



## 16-Channel, Digital Video Recording Systems

- Microsoft® Windows® XP professional operating system
- Uses hybrid-MPEG compression technology for extended recording times and superior resolution.
- Maximum resolution of 480 TV lines @ 640 × 480 pixel capture without loss of frame rate or video channels.
- Hard disk is the primary video storage medium.
- Simultaneous record and playback of up to 16 digital video channels.
- Multiple Server units can be connected to an existing 100Base-T network to provide multiple channel recorder/recording systems using Kollector Elite client operator control stations.
- Redundant network management application
- Macros used for programming recording, alarm and display events
- Remote setup from any network server or client
- Multiple Server networks may be interconnected via WAN between sites for recording and live view of hundreds of remote cameras.
- No video degradation regardless of repeated digital recording
- RS-232 and RS-422 output for PTZ control of most popular camera domes.
- Instantaneous search and playback of previously recorded images.
- Built-in GUI provides easy and fast setup and live view/video playback operation. The playback control allows viewing all video scenes individually during playback without affecting recording.

Kollector Elite Server is a rack mount, standalone and network ready video recorder providing extended continuous recording. The front panel features two rack installation handles and a convenient and secure user interface. Behind a key locked door is an array of conveniently located controls including a power switch, a reset switch (for service purposes), 3.5-inch floppy drive and CD-R/W drive and an array of hard drives.

Kollector Elite Server utilizes a state-of-the art, hybrid-MPEG digital compression technique. Kollector Elite records at system speeds of up to 240 fps over 16 cameras and at a resolution of 640 × 480 pixels. In addition, Kollector Elite Server can distribute or receive additional video channels via the network. The digitized video uses MD-5-based authentication for security and legal purposes.

Kollector Elite Server distributes its own collected video to each client, or other Server, upon request over a network. Each client is capable of viewing 16 simultaneous cameras while supporting archiving, system configuration and the control of pan/tilt/zoom drives.

Kollector Elite Server includes full 16-channel simultaneous record and playback, integrated GUI for system configuration/playback/record on a SVGA monitor and support for NTSC/EIA and PAL/CCIR video cameras. In addition, Kollector Elite supports Internet connectivity for remote video transmission.

Kollector Elite Server has on-screen support of pan-tilt-zoom type camera drives and focus, iris and preset camera functions for several major CCTV manufacturers. Cameras and peripherals are required to have separate UPS power conditioning to record video during a power outage. Kollector Elite has 16 alarm inputs.

Model Number	Product Code	Description
KE120-16-120		KOLLECTOR ELITE SERVER; 16-channel networked Digital Video Recorder, 120 fps and 120 GB hard drive, NTSC/EIA and PAL/CCIR.
KE120-16-280		KOLLECTOR ELITE SERVER; 16-channel networked Digital Video Recorder, 120 fps and 280 GB hard drive, NTSC/EIA and PAL/CCIR.
KE-120-16-440		KOLLECTOR ELITE SERVER; 16-channel networked Digital Video Recorder, 120 fps and 440 GB hard drive, NTSC/EIA and PAL/CCIR.
KE240-16-120		KOLLECTOR ELITE SERVER; 16-channel networked Digital Video Recorder, 240 fps and 120 GB hard drive, NTSC/EIA and PAL/CCIR.
KE240-16-280		KOLLECTOR ELITE SERVER; 16-channel networked Digital Video Recorder, 240 fps and 280 GB hard drive, NTSC/EIA and PAL/CCIR.
KE240-16-440		KOLLECTOR ELITE SERVER; 16-channel networked Digital Video Recorder, 240 fps and 440 GB hard drive, NTSC/EIA and PAL/CCIR.

Table 1: Models, Product Codes and Descriptions

## 16-CAMERA INPUT, STANDALONE AND NETWORK SERVER DIGITAL VIDEO RECORDING AND TRANSMISSION SYSTEM

The digital video recording, management and transmission system shall be designed to meet the requirements of large-scale business applications. The system shall offer continuously recorded digital video onto a hard drive medium. The internal software shall employ a hybrid-MPEG compression algorithm in the video digitizing scheme. The system shall be comprised of a server and client unit on the network. This specification shall refer to the server's performance.

The server shall offer features including the simultaneous display, playback, distribution and archive of multiple channel video. The server shall collect multiple channels of analog video and digitize them for the purpose of display, archive and requested distribution across the Ethernet network. Cameras shall be the primary analog input devices. Each channel of video and audio data shall have the capability of being displayed, played back, distributed and archived simultaneously across several server and clients across the network. The server shall also have full WAN and Internet capability, offering expandability beyond a corporate LAN.

The server shall also offer a full multi-user authorization logon application. This application shall offer levels of authorization based on defined sites and functions. In addition, a full setup utility shall be available for the Administrator to configure authorizations.

The server shall also offer a GUI capable of complete server configuration and operation. This capability is comprised of monitoring, recording and playback. Sub-features such as defined areas for video display and control, toolbars, site and device trees, video controls, and dialog areas shall be provided. Configuration of the server shall require:

- Setup of camera and alarm names
- Setup of network parameters
- Setup of users and groups
- Setup of data storage allocation
- Setup of macro programming
- Setup of scheduling, display and alarm notification
- Setup of pre/post alarm recording
- Setup of backup utility

Operation of the system shall be facilitated by the use of a monitoring screen whereby a security operator can perform a full scope of surveillance duties using a mouse and keyboard.

The server shall be an Intel Pentium 4 processor running Microsoft Windows XP Professional. There shall be a variety of hard disk sizes from 120 to 440 GB. The front panel shall contain a key-locked user door making accessible a CD-RW drive, removable hard drive, 3.5 in floppy disk drive, power switch, restart button, keyboard port and mouse port. The front panel shall also contain 16-channel status LEDs defined as follows:

LED Color	On	Flashing	Off
Green	CAMERA DETECTION: This channel has detected a connected camera	RECORD: This channel is currently recording video	CAMERA DETECTION: This channel has not detected a connected camera
Red	DEVICE DETECTION: This channel has detected at least one possible connected device (sensor, communication, microphone or speaker)	DEVICE USE: This channel has detected activity on one or more connected devices	DEVICES DETECTION: This channel has not detected at least one possible connected device (sensor, communication, microphone or speaker)

It shall also be equipped in a standard 19 in (482 mm) rack mount with carry handles. The rear panel shall contain 16-video input ports, power switch, 4-USB connectors, 1-serial port, relay screw terminal block, VGA monitor port, 1-network port and 2 16-channel video looping ports.

The server shall have a nominal system live, playback and transport video rate of 120 or 240 fps, based on selected model. This rate shall be divided, by configuration, among the total camera inputs. It shall have 4 levels of resolution with 2 levels of compression comprising 8 quality levels. The maximum displayed resolution shall be 640 × 480 pixels per image, scalable for speed and quality. The supported, and automatically detected, video formats shall be NTSC, PAL, EIA and CCIR.

The Server shall be 7.0 inches (178 mm) high (4 RU) high, 19.0 inches (482 mm) wide and 17.75 inches (450 mm) deep. It shall weigh 40 lb (18 Kg). It shall have a screened steel case construction and be finished in black color.

The Server shall be Vicon's base model KE120-16-120.

# Technical Information

## ELECTRICAL

**Input Voltage:** 120 - 230 VAC  $\pm$ 10%, 50/60 Hz nominal.

**Current:** 3 A.

**Power Consumption:** 450 W nominal.

**Heat Equivalent:** 25.6 btu/min (6.4 kg-cal/min).  
NOTE: These figures represent the conversion of 100% of the electrical energy to heat. Actual percentage of the heat generated will be less and will vary from product to product. These figures are provided as an aid in determining the extent of cooling required for an installation.

**System:** CPU: Intel® Pentium IV 1.7 Gb, minimum.  
RAM: 256 Mb.  
HDD: 120 - 440 GB.  
LAN Card: 3Com 100 Mbps TPO.

### Connector Types/

**Quantities:** Analog Video Inputs: 16 BNC-F.  
Analog Video Loopouts: 16 in. DB-15 connector.  
Power: 1 standard 3-conductor female socket.  
VGA Video Output: 1 standard VGA port.  
Sensor Input Port: 16 NO/NC RF-45 connectors, software selectable.  
PTZ Control Port: 1 DB-9 serial port using RS-232C and RS-922 protocol.  
Network Port: Ethernet 10Base-T RJ-45 jack.  
Keyboard Port: standard 5-pin DIN jack (for service only).  
Mouse Port: USB type.

**Video Level Input:** All BNC connectors: 1.0 V peak-to-peak.

**Video Input Impedance:** All BNC connectors: 75 ohms.

**Video Formats Supported:** NTSC, PAL, EIA and CCIR.

**Video Recording Rate:** 16 simultaneous channels @ 120 frames per second, minimum, 30 fps per channel, maximum.

**Video Recording Resolution:** 480 horizontal TV lines maximum at 640 x 480 pixel pallet.

**Video Quality:** 4 levels of resolution with 2 levels of compression comprising 8 quality levels.  
640 x 480 - high compression/low compression.  
640 x 240 - high compression/low compression.  
320 x 240 - high compression/low compression.  
320 x 120 - high compression/low compression.

**Fully Configured System Input/Output Sockets:** Video Inputs: 16 maximum.  
Alarm Inputs: 16 maximum.

## Camera to Recorder

### Analog Input

### Video Transmission

**Distance (coaxial cable distance):** 1000 ft (305 m) nominal.

**Alarm Input Type:** Each alarm input can be configured as a normally opened (NO) or normally closed (NC) trigger.

**Alarm Input Rating:** Dry contact (open or closed).

**VGA Monitor Output:** SVGA, True-Color Mode with a minimum resolution of 1.24 x 768.

### VGA Video

**Display Modes:** Multi-screen Display Mode for both live and Video Playback of 1, 4, 6, 9, 16 cameras

**Panel Indicators:** 1 red power LED used for power status indication.  
1 green LED used for floppy disk indication.  
16 green LEDs used for camera detection status.  
16 red LEDs used for device detection status.

**Panel Key Lock:** Key lock provided on front panel to secure all controls.

**Reset Button:** Momentary switch located on the front panel used to perform a cold reboot of the system. Should be used only for diagnostic purposes.

**Macro Function:** System can be setup to perform routines of record and playback and alarm in a dedicated screen setup menu.

**Log Reporting:** Continuously running activity log.

**Schedule Function:** System can be set to record and display a video "tour" of multiple channels.

## MECHANICAL

**Application:** Indoor.

**Mounting:** Standard 19 in. (483 mm) rack mount and stackable, 4U height.

**Dimensions:** Height (H): 7.0 in. (178 mm).  
Width (W): 19.0 in. (483 mm).  
Depth (D): 17.75 in. (450 mm).  
Note: Dimensions exclude connectors and rack mount handles.

**Weight:** 40.0 lb (18 kg), approximately.

**Construction:** Steel case and hardware.

**Color:** Black.

**Shipping Dimensions:** Length: 25 in. (635 mm).  
Width: 24 in. (610 mm).  
Height: 12 in. (305 mm).

**Shipping Weight:** 53 lb (24 kg), approximately.

**Shipping Volume:** 4.2 ft<sup>3</sup> (0.12 m<sup>3</sup>).

## ENVIRONMENTAL

**Operating Temperature Range:** 32 to 120° F (0 to 49° C).

**Operating Humidity Range:** 0 to 95% relative, noncondensing.

**Storage Temperature Range:** -4 to 158° F (-20 to 70° C).

**Storage Humidity Range:** 0 to 95% relative, noncondensing.