

## **VIEWPixx /3D Lite™**

*Display toolbox optimized for vision researchers*



### **OVERVIEW**

The VIEWPixx /3D Lite is a complete display toolbox which has been optimized specifically for stereoscopic and other dynamic visual stimuli. The VIEWPixx /3D Lite features LCD glass with the fastest possible pixel response, and a panel controller which has been custom designed for vision research. Our innovative scanning LED backlight design eliminates ghosting, has superior display uniformity, and features a wide color gamut exceeding that of any CRT. In addition the VIEWPixx /3D 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.

### **FEATURES**

- 10-BIT RGB INTENSITY
- 1920 x 1080 DISPLAY RESOLUTION AT 120 Hz
- DETERMINISTIC TIMING BETWEEN RECEPTION OF VIDEO SIGNAL AND UPDATE OF DISPLAY PIXELS
- SCANNING LED BACKLIGHT WITH DIRECT RGB LED ARRAY
- 24 TTL TRIGGER INPUT / OUTPUTS
- ALL DIGITAL INPUTS /OUTPUTS FEATURE MICROSECOND SYNCHRONIZATION TO VIDEO REFRESH
- RESPONSE BOX INTERFACE
- **UPGRADABLE TO FULL FEATURED VIEWPixx /3D**

### **SOFTWARE**

Software support includes a low-level ANSI C API, PsychToolbox MATLAB / Octave libraries for Mac OS X, Windows and Linux, and HID support (PsychoPy, E-Prime, Presentation). The VIEWPixx /3D Lite is also supported by the VPixx program.



# VIEWPixx /3D Lite SPECIFICATIONS

## LCD SPECIFICATIONS

- Display resolution: 1920(H) x 1080(V) pixels
- 23.6 inch display size (diagonal)
- Pixel pitch: 0.2715(H) x 0.2715(V) mm
- Pixel arrangement: RGB (Red dot, Green dot, Blue dot) vertical strip
- TFT LCD
- 10 bits of resolution on each of the RGB channels
- 100Hz to 120Hz refresh rate with zero latency stimulus presentation
- 60Hz to 100Hz refresh rate with internal frame buffering
- Grey-to-Grey response time :
  - 1ms typical in scanning backlight mode
  - 2ms typical in normal backlight mode
- Luminance:
  - 100 cd/m2 in scanning backlight mode
  - 250 cd/m2 in standard backlight mode
- Uniformity: 95% over 95% of display area
- Contrast ratio: Typical 1000:1
- Viewing angle: 170° (Horizontal), 160° (Vertical)
- Polarizer surface: Antiglare

## BACKLIGHT SPECIFICATIONS

- Scanning LED backlight
- Direct RGB LED array
- Wide gamut LED
- Factory white point D65

## VIDEO PROCESSING

- Video input: 1920 x 1080 pixels, 60 to 120 Hz, 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 LCD panels
- Multiple displays can be synchronized, showing copies or subsets of original video



## DIGITAL INPUT

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

## DIGITAL OUTPUT

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

## POWER

- Power consumption: 180W
- Input voltage: 48Vdc – 3.75A
- International AC adaptor input: 90Vac – 264Vac (47Hz – 63Hz)

## VIEWPixx STAND

- Mounting standards: VESA MIS-D/E, MIS-F
- Hole pattern: 100 x 100mm & 75 x 75mm

Lift	Tilt	Pan	Rotation	VESA
5" 13 cm	30°	Base 360°	90° P/L	MIS-D/E MIS-F

## ORDERING INFORMATION

DESCRIPTION: VIEWPixx /3D Lite  
P/N: VPX-VPX-2004A

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