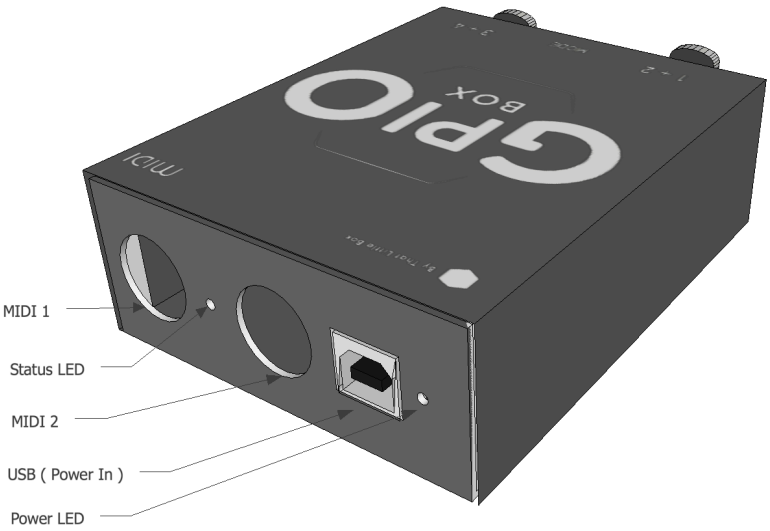
GPIO BOX MIDI

The GpiO BOX MIDI is a user programmable MIDI control system designed for use with remote buttons and triggers. Based on the popular MIDI GO BOX Mk2, the GpiO BOX MIDI uses buttons attached to its 2 XLR sockets rather than on board controls to trigger MIDI commands.

The GpiO BOX has 2 XLR connectors on its front face. These are inputs for 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 or a single illuminated Control. The front panel also features a 3-position slide switch used to set the operating mode of the box.



The rear of the GpiO Box is the same as that found on the MIDI GO BOX Mk2 and features 2 MIDI outputs, allowing for simultaneous control of 2 MIDI destinations. There is also a red Power LED, a red and amber Status LED, and a USB connector. The USB functions as a DC jack removing the need for a "Wall Wart". The USB socket is <u>NOT</u> functional as a data connector.

The GpiO BOX MIDI can also be powered using the MIDI THRU BOX from That Little Box. A 1:4 MIDI thru that allows back powering of MIDI devices Up stream. The MIDI THRU BOX is available at thatlittlebox.co.uk.

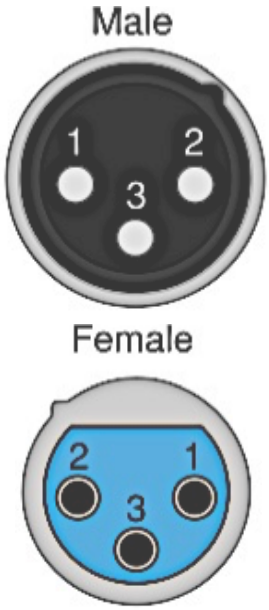
Modes

The GpiO box has 3 modes, the Modes are selected using a 3 position slide switch and are only checked on power up. Operation of the slide switch once the box has been turned on will have no immediate effect. The 3 modes are:

1. 2-Button Mode — Switch to the LEFT
2. Button learn Mode — Switch Centre
3. 4-Button Mode. — Switch to the Right

In **2-Button mode** the GpiO BOX will accept a single Control per XLR. This may be illuminated. In this mode a control should be wired as Follows:

2-Button Mode	
Pin	**Function**
1	Ground
2	Control
3	Illumination



A MIDI message is fired when the control line (pin 2) is shorted to ground (pin 1)
It should be notes that Pin 3 does NOT have a resistor in line. When attempting to light an LED a resistor should be added in series.
If using That Little Box "Button Box" products a resistor is included in the design.

2-Button mode is selected by positioning the slide switch to the left, closest to XLR 1+2 when the GpiO BOX is powered up

In **4-Button mode** the GpiO BOX will accept up to 2 controls per XLR . These may not be illuminated. In this mode a Control should be wired as Follows:

4-Button Mode	
Pin	**Function**
1	Ground
2	Control 1
3	Control 2

A MIDI message is fired when either control line (pin 2 or 3) is shorted to ground (pin 1).

4-Button mode is selected by positioning the slide switch to the right, closest to XLR 3+4 when the GpiO BOX is powered up

Status LED

The Status LED displays the currently selected mode and shows when MIDI dates is sent. In 2-Button mode the LED will be solid amber and will blink red when MIDI data is sent. In 4-Button mode the LED will be solid red and will blink amber when MIDI data is sent.

Learn mode

The GpiO BOX is fully user programmable and can be configured to output any Musical MIDI when any of its 4 input control lines are triggered. To enter Learn mode position the slide switch to the center when powering up.

Programing

When the GpiO Box is powered up in Learn Mode the Status LED on the rear of the unit will begin to slowly flash Amber. This indicates that the GpiO box is in Learn Mode and awaiting further instruction.

Next connect the control button (or other control) you wish to use and press it. The Status LED with stop flashing amber and go to solid red. This indicates that the GpiO BOX has detected a button press and is awaiting a MIDI command.

As a safety feature, if no buttons are pressed the GpiO BOX is left in learn mode for 60 seconds the unit will exit learn mode and restart to its most recently selected button mode. This is designed to reduce the risk of an accidental mode change when mounted in a rack adversely effecting operation.

Once the LED is solid red a MIDI command can be send in to either of the MIDI ports on the rear of the GpiO Box. To do this, simply connect the GpiO Box to the Output of a MIDI device or USB MIDI interface. Once a command has been received and stored the status LED will return to slowly flashing Amber. At this point you can either repeat the process with another button, or set the slide switch to the desired mode (2-Button or 4-Button) and power cycle the GpiO Box.

Once programed the GpiO box will output its new "Learnt" commands in both Button modes until either reprogramed or reset.

Reset

To reset the GpiO BOX back to its factory default MIDI commands (shown the in the table bellow) connect a button to line 3, and hold this down while powering up the unit in learn mode. The status LED will blink rapidly to confirm reset and the GpiO box will return to its most recently selected button mode

Factory default MIDI commands	
Input line	**Default MIDI command**
1	Program change 0 Chan 1
2	Program change 1 Chan 1
3	Program change 2 Chan 1
4	Program change 3 Chan 1

Cable length

While it is advisable to keep cable runs between a 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 effect 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 witch the GpiO BOX cases 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.