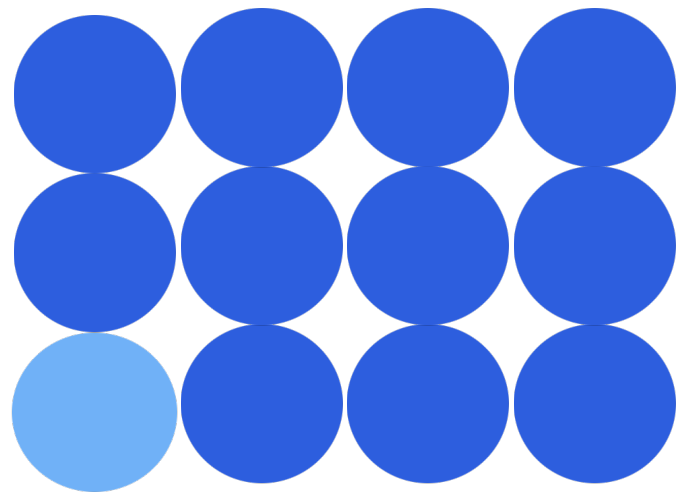


VAADR N-EX



Processing Platform

As a Processing Platform the VAADR N-EX can interface to most FLIR/CCD cameras, and provides both conventional and advanced image processing, and then can output processed analog or digital video. Processing options are shown below. Various combinations can be created for various applications.

- Sharpening
- LAP
- Variable zoom
- White/black hot
- Temporal filter
- Distortion correction
- Spatial filters
- De-interlace filter
- Fusion
- Image stabilization
- Graphics overlay.
- NUC/BPR
- False coloring / thermography
- MJPEG encoding
- MPEG2 encoding
- H.264 encoding (coming)

The DDC VAADR N-EX is a small form factor real time video image enhancement board that improves the quality of existing sensor suites.

General Information

The DDC small form factor advanced video and data recorder and processing platform provides real-time recording and/or image processing of high frame-rate 16-bit hi-resolution imagery, in ruggedized applications. It allows unprecedented advanced image analysis and processing during debriefing, and allows unprecedented image processing capabilities on live video. It provides multiple video inputs, a variety of conventional VCR type controls, and a mix of very advanced image analysis and processing, and supports multiple video formats.

Recording Platform

Providing for portable recording and image processing, Nano provides all of the features of a conventional solid state video and data recorder, but additionally, provides unprecedented new capabilities, including:

- Record to an onboard SD slot, or to a ruggedized high capacity SATA drive.
- No debriefing station required, just a PC or laptop with USB.
- Ability to record RAW data (in addition to compressed). This gives unprecedented new power in analyzing the video. Not only are there no compression artifacts of any kind, but, more importantly, the full dynamic range of the video source is preserved, providing the ability to extract significant detail otherwise lost through the compression process and the pre compression process of clamping the dynamic range. The image enhancement capabilities are optimal. Data can be recorded raw or compressed.
- Metadata support. Record metadata (GPS, timestamps, IRIG, etc.) over serial ports, synchronized and along with video. Includes support for digital IRIG codes. Retrieve and display or process this data during debrief.



Digital Design Corporation

Digital Design Corporation • 3820 Ventura Dr. Arlington Hts. IL
60004 • Phone: 847-359-3828 • Fax: 847-359-5418
Website: www.digidescorp.com • E-Mail: sales@digidescorp.com

Recording Platform continued...

- Process the data during debriefing. Apply sophisticated processing algorithms real-time during playback for new power in extracting detail. Any processing does not affect the pristine raw data. It only modifies the data during playback via various simple-to-use controls for maximizing the detail. Since the recorded data is unaffected, this can be done again and again with different settings or by different people who might be studying different aspects, or at different times.
- Video portability. This comes in a few forms:
 - The video is available via plug-and-play USB2.0. Simply hook a PC or laptop to Nano for instant debriefing
 - Nano has a SATA port, and so can hook to a PC as a SATA drive high bandwidth data retrieval

Storage

Operate with onboard SD memory, or plug in an off-the-shelf SATA disk (platter or solid-state), or use DDC's high bandwidth ruggedized solid-state nStore drive. Nano can operate with or without storage. Storage options are below:

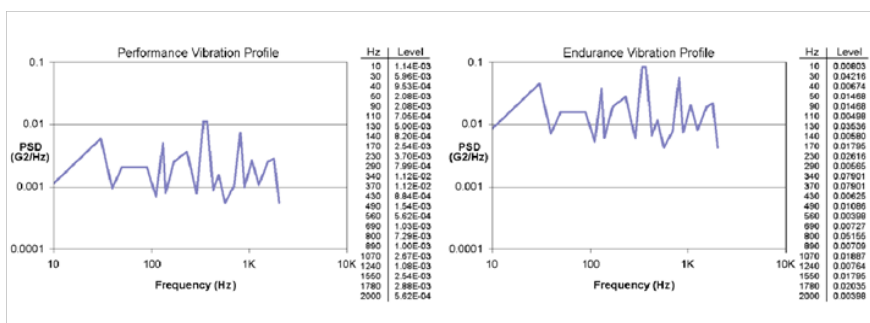
1. No storage: operate as a multi-purpose processing engine
2. On-board micro-SD slot: 8GB or 16GB, approx 20 MB/s
3. COTS PC platter drive, up to 1TB, approx 70 MB/s
4. COTS Laptop drive, up to 160GB, approx 30 MB/s
5. COTS SSHD, 120G, etc., approx 40MB/s
6. DDC nStore SSHD
 - Approx 150 MB/s
 - 32GB, 64GB, or 128GB per small form factor card
 - Stackable (add additional equivalent cards)

Video	8 GB			64 GB		
	RAW	MJPEG	MPEG2	RAW	MJPEG	MPEG2
RS-170	1.5h	2h	4h	2h	16h	32h
640x480 (16 bit, 30 fps)		1h	2h	1h	8h	16h

*Numbers are approximate, especially MJPEG and MPEG2. Results may vary depending on noise content of video, and quality required.

Environmental

- Power/Temp:
 - 4W maximum dissipation
 - 40 to +85C ambient operation
 - Storage -55 to +125C
- Operational Envelope: Operational Envelope: The Nano is capable of being carried within a 7.5g envelope.
- Mechanical Shock: The board operates within specified performance requirements after being subjected to mechanical shocks per MIL-STD-810F, Method 516.5, in opposite directions along each of three orthogonal axes, with waveform and amplitude of the shock impulse characteristics as follows: Operating: ± 20 G, all shocks are half sine pulses, 11 milliseconds (ms) in duration in all 3 axes.
- Vibration: The board withstands vibration levels outlined in MIL-STD-810F, Method 514.5, Procedure 1.

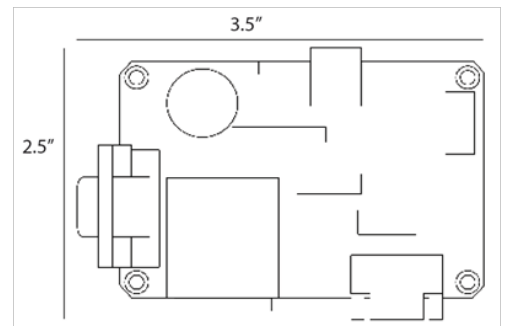


Interfaces

- 6.5V-14.5V power
- Data ports
- USB2.0
- SATA (3Gbps)
- RS-422 (1 on main board, 1+ on mezz)
- GigE (10/100/1000) (via mezz card)
- Video In ports
- Parallel LVDS
- 3 RS-170 / NTSC / PAL ports
- Cameralink
- Video Out ports
- 1 RS-170 / NTSC / PAL
- DVI (via mezz card)
- Expansion Header for mezz cards:
- 92 Signals (single ended or differential)
- Up to 20 high speed LVDS pairs

Mechanical

- Fits into a standard 2.5" PC drive enclosure
- Approx 2.5"x3.5"
- Can be custom mounted into your chassis
- Custom form factors can be created (including smaller)



For more information
contact Digital Design Corporation
sales at:

+ 1-847-359-3828

or go to our website at:

www.digidescorp.com