

PROPixx Lite™

Projector optimized for vision researchers



**Up to 500Hz
refresh rate**

OVERVIEW

The PROPixx Lite is a unique DLP LED projector which has been designed to be the most flexible display possible for vision research. The PROPixx Lite features a native resolution of 1920 x 1080, and can be driven with refresh rates up to 500Hz with deterministic timing. The PROPixx Lite uses high brightness LEDs as a light source, giving a larger color gamut and much longer lifetime than halogen light sources (60,000 hrs vs 2,000 hrs). Our LEDs also support high bit depth, and high frequency full color stimulation, which would not be possible with a color-wheel/halogen architecture. For stereo vision applications, our high speed ferro-electric circular polarizer can project stereoscopic stimuli for passive polarizing glasses at up to 400Hz. In addition the PROPixx Lite includes peripherals which often need to be synchronized to video during an experiment, including a button box port for precise reaction-time measurement, and triggers for electrophysiology equipment. Because we implemented the video controller and peripheral control on the same circuit board, you can now successfully synchronize all of your subject I/O to video refresh with microsecond precision. The PROPixx is available with multiple projection lens options including short-throw lenses for CRT-replacement applications, and long-throw lenses for MRI/MEG applications.

FEATURES

- UP TO 12 BITS RGB INTENSITY
- UP TO 1920 x 1080 RESOLUTION
- DETERMINISTIC TIMING BETWEEN RECEPTION OF VIDEO SIGNAL AND UPDATE OF DISPLAY PIXELS
- RGB LED LIGHT SOURCE
- SHORT AND LONG THROW LENSES AVAILABLE
- PASSIVE 3D WITH 400Hz FERRO-ELECTRIC CIRCULAR POLARIZER
- RESPONSE BOX INTERFACES
- 24 TTL TRIGGER INPUT/OUTPUTS
- ALL DIGITAL INPUTS / OUTPUTS FEATURE MICROSECOND SYNCHRONIZATION TO VIDEO REFRESH
- **UPGRADABLE TO FULL FEATURED PROPixx**

SOFTWARE

Software support includes a low-level ANSI C API, PsychToolbox MATLAB, Python libraries for Mac OS X, Windows and Linux. The PROPixx is also supported by the VPixx program.



www.vpixx.com

PROPixx Lite SPECIFICATIONS

GENERAL SPECIFICATIONS

- Display resolution: 1920(H) x 1080(V) pixels
- Display type: Texas Instruments DMD 0.95"
- Aspect ratio: 16x9
- Illumination system: RGB LED
- Contrast: 2 000:1
- Brightness: 600 lumens
- Lamp life: 60 000 hours via solid state illumination
- Up to 12 bits of resolution on each of the RGB channels
- Up to 500Hz refresh rate
- IR remote control

VIDEO PROCESSING

- Video input: 1920 x 1080 pixels, 24 bits (Dual link DVI)
- Deterministic timing between reception of video signal and update of display pixels
- Completely bypass all image processing "enhancements" prevalent in standard consumer projector
- Multiple projectors can be synchronized, showing copies or subsets of original video

POWER

- Power consumption: 250W
- Input voltage: 48Vdc – 5.21A
- International AC adaptor input: 90Vac – 264Vac (47Hz – 63Hz)

MECHANICAL MOUNTING

- Front/rear table
- Front/rear ceiling
- Adjustable front/rear feet

LENSES AVAILABLE

| Type | Throw Ratio | Focus Range |
|------------------------|-----------------|---------------|
| Super short-throw lens | 0.73 : 1 | 3.18 - 4.27ft |
| Short-throw lens | 1.56 – 1.86 : 1 | 6.6 - 23ft |
| Long-throw lens | 1.85 – 2.40 : 1 | 8.2 - 32.8ft |
| Super long-throw lens | 2.4 – 4.0 : 1 | 6.6 - 39.4ft |

Lens Shift (maximum)

Vertical: 0.7 of frame if horizontal is at 0% position

Horizontal: 0.3 of frame if vertical is at 0% position

NOTE: 0.73 super short-throw lens has NO LENS SHIFT

DIGITAL INPUT

- Number of digital inputs: 24 on db-25 connector
- Input termination: >20k Ω pullup to 3.3V
- Input tolerance: 5V

DIGITAL OUTPUT

- Number of digital outputs: 24 on db-25 connector
- Output drive stage: 5V through 25 Ω series resistor
- Maximum output current:
Source: 15mA
Sink: 12mA



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ORDERING INFORMATION

DESCRIPTION: PROPixx Lite
P/N: VPX-PRO-5000A

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