Installation Instructions for PIT-LED V4

tenpintec.com

PIT-LED RGB

RED GREEN BLUE WHITE FULL COLOUR FULL DMX CONTROL

Fully controllable LED lighting for pin illumination on Pinspotter and Pinsetter machines

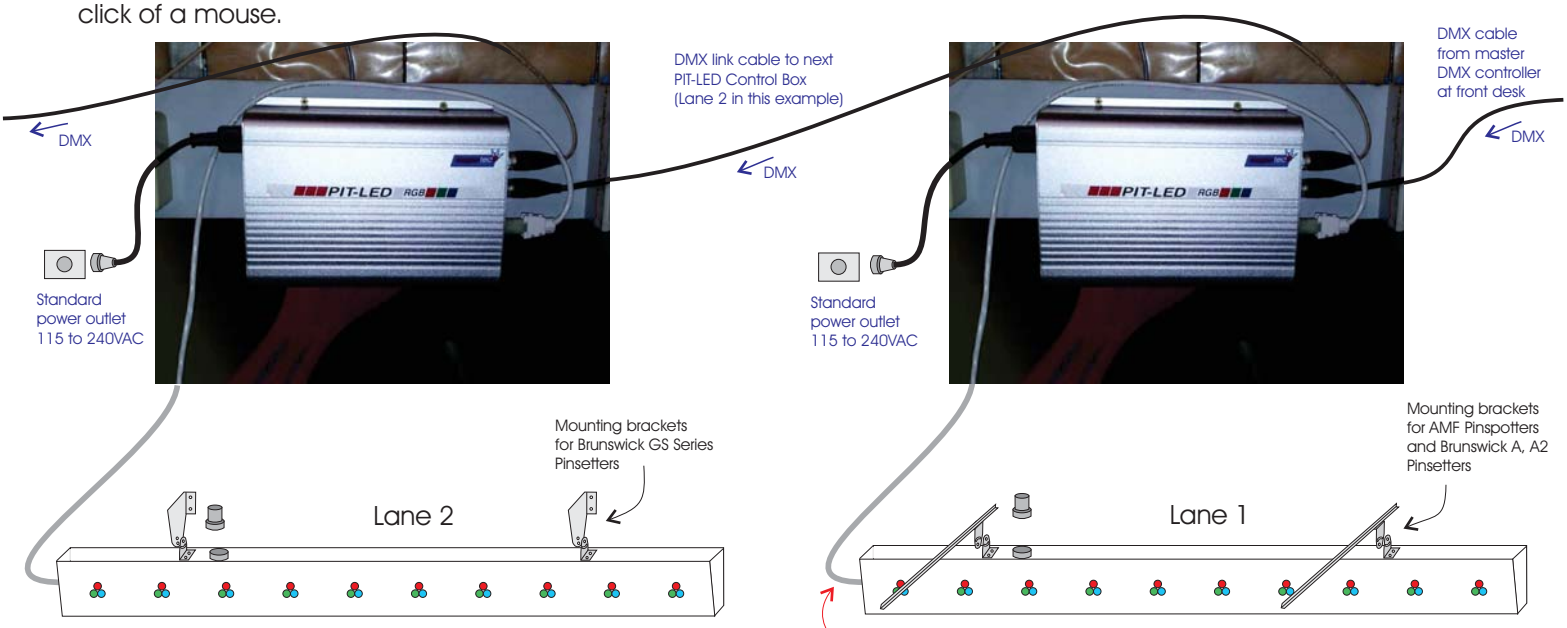
RED, GREEN and BLUE LEDs on each lane can be individually controlled by DMX512. Millions of possible colours can be achieved to illuminate the bowling pins.

Colour effects can be individualised to each lane, a block of lanes or the entire house.

Colour effects can be static or dynamic (colour changing). When using a PC based DMX Master Controller, an almost endless number of pre-programmed effects can be initiated by the click of a mouse.

Each lane requires one PIT-LED set, which consists of one control box and one LED array (plus cables).

The master DMX controller (there are many types available) is normally located at the main control desk. This connects to the first PIT-LED control box (normally lane 1) by a long DMX cable. The remainder of the PIT-LED control boxes (for lanes 2, 3, 4, 5 etc) are connected in a "daisy-chain" style to each other as shown in the diagrams.



Important safety point:
Connector Cable from PIT-LED Control Box to Array carrys only 48VDC

These components are supplied in the standard PIT-LED RGB kit:

1 x PIT-LED RGB Control Box
1 x PIT-LED RGB Array
1 x set of mounting brackets and hardware
1 x PIT-LED Connector Cable
1 x IEC Power Cable
1 x DMX Cable 4m

Other components may be required:

Master DMX controller, such as DMX Control Desk (many types available)
or
USB-DMX Controller (for PC) and DMX Software for PC

The PIT-LED system is completely independent of the Pinspotter or Pinsetter machine and scoring system.
This makes it compatable with all machines and systems.

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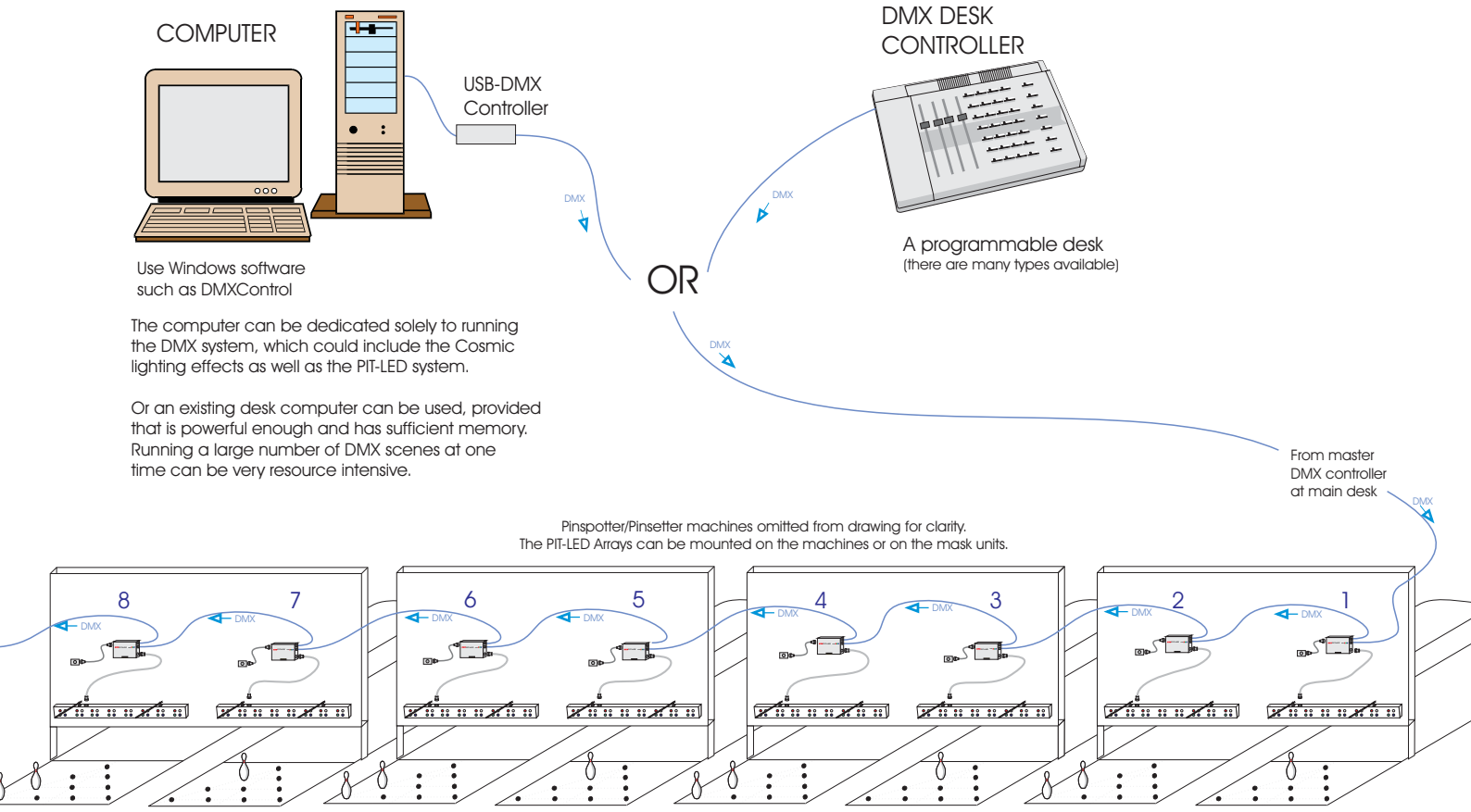
Schematic Diagram of PIT-LED system installed in a bowling centre



INSTALLATION STEPS:

1. Check the voltage label on the PIT-LED Control Box and ensure that it is the correct voltage for your area - 115 or 230V. Please contact Tenpintec if you are in any doubt.

2. Attach PIT-LED Control Box securely to curtain wall. Take care to position the Control Box so that the power supply cable and Connector Cables will easily reach their destinations as shown in the diagrams.

3. Remove existing fluorescent pit or pindeck light fixtures.

4. Mount PIT-LED Arrays onto Pinspotter or Pinsetter (or in some circumstances it may be preferred to mount the PIT-LED Arrays onto the back of the mask units) using the supplied adjustable brackets. Tighten all bolts except the two on each bracket that allow tilt adjustment. Leave these bolts finger tight to allow for later adjustment.

5. Install Connector Cables - one end to Control Box and the other end to the PIT-LED Array. These cables are directional and will only connect one way. Take great care that the cables are secure at both ends and that they are routed in such a manner that they will not be fouled by moving machine parts or any other thing.

6. Connect a 3 pin DMX cable from the DMX-OUT (female) socket on the first PIT-LED Control Box to the DMX-IN (male) socket on the second PIT-LED Control Box.

7. Repeat the procedure in step 11 for all of the PIT-LED Control Boxes until the last Control Box is reached, creating a DMX daisy chain.

8. Connect the female end of the 3 pin DMX cable from the master DMX controller (either a PC or desk controller) to the DMX IN socket on the first PIT-LED Control Box.

9. DO NOT connect any other DMX devices into the PIT-LED DMX universe.

10. Plug the power cable into the IEC socket on the Control Box and also plug it into a wall socket or power outlet socket on the machine.

Note: If the pindeck lights are required to be OFF when the Pinspotter or Pinsetter is OFF, the power cable can be plugged into an outlet that is only live when the machine is ON.

11. Re-check all connections and cable routing. If all is well, turn on the switch at the power outlet.

12. The LEDs will not light up until either:
 a. the DIP switches on the Control Box are set to a particular colour or "scene" (see table on page 3) or
 b. a valid DMX signal is connected.

13. Using either the DIP switches on the Control Box or the master DMX controller, call up a scene or directly access the particular DMX channels (see page 3) to test each PIT-LED Array.

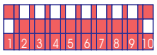
14. When the PIT-LED Array is illuminated, adjust the tilt of the Array to get the best lighting effect and then tighten the two screws on each bracket that were left finger tight from step 4.

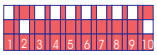
15. Repeat steps 1 to 9 for each PIT-LED set to be installed.

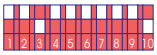
NOTE: If the DMX signal is lost for any reason, the DIP switches on each Control Box can be quickly set to show one of the pre-programmed static colours (including white) or dynamic scenes. When the DMX signal is recovered, the DIP switches can be quickly set back to DMX mode..

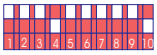
PIT-LED RGB Control Box

Manual color/scene selection
DIP switch 10 is FUNCTION
DOWN = ON

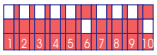

DIP 1+10 ON - RED

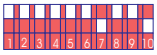

DIP 2+10 ON - GREEN

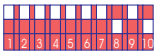

DIP 3+10 ON - BLUE

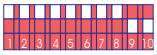

DIP 4+10 ON - YELLOW


DIP 5+10 ON - PURPLE


DIP 6+10 ON - CYAN

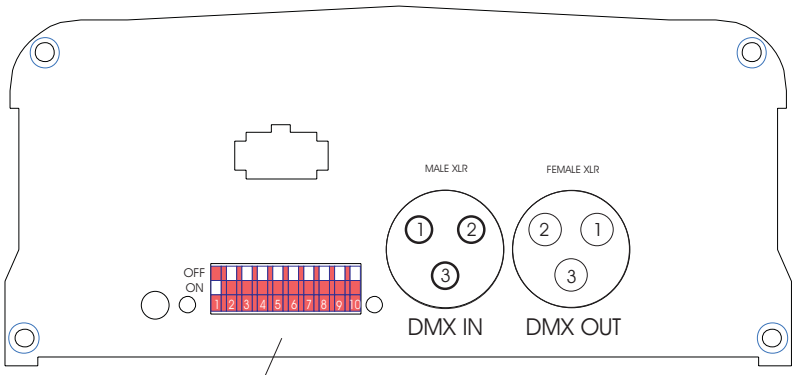

DIP 7+10 ON - WHITE


DIP 8+10 ON - STROBE 7 COLOR
Use DIP 1 to 7 for speed


DIP 9+10 ON - COLOR CHANGE

Each PIT-LED RGB Control Box is assigned 3 DMX channels,

1st channel is RED
2nd channel is GREEN
3rd channel is BLUE



DIP switches use binary numbering system

SWITCH	1	2	3	4	5	6	7	8	9	10
VALUE	1	2	4	8	16	32	64	128	256	FUNC

DOWN = ON

DO NOT run RED, GREEN and BLUE together at full brightness. This may overload the capacity of the LED drivers and power supply in the Control Box

Setting DIP switches for DMX channels
set the first channel for each lane,
the other two channels will be
automatically assigned
DOWN = ON

Lane 1 
1+0+0+0+0+0+0+0+0=1
Channel 1 Lane 1 RED
Channel 2 Lane 1 GREEN
Channel 3 Lane 1 BLUE

Lane 2 
0+0+4+0+0+0+0+0+0=4
Channel 4 Lane 2 RED
Channel 5 Lane 2 GREEN
Channel 6 Lane 2 BLUE

Lane 3 
1+2+4+0+0+0+0+0+0=7
Channel 7 Lane 3 RED
Channel 8 Lane 3 GREEN
Channel 9 Lane 3 BLUE

Lane 4 
0+2+0+8+0+0+0+0+0=10
Channel 10 Lane 4 RED
Channel 11 Lane 4 GREEN
Channel 12 Lane 4 BLUE

Lane 5 
1+0+4+8+0+0+0+0+0=13
Channel 13 Lane 5 RED
Channel 14 Lane 5 GREEN
Channel 15 Lane 5 BLUE

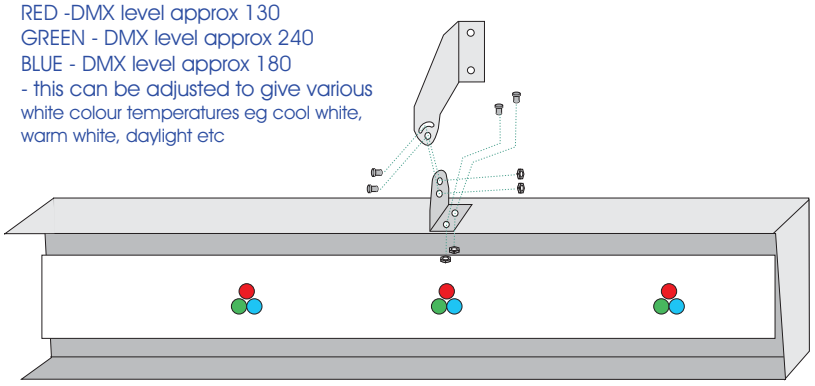
Lane 6 
0+0+0+0+16+0+0+0+0=16
Channel 16 Lane 6 RED
Channel 17 Lane 6 GREEN
Channel 18 Lane 6 BLUE

Lane 7 
1+2+0+0+16+0+0+0+0=19
Channel 19 Lane 7 RED
Channel 20 Lane 7 GREEN
Channel 21 Lane 7 BLUE

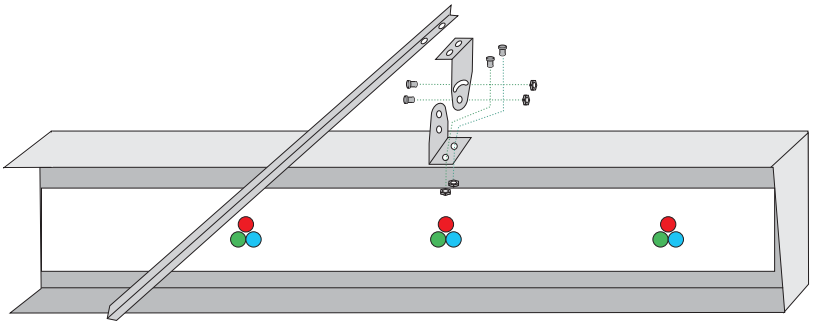
Lane 8 
0+2+4+0+16+0+0+0+0=22
Channel 22 Lane 8 RED
Channel 23 Lane 8 GREEN
Channel 24 Lane 8 BLUE

etc up to maximum of
512 channels

WHITE light is created with
RED -DMX level approx 130
GREEN - DMX level approx 240
BLUE - DMX level approx 180
- this can be adjusted to give various white colour temperatures eg cool white, warm white, daylight etc



Mounting on Brunswick GS Pinsetter



Mounting on AMF Pinspotter
& Brunswick A/A2 Pinsetter