



Push Controls

Module: Blustream Matrix

Version 1.1

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Contents

Version History.....	3
Products Compatibility.....	3
Step 1: Importing the Blustream Matrix Module	4
Step 2: Configuring the Blustream Matrix Module.....	5
Configuring the RS232 Port (for PC4).....	5
Configuring the RS232 Port (for PC1 or PC2)	5
Configuring the TCP Port.....	6
Step 3: Using Blustream Matrix Module.....	8
Triggering a Control Command from a Macro.....	8
Using GUI Component on a GUI Project	9
GUI Components Available for iPad/Tablet.....	9
GUI Components Available for iPhone/Phone.....	10
Adding SetOutputFromInput Button to a GUI Project.....	10
Uploading Project to Your Controller	11
Uploading GUI Group to Your Smart Device.....	11
Troubleshooting Your Project	13
Step 4: Creating Multiple Instances	14

Version History

Version No.	Date	Description
1.1	01/12/2016	Initial release of documentation

Products Compatibility

Blustream Matrix Models Supported
PLA88ARC HMXL88 HMXL88 V2 HMXL44-KIT HMXL44-KIT V2 MX88ED MX44AB MX42AB

Tested On:
HMXL44-KIT V2

Step 1: Importing the Blustream Matrix Module

Import the Blustream Matrix module by completing the following actions:

- Right click on 'PROJECT' at the top of the tree and select 'Import Module'. *Refer to Figure 1*
- Locate and select 'Blustream Matrix X.pemod' (where X is the current version number)
- Select **Open**
- The selected module will now appear in the **Module Browser** window, where you can view all **Imported Modules**, expand to see the contents of these modules.

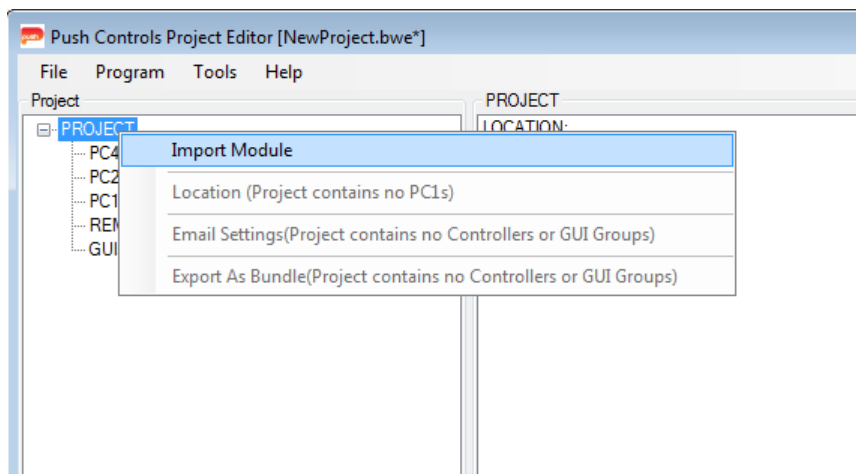


Figure 1 – Right click on PROJECT, inside the project tree, to import a module.

The selected module will now appear in the module browser window (*Refer to Figure 2*), where you can see everything that is included in the module.

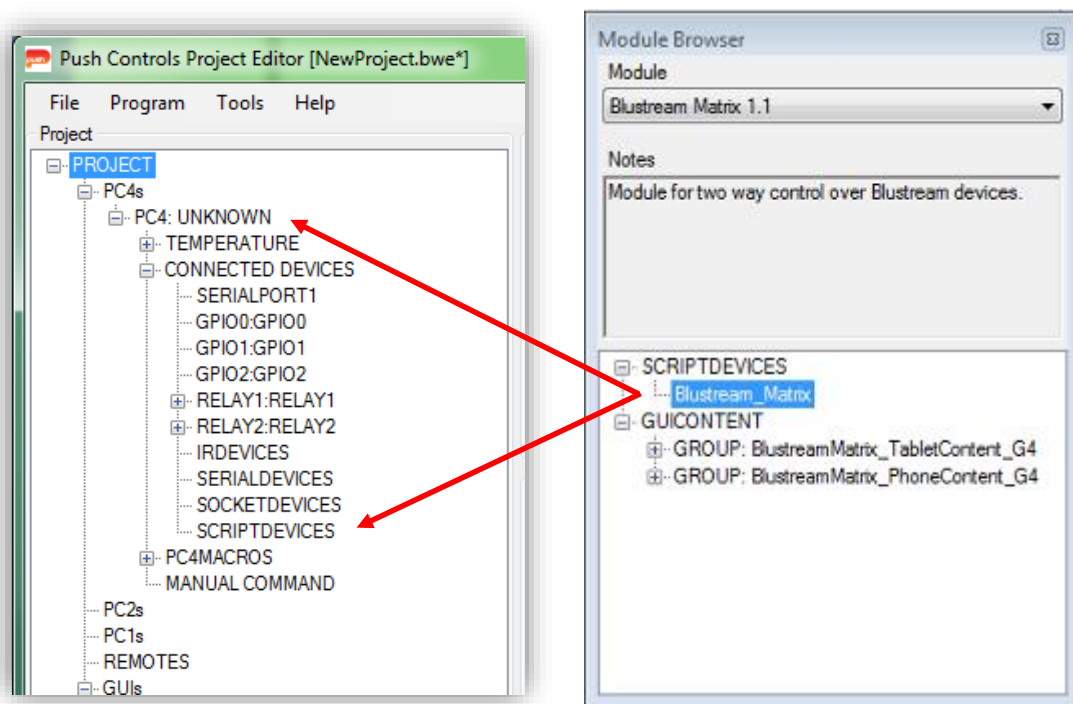


Figure 2 – Dragging and dropping the script from the Module Browser window

Step 2: Configuring the Blustream Matrix Module

The Blustream Matrix device support communication via TCP or RS232. Depending on the communication method that you chose, configure the module according to the steps below.

Configuring the RS232 Port (for PC4)

If the Blustream Matrix is controlled via RS232, follow the steps below:

- Select the PC4 controller. *Refer to Figure 3*
- Expand the 'Connected Devices'
- Select a Serial Port (for example 'SERIALPORT1'), right click, and select 'Properties'
- Select the GUI Two-Way (RS232) option
- Ensure the Baud rate is set to '57600'
- Select 'Apply' then Select 'OK'

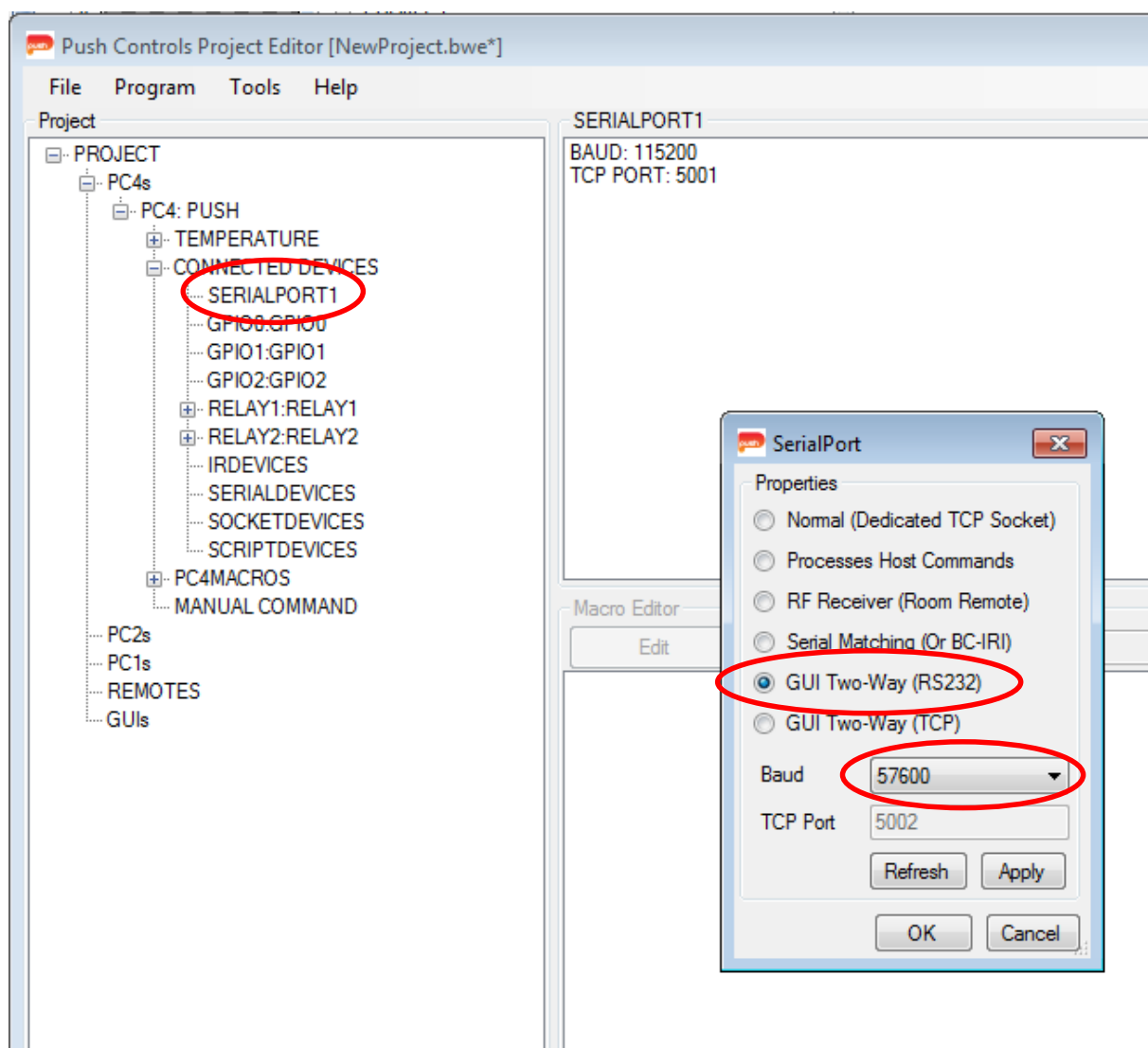


Figure 3 – Configuring the RS232 port on a PC4

Configuring the RS232 Port (for PC1 or PC2)

If the Blustream Matrix is controlled via RS232, follow the steps below:

- Select the PC1 or PC2 controller. *Refer to Figure 4.*
- Expand the 'Connected Devices'

- Select a Serial Port (for example 'SERIALPORT1'), right click, and select 'Properties'
- Select the Normal (Supports Two-Way) option
- Enter the following settings:
 - Baud: 57600
 - Data Bits: 8
 - Parity: None
 - Stop Bits: 1
- Select 'Apply' then Select 'OK'

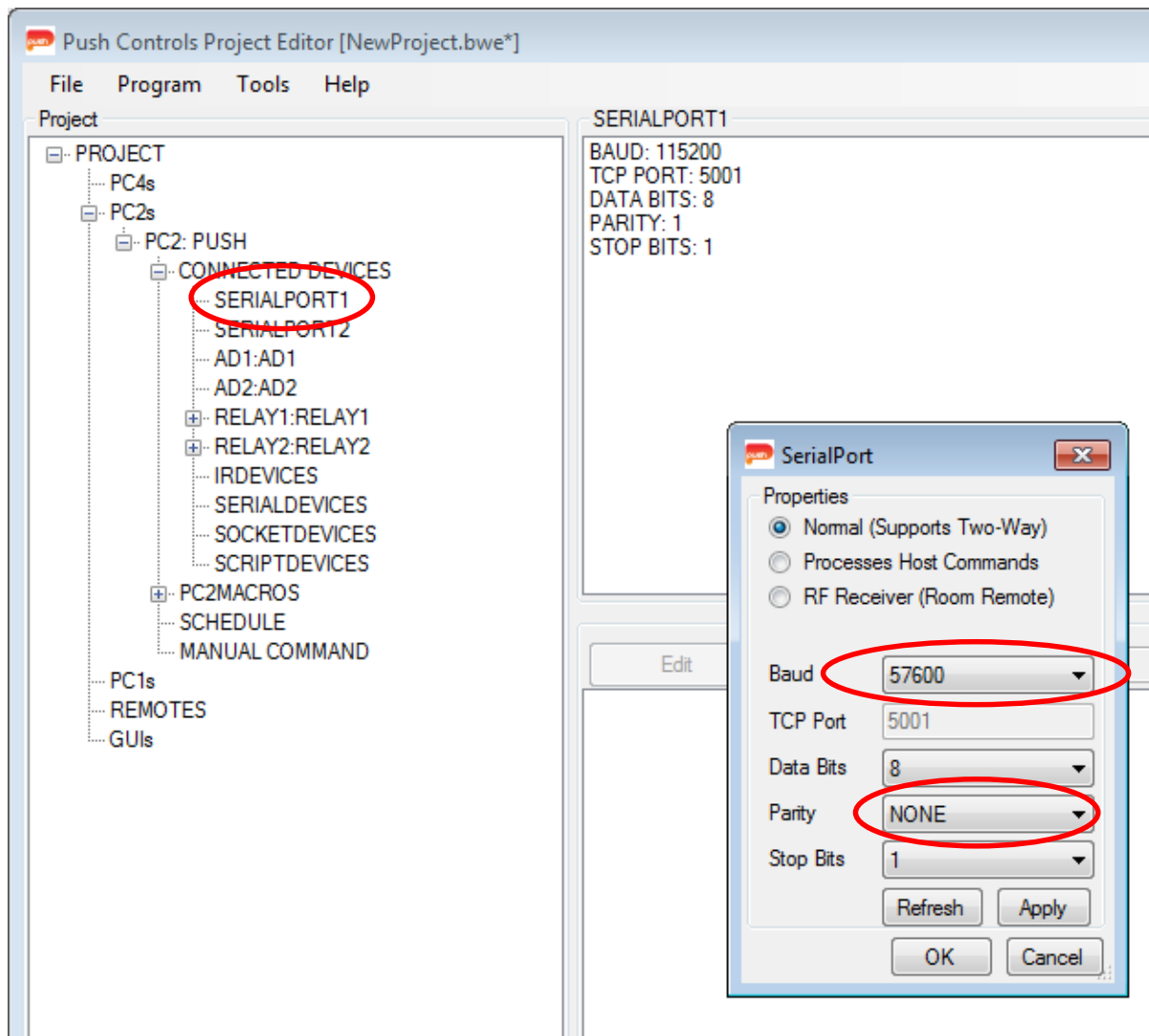


Figure 4 – Configuring the RS232 port on a PC2 or a PC1

Configuring the TCP Port

If the Blustream Matrix is controlled via TCP, follow the steps below:

- Select the controller *Refer to Figure 5*
- Expand the 'Connected Devices'
- Expand the 'Script Devices'
- Right click on the 'Blustream_Matrix' script device
- Select:
 - For PC2/PC1: 'TCP' as the Protocol *Refer to Figure 9*

- For PC4: 'GUI TCP' as the Protocol. Note that this will prevent the inclusion of functions within macros, and instead we recommend controlling Blustream devices using RS232 when working with a PC4 controller.
- Specify '23' as the Port
- Specify the IP Address of the Blustream Matrix device as the IP.

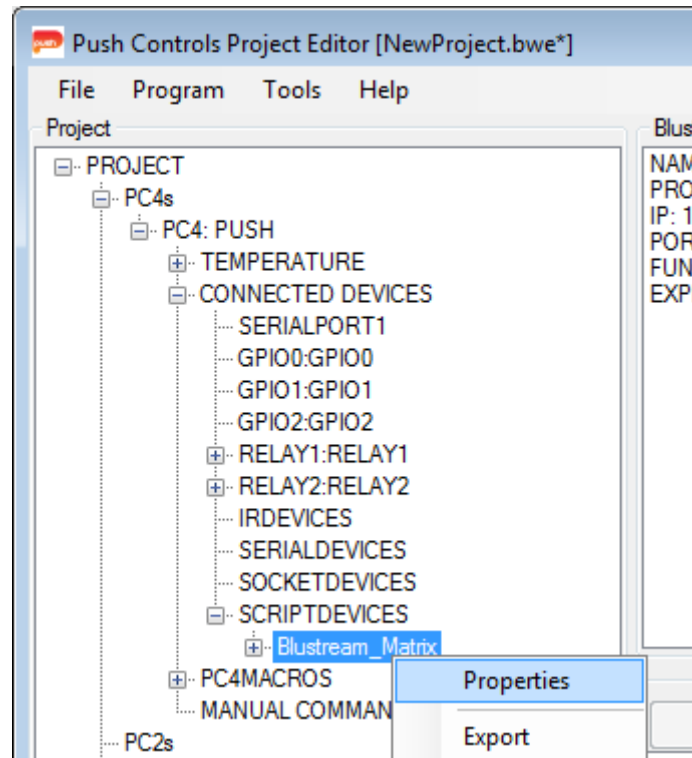


Figure 5 – Finding the Controller's Properties

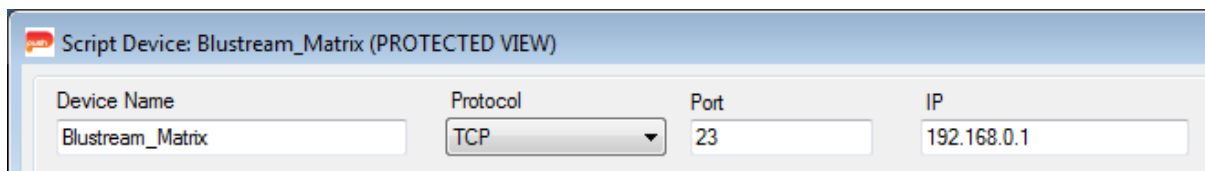


Figure 6 – Configuring the Controller's TCP Port

Step 3: Using Blustream Matrix Module

Triggering a Control Command from a Macro

To trigger a control command from a macro inside a controller, follow the following steps:

1. Select the controller
2. Expand the 'PC4MACROS'
3. Right click on 'MACROS'
4. Click on 'Add New Macro'

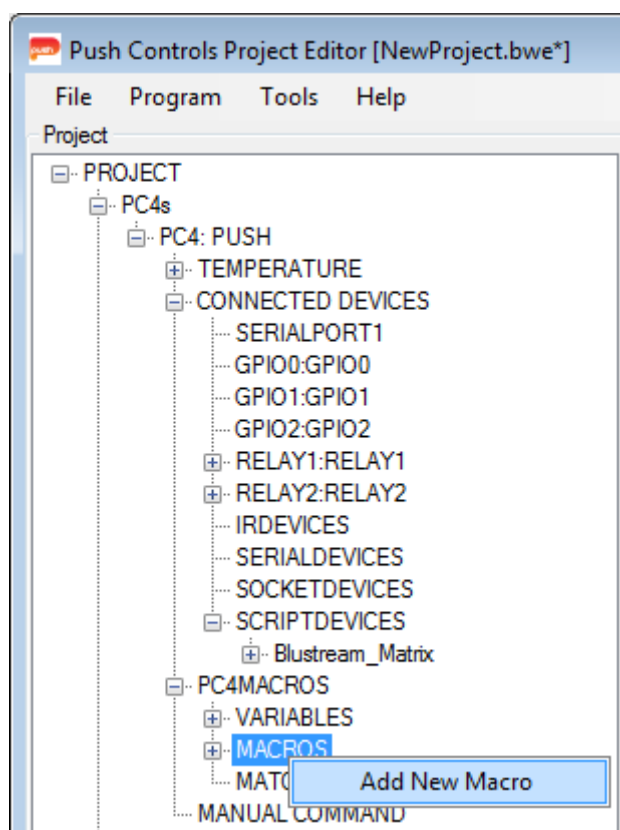


Figure 7 – Adding a new macro

After the new macro is successfully created, we can add the control command by editing the macro. The following steps will trigger a command to Set Output 001 from Input 002:

1. Right click on the newly created macro *Refer to Figure 8*
2. Click on 'Edit'
3. Rename the macro from 'New Macro 3' to a meaningful macro name (optional)
4. Find the Blustream_Matrix script device under the controller
5. Expand the Blustream_Matrix script device node
6. Expand the FUNCTIONS node
7. Find the function that you would like to add into the macro
8. Drag and drop the function to the macro panel on the right side
9. If the function requires parameter(s), then you will be prompted to enter the required parameter(s).
10. For example, if you are using the setOutputFromInput function then you will be prompted to enter 2 (two) parameters:
 - inOutputNum: fill in the output number eg. 1

- inInputNum: fill in the input number eg. 2

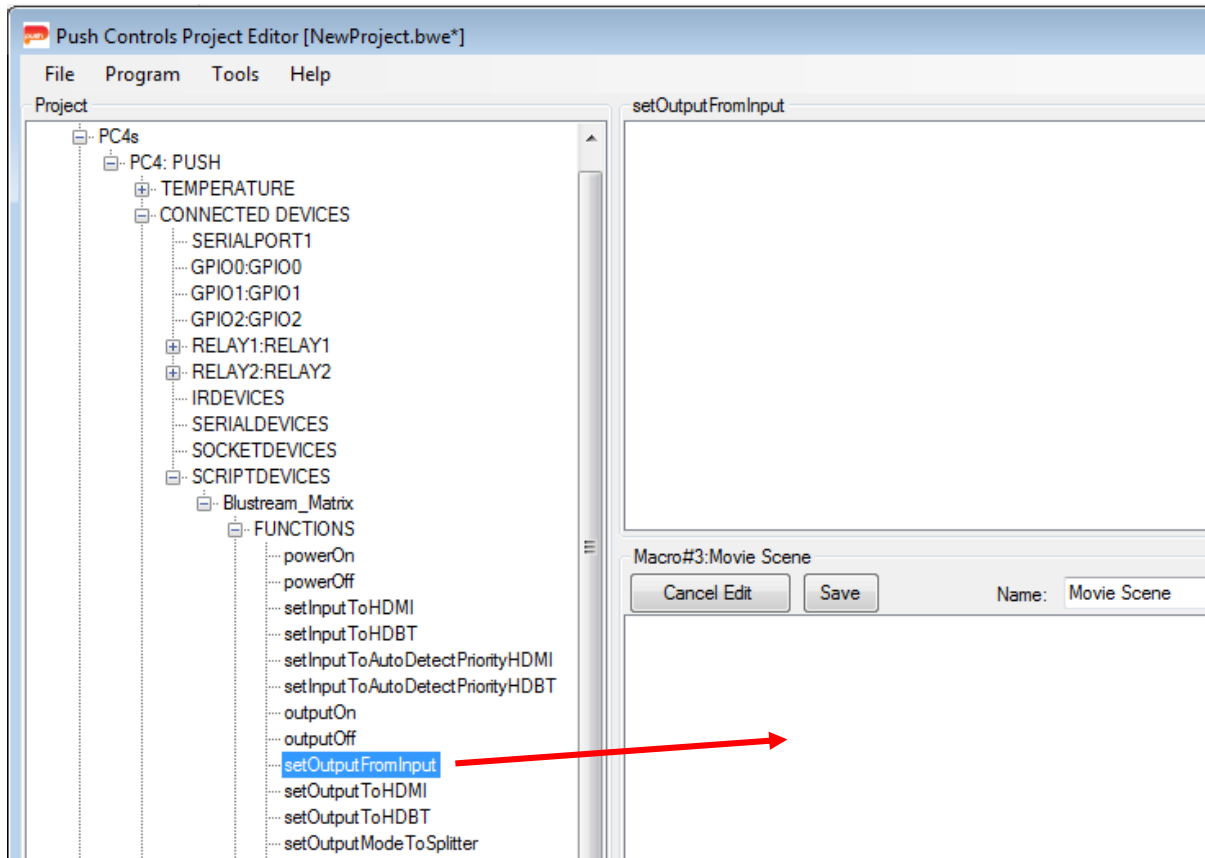


Figure 8 – Drag and Drop a new command to a macro

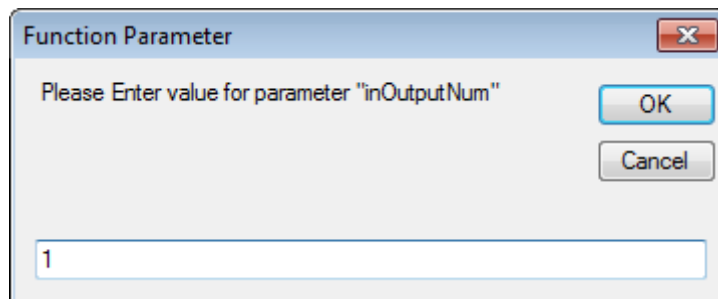


Figure 9 – Fill in the required parameter

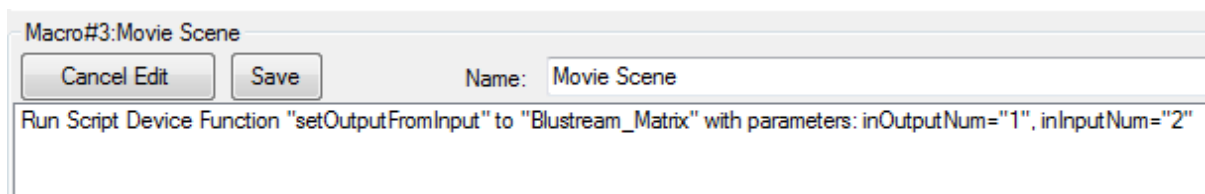


Figure 10 – Macro which uses the setOutputFromInput function

Using GUI Component on a GUI Project

GUI Components Available for iPad/Tablet

The GUI Group 'BlustreamMatrix_TabletContent_G4' contains the following GUI components:

- VolumeUpDown_X: volume control for a specific output; available for landscape and portrait layout.

- VolumeSlider_X: slider volume control for a specific output; available for landscape and portrait layout.
- SetOutputFromInput_Button: button to set a specific output from a specific input; including feedback if the operation is successful.

GUI Components Available for iPhone/Phone

The GUI Group 'BlustreamMatrix_PhoneContent_G4' contains the following GUI components:

- VolumeUpDown: volume control for a specific output.
- VolumeSlider: slider volume control for a specific output.
- SetOutputFromInput_Button: button to set a specific output from a specific input; including feedback if the operation is successful.

Adding SetOutputFromInput Button to a GUI Project

To add the SetOutputFromInput button in a GUI page, follow the following steps:

1. Open the module browser (Tools->Module Browser) and select the Blustream Matrix module
2. Expand GUICONTENT->GROUP: BlustreamMatrix_TabletContent_G4
3. Open the page you wish to import the volume slider into by right clicking and selecting 'Edit' or double clicking on the page name
4. With both the open GUI page and Module Browser in view, drag and drop 'SetOutputFromInput_Button' into the open GUI page. Hold the SHIFT key while dragging then finally drop the launch button to the desired position.

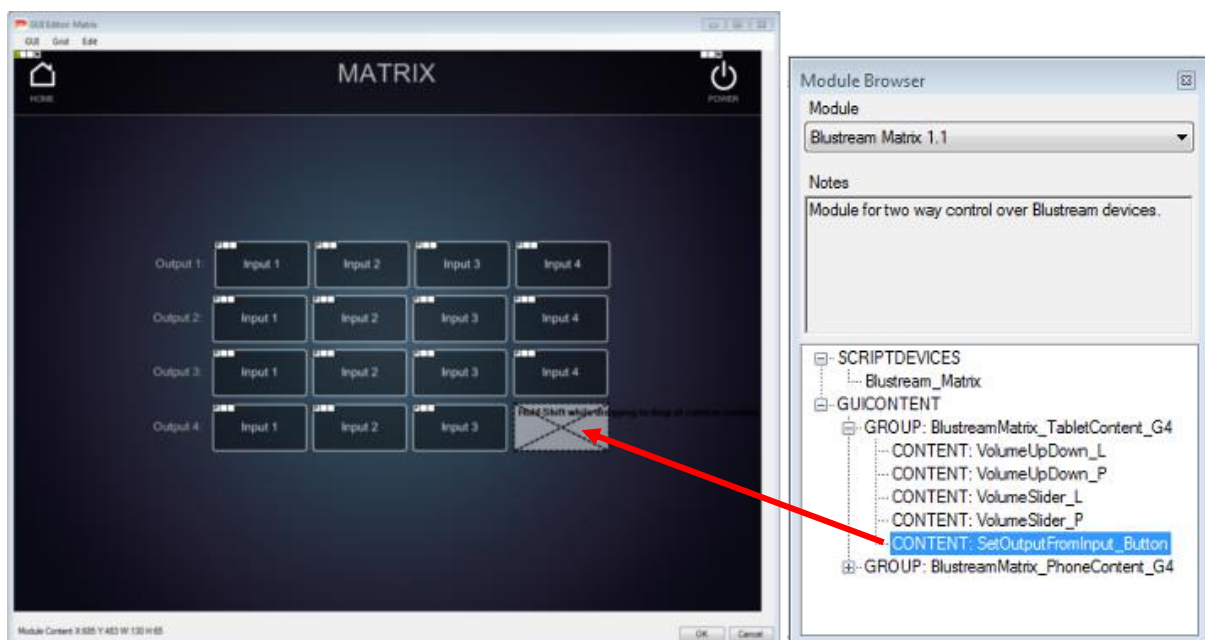


Figure 11 – Adding a button to set an Output from an Input

After selecting the button's position on the screen, a 'Replacement Variables' prompt dialog will be displayed. Enter the parameters to program the button as follows:

- Output ID: The ID of the Output to be set a new Input source.
- Input ID: The ID of the new Input source.
- Button Text: The text of the button itself.

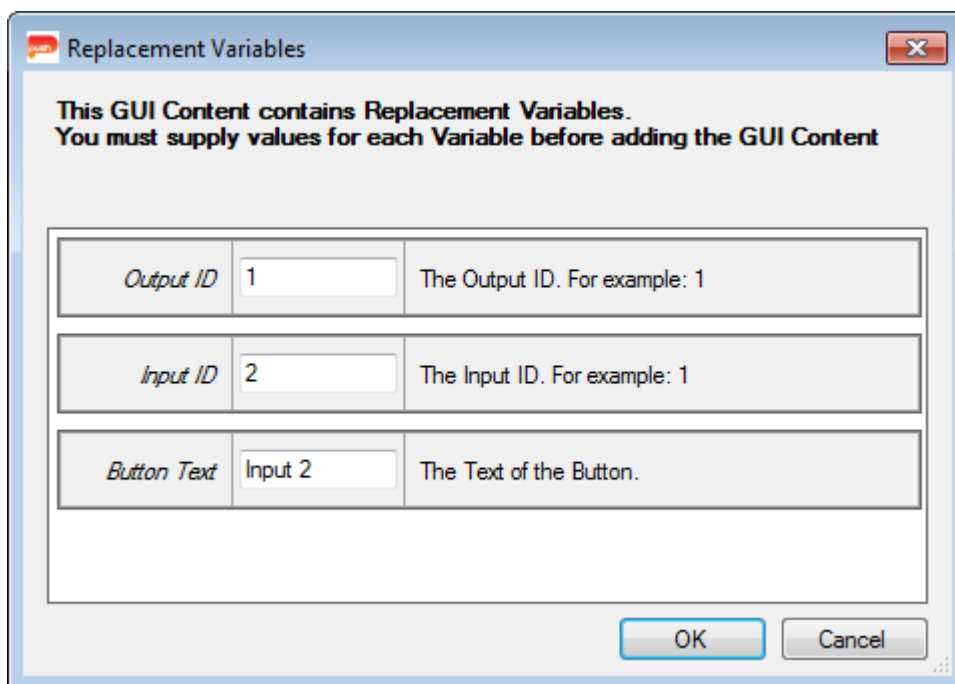


Figure 12 – Entering the button programming parameters

Uploading Project to Your Controller

To upload the project programming (eg. IP/RS232 configuration, Macro, etc) to your controller, follow the following steps:

1. Right click on the controller to be uploaded.
2. Click on 'Upload this controller' and you will be prompted with the upload progress.
3. Pay attention and follow the on-screen instruction, if there is any warning or error.

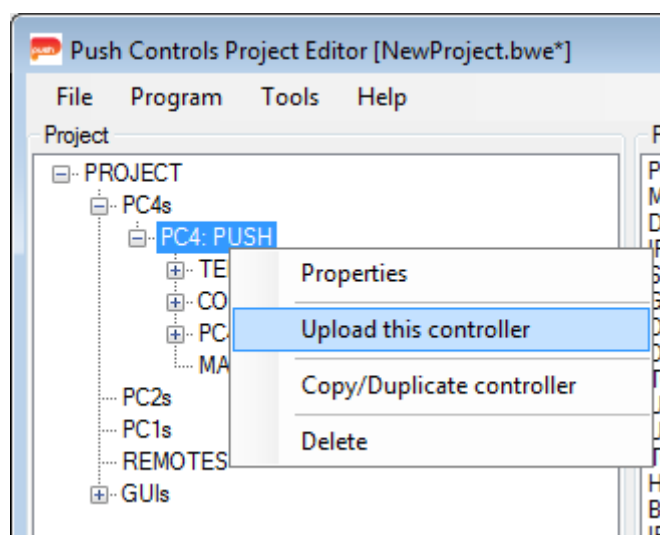


Figure 13 – Uploading the programming to the Controller

Uploading GUI Group to Your Smart Device

The last step is to upload the GUI group to your smart device. Right click on the GUI Group (eg. 'GROUP: Home') and click on Upload GUI Group to App

- Before completing this step ensure you are connected to the same network your smart devices are connected to as you will be uploading from your PC to these devices

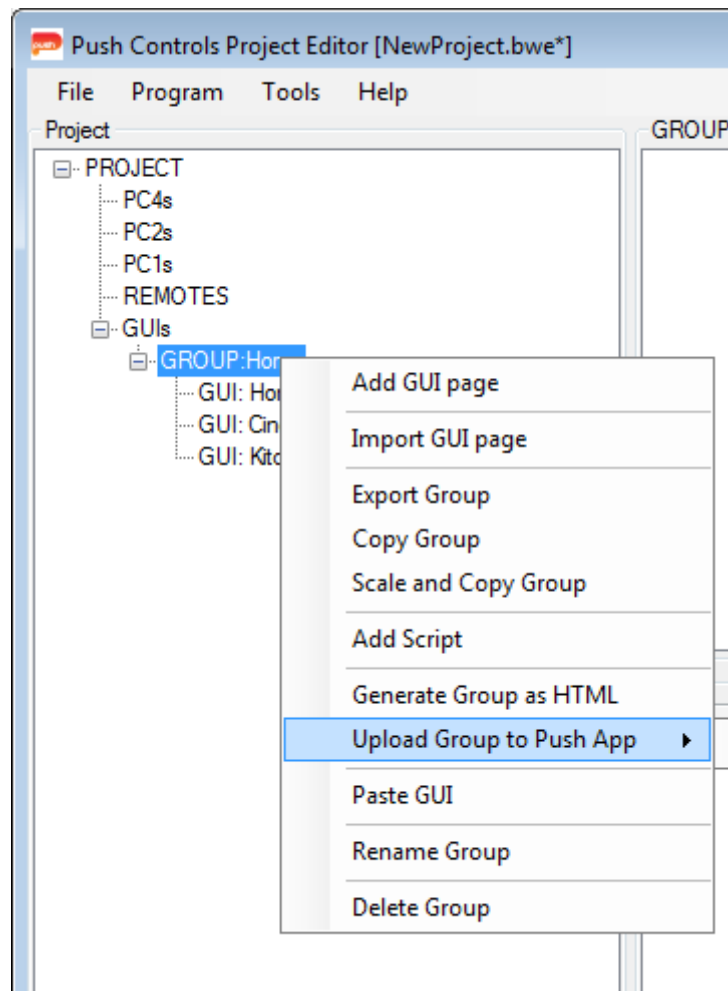


Figure 14 – Start to Upload GUI Group to a Smart Device

The GUI files will be generated and compressed, when this process is complete a server will start and you will see the following dialog box:

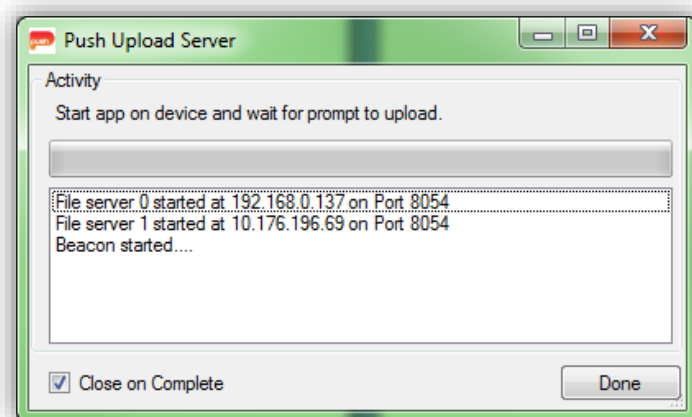


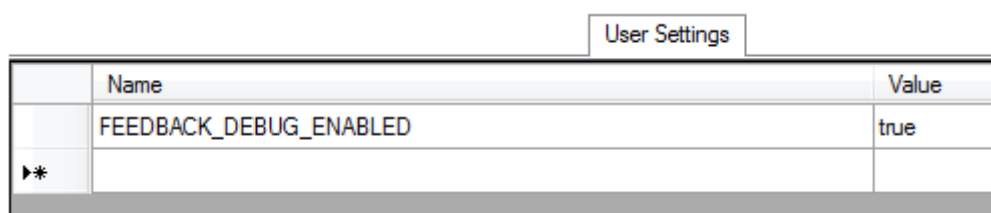
Figure 15 – Uploading GUI Group to a Smart Device

Open the Push Controls app from your smart device and you will be prompted to receive the GUI Group files. Click on 'Yes' and select a GUI page as your homepage.

Troubleshooting Your Project

To make it easier to troubleshoot your project, you can check the feedback response from the Blustream Matrix device itself after a command has been sent. To do this you will need to enable a flag from the module's user settings by following the following steps:

1. From the Script Device window, go to the 'User Settings' tab.
2. Find the flag 'FEEDBACK_DEBUG_ENABLED' and change the value to `true`.
3. Click on 'OK' to save the changes that you have just made.
4. From the Project Editor's toolbar, click on 'Tools' then 'Debug Monitor'. This will bring up the Debug Monitor window where you can see the feedback from the Blustream Matrix device.
5. Upload the project to your controller or your smart device.
6. Now each time you send a command to the Blustream device, you will be able to see the response from the device itself.



The screenshot shows a window titled 'User Settings' with a table containing two columns: 'Name' and 'Value'. The table has one row with the name 'FEEDBACK_DEBUG_ENABLED' and the value 'true'. There is a small icon with a right-pointing arrow and an asterisk in the bottom left corner of the table area.

Name	Value
FEEDBACK_DEBUG_ENABLED	true

Figure 16 – Change the User Settings flag

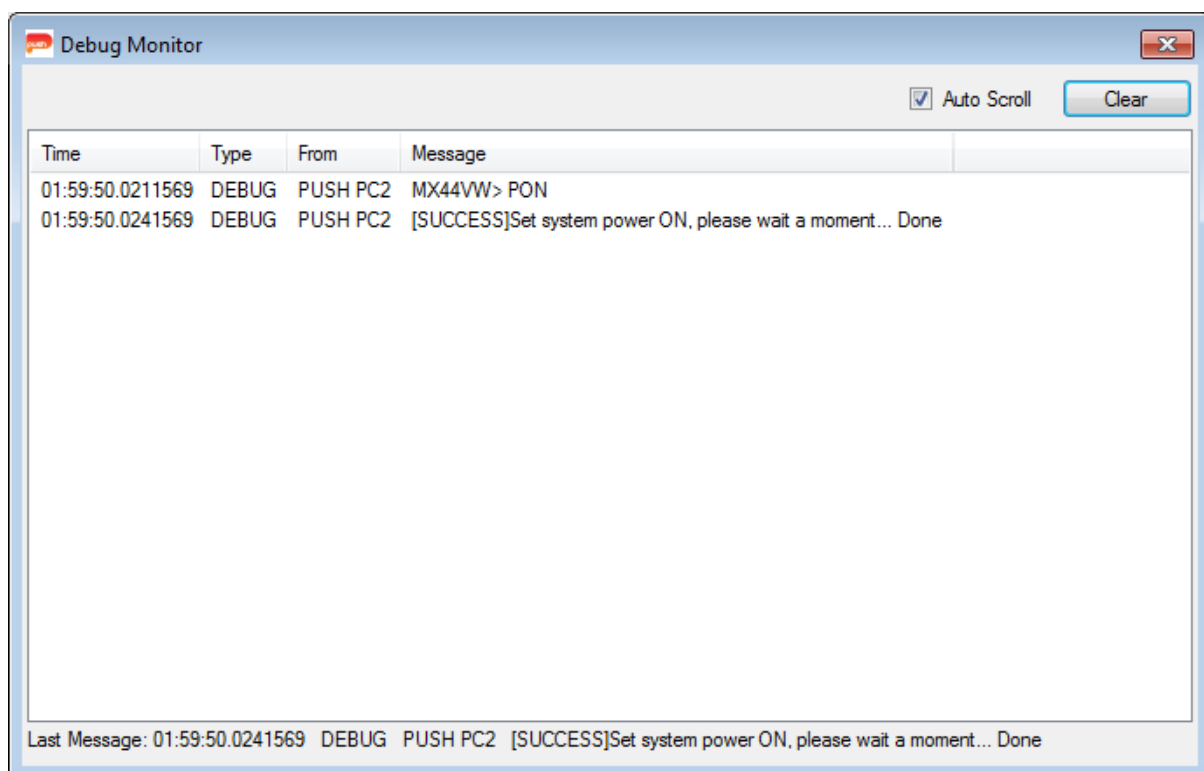


Figure 17 – A Sample Feedback from the Blustream Device

Step 4: Creating Multiple Instances

Some projects may require you to install multiple Blustream Matrix units, if you require more than one unit you can create as many instances of the Blustream Matrix module as you require. To create a new instance, follow the steps below.

1. Open the module browser by clicking Tools -> Module Browser

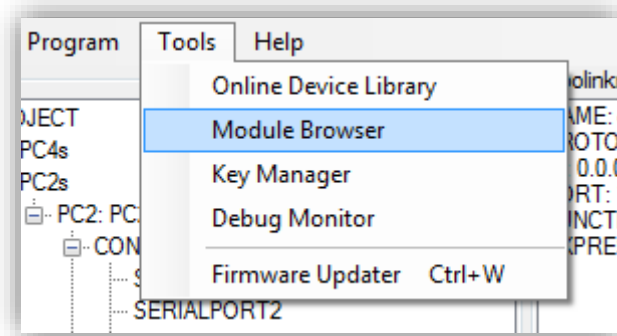


Figure 18 – Opening the Module Browser

2. With the Blustream Matrix module selected in the dropdown box, right click on the dropdown box and select 'Create a new instance of 'Blustream Matrix ...'

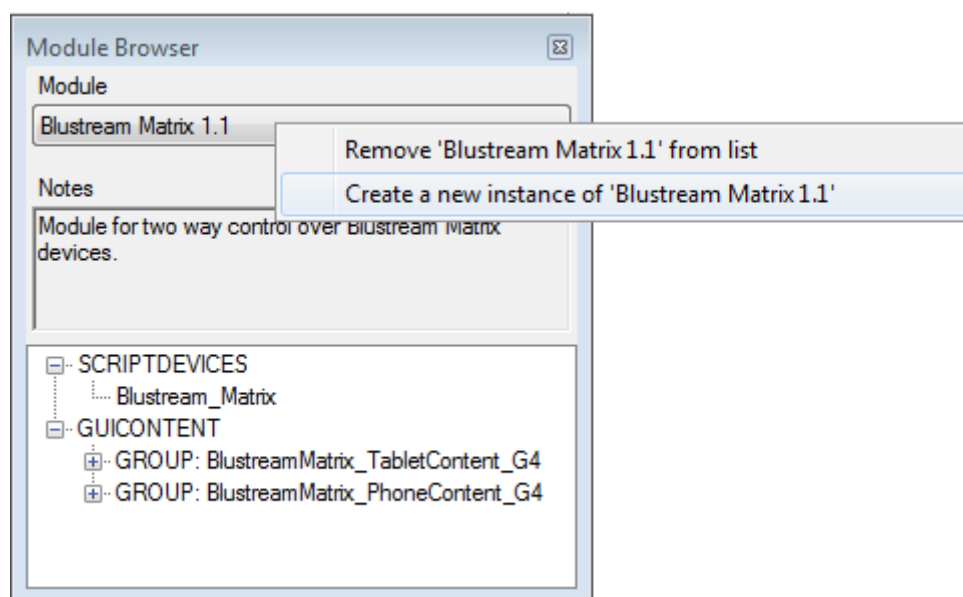


Figure 19 – Creating a new instance

3. In the dialog box presented provide a number corresponding to the number of instances you currently have of the Blustream Matrix module

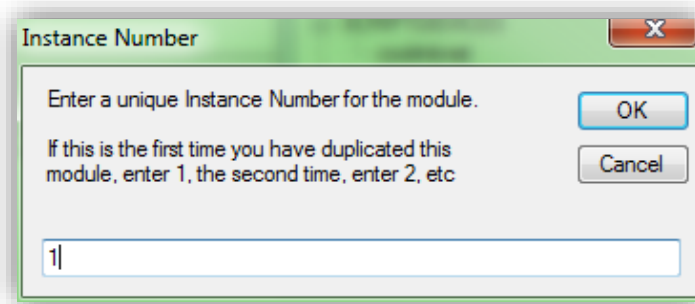


Figure 20 – Entering a unique instance number

4. You will now see a new instance has been added to the module browser window.

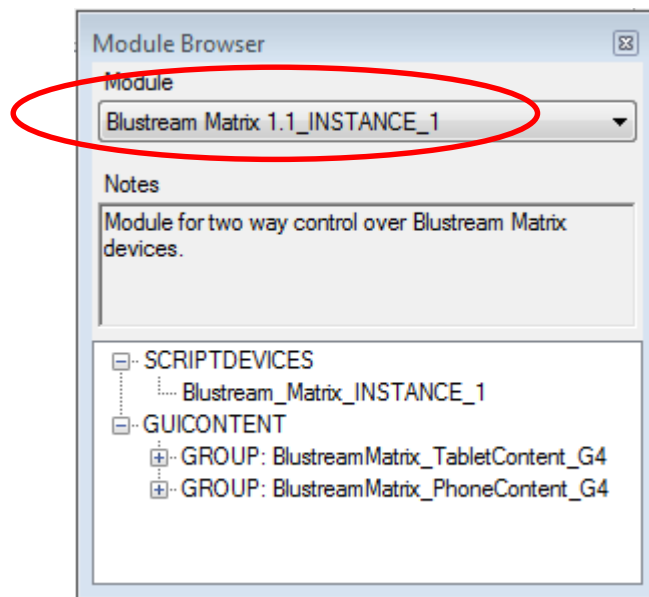


Figure 21 – The new instance

5. For the second Blustream Matrix that you are controlling:
 - Ensure that the controller and script device is configured correctly by following [Step 2](#) from this document.
 - Ensure that you are using GUI components from the GUICONTENT group within the new instance, **not** the original instance

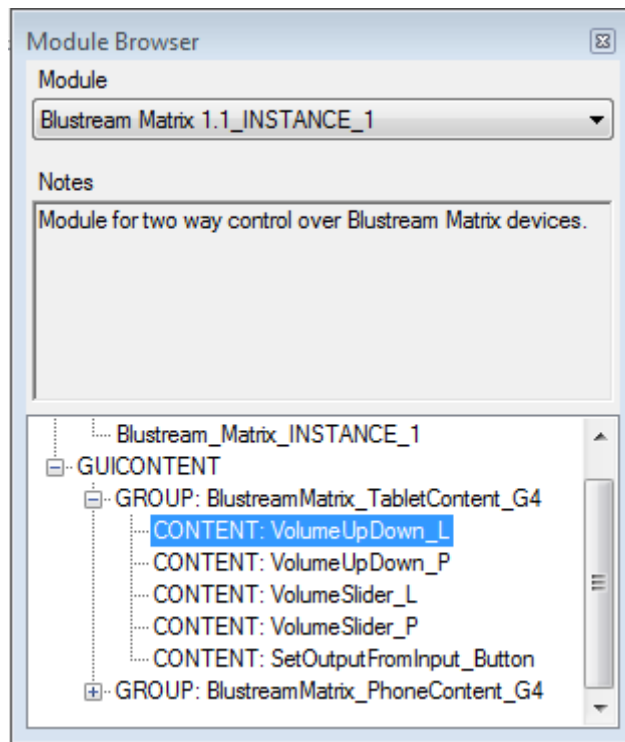


Figure 22 – Adding GUI component from the new instance