



VPGA™

VPixx Graphics Adaptor

High Performance Graphics Board for the Vision Sciences

VPixx Technologies Inc. introduces the VPixx Graphics Adaptor (VPGA). The VPGA is a high-performance video and peripheral board designed specifically for vision research. The world's first graphics board with true monolithic 14-bit video DACs, dual synchronized displays and on-board peripherals tailored to vision researchers.

Product Highlights

True 14-bit video DACs

The VPGA is the world's first graphics board to offer true monolithic 14-bit video DACs for the ultimate in stimulus precision. Monolithic 14-bit DACs eliminate the bit-noise and calibration issues inherent in the older technique of adding the scaled outputs of multiple low-resolution DACs. 14-bit DACs allow a researcher to finely probe visual thresholds or even embed deep sub-threshold features within high-contrast imagery. The VPGA supports all of the standard indirect (color lookup table) and direct pixel modes, and also supports a unique direct video mode we call "trillions of colors" in which each displayed pixel can have unique 14-bit RGB values. A given stimulus image can span the entire RGB/CIE space with 14-bit resolution.

Dual Synchronized Displays

The VPGA contains two synchronized 14-bit video channels. A researcher may take advantage of the second output as a tester console for monitoring the stimulus being displayed to a subject, or the two outputs can be programmed to display completely independent stimuli. In both cases, the two video channels have identical video timing parameters, and are perfectly phase locked. The VPGA resolves the long-standing issue of how to generate multiple frame-synchronized stimulus displays.

Peripherals for Vision Research

The VPGA outputs a VESA Left/Right signal to drive shutter goggles for stereopsis applications. 32 TTL trigger outputs can transition on any user-specified raster line. 16 TTL inputs can allow an external system (eg: fMRI) to trigger a stimulus onset. The VPGA has a 96kHz stereo audio output for cross-modal research. Audio stimulus onset can be frame synchronized with visual stimuli. Also included are serial and parallel ports for communicating with external systems.



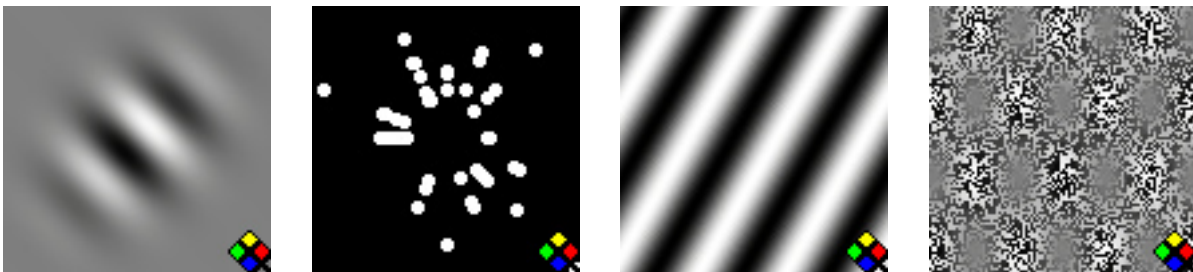
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Key Features

- * **Graphics controller designed specifically for vision research.**
- * **14-bit monolithic video DACs** for presentation of precise stimuli.
- * **Dual head presents independant stimuli on two monitors** with perfectly synchronized vertical refresh.
- * **User-defined video dotclock** up to 165MHz.
- * **User-defined vertical refresh rate** with no upper limit.
- * **Multiple video pages and color tables** can be swapped in hardware at vertical sync.
- * **Custom “Trillions of Colors” direct video mode** drives independant 14-bit RGB pixels.
- * **VESA L/R output** for driving stereo shutter goggles.
- * **32 TTL outputs** for generating VBL-synchronized triggers or other parallel data.
- * **16 TTL inputs** for receiving triggers from external hardware.
- * **Stereo audio output for cross-modal research.** Audio stimulus onset can be perfectly synchronized with vertical refresh, and the audio waveform can be sampled at up to 96kHz, making it suitable even for high-frequency animal research.
- * **Provides a full set of legacy PC peripherals** (2 COM ports, 1 parallel port, 1 joystick port). These can be used to communicate with external acquisition systems such as eye trackers and electrophysiology recorders.
- * **Full low-level API** access to documented VPGA register map
- * **Available on PCI for Mac OS-9, Mac OS X, Windows.**

Software Support

In addition to offering a low-level API, the VPGA is directly supported by the VPixx visual testing program. The VPixx program, a result of over twenty years of experience in vision science programming, is the easiest way to generate and present frame-synchronized animated stimuli within the context of a testing paradigm. VPixx supplies you with powerful features to easily manage complex dynamic stimuli and experimental designs, all within a single user-friendly Macintosh application.



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