

# Hi-Speed V-Module

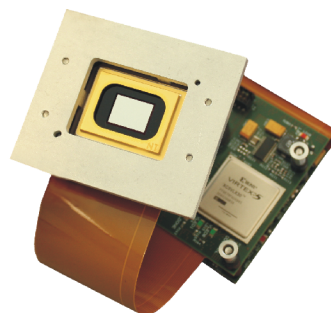


## High-Performance subsystem for Texas Instruments DLP® technology

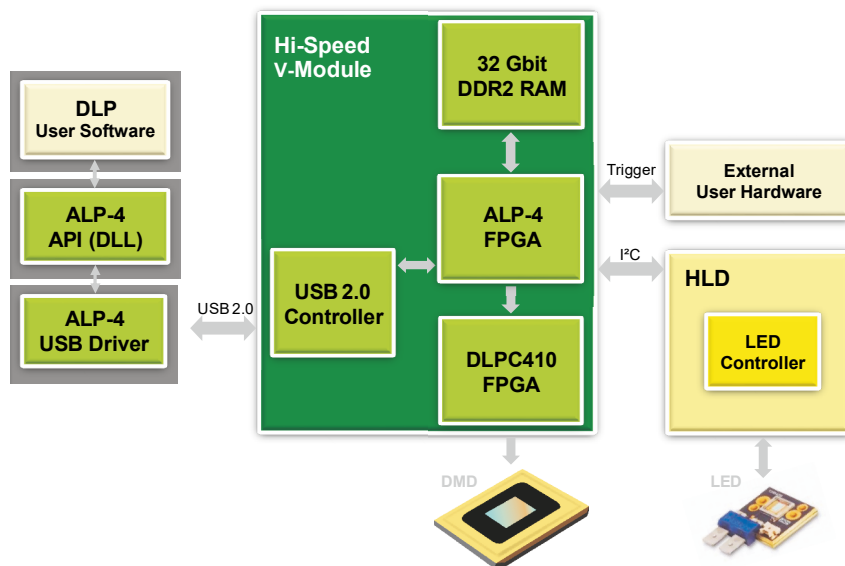
The V-Module product line of ViALUX includes USB 3.0 SuperSpeed models as well as this USB2.0 Hi-Speed model.

All V-Modules are based on the DLP® Discovery™4100 platform and represent the highest performance class of the DLP product family available from catalog. The ViALUX V-Modules offer unique flexibility in mirror control enabling a wide variety of new emerging applications. Outstanding pattern frequencies of 22727 global array updates per second are achieved taking advantage of the 50 Gbit/s bandwidth of the DLP Discovery chipset. The usable spectral range covers all wavelengths from 350 nm UVA to 2500 nm NIR. The Type A DMD package has efficient cooling options enabling up to 60 W sustained optical power transfer per DMD.

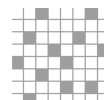
The V-7000 Hi-Speed V-Module is a compact, cost-effective package for using high-performance DLP technology and to shorten time to market for new emerging products. Hi-Speed V-Modules are well suited for education, academic research, proof of concept, and also as OEM components for series production. The Hi-Speed V-Module comes with completely configured high-speed FPGA logic and USB controller firmware so that customers save time and costs required for a dedicated hardware and firmware development.



The ViALUX Controller Suite ALP-4.2 drives the high-performance Discovery 4100 chipset of the Hi-Speed V-Modules. The ViALUX proprietary FPGA design is the core of the well proven ALP-4 firmware and software. The industrial grade USB 2.0 device driver for all current Microsoft® Windows® operating systems guarantees smooth integration with any type of PC. Multiple Hi-Speed V-Modules can be controlled from one computer simultaneously. The USB 2.0 transfer is speeded up by lossless compression achieving effective PC transfer rates of up to 1.2 Gbit/s. The Hi-Speed V-Module software API, a DLL library, fits seamlessly into standard programming platforms like C++, .NET, LabVIEW, MATLAB.\*



\*DLP is a registered trademark of Texas Instruments. Microsoft, Windows, C++, .NET are registered trademarks of Microsoft Cooperation. MATLAB is a registered trademark of MathWorks.



Outstanding features of Hi-Speed V-Modules are: Small form factor, robust, connector-free design and reliable USB 2.0 interface. It supports the 0.7" XGA DMD (DLP7000) and is available for use with visible or ultra-violet light.

## V-7000 Specifications

|                                |                             |
|--------------------------------|-----------------------------|
| DLP chip                       | Discovery 4100              |
| DMD Type                       | 0.7" XGA 2xLVDS (DLP7000)   |
| Window Options                 | VIS, UV                     |
| Micromirror Array              | 1024 x 768                  |
| Micromirror Pitch              | 13.7 µm                     |
| Active Mirror Array Area       | 14.0 x 10.5 mm <sup>2</sup> |
| Controller Board Type          | V4100                       |
| Control Board Dimensions       | 71 x 68 mm <sup>2</sup>     |
| DMD Board Dimensions           | 67 x 50 mm <sup>2</sup>     |
| Flexible Cable Length          | 90 mm                       |
| RAM Capacity on Board          | 32 Gbit                     |
| Binary Patterns on Board       | 43 690                      |
| Hardware Trigger               | master / slave              |
| Controller Suite               | ALP-4.2                     |
| Array Switching Rate 1bit B/W  | 22 727 Hz                   |
| Array Switching Rate 6bit Gray | 1 091 Hz                    |
| Array Switching Rate 8bit Gray | 290 Hz                      |
| PC Interface                   | USB 2.0                     |
| PC Transfer Rate               | 800* fps                    |

\*Typical value, can vary depending upon data compression ratio and PC.

