

■ VANDEK is a Development Platform to embedded systems requiring advanced high-performing video+audio+IP technologies.

■ The kit assists developers in their hardware and software designs by providing them with all the high-quality components they need for quick prototyping of their systems.

■ VANDEK comprises an integrated hardware and software solution featuring the latest in DSP and video coding performance and quality with the add-on of IP transmission capabilities.

Benefits

- ◆ This Development Platform is aimed at cutting down time-to-market by providing all the key items of an end-product already integrated together.
- ◆ VANDEK is a comprehensive and powerful tool that guarantees system managers to make their project a success by reducing risk and minimizing unknowns.
- ◆ There is no need for engineers to start their designs from scratch as this package provides operational sample code from which to start building up complex solutions in no time.
- ◆ By acquiring the VANDEK kit, the project managers eliminate the need of long documentation phases for the software engineers to get familiar with DSP programming techniques as the libraries and frameworks supplied cover the most complicated areas.
- ◆ This solution reduces the final investment for new DSP customers due to the fact that all the material included in the package has been oriented to give a practical guidance to developers through ready-to-use sample programs and one of the most powerful hardware platforms.

Applications

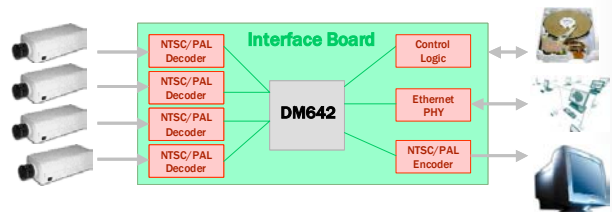
VANDEK targets applications requiring highly-advanced video technologies with or without Audio or IP features:

- Video surveillance
- Broadcasting
- Streaming
- Storage
- Multimedia
- Head-end video
- Consumer electronics
- Videoconferencing
- Etc...

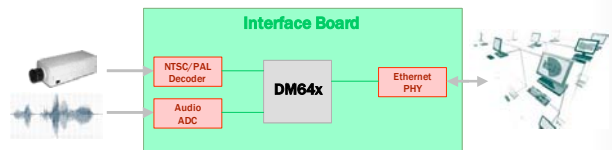
Video compression technologies can be used in a very wide range of final products like:

- Video servers
- Digital video recorders/players
- Digital media encoders/decoders
- Set-top boxes
- IP video phones
- Security cameras
- Transcoders
- Camcorders
- Video jukeboxes
- Wireless cameras
- Still cameras
- Webpads
- Etc...

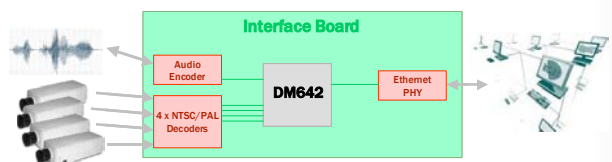
Small DVR - Surveillance System



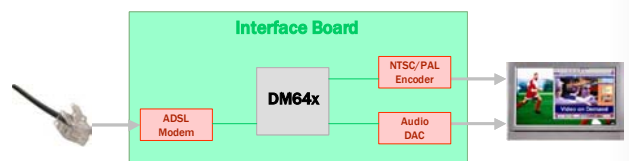
Network IP camera



Network Video Server



IP Set-top Box System



Kit Contents

Hardware

◆ VANDEK is based on the fastest media-ready digital signal processor to date, the powerful DM642 from Texas Instruments:

- ◆ It's the industry's highest performance, fully programmable digital media processor offering multi-channel encoding, decoding and transcoding.
- ◆ It runs cool without fans.
- ◆ With glue-less interfaces to video and audio analog components as well as integrated PCI and Ethernet, the DM642 is the perfect fit for new video applications like video over IP.

◆ VANDEK features the DM642 Evaluation Module from Spectrum Digital, which has set the standard for Texas Instruments DSP development systems:

- ◆ The DM642 Evaluation Module from Spectrum Digital is a standalone circuit board with expansion capability that allows engineers to evaluate hardware and software prior to developing their own product.
- ◆ Next we cite a few of its hardware features:

- ◆ 32Mb SDRAM
- ◆ 4 Mb linear Flash
- ◆ 2 video decoders, 1 video encoder
- ◆ On-Screen Display FPGA implementation
- ◆ Dual RS-232 UARTs and line drivers
- ◆ TLV320AIC23 Stereo Codec with line, microphone, and headphone interfaces
- ◆ 10/100 Ethernet PHY
- ◆ 32Kb I2C EEPROM
- ◆ 8 programmable LEDs
- ◆ 2 S-VHS/composite video inputs
- ◆ S-VHS/composite/VGA video outputs

◆ VANDEK also includes a portable scan path emulator to debug your application. The XDS510 USB JTAG Emulator from Spectrum Digital allows engineers and programmers to take their development to the application environment by using laptop or notebook computers, eliminating the need for an adapter card in a PC chassis.



Software

◆ Applications, frameworks and demos:

- ◆ A complete ready-to-use reference design application framework covering real-time audio and video acquisition, pre-processing, compression, IP transmission, IP reception, de-compression, post-processing, and displaying areas of a sample system (the kit includes a hardware-based server / hardware-based client solution, and a hardware-based server / PC-based client solution).
- ◆ Reference sample frameworks which may serve as a useful guidance for applications requiring options like multi-format multi-source features.
- ◆ Plug-and-play demo programs which will help the engineers to straightforwardly evaluate the compression software included for different configuration settings in order to determine optimum working conditions for the system to be designed.

◆ Software libraries:

- ◆ **VIDEO:**
 - ◆ PRODYS' state-of-the-art MPEG-4 Video Encoder/Decoder libraries (Texas Instruments' eXpressDSP™ compliant)
 - ◆ PRODYS' MPEG-2 Video Decoder libraries (eXpressDSP™ compliant)
- ◆ **AUDIO:** PRODYS' G.722 Audio codec libraries.
- ◆ **IP:** A robust TCP/IP Protocol Stack library from Treck

◆ Optional Software libraries:

- ◆ **VIDEO:**
 - ◆ PRODYS' MPEG-2 Video Encoder libraries (eXpressDSP™ compliant)
- ◆ **PC-TOOLS:**
 - ◆ PRODYS' Video Engine which comprises a powerful set of APIs to effortlessly create custom PC-client applications in no time. The library allows programmers to have total control (playback, recording, rewinding, fast-forwarding, frame-by-frame displaying) of multiple remote video sources via IP.

◆ Texas Instruments' development environment Code Composer Studio (CCS), a comprehensive, integrated environment that brings complete build and debug tooling, world-class compilers and industry unique analysis and visualization capabilities via JTAG Real-Time Data Exchange (RTDX) to quickly find and fix problems. CCStudio is thoroughly tested for ease of use, reliability and robustness. No matter what the experience level of the developer, size of the project or size of the team, CCStudio is the means to simplify work and get real-time products out the door faster.