*n*Vision

Intelligent Video Network Device

nVision from dPict Imaging is a multi-format intelligent video acquisition device for mobile or remote capture. nVision digitizes and transmits high-quality, full-resolution video over TCP/IP networks in real time. nVision's compact size allows it to be installed anywhere a network connection exists. Designed with a powerful TI DM642 video processor, nVision is perfect for video analysis applications.

nVision Features

- Integrated Texas Instruments DM642 720 MHz DSP
- RGB/YPrPb, S-Video, or Composite video streaming and capture
- Image processing capability
- High-quality 10-bit video digitizing
- Full-resolution viewing and capture in square pixel or ITU.BT.601 formats
- NTSC and PAL video formats
- Fully scalable JPEG compression
- Simultaneous transfer of compressed and uncompressed video
- 64 MB SDRAM Frame Buffer for reliable image transfer
- On-board FLASH memory for calibration settings configuration, or web interface
- Smooth interpolated video scaling to arbitrarily sized windows
- Composite video output
- General purpose I/O triggers
- Dual UART serial communications
- Optional nVision I/O carrier board for easy access to all video, communications, and trigger I/O
- nVision API supports Texas Instruments Code Composer Studio for embedded application development.

nVision Applications

- Video Server
- Mobile Video Capture
- Ethernet Frame Grabber
- Mobile Microscopy Station
- Factory Floor Process Engineering
- License Plate Recognition
- Video Analytics
- Object Tracking

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dPict
IMAGING, INC.

*n*Vision

Networked Convenience

nVision is a fully integrated device for remote video streaming over Ethernet. Its compact size allows it to be installed anywhere a network connection exists, whether a laptop or server.

Integrated TI Video Processor

nVision is equipped with a powerful Texas Instruments DM642 Video Processor, making it perfect for video analytics applications. Image processing functions such as image enhancement, stabilization, advanced motion detection, noise filtering, frame de-interlacing, image rotation, video overlay, or license plate recognition can be accomplished.

High-Quality Video Capture

nVision accepts RGB or YPrPb component, S-Video, or Composite video inputs from NTSC or PAL video sources. nVision's 10-bit video digitization assures the highest-quality image possible. Video streaming is fully configurable. Transfer can be in uncompressed, motion JPEG, or in programmable dual streaming mode. Video can be digitized up to 720x480 and scaled to any arbitrary size.

Video Output

For analog video monitors, nVision can decode networked digital video streams and convert the digital video for output on it's video output port. A programmable overlay can be applied to the output video for on-screen display.

Extensive Control

nVision contains extensive camera and I/O control to make application development simple. By utilizing an integrated microcontroller and 64 MB frame buffer, nVision provides reliable image transfer to prevent dropped images. nVision also supplies a dual UART serial interface to control cameras and six programmable general-purpose I/O triggers for event notification. nVision is also available with up to 32 MB of flash memory for boot load options, presets, or integrated web interface.

nVision API and Developers Kit

The nVision API is a comprehensive board support package that comes complete with drivers and samples and is compatible with TI's Code Composer Studio. For ease in application development, the nVision Developer's Kit also supplies an nVision I/O Carrier board and power supply. The nVision I/O Carrier board provides for standard connections for video, communications, and trigger I/O.

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.
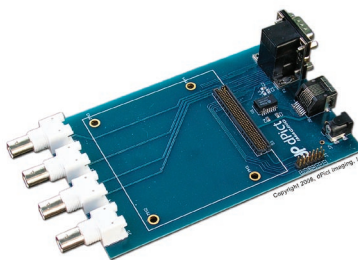
Specifications

Network
- Ethernet 10/100Base-T

Video Input and Digitization
- RGB/YPrPb, S-Video, and Composite video inputs
- High-quality 10-bit digitization
- NTSC (J, M, 4.43), PAL (B, D, G, H, I, M, N, Nc, 60), and SECAM (B, D, G, K, K1, L) support
- Color or monochrome support
- Square pixel and ITU.BT.601 resolution support
- Software programmable control of gain, offset, hue, saturation, and sharpness
- 64 MB Flash memory for storing configuration and calibration settings

Video Acquisition
- Real-time, full-resolution video acquisition channel
- Fully scalable JPEG compression
- Simultaneous viewing and transfer of compressed or uncompressed video
- Fully independent configuration of frame rate, resolution, and compression parameters
- 64 MB SDRAM frame buffer for reliable transfer
- Smooth interpolated video scaling to randomly-sized windows
- Hardware overlay of graphics over video
- RGB 32/24/16/15/8 and YUV 4:2:2 pixel formats

Video Output
- Composite video output with OSD
- NTSC or PAL format

I/O Control Triggers
- General-purpose I/O triggers
- Programmable as input or output
- Dual UART serial interface

Physical and Environmental
- 3.432" (length) x 3.432" (width)
- YFS 200-pin connector
- Optional nVision I/O Carrier board - 4 BNC, 2 x DB-9 male, RJ-45 Ethernet socket, and 2.5 mm power plug
- Operating temperature: 0° C to 70° C
- Relative humidity: 5% up to 95% non-condensing

nVision API and Developer's Kit
- Compatible with Texas Instruments Code Composer Studio for embedded application development
- Complete with documentation, drivers, and samples
- Optional nVision Developer's Kit comes complete with API, nVision I/O Carrier Board, and power supply

Ordering Information
- nVision: 10503-001
- nVision API: 90011
- nVision I/O Carrier Board: 99503
- nVision Power Supply: 99100
- nVision Developers Kit: 90012