



KollektorNet^{XG} 16-Channel Digital Video Servers

- **Powered by ViconNet software Version 3**
- **120 fps models**
- **Hard drive capacity up to 800 GB for long-term local storage**
- **Hybrid proprietary compression based on MPEG4**
- **Maximum resolution of 480 TV lines @ 720 x 488 (576 TVL @ 864 x 586 PAL) pixel capture without loss of video quality**
- **Simultaneous record and transmission of up to 16 local digital video channels**
- **Macros are used for programming recording, alarm and display events**
- **Remote setup from any KE recorder or workstation**
- **RS-422 PTZ control via optional RS-232 converter**
- **Built-in GUI provides configuration setup without affecting recording or transmission**

Kollektor Network Server (KN) is a 16-channel digital video server powered by the ViconNet Version 3 platform. This platform allows each KN server to record and transmit video to other Kollektor Elite recorders and ViconNet workstations over the network. These powerful units also offer internal hard drives for local storage.

ViconNet software is the application that manages all Kollektor Elite and Pro recorders, workstations, servers and IP cameras.

ViconNet utilizes two different video compression methods, selectable based on the application's requirements.

- **NORMAL:** Optimized MPEG4; a proprietary compression algorithm developed by Vicon that produces outstanding video quality and extended recording durations.
- **FULL:** JPEG; standard full frame compression for use in situations that cannot use a motion compensation compression.


ViconNet uses an MD5 type video authentication algorithm. MD5 is a standard authentication that is based on a 128-bit message used to verify data integrity.

Kollektor Net Server has a recording rate based on system settings, video scene content and selected hard drive size. Refer to Table 4 for actual GB per day and total recording days data.

Kollektor Net Server includes a fully integrated GUI for system configuration, limited playback and record on a SVGA monitor and support for NTSC/EIA and PAL/CCIR video cameras. The toolbar provides the functions of scheduling and macros, report generation, setup, and user logout and shutdown. The Site & Device tree allows a user to view a list of locally connected cameras and PTZ cameras.

Kollektor Net Server is housed in an industrial-hardened case with all connections made from the back panel. It has a universal power supply that can accept 110 - 240 VAC.

Vicon requires the use of uninterruptible power supply systems (UPS) to prevent voltage fluctuations that can affect operation, cause video loss and cause damage to the equipment. Failure to comply voids the warranty.

Vicon Product Facts		Model No: See Table 1	Product Codes: See Table 1	SEC: 1	SPEC: V155	REV: 206
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Product Specification

ASSOCIATED EQUIPMENT AND ACCESSORIES

ViconNet VN1000V3 Master Workstation Software, Product Code 8797: Software CD for a PC for use with Kollector Elite and Pro series recorders; registration required for use. Product Specification V113.

ViconNet VN-NVR Master Workstation, Product Code 8961/8962: PC preloaded with VN1000V3 Master Control Software for use with Kollector Elite and Pro series recorders; registration required for use. Product Specification V113.

Model VN-MON Monitor, Product Code 8222: 17-inch VGA monitor for use with Kollector Elite and Pro series recorders and ViconNet VN-NVR systems.

Model VN-17FLT Monitor, Product Code 8237: 17-inch flat-screen monitor for use with Kollector Elite and Pro series recorders and ViconNet VN-NVR systems. Product Specification V127.

Model NETSWITCH-8 Network Switch, Product Code 7787: 8 port, 10/100 autosensing network switch, stackable.

NETSWITCH-16 Network Switch, Product Code 8495: 16-port, 10/100 autosensing network switch, stackable. Product Specification V161.

NETSWITCH-24 Network Switch, Product Code 8495-10: 16-port, 10/100 autosensing network switch, stackable. Product Specification V162.

Uninterruptible Power Supplies: 725, 1000 and 3000 VA units with DB-9 port (RS-232) and 120 VAC input/output. Product Specification V147.

Model	Product Code	Description
KNS120-80	8974-00	Kollector Network Server, ViconNet Version 3, 16-channel networked digital video server, 120 fps, 80 GB HD, 4 audio and 4 sensor channels, NTSC/EIA and PAL/CCIR
KNS120-400	8975-00	Kollector Network Server, ViconNet Version 3, 16-channel networked digital video server, 120 fps, 400 GB HD, 4 audio and 4 sensor channels, NTSC/EIA and PAL/CCIR
KNS120-800	8976-00	Kollector Network Server, ViconNet Version 3, 16-channel networked digital video server, 120 fps, 800 GB HD, 4 audio and 4 sensor channels, NTSC/EIA and PAL/CCIR

Table 1: Models, Product Codes and Descriptions

MODELS	SPECIFICATIONS		
	Internal Hard Drive (GB)	Frame Rate (max fps)	Video Channels
KNS120-80	80*	120	16
KNS120-400	400*	120	16
KNS120-800	800*	120	16

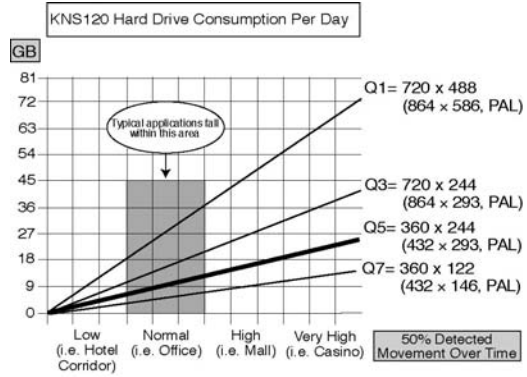
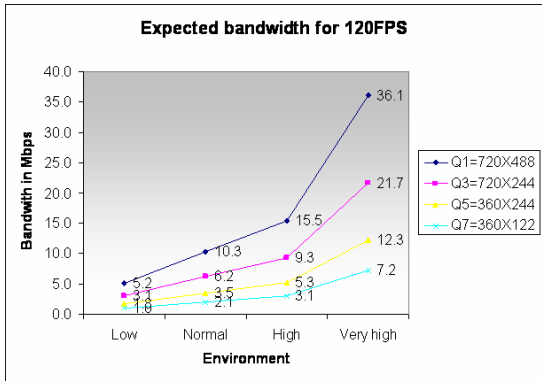
*20 GB of space is used for the application.

Table 2: Kollector Net Server Overview

Compression Type	Resolution and Compression Rate							
	1 (Frame) 720 x 480 (864 x 586 PAL)	2 (Frame) 720 x 480 (864 x 586 PAL)	3 (Field) 720 x 244 (864 x 293 PAL)	4 (Field) 720 x 244 (864 x 293 PAL)	5 (CIF) 360 x 244 (432 x 293 PAL)	6 (CIF) 360 x 244 (432 x 293 PAL)	7 (HCIF) 360 x 122 (432 x 146 PAL)	8 (HCIF) 360 x 122 (432 x 146 PAL)
	High	Low	High	Low	High	Low	High	Low
FULL (JPEG)	Largest Picture Best Quality Full Refresh	Largest Picture Excellent Quality Full Refresh	Large Picture Very Good Quality Full Refresh	Large Picture Good Quality Full Refresh	Medium Picture Average Quality Full Refresh	Medium Picture Fair Quality Full Refresh	Small Picture Low Quality Full Refresh	Small Picture Very Low Quality Full Refresh
NORMAL (MPEG4)	Largest Picture Best Quality Periodic Refresh	Largest Picture Excellent Quality Periodic Refresh	Large Picture Very Good Quality Periodic Refresh	Large Picture Good Quality Periodic Refresh	Medium Picture Average Quality Periodic Refresh	Medium Picture Fair Quality Periodic Refresh	Small Picture Low Quality Periodic Refresh	Small Picture Very Low Quality Periodic Refresh

Table 3: Kollector Net Server Video Quality

Technical Information



	Models		
	KNS120-80	KNS120-400	KNS120-800
Hard Drive Size	80*	400*	800*
Days Recording	10	45	96

Note: This table is based on the following conditions:
 - 24 hours normal activity with 50% detected movement over time, Normal compression and Quality Q5 (360 x 244 pixels NTSC, 432 x 293 pixels PAL)
 - Recording durations may vary based on actual scene activity.
 - Recording data does not include audio data (0.4 GB/12 hour day/microphone).

Note: When a RAID is available, it is recommended to have all the database on the RAID drives and not on the Collector drives (use the minimal internal drive size). This will ensure the highest level of protection for the data.

*20 GB of space is used for the application.

Table 4: Kollektor Net Server Typical Recording Durations

ELECTRICAL

Input Voltage: 120 – 230 VAC +/- 10%, 50/60 Hz nominal.
Note: Vicon requires the use of uninterruptible power supply systems (UPS) to prevent voltage fluctuations that can affect operation and cause damage to the equipment. Failure to comply voids the warranty.

Current: 2.3 A.

Power Consumption: 300 W nominal.

Heat Equivalent: 17.0 btu/min (4.3 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® Celeron® 2.0 GHz minimum.
RAM: 512 MB.
HDD: 80 – 800 GB. (Based on model. See Table 2.)
LAN Card: 3Com 100 Mbps TPO.

Connector Types/

Quantities: **Analog Video Inputs:** 16 BNC-F (using provided cable adapter).
Power: 1 standard 3-conductor female socket. 1 power toggle switch.
VGA Video Output: 1 standard VGA port.
Sensor Input Port: 4 NO/NC in screw terminal block, software selectable.
PTZ Control Port: 1 DB-9 RS-232 serial port used with provided RS-422 adapter.
Network Port: Ethernet 100Base-T RJ-45 jack.
Keyboard Port: 5-pin DIN jack (PS2).
Mouse Port: 5-pin DIN jack (PS2).

Video Level Input: 1.0 V peak-to-peak (140 IRE) nominal.
Luminance: 100 IRE +/- 15%.
Sync: 40 IRE +/- 15%.
Colorburst: 40 IRE +/- 15%.

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, maximum. 30 fps per channel, maximum.

Video Recording

Resolution: 480 horizontal TV lines maximum at 720 x 488 pixel palette; 864 x 586, PAL.

Video Quality: Selectable using a 4-position bar, from the Main Screen. There are 4 levels of resolution (Frame, Field, CIF, HCIF) with 2 levels of compression (Normal, Full) comprising 8 quality levels total, accessible from the Setup menu selections. Normal is Optimized-MPEG4 and Full is JPEG compression, see Table 3. Remote video only.

Video Bandwidth: Model dependant, see Bandwidth charts.

Hard Drive

Consumption: Model dependant, see Table 4.

Camera to Recorder

Analog Input Video Transmission Distance (coaxial cable distance): 1000 ft (305 m) nominal.

Sensor Input Type: Each alarm input is automatically configured as a normally opened (NO) or normally closed (NC) trigger.

VGA Monitor Output: SVGA, True-Color Mode with a minimum resolution of 1024 x 768.

VGA Video

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

Panel Indicators: 1 red LED used for HDD status indication.
 1 green LED used for power indication.

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

SOFTWARE OPERATION

Main Window Screen: A multi-channel display area containing up to 16 connected cameras, a current details area, a Site and Device Tree, a System Status Area, a Control Dialog Display Area, an Other Controls Area, a Playback Controls Area, a Function Controls Area, a Display Mode Controls Area, a Video Display Area and a Toolbar. Each area contains the necessary controls to operate and setup the system. Remote video only.

Site and Device Tree: A physical list of all locally connected cameras and PTZ cameras. The devices are represented by graphical symbols. Components in the Site and Device Tree are selectable and configurable.

Navigator Window: A set of function buttons used to access the video on-screen. The buttons include Frame buttons, Rewind buttons, and Fast Forward buttons.

Control Dialog

Display Area: A space to work in conjunction with the Other Controls Area. When one of the Other Controls is selected, the corresponding button palette appears in this area.

Toolbar: An area providing access to all major functionality of the system. The Schedule/Macro, Reports, Setup, Logout and Shutdown buttons are accessible in this area. The Schedule/Macro button allows the running of preconfigured combinations of camera, sensor and PTZ programmed routines. The Reports button allows the viewing and printing of system status reports. The Setup button allows configuration of the system functions. The Logout button allows leaving the system without closing the software. The Shutdown button allows full system shutdown.

Display Mode

Control Area: A palette of buttons used to select and modify the number of video channels displayed and monitored or recorded simultaneously. Remote video only.

Function Control

Area: A palette of controls used to enable or disable the video recording as well as any currently running macros in the system.

Video Display

Controls Area: A palette of buttons used to set the picture quality and resolution of the recorded and networked video. A 4-position bar allows the quality setting. Remote video only.

Other Controls

Area: A palette of buttons that activate when a valid device is selected from the Site and Device Tree. When active, the selection of these buttons causes the Control Dialog Display Area to display additional control information. The Other Controls are Playback, PTZ, Controls, Print Export and Picture.

System

Configuration: A Main Settings Menu used for setup of the network and sites, macros, devices, authorization, Alarms, Auto Login, Schedules, Auto Record, Storage Database Utilities, Authentication, Protocol Controls, Manual Record, Registration and Picture Quality.

Network and

Sites Configuration: The network portion of this feature allows setup of a system Nucleus and Backup Nucleus. The Nucleus acts as the coordinator of all running system applications. The Backup Nucleus acts as the hot-standby Nucleus if the primary Nucleus goes offline. The Network Settings menu provides a comprehensive worksheet for each networked device.

Macro Configuration: Macros can be defined for recorded or displayed cameras, command duration, recording location, local viewing, device ID, picture quality, refresh mode, recording rate (fps), related devices (sensors/relays) and alarm activation.

Device Configuration: Devices can be configured for system recognition and operation. Valid devices are cameras (with PTZ) and sensors. All devices are assigned a unique ID number and title descriptor. Devices can also be setup for specific protocols and supported with existing manufacturer's drivers where applicable.

Technical Information

Authorization

Rights Setup: Administrator and Guest group rights can be configured by specific site. Administrator rights provide authority to perform all system functions. Guest rights provide custom authority to perform any selected system functions.

Alarm Configuration: Alarms are programmed to annunciate under the conditions specified in the macro. Alarms can be triggered by physical sensors, detected video loss, detected video motion or messages sent over the network.

Storage Database

Utilities: This utility allows setup and usage of locally detected hard disks.

Authentication: Video authentication is MD-5 based. It is established by site and affects both the source and destination of video. A check box is used to enable video authentication on the video generated by the local system.

Macro Function: System can be setup to perform record alarms 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, 2U height.

Dimensions: Height (H): 3.5 in. (89 mm).

Width (W): 19.0 in. (483 mm).

Depth (D): 17.0 in. (431 mm).

Note: Dimensions exclude rack mount flanges, hardware and connectors. See Figure.

Weight: 26.0 lb (11.8 kg), approximately.

Construction: Steel case and hardware.

Color: Black.

Shipping

Dimensions: Length: 23.5 in. (597 mm).

Width: 21 in. (533 mm).

Height: 9 in. (229 mm).

Shipping Weight: 36 lb (16.3 kg), approximately.

Shipping Volume: 4.75 ft³ (0.13 m³).

ENVIRONMENTAL

Unit Operating

Temperature Range: 32 to 104° F (0 to 40° C).

Unit Operating

Humidity Range: 0 to 95% relative, non-condensing.

Ideal Room

Temperature Range: 66 to 75° F (19 to 25° C).

Ideal Room

Humidity Range: 80% relative, non-condensing.

Maximum Room

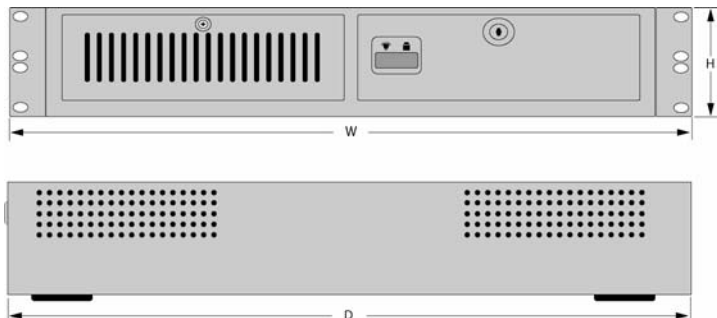
Temperature Range: 50 - 86° F (10 - 30° C).

Storage

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

Storage

Humidity Range: 0 to 95% relative, non-condensing.



Product Specification

