VPixx Technologies
Vision Science Solutions

VideoBahn™
The NEW fast road to SUPERIOR data

DATAPixx2

DIGITAL, ANALOG AND AUDIO I/O

- 24 TTL trigger inputs and outputs
- Stereo audio 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 I/O

- Dual-link DVI input from laptop or PC
- Dual-synchronized dual-link DVI output

Synchronized Video I/O Hub

OVERVIEW

The DATAPixx2 is a complete multi-function data and video processing USB peripheral for vision research. In addition to a dual-display video processor, the DATAPixx2 includes an array of peripherals which often need to be synchronized to video during an experiment. These include a stereo audio stimulator, a button box port for precise reaction-time measurement, triggers for electrophysiology equipment, and 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.

The DATAPixx2 video subsystem converts a dual-link DVI digital video input from the host computer (or laptop) into two dual-link DVI video outputs. The second dual-link DVI output head can show the tester a mirror of the primary display; or alternatively, the left/right halves of a wide DVI input image can be split onto the two displays, ensuring perfect frame synchronization between the left/right displays. To further support stereo applications, the DATAPixx2 also includes a standard VESA mini-DIN-3 connector to interface with stereo glasses.

SYMBIOTIC DEVICES

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SPECIFICATIONS

VIDEO PROCESSING

DVI input: dual link on DVI-D connector
DVI input frequency: 25 MHz to 330 MHz
DVI output channels: dual-synchronized dual-link DVI
Video output format: mirror or haploscope mode
Maximum vertical refresh rate: 200 Hz
1920 x 1080 @ 120 Hz (mirror mode)
1920 x 1080 @ 60 Hz (haploscope mode)

ANALOG TO DIGITAL CONVERTER***

Number of channels: 16 (or 8 differential), on DB-25
Converter resolution: 16 bits
Maximum sampling rate: 200 kSPS per channel
Frequency programming modes:
- samples per second or 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 or per video frame
- nanoseconds per sample

Simultaneous output updates
Output ranges: ±10 V on 4 ch
Drive capability: ±25 mA

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
Maximum output power into 8 Ω load: 500 mW

DIGITAL I/O

Number of digital inputs: 24 on DB-25 connector
Input termination: >20 kΩ pullup to 3.3 V
Input tolerance: 5 V
Number of digital outputs: 24 on DB-25 connector
Output drive stage: 5 V through 25 Ω series resistor
Maximum output current:
- source: 15 mA
- sink: 12 mA

GENERAL

USB 2.0 with 480 Mbit/s theorical maximum bandwidth
On-board memory: 256 MBytes for buffering I/O data
Operating temperature: 0°C to 70°C
Enclosure: steel, with 19" rack-mount hardware available
Power requirements: 12 VDC @ 2.5 A, 30 W max
(international AC adaptor included)

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 DATAPixx Full version (VPX-DPX-1003C)**

ORDERING INFORMATION

Description: DATAPixx2 data acquisition system with DVI-D output
P/N: VPX-DPX-1003C
Description: DATAPixx2 with Lite data acquisition system DVI-D output
P/N: VPX-DPX-1002A