# Digicom® Ark5000 Series

## Powerful, easy-to-operate for seperated video walls[1]

Digicom® Ark5000SP      Digicom® Magic3000/7000

VTRON's Digicom® Ark5000 series is a brand new RIET processor, which is capable of driving up to hundreds of display units fulfilling all demanding 24/7 control room visualisation needs. Digicom® Ark5000 can support layout content preview[1] and drive separated video walls[1]. With bandwidth reaching n x 750Gbps and its Real-time Intelligent Exchange Transmission (RIET) technology, the Digicom® Ark5000 series supports real-time display. Featuring its genuine hot swappable components, the Digicom® Ark5000 series assures easy 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
- Broadcast level of fast and seamless layout switching[1] — no darkness during layout switching

Common Layout switching

Seamless layout switching
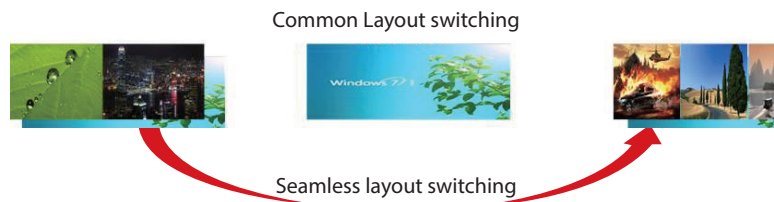
## High reliability

- Power supply[2] and cooling fan are redundant for high reliability and 24/7 operation
- Failure of desktop will not close all signal windows on the video wall
- Innovative architecture supports multiple desktop processors with one key to switch between the main and redundant desktop processor[1]

One key to
switch desktop

Main desktop processor
Redundant desktop processor

Auto recovery

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## Powerful processing and scalability

- A single chassis of Digicom® Ark5000SP can support up to 32 DVI outputs. By cascading several chassis of Digicom® Ark5000SP, Digicom® Ark5000 series is able to drive hundreds of display units and accept large number of signal inputs

- A single chassis of Digicom® Ark5000SP can support up to 72 channels of 1080P HDMI/ DVI/ VGA/ SDI inputs, or up to 36 channels of DP/ 4K HDMI inputs, or up to 144 channels of 1080P IP Video inputs

- With the audio processing board, Digicom® Ark5000 series supports audio-video output synchronisation

- With the 4K output board, Digicom® Ark5000 series can share video wall signals on extended 4K displays

- Multiple types of video walls or different configurations of video walls can be driven simultaneously by one set of Digicom® Ark5000 series[1]

**Different types of video walls**          **or**          **Different configurations of video walls**

LED video wall

LCD video wall

DLP video wall

3x3 video wall

3x5 video wall
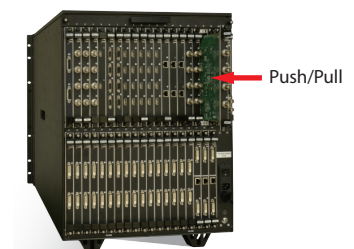
2x2 video wall

## Intelligent management

- Core components are monitored in real-time, automatically detecting and alerting mechanism

- Front panel displays status of fan, temperature, power supply, etc

- Layout content preview[1] allows to preview both layout and signal content on control interface before sending them on video wall(s)

Without layout content preview

or

or

Able to preview layouts but no content or quality

Layout content preview
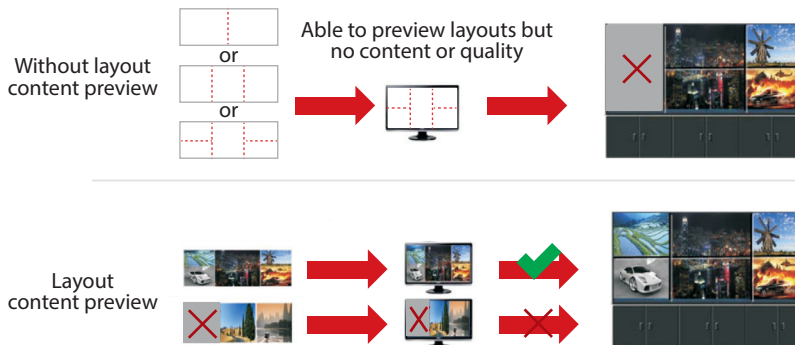
## Flexible modular design for easy maintenance and expansion

Digicom® Ark5000SP is easy to maintain and expand because of its advanced modular architecture. The signal board is supported with instant image recovery after the signal board is hot swapped. This feature allows the new board to be replaced without disassembling the processor case or rebooting the video wall processor. Also, system expansion can be carried out by inserting additional signal boards while the processor is running.

Push/Pull

# 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

Allows third party device controls
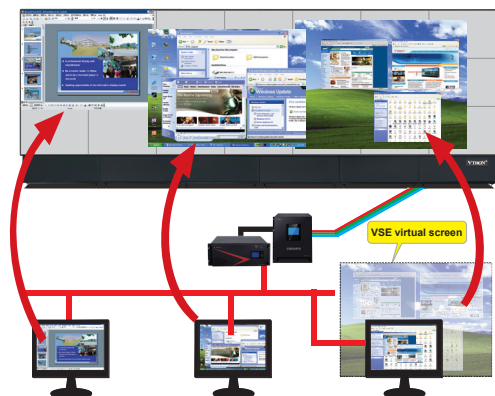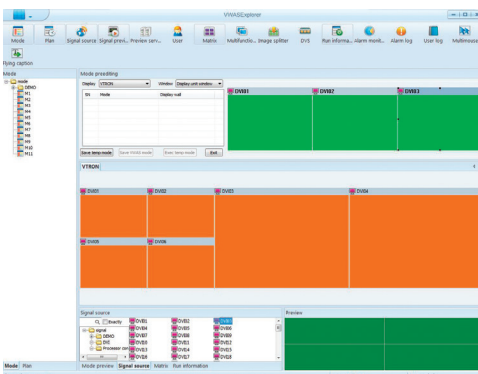- Launch display layout
- On/off VTRON video wall

**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® Ark5000SP (single chassis) |
|---|---|
| Number of inputs | Up to 72 channels of 1080P HDMI/ DVI/ VGA/ SDI;  or |
| | Up to 36 channels of DP/ 4K HDMI; or |
| | Up to 144 channels of 1080P IP Video; or |
| | Up to 288 channels of CVBS |
| VGA input board (optional) | 4 channels per board |
| | Up to1920x 1200@ 60Hz |
| | Signal input connector: VGA |
| DVI input board (optional) | 4 channels per board |
| | Up to 1920x 1200@ 60Hz |
| | Signal input connector: DVI |
| HDMI input board (optional) | 4 channels per board |
| | Up to 1920x 1080@ 60Hz |
| | Support HDMI 1.3, HDCP 1.4 |
| | Signal input connector: HDMI |
| HDMI (4K) input board (optional) | 2 channels per board |
| | Up to 3840x 2160@ 30Hz |
| | Support HDMI 1.4, HDCP 1.4 |
| | Signal input connector: HDMI |
| DP input board (optional) | 2 channels per board |
| | Up to 3840x 2400@ 30Hz |
| | Signal input connector: DP |
| SDI input board (optional) | 4 channels per board |
| | Support SD/ HD/ 3G SDI |
| | Signal input connector: BNC |
| Video input board (optional) | 4 channels per board |
| | CVBS input format: NTSC, PAL |
| | Signal input connector: BNC |
| | 16 channels per board |
| | CVBS input format: NTSC, PAL |
| | Signal input connector: BNC |
| IP decoding board[3] (optional) | Up to 8 channels of 1920x 1080@ 30Hz per board |
| | Support resolution: 1080P, D1 |
| | Support standard H.264 and standard RTSP |
| | Signal input connector: RJ45 |
| Number of DVI output (optional) | Up to 32x DVI-D |
| | Up to 1920x 1080@ 60Hz |
| Signal preview (optional) | Support signal preview via DVI and IP |
| | Output resolution: 1920x 1080@ 60Hz (DVI), 1920x 1080@ 30Hz (IP) |
| | Output connector: DVI-D, RJ45 |
| Live view (optional) | Support wall live view via DVI and IP |
| | Output resolution: 1920x 1080@ 60Hz (DVI), 1920x 1080@ 30Hz (IP) |
| | Output connector:  DVI-D, RJ45 |
| IP streaming board[4] (optional) | 4 channels of 1920x 1080@ 30Hz per board |
| | Video coding: H.264, Protocol: RTSP |
| | Output connector: RJ45 |
| Mutiple resolution DVI output board[4] (optional) | 4 channels per board |
| | Output resolution: 1024x 768/ 1400x 1050/ 1366x 768/ 1920x 1080 |
| | Sharing video wall signals on extended displays (e.g. cubes, LCD panels or monitors). |
| | And its output resolution are configured to match the native resolution of each display. |
| | Output connecotr: DVI-D |
| 4K output board[4]  (optional) | 2 channels per board |
| | Output resolution: Up to 3840x 2160@ 30Hz |
| | Sharing video wall signals on extended 4K displays |
| | Output connector HDMI, Fiber-optic LC |
| Audio processing board[4] (optional) | Up to 8 channels |
| | Output connector: 3.5mm |
| Hot swappable module with instant image recovery | Signal board |
| Bandwidth for signal transmission | 750Gbps |
| System control | Dual RJ45 ports, 10/ 100Mbps self-adaptive |
| | Support configuration of network application, such as IP address, gateway, time server, etc |
| Intelligent management | Support alarm monitoring for temperature, fan, power supply, etc |
| Cooling fan | Redundant hot swappable fan |
| Power supply | N + 1 hot redundant power supply |
| | AC 100V - 240V, 50/ 60Hz, 10 - 5A |
| Power consumption | ≤ 900W |
| Operating environment | Temperature: 0°C - 40°C |
| | Relative humidity: 10% - 90% (non-condensing) |
| Dimensions (W×H×D) | 439.4mm× 577.6mm× 589mm (excluding the handle) |
| | 19" chassis, 12 U high |
| Qualifications | CCC, CE, CB, RoHS |

| Model | Digicom® Magic3000 | Digicom® Magic7000 |
|---|---|---|
| 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 ports, 100/ 1000Mbps self-adaptive | |
| Operation system | Windows® 7 | Windows® 10, Linux CentOS 6.0 (optional) |
| Cooling fan | Dual hot swappable cooling fans | |
| Power supply | Single power supply | 1+1 hot swappable, redundant power supply |
| | AC 100V - 240V, 50/ 60Hz,  Max. 4A | |
| Power consumption | ≤ 300W | |
| Operating temperature | 0°C - 40°C | |
| Operating humidity | 20% - 80% (non-condensing) | |
| Weight | ≤20Kg | ≤30Kg |
| Dimension (W×H×D) | 482.6mm x 177mm x 590mm (excluding the handle) | |
| | 19" standard chassis, 4U high | |
| Vtron's software | Mandatory[5]: VWAS/ VCMS/ VEMS; Optional: VLinkExpress + VSE, VIS | |

Remark:
Specifications are subject to change without prior notice.
1. These features depend on actual hardware configuration and  application which need prior verification
2. This feature is applicable to particular model
3. Compatibility needs prior verification
4. These boards will occupy the output slots
5. Depends on the type of display unit and actual application

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