LiveCore™ series

2015 New edition

- Ascender 48
- Ascender 32
- Ascender 16
- SmartMatriX Ultra
- NeXtage 16
- NeXtage 08
- Secure Power Unit
- LiveCore™ Output Expander
- Vertige™
- Shot Box

ANALOG WAY®

Pioneer in Analog, Leader in Digital

SUMMARY

LITERATURE

All technical documentation about the products, firmware, remote control software, drivers & tools noted in this brochure are available at www.analogway.com.

Ready for flawless visual experiences

Conceived and designed after careful analysis of the creative needs of live events professionals, **Analog Way**'s **LiveCore™** series combines high processing capabilities with smart functionalities to produce impressive shows and presentations.

Platform pillars include:

- Ruggedized and heavy-duty design to fit with the most demanding applications
- Versatile connectivity to be ready for any configuration
- State-of-the-art processing to create impressive visual shows
- Operator-friendly and intuitive User Interface to ensure flawless control of presentations
- Communicative architecture for advanced collaborative operation and remote services.

Easy to deploy, install and set up

Easy to deploy

The **LiveCore™** series is easy to deploy and install. Thanks to its advanced architecture, the **LiveCore™** series reduces the amount of cabling and external boxes typically required for most projects. The Link feature allows creation of an impressive seamless matrix (24x8) system with limited efforts and great security in cabling.

Easy to install

The **LiveCore™** series is quick to install. The technicians do not need extensive training to understand how the system works.

You used to have a prep day of plugging together a load of stuff in a rack. Now with the **LiveCore™** series, you can just power up and plug your sources in and off you go.

Easy to set up

The **LiveCore™** series is quick to use and set up. The **Web RCS** offers Technicians a very short learning curve. In very little time, anyone can create a show, confident that they know how to use it.

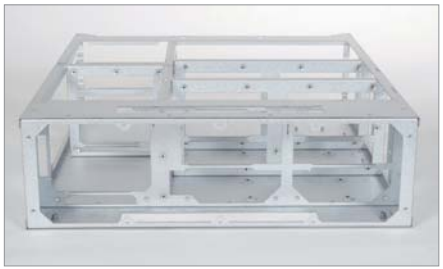
The **Web RCS** saves a considerable amount of time in any setup.

2- RUGGED AND HEAVY-DUTY DESIGN

Built on Analog Way's long history in live events and field operations, the LiveCore™ series was designed to deliver optimized uptimes and durability.

Robust mechanical framework

The **LiveCore™**-based systems' reinforced metal chassis offers rigidity and strong shock resistance. Its innovative construction provides excellent protection to both internal hardware and rear connectors. Front and rear rackrail mounts are available for durable and stable integration.

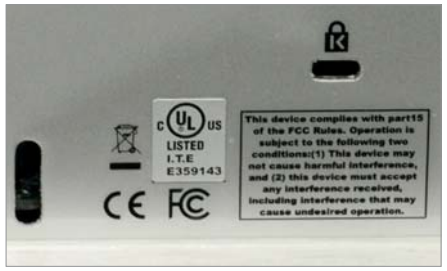


Advanced cooling system

The body of the **LiveCore™**-based processors were designed to optimize air circulation and components' cooling.
The hardware was oversized to prevent heating, and fitted with a remote temperature monitoring system.

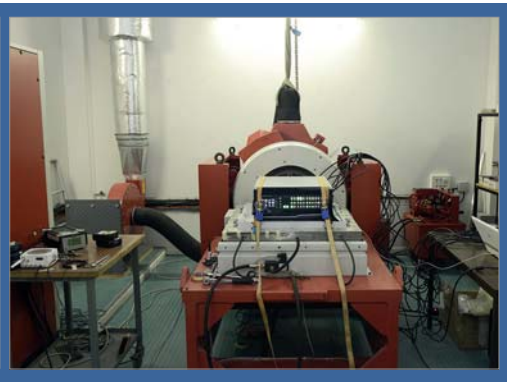
High quality standards

Designed and produced in Western Europe, the **LiveCore™** series is made of carefully qualified high grade components and subassemblies.
It complies with the latest international safety and environmental regulations, including UL and CE certifications.



High level of qualifications

An **Ascender 48** is tested on a shaking table while operating for hours.
The qualification is rigorous with many severe criteria in our test laboratory.



3- VERSATILE CONNECTIVITY

To fit a variety of applications, the LiveCore™ platform offers versatile connectivity and an extensive set of formats.

3-1 Extensive choice of input plugs

The **LiveCore™** series can switch between any input plug with up to 42 sources connected simultaneously. The device can handle any source from composite video, up to dual link 2560x1600 and 4K.

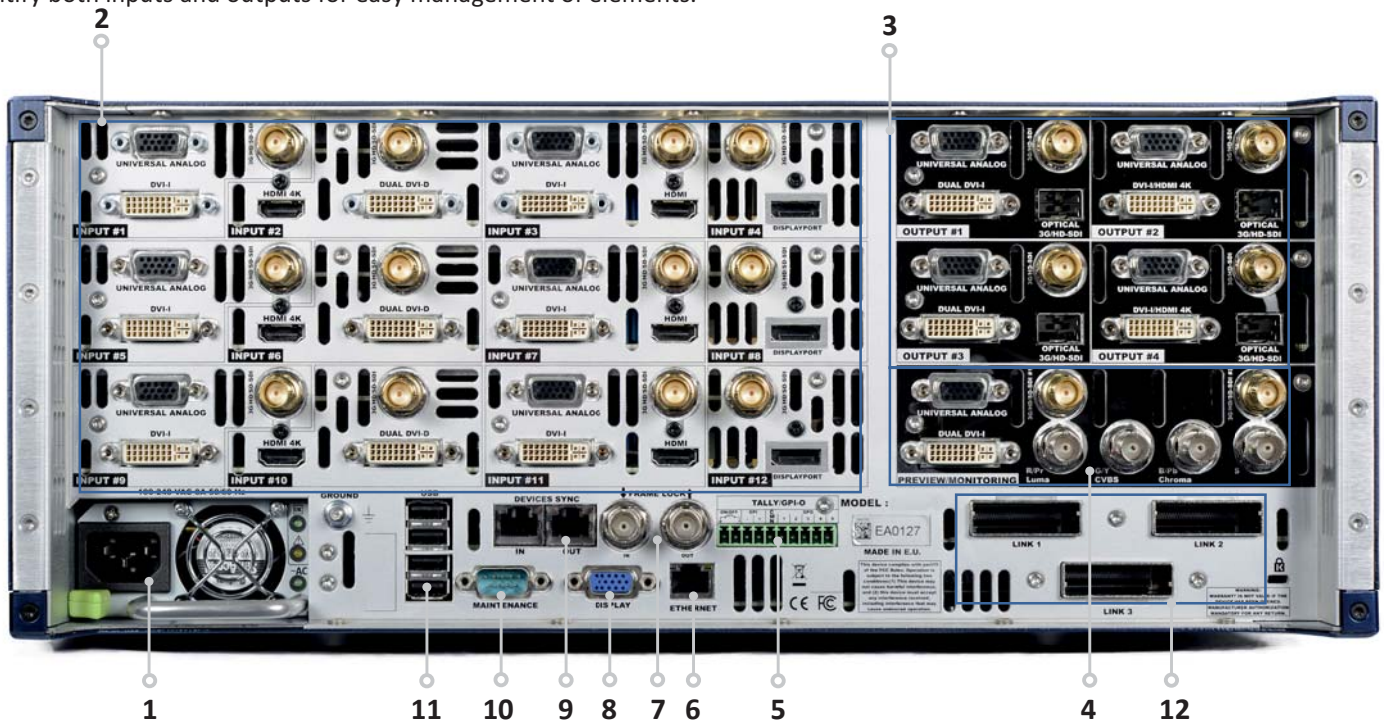
Test patterns help identify both inputs and outputs for easy management of elements.

Ascender 48

Ascender 32

Ascender 16

SmartMatriX Ultra



1. Power supply: 100-240 VAC ; 8A ; 50/60Hz ; 345W ; autoswitchable

2. Inputs #1 to #12: 12 seamless inputs and 42 input plugs
- 6 x HDMI (3 x HDMI 4K included*)
- 9 x DVI (3 x DVI-D/Dual link available)
- 3 x DisplayPort (4-lanes)
- 12 x 3G/HD/SD-SDI
- 12 x Universal Analog (6 x HD15 & 6 x DVI-A)

3. Outputs #1, #2, #3 & #4: 4 outputs with 5 output plugs
- 8 x Universal Analog (4 x HD15 & 4 x DVI-A)
- 4 x DVI-I (2 x DVI Dual-Link available on outputs #1 & #3 and 2 x DVI/HDMI 4K on outputs #2 & #4)
- 4 x Video Optical SFP module cage
- 4 x 3G/HD/SD-SDI

4. Monitoring/Preview output:
- 2 x Universal Analog (HD15 & DVI-A)
- 1 x DVI-I
- 2 x 3G/HD/SD-SDI
- 1 x RGBs/RGsB/RGB/YPrBr/YC/comp analog output

5. Tally, GPI-O connector

6. Ethernet plug

7. Frame Lock: Analog Frame Lock plug and specific loop output

8. Display output (not active)

9. Devices sync.: Used for effect sync in multi-machine mode.

10. RS232 port: Reserved for maintenance

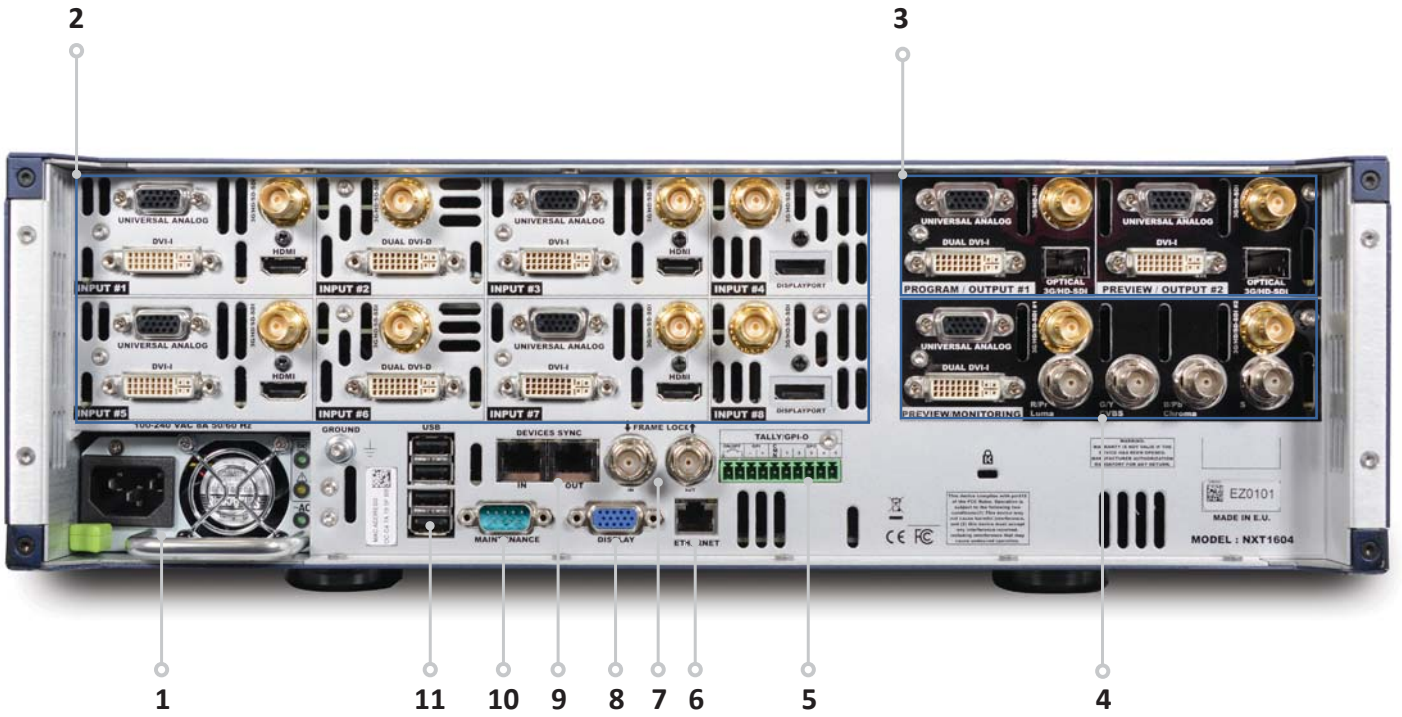
11. 4 x USB plugs

12. Link cables: Use the 3 link cables to share inputs/outputs in the additive modularity configuration.

* Included only if 4K upgrade is purchased

NeXtage 16

NeXtage 08



1. Power supply: 100-240 VAC ; 4.8A ; 50/60Hz ; 225W ; autoswitchable
2. Inputs #1 to #8:
   - 4 x HDMI
   - 6 x DVI-I (Dual link available on inputs #2 and #6)
   - 2 x DisplayPort (Dual link available on inputs #4 and #8)
   - 8 x 3G/HD/SD-SDI
   - 8 x Universal Analog (4 x HD15 & 4 x DVI-A)
3. Program output #1 - Preview output #2
   - 2 x Universal Analog (HD15 & DVI-A)
   - 2 x DVI-I (DVI Dual-Link on output #1)
   - 2 x Video Optical SFP module cage
   - 3G/HD/SD-SDI
4. Preview/Monitoring:
   - 1 x Universal Analog (HD15 & DVI-A)
   - 1 x DVI-I
   - 2 x 3G/HD/SD-SDI
   - 1 x RGBs analog output
5. Tally, GPI-O connector
6. Ethernet plug
7. Frame Lock: Analog Frame Lock plug and specific loop output
8. Display output (not active)
9. Devices sync.: Used for effect sync in multi-machine mode.
10. RS232 port: Reserved for maintenance
11. 4 x USB plugs

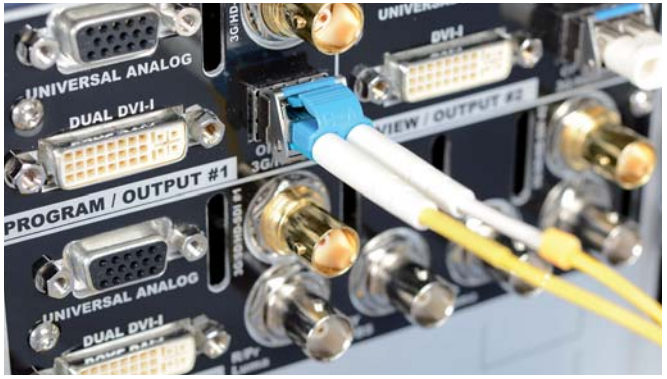
3-2 Versatile outputs

Through its included SFP (Small Form-factor Pluggable) Cage, the **LiveCore™** series can receive a large choice of video SFP optical modules per output.

Optical link is immune to environmental signal noise.

Detachable optical modules greatly simplify installation and maintenance.

The **LiveCore™** series can output a variety of formats, including analog HD-TV and Computer formats up to 2560x1600 or Ultra-HD/4K with 4K option installed.

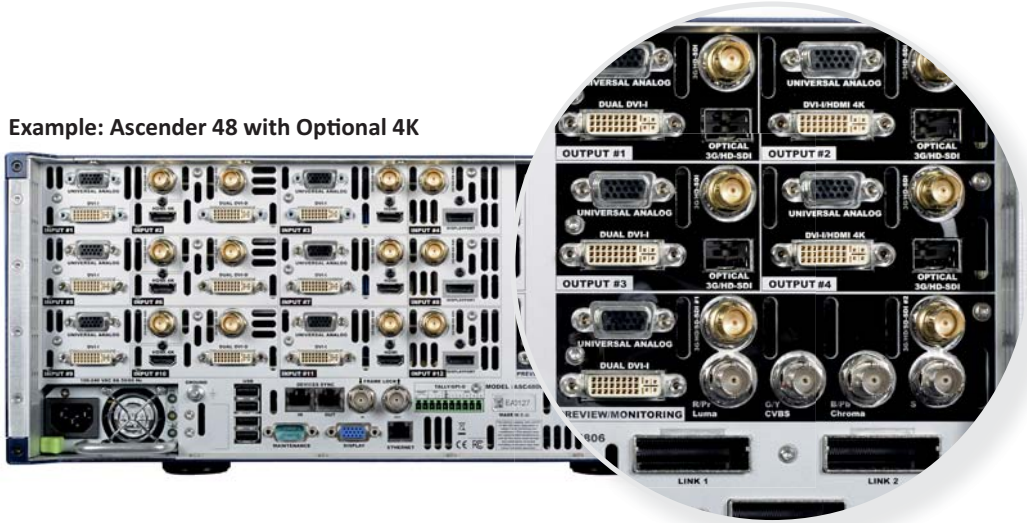


3-3 Optional 4K Hardware

As technology continues to evolve, **Analog Way** has brought a significant improvement to the **LiveCore™** series of AV processors with the addition of new connectors: HDMI 4K and DVI 4K. Three HDMI 4K inputs and two DVI 4K outputs are optionally available on the **SmartMatriX Ultra**, **Ascender 16**, **Ascender 32** and **Ascender 48**. The **NeXtage 08** and **NeXtage 16** may be ordered with optional 2 x HDMI 4K inputs and 1 x DVI 4K output.

Several frame rates are available as 4K/30P 4:4:4, 4K/60P 4:2:0 or 4K/60P 4:4:4 according to the reference. The **LiveCore™** series supports 3840x2160 (UHD) and 4096x2160 resolutions (native resolution for DCI-compliant 4K).

Example: Ascender 48 with Optional 4K

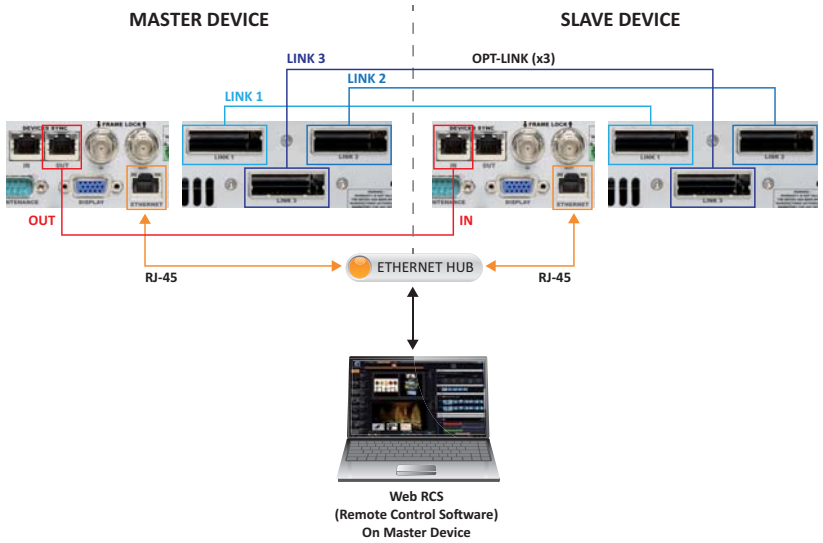


3-4 Optional Link Cable

For even more impressive presentations, 2 units of **SmartMatriX Ultra**, **Ascender 16**, **Ascender 32** or **Ascender 48** can be linked together. In this configuration, inputs and outputs are shared and added resulting in impressive 24x8 scaled Seamless Matrix systems + 2 Mosaic Previews.

The **Vertige™** console is compatible with multi-device configuration.

How to cable the link in Additive modularity



Replacement LiveCore™ Link Cable
Ref. OPT-LINK

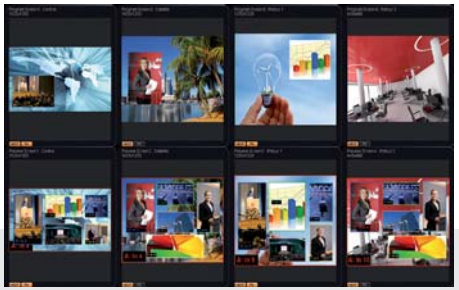
Video Tips available on YouTube® or on www.analogway.com

4- ADVANCED OUTPUT CAPABILITIES FOR SAFE MONITORING

4-1 Independent monitoring output

In addition to its main outputs, the **LiveCore™** series features an independent Dual-Link output for monitoring purposes.
This output offers versatile and customizable display options, ensuring safe monitoring and flawless show control.

Full Preview



In this configuration, the **LiveCore™**-based systems offer a full Preview of the content displayed on the Program. All PIPs remain available on the Preview no matter the display system used. Based on this Preview, operators can see all their sources and create complex presets with total peace of mind.

Live Mosaic

The Mosaic Preview allows visualization of up to 12 input sources on the screen. All images are live and can be labelled through Web Remote Control Software. Additional information on each source is also available directly on the different live widgets.

Monitoring

The Monitoring mode mixes the full Preview and the live Mosaic displays.
A variety of display configurations is available so that operators can arrange and customize the elements of their shows as wanted.

Custom monitoring

The **LiveCore™** series allows to manage inputs and outputs as you like with the limit of 8 or 12 windows according to the device. The inputs and outputs can be assigned with a specific order, size, and position without taking into account the type of source or connector. The layout is fully customizable. The software allows the resizing and positioning of each window on the monitoring output. 8 user presets are available to save the custom monitoring layouts. Each preset can be instantly recalled during the show. 50 pre-configured templates are also available to use directly or customize further.

Recording

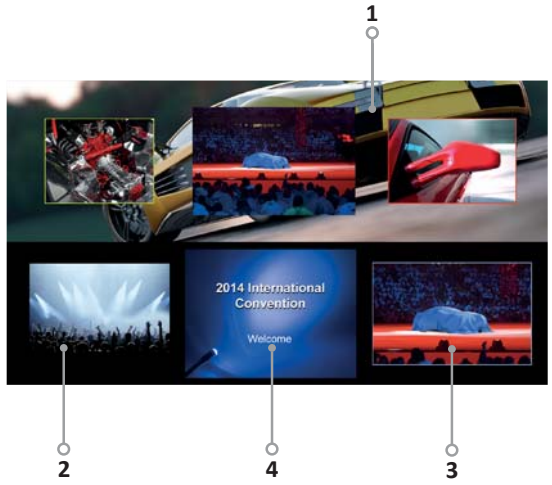
The independent output can also be used to record a specific input, or record the live show on a specific output if previewing is not necessary.

4-2 Monitoring management

As for screens, you can customize the widget: position, size. The layout can be in mosaic mode, with several widgets or fullscreen mode. There are predefined templates that you can load. The display on layout view enables a feedback of the number of resources used to display one widget. A Soft Edge screen as Dual Link inputs will use more than one resource.

12 widgets are available for the **SmartMatriX Ultra**, **Ascender 16**, **Ascender 32** or **Ascender 48** and 8 for the **NeXtage 08** and **NeXtage 16**. 8 memories are available for customized templates. These templates can be stored in a Master Preset in order to be recalled in same time.

4-3 Confidence monitor



Any of the standard outputs of the **LiveCore™**-based units can be configured as a confidence monitor for the presenter. With different display possibilities, this monitor can show up to 4 windows. Each one can display any source, clean Preview or Program screens including blended outputs. This tool will be valuable to presenters to easily keep their presentation flow under control.

Legend:

1- Recomposed picture from the Program #1

2- Camera #1

3- Next slide

4- Reminder for speech

5- CREATIVE DISPLAY CONFIGURATIONS FOR IMPRESSIVE PRESENTATIONS

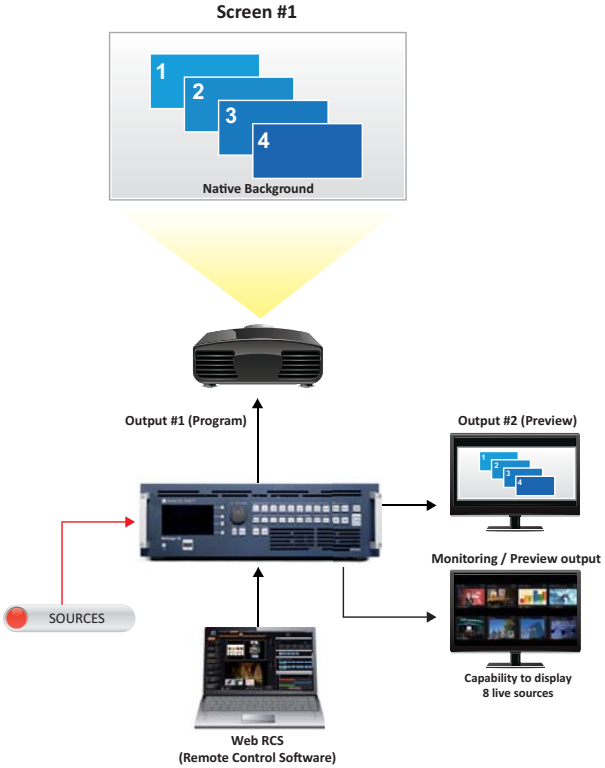
Because the creativity of show producers has no limit, staging companies must be ready for a variety of presentations and events. The same is true with permanent installation, the system must be flexible enough to handle changes in the way the client wishes to convey their message.
On top of its versatile connectivity, the LiveCore™ platform offers powerful operating modes enabling the management of a great variety of display layouts to answer the need of most presentations.

5-1 Creative display configurations

Mixer configuration

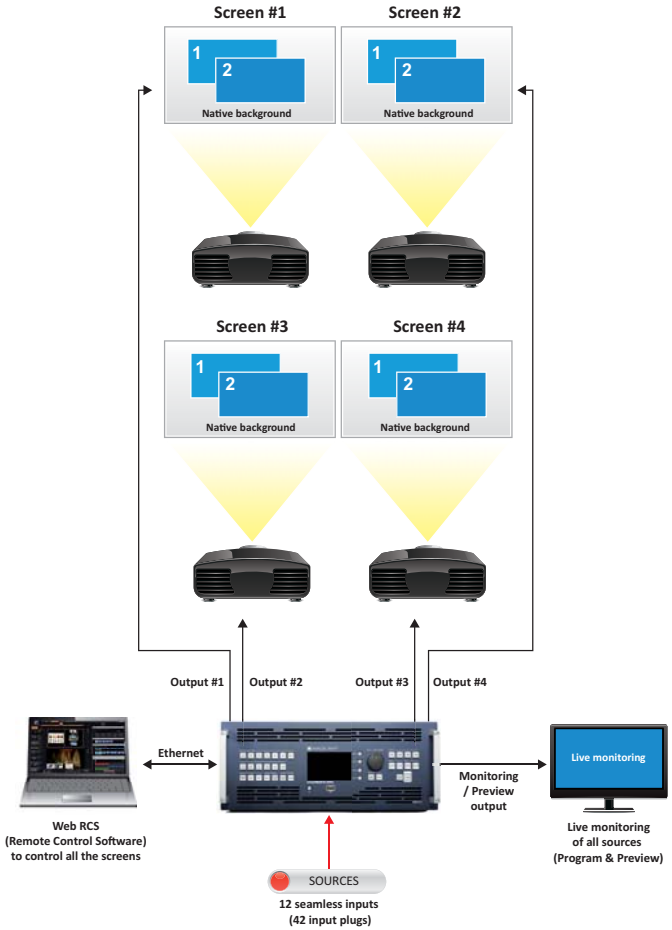
Used as a Mixer, the **NeXtage 16** can display one native background and up-to 4 true-seamless mix layers.
This mode allows a real Preview output which can have both a format and a rate different from the Program.
The Monitoring/Preview output can display up to 8 Live contents (Program, Preview, Inputs).

The **NeXtage 16** can also be used in the Multi-Screen Configuration.



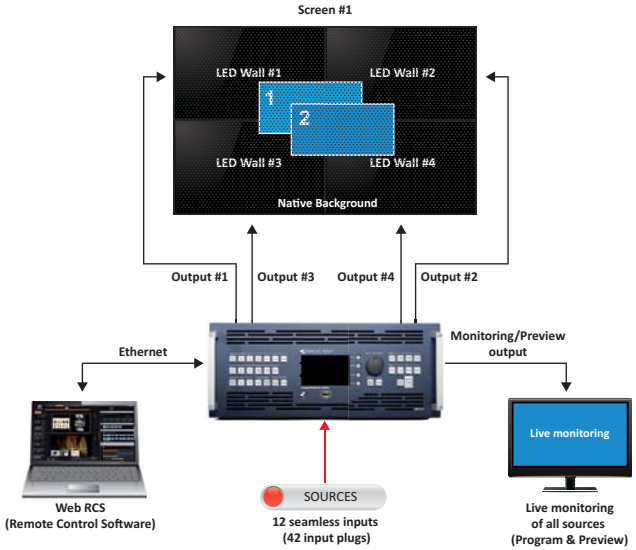
Multi-screen configuration (Mixer mode)

Used as a Mixer, the **SmartMatrix Ultra** can display one native background and up to 2 true-seamless mix layers per output.
This mode offers the management of 4 independent screens in a true A/B mix mode. A live Preview of all screens is still available thanks to the monitoring output.



Hard Edge configuration

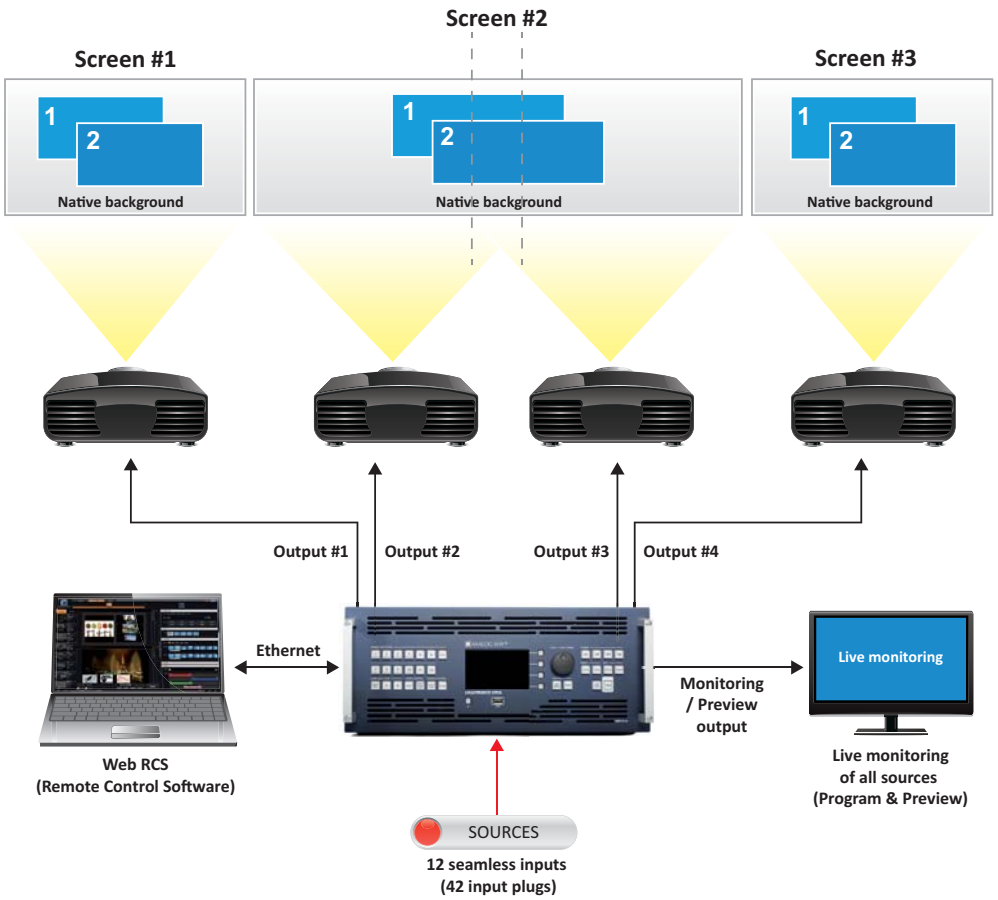
Wide displays can be achieved through the Hard Edge mode. Available for all the **LiveCore™ series**, this mode is of interest for wide applications using LED walls.
In this case, images are configured edge to edge without overlapping area. Hard Edge can be operated vertically, horizontally, or both. In this mode, the Preview is displayed on the Monitoring output. The Preview can show the whole Hard Edge screen.



With the Monitoring/Preview output, the Program (Screen #1) picture is recomposed even if it is in Hard Edge mode.

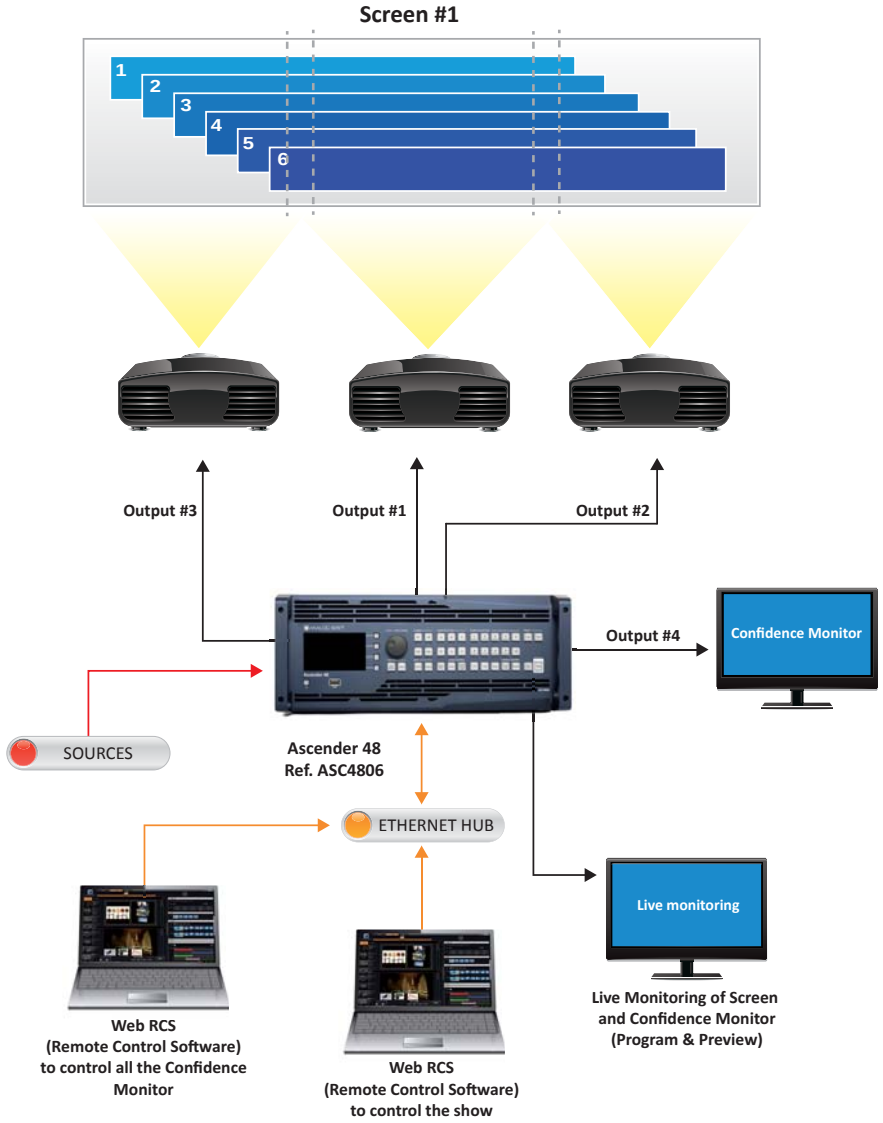
Multi-screen configuration: Soft Edge

Used as mixers, **Ascender 16**, **Ascender 32** and **Ascender 48** can display one native background and up to respectively, 2, 4 or 6 true-seamless mix layers per screen.
This mode allows creation of 3 independent screens in a true A/B mix mode with a live preview of all screens.



Soft Edge configuration with one output used as Confidence Monitor

The **Ascender 16**, **Ascender 32** and **Ascender 48** allow creation of wide displays through Soft or Hard Edge Blending. With **Ascender 32** & **Ascender 48**, wide screen projections is possible with capability to have one or several outputs declared as a Confidence Monitor.



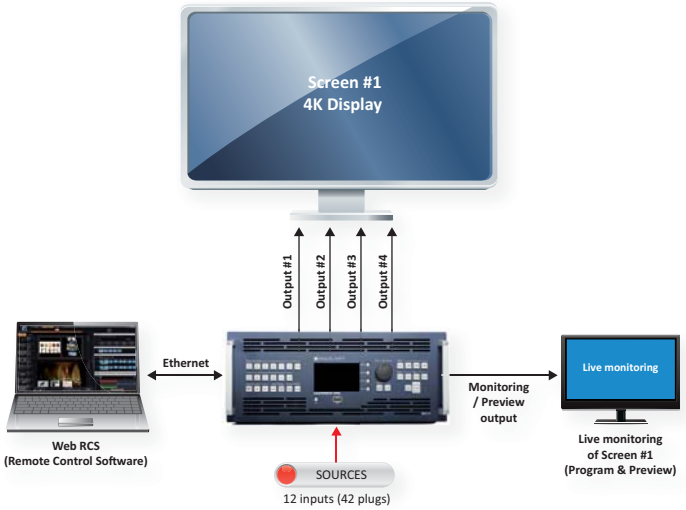
Some of the outputs of the **LiveCore™**-based units can be used as a Confidence Monitor for the speaker. With different display possibilities, this monitor can show the Program and the sources. This option will be valuable to speakers to easily keep their presentation flow under control.

5-2 4K Display configurations

The LiveCore™ series was designed to be able to support 4K display.

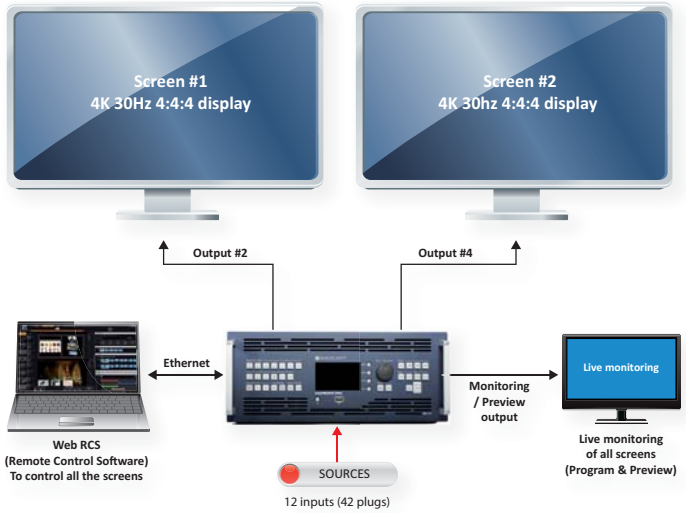
Output Configuration 1: 4K 4:4:4 60Hz

The **SmartMatriX Ultra**, **Ascender 16**, **Ascender 32** and **Ascender 48** natively allow the display of 4K 60Hz 4:4:4 using video projectors or flat screens.
The connectivity can be achieved using 2 or 4 outputs (2 x DVI-DL or 4 x 3G-SDI or 4 x DVI-D).
The Monitoring/Preview output is still available for both Preview and Program contents.



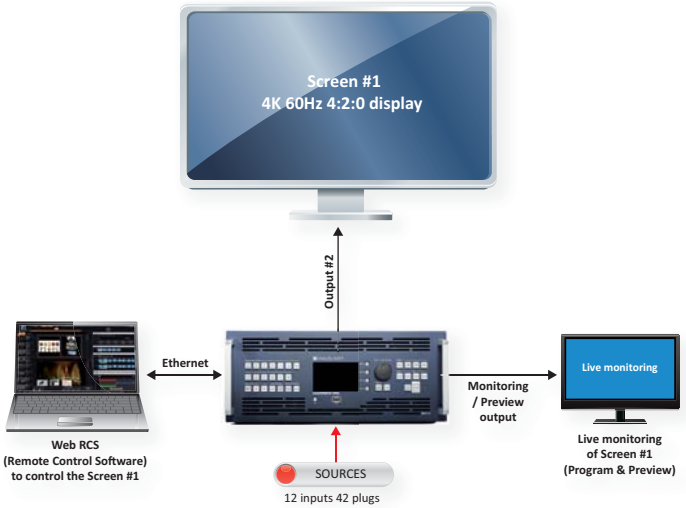
Output Configuration 2: 4K 4:4:4 30Hz (with 4K optional upgrade only)

All the **LiveCore™** series equipped with the 4K upgraded can support input and output formats up to 4K 30Hz 4:4:4.
Using HDMI technology, the device can be connected to a display system with a single cable.
Using one 4K 30Hz 4:4:4 output (input) disables the adjacent output (input).
The **SmartMatriX Ultra**, **Ascender 16**, **Ascender 32** and **Ascender 48** can handle up to two 4K 30Hz 4:4:4 outputs.
The **NeXtage 08** and **NeXtage 16** can handle one 4K 30Hz 4:4:4 output.



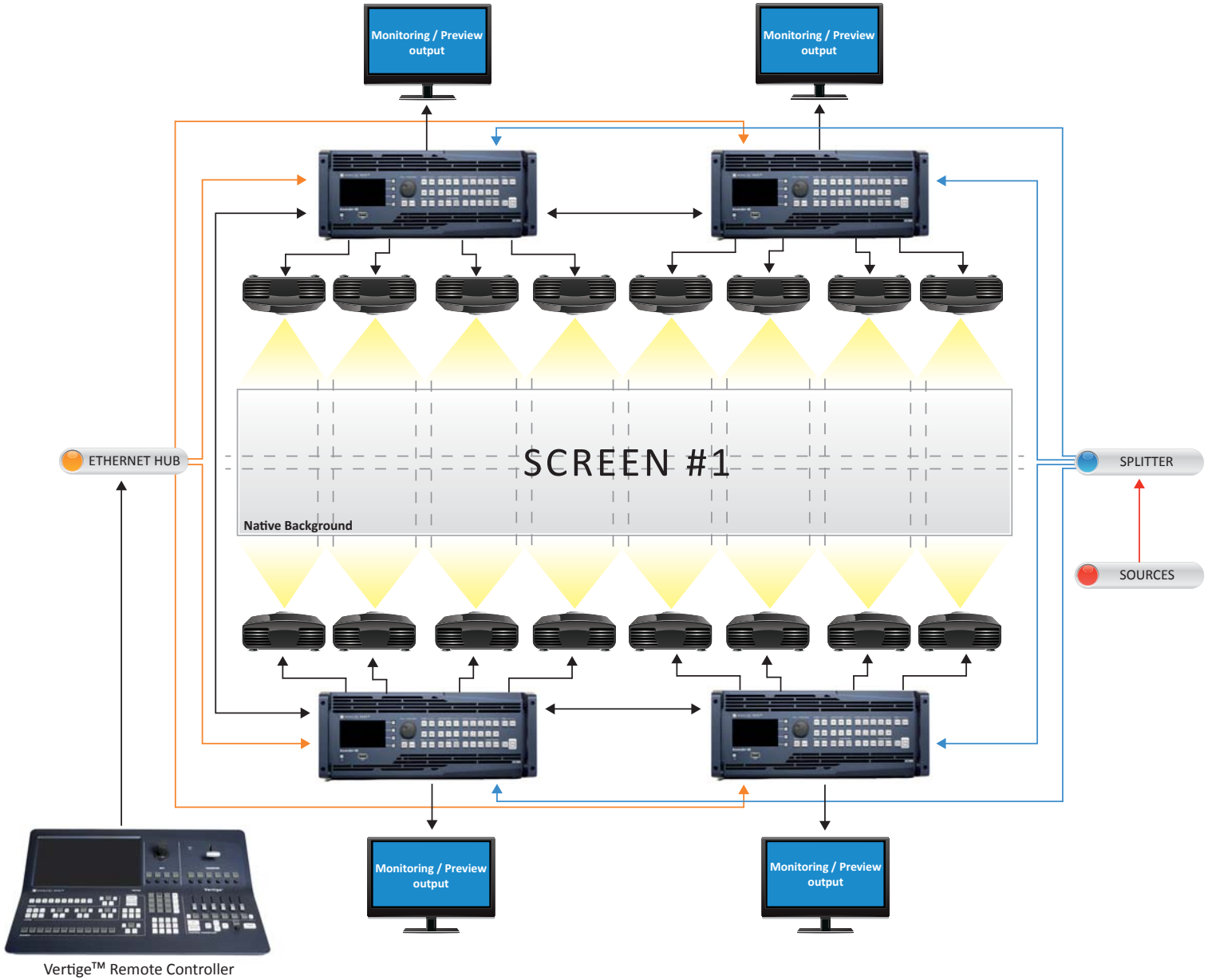
Output Configuration 3: 4K 4:2:0 60Hz (with 4K optional upgrade only)

If equipped with the 4K upgrade, the **SmartMatriX Ultra**, **Ascender 16**, **Ascender 32** and **Ascender 48** also implement the output color sub-sampling. This allows for 4K 60Hz 4:2:0 format.
Using HDMI technology, the device can be connected to a display system with a single cable.
The use of a 4K output with this format disables all the other program outputs.



5-3 Associative modularity configuration

For even more impressive shows, 2, 3 or 4 similar LiveCore™ units can be synchronized together. In this configuration, wide displays (up to 16 outputs) can be achieved either horizontally, vertically or both.
To control several units together, Analog Way's Event Controller Vertige™ is required, enabling outstanding visual effects and transitions.



Vertige™ Remote Controller

In this configuration all the sources are split between the units and all the units are connected to the **Vertige™** Remote Controller.

To ensure a perfect synchronization between all the **LiveCore™** units, they must be chained with simple ethernet cables using the in and out sync connectors.

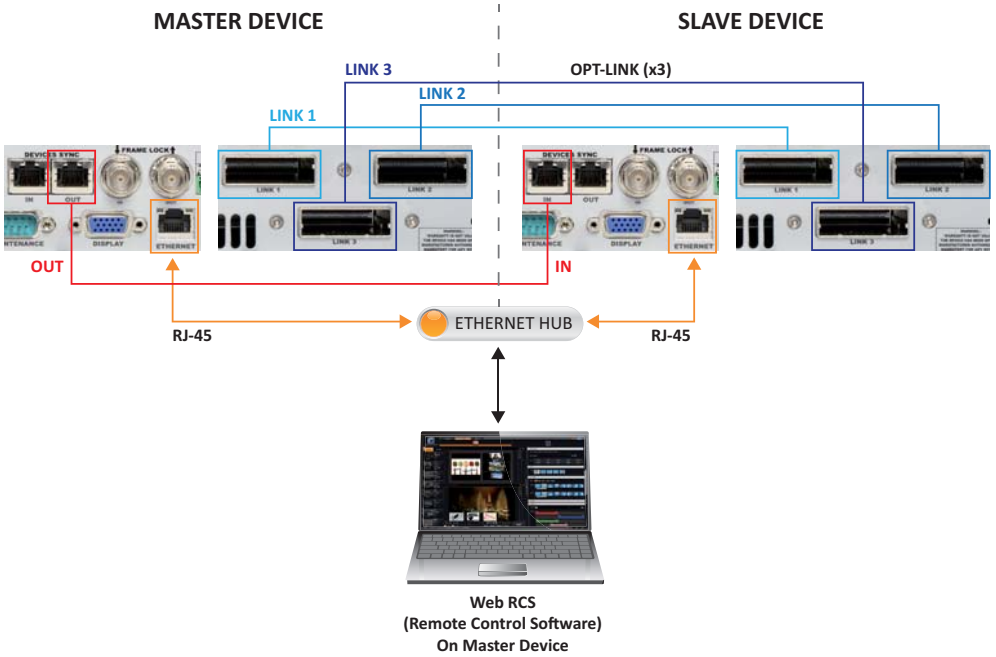
The Monitoring/Preview output of each unit is still available to check those sources connected to the frame are present or simply to monitor a partial area of the Program or Preview.

5-4 Additive modularity configuration

For even more spectacular presentations, two **SmartMatriX Ultra, Ascender 16**, **Ascender 32** or **Ascender 48** can be linked together using the set of 3 x **LiveCore™** Link Cables (ref. OPT-KIT3xLINK).

In this configuration, source splitting is not necessary: inputs and outputs are shared and added resulting in an impressive 24x8 scaled true-seamless matrix system and 2 multi-viewer outputs.

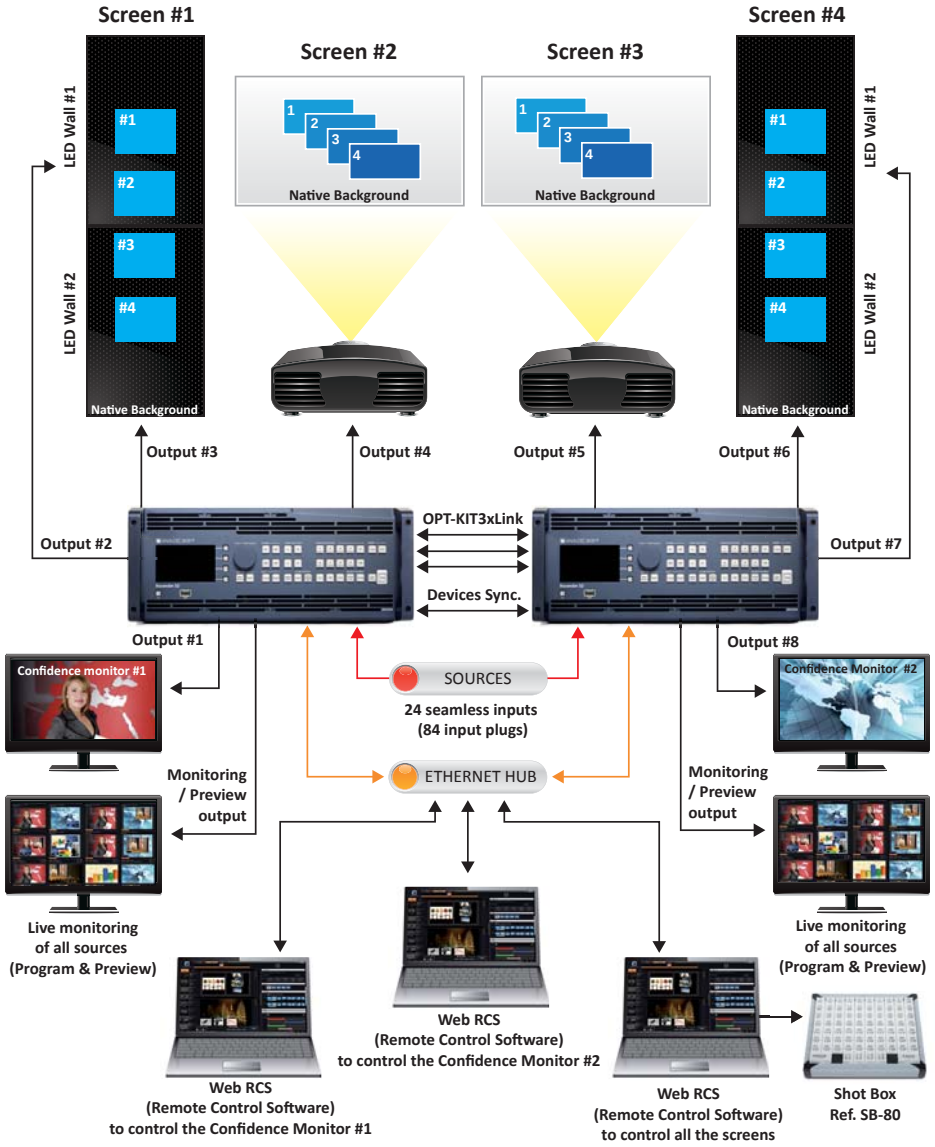
Additive modularity can also be achieved with a **LiveCore™ Output Expander** resulting in a 12x8 scaled true-seamless matrix system and 2 additional multi-viewer outputs.



Wide displays can be achieved, either horizontally, vertically or both.

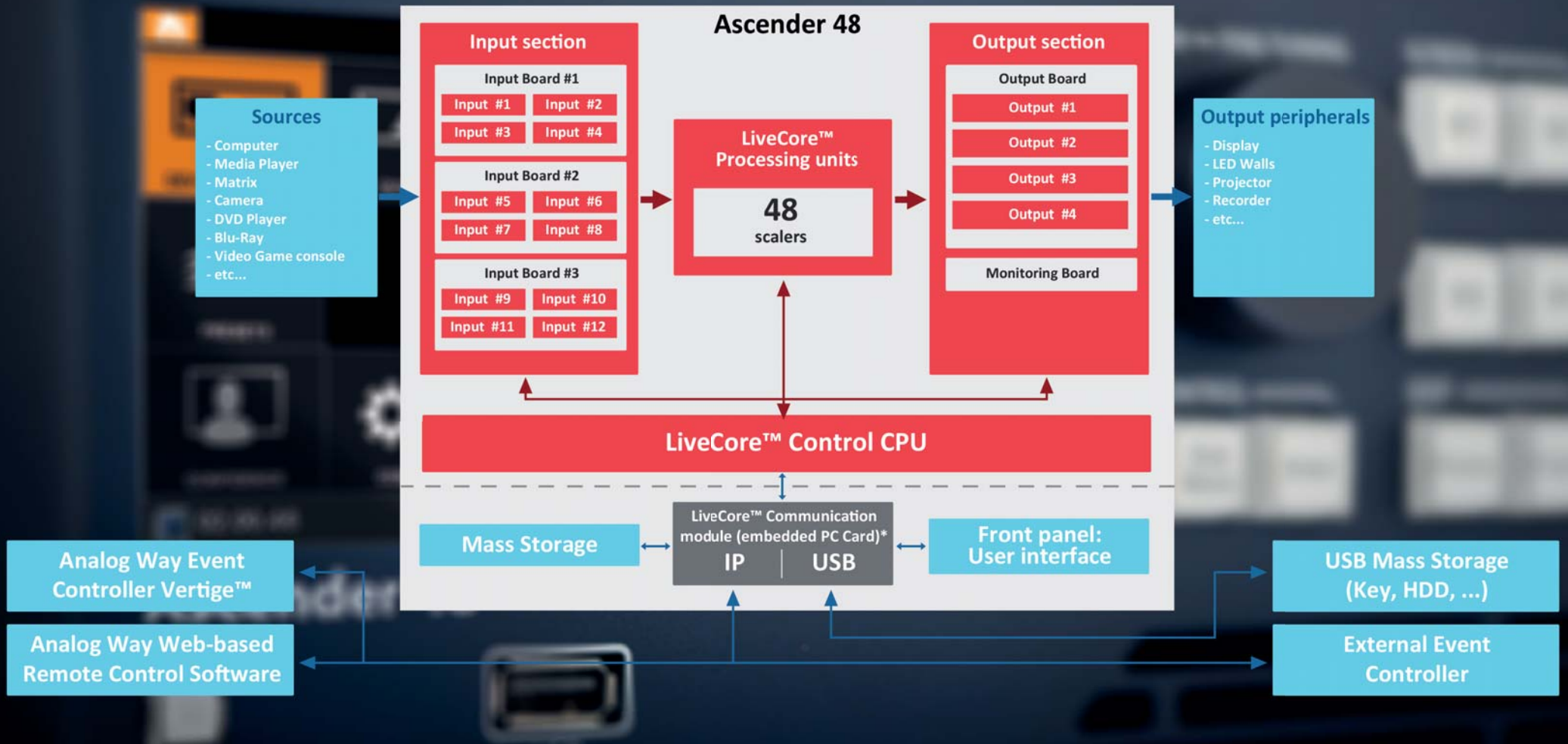
Heterogeneous types of **LiveCore™** units can be linked together. The current firmware auto-downgrades the larger unit to fit the capabilities of the smaller one. Forthcoming version 3.01 will remove this limitation.

Example of configuration: Multi-screen configuration with the rotation feature and the additive modularity



6- STATE-OF-THE-ART PROCESSING

6-1 LiveCore™ platform



(*) All video processing is firmware based and carried out by the Processing unit. User-interfacing, network communication and other non-time critical processes are supported by the platform's PC-based Communication module.

The LiveCore™ platform is the heart of Analog Way's new generation of high-end AV processors. It was designed to provide state-of-the-art imaging and real time processing, including 4K resolutions and a world premiere: the Perspective Layers for top-notch presentations.

The **LiveCore™** architecture is very modular. The image processing pipeline is mainly composed of three sections: input, processing and output.

The input and output sections support 2K/2048x1152 and WQXGA resolutions. **Analog Way** created an upgrade kit with inputs and outputs supporting 4K resolutions.

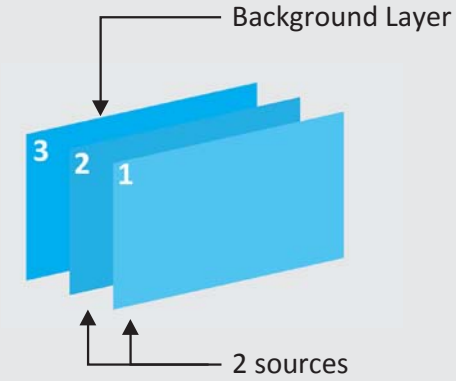
The powerful high-computing rate can also be upgraded with the Perspective Layers upgrade on the **Ascender 48** only. This option allows 3D space management of layers: more than the 2D position, the depth and 3-axis rotation can be used for never-before-seen presentations.

Uncompared power of video processing

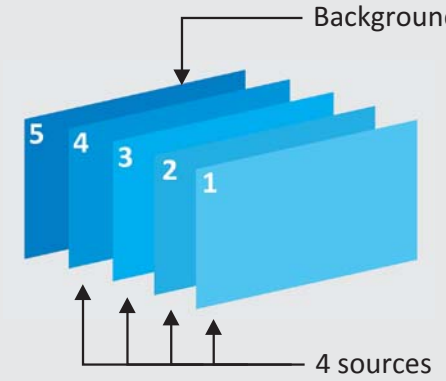
Thanks to its modular architecture, the **LiveCore™ platform** has constantly been improved from its debuts. It offers advanced and powerful features.

6-2 Optimized layer management

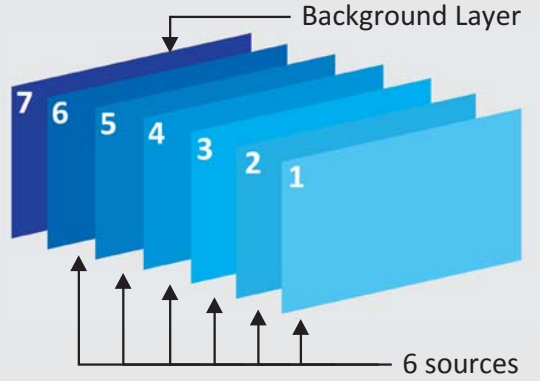
- The **LiveCore™** series features an **independent native background** for live or still images, allowing additional layering capability.
- In order to offer higher creativity, all seamless layers are considered as **uniform layers**, meaning any source can be fully resized.



2+1: NeXtage 08, SmartMatriX Ultra & Ascender 16



4+1: NeXtage 16 & Ascender 32



6+1: Ascender 48

6-3 Frames and Logos

Up to 100 memories (Frames and Logos) can be stored in the **LiveCore™**-based systems' memory. Using the **Web RCS** interface, they can be imported from/exported to your computer or simply be captured from a live input. Management of pictures is accomplished via a unique thumbnail library. Frames and Logos have the same properties as live inputs: they are fully resizable and can support all settings and layer transitions. The **LiveCore™** platform offers up to 4 seamless logos/frames.

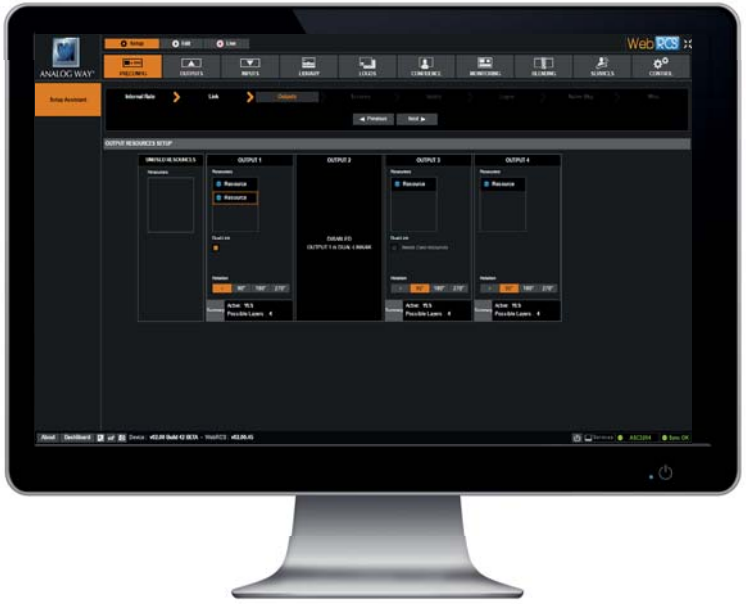
Format	Upload	Download	Transparency support
BMP	Yes	Yes	N/A
JPEG	Yes	Yes	N/A
TIFF	Yes	Yes	Yes
GIF*	Yes	Yes	Yes
PNG	Yes	Yes	Yes
ICO	Yes	Yes	Yes

* Animated Gif not supported

6-4 Advanced Layer Management

Available for all the **LiveCore™** series, this feature allows shifting the processing resources (scalers) of an output stream to another output. This can be achieved through the **Web RCS** with a simple drag and drop change.

An **Ascender 48** can display up to 24 true-seamless live mix layers and a Native Background on a single output!



6-5 The Perspective Layers

This feature is exclusively available for the **Ascender 48** when equipped with the **OPT-4K-ASC4806-PL** option. With this option, the **Ascender 48** supports Ultra High Resolution and the Perspective Layers feature. It reaches performances unequalled and gives incredible new possibilities for live presentations.

Developed by **Analog Way**'s R&D, this new feature enables manipulation of layers in a 3D space. The layer content can be either a live source or a still picture. More than a simple keystone effect, operators have the ability to change the layers position in the 3 dimensions x, y and z, but also to rotate them according to the three axes.

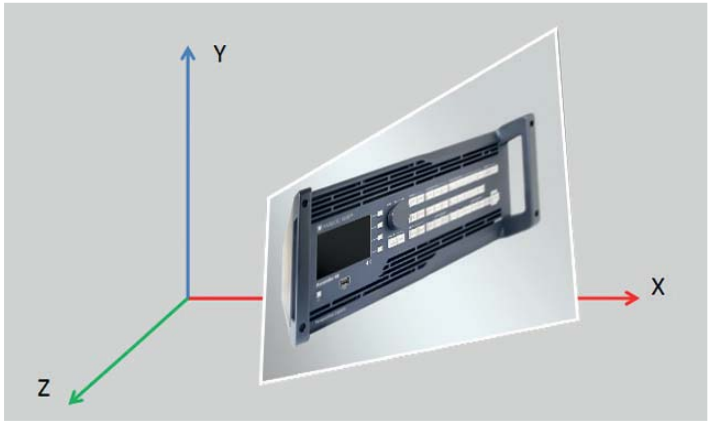
When the Perspective Layers feature is activated for a screen, the **Ascender 48** is powerful enough to offer the same level of effects as in a flat 2D mode. Each step of a transition is computed in real-time: whether it is the Flying Curve trajectory of the PIP or their properties (transparency, size, cropping…).

Coupled with the Advanced Layers Management, the **Ascender 48** can manage up to 12 true-seamless Perspective Layers and a native background on a single output.

Creation and management of the Perspective Layers can be managed directly from the **Ascender 48**'s **Web RCS**, a user-friendly interface, through a section specifically dedicated to the Perspective Layers.

No need to say that show designers can unleash their creativity!

See the Perspective Layers' video on YouTube® or on www.analogway.com:

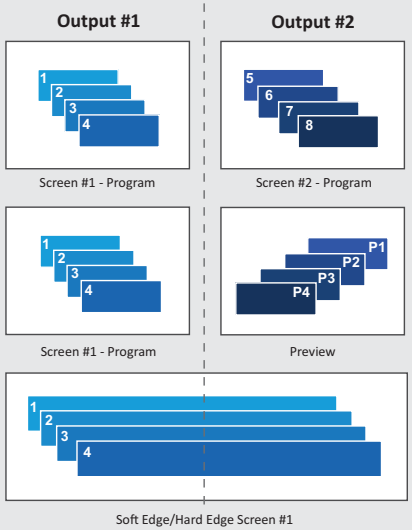


6-6 Display configurations

The outputs of **LiveCore™** units can be used separately (one output equals one screen) or in Hard Edge/Soft Edge Blend configuration (several outputs are used to create a single screen). In both cases, the **LiveCore™** unit can display 2, 4 or 6 true-seamless layers on a native background.

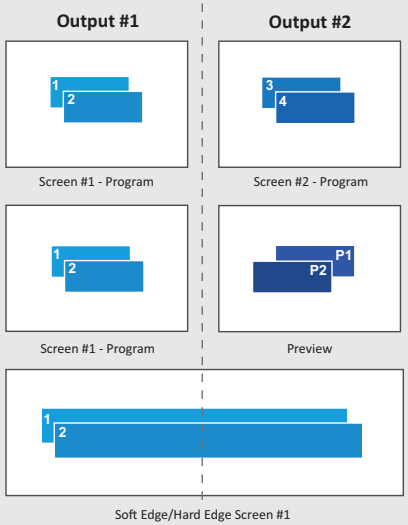
NeXtage 16

Display configurations with 2 outputs



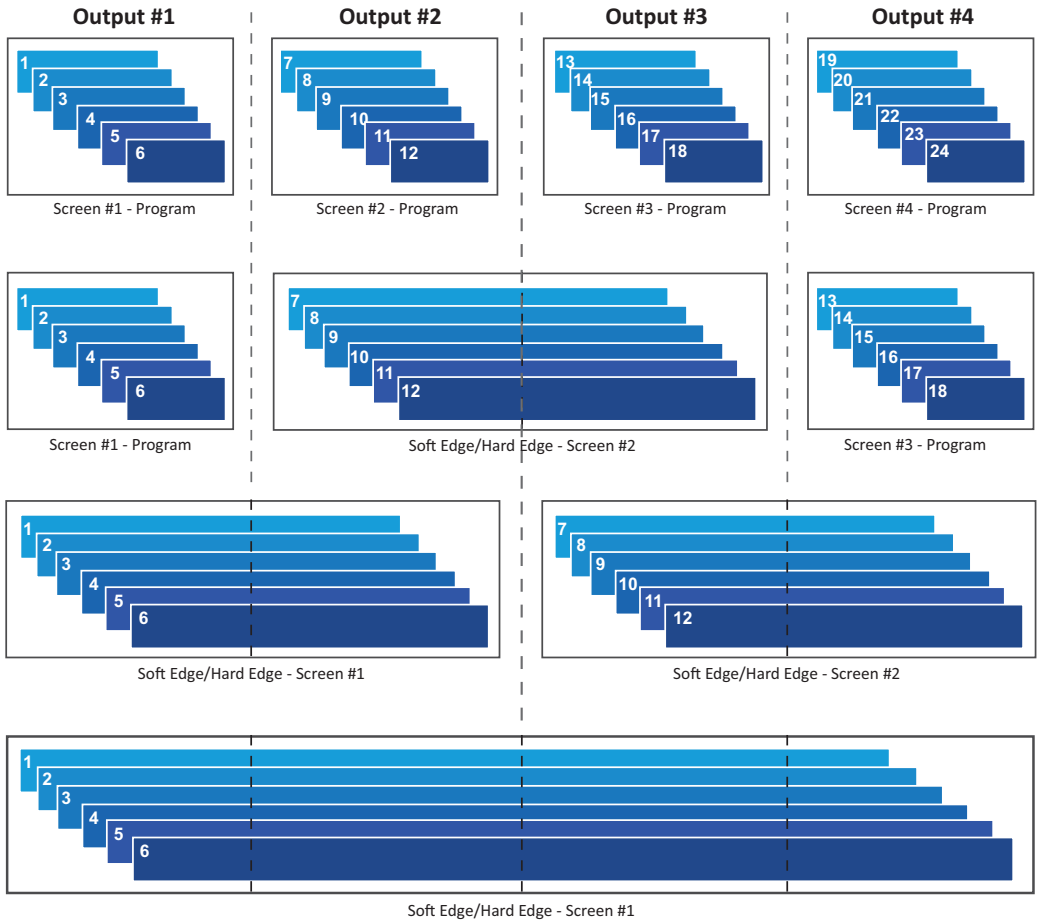
NeXtage 08

Display configurations with 2 outputs



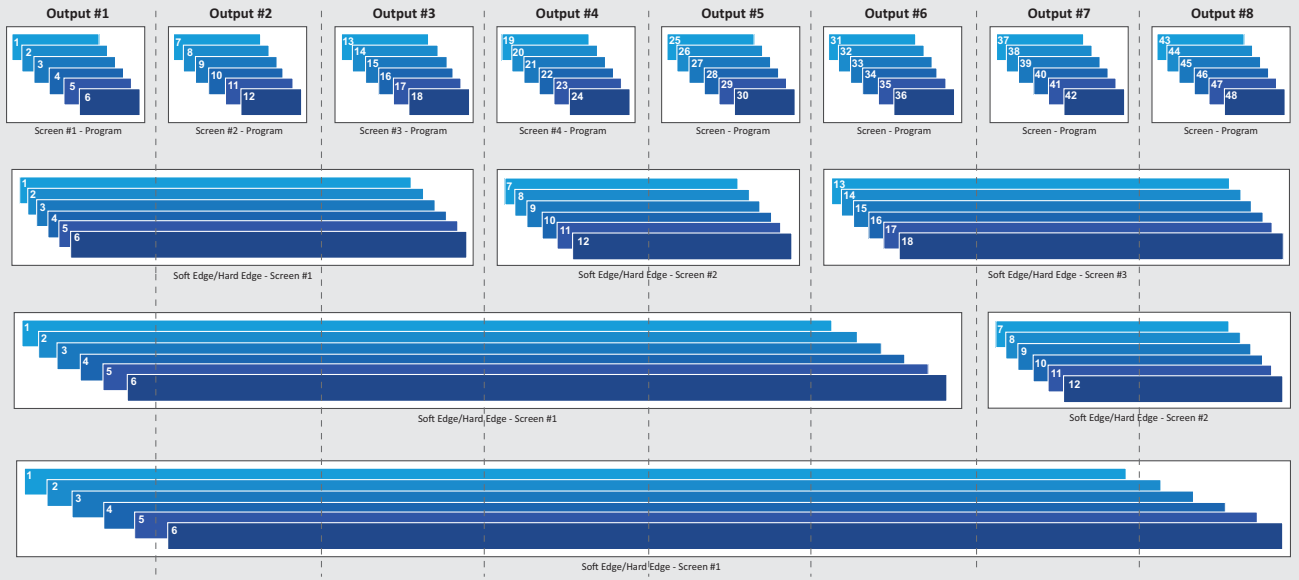
Ascender 48

Display configurations with 4 outputs



2 x Ascender 48

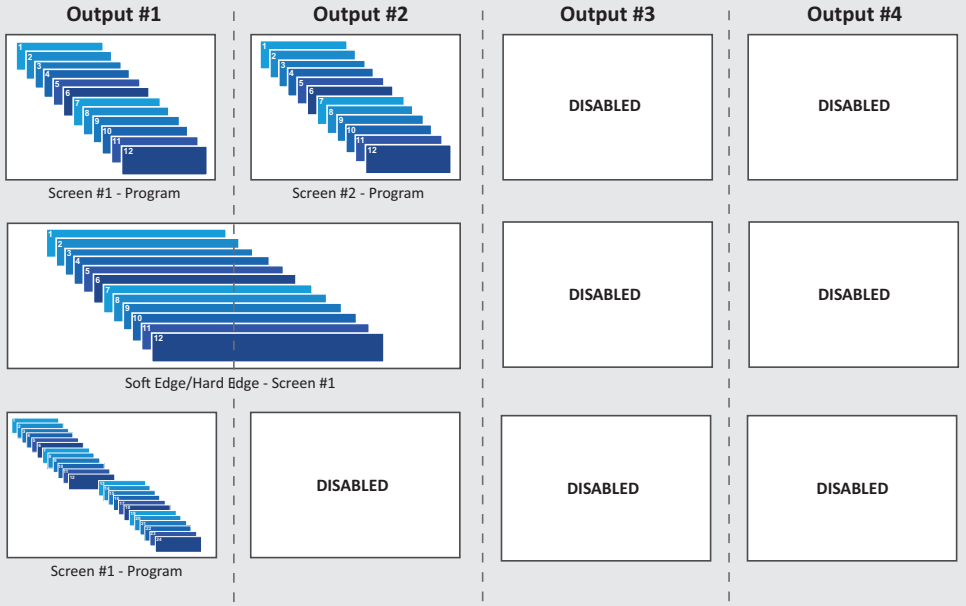
Display configurations with 8 outputs



Display configurations with 4 outputs and Advanced Layer Management

Ascender 48

Enabling the Advanced Layer Management, a screen can contain up to 8, 16 or 24 true-seamless layers on a native background.



6-7 Powerful processing capabilities and stunning visual effects

- **LiveCore™** platform's scalers allow the display of all inputs and layers in real time on Program, Preview and Monitoring/Mosaic outputs.

- The system offers a **true A/B mix** such as dedicated video mixers do. Inputs can be perfectly mixed and switched without restriction. Control through the T-Bar remains available all the time, for transitions from A to B and B to A. Individual T-Bars are available for each screen.

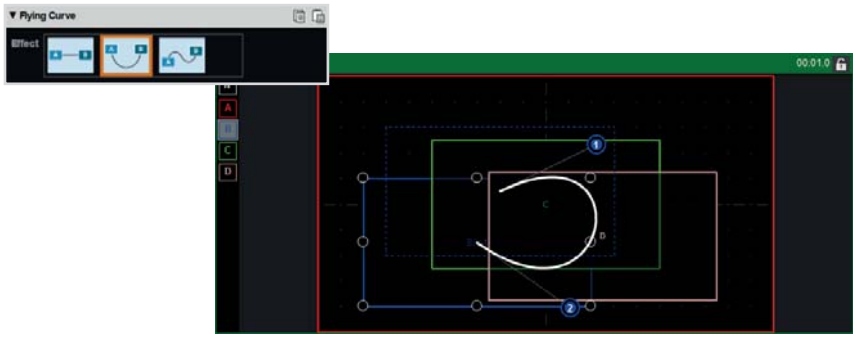
- Thanks to its outstanding effects, the **LiveCore™** series is the ideal range to easily create stunning presentations. New menus are available to manage effects. Layers are uniform and independent, which means specific effects can be applied to each of them: size, type of transition, time of the transition, colorimetric effects, etc.

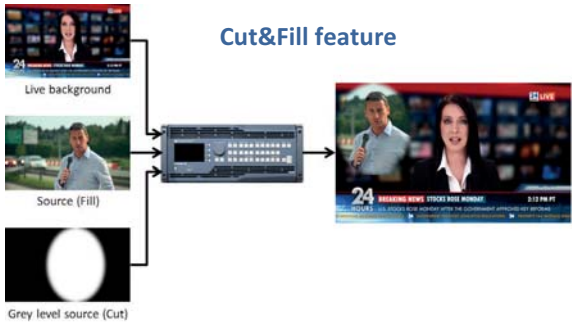
- The **Cut&Fill feature** pairs two layers, one using a gray level source (Cut), the other one a live source (Fill), to acheive non rectangular smooth-edged PIPs or impressive transitions.

- A variety of stunning effects can be achieved using functionalities embedded in the machine to make the process straightforward. As an example, the new **"Background Cut" function** allows automatic and instant calculation of complex slice-cut transition effects. This feature can be computed according to the screen size or to the selection maximum size.

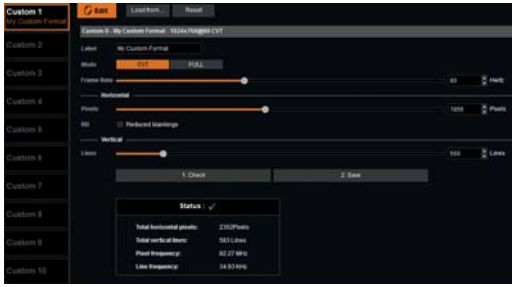
- In order to provide cutting edge imaging in a live environment, the **LiveCore™** platform uses **Analog Way**'s latest **high performance algorithms**, including a fully redesigned deinterlacing process and stunning new chroma keying. **Very low latency** remains the cornerstone of this latest generation of processing.

- For applications requiring non-standard display resolutions, the **LiveCore™** platform enables to create and save up to 10 **Custom Output Formats**. Two modes are available: CVT Mode using the CVT rules of VESA for fast creation and Full Mode to access all the parameters of the format.





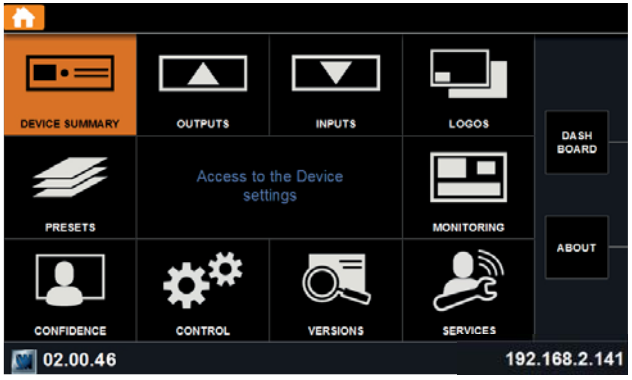
Cut&Fill feature



7- USER-FRIENDLY AND INTUITIVE GRAPHIC INTERFACE

Analog Way has been working extensively on the LiveCore™ series control interface to allow for the best ease of setup and operation.
Through its Front Panel interface or via its web-based Remote Control Software, the LiveCore™-based processors are extremely easy to use and monitor in the field.

7-1 Control from front panel



The **LiveCore™ series** features a 4.3" TFT color display with WVGA resolution (800x480 pixels), and a new graphical interface. The new interface allows management of input sources with snapshots for monitoring directly on the front panel's screen.

7-2 Powerful Intuitive Remote Control Software

To help operators make the best use of the **LiveCore™** platform, **Analog Way** designed a Web-based Remote Control Software (**Web RCS**), which can be run from any computer system using an Internet browser (PC, Mac, tablet).

From the very beginning of the **LiveCore™ series**, the **Web RCS** has been constantly upgraded to meet the needs of operators with new features and improved ergonomics.

The latest version of the **Web RCS** integrates a new flat design: besides the esthetic change, the software now runs up to 30% faster and frees 30% of computer resources.

- The **Web RCS** offers a **user-friendly graphic interface** consisting of 3 independent sections: Setup, Edit and Live. Since **LiveCore™** version 2.0, Live and Edit modes have been merged to increase the productivity and comfort of the operator: switching between these modes is instantaneous and all the functionalities can be accessed from both modes. The Edit mode is mainly dedicated to work on a single screen at a time whereas the Live mode allows to have a global view of all your screens.
- With **dynamic snapshots** of available connected sources, the intuitive interface allows operators to fully prepare their shows and control them live during their events.
- An **innovative Sequence mode** allows easy organization of presets through drag and drop.

Set up

Live

Edit

7-3 Customizable Monitoring Layout

The layout of the Monitoring output can be modified with the **Web RCS** to create complex mixes of inputs, programs and previews fitting the application requirements. As easy as working with the layers on the Program/Preview, the **Web RCS** offers numerous preset layouts. Up to 10 custom layouts can be saved, and then be simultaneously recalled with the working presets.

7-4 Screen Preset Management

Operators can save their screen presets in the 144 available **Memories**. These screen presets can be saved or recalled simultaneously for all the screens using the 144 available **Master Memories**. An advanced filtering system enables to save or recall on a subset of screen preset properties: source, position size, cropping, transition properties…

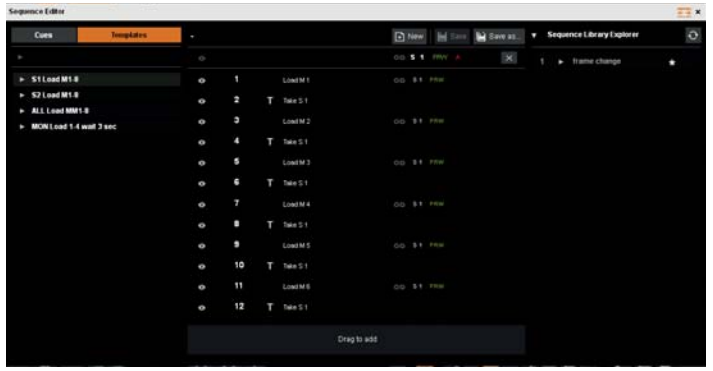
7-5 Customizable Shortcuts

The **Web RCS** offers over 100 keyboard shortcuts to improve operators' productivity. These shortcuts can be customized with dedicated combination of keys using the Shortcut Manager.

7-6 New Sequencer

The **Web RCS** sequencer passes a new step in preset management. Thanks to an intuitive **Sequence Editor**, operators can create cue stacks: they can add, delete and change the order of different actions such as loading memories or master memories, waiting for an event or a timeout, taking a screen.

Once the sequence creation is completed, it can be played once or looped. It is also possible to reach manually any step of the sequence using the sequence player as a virtual keyboard.

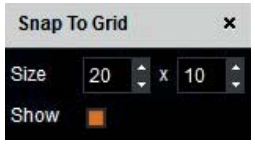


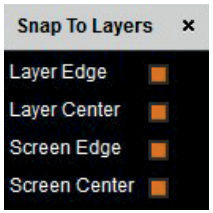
7-7 Preset ID

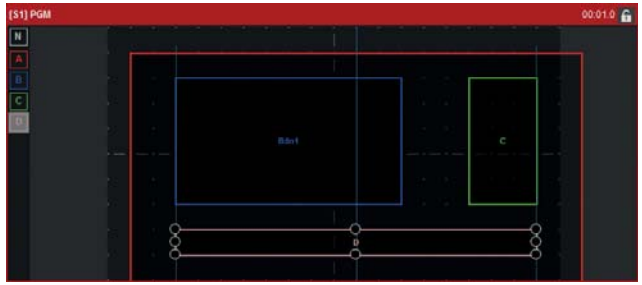
It is possible to instantly identify which preset memories is used on a screen (Program or Preview) thanks to the preset ID displayed in the window title bar. If the preset has been modified then the preset name appears with a star.

7-8 Snap to Grid and Snap to Layer

Two new features are available to help operators to adjust the layers position and size. As its name indicate, the Snap to Grid feature enables operators to position the layers on a grid whose vertical and horizontal steps in pixels are user defined. The Snap to Layer feature enables to configure the layers relatively to other layers or to the screen.

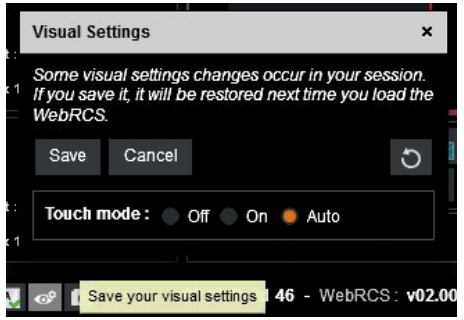






7-9 View saving

Operators can save the visual configuration of the **Web RCS** so that the next time they use it they come back to their favorite layout. Moreover, a Touch Mode was added to the **Web RCS** to operate it with a tactile display: some controls are adapted for more comfort.



8- ACCESSORIES AND APPS

8-1 Secure Power Unit - Ref. SPU001

Protect your LiveCore™ system against mains loss or unstable power using the Secure Power Unit (ref. SPU001).

It integrates two slots for hot-swappable power supplies and a battery module providing up to 10 minutes in case of mains loss. Connected to your **LiveCore™** with a simple RS232 link, the advanced monitoring status of the **SPU001** is available through the **LiveCore™ Web RCS**.

Ascender 48 connected to the **Secure Power Unit**

8-2 Shot Box - Ref. SB-80

The **Shot Box** is a cost effective solution to recall the master presets, screen presets and monitoring layouts prepared with the **Web RCS**. Connected to your control PC USB port, it is instantly usable (external software supplied) with your **LiveCore™** even if the **Web RCS** is not started**.** Its ergonomic keyboard integrates 76 back-lighted keys: 70 for presets management, 4 for monitoring layouts, 1 for PAGE management and 1 for TAKE.

8-3 AW Toolbox

The AW Toolbox puts the power of Analog Way's LiveCore™ AV processors at your fingertips!

This application allows configuring all the input settings of a **LiveCore™** system. Moreover, dynamic snapshots of inputs and frames are available to check that a source is detected and configured properly. This application allows configuring all the output settings (including Monitoring/Preview output): format, rate, HDCP, test pattern…

Thanks to WiFi, the operator can get closer to the screen to fine-tune a multi-projector Soft Edge Blending. The use of a tablet significantly increases his comfort.

Screen presets and Master presets can be recalled on Program or Preview with a single fingertip.

This application is available for Android™ (OS version 4.0 and above) and iOS (iOS7 and iOS8) tablets.

Download on the App Store

GET IT ON Google play

Connection

Snapshot examples

- Blending -

- Inputs -

- Logos -

- Memories -

8-4 LiveCore™ Output Expanders

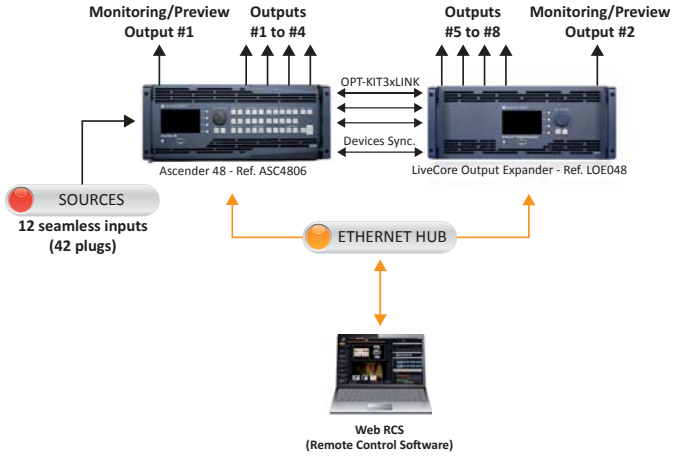
Using the capabilities of Additive Modularity, the SmartMatriX Ultra, Ascender 16, Ascender 32 and Ascender 48 can be connected to an optional LiveCore™ Output Expander (LOE). Each LOE is equipped with 4 outputs and 1 Monitoring/Preview output. The resulting linked configuration includes 12 inputs, 8 outputs and 2 Monitoring/Preview Output.

LiveCore™ Output Expander 48 - Ref. LOE048

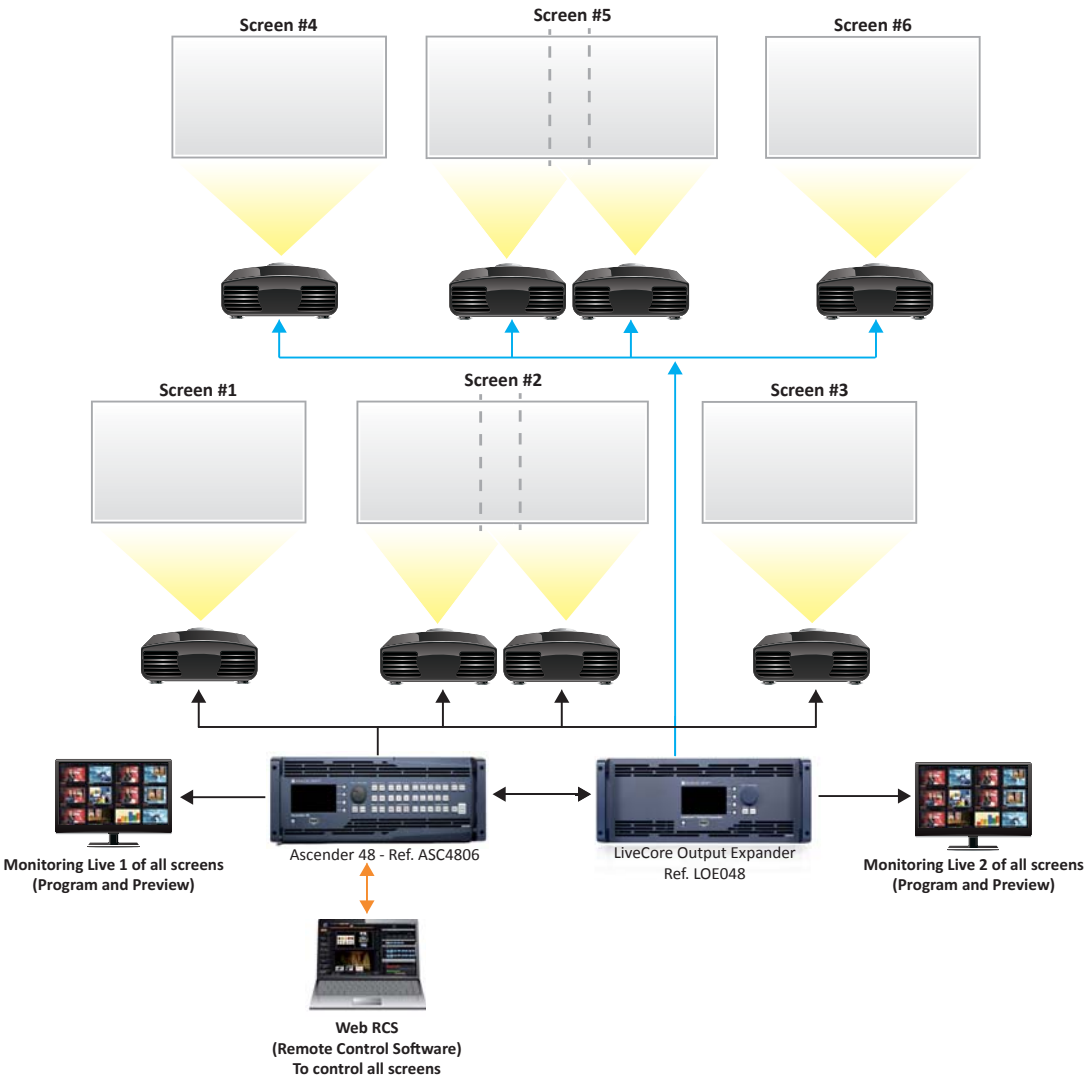
Three LiveCore™ Output Expanders are available:

- **LOE016** for **SmartMatriX Ultra** and **Ascender 16**
- **LOE032** for **Ascender 32**
- **LOE048** for **Ascender 48**

Additive Modularity



Multi-screen configuration



9- EVENT CONTROLLER

High-End Remote Controller for large events/multi-venues

The **Vertige™** is a revolutionary Remote Controller integrating new ways to create and manage powerful events. The **Vertige™** brings a simple and flexible approach to show creation and management.

Vertige™ can manage huge screens made of up to 16 outputs thanks to the associative modularity of **LiveCore™** units. Among other features, it also controls external devices such as matrix routers or media players.

Vertige™ - Ref. VRC300

1- Touch screen
The touch screen 15''6 wide displays comfortably on the same page, the representation of the Program & Preview but also of a typical scene (Blend + 2 satellites). It is important to have the whole scene represented to work on multiple layers from different screens at the same time (change of source of background, for example). It is useful to have both states Program/Preview shown at the same time as the **LiveCore™** series allows you to change one or the other at any time (even during an effect).

2- Preset section
This section allows the operator to save/load its scene presets (10 direct access presets and a page mechanism to organize them).

3- Layer section
This section enables the operator to select a set of layers which belong to different screens in order to edit them simultaneously. Various criteria are used to perform advanced combinations. It will be possible to save those combinations for later use.

4- Source section
This section allows assigning sources to the selected layers in Program or Preview. Twelve contextual buttons display the name of source. The capability to change a page allows benefiting from numerous sources in association with the management of plugs for the **LiveCore™** series.

5- Control section
This section enables the operator to select which preset to work with, and have direct access to basic functions applied to all selected layers (Clear, Unify ...).

6- Edit section
This section allows the operator to edit the selected layers in three different ways: roughly by the joystick, finely by coders or directly by numpad. The block containing the numpad is contextual and also provides access to pages of shortcuts, tools, layer presets (Position, Size, Border, Effect ...).

7- Transition section
This section enables to use the T-Bar for transitions. Sliders can be used like T-Bar (Effects) or like Faders (Alpha). They are motorized in order to see the current state of the selection.

8- Control Transition
This section allows giving a specific role to the sliders:
- In FX mode, they allow to individually mix each screen
- In Alpha mode, where different layers of different screens can be assigned to a slider, they will allow to control the layer opacity (transparency).

10- SYSTEMS INTEGRATION & TOOLS

Analog Way offers a complete range of solutions to take full advantage of the flexibility and performance of our processors and consoles. The following tools are ideally suited for fixed installation applications, such as meeting rooms, auditoriums, convention centers or military command centers.

10-1 Crestron and AMX Drivers

Precompiled **AMX**® and **Crestron**® drivers can be downloaded on our website to control any premium AV processor based on the **LiveCore™** platform.

Download the drivers for free on www.analogway.com

Crestron® Drivers are compatible with **Crestron 2-Series and 3-Series** control systems

- Recall Presets or Master Presets with seamless transitions
- Display sources and logos with dynamic snapshots and properties
- Configure input settings (current plug, HDCP, freeze…)
- Change the native background or the source displayed in a layer
- Transition the Preview content to the Program
- Display output and screen properties (HDCP status, labels, layer count,…)
- Configure the Monitoring output
- Control your device (reboot, shutdown, sleep or wake over LAN)
- Control General-Purpose Input/Outputs (GPIO)

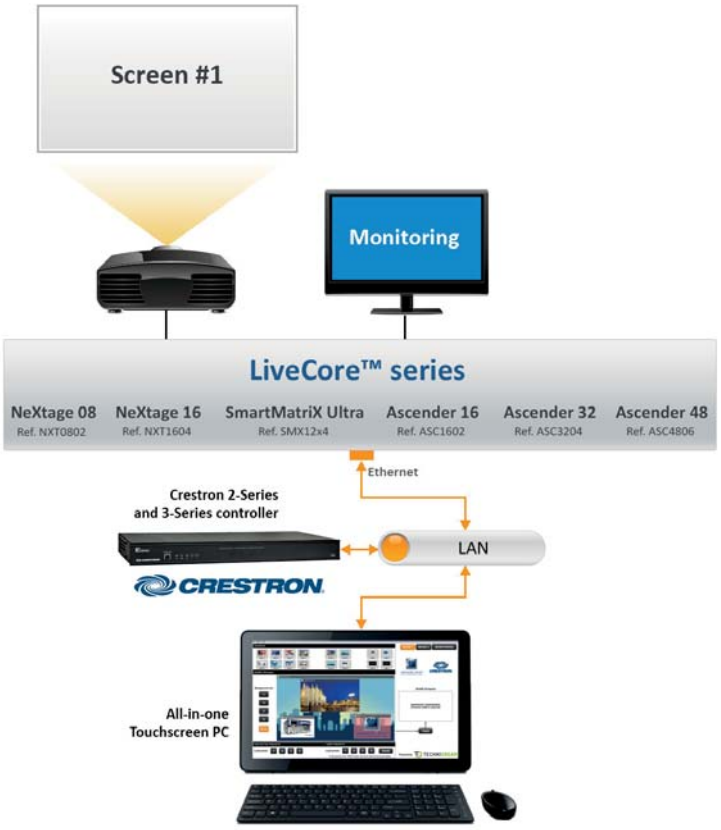
AMX® Drivers are compatible with **Netlinx**® integrated controllers

- Recall Presets or Master Presets with seamless transitions
- Display sources and logos with dynamic snapshots and properties
- Configure input settings (current plug, HDCP, freeze…)
- Change the native background or the source displayed in a layer
- Transition the Preview content to the Program
- Display output and screen properties (HDCP status, labels, layer count,..
- Configure the Monitoring output
- Control your device (reboot, shutdown, sleep or wake over LAN)
- Control General-Purpose Input/Outputs (GPIO)

10-2 AW Video Compositor - Ref. AWVDC

Based on **Crestron**'s **Smart Graphics™ technology**, the **AW Video Compositor** allows developers to control with minimal programming the advanced features of any **LiveCore™** AV processor and build innovative solutions using a single **Crestron®** touchscreen.

Compatible with **Crestron 2-Series and 3-Series** control systems



Preview

Monitoring

- Visualize the whole scene (Preview & Program) in real time with layer positions and dynamic sources snapshots
- Use the touchscreen to resize or adjust layer position
- Drag and drop sources directly onto layers
- Change the native background
- Recall Presets or Master Presets with seamless transitions
- Configure input settings (current plug, HDCP, freeze…)
- Configure the Monitoring mosaic with a simple flick of the finger

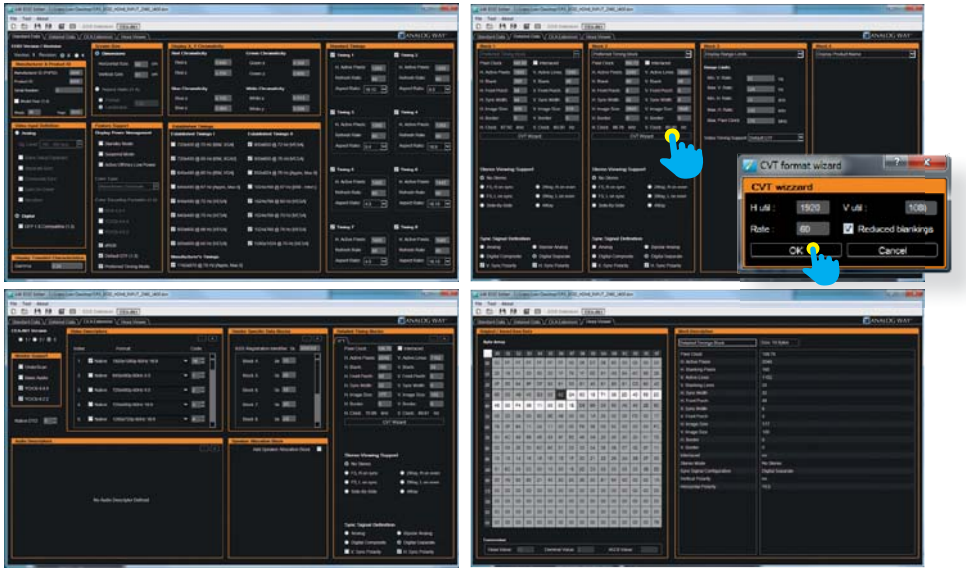
Developped by
TECHNIDREAM

10-3 AW EDID Editor - Ref. AWEE

To optimize the compatibility between the source and your premium switcher, **Analog Way** has created the **AW EDID Editor**. Available for Windows® and Mac OS®, this software enables to open and edit any standard EDID file in a simple and intuitive interface. Supporting EDID versions 1.3 and 1.4, you can create your own EDID file from scratch, modify an existing EDID file or simply analyze it for troubleshooting.

The edited EDID file can then be imported to the **LiveCore™** unit through the **Web RCS** to be used as an input EDID. This can be useful, for example, to request the PC graphic card when generating a non-standard format with a portrait orientation.

Download AW EDID Editor for free on www.analogway.com



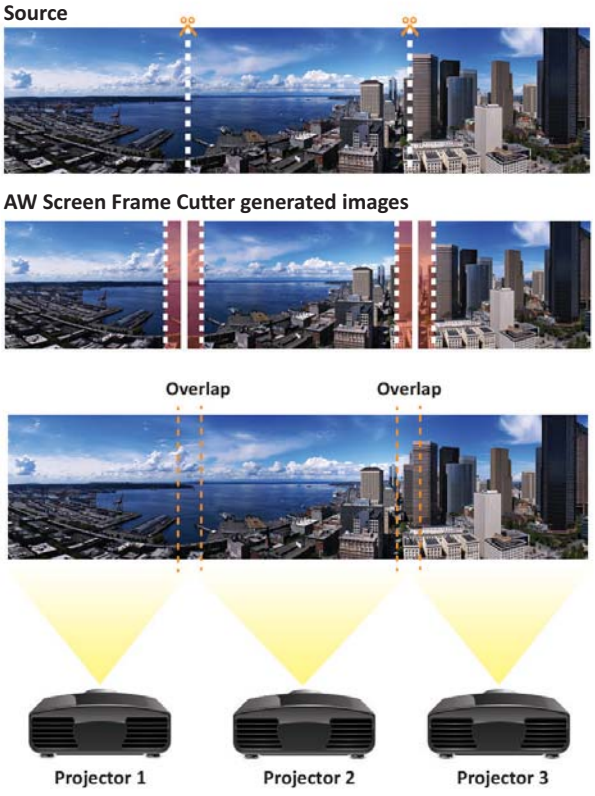
10-4 AW Screen Frame Cutter - Ref. AWSFC

The **AW Screen Frame Cutter** tool can split any wide-screen image into multiple still backgrounds for your multi-projector Soft Edge Blending. Simply choose the image, configure your projectors resolution and numbers and the blending parameters (overlap): the tools will generate the split files at the PNG format. You will only need to import these files to the **LiveCore™** unit using the **Web RCS**.

Screenshot of the AW Screen Frame Cutter

AW Screen Frame Cutter is available for Windows® and Mac OS®.

Download AW Screen Frame Cutter for free on www.analogway.com



11- COMMUNICATIVE ARCHITECTURE FOR COLLABORATIVE EFFORTS

Through its powerful Web RCS, the LiveCore™ generation of processors offers a great simplicity for collaborative practices in the set-up of the machine, as well as in its control and maintenance thanks to Remote Service capabilities.
These capabilities ensure easy utilization of the device and highly efficient maintenance with optimized uptimes.

11-1 Multiple users

Save time and increase creativity with up to 5 operators connected simultaneously on the **Web RCS** from different computers.
Any operation is seen in real time by all the **Web RCS** users, thus ensuring effective preparation and monitoring.

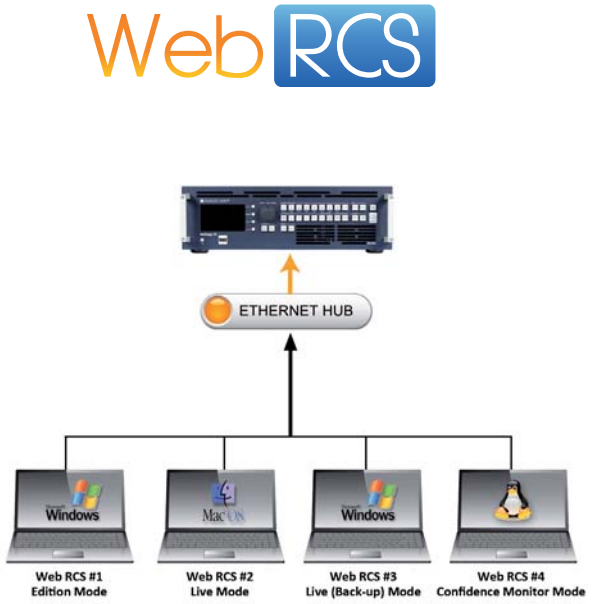
11-2 Remote services

A specific communication module made of a dedicated industrial PC card is embedded in the device to allow for remote services. This PC card is dedicated to LAN/WAN support services and is never involved in the real time critical image processing of the machine.

Important information regarding the use of the machine is also available: logs, working hours in total, working hours per show, etc.
If assistance is needed with a show, **Analog Way** technicians can remotely connect to the computing system running the **Web RCS**. This way, they can access the device and provide help as long as the unit is accessible via the Internet.

11-3 Remote maintenance tools

If help is needed for troubleshooting, **Analog Way**'s Technical Support teams can remotely connect to a **LiveCore™**-based system to get access to internal logs, counters and errors and provide proper assistance.
In order to speed up repair or replacement processes, specific tools were implemented to help identify potential failures or defective parts in the machine from a remote location.



Advanced Dashboard

11-4 Training

As a video processing expert, Analog Way is committed to support its customers through training tailored to individual needs.
Whether you are an integrator, consultant or freelance technician, Analog Way offers training that will enable you to take full advantage of our AV processors in various environments.

LiveCore™ Certification Program

To ensure a more creative and richer user experience, **Analog Way** has developed a training program dedicated to the **LiveCore™** series.
Whether you need a first approach to the **LiveCore™** environment, or a deep understanding of all features to become a real expert, **Analog Way** offers trainings that will enable you to achieve your goals.

LiveCore™
CERTIFICATION PROGRAM

3 training levels

- **Basic Operator:** 1 day
- **Advanced Operator:** 2 days - Certified Training
- **Expert Operator:** 3 days - Certified Training

Analog Way's training centers:

A room has been especially designed to welcome trainings at **Analog Way**'s headquarters.
The **LiveCore™ Certification Program** is also delivered by our American and Asian subsidiaries.
If needed, trainings can be directly provided on your site.

To stay tuned for upcoming training dates, please refer to **Analog Way**'s website, and connect with us on social networks.
www.analogway.com/support/CertificationProgram

LiveCore™ group on Facebook:

A group dedicated to the **LiveCore™** Presentation Mixers is available on Facebook. In that group, operators can share their experience with the line and its accessories.
On the menu: discussions, project pictures, tips and tricks!
Join the group and pursue the LiveCore™ experience!

12- OVERALL COMPARISON

	Ascender 48 - Ref. ASC4806	Ascender 32 - Ref. ASC3204	Ascender 16 - Ref. ASC1602	SmartMatriX Ultra - Ref. SMX12x4	NeXtage 16 - Ref. NXT1604	NeXtage 08 - Ref. NXT0802
INPUTS	**12**	**12**	**12**	**12**	**8**	**8**
Universal Analog Input (RGBHV, YUV, Y/C & Composite)	12	12	12	12	8	8
DVI-I Scaled	6	6	6	6	6	6
DVI Dual-Link	3	3	3	3	2	2
HDMI	6	6	6	6	4	4
DIsplayPort	3	3	3	3	2	2
3G/HD/SD-SDI	12	12	12	12	8	8
Standard Max resolution	2K/WQXGA	2K/WQXGA	2K/WQXGA	2K/WQXGA	2K/WQXGA	2K/WQXGA
Universal analog input EDID	Except DVI-A	Except DVI-A	Except DVI-A	Except DVI-A	Except DVI-A	Except DVI-A
EDID (HDMI - DVI - DisplayPort)	All inputs	All inputs	All inputs	All inputs	All inputs	All inputs
HDCP compliant & Disable	✓	✓	✓	✓	✓	✓
OUTPUTS						
Program/Output	4	4	4	4	2	2
Preview on Output 2					✓	✓
Max resolution	WQXGA/ Ultra HD & 4K	WQXGA/ Ultra HD & 4K	WQXGA/ Ultra HD & 4K	WQXGA/ Ultra HD & 4K	2K/WQXGA	2K/WQXGA
Independent Preview/Mosaic/Monitoring Output (Full live Preview all sources)	✓	✓	✓	✓	✓	✓
Video Out 3G/HD/SD-SDI - RGB - RGsB - RGBs - YUV - Y/C - Comp	✓	✓	✓	✓	✓	✓
Monitoring DVI or DVI Dual-Link	✓	✓	✓	✓	✓	✓
HDCP compliant DVI	✓	✓	✓	✓	✓	✓
MULTI-DISPLAY CONFIGURATIONS						
Associative Modularity Via **Vertige™** Ref. VRC300 Console (up to 4 units)	✓	✓	✓	✓	✓	✓
Soft Edge H&V: max number of ouputs with associative modularity	16	16	16		8	8
Hard Edge H&V: max number of ouputs with associative modularity	16	16	16	16	8	8
Additive Modularity via **Web RCS** (Link between 2 units only)	✓	✓	✓	✓		
Soft Edge H&V: max number of ouputs with additive modularity	8	8	8			
Hard Edge H&V: max number of ouputs with additive modularity	8	8	8	8		
PREVIEW						
Full Live Preview of all sources (Preview/Mosaic/Monitoring)	✓	✓	✓	✓	✓	✓
Confidence Monitor	✓	✓	✓	✓	✓	✓
Customizable labels on Monitoring/Preview display	✓	✓	✓	✓	✓	✓
Displaying of widgets in Monitoring/Preview display	12	12	12	12	8	8
TRANSITIONS & EFFECTS						
True A/B Mix	✓	✓	✓	✓	✓	✓
Transition: Cut, Fade, Slide, Wipe, Circle, Stretch & Depth	✓	✓	✓	✓	✓	✓
Color effects: Black&White, Sepia, Negative, Solarize	✓	✓	✓	✓	✓	✓
Background Cut Effect	✓	✓	✓	✓	✓	✓
Flying Curve Effect	✓	✓	✓	✓	✓	✓
LAYERS						
Number of true-seamless scaled layers per output	6	4	2	2	4	2
Native Background	✓	✓	✓	✓	✓	✓
Advanced Layers Management	✓	✓	✓	✓	✓	✓
FRAME & LOGO						
Fully resizable (Supporting all settings and layer transitions)	✓	✓	✓	✓	✓	✓
Formats : BMP, JPEG, TIFF, GIF, PNG, ICO	✓	✓	✓	✓	✓	✓
Download/Upload with the **Web RCS**	✓	✓	✓	✓	✓	✓
Capture from live inputs	✓	✓	✓	✓	✓	✓
Management of pictures via a thumbnail library	✓	✓	✓	✓	✓	✓
Available Frame/Logo memories	100	100	100	100	100	100

(...)

	Ascender 48 - Ref. ASC4806	Ascender 32 - Ref. ASC3204	Ascender 16 - Ref. ASC1602	SmartMatriX Ultra - Ref. SMX12x4	NeXtage 16 - Ref. NXT1604	NeXtage 08 - Ref. NXT0802
OTHER FEATURES						
Fast routing mode				✓		
Tally/GPI-O	✓	✓	✓	✓	✓	✓
Frame Lock	✓	✓	✓	✓	✓	✓
HUMAN MACHINE INTERFACE						
Web RCS (Web Based Remote Control Software)	✓	✓	✓	✓	✓	✓
Specific management of the front panel in matrix mode				✓		
Remote Services	✓	✓	✓	✓	✓	✓
Remote Maintenance Tools	✓	✓	✓	✓	✓	✓
Remote Controller - **Vertige™** - Ref. VRC300	✓	✓	✓	✓	✓	✓
4K HARDWARE OPTION						
Reference	OPT-4K-ASC4806-PL	OPT-4K-ASC3204	OPT-4K-ASC1602	OPT-4K-SMX12x4	OPT-4K-NXT1604	OPT-4K-NXT0802
Number of 4K 30Hz 4:4:4 HDMI inputs	3	3	3	3	2	2
Max input resolution	Ultra HD & 4K	Ultra HD & 4K	Ultra HD & 4K	Ultra HD & 4K	Ultra HD & 4K	Ultra HD & 4K
Number of HDMI outputs in 4K 30Hz 4:4:4 mode	2	2	2	2	1	1
Number of HDMI outputs in 4K 60Hz 4:2:0 mode	1	1	1	1		
Max output resolution	Ultra HD & 4K	Ultra HD & 4K	Ultra HD & 4K	Ultra HD & 4K	Ultra HD & 4K	Ultra HD & 4K
PERSPECTIVE LAYERS OPTION						
Reference	OPT-4K-ASC4806-PL					
Number of Perspective Layers per output	3					
FORM FACTOR						
Rugged Design	✓	✓	✓	✓	✓	✓
Enclosure	4RU	4RU	4RU	4RU	3RU	3RU
Rack mount kit supplied	✓	✓	✓	✓	✓	✓

13- TECHNICAL SPECIFICATIONS

13-1 Universal inputs

Operation standards: **LiveCore™** series conforms with SMPTE standards: ST259: 2008 / ST292-1: 2012 / ST424: 2006 / ST426-9: 2008

SDTV formats

Standard	Size	Vertical frequency	Horizontal frequency
NTSC	525/480i	59.94Hz/60Hz	15,735 KHz
PAL	625/576i	50Hz	15.625 KHz
SECAM	625/576i	50Hz	15.625 KHz

EDTV formats

Standard	Size	Vertical frequency	Horizontal frequency
480p	525/480p	59.94Hz/60Hz	31.47 KHz
576p	625/576p	50Hz	31.25 KHz

HDTV formats

Standard	Size	Vertical frequency
720p	1280 x 720	23.97Hz/24Hz/25Hz/29,97Hz/30Hz/50Hz/59.94Hz/60Hz
1035i	1920 x 1035	59.94Hz/60Hz
1080i	1920 x 1080	50Hz/59.94Hz/60Hz
1080sF	1920 x 1080	50Hz/59.94Hz/60Hz
1080p	1920 x 1080	23.97Hz/24Hz/25Hz/29,97Hz/30Hz/50Hz/59.94Hz/60Hz

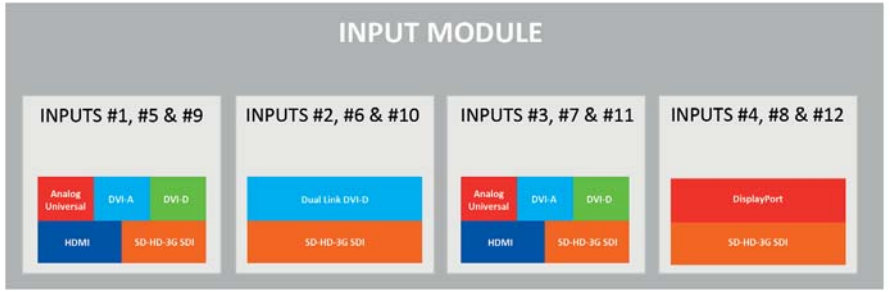
UHDTV formats

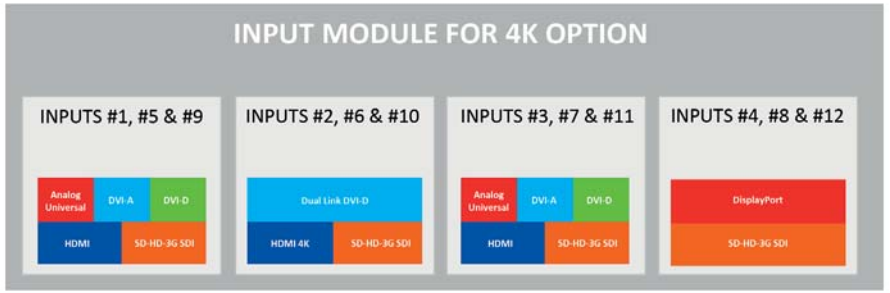
Standard	Size	Vertical frequency
2160p 4:4:4	3840x2160	23.97Hz/24Hz/25Hz/29,97Hz/30Hz
2160p 4:2:0*	3840x2160	50Hz/59,94Hz/60Hz

*Only supported as output format

Cinema formats

Standard	Size	Vertical frequency
2K DCDM	2048 x 1080	24Hz





Inputs and plugs

Standard	Size	Signal
Universal Analog Input	SDTV - EDTV - HDTV - Computer	Analog SDTV - Analog EDTV - Analog HDTV - Analog Computer
DVI-A Input	SDTV - EDTV - HDTV - Computer	Analog SDTV - Analog EDTV - Analog HDTV - Analog Computer
DVI-D Input		Digital SDTV - Digital EDTV - Digital HDTV - Digital Computer
DisplayPort Input	SDTV - EDTV - HDTV - Computer	Digital SDTV - Digital EDTV - Digital HDTV - Digital Computer
HDMI Input	SDTV - EDTV - HDTV - Computer	Digital SDTV - Digital EDTV - Digital HDTV - Digital Computer
HDMI 4K input	SDTV - EDTV - HDTV - UHDTV - Computer	Digital SDTV - Digital EDTV - Digital HDTV - Digital Computer
3G/HD/SD-SDI Input	SDTV - HDTV - Cinema	Digital SDTV - Digital HDTV - Digital Cinema

The following types of plugs are available on the rear panel:

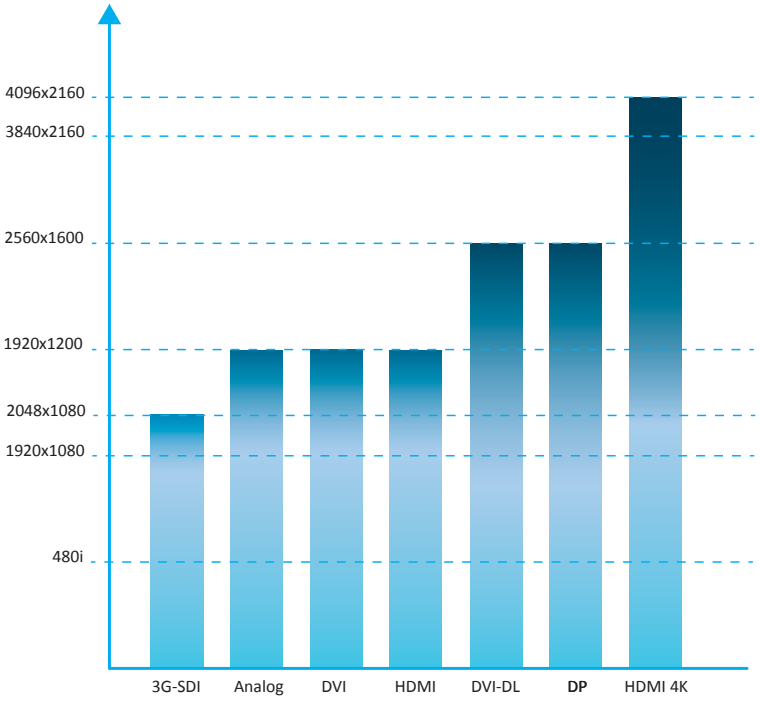
- 4-Lanes DisplayPort in version 1.1a (accept a Dual-Link DVI input via a no supplied active adaptor).
- HDMI.
- Single DVI-I / Dual-Link DVI-D (DVI-I connector).
- 3G-SDI (BNC).
- Universal Analog (HD-15).

Input formats and plugs

Standard	Size	HD-15	3G-SDI	HDMI	HDMI 4K	4-Lanes[3] DisplayPort	Single-Link DVI-I	Dual-Link DVI-D
NTSC	525/480i	Yes	No	Yes	Yes	No	Yes	No
PAL	625/576i	Yes	No	Yes	Yes	No	Yes	No
SECAM	625/576i	Yes	No	Yes	Yes	No	No	No
480p	525/576i	Yes	No	Yes	Yes	Yes	Yes	Yes
576p	625/576p	Yes	No	Yes	Yes	Yes	Yes	Yes
720p	1280x720	Yes	Yes	Yes	Yes	Yes	Yes	Yes
1035i	1920x1035	Yes	Yes	Yes	Yes	Yes	Yes	Yes
1080i	1920x1080	Yes	Yes	Yes	Yes	Yes	Yes	Yes
1080p	1920x1080	Yes	Yes	Yes	Yes	Yes	Yes	Yes
1080sF	1920x1080	Yes	Yes	Yes	Yes	Yes	Yes	Yes
1080p	1920x1080	Yes	Yes	Yes	Yes	Yes	Yes	Yes
DCDM 2K	2048x1080	No	Yes	No	No	No	No	No
VGA	640x480	Yes	No	Yes	Yes	Yes	No	Yes
800x480	800x480	Yes	No	Yes	Yes	Yes	Yes	Yes
WVGA	848x480	Yes	No	Yes	Yes	Yes	Yes	Yes
SVGA	800x600	Yes	No	Yes	Yes	Yes	Yes	Yes
1280x600	1280x600	Yes	No	Yes	Yes	Yes	Yes	Yes
720p RGB	1280x720	Yes	No	Yes	Yes	Yes	Yes	Yes
XGA	1024x768	Yes	No	Yes	Yes	Yes	Yes	Yes
WXGA	1280x768	Yes	No	Yes	Yes	Yes	Yes	Yes
SWXGA	1360x768	Yes	No	Yes	Yes	Yes	Yes	Yes
1366x768	1366x768	Yes	No	Yes	Yes	Yes	Yes	Yes
800p RGB	1280x800	Yes	No	Yes	Yes	Yes	Yes	Yes
SWXGA+	1366x800	Yes	No	Yes	Yes	Yes	Yes	Yes
1152x864	1152x864	Yes	No	Yes	Yes	Yes	Yes	Yes
900p RGB	1440x900	Yes	No	Yes	Yes	Yes	Yes	Yes
HD+	1600x900	Yes	No	Yes	Yes	Yes	Yes	Yes
SXGA-	1280x960	Yes	No	Yes	Yes	Yes	Yes	Yes
SXGA	1280x1024	Yes	No	Yes	Yes	Yes	Yes	Yes
1360x1024	1360x1024	Yes	No	Yes	Yes	Yes	Yes	Yes
DILA 4/3	1364x1024	Yes	No	Yes	Yes	Yes	Yes	Yes
SXGA+	1400x1050	Yes	No	Yes	Yes	Yes	Yes	Yes
WSXGA+	1680x1050	Yes	No	Yes	Yes	Yes	Yes	Yes
1080p RGB	1920x1080	Yes[1]	No	Yes	Yes	Yes	Yes	Yes
2K	2048x1080	Yes[1]	No	Yes	Yes	Yes	Yes	Yes
UW-UXGA[4]	2560x1080	No	No	No	No	Yes	No	Yes
QWXGA	2048x1152	Yes[1]	No	Yes	Yes	Yes	Yes	Yes
UXGA	1600x1200	Yes[1]	No	Yes	Yes	Yes	Yes	Yes
WUXGA	1920x1200	Yes[1]	No	Yes	Yes	Yes	Yes	Yes
1920x1440[4]	1920x1440	Bad quality[2]	No	No	No	Yes	No	Yes
WQHD	2560x1440	No	No	No	No	yes	No	Yes
QXGA[4]	2048x1536	Bad quality[2]	No	No	No	Yes	No	Yes
WQXGA[4]	2560x1600	No	No	No	No	Yes	No	Yes
2160p RGB	3840x2160	No	No	No	Yes	No	No	No
4K RGB	4096x2160	No	No	No	Yes	No	No	No

Notes:

1) Reduced blanking.
2) The signal is under-sampled: the image cannot be reproduced on 1:1 scaling.
3) 4-Lanes DisplayPort in version 1.1a (accept a Dual-Link DVI input via a non-supplied active adaptor).
4) Dual-Link format. This resolution uses 2 input channels.



13-2 Outputs (Program & Preview)

Outputs and plugs

Standard	Size	Signal
Analog Computer/Video Output	HDTV Computer	Analog HDTV Analog Computer
DVI-I Dual-Link Output	HDTV Computer	Analog HDTV Analog Computer
3G-SDI Output	HDTV	Digital HDTV
Dual Video Optical SFP Module	HDTV	Digital HDTV

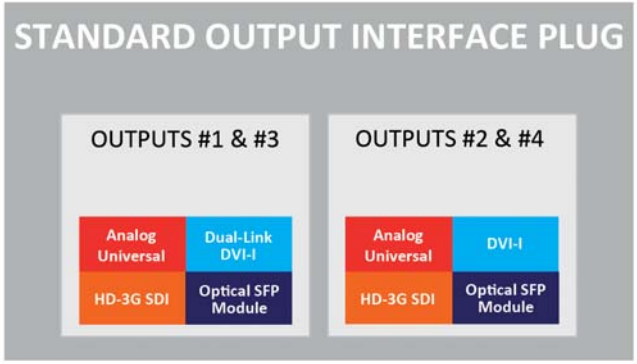
Each output contains 4 output plugs:

- 3G/HD/SD-SDI (two clone outputs via 1 BNC and 1 dual video optical SFP module.
- Analog Computer/Video (HD15).
- **DVI:** Dual Link DVI-I for output #1 and Single-Link DVI-I on output #2 (both with DVI Connectors).

Output formats and plugs

Standard	Size	Aspect ratio	Frequency		
			30Hz	50Hz	60Hz
VGA	640x480	4/3	No	Yes	Yes
WVGA	848x480	16/9	No	Yes	Yes
SVGA	800x600	4/3	No	Yes	Yes
720p	1280x720	16/9	No	Yes	Yes
XGA	1024x768	4/3	No	Yes	Yes
WXGA	1280x768	5/3	No	Yes	Yes
SWXGA	1360x768	16/9	No	Yes	Yes
1366x768	1366x768	16/9	No	Yes	Yes
WXGA2	1280x800	16/9	No	Yes	Yes
SWXGAP	1366x800	5/3	No	Yes	Yes
XGA+	1152x864	4/3	No	yes	Yes
900p	1440x900	16/10	No	Yes	Yes
HD+	1600x900	16/9	No	Yes	Yes
SXGA-	1280x960	5/4	No	Yes	Yes
WXGA+	1440x960	3/2	No	Yes	Yes
SXGA	1280x1024	5/4	No	Yes	Yes
1360x1024	1360x1024	4/3	No	Yes	Yes
SXGAP	1400x1050	5/3	No	Yes	Yes

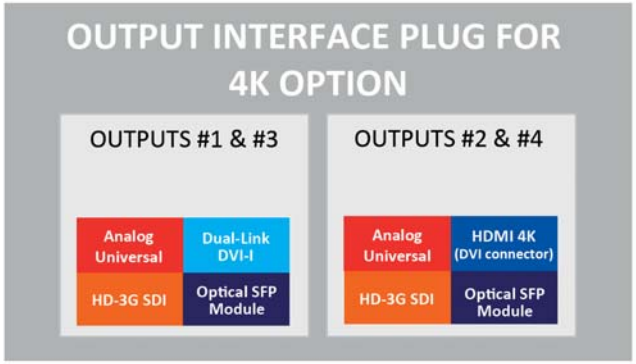
1) This resolution uses 2 output resources on one output (Dual bandwidth).
2) This resolution uses 4 outputs (4 x 3G-SDI or 4 x DVID-D).
3) This resolution uses 4 outputs resources to deliver signal on one output.



Standard	Size	Aspect ratio	Frequency		
			30Hz	50Hz	60Hz
WSXGAP	1680x1050	16/9	No	Yes	Yes
1080p	1920x1080	16/9	Yes	Yes	Yes
2K	2048x1080	17/9	Yes	Yes	Yes
UW-UXGA	2560x1080	16/9	No	Yes[1]	Yes[1]
QWXGA	2048x1152	16/9	No	Yes	Yes
UXGA	1600x1200	4/3	No	Yes	Yes
WUXGA	1920x1200	16/9	No	Yes	Yes
WQHD	2560x1440	16/9	No	Yes[1]	Yes[1]
QXGA	2048x1536	4/3	No	Yes[1]	Yes[1]
WQXGA	2560x1600	16/10	No	Yes[1]	Yes[1]
Ultra HD 4:4:4	3840x2160	16/9	Yes[1]	Yes[2]	Yes[2]
Ultra HD 4:2:0	3840x2161	16/10	No	Yes[3]	Yes[3]
4K 4:4:4	4096x2160	17/9	Yes[1]	Yes[2]	Yes[2]
4K 4:2:0	4096x2160	17/9	No	Yes[3]	Yes[3]

13-2 Monitoring/Preview/Mosaic Output

Standard	Size	Signal
Video Composite	SDTV	Analog SDTV
Video Y/C Output	SDTV	Analog SDTV
Video Y Pb Pr Output	SDTV / EDTV / HDTV	Analog SDTV
Video RGBS/TTL Output	SDTV / EDTV / HDTV	Analog SDTV
Analog Computer/Video Output	SDTV EDTV HDTV Computer	Analog SDTV Analog EDTV Analog HDTV Analog Computer
DVI-I Dual-Link Output	EDTV HDTV Computer	Digital SDTV Digital EDTV Digital HDTV Digital Computer
3G/HD/SD-SDI Output	HDTV	Digital SDTV Digital HDTV



NeXtage 08 & NeXtage 16:

- **Dimensions:**
  D 21.41'' x W 17.51'' x H 5.23'' (''Rack ears'' not included)
  D 544 mm x W 444.8 mm x H 133 mm (''Rack ears'' not included)
- **Weight:** 14 kg/30.86 lbs
- **Power Supply:** 100-240 VAC ; 4.8A ; 50/60Hz ; 225 W

SmartMatriX Ultra, Ascender 16, Ascender 32 & Ascender 48:

- **Dimensions:**
  D 21.41'' x W 17.51'' x H 6.97'' (''Rack ears'' not included)
  D 544 mm x W 444.8 mm x H 177 mm (''Rack ears'' not included)
- **Weight:** 19 kg/41.89 lbs
- **Power Supply:** 100-240 VAC ; 4.8A ; 50/60Hz ; 285 W

Supplied with:

- 1 x Power supply cord
- 1 x Ethernet cross cable (for device control)
- 1 x MCO 10 pin connector
- 1 x Web-based Remote Control Software included and hosted on the device
- 1 x Rack mount kit (front ears and rear support)
- 1 x User Manual (PDF version)*
- 1 x Quick Start Guide*

**User Manual and Quick Start Guide are also available on www.analogway.com*

This module contains one output with the following plugs:

- 3G/HD/SD-SDI (2 x BNC),
- Analog Computer/Video (HD15),
- Dual-Link DVI-I (DVI-I),
- Analog SDTV (4 × BNC: Composite, YC, YUV, RGBS).

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