

nVision GX²

High-Definition Video Network Device

nVision GX² is the next generation multi-format intelligent video acquisition device from dPict Imaging specially designed for mobile or remote capture. nVision GX² digitizes and transmits high-quality, full-resolution HDTV and standard definition video over TCP/IP networks in real time. nVision GX²'s compact size allows it to be installed anywhere a network connection exists. Designed with a powerful TI DM648 video processor, nVision GX² is perfect for video analysis applications.

nVision GX² Features

- Integrated Texas Instruments DM648 900 MHz DSP for video processing
- SD and HDTV video capture support
- HDTV input support up to 1080p
- HDMI or DVI input support
- Square pixel or ITU.BT.601 standard definition digitizing formats
- High-quality 10-bit video digitizing
- Dual simultaneous composite video inputs
- 20 LVDS video input pairs
- 10/100/1000 Ethernet
- 256 MB DDR2 Frame Buffer for reliable image transfer
- On-board FLASH memory for calibration settings configuration, or web interface
- Dual composite video outputs
- HDTV YPrPb and VGA RGB output
- General purpose I/O triggers
- Dual UART serial communications
- SD memory interface
- Optional nVision GX² I/O carrier board for easy access to all video, communications, and trigger I/O
- nVision GX² 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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nVision GX²

Networked Convenience

nVision GX² 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 GX² is equipped with a powerful Texas Instruments DM648 900MHz 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 HDTV and SD Video Capture

nVision GX² enhanced video front end supports multiple video input standards and types. Its high-definition video interface supports HDTV from HDMI or DVI inputs up to 1080p as well as 20 LVDS video pairs. A dual standard definition video interface allows simultaneous viewing from two independent composite NTSC or PAL video camera inputs.

Video Output

For analog video monitors, nVision GX² can decode networked digital video streams and convert the digital video for output on its two video output ports. A programmable overlay can be applied to the output video for on-screen display.

Extensive Control

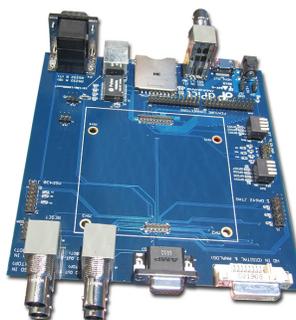
nVision GX² contains extensive camera and I/O control to make application development simple. By utilizing an integrated microcontroller and 256 MB frame buffer, nVision GX² provides reliable image transfer to prevent dropped images. nVision GX² also supplies a dual UART serial interface to control cameras and programmable general-purpose I/O triggers for event notification. nVision GX² is also available with up to 32 MB of flash memory for boot load options, presets, or integrated web interface.

nVision GX² API and Developers Kit

The nVision GX² 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 GX² Developer's Kit also supplies an nVision GX² I/O Carrier board and power supply. The nVision GX² 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 10/100/1000 Base-T

HD Video Acquisition

- HDTV standard support up to 1080p
- DVI and HDMI input support
- RGB or YPrPb analog input support
- Up to 150 MHz acquisition rate
- 20 LVDS input pairs

SD Video Acquisition

- Dual composite video inputs
- 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
- 32 MB Flash memory for storing configuration and calibration settings

Video Acquisition

- Real-time, full-resolution video acquisition channel
- 256 MB DDR2 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

- Two Composite video outputs with OSD
- HDTV YPrPb output
- VGA RGB output

I/O Control

- 7 General-purpose I/O triggers
- Programmable as inputs or outputs
- Dual UART serial interface
- SD memory interface

Physical and Environmental

- 3.432" (length) x 3.432" (width)
- Samtec 0.4mm Pitch SMT Micro Connectors
- Optional nVision GX² I/O Carrier board - 6 BNC, 2 x DB-9 male, DVI, HDMI, RJ-45 Ethernet socket, SD interface, and 2.5 mm power plug
- Operating temperature: 0° C to 70° C
- Relative humidity: 5% up to 95% non-condensing

nVision GX² API and Developer's Kit

- Compatible with Texas Instruments Code Composer Studio for embedded application development
- Complete with documentation, drivers, and samples
- Optional nVision GX² Developer's Kit comes complete with API, nVision I/O Carrier Board, and power supply

Ordering Information

- nVision GX²: 10533-001
- nVision GX² API: 90013
- nVision GX² I/O Carrier Board: 99504
- nVision GX² Power Supply: 99101
- nVision GX² Developers Kit: 90014



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