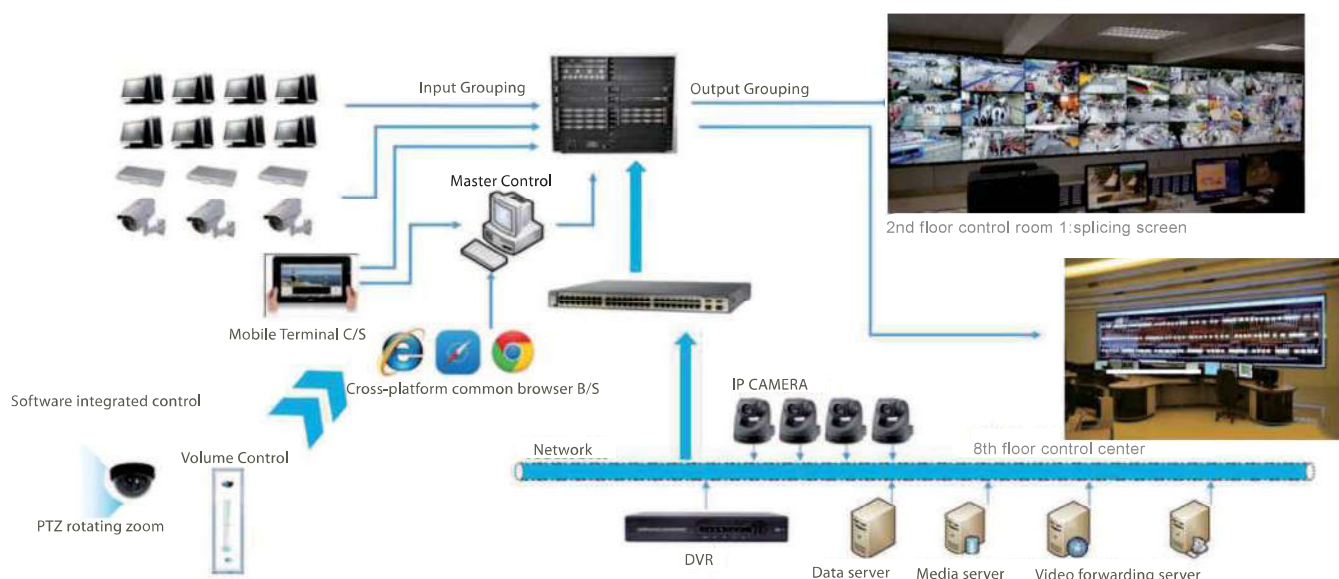


# Wall controller

## ORVW (Orion video wall controller) Series

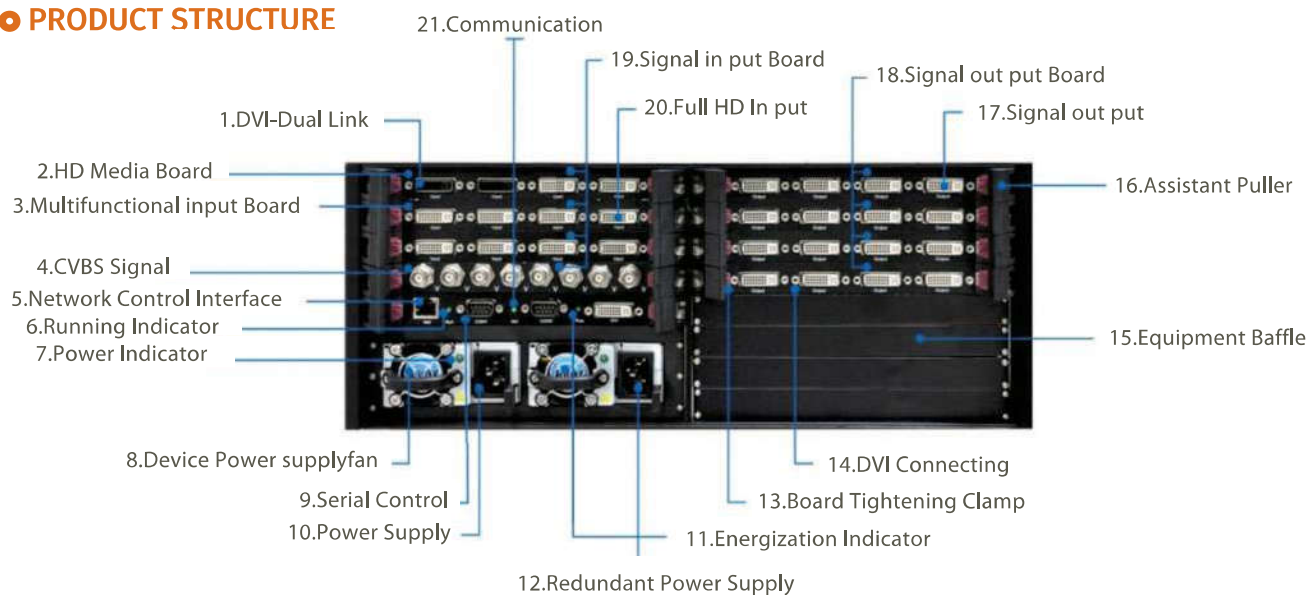
Orion's brand new video wall controller, ORVW series is professional image processing product based on 6.25G processing chip performing fast speed, professional video wall control, IP-Video decoding and various I/O interface supporting 4K resolution with long term reliability.

### 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

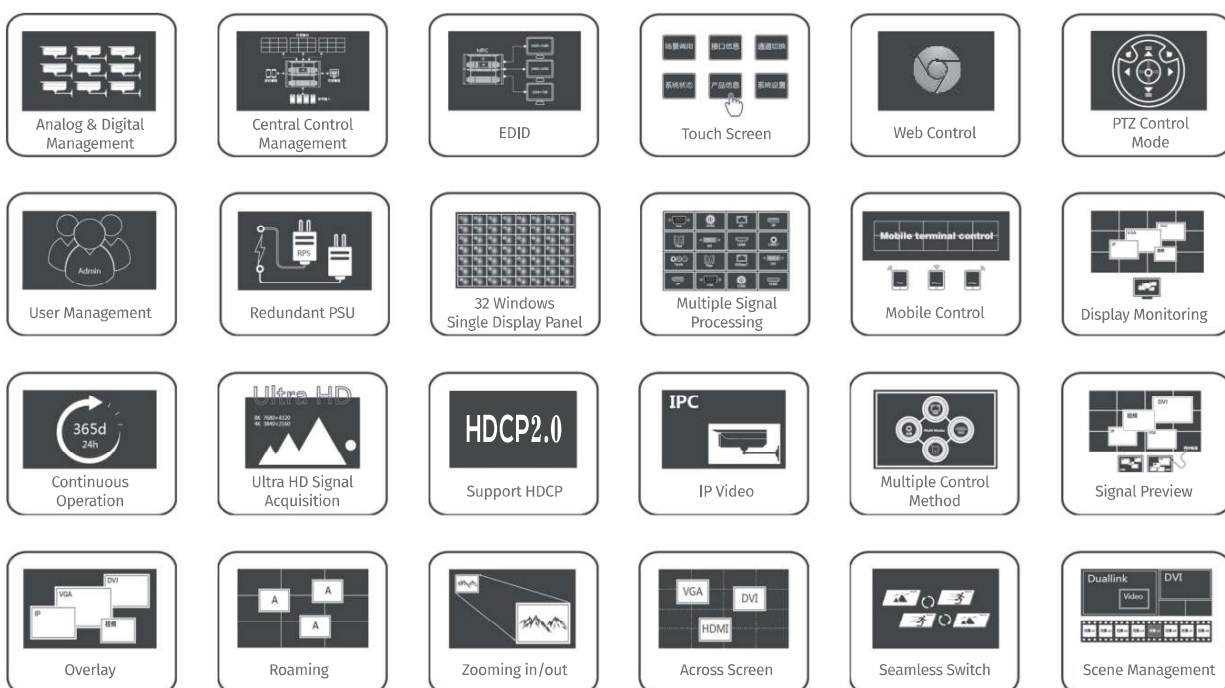




## ● FEATURES

- 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 soft-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 hybrid matrix function, output windows switching, friendly to system integrator;
- Support input source previewing and monitoring(refresh rate 24-30Hz);
- 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



## ● 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



## ● SPECIFICATIONS

| Device size   | ORVW-4U |        | ORVW-8U |        | ORVW-16U |        | ORVW-24U |        | ORVW-32U |        |
|---------------|---------|--------|---------|--------|----------|--------|----------|--------|----------|--------|
|               | Input   | Output | Input   | Output | Input    | Output | Input    | Output | Input    | Output |
| Slots         | 4       | 4      | 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                | RS232/ ethernet 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  |



## ● 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<br>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  |
| Video signal input       | Output signal                                 | DVI-I connector, compatible with analog and digital output                           |
|                          | Composite video CVBS                          | Interface: BNC, a group consisting 8 interfaces<br>Format: NTSC, PAL, SECAM adaptive |
|                          | Component video YPbPr                         | Interface: BNC, a group consisting 4 interfaces<br>Resolution: 480-1080P             |
|                          | Serial Digital Video SDI                      | Interface: BNC, a group consisting 4 interfaces<br>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   |

|  |                       |  |
|--|-----------------------|--|
| 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                                    |
| HDBaseT input and output                   | Network speed         | Gigabit ethernet   |
|  | Interface             | RJ45, a group consisting 4 interfaces                        |
|  | Resolution            | CIF to 1920×1200, special resolutions can be added           |
| Single-core optical fiber input and output | Transmission medium   | 6 categories of network cable                                |
|  | Transmission distance | 70/150m transmission distance optional                       |
|  | 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, a group consisting 4 interfaces                       |
|  | Resolution            | 800×600 to 1920×1200   |
|  | Signal type           | DVIHD Digital Video Signal                                   |
|  | Clock                 | 165M/S   |
|  | Interface             | HD15, a group consisting 4 interfaces                        |
|  | Resolution            | 800×600 to 1920×1200   |
| VGA output                                 | Signal type           | VGA analog video signal                                      |
|  | Clock                 | 165M/S   |
|  | Interface             | HDMI type A, a group consisting 4 interfaces                 |
| HDMI output                                | 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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