Advanced Flex Control Builder Guide: Controlling Devices with Counters

Overview

This document will demonstrate the two methods you can use to program Flex products using Flex Control Builder to control devices using counters.

The two methods are:

1. Using the inline function and adding the counter to the command itself
2. Using the send command function and adding the counter in the command name

Note: For volume ramping the first method is easiest and always preferred.

These are the detailed steps to set the Global Banner to control serial or IR devices using counters:
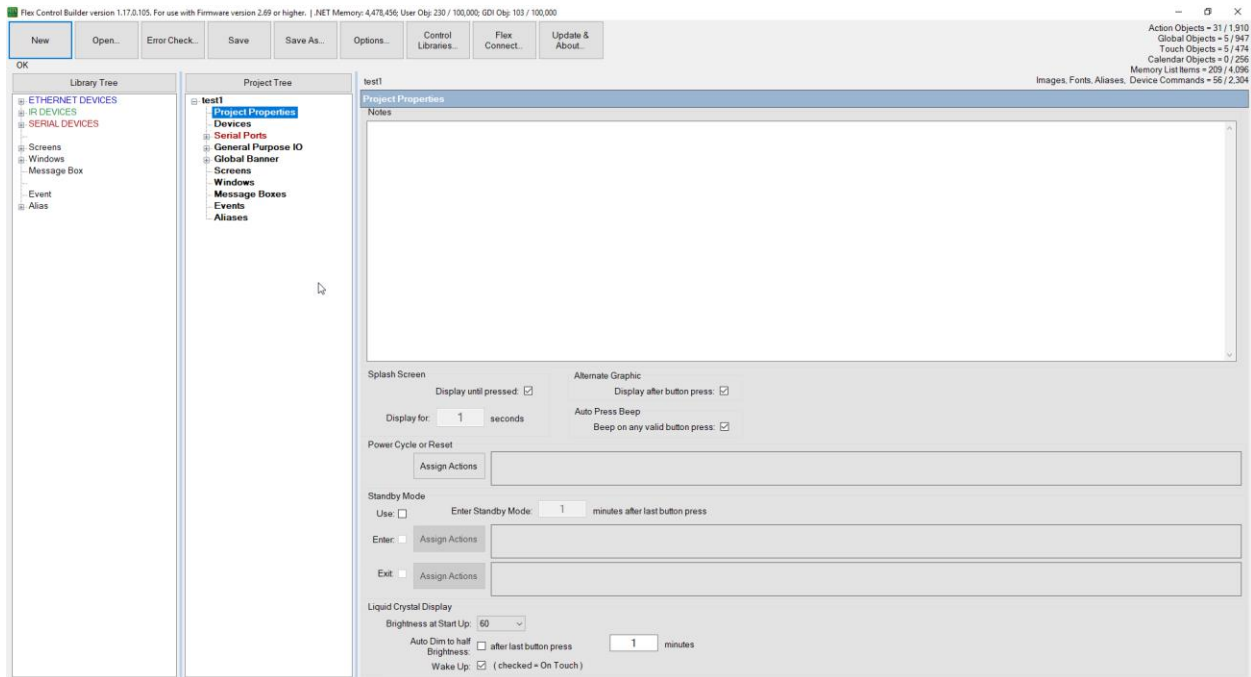
1. Open/create a project
2. Add a device
3. Customize the Bar Graph range in the Global Banner
4. Add commands to the supporting buttons
5. Check Start Up Settings
6. Save As/Save project

This document does not include advanced programming options for supporting buttons as well as formatting for specific devices. Further information can be found in the Flex Control Builder Manual.

Also feel free to call: (973)-785-4347, email us at _techsupport@fsrinc.com_, or visit our website at _www.fsrinc.com_ for additional support.
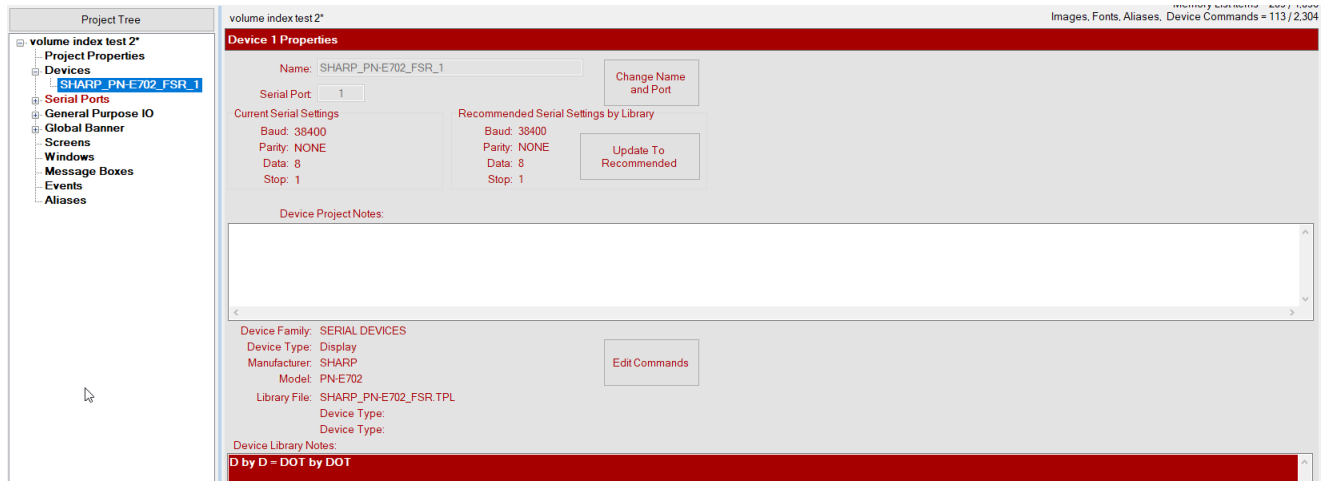
Getting Started

To start, you must open or create a new project which you would like to use. In this document the sample project was used. You can open an existing project by clicking the Open function and you can create a new project by clicking the New function and name it accordingly.

Add the Device

The next step is to add the serial or IR device. In this tutorial the Sharp PN-E702 Monitor was used since it has discrete volume set serial commands.
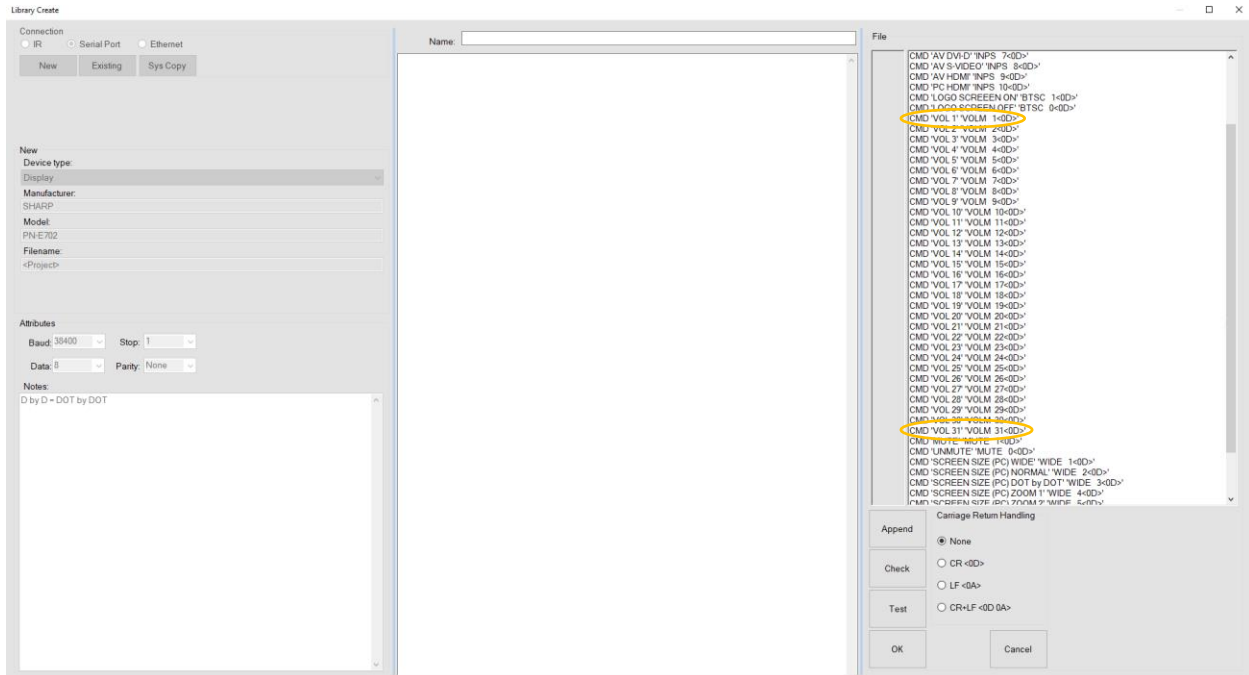
Add your desired device from one of the tabs in the Library Tree. The three tabs are Ethernet Devices, IR Devices, and Serial Devices; in this application Serial and Ethernet devices are used.

To do this, simply click and drag your desired device from the Library Tree to the Project Tree, and it will automatically be added to your project. Then click on the device under the Project Tree to pull up the device properties.

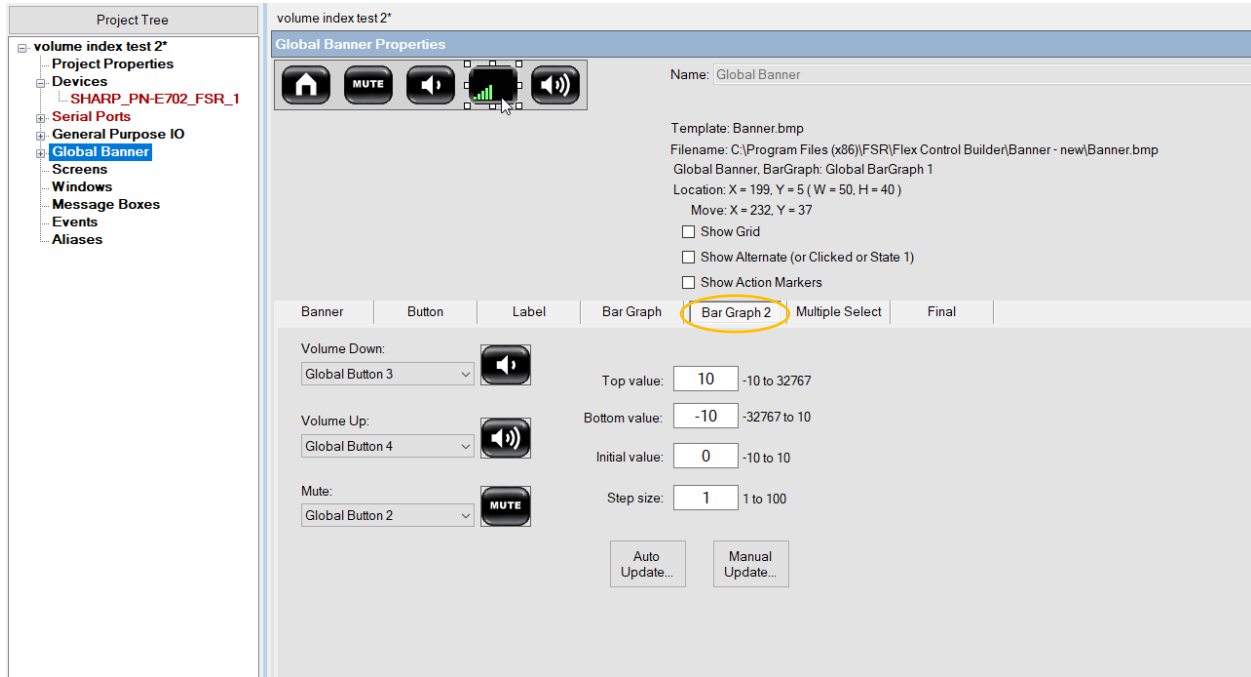# Customize the Bar Graph range in the Global Banner

Once in the device properties click on Edit Commands. The commands for the volume are indexed from CMD 'VOL 1' 'VOLM 1<0D>' to CMD 'VOL 31' 'VOLM 31<0D>'. Each command is incremented by 1. Note that the highest is 31 and the lowest is 1 as pictured and highlighted below.
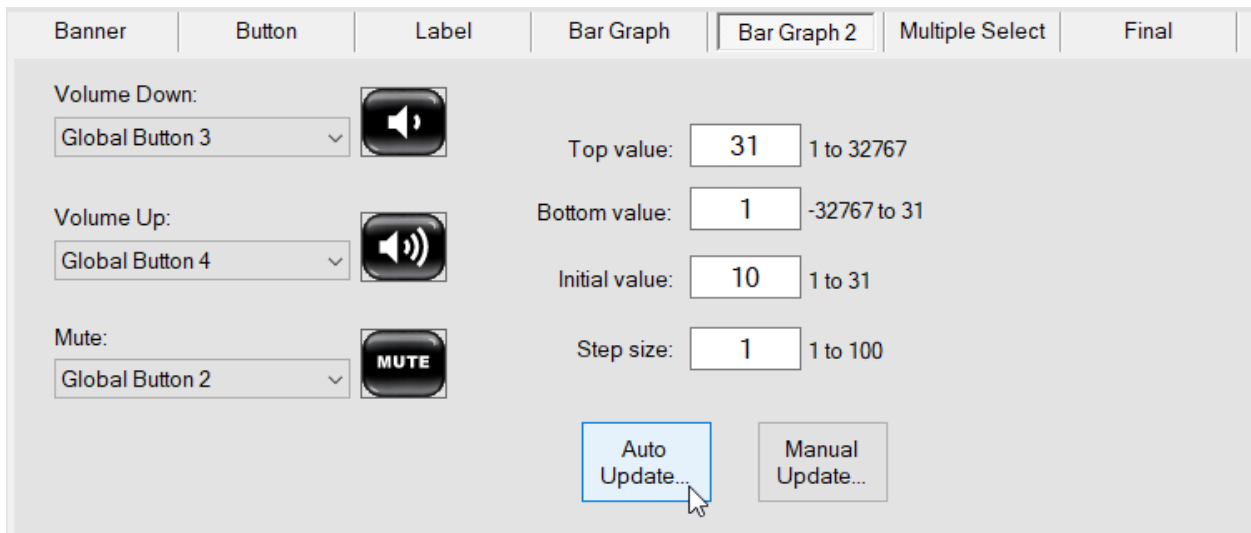

This will be needed to setup the banner indicator, counter range. For a different device, look at the range of volume set commands and determine the range for that particular device before continuing.

Customize the Bar Graph range in the Global Banner Continued…

Click on the Global Banner tab under the Project Tree. Click on the tab titled Bar Graph 2 and then click on the bar graph pictured in the banner.
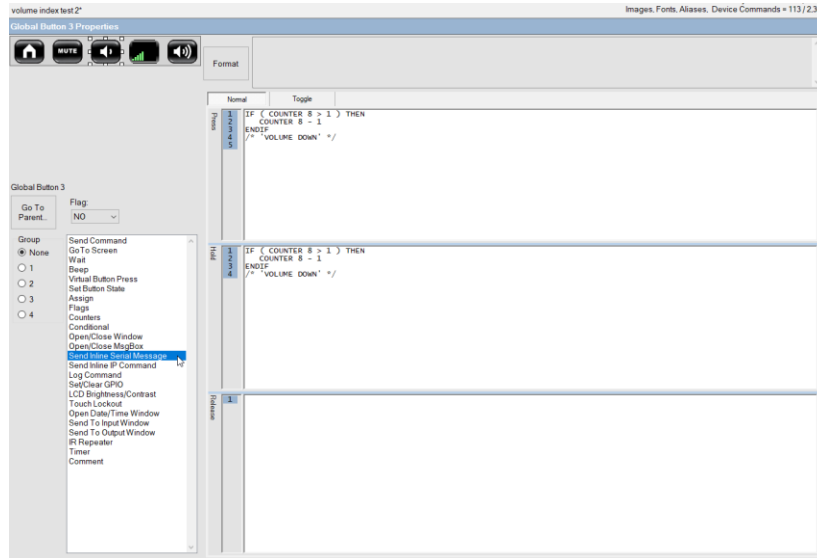

Change the values in the range to fit the values of your device. In this document the top value is set to 31 and the bottom value 1. You can also change the step size and initial value. The initial value used for this document is 10. When finished click the Auto Update… button.
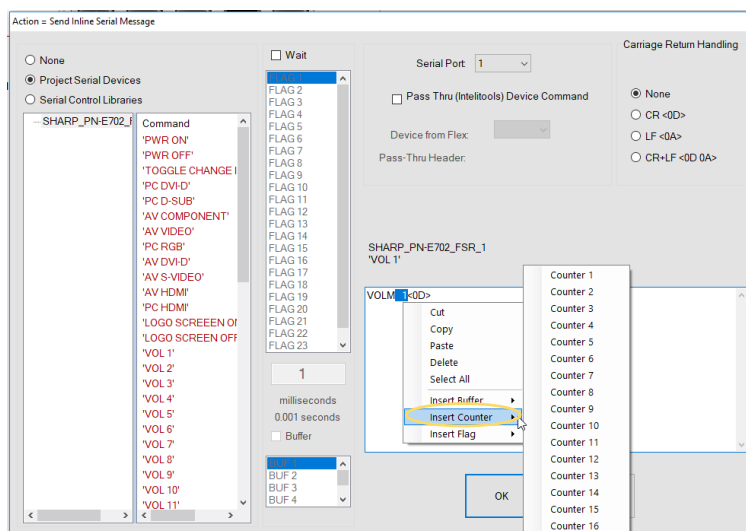
Add Commands to the Supporting Buttons

Click on the buttons tab and select the button you wish to work with. Then click on Go To Action... This should take you to the button's command window pictured below:
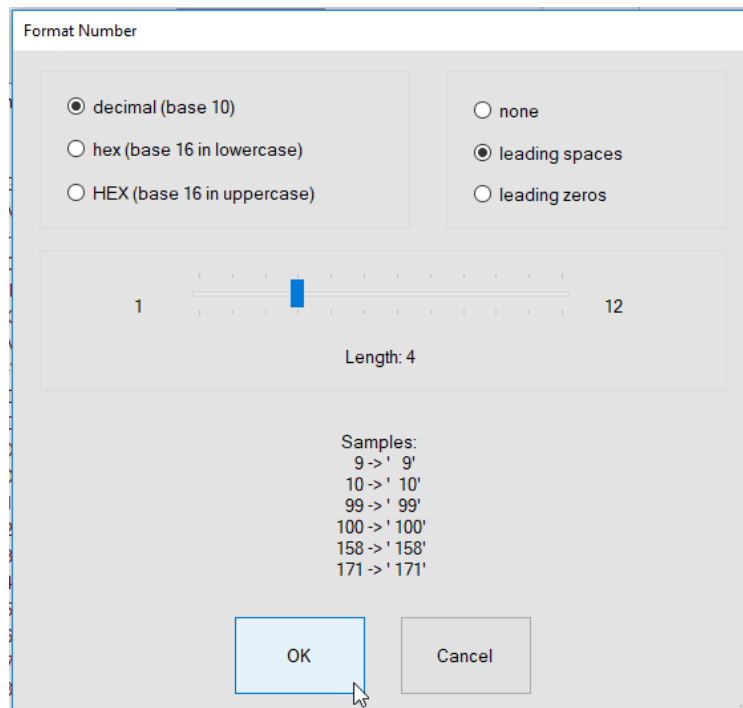

Method 1: Using the inline function and adding the counter to the command

Click on the Send Inline Serial Message or Send Inline IP Command depending on your device found in the tool bar to the left. For this document the Serial message is used because the sharp is a serial device. Once in the action options, click on Project Serial Devices and select your device. This will bring up all the commands for your device.

Add Commands to the Supporting Buttons Continued...

Click on one of the volume commands. In this document volume 1 was selected. In the text box, highlight the number and spaces next to the word VOLM pictured above, right click on the highlighted section, scroll down to Insert Counter, and choose the counter corresponding to your Bar Graph. The Global banner uses counter 8. A pop up window will come up. These settings are command name specific on how volume is displayed. For the command chosen there are three spaces before the number so the length is 4 with leading spaces.
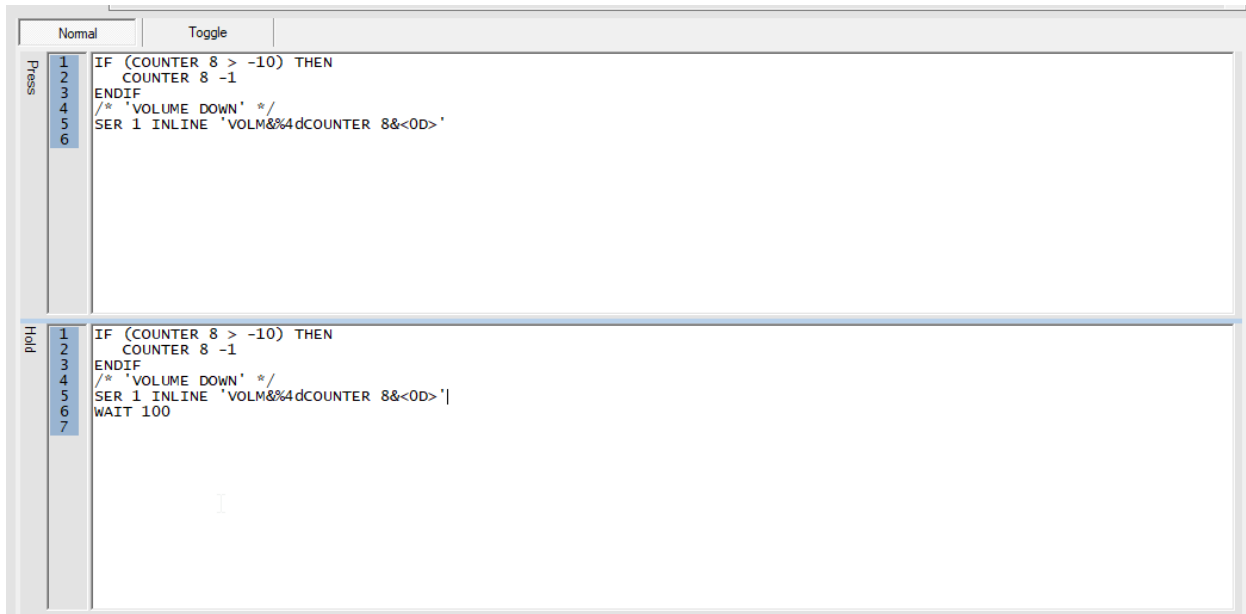

Afterward click ok and once back in the option window click ok again. Repeat this for the volume up and volume down buttons in both the press and hold boxes.

Note: A wait time may need to be added to the hold section for desired operation. It is recommended that a 100 millisecond wait time is added. Do this by clicking the wait option in the tool box found to the left.

Add Commands to the Supporting Buttons Continued...
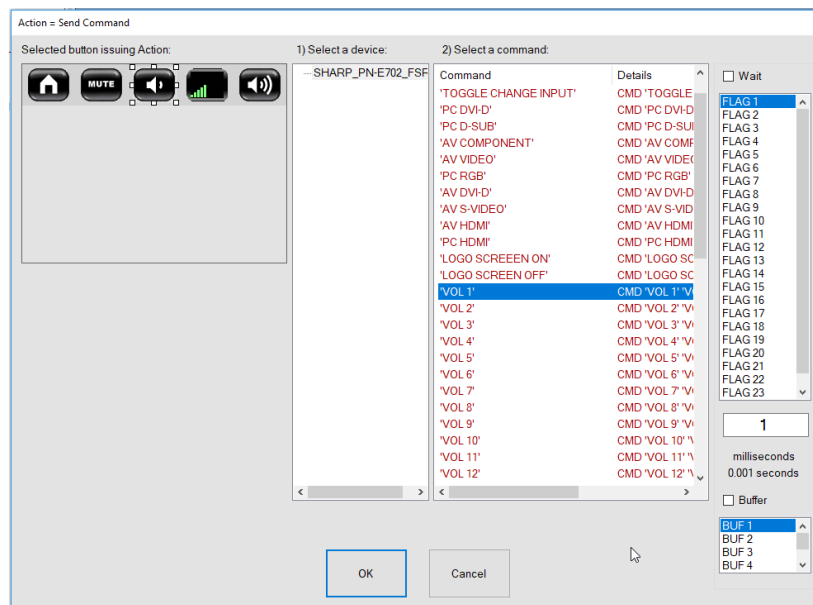
Your finished result should look as follows:

To exit simply click Go To Parent...

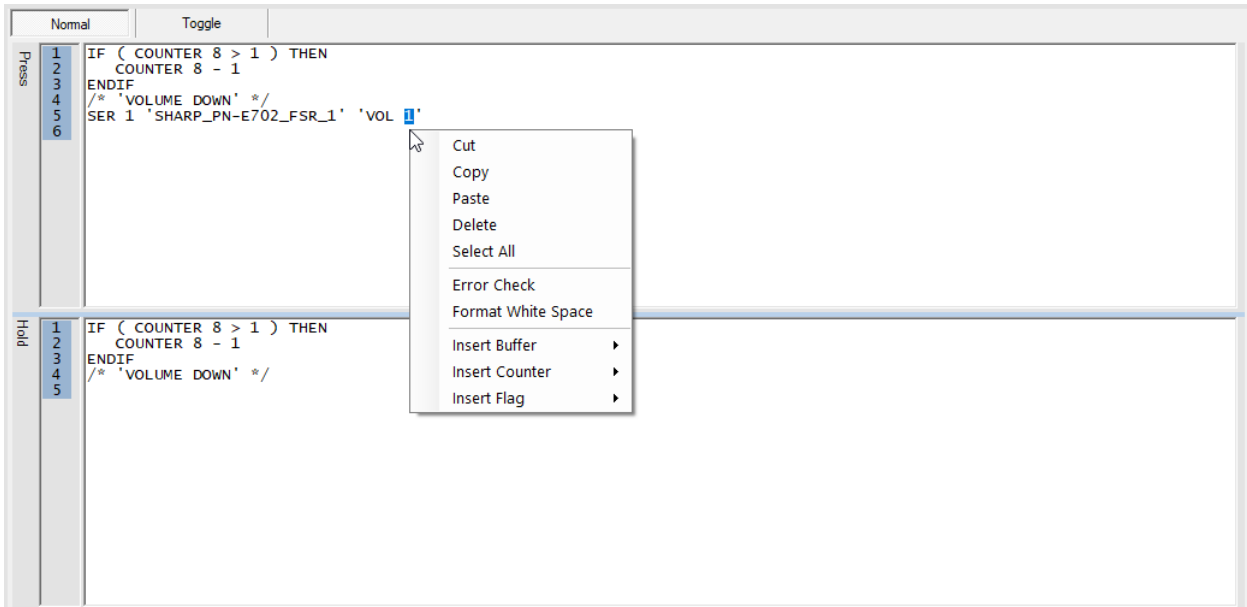## Method 2: Using the send command function and adding the counter in the command name

Click on the Send Command function in the tool bar to the left. This will open up the device's available commands. Click on one of the volume commands then click ok. In this document VOL 1 was chosen.
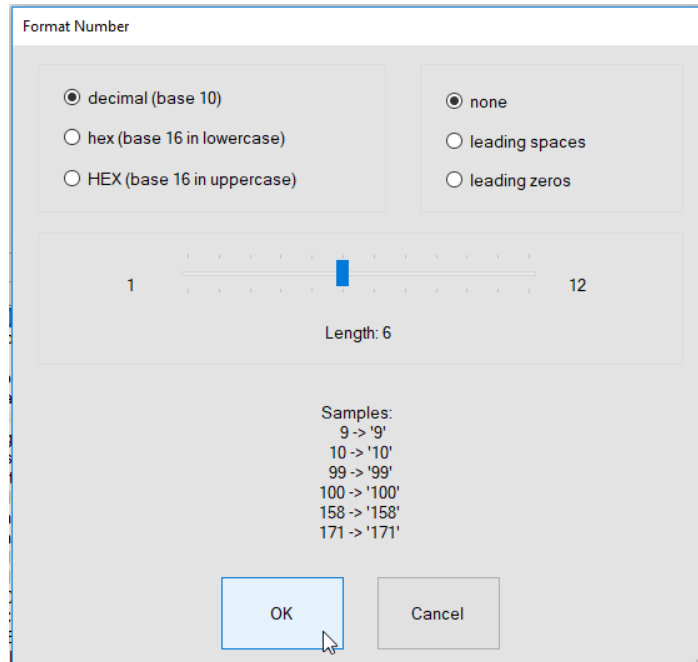
Add Commands to the Supporting Buttons Continued…

This will send you back to the main command window. Once in the window highlight the number only next to the word Vol as shown below:

Right click on the highlighted section, then scroll down to Insert Counter and choose the counter that corresponds to your Bar Graph. The Global Banner uses counter number 8. A pop up will appear asking for command name specific traits. When using this method nothing needs to be changed in this box. It should read decimal, none, and a length of 6 as shown below. Then click ok.

NOTE: Length is only used if Leading spaces or leading zeros box is checked.

Add Commands to the Supporting Buttons Continued…

Repeat this for the volume up and volume down buttons in both the press and hold boxes.

Note: A wait time may need to be added to the hold section for desired use. It is recommended that there is at least a 100 millisecond wait time. Do this by clicking the wait option in the tool box found to the left.

The finished result should look as followed:

```
Normal          Toggle

Press  1  IF (COUNTER 8 > -10) THEN
       2      COUNTER 8 -1
       3  ENDIF
       4  /* 'VOLUME DOWN' */
       5
       6  SER 1 'SHARP_PN-E702_FSR_1' 'VOL &%dCOUNTER 8&'
       7
       8


Hold   1  IF (COUNTER 8 > -10) THEN
       2      COUNTER 8 -1
       3  ENDIF
       4  /* 'VOLUME DOWN' */
       5  SER 1 'SHARP_PN-E702_FSR_1' 'VOL &%dCOUNTER 8&'
       6  WAIT 100
       7
```
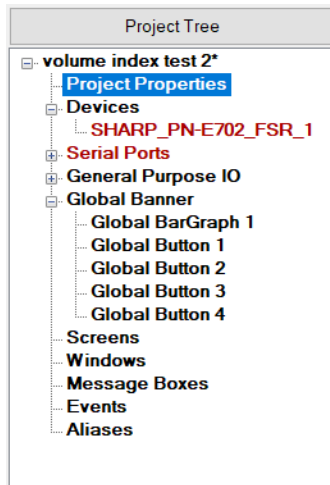
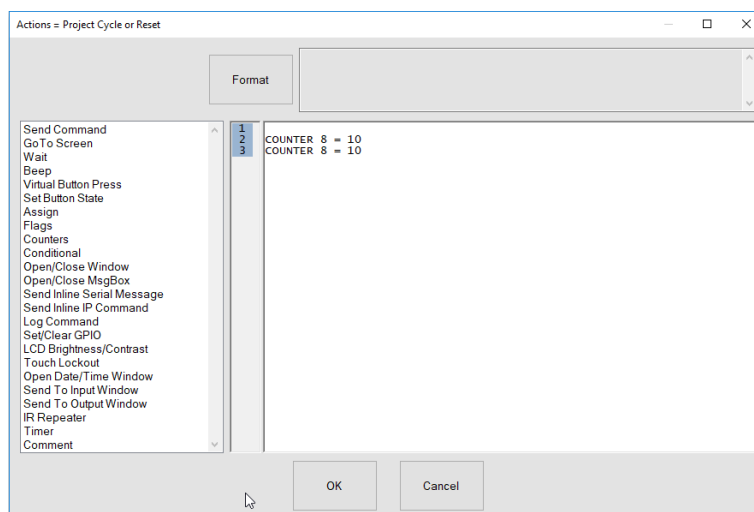To exit simply click the Go To Parent… button.

Note: the mute button as well as the Bar Graph, if desired to work as a mute button, do not require these steps. The mute commands can be found under the Send Command tab and do not need to be altered. These demonstrations are for the volume up and volume down buttons only. Further information goes beyond the scope of this document.

Check Start Up Settings

Click the Project Properties Tab under the Project Tree tool bar.

Click the Assign Actions button under the Power Cycle or Reset heading. This will open up a window on your screen. Make sure that the counter assigned to the Bar Graph you have been working with is equaling the initial value that you entered in the set up. The Global Banner is assigned counter 8, so for this document counter 8 = 10. If not, you can return to the Global Banner Tab under Bar Graph 2, change the initial value and click Auto Update… or input it manually into this section. The Auto Update… will add the most recent initial value to the final line. This is the final start up value for the device.
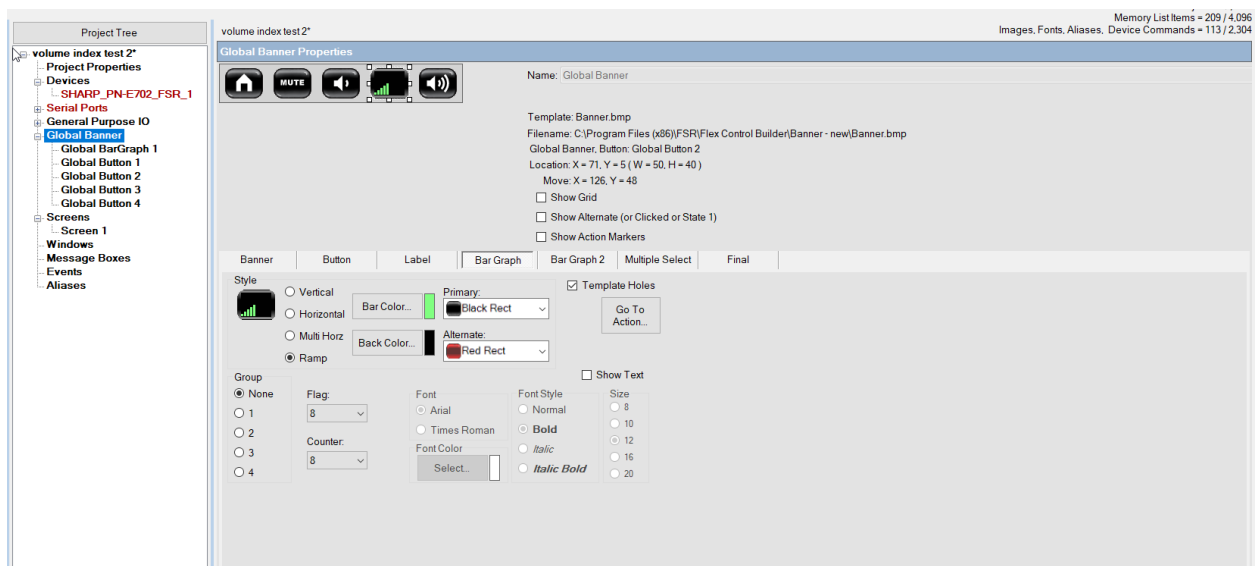
Save As/Save project

Once you have completed all of these steps, save the project by clicking the Save or Save As button at the top of the screen.

Note: If you need to go back and change the ramp (bargraph) limits and hit the update auto button you will lose any added commands in the action buttons because the conditional will have changed.

Note: If you wish to make changes to the color and style of the buttons, Bar Graph, or Banner in your Global Banner all of the settings can be found by clicking the Global banner tab under the Project Tree and going through the options in the Banner, Buttons, and Bar Graph tabs.

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.*