

2017

The Future-Ready Modular 4K Video Wall Processors

Developed by DigiBird



DigiBird Technology Co., Ltd.

Jan. 1, 2017

Contents

I. INTRODUCTION.....	3
II. AVAILABLE MODEL NUMBERS.....	4
Available Chassis.....	4
Available I/O Cards	4
III. PRODUCT FEATURES	5
Ultra-high Performance	5
System Availability, Reliability and Robustness	6
Diversity of Input and Output Sources	8
Easy Expandability	9
Powerful Windowing Processing and Input Scaling	10
4K UHD Input/output Support	10
Frame Synchronization and Double-Buffering Techniques.....	11
DigiBird Videowall Control Software	12
PART I: INPUT CARDS	14
Dual-Channel 4K HDMI 1.4 Input Card	14
Quad-Channel HDMI Input Card	15
Dual-Channel DL-DVI Input Card.....	16
Quad-Channel DVI Input Card.....	17
Quad-Channel VGA Input Card	18
Quad-Channel SDI Input Card	19
IP Streaming Decoder Card	20
PART II: OUTPUT CARDS	23
Quad-Channel DVI Output Card	23
Quad-Channel HDMI Output Card	25
Quad-Channel 4K HDMI Output Card	26
Quad-Channel 4K HDBaseT Output Card	27
Network Previewing Card	28
PART III: CHASSIS	29
1. DB-VWC2-C4 Video Wall Processor Chassis	29
2. DB-VWC2-C6 Video Wall Processor.....	33
3. DB-VWC-C8 Video Wall Processor.....	36
4. DB-VWC2-C14 Video Wall Processor.....	37
5. DB-VWC2-C19 Video Wall Processor.....	41

I. INTRODUCTION

Since 2009, DigiBird's teams of founders and developers have been concentrating on video and graphic processing, control and display in the audiovisual field. The corporate philosophy of DigiBird® is to become a world-leading innovator in the area of visualization application and visual resource management.

Thanks to the modular design and FPGA-Based technology, the DigiBird® Video Wall Controller product family provides highly expandable and flexible video wall solutions, particularly for large-scale multi-screen systems. Capable of integrating any type of input source formats on any display wall configuration, our products and solutions are widely used in areas as diverse as Video Conference Rooms, Public Utility Control Centers, Intelligent Traffic Management Centers, Security and Surveillance Facilities, Military Command and Control Centers, Energy Management Rooms, Process Control Rooms, Call Centers, Board Rooms, Network Operation Centers (NOC), Financial Management Control Rooms, and including the high-end Residential Market, for example high-end home theaters.

The DigiBird® Video Wall Controller product family is available in five chassis sizes: DB-VWC2-C4, DB-VWC2-C6, DB-VWC2-C8, DB-VWC2-C14, and DB-VWC2-C19.

II. AVAILABLE MODEL NUMBERS

Available Chassis

Model Number	DB-VWC2-C4	DB-VWC2-C6	DB-VWC2-C8	DB-VWC2-C14	DB-VWC2-C19
Chassis	4U	6U	8U	14U	19U
Control Cards	1+1	1+1	1+1	1+1	1+1
Input Slots	8	14	15	29	37
Max 4K Inputs	16	28	30	58	74
Max HD Inputs	32	56	60	116	148
Output Slots	3	5	10	10	20
Max 4K Displays	12	20	40	40	80
Max Wall Size	12	20	40	40	80
PSU	2	2	2	2+2	2+2

Available I/O Cards

Model Number	SKU	Input Card Description
IC2-Q-DVI	DB-VWC2-H4-IC-DVI4	Quad-Channel DVI Input Card
IC2-D-DLDDVI	DB-VWC2-H4-IC-DDVI2	Dual-Channel Dual-Link DVI Input Card
IC2-Q-VGA	DB-VWC2-H4-IC-VGA4	Quad-Channel VGA (CVBS and YPbPr) Input Card
IC2-Q-HDMI	DB-VWC2-H4-IC-HDMI4	Quad-Channel HDMI Input Card
IC2-Q-4KHDMI	DB-VWC2-H4-IC-4KHDMI2	Dual-Channel 4K HDMI1.4 Input Card
IC2-Q-SDI	DB-VWC2-H4-IC-SDI4	Quad-Channel SDI Input Card
IC2-D-IPD	DB-VWC2-H4-IC-IP2	Dual-Channel IP Streaming Decoder Card
Model Number	SKU	Output Card Description
OC2-Q-DVI	DB-VWC2-H4-OC-DVI4	Quad-Channel DVI Output Card
OC2-Q-HDMI	DB-VWC2-H4-OC-HDMI4	Quad-Channel HDMI Output Card
OC2-Q-4KHDMI	DB-VWC2-H4-OC-4KHDMI4	Quad-Channel 4K HDMI Output Card
OC2-Q-4KHDBT	DB-VWC2-H4-OC-4KHDBT4	Quad-Channel 4K HDBaseT Output Card
OC2-D-IPE	DB-VWC2-H4-OC-IP1	Dual-Channel IP Streaming Encoder Card
Model Number	SKU	System Card Description
FC2-CC	TBD	Control Card
FC2-CMC	TBD	Confidence Monitoring Card
FC2-NPC	DB-VWC2-H4-OC-NPC	Network Previewing Card

III. PRODUCT FEATURES

Ultra-high Performance

DigiBird® adopts FPGA-based hardware video parallel processing and dedicated video bus technology to construct modular hardware architecture. Its purpose-built hardware and embedded operating system are uniquely optimized for both mission-critical reliability and ultra-high-performance applications. Thanks to its implementation of cutting-edge, parallel video processing hardware systems, DigiBird® VWC2 series Video Wall Processors offer an astonishing 40Gbps of bandwidth per output slot. Regardless of configuration requirement size, it always provides fully real-time 4K processing because of its truly none-blocking architecture.

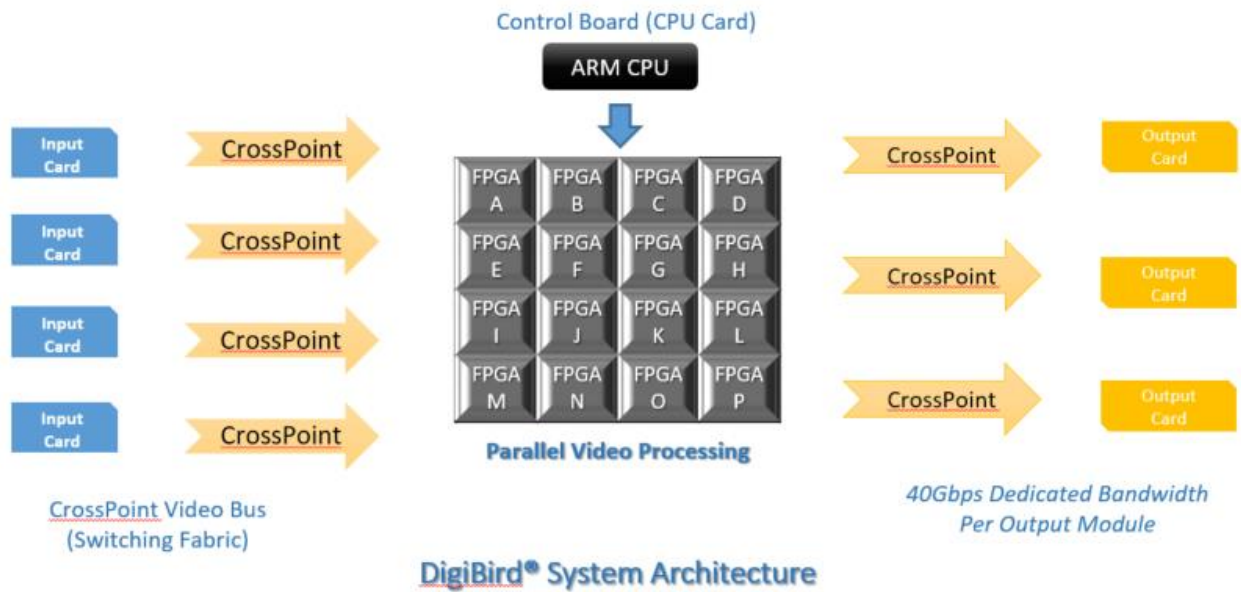
--Up to 37x input slots and 20x output slots

--Up to 148x DVI, HDMI, HDBase-T, RGB or SDI inputs simultaneously (High-Definition video or WUXGA graphics)

--Up to 80x 4K UHD displays simultaneously

--Input resolution up to 4088×4098 pixels by Dual-Link DVI Input Capture Card

--Max Input/output resolution of 3840×2160@30Hz by 4K HDMI Input/output Cards



Real Time and High Processing Capabilities

System Availability, Reliability and Robustness

The DigiBird® VWC2 Video Wall Controller has been designed, developed and optimized for continuous 24/7 operation. It features a variety of redundant components, including hot-swappable N+1 (up to 3x redundant PSU, and 1x default PSU) redundant power supplies, hot-swappable chassis cooling fans, hot-swappable dual control cards, and hot-swappable input and output cards.



Rear Panel of DigiBird DB-VWC2-C6

To build a Video Wall Controller or processor system, most competitors employ industrial PC architecture which operates in a Microsoft Windows operating system. By contrast, DigiBird's® Video Wall Controller operates in an embedded operating system (EOS). As a real-time operating system (RTOS), it is developed uniquely for video wall systems and their applications. As a result, DigiBird® has several distinct advantages:

- Faster booting speed (<30 seconds)
- None of Microsoft OS's vulnerabilities or third-party software bugs that lead to Video Wall Controller system crashes (blue screen). Due to the DigiBird®'s OS being a closed system, it experiences none of the risks associated with the installation of third-party applications.
- No computer viruses
- No maintenance of computer OS and hard drives



A video wall running Windows OS and employing an industrial PC architecture crashes. Due to its superior creative design, DigiBird® Video Wall Controller possesses no such vulnerability.

Diversity of Input and Output Sources

DigiBird® Video Wall Processors support every major type of video and data source on any display configuration. Integrators and other users can flexibly choose the appropriate input signals.

DigiBird's hot-swappable cards and optional PSU include:

Input Cards	Max resolution	Format
IC2-Q-DVI	1920 × 1200@60Hz	DVI-D
IC2-D-DLDDVI	3840 × 2160@30Hz	DL-DVI-D

IC2-Q-HDMI	1920 × 1200@60Hz	HDMI1.3
IC2-D-4KHDMI	3840 × 2160@30Hz	HDMI1.4
IC2-Q-DP	1920 × 1200@60Hz	DisplayPort 1.0
IC2-D-4KDP	3840 × 2160@30Hz	DisplayPort 1.1
IC2-Q-VGA	1920 × 1200@60Hz	RGBHV
IC2-Q-SDI	1920 × 1080@60Hz	SD/HD/3G SDI
IC2-Q-CVBS	720 × 480/720 × 576	NTSC/PAL
IC2-Q-YPbPr	1920 × 1080@60Hz	YPbPr

Output Cards	Max resolution	Format
Oc2-q-dvi	1920 × 1200@60Hz	DVI-I
Oc2-q-HDMI	1920 × 1200@60Hz	HDMI1.3
Oc2-q-4KHDMI	3840 × 2160@30Hz	HDMI1.4
NPC	-	IP
Oc2-q-4KHDBaseT	3840 × 2160@30Hz	HDBaseT

Easy Expandability

A majority of competitive products employ a standard industrial PC chassis built to order. As a result, when users wish to expand their video wall systems by adding input or output cards, or when I/O cards are damaged, they must upgrade the entire system. DigiBird® Video Wall Processors, however, contain an element of custom design where if a user wishes to further integrate his system, or if cards are damaged or disabled, they can be

easily swapped out and a new one inserted in a matter of seconds. In this way, DigiBird® Video Wall Processors can successfully support users in reducing TCO (Total Cost of Ownership), and meet customers' ever-increasing usability and economic demands.

Powerful Windowing Processing and Input Scaling

All input cards employ DigiBird's proprietary technology, ensuring that each card can transmit and display input signals at full frame rates (no dropped frames) regardless of output window size. In addition, each data or video source can be simultaneously placed into four separately positioned and scaled windows per screen/display. Video and images can be displayed anywhere, at any size, within or across screens, in correct aspect ratio or stretched to fit; in whole or zoomed to emphasize details. These features include:

Overlap	PIP	Multiple PIPs
Borders and Labels	Smooth Motion	Background Image
Zooming (Scaling)	Panning	Scrolling Text

**PIP: Picture in Picture*

4K UHD Input/output Support

DigiBird® utilizes the most advanced FPGA technologies, capable of driving four 4K UHD displays at up to 3840 x 2160@30Hz at 4:4:4 subsampling per output card. The DigiBird dual-channel 4K HDMI input card accepts two HDMI signals up to 4K/30.

Frame Synchronization and Double-Buffering Techniques

Frame tearing occurs when a video feed to different display devices in a video wall are not in sync with the display's refresh. During video motion, screen tearing creates a torn look as edges of objects (such as an image of a wall or a tree) fail to line up. Frame Tearing can occur with most common display technologies and video cards and is most noticeable in horizontally-moving visuals, such as in slow camera pans in a movie, or classic side-scrolling in video games. DigiBird® employs original Frame Synchronization and Double-Buffering Techniques, so all outputs are synchronized to eliminate "frame tearing" between displays.

Frame Synchronization and Double-Buffering Techniques



Frame Tearing

Without Frame Synchronization and Double-Buffering Techniques



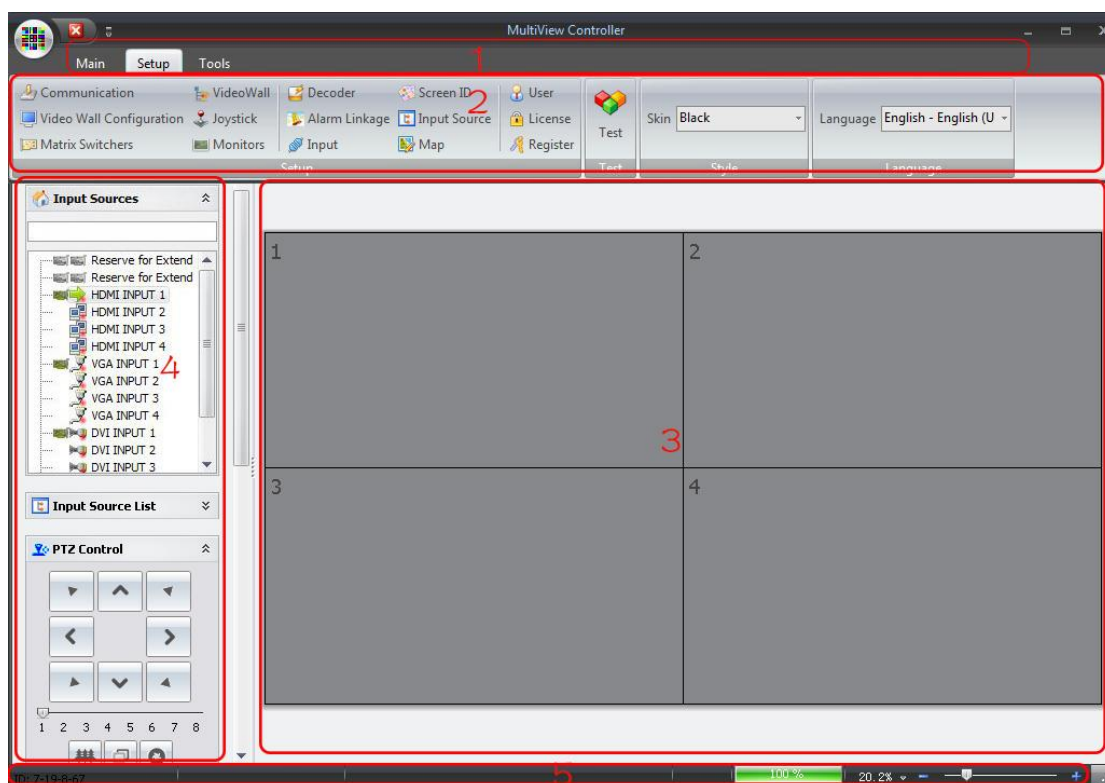
After employing Frame Synchronization and Double-Buffering Techniques

DigiBird Videowall Control Software

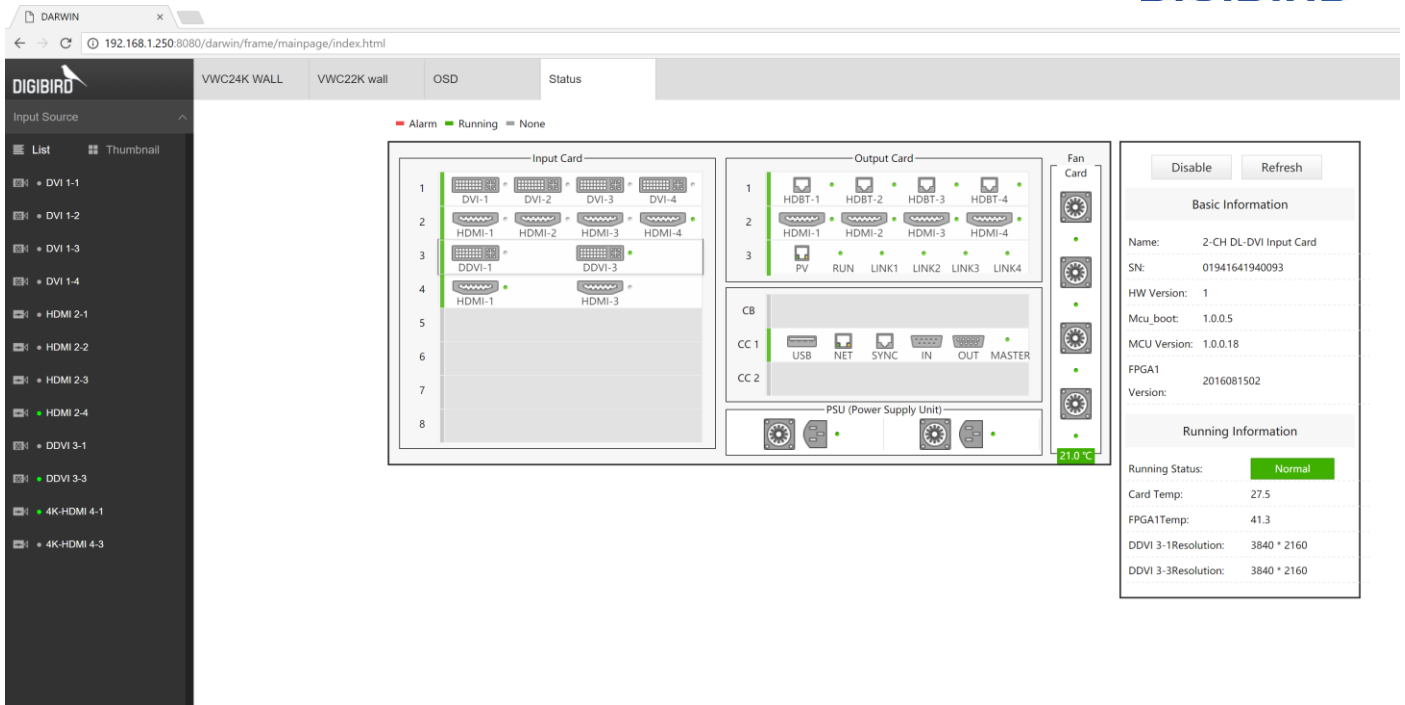
There are three ways to control DigiBird video wall processors:

- 1) Window-Based DigiBird Control Software
- 2) Web Browsers Control, like Chrome, Safari, IE, etc.
- 3) DigiBird iOS and Android Control apps
- 4) Third-Party Controller Control, like AMX, EXTRON, CRESTRON, RTI, etc.

The Videowall Control Software is the DigiBird vwc2 video wall processor's GUI (Graphical User Interface). It is a complete, integrated, and intuitive software solution for the control and management of the video wall and controller. (For more details, please refer to our **VWC2 Software User Manual**)

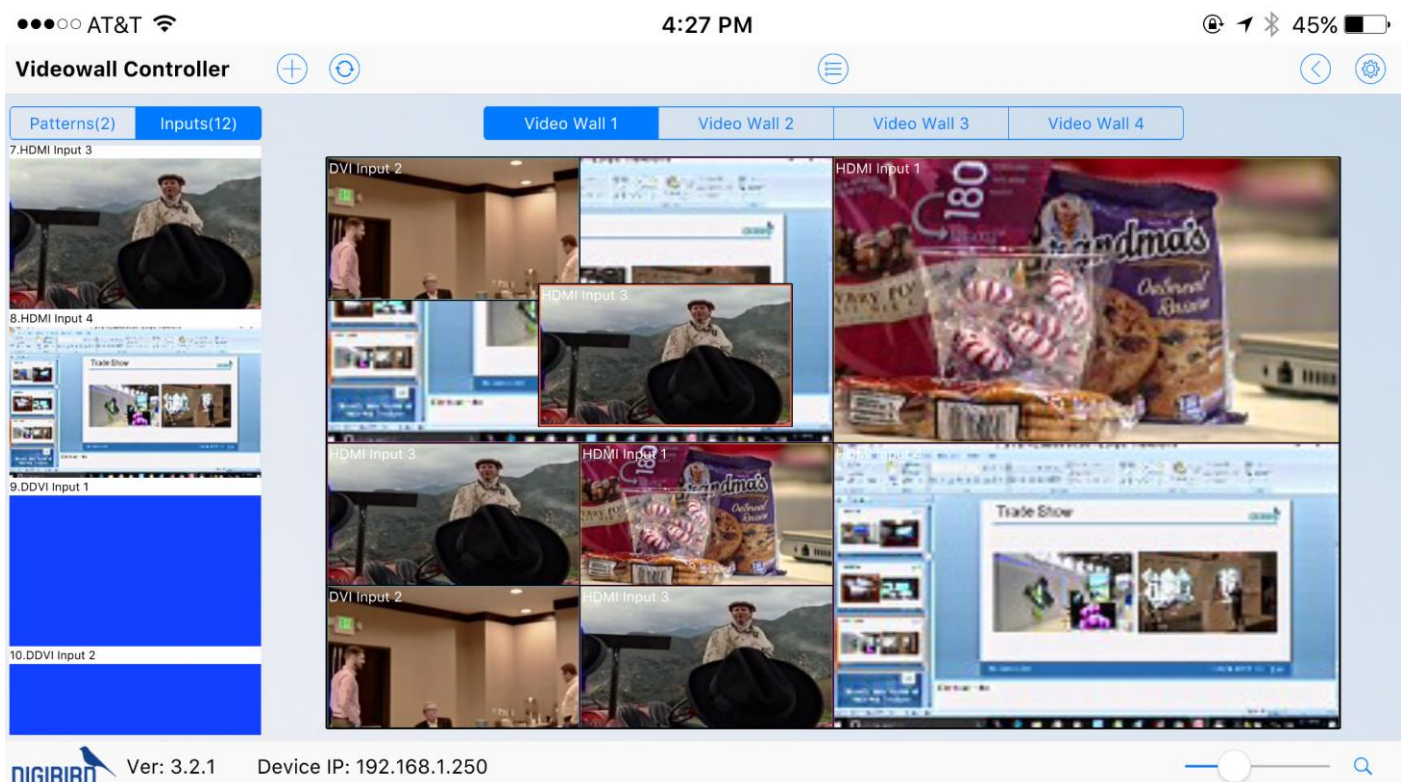


DigiBird Window-Based Control Software



DigiBird Web Browser Video Wall Control

DigiBird's VWC2 also supports iOS and Android apps. (For details, please visit the Apple Store or Google Play and search for **DigiBird Videowall Controller Software**)



DigiBird iOS Control App

PART I: INPUT CARDS

Dual-Channel 4K HDMI 1.4 Input Card



Parameters:

Model Number: IC2-Q-4KHDMI

SKU Number: DB-VWC2-H4-IC-4KHDMI2

Signal Type: HDMI 1.4/ DVI 1.0 (HDCP 1.4 Compliant)

Connectors: 2 Type A Female HDMI

Input Channels: Two

Signal Level: T.M.D.S 2.9V-3.3V

Impedance: 50Ω

Maximum Pixel Clock: 297 MHz

Signal Bandwidth: 8.91 Gbps

Resolutions: up to 3840×2160 (Ultra HD) at 24 Hz/25 Hz/30 Hz

Power Consumption: 11.3 Watts

Dimensions (L×H): 203mm × 224mm

Weight: 300g

Operating Conditions:

Temperature: 0 to 50 degrees Celsius

Humidity: 10% to 80% non-condensing

Altitude: from 650 hPa (3580m) to 1013 hPa (0m)

Non-Operating / Storage Conditions:

Temperature: -55 to 70 degrees Celsius

Humidity: 10% to 90% non-condensing

Altitude: from 192 hPa (12000m) to 1020 hPa (-50m)

Warranty: 3 years

Available Chassis: Any Input Slots of DB-VWC2 Series Chassis, including DB-VWC2-C4 (4U Chassis), DB-VWC2-C6 (6U Chassis), DB-VWC2-C8 (8U Chassis), DB-VWC2-C14 (14U Chassis) and DB-VWC2-C19 (19U Chassis).

Features:

- Supports the Automatic Input Resolution Detection
- Compatible with HDCP 1.4
- Hot-Swappable Plug and Play
- Supports Cropping the Input Sources
- Editable EDID

Quad-Channel HDMI Input Card



Parameters:

Model Number: IC2-Q-HDMI

SKU Number: DB-VWC2-H4-IC-HDMI4

Signal Type: HDMI 1.3/ DVI 1.0 (HDCP 1.4 Compliant)

Connectors: 4 Type A Female HDMI

Input Channels: Four

Signal Level: T.M.D.S 2.9V-3.3V

Impedance: 50Ω

Color Bit Depth: 12 bits

Maximum Pixel Clock: 165 MHz

Signal Bandwidth: 6.69 Gbps

Resolutions: up to 1920 × 1080 (Full HD) at 60 Hz

Power Consumption: 12.3 Watts

Dimensions (L×H): 203mm × 224mm

Weight: 300g

Operating Conditions:

Temperature: 0 to 50 degrees Celsius

Humidity: 10% to 80% non-condensing

Altitude: from 650 hPa (3580m) to 1013 hPa (0m)

Non-Operating / Storage Conditions:

Temperature: -55 to 70 degrees Celsius

Humidity: 10% to 90% non-condensing

Altitude: from 192 hPa (12000m) to 1020 hPa (-50m)

Warranty: 3 years

Available Chassis: Any Input Slots of DB-VWC2 Series Chassis, including DB-VWC2-C4 (4U Chassis), DB-VWC2-C6 (6U Chassis), DB-VWC2-C8 (8U Chassis), DB-VWC2-C14 (14U Chassis) and DB-VWC2-C19 (19U Chassis).

Features:

- Supports the Automatic Input Resolution Detection
- Compatible with HDCP 1.4
- Hot-Swappable Plug and Play
- Supports Cropping the Input Sources
- Supports EDID Management

Dual-Channel DL-DVI Input Card



Parameters:

Model Number: IC2-D-DLDVI

SKU Number: DB-VWC2-H4-IC-DDVI2

Signal Type: DVI 1.0

Connectors: Two 24+5 Pin DVI-I

Input Channels: Two

Signal Level: T.M.D.S 2.9V-3.3V

Impedance: 50Ω

Maximum Pixel Clock: 165 MHz

Signal Bandwidth: 9.9 Gbps

Formats: Dual-link DVI-D

Resolutions: up to 4000 × 4000

Power Consumption: 11.3 Watts

Dimensions (L×H): 203mm × 224mm

Weight: 300g

Operating Conditions:

Temperature: 0 to 50 degrees Celsius

Humidity: 10% to 80% non-condensing

Altitude: from 650 hPa (3580m) to 1013 hPa (0m)

Non-Operating / Storage Conditions:

Temperature: -55 to 70 degrees Celsius

Humidity: 10% to 90% non-condensing

Altitude: from 192 hPa (12000m) to 1020 hPa (-50m)

Warranty: 3 years

Available Chassis: Any Input Slots of DB-VWC2 Series Chassis, including DB-VWC2-C4 (4U Chassis), DB-VWC2-C6 (6U Chassis), DB-VWC2-C8 (8U Chassis), DB-VWC2-C14 (14U Chassis) and DB-VWC2-C19 (19U Chassis).

Features:

- Supports the Automatic Input Resolution Detection
- Hot-Swappable Plug and Play
- Supports the Customized Resolutions
- Supports Cropping the Input Sources
- Supports EDID Management

Quad-Channel DVI Input Card



Parameters:

Model Number: IC2-Q-DVI

SKU Number: DB-VWC2-H4-IC-DVI4

Signal Type: DVI 1.0 (Only Accepts DVI-D Signal)

Connectors: Four 24+5 Pin DVI-I

Input Channels: Four

Signal Level: T.M.D.S 2.9V-3.3V

Impedance: 50Ω

Maximum Pixel Clock: 165 MHz

Signal Bandwidth: 4.95 Gbps

Resolutions: up to 1920 × 1200@60Hz

Power Consumption: 11.3 Watts

Dimensions (L×H): 203mm × 224mm

Weight: 300g

Operating Conditions:

Temperature: 0 to 50 degrees Celsius

Humidity: 10% to 80% non-condensing

Altitude: from 650 hPa (3580m) to 1013 hPa (0m)

Non-Operating / Storage Conditions:

Temperature: -55 to 70 degrees Celsius

Humidity: 10% to 90% non-condensing

Altitude: from 192 hPa (12000m) to 1020 hPa (-50m)

Warranty: 3 years

Available Chassis: Any Input Slots of DB-VWC2 Series Chassis, including DB-VWC2-C4 (4U Chassis), DB-VWC2-C6 (6U Chassis), DB-VWC2-C8 (8U Chassis), DB-VWC2-C14 (14U Chassis) and DB-VWC2-C19 (19U Chassis).

Features:

- Supports the Automatic Input Resolution Detection
- Hot-Swappable Plug and Play
- Supports Cropping the Input Sources
- Supports EDID Management

Quad-Channel VGA Input Card



Parameters:

Model Number: IC2-Q-VGA

SKU Number: DB-VWC2-H4-IC-VGA4

Signal Type: RGBHV (VGA), Component, Composite

Connectors: Four 15-pin HD D-Sub (female) RGB (VGA) Connectors

Input Channels: Four

Signal Level: 0.7Vpp

Impedance: 75Ω

Resolutions:

640 × 480 @60Hz DMT, 640 × 480 @75Hz DMT, 800 × 600 @60Hz DMT, 800 × 600 @75Hz DMT, 1024 × 768 @60Hz DMT, 1024 × 768 @75Hz DMT, 1280 × 768 @60Hz DMT, 1280 × 960 @60Hz DMT, 1280 × 1024 @60Hz DMT, 1280 × 800 @60Hz CVT, 1280 × 800 @60Hz DMT, 1280 × 1024 @75Hz DMT, 1440 × 900 @60Hz CVT, 1440 × 900 @60Hz DMT, 1400 × 1050 @60Hz DMT, 1400 × 1050 @60Hz CVT, 1600 × 1200 @60Hz DMT, 1920 × 1200 @60Hz, 1920 × 1080 @60Hz Red, 1920 × 1080 @60Hz GTF, 1920 × 1200 @60Hz CVT

Power Consumption: 15 Watts

Dimensions (L×H): 203mm × 224mm

Weight: 300g

Operating Conditions:

Temperature: 0 to 50 degrees Celsius

Humidity: 10% to 80% non-condensing

Altitude: from 650 hPa (3580m) to 1013 hPa (0m)

Non-Operating / Storage Conditions:

Temperature: -55 to 70 degrees Celsius

Humidity: 10% to 90% non-condensing

Altitude: from 192 hPa (12000m) to 1020 hPa (-50m)

Warranty: 3 years

Available Chassis: Any Input Slots of DB-VWC2 Series Chassis, including DB-VWC2-C4 (4U Chassis), DB-VWC2-C6 (6U Chassis), DB-VWC2-C8 (8U Chassis), DB-VWC2-C14 (14U Chassis) and DB-VWC2-C19 (19U Chassis).

Features:

- Supports the Automatic Input Resolution Detection
- Hot-Swappable Plug and Play
- Supports Cropping the Input Sources
- Supports EDID Management
- Supports RGB colors, brightness and contrast adjustments

Note:

Please choose the high-quality VGA cables. If the dispersion and/or smear ghost images appear, please use the VGA extenders and/or Line Drivers.

Quad-Channel SDI Input Card



Parameters:

Model Number: IC2-Q-SDI

SKU Number: DB-VWC2-H4-IC-SDI4

Signal Type: 3G-SDI, HD-SDI, SD-SDI

Connectors: Eight BNC Connectors

Input Channels: Four

Signal Level: Input SDI: 1Vpp/0.9Vpp, SDI Loop Out: 0.9Vpp

Impedance: 75Ω

Standard: SMPTE 259M, SMPTE 292M, SMPTE 424M

Bitrates: 2.97Gbit/s

Resolutions:

720 × 480i @60Hz, 720 × 576i @50Hz, 1280 × 720p @50Hz, 1280 × 720p @60Hz, 1920 × 1080i @50Hz, 1920 × 1080i @60Hz, 1920 × 1080p @24Hz, 1920 × 1080p @25Hz, 1920 × 1080p @30Hz, 1920 × 1080p @50Hz, 1920 × 1080p @60Hz,

Power Consumption: 13 Watts

Dimensions (L×H): 203mm × 224mm

Weight: 300g

Operating Conditions:

Temperature: 0 to 50 degrees Celsius

Humidity: 10% to 80% non-condensing

Altitude: from 650 hPa (3580m) to 1013 hPa (0m)

Non-Operating / Storage Conditions:

Temperature: -55 to 70 degrees Celsius

Humidity: 10% to 90% non-condensing

Altitude: from 192 hPa (12000m) to 1020 hPa (-50m)

Warranty: 3 years

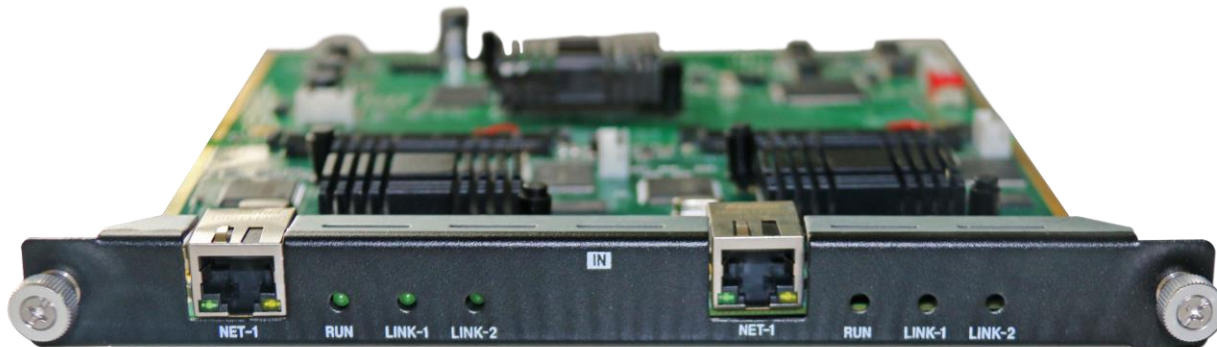
Available Chassis: Any of Input Slots of DB-VWC2 Series Chassis, including DB-VWC2-C4 (4U Chassis), DB-VWC2-C6 (6U Chassis), DB-VWC2-C8 (8U Chassis), DB-VWC2-C14 (14U Chassis) and DB-VWC2-C19 (19U Chassis).

Features:

- Supports the Automatic Input Resolution Detection
- Hot-Swappable Plug and Play
- Supports Cropping the Input Sources
- Supports SDI Loop Out

IP Streaming Decoder Card

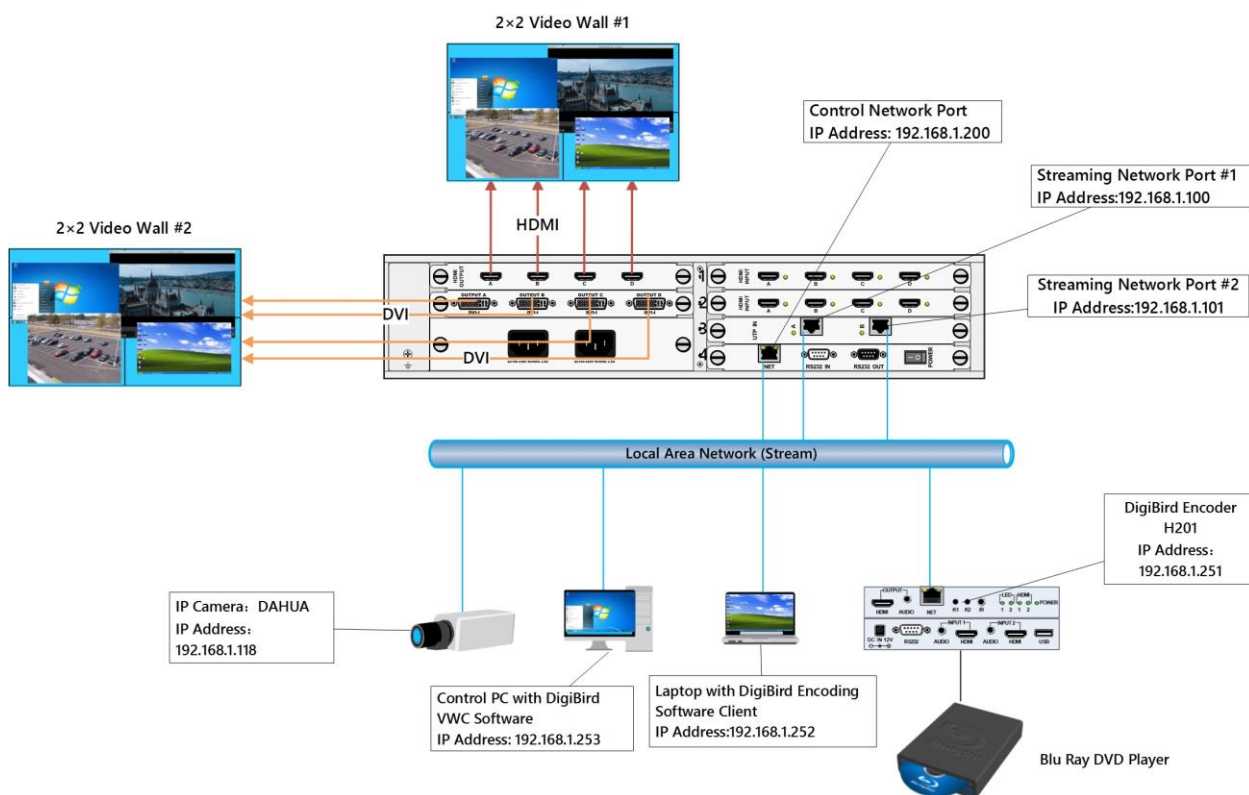
DigiBird's® Dual IP Streaming Decoder Card (New version U20) provides support for the display of both high definition and standard definition IP video streams in H.264 formats, and supports RTSP protocols.



DigiBird IP Streaming Decoder Card

The DigiBird® Dual IP Streaming Decoder Card has a 2 GB Ethernet network interface (10/100/1000MBase-T), ensuring sufficient bandwidth for each decoder to handle with ease any stream bandwidth up to 20 Mbps. The single (1x) Ethernet port supports two (2x) channels 1080P and eight (8x)

Over DigiBird VNC client software and IP streaming Decoder card, the end users can easily share their remote desktops and display them on the video wall. For more details, please contact sales@digibirdtech.com. The following diagram is to show that how the DigiBird VNC client software works with the IP decoder card.



Parameters:

Model Number: IC2-D-IPD

SKU Number: DB-VWC2-H4-IC-IP2

Connectors: 2 × RJ45 Ethernet ports

Network Standard: Ethernet 10/100/1000 Base-T, Auto-Detect, Half/Full-Duplex

IP Version: IPv4

IP Addressing: Static IP

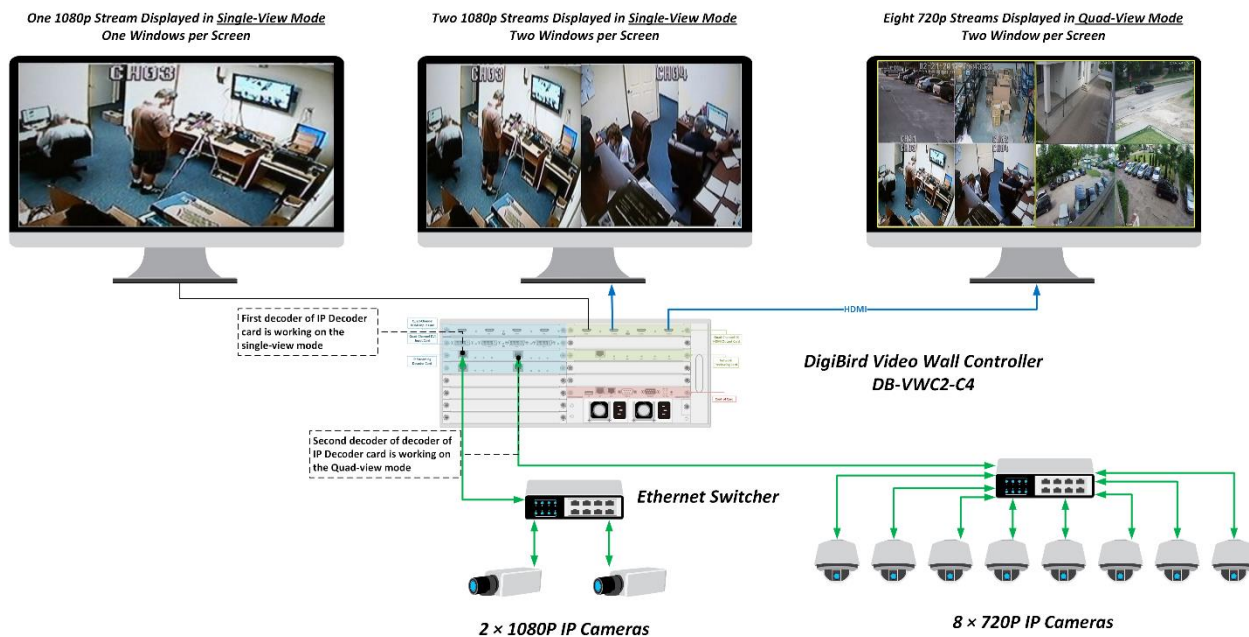
Streaming Protocol: HTTP, RTSP, RTP, UDP

Streaming Codecs: H.264/MPEG-4 Part 10 (AVC)

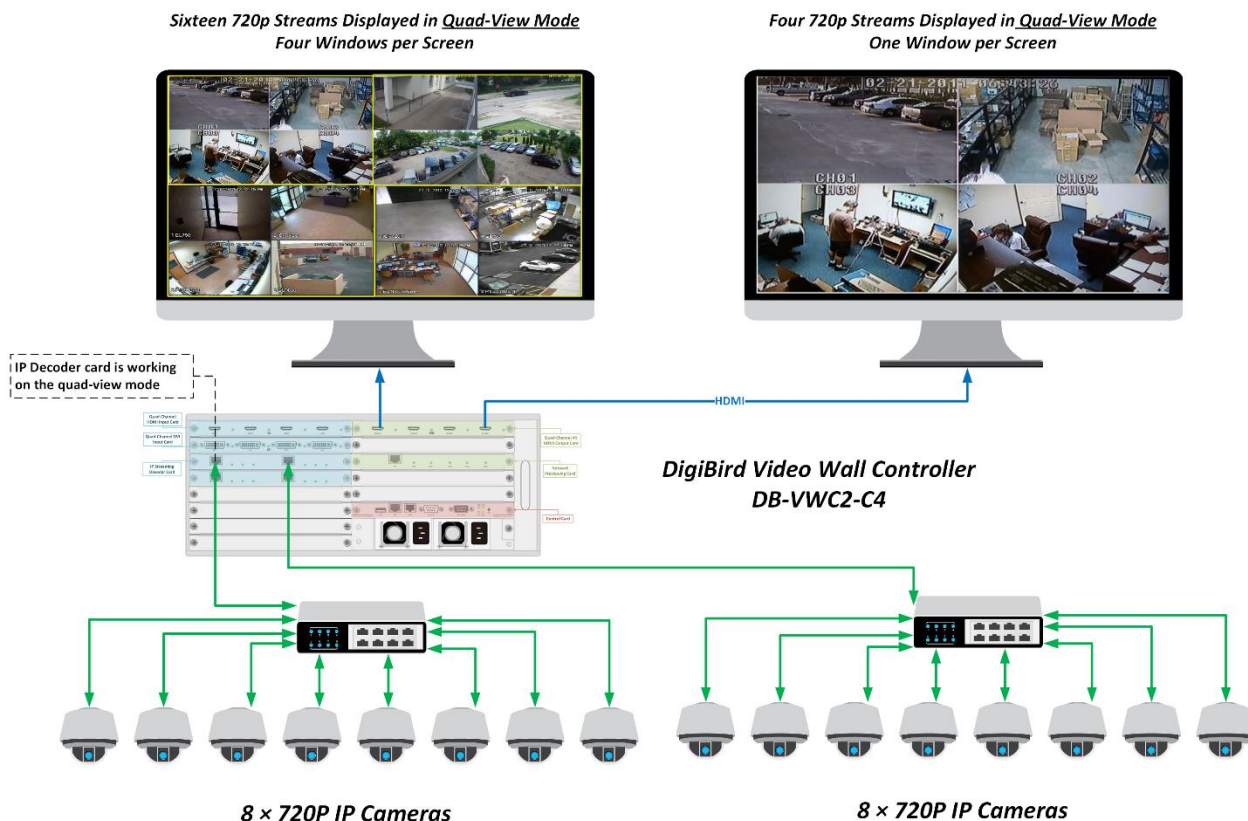
H.264 Profiles: Constrained Baseline Profile (CBP) / Main Profile (MP) / High Profile (HiP)

H.264 Levels: Level 3 / 3.1 / 4 / 4.1 / 4.2 / 5 / 5.1 / 5.2

H.264 Decode: Four $1920 \times 1080@30\text{Hz}$ or $2048 \times 1536@25\text{Hz}$ Streams at Single-View Work Mode, Eight $1920 \times 1080@30\text{Hz}$ Streams at Quad-View mode, Sixteen $1280 \times 720@30\text{Hz}$ Streams at Quad-View mode. One Ethernet port supports the two decoders, and each decoder can work at Single-View mode or Quad-View mode.



One Ethernet port supports the two decoders, each decoder can work at Single-View mode or Quad-View Mode



Sixteen 1280 × 720@30Hz Streams at Quad-View mode

Power Consumption: 13 Watts

Dimensions (L×H): 203mm × 224mm

Weight: 300g

Operating Conditions:

Temperature: 0 to 50 degrees Celsius

Humidity: 10% to 80% non-condensing

Altitude: from 650 hPa (3580m) to 1013 hPa (0m)

Non-Operating / Storage Conditions:

Temperature: -55 to 70 degrees Celsius

Humidity: 10% to 90% non-condensing

Altitude: from 192 hPa (12000m) to 1020 hPa (-50m)

Warranty: 3 years

Available Chassis: Any of Input Slots of DB-VWC2 Series Chassis, including DB-VWC2-C4 (4U Chassis), DB-VWC2-C6 (6U Chassis), DB-VWC2-C8 (8U Chassis), DB-VWC2-C14 (14U Chassis) and DB-VWC2-C19 (19U Chassis).

Features:

- Supported video sources, including IP cameras, NVR, Encoder Box and/or DigiBird IP encoder card
- Hot-Swappable Plug and Play
- Supports Cropping the Input Sources

PART II: OUTPUT CARDS

Quad-Channel DVI Output Card



Parameters:

Model Number: OC2-Q-DVI

SKU Number: DB-VWC2-H4-OC-DVI4

Signal Type: DVI 1.0 and VGA

Connectors: Four Analog and Digital 24+5 Pin DVI-I Connector

Output Channels: Four

Signal Level: T.M.D.S 2.9V-3.3V

Impedance: 50 Ω (DVI), 75 Ω (VGA)

Maximum Pixel Clock: 165 MHz

Signal Bandwidth: 4.95 Gbps

Resolutions: up to 1920 \times 1200@60Hz

Power Consumption: 28 Watts

Dimensions (L \times H): 203mm \times 224mm

Weight: 300g

Operating Conditions:

Temperature: 0 to 50 degrees Celsius

Humidity: 10% to 80% non-condensing

Altitude: from 650 hPa (3580m) to 1013 hPa (0m)

Non-Operating / Storage Conditions:

Temperature: -55 to 70 degrees Celsius

Humidity: 10% to 90% non-condensing

Altitude: from 192 hPa (12000m) to 1020 hPa (-50m)

Warranty: 3 years

Available Chassis: Any Output Slots of DigiBird DB-VWC2 Series Chassis, including DB-VWC2-C4 (4U Chassis), DB-VWC2-C6 (6U Chassis), DB-VWC2-C8 (8U Chassis), DB-VWC2-C14 (14U Chassis) and DB-VWC2-C19 (19U Chassis).

Features:

- Supports VGA output over the DVI-to-VGA Adapter
- Four Input Source Windows per Output (Display)
- The windows can be displayed in any size, position or layer, even cross the screens, in any aspect ratio.
- Hot-Swappable Plug and Play
- Supports EDID Management



DVI-to-VGA Adapter

Quad-Channel HDMI Output Card



Parameters:

Model Number: OC2-Q-HDMI

SKU Number: DB-VWC2-H4-OC-HDMI4

Signal Type: HDMI 1.3 (HDCP 1.4 Compliant)

Connectors: 4 Type A Female HDMI

Output Channels: Four

Signal Level: T.M.D.S 2.9V-3.3V

Impedance: 50Ω

Color Bit Depth: 12 bits

Maximum Pixel Clock: 340 MHz

Signal Bandwidth: 10.2 Gbps

Resolutions: up to 1920 × 1080 (Full HD) at 60 Hz

Power Consumption: 26 Watts

Dimensions (L×H): 203mm × 224mm

Weight: 300g

Operating Conditions:

Temperature: 0 to 50 degrees Celsius

Humidity: 10% to 80% non-condensing

Altitude: from 650 hPa (3580m) to 1013 hPa (0m)

Non-Operating / Storage Conditions:

Temperature: -55 to 70 degrees Celsius

Humidity: 10% to 90% non-condensing

Altitude: from 192 hPa (12000m) to 1020 hPa (-50m)

Warranty: 3 years

Available Chassis: Any Output Slots of DigiBird DB-VWC2 Series Chassis, including DB-VWC2-C4 (4U Chassis), DB-VWC2-C6 (6U Chassis), DB-VWC2-C8 (8U Chassis), DB-VWC2-C14 (14U Chassis) and DB-VWC2-C19 (19U Chassis).

Features:

- Compatible with HDCP 1.4
- Hot-Swappable Plug and Play
- Four input sources windows can be opened on one HDMI output (display)
- The windows can be displayed in any size, position or layer, even cross the screens, in any aspect ratio.
- Supports EDID Management

Quad-Channel 4K HDMI Output Card



Parameters:

SKU Number: OC2-Q-4KHDMI

Signal Type: HDMI 1.4 (HDCP 1.4 Compliant)

Connectors: 4 Type A Female HDMI

Output Channels: Four

Signal Level: T.M.D.S 2.9V-3.3V

Impedance: 50Ω

Maximum Pixel Clock: 340 MHz

Signal Bandwidth: 10.2 Gbps

Formats: RGB and YCbCr digital video

Resolutions: up to 3840 × 2160 (4K UHD) at 30 Hz

Power Consumption: 27.6 Watts

Dimensions (L×H): 203mm × 224mm

Weight: 300g

Operating Conditions:

Temperature: 0 to 50 degrees Celsius

Humidity: 10% to 80% non-condensing

Altitude: from 650 hPa (3580m) to 1013 hPa (0m)

Non-Operating / Storage Conditions:

Temperature: -55 to 70 degrees Celsius

Humidity: 10% to 90% non-condensing

Altitude: from 192 hPa (12000m) to 1020 hPa (-50m)

Warranty: 3 years

Available Chassis: Any Output Slots of DigiBird DB-VWC2 Series Chassis, including DB-VWC2-C4 (4U Chassis), DB-VWC2-C6 (6U Chassis), DB-VWC2-C8 (8U Chassis), DB-VWC2-C14 (14U Chassis) and DB-VWC2-C19 (19U Chassis).

Features:

- Compatible with HDCP 1.4
- Hot-Swappable Plug and Play
- Four 1080 input sources windows can be opened on one 4K HDMI output, for example, a 4K UHD display. Two 4K UHD input windows can be opened on one 4K HDMI output.
- The windows can be displayed in any size, position or layer, even cross the screens, in any aspect ratio.
- Supports EDID Management

Quad-Channel 4K HDBaseT Output Card



Parameters:

Model Number: OC2-Q-4KHDBT

SKU Number: DB-VWC2-H4-OC-4KHDBT4

Signal Type: HDMI 1.4 (HDCP 1.4 Compliant)

Connectors: 4 Female RJ45

RJ45 Wiring Scheme: 568A or 568B

Signal Level: T.M.D.S 2.9V-3.3V

Impedance: 50Ω

Color Bit Depth: 12 bits

Maximum Pixel Clock: 340 MHz

Signal Bandwidth: 10.2 Gbps

Resolutions: up to 3840 × 2160 (4K UHD) at 30 Hz

PoC (Power over Cable): 12V /24 V

Transmission Distance: 230 Feet (70 Meters) over CAT5e/6

Power Consumption: 34.4 Watts

Dimensions (L×H): 203mm × 224mm

Weight: 300g

Operating Conditions:

Temperature: 0 to 50 degrees Celsius

Humidity: 10% to 90% non-condensing

Altitude: from 650 hPa (3580m) to 1013 hPa (0m)

Non-Operating / Storage Conditions:

Temperature: -55 to 70 degrees Celsius

Humidity: 10% to 90% non-condensing

Altitude: from 192 hPa (12000m) to 1020 hPa (-50m)

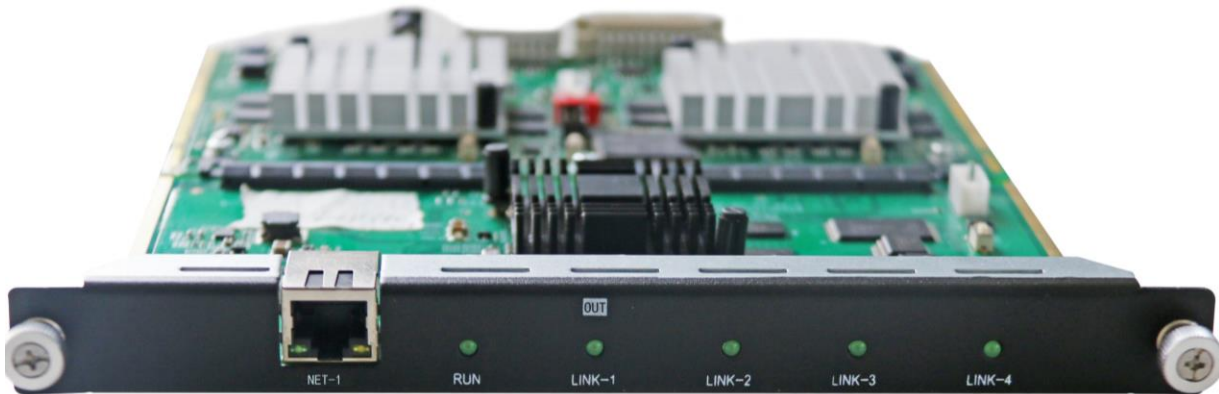
Warranty: 3 years

Available Chassis: Any Output Slots of DigiBird DB-VWC2 Series Chassis, including DB-VWC2-C4 (4U Chassis), DB-VWC2-C6 (6U Chassis), DB-VWC2-C8 (8U Chassis), DB-VWC2-C14 (14U Chassis) and DB-VWC2-C19 (19U Chassis).

Features:

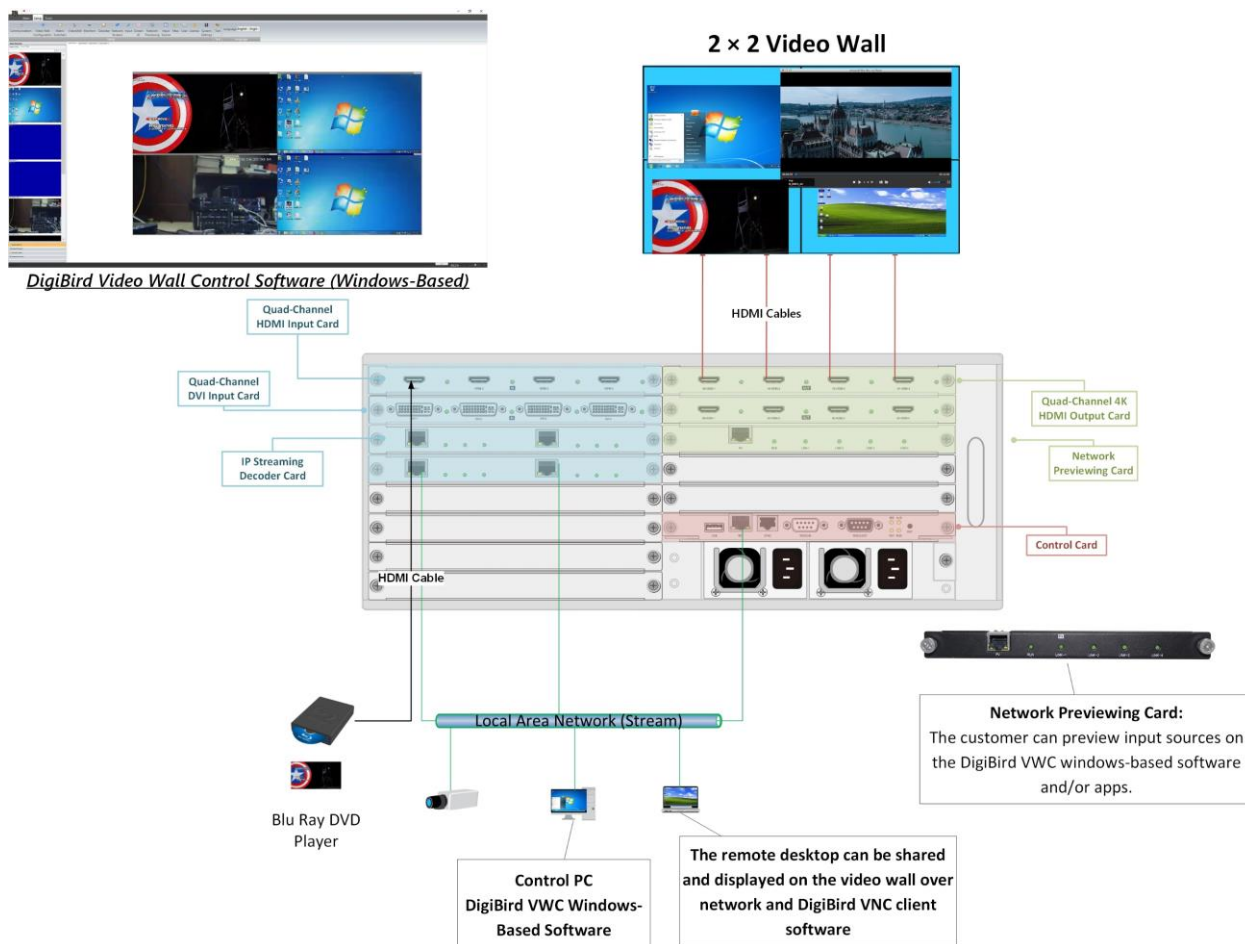
- Hot-Swappable Plug and Play
- Four 1080 input sources windows can be opened on one 4K HDMI output, for example, a 4K UHD display. Two 4K UHD input windows can be opened on one 4K HDMI output.
- Supports EDID Management
- Transmits signal up to 230 feet (70 meters) @ 1080p with CAT5e/6 or 4K/UHD using CAT6a/7 cable
- Requires a HDBaseT Receiver which can be remotely connected up to 230 feet to the HDMI display
- Supports PoC feature, which sends power over Ethernet (cable) to the receiver, hence no power supply needed

Network Previewing Card



Network Previewing Card

Over the DigiBird Network Previewing Card and network, the end users can preview the input sources and window layouts on the control software and/or apps. The following diagram is to show how to connect the Network Previewing Card to the control network.



PART III: CHASSIS

1. DB-VWC2-C4 Video Wall Processor Chassis

Over the buttons on the front panel of the DB-VWC2-C4 chassis, the end users can easily set up the IP address of the video wall processor or check the system status.



DB-VWC2-C4 Front Panel

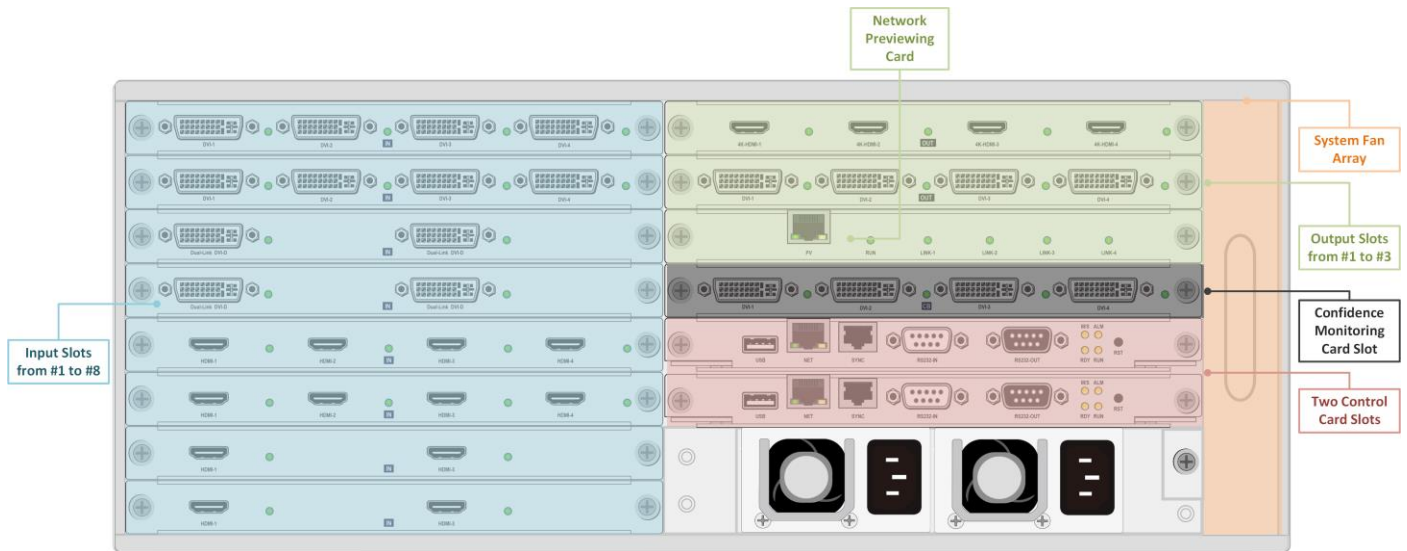
All the components of the DigiBird video wall processors, including input cards, output cards, control cards, power supply units and system fans, are located on the rear of the unit.

The following figure illustrates the rear of the DigiBird DB-VWC2-C4 video wall processor. The types and positions of input and output modules are shown below, just for example only; the actual module configuration will vary from system to system according user's video wall requirements. Any I/O combination can be accepted.



DB-VWC2-C4 Rear view when fully populated with eight input cards, two output cards, one network previewing card, and two control cards

The DB-VWC2-C4 is 4U height, eight input slots, three output slots, and two control slots modular 4K video wall processor that accepts any combination of DigiBird 2K and/or 4K input and output cards.



Specification:

Eight (8x) Input Slots supporting DigiBird hot-swappable 2K/4K input cards

Three (3x) Output Slots supporting DigiBird hot-swappable 2K/4K output cards

One Confidence Monitoring Card Slot

One Networking Previewing Card will occupy one output slot

One (1x) default Power Supply and one (1x) optional Redundant Power Supply

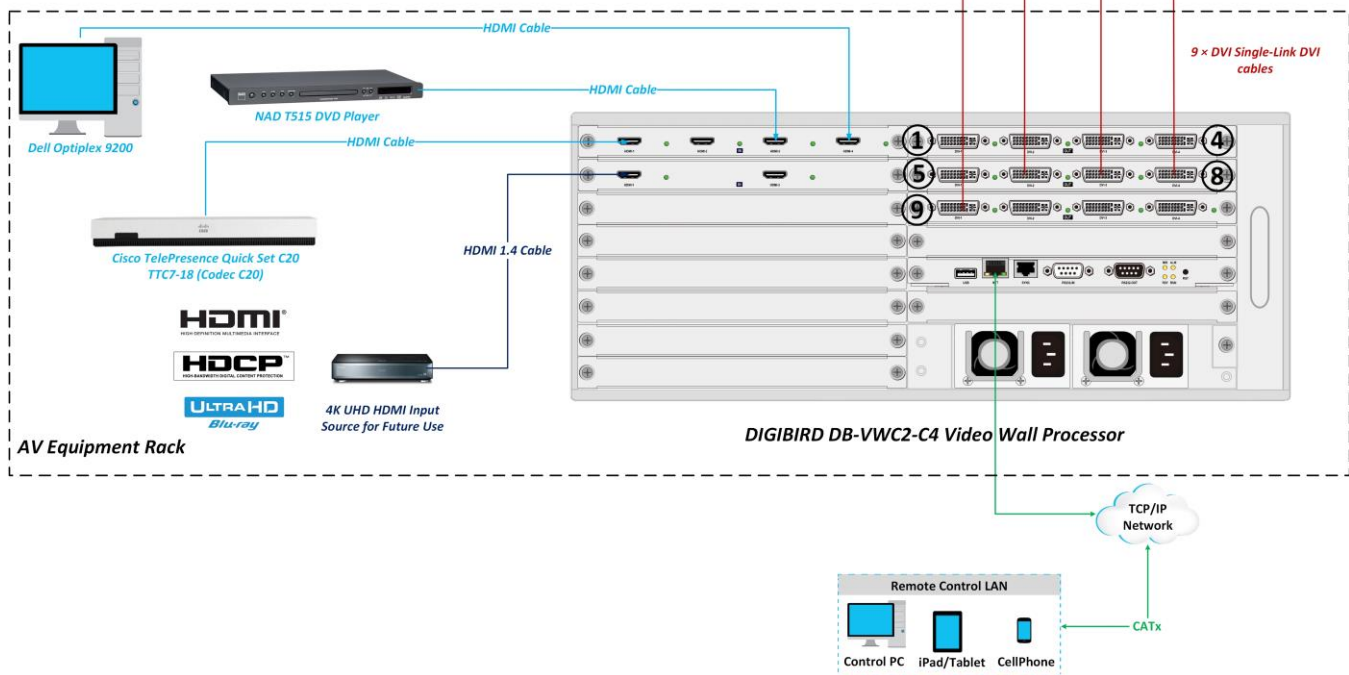
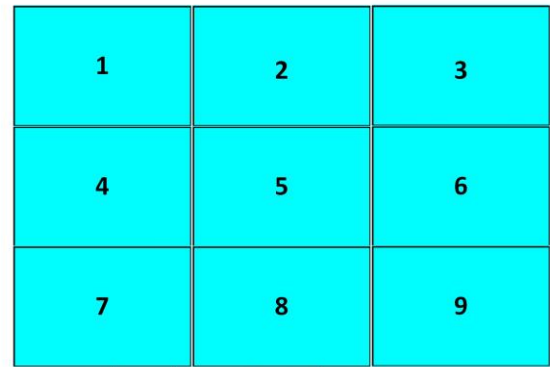
Up to 12-screen 4K UHD display video wall

Up to 48x windows per video wall

Up to four input source windows per screen/display

Up to 32x High-Definition video inputs

Up to 16x 4K UHD video inputs



3 × 3 Videowall Configuration Example

Output Channel Numbers:

On the back of the DB-VWC2-C4 chassis, inputs and outputs are numbered from top to bottom. The top rows of the module host input channels 1-4 and output channels 1-4. Input and Output modules are numbered from right to left with ports numbered from top to bottom, as shown above figure.

2. DB-VWC2-C6 Video Wall Processor



DB-VWC2-C6 Front Panel



DB-VWC2-C6 Rear view with twelve input cards, three output cards, one network previewing card, and two control cards

Specification:

Fourteen (14x) Input Slots supporting DigiBird hot-swappable 2K/4K input cards

Five (5x) Output Slots supporting DigiBird hot-swappable 2K/4K output cards

One Confidence Monitoring Card Slot

One Networking Previewing Card will occupy one output slot

One (1x) default Power Supply and one (1x) optional Redundant Power Supply

Up to 20-screen 4K UHD display video wall

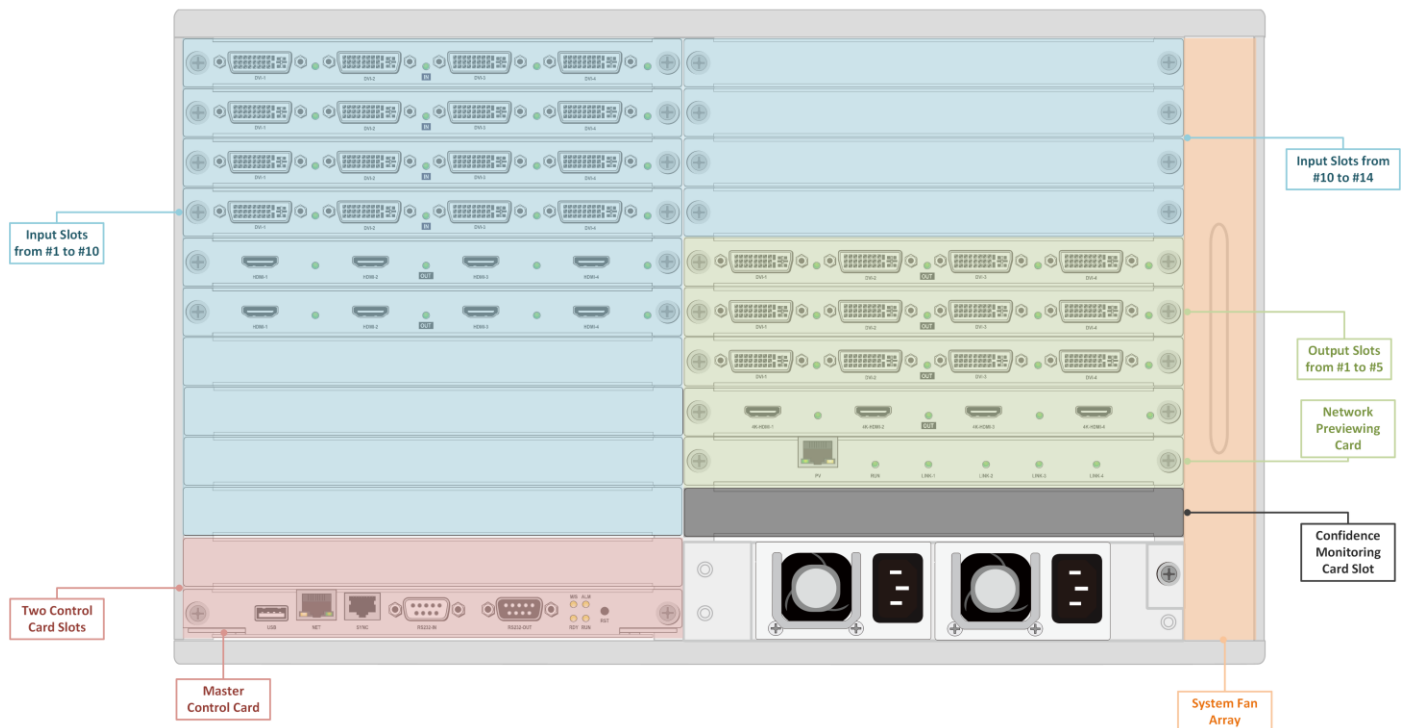
Up to 80x windows per video wall

Up to four input source windows per screen/display

Up to 56x High-Definition video inputs

Up to 28x 4K UHD video inputs

DB-VWC2-C6 Video Wall Processor Rear Panel



3. DB-VWC-C8 Video Wall Processor

Specification:

Fifteen (15x) Input Slots supporting DigiBird hot-swappable 2K/4K input cards

Ten (10x) Output Slots supporting DigiBird hot-swappable 2K/4K output cards

One Confidence Monitoring Card Slot

One Networking Previewing Card will occupy one output slot

One (1x) default Power Supply and one (1x) optional Redundant Power Supply

Up to 40-screen 4K UHD display video wall

Up to 160x windows per video wall

Up to four input source windows per screen/display

Up to 60x High-Definition video inputs

Up to 30x 4K UHD video inputs



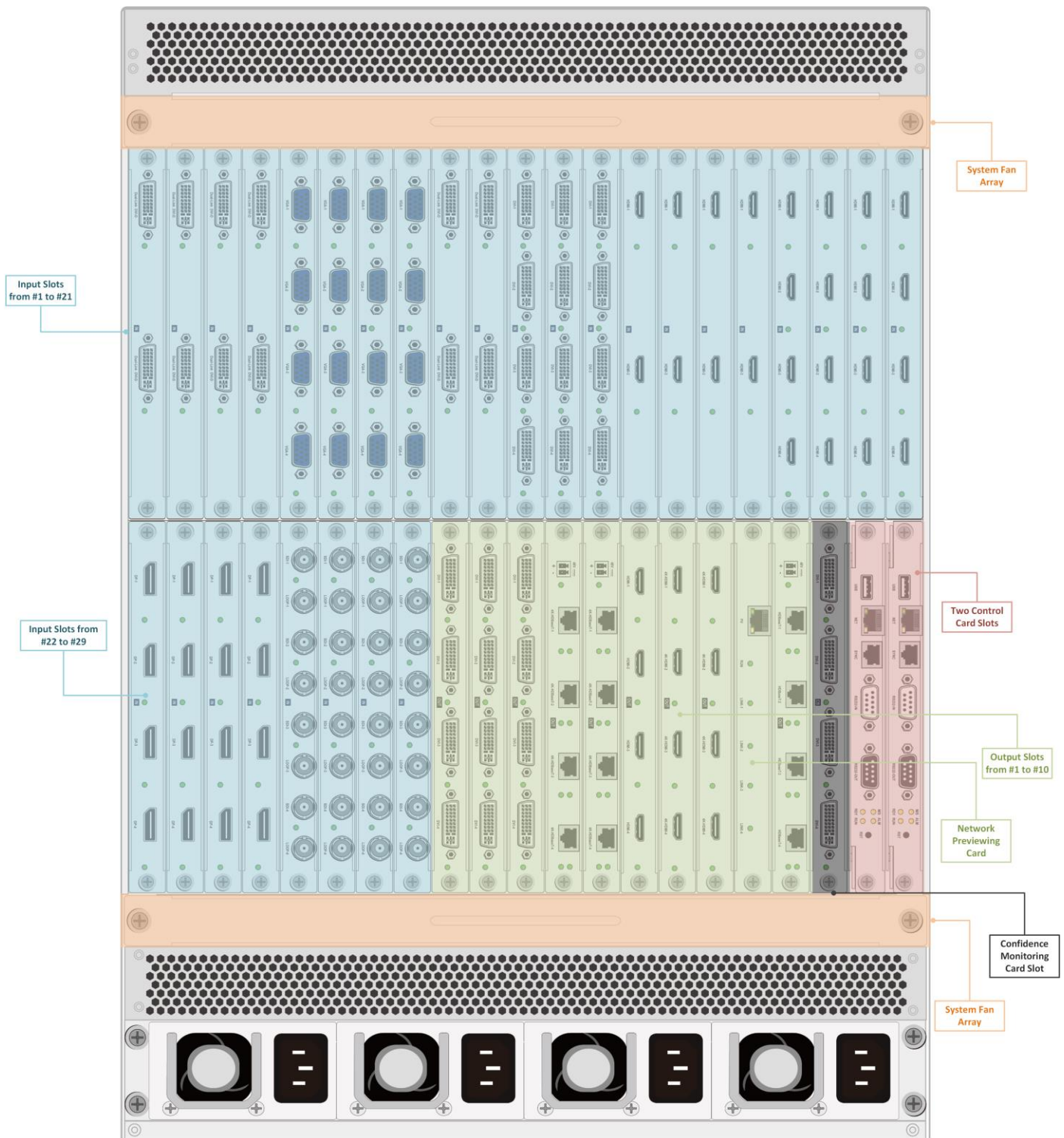
4. DB-VWC2-C14 Video Wall Processor



DB-VWC2-C14 Front Panel



DB-VWC2-C14 Rear Panel



Specification:

Twenty-Nine (29x) Input Slots supporting DigiBird hot-swappable 2K/4K input cards

Ten (10x) Output Slots supporting DigiBird hot-swappable 2K/4K output cards

One Confidence Monitoring Card Slot

One Networking Previewing Card will occupy one output slot

One (1x) default Power Supply and three (3x) optional Redundant Power Supply

Up to 40-screen 4K UHD display video wall

Up to 160x windows per video wall

Up to four input source windows per screen/display

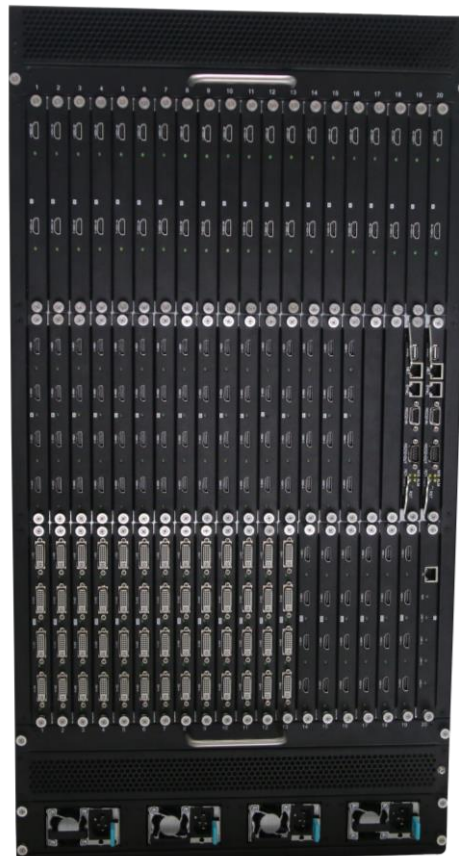
Up to 116x High-Definition video inputs

Up to 58x 4K UHD video inputs

5. DB-VWC2-C19 Video Wall Processor



DB-VWC2-C19 Front Panel



DB-VWC2-C19 Rear Panel

Input Slots
from #1 to #20

Input Slots
from #21 to #37

Output Slots
from #1 to #20

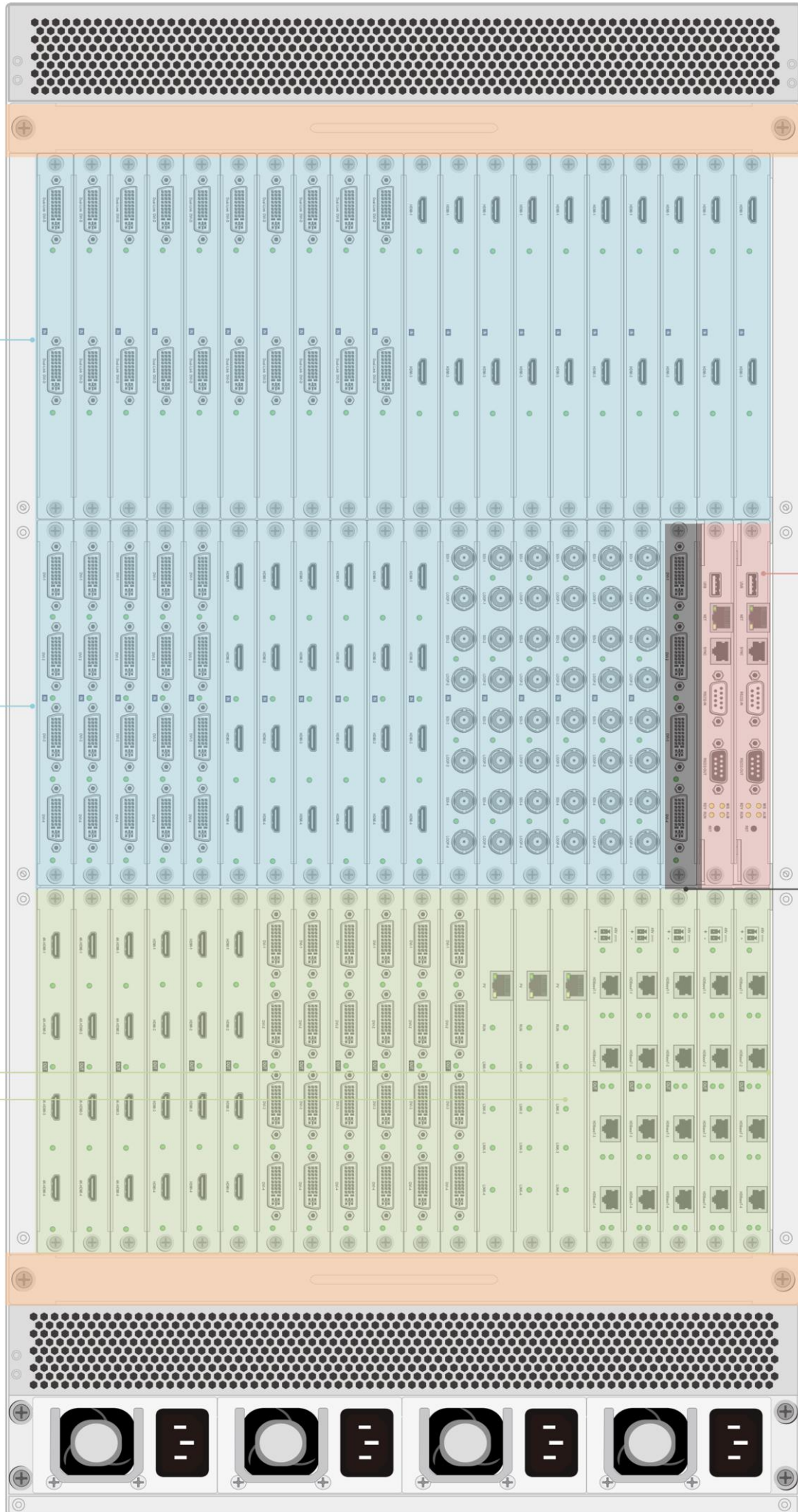
3 × Network
Previewing
Card

System Fan
Array

Two Control
Card Slots

Confidence
Monitoring
Card Slot

System Fan
Array



Specification:

Thirty-Seven (37x) Input Slots supporting DigiBird hot-swappable 2K/4K input cards

Twenty (20x) Output Slots supporting DigiBird hot-swappable 2K/4K output cards

One Confidence Monitoring Card Slot

One Networking Previewing Card will occupy one output slot

One (1x) default Power Supply and three (3x) optional Redundant Power Supply

Up to 80-screen 4K UHD display video wall

Up to 320x windows per video wall

Up to four input source windows per screen/display

Up to 148x High-Definition video inputs

Up to 74x 4K UHD video inputs