VPixx Technologies
Vision Science Solutions

VideoBahn™
The NEW fast road to SUPERIOR data

VIEWPixx /3D

DIGITAL, ANALOG AND AUDIO I/O

- Button box interface
- 24 TTL trigger inputs and outputs
- Stereo ausio input and output
- Analog inputs and outputs

SYNCHRONIZED DATA ACQUISITION

All digital, analog, and audio inputs and outputs feature microsecond synchronization to video refresh.

VIDEO

- 10-bit RGB intensity
- 1920 x 1080 resolution at 120 Hz
- Scanning LED backlight with direct RGB LED array

120 Hz
CRT Replacement

OVERVIEW

The VIEWPixx /3D is a complete display toolbox which has been optimized specifically for stereoscopic and other dynamic visual stimuli. The VIEWPixx /3D 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 includes an array of peripherals which often need to be synchronized to video during an experiment, including a stereo audio stimulator, a button box port for precise reaction-time measurement, triggers for electrophysiology equipment, and even a complete analog I/O subsystem. 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.

SYMBIOTIC DEVICES

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SPECIFICATIONS

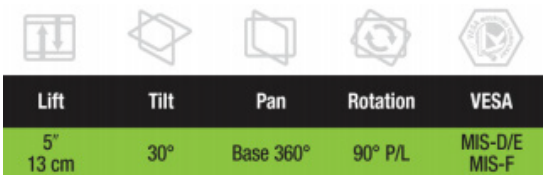
LCD SPECIFICATIONS
- Display resolution: 1920(H) x 1080(V) pixels
- 24-inch display size (diagonal)
- Pixel pitch: 0.2715(H) x 0.2715(V) mm
- Pixel arrangement: RGB (Red dot, Green dot, Blue dot) vertical strip
- TFT LCD
- 10 bits of resolution on each of the RGB channels
- 100 Hz to 120 Hz refresh rate with zero latency stimulus presentation
- 60 Hz to 100 Hz refresh rate with internal frame buffering
- Pixel response time :
  1 ms typical in scanning backlight mode (B-to-W)
  2 ms typical in normal backlight mode (G-to-G)
- 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 pannels
- Multiple displays can be synchronized, showing copies or subsets of original video

POWER
- Power consumption: 180 W
- Input voltage: 48 VDC - 3.75 A
- International AC adaptor input: 90 VAC - 264 VDC (47 Hz - 63 Hz)

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



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

ANALOG TO DIGITAL CONVERTER***
- Number of channels: 16 (or 8 differential), on DB-25 connector
- Converter resolution: 16 bits
- Maximum sampling rate: 200 kSPS per channel
- Frequency programming modes:
  Samples per second
  Samples per video frame
  Nanoseconds per sample
- Simultaneous sampling across all channels
- Input range: ±10 V
- Input impedance: $1.6*10^{8}$ Ω //3 pF
- Absolute maximum input tolerance ±12 V

DIGITAL TO ANALOG CONVERTER***
- Number of channels: 4 on DB-25 connector
- Converter resolution: 16 bits
- Maximum sampling rate: 1 MSPS per channel
- Frequency programming modes:
  Samples per second
  Samples per video frame
  Nanoseconds per sample
- Simultaneous output updates
- Output range: ±10 V
- Drive capability: ±25 mA, 250 mW per channel

AUDIO CODEC***
- Audio line in, microphone in, speaker out, on 3.5 mm jacks
- Stereo microphone input amplifier resistance: 20 kΩ
- Microphone sampling rate: 96 kHz
- Programmable microphone bias voltage range: 2.0 V to 3.1 V
- Stereo DAC sampling rate 96 kHz

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

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

SOFTWARE
Software support includes a low-level ANSI C API, MATLAB/Octave and Python libraries for use under Mac OS X, Microsoft Windows, and Linux.

*****These functionalities are available only with the VIEWPixx /3D full version (VPX-VPX-2005D)**

ORDERING INFORMATION

Description: VIEWPixx /3D Full LCD display and data acquisition system
P/N: VPX-VPX-2005D
Description: VIEWPixx /3D Lite LCD display and data acquisition system
P/N: VPX-VPX-2004B