



nVision GX³

High-Definition Video Recording Modules

nVision GX³ is the next generation multi-format intelligent video acquisition device from dPict Imaging specially designed for embedded video applications. nVision GX³ records dual independent HDTV video inputs and transmits over TCP/IP networks in real time. nVision GX³'s compact size allows it to be installed anywhere a network connection exists. Designed with a powerful TI DM8168 video processor, nVision GX³ is perfect for video streaming or analysis applications.

nVision GX³ Features

- Integrated Texas Instruments® DM8168 900 MHz DSP for video processing
- 1.2 GHz ARM® Cortex™ -A8 with Linux Operating System
- Two independent video input channels
- HDTV input support up to 1080p60
- H.264 video encoding and decoding
- Simultaneous processing of each video stream
- Audio recording and playback support
- 10/100/1000 Ethernet
- 1 GB Flash Memory
- 2 GB DDR3 Frame Buffer for reliable im-

- age transfer
- SD memory card interface
- HDMI display output support up to 1080p60
- General purpose I/O triggers
- Dual UART serial communications
- USB 2.0 interface
- Compact form factor and low power consumption

Video Input Modules

- Sony FCB-EV Series Block Camera
- Supports dual cameras up to 1080p60

nVision GX³ Applications

- Video Encode/Decode/Transcode
- Mobile Video Capture
- Medical Imaging
- Surveillance Systems
- Factory Floor Process Engineering
- Real-Time Video Streaming
- Video Analytics
- Object Tracking

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nVision GX³

Complete Linux Based SoC

nVision GX³ is a fully integrated multimedia device with a complete peripheral set, making it suitable for complex embedded video applications. It comes equipped with a powerful TI DM8168 video processor with ARM[®] Cortex[™]-A8 RISC CPU, allowing for video processing to be separate from network and I/O functions.

H.264 Streaming and Advanced Video Processing

nVision GX³ contains two high-definition video coprocessing channels capable of simultaneously encoding and decoding video in H.264 at 1080p60 resolution. Image processing functions such as image enhancement, stabilization, advanced motion detection, noise filtering, frame de-interlacing, image rotation, video overlay, or scan, format and rate conversion can be accomplished.

Sony FCB-EV Series Block Camera Support

The nVision GX³ Sony Block Video Module supports dual FCB-EV series HDTV block cameras. Communication and power are provided by the nVision GX³, allowing for a clean install with available 30-pin micro-coax cables.

HDMI Video Display Output

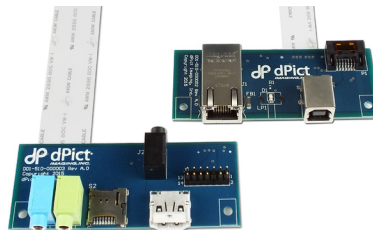
nVision GX³ includes an HDMI 1.3a-compliant transmitter for digital video and audio data to display devices up to 1080p60 at 165MHz pixel rates. Output video can be recorded to playback or live video input.

Extensive Control

nVision GX³ contains extensive camera and I/O control to make application development simple. By utilizing the integrated ARM processor and 2 GB frame buffer, nVision GX³ provides reliable image transfer to prevent dropped images. nVision GX³ also supplies a dual UART serial interface to control cameras, a USB 2.0 interface, an SD memory card interface, and programmable general-purpose I/O triggers for event notification. nVision GX³ is also available with up to 1 GB of flash memory for boot load options, presets, or integrated web interface.

nVision GX³ API and Developers Kit

The nVision GX³ API is a comprehensive board support package that comes complete with drivers and samples. For ease in application development, the nVision GX³ Developer's Kit also supplies nVision GX³ Audio/Video and Data I/O boards with cabling.



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.



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Specifications

Network

- Ethernet 10/100/1000 Base-T

Video Acquisition

- Dual asynchronous video channels
- HDTV standard support up to 1080p60
- Up to 165 MHz acquisition rate
- 16 LVDS input pairs
- Sony FCB-EV Block camera integration

Video Processing

- Dual simultaneous video processing channels
- H.264 encoding and decoding up to 1080p60
- Fully independent configuration of frame rate, resolution, and compression parameters
- Simultaneous viewing and transfer of compressed or uncompressed video
- 2 GB 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

HDMI Output

- HDMI 1.3a-compliant transmitter
- Supports display outputs up to 1080p60

I/O Control

- General-purpose I/O triggers
- USB 2.0 interface
- 1 GB flash memory
- Dual UART serial interface
- SD memory card interface

Audio Recording and Playback

- Real-time recording of analog or digital audio
- HDMI and Line Level In/Out

Physical and Environmental

- 3.432" (length) x 3.432" (width)
- Samtec 180 Position Basic Blade & Beam Socket
- Samtec 60 Position Basic Blade & Beam Socket
- 20-, 30-, and 40-position zero insertion force flat flex cable connectors
- Operating temperature: 0° C to 70° C
- Relative humidity: 5% up to 95% non-condensing

nVision GX³ API and Developer's Kit

- Complete with documentation, drivers, and samples
- Optional nVision GX³ Developer's Kit comes complete with API, Audio/Video and Data I/O Boards

Ordering Information

- nVision GX³: 12023-001
- Sony FCB-EV Block Video Module: 12031-001
- nVision GX³ API: 90021
- nVision GX³ Audio/Video I/O Board: 99505
- nVision GX³ Data I/O Interface Board: 99506
- nVision GX³ Developers Kit: 90020