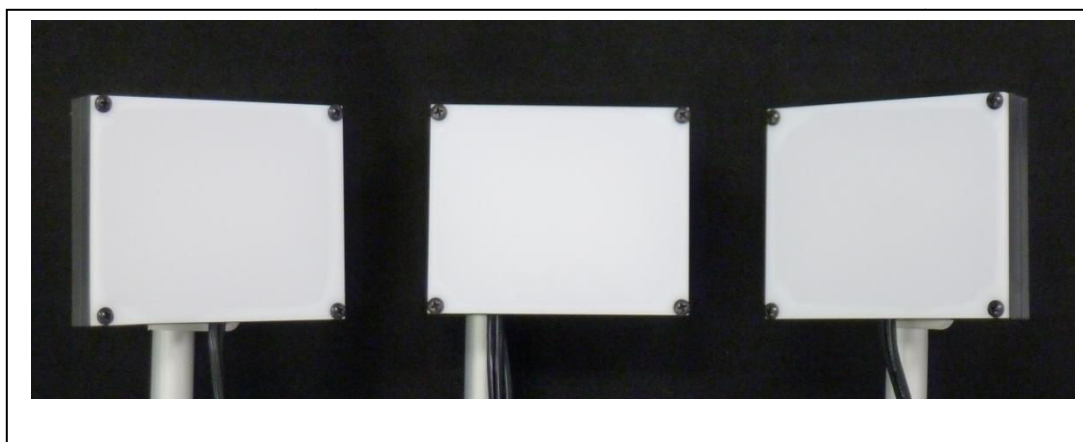




**Flashboard™
Master and Client units**

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DESCRIPTION

The Flashboard™ is designed to provide a linear scalable light for optical stimulation of small animals for neuroscience research. The boards are set up within the viewing angle of the animal. They can be activated via TTL signal and driven by Pulse Width Modulation (PWM) or analog voltage at 0-3 Volts. Each light source is a panel of LEDs of the same wavelength. Light passes through a translucent lens to homogenize the light.

The PWM terminal can be driven by PWM signal or analog signal. PWM signal provides a linear increment for brightness, while the analog signal is typically easier to set up using most data acquisition systems. However, the brightness of LED panel driven by analog signal will not be linear and a light detection system will need to be used to measure the light output in order to determine the exact brightness. The PWM signal is typically generated by signal generator or sound card.

WORKING PRINCIPLE

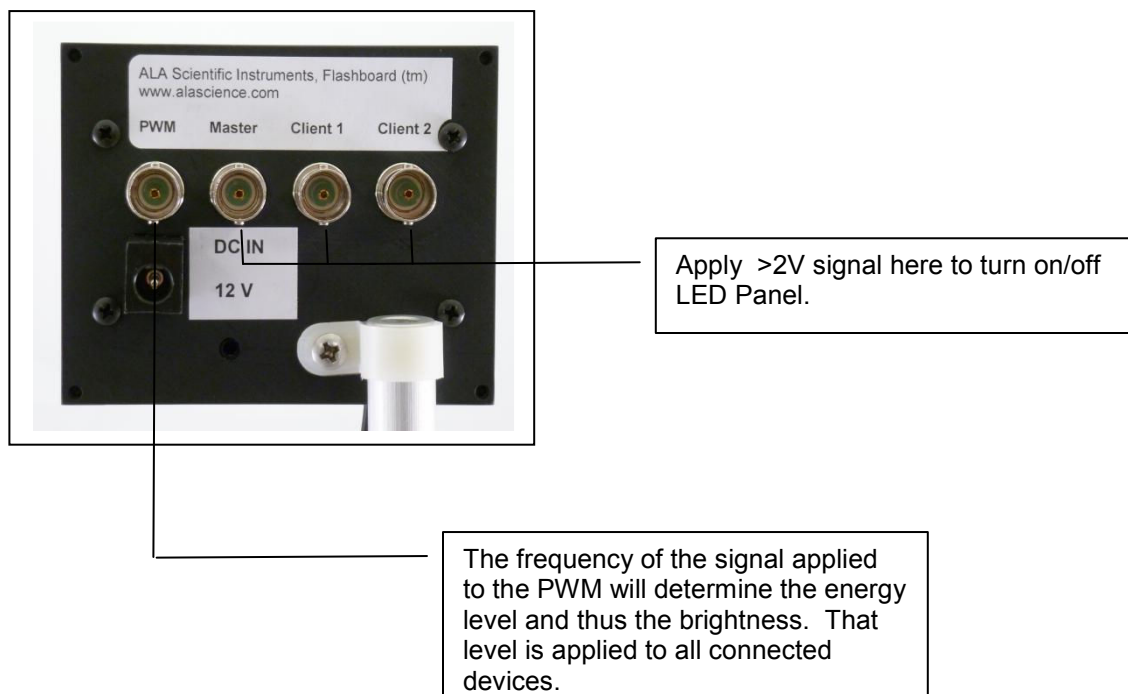
The Flashboard runs on 12V DC power. Be sure power is connected and working before you start to work on your Flashboard. Note that the center pin is +.

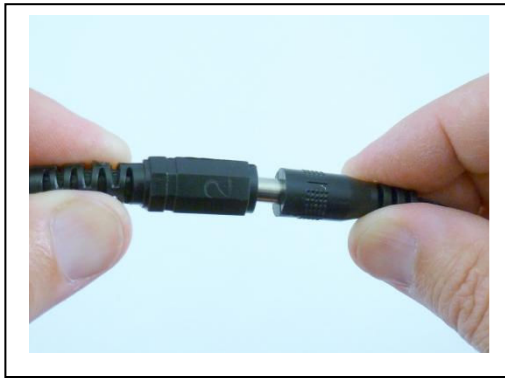
Client boards plug into the Master via the video power plug. A "1" or "2" on the connector indicate which Client is to be connected there.

Once the power is connected, the master LED panel as well as two clients will be turned on by default. Each LED panel can be turned on and off individually by changing the logic level of its own input. (BNC connector on the back of the Master). Logic "1" (>2V for maximum brightness) will turn on the LED while logic "0" (0V) will turn it off.

The brightness of the LED is controlled by the PWM signal. The device can respond to PWM signal pulse (with amplitude >2V) down to 1 usec.

The maximum power demand for each LED panel is approximately 350mA. The device will shut down when the circuit is shorted. It will automatically restart once the short circuit condition is removed.

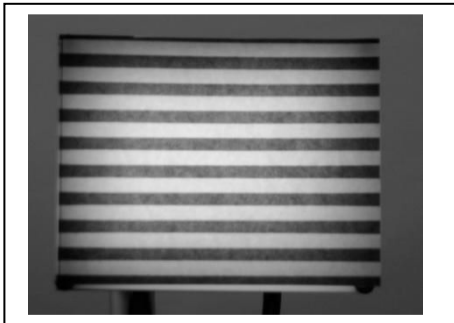




Each of the two Clients is connected to the Master. Client power is supplied by the Master. A client can also be turned on by supplying 12V DC directly to it.



Different patterns of on/off and brightness can be used. Master boards can be used individually as well as in combination with Clients. Each Master can support up to two clients.



Flashboards can easily be dressed up with patterns by printing on translucent substrates and applying them to the Flashboard.

Specifications:

FB1

Master: 82 x 66 x 29mm 210g

Client: 82 x 66 x 16mm 90g

Input power: 12V DC 1.5A (To the master to run three panels)

Mounting: When ALA ½ inch mounting block is not supplied, use 4-40 thread for Client, 6-32 thread for Master

CARE

Never submerge the Flashboard in water. Clean with a damp cloth and soap. Wipe dry. The unit will get warm when running at full power for extended times. This is normal. Do not use more than 12V.

Warranty

ALA Scientific Instruments agrees to warranty this instrument for a period of one year from date of shipment. The warranty covers all parts and labor necessary to correct defects(s). ALA Scientific will at their option repair or replace nonworking components.

Installation of this system in a manner inconsistent with this manual will render this warranty void. No other warranties are expressed or implied.