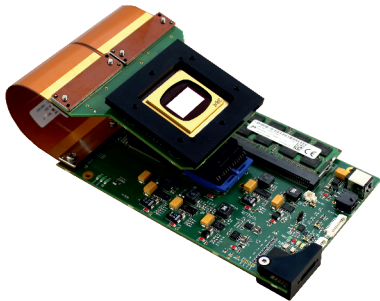


SuperSpeed V-Modules

Options: **UV** **VIS** **NIR**



High-Performance Subsystem for Texas Instruments DLP® Technology



The DLP Digital Light Processing of Texas Instruments represents a proven technology of MEMS spatial light modulators also beyond standard front projection and DLP Cinema®. The general purpose DLP Discovery™ 4100 platform is different from the DLP standard projector hardware; it provides highest performance and flexibility within the DLP chipset family. The SuperSpeed V-Modules of ViALUX combine the USB 3.0 data transfer with the speed and steering capabilities of Discovery 4100 and represent the highest performance class of DLP catalog products available. ViALUX V-Modules offer unique flexibility in mirror control enabling a wide variety of new emerging applications.

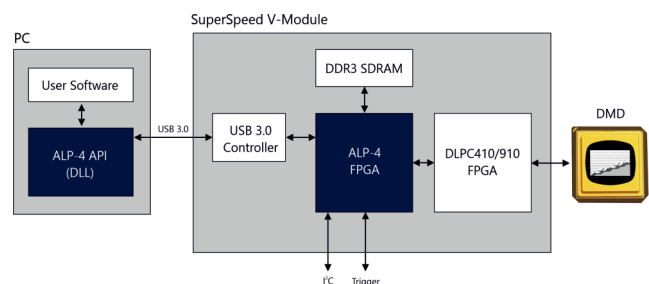
Outstanding pattern frequencies of 22 727 global array updates per second are achieved taking advantage of the 50 Gbit/s bandwidth of the Discovery 4100 chipset.

The usable spectral range covers all wavelengths from 363 nm UV to 2500 nm NIR*. The Type A DMD package has efficient cooling options enabling up to 160 W sustained optical power illumination of the micromirror array.

All V-Modules enable a rapid launch into application development with DLP technology. The ViALUX controller boards come with completely configured high-speed FPGA logic and USB 3.0 controller firmware so that customers save time and costs for a dedicated hardware and firmware development. V-Modules are well suited for education, academic research, proof of concept, and also as OEM components for series production.

The high-performance Discovery 4100 chipset on the V-Modules is driven by the ALP-4.3 Controller Suite. The ViALUX proprietary FPGA design is the core of the well proven firmware and software interface. The USB 3.0 device driver supports all current Microsoft® Windows® operating systems and guarantees smooth integration with any type of PC. By addressing unique V-Module device numbers, multiple V-Modules can be controlled simultaneously from one application program.

The USB 3.0 SuperSpeed transfer is the key for streaming data into the on-board RAM (8 or 16 GByte) further enhanced by lossless on the fly compression. Low latency updates of the micromirror array enable feedback-loop operation via PC with ≤ 1.5 ms refresh cycle period. The V-Module software API, a DLL library, fits seamlessly into standard programming platforms like C++, C#, Visual Basic (.NET), Python, MATLAB, LabVIEW, and other development platforms and is fully compatible to all former ALP-4 versions.**



Six SuperSpeed V-Modules are available and three windows of the micromirror can be selected for use with visible, ultra-violet or near-infrared light.

- V-7001** **VIS/UV** with 0.7" XGA DMD for visible or ultra-violet light (DLP7000VIS/DLP7000UV)
- V-7001+** **VIS/UV** with 0.7" XGA DMD for visible or ultra-violet light (DLP7000VIS/DLP7000UV)
- V-6501** **VIS** with 0.65" 1080p DMD for visible light only (DLP6500VIS)
- V-9501** **VIS/UV** with 0.95" 1080p DMD for visible or ultra-violet light (DLP9500VIS/DLP9500UV)
- V-9001** **VIS/UV** with 0.9" WQXGA DMD for visible or ultra-violet light (DLP9000XVIS, DLP9000XUV)
- V-650L** **NIR** with 0.65" NIR WXGA DMD for near-infrared light (DLP650LNIR)

Depending on the chipset, the SuperSpeed V-Modules differ in the main board and the DMD extension board, which is connected with one or two flex cables as required for data exchange. The V-7001+ module additionally has an image sensor option to couple up to two cameras. Its DMD extension board is permanently connected to the main board based on a rigid flex PCB.

* All models can be used up to 2500 nm with reduced efficacy.

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