

Product Data Sheet  
 D454DS-11a  
 12/30/03

## Security Vision

### Features

- Video Security solution for **ControlWave**
- Camera images stored securely in **ControlWave** flash memory
- Pre and post-event image storage to capture full event
- Supports one or multiple cameras for wide vulnerable area coverage
- Pre-configured User Defined Function Block eliminates custom programming
- Video security and process control logic in the same RTU/PLC
- OpenBSI Utility automatically recovers and displays video images
- Compatible with TCP/IP and existing serial BSAP networks

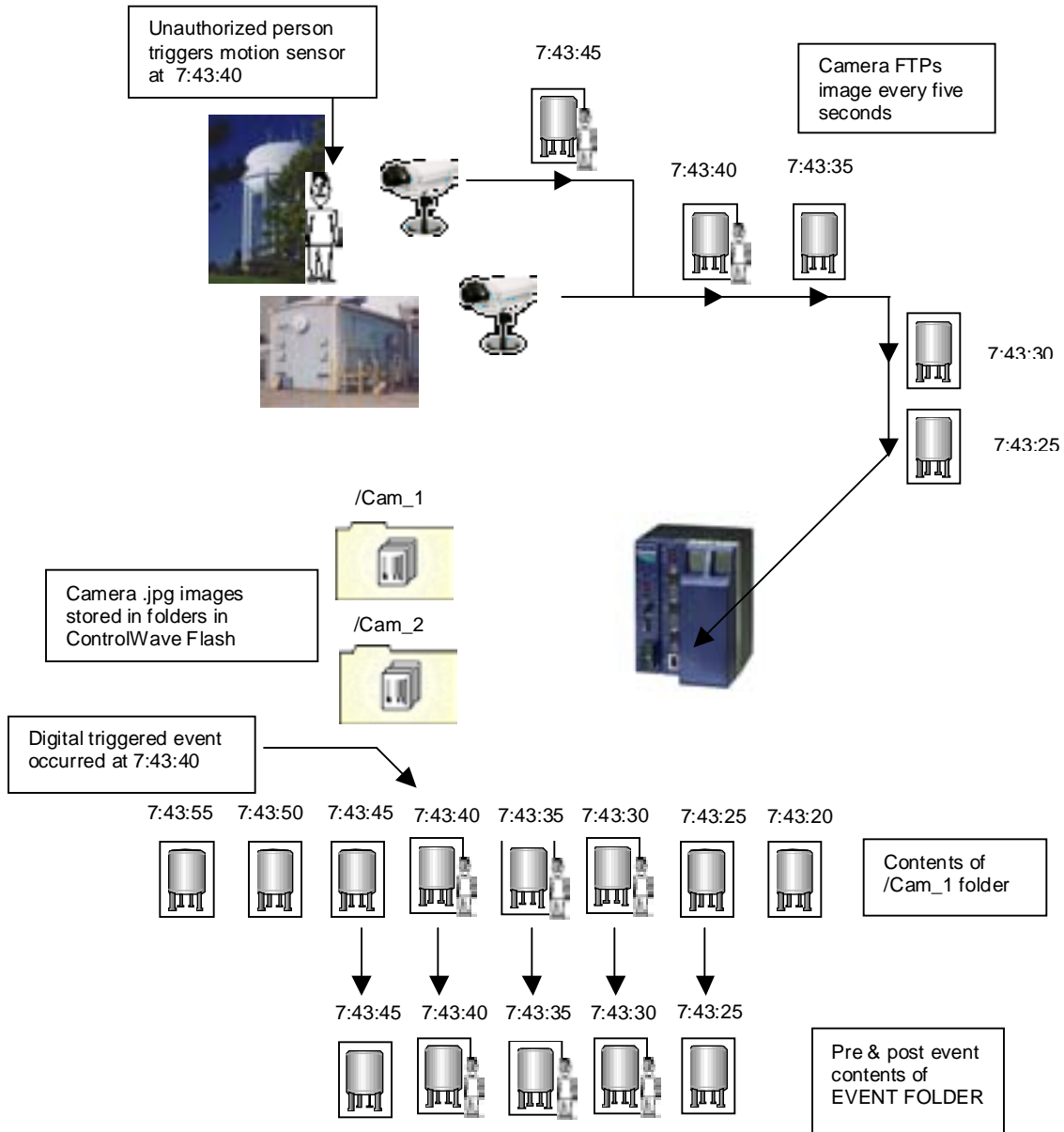
### General

Security Vision is a complete video capture, logging, and replay application for **ControlWave** and **ControlWave** Micro RTU/PLC products for use in both plant area and remote area SCADA systems. Video surveillance is playing an increasingly important role in security at many facilities to reduce or eliminate the need for manned patrols and provide secure historical logging of events for post event investigation. Video can also save on the cost of investigating benign events caused by sources of activity such as maintenance workers, false alarms and other alarms that do not represent a security breach. A major advantage of integrating security into the SCADA system is that security measures are coordinated with operations. SCADA systems also readily interface with a wide variety of process analyzers, motion, intrusion and tamper sensors. This allows centralized monitoring and control of all aspects of the system.



### Overview

The video camera periodically sends an image snapshot, via FTP, to **ControlWave**. The snapshot is stored in a circular flash memory file. The periodic frequency, and picture resolution are configured in the camera setup. Picture images are stored at a user-defined frequency, typically five seconds. When an event occurs, a pre-defined number of these images are written to an 'Event File'. Then a pre-determined number of post-event images are added to the 'Event File', as they are received, via FTP, from the camera. Once all of the pre and post event images are stored in the Event file, an alarm message is automatically generated to OpenBSI on the Host PC. The event will be logged by the OpenBSI Security Vision application and the Event file will be automatically transferred to the PC and stored, with time stamp, in the security directory. The operator can then select the event and view the stored images.



### Video cameras

There are numerous compatible cameras available. Selection of a video camera really depends on the specific application. The main factor to consider is whether it will be mounted indoors or outdoors. The camera must support FTP via IP and Ethernet is the preferred communication media between the camera and the **ControlWave**. In addition to FTP of the periodic snapshot, most cameras also provide live video display via web browser with a provided Active X control.

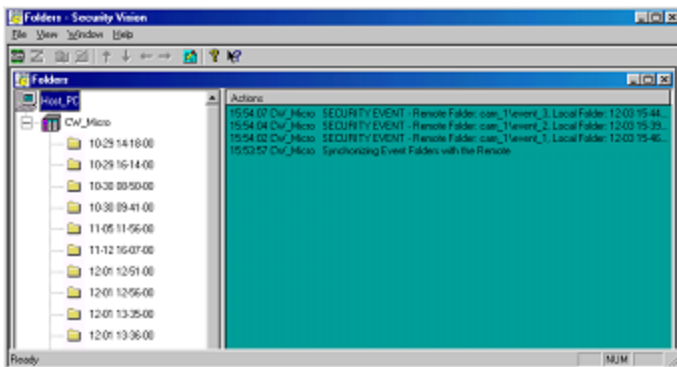
Security Vision was tested with the Axis 2100 (indoor) and 2120 (outdoor) cameras. Specifications are available at [www.axis.com](http://www.axis.com).



### Security Vision Function Block

The Security Vision function block is a **ControlWave** Designer add-in library allowing the application to be easily added to any **ControlWave** program. This function block handles all folder and file manipulation. It also generates the event alarm.

One Security Vision function block is defined for each camera connected to **ControlWave**.



### OpenBSI Security Vision Utility

Upon receiving the time stamped event alarm notification, the entry will be added to the event list in the Security Vision window.

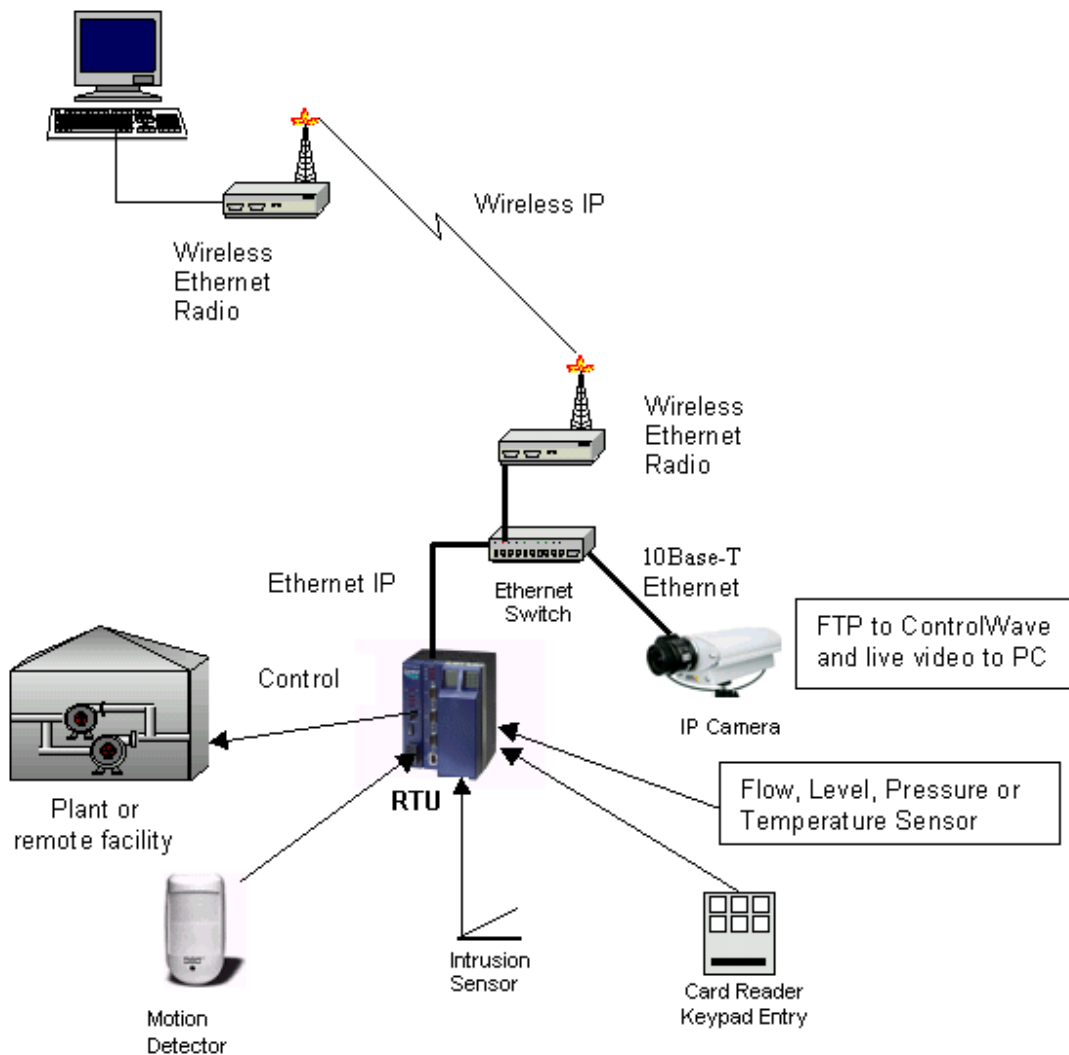


Selecting the event will initiate scrolling of the event file images.

### Communication

The SCADA communication infrastructure is an important consideration when designing a new system. While copper wire based 10/100 M bit Ethernet is ideal for the Security Vision, wireless Ethernet networks can also be deployed with excellent results. Both FreeWave and MDS 900 MHz, unlicensed, spread spectrum Ethernet radios have been tested and approved with the Security Vision application. Data rates of 128 K to 256 K are generally acceptable even for nearly live video directly from the camera.

Often, the radio communication infrastructure already exists and adding a separate Ethernet radio system is cost prohibitive. In this case, the stored images can be transmitted via serial BSAP. A typical image can be transmitted in about thirty seconds at 9600 baud. Therefore, Security Vision can be used with existing radio and private line communication networks. This is a new feature added to BSAP in **ControlWave** and **ControlWave Micro**. All other BSAP protocol functionality and compatibility is maintained.



### Summary

Security Vision provides a reliable method for capturing, logging and presenting video from surveillance cameras at critical facility locations such as pump stations, tanks, gas metering stations, remote gates, and chemical storage buildings. Security Vision can be combined with perimeter monitoring, motion and intrusion detection as an integrated function of the SCADA system. SCADA operators also have other vital security information to detect abnormal flow or pressure, excessive demand vs. comparable day history, chemical imbalance, turbidity, etc. This data provides the operators with all of the critical information about plant and remote site operation and security.

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