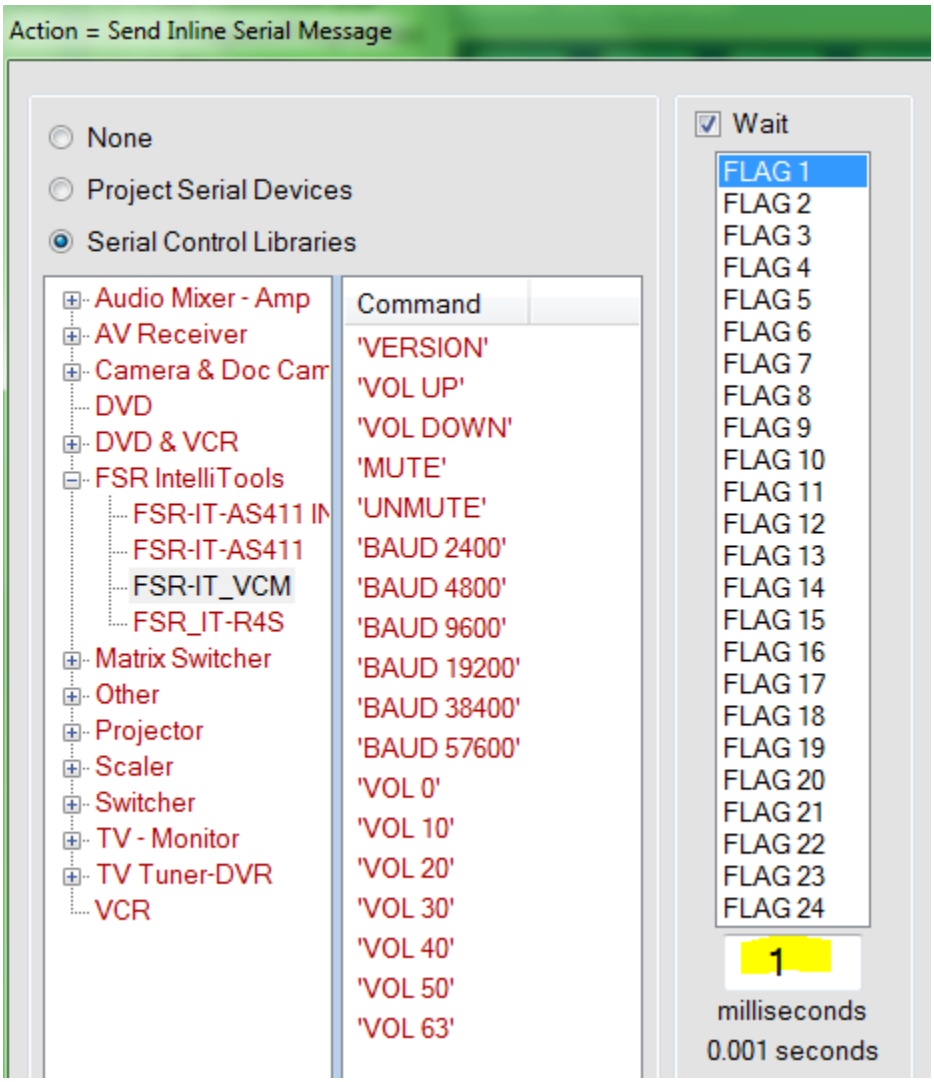
To the right, you will see the list of commands contained in the library. Select the Volume Up command.

In the box under Enter Serial Message Here… you will see the command VOL+<0D>. This command increments the volume by 1 dB. Insteadwe want to 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> as shown above.

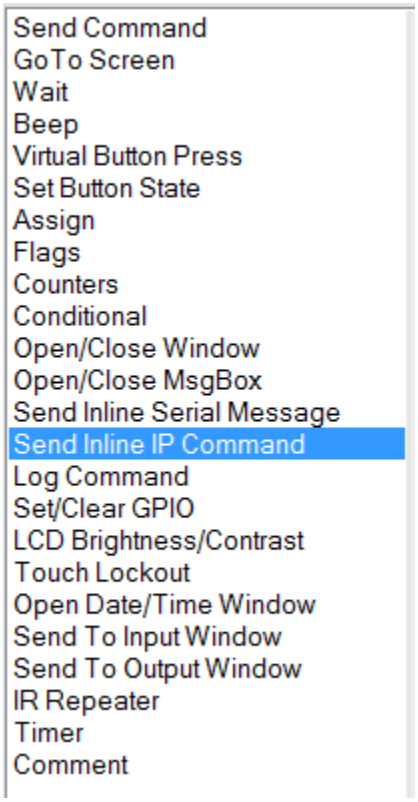
When you click OK, this new command will be added to the list of actions under a button.

Wait for response and Flags

When a response is received it 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. The FLAG will allow the user to subsequently act on the response.

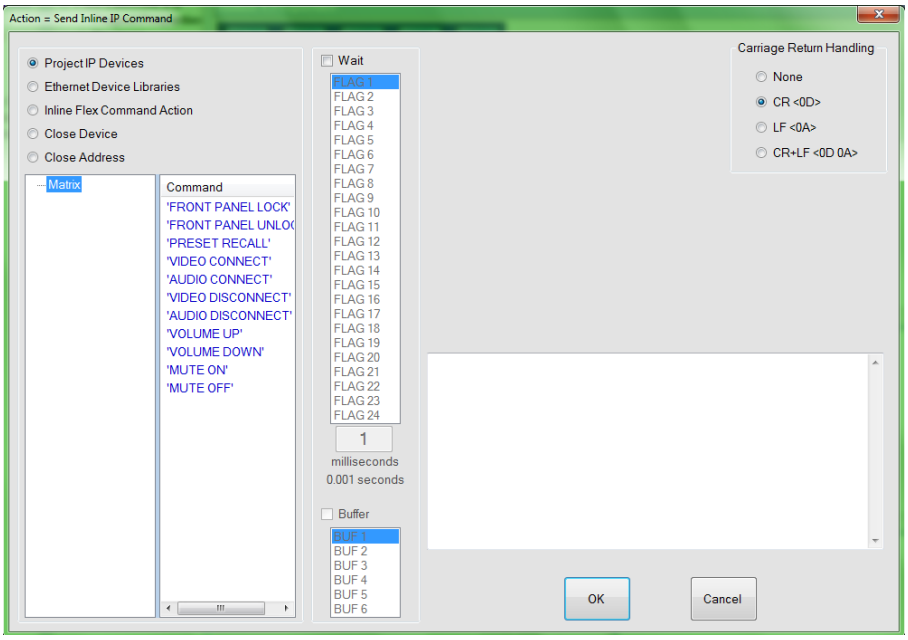


Send Inline IP Command

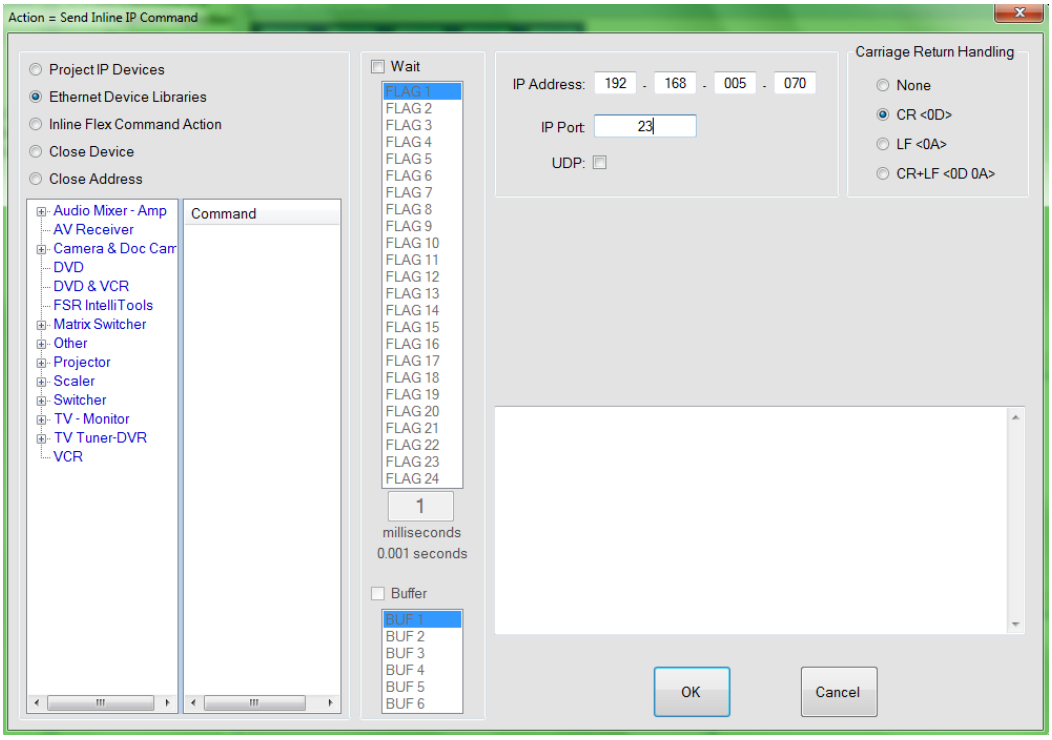


IP Commands are similar in principle to the Inline Serial commands except for the addition of the IP address and port.

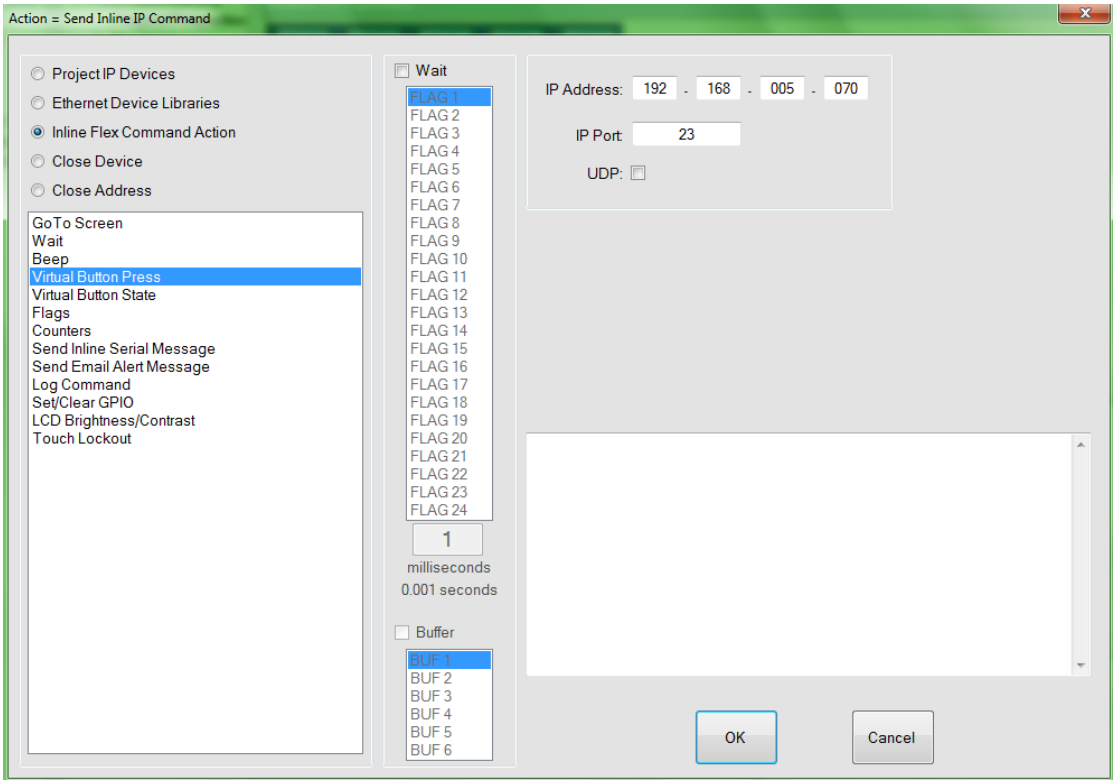
Inline commands for an existing Ethernet Device provide the capability to send a command directly to an Ethernet device currently defined within the project.

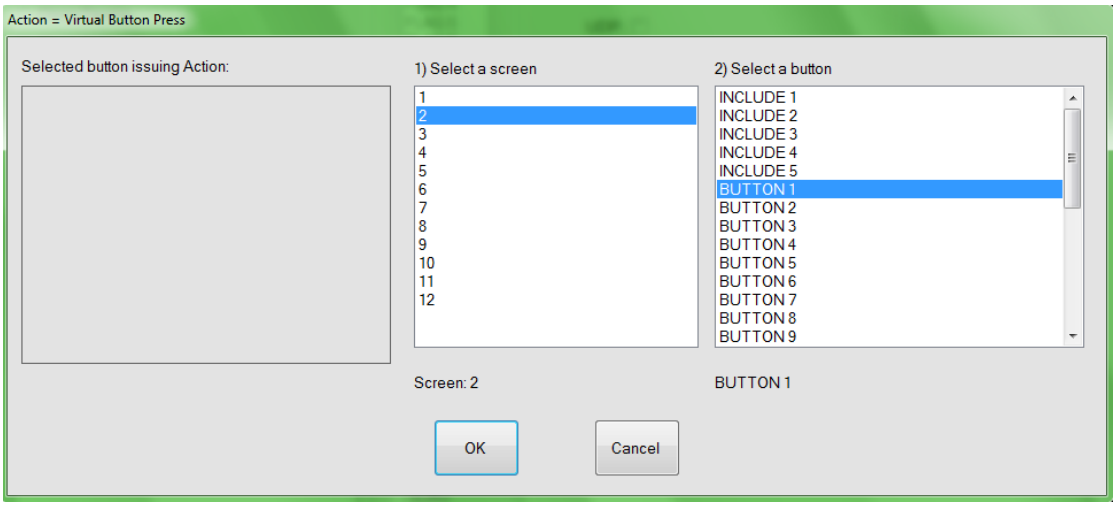


Inline commands for another Ethernet Device provide the capability to send a command directly to an Ethernet device which is not currently within the project but has a known IP address and port. Here you can also select the protocol used for the Ethernet Device as well as the wait for response.

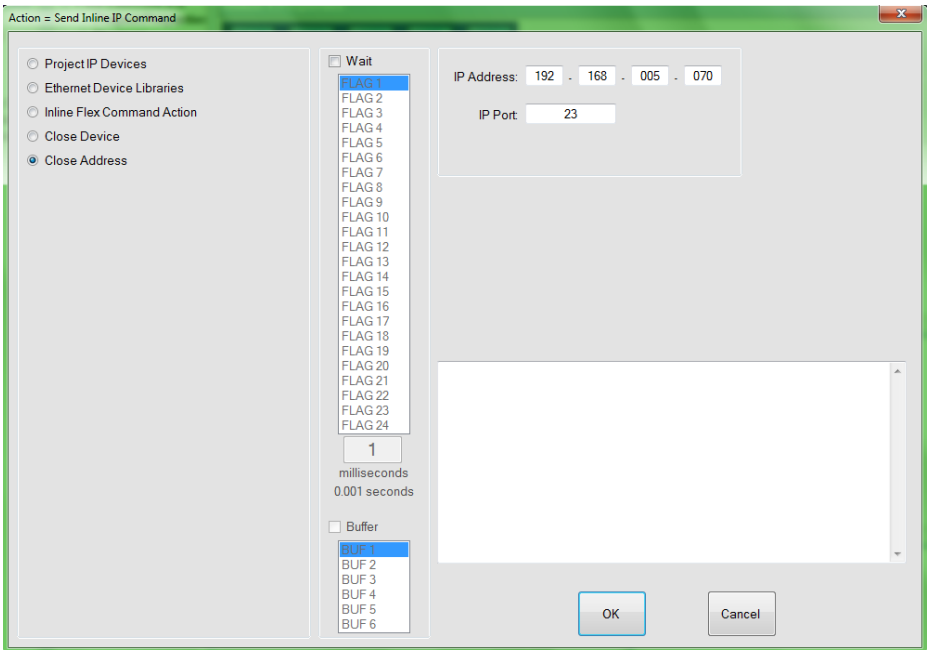


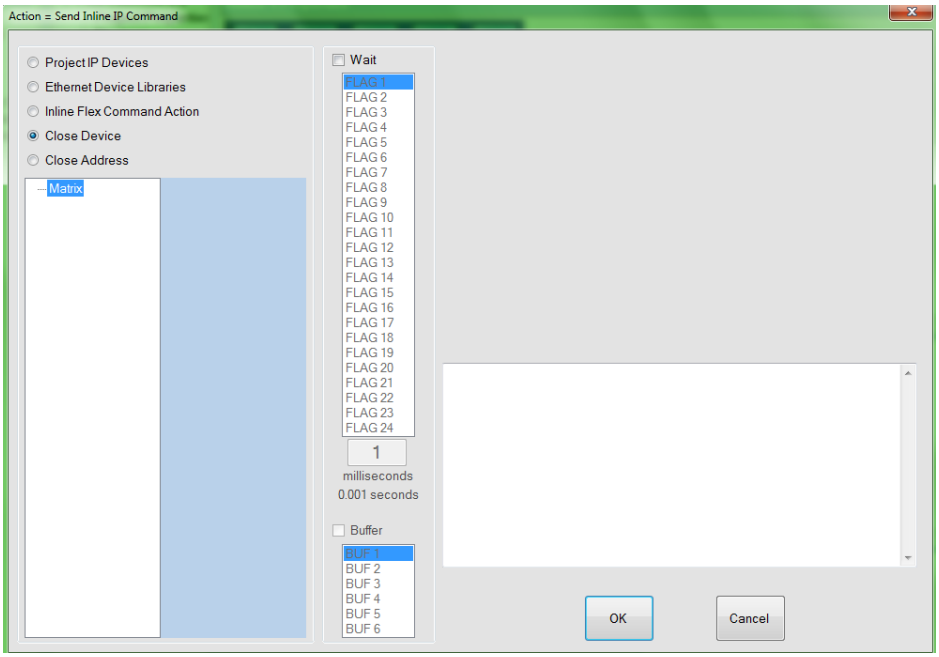
Inline Flex Command Action provides the ability to address any other Ethernet connected Flex panel and perform actions directly associated with that Flex panel's button commands. Use of the virtual button press and state commands only require knowledge of the screen and button numbers on the other Flex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





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

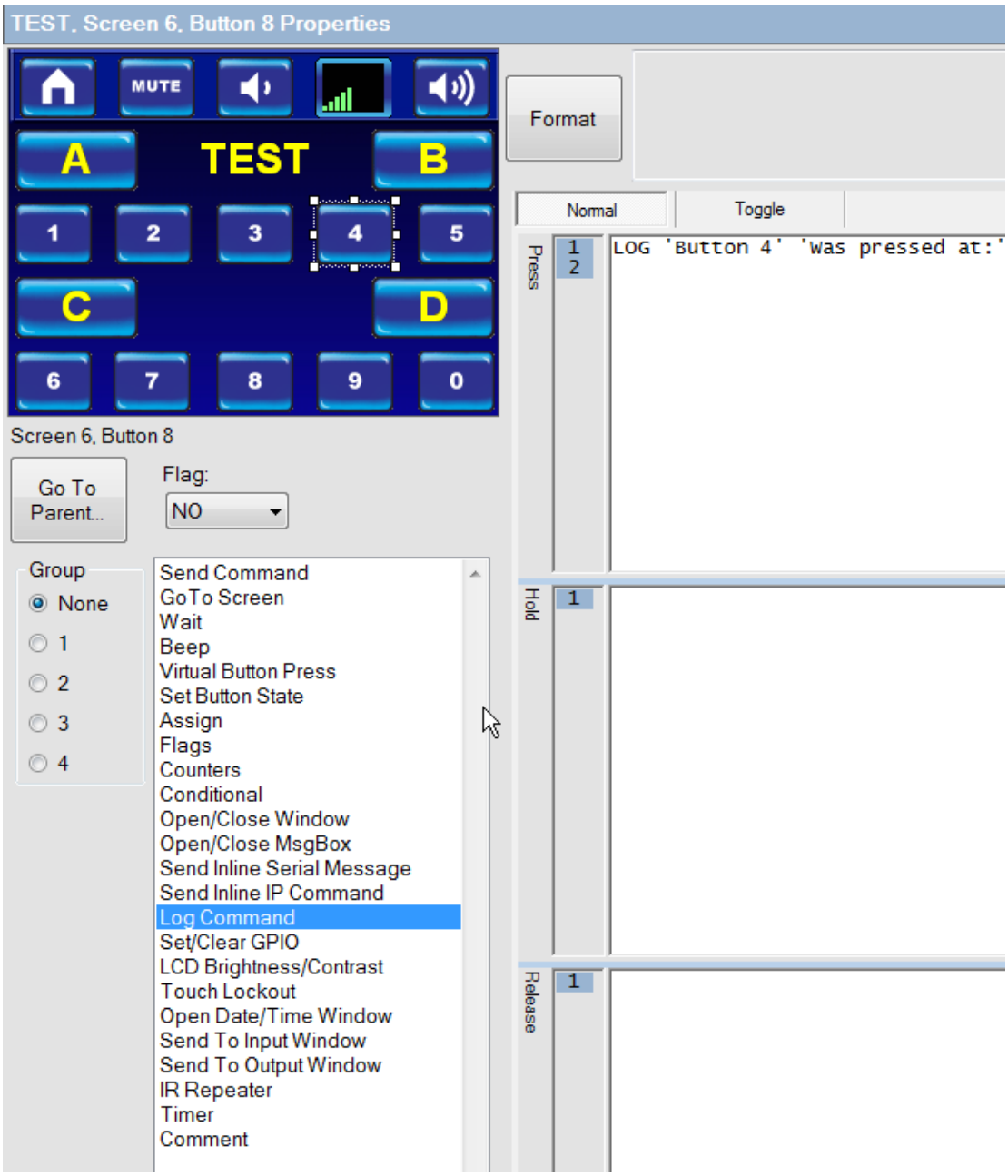


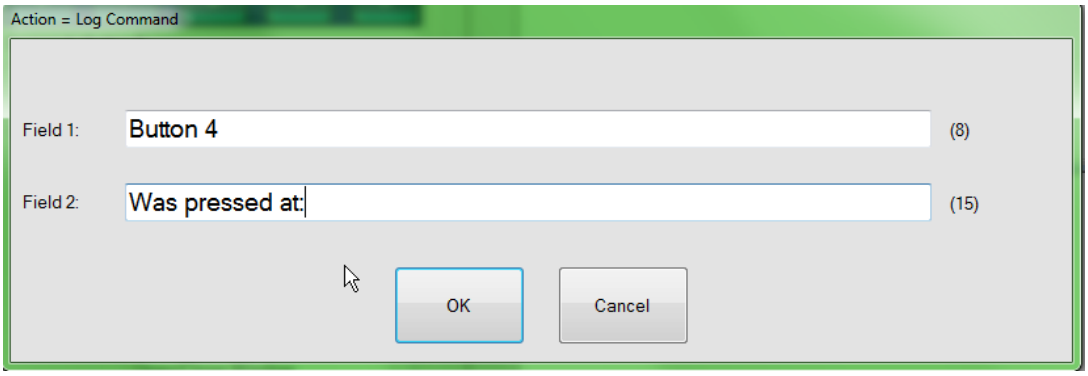


LIT1368G Flex Training Manual

Log Command

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

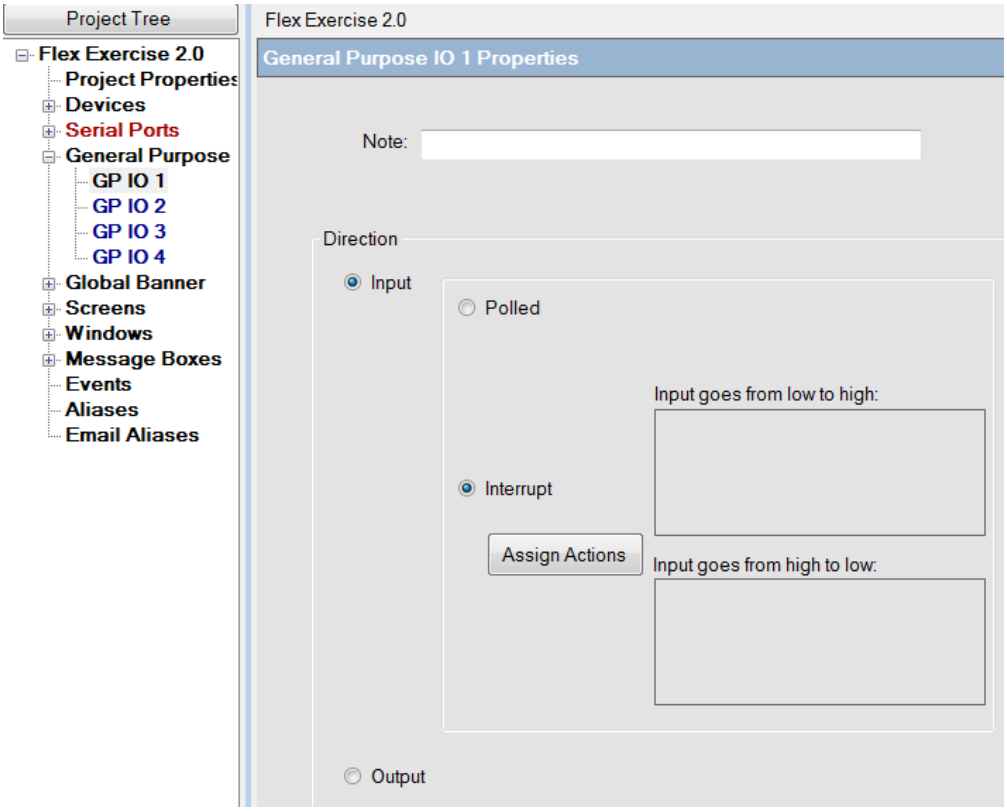



Action = Log Command
Field 1:
Button 4
(8)
Field 2:
Was pressed at:
(15)
OK
Cancel

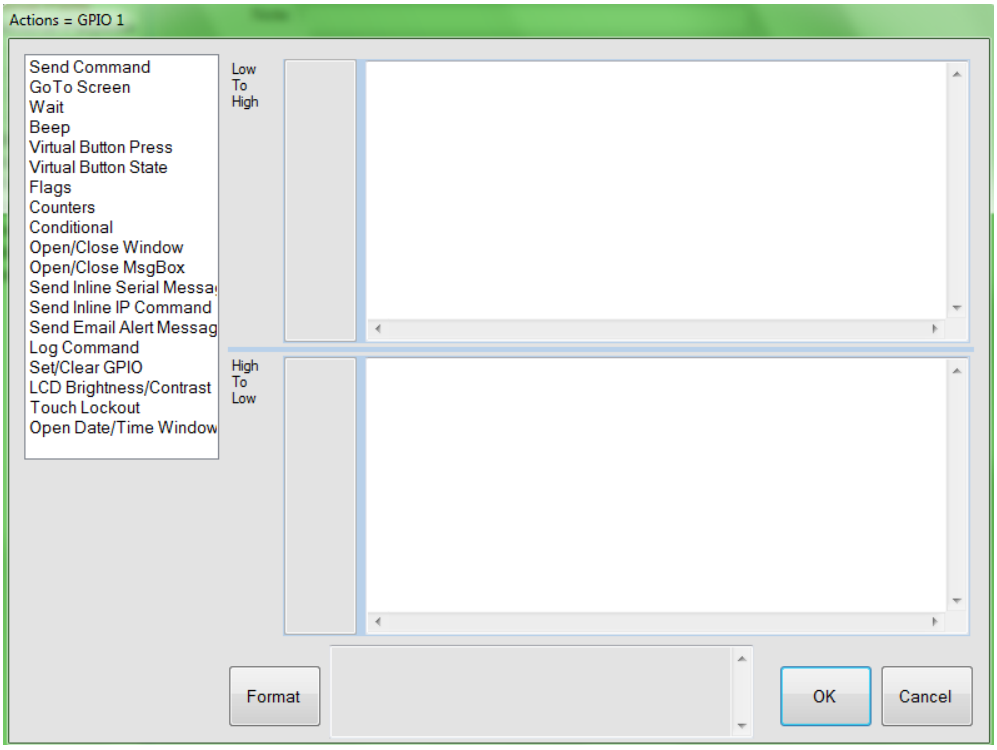
SET/Clear GPIO

The Flex LT-200 and LT-300 have four General Purpose I/O ports. Each port can be set as Open, Close, or 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, the GPIO ports should be 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 Assign Actions.



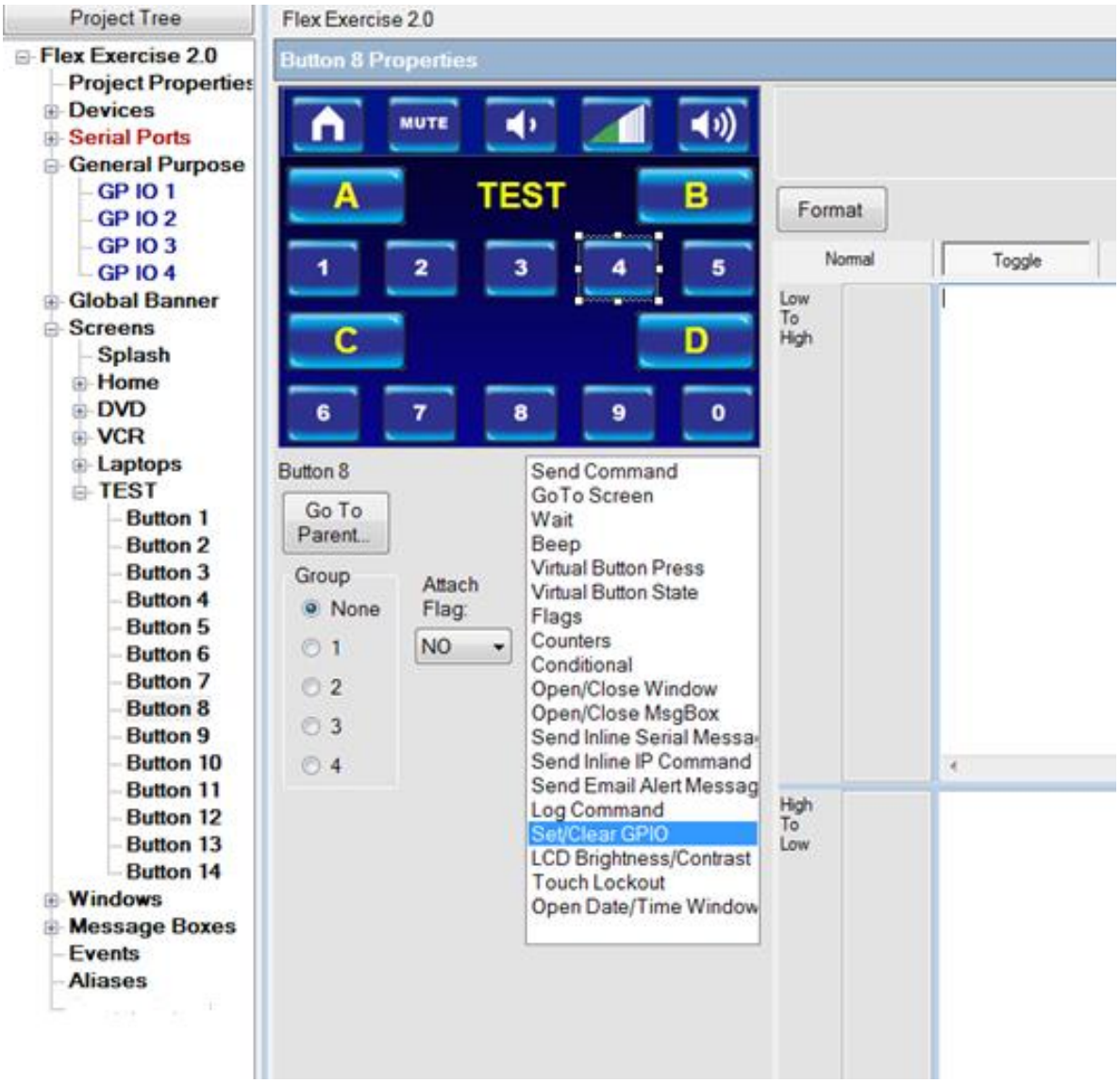
Actions can be set in the Low to High and the High to Low action blocks.

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

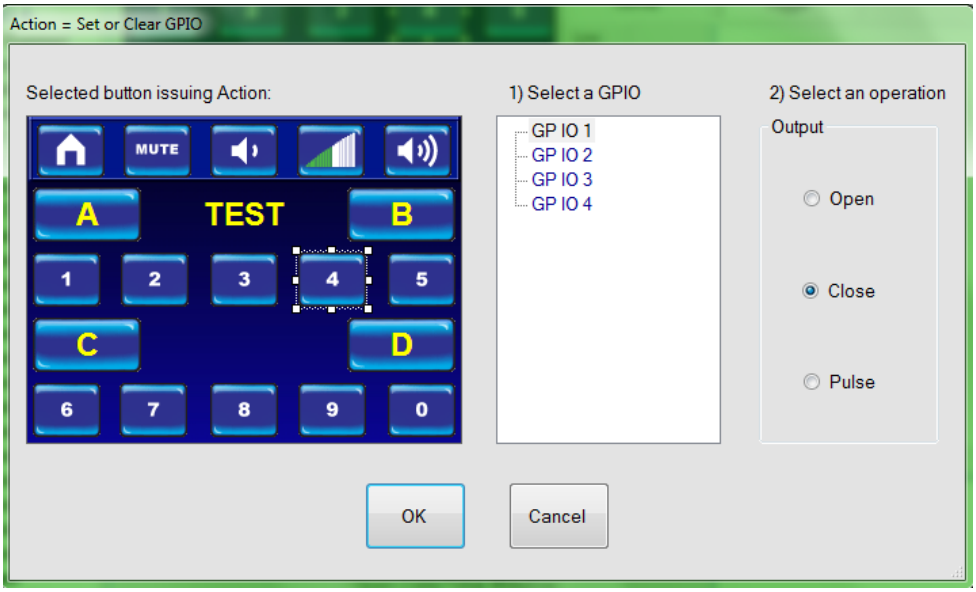
Adding a GPIO command to a button:

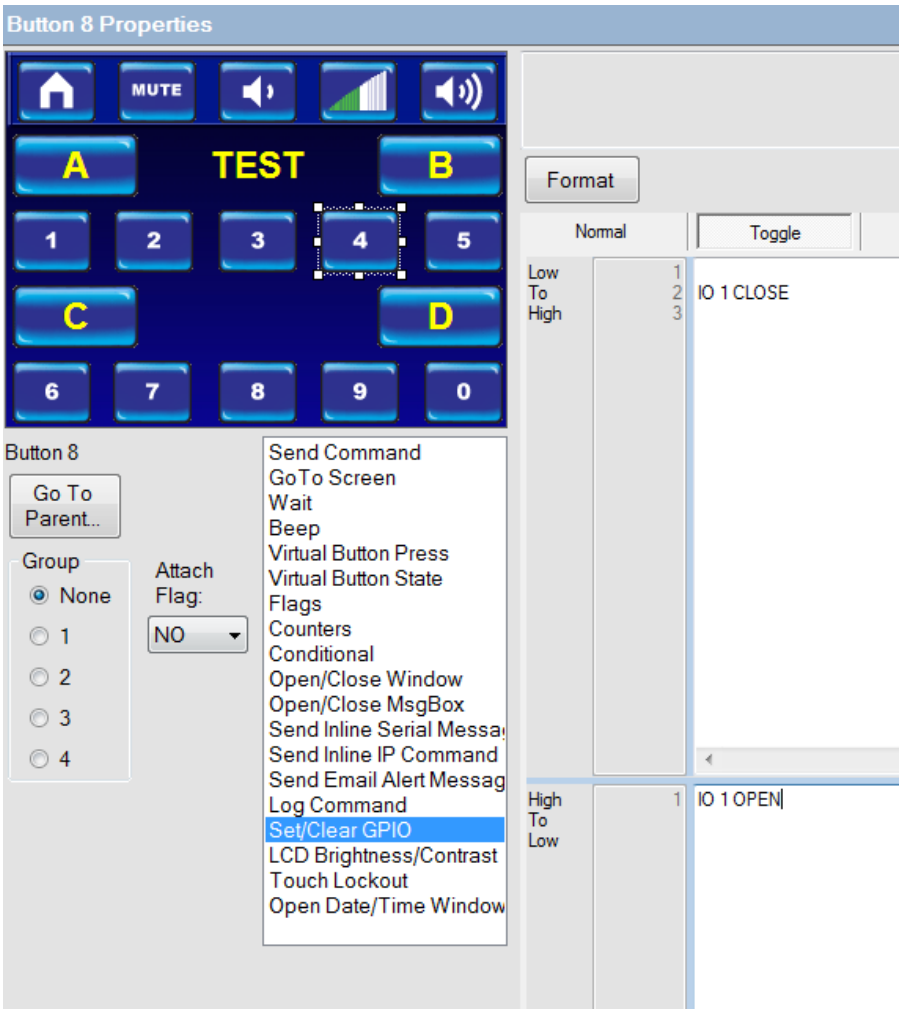
Generally speaking these will be a toggle button style so for this exercise select the toggle tab.

Select a button and then Set/Clear GPIO from the actions list.



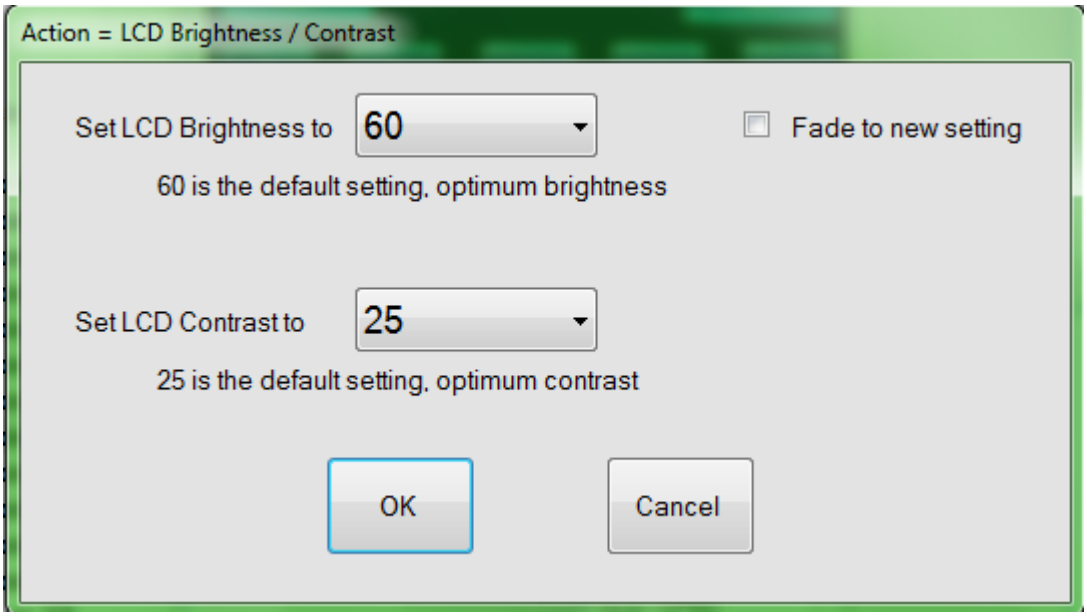
Click on the appropriate GPIO;select either open, close, or pulse. Then click OK.


Action = Set or Clear GPIO
Selected button issuing Action:
MUTE
A
TEST
B
1
2
3
4
5
C
D
6
7
8
9
0
1) Select a GPIO
GP IO 1
GP IO 2
GP IO 3
GP IO 4
2) Select an operation
Output
Open
Close
Pulse
OK
Cancel


Button 8 Properties
MUTE
A
TEST
B
1
2
3
4
5
C
D
6
7
8
9
0
Format
Normal
Toggle
Low
To
High
IO 1 CLOSE
High
To
Low
IO 1 OPEN
Button 8
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

LCD Brightness/ Contrast Control

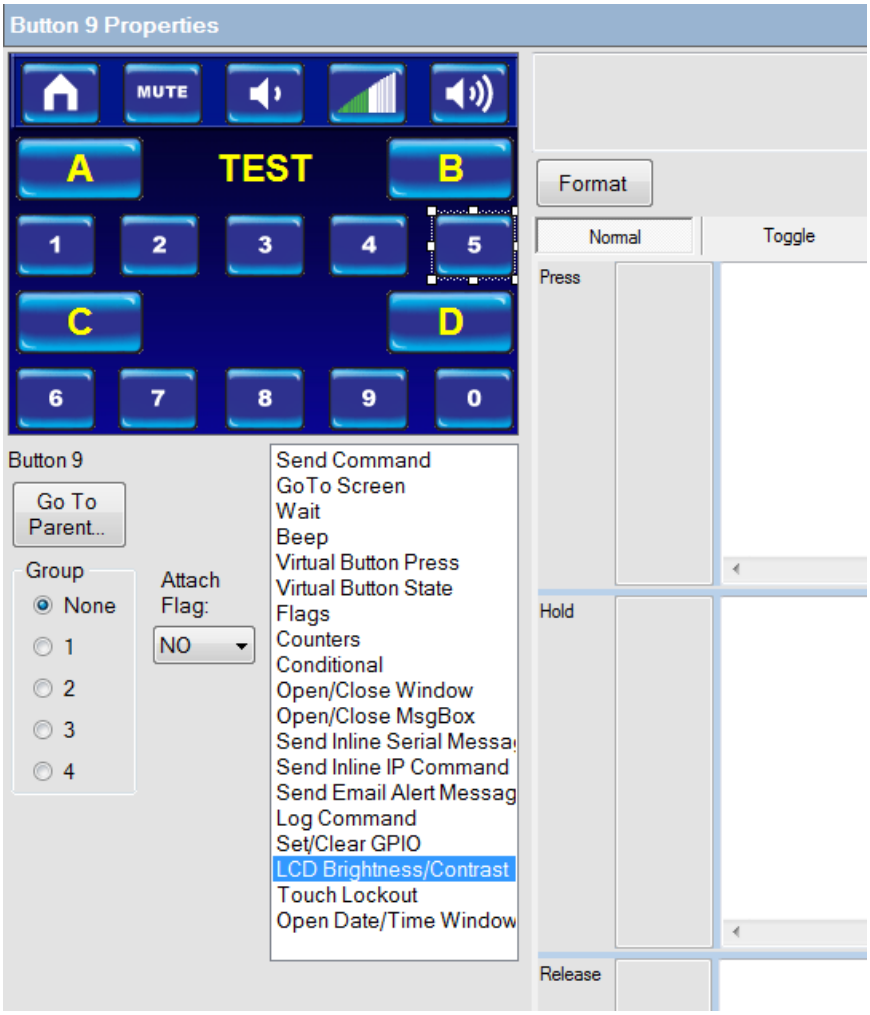
From the drop down boxes, select brightness levels from 60 (full brightness) to 0 (black screen) and LCD Contrast from 25 to 1. Additionally, the "Fade to new setting" may be checked to allow a gradual transition to the new setting.



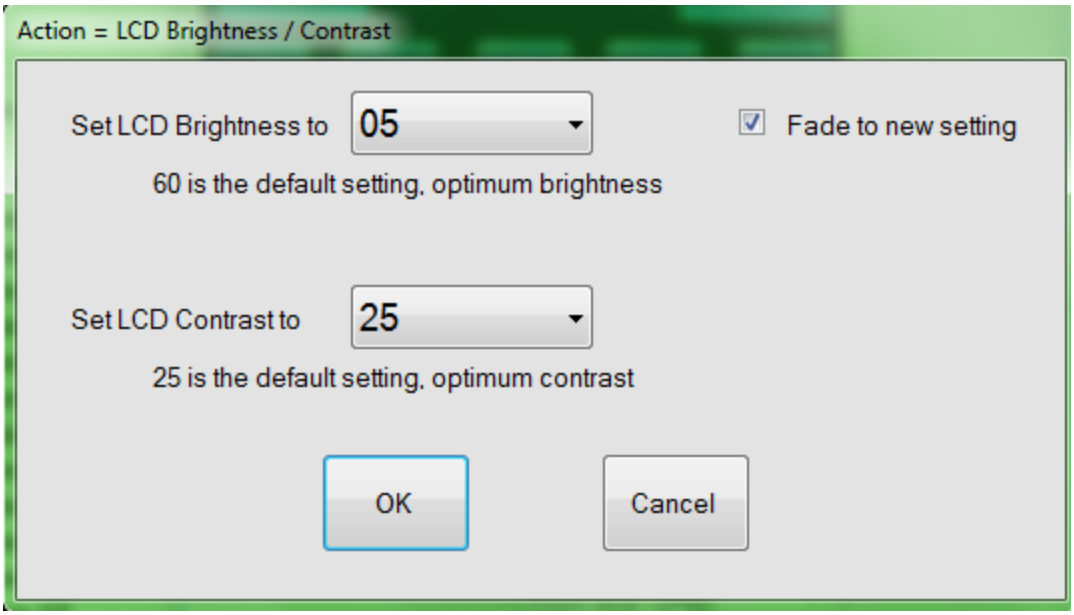
Caution: It is not recommended that you set the brightness to 0 unless it is a timed event, or another event will trigger a visible brightness level.

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

Now select a button to add the brightness control.

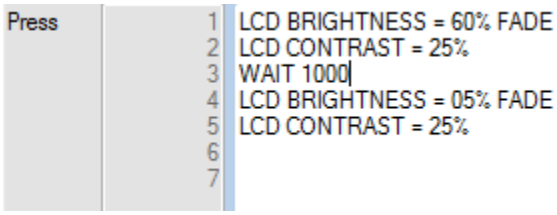


Here select 05 from the drop down box and check the fade to new setting box.



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

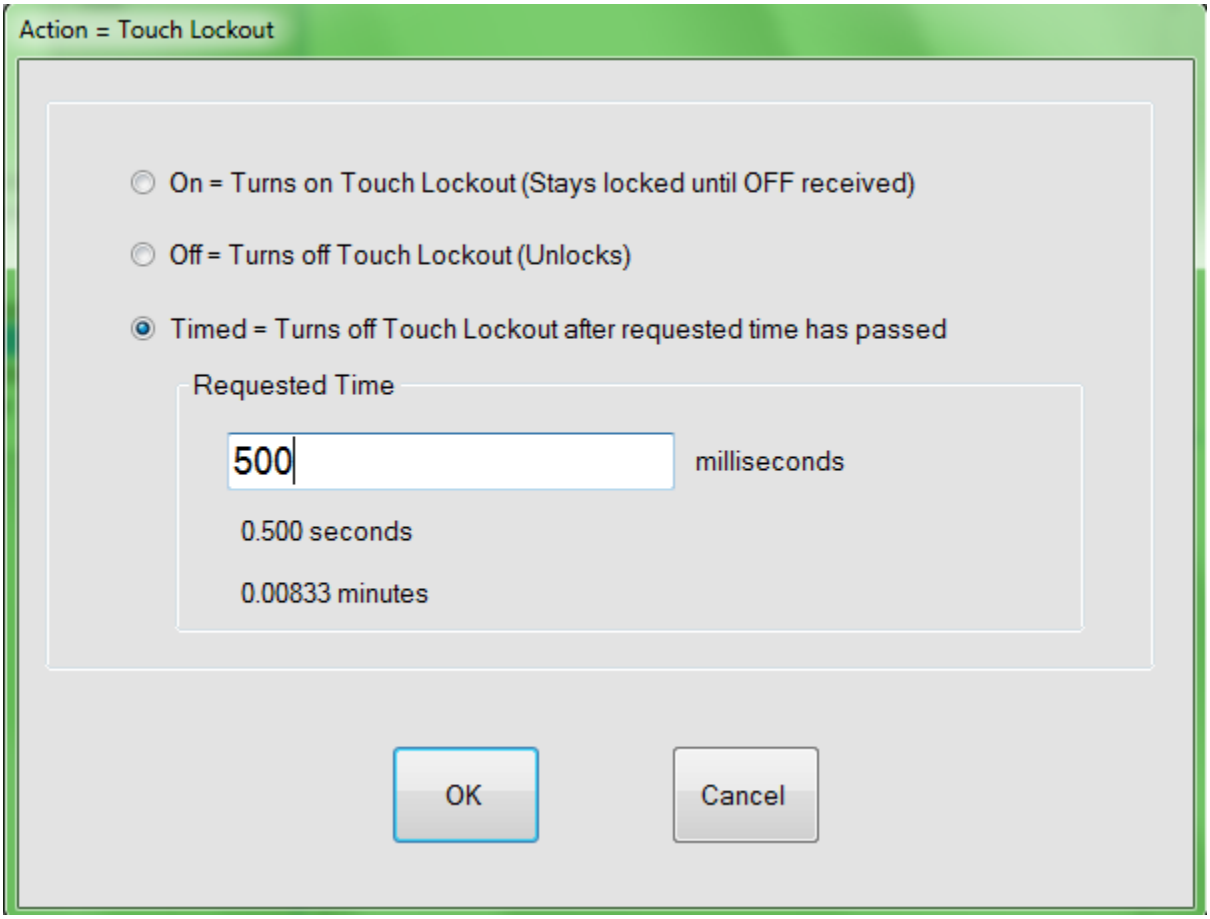
The final command set will look like this:

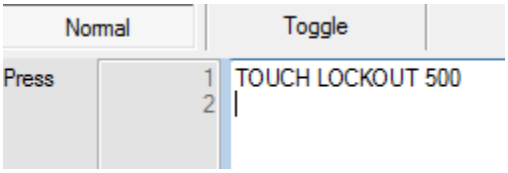


Touch lockout

The touch lockout command disables the touchscreen for a predetermined length of time. Commands will continue to execute during the lockout period. 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.

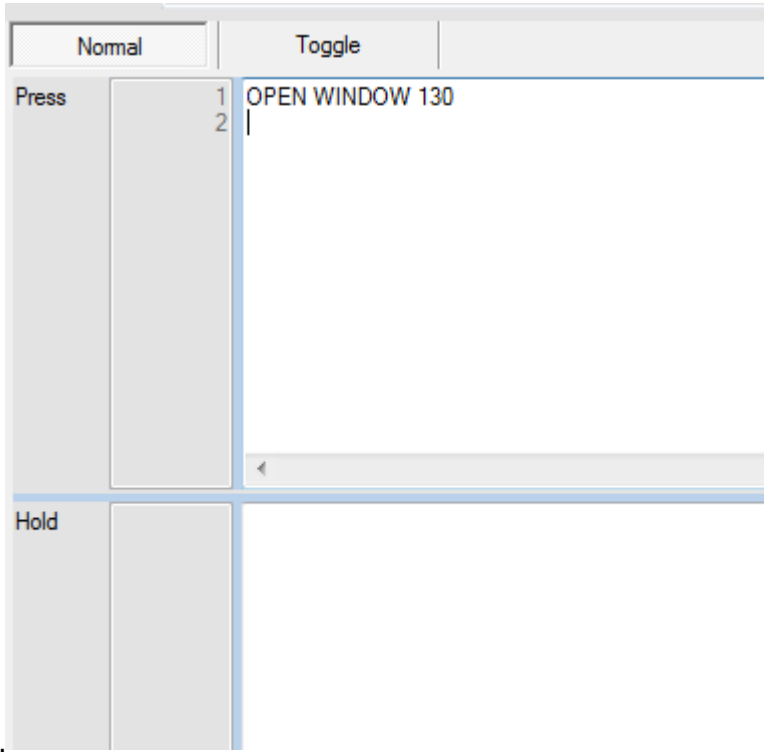
Select the desired function. **On, Off,** or **Timed** and then enter the length of time. Click on OK. The set time is displayed in the action window. You may further refine the length of time by editing the number of milliseconds if you wish.





Open Date/Time Window

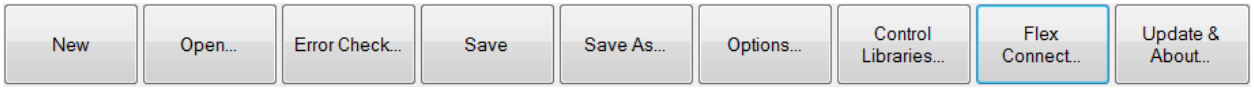
The Date / Time Window is usefull in projects that have timed events. This command allows the end user to set the date and time on their Flex Panel. This can be used foraccuratly resetting the time during Dalight Savings Time for example. The user will simply press a button on the Flex Panel, and a window will open allowing the user to set the date and time directly.

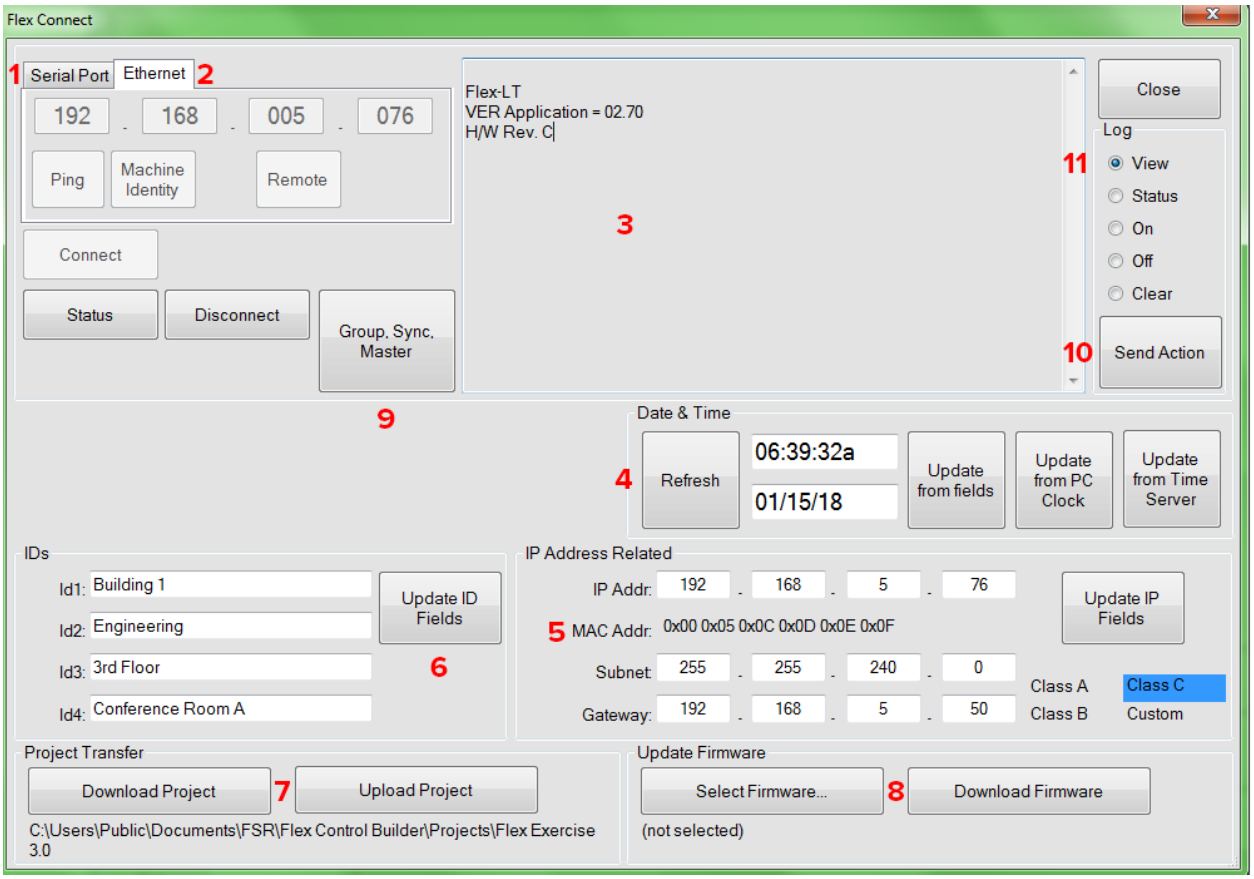


LIT1368G Flex Training Manual

Flex Connect

Connecting to the Flex unit and utility functions including cloning are performed through the Flex Connect button found in the tool bar as shown below.





The numbered areas above are as follows:

1: Serial com port selection

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

3: Once connected, this area shows the Firmware and hardware version of the Flex panel.

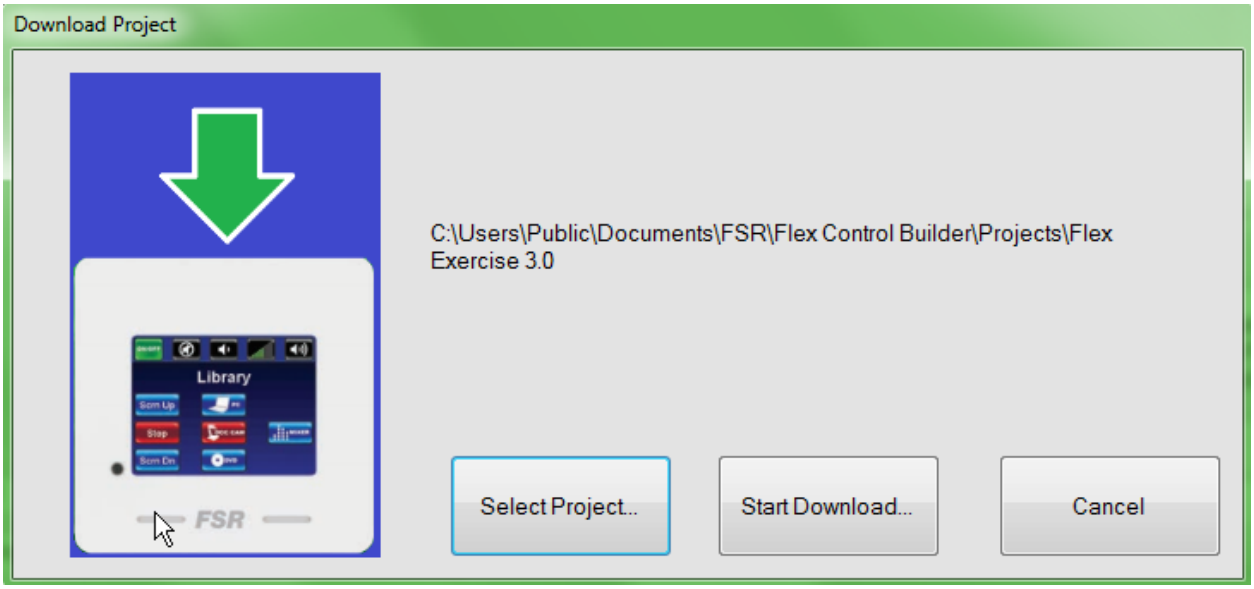
4: Date and Time can be updated. The refresh button will show current date and time of the panel. If fields are blank then the flex panel does not have a date and time set. Either click on Update from PC, manually type it into the fields, and click on Update from fields or update from the time server if one has been designated in the options.

5: Shows current IP address of the flex panel. Type the new address, subnet, and Gateway and click 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 useful to track Flex panels where multiple panels are installed. Fill in the fields and click Update.

7: To download or upload a project to or from a Flex Panel, select the Flex Connect.. button on the tool bar at the top of the project screen. Connect to the desired Flex either through manually inputting the IP address or through a serial port.

Next under the Project Transfer section 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, choose the version from the listing, click OK, and then click download Firmware.

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

10: Send Action will execute the option checked off above for the LOG commands.

11: Checking off View log, followed by a Send Action button press will reveal any log commands that have been entered into the flex unit since it was booted. Note: rebooting will automatically clear the log file.

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 from any of the panels within the same synchronized group. Please note: The same project must be loaded into each of the synchronized panels to perform properly. Subtle differences such as background and button colors may be different, but the underlying commands must be the same.

You are given the option to connect via Serial Port or Ethernet. You might be synchronizing several Flex LT panels; therefore, it is faster to connect via Ethernet since all the panels should be networked already.

To enable or disable Sync, select Group, Sync, Master from the connect page.

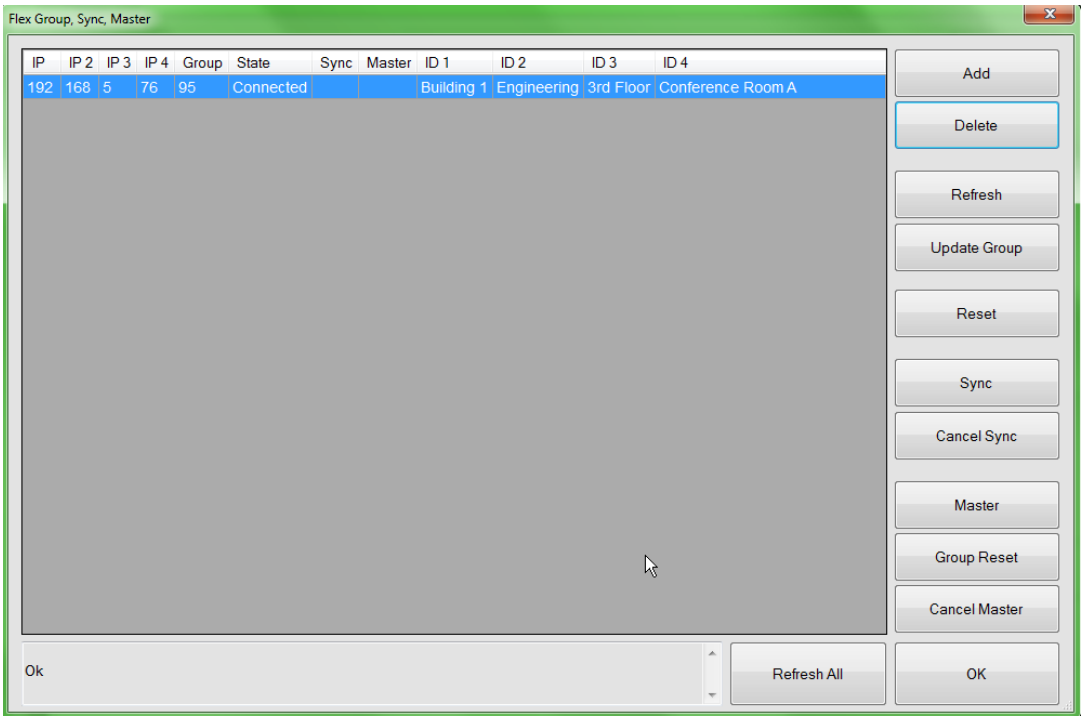
The Flex panel which you connected to will automatically fill in the IP address and ID fields.

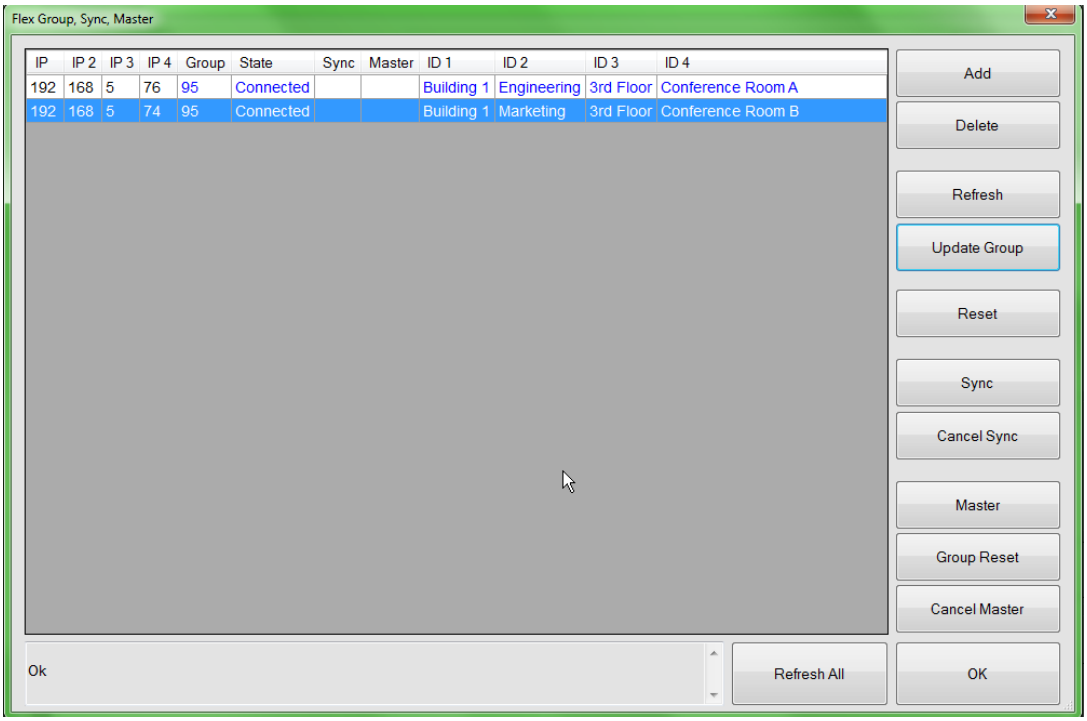
Click into the Group field. You must now enter a Group number of your choosing from 1-100 that each Flex-LT panel will share. Then click on Update Group. Note your group number since you will repeat this set of actions for each Flex-LT panel you synchronize within the same Group.

Click the Add button, and enter the IP address of the next Flex-LT panel you want to have in the synchronized group. Click Update Group again.

Repeat this for all Flex panels to be added.

LIT1368G Flex Training Manual





Click to highlight one of the Flex panels; then click on the Sync button. The Flex panel will automatically reboot after 10 seconds. Click onto each of the other panels, and click the Sync button for each of them. Again, they too will reboot after 10 seconds.

Once all have booted up again, select any of the Flex panels you wish to be designated as the Master, and click the Master button.

At this point, all Flex panels are synchronized. To undo synchronization, get back into the Group Sync Master. Add each Flex panel IP, then click the Refresh all Button.

Start by clicking on the Flex panel that was designated as Master, and click the Cancel Master Button.

Now select one panel at a time, and click the Cancel Sync for each.

You may clear out the Group and click Group Update; however, leaving the group number will not have any impact on the independent function of a Flex panel, so deleting it is not necessary.

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 reset in succession. All projects must be the same for each panel in the synchronized group.

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

The 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:

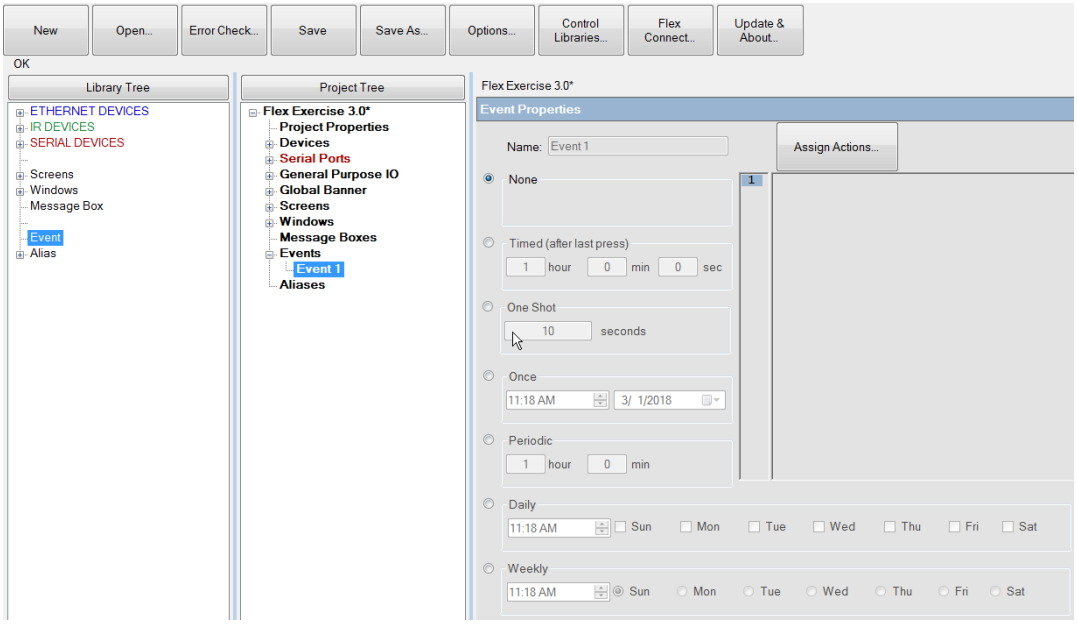
Once a connection has been established, the Log file can be viewed.

Should a log command be given to a button action as was discussed earlier in this exercise, it can be viewed using the Flex Control Builder. Select the View option, then click on Send Action.

LIT1368G Flex Training Manual

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 you would assign an action to a button command.

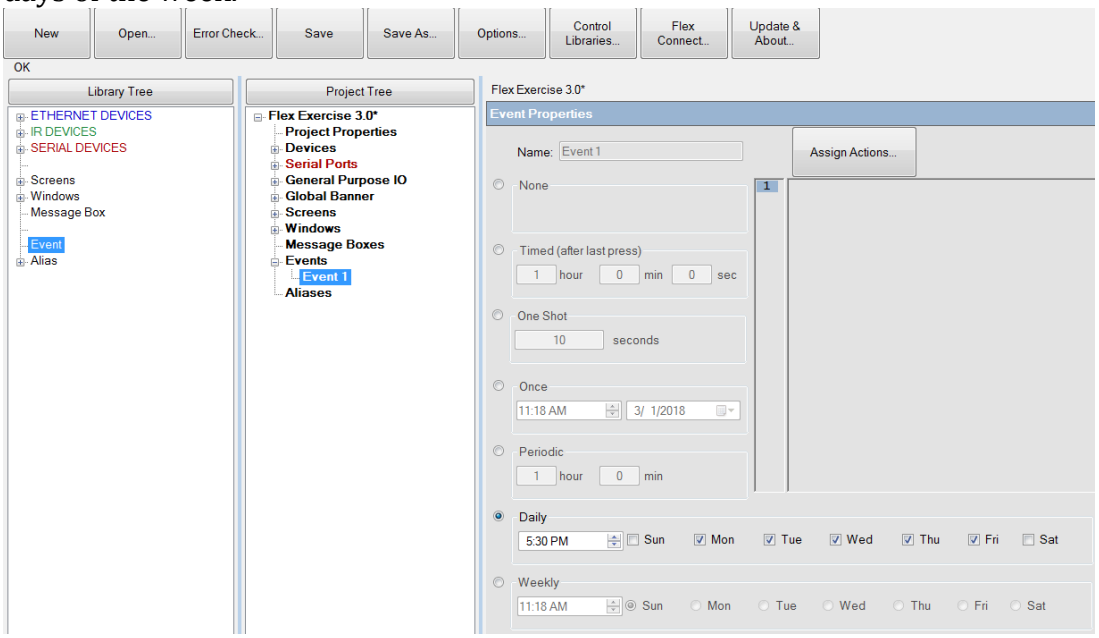
Select scheduler Event 1, and click on the event type you wish to schedule.

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.

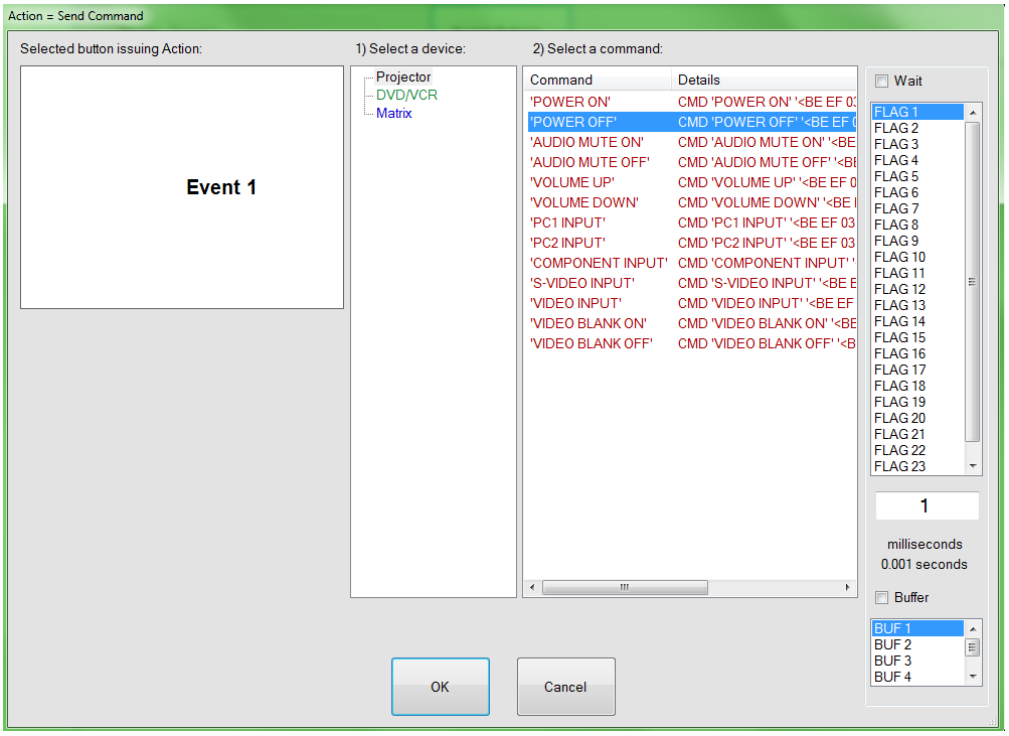
Create an event by dragging Event from the Library Tree to the Project Tree. Now select the event on the Project Tree. Select the daily option, and complete the selection for time and

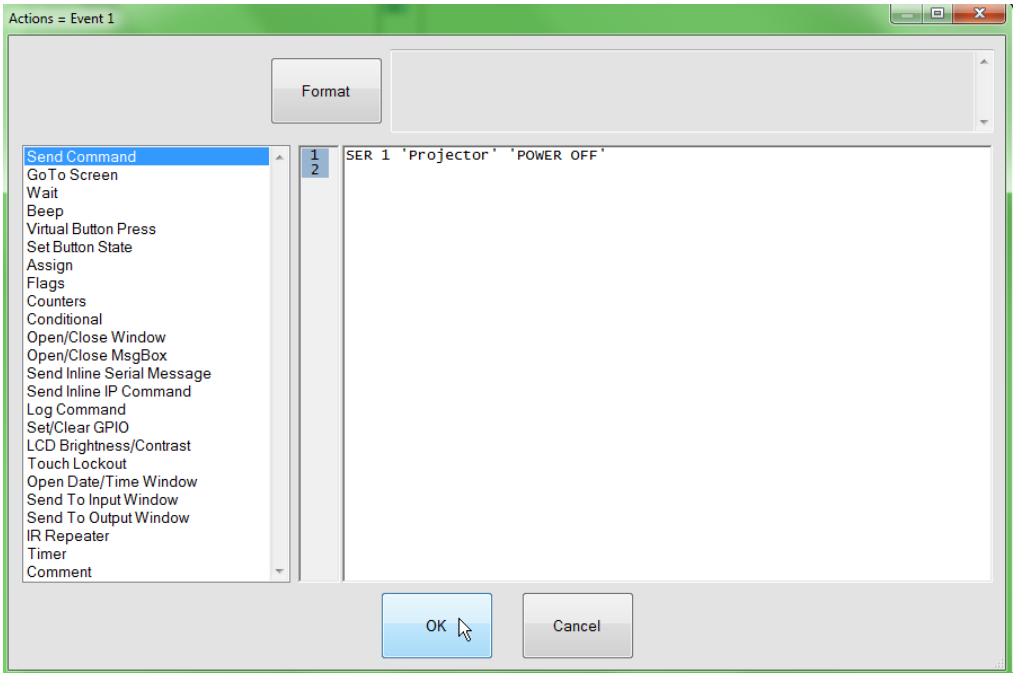
days of the week.



Click on Assign Actions then ‘Send Command’.

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





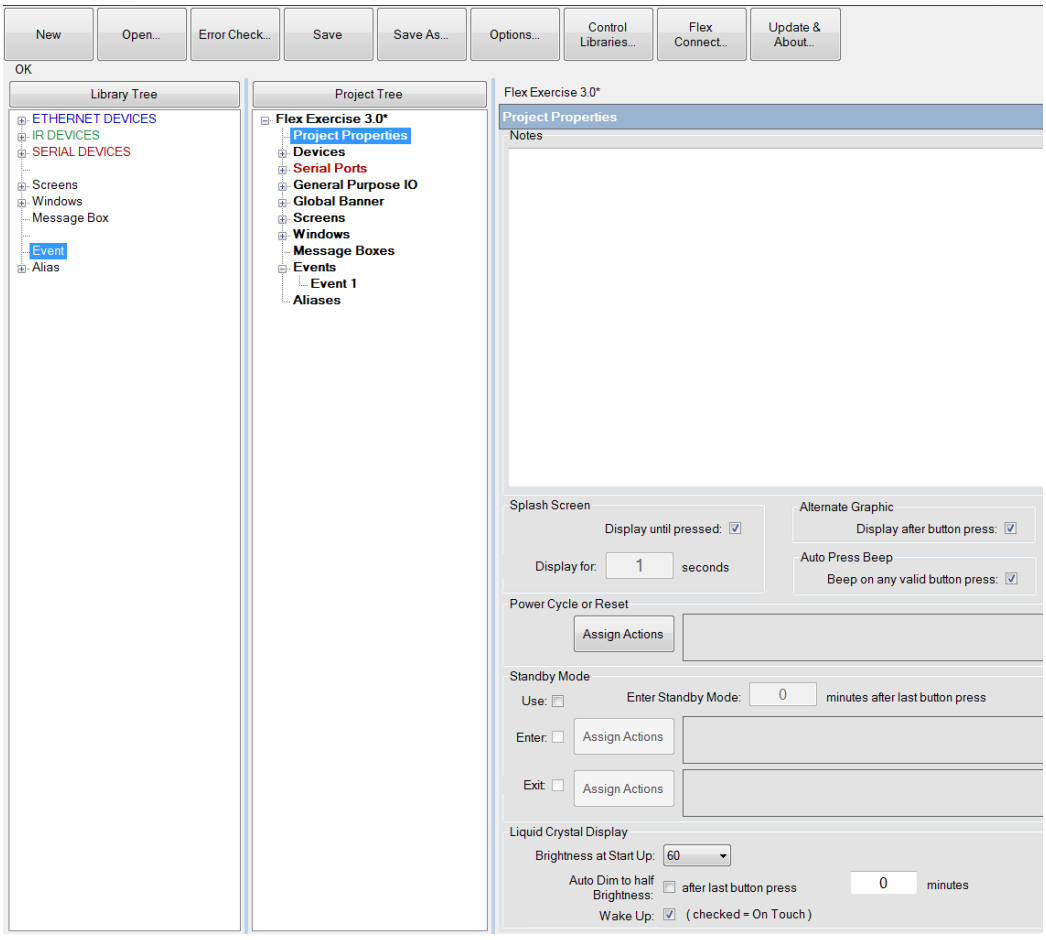
**** Note: You should only use this type of function when there are discreet Power On and Power Off commands. Typically, serial controlled devices have these commands, but IR controlled devices may not. In this particular project had we selected a DVD/VCR which does not have a discreet power off command,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

Using Power up actions

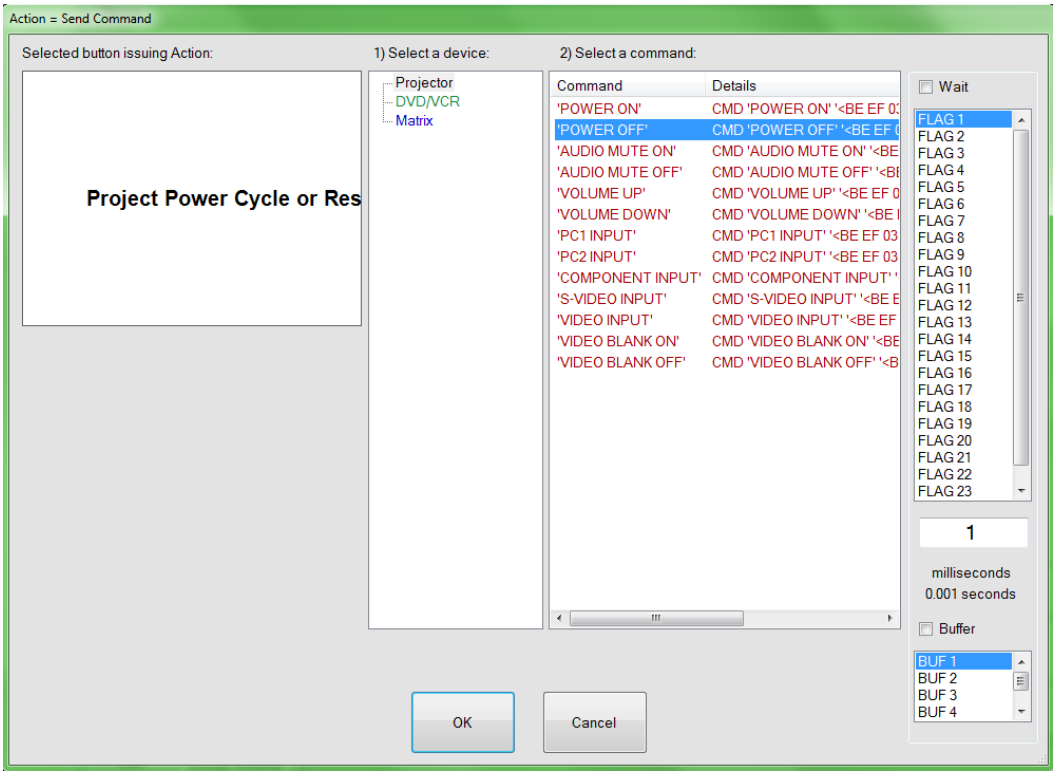
The Flex has the option of executing actions when power is applied to the panel. In the event of a power outage, the Flex can perform a series of actions to put the components in sync with the control system.

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.

Click on Project Properties in the Project Tree.

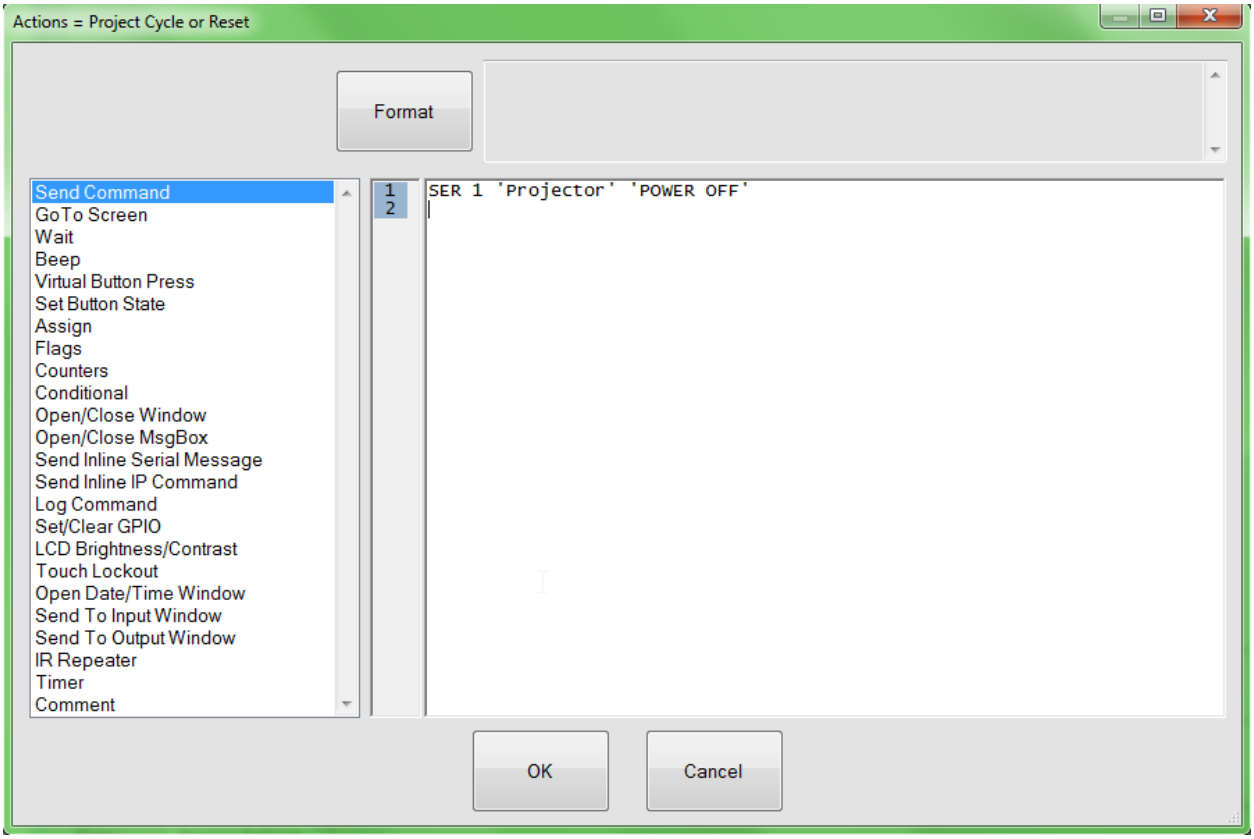


Click the **Assign Actions** button.



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

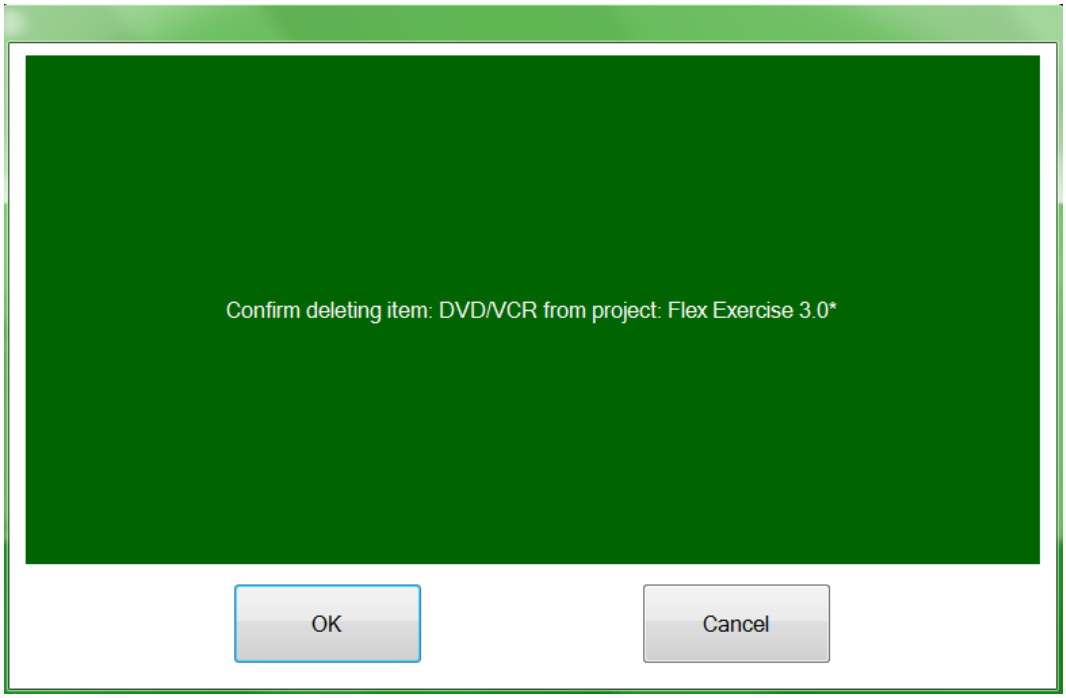
From here, you can assign any set of actions just like any other button.



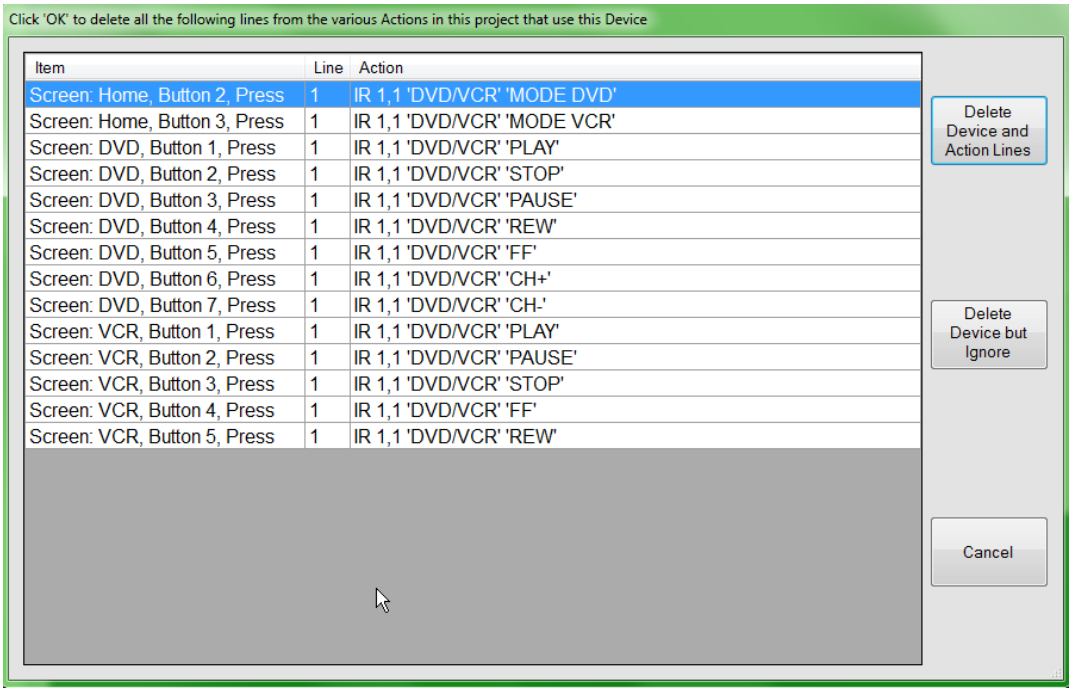
Deleting Devices

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. A confirmation window will appear as below.



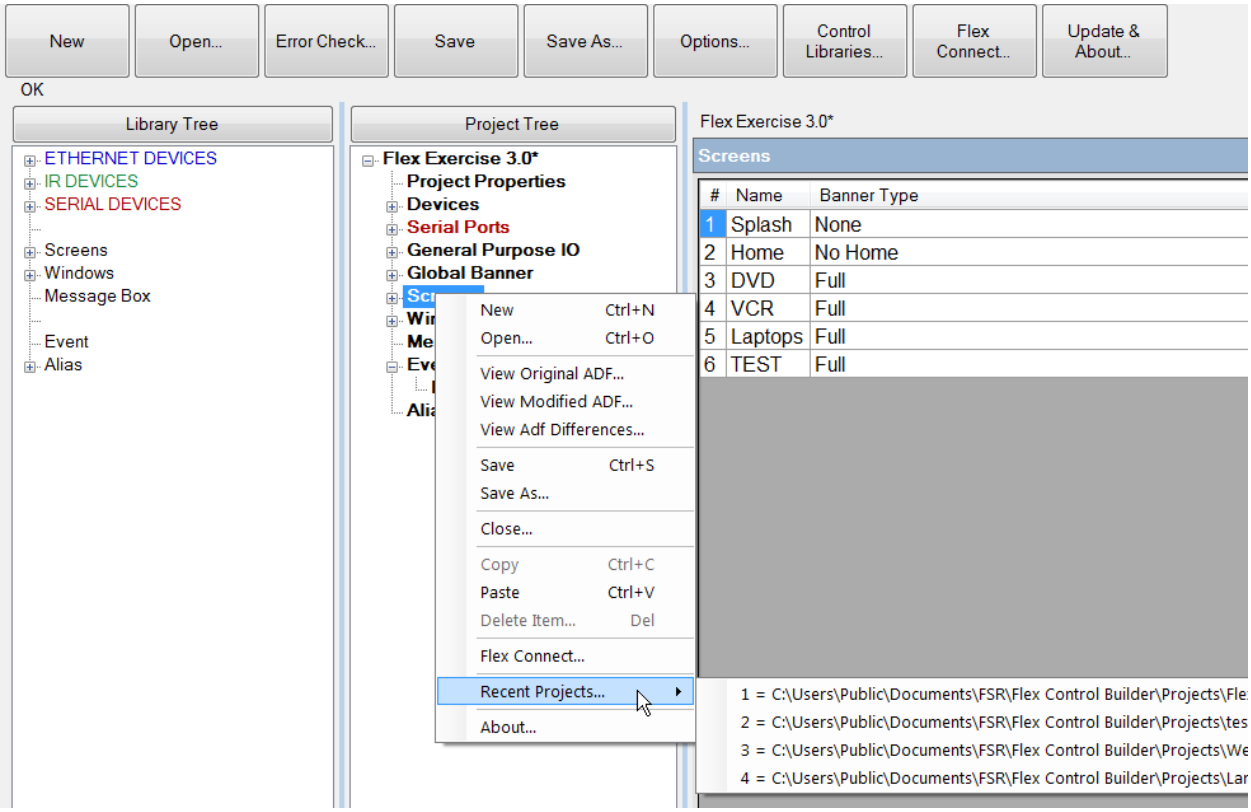
Click OK and the following will appear.



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

RECENT PROJECTS

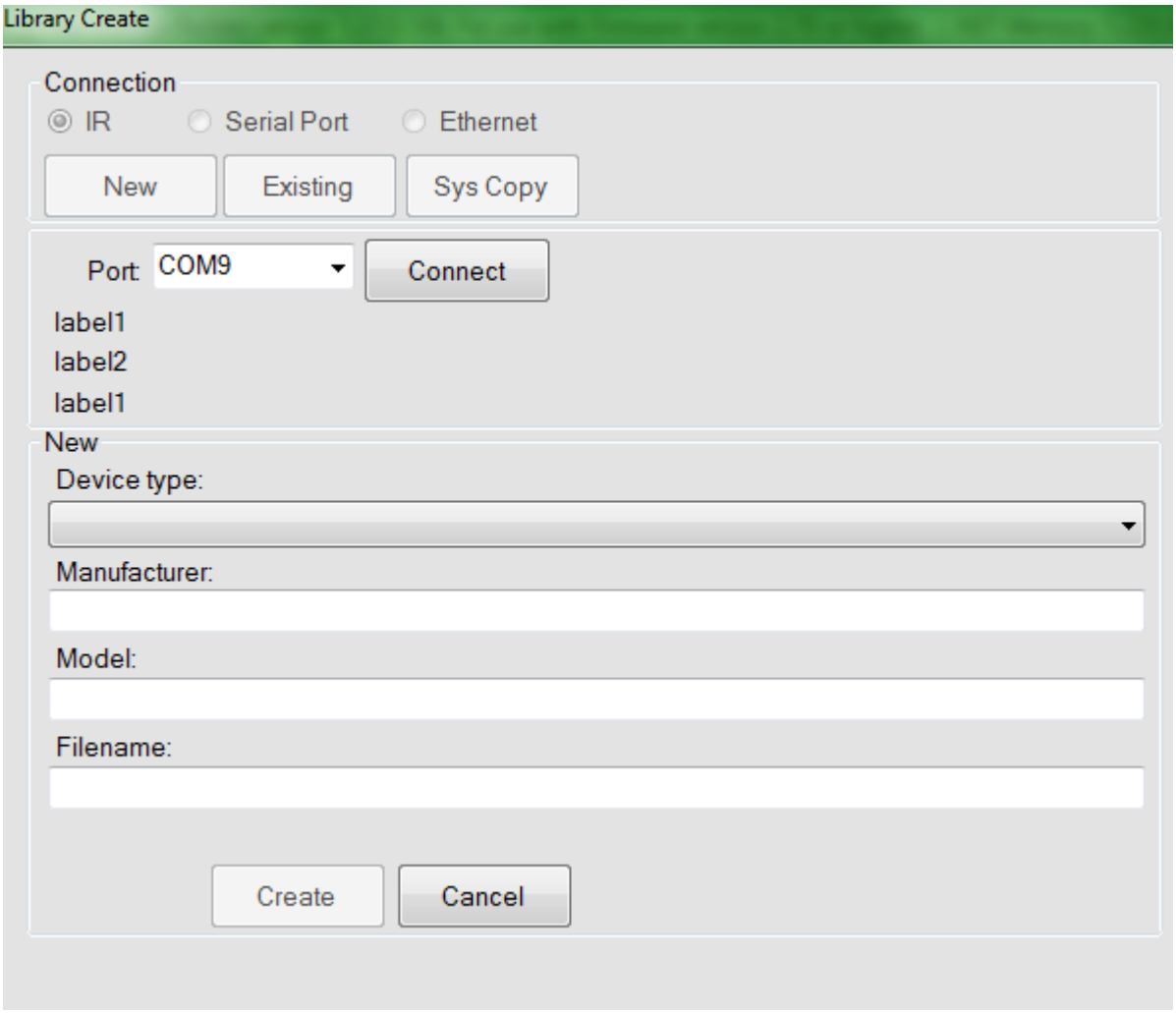
Right clicking anywhere within a project under the Project Tree will reveal another set of menu options. ADF options are used to look at the details within a project and are usually left alone unless calling Customer Support and identifying specific command problems. However a very useful option is the Recent Projects command. Clicking it will reveal the last 4 projects you have worked on and saved. A simple click on one of them will open that project.



CONTROL Libraries

Control libraries can be updated from FSR through the ABOUT screen. All library files created by FSR will have the suffix FSR 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. Also Libraries you have created maybe edited by clicking the Existing button. For this exercise we will add to an existing FSR library file.

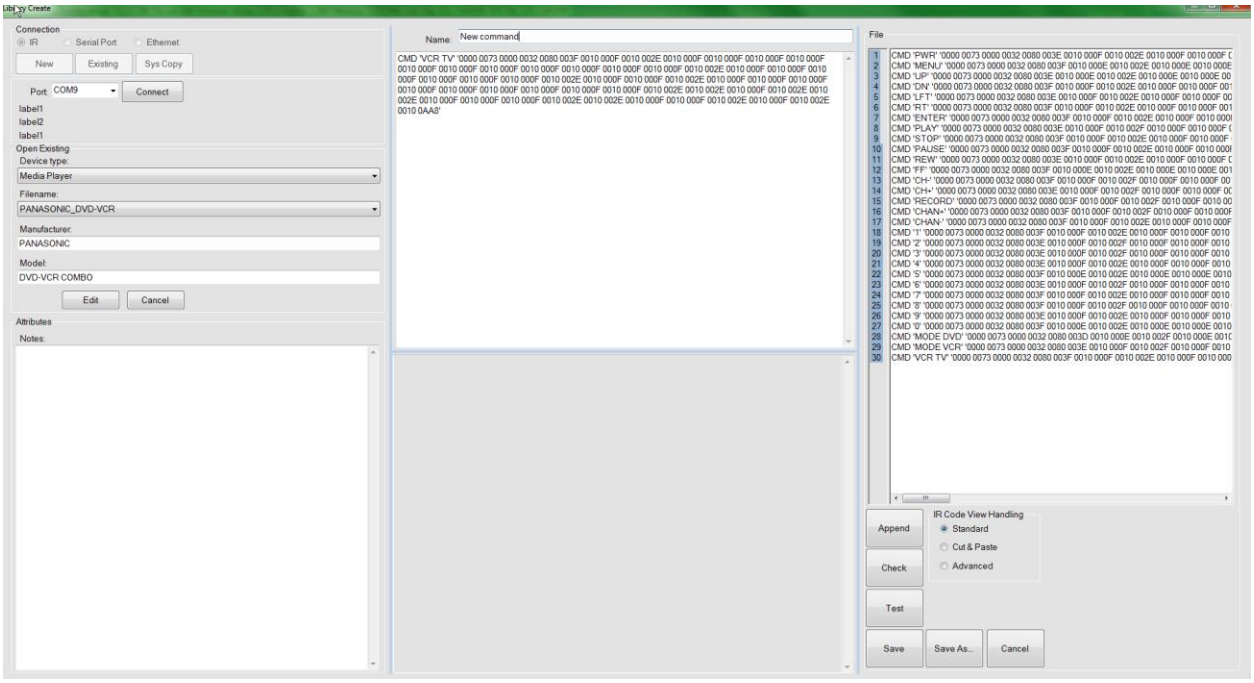
For IR commands to be learned, a learner must be attached to the computer prior to launching the Flex Control Builder.



Here I copied the Panasonic library used in this demonstration project. All of the commands within this library are shown on the right. To changeor delete any commands, simply move your curser over the command, copy, or delete it. To copy and modify, move your curser over the command, copy, then paste it into the command window and give the new command a name. Here I copied one of the commands and pasted into the window.

Utilizing a learner along with the device IR remote, you can simply create a new library file and add as many of the remote commands as you find necessary for the project. Simply type a command 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

commands if necessary and once complete, click on the save or save as button and the library will be available in the control devices list.



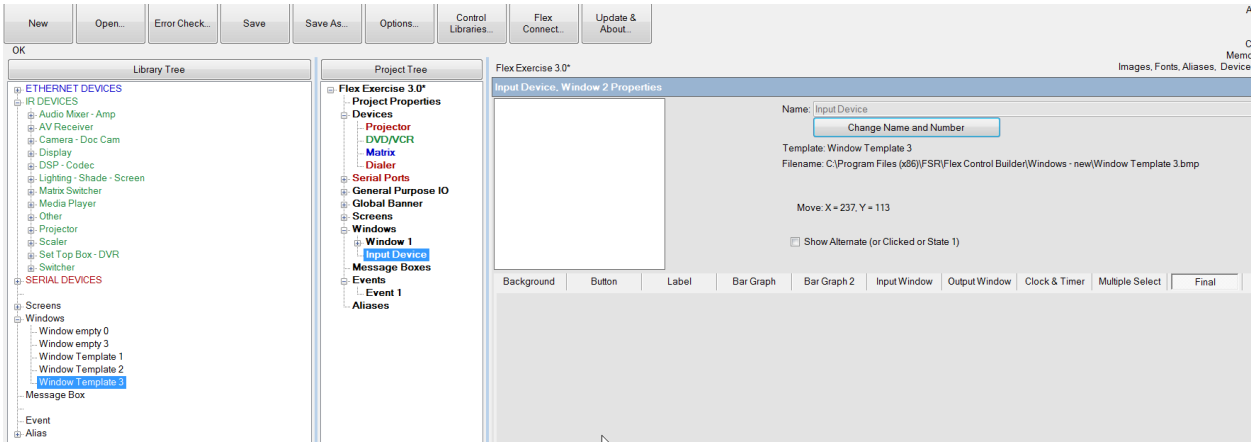
IP and Serial libraries can be modified in the same manner as IR by using copy and pasting or typing the commands in directly.

Input Windows

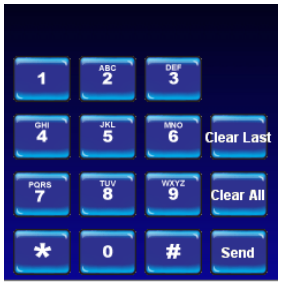
Input windows can be created for various control input functions such as dialers, pin security, or lighting control.

Add a new device to the project. Add the Polycom-HDX Button Emulation_FSR to the available devices for this project, and rename it Dialer.

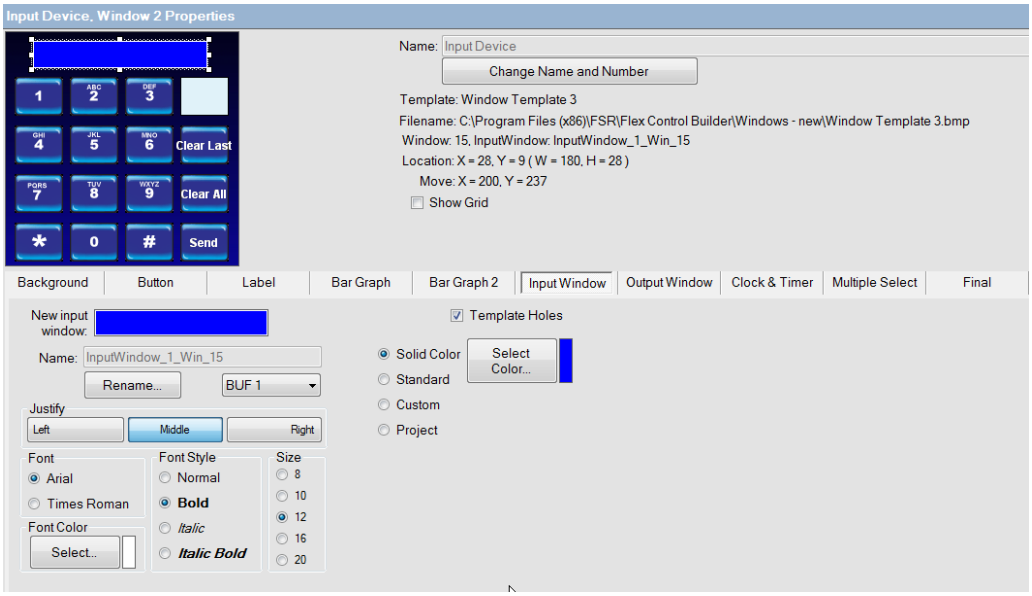
For this example, select Window Template 3, drag it to the Project Tree, and then rename it Input Device.



Select a background and add buttons.

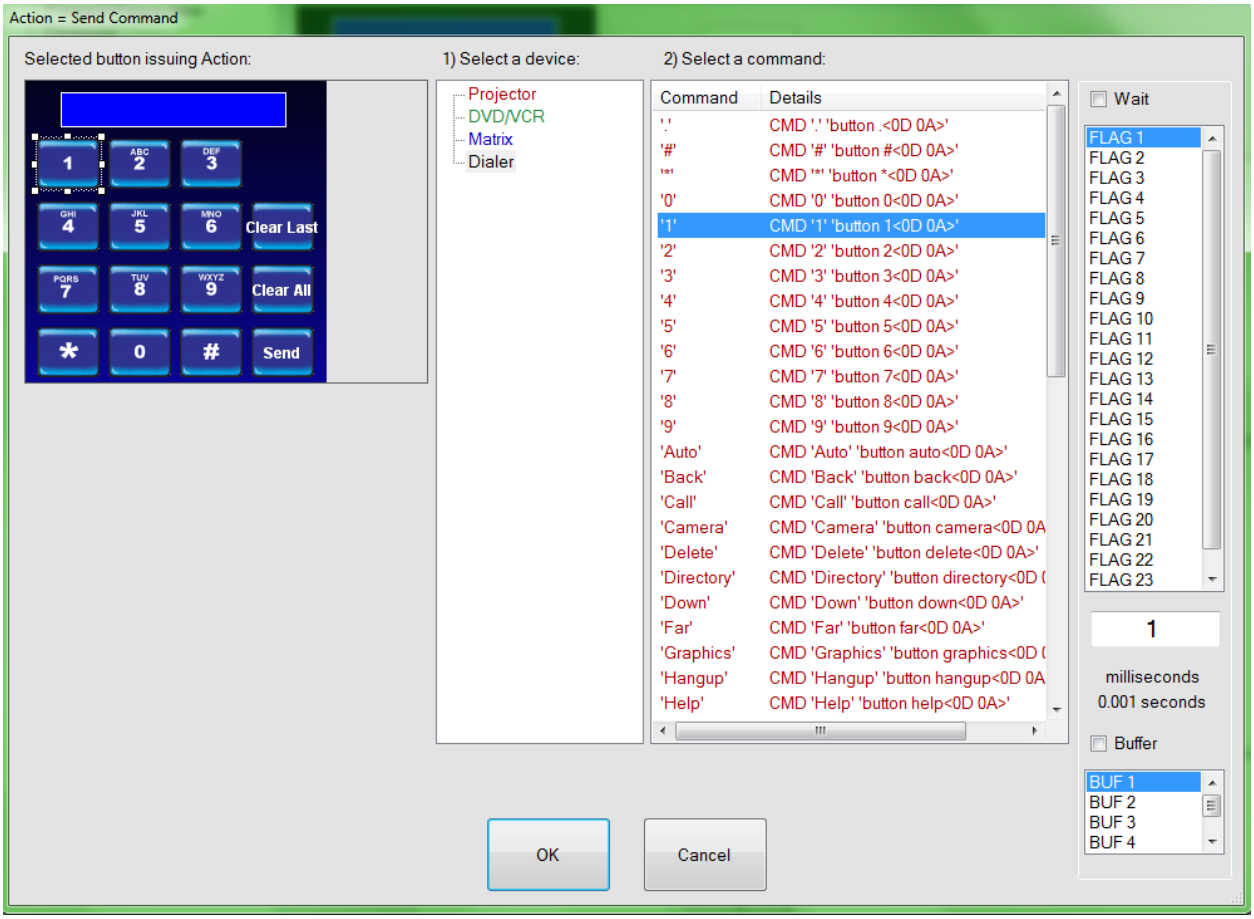


Then select the Input Window tab and drag and drop an input window in place. Refer to screen below for options and layout of buttons.



Now click on a button to add command actions.

Click on button 1 and send command. Select the Dialer and then the command shown below (CMD '1' button 1<0D 0A>)

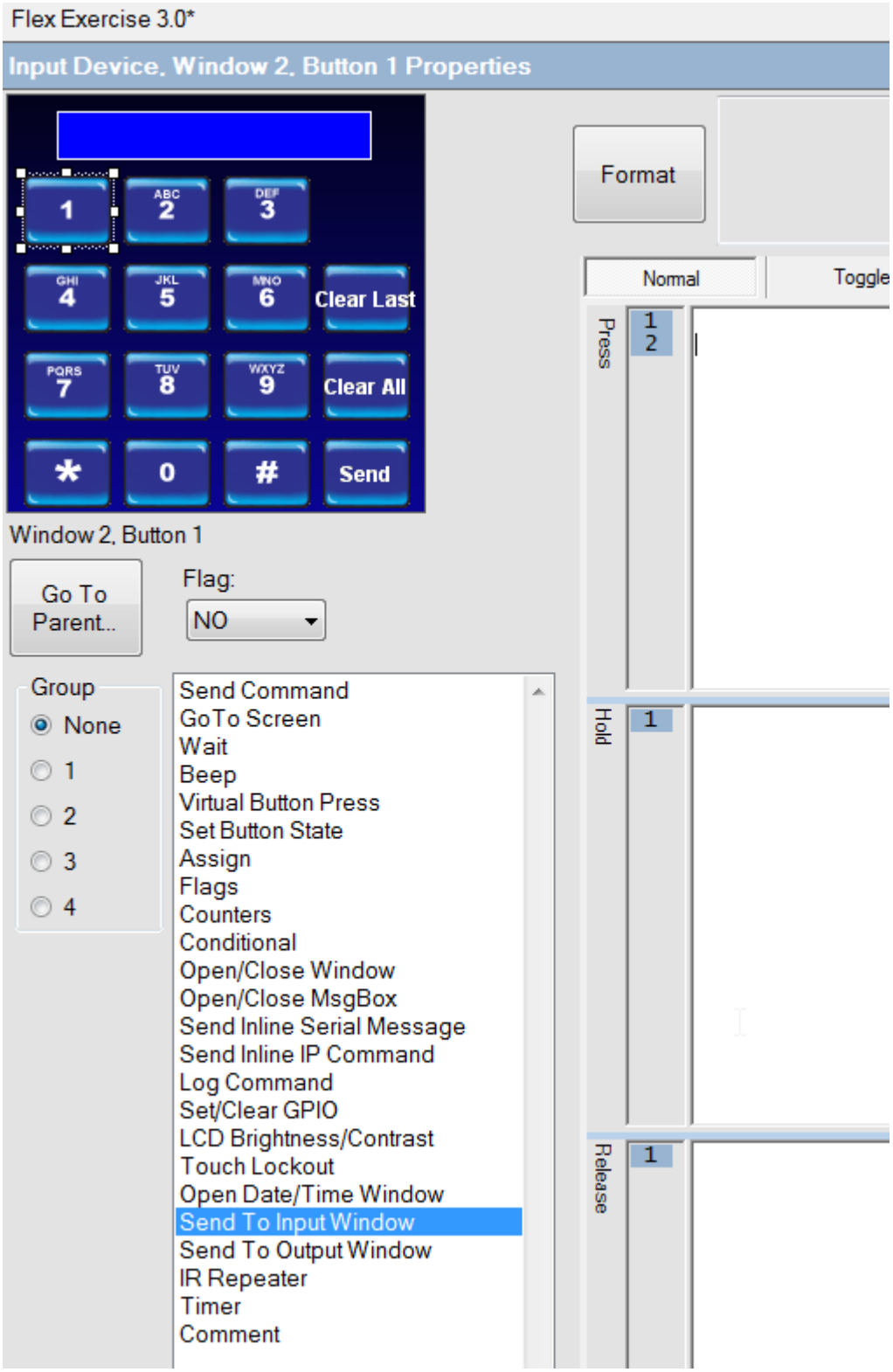


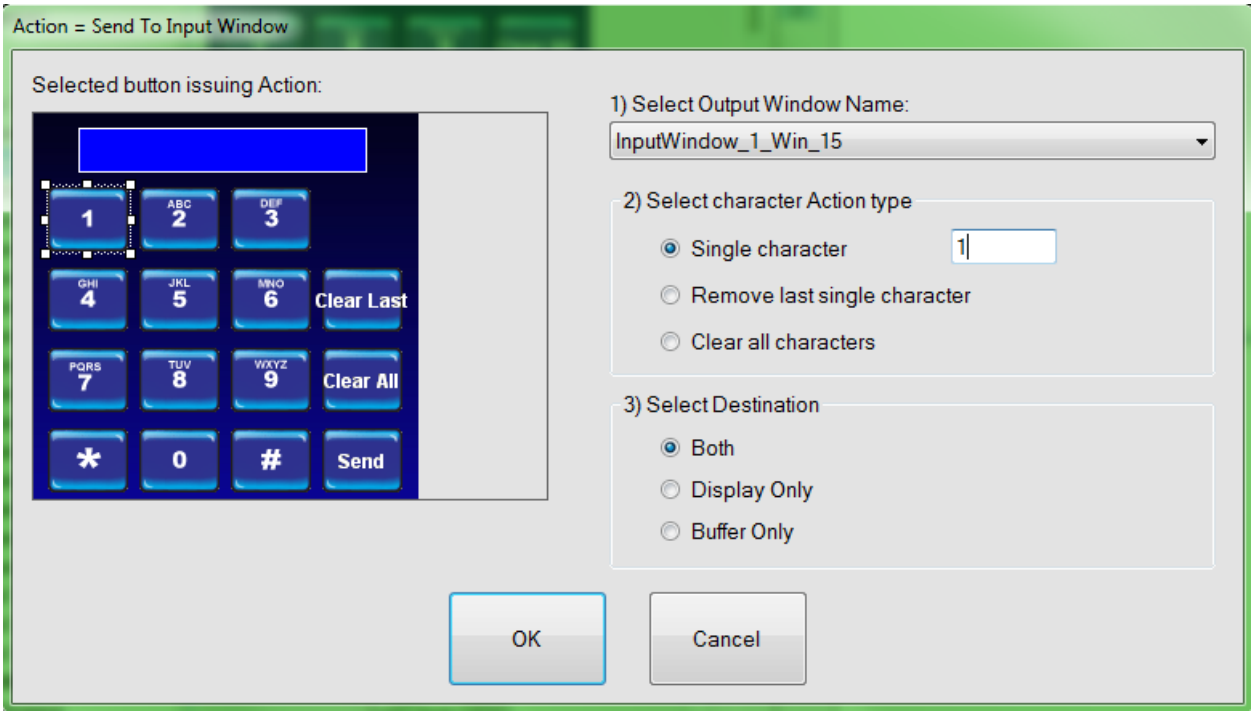
Repeat, adding commands to buttons 2- 9 and 0.

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

Select the number 1 button now, and select the Send To Input Window command.

LIT1368G Flex Training Manual



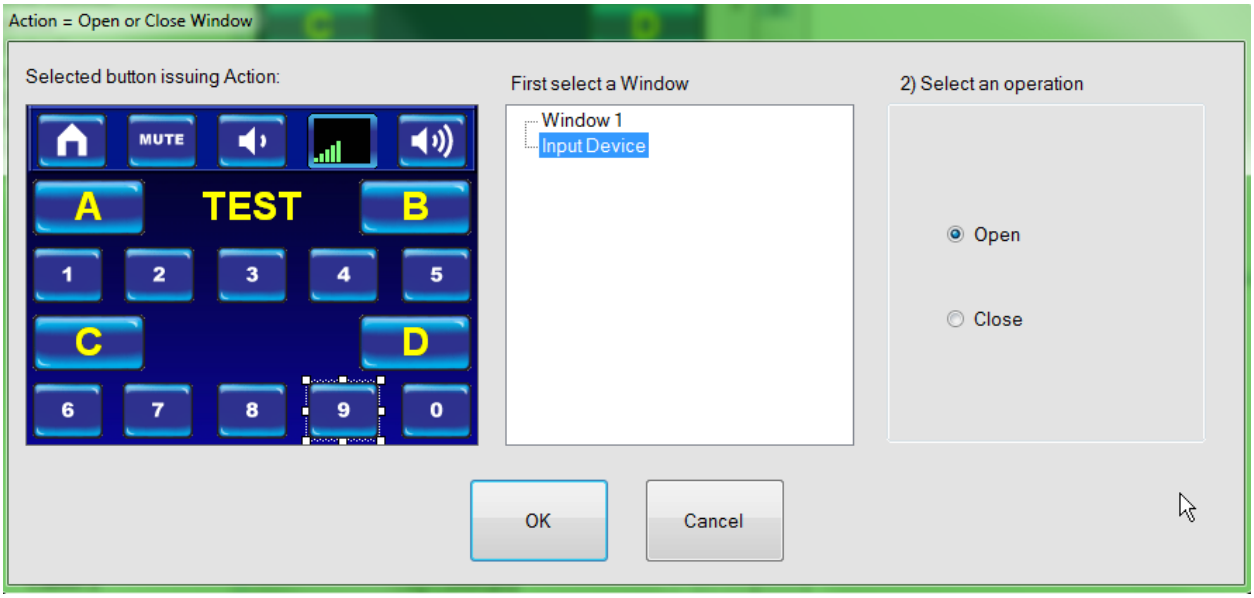


This selection will send the character to the input window display shown above as well as the buffer.

Next select the Clear All button and Clear all characters.

Clear Last will be set to remove last single character.

To add this input window to the project, select a button from the TEST screen and click on Open/ Close Window to select the Input Device.



Output Windows

Output Windows are set up in a very similar manner as Input Windows. Just add a window using window template 3, set a background, add buttons, and assign actions via Send to Output Window.

IR Repeater

This command can be added at startup or as a button command and can be found in your command list. The purpose of this command is to allow the use of real IR remotes. When the IR Repeater is set to on and the project contains an IR type device, aiming the remote at the Flex panel and clicking any function on the remote will be received and re-broadcast out of all Flex IR ports. This is useful when the end user does not want to go to the Flex Panel to select a command and has the remote for the device.

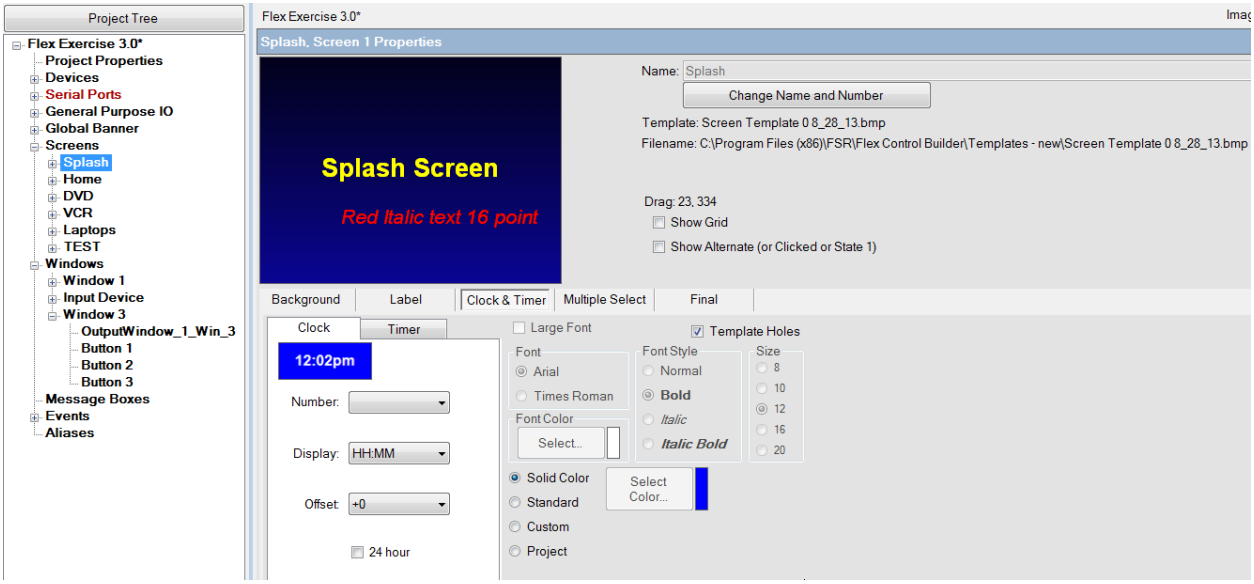
By default, this function is set to off.

Timer

A Realtime digital clock or time can be set on any screen.

For demonstration purposes I will add a clock to the splash screen.

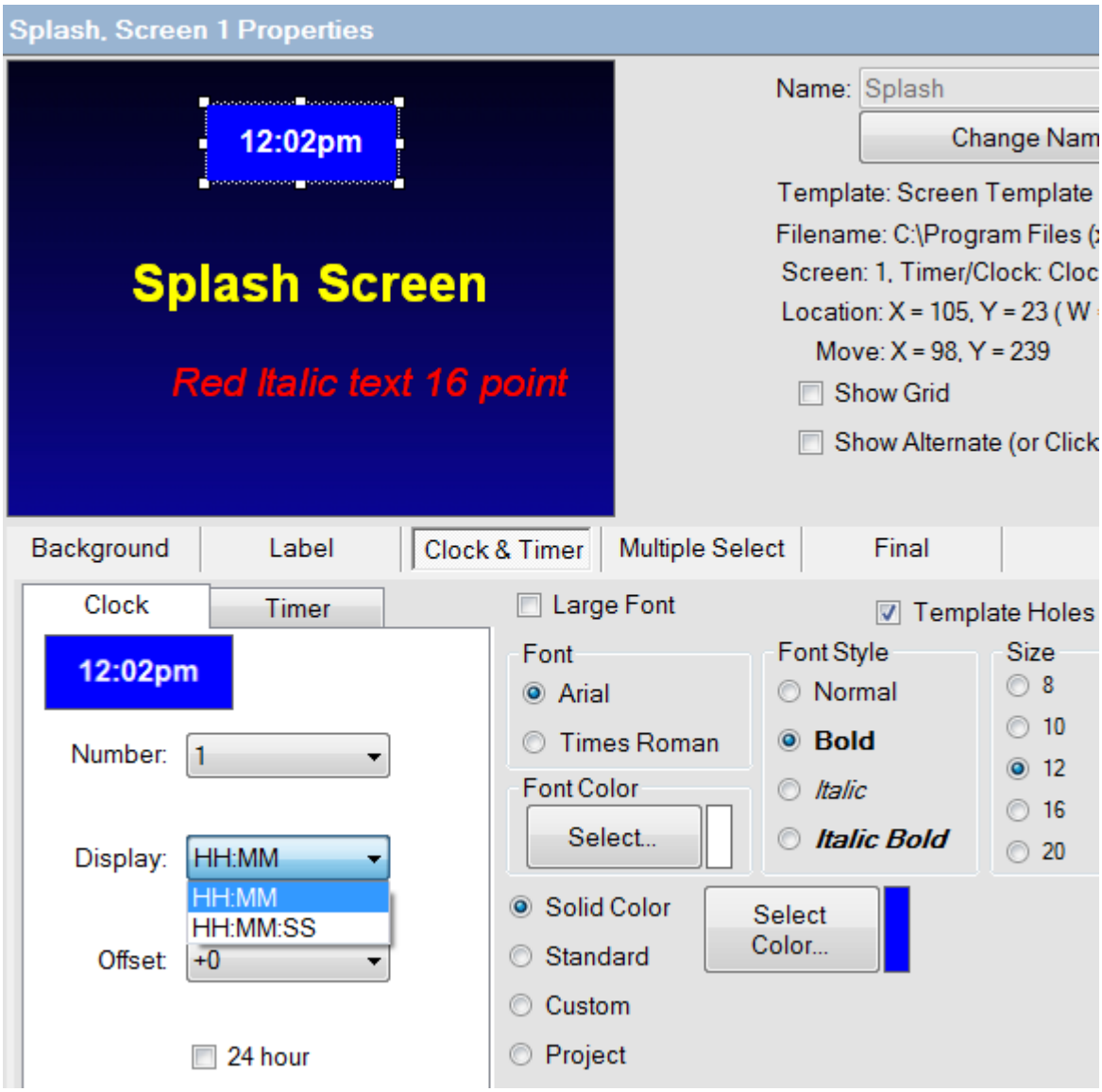
Click on the Splash screen under the Project tree.



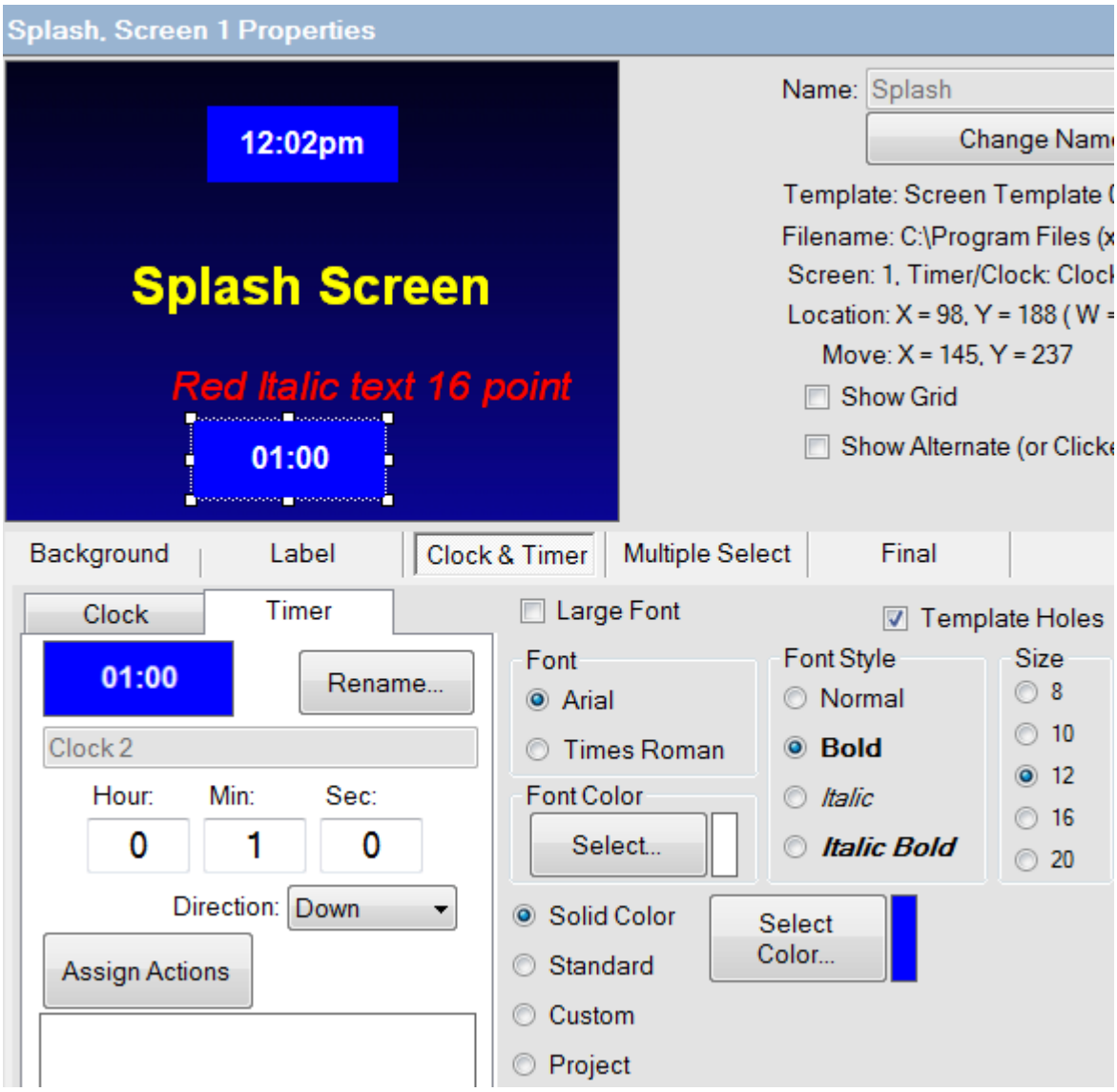
Drag and drop the 12:02pm on the clock & Timer tab. The number will automatically fill in as number 1 in this exercise. You can resize the clock window anytime you wish by returning to this page.

The Offset can be changed, if you want to display a time other than your local time. It is offset based on “Universal Time Coordination” (UTC) Formally called “Greenwich Mean Time”.

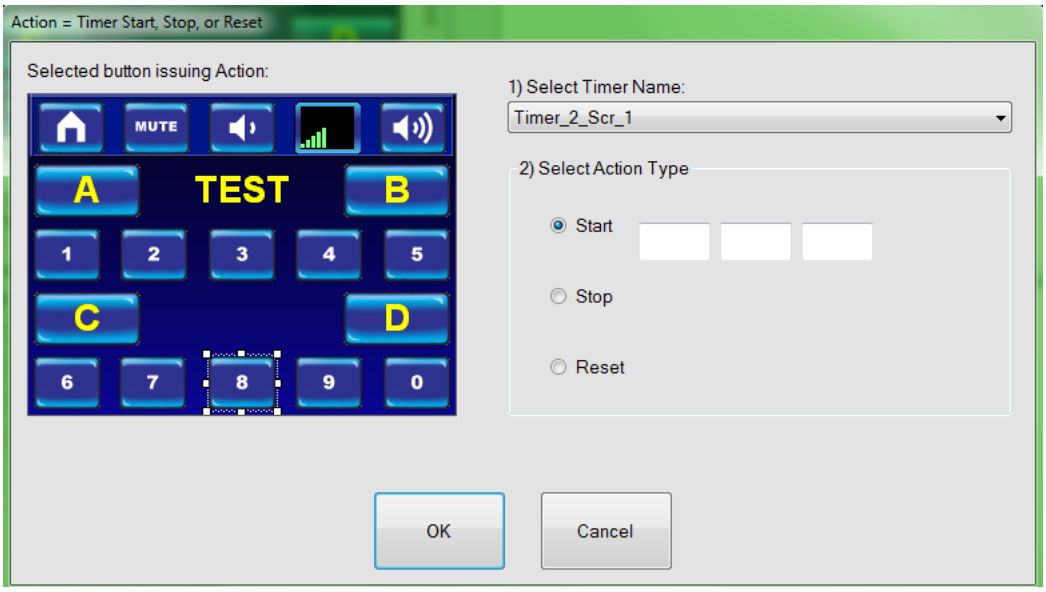
Clicking into the 24-hour box will display time in a 24-hour Military format.



As you can see on the page, there is also a timer tab. Selecting this will allow you to set a timer to be count down or count up.

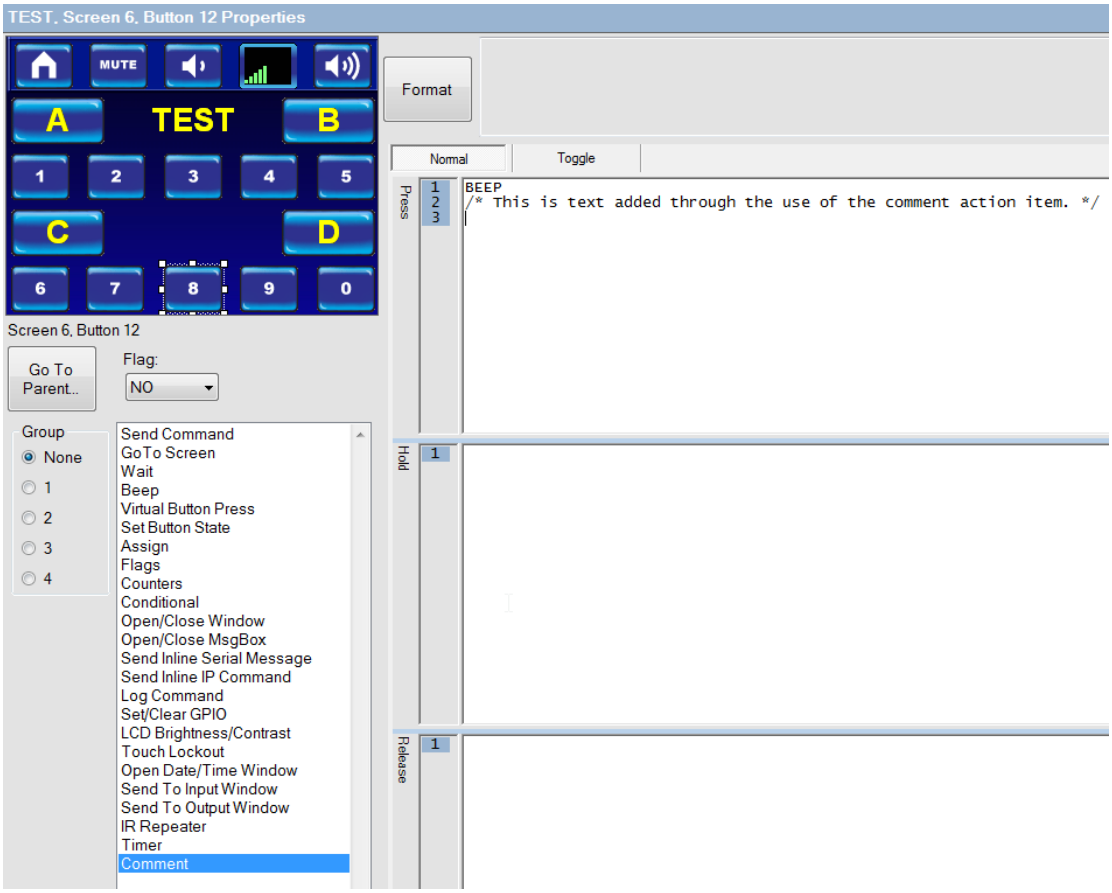


Actions can be assigned when the time reaches its goal. Initiating the timer is usually done through assigning the action on a button as shown below.

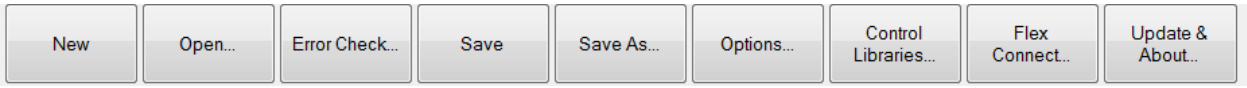


COMMENT

The comment action item is merely a way to add notes to a command line without having any effect on the project.



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.

```
1  BEGIN
2     SYS ADMIN BEGIN
3        PID = '16:06 5/6/2014 Flex Control Builder.adf'
4        POWERUP ACTION = COUNTER 8 = 0
5        AUTOBEEP ENABLED
6        AUTOACK ENABLED
7
8        IO 1 OUTPUT
9
10       IO 2 OUTPUT
11
12       IO 3 OUTPUT
13
14       IO 4 OUTPUT
15
16       SERIALPORT 1
17          BAUDRATE = 19200
18          DATABITS = 8
19          STOPBITS = 1
20          PARITY = None
```

Alias

The Aliases command was initially included to support a product which is no longer supported. As such, no commands entered in the Alias will have any effect on a project and should be ignored.

For additional information on programming and actions of the buttons, devices, screens, and so on please feel free to call: (973)-785-4347, email us at *techsupport@fsrinc.com*, or visit our website at www.fsrinc.com.

LIT1368G Flex Training Manual

INDEX