

VPDU 100



Compact Rugged Video Processing and Distribution Unit

The Vision4ce VPDU 100 is a standalone video processing board for embedded video and image processing applications which is designed to host the Vision4ce VMS or FrameWorkx software. The VMS software includes the field proven DART video tracking software. The VPDU 100 is based on a NVIDIA Jetson embedded processor which incorporates a multicore ARM processor and powerful GPU. Video interfaces are provided for HD and SD video in both analog and digital formats.



Architecture

The VPDU 100 uses a FPGA for high speed, low latency video interfacing and processing combined with the flexibility of the Jetson embedded processing which includes the following resources:

- Quad core ARM A57 CPU
- 256 CUDA core GPU
- Video accelerator for video encode/decode

The VPDU 100 processes two concurrent streams of standard definition or high definition video selected from the multiple analog and digital video inputs. The output video is genlocked to the input video and is comprised of low latency video from the selected input combined with processed video and graphics from the Jetson.

I/O Connections

- Ethernet – 1x 10/100/1000Base-T
- Serial – 4x RS422, 1x CAN
- Video Inputs
 - 2 x PAL/NTSC
 - 2 x HD YPbPr
 - 4 x SD/HD SDI
- Video Outputs
 - 4 x PAL/NTSC/HD YPbPr
 - 2 x SD/HD SDI

Environmental

The VPDU 100 can be supplied as a standalone board or in a rugged enclosure which includes a MIL specified power supply.

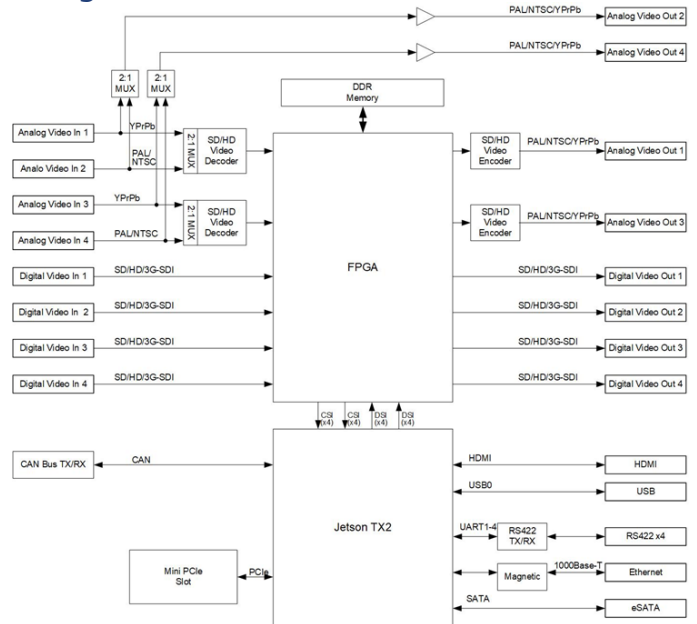
Enclosure

- Power – DC 18V to 36V MIL-STD-1275E
- Power consumption <25W
- Dimensions – 191mm x 156mm x 57mm (7.53" x 6.14" x 2.24")

Standalone Board

- Board – DC 12V +/- 5%
- Power consumption <20W
- Dimensions – 100mm x 100mm x 20mm (3.94" x 3.94" x 0.8")

Designed and Manufactured in the UK



Video Processing Software

The VPDU 100 is designed to host the Vision4ce VMS or FrameWorkx software which can support the following capabilities

- Video detection and tracking
- Target classification
- Image fusion
- Electronic image stabilisation
- H.264 compression for recording and streaming
 - Standards include Def Stan 00-82, RTSP, MPEG-TS and STANAG 4609
- Synthetic target generator for embedded training

Optional Additional I/O

- Additional Serial, USB, and LAN ports
- GPIO, WiFi, GPS CANbus and other

