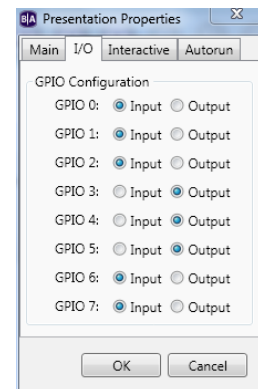


GPIO CONTROL WITH BrightAuthor

How to set the GPIO (initial state)

Set the GPIO input/output mode first: (3 Button Box)

1. Select 'File' (Main panel)
2. Select 'Presentation Properties'
3. Select 'I/O'
4. Set the appropriate GPIO pins to output (for 3 button box set GPIO 3, GPIO 4 and GPIO 5 to OUTPUT)

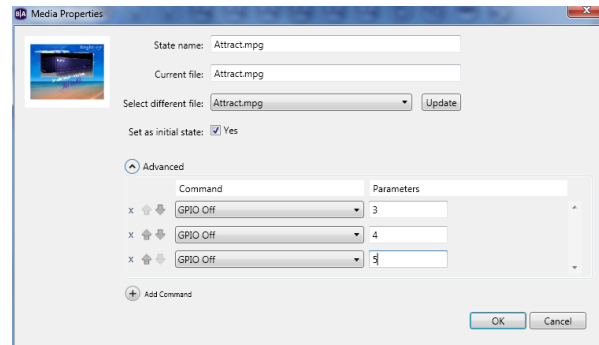


Now Set the 'initial' state for the output pins as set above (3 Button Box)

1. Select the first 'Item' on the flow chart. Typically an attract screen or attract video.
2. Click on the object, then right click to select 'Edit'
3. Select 'Advanced'
4. Select 'Add Command', add 'GPIO Off', parameter '3' (selects GPIO-3) (turns on Light 1)
5. Select 'Add Command', add 'GPIO Off', parameter '4' (selects GPIO-4) (turns on Light 2)
6. Select 'Add Command', add 'GPIO Off', parameter '5' (selects GPIO-5) (turns on Light 3)

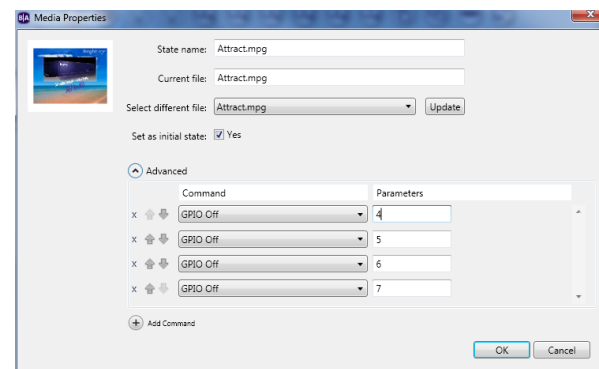
DONE!

Note: The reason for setting the Outputs to 'Off' (low or 'Logic 0') is because most driver chips can provide more current when they drive the output low. This provides more voltage and current to the LED (brighter) than would be available if the output was set 'On'. This mode of driving the LED lights was necessary because of the high voltage that Green LED's require.



4 Button Box: The 4 button box utilizes GPIO 4,5,6,7, so all four GPIO's have to be set to output. Then set them all low (GPIO Off), to turn on the LIGHTS.

- GPIO-4 (Off) Drives Light1
- GPIO-5 (Off) Drives Light2
- GPIO-6 (Off) Drives Light3
- GPIO-7 (Off) Drives Light4



5 Button Box: The 5 button box works different than the 3 and 4 button boxes. It has a microprocessor that is used to 'decode' GPIO 5,6,7. GPIO 5,6,7 have to be set to output. This 'decode' scheme is needed to utilize GPIO 0-4 as inputs (5 inputs) while still being able to drive 5 lights with just 3 GPIO pins.

Here is the scheme for setting the Lights ON.

- GPIO-5 GPIO-6 GPIO-7 Lights
- Off Off Off None (see note below)
- On Off Off Light 1
- Off On Off Light 2
- On On Off Light 3
- Off Off On Light 4
- On Off On Light 5
- Off On On None
- On On On All on

Note: This board has an option (option header on the board) to select 20% brightness if all Lights are Off (GPIO 5-7 are 'Off').

During 'play' if you want to set GPIO pins low or high (that control lights), then at the GPIO event that triggers the event (like button 0), add the commands to that event that set 'GPIO On' or set 'GPIO Off'.

Note: Only pins programmed as outputs can be set 'On' or 'Off'.

Note: The term 'On' means 'Logic 1' or 'High', and the term 'Off' means 'Logic 0' (zero) or 'Low'.

updated: 02/18/2011