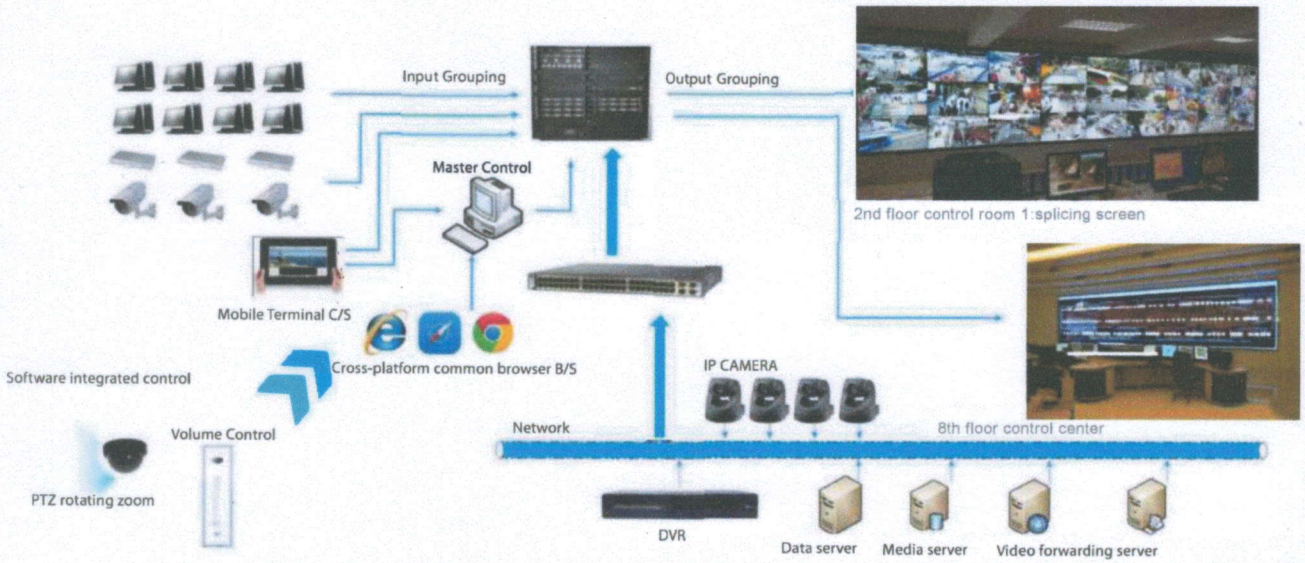
Wall controller

ORVW (Orion video wall controller) Series

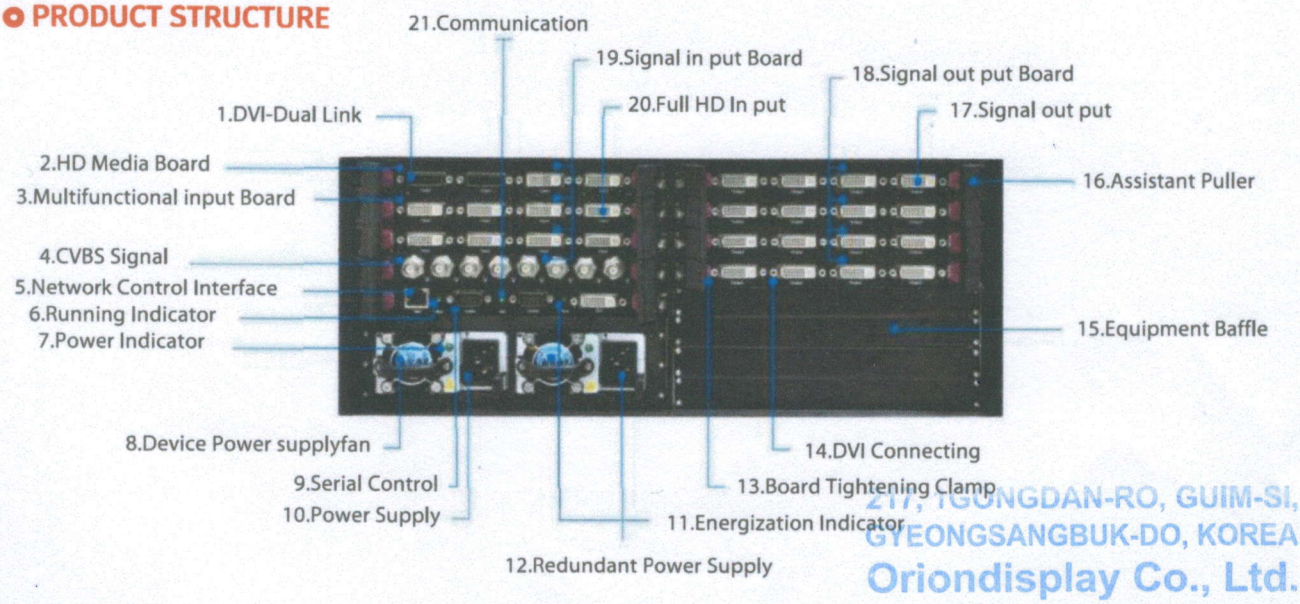
Orion's brand new video wall controller, ORVW series is professional image processing product based on 6.25G processing chip performing fast speed, professional video wall control, IP-Video decoding and various I/O inferface supporting 4K resolution with long term reliability.

DIAGRAM



- Input : VGA/ DVI/ HDMI/ SDI/ CVBS/ Duallink-DVI/ IP-Video/ DP/ HDBaseT/ Fiber
- Output : DVI/ HDMI/ VGA/ SDI/ 4K HDMI/ HDbaseT/ Fiber
- Control : serial, network, third-party control system, ipad etc.

PRODUCT STRUCTURE



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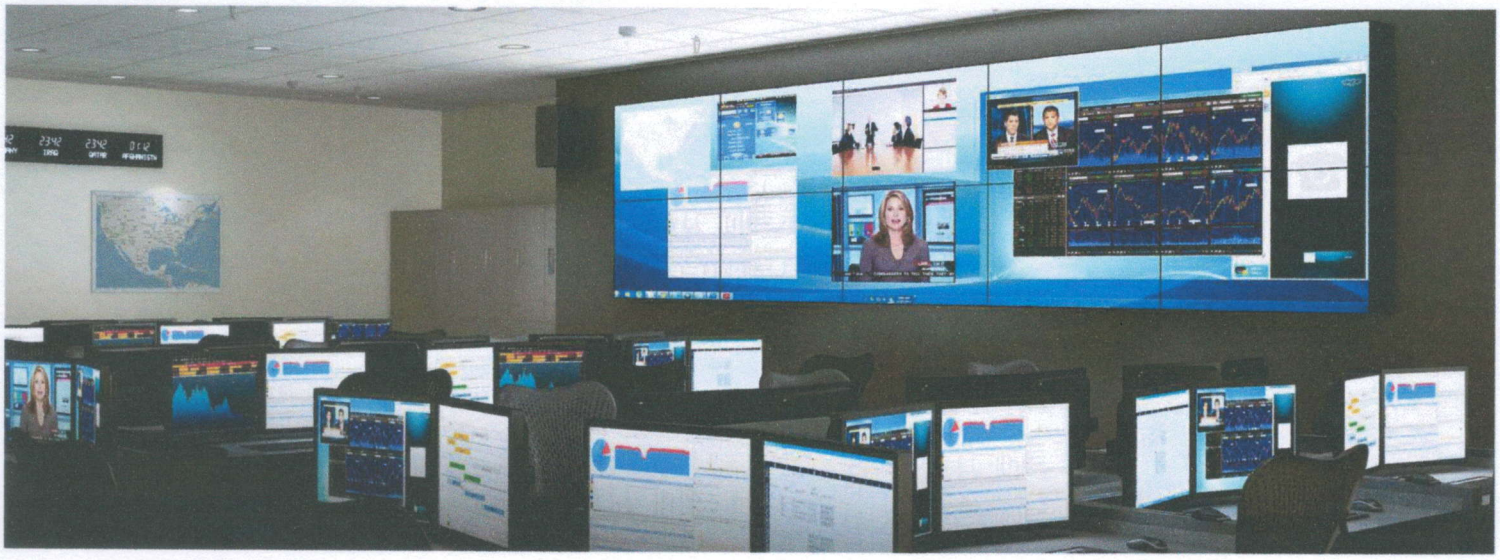
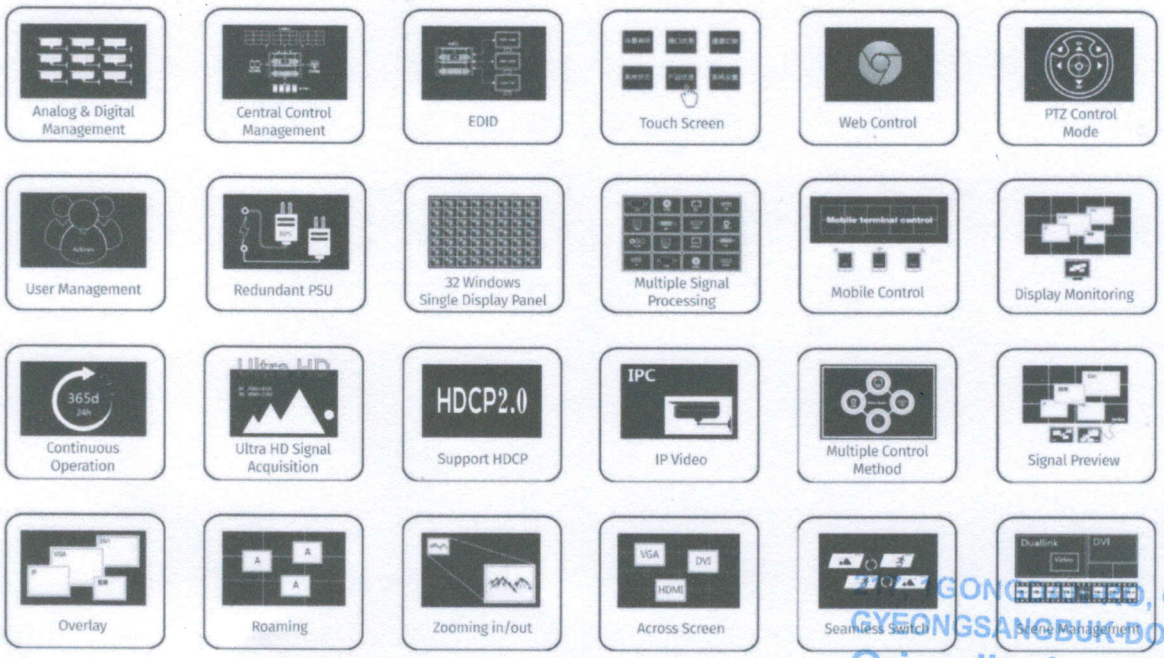


FEATURES

- Pure-hardware FPGA Array, modular design, 6.25G/s base exchange processing speed;
- Support hot-swappable for I/O modules, control modules, redundant power supply. Easy to upgrade and maintenance;
- Support VGA/DVI/HDMI/CVBS/DP/SDI/HDbaseT/IP-Video/Fiber input sources and VGA/DVI/HDMI/SDI/CVBS/HDbaseT/Fiber output;
- Support 4K DP/HDMI/Dual-link DVI input and 4K HDMI output;
- Support VGA/DVI/HDMI sources seft-adaption on single input card;
- Support HDCP2.0 for HDMI/DP input and output;
- Support opening at least 8 windows on each two layouts;
- Support up to 16 video wall groups control on single controller and work with variety of display terminals such as LCD, LED, DLP, projector;
- Support layouts management, up to setup and display 255 layouts;
- Integrated with hybird matrix function, output windows switching, friendly to system integrator;
- Support input source previewing and monitoring(refresh rate 24-30Hz), text overlay input source;
- Variety of control methods such as RS232, Network and compatible with third party control system;
- Support multi-user control management, software can be set through the operation authority, according to the authority level to develop different operating functions, different levels, different operating privileges, and can be set at any output authority range;
- B/S and C/S dual mode visualization control platform, support roaming, overlay, zoom in/out, multi-windowing, switch, overlay, picture-in-picture, signal clip and a variety of display modes such as split screen, full screen and combination screen;
- Support EDID, customize the output resolution according to the physical resolution of the display system;
- Advanced image decoding technology, compatible with a number of manufacturer's IPC signal and seamless access with variety resolutions such as 1080P, 720P, etc.

RELEVANT FUNCTION INDICATION



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INPUT CARDS

Quad-Channel DVI Input Card

Quad-Channel VGA Input Card

Quad-Channel HDMI Input Card

Quad-Channel DP Input Card

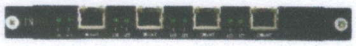
Quad-Channel SDI Input Card

8-Channel CVBS Input Card

Dual-Channel 4K DP Input Card

Dual-Link DVI Input Card

Dual-Channel 4K HDMI Input Card



Quad-Channel HDBaseT Input Card

Quad-Channel Fiber Input Card

Dual-Channel IP Input Card

OUTPUT CARDS

Quad-Channel DVI Output Card

Quad-Channel VGA Output Card

Quad-Channel HDMI Output Card

Quad-Channel SDI Output Card

Quad-Channel CVBS Output Card

Quad-Channel HDBaseT Output Card

Quad-Channel Fiber Output Card

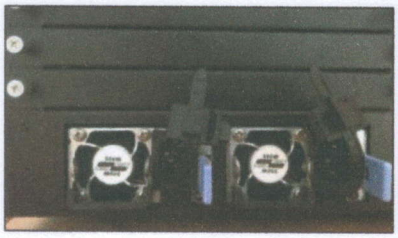
Dual-Channel 4K HDMI Output Card

CONTROL CARDS

Control Card A

Control Card B
(With Signal Preview)

REDUNDANT PSU



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SPECIFICATIONS

Device size	ORVW-4U		ORVW-8U		ORVW-16U		ORVW-24U		ORVW-32U	
	Input	Output	Input	Output	Input	Output	Input	Output	Input	Output
Slots	9	9	9	8	20	20	40	40	80	80
Redundant PSU	1+1		1+1		2+2		2+2		4+4	

SYSTEM PARAMETERS

Product hardware information	System structure	Pure hardware FPGA architecture
	Start up	≤15s
	Operating system	No CPU and operating system
	Board type	Pure hardware pluggable, hot-swappable structure
Input/output signal	Input type	VGA, DVI, HDMI, DP, CVBS, SDI, HDBaseT, IP-Video, Fiber
	Input channel	1080P up to 320 channel, 4K up to 80 channel
	Output type	VGA, DVI, HDMI, CVBS, SDI, HDBaseT, Fiber
	Output channel	1080P up to 320 channel, 4K up to 80 channel
Image processing	Display mode	Roaming, overlay, zoom in/out, multi-windowing, layout switch, PIP, full screen and combination screen
	Input resolution	Single channel 4K: duallink DVI, HDMI, DP
	Layout/signal switching time	Millisecond-level switching
	Number of signal copy	Up to 16
	Max input/output resolution	3840×2160
	Single-screen window	At least 8 windows on each two screens
	Hot-swappable	Support
	Power supply configuration	N+1 redundant power supply structure
	Signal preview	Support
Control function	Control structure	Software/ hardware
	Maximum layouts	255
	Control method	RS-232/ Ethernet RJ45 10/100/100 Base T and compatible with third party control system
	Management mode	Browser/ sever, client/ server
	Matrix control	Supports digital/ analog matrix linkage control
Stability	Safety	Hardware structure, no virus interference
	MTBF	>50.000 hrs
	Continuity	365 days, 7×24 hours operation
Working environment	Operating temperature	-15~60℃
	Storage temperature	-30~75℃
	Operating humidity	10 to 90% without condensation
	Storage humidity	5~95% without condensation
	Redundant PSU	550W redundant PSU, 100-240VAC
	Software	Windows 7/8/10/11 systems

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MODULE PARAMETERS

Image processing module	Parallel computing chip FPGA	Monolithic capacity: 70000 LE
	Serial computing chip DSP	Monolithic speed: 6.25 G/s
System bus scale	System bus scale single channel LVDS speed	4G/S
	4U device	144-way×4G/S
	8U device	288-way×4G/S
	16U device	576-way×4G/S
	24U device	1440-way×4G/S
	32U device	2880-way×4G/S
Image display capability	Single output channel display	128M
	Output video memory	N×128M, N is the number of output channels
	Display unit arrangement	A rectangle or part of a rectangle.
	Output resolution	800×600 to 3840×2160
	Color depth	24 bits
	Output signal	DVI-I connector, compatible with analog and digital output
Video signal input	Composite video CVBS	Interface: BNC, a group consisting 8 interfaces
		Format: NTSC, PAL, SECAM adaptive
	Component video YPbPr	Interface: BNC, a group consisting 4 interfaces
		Resolution: 480-1080P
	Serial Digital Video SDI	Interface: BNC, a group consisting 4 interfaces
		Resolution: SDI, HD-SDI, 3G-SDI
RGB input	Interface	HD15 needing DVI-HD15 Interface conversion, a group consisting 4 interfaces
	Resolution	800×600 to 1920×1200, special resolutions can be added
	Clock	170M/S
Single-linkage DVI input	Interface	DVI-I, a group consisting 4 interfaces
	Resolution	800×600 to 1920×1200, special resolutions can be added
	Clock	165M/S
Dual-linkage DVI input	Interface	DVI-D, a group consisting 2 interfaces
	Resolution	800×600 to 4096×1536, special resolutions can be added
	Clock	2×165M/S
HDMI input	Interface	HDMI, a group consisting 4 interfaces
	Resolution	800×600 to 1920×1200, sapecial resolutions can be added
	Clock	165M/S
DP input	Interface	DP, a group consisting 4 interfaces
	Resolution	800×600 to 1920×1200, special resolutions can be added
	Clock	165M/S

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4K-HDMI/DP input	Interface	HDMI2.0/DP, a group consisting 2 interfaces
	Resolution	3840×2160@60 Hz
	Clock	2×165M/S
IP-Video network decoding input	Interface	RJ45, a group consisting 2 interfaces
	Resolution	CIF to 1920×1200, special resolutions can be added
	Decoding capability	36×1080P, 72×720P, 144×D1
	Network speed	Gigabit ethernet
HDBaseT input and output	Interface	RJ45, a group consisting 4 interfaces
	Resolution	CIF to 1920×1200, special resolutions can be added
	Transmission medium	6 categories of network cable
	Transmission distance	70/150m transmission distance optional
Single-core optical fiber input and output	Interface	SFP multimode/ LC interface, a group consisting 4 interfaces
	Maximum resolution	1920×1200, or special resolution
	Transmission medium	Single-core optical fiber, single-mode/ multimode optional
	Transmission distance	300-500m, 10-40Km optional
DVI output	Interface	DVI-D, agroup consisting 4 interfaces
	Resolution	800×600 to 1920×1200
	Signal type	DVIHD Digital Video Signal
	Clock	165M/S
VGA output	Interface	HD15, a group consisting 4 interfaces
	Resolution	800×600 to 1920×1200
	Signal type	VGA analog video signal
	Clock	165M/S
HDMI output	Interface	HDMI type A, a group consisting 4 interfaces
	Resolution	800×600 to 1920×1200
	Signal type	DVI HD digital video signal
	Clock	165M/S
SDI output	Interface	BNC, a group consisting 4 interfaces
	Resolution	Support SD/HD/3G-SDI
	Signal type	HD SDI uncompressed video signal
Video output CVBS	Interface	BNC, a group consisting 8 interfaces
	Resolution	D1
	Signal type	CVBS composite video signal, N/P adaptive
4K-HDMI output	Interface	HDMI type A, a group consisting 2 interfaces
	Resolution	3840×2160
	Signal type	HDMI2.0
	Clock	2×165M/S

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