1. Introduction

VideoWatch is an advanced yet easy-to-use digital CCTV system that lets you monitor, record, play back and debrief events, lapse and real-time video information. ***VideoWatch*** can function entirely automatically, even recovering from problems like electricity outages.

VideoWatch automatically records event files as responses to triggered alarms, and stores the relevant and necessary video information. Due its efficient Digital Recording methods, ***VideoWatch*** provides excellent video quality with optimal use of disk space. Under typical conditions, information spanning months is retained.

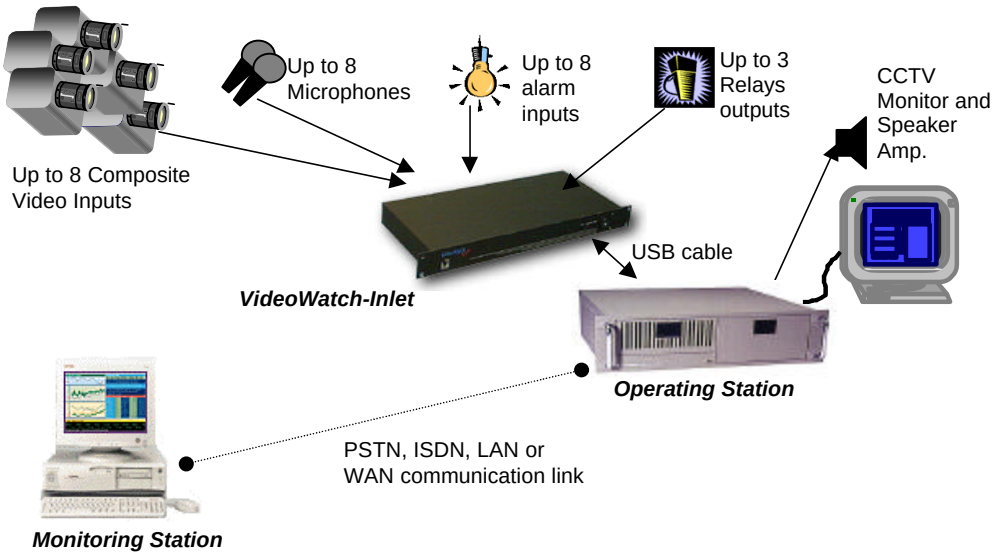
The debriefing capabilities of ***VideoWatch*** let you analyze events and compare them. Handling of video information can be from both recorded and live cameras at local or remote locations. The viewing capabilities of ***VideoWatch*** let you view and hear live Video and Audio from remote or local locations.

The product consists of a ***VideoWatch-Inlet*** device that manages all video and audio switching, acquisition and compression as well as alarm trigger inputs and dry contact outputs.

The application software provides both Operating stations and Monitoring stations as well as optional Live viewer.

2. Features Highlight

- Complete unattended and automatic operation
- Cyclic recording on a camera-wise basis
- Unlimited pre- and post-event recording on a camera-wise basis
- Maintenance-free lapse recording on a camera-wise basis
- Completely independent frame-rate and disk size on a camera-wise basis
- Intelligent recording setup with automatic hard disk quota and switching resources management
- Intelligent switching between cameras for smooth recording from multiple cameras
- Multiplexing eight video cameras into three independent video receivers
- Connecting between operating stations and Monitoring stations via any two-way communication system (PSTN, ISDN, LAN and WAN)
- Debriefing of recorded events from local or remote locations (while recording is in process)
- Live viewing of cameras (with audio) from Monitoring stations at local or remote locations (while recording is in process)
- No special hardware required for the monitoring station



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3. Operating Station and VideoWatch-Inlet Specifications

The ***VideoWatch-Inlet*** is a 19 inch rack mounted device connected to the host computer via a USB cable and offers fast capturing, compressing and switching of up to 8 cameras, while retaining high switching rate between **non-genlock** cameras. USB provides an expandable, hot-pluggable Plug and Play serial interface that ensures a standard, low-cost socket for adding external peripheral devices.

This innovative and cost-effective device, is off loading the main computer from heavy video recording tasks, while completely taking care of capturing, compressing and switching between video sources, as well as providing alarm signals, and output relays control.

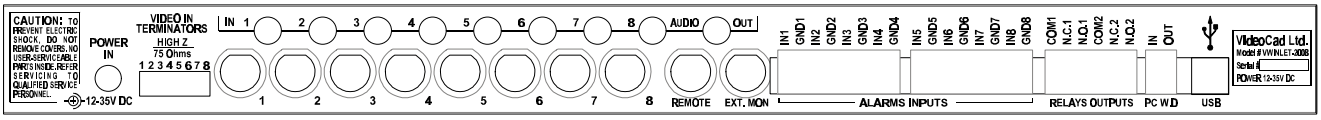

Figure-1, VideoWatch Inlet Rear Panel

Video recording

Compression Method	Motion JPEG
Image size	NTSC: 320x240 PAL: 384x288
Frame Rate	NTSC: 1 FPM to 12 FPS PAL: 1 FPM to 12 FPS *Note: Figures for multiple Nongenlock cameras including video switching time.*
Compression Ratio	From 5:1 and up to 50:1
Digital Video Format	JPEG Y:U:V 4:2:2
Display Colors	Up to 16,777,216 colors
Recording Method	"Unlimited time" using *endless buffers*.
Recording Time	48 Hours using 2GB disk 96 Hours using 4GB disk *Note: Figures for one camera at one FPS recording rate*

Video inputs

Inputs	Composite Video
Number of inputs	Up to 8
Connector	B.N.C
Impedance	75Ω / High Z
Video Format	NTSC / PAL / RS-170 / CCIR *Note: Color and B/W CCTV cameras*

Video outputs

Output	2 x B.N.C
Video Format	NTSC / PAL / RS-170 / CCIR

Audio inputs

Number of Inputs	8
Input Impedance	10KΩ
Connector	R.C.A

Modes of operation

Elapsed	Long, *endless* history recording
Take Over	High speed recording after trigger activation
Elapsed + Take Over	Combination of *Elapsed* and *Take Over* modes
Event (with Pre+Post)	High speed recording ***prior*** *and* ***after*** trigger activation
Elapsed + Event	Combination of *Elapsed* and *Event* modes

Note: Triggers are processed concurrently and can be accepted for all cameras at the same time.

Triggers and I/O

Input sensors	8 x Contact closure sensors can be connected to activate triggers
Relays	3 x output relays
Watch Dog	Output relay serves as a PC watch-dog for automatic crash recovery circuit. Performs system reset if hanged.
Software Trigger	Software controlled trigger protocol through RS232 or TCP/IP

Power

AC Consumption	12-35 VDC 500 mWatts

4. Monitoring Station Specifications

The Monitoring station is used for the debriefing of recorded video information, and for viewing live video and audio sources at the Operating stations.

The use of the ***VideoWatch Inlet*** device allows fully independent Remote Surveillance and Remote Debriefing over PSTN, ISDN, Dial-up or TCP/IP. All works concurrently on the same system, without interfering each other. For example, you can dial-up from your remote site and view the local cameras, regardless of which camera is now being recorded. In addition you can connect with the ***VideoWatch Common Debriefer*** and debrief all video events and lapse movies currently stored on the system.

The Monitoring station works with our field-proven, feature rich ***VideoShield*** product to view cameras video and audio, retrieve alarm snapshots, records movies, maintain debriefing information of unlimited multiple sites and much more.

Modes of operation

Event and Lapse Debrief	Analyze and compare events and lapse video information, by date, time, site, and location. Instant playback with variable speed, and intelligent time and trigger seek services.
Live Viewer	Connecting to the site for distant monitoring of any camera view with full-duplex audio capability. Records live movies and retrieves high quality snapshots.

Debriefer

Sites Manager	Central management of all controlled Operating stations with separated databases.
Common Debriefer	An Operating station Debriefer capable of displaying all events related to cameras, by date, time and location. Events can be retrieved for instant playback.
Video Player	Instantly plays video event with variable speed, image extraction, triggers display, time display, and intelligent seek operations.
Player display	Windows desktop area and/or optional Analog Video output for external monitor or video printer.

Live video

Compression	ITU H.263
Image size	QCIF- 176x144 CIF- 352x288
Frame rate	Up to 15 fps (depends on communication link and quality setup)

Live audio

Compression	ITU G.723.1
Bit rate	6.3k bit per second each speech channel
Communication	Full duplex

Snapshots

Compression	JPEG
Image size	QCIF, CIF or FULL resolution
Compression Ratio	From 5:1 and up to 50:1

Communication

Telephony Device	Windows compatible modem Up to 56KBPS or Windows compatible ISDN adapter with X.75 protocol
TCP/IP	Dial-up networking over Modem or ISDN adapters, Ethernet (10/100BT) network, or **any** communication device supporting TCP/IP protocol.

Monitoring PC

Minimum system requirements are as follows:

CPU	Pentium 200Mhz or higher.
RAM	32 Mega bytes (64 MB recommended)
Graphic Adapter	High color VGA accelerator
Display resolution	800x600, 64,000 colors minimum.
Operating system	Windows 95 with IE4.01 or Windows 98
Networking	As required (Modem, ISDN or Network adapter)