



Bosch Video Management System Software



- ▶ **Enterprise-class Client/Server based video management system**
- ▶ **System-wide user management, alarm handling, health monitoring, and configuration**
- ▶ **Full virtual matrix capabilities, including analog monitor support and CCTV keyboard control**
- ▶ **Superior alarm handling with alarm priorities and selectable user group distribution**
- ▶ **Advanced user interface concepts for effective and efficient operation**
- ▶ **Compatible with standard computer servers, workstations, and storage equipment**

The Bosch Video Management System is a unique enterprise IP video security solution that provides seamless management of digital video, audio and data across any IP network. It is designed to work with Bosch CCTV products as part of a total video security management system. Now you can integrate your existing components into one easy-to-manage system, or use Bosch's full-line capabilities and benefit from a complete security solution based on cutting-edge technology and years of experience.

System Overview

The Bosch Video Management System is comprised of four software components:

- Central Server software provides management, monitoring, and control of the entire system
- Network Video Recorder (NVR) software provides recording and playback management of video, audio, and data
- Configuration Client software provides the user interface for system configuration and management
- Operator Client software provides the user interface for system monitoring and operation

These software components can be run together on a single PC for small systems or on separate PCs and servers for large systems. Multiple NVRs and client workstations can be used as needed to suit any size application. NVRs can be designated to operate in failover mode, with a single failover NVR able to serve a large number of primary NVRs

for cost effective redundancy. You can choose to purchase the servers and workstations directly from Bosch, or to use the components of your choice.

Functions

Deployment

- Updates of Operator Client and Configuration Client automatically deployed from Central Server
- Supports all Bosch MPEG-4 encoders, decoders, IP Cameras, IP AutoDomes, Allegiant, DiBos, Bosch POS/ATM Bridge, and DiBos-compatible ATM Bridge

Configuration

- Automatic discovery of IP devices
- Automatic IP address assignment of IP devices
- Batch firmware updates of IP devices
- Failover NVR configurable to backup Primary NVRs
- Configurable Logical Tree
- Predefined camera sequences
- "Automatic Sequences" created by multiple selection and drag and drop to Image panes
- Configuration delta viewer – display what was changed, who changed it, and when the change was made
- Four configurable user-event buttons

User Interface

- Zoomable sitemaps with Links, Devices, Sequences, and Command Scripts
- Up to 4 monitors supported per workstation

- CCTV keyboard support, connected to either workstation or IP decoder
- Flexible Image panes allow any combination of video window sizes and layouts
- Any live Image pane can be switched to instant playback
- Multiple simultaneous instant playback Image panes
- Image windows can display live video, instant playback video, text documents, maps, or web pages
- Device states shown by icons, including network-connection loss, video loss
- Per-user Favorites tree can be individually configured.
- Favorites tree can include complete views with Image pane layouts and camera assignments
- Camera selection by double-click or drag and drop from site maps, logical tree, or favorites tree
- Control of analog monitors connected to decoders via drag and drop
- Synchronized playback of up to 25 cameras
- Sophisticated multi-camera timeline allows easy, graphical searching of stored video
- Timeline colors indicate recording status – normal recording, alarm recording, motion recording, protected recording, and audio recording
- Easy clip selection by dragging hairlines in the timeline
- Selected clips can be exported to DVD, network, drives, or USB sticks with a few mouse clicks
- Flexible search works across all NVRs and DVRs connected to the system
- Post-recording motion search allows changes to selected areas of the image to be easily located
- Two audio listening options – selected channel only, or multiple simultaneous channels
- Analog monitor wall support

Scheduling

- Up to 10 Recording schedules with Holidays and Exception Days
- Unlimited task schedules with Holidays, Exception Days, and recurring schedule support
- Per camera settings for minimum and maximum recording times
- Per camera, per recording schedule frame rate and quality settings for live, normal recording, motion recording, and alarm recording

Event Handling

- Event list with device events (e.g. video loss), system events (e.g. disk full), network events (e.g., heavy network traffic), subsystem events (e.g. Allegiant alarm), user events (e.g. logon failure), schedule events (e.g. every Tuesday at 10:15), etc.
- Compound events (combining events with Boolean logic)
- Event duplication allowing separate handling
- Event allocation to user groups
- Schedule dependent alarm generation
- Schedule dependent event logging
- Schedule dependent event-generated command script invocation

Alarm Handling

- Alarms can trigger alarm-mode recording for any cameras
- 100 alarm priorities
- Selective auto-popup on alarm
- Alarms displayed in separate alarm window
- Up to 5 Image panes per alarm with live or playback video, sitemaps, documents, or web pages displayed in an “alarm row”, with highest priority alarms on top
- Wave file per alarm
- Workflow with user instructions and user comments, optionally forced before clearing
- Email or SMS notification on alarm
- Alarm display on analog monitor walls

User Management

- LDAP compatible for integration with enterprise user management systems such as Microsoft Active Directory™
- Access to system resources individually controlled per user group
- Logical tree customized per user group – users only see devices for which they have access
- User group rights for protecting, deleting, exporting, and printing video
- User group rights for Logbook access
- User group priority assignment for PTZ control and Allegiant camera access
- Individual per-camera privileges assignable per user group for live access, playback, audio, meta data display, dome control
- Dual-authorization logon – special privileges and priorities granted when two users log on together

System Monitoring

- System-wide health monitoring, including cameras, computers, software, and network equipment
- Network equipment and other third-party devices monitored with SNMP and RMON

Customization and Interfacing

- Custom Command Scripts can control all system functionality
- Built in Command Script editor supporting C# and Visual Basic .Net
- External software can trigger events via “Virtual Inputs”
- Any .Net programming language (C#, JScript, etc.) or COM programming language (C++, Visual Basic, etc.) can be used to trigger Virtual Inputs
- Compatible with Bosch Building Integration System
- Compatible with Advantech ADAM-6000 series Digital Input / Output modules

Parts Included

- The following are delivered on DVD:
 - Installation program that can selectively install all components (Central Server software, Network Video Recorder software, Configuration Client software, Operator Client software) in all supported languages

- Configuration Manual (PDF format) in all supported languages
- Operator's Manual in all supported languages
- Software license key document
- Quick Start Guide in all supported languages

Technical Specifications

System Specifications

Maximum number of workstations simultaneously viewing the same camera	Multicast: 49 Unicast: 5
Supported languages	English, German, Dutch, Italian, Portuguese, French, Spanish, Simplified Chinese, Russian, Hungarian, Czech, Danish, Finnish, Greek, Norwegian, Polish, Swedish, Turkish
Tested with the following anti-virus software:	Symantec Norton Anti-Virus MacAfee Trend Micro
Alarm reaction time	<1 second, assuming sufficient network bandwidth
Command Encryption	128-bit AES

Required open ports

Connection from Central Server and Client Workstations to NVRs:

Two selectable TCP ports (default 5390 and 5391)

Connection from Central Server to SMTP (for email notifications):

TCP Port 25

Connection to Bosch encoders and decoders:

Control channel: TCP ports 80 and 1756

Network scan: UDP ports 1757 and 1758

Multicast detection: one selectable UDP port (default 1900)

Multicast video transmission:

For each encoder audio or video stream, 1 selectable UDP port

Unicast UDP transmission: random UDP ports between 1024 and 65000

Unicast TCP transmission: one selectable port TCP

Connection to DiBos DVRs (uses DCOM):

TCP Port 135 plus four TCP ports and four UDP ports dynamically assigned in the range from 1025 to 65535

Central Server Specifications

Maximum number of sustained events per second	10,000 750 events/s written to the system log (Logbook)
Redundancy	Compatible with Stratus® Technologies FT Series high-availability servers Compatible with VMWare® Virtual-Center high-availability solutions

NVR Specifications

Maximum data rate per NVR	70 MB/s (cumulative data rates of all assigned cameras)
Maximum number of cameras per NVR	300 (Also ensure that maximum data rate is not exceeded. Large camera counts are possible only with low-data-rate video streams.)
Redundancy	Failover NVR can be assigned to take over for a failed NVR. Multiple Primary NVRs can be assigned to the same Failover NVR.
Maximum number of Primary NVRs serviced by a Failover NVR	Determined only by availability requirements.

Client Workstation Specifications

Performance is dependent on PC performance and video data rates. Graphics card performance has the greatest impact. The following specifications were tested with a 3.6 GHz Intel® Pentium® 4 CPU, 2 GB RAM, and an ATI Radeon® X1800 graphics card. Data rates were 1024 KBits/s for CIF resolution, 3072 KBits/s for 4CIF resolution.

Minimum number of simultaneous full-frame-rate live cameras	CIF: 50 4CIF: 16
Minimum number of simultaneous real-time playback cameras	CIF: 9, 4CIF: 4 More is possible, but playback speed will slow down.

Minimum Client Workstation PC Requirements

Operation System	Windows XP Professional, Service Pack 2
CPU	3 GHz Pentium 4 or greater
RAM	2 GB or greater recommended
Free disk space	500 MB
Network card	1000Base-T recommended
Display Resolution	Minimum per monitor 1024x768, 1280x1024 or greater recommended
Recommended Graphics Cards	2 monitors, standard performance: nVidia FX 3450 ATI Radeon® X1800 2 monitors, high performance: nVidia FX 4500 4 monitors, standard performance: nVidia Quadro NVS 440 4 monitors, high performance: nVidia FX 4500-2

Minimum Central Server PC Requirements

Operation System	Windows XP Professional, Service Pack 2, Window 2003 Server, Service Pack 1
CPU	3 GHz Pentium 4 or greater, 3 GHz Xeon® or greater recommended
RAM	Minimum 1 GB, 2 GB or greater recommended
Free disk space	5 GB
Network card	1000Base-T recommended
Display Resolution	1024x768 or greater

Minimum NVR Server PC Requirements

Operation System	Windows XP Professional, Service Pack 2, Windows 2003 Server, Service Pack 1
CPU	3 GHz Pentium 4 or greater, 3 GHz Xeon® or greater recommended
RAM	Minimum 1 GB, 2 GB or greater recommended
Free disk space	500 MB + Video Storage
Hard disk drives	Minimum: separate partition for video storage Separate drive for video storage recommended
Network card	1000Base-T recommended
Display Resolution	1024x768 or greater

Device Compatibility

Analog Matrix Switch	Bosch Allegiant series, firmware 8.75 or greater and Master Control Software version 2.80 or greater
CCTV Keyboard	Bosch Intuikey (KBD-Universal or KBD-Digital), firmware version 1.82 or greater
Digital I/O	Advantech ADAM-6017, ADAM-6018, ADAM-6022, ADAM-6024, ADAM-6050, ADAM-6050W, ADAM-6051, ADAM-6051W, ADAM-6052, ADAM-6055, ADAM-6060, ADAM-6060W, ADAM-6066
Digital Video Recorder	DiBos, firmware version 8.21 or greater
USB to Serial adapter	Belkin serial adapter cable F5U103vea
Ethernet to Serial adapter	Control DeviceMaster RTS 4-Port
IP Devices	All Bosch MPEG4 encoders, decoders, IP cameras, and IP Autodomes

Ordering Information

Lite-32 Edition Supports 32 Cameras, 2 Workstations, 1 CCTV Keyboard, 0 DVRs - Non Expandable	MBV-BLIT11-32A
Lite-64 Edition Supports 64 cameras, 4 Workstations, 2 CCTV Keyboards, 0 DVRs	MBV-BLIT11-64A
Professional Edition Supports 8 Cameras, 2 Workstations, 1 CCTV Keyboard, 1 DVR	MBV-BPRO11-A
2 Camera Expansion Each camera and each decoder channel consume one "camera" license.	MBV-XCAM-2A
8 Camera Expansion Each camera and each decoder channel consume one "camera" license.	MBV-XCAM-8A
32 Camera Expansion Each camera and each decoder channel consume one "camera" license.	MBV-XCAM-32A
128 Camera Expansion Each camera and each decoder channel consume one "camera" license.	MBV-XCAM-128A
256 Camera Expansion Each camera and each decoder channel consume one "camera" license.	MBV-XCAM-256A
512 Camera Expansion Each camera and each decoder channel consume one "camera" license.	MBV-XCAM-512A
1 Workstation Expansion	MBV-XWST-1A
8 Workstation Expansion	MBV-XWST-8A
32 Workstation Expansion	MBV-XWST-32A
1 DVR Expansion	MBV-XDVR-1A
8 DVR Expansion	MBV-XDVR-8A
32 DVR Expansion	MBV-XDVR-32A
1 Failover NVR Expansion	MBV-XFONVR-1A
1 CCTV Keyboard Expansion	MBV-XKBD-1A
8 CCTV Keyboard Expansion	MBV-XKBD-8A
Allegiant Matrix Connection	MBV-FALG-A
ATM/POS Connection	MBV-FATM-A

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