RLD Service Note #01

Date Issued: 31st March 2018

How to adjust LED brightness

Applies to		
Main PCB:	N/A	
Panel PCB:	V2.5	R25, R44, R45, R46, R47
	V2.2	R7, R44, R45, R46, R47

The top row of 32 LEDs are current limited by four 300R resistors; R44-47. The lower row of 12 LEDs are current limited by one 470R resistor; R25.

The fully built units use 4-5mcd deep red LEDs from Mouser (696-SLX-LX3044HD). They look really great and are a perfect brightness when coupled with the 300R resistors. The problem with these LEDs is they only have a very small flange so they may slide all the way through the panel during assembly.

To make the DIY build easier, the LEDs in the DIY BOM (859-LTL-4221) have a much larger flange. This ensures they butt up against the panel properly without much assistance. However they are slightly brighter at 8.7mcd. They will look about twice as bright as the average doepfer module. This isn't eye watering by any means and is still less than the brightness of the LED in the Bubblesound uLFO for example, but if you plan to use RLD in low light conditions I'd take the brightness down a bit.

To reduce the LED brightness of the DIY version to doepfer levels, change the current limiting resistors to the following:

R25 from 470R to **750R**
R44-47 from 300R to **560R**

If you are planning to use super high brightness LEDs, a value of 10K or more for all of these resistors is highly recommended. In this case there is no need to use a different value for R25, they can all be the same.