



I-ONYX
MEGA-PIXEL CAMERAS **MPD-955 IP Indoor**
Megapixel Camera Dome

- Up to 1.3 megapixel resolution IP camera (SXGA 1280x1024 pixels)
- Compatible with ViconNet Version 5 software
- Transmits high quality video across the LAN and WAN for remote viewing and recording on ViconNet NVRs, DVRs and Workstations
- Uses MPEG-4/M-JPEG compression that optimizes file size and maximizes picture quality
- Power over Ethernet (PoE) eliminates the need for separate power supply
- A range of fps available depending on resolution
- Supports Multicast
- Multi-stream with variable frame rate in the same compression
- Remote configuration across the network
- Password protection for configuration
- Camera features electronic iris, BLC, AGC, white balance, flickerless
- Integral 4.2 mm/F1.8 megapixel lens
- Indoor camera dome housing

ASSOCIATED EQUIPMENT AND ACCESSORIES

Model MPD-955-WM Wall Mount, Product Code 9608-70: Mount designed specifically for wall mounting the MPD-955 camera dome.

ViconNet VN-WS-SW Software: Full capability master workstation software package, except the recording function, for a PC for use with Kollektor recorders; registration required for use. Product Specification V113-09.

ViconNet VN-NVR-SW Software/VN-NVR Master Workstation: ViconNet master workstation software package (primarily for recording function)/PC preloaded with Master Control Software for use with Kollektor recorders; registration required for use. Product Specification V113-20.

Kollektor Family of Digital Video Recorders, Product Code varies by model: 16-channel networked digital video recorders. Includes the Kollektor Elite, Kollektor Pro and Kollektor Lite series. Product Specification V112, V128 and V185 respectively.

The MPD-955 I-Onyx® Megapixel IP Camera Dome is a powerful IP camera compatible for operation within a ViconNet® (version 5 software) digital video management system. Offering the ability to deliver 1.3 megapixel resolution video across the network, the camera can be remotely managed and controlled from ViconNet NVRs, DVRs and Workstations.

Equipped with a 100 Mbps LAN interface board, the camera allows direct plug-in to a network switch. Images received from the IP camera can be displayed, recorded or archived using the ViconNet management software.

Megapixel cameras provide higher resolution, which results in images with more detail and clarity. They also offer the ability to cover a larger area while maintaining the detail in the image. This provides the capability to digitally zoom further into the live or the recorded video without losing focus and pixelating.

The MPD-955 supports either Multicast or Unicast and allows networks that support multicast to take advantage of this feature. Multistream support allows viewing and recording video at different frame rates (fps) at the same compression (M-PEG-4 or M-JPEG).

The MPD-955 is a 1/3-inch format camera with a progressive scan CMOS image device. It has a maximum resolution of SXGA (1280 x 1024) and offers frame rates up to 8 fps (lower resolutions provide higher fps – refer to Technical Information). The camera offers a selectable compression type of MPEG-4 or M-JPEG.

The camera has a sensitivity of 0.046 fc (0.5 lux) at F1.8, 30 IRE, max AGC. The MPD-955 camera is provided with an integral 4.2 mm/f1.8 megapixel fixed lens. All connectors are conveniently located on the rear panel. Synchronization is internal.

The MPD-955 camera includes a 4.2 mm/f1.8 megapixel fixed lens. All connectors are conveniently located inside the dome. Synchronization is internal. Camera may be powered by either PoE or a 12 VDC power input.

The camera is housed in a camera dome for indoor use. It is designed for surface mounting. A mounting accessory is available for wall mounting.

The MPD-955 camera complies with radiation requirements for an FCC Class A device and CE.

NETSWITCH-16, Product Code 8495-00: 16-port network switch, includes 10/100Mbps ports, desktop/wall mount, 120 VAC. Product Specification 161.

NETSWITCH-24, Product Code 8495-10: 24-port network switch, includes 10/100/1000Mbps ports, rack mount, 120 VAC. Product Specification 162.

NETSWITCH-24POE Network Switch, Product Code 8495-20: 16-port, 10/100/1000 autosensing network switch with a choice of 24 VAC or PoE power source, stackable. Product Specification V162-20.

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

Vicon Product Facts		Model No:	Product Code	SEC: 3	SPEC:	REV: 809
		MPD-955	9608-00		V194-51	

Network and Storage Considerations

The MPD-955 IP Camera can be connected to any ViconNet version 5 network. ViconNet NVRs, DVRs and Workstations can be used for live viewing and recording of network-streamed video. A network can be as simple as a single camera connected to a ViconNet Workstation or can be complex with the addition of several networks interconnected via WAN. Refer to the network diagrams on the next page for sample configurations.

When adding an MPD-955 IP Camera to the ViconNet network, the following items must be considered:

- The number of cameras 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 SAN devices.

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

The MPD-955 offers a variety of configurations that impact on the video quality (resolution/fps) vs bandwidth usage. There is a choice of Video Bit Rate Mode (Constant Bit Rate and Variable Bit Rate) and Frame Rate Mode (Constant and Variable). If the Video Bit Rate is set to variable, the Video Quality can only be set to Low, Middle or High; if it is set to constant, the video maximum bit rate is unlimited. It is suggested that the Constant Bit Rate be selected, since it provides more exact control over the network; the parameters shown below have been tested and proven to provide the best quality of video.

Table 1: Constant Bit Rate Guidelines (MPEG-4 Mode*)

Recording Requirement	Video Settings			Expected Recording Duration			
	Resolution	Frame Rate*		Video Maximum Bit Rate (K)	1 day	7 days	30 days
		NTSC	PAL				
1.3 Megapixel (1280x1024, CMOS)	8 (constant mode)		2000	21.6 G	151.2 G	648.0 G	
	4 (constant mode)		1200	13.0 G	90.7 G	388.8 G	
	2 (constant mode)		500	5.4 G	37.8 G	162.0 G	
	1 (constant mode)		256	2.8 G	19.4 G	82.9 G	
D1 (720x480@NTSC, 720x576@PAL)	30	25	1500	16.2 G	113.4 G	486.0 G	
	15	12	750	8.1 G	56.8 G	243.1 G	
	10	8	500	5.4 G	37.8 G	162.0 G	
CIF (352x240@NTSC, 352x288@PAL)	30	25	750	8.1 G	56.8 G	243.1 G	
	15	12	384	4.1 G	29.1 G	124.4 G	
	10	8	256	2.8 G	19.4 G	82.9 G	
	5	5	128	1.4 G	9.7 G	41.5 G	

*Maximum frame rate is 8 fps at 1.3 megapixel resolution.

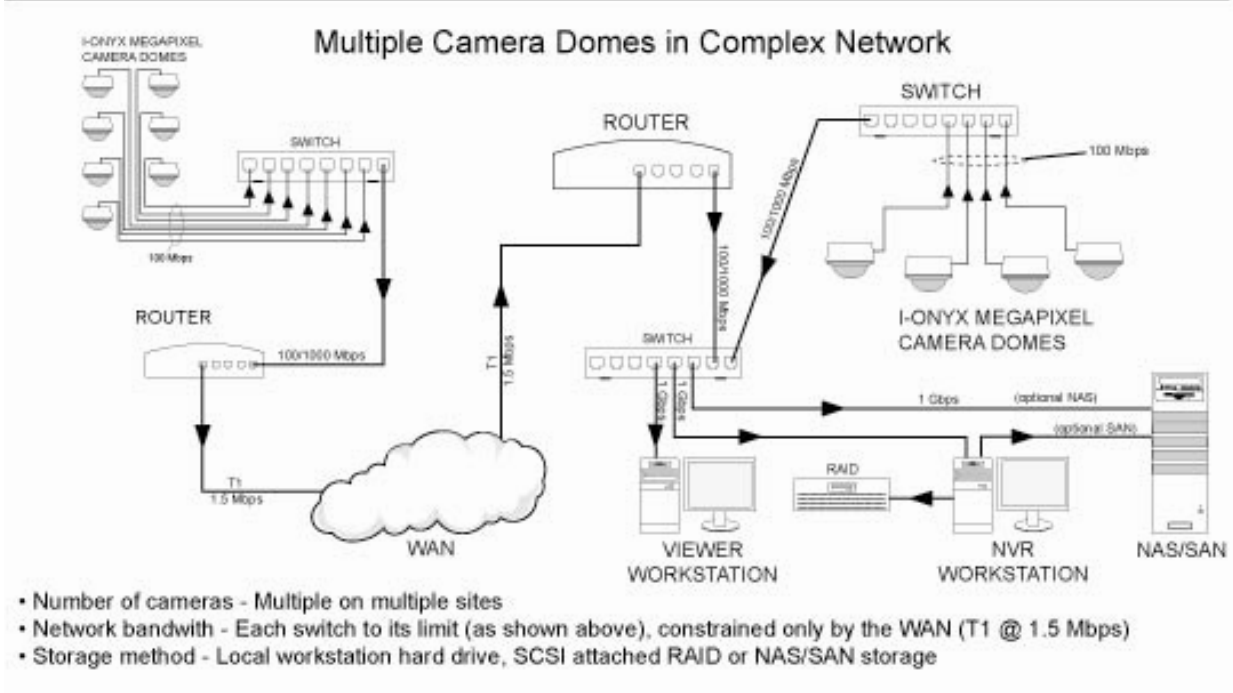
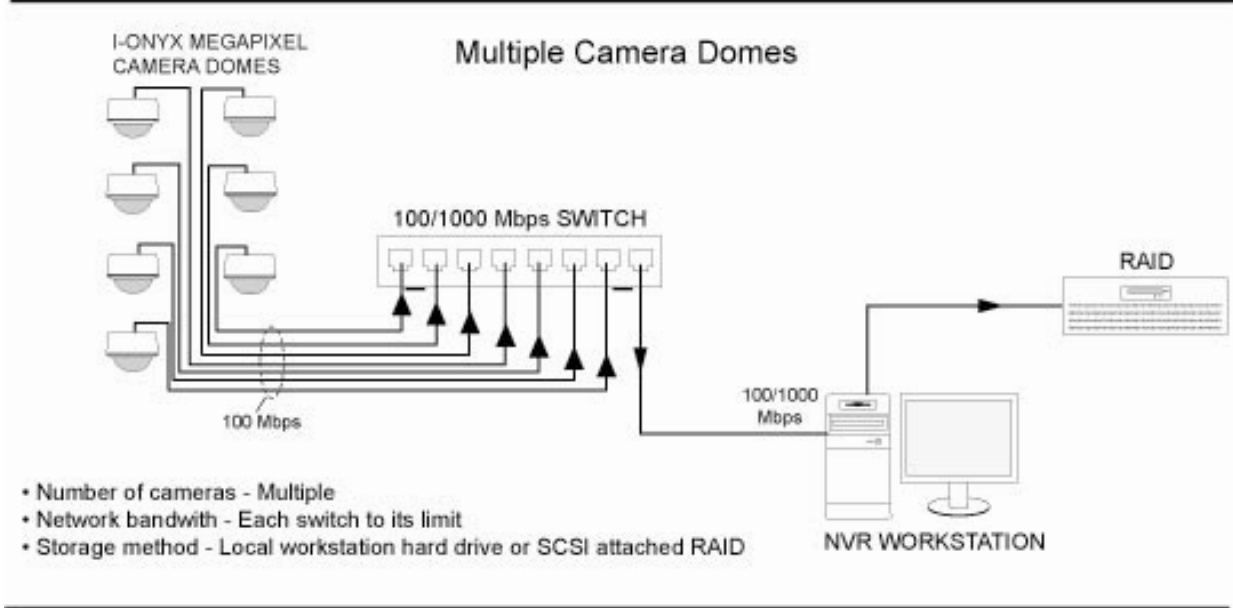
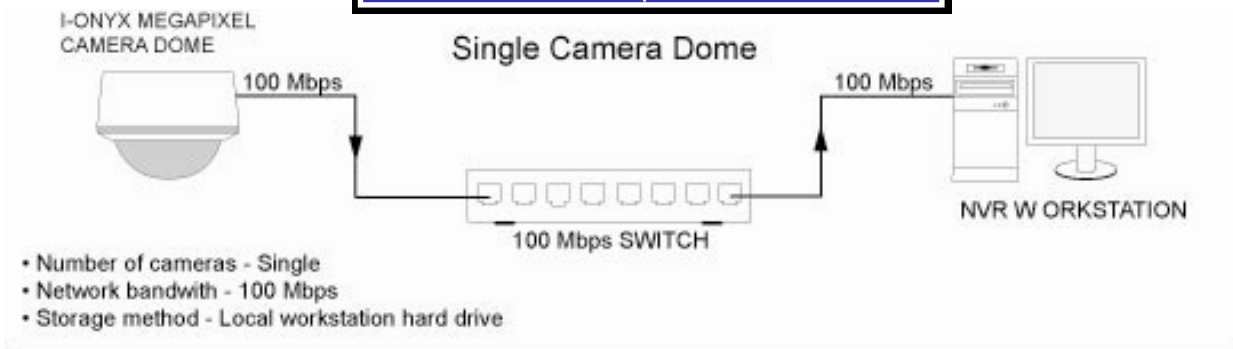
Table 2: Constant Bit Rate Guidelines (M-JPEG Mode)

Video Settings			Time Frame at Quality Level (50 is Recommended)								
Resolution	Frame Rate		1 day			7 days			30 days		
	NTSC	PAL	~25	~50	~75	~25	~50	~75	~25	~50	~75
1.3 Megapixel (1280x1024, CMOS)	8 (constant mode)	8 (constant mode)	77GB	135GB	195GB	539GB	945GB	1.4TB	2.3TB	4.05TB	5.85TB
	4 (constant mode)	4 (constant mode)	38GB	68GB	93GB	266GB	476GB	651GB	1.15TB	2.1T	2.8TB
	2 (constant mode)	2 (constant mode)	19GB	34GB	47GB	133GB	238GB	329GB	570GB	1.1TB	1.4TB
	1 (constant mode)	1 (constant mode)	10GB	17GB	24GB	70GB	119GB	168GB	300GB	510GB	720GB
D1 (720x480@NTSC, 720x576@PAL)	30	25	88GB	152GB	190GB	616GB	1.1TB	1.4TB	2.65TB	4.6TB	5.7TB
	15	12	44GB	76GB	95GB	308GB	532GB	651GB	1.35TB	2.3TB	2.85TB
	10	8	29GB	51GB	64GB	203GB	357GB	448GB	870GB	1.55TB	1.95TB
	5	4	15GB	26GB	32GB	105GB	182GB	224G	450GB	780GB	960GB

Table 3: Variable Bit Rate Parameters

Video Quality	Min-Max Bit Rate
High	~1Mbps ~4.6Mbps
Middle	~500kbps ~2.6Mbps
Low	~300 kbps ~1.8Mbps

Product Specification



Technical Information

ELECTRICAL

Input Power Source: 12 VDC or PoE (IEEE 802.3af Class 3).

Current: 12 VDC: 275 mA.
PoE: 90 mA.

Power Consumption: 12 VDC: 3.3 W.
PoE: 4.3 W.

Heat Equivalent: 12 VDC: 0.19 btu/min (0.05 kg-cal/min);
PoE: 0.24 btu/min (0.06 kg-cal/min).
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.

Radio-Frequency Emission Standard: FCC Class A; CE.

Communication System: ViconNet Digital Video Management System Version 5.

LAN Interface: 10/100 Mbps, TCP/IP Unicast/Multicast.

Number of Video Channels: 1, over LAN connection.

Picture Resolution and Frame Rate: SXGA: 1280 x 1024 up to 8 fps;
HD720: 1280 x 720 up to 10 fps;
VGA: 640 x 480 up to 30 fps.

Alarm/Audio Input/Output: Future feature.

Video Bandwidth: Refer to Tables 1 and 2.

Hard Drive Consumption Rate: Refer to Tables 1 and 2.

SOFTWARE OPERATION (ViconNet)

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

Site Administration: Camera can be setup from NVRs, DVRs and Workstations.

Macro Create & Edit: System macros can be configured to use the camera's video.

VIDEO CHARACTERISTICS

Image Device: 1/3-inch progressive scan CMOS.

Effective Pixels: 1280 x 1024

Sensitivity: 0.046 fc (0.5 lux);
Conditions: lens at f/1.8 and 30 IRE video output, max AGC.

Resolution: 1.3 megapixel SXGA (1280 x 1024).

Electronic Iris: 1/10-1/2000, 50/60 Hz.

Flickerless: 1/120 sec (60 Hz; 1/100, 50 Hz).

Backlight Compensation: Yes.

Signal-to-Noise Ratio: Better than 45 dB.

White Balance: 6 configurable modes: Auto, indoor 1, indoor 2, outdoor 1, outdoor 2, hold current, manual.

Video Signal Output: 1.0 V p-p VBS @ 75 ohms composite video.

Synchronization In: Internal.

Gain Control: Automatic (AGC), user defined.

Compression: MPEG-4 or M-JPEG, selectable.

Lens: Focal Length: 4.2 mm/F1.8.
Angle of View: 75° (horizontal).

Technical Information

CONTROLS AND CONNECTORS

External Controls: Reset button: Sets factory defaults.

Connectors: Power: 12 VDC: 3-pin terminal;
PoE: RJ-45.
Ethernet: RJ-45 CAT 5.
Audio: screw terminal (future use).
See figure.

CAMERA SOFTWARE

Network: Ethernet: 10/100Base-T.
Protocol: TCP, UDP, IP, HTTP, DHCP, PPPoE, RTP, RTSP, FTP, SMTP, DNS, DDNS, NTP, ICMP, OGMP, ARP, 3GPP.
Web Browser: Microsoft Internet Explorer 6.0 or above.

Software Security: Password protection configured by administrator.



Connections

MECHANICAL

Dimensions: See Figure.
Height (H): 3.9 in. (99 mm).
Diameter (D): 5.12 in. 130 mm).

Weight: 0.7lb (0.35 kg).

Mounting: Surface mount. Option available for wall mounting.

Positioning: Pan: 170°.
Tilt: 90°.

Shipping Dimensions: Height: 3.5 in. (90 mm).
Width: 5.5 in. (140 mm).
Length: 7.9 in. (200 mm).

Shipping Weight: 1.2 lb (0.55 kg).

Shipping Volume: 0.08 ft³ (0.002 m³).

ENVIRONMENTAL

Operating Temperature Range: 14 to 122° F (-10 to +50° C).

Humidity: 20 to 80% relative, noncondensing.

