WatchNET®
SECURITY SINCE 2000

Video Wall Controller

WN-VWC

The Video Matrix Platform delivers a next-generation, telecom-grade video processing solution. In addition to being developed with a robust ATCA framework (Advanced Telecom Computing Architecture), this platform also has a modular design with a card-based structure that allows its input and output cards to be flexibly configured to suit your specific needs. This powerful platform efficiently acquires various types of signal sources, performs audio and video encoding, accesses network signals, and decodes and transmits videos to the video wall. It also features advanced functions such as matrix switching, plan management, video splicing, window roaming, and live video. Its versatility allows it to be effectively utilized in command centers, monitoring stations, conference rooms, exhibition halls and more locations.

KEY FEATURES:

Flexible Card Selection

Designed for easy card insertion, you can freely insert video input and output cards into the system without restrictions.

Stable Resolution Even at 4K

Supports acquiring and outputting signals at 4K@60 Hz, providing ultra-high resolution output through advanced video capture and splicing techniques.

LED Display Compatibility

The resolution can be customized for output ports, ensuring optimal compatibility with LED displays.

Scene

Suitable for command centers, monitoring centers, operation centers, digital exhibition halls and more scenes.

KEY FEATURES:

- Standard 19" 8U rack-mounted server with ATCA telecommunication-grade architecture. There are 9 slots for audio and video cards.
- Developed with a modular design, it is easy to insert cards and configure it to meet your needs.
- Offers redundant dual power supply, making it highly suitable for locations such as machine rooms.
- The embedded LINUX operating system is secure, reliable, stable, efficient, and user-friendly for developers and maintenance personnel.
- Supports input of up to 2 channels at 4K@60 Hz for UHD encoding, or 8 channels at 1080p@60 Hz for HD encoding.
- Supports up to 18 channels of 4K and 18 channels of 1080p signal output through HDMI ports, allowing for seamless splicing across up to 36 screens.
- Support decoding up to 432-channel HD videos at 1080p@25 fps.
- Decodes videos in 32 MP, 16 MP, 12 MP, 8 MP, 5 MP, 3 MP, 1080p, 720p, and D1.
- Supports the following standards: H.265, H.264, SVAC, MPEG4 and MJPEG.
- The device can be freely controlled through the webpage, desktop client and network keyboard.
- Features splicing, scaling, video integration, roaming, window opening, and layering.
- Supports 1, 4, 6, 8, 9, 16, 25, and 36 splits. You can also customize the split windows.
- Up to 128 presets can be set for scenes. You can also customize the layout of each scene on the video wall.
- Supports setting the default background color for the video wall and offers subtitles. You can also easily turn the screen on and off as needed.

TECHNICAL SPECIFICATION:

System	
Main Processor	64-bit high-performance octa-core processor
Operating System	Embedded Linux operating system
Bus	Dual bus for the network and serial ports
Slot	9 slots in total. 1 for the main control card and 8 for audio and video cards. Additionally, the audio and video cards can be freely inserted into their slots without restrictions.
Cabinet	Standard sized cabinet with a dual power supply and intelligent temperature control fan.

Port	
USB	2 × USB 3.0 ports
Network Port	2 × RJ–45 10/100/1,000 Mbps self-adaptive Ethernet ports
RS-232	2
RS-485	1
HDMI	4 output ports, including 2 HDMI 2.0 ports and 2 HDMI 1.3 ports.
Alarm Input Port	2 alarm input ports.
Alarm Output Port	1 alarm output port.
Audio Output Port	One 3.5 mm jack port
Type-C Port	1 Type C port

WN-VEDC	
Video Input	2 channels, including 1 HDMI 2.0 port and 1 HDMI 1.3 port.
Audio Input	2-channel HDMI embedded audio port
Encoding Format	H.264; H.265
Encoding Capability	Supports encoding for one channel output at 4096 × 2160@60 Hz, as well as one channel output at 1920 × 1080@60 Hz simultaneously.
Audio Encoding Format	PCM
Video Output	4 channels, including 2 HDMI 2.0 ports and 2 HDMI 1.3 ports. The maximum output resolution is 2-ch 4096 × 2160@60 Hz and 2-ch 1920 × 1080@60 Hz. Only the first 2 HDMI ports can output videos in 4096 × 2160@60 Hz. You can customize the output resolution.
Audio Output	4 × HDMI ports which can output audios independently.
Video Format	Supports decoding the videos in the following compression formats: H.265, H.264, MJPEG, PEG4, SVAC and MPEG2.
Decoding Capability	Supports decoding up to 100 channels. It can decode 3-channel videos in 32 MP@25 fps, 48-channel videos in 2 MP@25 fps, or 100-channel videos in D1@25 fps at a time. In this mode, the decoding windows cannot span multiple screens, and intelligent rules for displaying performance data must be disabled.
Decoding Resolution	Decodes videos in 32 MP, 16 MP, 12 MP, 8 MP, 5 MP, 3 MP, 1080p, UXGA, 720p, D1, HD1, 2CIF, CIF and QCIF. Only H.265 supports decoding videos in 32 MP, 16 MP and 12 MP.
Video Output Resolution	Outputs to the following resolutions through the first 2 HDMI ports: 4096 × 2160@60 Hz, 3840 × 2160@60 Hz, 4096 × 2160@24 Hz, 3840 × 2160@30 Hz, 2080 × 1560 @60 Hz, 2048 × 1152@60 Hz, 1920 × 1200@60 Hz. Additionally, it supports outputting videos in 1920 × 1080@60 Hz, 1280 × 1024@60 Hz, 1280 × 720@60 Hz, 1024 × 768 @60 Hz. You can customize the output resolution, but the width and height must not exceed the highest default resolution of the system.
Multi-screen Display	Supports 1, 4, 6, 8, 9, 16, 25, and 36 splits, and M × N custom split.

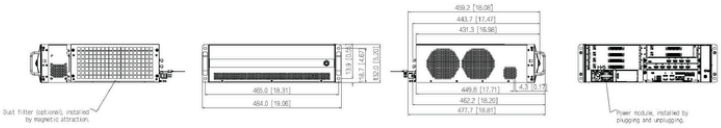
WN-VDC	
Video Output	4 channels, including 2 HDMI 2.0 ports and 2 HDMI 1.3 ports. The maximum output resolution is 2-ch 4096 × 2160@60 Hz and 2-ch 1920 × 1080@60 Hz. Only the first 2 HDMI ports can output videos in 4096 × 2160@60 Hz. You can customize the output resolution.
Audio Output	4 × HDMI ports which can output audios independently.
Video Format	Supports decoding the videos in the following compression formats: H.265, H.264, MJPEG, PEG4, SVAC and MPEG2.
Decoding Capability	Supports decoding up to 100 channels. It can decode 3-channel videos in 32 MP@25 fps, 48-channel videos in 2 MP@25 fps, or 100-channel videos in D1@25 fps at a time. In this mode, the decoding windows cannot span multiple screens, and intelligent rules for displaying performance data must be disabled.
Decoding Resolution	Decodes videos in 32 MP, 16 MP, 12 MP, 8 MP, 5 MP, 3 MP, 1080p, UXGA, 720p, D1, HD1, 2CIF, CIF and QCIF. Only H.265 supports decoding videos in 32 MP, 16 MP and 12 MP.
Video Output Resolution	Outputs to the following resolutions through the first 2 HDMI ports: 4096 × 2160@60 Hz, 3840 × 2160@60 Hz, 4096 × 2160@24 Hz, 3840 × 2160@30 Hz, 2080 × 1560 @60 Hz, 2048 × 1152@60 Hz, 1920 × 1200@60 Hz. Additionally, it supports outputting videos in 1920 × 1080@60 Hz, 1280 × 1024@60 Hz, 1280 × 720@60 Hz, 1024 × 768 @60 Hz. You can customize the output resolution, but the width and height must not exceed the highest default resolution of the system.
Multi-screen Display	Supports 1, 4, 6, 8, 9, 16, 25, and 36 splits, and M × N custom split.

Function	
Multi-screen Display	Supports 1, 4, 6, 8, 9, 16, 25, and 36 splits, and M × N custom split.
Interoperability	ONVIF; RTSP; WatchNET Protocol
Transmission Protocol	TCP; UDP; RTP; RTSP; RTCP
Max System Configuration	Supports installation of up to 8 audio and video cards. The maximum output resolution is 18-ch 4K@60 fps and 18-ch 1080p@60 fps. The maximum input resolution is 8-ch 4K@60 Hz or 8-ch 1080p@60 fps.
Network Signal Access	Supports accessing up to 1,024 network channels.

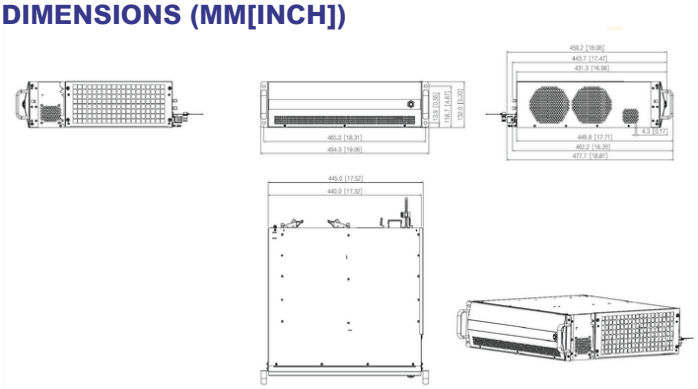
Screen Splicing	Supports splicing up to 36 screens.
Spliced Screen Function	Features splicing, scaling, video integration, roaming, window opening, and layering.
Equipment Management	Supports local and network signals, and custom signal groups.
Control Mode	Supports local GUI operations and connecting to the webpage, PC client and network keyboard.

General	
Power Supply	100–127 VAC/200–240 VAC; 50–60 Hz; 10 A/5 A; hot swapping
Power Redundancy	Dual
Power Consumption	≤ 140 W
Operating Temperature	0 °C to +50 °C (+32 °F to +122 °F)
Operating Humidity	10%–90% (RH), non-condensing
Storage Temperature	0 °C to +50 °C (+32 °F to +122 °F)
Storage Humidity	10%–90% (RH), non-condensing
Product Dimensions	484 mm × 782 mm × 134 mm (19.06" × 30.79" × 5.28") (L × W × H)
Packaging Dimensions	573 mm × 553 mm × 256 mm (22.56" × 21.77" × 10.08") (L × W × H)
Gross Weight	15 kg (33.07 lb)
Net Weight	13 kg (28.66 lb)
Series	VWC
Type	Server

INSTALLATION



DIMENSIONS (MM[INCH])



PANELS

1	Power
2	Reset
3	Type-c port
4	Indicator light
5	USB 3.0 port
6	HDMI output
7	Alarm input, alarm output, standard RS–485 port
8	Network port (10/100/1000 Mbps Ethernet port)
9	RS–232 port of screen control
10	Audio out
11	Alarm clear
12	Ground

CANADA
351 Ferrier St. Unit 5
Markham, Ontario L3R 5Z2
Tel. +1-416-410-6865
Toll Free: 1-866-843-6865

USA
417 Old Falls Blvd.
N. Tonawanda, NY 14120
Tel. +1-716-877-7277
Toll Free: 1-866-843-6865

MIDDLE EAST
PO Box No 126312
Suite 703 Oxford Tower
Business Bay, Dubai, UAE
Tel. + 971-4-2767117

WatchNET®
SECURITY SINCE 2000

www.watchnetinc.com
info@watchnetinc.com

March 2026