

Tech Bulletin 01

31 December 2014

tenpintec.com



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

Since 24 SEP 2012, the following note appears on page 3 of the Installation Instructions for Coloursplash and PIT-LED V4:

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

31 DEC 2014:
Installation Instructions
have been amended

Further advice:

Coloursplash and PIT-LED sets usually ship with a LT-800 DMX controller.

This controller has WHITE set to:

RED = 135

GREEN = 135

BLUE = 135

(approx. 50% of full brightness)

This has been done in order to minimise the risk of damage to the LEDs, drivers and power supply by over-driving.

Each colour can be run at DMX level 255 (full) by itself, but **DO NOT EXCEED** a total combined DMX value of 480 when running RED, GREEN and BLUE together.

EXCEEDING this value may void the warranty.

Explanation:

LEDs generate heat. The brightness and heat generated is roughly proportional to the power applied to the LED. That heat needs to get out of the LED itself into the pcb (which is constructed over an aluminium backing) and then into the array housing itself. The surface area of the housing, which is maximised by all the cooling fins, dissipates the heat into the surrounding air.

When WHITE is set at R=135, G=135, B=135 (sort of half brightness), the heat generated by the LEDs can transfer out and eventually into the air at a rate that will not overheat the LEDs.

The same principle applies if you run one colour by itself at 255 (100%) – the heat generated by the LEDs can get out at a sufficient rate that will not overheat the LEDs.

But, if you run all three colours at high brightness simultaneously, they generate three times the heat as one colour by itself. Three LEDs on at high brightness together generates heat inside the individual LED at a rate higher than can be dissipated into the pcb and array housing. This causes overheating of the LEDs and leads to a “flashing on and off” phenomenon or complete failure of one or more of the individual colour chips inside the LED.

manufactured by



86 Barry Street
Reservoir
Victoria 3073
Australia

Phone 61 3 9460 2559
Fax 61 3 9460 7071