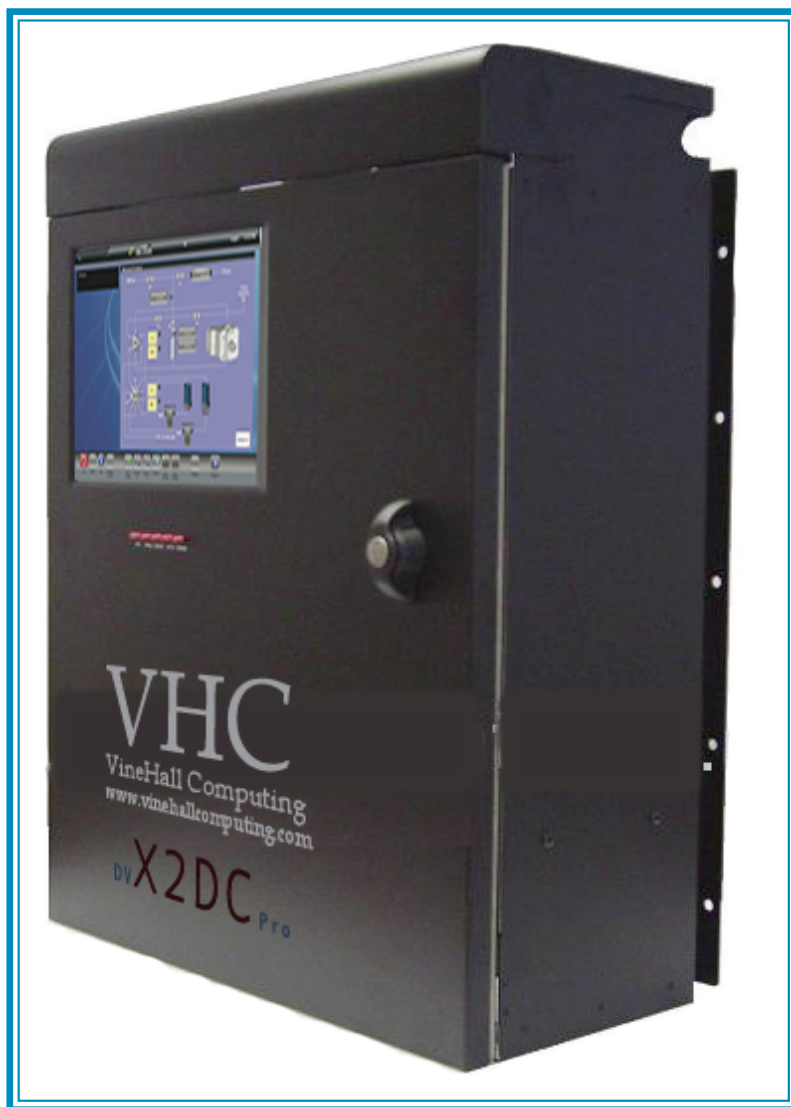




Finally - Data Collection for the Rest of Us . . .

DVX^{PRO} Data Collection/Storage

DVX²DCPro



Onboard Data Acquisition and Process Control:

From acquiring data with National instruments measurement hardware to deploying an embedded design to automating a production test system, The onboard LabVIEW™ hardware and software tools provides a rapid and cost-effective way to design, develop and implement custom data acquisition and process control solutions. LabVIEW applications are ideal for: acquiring Data and Processing Signals, Instrument Control Automating and Validating Test Systems, Industrial Measurements and Control, and Designing Embedded Systems. **Prices from \$16,999.00**

Custom and Complete LabVIEW Development

Services: Not familiar with LabVIEW and want to get a jump start on the develop or need a complete turnkey implementation? In association with our LabVIEW development partner, Seneca5 (www.seneca5.com) and the DVX2DCPro can be developed into a full blown custom data acquisition and control system, specifically designed for your application. Make an appointment to meet with the Seneca5 team to design and outline what you data acquisition and process control needs will be and Seneca5 will develop the solution you are looking for and will work with you through every step of the development process. The world class LabVIEW implementations will be designed to meet FDA (CFR) with state of the art software and hardware. Contact VHC for details and we can help you get started to meet your goals. Each DVX2DCPro comes with a easy to use, flexible and no hassle storage system and backup system built right in, so you do not need to add additional burden to your IT departments to managed your important data.

If you are designing Process Analytical Technology (PAT) system for Pharmaceutical or prototyping Medical Device Implementations, the DVX2DCPro and LabVIEW can meet the most challenging tasks. We believe DVX2DCPro and LabVIEW together is the most cost effective way to develop PAT solutions. A low cost to way to implement PAT, start off small by adding one in-process probe at a time. Then, as you obtain success, the system can be expanded to add more and more, still leveraging your initial investment. Don't worry, the DVX2DCPro can be designed to be integrated into other existing proprietary systems you may already have in service.

Asigra Backup Services: The DVX2Pro comes with the award winning Asigra™ agentless software that handles all of the on-site and off-site back up needs to be in complete compliance with the FDA and insures your data is safe from disaster and theft.

Easy to Use, Low Maintenance BeyondRAID Data Storage Appliance

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DVX2DCPro

DVX2DCPro Components:

The Computer: The DVX2DCPro is powered by an Tyan 2 Ghz quad core that supports up to 4 processors. The heavy duty server is designed into a lockable, rugged Nema 13 control box featuring a full color 10.5 diagonal LCD display (800 X 600). The DVX2DCPro display can be viewed remotely by any remote computer running LabVIEW. The display is supplemented with front panels indicators to view various aspects of the computer operation. The DVX2DCPro is designed with sufficient computing power to enable running LabVIEW applications, access to the DVX2DCPro file system, and the Asigra™ backup software concurrently. The Internal File system of the DVX2DCPro features a Dual RAID Level 1, 1.5 Gb SATA II drives that stores the OS, the LabVIEW application and a directory that temporarily stores any locally acquired high speed data. Data is then is programmatically moved the remotely housed and stored Data Robotics, Inc. BeyondRAID™ wall mounted storage subsystem for up to 64 Tb of data storage and backup either as a flat file or stored in a database. Access to the stored data can be programmed to be accessed by any computer with proper privileges.

The Storage: The DVX2DCPro is configured with a wall mounted rack dual RAID system (DVEXT) that can be located off of the shop floor accessible by Ethernet. The RAID system is based on the DroboPro technology from Data Robotics, Inc. The Unit comes with one, but can be configured with up to three DVEXT appliances remotely managed storage units controlled by the DVX2DCPro. These storage units are accessed over gigabit Ethernet through the flexibility of iSCSI communications protocols. This iSCSI (DHCP-less) network utilizes standard twisted pair Ethernet standards, providing high speed data read and write operations. The iSCSI connection is handled using fault tolerant networking solutions, so data access is reliable and in acceptable operational ranges. Data can be backed up at the block level from the DVX2DCPro to other DVEXT Storage appliances or to other DVPro appliances (DVXPRO, DVX2Pro, DVX4Pro, and the DVX6Pro) utilizing built in technologies, or be configured using Asigra™ software to backup to other remote on-site data servers or to other offsite commercial service providers with 256 bit encryption. The DVX2DCPro is built on the Data Robotics, BeyondRAID technology, the next generation of redundant disk protection. BeyondRAID will not

only keep your data safe, but also will increase uptime and availability. BeyondRAID technology offers several improvements over traditional RAID-based storage systems, including the flexibility to replace failed disks, increase capacity and with a single click switch between **single and dual disk redundancy** all without costly downtime. Key features of BeyondRAID include: **Data protection against two simultaneous hard disk failures** Instant capacity expansion without downtime Self-management Automatic healing Self-Healing - When the DroboPro detects a “bad” hard disk, it proactively advises you with a series of warnings ranging from a **blinking red LED on its front panel, to pop-up alerts in Drobo Dashboard email alerts.** DroboPro will work until it returns to the safest state possible while it repairs around the bad sector or disk, . If DroboPro has sufficient time and free capacity (indicated by all lights returning to a solid green state), it can even withstand additional hard disk failures – that’s the power of self-healing. Utilizing dual disk redundancy, DroboPro’s



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DVX2PRO Data Collection/Storage

DVX2DCPro

BeyondRAID technology can ensure your data is safe even if up to two disks fail simultaneously, all without a moment of downtime. You can even switch between single and dual disk redundancy with a click. You'll feel safer knowing that if disks do fail, DroboPro automatically enters a state of self-healing wherein it relays out your data across the remaining healthy disks and sectors. DroboPro is storage that manages itself. There are no complex configuration screens, DIP switches, confounding choices, web consoles or other complications that prevent so many other storage devices from working out of the box. One long-standing requirement inherent in traditional RAID-based systems was that if for some reason you needed to remove the drives, you'd have to replace the drives in the exact same order. When you remove your disks from DroboPro, you can put them back in any order you like. File System and Operating System Agnostic- DroboPro and its underlying BeyondRAID technology currently support the Windows, Mac and Linux¹ platforms, with file system support for NTFS, HFS Plus, EXT3 and FAT32. Since DroboPro is a block level system, it easily adapts to almost any environment.

LabVIEW from National Instruments: The DVX2DCPro comes configured with the appropriate version of LabVIEW™, drivers, Firmware and Real Time Data Acquisition system (RIO) devices for your particular implementation from National Instruments. Data collection and control would be under the control of the real time sub system, meeting FDA compliance, is controlled by LabVIEW running the onboard computer of the DVX2DCPro system. The computer controls the RIO subsystems over Ethernet and is under LabVIEW programmatic control and can be implemented as a custom Field Programmable Gate Array (FPGA). Professional LabVIEW software developers at Seneca5 can design the right mix of National Instruments solutions to meet your specific needs. Data created by this system belongs to you and additional functionality can be added by Seneca5 or from the many independent consultants that are proficient in LabVIEW, not to exclude internal expertise you might have or could add. The complete system approach is an open standard, with commercially available components, so you are not locked into a proprietary design or system. Once configured, it can be designed to be compatible with existing systems to share data, and control functionality. Allow us to set up an appointment to see how VHC and Seneca5 can meet your expectations, cost effectively and timely fashion. Don't worry about the data, the DVX2DCPro will keep your data safe and requires very little maintenance.



- ± 10 V output range
- 16-bit resolution
- NIST-traceable calibration
- 100 kS/s simultaneous updating
- Current and voltage output

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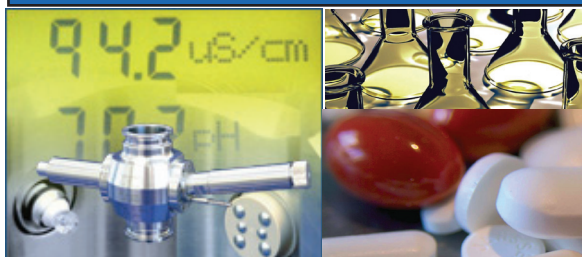
DVXPRO Data Collection/Storage

Customized LabVIEW Programming implementing Seneca5's unique Aloha tools and environment within LabVIEW, for the optimal LabVIEW reliability and functionality. Seneca5 specializes in robust custom applications that are easy to use.

seneca₅

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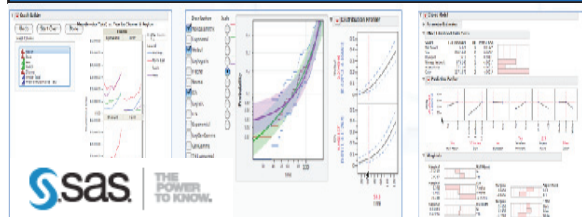
Process Analytical Technology (PAT)



Sensors - Process and Control Data



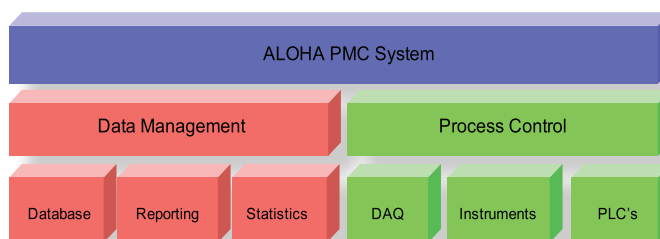
Data Interpretation



Data Archiving and Evaluation

ALOHA[®] PAT

Process Analytical Technology



Data Monitoring and Logging

User-defined measurement parameters

- Measurement frequency
- Calibration parameters – Scaling, Offset, Custom
- Unit conversion

Take measurements from:

- Analog signals
- Digital signals
- A wide variety of instruments and protocols
- Machine vision
- Support for virtually any device via a custom plug-in

Record measurement to a database

Database programming under LabVIEW

Compliance with 21CFR11 requirements

Add data points without paying extra fees

Process Control

- Scripting language for user-programmable process control
- Rule-based programmable logic
- Threshold triggers
- Window triggers
- User-definable abort and error-handling
- Definable Fail-safe machine state

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