Aquilon RS1
Ref. AQL-RS1

ANALOG WAY®
Pioneer in Analog, Leader in Digital

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

Outstanding Performances

Like its larger siblings of the **LivePremier™** series, **Aquilon RS1** 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 worships, corporate lobbies and sports venues, **Aquilon RS1** offers almost unlimited possibilities for future applications and possesses enough bandwidth to support evolving requirements, such as 8K and higher framerates.

Industrial Grade Reliability

Aquilon RS1 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 RS1** delivers uninterrupted 24/7 performance and peace of mind!

Versatile for the Highest Flexibility of Configurations

Aquilon RS1'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 RS1** offers 16 seamless inputs, 8 outputs configurable as single screens, edge-blended widescreens or scaled auxiliary outputs, 2 dedicated Multiviewer outputs, up to 4x 4K or 8x HD freely assignable mixing layers, as well as powerful features that will allow you to handle any creative display configuration, such as a custom output formats, output rotation, AOI, bezel compensation and pixel pitch management.

Smart Functionalities

Aquilon RS1 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 SDR/HDR conversion, flying layer movement, advanced cut and fill, cutting edge keying engine… **Aquilon RS1** also allows 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 external audio processor for sending to display, recording device, or streaming.

16 inputs | **8** outputs | **4K60 4:4:4 10-12 bit** | **2** multi-viewers | **HDR** | Dante | **HDMI 2.0** | **DP 1.2** | **12G-SDI** | **HDCP 2.2**

Aquilon RS1 at a glance

- Industrial grade reliability
- 16x 4K60p inputs and 8x 4K60p outputs - field swappable I/O cards
- Versatile 4K digital connectivity (DP 1.2, 12G-SDI, HDMI 2.0)
- I/O cards available separately: DP, SDI, HDMI, SFP+ and Fiber Optical
- Ultra-low latency 10/12-bit 4:4:4 video processing
- 40 Megapixels throughput on Program at 10-bit 4:4:4 @60Hz
- Up to 4x 4K or 8x DL/2K mixing layers (+live backgrounds)
- Real-time SDR/HDR10/HLG conversion
- Intuitive HTML5-based user interface with live source thumbnails
- Native DANTE audio networking hardware and support
- Future proof modular design

Aquilon Models	RS alpha	RS1	RS2	RS3	RS4	C	C+
4K60p inputs	8	16	16	24	24	up to 16	up to 24
4K60p outputs	4	8	12	12	16	up to 16	up to 20
Max 4K mixing layers*	4	4	8	8	12	up to 8	up to 12
Max DL/2K mixing layers*	8	8	16	16	24	up to 16	up to 24
Simul. 4K still image channels	12	12	12	24	24	up to 12	up to 24
Build-to-Order (BTO)						✓	✓
Rack units	4	4	4	5	5	4	5

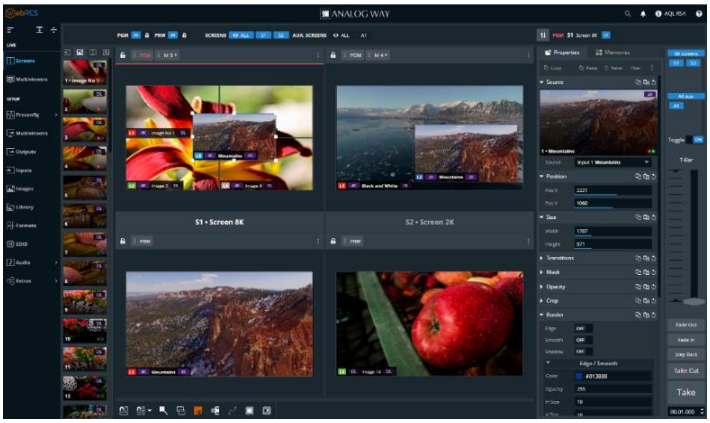
* doubled for split layers

Key Features

- Based on LivePremier™ platform
- Highly ruggedized chassis with cleanable air filter
- Swappable redundant power supplies (1+1)
- 16x seamless 4K60p inputs (8x HDMI 2.0, 4x DP 1.2, 4x 12G-SDI)
- 8x 4K60p active outputs (8x HDMI 2.0)
- True 4K60p 4:4:4 performance on every I/O channel
- Ultra-low latency 10 and 12-bit processing
- Full set of field swappable I/O cards available separately (DP 1.2, 12G-SDI, HDMI 2.0, SFP+, Optical) to accommodate any connectivity arrangements
- 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)
- 40 Megapixels throughput at 10-bit 4:4:4 on Program, without restricting Preview or Multiviewer
- Up to 4x 4K or 8x DL/2K mixing layers per system (8x 4K or 16x DL/2K split layers), depending on the screens setup
- 12x 4K or 24x 2K concurrent still images
- Unscaled seamless background mixer on each output (using instantaneous still images or live sources)
- Flexible layer management
- Seamless crossfade on all mixing layers, on all 16 sources
- Scaled 4K60p AUX feature for all non-PGM outputs
- Ability to create layers on AUX outputs without using processing resources
- Ability to place the outputs anywhere on an almost limitless video canvas space for special LED wall applications
- Inboard clocks, timers and countdowns for your screens or AUX outputs
- 2x configurable 4K Multiviewers with 64x resizable widgets
- Advanced pixel pitch management for LED wall applications
- Native Dante™ audio networking hardware and support (64x64)
- Real-time SDR/HDR10/HLG conversion based on 3D-LUTs (BBC)
- Rotation capability on each output (increment of 90°)
- Independent output rates
- Framelock or internal sync. generator
- Web RCS: highly intuitive, lightning fast web-based user interface based on HTML5 with password protection
- Live video thumbnails shown on GUI
- Multi operator real-time collaboration
- Easily create and recall preset looks on all your screens and auxiliary outputs
- Custom output formats for non-standard display applications
- Area of Interest feature to customize active areas of outputs
- Still images support variable alpha-channels for transparent background on logos
- Cut and Fill
- Fully functional simulator for offline configuration and practice
- EDID management on every input and output
- Compatible with HDCP 1.4 and HDCP 2.2
- Future proof modular design
- Quiet: 49dB average noise at 1m
- Remote services and maintenance
- Backup and restore functions

Unrivaled Ease of Use

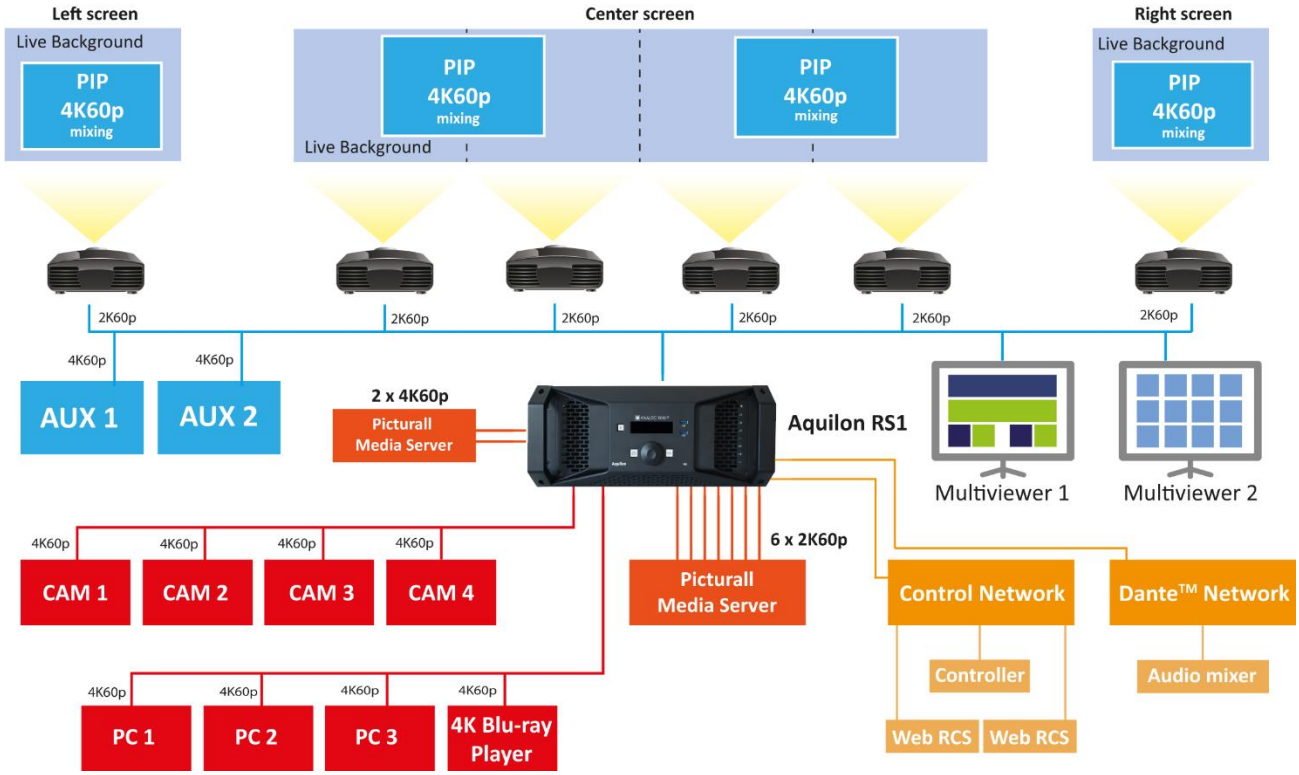
For the best ease of setup and to ensure flawless control of multi-screen presentations, **Aquilon RS1** features a totally new, cutting-edge HTML5-based user interface, the **Web RCS**, compatible with any device or platform including iOS and Android devices. Conceived to greatly increase productivity 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…



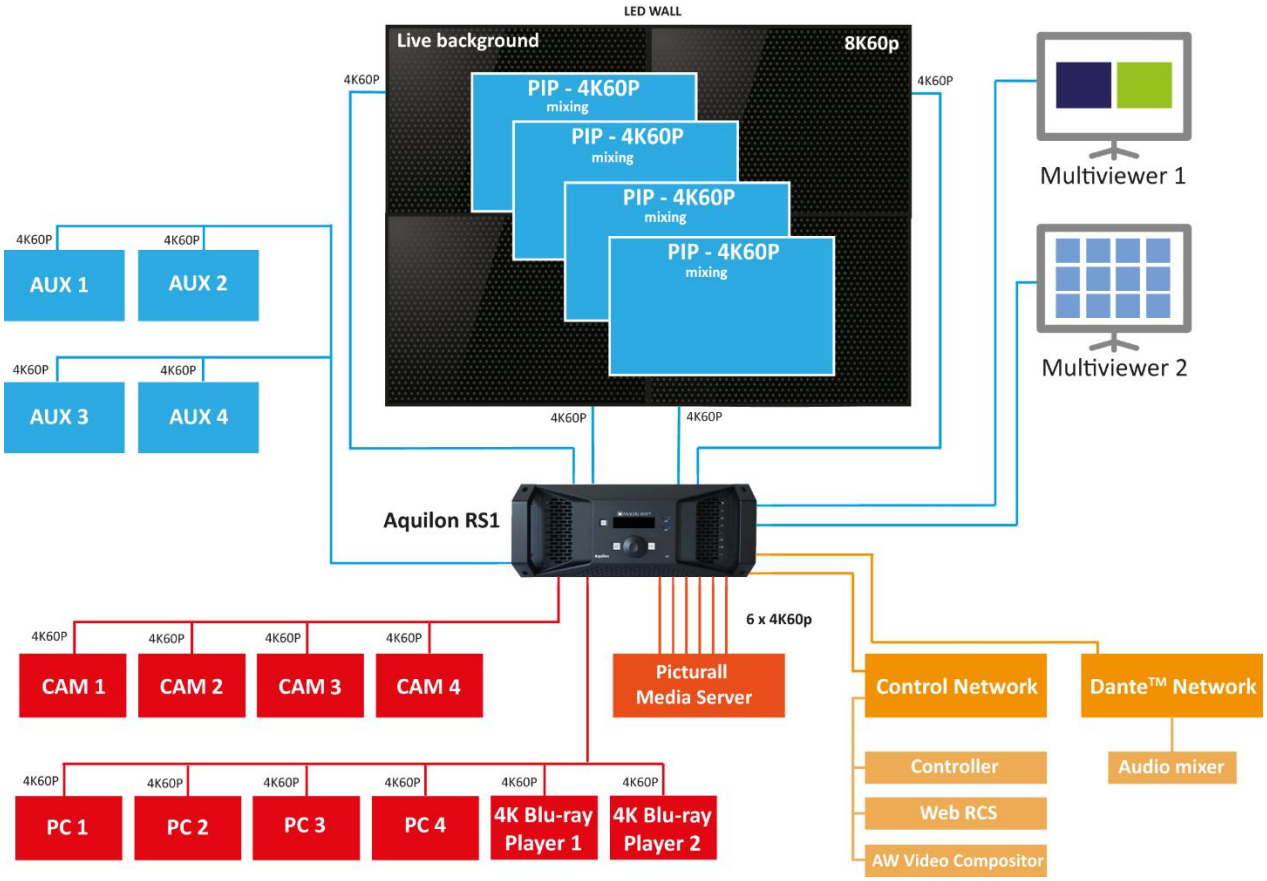
Powerful and Flexible Control Options

In addition to the powerful Web RCS, **Aquilon RS1** 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 Crestron® driver 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 RS1** can be controlled by a comprehensive range of remote control solutions from the **Shot Box²** and the **Control Box²** 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…

Aquilon RS1 can drive a widescreen with 4x 2K60p outputs, Left/Right 2K60p screens and 2x 4K60p AUX



Aquilon RS1 can drive one 8K60p LED wall and 4x 4K60p AUX outputs



Technical Specifications

INPUTS

16 seamless 4K60p inputs via 4 field swappable input cards:

- 8x HDMI 2.0 (up to 4K60p 8-bit 4:4:4 or up to 4K60p 12-bit 4:2:2 or up to 4K30p 12-bit 4:4:4)
- 4x DisplayPort 1.2 (up to 4K60p 10-bit 4:4:4 or up to 4K60p 12-bit 4:2:2)
- 4x 12G-SDI (up to 4K60p 10-bit 4:2:2) - compatible with 3G-SDI (level A & B) and 6G-SDI

Input cards available separately: DP, SDI, HDMI, SFP and Fiber Optical

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

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

Connector status LEDs for easy troubleshooting

OUTPUTS

8 active 4K60p outputs via 2 field swappable output cards:

- 8x HDMI 2.0 (up to 4K60p 8-bit 4:4:4 or up to 4K60p 12-bit 4:2:2 or up to 4K30p 12-bit 4:4:4)

Output cards available separately: DP, SDI, HDMI, SFP and Fiber Optical

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

2 dedicated HDMI 2.0 outputs configurable as up 2x 4K30p or up to 2x 2560x1440@60p or 1x 4K60p

64 resizable widgets on each output.

Customizable layouts with 50 memories

Monitor inputs, still images, screens (Program and Preview) as well as inboard clocks/countdown/timers

LAYERS & BACKGROUND

Supports mixing layers (true seamless transitions) and split layers (cut transitions)

Up to 4x 4K or 8x Dual/2K mixing layers per system (8x 4K or 16x Dual/2K split layers), depending on the screens setup

Layer source can be a live input, a still image, a screen (for split layers only) or any of the inboard clocks, countdown and timers

Each output has an unscaled background mixer supporting seamless transitions - background source can be still image or live source

SCREENS

Outputs configurable as single screens or edge-blended widescreens

Up to 8x Dual/2K60p program outputs or up to 4x 4K60p program outputs

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

Flexible layer management: each screen gets dedicated layers of various sizes (2K, 4K, …) using common-pool layer resources

1000 screen memories, 50 layer memories and 500 master memories

SCALED AUX OUTPUTS

Any unused output configurable as a scaled auxiliary output

Up to 8x 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 (adjacent outputs can be used to increase the layer count)

AUDIO

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

PROCESSING

Based on Analog Way exclusive 5th generation scaling engine

Extremely low latency, as low as 1 frame in proper configuration

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

Advanced pixel pitch management & bezel compensation

Real-time SDR/HDR10/HLG conversion based on 3D-LUTs

Compatible with HDCP 1.4 and HDCP 2.2

Compatible with Analog Way DPH104 video processor

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: Background Cut, Transparency, Luma/Chroma Key, DSK, H&V Flip, Cut and Fill

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

STILL IMAGES

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

Still images support alpha-channel

Still image library with 100 memories

Multi-file download/upload via Web RCS

Capture from live inputs (beg. 2021)

CONTROL

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

Shot Box²/Control Box²: Cost effective control solutions

RC400T: Ergonomic event controller

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

Crestron driver & 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 (future hardware upgrade)

Dimension (in Rack Units - RU)
- 4RU

Dimensions (without rack ears & rack mount)
- W 17.28'' x H 6.97'' x D 27.56''
- L 439.8 mm x H 177 mm x P 700 mm

Dimensions (with handles)
- W 18,89'' x H 6.97'' x D 27.59''
- L 482.4 mm x H 177 mm x P 701 mm

Weight without accessories
- 26.1 kg / 57.54 lbs

Shipping weight (accessories included)
- 45.1 kg / 99.42 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: 49 DBa@1m
- Rear: 51 DBa@1m

Thermal dissipation
- 1842 BTU/hr

Warranty
- 3-year warranty on parts and labor back to factory excluding I/O connector cards which are warranted for 1 year
- Broken connectors are not covered by warranty

Power Supply
- 100-240 VAC, 12-7A 50/60Hz
- Swappable redundant power supplies (1+1)
- Max consumption: 540 W

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

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

Supplied with
- 2x 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

AQL-RS1_EN-01/22/2021