Virtual Matrix Display Controller

- Scalable matrix control solution for small and large installations
- Create large multi-monitor displays
- Local and remote control
- Tower and rack-mount configurations
- Intuitive GUI provides simple, easy-to-use controls
- Compatible with IP keypads and Programmable Logic Controllers (PLC)
- Connect up to 6 monitors to each unit and add more units for multiple monitor solutions
- Supports 1080P high-definition; 16 x 9 viewing; and H.264 compression
- Control can be shared by multiple operators.

Virtual Matrix Display Controller

The Virtual Matrix Display Controller (VMDC) is a self-contained, matrix control solution for the ViconNet® Video Management system designed to provide users with the ability to direct network video to multiple monitor displays. The VMDC solution is comprised of both a matrix command/control center software interface and a hardware decoding component that enables the high-quality ViconNet remote network video streams to be displayed on multiple monitors in multiple locations. The design enables each operator to display any camera on any monitor connected to the network. Camera selection may be controlled via a dedicated keypad (up to 4 keypads) or by using the graphical user interface. This enhancement over the standard ViconNet interface is specifically designed to support the typical environment of a command center which includes workstations and video walls.

Each VMDC can control up to 6 high-definition monitors. The unit may be rack or desk mounted. Control of additional monitors is as easy as connecting additional units to the network providing a scalable, cost-effective management solution. Typically, a VMDC would be installed in the command/control center for the video management system and provide both local control of monitors in the center and remote control of monitors located elsewhere in the facility, including monitor wall displays. In a real-world situation, an operator who sees something on his station that bears additional scrutiny can direct that video to a monitor wall, another station or any monitor on the network.

The Main Monitor display interface allows dynamic control of the layout and content is easily added by dragging and dropping cameras into the monitor views. Multi-level map displays can be used to provide an alternative means of identifying camera locations and graphically depicting alarms.

VM Display Controller Main Monitor Display

Console image courtesy of Winsted Corporation.

VM Display Controller Specifications

Minimum Hardware Requirements

Operating System:	Microsoft® Windows® 7 Professional.
CPU:	Intel® Core™ i7-950 processor.
Motherboard:	GIGABYTE GA-X58A. BIOS: X58A-UD3R F5 (Motherboard Rev 1); X58A-UD3R FA or FE (Motherboard Rev 2).
RAM:	4 GB.
Hard Drive:	250 GB minimum.
Video Card:	1-3 Sapphire ATI HD 5450 with 1 DVI, 1 HDMI and 1 VGA output each; only 2 of the 3 outputs may be used; design monitors accordingly.
Power Supply:	510 W minimum.

Note: Specifications listed above are the minimum requirements for a workstation running the VM Display Controller software and represent the hardware configuration with which the software was tested. For the latest hardware requirements, refer to the Tech Support section on www.vicon-security.com.

Software

Graphical Map:	Graphical site map that supports realistic camera location.
Quick Playback:	Starts video playback of live camera with a few clicks.
Local and Remote Monitor Control:	The interface graphically displays a virtual representation of all monitors connected in the system and permits flexible display configurations and drag-and-drop camera selection.
PTZ Control:	Operator has full PTZ control of any PTZ camera in the system using the GUI, keypad or PLC.
Macro Configuration:	Macros can be defined for recording or displaying/playing cameras, microphones and related devices (sensors) as well as sending alarm notification through email or SMS text message.
Authorization Rights:	Group rights can be configured by specific site. Rights provide authority to perform all system functions.
Alarms:	Alarms can be programmed to annunciate under special conditions.
Central Failure Notification (CFN):	Utility that provides notifications indicating certain applications have failed.

Electrical

Input Voltage:	90-230 ±10% VAC, 50/60 Hz.
Current:	1.4 A @ 115 VAC; 0.7 A @ 230 VAC.
Power Consumption:	161 W nominal.
Heat Output:	563.5 btu/hour.
Power Connector:	Standard 3-conductor female socket.
CPU:	Intel Core i7-950 processor.
Memory:	4 GB minimum.
Operating System:	Microsoft Windows 7 Professional, 32-bit.
Hard Drive:	250 GB.
Motherboard/Power Supply:	GIGABYTE GA-X58A/510 W.
Network:	1 Gbps onboard.
Video Card(s):	1-3 Sapphire ATI HD 5450 with 1 DVI, 1 HDMI and 1 VGA output each. On each card, 2 of the 3 outputs may be used; be sure to design the monitors accordingly.
Cooling:	Internal fans; 79.92 cfm flow rate each.
Certifications:	CE and FCC, Class A; UL.

Mechanical

Application:	Indoor.
Mounting:	Standard 19 in. (483 mm) rack mount and stackable, 3RU height or desk-top PC tower.
Dimensions:	Rack: 5.25" (133 mm) H x 17" (432 mm) W x 23.63" (600 mm) D, including connectors. Tower: 16" (406 mm) H x 7.25" (184 mm) W x 19" (483 mm) D.
Weight:	30.0 lb (13.6 kg).
Construction:	Steel case and hardware.
Color:	Black.

Environmental

Operating Temperature:	32° to 104° F (0° to 40° C).
Humidity:	Up to 95% relative, non-condensing.
Storage Temperature Range:	-4 to 158° F (-20 to 70° C) maximum.

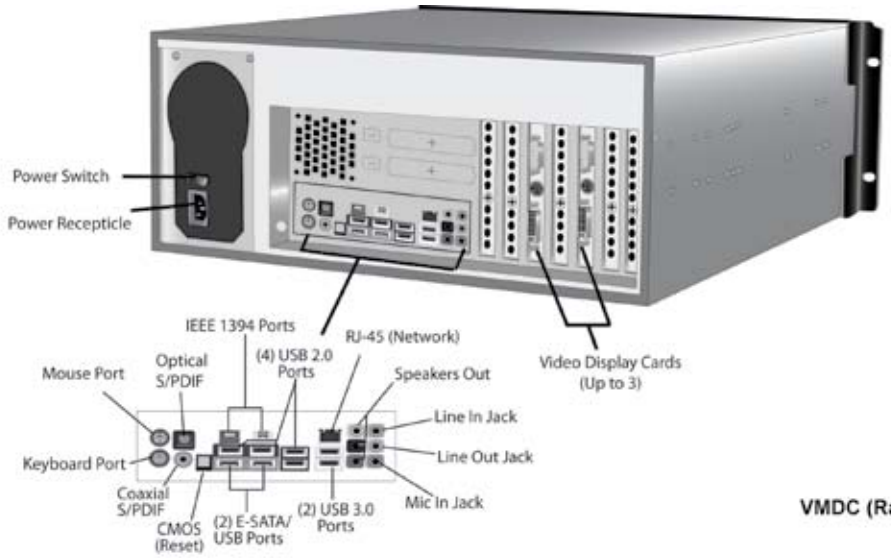
Warranty

3 years parts and labor

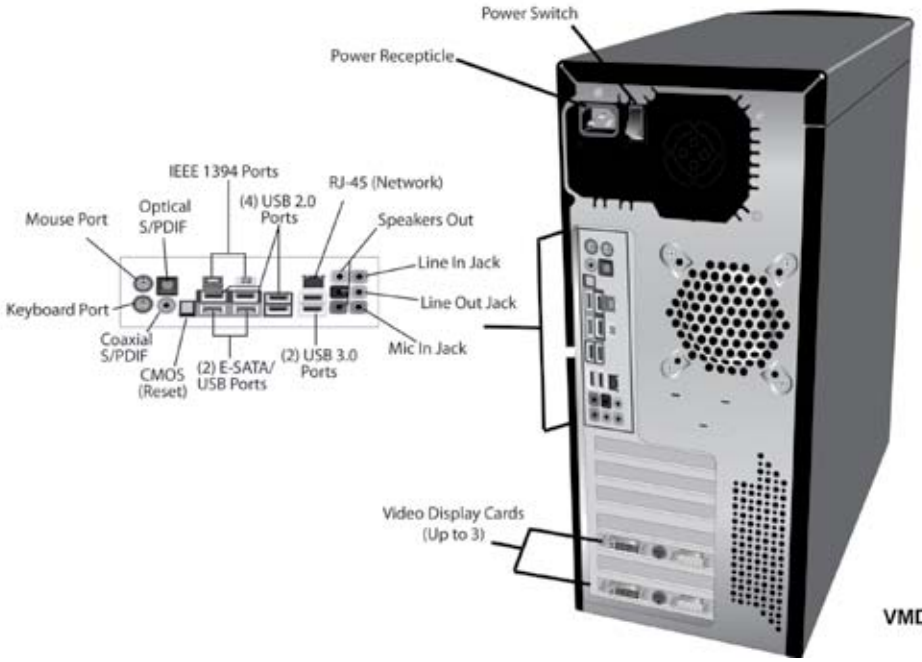
Ordering Information

Description	Model Number
Virtual Matrix Display Controller Software (Installation on 3rd party server). Single license.	VMDC-SW
Virtual Matrix Display Controller with 2 display outputs. 3RU rack-mount unit	VMDC-2R
Virtual Matrix Display Controller with 4 display outputs. 3RU rack-mount unit	VMDC-4R
Virtual Matrix Display Controller with 6 display outputs. 3RU rack-mount unit	VMDC-6R
Virtual Matrix Display Controller with 2 display outputs. Tower unit.	VMDC-2
Virtual Matrix Display Controller with 4 display outputs. Tower unit.	VMDC-4
Virtual Matrix Display Controller with 6 display outputs. Tower unit.	VMDC-6
Network Control Keypad. Used to control ViconNet digital video management systems over an IP network or serial connection. (VMDC is only operable through an IP network connection.)	V1500X-SCCS-1

Data Sheet Number: V212
Dated: 9/2012
Vicon Data Sheet Part Number: 8009-7212-00-08
Specifications subject to change without notice.

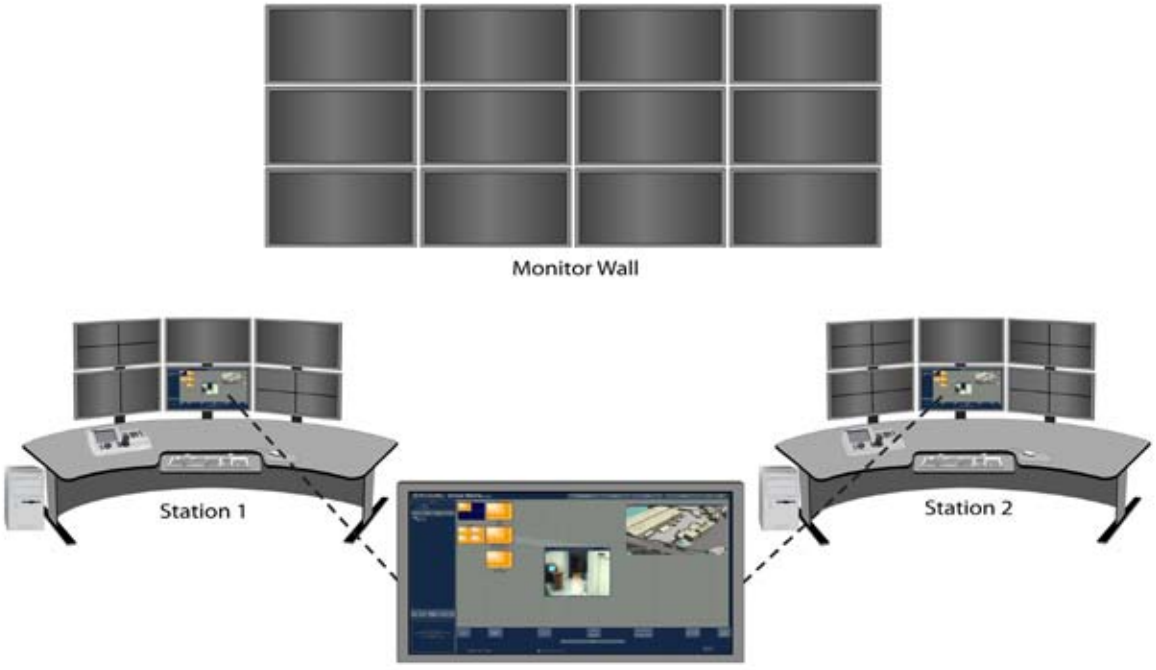


VMDC (Rack Mount)



VMDC (Tower)

VM Display Controller Multi-Station Installation



Main Monitor Display

A multiple station installation employing 2 VMDC Tower units is shown above. Station 2 can be at a remote location or another facility. ViconNet video is provided to each station via the network. Each operator has access to the Main Monitor Display and can view and control monitors on the Monitor Wall, if so equipped, or any system monitor. Typically, most operators would view local ViconNet video at their stations and one operator would control the VMDC.

This setup provides the following control options:

- Monitor wall can be set up with any combination of camera window views. For example: a single window on one monitor, a quad view on another, etc. The monitor windows can be divided into 1, 4, 9, 16, 25, 36 or 64 segments. There are a maximum of 150 video streams for each VMDC, regardless of how the monitors are segmented.
- Operator can start any camera on any monitor or any monitor window view by dragging and dropping views from the Main Monitor site list, group list or map by dropping the view on the selected monitor icon using a mouse, keypad or PLC control.
- Cameras may be placed on any of the monitors connected to either VMDC. Each operator has full control of every system camera.

System Performance

System performance will vary depending upon compression, resolution frame rate and other parameters. For example H.264 video streams will produce different results than that of MPEG-4 or MJPEG. The same is true of the number of cameras being controlled and whether they are standard resolution or megapixel cameras. A system that is 100% Vicon will perform better than an open-platform system with cameras from other manufacturers, since all of the factors affecting performance are optimized and under Vicon control. In addition, the VMDC has a built-in resource monitoring system that will prevent performance degradation by controlling factors such as frame rate, compression and resolution to ensure that the video stream is usable. This feature works with all components, regardless of compression method or if other manufacturer's devices are used in the system.

The diagrams that follow depict three common scenarios and provide representative performance data for each scenario using ViconNet compression at D1 and 2 CIF resolution and H.264 at D1, 2 CIF, 2 megapixel and 5 megapixel resolutions. In the Decoder scenario, video streams are displayed on all six monitors. An additional VMDC is required to control the displays. The Dual Monitor scenario depicts one display monitor and a control monitor. The Multi-Monitor scenario shows 2 - 5 display monitors and a control monitor. The total number of simultaneous video streams at each frame rate are shown for each scenario.