

DATA SHEET

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# RADIAN CHASSIS AND CARD SOLUTIONS

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24/7 TECHNICAL SUPPORT AT 877.877.2269 OR VISIT [BLACKBOX.COM](http://BLACKBOX.COM)



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# OVERVIEW

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## RADIAN CHASSIS AND CARD SOLUTIONS DATA SHEET

### INTRODUCTION

Radian video wall controllers are bespoke solutions that are meticulously designed to provide premium performance for mission-critical environments, such as broadcast, transportation, and aerospace/defense control room facilities. This design centers around the guiding principle of being purpose built for their objective, and, as such, Radian solutions are constructed to perform to the exact requirements of the environment in which they are to be used.

A system is built from a wide array of component options by choosing a processor chassis and a combination of capture, streaming, and graphics cards that meet the technical requirements of the user facility. With the addition of management software, you have a Radian video wall controller purpose built to provide mission critical content visualization for your application.

To help you get the right configuration for your specific application, Black Box offers free 24/7 tech support. Contact one of our technical experts and we'll design a solution for you, have it built to your specifications, test it to ensure premium performance, and ship the complete solution to you for installation and use at your facility.

### FEATURES

- AVAILABLE IN 4-, 6- AND 11-SLOT PROCESSOR CHASSIS
- INCREASE CAPACITY WITH UP TO FOUR VWX-1100R EXPANSION CHASSIS
- SUPPORTS UP TO (x24) 4K60 DISPLAYS USING SIX VGC-HDMI2-4 GRAPHICS CARDS
- SUPPORTS UP TO (x32) 2560 X 1600 @ 60HZ DISPLAYS USING EIGHT VGC-HDMI-2K-4 GRAPHICS CARDS
- SUPPORTS HUNDREDS OF VIDEO INPUTS, WITH SYSTEM CAPACITY BEING THE ONLY LIMIT TO THE NUMBER OF CAPTURE CARDS
- FREELY POSITION ANY SOURCE ANYWHERE ON THE VIDEO WALL
- EASY TO USE—DRAG, DROP, RESIZE, CROP, AND SCALE
- TRUE 4K60 INPUT AND OUTPUT SUPPORT
- WIDE RANGE OF INPUT CARDS FOR ANY VIDEO FORMAT: COMPONENT, HDMI, DP, DVI, IP (H.264/H.265)
- MIX LIVE CAPTURE, IP STREAMS, AND LOCAL MEDIA IN ONE APPLICATION
- REAL-TIME, MULTI-USER VIDEO WALL MANAGER
- PROVIDES THE ABILITY TO RUN SOFTWARE APPLICATIONS ON THE VIDEO WALL CONTROLLER WITH WINDOWS 10 LTSC

# PROCESSOR CHASSIS

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## RADIAN CHASSIS AND CARD SOLUTIONS DATA SHEET

Radian processor chassis are the heart of our video wall controller solutions, and they provide the basis from which the system is configured and built. They are servers with a motherboard, including Windows® 10 LTSC OS, processor, connectivity ports for local control screens, Ethernet and USB devices, internal RAM and SSD storage, and PCIe x8 slots for connection of capture, streaming, and graphics cards.

They are available in multiple configurations for customers to choose from based on the design and complexity of the video wall they require. The Radian chassis components table below details our standard configurations.

Designed with flexibility in mind, we feature 4- and 11-slot models that come in a 4U rackmount form factor for clean installation in a rack, as well as a standalone 6-slot chassis that features a smaller form factor for areas where racks aren't an option, and which runs quieter than our rackmount models. Furthermore, all solutions are customizable, with upgrades available to switch from a single power supply to a RPSU, add a higher performing processor, and increase RAM and storage capacities. And if you need to increase card capacity in the future, expansion chassis can be added to the system to provide the amount of PCIe card slots you need.



# PROCESSOR CHASSIS

## RADIAN CHASSIS AND CARD SOLUTIONS DATA SHEET

RADIAN CHASSIS COMPONENTS							
	VWP-0405A	VWP-1107R	VWP-1109R	VWP-111XR	VWX-1100R	VWP-1060	VWP-0605R-S
FORM FACTOR	4U Rackmount					Standalone	
PROCESSOR	Intel Core i5	Intel Core i7	Intel Core i9	Intel E3 Xeon	-	Intel Core i5	
USB CONNECTIVITY	(X2) USB 2.0 (X2) USB 3.0 (X4) USB 3.1 Gen 2		(x2) USB 2.0 (x4) USB 3.0 USB-C		-	(x2) USB 2.0 (x4) USB 3.0	
CONTROL SCREEN VIDEO	DisplayPort™		DisplayPort HDMI		-	(x3) DisplayPort	
BACKPLANE	(x4) PCIe Gen 3 x8		(x11) PCIe Gen 3 x8			(x4) PCIe Gen 3 x8	
EXPANDABLE	Yes (via VWX-1100R expansion chassis)					No	
ETHERNET	(x1) 1G (x1) 10G		(x2) 1G		-	(x2) 1G	
POWER	800W ATX PSU		800W Redundant PSUs			500W ATX PSU	500W Redundant PSUs
MEMORY	32GB				-	16GB	
STORAGE	(x2) 240GB SSD (RAID Configured)				-	240GB SSD	
OPERATING TEMPERATURE	32 to 95° F (0 to 35° C)						
STORAGE TEMPERATURE	-4 TO +158 F (-20 TO +70° C)						
DIMENSIONS	507 x 177 x 482mm					380 x 176 x 265mm	



11-slot chassis, front view, door open



4-slot chassis, back view



VWP-1060, back view

# CAPTURE CARDS

## RADIAN CHASSIS AND CARD COMPONENTS DATA SHEET

The Radian line of capture and streaming cards allow the video wall controller solution to be customized to accept the number and type of input sources required for the user application. They feature a wide range of connection types, allowing for both physical and virtual content to be accepted, and supporting HDMI, DisplayPort,™ DVI and RCA video connectors and H.264/H.265 streams.

Models support video resolutions up to 4K60 4:4:4, with options available for SD, HD, and UHD. You can add as many capture and streaming cards as you need, with the only limitation being the number of available PCIe slots on the selected processor chassis and any expansion chassis.

RADIAN CAPTURE CARDS						
	VCC-HDMI2-2	VCC-DP-2	VCC-HD-4-H	VCC-HD-4-D	VCC-SD-HD-3	VCC-STREAM2
FORM FACTOR	PCIe Gen3 x8				PCIe x4	PCIe Gen2 x4
PORTS	HDMI (X2)	DisplayPort (x2)	HDMI(x4)	HDMI (x4) with (x4) DVI adapters	DVI-I (x2) RCA	RJ-45 (x2)
MAX RESOLUTION	4K60 4:4:4	4K60	4K60 (Channels 1 and 3); 1080p60 (Channels 2 and 4)		1080p60 (Channels 1 and 2); 720p (Channel 3)	Up to: (x1) 4K60 or (x3) 4K30 or (x6) 1080p60 or (x12) 1080p30
FRAME BUFFER	2GB	768MB			-	-
POWER REQUIREMENTS	1.7A @ 12V; 0.1A @ 3.3V; Max Power 21W	1.3A @ 12V; Max Power 16W	0.85A @ 12V; 0.45A @ 3.3V; Max Power 18W		1A @ 12V; 1A @ 3.3V; Max Power 15.5W	1.2A @ 12V; 0.1A @ 3.3V; Max Power 15W
OPERATING TEMPERATURE	32 to 96° F (0 to 35° C)					
STORAGE TEMPERATURE	-4 TO +158 F (-20 TO +70° C)					
DIMENSIONS	195 x 110 mm	170 x 110 mm			167 x 111 mm	



VIDEO CAPTURE CARD (VCC-HDMI2-2):  
HDMI 2.0 4K 60 HZ 4:4:4



VIDEO CAPTURE CARD (VCC-DP-2):  
(2) CHANNEL DISPLAYPORT 4K  
CAPTURE CARD

# GRAPHICS CARDS

## RADIAN CHASSIS AND CARD COMPONENTS DATA SHEET

Radian features two HDMI Graphics Cards for use in the video wall processor chassis (VGC-HDMI2-4 and VGC-HDMI-2K-4), and only one card type can be used in a system (they cannot be mixed and matched). The VGC-HDMI2-4 card is needed when 4K60 4:4:4 video content is a requirement for all displays, since it supports 4K60 4:4:4 video on all four outputs at the same time. The VGC-HDMI-2K-4 is a more flexible solution that supports 2560 x 1600 @ 60Hz video on all four outputs at the same time,

but it also provides the option to configure the card to output only 2 channels of 4K60 video output, or 1 channel of 4K60 output, plus 3 channels of 1080p60 output. A Radian video wall controller system can support up to (x6) VGC-HDMI2-4 graphics cards for a total of 24 displays, or up to (x8) VGC-HDMI-2K-4 graphics cards for a total of 32 displays. It is possible to support expanded display outputs for larger video walls with a customized solution (Contact Black Box Technical Support for details).

### GRAPHIC CARD OPTIONS

MODEL	DESCRIPTION
VGC-HDMI2-4	4-Channel HDMI 2.0 Graphics Card, 4K60 4:4:4, HDCP 2.2
VGC-HDMI-2K-4	4-Channel HDMI 2K Graphics Card, 2560x1600 @ 60Hz



GRAPHICS CARD (VGC-HDMI2-4):  
4-Channel HDMI 2.0 Graphics Card,  
4K60 4:4:4, HDCP 2.2



GRAPHICS CARD (VGC-HDMI-2K-4):  
4-Channel HDMI 2K Graphics Card,  
2560x1600 @ 60Hz

# MANAGEMENT SOFTWARE

## RADIAN CHASSIS AND CARD COMPONENTS DATA SHEET

Managing your video wall just became easier. The Radian video wall management software boasts an easy-to-use but advanced interface that gives you the tools you need to manage content from video captures, IP streams, and local applications.

And this system is powerful and adaptive. It allows any piece of content to be placed anywhere on your video wall, whether from a capture card, IP streaming card, or local media.

### FEATURES

- **QUICKLY CREATE COMPLEX TEMPLATES.**  
Place your own templates across an entire video wall that evenly distributes content or apply a template to an individual window, so multiple windows can be grouped together and moved as a single item.
- **MULTIWALL FUNCTIONALITY.**  
Deliver multiple walls through a single system. Walls in separate areas of a building can be independently driven from a single location. Multiple walls can be easily set up using the wall creator wizard.
- **POWERFUL CONTROL OF USER RIGHTS.**  
User rights management can be deployed on each system to ensure no one is accessing the wrong files. Users can be assigned roles on a per wall basis based on their Windows® login, with each role allowing access to a subset of sources of layout files.
- **TWO POWERFUL EDITIONS TO FIT YOUR DEPLOYMENT**  
Radian Video Wall Manager is offered in Standard and Pro editions. Standard provides all the features users need to manage their complex video wall. Pro provides all the great features of Standard but also includes MultiWall, user rights management, unlimited IP streaming, and more.

### MANAGEMENT SOFTWARE OPTIONS

MODEL	DESCRIPTION
VWS-VWM10-PRO	Wall Control 10 Pro Management Software
VWS-VWM10-STD	Wall Control 10 Standard Management Software





# ORDERING INFORMATION

## RADIAN CHASSIS AND CARD COMPONENTS DATA SHEET

ITEM	CODE
Radian Flex Chassis and Modules	
Chassis	
4-Slot, 4U Rackmount Chassis, i5, 800W ATX, 32GB RAM, (x2) 240GB SSD	<b>VWP-0405A</b>
6-Slot, Standalone Chassis, i5, 500W ATX, 16GB RAM, 240GB SSD	<b>VWP-1060</b>
6-Slot, Standalone Chassis, i5, 500W RPSU, 16GB RAM, 240GB SSD	<b>VWP-0605R-S</b>
11-Slot, 4U Rackmount Chassis, i7, 800W RPSU, 32GB RAM, (x2) 240GB SSD	<b>VWP-1107R</b>
11-Slot, 4U Rackmount Chassis, i9, 800W RPSU, 32GB RAM, (x2) 240GB SSD	<b>VWP-1109R</b>
11-Slot, 4U Rackmount Chassis, Xeon, 800W RPSU, 32GB RAM, (x2) 240GB SSD	<b>VWP-111XR</b>
11-Slot, 4U Rackmount Expansion Chassis	<b>VWX-1100R</b>
Video Capture Cards	
H.264/265 Streaming, (x2) RJ45, Encode and Decode	<b>VCC-STREAM2</b>
2-Channel - HDMI 2.0, 4K60 4:4:4, HDCP 2.2	<b>VCC-HDMI2-2</b>
2 Channel - DisplayPort 1.2, 4K60 4:2:0	<b>VCC-DP-2</b>
4-Channel - HDMI 1.4, 4K60 4:2:0	<b>VCC-HD-4-H</b>
4-Channel - HDMI 1.4 w/DVI Adapters	<b>VCC-HD-4-D</b>
3-Channel - (x2) DVI-I + (x1) RCA; 1080p60	<b>VCC-SD-HD-3</b>
Video Graphics Cards	
Radian Video Wall Processor Output Graphic Card HDMI 2.0 4K60Hz	<b>VGC-HDMI2-4</b>
Radian Video Wall Processor Output Graphics Card HDMI 2K60Hz	<b>VGC-HDMI-2K-4</b>
Wall Control 10 Management Software	
Wall Control 10 Pro Management Software	<b>VWS-VWM10-PRO</b>
Wall Control 10 Standard Management Software	<b>VWS-VWM10-STD</b>

### ABOUT BLACK BOX

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