Aquilon RS6
Ref. AQL-RS6

ANALOG WAY®
Pioneer in Analog, Leader in Digital

Mission-critical 4K/8K/16K multi-screen presentation system and videowall processor with 32x 4K60p inputs and 20x 4K60p outputs, delivering uncompromising presentation experiences to high-end staging and premium system integration

Aquilon RS6 at a glance

- ▶ Industrial grade reliability
- ▶ Field-swappable I/O cards
- ▶ Versatile 4K digital connectivity (DP 1.2, 12G-SDI, HDMI 2.0)
- ▶ Future-proof modular design with I/O cards available separately: 8x HDMI1.4, HDMI 2.0, DP 1.2, 12G-SDI, 2.5GbE NDI+12G-SDI, SFP+, Optical Fiber, SDVoE and more to come
- ▶ Ultra-low latency 10/12-bit 4:4:4 video processing
- ▶ 160 Megapixels throughput on Program at 10-bit 4:4:4 @60Hz
- ▶ Up to 16x 4K or 32x DL/2K mixing layers (+live backgrounds)
- ▶ High Frame Rate up to 144Hz
- ▶ Real-time 3D-LUT based SDR/HDR10/HLG conversion and color correction
- ▶ Intuitive HTML5-based user interface with live source thumbnails
- ▶ Native DANTE audio networking hardware and support
- ▶ Option to link to up to 3 other LivePremier systems

32 4K60p inputs	20 4K60p outputs	2 multi-viewers	6RU
HDMI 2.0	DP 1.2	12G-SDI	HDCP2.2
4K60 4:4:4 10-12 bit	HFR up to 144Hz	HDR & 3D LUTs	Dante 64x64
Up to 16 4K Mix. layers	Split layers	Web RCS	Link option

Aquilon models	RS alpha	RS1	RS2	RS3	RS4	RS5	RS6	C	C+	Cmax
4K60p input connectors	8	16	16	24	24	32	32	up to 16	up to 24	up to 32
2K/DL input connectors	up to 16[1]	up to 32[1]	up to 32[1]	up to 48[1]	up to 48[1]	up to 64[1]	up to 64[1]	up to 32	up to 48	up to 64
4K60p output connectors	4	8	12	12	16	16	20	up to 16	up to 20	up to 24
Max 4K mixing layers[2]	4	4	8	8	12	12	16	up to 8	up to 12	up to 16
Max 2K/DL mixing layers[2]	8	8	16	16	24	24	32	up to 16	up to 24	up to 32
4K still image channels	12	12	12	24	24	24	24	up to 12	up to 24	up to 24
Build-to-Order (BTO)								✓	✓	✓
Rack units	4	4	4	5	5	6	6	4	5	6

1) using 8-plug input cards, available separately as accessories
2) doubled for split layers

www.analogway.com

Outstanding performances

Like all the products of the **LivePremier™** series, **Aquilon RS6** offers versatile 4K digital connectivity, unmatched real-time 10/12-bit 4:4:4 video processing power, best-in-class image quality and pure 4K60p on each input and output with ultra-low latency. Ideally tailored to large scale auditoriums, conference rooms, staging live events, houses of worship, corporate lobbies and sports venues, **Aquilon RS6** offers almost unlimited possibilities for future applications and possesses enough bandwidth to support evolving requirements, such as 8K and higher framerates.

Versatile for the highest flexibility of configurations

Aquilon RS6's modular design allows you to easily swap I/O cards to accommodate a variety of connectivity arrangements and your match source and display requirements. **Aquilon RS6** offers 32 inputs, 20 outputs configurable as single screens, edge-blended widescreens or scaled auxiliary outputs, 2 dedicated Multiviewer outputs, up to 16x 4K or 32x HD freely assignable mixing layers, as well as powerful features that will allow you to handle any creative display configuration, such as Captive PiPs, custom output formats, output rotation, AOI, bezel compensation and pixel pitch management. For even more impressive performances, **Aquilon RS6** can be linked to up to 3 other LivePremier systems (any type, any size) thanks to the hardware update **OPT-RSX-LINK**.

Industrial grade reliability

Aquilon RS6 was specifically engineered to perform to the highest standards in mission-critical applications and road-hardened to survive frequent shipping and tough live events. By combining a heavy-duty modular design, the highest quality components selected for their proven reliability, and features such as redundant swappable power supplies and smart thermal management, **Aquilon RS6** delivers uninterrupted 24/7 performance and peace of mind!

Smart functionalities

Aquilon RS6 features state-of-the-art real time processing features that will help you to unleash all your creative potential and produce flawless, stunning shows: true seamless switching, real-time LUT based SDR/HDR conversion and color correction, flying layer movement, advanced cut and fill, cutting-edge keying engine… **Aquilon RS6** also allows you to remove external audio de-embedding boxes: In just a few easy clicks, audio can be de-embedded from video sources, routed directly using onboard Dante™ card and re-embedded from an external audio processor for sending to displays, recording devices, or streaming.

Unrivaled ease of use

For the best ease of setup and to ensure flawless control of multi-screen presentations, **Aquilon RS6** features a totally new, cutting-edge HTML5-based user interface, the **Web RCS**, compatible with any device or platform including iOS and Android devices. Conceived to greatly increase productivity and reduce learning curve, the **Web RCS** offers dozens of unique features that simplify configuring and operating, such as live resizable program/preview workspaces with high-resolution dynamic thumbnails of connected sources, multi-operator collaboration with password protection, keyword search and much more…
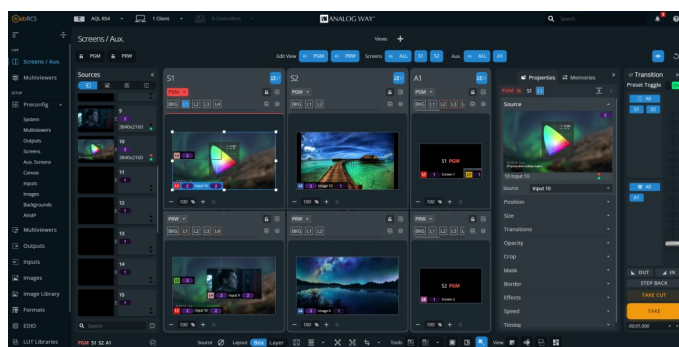
Powerful and Flexible Control Options

In addition to the powerful Web RCS, **Aquilon RS6** features IP (Ethernet) control via a standard TCP/IP socket connection supported by all major third-party control systems. It can also be controlled by the free Q-SYS, AMX and Crestron drivers as well as by **AW VideoCompositor**, a unique solution that gives system integrators and Crestron developers all the tools they need to easily incorporate the power of LivePremier™ image processors video compositing into a single point of control Crestron touch-screen application. Additionally, **Aquilon RS6** can be controlled by a comprehensive range of remote control solutions from the **Shot Box²** and the **Control Box³** to the powerful standalone event controller, the **RC400T**, featuring premium buttons with dynamic LCD labels, a T-Bar and a Joystick, that will streamline your control of the LivePremier™ series…

Key features

Based on LivePremier™ platform

160 Megapixels throughput at 10-bit 4:4:4 on Program, without restricting Preview or Multiviewer

True 4K60p 4:4:4 performance on every compliant I/O channel

Ultra-low latency 10 and 12-bit processing

High Frame Rate processing (up to 144Hz) for Dual/2K signals

Real-time SDR/HDR10/HLG conversion and color correction based on 3D LUTs (no additional latency)

32x 4K60p inputs (16x HDMI 2.0, 8x DP 1.2, 8x 12G-SDI)

20x 4K60p active outputs (20x HDMI 2.0)

2x configurable 4K Multiviewers with 64x resizable widgets

Future proof modular design

Full set of field swappable input cards available separately for any connectivity arrangements:
8x HDMI 1.4, HDMI 2.0, DP 1.2, 12G-SDI, NDI+12G-SDI, SFP+, Optical, SDVoE

Full set of field swappable output cards available separately for any connectivity arrangements:
HDMI 2.0, DP 1.2, 12G-SDI, SFP+, Optical, SDVoE

Support 4K60p input and output as single, double or quad plugs

Compatible with Analog Way DPH104 video processor: easily convert one 4K DP 1.2 output to 4 independent full HD outputs (requires a DP output card)

Almost limitless video canvas space and free positioning of outputs

Advanced pixel pitch management for LED wall applications

EDID management on every input and output

Compatible with HDCP 1.4 and HDCP 2.2

Rotation capability on each output (90° increment)

Independent output rates

Custom output formats for non-standard display applications

Area of Interest feature to customize active areas of outputs

Framelock or internal sync. generator

Optional expandability via simple linking to up to 3 other LivePremier units (ref. OPT-RSX-LINK)

Up to 16x 4K or 32x DL/2K mixing layers per system (32x 4K or 64x DL/2K split layers), depending on the screens setup

24x 4K or 48x 2K concurrent still images

Unscaled seamless background mixer on each output (using instantaneous still images or live sources)

Flexible layer management (Region Captive PiPs)

Seamless crossfade on all mixing layers, on all 24 sources

Scaled 4K60p AUX feature for all non-PGM outputs

Ability to create layers on AUX outputs without using processing resources

Inboard clocks, timers and countdowns for screens, auxiliary outputs and multiviewers

Cut and Fill at the input and layer levels depending on the use case

Freeze at the input, layer and output levels

Still images supporting variable alpha-channels for transparent background on logos

Native Dante™ audio networking hardware and support (64x64)

Web RCS: highly intuitive, lightning-fast web-based user interface based on HTML5 with password protection

HTTP for standard connection or HTTPS for secure connection

Live video thumbnails shown on GUI

Multi-operator real-time collaboration

Up to 3 Virtual RC400T controllers on GUI

Easily create and recall preset looks on all your screens and auxiliary outputs

Fully functional simulator for offline configuration and practice

Remote services and maintenance

Backup and restore functions

Highly ruggedized chassis with cleanable air filter

Swappable redundant power supplies (2+1)

Quiet: 52dB average noise at 1m

Technical Specifications

VIDEO PROCESSING

Based on Analog Way exclusive 5th generation scaling engine

Ultra-low latency, as low as 1 frame in proper configuration

BT.601; BT.709; BT.2020 color spaces

High Frame Rate processing up to 144Hz for Dual/2K signals

Real-time SDR/HDR10/HLG conversion and color correction based on 3D LUTs for all inputs and outputs

High-end input keying algorithms: Luma-Key, Chroma-Key and 3D LUT based CremaTTe 3D (requires AW CremaTTe 3D software available on the website)

Compatible with HDCP 1.4 and HDCP 2.2

Compatible with Analog Way DPH104 video processor (ref. DPH104 - available separately)

AUDIO PROCESSING

Audio de-embedding/embedding on every input & output (raw audio)

De-embed audio from sources and route directly to Dante™ network

Re-embed audio from external audio processor for sending to display

64x64 Dante™ channels @48 kHz or 32x32 Dante™ channels @96 kHz

Dual redundancy Ethernet ports - AES67 support

INPUTS

32x 4K60p inputs via 8 field-swappable input cards:

16x HDMI 2.0	• up to 4K60p 8-bit 4:4:4 • up to 4K60p 12-bit 4:2:2	• up to 4K30p 12-bit 4:4:4	• up to 2560x1440 144Hz 8-bit 4:4:4 • up to 1920x1080 144Hz 10-bit 4:4:4
8x DisplayPort 1.2	• up to 4K60p 10-bit 4:4:4 • up to 4K60p 12-bit 4:2:2	• up to 4K30p 12-bit 4:4:4	• up to 2560x1440 144Hz 8-bit 4:4:4 • up to 1920x1080 144Hz 10-bit 4:4:4
8x 12G-SDI	• up to 4K60p 10-bit 4:2:2 • compatible with 3G-SDI and 6G-SDI	• up to 2048x1080 120Hz 10-bit 4:2:2	

Input cards available separately: 8x HDMI 1.4, HDMI 2.0, DP 1.2, 12G-SDI, NDI+12G-SDI, SFP+, Optical, SDVoE

Support 4K60p input as single, double or quad plugs (including 4x 3G-SDI 2SI)

Support custom input formats such as "8k x 1k" on a single connector

Connector status LEDs for easy troubleshooting

OUTPUTS

20 active 4K60p outputs via 5 field-swappable output cards:

20x HDMI 2.0	• up to 4K60p 8-bit 4:4:4 • up to 4K60p 12-bit 4:2:2	• up to 4K30p 12-bit 4:4:4	• up to 2560x1440 144Hz 8-bit 4:4:4 • up to 1920x1080 144Hz 10-bit 4:4:4

Output cards available separately: HDMI 2.0, DP 1.2, 12G-SDI, SFP+, Optical, SDVoE

Support 4K60p output as single, double or quad plugs

Support custom output formats such as "8k x 1k" on a single connector

Connector status LEDs for easy troubleshooting

MULTIVIEWER OUTPUTS

2x HDMI 2.0 outputs configurable as:	• up to 2x 4K30p • up to 1x 4K60p + 1 duplicated	• up to 2x 2560x1440@60p

Multiviewer card with two DP 1.2 outputs available separately - each compatible with Analog Way DPH104 video processor (ref. DPH104)

64 resizable widgets on each output

Customizable layouts with 50 memories

Monitor inputs, still images, screens (PGM & PVW) and inboard clocks, timers and countdowns

Technical Specifications

IMAGES

12x 4K or 24x 2K concurrent still images - fully resizable

Support of alpha-channel

Still image library with 100 memories

Multi-file download/upload via Web RCS

Capture from live inputs, outputs and multiviewers

LAYERS & BACKGROUND

Mixing layers (true seamless transitions) and split layers (Cut or Fade To Black transitions) configurable per screen

Up to 16x 4K or 32x Dual/2K mixing layers per system (x2 if split layers), depending on the screens setup

Layer sources: live inputs, still images, screens (split layers only), inboard clocks, timers and countdowns

One unscaled background mixer per output, with seamless transitions

Background sources: live inputs, still images

SCREENS

Outputs configurable as single screens or edge-blended widescreens

Up to 20x Dual/2K60p program outputs or up to 16x 4K60p program outputs cloneable to any other unused outputs

Ability to place the outputs anywhere on an almost limitless video canvas space for special LED wall applications

Flexible layer management: various content sizes (2K, 4K, …), Region Captive PiPs for resource optimization, screens without layers (background only)

500 master memories, 1000 screen memories and 50 layer memories

Advanced pixel pitch management & bezel compensation

SCALED AUX OUTPUTS

Any unused output configurable as a scaled auxiliary output

Up to 20x 4K60p scaled auxiliary outputs

Can display any input, screen (1:1 or scaled) or inboard clocks, timers and countdowns

Ability to create resizable layers on AUX outputs without using processing resources (using adjacent outputs to increase the layer count)

TRANSITIONS & EFFECTS

True A/B Mix

Misc. layer border effects/colors and separate shadow

Transitions: Cut, Fade, Slide, Wipe, Circle, Stretch, Depth, Flying layer movement with programmable paths

Layer effects: Transparency, Cropping, H&V Flip, Cut and Fill

Colors effects: B&W, Negative, Sepia and Solarize

CONTROL

Web RCS: On-board intuitive web-based user interface

HTTPS for secure connection with downloadable certificate and private key

Shot Box[2] (ref. SB80-2)/Control Box[3] (ref SB124T-3): Cost effective control solutions

RC400T (ref. RC400T): Ergonomic event controller

Simple REST API (HTTP) and advanced TCP protocol based on JSON

Q-SYS, AMX and Crestron drivers & AW VideoCompositor (Premium Crestron GUI)

OTHER FEATURES

Tally/GPI-O - EDID management on every input and output

Dedicated BNC with loop out for Framelock, blackburst and tri-level sync

Fully functional simulator for offline configuration & practice

EXPANDABILITY

Expansion via simple linking possible (ref. OPT-RSX-LINK)

Dimension (in Rack Units - RU)
▶ 6RU

Dimensions (without rack ears & rack mount)
▶ W 17.28'' x H 10.39'' x D 27.56''
▶ L 439.8 mm x H 264 mm x P 700 mm

Dimensions (with handles)
▶ W 18.89'' x H 10.39' x D 27.59''
▶ L 482.4 mm x H 264 mm x P 701 mm

Weight without accessories
▶ 43.8 kg / 94.8 lbs

Shipping weight (accessories included)
▶ 62.8 kg / 136.68 lbs

Operating conditions
▶ Temperature: 0 to 40°C (32 to 104°F)
▶ Humidity: 10% to 80%, non-condensing

Noise (@1,6m height @25°C)
▶ Front: 51 dBA@1m
▶ Rear: 53 dBA@1m

Thermal dissipation
▶ 4435 BTU/h

Power Supply
▶ 100-240 VAC, 12-7A 50/60Hz
▶ Swappable redundant power supplies (2+1)
▶ Max consumption: 1300 W

EMC & Environmental Compliance
▶ EN55032, EB55024, EN61000, FCC part15, ICES

Warranty
▶ 3-year warranty on parts and labor back to factory
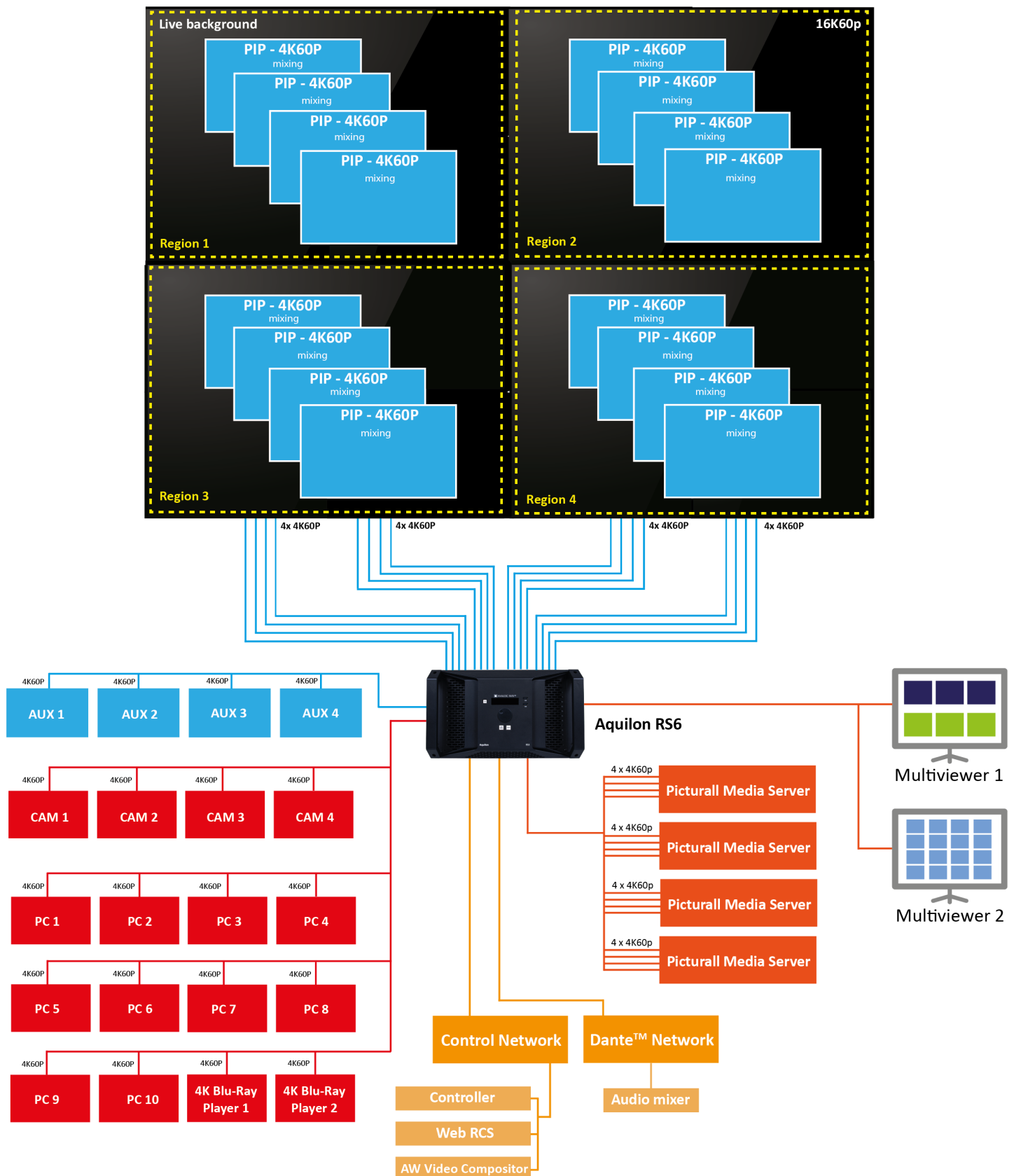▶ Broken connectors are not covered by warranty

Safety Compliance
▶ IEC/UL/EN 62368-1, CSA22.2 #62368-1

Supplied with:
▶ 3x Power supply cords
▶ 1x Web-based remote control software
▶ 1x Rackmount kit
▶ 1x Ethernet cross cable
▶ 3x MCO 5 pin connectors
▶ 1x User manual (PDF)
▶ 1x Quick start guide + safety instructions

ⓘ Specifications subject to change without prior notice

Aquilon RS6 can drive a 16K60p LED wall with up to 16x 4K mixing layers and four 4K60p AUX outputs

Live background — 16K60p

Region 1
- PIP - 4K60P mixing
- PIP - 4K60P mixing
- PIP - 4K60P mixing
- PIP - 4K60P mixing

Region 2
- PIP - 4K60P mixing
- PIP - 4K60P mixing
- PIP - 4K60P mixing
- PIP - 4K60P mixing

Region 3
- PIP - 4K60P mixing
- PIP - 4K60P mixing
- PIP - 4K60P mixing
- PIP - 4K60P mixing

Region 4
- PIP - 4K60P mixing
- PIP - 4K60P mixing
- PIP - 4K60P mixing
- PIP - 4K60P mixing

4x 4K60P   4x 4K60P   4x 4K60P   4x 4K60P

Aquilon RS6

AUX 1 (4K60P)   AUX 2 (4K60P)   AUX 3 (4K60P)   AUX 4 (4K60P)

CAM 1 (4K60P)   CAM 2 (4K60P)   CAM 3 (4K60P)   CAM 4 (4K60P)

PC 1 (4K60P)   PC 2 (4K60P)   PC 3 (4K60P)   PC 4 (4K60P)

PC 5 (4K60P)   PC 6 (4K60P)   PC 7 (4K60P)   PC 8 (4K60P)

PC 9 (4K60P)   PC 10 (4K60P)   4K Blu-Ray Player 1 (4K60P)   4K Blu-Ray Player 2 (4K60P)

4 x 4K60p — Picturall Media Server
4 x 4K60p — Picturall Media Server
4 x 4K60p — Picturall Media Server
4 x 4K60p — Picturall Media Server

Multiviewer 1

Multiviewer 2

Control Network
- Controller
- Web RCS
- AW Video Compositor

Dante™ Network
- Audio mixer

Aquilon RS6 has an extensive ecosystem for control and management

WebRCS

{REST:API}

AW VideoCompositor

Shot Box[2]

Control Box[3]

RC400T

supported by universe

Supported by Companion

CRESTRON

Q-SYS

AMX