Nexeon HD
PCI Express Video Capture Boards

High-definition acquisition board for analog or digital video inputs.

Nexeon HD is a full-featured video streaming and capture board for standard and high-definition video inputs. Nexeon HD supports analog RGB/YCrCb component, S-Video and composite analog inputs as well as digital DVI/HDMI inputs. Nexeon comes equipped with an integrated Video Processor and plenty of memory for fast and reliable video data transfer to system or display memory.

Nexeon HD Features

- PCI Express interface
- Bus-mastering video acquisition
- RGB/YCrCb component, S-Video or Composite video input support
- HDTV support up to 1080p
- DVI and HDMI input support
- Simultaneous real-time transfer of video to system memory, overlay, or display memory
- TI DM642 Digital Media Processor
- 64 MB SDRAM Frame Buffer
- Acquisition rates up to 150 MHz
- Video scaling to arbitrarily sized windows
- RGB, YUV, or monochrome pixel formats
- Progressive scan video support
- General purpose I/O triggers

- Packed or planar transfers
- Area of interest transfers to system and on-board memory
- On-board microcontroller for robust timing and capture control
- Programmable LUT
- 12-volt DC fused output for camera supply
- Real-time image processing
- Windows® 10, 8, 7 and XP drivers
- Includes dPiction Windows®-based video capture application
- Optional DirectShow support
- Optional SDK with sample applications

dPict
IMAGING, INC.

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PCI Express Support

Nexeon HD is designed with the high-speed PCI Express system interface. PCI Express is the high-performance, next-generation interconnect that increases bandwidth, scalability, and reliability.

Bus-Mastering Performance

Nexeon HD's high speed bus-mastering capability delivers real-time video data to system or display memory simultaneously, without intervention from the host CPU. Video data formatting and resolution is independent between streams, allowing for bandwidth flexibility.

Digital Video Processor

By incorporating a TI DM642 video processor, Nexeon HD enables maximum flexibility in handling challenging application requirements. Equipped with a 64 MB SDRAM frame buffer, the video processor provides video scaling, pixel formatting, interrupt support, hardware overlay, and real-time video processing without host CPU assistance.

High-Definition Capture

Nexeon HD supports capture and steaming of high-definition video and display. Nexeon HD supports VGA display resolutions up to 1280x1024 at 75 Hz, as well as HDTV inputs up to 1080p. Video can be accepted in either analog or digital through DVI or HDMI connectors. With acquisition rates up to 150 MHz, Nexeon HD is one of the most versatile frame grabbers on the market.

High-Quality Standard Definition Capture

Nexeon HD also supports standard definition composite, S-Video, or RGB/YCrCb component sources in both NTSC or PAL formats. Nexeon HD provides high-quality 10-bit capture and supports both square-pixel and CCIR-601 video resolutions. Video can be scaled to any arbitrary size.

dVeloper Foundation Software Developers Kit

dVeloper is a comprehensive software developers kit that supports all dPict Imaging products, allowing for easy porting to new hardware. dVeloper is royalty free and runs under Microsoft Windows® 10, 8, 7 and XP operating systems. Source code samples and complete documentation are included in Visual C, C#, and Visual Basic .NET to provide insight to various hardware functions. Samples include video-in-a-window, overlay, video buffering, camera control, and more.

TI Third Party Network

dPict Imaging is a proud member of the TI Third Party Network. By working closely with TI, we can ensure OEM developers the best possible support.

Form Factor
- PCI Express x1 connector
- Scatter gather DMA support

Video Inputs
- Standard or high-definition
- RGB/YCrCb component, S-Video, and composite
- DVI or HDMI input support

HD Video Acquisition
- Up to 150 MHz acquisition rates
- Progressive scan video support
- HDTV standard support up to 1080p
- Supports VGA display capture up to 1280x1024 @ 75 Hz

SD Video Acquisition
- NTSC (J, M, 4.43), PAL (B, D, G, H, I, M, N, Nc, 60), and SECAM (B, D, G, K, K1, L) support
- High-quality 10-bit digitization
- Square-pixel and CCIR-601 resolution support

Video Formatting
- Video scaling to randomly-sized windows
- Bus-mastering video transfers to system memory, overlay, or display memory simultaneously
- 64 MB SDRAM frame buffer
- RGB 32/24/16/15/8, YUV 4:4:4 and YUV 4:2:2 pixel formats
- Area of interest transfers to on-board and system memory
- Extensive interrupt control for robust capture
- On-board image processing

I/O Triggers and Control
- 4 general-purpose I/O triggers
- Programmable between input and output triggers
- Automatic display mode and sync detection
- Fused 12V DC output

Physical and Environmental
- 5.00" (length) x 4.20" (height)
- DB-15 Female I/O connector
- DVI-I Female display connector
- Operating temperature: 0° C to 70° C
- Relative humidity: 5% up to 95% non-condensing

Available Software Developers Kit
- Compatible with dVeloper Foundation SDK
- Supports 32/64-bit Windows® 10, 8, 7 and XP
- Optional DirectShow support
- Extensive documentation and sample code
- dPiction Windows®-based capture application
- Sample applications with source code

Ordering Information
- Nexeon HD PCI Express: 11042-001
- dVeloper SDK for Nexeon HD: 90018

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