# RGBSPECTRUM

# 4K Multiviewer

## *QuadView UHD*

# User Guide

December, 2020

RGB Spectrum
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## DOCUMENT

- *QuadView UHD* User Guide

- 350-11845-01

- December, 2020

This document describes the features and functions of the following products and software versions:

- *QuadView UHD* firmware: V2.0.0.Y

- *QuadView UHD* Web Controller: V2.0.0.Y

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- Read these instructions.

- Keep these instructions.

- Heed all warnings.

- Install and use this apparatus in accordance with the manufacturer's instructions.

- Do not expose this apparatus to rain or moisture. Do not place liquid-filled objects, such as vases, on the apparatus.

- Do not block any of the ventilation openings.

- Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.

- Do not place any sources of open flames, such as candles, on the apparatus.

- Clean only with a dry cloth.

- Do not defeat the safety purpose of the polarized or grounding type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong is provided for your safety. When the provided plug does not fit into your outlet, consult an electrician for the replacement of the obsolete outlet.

- Unplug this apparatus during lightning storms or when unused for long periods of time.

- Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles and the point where they exit from the apparatus.

- Only use the attachments/accessories specified by the manufacturer.

- Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.

- Keep the packing material in case the equipment should ever need to be shipped.

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**North America**

- **Safety:** UL60950-1/CSA C22.2 No. 60950-1 2nd Ed: 2014

- **Electro-Magnetic Interference/Electro-Magnetic Compatibility (EMI/EMC):**

   - FCC CFR47, Part 15, Subpart B, CLASS 1; ANSI C63.4:2014

   - Industry Canada ICES-003 Issue 6, December 2016

**European Union**

- **EMI/EMC (Electro-Magnetic Compatibility Directive 2014/30/EU):** EN 55032:2015, EN 61000-3-2:2014, EN 61000-3-3:2013, EN 55024:2010+A1:2015, EN 61000-4-2, EN 61000-4-3, EN 61000-4-4, EN 61000-4-5, EN 61000-4-6, EN 61000-4-11

- **Safety (LVD 2014/35/EU):** EN60950-1:2006+A11:2009+A1:2010+A12:2011+A2:2013

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# CHAPTER 1

# INTRODUCTION

The RGB Spectrum *QuadView UHD* is a high-performance 4K multiviewer that displays up to four sources simultaneously in a variety of creative layouts. *QuadView UHD* allows you to mix and match input resolutions, scale any video input up to UHD, and route any input to any window. Powerful image processing capabilities allow the *QuadView UHD* to display both HD and UHD inputs without downscaling. Up to 16 standard window layouts are provided, including quad-split, full screen, triple-window, and side-by-side modes. The *QuadView UHD* also includes HDCP authentication and EDID management functionality. Audio follow and audio breakaway modes are standard, and you can select audio from any source, even if that source is not currently being displayed.

The *QuadView UHD* connects to any monitor or projector of any resolution from XGA (1,024x768) to 4K/UHD resolution. The *QuadView UHD* displays both HD and 4K UHD inputs without downscaling.

The *QuadView UHD* front panel allows you to quickly select a layout and inputs, and then route each input to a specific window. You can also control the *QuadView UHD* through a web interface and an IR remote. Third-party control is possible via Ethernet or RS-232.

The Auto Layout feature facilitates BYOD for conference rooms, boardrooms, huddle rooms, and any location where devices come and go. Enabling this feature lets you simply plug your source(s) into the HDMI port(s), and the *QuadView UHD* will automatically configure the applicable display layout based on the number of connected sources.

The versatile *QuadView UHD* delivers next-generation multi-viewer performance that allows users to fully leverage the benefits of 4K UHD resolution displays. It is an ideal solution for boardrooms, entertainment and sports venues, lobbies, control rooms, and command centers..

## 1.1    Features and Benefits

The *QuadView UHD* provides these key features and functions:

### 1.1.1    System Features

- Displays up to four (4) windows simultaneously from up to six (6) switchable sources.
- Supports 7.1-channel audio.
- Provides optical fiber and eight-channel analog audio outputs.
- Supports multiple-channel audio extraction from HDMI or DisplayPort sources.
- Supports Mobile High-Definition Link (MHL™) on the four HDMI input ports.
- The Auto Layout feature automatically configures the display layout based on the number of connected sources.
- Provides a USB port for on-site firmware updates.
- Standard, 1 RU/19-inch width, rack-mountable enclosure.
- Provides 16 preset display layouts.
- Allows window scaling to full-window, 4:3, or 16:9 aspect ratios, or native aspect ratio display.
- Supports multiple HDMI output resolutions up to 3840 × 2160 @60Hz.
- Provides cropping of input sources.

### 1.1.2    Inputs

- 4 × HDMI
- 2 × DisplayPort
- 1 x RGBHV
- HDMI and DisplayPort inputs Supports input resolutions up to 3840 × 2160 @60Hz.
- Scales input signals for output to a 4K/UHD or standard 2K/HD display.

- Automatically scales source inputs to destination windows.

- Provides fast input switching.

### 1.1.3    Outputs

- Supports multiple HDMI output resolutions up to 3840 × 2160 @30Hz.

- Supports High-definition Digital Content Protection (HDCP v1.4) to allow the display of protected content.

### 1.1.4    Control

- Easy-to-use front panel controls.

- Infrared remote control unit (RCU)

- *QuadView UHD* Web Controller, a simple and intuitive web-based interface.

- Command-line interface (CLI) via RS-232 serial or Telnet connection.

- Support for third-party control systems.

## 1.2   System Control

The RS-232 serial port and Ethernet port provide system control for the *QuadView UHD*.

- The RS-232 serial port connects to:

    ◆ An ASCII terminal.

    ◆ Any computer with a serial port.

    ◆ A third-party control system.

    Commands are sent from the terminal or computer to the *QuadView UHD*.

| N o t e | USB-to-serial converters are inexpensive and widely available. If needed, use one to connect your USB-equipped computer to the *QuadView UHD* serial port. |
|---|---|

The Ethernet port allows you to connect the *QuadView UHD* to either:

- A network.

- Directly to a PC.

    This connection allows you control the system using either a Telnet command-line session or the *QuadView UHD* Web Controller.

| N o t e | Refer to **"Command Line Control" on page 41**, for detailed instructions for setting up and using the command-line interface. |
|---|---|

## 1.3    Controls, Indicators, and Connectors

This section describes the *QuadView UHD* front and rear panel controls and indicators.

### 1.3.1    Front Panel Controls and Indicators

**Figure 1-1** shows the *QuadView UHD* front panel controls and indicators, and **Table 1-1** describes them.
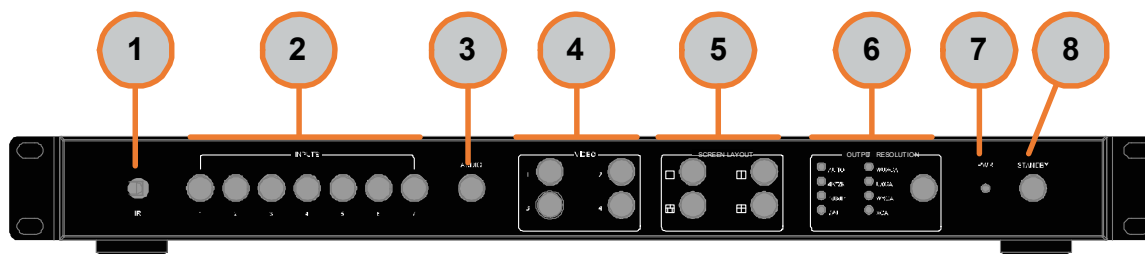


**Figure 1-1    Front Panel Controls and Indicators**

**Table 1-1    *QuadView UHD* Front Panel Controls and Indicators**

| ID | Name | Description |
|----|------|-------------|
| 1 | IR receive sensor | Receives IR signals from the IR remote. |
| 2 | Input Buttons and Indicators. | To select a video input, press one of these buttons. To select an audio input, press the **AUDIO** button, then press one of these buttons. The button you press lights to indicate your input selection. |
| 3 | Audio Selection Button and Indicator | Press this button to choose an input selection mode: audio (indicator ON) or video (indicator OFF). |
| 4 | Video (window) Selection Buttons and Indicators | Press a button to select a window. The button you press lights to indicate your window selection.<br><br>To lock or unlock all front-panel and remote-control buttons, press and hold the **WINDOW 2** and **WINDOW 3** buttons simultaneously until the **STANDBY** button blinks (two or three seconds). |
| 5 | Screen Layout Selection Buttons and Indicators | To select a screen layout (window arrangement), press one of these buttons. The button you press lights to indicate your screen layout selection. |
| 6 | Output Resolution Button and Indicator | Press this button repeatedly to select the desired output resolution. The LED corresponding to your selection illuminates as you do this. |
| 7 | Power Indicator LED | Lights to indicate when the unit has power. |
| 8 | Standby Button and Indicator | Press this button to select standby mode. |

### 1.3.2    Rear Panel Controls and Indicators

Figure 1-2 shows the *QuadView UHD* rear panel connectors, and Table 1-2 describes them.
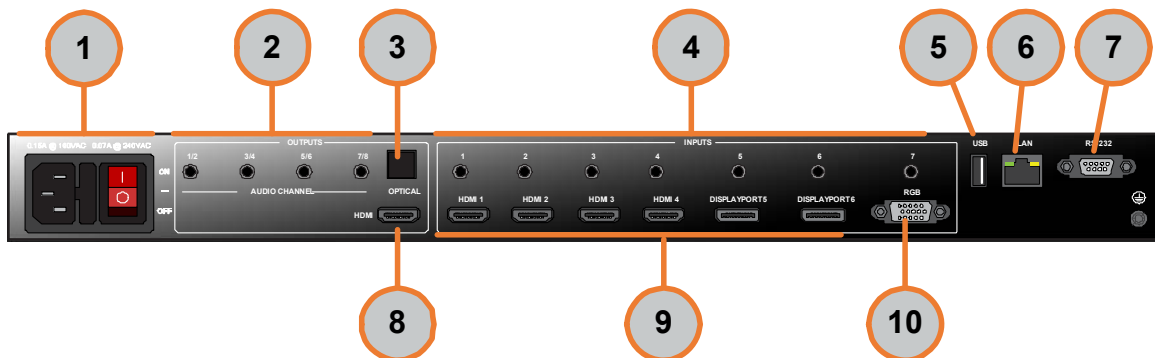


**Figure 1-2    Rear Panel Connectors**

**Table 1-2    *QuadView UHD* Rear Panel Controls and Indicators**

| ID | Name | Description |
|---|---|---|
| 1 | Power Switch and AC Power Receptacle | Turn the power on or off using this switch. Connect the included AC power cord to this receptacle, and then connect the plug to an available electrical outlet. |
| 2 | Analog audio output | 8-channel analog audio output. Use cables with 3.5mm mini-stereo plugs at one end to connect these jacks to an audio/video (A/V) receiver or other audio processing equipment. |
| 3 | Optical output | Connect this port to the digital audio input port of your A/V receiver or other audio processing equipment. |
| 4 | Analog audio inputs 1~7. | Stereo, analog audio inputs. Use cables with 3.5mm mini-stereo plugs at one end to connect these jacks to audio sources. |
| 5 | PROG | Standard USB Type A port for updating *QuadView UHD* firmware. |
| 6 | LAN | Connect this port to a network to use IP control. |
| 7 | RS-232 | Connect an RS-232 cable from this port to an RS-232 device. |
| 8 | HDMI output/ | Connect an HDMI cable from this port to a High-Definition (HD) or UHD display. |
| 9 | HDMI input 1-4 | Connect up to four (4) HD or 4K/UHD sources to these inputs using HDMI cables. |
| | DisplayPort input 5-6 | Connect up to two (2) HD or 4K/UHD sources to these inputs using DisplayPort cables. |
| 10 | RGB Input | Connect an HD source to this input using a VGA (DB-15) cable. RGB sources must be 5-wire, with separate horizontal and vertical sync. |

### 1.3.3    Remote Control Unit

**Figure 1-3** shows the *QuadView UHD* remote control unit, and **Table 1-3** describes them.
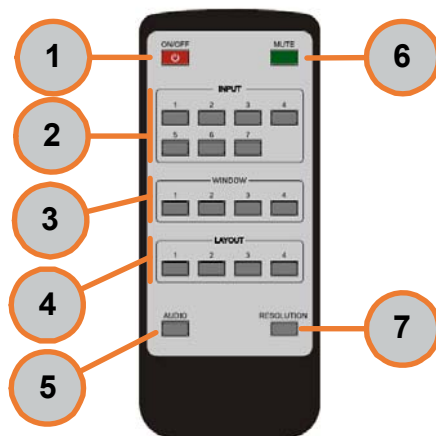


**Figure 1-3**    *QuadView UHD* **Remote Control)**

**Table 1-3**    *QuadView UHD* **Remote Control Functions**

| ID | Name | Description |
|----|------|-------------|
| 1 | Power | Press this button to switch from Normal operating mode (ON) to Standby mode (OFF) or vice versa. |
| 2 | Input 1-7 | Press one of these buttons to select a video input. To select an audio input, press the **AUDIO** button, and then press one of these buttons. |
| 3 | Windows 1-4 | Press one of these buttons to select a window. |
| 4 | Screen Layout | Press one of these buttons to select a screen layout (window arrangement). |
| 5 | Audio | Press this button to choose an input selection mode: AUDIO or VIDEO. |
| 6 | Mute | Press this button to mute or unmute the *QuadView UHD* audio output. |
| 7 | Resolution | Press this button repeatedly to select the desired output resolution. |

| **Important** | This remote control contains a coin/button cell battery.<br>◆ Swallowing this battery can cause severe internal burns within two hours and may cause death.<br>◆ Keep new and used batteries away from children.<br>◆ If the battery compartment does not close securely, then stop using the remote control and keep away from children.<br>◆ Seek immediate medical attention if you believe that batteries have been swallowed or inserted anywhere in the body. |
|---|---|

## 1.4   Specifications

Table 1-4 lists the *QuadView UHD* specifications.

**Table 1-4   *QuadView UHD* Specifications**

| Parameter | Description |
|---|---|
| **Inputs** | |
| Video | ◆ 4 x HDMI 1.4b<br>◆ 2 x DisplayPort 1.2<br>◆ 1 x RGBHV |
| Resolution (max.) | 3840 x 2160 @ 30 Hz |
| HDCP | 2.2 and 1.4 compliant |
| Audio | Embedded audio from HDMI or DisplayPort sources<br>Stereo analog audio via 7 x 3.5mm mini jacks |
| **Outputs** | |
| Video | HDMI 2.0 |
| Supported Resolutions | ◆ Auto<br>◆ 3840 × 2160 @ 30Hz<br>◆ 1920 × 1080 @ 60Hz<br>◆ 1280 × 720 @ 60Hz<br>◆ 1900 × 1200 @ 60Hz<br>◆ 1600 × 1200 @ 60Hz<br>◆ 1280 × 1024 @ 60Hz<br>◆ 1024 × 768 @ 60Hz |
| Audio | ◆ 1 x HDMI (embedded)<br>◆ 1 x optical<br>◆ 4 x analog (8 channels via 3.5mm mini stereo jacks)<br>◆ PCM 7.1 or PCM stereo output format |
| **Control** | |
| Web | *QuadView UHD* Web Controller |
| Serial | Serial 9-pin RS-232 port for command-line control by a PC or third-party control system |
| Network | Network 10/100 Base-T Ethernet for command-line control via Telnet |
| USB | USB 1 × USB 2.0 Type A for firmware update |
| **Power** | |
| Power Supply | Universal 100-240 VAC, 50-60 Hz |
| Power Consumption (maximum) | 15 Watts |
| Replaceable Fuse | T2AL/250 VAC |

Table 1-4 *QuadView UHD* Specifications (Continued)

| Parameter | Description |
|---|---|
| **Environmental** ||
| Temperature | ◆ **Operating (nominal):** 41 ºF to 104 ºF (5 ºC to 40 ºC) <br> ◆ **Non-Operating:** -4 ºF to 158 ºF (-20 ºC to 70 ºC) |
| Relative Humidity | **Operating:** 5% to 90% non-condensing |
| Altitude | Up to 6,562 feet (2 km) |
| **Physical** ||
| Dimensions | See **Figure 1-4**. <br> Dimensions are listed in [millimeters] and (inches) |
| Weight | 7.3 lbs. (3.3 kg) |
| Specifications are subject to change without notice. ||
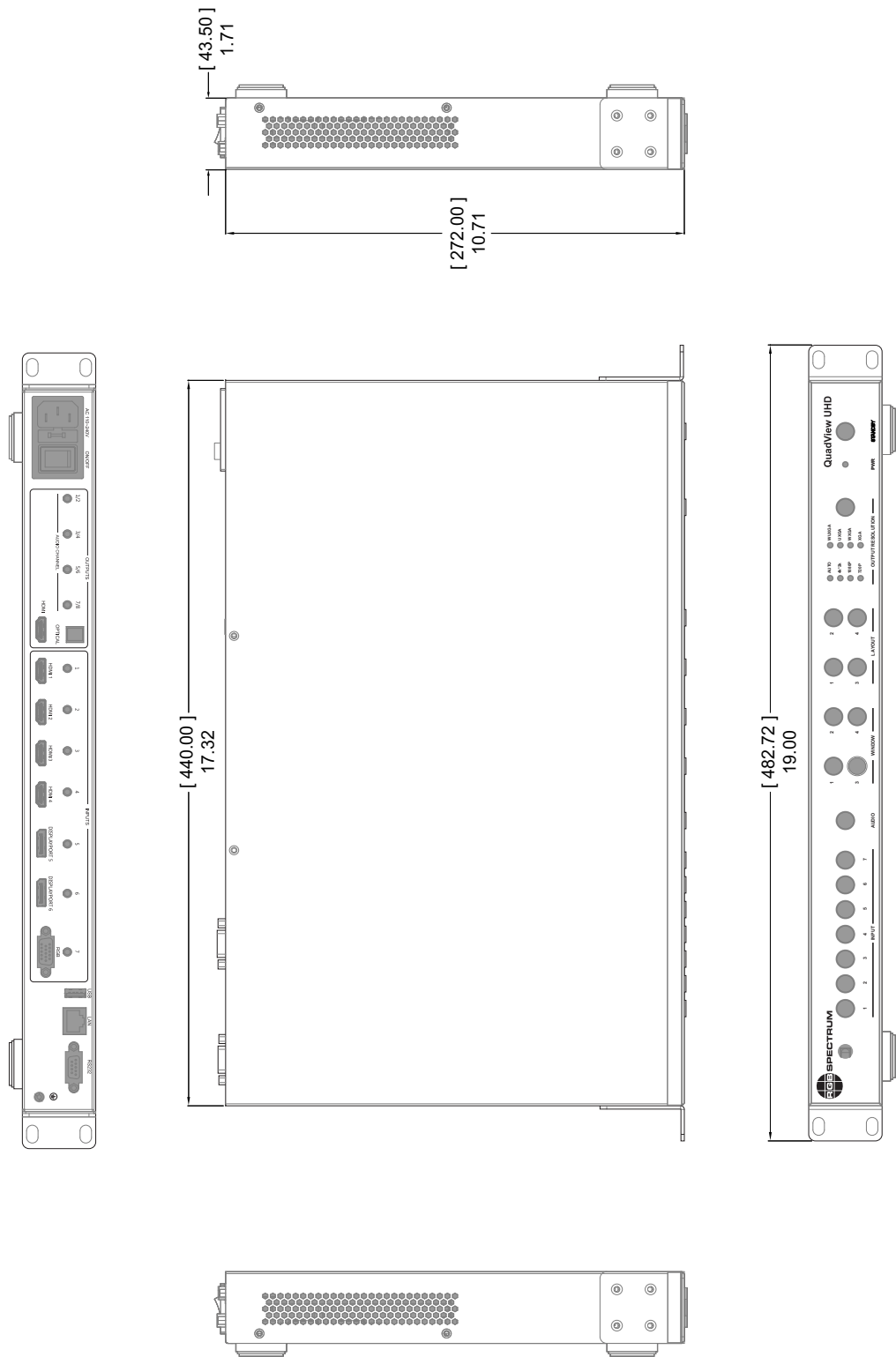
**Figure 1-4    Overall Dimensions**

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# CHAPTER 2

# INSTALLATION

This chapter describes the *QuadView UHD* installation process in the following sections::

- **"QuadView UHD Connections" on page 11**.

- **"Powering on the QuadView UHD" on page 15**.

## 2.1   Package Contents

Your QuadView UHDx KVM device ships with the following components:

- Rack mount with ears.

- Localized power cord.

## 2.2   *QuadView UHD* Connections

This section describes how to connect the *QuadView UHD* to:

- Audio/video sources.

- A display.

- Speakers or other audio equipment.

- Your network and/or external RS-232 controller.

- AC power.

| **Important** | Use only HDMI 2.0-compatible "Premium Certified", high-bandwidth cables to connect 4K/UHD@30 Hz sources or displays. |
|---|---|

### 2.2.1    Connecting Sources

■ **HDMI:** Connect up to four (4), 4K/UHD or 2K/HD HDMI/DVI sources to the **HDMI 1** – **HDMI 4** input ports. For DVI sources, use a DVI-to-HDMI cable or adapter.

■ **DisplayPort:** Connect up to two (2), 4K/UHD or 2K/HD DisplayPort sources to the **DISPLAYPORT 5** and DISPLAYPORT **6** input ports.

■ Connect an HD VGA source to the RGB input port.

■ **Analog Audio Input Connections (optional):** Use cables with 3.5mm stereo plugs at one end to connect the analog audio outputs from DVI or other sources that do not support digital audio output via HDMI or DisplayPort.

### 2.2.2    Connecting a Display

Connect a 4K/UHD or 2K/HD display to the **HDMI Output** port.

### 2.2.3    Connecting Audio Equipment

**Optional:** The *QuadView UHD* provides HDMI, optical, and 8-channel analog audio output. **Figure 2-1** shows the analog output connector pinouts (Tip = odd-numbered channels; Ring = even-numbered channels).
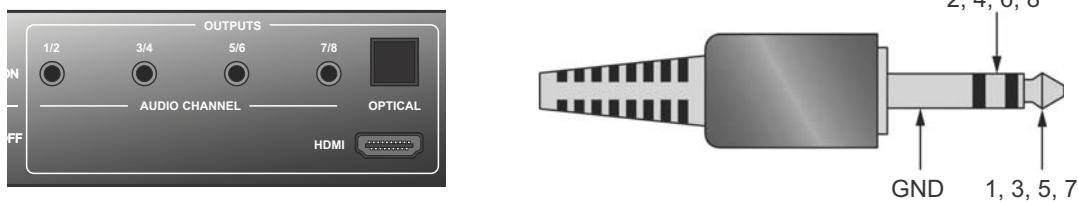


**Figure 2-1    Audio Outputs**

Either:

■ Connect an optical cable from the **OPTICAL** output on the *QuadView UHD* to the optical audio input of an audio/video (A/V) receiver or other audio processing equipment.

■ Use a cable with 3.5mm stereo plugs at one end to connect the audio output jack to powered speakers, the audio inputs of an A/V receiver, or other audio processing equipment.

## ANALOG OUTPUT CHANNEL ASSIGNMENTS

**Table 2-1** shows the *QuadView UHD* analog output channel assignments. Connect the outputs to your audio/video (A/V) receiver or other audio processing equipment accordingly. If your equipment does not have multi-channel, analog audio inputs, then only connect outputs 1 and 2.

**Table 2-1    Analog Audio Output Channel Assignments**

| Audio Format | Output Channel | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| 2.0 | Left | Right | 1 | | | | | |
| 2.1 | | | Low-Frequency Effects (LFE) (Subwoofer) | 2 | | | | |
| 5.1 | | | | Center | Surround Back Left | Surround Back Right | 3 | |
| 7.1 | | | | | | | Surround Left | Surround Right |

### 2.2.4    Connecting to a Network

Use a standard Cat 5 or Cat 6 network cable with an RJ-45 plug to connect a control PC, network hub, router, or gateway to the **ETHERNET** port on the *QuadView UHD*. See **Figure 2-2**.
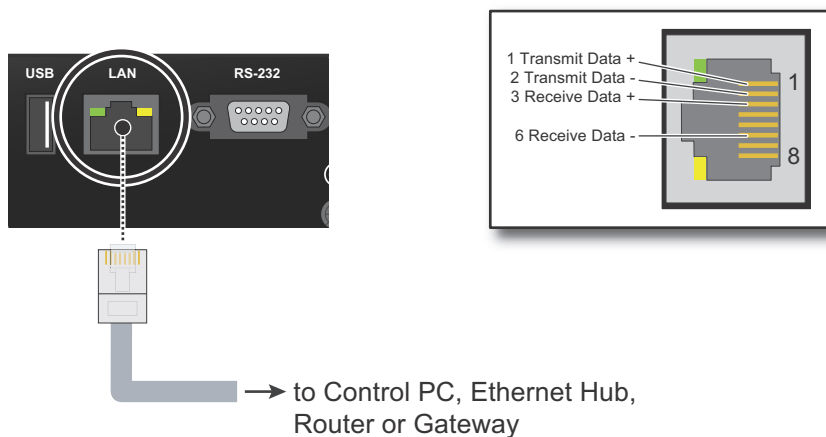


**Figure 2-2    Connecting to a Network**

### 2.2.5    Connecting a Control PC or Control System

**Optional:** Use a straight-through 9-pin RS-232 cable to connect a PC or control/automation system (if present) to the **RS-232** port on the *QuadView UHD*. See **Figure 2-3**.
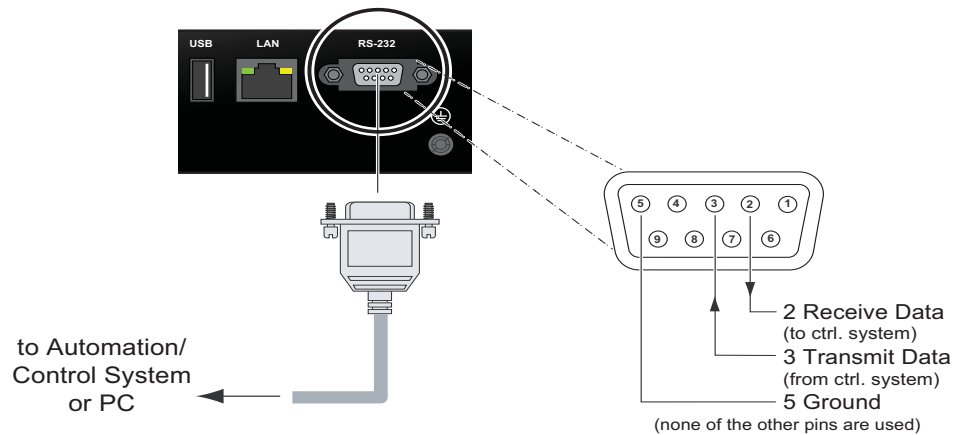


**Figure 2-3    RS-232 Controller Connection**

## 2.3    Powering on the *QuadView UHD*

| **Important** | Turn on the display before turning on or resetting the *QuadView UHD* to ensure proper display detection. |
| --- | --- |

To power on the *QuadView UHD*:

1.  Turn on your display.

2.  Turn on your source components.

3.  Plug the female end of the supplied power cord into the AC power inlet at the rear of the *QuadView UHD* (AC 100V ~ 240V). See **Figure 1-2**.

4.  Connect the other end to an AC power source.

5.  Turn the main power switch on the rear panel to the ON position.

    The switch and front panel **PWR** indicator both illuminate.

    All of the front panel buttons light for approximately three seconds and then go out, except for the **WINDOW 1-4**, **LAYOUT 4**, and **STANDBY** buttons, and the **AUTO** LED, which remain on).

Your *QuadView UHD* is now ready for use.

# CHAPTER

# 3

# OPERATION

This chapter describes all of the features and functions available through the *QuadView UHD* front panel controls and the *QuadView UHD* Web Controller. You may also access these features and functions via the command-line interface. Refer to **"Command Line Control" on page 41**.

## 3.1 Standby and Normal Modes

The **PWR** LED located next to the **STANDBY** button on the front panel (see **Figure 1-1**) indicates the power state of the *QuadView UHD*:

■ **Red:** Rower is being supplied to the device.

■ **Off:** The device is not receiving power. Ensure that the rear panel power switch is in the ON position, and then check the connection between the power receptacle on the *QuadView UHD* and the AC outlet.

The STANDBY button illuminates as follows:

■ **On:** *QuadView UHD* is in Normal mode.

■ **Off:** *QuadView UHD* is in Standby mode.

To take the *QuadView UHD* out of Standby mode, either:

■ Press the **STANDBY** button on the front panel.

■ Press the **ON/OFF** button on the IR remote.

■ Send the ASCII command `ATM 09 POW_CRL W 0` from a PC or other controller via the RS-232 interface.

■ Send the ASCII command `ATM 09 POW_WUP W 1` from a PC or other controller via the RS-232 interface.

## 3.2    Screen Layouts

The *QuadView UHD* includes physical connections for up to seven (7) sources and can display up to four of those sources at a time in one of up to 16 layouts. See **Figure 3-1**.
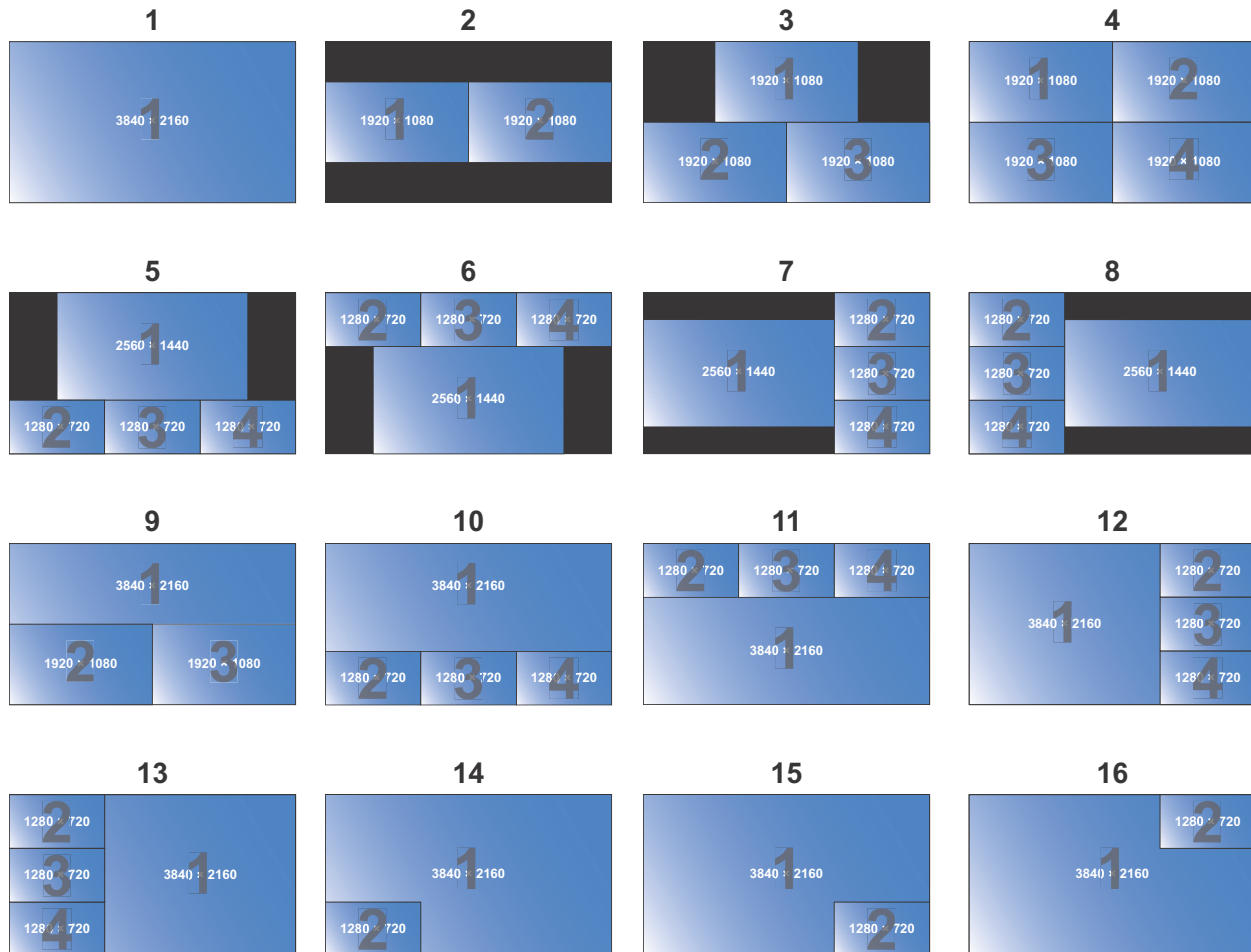


**Figure 3-1    Predefined Screen Layouts**

These window resolutions assume an output resolution of 3840x2160 @ 30Hz. Window resolutions are proportionately lower at lower output resolutions. For example, this image depicts Layout #14 when the output resolution is 1280 x 1024 @ 60Hz.

Pressing a **LAYOUT** button loads the screen layout assigned to that button. The front panel **LAYOUT** button lights to indicate your selection, and the **WINDOW 1-4** buttons light to indicate the number of windows in the selected layout.

You may assign any of these layouts to each of the for **LAYOUT** buttons on the front panel and remote control. By default, Layouts 1-4 are assigned to **LAYOUT** buttons 1-4, respectively.
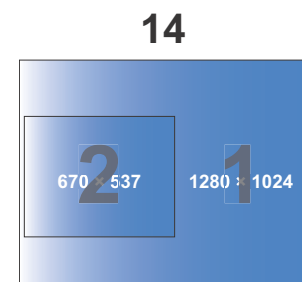
You may select a layout by either:

- **Using the IR remote control:** See **"Remote Control Unit" on page 6**.

- **Using the front panel:** See **"Front Panel Controls and Indicators" on page 4**.

- **Using the *QuadView UHD* Web Controller:** See **"The Layouts Tab" on page 26**.

- **Using the command line:** See **"Layout Commands" on page 46**.

To select a layout using the front panel, press a **LAYOUT** button to load the screen layout assigned to that button.

- The front panel **LAYOUT** button lights to indicate your selection.

- **The WINDOW 1~4** buttons light to indicate the number of windows in the layout you just selected.

When powered up for the first time, the *QuadView UHD* loads Screen Layout #4 and displays HDMI inputs 1 through 4 in the four windows, as shown in **Figure 3-2**.
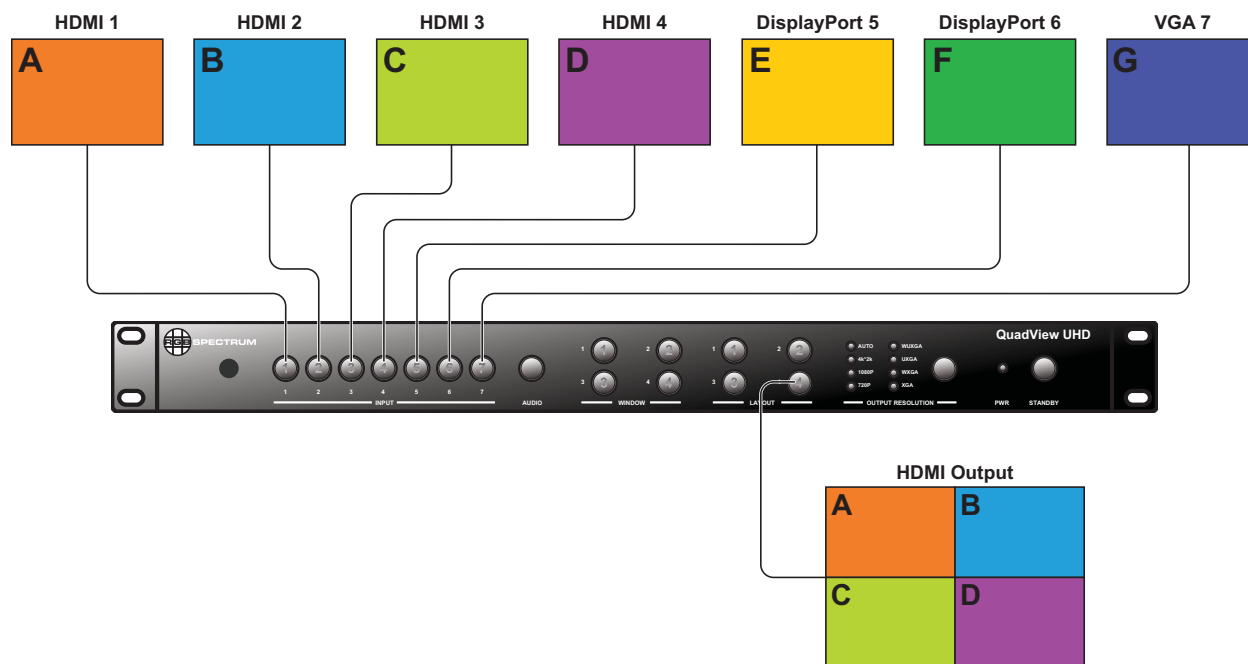


**Figure 3-2    Default Source-to-Window Routing**

To route a source to a window using the front panel, either:

- Select a source followed by a window.

- Select a window followed by a source.

See the following sections for instructions.

### 3.2.1    Single-Window Mode

To use the *QuadView UHD* in single-window mode, select Screen Layout #1 using the front-panel buttons or the remote control. When you do:

■  The front-panel **LAYOUT 1** button lights to indicate your selection.

■  The **WINDOW 1** button lights to indicate single-window mode.

By default, the *QuadView UHD* displays the **HDMI 1** source in Window 1. To display a different source (such as DISPLAYPORT 5) in Window 1, either:

■  Press the **INPUT 5** button on the front panel or on the remote. The new source appears in the window immediately.

■  Proceed as follows:

    **a.**  Press the **WINDOW 1** button on either the front panel or the remote control.

        The front-panel **INPUT 1** button lights to indicate that it is the currently-selected source, and the other front-panel **INPUT** buttons blink to indicate that they are available for selection.

    **b.**  Press the **INPUT 5** button on either the front panel or the remote control.

        The other **INPUT** buttons turn off.

        The front-panel **INPUT 5** button lights briefly.

        The *QuadView UHD* displays the **DISPLAYPORT 5** source in Window 1.

By default, the *QuadView UHD* displays the **HDMI 1** source in Window 1. To display a different source (e.g. **DISPLAYPORT 5**) in Window 1, either:

■  Press the **VIDEO 1** button, and then press the **INPUT 5** button.

■  Press the **INPUT 5** button, and then press the **VIDEO 1** button.

| **N o t e** | The *QuadView UHD* will exit source selection mode without changing the source-to-window routing if you do not press an **INPUT** button within five (5) seconds after pressing the **VIDEO 1** button (or vice versa). |
|---|---|

### 3.2.2    Dual-Window Mode

To use the *QuadView UHD* in dual-window mode, either:



■ Select Screen Layout #2 using either the front panel, remote control, or *QuadView UHD* Web Controller. The front panel **LAYOUT 2** button lights to indicate your selection.

■ Select Screen Layout #14, #15, or #16 using the *QuadView UHD* Web Controller. Alternatively, If you previously assigned one of these layouts to a button, then you can use that button.

The **WINDOW 1** and **WINDOW 2** buttons light to indicate dual-window mode.

| Note | The *QuadView UHD* will exit source selection mode without changing the source-to-window routing if you do not press an **INPUT** button within five (5) seconds after pressing the **VIDEO 1** button (or vice versa). |
|---|---|

By default, the *QuadView UHD* displays the **HDMI 1** source in Window 1 and the **HDMI 2** source in Window 2. To display a different source (such as **DISPLAYPORT 5**) in Window 1, either:

■ **Method 1:**

**a.** Press the **INPUT 5** button on either the front panel or on the remote control.

The front panel **WINDOW 1** and **WINDOW 2** buttons blink to indicate that they are available for selection.

**b.** Press the **WINDOW 1** button on the front panel or on the remote.

The **WINDOW 1** and **WINDOW 2** buttons stop blinking, and the *QuadView UHD* displays the **DISPLAYPORT 5** source in Window 1.

■ **Method 2:**

**a.** Press the **WINDOW 1** button on either the front panel or on the remote control.

The front panel **INPUT 1** button lights to indicate that it is the currently-selected source.

The other front-panel **INPUT** buttons blink to indicate that they are available for selection.

**b.** Press the **INPUT 5** button on either the front panel or on the remote control.

The other **INPUT** buttons turn off, the front-panel **INPUT 5** button lights briefly, and the *QuadView UHD* displays the **DISPLAYPORT 5** source in Window 1.

You may display a different source in Window 2 using either of these methods.

### 3.2.3 Triple-Window Mode

To use the *QuadView UHD* in triple-window mode, either:

- Select Screen Layout #3 using either the front-panel, remote control, or *QuadView UHD* Web Controller. The front panel **LAYOUT 3** button lights to indicate your selection.

- Select Screen Layout #9 using the *QuadView UHD* Web Controller. Alternatively, If you previously assigned one of these layouts to a button, then you can use that button.

The **WINDOW 1**, **WINDOW 2**, and **WINDOW 3** buttons light to indicate triple-window mode.

By default, the *QuadView UHD* displays the **HDMI 1** source in Window 1, the **HDMI 2** source in Window 2, and the **HDMI 3** source in Window 3. To change these assignments, follow the steps described in .

### 3.2.4 Quad-Window Mode

- To use the *QuadView UHD* in quad-window mode, either:

- Select Screen Layout #4 using either the front-panel, remote control, or *QuadView UHD* Web Controller. The front panel **LAYOUT 4** button lights to indicate your selection.

- Select a quad-window Screen Layout (#4-8 or #10-13) using the *QuadView UHD* Web Controller. Alternatively, If you previously assigned one of these layouts to a button, then you can use that button.

All four **WINDOW** buttons light to indicate quad-window mode.

By default, the *QuadView UHD* displays the **HDMI 1** source in Window 1, the **HDMI 2** source in Window 2, the **HDMI 3** source in Window 3, and the **HDMI 4** source in Window 4. To change these assignments, follow the steps described in .

## 3.3 Output Resolution

The *QuadView UHD* supports the following output resolutions:

- Auto

- 4k*2k (3840 × 2160 @30Hz)

- 1080P (1920 × 1080 @ 60Hz)

- 720P (1280 × 720 @ 60Hz)

- WUXGA (1900 × 1200 @ 60Hz)

- UXGA (1600 × 1200 @ 60HZ)

- SXGA (1280 × 1024 @ 60Hz)

- XGA (1024 × 768 @60Hz)

Press the **OUTPUT RESOLUTION** button on the front panel or the **RESOLUTION** button on the remote control to switch between the available output resolutions. The switching sequence follows the list of supported resolutions from top to bottom. When switching resolutions:

- The corresponding LED indicator lights to indicate your selection.

- When you select **Auto**, the *QuadView UHD* reads the Extended Display Identification Data (EDID) from the display device, and sets the output resolution accordingly.

## 3.4 Audio Inputs

The *QuadView UHD* includes seven audio inputs.

- The *QuadView UHD* can pass the audio embedded in the HDMI or DisplayPort signal to the HDMI output when you select an HDMI or DisplayPort input.

- If the HDMI or DisplayPort input has no embedded audio, then the audio input can come from the corresponding 3.5mm audio port. For example, if you connect a source to the **HDMI 1** input, then you can route analog audio input 1 (located above the **HDMI 1** input) to the audio output.

You can route any audio input to the audio outputs independently of your video input selections. To route an audio input signal to the audio outputs using the front panel, either:

- **Method 1:**

  a. Press the **AUDIO** button on either the front panel or the remote control.

  The button lights to indicate that the *QuadView UHD* is in audio input selection mode.

  The front panel **INPUT** button corresponding to the currently-selected audio source lights.

  The other front-panel **INPUT** buttons blink to indicate that they are available for selection.

  b. To select a different audio source, press the **INPUT** button for that source on the front panel or on the remote.

  The other **INPUT** buttons turn off, the front-panel INPUT button for the selected source lights briefly, and the *QuadView UHD* outputs the audio from the selected source.

- **Method 2:**

  a. Press the **INPUT** button on either the front panel or the remote control for the audio source you want to output.

  b. Press the **AUDIO** button on either the front panel or the remote control.

The front-panel **INPUT** button for the selected source turns off and the *QuadView UHD* outputs the audio from the selected source.

| | |
|---|---|
| **N o t e** | The *QuadView UHD* will exit audio input selection mode without changing the source-to-window routing if you do not press an **INPUT** button within five (5) seconds after pressing the **AUDIO 1** button (or vice versa). |

## 3.5 On-Screen Display (OSD) Messages

The *QuadView UHD* provides a variety of status information via its built-in OSD.

### 3.5.1 Video Input Status and Network Settings

Taking the *QuadView UHD* out of Standby mode or loading a screen layout displays the following information in each window for approximately 10 seconds:

■ Input source and signal resolution.

■ **[Input Name] Not Connected** if no signal is present.

The OSD displays a message similar to one of the following:

HDMI2
1920x1080@60Hz

HDMI2 not connected

IP: 192.168.1.1
Port: 23

HDMI1 not connected
IP: 192.168.1.1  Port: 23

**Figure 3-3    OSD Message Examples**

### 3.5.2 Audio Status

The following OSD messages appear when you change or mute the audio volume:

■ When you change the audio volume, the new setting appears as a volume slider at the bottom of the screen for approximately 15 seconds.

■ A **Muted** icon (speaker with an X) appears in the lower-left corner of the display space when you mute the audio output.

■ The **Active** icon (speaker with sound waves) appears when you either change the audio volume or un-mute the audio output.

You may disable displaying this information by either:

- *QuadView UHD* **Web Controller:** Select **Advanced > Audio OSD > OFF**.

- **LAN or RS-232 interface:** Send the ASCII command `ATM 09 AUD_OSD W 1` from a PC or other controller. See **"Command Line Control" on page 41**.

## 3.6    Locking & Unlocking the Front Panel Buttons

You can lock all of the *QuadView UHD* front panel buttons to prevent accidental operation.

- Press and hold the **WINDOWS 2** and **WINDOWS 3** buttons simultaneously for two to three seconds, until the STANDBY button blinks.

- Repeat this procedure to unlock the buttons.

Power-cycling the *QuadView UHD* also unlocks the buttons.

## 3.7    Using the *QuadView UHD* Web Controller

The *QuadView UHD* Web Controller provides a graphical alternative to the front panel buttons and/or the RS-232 command-line interface in a tabbed layout. See the following:

- **"The General Tab" on page 24**

- **"The Layouts Tab" on page 26**

- **"The EDID Management Tab" on page 27**

- **"The Network Tab" on page 34**

- **"The Advanced Tab" on page 36**

- **"System Updates" on page 55**

To begin using the *QuadView UHD* Web Controller:

1. Launch your web browser.

| N o t e | RGB Spectrum recommends using Google Chrome or Mozilla Firefox when accessing the *QuadView UHD* Web Controller or performing a firmware upgrade. |
|---|---|

2. Enter the *QuadView UHD* IP address into your browser address bar in the format

   `http://xxx.xxx.xxx.xxx`

   where `xxx.xxx.xxx.xxx`  is the IP address. By default, the *QuadView UHD* is configured to obtain its IP address and other network configuration settings from a Dynamic Host Configuration Protocol (DHCP) server. If DHCP is enabled and the *QuadView UHD* cannot find a DHCP server, then it will set its IP address to `10.0.0.10`.

3. Press [ENTER].

If the *QuadView UHD* is powered on and ready to accept HTTP connections and your PC network settings are correct, then the *QuadView UHD* Web Controller **General** screen will appear. See **"The General Tab" on page 24**.

## 3.8 The General Tab

The **General** tab of the *QuadView UHD* Web Controller allows you to perform the following basic configuration:

■ **Video:** See **"Video Settings" on page 24** and **Figure 3-4**.

■ **Audio:** See **"Audio Settings" on page 25** and **Figure 3-5**.

### 3.8.1 Video Settings

The **Video Settings** area of the **General** tab appears as shown in **Figure 3-4**.
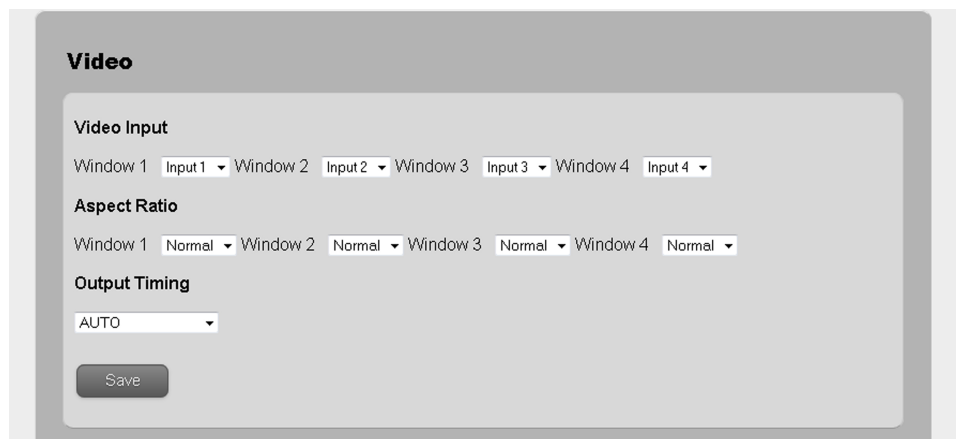


**Figure 3-4    General > Video Settings**

This tab contains the following functions:

■ **Video Input:** Route a video input to a window by selecting it from the pull-down menu for the desired window.

■ **Aspect Ratio:** The following aspect ratio settings are available for each window:

◆ **Normal:** Display the source image at its original, native aspect ratio.

◆ **Full:** Scale the source image to fill the entire window.

◆ **16:9:** Scale the source image to a 16:9 aspect ratio.

◆ **4:3:** Scale the source image to a 4:3 aspect ratio.

■ **Output Timing:** The *QuadView UHD* supports the following output resolutions:

- ◆ Auto

- ◆ 4k*2k (3840 × 2160 @30Hz)

- ◆ 1080P (1920 × 1080 @ 60Hz)

- ◆ 720P (1280 × 720 @ 60Hz)

- ◆ WUXGA (1900 × 1200 @ 60Hz)

- ◆ UXGA (1600 × 1200 @ 60HZ)

- ◆ SXGA (1280 × 1024 @ 60Hz)

- ◆ XGA (1024 × 768 @60Hz)

Select the output resolution that matches the capabilities of your display. Selecting **Auto** causes the *QuadView UHD* to read the Extended Display Identification Data (EDID) from the display device and set the output resolution accordingly.

Click **Save** to confirm your changes when you have finished configuring video settings.

### 3.8.2    Audio Settings

The **Audio Settings** area of the **General** tab appears as shown in **Figure 3-5**.
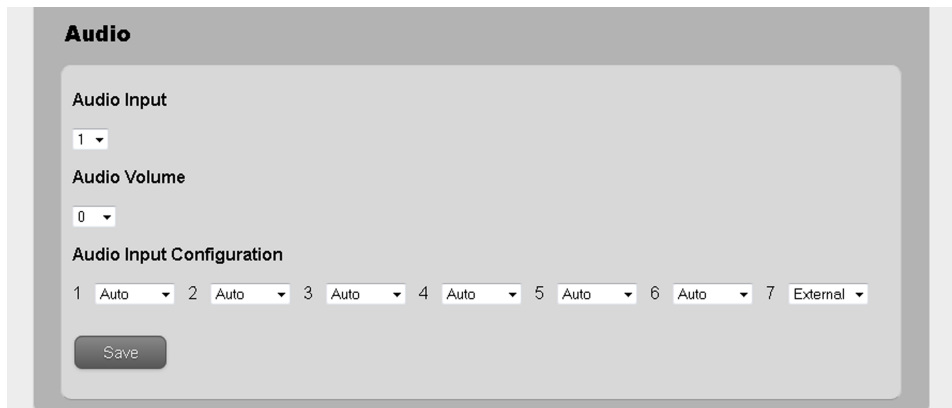


**Figure 3-5    General > Audio Settings**

This tab contains the following functions:

■ **Audio Input:** To route an audio input to the audio outputs, select it here.

■ **Audio Volume:** Output volume ranges from 0 to 10, where:

- ◆ Zero (0) mutes the audio output.

- ◆ 10 is the maximum volume.

If you have muted the audio output using the **Audio Mute** control on the **Advanced** tab, then changing the audio volume will un-mute it.

■ **Audio Input Configuration:** Configure audio as follows:

◆ **HDMI or DisplayPort input with a PC or other device that does not support embedded audio output via HDMI:** Set the **Audio Input Configuration** to **External** for that input. Make sure to connect the audio output from your source as described in **"Connecting Audio Equipment" on page 12**. This setting associates an analog audio input with the corresponding HDMI or DisplayPort input.

◆ **PC or other device that does support embedded audio output via HDMI:** Set the **Audio Input Configuration** to **Auto** to route the HDMI/DP (digital) audio signal to the **HDMI** and **OPTICAL** audio output when an HDMI or DisplayPort input is selected.

Click **Save** to confirm your changes when you have finished configuring audio settings.

## 3.9   The Layouts Tab

The **Layouts** tab of the *QuadView UHD* Web Controller allows you to select a screen layout and assign layouts to front panel/remote control buttons. See **Figure 3-6**.
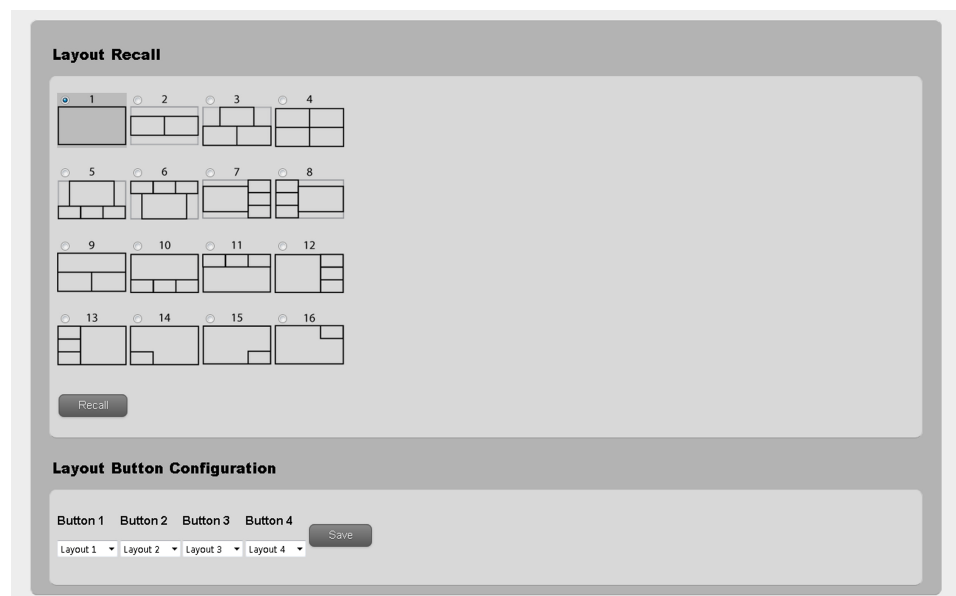


**Figure 3-6**   **Layouts Tab**

### 3.9.1   Layout Recall

To recall a layout:

**1.** Check the radio button that corresponds to your desired layout.

**2.** Click **Recall**.

### 3.9.2    Layout Button Configuration

To assign a layout to a front panel or remote control layout button:

1.  Select the desired layout number from the pull-down menu for the button you are configuring.

2.  Click **Save**.

## 3.10  The EDID Management Tab

The **EDID Management** tab of the *QuadView UHD* Web Controller allows you to copy, upload, and download EDID registers:

■   **Copy:** See **"EDID Copy" on page 28**, **Figure 3-7**, and **Figure 3-8**.

■   **Upload:** See **"EDID Upload" on page 29** and **Figure 3-9**.

■   **Download:** See **"EDID Download" on page 31** and **Figure 3-10**.

The *QuadView UHD* includes thirteen EDID registers:

■   **Internal:** Six internal (fixed) EDID registers.

   ◆   4K_Multi Channel

   ◆   4K_2 Channel

   ◆   1080P_2CH

   ◆   1080P_Multi Channel

   ◆   VGA

   ◆   4K@60Hz (for DisplayPort)

■   **Custom:** Seven custom (user-defined) EDID registers designated Custom 1 through Custom 7. Specify which custom EDID register to use when you upload Custom EDID.

### 3.10.1   EDID Copy

You can copy any Internal or Custom EDID to any input port (see **Figure 3-7** and **Figure 3-8**). To copy EDID to an input:

1.  Use the pull-down menu for the desired input to select the source EDID (**Internal**, **Custom** or **HDMI_Output**).

2.  Click **Save**.
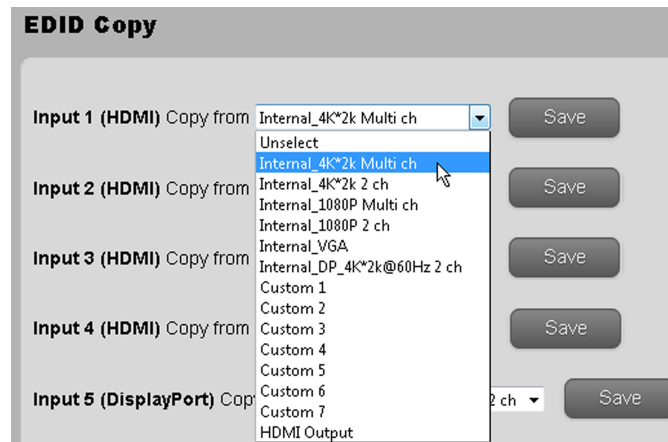


**Figure 3-7    Copying EDID**
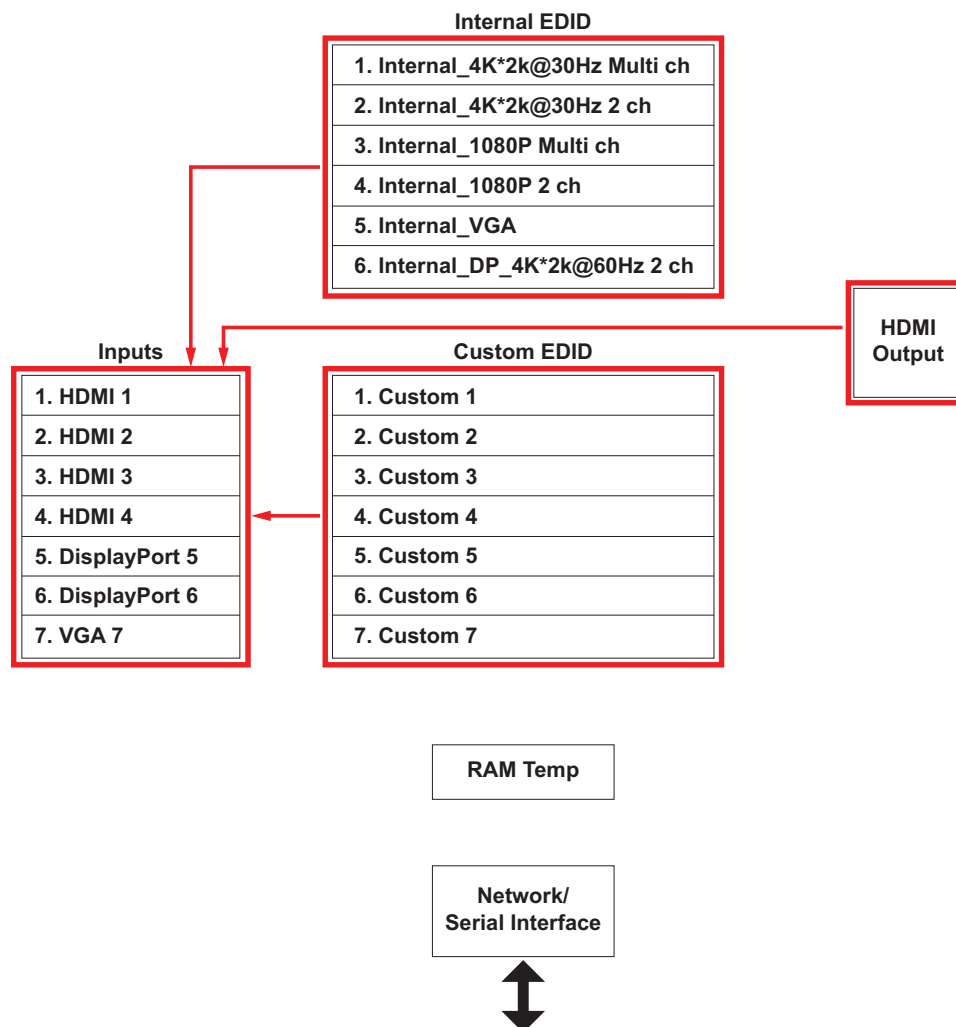
**Figure 3-8    EDID Copy**

### 3.10.2    EDID Upload

The *QuadView UHD* accepts external EDID in binary data (`*.bin`) format. To upload EDID to a Custom EDID register:

1.  Click either **Browse...** or **Choose** to select an EDID file to upload.

    A **File Upload** window appears.

2.  Navigate to the location of the binary EDID file on your computer, and then select that file.

3.  Click **Open**.

**4.** Use the **Select Custom Location** pull-down menu to choose a destination for the uploaded EDID.

**5.** Click **Upload**.
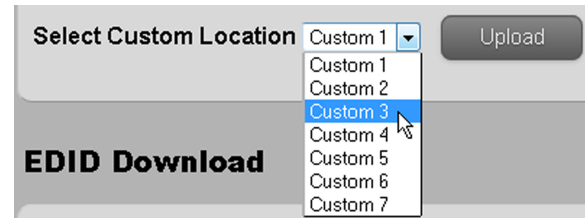
To copy the uploaded EDID to an input, follow the procedure in .

**Internal EDID**

| |
|---|
| **1. Internal_4K*2k@30Hz Multi ch** |
| **2. Internal_4K*2k@30Hz 2 ch** |
| **3. Internal_1080P Multi ch** |
| **4. Internal_1080P 2 ch** |
| **5. Internal_VGA** |
| **6. Internal_DP_4K*2k@60Hz 2 ch** |

**HDMI Output**

| **Inputs** | **Custom EDID** |
|---|---|
| **1. HDMI 1** | **1. Custom 1** |
| **2. HDMI 2** | **2. Custom 2** |
| **3. HDMI 3** | **3. Custom 3** |
| **4. HDMI 4** | **4. Custom 4** |
| **5. DisplayPort 5** | **5. Custom 5** |
| **6. DisplayPort 6** | **6. Custom 6** |
| **7. VGA 7** | **7. Custom 7** |

**RAM Temp**

**Network/ Serial Interface**
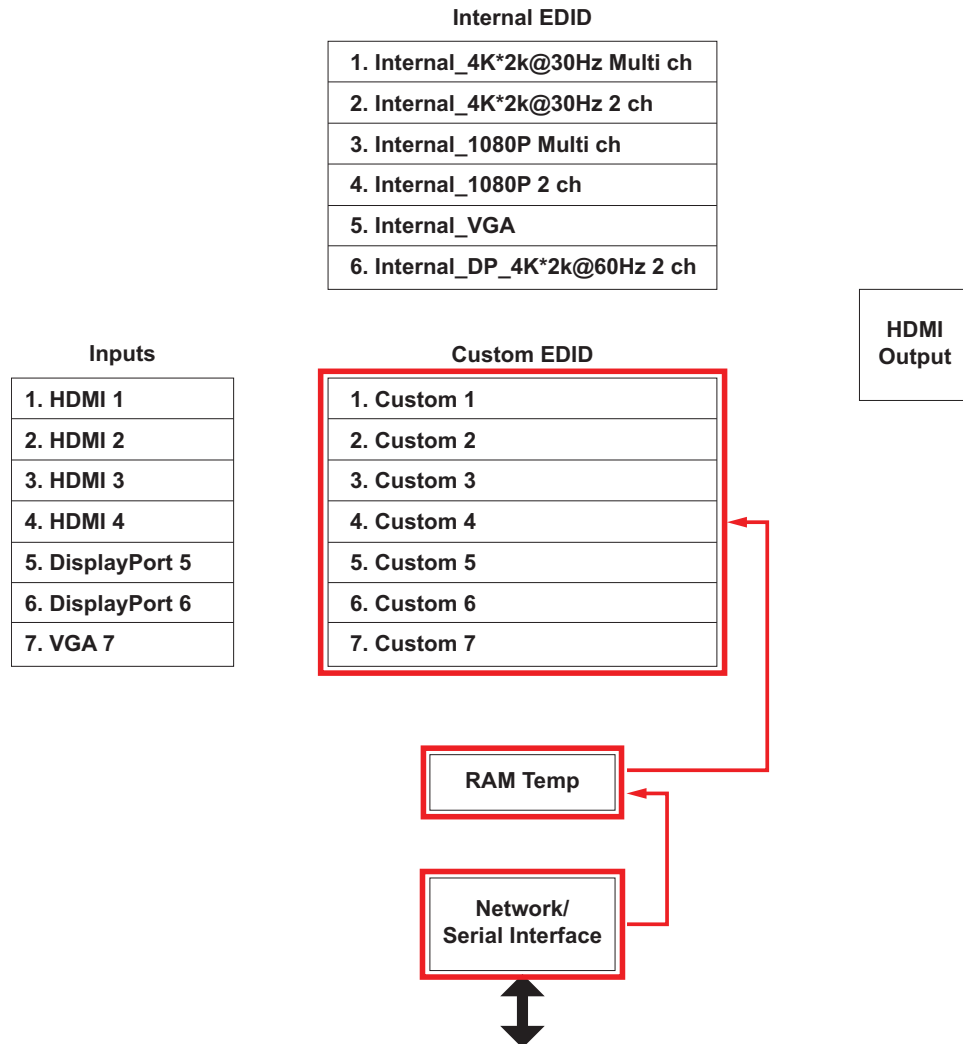
**Figure 3-9    EDID Upload**

### 3.10.3   EDID Download

You can download EDID from the HDMI Output, an input, or a Custom EDID register in binary data (`*.bin`) format, and view or manipulate it using a third-party EDID editor such as **Entech Monitor Asset Manager**.

| **I m p o r t a n t** | Using a manually-modified EDID with an incompatible display can damage the display. Only advanced users should attempt to manually modify EDID. |
| --- | --- |

To download EDID:

1.  Right-click an **Output**, **Input**, or **Custom** button to choose the EDID to download the downloaded EDID.

2.  Select either **Save Link As...** or **Save Target As...**, depending on your Web browser.

3.  Navigate to the location where you want to save the downloaded file.

4.  Use your browser's **Save** function to save the file to your computer.
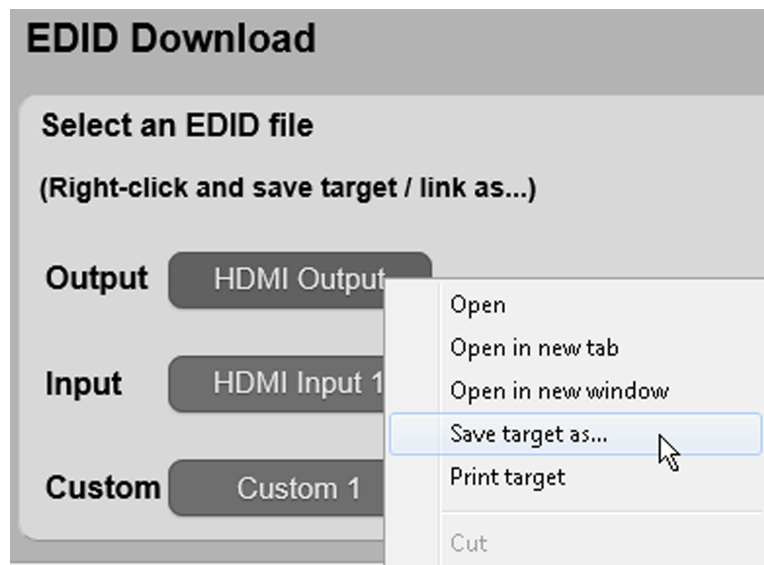


**Figure 3-10    Downloading EDID**

**Internal EDID**

| |
|---|
| **1. Internal_4K*2k@30Hz Multi ch** |
| **2. Internal_4K*2k@30Hz 2 ch** |
| **3. Internal_1080P Multi ch** |
| **4. Internal_1080P 2 ch** |
| **5. Internal_VGA** |
| **6. Internal_DP_4K*2k@60Hz 2 ch** |

**HDMI Output**

**Inputs**

| |
|---|
| **1. HDMI 1** |
| **2. HDMI 2** |
| **3. HDMI 3** |
| **4. HDMI 4** |
| **5. DisplayPort 5** |
| **6. DisplayPort 6** |
| **7. VGA 7** |

**Custom EDID**

| |
|---|
| **1. Custom 1** |
| **2. Custom 2** |
| **3. Custom 3** |
| **4. Custom 4** |
| **5. Custom 5** |
| **6. Custom 6** |
| **7. Custom 7** |

**RAM Temp**

**Network/ Serial Interface**
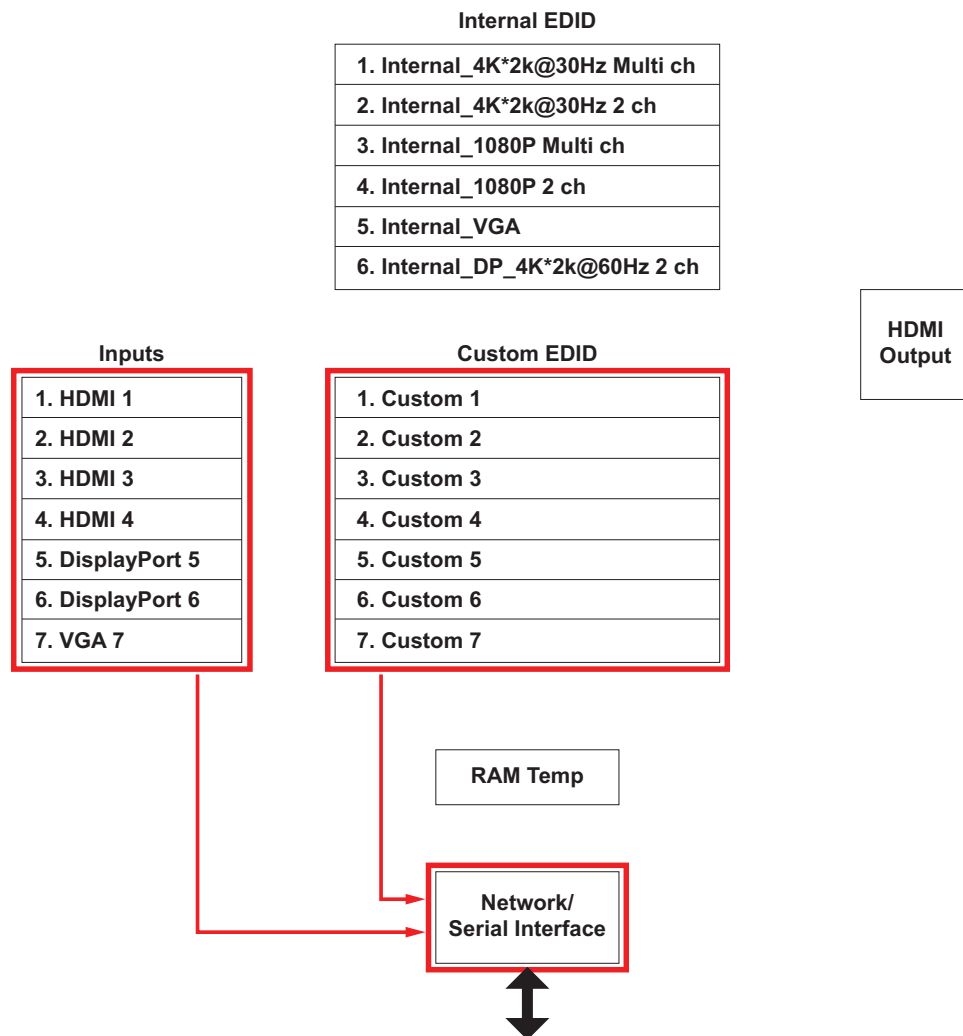
**Figure 3-11    EDID Download**

**Internal EDID**

| |
|---|
| **1. Internal_4K*2k@30Hz Multi ch** |
| **2. Internal_4K*2k@30Hz 2 ch** |
| **3. Internal_1080P Multi ch** |
| **4. Internal_1080P 2 ch** |
| **5. Internal_VGA** |
| **6. Internal_DP_4K*2k@60Hz 2 ch** |

**HDMI Output**

**Inputs**

| |
|---|
| **1. HDMI 1** |
| **2. HDMI 2** |
| **3. HDMI 3** |
| **4. HDMI 4** |
| **5. DisplayPort 5** |
| **6. DisplayPort 6** |
| **7. VGA 7** |

**Custom EDID**

| |
|---|
| **1. Custom 1** |
| **2. Custom 2** |
| **3. Custom 3** |
| **4. Custom 4** |
| **5. Custom 5** |
| **6. Custom 6** |
| **7. Custom 7** |

**RAM Temp**

**Network/ Serial Interface**
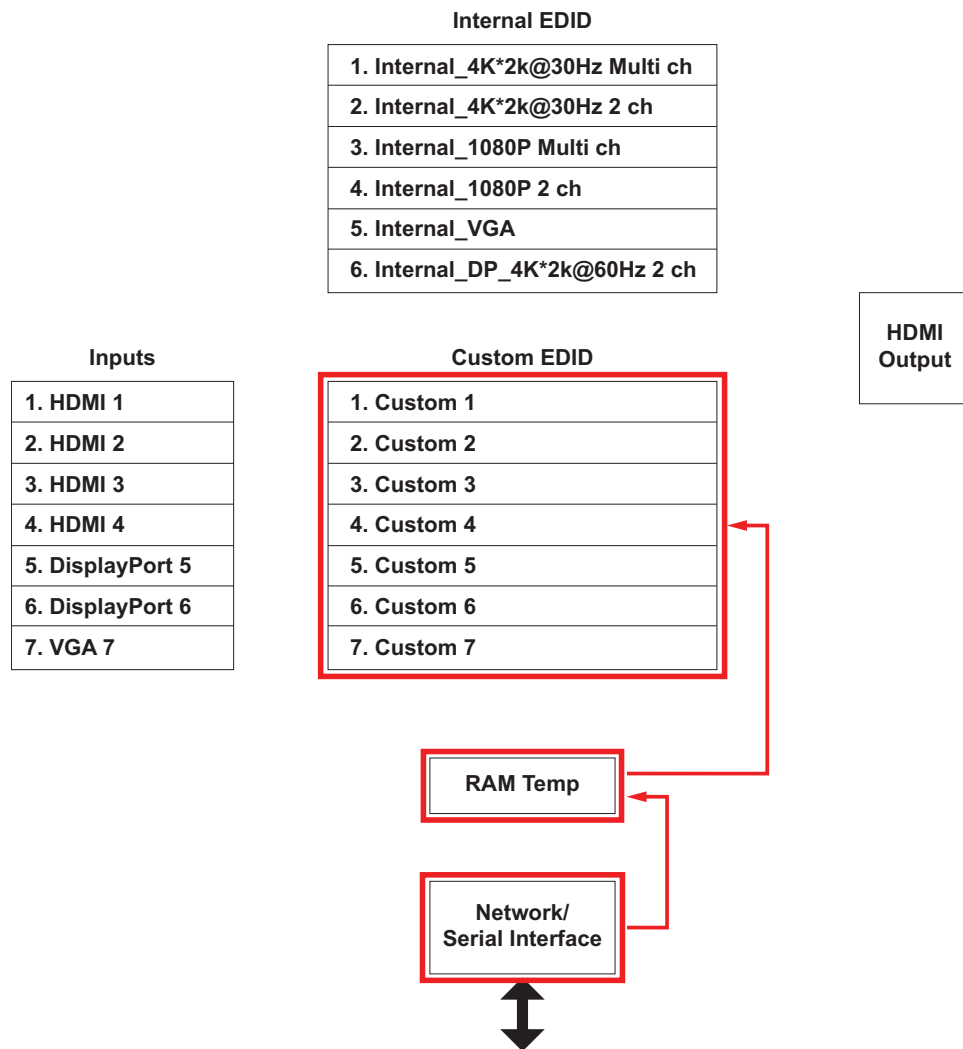
**Figure 3-12    Downloading EDID**

## 3.11  The Network Tab

The **Network** tab of the *QuadView UHD* Web Controller allows you to configure the *QuadView UHD* network and socket settings. See **Figure 3-13**.

■  **Network:** See **"Network Settings" on page 34**.

■  **Socket:** See **"Socket Settings" on page 35**.

**Network**

DHCP  Enabled ▾

IP  192.168.3.23        Mask  255.255.255.0

Gate  192.168.3.1        DNS  106.186.126.126

Save

**Sockets**

Socket  TCP Auto ▾

Port  23

Save

**Other**

Restore Network Settings To Factory Default   Reset

**Figure 3-13    Network Tab**

### 3.11.1    Network Settings

Configure the *QuadView UHD* network settings as follows:

#### DHCP

To configure the *QuadView UHD* to automatically obtain its network settings from a DHCP server:

1.  Confirm that a DHCP server is available on the network.

2.  Use the **DHCP** pull-down menu to select **Enabled**.

3.  Click **Save**.

### STATIC

To manually configure the *QuadView UHD* network interface:

1. Use the **DHCP** pull-down menu to select **Disabled**.

2. Click **Save**.

3. Click **Network** to return to the **Network** tab.

4. Enter the following values in the appropriate fields:

   ◆ **IP Address:** IP address of the *QuadView UHD* unit.

   ◆ **Subnet Mask:** Divides the **IP Address** into network and host addresses.

   ◆ **Gateway:** This is generally the IP address of the router to which the *QuadView UHD* xis connected.

| **Notes** | ◆ Consult your network administrator for assistance with network settings, if needed.<br>◆ You must include leading zeros when entering values less than 100. For example, enter 192.168.1.200 as `192.168.001.200`. |
|---|---|

5. Click **Save** again.

You will need to enter the new IP address into your browser address bar in order to continue using the *QuadView UHD* Web Controller after changing the DHCP or static network settings.

### 3.11.2    Socket Settings

Most *QuadView UHD* applications do not require you to change the default **Socket** and **Port** settings (**TCP Server** and `23`, respectively).

### 3.11.3    Other

Click the **Reset** button to reset all *QuadView UHD* network settings to their factory-default values, and then either:

■ Click **OK** to confirm this action.

■ Click **Cancel** to keep your current network settings.

The factory-default network settings are:

- **DHCP:** Enabled

- **IP Address:** 10.0.0.10

- **IP Subnet:** 255.255.255.0

- **IP Default Gateway:** 10.0.0.1

- **DNS:** 202.97.16.195

| N o t e | The *QuadView UHD* only applies these settings if DHCP is enabled and it cannot find a DHCP server. |
|---|---|

## 3.12  The Advanced Tab

The **Advanced** tab of the *QuadView UHD* Web Controller allows you to manage the following additional settings:

- **Power:** See **"Power Settings" on page 36**.

- **Auto Layout:** See **"Auto Layout" on page 37**.

- **Audio:** See **"Audio Settings" on page 38**.

- **Other:** See **"Other Settings" on page 38**.

### 3.12.1  Power Settings

The **Power Switch** pull-down places the *QuadView UHD* into either Normal or Standby mode. See **Figure 3-14**.
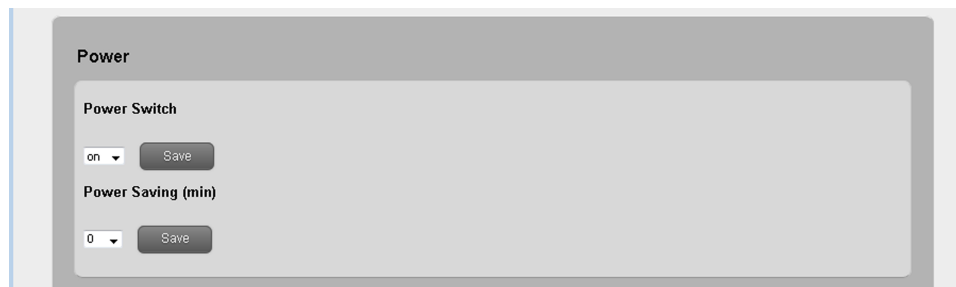


**Figure 3-14    Advanced Tab > Power**

- **Normal:** Select **on** in the **Power Switch** pull-down menu, and then click **Save**.

- **Standby:** Select **off** in the **Power Switch** pull-down menu, and then click **Save**.

The **Power Saving** pull-down menu specifies the period of inactivity after which the *QuadView UHD* will automatically go into Standby mode. To specify this setting:

1. Select the desired time interval using the **Power Saving** pull-down menu.

   Selecting 0 disables the auto-standby feature.

2. Click **Save**.

### 3.12.2    Auto Layout

Selecting **on** using the **Auto Layout** pull-down menu and then clicking **Save** causes the *QuadView UHD* to automatically select the appropriate display layout corresponding to the number of connected HDMI input sources and display up to four (4) windows using the preset Layouts 1-4. See **"Screen Layouts" on page 16**. See **Figure 3-15**.
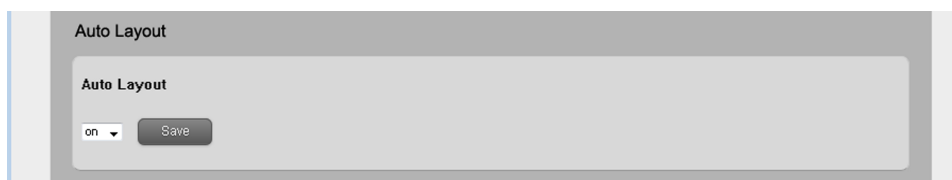


**Figure 3-15    Advanced Tab > Auto Layout**

The *QuadView UHD* selects automatic layouts as follows:

■ Windows appear and disappear on the display in the order the input sources are connected to or removed from the *QuadView UHD*.

■ Connecting an input source adds that source to a new window.

■ Window addition occurs sequentially as sources are added and removed. The most-recently added source gets routed to last applicable display window.

| | |
|---|---|
| **E x a m p l e** | Assume a quad-window layout with Sources 1-4 routed to Windows 1-4, respectively. If you remove Source 1, then the *QuadView UHD* will display three (3) windows, where:<br>◆  Window 1 is now Source 2.<br>◆  Window 2 is now Source 3.<br>◆  Window 3 is now Source 4.<br>In this example, reattaching Source 1 switches back to a quad-window layout with Source 1 now appearing in Window 4. This progression continues as you add and detach sources. |

■ The *QuadView UHD* Web Controller updates source-to-window routing information as sources are added and removed.

■ You may load a preset or custom layout at any time, which will override the Auto Layout feature. Adding or removing a source reverts the display to the appropriate automatic layout until you disable the Auto Layout feature.

To disable this feature, select off using the **Auto Layout** pull-down menu, and then click **Save**.

### 3.12.3    Audio Settings

The available audio settings (see **Figure 3-16**) are:

■ **Audio Mute:** Mutes or un-mutes the audio.

◆ **Mute:** Select **on** using the **Audio Mute** pull-down menu.

◆ **Un-mute:** Select **off** using the **Audio Mute** pull-down menu.

Click **Save** to save your selection.

■ **Audio Delay:** The **Audio Delay** pull-down allows you to correct audio/video synchronization issues that can occur with some types of source material. Use the pull-down menu to select the desired delay in milliseconds from `0` to `160` milliseconds (ms), and then click **Save**.
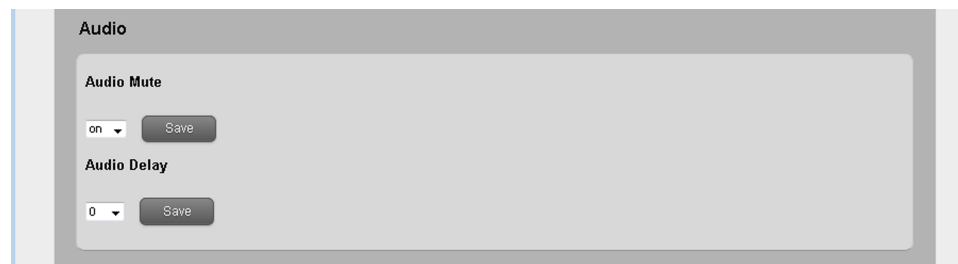


**Figure 3-16    Advanced Tab > Audio**

### 3.12.4    Other Settings

The **Other Settings** area of the **Advanced** tab appears as shown in **Figure 3-17**.
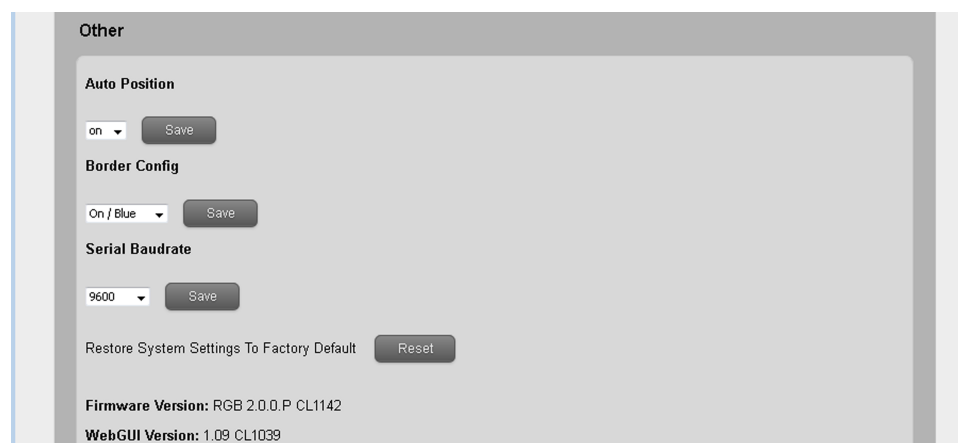


**Figure 3-17    Advanced Tab > Other**

This section of the Advanced tab has the following functions;

■ **Auto Position:** The Auto Position feature automatically optimizes the position, clock, and phase settings for images from a computer or other VESA-compliant RGBHV source. To use this feature, select on using the **Auto Position** pull-down menu, and then click **Save**. You should perform this adjustment whenever the output timing from the source changes. The *QuadView UHD* displays the message **VGA auto adjust** in the VGA source window while it executes the Auto Position command:

■ **Border Config:** This control applies a two-pixel colored border to each window in the layout that does not occupy the entire display area.

◆ **Enable**: Select either **On / Red**, **On / Green**, or **On / Blue** using the **Border Config** pull-down menu, and then click **Save**.

◆ **Disable:** Select **Off** using the **Border Config** pull-down menu, and then click **Save**.

■ **Serial Baudrate:** This pull-down menu sets the data transfer rate of the *QuadView UHD* RS-232 port. This setting must match the data rate of the device connected to the RS-232 port. The default, recommended setting is `9600`. If needed, select a new baud rate, and then click **Save**.

■ **Restore Factory Defaults:** Clicking the **Reset** button restores all *QuadView UHD* settings to their factory-default values, except for network settings. To reset the *Quadview UHD*:

a. Click **Reset**.

b. Either click **OK** to confirm this action and reboot the *QuadView UHD*, or click **Cancel** to keep your current system settings.

| **Important** | This command cannot be undone. Use it with caution. |
|---|---|

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# CHAPTER 4 COMMAND LINE CONTROL

This chapter describes all the features and functions available via the simple text-based *QuadView UHD* command-line interface protocol, which accepts requests from control devices and provides responses to those devices. Control messages can be sent via Telnet or RS-232 serial link between the *QuadView UHD* and an automation/control system or a PC running terminal emulation software.

| **Note** | RGB Spectrum recommends using **Tera Term** for Telnet or serial control of the *QuadView UHD* from a PC. |
|---|---|

## 4.1   Connecting to the *QuadView UHD* via Telnet/IP

To initiate a Telnet session with the *QuadView UHD* via Telnet using Tera Term:

1.  Verify that both the *QuadView UHD* and automated control system or PC are connected to the same network. See **Figure 2-2**.

2.  Launch Tera Term.

3.  Select **Telnet**, and then enter the IP address of the *QuadView UHD*.

    If you do not know the *QuadView UHD* IP address, refer to **"Video Input Status and Network Settings" on page 22** for instructions on how to obtain this information.

4.  Select the **Telnet Service**.

5.  Enter `23` for the **TCP port#**.

6.  Click **OK**.

7. Select **Terminal > Setup**, and then set the **New-line** parameters as follows:

   ◆ **Receive:** LF.

   ◆ **Transmit:** CF + LF.

8. Click **OK**.

9. Test the connection by typing `ATM 08 CSW_VER R`.

| **Important** | Commands are case-sensitive. Alphabetic characters must be in UPPERCASE. |
|---|---|

10. Press [ENTER].

If the connection is working, the *QuadView UHD* responds with `08 CSW_VER R` followed by the firmware version and build date. The terminal window is now ready for command control.

## 4.2   Connecting to the *QuadView UHD* via Serial Link

To initiate a session with the *QuadView UHD* via TCP/IP using a serial link:

1. Connect the *QuadView UHD* and automated control system or PC via a serial (RS-232) link. See **Figure 2-3**.

2. Launch Tera Term.

3. Select **Serial**.

4. Select the appropriate COM **Port**.

5. Click **OK**.

6. Select **Setup > Serial Port...**.

7. Set the serial port parameters as follows:

   ◆ **Port:** Select the port you specified in Step 3.

   ◆ **Baud Rate:** 9600.

   ◆ **Data:** 8 bit.

   ◆ **Parity:** none.

   ◆ **Stop:** 1 bit.

   ◆ **Flow Control:** none.

   ◆ **Transmit Delay:** 0 msec/char and 0 msec/line.

8. Click **OK**.

9.  Follow Steps 6 through 10 of **"Connecting to the QuadView UHD via Telnet/IP" on page 41**.

You may change the *QuadView UHD* baud rate using either:

■ The **Serial Baudrate** control on the **Advanced** tab of the *QuadView UHD* Web Controller. See **"The Advanced Tab" on page 36**.

■ One of the Set Baud Rate commands listed in **Table 4-5**.

## 4.3   Command Syntax and Lists

The serial command syntax is as follows:

■ **Case:** Commands are case-sensitive. Alphabetic characters must be in UPPERCASE.

■ **Spaces:** You can use spaces to separate the components of a command for improved readability. (This option is used in the following command lists.) The *QuadView UHD* command parser ignores spaces; for example, `ATM 0A VDO_IPT W 3 2` and `ATM0AVDO_IPTW32` are both valid command strings.

■ **Command header:** `ATM`

■ **Length:** The total length of the command and parameters, not including the header or spaces, given in hexadecimal (`08`, `09`, `0A`, `0B`, or `13`).

■ **Command:** `XXX_XXX`

■ **Read/Write:** `R/W`

■ **Parameter data:** The length and meaning of the parameter data (if required) is dependent on the command.

| Note | You need not send a carriage return or press [ENTER] following the command when using a serial connection. |
|------|------|

## 4.3.1    General Commands

**Table 4-1**describes the general *QuadView UHD* general commands. These commands provide the same controls as those found on the **General** tab of the *QuadView UHD* Web Controller interface. See **"The General Tab" on page 24**.

**Table 4-1    General Commands**

| Function | Command | Feedback | Description |
|---|---|---|---|
| Report Window/Input Pairs | ATM 08 VDO_IPT R | 08 VDO_IPT R | Reports inputs assigned to each window.<br>**Example:**<br>Window 1 (A) -> Input 5<br>Window 2 (B) -> Input 6<br>Window 3 (C) -> Input 3<br>Window 4 (D) -> Input 4<br>`ATM 08 VDO_IPT R 08 VDO_IPT R ~VDO_IPT A5 B6 C3 D4` |
| Source-to-Window Routing | ATM 0A VDO_IPT W [1…4] [1…7] | 0A VDO_IPT W [1…4] [1…7] | Routes Input [1…7] to Window [1…4].<br>**Example:** To route Input 2 to Window 3, use the command:<br>`ATM 0A VDO_IPT W 3 2` |
| Set Aspect Ratio | ATM 0A WIN_RAT W [1…4] [1…4] | 0A WIN_RAT W [1…4] [1…4] | Sets Window [1…4] aspect ratio to Normal (1), Full (2), 16:9 (3), or 4:3 (4).<br>**Example:** To set the Window 3 aspect ratio to Normal (original), use the command:<br>`ATM 0A WIN_RAT W 3 1` |
| Report Output Timing | ATM 08 OPT_TIM R | 08 OPT_TIM R | Reports currently-selected output timing (resolution).<br>**Example:** 1920 × 1080 @60 Hz (1080p)<br>`ATM 08 OPT_TIM R 08 OPT_TIM R ~OPT_TIM 3` |

**Table 4-1    General Commands (Continued)**

| Function | Command | Feedback | Description |
|---|---|---|---|
| Set Output Timing | ATM 09 OPT_TIM W 01 | 09 OPT_TIM W 01 | Sets the HDMI output resolution to Auto, outputting the resolution based on the EDID information from the display device. |
| | ATM 09 OPT_TIM W 02 | 09 OPT_TIM W 02 | Set the HDMI output resolution to 4K×2K@30Hz (UHD). |
| | ATM 09 OPT_TIM W 03 | 09 OPT_TIM W 03 | Set the HDMI output resolution to 1920×1080@60Hz 1080P (Full HD). |
| | ATM 09 OPT_TIM W 04 | 09 OPT_TIM W 04 | Set the HDMI output resolution to 1280×720@60Hz (720P). |
| | ATM 09 OPT_TIM W 05 | 09 OPT_TIM W 05 | Set the HDMI output resolution to 1920×1200@60Hz (WUXGA). |
| | ATM 09 OPT_TIM W 06 | 09 OPT_TIM W 06 | Set the HDMI output resolution to 1600×1200@60Hz (UXGA). |
| | ATM 09 OPT_TIM W 07 | 09 OPT_TIM W 07 | Set the HDMI output resolution to 1280×1024@60Hz (SXGA). |
| | ATM 09 OPT_TIM W 08 | 09 OPT_TIM W 08 | Set the HDMI output resolution to 1024×768@60Hz (XGA). |
| Report Current Audio Input | ATM 08 ADO_IPT R | 08 ADO_IPT R | Reports currently-selected audio input.<br>**Example:** Input 6<br>`ATM 08 ADO_IPT R`<br>`08 ADO_IPT R`<br>`~ADO_IPT 06` |
| Select Audio Input | ATM 09 ADO_IPT W [1…7] | 09 ADO_IPT W [1…7] | Routes Audio Input [1…7] to audio outputs.<br>**Example:**<br>To route audio Input 4 to the audio outputs, use the command:<br>`ATM 09 ADO_IPT W 4` |
| Report Audio Volume Setting | ATM 08 VOL_CRL R | 08 VOL_CRL R | Reports current volume setting.<br>**Example:** Volume = 10<br>`ATM 08 VOL_CRL R`<br>`08 VOL_CRL R`<br>`~VOL_CRL 10` |

**Table 4-1    General Commands (Continued)**

| Function | Command | Feedback | Description |
|---|---|---|---|
| Set Audio Volume | ATM 09 VOL_CRL W 0 | 09 VOL_CRL W 0 | Mutes audio output. |
| | ATM 09 VOL_CRL W [1…9] | 09 VOL_CRL W [1…9] | Sets program audio output volume to [1…9]. |
| | ATM 09 VOL_CRL W A | 09 VOL_CRL W A | Sets program audio output volume to 10. |
| | ATM 09 VOL_CRL W E | 09 VOL_CRL W E | Increases program audio output by one increment. |
| | ATM 09 VOL_CRL W F | 09 VOL_CRL W F | Decreases program audio output by one increment. |
| Report Audio Input Configuration State | ATM 09 AUD_MOD R [1…6] | Port[1…6] Audio: [0(Auto) \| 1(External)] | Reports audio input configuration state for Input [1…6]. **Example:** To see the audio input configuration state of Input 4, use the command: `ATM 09 AUD_MOD R 4` |
| Audio Input Configuration | ATM 0A AUD_MOD W [1…6] [0 \| 1] | 0A AUD_MOD W [1…6] [0 \| 1] | Sets audio input [1…6] to Auto (embedded in HDMI/DP signal) (0) or External (1). Input 7 always uses external audio. **Example:** To select external audio on Input 3, use the command: `ATM 0A AUD_MOD W 3 1` |

### 4.3.2    Layout Commands

**Table 4-2** describes the *QuadView UHD* layout commands. These commands provide the same controls as those found in the **Layout Recall** area of the *QuadView UHD* Web Controller **Layouts** tab. See .

**Table 4-2    Layout Commands**

| Function | Command | Feedback | Description |
|---|---|---|---|
| Report Current Layout | ATM 08 SCR_LYT R | 08 SCR_LYT R | Reports currently-selected layout. **Example:** Layout 2 `ATM 08 SCR_LYT R` `08 SCR_LYT R` `~SCR_LYT 02` |

**Table 4-2   Layout Commands (Continued)**

| Function | Command | Feedback | Description |
|---|---|---|---|
| Recall Layout | ATM 0A SCR_LYT W [01…09] | 0A SCR_LYT W [01…16] | Recalls Layout [1…9]. |
| | ATM 0A SCR_LYT W [0A…0F] | 0A SCR_LYT W [0A…0F] | Recalls Layout [10...15]. |
| | ATM 0A SCR_LYT W 10 | 0A SCR_LYT W 10 | Recalls Layout 16]. |
| | Example: To recall Layout 12, use the command:<br><br>`ATM 0A SCR_LYT W 0C` | | |
| Enable Auto Layout | ATM 09 CLB_DAL W 1 | 09 CBL_DAL W 1 | This feature is disabled by default. |
| Disable Auto Layout | ATM 09 CLB_DAL W 0 | 09 CBL_DAL W 0 | |
| Report Layout Button Assignments | ATM 08 LYT_MAP R | 08 LYT_MAP R | Report current layout button assignments.<br><br>**Example:**<br><br>Buttons 1 through 4 -> Layouts 1 through 4<br><br>`ATM 08 LYT_MAP R`<br>`08 LYT_MAP R`<br>`~LYT_MAP 01 02 03 04` |
| Assign Layout to Button | ATM 0B LYT_MAP W [1…4] [01…09] | 0B LYT_MAP W [1…4] [01…09] | Assign Layout [1…9] to layout button [1…4]. |
| | ATM 0B LYT_MAP W [1…4] [0A…0F] | 0B LYT_MAP W [1…4] [0A…0F] | Assign Layout [10…15] to layout button [1…4]. |
| | ATM 0B LYT_MAP W [1…4] 10 | 0B LYT_MAP W [1…4] 10 | Assign Layout 16 to layout button [1…4]. |
| | **Examples:**<br><br>To assign Layout 3 to layout button 2, use the command:<br><br>`ATM 0B LYT_MAP W 2 03`<br>To assign Layout 14 to layout button 3, use the command:<br><br>`ATM 0B LYT_MAP W 3 0E`<br>To assign Layout 16 to layout button 4, use the command:<br><br>`ATM 0B LYT_MAP W 4 10` | | |

### 4.3.3    EDID Commands

**Table 4-3** describes the *QuadView UHD* EDID commands. These commands provide the same controls as those found on the **EDID Management** tab of the *QuadView UHD* Web Controller. See **"The EDID Management Tab" on page 27**.

**Table 4-3    EDID Commands**

| Function | Command | Feedback | Description |
|---|---|---|---|
| Copy Internal EDID to Input | ATM 0B EDI_POR W [1…7] C [1…6] | 0B EDI_POR W [1…7] C [1…6] | Copy Internal EDID [1…6] to Input [1…7]. **Example:** To copy Internal EDID 1 to Input 3, use the command: `ATM 0B EDI_POR W 3 C 1` |
| Copy Custom (User-Defined) EDID to Input | ATM 0B EDI_POR W [1…7] E [1…7] | 0B EDI_POR W [1…7] E [1…7] | Copy Custom (User-defined) EDID [1…7] to Input [1…7] **Example:** To copy Custom (User-defined) EDID 2 to Input 3, use the command: `ATM 0B EDI_POR W 3 E 2` |
| Copy EDID from HDMI Output to Input | ATM 09 EDI_CPY 1 [1…7] | 09 EDI_CPY 1 [1…7] | Copy EDID from HDMI Output to Input [1…7]. |
| Name Custom (User-Defined) EDID | ATM 13 EDI_NAE W [1…7] [EDID__NAME] | 13 EDI_NAE W [1…7] [EDID__NAME] | Name User-defined EDID [1…7] [EDID__NAME]. [EDID__NAME] can be up to 10 characters long and contain upper- or lower-case letters, numbers, the hyphen, or the underscore (_) character. |
| Read Custom (User-Defined) EDID Name | ATM 09 EDI_NAE R [1…7] | Name of User-defined EDID [1…7] | Report name of User-defined EDID [1…7]. **Example:** If Custom EDID 1 is named **rgb_custom**, the command `ATM 09 EDI_NAE R 1` returns `rgb_custom`. |
| Write Uploaded EDID | ATM 09 EDI_EEP W [1…7] | 09 EDI_EEP W [1…7] | Write uploaded EDID to Custom (User-defined) EDID register [1…7]. **Example:** To write an uploaded EDID to Custom EDID register 4, use the command: `ATM 09 EDI_EEP W 4` |
| Read Custom (User-Defined)EDID | ATM 09 EDI_EEP R [1…7] | [256-byte EDID] | Displays contents of Custom EDID register [1…7], in hexadecimal format. |
| Read EDID from Input | ATM 09 EDI_POR R [1…7] | [256-byte EDID] | Displays contents of Input [1…7] EDID register, in hexadecimal format. |

### 4.3.4     Advanced Commands

**Table 4-4** describes the *QuadView UHD* advanced commands. These commands provide the same controls as those found on the **Advanced** tab of the *QuadView UHD* Web Controller. See **"The Advanced Tab" on page 36**.

**Table 4-4   Advanced Commands**

| Function | Command | Feedback | Description |
|---|---|---|---|
| Standby/Normal mode | ATM 09 POW_CRL W 0 | 09 POW_CRL W 0 | Switch from Standby to Normal mode.<br><br>**Note:** The last character is a zero, not the letter "O." |
| | ATM 09 POW_CRL W [1…F] | 09 POW_CRL W [1…F] | Switch from Normal to Standby mode.<br><br>**Note:** The last character can be any non-zero value. |
| | ATM 09 POW_WUP W 1 | 09 POW_WUP W 1 | Switch from Standby to Normal mode.<br>**Notes:**<br>◆ This command only works over a serial connection.<br>◆ You will get an "unknown command" message if you send this command when the *QuadView UHD* is already in Normal mode |
| Power Saving | ATM 0A POW_SAV W 00 | 0A POW_SAV W 00 | Disable Power Saving. |
| | ATM 0A POW_SAV W 05 | 0A POW_SAV W 05 | Automatically enter Power Saving mode when no input signal is present for 5 minutes. |
| | ATM 0A POW_SAV W 0A | 0A POW_SAV W 0A | Automatically enter Power Saving mode when no input signal is present for 10 minutes. |
| | ATM 0A POW_SAV W | 0F 0A POW_SAV W 0F | Automatically enter Power Saving mode when no input signal is present for 15 minutes. |
| | ATM 0A POW_SAV W 1E | 0A POW_SAV W 1E | Automatically enter Power Saving mode when no input signal is present for 30 minutes. |
| | ATM 0A POW_SAV W 3C | 0A POW_SAV W 3C | Automatically enter Power Saving mode when no input signal is present for 60 minutes. |
| Audio Mute | ATM 09 AUD_MUT W 0 | 09 AUD_MUT W 0 | Mutes the audio output. |
| | ATM 09 AUD_MUT W F | 09 AUD_MUT W F | Un-mutes the audio output. |

**Table 4-4   Advanced Commands (Continued)**

| Function | Command | Feedback | Description |
|---|---|---|---|
| Report Audio Delay Setting | ATM 08 AUD_DLY R | 08 AUD_DLY [0...160] | Reports current audio delay setting.<br>**Example:** Audio Delay = 120 ms<br>`ATM 08 AUD_DLY R`<br>`08 AUD_DLY R`<br>`~AUD_DLY 3` |
| Set Audio Delay | ATM 09 AUD_DLY W 0 | 09 AUD_DLY W 0 | Set audio delay time to 0 ms (no delay). |
| | ATM 09 AUD_DLY W 1 | 09 AUD_DLY W 1 | Set audio delay time to 40 ms. |
| | ATM 09 AUD_DLY W 2 | 09 AUD_DLY W 2 | Set audio delay time to 80 ms. |
| | ATM 09 AUD_DLY W 3 | 09 AUD_DLY W 3 | Set audio delay time to 120 ms. |
| | ATM 09 AUD_DLY W 4 | 09 AUD_DLY W 4 | Set audio delay time to 160 ms. |
| | ATM 09 AUD_DLY W 5 | 09 AUD_DLY W 5 | Set audio delay time to 200 ms. |
| | ATM 09 AUD_DLY W 6 | 09 AUD_DLY W 6 | Set audio delay time to 240 ms. |
| | ATM 09 AUD_DLY W 7 | 09 AUD_DLY W 7 | Set audio delay time to 280 ms. |
| | ATM 09 AUD_DLY W 8 | 09 AUD_DLY W 8 | Set audio delay time to 320 ms. |
| | ATM 09 AUD_DLY W 9 | 09 AUD_DLY W 9 | Set audio delay time to 360 ms. |
| | ATM 09 AUD_DLY W A | 09 AUD_DLY W 0A | Set audio delay time to 400 ms. |
| VGA Input Auto-Position | ATM 08 VGA_AUT | W 08 VGA_AUT W | Optimize position, clock, and phase of VGA input signals. |
| Set Window Border | ATM 0A BOR_CFG W 1 1 | 0A BOR_CFG W 1 1 | Enable red window borders. |
| | ATM 0A BOR_CFG W 1 2 | 0A BOR_CFG W 1 2 | Enable green window borders. |
| | ATM 0A BOR_CFG W 1 3 | 0A BOR_CFG W 1 3 | Enable blue window borders. |
| | ATM 0A BOR_CFG W 1 0 | 0A BOR_CFG W 1 0 | Enable window borders of the previously-selected color. |
| | ATM 0A BOR_CFG W 0 | 0A BOR_CFG W 0 | Disable window borders. |
| Set Baud Rate | ATM 09 BAU_RAT W 1 | 09 BAU_RAT W 1 | Set serial baud rate to 9600. |
| | ATM 09 BAU_RAT W 2 | 09 BAU_RAT W 2 | Set serial baud rate to 14400. |
| | ATM 09 BAU_RAT W 3 | 09 BAU_RAT W 3 | Set serial baud rate to 19200. |
| | ATM 09 BAU_RAT W 4 | 09 BAU_RAT W 4 | Set serial baud rate to 28800. |
| | ATM 09 BAU_RAT W 5 | 09 BAU_RAT W 5 | Set serial baud rate to 38400. |
| | ATM 09 BAU_RAT W 6 | 09 BAU_RAT W 6 | Set serial baud rate to 57600. |
| | ATM 09 BAU_RAT W 7 | 09 BAU_RAT W 7 | Set serial baud rate to 115200. |
| Restore Default Setting | ATM 08 RST_SET | W 08 RST_SET W | Reset all settings, including network settings, to their factory-default values.<br>**Use with caution!** |

**Table 4-4   Advanced Commands (Continued)**

| Function | Command | Feedback | Description |
|---|---|---|---|
| OSD Messages | ATM 09 AUD_OSD W [0 \| 1] | 09 AUD_OSD W [0 \| 1] | Enables/disables audio volume and mute OSD indications.<br>◆   `0`: audio OSD ON<br>◆   `1`: audio OSD OFF |
|  | ATM 09 VDO_OSD W [0 \| 1] | 09 VDO_OSD W [0 \| 1] | Enables/disables video source and IP address OSD indications.<br>◆   `0`: video OSD ON<br>◆   `1`: video OSD OFF |
| HDMI Output Audio Control | ATM 09 AUD_OPT W [0 \| 1] | 09 AUD_OPT W [0 \| 1] | Mute/Un-mute HDMI embedded and analog audio.<br>0: Mute; 1: Unmute |
| Report Audio Output Channel Count | ATM 08 AUD_CHC R | 08 AUD_CHC R | Report audio output channel count setting.<br>**Example:** PCM 7.1<br>`ATM 08 AUD_CHC R`<br>`08 AUD_CHC R`<br>`~AUD_CHC 0` |
| Set Audio Output Channel Count | ATM 09 AUD_CHC W [0 \| 1] | 09 AUD_CHC W [0 \| 1] | Set audio output channel count.<br>0: PCM 7.1 (8-channel) (default); 1: PCM Stereo (2-channel)<br>**Note:** You must power-cycle the *QuadView UHD* after changing this setting |

**Table 4-4   Advanced Commands (Continued)**

| Function | Command | Feedback | Description |
|---|---|---|---|
| Miscellaneous | ATM 08 CSW_VER W | 08 CSW_VER W [Firmware version] | Reports *QuadView UHD* firmware version. |
| | ATM 09 SYS_UPT W 1 | ~09 SYS_UPT W 1 | Updates *QuadView UHD* firmware using file stored on connected USB storage device. |
| | ATM 09 HDC_POO W [0 \| 1] | 09 HDC_POO W [0 \| 1] | Enable/disable HDCP and reboot the *QuadView UHD*.<br><br>0: HDCP off; 1: HDCP on |
| | ATM 08 HDC_POO R | 08 HDC_POO R HDCP: [ON \| OFF] | Reports HDCP status. |
| | ATM 08 WIN_LIS R | (refer to examples) | Reports window status (on/off), source, origin, width, and height. |
| | | **Examples:**<br><br>Two-window layout:<br><pre>ATM 08 WIN_LIS R<br>08 WIN_LIS R<br>Win1:On  Input:1 0000 0000 3840 2160<br>Win2:On  Input:2 0000 1440 1280 0720<br>Win3:Off<br>Win4:Off</pre><br>Four-window layout:<br><pre>ATM 08 WIN_LIS R<br>08 WIN_LIS R<br>Win1:On  Input:1 0000 0001 1920 1080<br>Win2:On  Input:2 1920 0001 1920 1080<br>Win3:On  Input:3 0000 1080 1920 1080<br>Win4:On  Input:4 1920 1080 1920 1080</pre> | |
| Report Key Lock Status | ATM 08 KEY_LOK R | 08 KEY_LOK [0...2] | Reports current Key Lock setting.<br><br>**Example:** Key Lock off<br><pre>ATM 08 KEY_LOK R<br>~KEY_LOK 0</pre> |
| Key Lock/Unlock | ATM 09 KEY_LOK W [0 … 2] | 09 KEY_LOK W [0 … 2] | Locks or unlocks the front panel buttons.<br><br>◆ 0: Unlock all buttons;<br>◆ 1: Lock all buttons except the **STANDBY** and **OUTPUT RESOLUTION** buttons;<br>◆ 2: Lock all buttons.<br><br>**Note:** Power-cycling the *QuadView UHD* unlocks the buttons. |

## 4.4   Configuration Change Notifications

The *QuadView UHD* sends unsolicited notifications via the command-line interface when you perform the following configuration changes:

- Select a new output resolution.

- Choose a new layout.

- Turn window borders on or off.

- Select a different window border color.

Any of these changes causes the *QuadView UHD* to send a `VideoConfigChange` message to the control system. This occurs regardless of the method used to effect the change (front panel controls, *QuadView UHD* Web Controller, or command-line interface).

# CHAPTER
# 5
# SYSTEM UPDATES

RGB Spectrum periodically updates product firmware to add new features or improve product performance. To check for firmware updates for your RGB Spectrum product:

1.  Visit the **Partner Portal** section of our web site at **http://www.rgb.com/partners/**.

2.  Either:

    ◆  Click the **Login** button to access the portal with an existing username and password.

    ◆  Create a new account by clicking the **Register** button and then following the on-screen instructions.

3.  After logging in to the portal, select **Product Firmware**.

4.  To determine your current firmware version number, either:

    ◆  Select the **Advanced** tab of the *QuadView UHD* Web Controller, and then read the **Firmware Version** and **WebGUI Version** (Web Controller version) that appear at the bottom of the tab).

    ◆  Send the ASCII command `ATM 08 CSW_VER R` from a PC or other controller via the LAN or RS-232 interface.

## 5.1 Updating the Firmware

To update your *QuadView UHD* firmware:

1.  Copy the update file `MERGE.bin` to the root directory of a USB drive.

2.  Connect the USB drive to the USB port on the *QuadView UHD* rear panel.

3.  Connect an HDMI display to the *QuadView UHD*.

4.  Turn on the *QuadView UHD*. The display device displays the HDMI output signal after normal device boot-up.

5.  Either:

    ◆ Press and hold the **INPUT 1** button for at least five seconds.

    ◆ Send the ASCII command `ATM 09 SYS_UPT W 1` from a PC or other controller via the LAN or RS-232 interface.

    The message **System is upgrading…** appears on the display, and all of the front panel button indicators blink.

    The *QuadView UHD* reboots automatically after approximately 90 seconds.

6.  Turn off the unit using the rear-panel power switch. See **Figure 1-2**.

7.  When the front-panel indicators turn off (indicating a full power-down state), restart the *QuadView UHD*. The firmware update is complete..

## 5.2 Web Controller GUI Update

To update the *QuadView UHD* Web Controller GUI:

1.  Connect an RS232 cable to the control PC and the *QuadView UHD*. See **"Connecting a Control PC or Control System" on page 14**.

2.  Connect an HDMI display to the *QuadView UHD*.

3.  Turn on the *QuadView UHD*.

    The display device displays the HDMI output signal after normal device boot-up.

4.  Launch the SmartSetGUI application. This application is included in the QuadView UHD documentation package or may be downloaded from the customer portal at www.rgb.com.

    The SmartSetGUI for the first time appears in Simplified Chinese by default when started for the first time.

5.  Select **English** from the third menu from the left, and then click **OK**.

6. Exit and restart the SmartSetGUI.

7. Select **Tools > Firmware update**.

8. Choose the Serial (COM) port to use for updating using the **Serial** pull-down menu.

9. Click **Browse**, and then navigate to the location of the Web Controller firmware update file (for example, `RGB_1.11_CL1228.frm`).

12. Click **Program**.

The SmartSet GUI displays the update progress.

The message **Firmware update OK!** appears once the update is complete.

10. Click **OK**.

11. Click **Finish**.

12. Exit SmartSetGUI.

13. Turn off the unit using the rear-panel power switch.

14. When the front-panel indicators turn off (indicating a full power-down state), restart the *QuadView UHD*.

The *QuadView UHD* Web Controller update is complete.

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# CHAPTER 6

# CONTACT INFORMATION

## 6.1   Corporate Headquarters

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## 6.2   Sales and Product Information

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QuadView® UHD

4K Multiviewer

User Guide

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