

DIGITAL VISION NETWORK SOFTWARE SUITES

See what you need to see.  
From anywhere.



# Software

Through advanced, easy-to-program functionality, Johnson Controls Digital Vision Network (DVN) Software "learns" a typical camera scene. Then it recognizes and records anomalies, detects abnormal motions and behaviors and sends alarms. Cutting edge image analysis can be activated to search for motion in user-defined areas. DVN Software is scalable for small or large installations and provides an easy to use graphical user interface.



## ■ Live Video in Real Time

Johnson Controls DVN Software enables remote viewing of live video from any or all connected cameras in real time, without visual quality degradation. Experience smooth, consistently high quality video in full PAL/NTSC resolution (720 x 576 pixels / 720 x 480 pixels) at up to 25/30 images per second per camera. View live in full screen!

## ■ Remote Management

DVN Software suites allow remote management of complex digital video architectures, either via LAN, WAN or Internet, through intuitive interfaces and powerful tools.

## ■ Scalable

Johnson Controls digital video surveillance technologies are designed to provide security for installations as large as a national highway system or as small as a single entry way. In any configuration, Johnson Controls digital video systems are scalable, tailor made, and expandable with new functionality to suit future requirements.

## ■ Easy to Use

An intuitive Graphical User Interface (GUI) includes a mouse and joystick controls. Johnson Controls DVN Software GUI has been designed with simplicity and effectiveness in mind.

## ■ High Quality Video Over Low Bandwidth

Johnson Controls conditional refresh transmission algorithm makes high quality video over low bandwidth a reality and provides high levels of visual quality in relation to the available bandwidth. Audio transmission is based on the Enhanced GSM algorithm standard for optimum voice quality over low bandwidth.



# Software

### ■ Variable Transmitted Image Resolution and Audio Quality

Transmitted audio and video quality can be adjusted on-the-fly from every DVN 5000 Series and DVN 3000 Series workstation. Switch image resolution (Full/4CIF 720 x 576 pixels), CIF (360 x 288 pixels) or QCIF (180 x 144 pixels) so as to increase refresh rate of incoming images or to maximize visual quality of incoming images. (Resolution will depend on the compression algorithm selected.) Audio quality is automatically adjusted to match the available bandwidth.

### ■ Exceptionally Responsive Pan, Tilt & Zoom (PTZ)

PTZ controls are fully integrated in Johnson Controls DVN Software. Experience virtually no latency, regardless of the available bandwidth.

PTZ-capable cameras can be controlled from the server or any network connected workstation. Easy, intuitive control of movement is available by dragging the mouse cursor on the video, by PTZ graphic control panel or joystick. PTZ, focus and iris controls are available. PTZ camera tours and presets are fully integrated and can be invoked and configured remotely or associated with events. PTZ cameras can be controlled in full or 1, 4, 9 or 16 way split screen.

Currently supported PTZ camera protocols (via RS232/422): Vicon, Sensormatic SpeedDome/DeltaDome, Philips Autodome, Panasonic, Star Micronics, Pelco (D-Protocol), Pelco (P Protocol), Kalatel Cyberdome, JVC TK-C67x Series, Alec Dragon, Samsung, VCL (VCLTP Protocol), Ernitec (ERNA Protocol), Vision 360, Sanyo (SSP Protocol), Axis.

### ■ Simple, Flexible, Scalable

Johnson Controls DVN SiteManager software works with any DVN 3000 Series or DVN 5000 Series server. The clients are completely DVR hardware independent and can connect to all DVN 3000 Series or DVN 5000 Series 4, 8 and 16 multiplexed and real time machines without any additional add-ons or configuration. Software transparency allows a single client machine to control many different DVN 3000 Series/DVN 5000 Series servers networked together in a hybrid Johnson Controls Digital Vision Network.

### ■ IP Camera Support

Seamlessly integrate popular models of IP cameras into the DVN 5000 Series server, which offers high performance capabilities, viewing and controlling of each IP device. (Call Johnson Controls for latest list of supported cameras). IP and analog cameras are both supported as well as Johnson Controls DVN100-NET encoder, providing a truly hybrid solution, which offers a migration path allowing flexibility for both existing and new installations.

Johnson Controls Digital Vision Network Software runs on an ordinary PC workstation. The following are the minimum recommended specifications:

CPU	Intel Pentium D830 3GHz Processor (800MHz FSB)
RAM	1GB DDR2 SDRAM, 533MHz or better
Pointing Device:	Any mouse. Wheel mouse recommended
Video:	PCIe ATI RADEON X600 chipset-based video card, 256 MB Video RAM or better
HDD:	80 GB SATA or better
Network:	Intel-based 10/100 Base-T or better
Peripherals:	3.5" Floppy Disk Drive, internal CDRW or DVDRW
Other Interfaces:	USB 2.0
Operating System:	Windows XP Professional SP2

**Software only client architecture provides cost containment and flexibility. It allows us to take advantage of rapid technology advances in processing power, storage devices, transmission technology, etc.**



# Remote Control

Remote Control software is a client software used to access network connected Johnson Controls digital video recording and management servers. Remote Control offers full remote control of any single network connected DVN 3000 Series and DVN 5000 Series server. With Johnson Controls Remote Control software installed, a PC workstation can become a powerful client in Johnson Controls Digital Video Network. The true client-server architecture of DVN 3000 Series and DVN 5000 Series networks lets you view live/recorded video and audio remotely via TCP/IP.

## ■ Complete Remote Control & Remote Setup

Johnson Controls Remote Control enables complete remote configuration and management of any server. Configuration settings include system settings, user passwords and access rights, camera schedules and video recording quality settings, motion detection settings, split-screen configurations, alarm setup, output setup, analog monitor output sequence setup, holiday zones and more. Each network connected server can also have its software upgraded remotely.

## ■ Fast & Easy Image Find

Johnson Controls DVN Software has a simple point and click interface showing a history of all recorded material organized by cameras and scalable timeline. Images can be found in seconds via this intuitive interface: click on the desired camera and the image quickly appears in a high resolution preview window. The user can change the time scale to go back weeks or drill in to the second. Selecting a specific camera, date and time allows a user to pinpoint an exact image.

## ■ Virtual Zoom

Johnson Controls Remote Control provides a special built-in virtual digital zoom feature, which is available to both FIXED and PTZ cameras. Virtual digital zoom is available for live images as well as during playback. This feature offers superior image enlargement in real time for all cameras at all times!

## ■ Video Text Insertion

Text input from third party devices such as POS terminals, ATMs, fuel pumps etc., can be captured together with recorded video for a complete record. Captured data is related to the recorded images in order to allow later searches through recorded video by transactional detail criteria.

## ■ Powerful Password Controls

Comprehensive password control allows the administrator to individualize operator functions on a function by function, camera by camera and time of day basis, thereby providing for powerful and flexible user access management.

## ■ Touch-friendly Interface

The user interface is clean and uncluttered, ideally suited for touch-screen interaction.

## ■ True Full Screen

Switch between video window and full screen mode with a mouse click.

## ■ Synchronized Audio

Receive live and recorded audio. Transmit live audio (talk back) to the server.

## ■ Active Camera Display

Johnson Controls Remote Control "active" live view automatically selects and displays only those cameras that are currently detecting activity. 1, 4, 9 or 16 camera view is automatically applied so that all active cameras can be displayed. Full screen active live view is available.



## ■ Live Camera Sequences

Live camera sequences can be configured and displayed remotely. Full screen live camera sequence view is available.

## ■ Instant Replay

Any camera can be instantly replayed from the operator's screen while recording continues unaffected.

## ■ Image Authentication

All exported images and video clips carry a digital signature ensuring any tampering is successfully detected.

## ■ Image Touch-up

Each recorded image can be digitally enhanced. Tools like Gamma, Saturation, Sharpen, Blur, Contrast, Brightness, Equalize, Invert, Flip, Reverse and Mosaic are provided for image enhancement. Digital Zoom feature is also available.

### ■ Multiple Image Export Formats

Any live or recorded image or sequence of images can be exported via Johnson Controls DVN Software at any time without impacting on recording. Images can be exported as still images in JPEG, BMP and MPEG4 AVI video clip file formats (with image authentication). Still images can be enhanced (brightness, contrast, saturation, sharpness, digital zoom etc) via built-in image enhancing software before exporting. Still images are exported in the recorded resolution. Video clips can be exported (with authentication) in AVI or MPEG4 format.

Images can be exported via any Johnson Controls client workstation to any local or network-connected storage medium. AVI video clips can be played back through Windows Media player or other standard playback software.

## DVN 5000 Series Special Features

### Smart Video Search

Remote Control offers video search tools, which make it possible to create filters and search recorded video footage for images with user-defined regions of motion. All images from a specified period of time where motion occurred in the specified zones can be retrieved. The end result is the video footage of interest only (with the desired object in it) in a fraction of the time it would take an average person to review and retrieve the same information.

## VisionWeb

VisionWeb is Internet Explorer based client software used to remotely access Johnson Controls DVN, either via Internet or via LAN/WAN. Every Johnson Controls server has a built-in web server, which is able to deliver streaming live and recorded video and audio over the Internet. VisionWeb offers full remote live viewing, playback and bi-directional audio transmission features for cameras connected to any single DVN server in the digital video surveillance network. Full PTZ camera control, including Tours and Presets, is also available.



With VisionWeb, no special hardware or software is required – our client application runs within Internet Explorer browser window and all required components

are downloaded from the DVN server automatically. A PC workstation, capable of Internet connection and with Internet Explorer web browser, can become a powerful client in Johnson Controls Digital Video Network.

### ■ Full Remote Video Viewing, Playback, Bi-directional Audio Transmission and PTZ Control from a Web Browser

Our true client-server architecture and a built-in web server enables us to provide you with a web browser based client software capable of delivering extremely high quality live and recorded video and audio as well as full PTZ camera control, in real time, over the Internet to anywhere in the world. No special software required!

### ■ Password protected

User access to cameras, playback and other functions and set-up are password-dependent, as defined in Johnson Controls DVN server configuration.

## VisionPocket

VisionPocket is a PocketPC/Windows CE version of Johnson Controls DVN Software for use on personal digital assistant (PDA) devices. VisionPocket will remotely access Johnson Controls DVN (via wireless network) in the corporate LAN/WAN environment or via the Internet. VisionPocket is capable of delivering streaming live and recorded video and audio from any Johnson Controls DVN.



Johnson Controls Transcoder technology coupled with extremely efficient compression provides video of high visual quality over low bandwidth. For the first time a wireless network connected PDA is a realistic video surveillance solution for the security industry.



VisionPocket features include live view and playback of video and audio, still image export, PTZ control and search, all in the palm of your hand!

# SiteManager

SiteManager offers a rich and intuitive interface to provide full control over all system features and configurations for multiple networks connected simultaneously, regardless of model.

SiteManager offers full remote control and viewing of multiple sites simultaneously. With SiteManager software installed, a PC workstation can become a powerful client, able to access any number of cameras and/or servers in a multi-server DVN 3000/DVN 5000 Series hybrid Johnson Controls Digital Video Network.

## ■ Simultaneous Viewing of Multiple Sites

Our true client-server architecture ensures that ALL features and functionality are available both locally and remotely, via TCP/IP, through SiteManager. SiteManager extends functionality available in Remote Control to multi-server environments by enabling a user to be logged into many Johnson Controls DVN servers simultaneously.

## ■ 3D Virtual Reality Site Representation

SiteManager is capable of importing 3D studio files containing camera site overview/plans in 3 dimensional spaces. Virtual sites can be created together with multiple layers of information that can be accessed via zooming in and out. 3D Maps can be populated with cameras, alarms and auxiliary outputs for easy, real-world like navigation through large sites in 3D!

## ■ Logical Views, Layouts and Groups

Logical groups accessible resources (cameras, alarms, outputs and audio channels) can be grouped by logical significance i.e. perimeter cameras, entry cameras, etc. without reference to what Johnson Controls DVN server they belong to. Logical views can have multiple camera layouts associated with them for easy display arrangements of cameras within the Logical View – drag and drop a camera within a view for more detail or control a PTZ camera.

## ■ Screen Recorder

SiteManager is equipped with a special "Screen Recorder" feature that records SVGA output at alarm time. This record of operator activity compliments extensive alarm and system logging facilities available in SiteManager with a video clip of what really happened at the client workstation at the alarm time! All SiteManager user activity as well as video streams (as viewed on user's screen) can be recorded. ScreenRecorder is simple to engage, easily configured and allows you to select a destination path for the video clip, video codec as well as the frame rate (1-6 fps) and the bit rate (quality) to be used.

## ■ Complete Remote Control & Remote Setup

Remote configuration and management of any server. Each network connected server software can be upgraded remotely.

## ■ Multiple Image Export Formats

Any live or recorded image or sequence of images can be exported via SiteManager at any time, even while recording. Images can be exported as still images in JPEG, BMP and Wavelet file formats (with image authentication). Still images can be enhanced (brightness, contrast, saturation, sharpness, digital zoom, etc.) via built-in image enhancing software before exporting.

Still images are exported in the recorded resolution. Video sequences can be exported (with authentication) in Native Wavelet movie format, Wavelet AVI video clip format, MPEG4 AVI format. AVI video clips can be played back through Windows Media player or other standard playback software.



## ■ 2D Site Plans

BMP and WMF site plan images can be imported and populated with servers, cameras, alarms and auxiliary outputs for easy navigation.

## ■ Fast & Easy Image Find

SiteManager has a simple point and click interface showing a history of all recorded material organized by cameras and scalable timeline. Images can be found in seconds via this intuitive interface: click on the desired camera and the image quickly appears in a high resolution preview window. The user can change the time scale to go back weeks or drill in to the second. Selecting a specific camera, date and time allows a user to pinpoint the exact image.



## ■ Multiple Screen Display

Due to architecture designed to allow a very large display area, SiteManager can be displayed across multiple screens. For example a client PC with SiteManager can manage up to 4 VGA screens and an infinite number of analog screens with the addition of DVN100-NET used as a decoder. Using SiteManager you can then assign cameras, maps and views to any VGA screen, and cameras to any analog monitor. With the use of an external keyboard, the client station acts as a virtual matrix.

## ActiveX<sup>®</sup> SDK

The ActiveX SDK toolkit allows the DVN to be integrated into many different types of third-party systems.

### ■ Directed Network Alarm Display

Johnson Controls DVN alarms and video can be sent immediately to network clients running our SiteManager software. Video and audio can be directed on an alarm by alarm, client by client basis.

### ■ Powerful Alarm Management

Sophisticated alarm monitoring and management functions are provided within SiteManager to enable users to respond effectively at crisis times. Alarm events from multiple sites are received by SiteManager via network in real time. Multiple response actions (camera display, view display, camera sequence etc.) can be triggered in response to one or more alarms occurring at one or more Johnson Controls DVN servers in real time. Activity can be logged (via text file or a screen activity video clip) for a permanent record of what happened.

### ■ Alarm Acknowledgement User Instructions

An unlimited number of alarm events and associated responses (alarm actions) can be configured. Alarm actions execute at alarm event activation time and perform whatever needs to be done – Johnson Controls SiteManager can be configured to instruct the operator with the required action and request his/her acknowledgement and response. All activity around the alarm activation is logged in detail in Johnson Controls SiteManager log files.

### ■ Synchronized Audio

A built-in mixer allows many audio sources from many DVN 3000 Series and DVN 5000 Series servers to be heard simultaneously.

### ■ Live Camera Sequences

Live camera sequences can be configured and displayed remotely.

### ■ Synchronous Multi-camera Playback

Recreate the entire scene or track a person with ease from some or all connected cameras simultaneously.

### ■ Multi-camera Export

Export everything at once – select recorded video footage from multiple cameras in parallel via our multi-camera playback feature. Automatically export recorded footage from all selected cameras.

### ■ Instant Replay

Any camera can be instantly replayed from the operator's screen while recording continues unaffected.

### ■ Real-time View and Control of Cameras

ActiveX controls make it possible to view simultaneously real-time video streams originating from cameras connected to many DVN servers in real time. ActiveX dynamically manages connections and disconnection so that views of cameras can be changed on the fly with no delay. ActiveX controls present a simple interface which allows random access (by time, date and camera) to all recorded video. If PTZ cameras are connected, each accessed camera can be fully controlled for rapid creation of customized programs. This allows for powerful and flexible automation of entire surveillance systems requiring minimal human intervention. ActiveX controls make use of the user rights assignments available on the connected servers so that user access levels can be maintained at all times.

### ■ Remote Management and Configuration of Alarms

When an alarm is triggered on a ActiveX enabled server, event notification is sent to the ActiveX application so that appropriate responses can be invoked in response to these, in real time. Built-in alarm management and notification functionality allows for powerful integration between Johnson Controls DVN servers and third-party systems via our ActiveX.

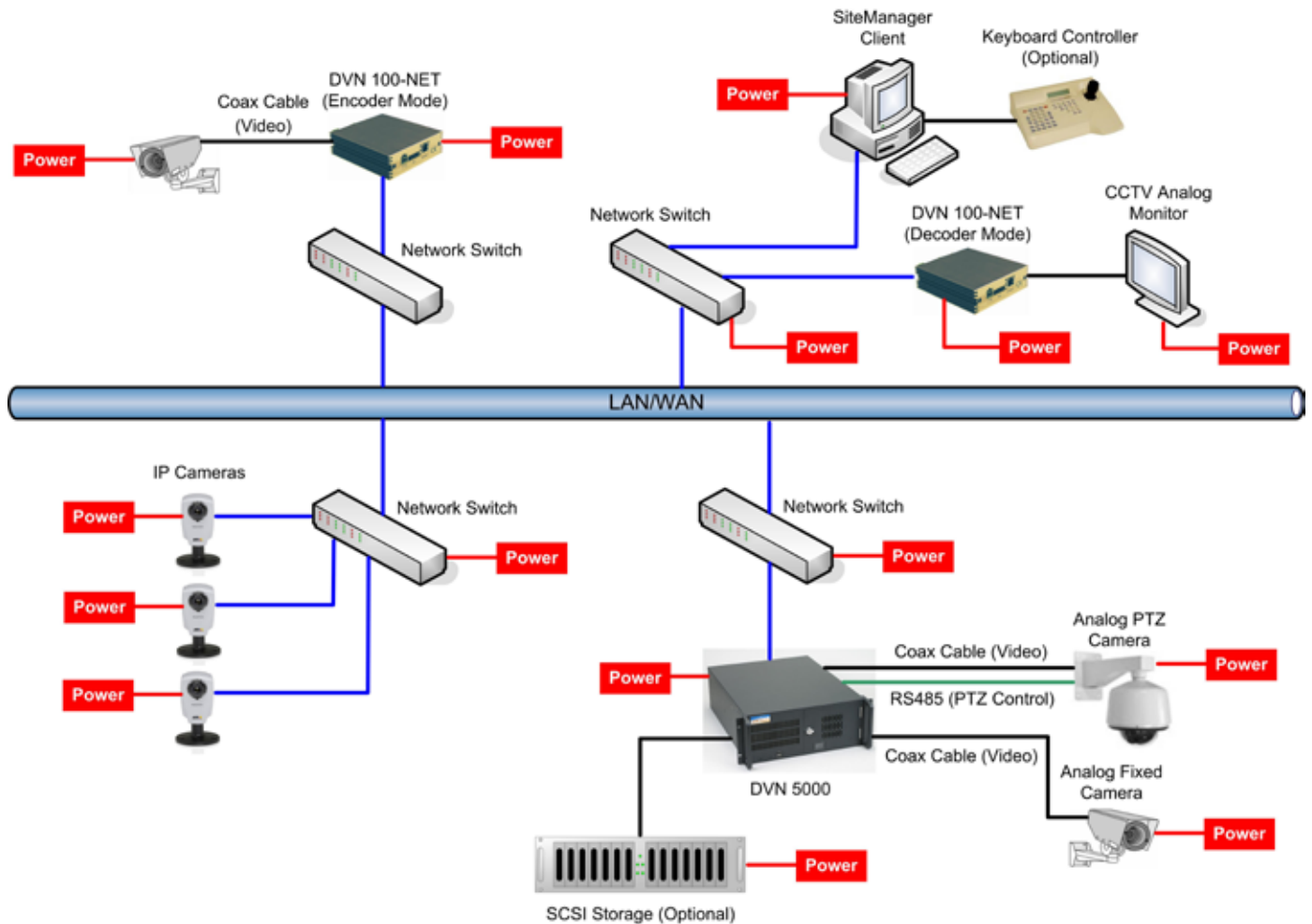
### ■ Recording and Transmission of Audio Channels

Johnson Controls DVNs are equipped with powerful audio recording and transmission features with a built-in audio/video mixer (up to 4 channels). ActiveX controls allow simple creation of audio/video enabled Windows applications that require a video card and a sound card to receive live and recorded video in real time. ActiveX audio is bi-directional sending "talkback" audio back to the server, all you need is a microphone.

## DVN100-NET Decoder

The DVN100-NET is capable of receiving and decoding live or recorded video and audio over TCP/IP providing composite analog output of DVN 5000 Series managed digital video and audio.

# Digital vision network architecture



ActiveX is either a registered trademark or trademark of Microsoft Corporation in the United States and/or other countries.