



KTX-4V2 Digital Video Server

- **Up to 4 analog video inputs**
- **Auto-sensing NTSC/PAL**
- **Maximum video system transmission rate up to 120 fps (up to 100 fps PAL version)**
- **Two audio inputs**
- **One RS-232 port for diagnostic messages**
- **One RS-422/485 port for dome control**
- **Uses optimized proprietary compression to minimize data size and maximize picture quality**
- **Simultaneous transmission of multiple channel video across the LAN and WAN (Internet) to connected Kollector Elite recorders and ViconNet workstations**
- **Can be remotely configured from Kollector Elite recorders and PCs running ViconNet software**
- **Macros can be created to view and record video, PTZ cameras at preset positions and trigger alarms**
- **4 alarm inputs/outputs**
- **Input power 24 VAC or power over Ethernet (PoE) compliant sources**
- **Network 100 Base T**

The KTX-4V2 Digital Video Server is a 4-channel digital video server powered by ViconNet. This platform allows each KTX-4V2 to collect local video from its analog inputs and send streamed video over the network to the ViconNet Global Management and Configuration Stations or Kollector Elite Recorders, providing outstanding flexibility.

ViconNet also powers each KTX-4V2 Server with the ability to be remotely configured from other Kollector Elite Recorders and ViconNet PC workstations on the network. Changes to server parameters are possible from one or more ViconNet Global Management and Configuration Stations or Kollector Elite recorders or PC. In addition, the server supports full PTZ control, alarm reporting, picture quality configuration, external sensors, macros, and alarm configuration.

The KTX-4V2 distributes its own 4 channels of collected video to each workstation or Kollector Elite Server, upon request, over a network. Each recorder and workstation is capable of viewing up to a total of 16 simultaneous cameras while supporting archiving, system configuration and the control of pan/tilt/zoom drives.

There are several mounting options for the KTX-4V2. The unit may be mounted on a desktop using the rubber feet provided. Using the optional mounting kits, it can be rack mounted using the KX-4-RK1 (single), product code 8959-20, or KX-4-RK2 (double), product code 8959-30. It can be wall mounted using the KX-4-WM, product code 8959-40.

The KTX-4V2 includes full support for NTSC/EIA and PAL/CCIR video cameras. In addition, the KTX-4V2 supports Internet connectivity for remote video transmission.

Vicon strongly recommends the use of uninterruptible power supply systems (UPS) to prevent voltage fluctuations that can affect operation, cause video loss and damage to the equipment.

Vicon Product Facts		Model No: KTX-4V2	Product Code: 8959-10	SEC: 1	SPEC: V172	REV: 106
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Product Specification

ASSOCIATED EQUIPMENT AND ACCESSORIES

ViconNet VN1000 Master Workstation Software, Product Code 8220: Software CD for a PC for use with Kollector Elite and Pro series recorders and ViconNet IP video cameras and servers; registration required for use. Product Specification V113.

ViconNet VN5000 Master Workstation, Product Code 8221: PC preloaded with VN1000 Master Control Software for use with Kollector Elite and Pro series recorders and ViconNet IP video cameras and servers; registration required for use. Product Specification V113.

Kollector Elite Digital Video Recorder, Product Code varies by model: 16-channel networked digital video recorder for use with Kollector Pro Series recorders, ViconNet IP video cameras and servers and ViconNet VN5000 systems. Product Specification V112.

NETSWITCH-16, Product Code 8495-00: 16-port network switch, includes 10/100Mbps ports, desktop/wall mount, 120 VAC. Product Specification V161.

NETSWITCH-24, Product Code 8495-20: 24-port network switch, includes 10/100/1000Mbps ports, rack mount, 120 VAC. Product Specification V162.

Uninterruptible Power Supplies: 725, 1000, and 3000 VA units with DB9 (RS-232) and USB ports; 120 VAC input/output. Product Specification V147.

Model S24PS Power Supply, Product Code 7027-00: 120 VAC input, 24 VAC output, 2.5 A current output, 60 W. 230 VAC input model, product code 7027-01. Product Specification 738.

Model V2448-175PS, Product Code 6410-20: 4-channel, 120 VAC input, 24 VAC output, 7 A output (total), 175 W. Product Specification 738.

Model V248-600PS, Product Code 8438: 8-channel, 120 VAC input, 24 VAC output, 25 A output (total), 600 W. Product Specification 738.

Model V2416-600PS, Product Code 8437: 16-channel, 120 VAC input, 24 VAC output, 25 A output (total), 600 W. Product Specification 738.

Network Considerations

The KTX-4V2 Four-Channel Digital Video Server can be connected to any ViconNet network. Kollector Elite Recorders and ViconNet Workstations can be used for live viewing and recording of network-streamed video. A network can be as simple as a single camera and VN-301T connected to a ViconNet Workstation or can be complex with the addition of several networks interconnected via WAN.

When adding a KTX-4V2 Four-Channel Server to the ViconNet network, the following items must be considered:

- The number of servers on a switch with respect to switch capabilities and system bandwidth mapping.
- Bandwidth limitations on ports connected to workstations (using 100 or 1000 Mbps).
- Workstation capabilities such as processing speed and disk write speed.
- Storage size and location types including local Workstation recording, attached SCSI RAID and integrated NAS/SAN devices.

Refer to the network diagrams on the next page for sample configurations.

Basic video bandwidth performance can be seen below. This chart shows a KTX-4V2 single video channel at 30 FPS with varied quality settings and video motion environments. 30 FPS is the maximum video frame speed from the KTX-4V2. Lower frame speeds can be attained down to 1 FPS. Bandwidth calculations can be scaled down from the chart data. For example:

A KTX-4V2 set at 10 FPS would be expected to have a bandwidth of 0.4 Mbps at Q5 and in a High video motion environment.

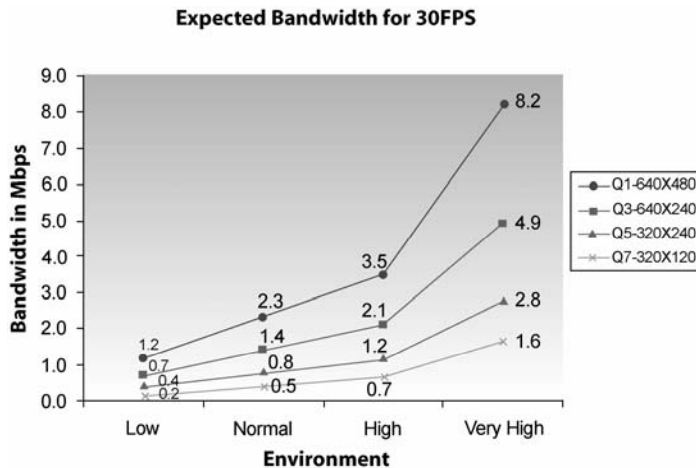


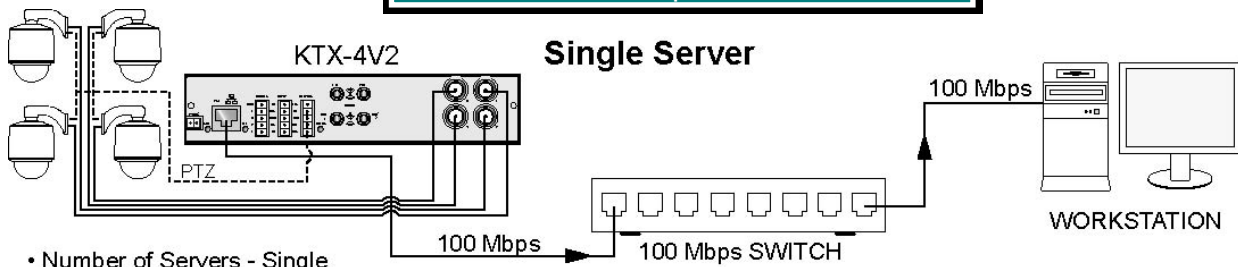
Table 1: Hard Drive Consumption Rate

KTX-4V2	Remote Hard Drive Storage (GB)								
	60	200	300	500	600	900	1000	2000	3000
Days Recording	24	80	120	200	240	360	400	800	1200

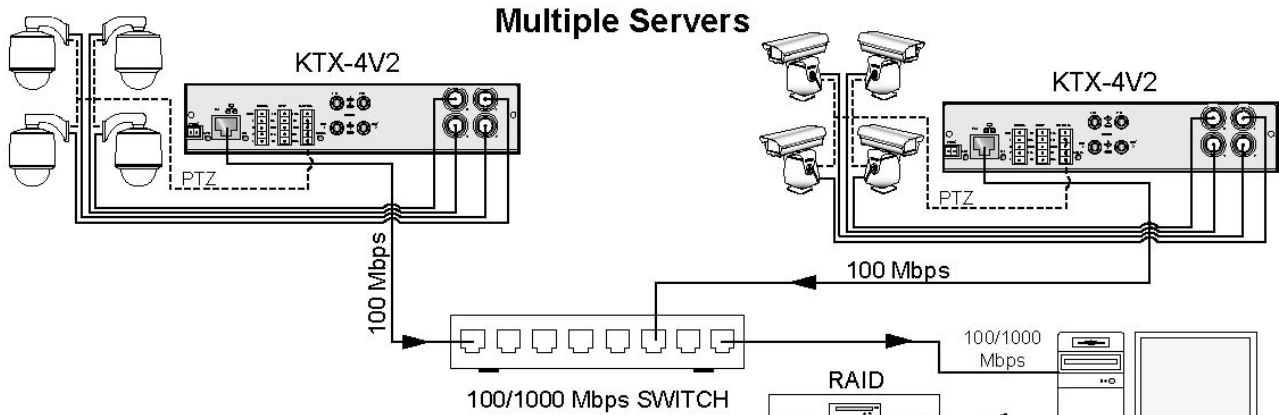
Note: This table is based on the following conditions:

- 24 hours normal activity with 50% detected movement over time, Normal compression and Quality Q5 (320 x 240 pixels NTSC, 384 x 288 pixels PAL)
- Recording durations may vary based on actual scene activity.

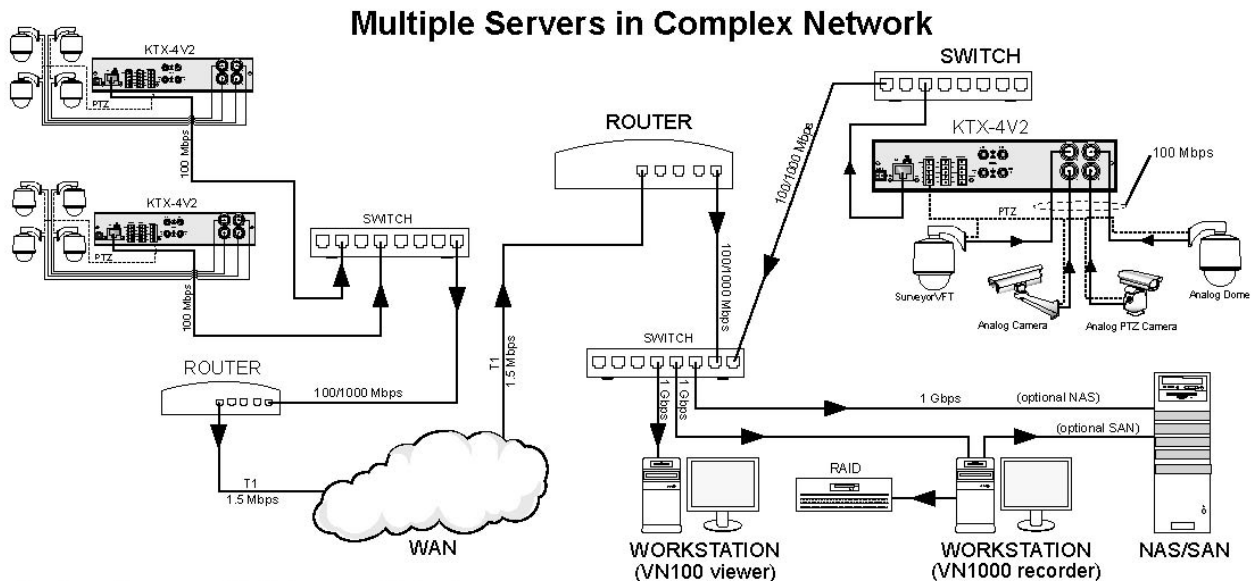
Product Specification



- Number of Servers - Single
- Number of video channels - 1
- Network bandwidth - 100 Mbps
- Storage method - Local workstation hard drive



- Number of Servers - Multiple
- Number of video channels - Multiple
- Network bandwidth - 100 Mbps up to 2 KTX-4V2 servers @ Q1, 120fps
- 1000 Mbps up to 20 KTX-4V2 servers @ Q1, 120fps
- Storage method - Local workstation hard drive or SCSI attached RAID



- Number of servers - Multiple on multiple sites
- KTX-4V2 supports Video and PTZ control (for most manufacturers' protocols).
- Network bandwidth - Each switch to its limit (as shown above), constrained only by the WAN (T1 @ 1.5 Mbps)
- Storage method - Local workstation hard drive, SCSI attached RAID or NAS/SAN storage
- In the basic configuration, workstation recording capability is approximately 25 cameras

Technical Information

ELECTRICAL

Input Power Source: 24 VAC, ±20%, 50/60 Hz; power over standard Ethernet cables IEEE 802.3af.

Current: 300 mA @ 24 VAC, max.

Power Consumption: Less than 7 W.

Heat Equivalent: 0.4 btu/min (0.1 kg-cal/min) nominal.
 Note: These figures represent the conversion of 100% of the electrical energy to heat. Actual percentage of 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.

Maximum Power Cable Distance: Refer to Table 2.

Radio-Frequency Emission Standard: FCC Class A.

VICONNET (IP) Communication

Hardware: ViconNet Digital Video Management System.

LAN Interface: 100 Mbps, TCP/IP Unicast.

Number of Video Channels: 4.

Video Formats Supported: NTSC/EIA and PAL/CCIR.

Video Transmission Rate: 4 simultaneous channels up to 120 fps (100 fps CCIR/PAL), 30 fps per channel (NTSC; 25 fps per channel PAL).

Number of Simultaneous Video Streams: Maximum of 5 viewing recording streams (up to 4 channels each per server).

Video Transmission Resolution: 480 horizontal TV lines maximum at 640 x 480 pixel pallet (768 x 576, PAL).

Video Quality: ViconNet software quality 1-8, selectable on an 8-position bar with 2 compression level settings in resolutions 640 x 480 (768 x 576 PAL), 640 x 240 (768 x 288, PAL), 320 x 240 (384 x 288, PAL), 240 x 120 (288 x 144, PAL).

Alarm: 4 dry contact NO/NC input using terminal block connections.

Audio: 2 line-level microphone input mini-plug (1/8") connections.

PTZ: 1 RS-422/485 simplex protocol using terminal block connections.

Network Video Bandwidth: 1.5 Mbps (per video stream), nom. See Bandwidth chart.

Hard Drive Consumption Rate: Refer to Table 1.

SOFTWARE OPERATION (ViconNet)

Network Setup: Standard network protocol type using IP addressing scheme and separate PC application software.

Site Authorization: Can be setup using remote recorder or workstation GUI. Permissions can be assigned for macro create & edit, alarm setup, Authentication, Reports and System Status.

Macro Create & Edit: System macros can be configured to use the camera's video. In addition, within macros, alarms can be sent and remote macros run.

Alarm Setup: An alarm can be triggered on video motion detection and loss or via external sensors. The alarm can be sent to remote units.

Authentication: The video from the camera can be set to view the Authentication status symbol (A) on the displayed video.

Picture Quality and FPS Priority: Can be setup to prioritize recorded picture quality and video FPS. Priority can be assigned to user/macro recording for highest requested video quality or Master user control.

Wire Size (AWG) Annealed Copper Wire	Maximum Distance ft (m)
20	1000 (305)
18	1563 (476)
16	2500 (762)
14	4000 (1219)
12	6250 (1905)

Table 2: Maximum Power Cable Distances

INDICATORS AND CONNECTORS

Indicators: Front:
 Status: Blue LED (unit working).
 Video State: 1-4 bicolor LEDs.
 Rear:
 Network: 2 LEDs, RJ-45 data (green) and network link (amber)
 RS-422 Activity: green LED.

Connectors: Power: 2-pin screw terminal or RJ-45 Power over Ethernet (PoE).
 Analog Video In: BNC-F (4).
 Alarm: 5-pin screw terminal with 4 NO/NC sensors.
 RS-232: 5-pin screw terminal.
 Audio: 2 pairs audio jacks, I/O for microphones (output not currently used).
 RS-422/RS-485 (PTZ): 5-pin screw terminal.
 Network: RJ-45 CAT 5.
 See rear panel diagram.

MECHANICAL

Application: Indoor.
Mounting: Desk-mounted; wall mounted or rack mounted on shelf with optional mounting kit.

Construction: Aluminum case/aluminum extrusion.

Color: Silver.

Dimensions: See Figure.
 Height (H): 1.73 in. (44 mm).
 Width (W): 8.5 in. (216 mm).
 Depth (D): 6.75 in. (153 mm).

Weight: 2.25 lb (1.0 kg).

Shipping Dimensions: Height: 3.6 in. (91 mm).
 Width: 11.0 in. (279 mm).
 Depth: 9.0 in. (229 mm).

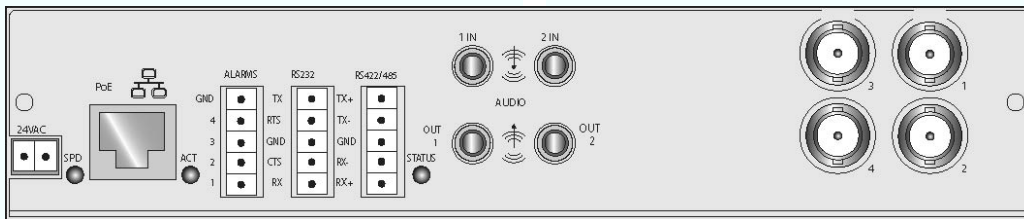
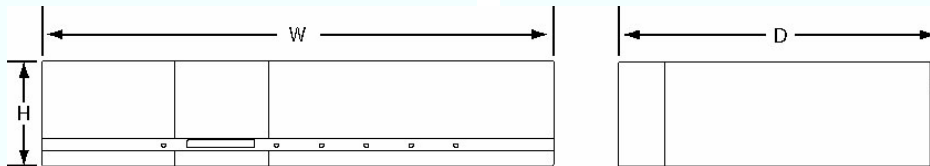
Shipping Weight: 3.25 lb (1.5 kg).

Shipping Volume: 0.29 ft³ (0.0058 m³).

ENVIRONMENTAL

Operating Temperature Range: 32 to 122° F (0 to +50° C).

Humidity: Up to 95% relative, noncondensing.



KTX-4V2 Rear Panel