

Digicom® Ark3000 Series

Powerful Video Wall Processor for Real-time Display



Digicom® Ark3000



Digicom® Magic 3000/3100/7000

VTRON's Digicom® Ark3000 series is a powerful video wall processor capable of driving up to 336 display units fulfilling all demanding 24/7 control room visualisation needs. With bandwidth reaching $n \times 280\text{Gbps}$ and its Real-time Intelligent Exchange Transmission (RIET) technology, the Digicom® Ark3000 series supports real-time display. Featuring its genuine hot swappable processing boards and redundant power supplies and fans, the Digicom® Ark3000 series assures easy and minimum maintenance.



Real-time Intelligent Exchange Transmission (RIET) technology

- Each signal and ultra-high resolution desktop is allocated to a dedicated high-speed data channel for parallel processing and real-time transmission
- Displays up to 1,334 hardwired real-time windows simultaneously with no frame lost



High reliability

- Power supply¹ and cooling fans are redundant for reliability and 24/7 operation
- Core components are monitored in real-time, automatically detecting and alerting mechanism
- Failure of desktop will not close all signal windows on the video wall
- Instant image recovery (MTTR≤40s) after the processing board is hot swapped



Hot-swap



Powerful processing and scalability

- Innovative modular design has strong scalability that expansion is easy
- Supports different signals (DVI / analog RGB / video / Network PC signal / IP streaming video / HDMI / SDI / Dual Link DVI / DisplayPort / fiber-optic)
- Fiber-optic architecture supports up to 300 meters signal transmission from the sources to Digicom® Ark3000 series and another 300 meters from the processor to video walls. It also supports hardwired real-time signal sharing among several Digicom® Ark3000 processors of which the distance is up to 300 meters. High image quality and security are assured.
- Up to 336 outputs
- Up to 336 Dual link DVI / DisplayPort inputs
- Up to 1,008 DVI / analog RGB / video / HDMI inputs
- Up to 672 SDI / fiber-optic inputs
- With the audio processing board, Digicom® Ark3000 series supports audio-video output synchronization.
- With Digicom® SMA3100, Digicom® Ark3000 series can be upgraded to a hybrid processing system which supports both hardwired real-time signal output and IP signal output (to other processors/ decoders in the same network).



Flexible modular design

Digicom® Ark3000 series meets different applications when it works with Digicom® Magic processors. All functional modules possess their own resources independently.

Digicom® Magic3100/3000

- Provides ultra-high resolution desktop
- Supports most of industrial application software
- Front panel display for fan, temperature and power supply monitoring



Digicom® Magic7000

- Provides ultra-high resolution desktop
- Supports multi-layer GIS and 3D applications
- Supports up to 64 outputs with Digicom® Ark3300SP processors
- Front panel display for fan, temperature and power supply monitoring

Video wall system with 2-16 cubes



Ark3100SP + Magic3000

Video wall system with 2-32 cubes



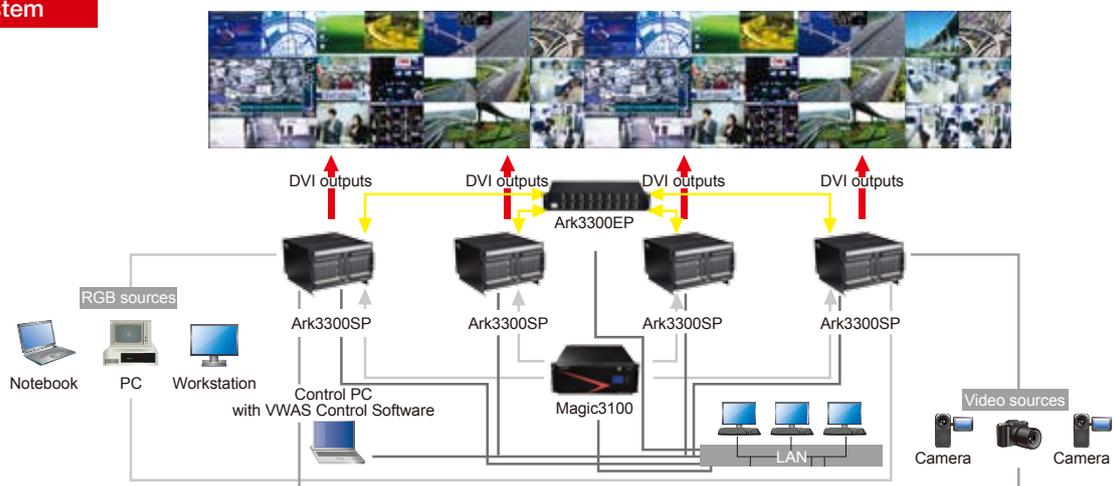
Ark3200SP + Magic3000

Video wall system with 2-336 cubes



Ark3300SP + Magic3100 + Ark3300EP

Design of 3x15 system





VTRON's software

VTRON Video Wall Management System (VWAS/VCMS/VEMS) provides:

Window operation management

- Open/close/resize/move the signal windows
- Window properties

System information management

- Log management
- Operating information
- Warning information

Hardware device management

- VTRON video wall and processor management
- Matrix switch management
- Multi-function device management
- Digital signal server management
- Signal source management

Layout management

- Create/save/delete display layout
- Launch display layout
- Scheduling of layouts

Allowed third party device controls

- Launch display layout
- On/off VTRON video wall



With **VIS Basic software**, the operator can use its mobile device to carry out following functions:

- Signal window operation (open, close, resize, move, full screen, tile, signal search, etc)
- Turn on/off VTRON video wall(s)
- Video wall list, mode list, mode execution
- Gesture control the signal window

VLinkExpress, a high performance screen captured software:

- It allows multiple Windows® based desktops on client PCs to be captured via LAN and displayed on the display wall.
- The proprietary screen captured algorithm provides high speed and high performance capturing of desktop images. Its performance is several times higher than other 3rd party screen captured software.
- The screen captured by VLinkExpress can be resized, moved or opened/ closed on the VWAS/VCMS/VEMS.
- The content of captured screen can be accessed by using mouse and keyboard.



VSE (Virtual Screen Explorer) is based on proprietary software solution for projecting the Windows® based client PC's super high resolution application. Customer's applications are also captured and processed by VLinkExpress on same workstation and via network projecting the image to the display wall:

- It provides a virtual platform for running customer's super high resolution application, mapping pixel-to-pixel of the application and projecting super high resolution image to large video wall via VLinkExpress.
- Many times higher performance than any conventional graphic card output.
- High performance processing algorithm and less loading to the CPU of video wall processor.

Technical Specifications

	Digicom® Ark3300SP	Digicom® Ark3200SP / 3100SP
Number of inputs	1008 max. video or DVI / VGA / HDMI 336 max. Dual Link DVI / DisplayPort / 672 max. SDI 8 input board slots per chassis	96 max. / 48 max. video or DVI / VGA / HDMI 32 max. / 16 max. Dual Link DVI / DisplayPort, 64 max. / 32 max. SDI 8 input board slots per chassis
Video input board (optional)	6 channels per board, CVBS Input format: NTSC (30fps), PAL (25fps) Signal input connector: BNC Hot swappable module with instant image recovery	
RGB input board (optional)	6 channels per board Up to 1920x 1200@60Hz Signal input connector: DVI-D or VGA or 5BNC Hot swappable module with instant image recovery	
HDMI input board (optional)	6 channels per board, HDMI V1.3a Support HDCP standard protection protocol Max. resolution of 1920 x 1080 @ 60Hz Signal input connector: HDMI Hot swappable module with instant image recovery	
Dual link DVI input board (optional)	2 channels per board Max. resolution of 4088 x 4088 Signal input connector: DVI-D Hot swappable module with instant image recovery	
DisplayPort input board (optional)	2 channels per board, DP V1.1a Max. resolution of 4096 x 4096 Signal input connector: DisplayPort Hot swappable module with instant image recovery	
SDI input board (optional)	4 channels per board Support HD-SDI, 3G-SDI, SD-SDI Signal input connector: BNC Hot swappable module with instant image recovery	
Fiber-optic input board (optional)	4 channels per board Max. resolution of 1920 x 1080 @ 60Hz Signal input connector: fiber-optic LC Hot swappable module with instant image recovery	
IP input board* (optional)	Up to 4 channels of 1920 x 1080 @ 60Hz per board Support standard H.264 and standard RTSP Support resolution: 1080P, D1 Signal connector: RJ45 Hot swappable module with instant image recovery	
Audio processing board* (optional)	4 channels of dual track or 8 channels of single track Support audio signal input from PC, DVD, and Microphone, etc Audio input from IP encoder* processed by IP input board can be outputted to the audio processing board Audio signal connector: 3.5mm or RCA Hot swappable module with instant service recovery	
Wall live view board (optional)*	Output resolution: 3840 x 2160@30Hz (HDMI), 1920 x 1080@30Hz (IP) Output connector: HDMI, RJ45 Hot swappable module with instant image recovery	
Number of outputs (optional)	336 max., output connector: DVI-D, optional fiber-optic LC	32 max. / 16 max., output connector: DVI-D, optional fiber-optic LC
Output resolution	Up to 1920 x 1200 @ 60Hz	
Total bandwidth for signal transmission	280Gbps per chassis N x 280Gbps (N is the number of chassis)	
Power supply type	N+1 hot swappable, redundant power supply	
Power rating	AC 100V - 240V Frequency: 50 / 60Hz @ ≤750W per chassis Max. 8A per chassis	
Operating temperature	0°C - 40°C	
Operating humidity	20% - 90% (non-condensing)	
Weight	≤42Kg per chassis	
Dimensions (W x H x D)	482.6mm x 265.9mm x 523mm (excluding the handle) 19" standard chassis, single chassis 6U high (excluding 1U of base plate)	
Model	Digicom® Magic3100	Digicom® Magic3000
CPU	Intel Multi-core	
Memory	4GB	8GB
Hard disk	2 x 1TB, RAID 0/1 (optional)	
Optic drive	DVD-ROM	
Network interface	Dual gigabit RJ45 port, 100 / 1000Mbps self-adaptive Ethernet port	
Operation system	Windows® 7	Windows® 10, Linux CentOS 6.0 (optional)
Cooling fans of the chassis	Dual hot swappable cooling fans	
Power rating	AC 100 V - 240 V Frequency: 50 / 60 Hz @ ≤300 W Max. 4A	
Power supply type	1+1 hot swappable, redundant power supply	Single power supply
Operating temperature	0°C - 40°C	
Operating humidity	20% - 80% (non-condensing)	
Weight	≤30Kg	≤30Kg
Dimension (W x H x D)	482.6mm x 177mm x 590mm (excluding the handle) 19" standard chassis, 4U high	
VTRON's software	Mandatory: VVWAS/VCMS/VEMS Included: VIS Basic Optional: VLinkExpress + VSE, VIS3.0	
Model	Digicom® Ark3300EP	
External interfaces	DC power interface: two external DC power input interfaces 100Mbps RJ45 port: one 10 / 100Mbps self-adaptive Ethernet port	
Input/output interface	High-speed data transmission connector	
Power rating	DC 12V 5A @ ≤80W	
Working environment	Operating temperature: 0°C - 40°C Relative humidity: 20% - 90% (non-condensing)	
Chassis dimension (W x H x D)	482.6mm x 88mm x 211mm (excluding the handle) 19" standard chassis, 2U high	
Weight (net weight)	≤17kg	
Model	Digicom® EPO101 (optional)	
Component	One set of EPO101 consists of 2 fiber-optic cascade convertors	
Interface	2 high-speed data transmission connectors per fiber-optic cascade convertor 8 fiber modules per fiber-optic cascade convertor	
Transmission distance	Up to 300 meters (between 2 fiber-optic cascade convertors)	
Power rating	DC 5V 4A @ ≤20W	
Model	Digicom® SPV3008 (optional)	
Input interface	One high-speed data transmission connector	
Preview signal source	VGA, DVI, SDI, HDMI, Dual Link DVI, Video, DisplayPort, IP video, etc	
Ethernet port	1000Mbps RJ45, 100/1000Mbps self-adaptive	
Power rating	DC 12V 6.66A @ ≤30W	
Chassis dimension (W x H x D)	432.6mm x 43mm x 208mm (excluding the handle)	
Model	Digicom® SMA3104 (optional)	
Input interface	One high-speed data transmission connector	
Signal source supported	VGA, DVI, SDI, HDMI, Dual Link DVI, Video, DisplayPort, etc.	
Ethernet port	1000Mbps RJ45, 100/1000Mbps self-adaptive	
Output	Max. 4 channels of 1920 x 1080 @ 30Hz Format: H.264, protocol: RTSP	
Power rating	DC 12V 6.66A @ ≤30W	
Chassis dimension (W x H x D)	432.6mm x 43mm x 208mm (excluding the handle)	

Remarks:

Specifications are subject to change without prior notice.

1. This feature is applicable to particular models.
2. Compatibility needs prior verification.
3. Audio processing board occupies the output slot of the processor.
4. Wall live view needs prior verification, when Digicom® Ark processor is used with LED video wall.
5. Depends on the type of display unit and actual application.



VTRON

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