

# HDR16-16

SEAMLESS ULTRA HIGH-DEFINITION DYNAMIC MATRIX



## USER MANUAL



Designed and Manufactured in the USA

**Smart-AVI**

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# TECHNICAL SPECIFICATIONS

VIDEO	
Video Amplifier Bandwidth	18 Gbps
Input Video Signal	Video (TMDS) 0.4~1.0Vpp
Input DDC Signal	5 volts
Compliances	HDMI 2.0, HDCP 2.2
Input Resolutions	3840 x 2160 @ 24 Hz / 25 Hz / 30 Hz / 50 Hz / 60 Hz
Output Resolutions	3840 x 2160 @ 24 Hz / 25 Hz / 30 Hz / 50 Hz / 60 Hz; 1080p @ 60 Hz
Video Type	HDMI 2.0
Input Interface	(16) HDMI 19-pin (female)
Output Interface	(16) HDMI 19-pin (female)
AUDIO	
Format	Stereo
Input Interface	(16) 3.5mm (female)
Output Interface	(16) 3.5mm (female)
CONTROL	
Front Panel	Tacticle Switches
RS-232	DB9 connector, Baud Rate 9600
TCP/IP	RJ-45, UDP telnet
OTHER	
Power Supply	50/60Hz, 110-240 VAC
Consumption	100W
Dimensions	17" W x 7 1/8" H x 15" D
Weight	24.45 lbs
Operating Temperature	0°C~+40°C
Storage Humidity	20%~90%

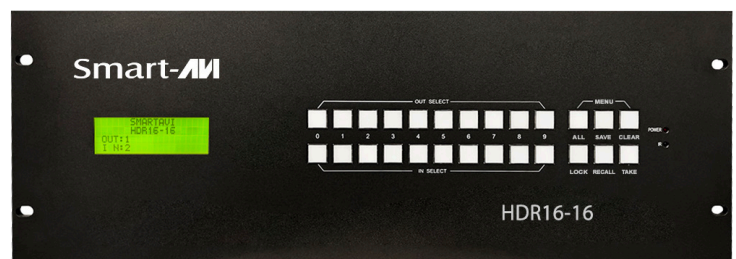
## WHAT'S IN THE BOX?

PART NO.	Q-TY	DESCRIPTION
HDR16-16-S	1	16x16 4K/60Hz Matrix Switch
CCPWR06	2	Power supply cord
	1	User Manual

## FRONT AND BACK



HDR16-16 Back Panel



HDR16-16 Front Panel

# INTRODUCTION

HDR16-16 is a high-performance seamless UHD matrix switcher that comes in multiple different configurations. The unit can be configured in many different options to best suit your needs. For example, the HDR16-16 comes in many different configurations with the lowest configuration available is 2x2 and configurations increase in increments of two for both inputs and outputs for a maximum of 16x16. The configuration option 2x2 refers to the number of inputs and outputs the unit has, so a 4x16 would be 4 inputs and 16 outputs. For example, some example configurations would be 2x4, 4x2, 4x4, 4x6, 6x6 and so on.

## FEATURES

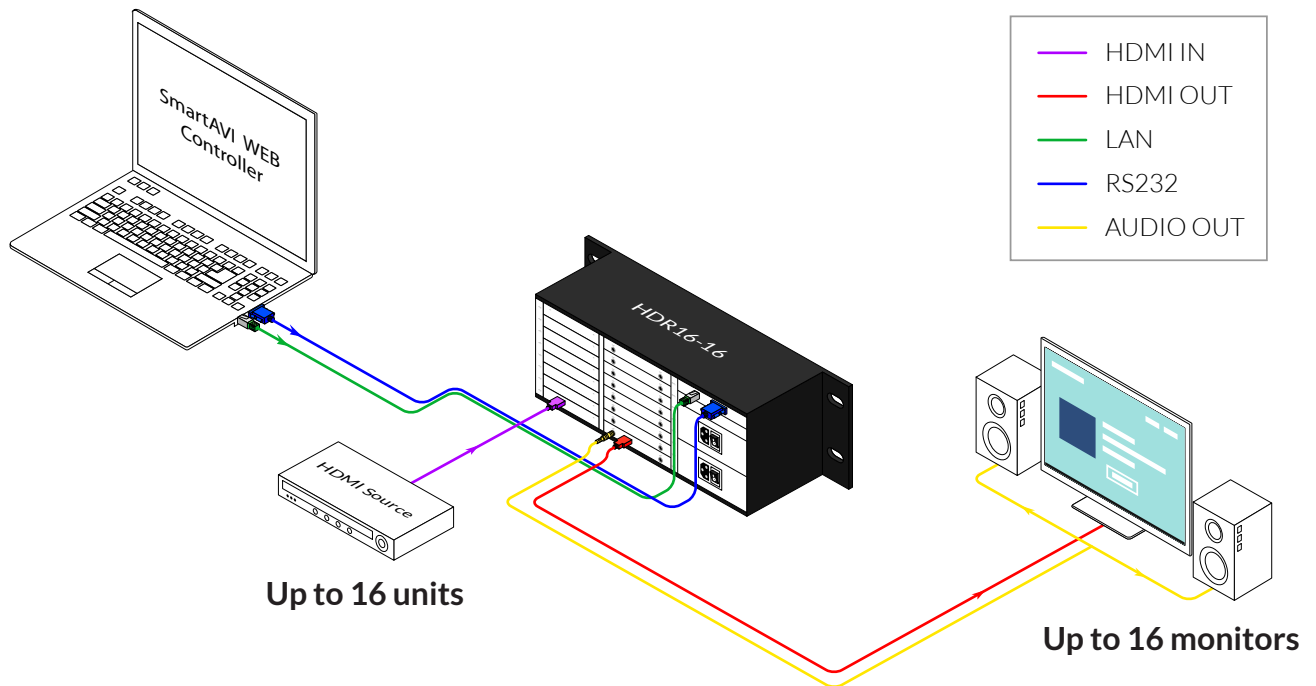
- HDMI video output resolution up to 3840x2160@60Hz
- Seamless transitions
- Matrix configurations
- EDID management
- Front panel, RS232, and TCP/IP control
- HDMI Digital Audio

## APPLICATION

- Corporate or Educational Presentations
- Airport Installations
- Wall Displays
- Digital Signage
- Dealer Rooms
- Control Rooms
- Shopping Centers
- Security
- Point-of-Sale Retail
- Entertainment Venues
- Corporate Lobbies
- Restaurants

# INSTALLATION

1. Position HDR16-16 conveniently and keep it unplugged.
2. Connect displays to the HDR16-16's ports marked OUT and power on the displays.
3. Connect any video source to the HDR16-16's ports marked IN.
4. Optionally connect an RS-232 cable from a PC to the RS-232 port on the HDR16-16 for additional control.
5. Optionally connect an Ethernet cable to the HDR16-16 for additional control.
6. Plug in the power cord and power on the HDR16-16 then wait a few seconds for the unit to initialize.



# FRONT PANEL CONTROL

- Press buttons **OUTPUT n + INPUT m + TAKE** in this order to switch matrix input **n** and output **m**.
- Press button **LOCK** to lock or unlock front buttons. When locked, the **LOCK LED** will light up.
- Press buttons **ALL + INPUT m + TAKE** in this order to switch all of the outputs to the specified input **m**.
- Press button **SAVE + OUTPUT n + TAKE** in this order to save the current “scene” as scene **n**. The matrix can save up to 8 scenes using the front panel.
- Press button **RECALL + OUTPUT n + TAKE** to load saved scene **n**.
- Press button **CLEAR** to clear anything currently inputted if you wish to start over.

## HDR 16-16 HDR APPLICATION GUIDE

### CONNECTING WITH THE SOFTWARE

Upon launching the HDR16-16 HDR application, you will be prompted to sign in. On the first boot-up, the default username and password will be provided. The user can add additional users with or without administrative privileges by clicking the Users tab.

**Note:** Default username and password are Administrator and 12345.

After logging in, you will be prompted to establish a connection. First, start by selecting what method you want to connect to the HDR16-16 with.

- **Using network connection:** Start by clicking the Start button. The application will begin searching your network for any devices that are connected and will then list all of the available devices. If multiple devices are listed and you are unsure of which device is the HDR16-16, you can download and use SAVI Finder to view the device names as well as edit device information. Select your device from the list then click the OK button.
- **Using RS232 connection:** Select the correct serial port responsible for your HDR16-16 and then click the OK button. If you are unsure how to find the correct serial port do the following steps.
  1. On your computer click the start button.
  2. Type “Device Manager” into the search bar. A window should open listing the various components and devices connected to your computer.
  3. Find the list item called Ports (COM & LPT) and click on the arrow next to it. The name of the adapter should appear and its COM port.

# HDR 16-16 HDR APPLICATION GUIDE (CONTINUED)

Connection settings

Use serial port connection     Use network connection

Serial port name: COM1    IP address: 192.168.1.200

Port number: 23

Select device: HDR16-16

Search devices: Start

OK    CANCEL

Connection settings

Use serial port connection     Use network connection

Serial port name: COM1    IP address: 192.168.120.179

Port number: 23

Select device: HDR16-16

Search devices: Start

192.168.120.242	A6 4C 5E E6 5B FF
192.168.3.13	A6 4C 5E E6 6B F7
192.168.120.179	A6 4C 5E E5 10 A9

OK    CANCEL

# HDR 16-16 HDR APPLICATION GUIDE (CONTINUED)

## NAVIGATING THE APPLICATION

**Connections and Connect.** To manage the existing connections, click the CONNECTIONS button found in the top left of the screen. You can then either connect or remove any existing connections. To create a new connection, click the CONNECT button and repeat the steps you did when you first setup the application.

**Settings.** Clicking on the SETTINGS button will bring up a menu that allows you to change the HDR16-16's output resolution, matrix layout, read and write EDID, or change an input's name. To read and write EDIDs, start by selecting an output from the dropdown menu then click Read. Once the application is finished reading the EDID select an input from the dropdown menu then click Write.

VideoWall settings


Resolution: 3840 x 2160...  
Set and close

Rows: - 4 +

Columns: - 4 +

Input count: - 8 +

Output 1  
Read

Input 1  
Write

Set input name: 1  
Set

Reset input names: Reset

OK CANCEL

# HDR 16-16 HDR APPLICATION GUIDE (CONTINUED)

VideoWall settings


Resolution:  
3840 x 2160... ▼  
Set and close

Rows:  
- 8 +

Columns:  
- 2 +

Input count:  
- 16 +

---

Output 1 ▼  
Read

Input 1 ▼  
Write

Set input name:  
1 ▼   
Set

Reset input names:  
Reset

OK CANCEL

**Users.** To create a new user, click the USERS button then fill in the “User name” and “User password” fields and if you would like to make this user an administrator click the checkbox. Then click the Add button and the user will now appear in the list to the right.

# HDR 16-16 HDR APPLICATION GUIDE (CONTINUED)

Application users

User name:

User password:

This user is administrator

User1  
Administrator

If you want to edit an existing user, click on the user from the list and then edit any credentials you wish to change. Once finished click the Save button then confirm that you want to make the changes.

Application users

User name:

User password:

This user is administrator

User1  
Administrator

# HDR 16- 16 HDR APPLICATION GUIDE (CONTINUED)

**Scheduler.** Clicking on the SCHEDULER button will bring up the Scheduler window that allows the user to set date specific schedules for saved layouts to automatically set up. Please note that because of this, the user is required to register layouts in the general page of the software first before the scheduler can be used.

The screenshot shows the 'Scheduler' window with the following fields and controls:

- Start date:** 6/1/2024 (with a calendar icon showing 15)
- End date:** 6/2/2024 (with a calendar icon showing 15)
- Start time:** 10 h 55 m
- Layout name:** Layout1 (dropdown menu)
- Task name:** Test Task

On the right side, there is a list of tasks with the following entry:

Test Task	Layout1	6/1/2024	10:55:00 AM
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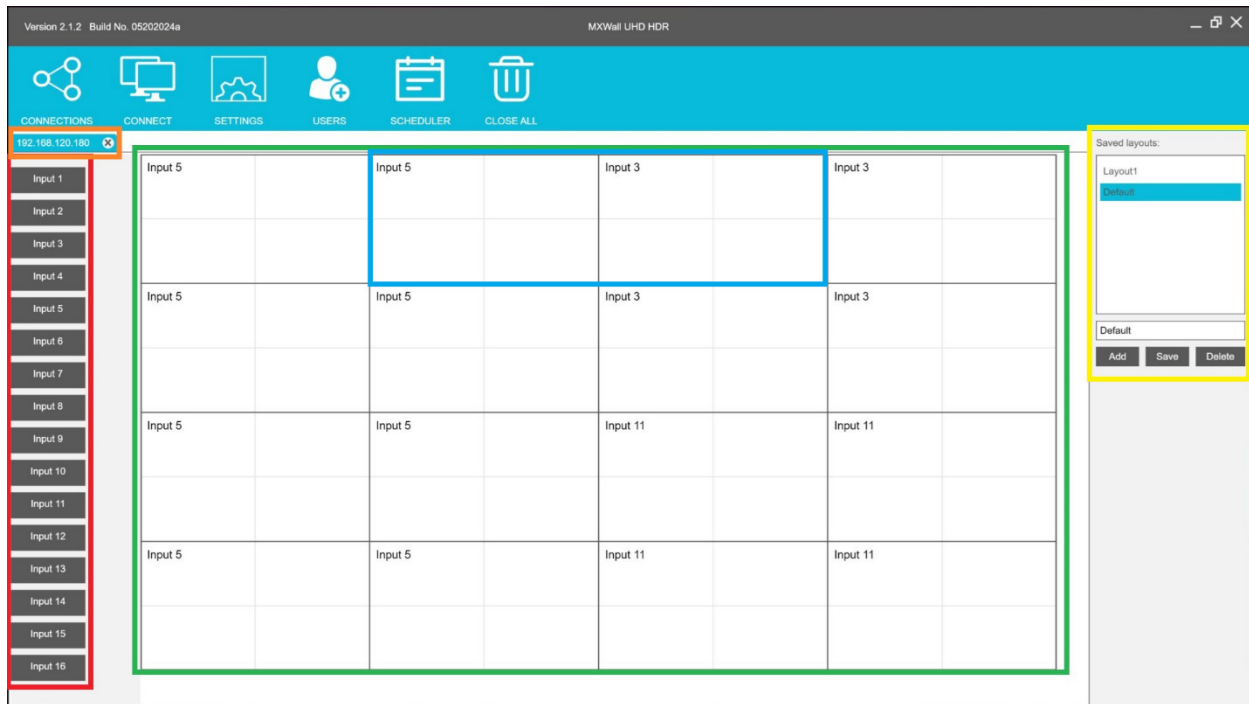
At the bottom, there are several buttons: Add, Save, Delete, First, Up, Down, Last, and a large OK button.

**Close all.** Click the CLOSE ALL button to remove all of the existing Stitched sets.

# HDR 16- 16 HDR APPLICATION GUIDE (CONTINUED)

## MATRIX CONTROL USING HDR16-16

Controlling the Matrix functionality of the HDR16-16 using this application remains consistent regardless of the connection type or configuration. Once the connection is established, the user can manage inputs and outputs seamlessly.



The **orange box** displays all the active connections. The blue highlighted tab indicates the device currently being controlled.

On the left side, indicated by the **red box**, are inputs 1-16. The user can drag these input boxes to assign them to the desired outputs.

The **green box** shows all the available outputs, with the current input assigned to each output displayed in the top left corner.

# TROUBLESHOOTING

## No Power

- Make sure that the power adapter is securely connected to the power connector of the unit.
- Check the output voltage of the power supply and make sure that the voltage value is around 12VDC.
- Replace the power supply.

## No Video

- Check if all the video cables are connected properly.
- Connect the computer directly to the monitor to verify that your monitor and computer are functioning properly.
- Restart the computers.

## Keyboard is not working

- Check if the keyboard is properly connected to the unit.
- Check if the USB cables connecting the unit and the computers are properly connected.
- Try connecting the USB on the computer to a different port.
- Make sure that the keyboard works when directly connected to the computer.
- Replace the keyboard.

## Mouse is not working

- Check if the mouse is properly connected to the unit.
- Try connecting the USB on the computer to a different port.
- Make sure that the mouse works when directly connected to the computer.
- Replace the mouse.

## No Audio

- Check if all the audio cables are connected properly.
- Connect the speakers directly to the computer to verify that the speakers and the computer audio are functioning properly.
- Check the audio settings of the computer and verify that the audio output is through the speakers.

# TECHNICAL SUPPORT

For product inquiries, warranty questions, or technical questions, please contact [info@smartavi.com](mailto:info@smartavi.com).

# LIMITED WARRANTY STATEMENT

## A. Extent of limited warranty

SmartAVI, Inc. warrants to the end-user customers that the SmartAVI product specified above will be free from defects in materials and workmanship for the duration of 1 year, which duration begins on the date of purchase by the customer. Customer is responsible for maintaining proof of date of purchase.

SmartAVI limited warranty covers only those defects which arise as a result of normal use of the product, and do not apply to any:

- a. Improper or inadequate maintenance or modifications
- b. Operations outside product specifications
- c. Mechanical abuse and exposure to severe conditions

If SmartAVI receives, during applicable warranty period, a notice of defect, SmartAVI will at its discretion replace or repair defective product. If SmartAVI is unable to replace or repair defective product covered by the SmartAVI warranty within reasonable period of time, SmartAVI shall refund the cost of the product.

SmartAVI shall have no obligation to repair, replace or refund unit until customer returns defective product to SmartAVI.

Any replacement product could be new or like new, provided that it has functionality at least equal to that of the product being replaced.

SmartAVI limited warranty is valid in any country where the covered product is distributed by SmartAVI.

## B. Limitations of warranty

To the extent allowed by local law, neither SmartAVI nor its third party suppliers make any other warranty or condition of any kind whether expressed or implied with respect to the SmartAVI product, and specifically disclaim implied warranties or conditions of merchantability, satisfactory quality, and fitness for a particular purpose.

## C. Limitations of liability

To the extent allowed by local law the remedies provided in this warranty statement are the customers sole and exclusive remedies.

To the extent allowed by local law, except for the obligations specifically set forth in this warranty statement, in no event will SmartAVI or its third party suppliers be liable for direct, indirect, special, incidental, or consequential damages whether based on contract, tort or any other legal theory and whether advised of the possibility of such damages.

## D. Local law

To the extent that this warranty statement is inconsistent with local law, this warranty statement shall be considered modified to be consistent with such law.



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