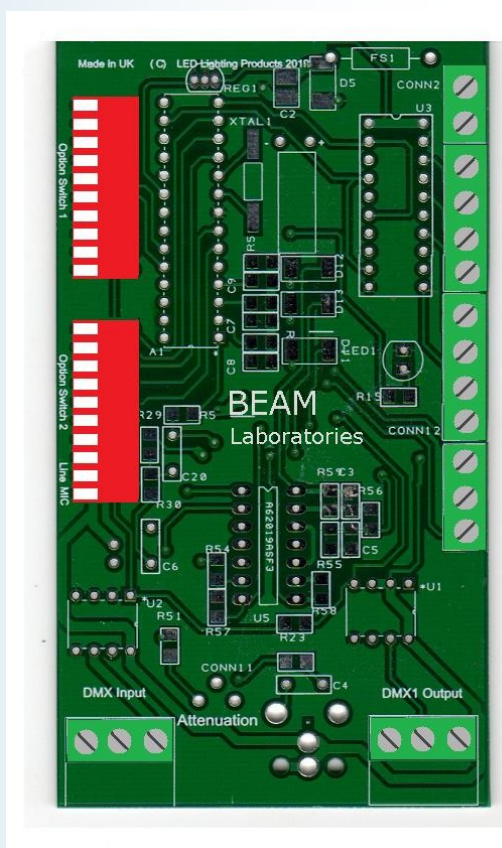


BEAM LABS

Pixelator Plus



Control Pixel LED strips standalone or from virtually **any** RGB /RGBW controller using a unique PWM input.

Also takes DMX, so is an ideal pixel controller for home automation systems.



Introduction

Pixel LED tape has evolved enormously in the last few years and is now the default choice in applications where dynamic lighting effects are required. Pixel tape is ideal for bars, clubs, homes, sensory rooms and anywhere that would benefit from dynamic, flowing and chasing light. Premium versions of pixel LEDs include dedicated warm white chips that give high quality architectural illumination for normal use.

The pixelator is designed to satisfy the requirements of most small to medium size installations. It has a number of standalone modes accessed by a simple retractive switch, or for greater control has a DMX input, ideal for home automation systems such as Control4, Lutron and Mode.

The pixelator plus also has 4 PWM inputs for connection to any LED controller, meaning that virtually ANY RGB or RGBW controller can now control pixel strips.

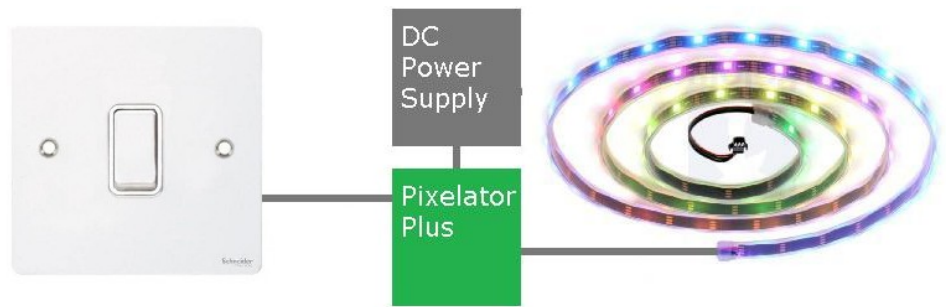
It controls WS2812 and SK6812 chips and automatically adjusts the output to suit RGB or RGBW operation.

Key Features

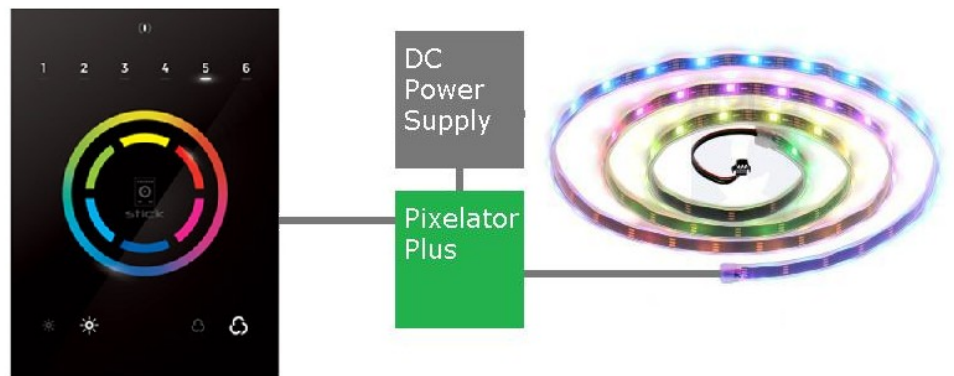
- Operates standalone, by DMX or PWM input
- Controls 512 DMX channels, scalable upto 2048 (more with DMX control)
- Operates the WS2812 and SK6812 protocols.
- Standalone modes indexed through a simple retractive switch.
- Automatically detects DMX input and reverts to DMX operation.
- DMX Out signal is buffered for glitchless downstream operation
- DMX Chips are socketed for ease of replacement
- 5-12v DC Operation
- Complies with the essential requirements of EN 61347-1 General and safety requirements for lamp control gear and EN 61347-2-13 Particular requirements for electronic control gear for LED modules.

Typical Applications

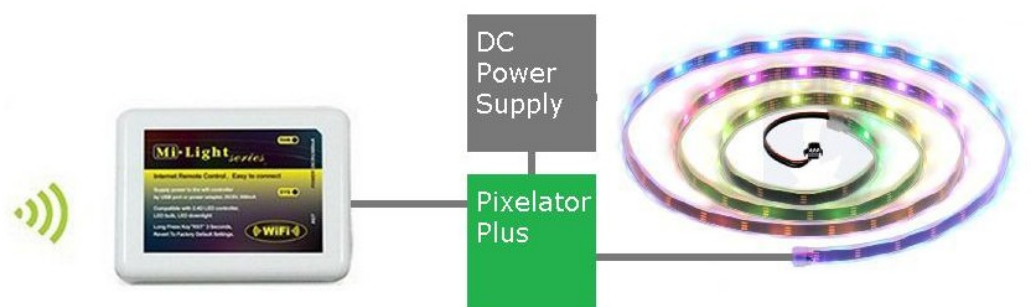
Simple Standalone Mode using retractive switch



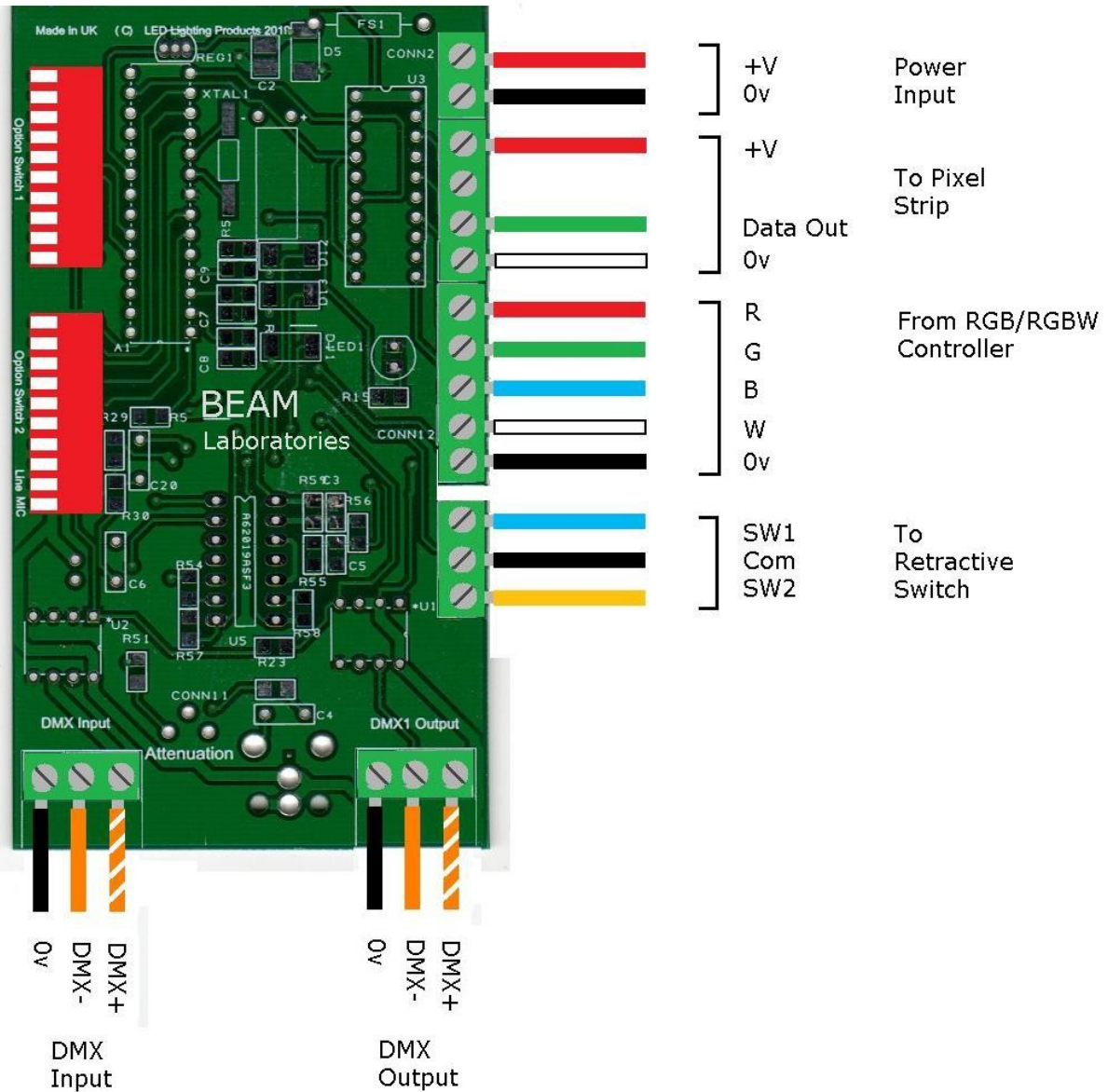
Wired DMX Controller



Standard Wireless RGB/RGBW Controller



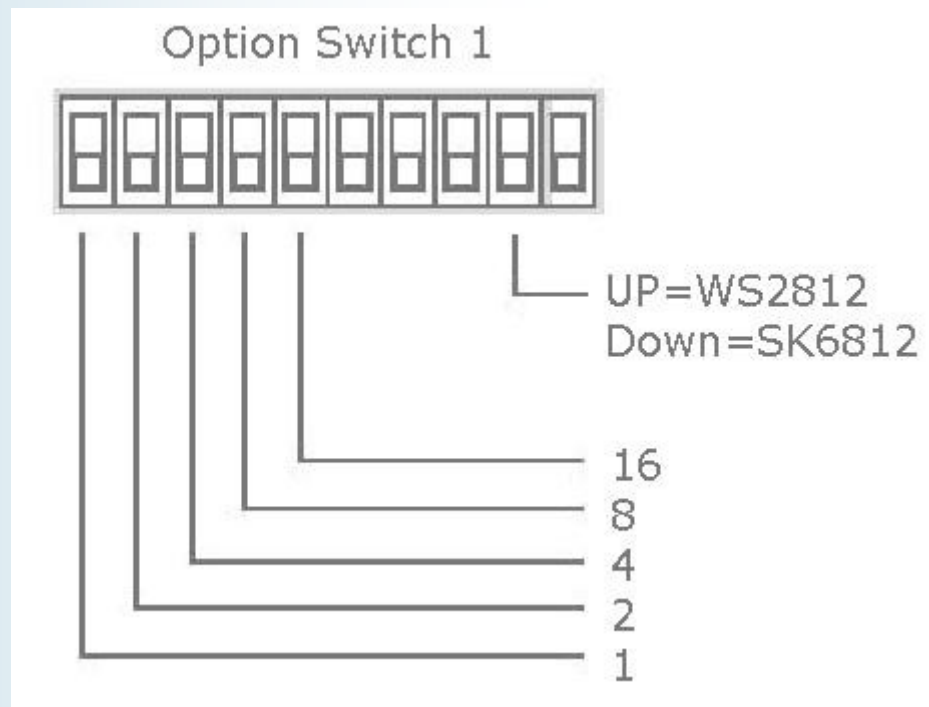
Wiring Up



Please note that the pixelator plus requires at least one control input to operate. However, the retractive switch can be used in conjunction with DMX or PWM inputs to offer a simple on/off wall switch override.

Setting the Control Channel (DMX Mode Only)

The control channel is set by the DIP switch as follows:



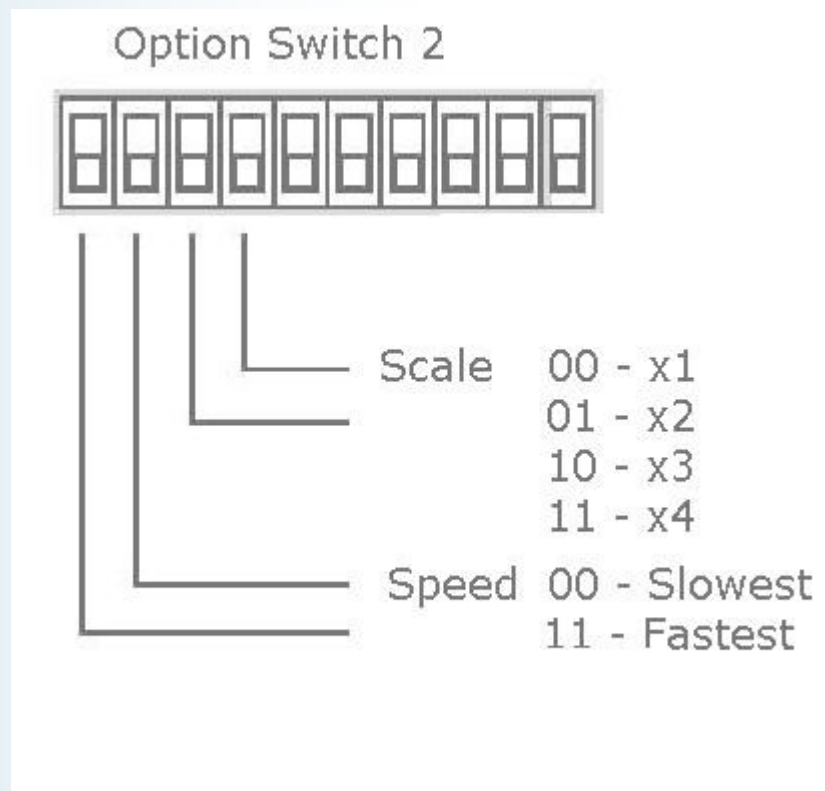
Flipping the switch UP adds the number indicated to the base address. Thus, if the switches marked 1 and 8 were UP, the base address would be 9.

The control channel is selectable between 1 and 31. This limitation is due to timing constraints

If no DIP switch is selected the DMX driver assumes the address 1.

Please note that the WS2812/SK6812 selector must be selected irrespective of control input.

Setting Speed and Scale (Standalone and PWM Mode Only)





Standalone Operation

For standalone mode the pixelator requires connection to a two or three position retractive switch. A two position switch connected between COM and SW1 will index through the different modes and off. A three position switch with an extra connection to SW2 will allow an extra 'off'. When the unit is switched back on it will remember its last mode.

The pixelator will automatically default to standalone mode if DMX/Standalone mode is set and there is no DMX signal present. Once DMX is connected the pixelator will assume DMX mode and the retractive switch becomes an on/off override.

The modes are:

Multicolour swirls rainbow colours

Multicolour swirls warm colours

Multicolour swirls warm colours

Rainbow colour change

Aurora with various background colours

Static primary colours

Static secondary colours



DMX Operation

The pixelator automatically detects when DMX is present. Setting the channels is according to the following:

DMX Channel 1: Operating mode

DMX Channel 2: Scale

DMX Channel 3: Various

DMX Channel 4: Speed

DMX Channel 5: Length1 (number of LEDs on first run)

DMX Channel 6: Width1 (number of LEDs on second run)

DMX Channel 7: Length2 (number of LEDs on third run)

DMX Channel 8: Length2 (number of LEDs on fourth run)

DMX Channel 9: Red (Certain modes only)

DMX Channel 10: Green (Certain modes only)

DMX Channel 11: Blue (Certain modes only)

DMX Channel 12: White (Certain modes in RGBW only)



Operating Modes

The full range of DMX modes are covered in application note ANBL007. Below is a small selection of the modes available.

DMX Channel 1	Mode
10	Rainbow
11	RGB Fill (channels 9-12)
30	Aurora (no background colour)
35	Aurora (background colour based on channels 9-12)
238	Swirl (colour based on channels 9-12). Speed (DMX4) needs to be >230



PWM Mode (Connects to Standard RGB/RGBW Controller)

This mode allows a standard three or four channel LED controller to control the many hundreds of channels required by dream pixel LEDs. It decodes the three or four PWM channels (red, green, blue, white) and applies a decoding algorithm. It then sends the appropriate data to the pixel LEDs.

PWM Mode Operating Algorithm

If the controller's brightness is set to over 50% the pixel strips copy the exact colour that the controller is set to, ie the strips appear to be conventional LED strips.

If the controller is set to 50% or less the pixelator will apply as a minimum the following pixel effects:

Controller Setting	Pixel Effect
RED	Aurora Warm
ORANGE	Rainbow Colour Change
GREEN	Flowing Effect Warm
CYAN	Flowing Effect Cool
BLUE	Magic Rain
PURPLE	Aurora Cool

If the controller has fine resolution, such as a colour wheel there are interim effects.



Contacting Technical Support

Technical support is available by emailing info@ledlightingproducts.co.uk or by calling 01543 481532. For customers outside the UK please dial +44 1543 481532.

The technical helpline is open Monday-Thursday 9:30am—4:30pm and Friday 9:30am—12:00 pm.

Warranty

LED Lighting Products Ltd warrants that the product it manufactures and sells will be free from defects in materials and workmanship for a period of 1 year from the date of despatch. If the device proves defective within the respective period, LED Lighting will repair or replace the defective hardware at its sole discretion. If the failure is due to an operator error the user accepts to pay for any charge relating to the diagnosis of the hardware, faulty parts or shipping from our factory.

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