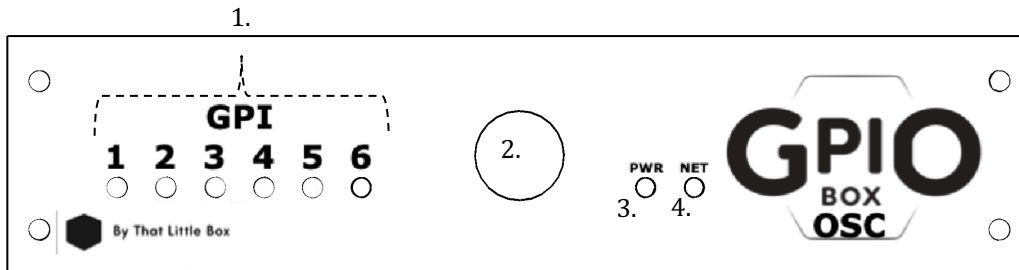


# GPIO BOX OSC

The GpiO BOX OSC is a 6 input, fully user programmable OSC remote control system designed for use with remote buttons and triggers. The GpiO BOX OSC has 3 XLR connectors used for remote input. These inputs can be buttons, switches or any contact closure, such as the GPIO output from a mixing desk or redundant switch system. Each XLR can be used to connect up to 2 controls. The Unit can be powered using an USB B connector delivering 5 volts on via POE.

## FRONT



### 1. GPI LEDs.

These 6 LEDs will light to display the status of their corresponding GPI input. If the connection on the input line is closed then the LED will light, if it is open then the LED will be unlit. If the test button is pressed all 6 LEDs will light until it is released.

The GPI LEDs also show the status of the GpiO BOX OSC. When the box starts up the 6 LEDs will flash in sequence to confirm a successful boot. If the unit has been put in to Setup Mode this flashing sequence will continue.

### 1. Test Button

This button is designed as a local test button but can also be used as a 7<sup>th</sup> control. The button will send an OSC command when pressed and then a second command when released. These commands can be edited in the settings menu.

On startup holding down the test button will place the GpiO BOX OSC in to Setup Mode.

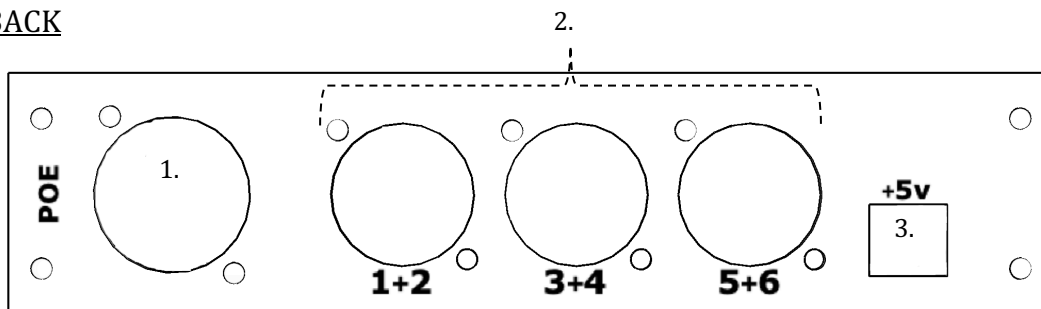
### 2. Power LED

This LED will be lit if the GpiO BOX OSC is receiving power from either USB or POE.

### 3. Network LED

This LED will be lit if the GpiO BOX OSC is connected to a network

BACK



### 1. POE Ethernet Port

This is the network connection for the GpiO BOX OSC. From here OSC commands are sent out to the wider network. This port accepts IEEE 802.3-compliant POE allowing the GpiO BOX to be powered with just its network connection. When in factory settings the GpiO BOX OSC will use the fixed IP: 192.168.0.100.

### 2. GPI inputs

3 Female XLR connectors. These inputs connect to your external controls. Each XLR can be connected to up to 2 controls. Wiring is explained below in the “Control Wiring” section of this manual.

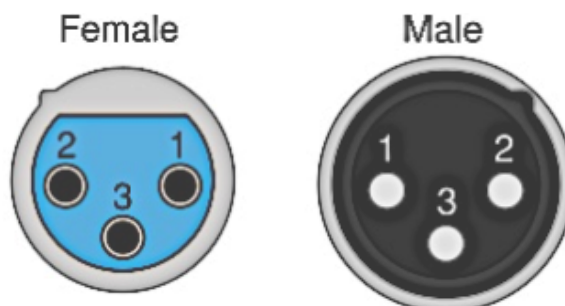
### 3. +5v power input

This USB B connector can be used to power the unit if POE is not available. The USB is wired for power only and not data. All firmware updates are done with the network port.

## Control Wiring


The GpiO BOX OSC can be controlled by anything that closes a contact. This could be a button, a switch, a foot switch, a PIR Sensor, or any other sensor that closes a contact. The unit connects to controls on 3 female XLR connectors and will accept up to 2 controls per XLR. Controls should be wired as follows:

GpiO BOX OSC	
Pin	Function
1	Ground
2	Control 1
3	Control 2



Control 1 is fired by connecting pins 1 and 2, and control 2 is fired by connecting pins 1 and 3.

## Setup Mode



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### Commands

### Target Network

Target IP:

Target Port:

Target IP 2:

Target Port 2:

### Local Network

Static IP:

Gateway:


Subnet:

Send Ping:

Lock input after action:

Lock input Time:

Button 1 On:	Arg1:	Arg2:
<input type="text" value="/Gpio/Button/1/On"/>	<input type="text"/>	<input type="text"/>
Button 1 Off:	Arg1:	Arg2:
<input type="text" value="/Gpio/Button/1/Off"/>	<input type="text"/>	<input type="text"/>
Button 2 On:	Arg1:	Arg2:
<input type="text" value="/Gpio/Button/2/On"/>	<input type="text"/>	<input type="text"/>
Button 2 Off:	Arg1:	Arg2:
<input type="text" value="/Gpio/Button/2/Off"/>	<input type="text"/>	<input type="text"/>
Button 3 On:	Arg1:	Arg2:
<input type="text" value="/Gpio/Button/3/On"/>	<input type="text"/>	<input type="text"/>
Button 3 Off:	Arg1:	Arg2:
<input type="text" value="/Gpio/Button/3/Off"/>	<input type="text"/>	<input type="text"/>
Button 4 On:	Arg1:	Arg2:
<input type="text" value="/Gpio/Button/4/On"/>	<input type="text"/>	<input type="text"/>
Button 4 Off:	Arg1:	Arg2:
<input type="text" value="/Gpio/Button/4/Off"/>	<input type="text"/>	<input type="text"/>
Button 5 On:	Arg1:	Arg2:
<input type="text" value="/Gpio/Button/5/On"/>	<input type="text"/>	<input type="text"/>
Button 5 Off:	Arg1:	Arg2:
<input type="text" value="/Gpio/Button/5/Off"/>	<input type="text"/>	<input type="text"/>
Button 6 On:	Arg1:	Arg2:
<input type="text" value="/Gpio/Button/6/On"/>	<input type="text"/>	<input type="text"/>
Button 6 Off:	Arg1:	Arg2:
<input type="text" value="/Gpio/Button/6/Off"/>	<input type="text"/>	<input type="text"/>
Test Button On:	Arg1:	Arg2:
<input type="text" value="/Gpio/Button/Test/On"/>	<input type="text"/>	<input type="text"/>
Test Button Off:	Arg1:	Arg2:
<input type="text" value="/Gpio/Button/Test/Off"/>	<input type="text"/>	<input type="text"/>



By That Little Box

1.3

To enter Setup Mode hold down the front Test Button when powering the unit up. The GPI LEDs will flash in a sequence to indicate a successful boot and then continue to flash in this sequence to indicate that you are in Setup Mode.

When the Gpio BOX OSC is in Setup Mode its settings page can be reached by connecting it to a computer and typing the units IP address in to any web browser.

The default IP address is 192.168.0.100.

The default Subnet Mask is 255.255.0.0

Make sure that your computer has an IP in the appropriate range. For the default IP and Subnet this would be any IP starting with 192.168.

## Settings

The following settings can be accessed using the settings page:

### **Target Network**

This is where we place the network settings for the device we wish to control with our OSC message. We need to set an IP address and a network port.

We can set 2 separate target network destinations. This might for example be a main and a backup playback machine. When in factory only 1 target is defined but this is 255.255.255.255 also known as the broadcast IP. The default port is 53000, this is the port used by Fig53's Qlab. When in factory settings any computer connected to the Gpio BOX OSC will receive OSC on port 53000.

### **Local Network**

This is where we set how the Gpio BOX OSC will appear on the network. It is important to note that changing the local IP will change the address used to access the settings page, if you change the local IP and can't remember what you changed it to you will need to perform a factory reset to get back to the settings page.

By default, the Gpio Box will have IP:192.168.0.100, on Gateway 192.168.0.1, with subnet mask 255.255.0.0.

### **Send Ping**

This check box controls whether or not the Gpio BOX OSC sends an OSC ping. A ping is useful to monitor the status of devices on the network and can be used by a remote machine to ensure that the Gpio BOX OSC is working correctly. When ping mode is selected the Gpio BOX OSC will send the message "/Gpio/Ping" every 5 seconds.

### **Lock Input after action**

With this check box ticked the Gpio BOX OSC will ignore any input after any control is triggered.

### **Lock input Time**

The user can enter a time in seconds that the Gpio BOX OSC will remain locked to input after action when the 'Lock Input after action' option is selected.

### Commands

This is where we set the OSC commands that will be sent when each control is turned on and off. Note that, for simplicity, this naming assumes that a control is normally open. If you would like to use a control that is normally closed then you would just swap the commands around. The off command would fire when the control is triggered and the on command when it is released.

### Arguments

Each commands provides inputs for up to 2 arguments, these can be words or numbers and will be added to the end of the OSC command.

### Factory Reset

To Reset the GpiO BOX OSC to its default settings, first, connect a button to input 5. Both input 5 and the test button should be held down while powering the unit up. All 6 GPI LEDs will light for 1 second before the startup LED sequence. The GpiO BOX OSC has now been restored to factory settings: these settings are shown below. By default all OSC arguments are set as empty.

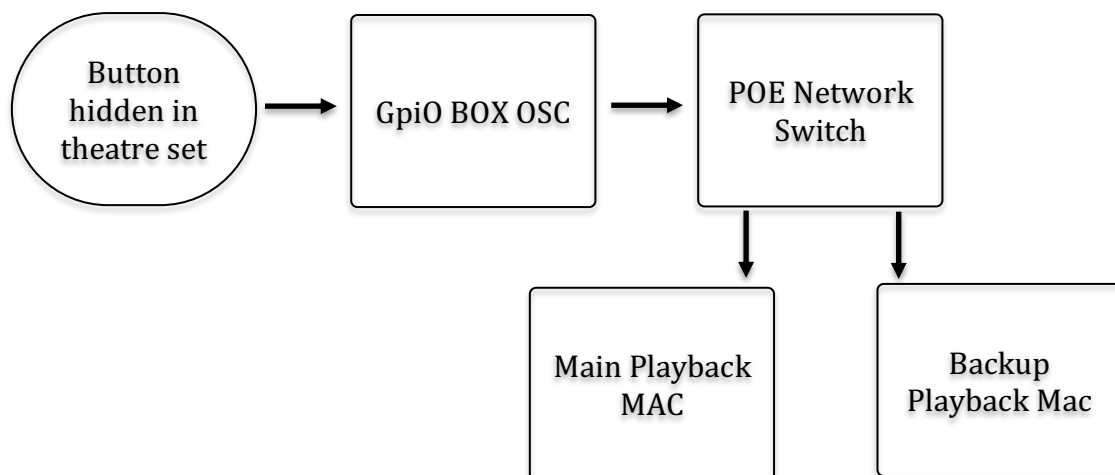
<b>Setting</b>	<b>Default Value</b>
Target IP 1	255.255.255.255
Target Port 1	53000
Target IP 2	0.0.0.0
Target Port 3	0000
Local Static IP	192.168.0.100
Gateway Address	192.168.0.1
Subnet mask	255.255.0.0
<b>Name</b>	<b>OSC Command</b>
Button 1 ON	/GpiO/Button/1/On
Button 1 OFF	/GpiO/Button/1/Off
Button 2 ON	/GpiO/Button/2/On
Button 2 OFF	/GpiO/Button/2/Off
Button 3 ON	/GpiO/Button/3/On
Button 3 OFF	/GpiO/Button/3/Off
Button 4 ON	/GpiO/Button/4/On
Button 4 OFF	/GpiO/Button/4/Off
Button 5 ON	/GpiO/Button/5/On
Button 5 OFF	/GpiO/Button/5/Off
Button 6 ON	/GpiO/Button/6/On
Button 6 OFF	/GpiO/Button/6/Off
Test Button ON	/GpiO/Button/Test/On
Test Button OFF	/GpiO/ Button/Test Off

### Firmware update

Firmware updates are performed using TLB updater for Mac. If an update is available, it will be downloadable from [www.thatlittlebox.co.uk](http://www.thatlittlebox.co.uk). To update your firmware the GpiO BOX OSC must be in Setup Mode.

### Typical application

The following diagram shows a typical deployment of the GpiO BOX OSC as a remote playback controller.



### Cable length

While it is advisable to keep cable runs between a Button / Control and the GpiO BOX as short as possible, very long runs of up to and in excess of 1Km are possible and do not adversely affect the GpiO BOX's operation. The GpiO BOX has been tested using a button connected to up 1.5Km of cable. All tests have been done using high quality modern microphone cable and no practical limit has been found beyond which the GpiO BOX ceases to function. Despite this That Little Box do not guarantee function in cable runs exceeding 1Km as cable and button quality can vary greatly.

If you have any questions regarding your GpiO Box or would like to talk to us about custom button boxes or custom GpiO BOX features then please get in touch via our website [www.thatlittlebox.co.uk](http://www.thatlittlebox.co.uk).

### Change log from 1.3

- Fixed an issue that could cause integer arguments to be sent as float arguments.