USER MANUAL
PRELIMINARY

Ascender 32

Ref. ASC3204

ANALOG WAY®
Pioneer in Analog, Leader in Digital

THANK YOU

By following these simple steps you will be able to obtain the most from your powerful **Ascender 32** and its many features.

1. TRADEMARKS

The terms HDMI, HDMI High-Definition Multimedia Interface and the HDMI Logo are trademarks or registered trademarks of HDMI Licensing LLC in the United States and other countries.

2. INTRODUCTION

Thank you for choosing the Analog Way **Ascender 32**. Before you start setting up your **Ascender 32** for the first time, please read through all of the documentation to become familiar with its powerful features. **Ascender 32** can be used in several configurations, which results in a versatile video production tool for live event staging and fixed installation applications.

3. TERMS AND DEFINITIONS

BACKGROUND: a "Background" is a source, typically originating from a computer. **Ascender 32** enables you to work with live or still (Frame) background sources — visually in back of all other sources.

LAYER: a "Layer" is an image display element (such as a PIP window, Key, Logo or Background) that has a visual priority — either in front (or in back) of another layer. Up to 4 independent true-seamless scaled layers are available on the **Ascender 32**.

PIP: a "PIP" (Picture In Picture) is a picture, typically of reduced size, which is positioned over another background image or other PIPs. PIPs can be repositioned, reduced, enlarged and displayed with borders. PIPs can overlap, depending on their visual priority. **Ascender 32** offer various slides, wipes, and fades for dynamic PIP entrances and exits. A "flying" PIP is also possible using vertical, horizontal, diagonal, or curved movement. A PIP is considered a layer.

FRAME: a "Frame" is a full screen image which is selected from one of the still Frames you can capture or load to the **Ascender 32**. A Frame can be flash captured and imported from any video or computer source plugged into the machine. It can also be loaded to the device from a USB key.

LOGO: a "Logo" is a part of a screen image that can be flash captured and imported from any video or computer source, by keying or image cut-out. A Logo can be positioned anywhere on the screen. **Ascender 32** can also resize the logo to be displayed in any size on the screen. An animated logo is also available.

KEYING: "Key" is an electronic process whereby a video image is electronically superimposed over another source or background, by dynamically removing a portion of the first image. For example, removing all content of a certain color (such as green or blue) is called a cutting out either a color (Chroma Key,) and removing content based onor its brightness or luminance levels is called a (Luma Key). Keys are typically used for titles, Logos and special effects. **Ascender 32** allows you to key use a live source with Luma or Chroma key effects with green or blue background and to display key it over any other source or sources.

SCREEN: A "Screen" is a destination where the picture will be displayed. For example, it could be a single display or a projection surface or which can be composed of one or several outputs. Each screen might be used to composed with one or several layers.

SEAMLESS: Clean transition with no glitch or loss of sync while switching between two sources. For example, fading through black to another source is a seamless transition.

TRUE SEAMLESS: Clean seamless transitions with no glitch or freeze between two sources. For example, crossfading from source to source is a true seamless transition.

WEB RCS: Web browser based Remote Control Software used to control, set up, and operate the device.

SOFT EDGE: Soft Edge blending technology is used to compensate for the overlap or covering area when two (or more) video projectors are combined to display a continuous content across one screen. The resulting image will appear as though it were a single unified picture.

HARD EDGE: Hard Edge technology is used to display continuous content using to several outputs without any overlap or covering area. The outputs are "side by side", they don't overlap or share pixel information. (Opposed to Soft Edge where some parts of the image are simultaneously on several displays.)

CONFIDENCE MONITOR: Confidence monitoring consists on using an output to display a specific content such as another screen, input or combination there-of. You can display one of the main outputs or Preview output content. For example, you might use the confidence monitor to show both the presenter's laptop input as well as the Program screen on a single display.

4. HARDWARE SPECIFICATIONS

4.1 Safety instructions

4.1.1 English

All of the safety and operating instructions should be read before the product is operated and should be maintained for further reference. Please follow all of the warnings on this product and its operating instructions.

- **WARNING:** To prevent the risk of electric shock and fire, do not expose this device to rain, humidity or intense heat sources (such as heaters and direct sunlight). Slots and openings in the device are provided for ventilation and to avoid overheating. Make sure the device is never placed near a textile surface that could block the openings. Also keep away from excessive dust, vibrations and shocks.

- **POWER:** Only use the power supply indicated on the device of the power source. Devices equipped with a grounding plug should only be used with a grounding type outlet. In no way should this grounding be modified, avoided or suppressed. Connection of equipment to main supply must be after branch circuit breaker of the building installation.

- **POWER CORD:** The device is equipped with a detachable power cord, to remove mains disconnect it at appliance coupler.

Caution: The power cord constitutes the only mean to completely disconnect the equipment from the main power.

Apply the following guidelines:

- The equipment connected to the network must have a release system easily accessible and located outside the unit.
- Unplug the power cord; do not pull on the power cord but always on the plug itself.
- The outlet should always be near the device and easily accessible.
- Power supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them.

If the power supply cord is damaged, unplug the device. Using the device with a damaged power supply cord may expose your device to electric shocks or other hazards. Verify the condition of the power supply cords once in a while. Contact your dealer or service center for replacement if damaged.

- **CONNECTIONS:** All inputs and outputs (except for the power input) are Safety Extra Low Voltage (SELV) circuits as defined in UL/IEC 60950-1.

- **SERVICING:** Do not attempt to service this product yourself by opening or removing covers and screws since it may expose your device to electric shocks or other hazards. Refer all problems to qualified service personnel.

- **OPENINGS:** Never push objects of any kind into this product through the openings. If liquids have been spilled or objects have fallen into the device, unplug it immediately and have it checked by a qualified technician.

4.1.2 French

Afin de mieux comprendre le fonctionnement de cet appareil nous vous conseillons de bien lire toutes les consignes de sécurité et de fonctionnement avant utilisation. Conservez les instructions de sécurité et de fonctionnement afin de pouvoir les consulter ultérieurement. Respectez toutes les consignes marquées dans la documentation, sur le produit et sur ce document.

- **ATTENTION :** Afin de prévenir tout risque de choc électrique et d'incendie, ne pas exposer cet appareil à la pluie, à l'humidité ou à des sources de chaleur intense.

- **INSTALLATION :** Veillez à assurer une circulation d'air suffisante pour éviter toute surchauffe à l'intérieur de l'appareil. Ne placez pas l'appareil sur ou à proximité d'une surface textile susceptible d'obstruer les orifices de ventilation. N'installez pas l'appareil à proximité de sources de chaleur comme un radiateur ou une poche d'air chaud, ni dans un endroit exposé au rayonnement solaire direct, à des poussières excessives, à des vibrations ou à des chocs mécaniques. Ceci pourrait provoquer un mauvais fonctionnement et un accident.

- **ALIMENTATION :** Ne faire fonctionner l'appareil qu'avec la source d'alimentation indiquée sur l'appareil. Les appareils doivent être obligatoirement connectés sur une source équipée d'une mise à la terre efficace. En aucun cas cette liaison de terre ne devra être modifiée, contournée ou supprimée. Raccordement des équipements à l'alimentation principale doit être postérieur au disjoncteur de branchement de l'installation électrique du bâtiment.

- **CORDON D'ALIMENTATION :** Les appareils sont équipés d'un cordon d'alimentation détachable, la mise hors tension se fait en débranchant ce cordon de l'appareil.

Attention : Le cordon d'alimentation constitue le seul moyen de débrancher l'appareil totalement de l'alimentation secteur. Pour être certain que l'appareil n'est plus alimenté, ce cordon doit être débranché de la prise murale.

Appliquer les consignes suivantes :

- Le matériel relié à demeure au réseau, doit avoir un dispositif de sectionnement facilement accessible qui doit être incorporé à l'extérieur de l'appareil.
- Débrancher le cordon d'alimentation de la prise murale si vous prévoyez de ne pas utiliser l'appareil pendant quelques jours ou plus.
- Pour débrancher le cordon, tirez-le par la fiche. Ne tirez jamais sur le cordon proprement dit.
- La prise d'alimentation doit se trouver à proximité de l'appareil et être aisément accessible.
- Ne laissez pas tomber le cordon d'alimentation et ne posez pas d'objets lourds dessus.

Si le cordon d'alimentation est endommagé, débranchez-le immédiatement de la prise murale. Il est dangereux de faire fonctionner un appareil avec un cordon endommagé ; un câble abîmé peut provoquer un risque d'incendie ou un choc électrique. Vérifiez le câble d'alimentation de temps en temps. Contactez votre revendeur ou le service après-vente pour un remplacement.

- **CONNEXIONS :** Toutes les entrées et sorties (exceptée l'entrée d'alimentation) sont des circuits de très basse tension de sécurité (TBTS) tels que définis dans UL / IEC 60950-1.

- **RÉPARATION ET MAINTENANCE :** L'utilisateur ne doit en aucun cas essayer de procéder aux opérations de dépannage, car l'ouverture des appareils par retrait des capots ou de toutes autres pièces constituant les boîtiers ainsi que le dévissage des vis apparentes à l'extérieur, risquent d'exposer l'utilisateur à des chocs électriques ou autres dangers. Contactez le service après-vente, votre revendeur ou adressez-vous à un personnel qualifié uniquement.

- **OUVERTURES ET ORIFICES :** Les appareils peuvent comporter des ouvertures (aération, fentes, etc...), veuillez ne jamais y introduire d'objets et ne jamais obstruer ses ouvertures. Si un liquide ou un objet pénètre à l'intérieur de l'appareil, débranchez immédiatement l'appareil et faites-le contrôler par un personnel qualifié avant de le remettre en service.

4.1.3 Italian

Allo scopo di capire meglio il funzionamento di questa apparecchiatura vi consigliamo di leggere bene tutti i consigli di sicurezza e di funzionamento prima dell'utilizzo. Conservare le istruzioni di sicurezza e di funzionamento al fine di poterle consultare ulteriormente. Seguire tutti i consigli indicati su questo manuale e sull'apparecchiatura.

- **ATTENZIONE:** Al fine di prevenire qualsiasi rischio di shock elettrico e d'incendio, non esporre l'apparecchiatura a pioggia, umidità e a sorgenti di eccessivo calore.

- **INSTALLAZIONE:** Assicuratevi che vi sia una sufficiente circolazione d'aria per evitare qualsiasi surriscaldamento all'interno dell'apparecchiatura. Non collocare l'apparecchiatura in prossimità o su superfici tessili suscettibili di ostruire il funzionamento della ventilazione. Non installate l'apparecchiatura in prossimità di sorgenti di calore come un radiatore o una fuoruscita d'aria calda, né in un posto esposto direttamente ai raggi del sole, a polvere eccessiva, a vibrazioni o a shock meccanici. Ció potrebbe provocare un erroneo funzionamento e un incidente.

- **ALIMENTAZIONE:** Far funzionare l'apparecchiatura solo con la sorgente d'alimentazione indicata sull'apparecchiatura. Le apparecchiature queste devono essere obbligatoriamente collegate su una sorgente fornita di una efficiente messa a terra. In nessun caso questo collegamento potrà essere modificato, sostituito o eliminato. Connessione delle apparecchiature alla rete elettrica deve essere successiva interruttore di circuito dell'impianto dell'edificio

- **CAVO DI ALIMENTAZIONE:** Il dispositivo è dotato di un cavo di alimentazione removibile, per rimuovere alimentazione scollegarlo dalla Presa.

Attenzione: il cavo di alimentazione è il solo modo di disconnettere l'apparecchio dell'alimentazione. Per assicurarsi che totalemente l'apparecchio non è più collegato, il cavo deve essere disconesso della presa murale.

Seguire le instruzioni seguenti:

- Il materiale collegato a residenza alla rete, deve avere un dispositivo di sezionamento facile da raggiongere eche deve essere inserito all'esterno del apparecchio.
- Disconnettere l'apparecchiatura dalla presa murale se si prevede di non utilizzarla per qualche giorno.
- Per disconnettere il cavo tirare facendo forza sul connettore.
- La presa d'alimentazione deve trovarsi in prossimità dell'apparecchiatura ed essere facilmente accessibile.
- Non far cadere il cavo di alimentazione né appoggiarci sopra degli oggetti pesanti. Se il cavo di alimentazione é danneggiato, spegnere immediatamente l'apparecchiatura.

E' pericoloso far funzionare questa apparecchiatura con un cavo di alimentazione danneggiato, un cavo graffiato puó provocare un rischio di incendio o uno shock elettrico. Verificare il cavo di alimentazione spesso. Contattare il vostro rivenditore o il servizio assistenza per una sostituzione.

- **CONNESSIONE:** Tutti gli ingressi e le uscite (tranne che per la potenza in ingresso) sono bassissima tensione di sicurezza (SELV) circuiti definiti UL / IEC 60950-1.

- **RIPARAZIONI E ASSISTENZA:** L'utilizzatore non deve in nessun caso cercare di riparare l'apparecchiatura, poiché con l'apertura del coperchio metallico o di qualsiasi altro pezzo costituente la scatola metallica, nonché svitare le viti che appaiono esteriormente, poiché ció puó provocare all'utilizzatore un rischio di shock elettrico o altri rischi.

- **APERTURE DI VENTILAZIONE:** Le apparecchiature possono comportare delle aperture di ventilazione, si prega di non introdurre mai oggetti o ostruire le sue fessure. Se un liquido o un oggetto penetra all'interno dell'apparecchiatura, disconnetterla e farla controllare da personale qualificato prima di rimetterla in servizio.

4.1.4 German

Um den Betrieb dieses Geräts zu verstehen, raten wir Ihnen vor der Inbetriebnahme alle Sicherheits und Betriebsanweisungen genau zu lesen. Diese Sicherheits- und Betriebsanweisungen für einen späteren Gebrauch sicher aufbewahren. Alle in den Unterlagen, an dem Gerät und hier angegebenen Sicherheitsanweisungen einhalten.

- **ACHTUNG:** um jegliches Risiko eines Stromschlags oder Feuers zu vermeiden, das Gerät nicht Regen, Feuchtigkeit oder intensiven Wärmequellen aussetzen.

- **EINBAU:** Eine ausreichende Luftzufuhr sicherstellen, um jegliche Überhitzung im Gerät zu vermeiden. Das Gerät nicht auf und in Nähe von Textiloberflächen, die Belüftungsöffnungen verschließen können, aufstellen. Das Gerät nicht in Nähe von Wärmequellen, wie z.B. Heizkörper oder Warmluftkappe, aufstellen und es nicht dem direkten Sonnenlicht, übermäßigem Staub, Vibrationen oder mechanischen Stößen aussetzen. Dies kann zu Betriebsstörungen und Unfällen führen.

- **STROMVERSORGUNG:** Das Gerät nur mit der auf dem Gerät bezeichnete Stromquelle betreiben. Gerät mit geerdeter Hauptstromversorgung muss an eine Stromquelle mit effizienter Erdung angeschlossen werden. Diese Erdung darf auf keinen Fall geändert, umgangen oder entfernt werden. Anschluss von Geräten ans Stromnetz muss nach Abzweigschalter des Gebäudes Installation

- **NETZKABEL:** Das Gerät ist mit einem lösbaren Netzkabel ausgestattet ; um es völlig vom Netz zu trennen, ziehen Sie bitte das Netzkabel aus der Kaltgerätebuchse.

Achtung: Das Netzkabel stellt die einzige Möglichkeit dar, das Gerät vollständig vom Netzanschluss zu trennen. Um sicherzustellen, dass das Gerät nicht mehr versorgt wird, muss dieses Kabel aus der Netzsteckdose ausgesteckt werden.

Bitte beachten Sie die folgenden Hinweise:

- Wenn Geräte dauerhaft am Netz bleiben, müssen sie über eine leicht zugängliche Trennvorrichtung verfügen, die außen am Gerät angebracht sein muss.
- Das Kabel mittels dem Stecker herausziehen. Niemals am Stromkabel selbst ziehen.
- Die Steckdose muß sich in der Nähe des Geräts befinden und leicht zugänglich sein.
- Das Stromkabel nicht fallen lassen und keine schweren Gegenstände auf es stellen.

Wenn das Stromkabel beschädigt ist, das Gerät sofort abschalten. Es ist gefährlich das Gerät mit einem beschädigten Stromkabel zu betreiben; ein abgenutztes Kabel kann zu einem Feuer oder Stromschlag führen. Das Stromkabel regelmäßig untersuchen. Für den Ersatz, wenden Sie sich an Ihren Verkäufer oder Kundendienststelle.

- **ANSCHLÜSSE:** Alle Eingänge und Ausgänge (mit Ausnahme der Stromversorgung) sind Safety Extra Low Voltage (SELV) Schaltungen wie in UL / IEC 60950-1 definiert.

- **REPARATUR UND WARTUNG:** Der Benutzer darf keinesfalls versuchen das Gerät selbst zu reparieren, die Öffnung des Geräts durch Abnahme der Abdeckhaube oder jeglichen anderen Teils des Gehäusessowie die Entfernung von außen sichtbaren Schrauben zu Stromschlägen oder anderen Gefahren für den Benutzer führen kann. Wenden Sie sich an Ihren Verkäufer, Ihre Kundendienststelle oder an qualifizierte Fachkräfte.

- **ÖFFNUNGEN UND MUNDUNGEN:** Die Geräte können über Öffnungen verfügen (Belüftung, Schlitze, usw.). Niemals Gegenstände in die Öffnungen einführen oder die Öffnungen verschließen. Wenn eine Flüssigkeit oder ein Gegenstand in das Gerät gelangt, den Stecker herausziehen und es vor einer neuen Inbetriebnahme von qualifiziertem Fachpersonal überprüfen lassen.

4.1.5 Spanish

Para comprender mejor el funcionamiento de este aparato, le recomendamos que le acuidadosamente todas las consignas de seguridad y de funcionamiento del aparato antes de usarlo. Conserve las instrucciones de seguridad y de funcionamiento para que pueda consultarlas posteriormente. Respete todas las consignas indicadas en la documentación, relacionadas con el producto y este documento.

- **CUIDADO:** Para prevenir cualquier riesgo de choque eléctrico y de incendio, no exponga este aparato a la lluvia, a la humedad ni a fuentes de calorintensas.

- **INSTALACIÓN:** Cerciórese de que haya una circulación de aire suficiente para evitar cualquier sobrecalentamiento al interior del aparato. No coloque el aparato cerca ni sobre una superficie textil que pudiera obstruir los orificios de ventilación. No instale el aparato cerca de fuentes de calor como radiador o boca de aire caliente, ni en un lugar expuesto a los rayos solares directos o al polvo excesivo, a las vibraciones o a los choques mecánicos. Esto podría provocar su mal funcionamiento o un accidente.

- **ALIMENTACIÓN:** Ponga a funcionar el aparato únicamente con la fuente de alimentación que se indica en el aparato. Los aparatos deben estar conectados obligatoriamente a una fuente equipada con una puesta a tierra eficaz. Por ningún motivo este enlace de tierra deberá ser modificado, cambiado o suprimido. Conexión del equipo a la red eléctrica debe ser posterior del interruptor de circuitos derivados de la instalación del edificio

- **CABLE DE CORRIENTE:** El equipo se suministra con un cable de corriente si desconectamos el cable dejamos al equipo sin alimentación.

Atención: El cable de alimentación constituye el único medio de desconectar el aparato totalmente de la red eléctrica. Para estar seguro de que el aparato no está más alimentado, este cable debe de ser desconectado de la toma de corriente.

Aplicar las siguientes consignas:

- El material conectado a residencia a la red informática, debe de tener un dispositivo de seccionamiento fácilmente accesible que debe de ser incorporado al exterior del aparato.
- Desconectar el aparato del enchufe mural si no piensa utilizarlo durante varios días.
- Para desconectar el cable, tire de la clavija. No tire nunca del cable propiamente dicho.
- El enchufe de alimentación debe estar cerca del aparato y ser de fácil acceso.
- No deje caer el cable de alimentación ni coloque objetos pesados encima de él.

Si el cable de alimentación sufriera algún daño, ponga el aparato inmediatamente fuera de tensión. Es peligroso hacer funcionar este aparato con un cable averiado, ya que un cable dañado puede provocar un incendio o un choque eléctrico. Verifique el estado del cable de alimentación de vez en cuando. Póngase en contacto con su distribuidor o con el servicio de posventa si necesita cambiarlo.

- **CONEXIONES:** Todas las entradas y salidas (a excepción de la entrada de alimentación) son de tensión extra baja de seguridad (SELV) circuitos definidos en UL / IEC 60950-1.

- **REPARACIÓN Y MANTENIMIENTO:** Por ningún motivo, el usuario deberá tratar de efectuar operaciones de reparación, ya que si abre los aparatos retirando el capó o cualquier otra pieza que forma parte de las cajas o si destornilla los tornillos aparentes exteriores, existe el riesgo de producirse una explosión,choques eléctricos o cualquier otro incidente. Contacte el servicio de posventa, a su distribuidor o dirigirse con personal cualificado únicamente.

- **ABERTURAS Y ORIFICIOS:** Los aparatos pueden contener aberturas (aireación, ranuras, etc.). Nointroduzca allí ningún objeto ni obstruya nunca estas aberturas. Si un líquido o un objeto penetra al interior del aparato, desconéctelo y hágalo revisar por personal cualificado antes de ponerlo nuevamente en servicio.

4.2 Unpacking and inspection

- 1 x **Ascender 32 (ASC3204)**
- 1 x Power supply cord
- 1 x Ethernet cross cable (for device control)
- 1 x Web-based Remote Control Software included and hosted on the device
- 1 x Rack mount kit
- 1 x User manual (PDF version)*
- 1 x Quick start guide*

CAUTION!

Mounting using only the front rack ears is sufficient for fixed installations. Additional support, such as the rear rack support or slide rails, is required for mobile applications, and recommended for all.

** User manual and Quick start guide are also available on www.analogway.com*

Before racking and plugging any inputs and outputs, it is advised to power on the unit. Should you encounter any issue, you must contact immediately your local distributor or dealer, or closest **Analog Way** technical support offices *(see chapter: **14. Contact information**)*.

4.3 Rack mount information

Tabletop mounting: **Ascender 32** can be used directly on a table; the unit is equipped with 4 handy anti-slip rubber feet.

Rack mounting: **Ascender 32** is compatible with a 19" enclosure. Please follow the instructions below to install the device in a 19" rack.

CAUTION: **Ascender 32** weighs 42.77LBS (19,4Kg). Please provide appropriate support to the frame during installation. First, place ears on each side of the device (ref: 180469) Place the device in your rack. Attach the device to the rack by using 2 screws through the ears (screws not included).
Additional support, such as the rear rack support or slide rails, is required. **Ascender 32** is equipped with drill holes designed for compatibility with rack mount (ref: 180489). Use 4 screws M4x10 countersinck on both sides of the unit. Adjust the size of the rail in order to fill your rack.
A lacing bar is provided with the rack mount kit (ref: 180489). Install it with the M4x10 screws according to your cables position.
Connect all of the cables to the device and attach them to the lacing bar with the help of tie wraps.

IMPORTANT:
- The openings in the front and rear panels of the device are for cooling. Air flows from front to back. Do not cover these openings to avoid cutting air circulation.
- The maximum ambient operating temperature should not exceed 40°C (104°F).
- The rack and all mounted equipment in it must be reliably grounded according to national and/or local electrical standards.

Dismantling front handles of the device could invalidate warranty on after-sales services of your **Ascender 32**. It is strongly advised to avoid using front handles as rests for your **Ascender 32**, they are designed for manipulation purposes only.

If required, front handles of the device can be dismantled, but with caution. The original screws removed can be reintroduced to their location without handles in place. Substantial damages can occur, including risk of electric shock from the main voltage. Only M4x12mm screws can be used. They are supplied with the unit.

4.4 Cable and adaptor information

A large choice of cables and adaptors are compatible with the **Ascender 32**. Please refer to the hardware specifications chapter to find the most suitable cables for your operations.

4.5 Hardware specifications

4.5.1 Signal descriptions

For each type of signal, here are the levels and the impedance accepted by the **Ascender 32**.

Analog SDTV

Type	Levels	Impedance
Composite	0,7 Vpp + 0,3 Vpp	75 Ω
S. Video	Y = 0,7 Vpp + 0,3 Vpp C = 0,7 Vpp	75 Ω
YUV	Y = 0,7 Vpp + 0,3 Vpp U = 0,7 Vpp V = 0,7 Vpp	75 Ω
RGsB	R = 0,7 Vpp G = 0,7 Vpp + 0,3 Vpp B = 0,7 Vpp	75 Ω
RGBS	R, G, B = 0,7 Vpp	R, G, B = 75 Ω
	S = 0,3 Vpp 75 Ω or S = TTL	

Digital SDTV

Type	Characteristics
SD-SDI	YUV - 10 bits – 4.2.2 - 270 Mb/s No payload ID management Only A-level type
DVI	RGB ou YUV – 8 bits – 4.4.4 – 16/235 - TMDS
HDMI	RGB or YUV – 10 bits – 4.4.4 or 4.2.2 – 16/235 – TMDS
DisplayPort	RGB or YUV – 10 bits – 4.4.4 or 4.2.2 – 16/235 – Main Link

Analog EDTV

Type	Levels	Impedance
YUV	Y = 0,7 Vpp + 0,3 Vpp U = 0,7 Vpp V = 0,7 Vpp	75 Ω
RGsB	R = 0,7 Vpp G = 0,7 Vpp + 0,3 Vpp B = 0,7 Vpp	75 Ω
RGBS	R, G, B = 0,7 Vpp	R, G, B = 75 Ω
	S = 0,3 Vpp 75 Ω or S = TTL	

Digital EDTV

Type	Characteristics
DVI	RGB or YUV – 8 bits – 4.4.4 – 16/235 - TMDS
HDMI	RGB or YUV – 10 bits – 4.4.4 or 4.2.2 – 16/235 – TMDS
DisplayPort	RGB or YUV – 10 bits – 4.4.4 or 4.2.2 – 16/235 – Main Link

Analog HDTV

These formats are compatible with bi-level and tri-level sync on 1 or 3 wires.

Type	Levels	Impedance
YUV	Y = 0,7 Vpp ±0,3 Vpp U = 0,7 Vpp ±0,3 Vpp V = 0,7 Vpp ±0,3 Vpp	75 Ω
RGsB	R = 0,7 Vpp ±0,3 Vpp G = 0,7 Vpp ±0,3 Vpp B = 0,7 Vpp ±0,3 Vpp	75 Ω

Digital HDTV

Type	Characteristics
HD-SDI	YUV - 10 bits – 4.2.2 – 1,485Gb/s and 1,485/1.001Gb/s Only A-level type Input and output payload ID management for HDTV format only
3G-SDI	YUV - 10 bits – 4.2.2 – 2,97Gb/s and 2,97/1.001Gb/s Only A-level type Input and output payload ID management for HDTV format only
DVI	RGB or YUV – 8 bits – 4.4.4 – 16/235 - TMDS
DisplayPort	RGB or YUV – 8 bits – 4.4.4 or 4.2.2 – 16/235 – Main Link
HDMI	RGB or YUV – 10 bits – 4.4.4 or 4.2.2 – 16/235 – TMDS

Analog computer

Type	Levels	Impedance
RGsB	R = 0,7 Vpp G = 0,7 Vpp + 0,3 Vpp B = 0,7 Vpp	75 Ω
RGBS	R, G, B = 0,7 Vpp	R, G, B = 75 Ω
	S = 0,3 Vpp 75Ω or S = TTL	
RGBHV	R, G, B = 0,7 Vpp	R, G, B = 75 Ω
	H = TTL and V = TTL	

Digital computer

Type	Characteristics
DVI	RGB – 8 bits – 4.4.4 – 0/255 - TMDS
HDMI®	RGB or YUV – 10 bits – 4.4.4 or 4.2.2 – 0/255 – TMDS
DiplayPort	RGB or YUV – 10 bits – 4.4.4 or 4.2.2 – 0/255 – Main Link

4.5.2 Supported video formats

Ascender 32 can support all the following video formats:

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

Cinema formats

Format	Size	Vertical frequency
DCDM	2048 x 1080	24Hz

4.5.3 Computer formats

Important: The maximum pixel clock frequency is 165 MHz. This corresponds to 1600x1200 @ 60 Hz with reduced blanking

4.5.4 Input Computer formats

Ascender 32 inputs support GTF (version 1.1), CVT (version 1.1) and DMT (version 1.0 rev 12) standards. All others non-standard formats are supported via the custom format capability of the framework.

4.5.5 Output Computer formats

Ascender 32 outputs support GTF (version 1.1), CVT (version 1.1) and DMT (version 1.0 rev 12) standards. Other non-standard formats are supported via the custom format capability of the framework.
Ascender 32 offers a list of pre-defined output formats. The list of output formats is always displayed from increasing number of pixels per line and then number of lines.

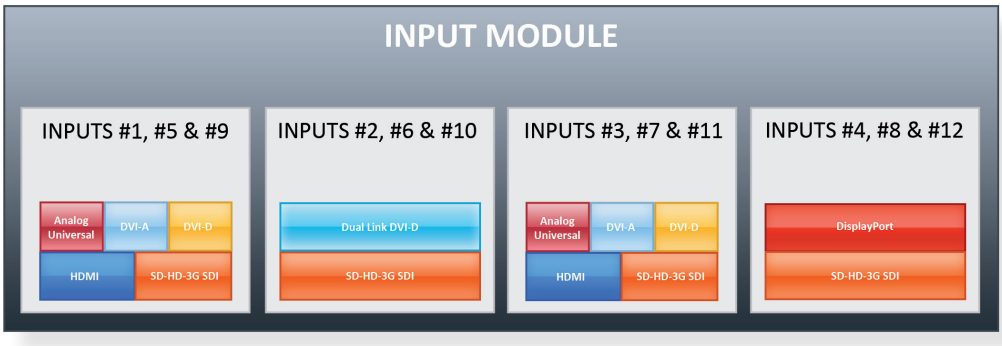
Format	Size	Aspect ratio	Frequency	
			50 Hz	60 Hz
VGA	640x480	4/3	Yes	Yes
WVGA	848x480	16/9	Yes	Yes
SVGA	800x600	4/3	Yes	Yes
720p	1280x720	16/9	Yes	Yes
XGA	1024x768	4/3	Yes	Yes
WXGA	1280x768	5/3	Yes	Yes
SWXGA	1360x768	16/9	Yes	Yes
1366x768	1366x768	16/9	Yes	Yes
WXGA2	1280x800	16/9	Yes	Yes
SWXGAP	1366x800	5/3	Yes	Yes
900p	1440x900	16/10	Yes	Yes
SXGA	1280x1024	5/4	Yes	Yes
SXGAP	1400x1050	5/3	Yes	Yes
UXGA	1600x1200	4/3	Yes	Yes
WSXGAP	1680x1050	16/9	Yes	Yes
1080p	1920x1080	16/9	Yes	Yes
WUXGA	1920x1200	16/9	Yes	Yes
2K	2048x1080	17/9	Yes	Yes
QXGA*	2048x1536	4/3	Yes	Yes
WQHD*	2560x1440	16/9	Yes	Yes

*Dual-Link format

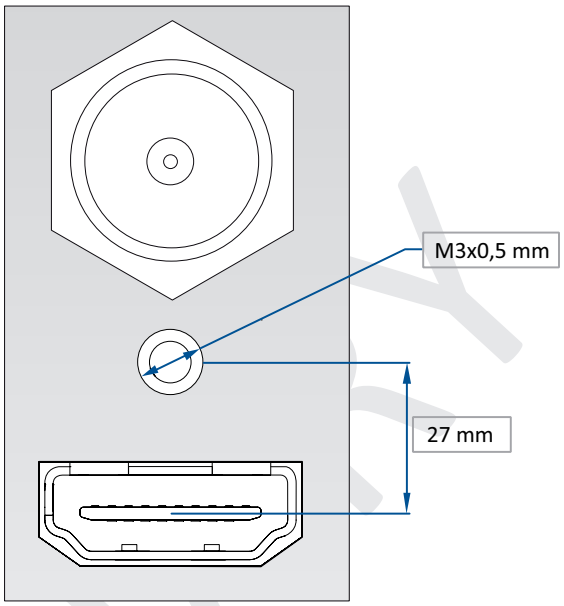
Format	Size	Aspect ratio	Frequency	
			50 Hz	60 Hz
WQXGA*	2560x1600	16/10	Yes	Yes
	1152x864	4/3	Yes	Yes
	1280x960	4/3	Yes	Yes
	2048x1152	16/9	Yes	Yes
	1600x900	16/9	Yes	Yes
	1440x960	3/2	Yes	Yes
	1360x1020	4/3	Yes	Yes

4.6 Input specifications

Ascender 32 offers three input modules. Each input module contains 4 inputs.
Each input is composed of several plugs. A plug corresponds to a socket on the rear panel.
The following types of plugs are available on the rear panel:
- 4-Lanes DisplayPort in version 1.1a (can accept a Dual-Link DVI input via a non-supplied active adaptor)
- HDMI
- Single DVI-I / Dual-Link DVI-D (DVI-I connector),
- 3G/HD/SD-SDI (BNC),
- Universal Analog (HD-15)



Ascender 32 uses an HDMI plug with a standard mounting screw above the connector. Please see the diagram below. This hole is occupied by a Torx10 screw when you receive the unit. If desired, this screw can be removed and replaced by a compatible aftermarket HDMI plug locking mechanism to ensure a secure HDMI connection.



This hole is used by a TX10 screw when you receive the unit, if you wish to use an HDMI cable with a security fixing screw you can take this screw off and use your own in order to insure good fixing of your HDMI plug.

Please take a look at the accepted format regarding the input plug type:

Plug Type	Formats	Signals
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	SDTV - EDTV - HDTV - Computer	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
3G/HD/SD-SDI Input	SDTV - HDTV	Digital SDTV - Digital HDTV

WARNING: Only the video signal is processed for the HDMI®, 3G/HD/SD-SDI and DisplayPort inputs; the embedded audio is not processed. All other HDMI® features such as: HDMI Ethernet Channel, Audio Return Channel, 3D, 4K, Content Type, Deep Color and x.v.Color are **NOT** supported.

Each input can display only one active plug at a time. It is instantly available on the device and can be displayed simultaneously on many layers or outputs, with different sizes and positions. Each input can be used independently except with the Dual-Link and Dual-Head configuration which are using two inputs.

Standard	Size	HD-15	3G-SDI	HDMI	2-Lanes DisplayPort	4-Lanes[3] DisplayPort	Single-Link DVI-I	Dual-Link DVI-D
NTSC	525/480i	Yes	Yes	Yes	No	No	No	No
PAL	625/576i	Yes	Yes	Yes	No	No	No	No
SECAM	625/576i	Yes	Yes	Yes	No	No	No	No
480p	525/480p	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	2048x1080	No	Yes	No	No	No	No	No
VGA	640x480	Yes	No	Yes	Yes	Yes	Yes	Yes

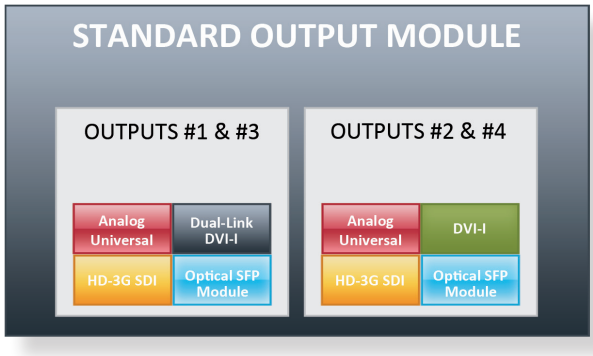
Standard	Size	HD-15	3G-SDI	HDMI	2-Lanes DisplayPort	4-Lanes[3] DisplayPort	Single-Link DVI-I	Dual-Link DVI-D
800x480	800x480	Yes	No	Yes	Yes	Yes	Yes	Yes
WVGA	848x480	Yes	No	Yes	Yes	Yes	Yes	Yes
SVGA	800x600	Yes	No	Yes	Yes	Yes	Yes	Yes
1280x600	1280x600	Yes	No	Yes	Yes	Yes	Yes	Yes
720p RGB	1280x720	Yes	No	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
1600x900	1600x900	Yes	No	Yes	Yes	Yes	Yes	Yes
960p RGB	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
DILA4/3	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
UXGA	1600x1200	Yes[1]	No	Yes	Yes	Yes	Yes	Yes
WUXGA	1920x1200	Yes[1]	No	Yes	Yes	Yes	Yes	Yes
1920x1440	1920x1440	Undersampled[2]	No	No	No	Yes	No	Yes
QXGA[4]	2048x1536	Undersampled[2]	No	No	No	Yes	No	Yes
WQXGA[4]	2560x1600	No	No	No	No	Yes	No	Yes

Notes:
1) Reduced Blanking
2) The signal is under-sampled: the image cannot be reproduced on 1:1 scaling (i.e. a 1920x1440 signal is under-sampled and then stretched horizontally to fit on a 1920x1440 image. The quality is not as good as it could be with a properly sampled signal)
3) 4-Lanes DisplayPort in version 1.1a (accept a Dual-Link DVI input via a non-supplied active adaptor)
4) Dual-Link format

4.7 Output specifications

4.7.1 Standard output

Ascender 32 has two standard output modules.
The standard module contains two outputs with the following 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-I connectors).



When using the standard output module for a dual-link DVI connection, connect the display to output #1. Output #2 will not be available when outputting a Dual-link DVI connection.

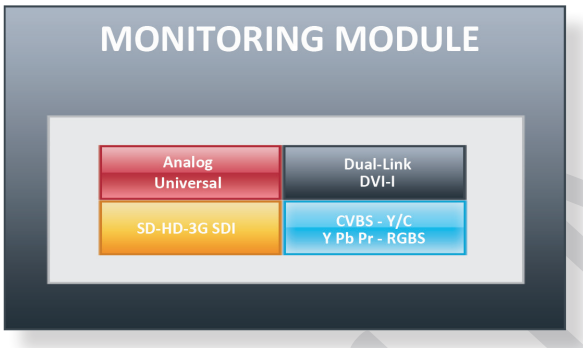
Please see the formats available on the output:

Output Type	Format	Signal
Analog Computer/Video Ouput	HDTV Computer	Analog HDTV Analog Computer
DVI-I Dual-Link Output	HDTV Computer	Digital HDTV Digital Computer
3G-SDI Output	HDTV	Digital HDTV
Dual Video Optical SFP Module	HDTV	Digital HDTV

Please note that SDTV and EDTV are not available on the standard output module and require the monitoring output module.

4.7.2 Monitoring output

Ascender 32 has one monitoring output module.
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).



Please see the output formats of the monitoring output:

Output Type	Format	Signal
Video Y/C Output	SDTV	Analog SDTV
Video Y Pb Pr Output	SDTV	Analog SDTV
Video RGBSTTL Output	SDTV	Analog SDTV
Analog Computer / Video Output	SDTV EDTV HDTV Computer	Analog SDTV Analog EDTV Analog HDTV Analog Computer
DVI-I Dual-Link Output	SDTV EDTV HDTV Computer	Digital SDTV Digital EDTV Digital HDTV Digital Computer
SD-HD-3G-SDI Output	SDTV HDTV	Digital SDTV Digital HDTV

4.8 Communication specifications

4.8.1 Serial interface

A RS-232 compliant link is available through a DB-9 connector. It is only used for maintenance purpose.

Link	Baud rate
RS-232 Link	Will depend on debug application

4.8.2 LAN interface

A standard LAN interface is available through a RJ-45 connector (at 10/100/1000 Mbps)
- It permits controlling and updating the device
- It permits transferring Frames and Logos
- It permits transferring configuration and log files
- It permits connectivity with a web-client for the Web RCS application

4.8.3 Protocol

Protocol	Availability
TCP	Yes
UDP	Yes

4.8.4 IP address

Address allocation	Availability
Static user defined address	Yes
DHCP	Yes

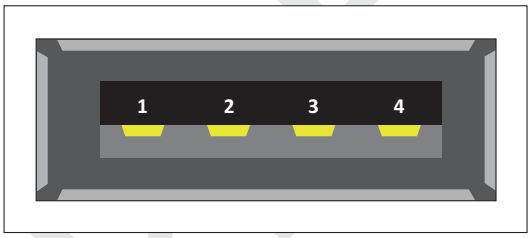
4.8.5 USB host interface

In order to support a USB Host interface, **Ascender 32** is equipped with five A-type USB connectors:
- One is located on the front panel,
- Four are located on the rear panel.

It is used to transfer updates.

4.8.6 Compliance

This interface is fully compliant with USB 2.0 High Speed specification (up to 480 Mbps).



Pin number	Function
1	5V
2	D-
3	D+
4	Ground

SUPPORTED CLASSES

Class	Availability
SCSI Mass Storage	Yes

4.9 Environmental specifications

Dimensions:

- W 482 x D 552 x H 177 mm with rack mount and handles
- 19”W x 23,73”D x 6.97”H

- W 445 x D 552 x H 177 mm without rack mount and handles
- 17, 52”W x 23,73”D x 6.97”H

Weight:

- 19,4 kg / 42.77 lb (Compatible with a Standard 19” rack, Height = 4 U)

- Cooling air flows from front side to rear.
- Max ambient operating temperature: < 40°C (< 104°F).
- Operating temperature: 0 to +40°C / +32°F to +104°F
- Storage temperature: -40 to +70°C / -40°F to +158°F
- Operating humidity: 10 to 80% (non condensing)
- Input voltage range: 100-240 VAC autosensing, 50/60 Hz
- Typical consumption: **Ascender 32**: 345 W

ELECTRICAL SECURITY:

- IEC 60950-1:2005 (2nd Edition); Am 1:2009
- EN 60950-1:2006 + A1:2010 + A11:2009 + A12:2011, CSA C22.2; National Differences specified in the CB Test Report
- UL listed (Canada & US)

ELECTROMAGNETIC COMPATIBILITY:

- IEC 61000-3-2 (2009)
- IEC 61000-3-3 (2008)
- CISPR22 (2008)
- CISPR24 (2010)
- FCC Part15 of 2012
- IECS-003 of August 2012

ENVIRONMENT:

- RoHS
- WEEE

USE/TRANSPORT:

- ETS 300 019-2-2: Environmental conditions and environmental tests for telecommunications equipment ; Part 2-2 : specification of environmental tests ; Transportation ; Specification T 2.3: Public transportation
- ETS 300 019-2-3: Environmental conditions and environmental tests for telecommunications equipment ; Part 2-3 : specification of environmental tests ; Stationary use at weather protected locations ; Specification T 3.1 and T 3.1 E: Temperature-controlled locations

If your device should lose power unexpectedly, you may lose any unsaved settings.

4.10 HDCP management

4.10.1 Input HDCP detection

The input HDCP detection is managed by the input components according to HDCP specification.

4.10.2 Output HDCP detection

Ascender 32 manages the output HDCP detection according to one of the following criteria:
- Hot plug,
- 3-second period attempt.

4.10.3 Keys' checking

Keys' checking is performed according to the most restrictive condition among the 2 following ones:
- Every 2 seconds
- Every 128 frames

4.10.4 Output management

HDCP protected content can be displayed only on HDCP protected outputs or displays. Therefore, whenever an HDCP protected source is placed into a layer routed to a non-protected output, **Ascender 32** will not output the protected content on this non-protected output, and the layer will be muted.
If possible, **Ascender 32** will allow to display all other non-protected contents, otherwise the entire output will be muted until the protected content is no longer routed.

4.10.5 HDCP Classification

Class	Support
HDCP Receiver	Yes
HDCP Transmitter	Yes
HDCP Repeater	No

HDCP Receiver
The HDCP negotiation can be enabled or disabled on all HDCP inputs.

HDCP Transmitter
The HDCP negotiation can be enabled or disabled on all HDCP outputs.
Ascender 32 can manage HDCP repeaters on its outputs: up to 32 display devices can authenticate simultaneously on each output.

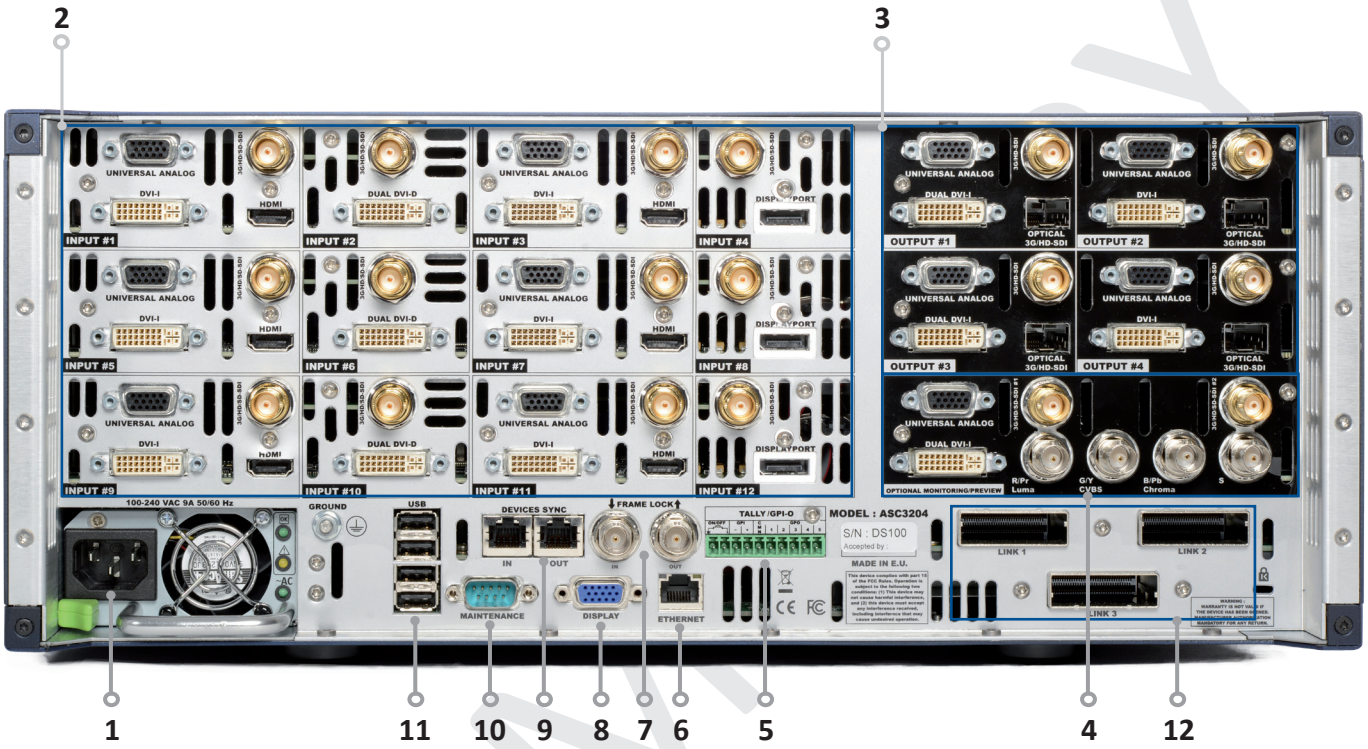
4.10.6 Status

In order to permit quick identification of all the HDCP operations on the device, **Ascender 32** provides a full set of status summary to help the user with the HDCP management:
- A front panel menu that displays all the general HDCP status of all inputs and outputs
- A Web RCS application map that displays a diagram with all the input/output status
- On the monitoring output, the HDCP status of each input will be indicated.

5. CONNECTING THE ASCENDER 32

5.1 Description

5.1.1 Rear panel



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

2. Inputs #1 to #12:
- 6 x HDMI
- 9 x DVI (6 x DVI-I & 3 x DVI-D / Dual link available on Inputs #2, #6 and #10)
- 3 x DisplayPort (Dual link available on Inputs #4, #8 & #12)
- 12 x 3G/HD/SD-SDI
- 12 x Universal Analog (6 x HD15 & 6 x DVI-A)

3. Outputs #1, #2, #3 & #4:
- 8 x Universal Analog (4 x HD15 & 4 x DVI-A)
- 4 x DVI-I (DVI Dual-Link on outputs #1 & #3)
- 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)

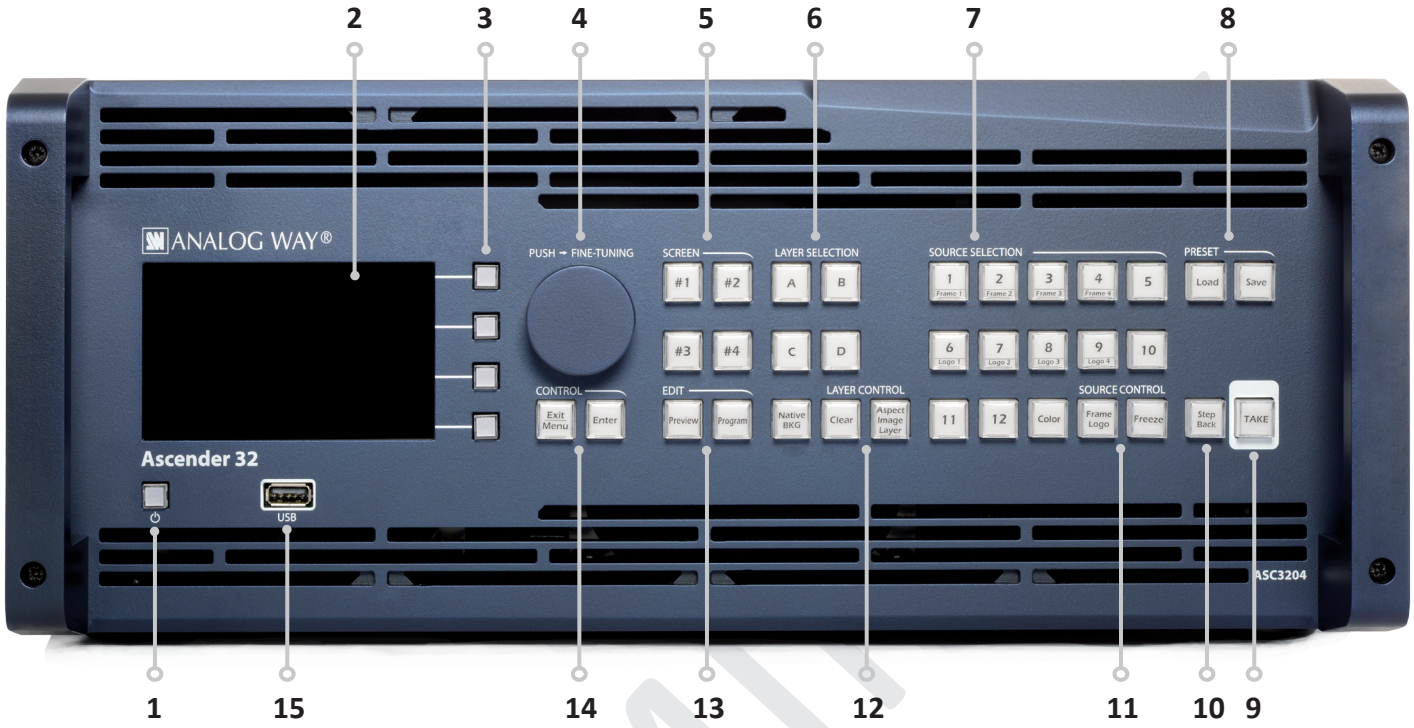
9. Devices sync.: Used for effect sync in multi-machine mode.

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.

5.1.2 Front panel



1. On/Off - Stand-by: Hold for 3 seconds for stand-by mode

2. 4,3'' TFT color display (with WVGA resolution)

3. Contextual buttons

4. Menu scroll knob

5. Screen: #1 to #4: select a screen

6. Layer selection: Native Background: not scaled layer - **A/B/C/D:** scaled layers

7. Source selection: #1 to #12: access Frame #1 to #4 or Logo #1 to #4 - **Color:** fill in a layer with a color

8. Preset: Load: load a preset - **Save:** save a preset

9. TAKE: Transition the pre-selected sources onto the Program output with the selected effects

10. Step Back: Recall the last preset into your Preview monitor

11. Source control: Frame logo: press before selecting the Logo/Frame number - **Freeze:** freeze the input linked to the current layer on the Program

12. Layer control: Clear: clear a layer - **Aspect Image Layer:** adjust Layer properties

13. Edit: Program: edit Program - **Preview:** edit Preview

14. Control: Exit/Menu: Home menu or back one level - **Enter:** validate the menu or command

15. USB plug

6. CONTROLLING THE ASCENDER 32

6.1 Web-based RCS requirement

Ascender 32 can be controlled and operated either via the Front Panel, from your computer via the webRCS, or via one or our Event Controllers. (Control of the **Ascender 32** can also be integrated into automation and control systems, contact your local technical support for more details.)

The recommended requirements are:
- Adobe Flash® player 11.3
- 1Gb Ram
- 200Mb of free space
- 100Mb Network adaptor or above
- 1920x1080 optimized screen resolution
- 1366x768 as the minimum screen resolution.

The Web RCS has been optimized for Chrome web browser in full screen mode.

Operating system:
- Windows XP SP3 or above
- Mac OS v10.7 or above
- Ubuntu v10 or above
- Linux OS 11 or above

Web browser:
- IE v9 or above
- Chrome v20 or above
- Firefox v14 or above
- Safari v5 or above
- Opera v10 or above

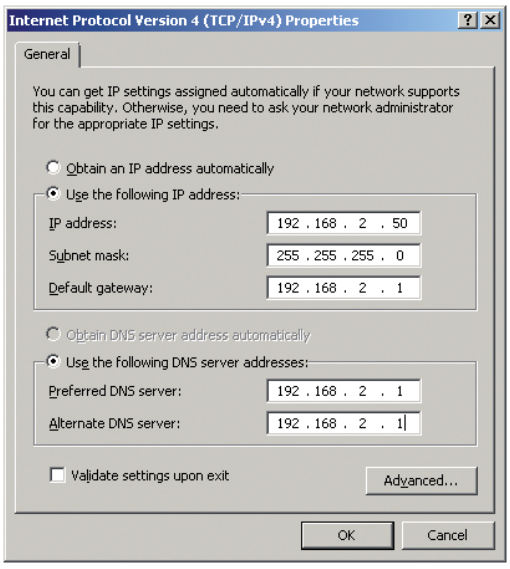
6.2 Connecting with the Web RCS

Web RCS

To be connected, you need to use a LAN connection. Use a crossover cable if you connect your computer directly to the unit, or use straight cables if you are connecting through a switch or hub.

Before switching ON the unit, please plug a LAN cable on the rear panel into the Ethernet port. Then switch ON the unit.

By default, the network settings on the **Ascender 32** are
Default IP Address: 192.168.2.140
Default Subnet Mask: 255.255.255.0
Default port: 80



To be able to connect to this address, your computer will need to be configured to use a unique IP address on the same network. If this setup will be part of a larger network with other devices, please check with your network administrator before plugging these devices into the network to avoid any IP address conflicts.
For example, you could assign the following static IP address to your computer:
Example Computer IP address: 192.168.2.50
Example Computer Subnet Mask: 255.255.255.0

Then into your web browser, please enter directly the IP address or host name of the **Ascender 32** into the address bar of your browser:

Once connected this screen will appear:

In case of difficulties:

- Verify that you are using the correct network cable and that it is free from defects. (Crossover or straight cable as required.)
- Check your IP address. It must have a unique IP address on the same network as your **Ascender 32.**
- You may need to temporarily disable any other networks on the computer, such as turning off the wifi connection
- Refresh your Web RCS
- Restart your browser

Once your computer has established connection, the RCS control panel will begin to load, and will begin to synchronize with the device. When the small "Sync" icon at the bottom right of the display has turned green, the Web RCS software is ready to use.

Some computers use an energy saving mode that turns off the network adaptor during periods of inactivity. To avoid the inconvenience of reconnecting the software during use, please ensure your network adaptor remains active by disabling the energy saving mode.

6.3 Web RCS top Menu

6.3.1 Setup

The Setup page is where you will review and modify the device configuration, such as output resolutions, input settings, backup and restore options, and more

6.3.2 Edit

The Edit mode is the place where you will manage preset creation. You will make input selections, manage your inputs, adjust the layer attributes such as size, position, effect, etc… You can save all your screen configurations into presets, as well as review and recall them on each individual screen.

6.3.3 Live

The Live mode is the section where you will operate your show. You can quickly recall presets or make input selections, as well as setup a sequence of presets that can run continuously with custom durations, or wait for user interaction.

7. OPERATING THE ASCENDER 32 FROM THE WEB RCS

7.1 Functional mode

Unlike some other devices, **Ascender 32** is not defined by an overall operating mode. Each output is configured individually. **Ascender 32** can be used in mixer mode, Soft Edge blending mode, as well as a Hybrid mode.

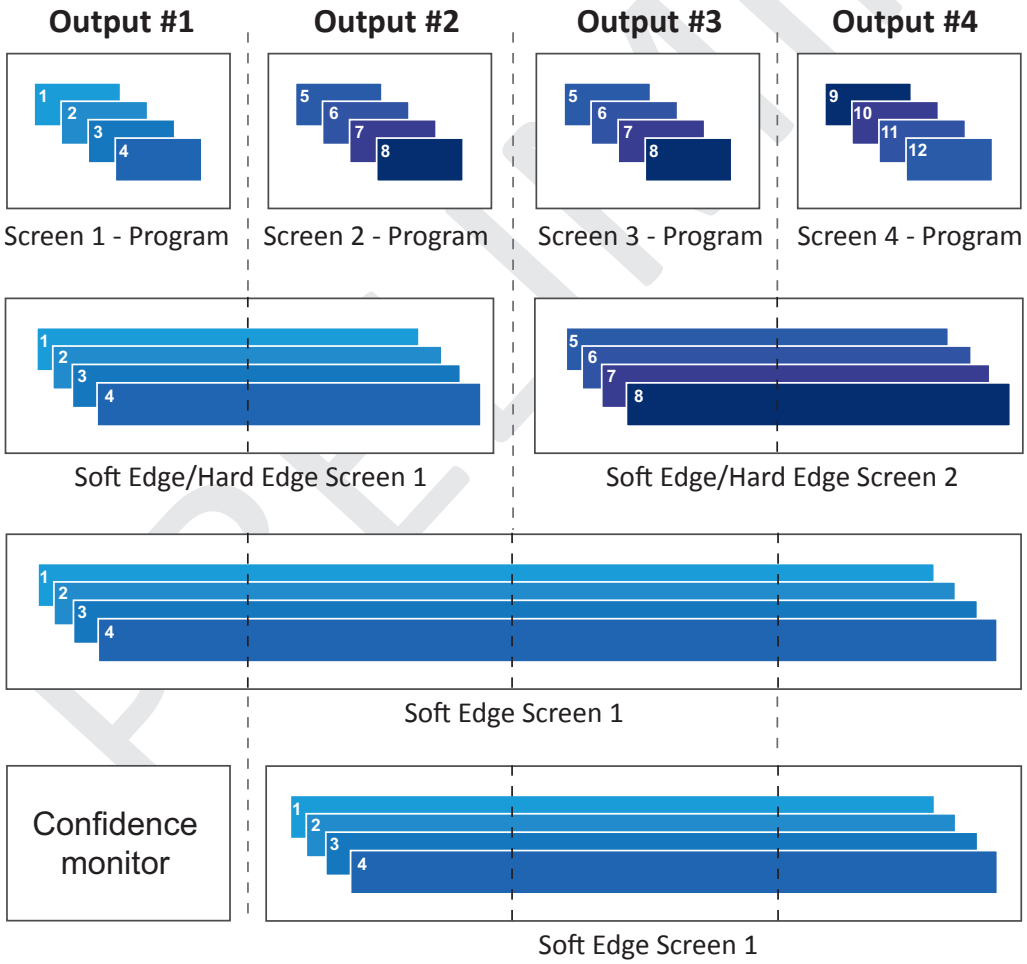
7.2 Display configurations

7.2.1 Single device configuration

Standard output

Ascender 32 outputs can be defined in many ways. The four outputs can be configured as:
- Four Program outputs
- Output #1 and output #2 in a Soft Edge/Hard Edge mode, then output #3 and output #4 in a Soft/Hard Edge
- Three Program and one Confidence output

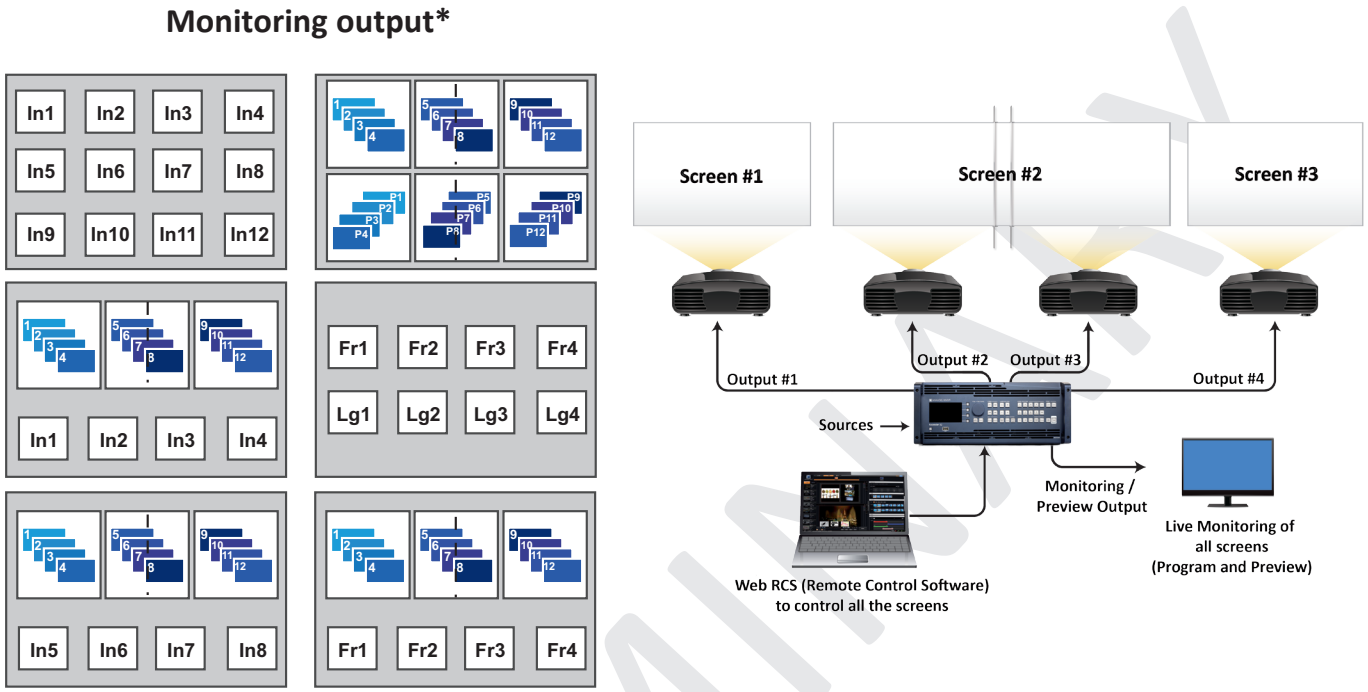
Here are some configuration examples:



Monitoring output

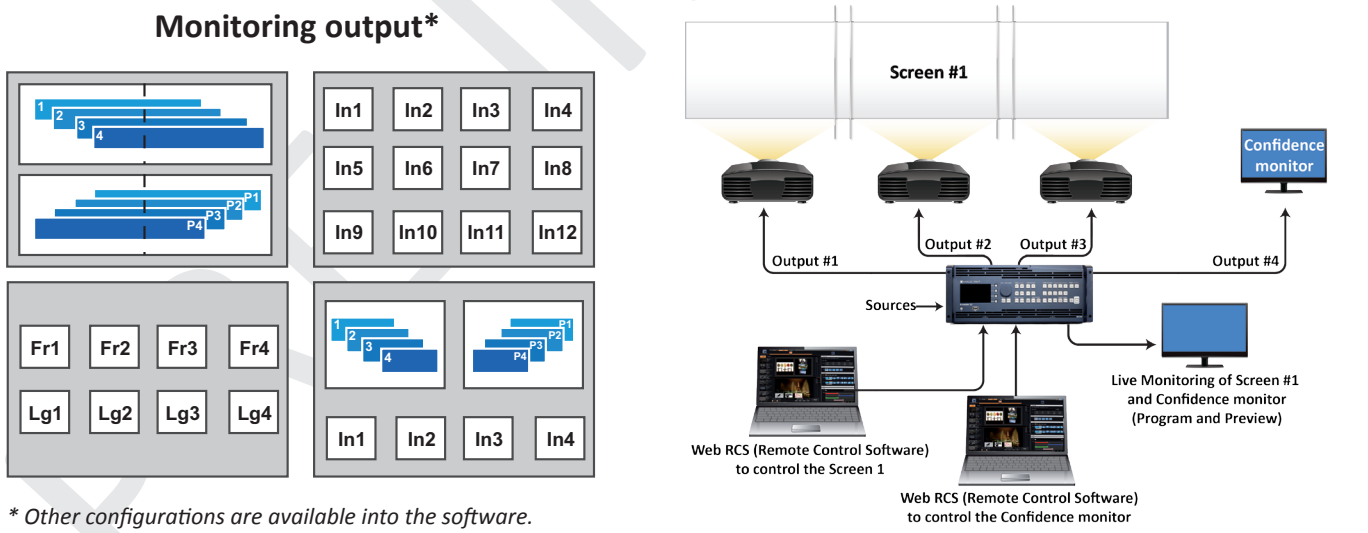
When working with Monitoring display, see the next presets:

MULTI-SCREEN CONFIGURATION



** Other configurations are available into the software.*

SOFT EDGE CONFIGURATION WITH ONE OUTPUT USED AS CONFIDENCE MONITOR

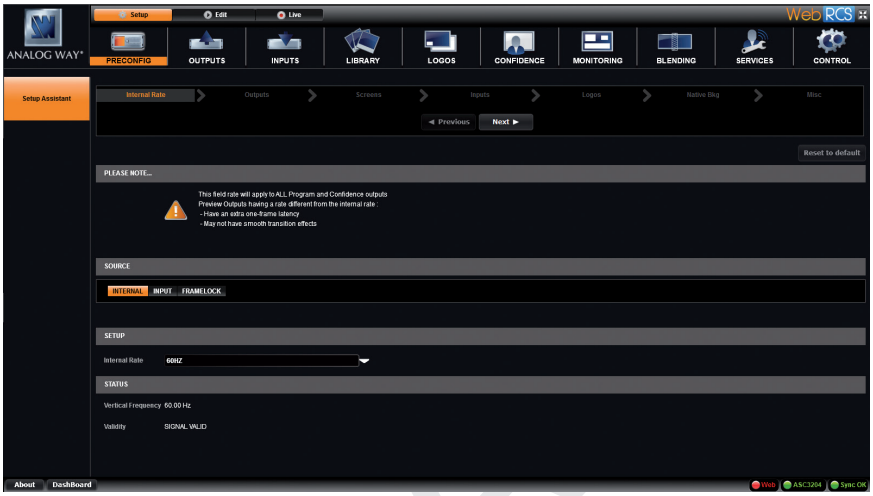


** Other configurations are available into the software.*

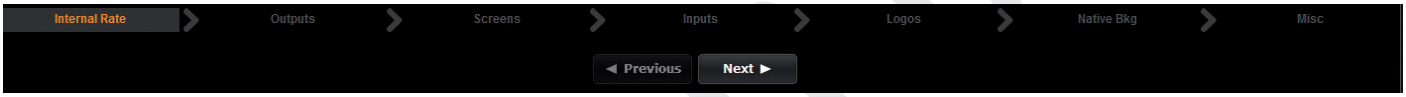
Several outputs can be declared as a Confidence Monitor

7.3 Setup

Go to the Setup section to start to set up your unit. A Setup assistant is available to help you to correctly adjust all basic setups of your unit.

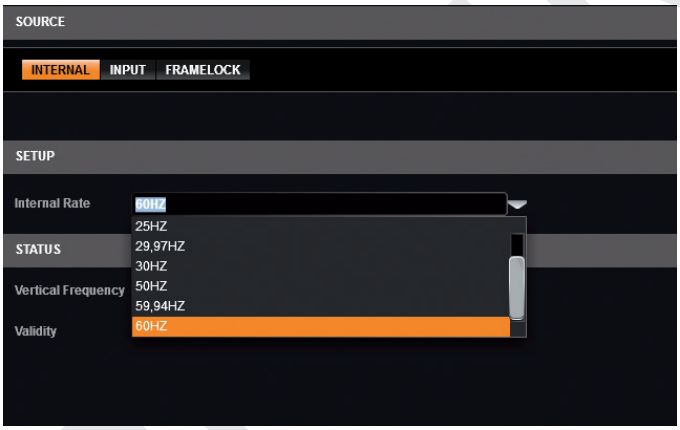


7.3.1 Internal rate

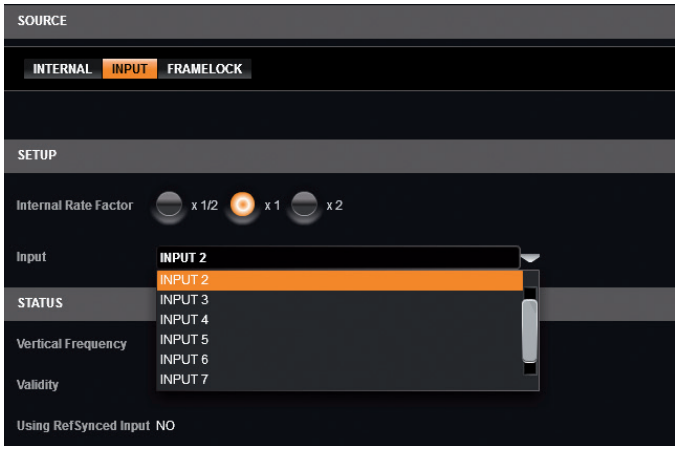


Into the internal rate section, you have to define the global internal rate of the unit. This will be the output rate of your Program output. This rate can be defined:

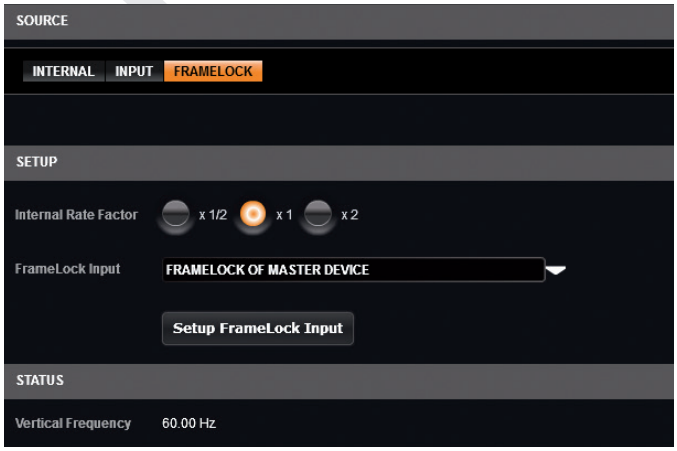
- Internally by the unit: you can define the internal rate as 25Hz, 50 Hz, 60Hz ... **[INTERNAL]**



- By choosing to follow one of the inputs: you have to select the input from where the output rate will be copied **[INPUT]**



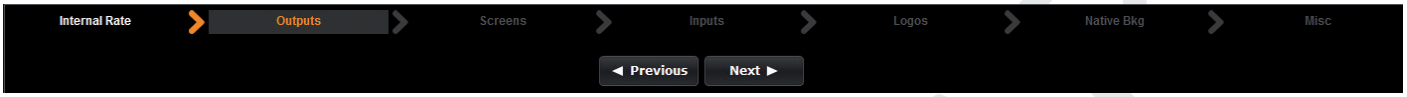
- By choosing to follow the dedicated framelock input **[FRAMELOCK]**



Once the source is defined, a resume of your outputs settings will be displayed under the tab **STATUS**.

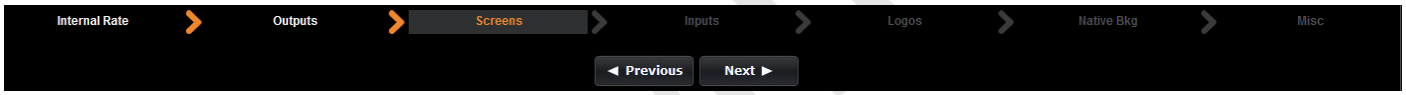
WARNING: Configuring the rate to follow a framelock input will lock the output frame rate to match the selected source. This is useful to eliminate the “strobing effect” which may be visible as an artifact of the framelocking process. However, be sure that your framelock reference input is a reliable source, as any disruptions in the reference signal may cause visible glitches on your output, even if the selected framelock reference input is not currently being displayed.

7.3.2 Outputs section

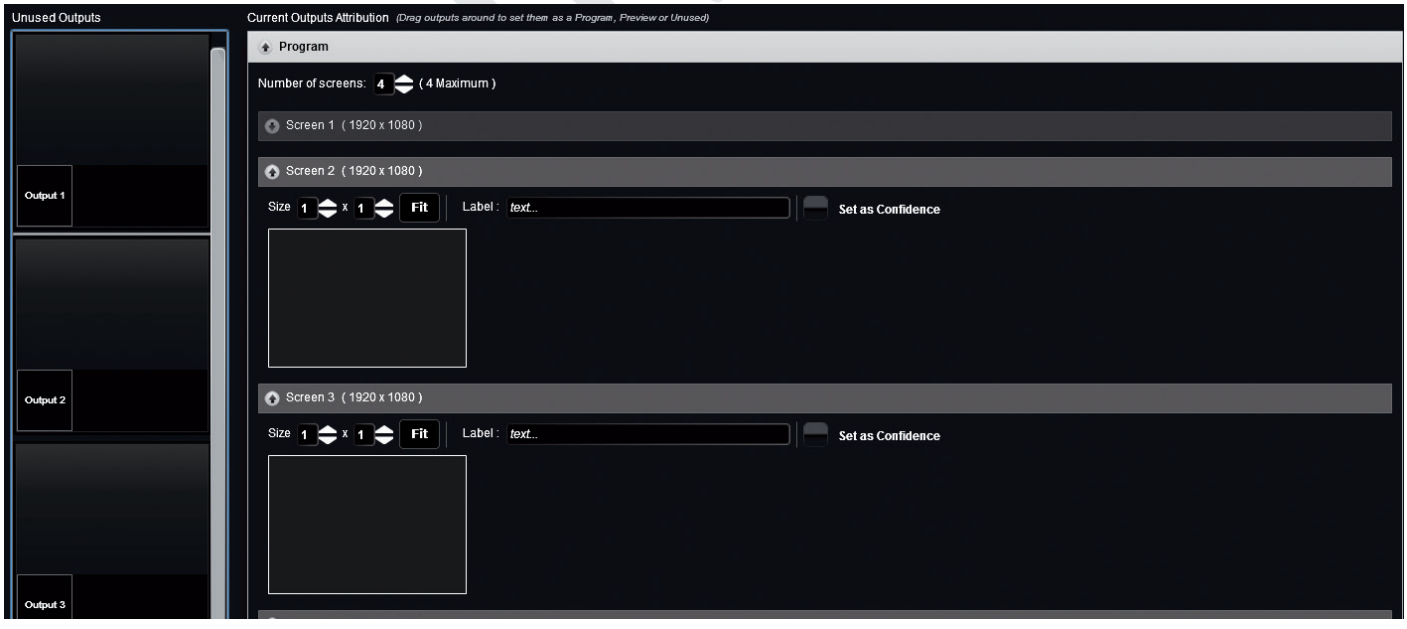


In this section, you can configure the outputs to operate as a Dual-Link output. Simply click on enable if you want to activate the output #1 or #3 as Dual-Link.
Dual-Link resolutions (ie: 2560x1600) are only available on the DVI plug on outputs #1 & #3 as they use resources from both outputs. You will lose the outputs #2 & #4 by activating the output #1 or #3 as a Dual-Link output.

7.3.3 Screens

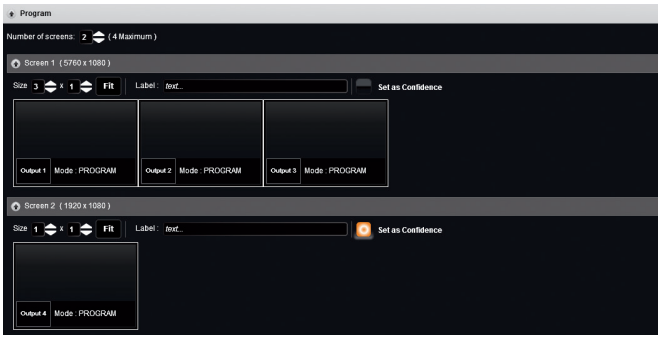


The screens page allows you to map a particular output to a particular screen or part of a screen.
On the left, you have the available outputs; on the right you have the available screens.

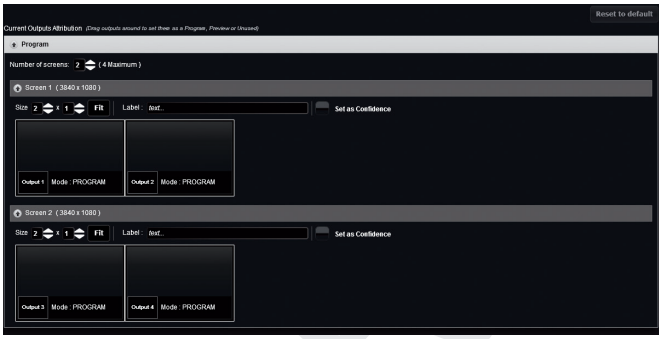


Drag and drop the available outputs into the desired screen. By default, your screens will mapped Output #1 = Screen #1, Output #2 = Screen #2 etc. You can change this order and put for example the Output #3 into the Screen #1
About the 4 screens, you can change this configuration using for example a Dual output screen. To do that, simply increase the size of Screen #1, make it 2x1. And finally drag and drop another output to the second part of the screen. Having 4 outputs, you can built up to 2 Hard Edge screens of each 2 outputs.
At any moment you can setup a screen as a Confidence monitor clicking on the associated button.

2 screens:
3 Program outputs and 1 Confidence output



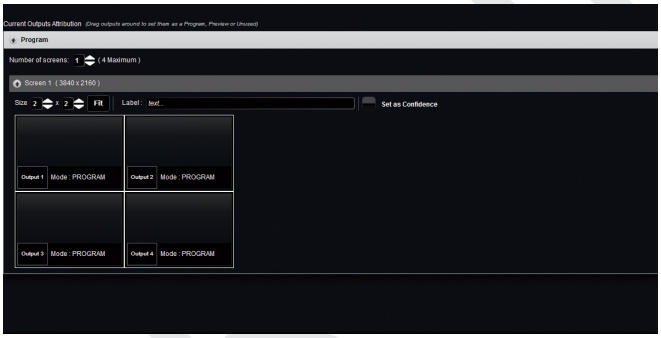
2 screens:
Program outputs 1 & 2 and Program outputs 3 & 4

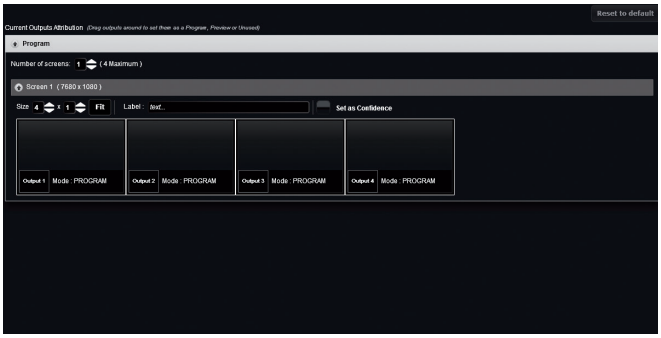


4 screens:
4 Program outputs

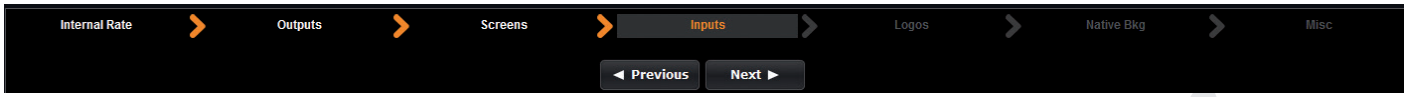
1 screen: 4 outputs as Hard Edge

You have the choice to build 2 Hard/Soft Edge: horizontally or vertically or both:





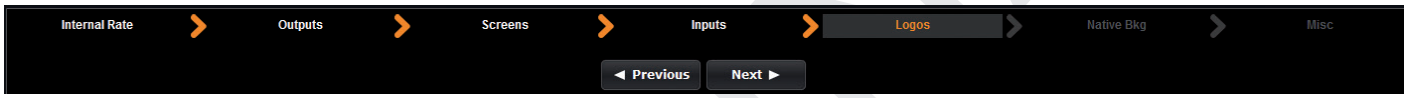
7.3.4 Inputs section



In this section, you will define which input is able to be set as a native background. The native background will be a non-scaled input display behind every layer. When an input is configured as a possible native background, you will lose the anamorphic aspect settings of this input *(see Aspect ratio in chapter: **7.3.10 Input management**)*.

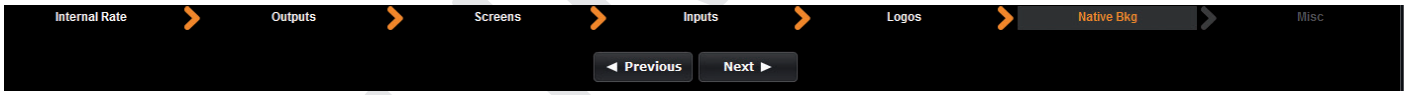
Under the inputs section, you can define which of your inputs will be a dual head inputs, meaning they are two paired inputs setting adjacent content. First, select the plug and then the dual head button if it is the case. *(See chapter: **7.3.10 Input management**.)* You find here the ref sync feature. If you use genlocked inputs, youneed to check the ref sync box for every genlocked inputs (same genlock).

7.3.5 Logos

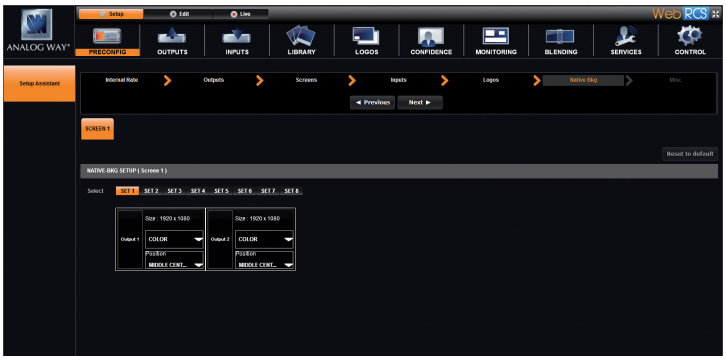


In this section, you will define which still Logo/Frame is able to be defined as a native background. When a Frame is selected as a possible native background, you will lose the anamorphic aspect settings of this Logo/ Frame.

7.3.6 Native background section



The native background is an additional layer which is under all layers. It can be used with one of the input sources or with a color.
The specification of the native background is that an input source or a Frame loaded into that layer will not be scaled. The input is displayed in its native resolution. You can define up to 8 native backgrounds.

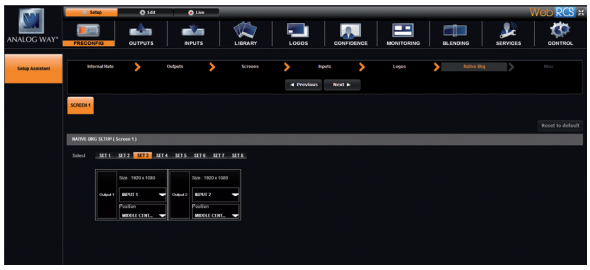


The best application is to affect, into the native background, an input which has the same native resolution that the output.
If you would like to use one of the inputs source as native background for one of the outputs, you should make this choice in the inputs setup menu:

Activate **NATIVE** for the inputs you would like to use later as native.

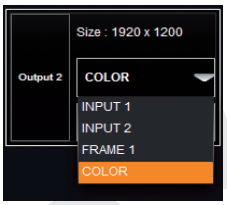
If **NATIVE** is activated, you will be able to choose later into the menu this input as a native background. Be careful about enable all inputs as native background input, when enabling it, the input loses some aspect process. Being a native input, the input lost its **ASPECT IN** settings, that means you will not be able to change the anamorphic size of the input (see **INPUT > ASPECT IN**)

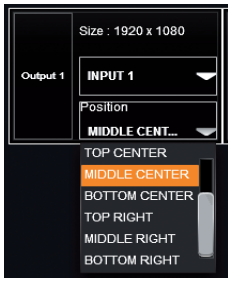
In the same idea, into the next menu called **LOGOS** you can select frames to be native background Frames.



Then in the **NATIVE BKG** setup menu you can register up to 8 sets of native Background per screen.

For each set you can choose:
Input source, Frames or color.

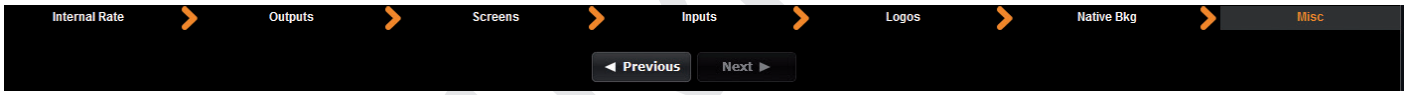




Then you can choose the position as well:
The position will be important in the case you choose a Frame/input which has a smaller resolution than the output resolution, your native background will be place according to this chosen posistion.

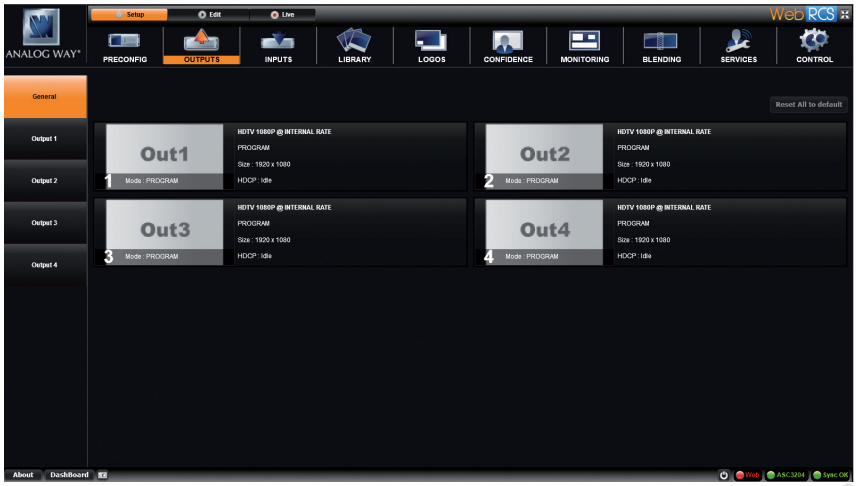
Select for each set the desired native background. Load every set clicking on the set number to be sure your native background are well setuped. Don't forget that you can come back to this section at any time during your show to define new native input or new set.

7.3.7 The miscellaneous section



- **PRESET TOGGLE:** By default, **Ascender 32** will swap the Program and Preview buses during each **TAKE**. Enabling this option will leave the Preview bus unchanged during each **TAKE**, and only the Program will be updated.
- **DYNAMIC FIT:** Enable or disable the automatic recognition of black band for digital content. The size and the aspect ratio are automatically adapted.
- **PREVIEW ASPECT:** Change between 3 ways of displaying the Preview during transition.
- **PIP COLOR:** Color of PIPs when the source is set to color
- **KEYING COLOR:** Replacement color when input keying DSK is enabled.
- **PRESET AUTO FADE:** This is the duration of the auto fade In/fade Out. *(See faders in chapter: **7.4.4 Effects**)*
- **SCREEN MIRRORING:** Enable or disable access to the mirror effect. *(See mirror in chapter: **7.4.4 Effects**) (only useful when using Hybrid mode).*

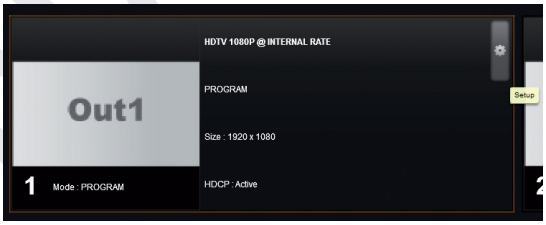
7.3.8 Output management



Into the output section, you will be able to manage your output resolutions, formats, sync types, test patterns, etc...

On the **SETUP > OUTPUT TAB**, the following screen will appear.

A short summary of each output settings appears on the main page. You can see the number of outputs, their resolution rate and HDCP status.
Select an output to adjust by either clicking on it from the column on the left, or clicking the configuration cog for that output.



Once the individual output Setup page is opened, you have access to:

- **FORMAT:** Choose the output resolution format.
- **TIMING:** Choose the signal timing standards.
- **TYPE:** You can choose the type of output synchronization on the analog plug, for example RGsB for sync on green, or RGBHV for separate H and V sync wires.
- **LABEL:** You can rename your output, for example “Projector 1”.
- **STATUS:** The status menu will show you the current output status.
- **PATTERN:** A selection of patterns are available to test your output. These patterns will override any input selection that you might have. Most patterns offer adjustment to isolate a particular color for easier troubleshooting and calibration.

  You can choose from:
  - **No Pattern** – turns the pattern off.
  - **Vertical or horizontal Grey Bars** – displays grey bars

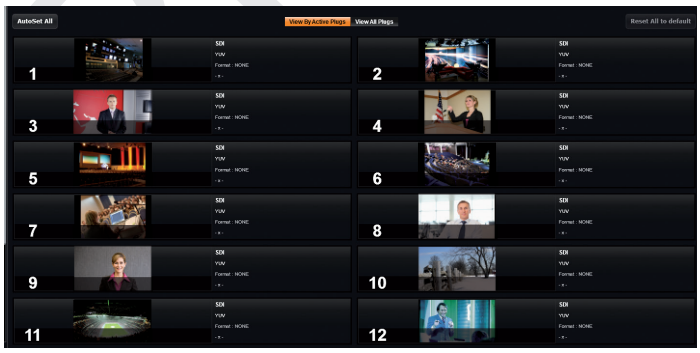
- **Vertical or horizontal Color Bars** – displays color bars
- **Grid** – displays an 8x8 box grid pattern
- **SMPTE bars** – displays the SMPTE color bar pattern
- **Vertical Burst** – displays alternating black and white 1 pixel wide columns Centering – Displays a 1 pixel wide dotted line at the last pixel of the output
- **Circle** – displays a circle, no matter what the resolution of the output is. This is useful for checking aspect ratio and geometry through your system.
- **Solid color** – displays a choice of color that fills the screen.
- **Diagonal crosshatch** – displays a diagonal line pattern which can be adjusted in size.
- **Vertical or horizontal gradient** – displays a 0 to 100% gradient pattern
- **Output ID** – displays the number of the output as a numeral on the screen
- **Moving crosshair** – displays a crosshair which moves around the screen.

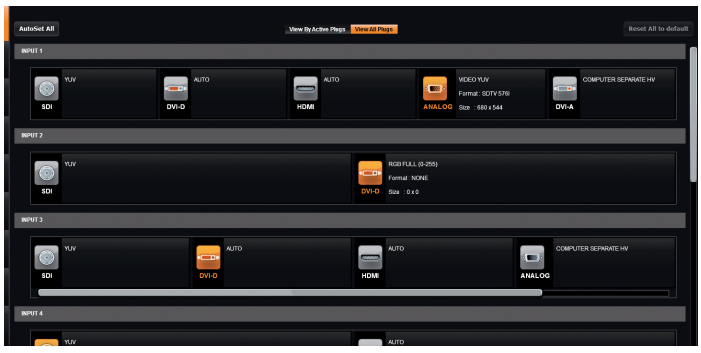
- **FLICKER:** Choose the value of the flicker filter to remove the flicker effect on your interlaced output screen.
- **GAMMA:** Increase or decrease the gamma of your output.
- **CORING:** Adjusts the threshold of the coring /crispening adjustment point.
- **HDCP:** Enable/disable and see the HDCP status
- **OPTICAL PLUG:** Enable/disable and see the optical status

Depending on the output format chosen previously, all settings might not appear.

7.3.9 Input management

Once your outputs are configured, you have now to configure the inputs connected to your **Ascender 32**. Under the inputs section, you can view your inputs **by active plugs** or **by all plugs** (active and inactive)**.**

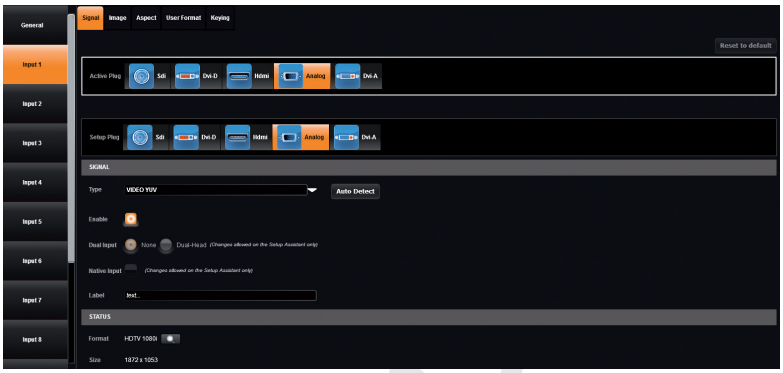




In both cases, an **AUTOSET ALL** can be launched to set up automatically your inputs.

Once the **AUTOSET ALL** is done, you can check one by one your inputs and see if they were well detected thanks to the input **STATUS**. The input **STATUS** is defined by a **FORMAT** and a **SIZE**. If that information is not available, your input has not been well detected or set up.

In this case, you can enter manually into each input settings by using the left menu:



You now have access to a lot of input settings

Under the SIGNAL tab, you will find:

- **ACTIVE PLUG:** Select the plug used by the unit at the moment. Only this plug can be displayed on your output.
- **SETUP PLUG:** Select the plug you want to set up, all changes will be applied to this plug, even if this plug is active or not.
- **SIGNAL TYPE:** Define the type of your signal, video SD/HD YUV/RGB or Computer HV/SOG etc…
- **SD STANDARD:** Only available for SD signal, set up to auto or manual recognition of SD signal type.
- **SD STABILITY:** Enable or not the auto stability for SD signal (use stable by default)
- **SD COMB FILTER:** Enable or not the comb filter for SD signal. It avoids the interlaced lines problem
- **ENABLE:** Enable/disable the input.
- **DUAL INPUT:** Status of the input
- **LABEL:** Rename your input according to your source.

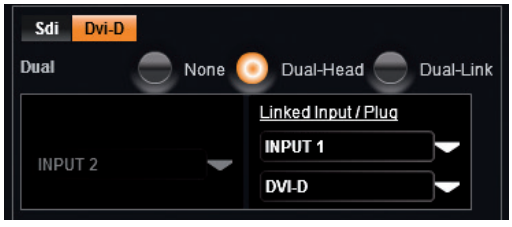
Dual-Link (change only into the Setup Assistant > INPUTS)

The Dual-Link can be supported on the **Ascender 32**. It provides 2 Dual-Link inputs over DVI.
You can choose to use the Dual-Link input into the input section under the Setup mode. Select the input #2, #4, #6, #8, #10 or #12 and select **DUAL LINK** mode. To make this button appear, you first need to select the right plug.
Inputs #2, #6 & #10: DVI
Inputs #4, #8 & #12: DisplayPort

Using the feature, you will automatically disable the input #1 (linked to input #2), input #5 (linked to input #6) and input #9 (linked to input #10) as the unit needs those input to handle the dual link input (in case of DVI). The same thing will happen with inputs #4, #8 & #12 on DisplayPorts. Enabling the Dual-Link on these inputs disables the inputs #3,#7 & #11.

Dual-Head (change only into the Setup Assistant > INPUTS)

The Dual-Head feature is useful when you want to support a high resolution image using more than one DVI cable. In order to use this feature, run your Dual-Head PC board providing you your high resolution image splitted in 2 DVI cables and plug it into 2 DVI plugs of the **Ascender 32**.



Under the input Setup menu, you can check the feature **DUAL-HEAD** of your DVI inputs. You just need to indicate which second plug is linked to the actual input. In this example, the input #2 is linked in Dual-Head with the input #1 .

Under the CONTROL section, you have:

-IDENTIFY: Displays a number on your input to quickly identify the source
-PATTERN: Enable test pattern on the input. It allows you to start working without any plugged source.
-BLACK: Turn your input to black
-FREEZE: Freeze/unfreeze your input
-COMPOSITE SYNCH LOAD: Set up to Hi-Z (default) or to a 75Ohm load your input.

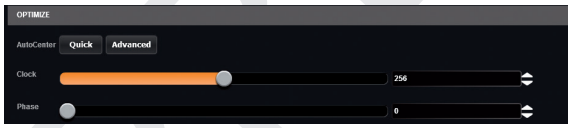
Under the HDCP section, you can:

- Enable/disable the HDCP communication feature
- Read the HDCP status, very useful to know if the input HDCP communication is active or not.

Next is the **IMAGE** tab, where you can find all settings about the display of your input:

Under the COLORIMETRY section, you have:

- LEVEL: set up the luminosity level of your input
- CONTRAST: set up the contrast level of your input
- COLOR: set up the color level of your input (0:black and white, full: full color)
- HUE: set up the hue phase of your NTSC signal.



Under the OPTIMIZE section, you have:

- AUTO CENTER: Automatic search of the right Clock and Phase of your input. In other words, it automatically centers your input into the layer. There are a quick search and an advanced search.
- CLOCK: Set up manually the clock of your input
- PHASE: Set up manually the phase of your input

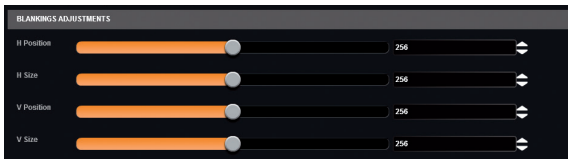
Under the USER GAIN section, you find:

- THE RED/GREEN/BLUE: Increase/decrease the Red/Green/Blue level of your input.

Under the PULL DOWN section, you have:

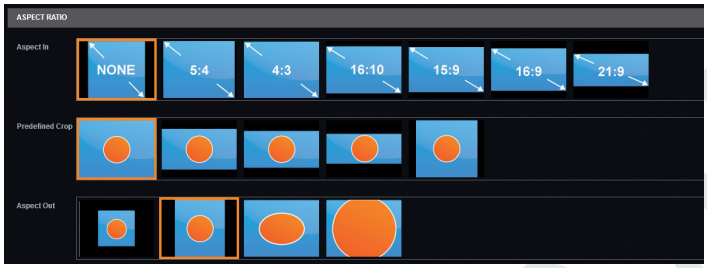
- **2:2:** Enable/disable the 2:2 feature. Let it enable by default. The 2:2 is useful because it launches a specific frame/line algorithm when 2:2 content is played.
- **3:2:** Enable/disable the 3:2 feature. Let it enable by default. The 3:2 is useful because it launches a specific frame/line algorithm when 3:2 content is played.

Next you have the **ASPECT** tab. All settings about the blanking and aspect ratio are available there:



- **H&V POSITION SIZE:** You can manually adjust the input blanking with the V&H size or position.

Under the BLANKING ADJUSTEMENTS:



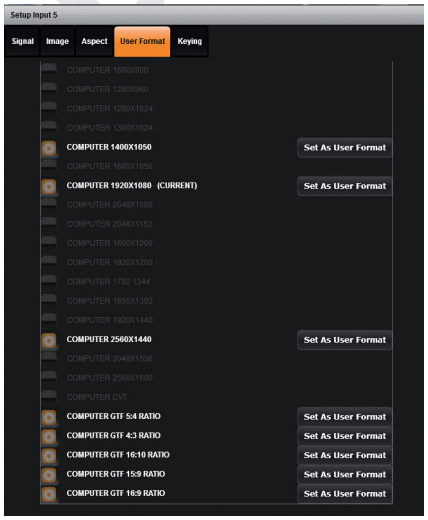
Under the ASPECT RATIO section:

- **ASPECT IN:** Select the correct aspect ratio of your input (5:4 4:3 etc…). This setting doesn't exist when the input is set as native.
- **PREDEFINED CROP:** Choose a specific cropped ratio if you use a source with black bands on top/bottom or left/right
- **ASPECT OUT:** Define the way the image will be displayed into a layer (full screen, centered, cropped or 1:1)
- **OVERSCAN:** Choose to apply or not a predefined zoom on the image (use with video signal)

Next settings available on the **ASPECT** tab are:

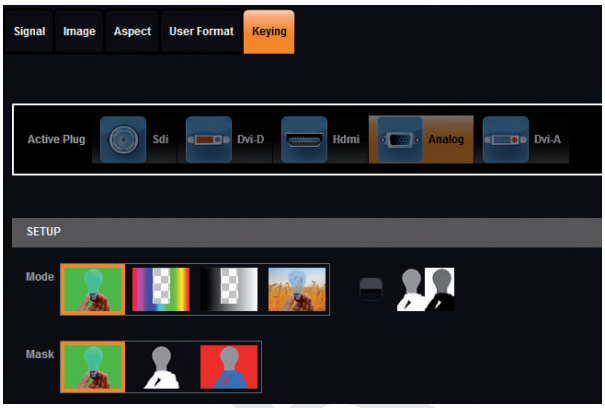
- **CROP:** use the Top, Bottom, Left and Right values to crop your input. A finder is also available, when activated, use the white rectangle to set up accurately the cropped area.

The next tab is the **USER FORMAT**:



In this tab, you can define what is exactly the input format. The input format is automatically detected by the **Ascender 32** but you can change it or force it. The available formats are close to the current one, in terms of lines. This is only available for analog computer formats.

KEYING FEATURE



With the keying feature, you will be able to key easily a color space or a specific luma on an input.
Ascender 32 offer an individual keying for each input. Into the input settings, find the keying menu:

YOU HAVE 3 WAYS OF USING THE KEYING:

- **COLORKILLER:** classic color keyer deleting a specific color space defined by user.

- **LUMAKILLER:** Luma color keyer deleting a black & white range.

- **CREMATTE®:** The new algorithm of color keying developed by Analog Way. This keying will perform advanced effects on transparent items, smooth edge and color correction.

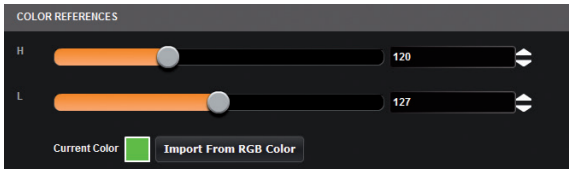
Keying setup can be done either by setting directly color references and tolerances or by using the color grab assistant. When using the assistant, select the color area you want to mask and click **ADD AREA**.
Color areas are cumulative, if the results are not satisfactory, click the Reset button and then grab another area.

- **INVERT BUTTON:** At any time you can choose to invert the actual keying using this button.

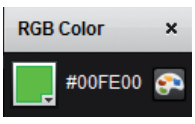
- **DSK TITLING:** After your keying, the DSL titling feature allows you to play with the transparency of your deleted pixels. Enabling this, simply adjust the opacity settings to make your keyed pixels less or more dark.

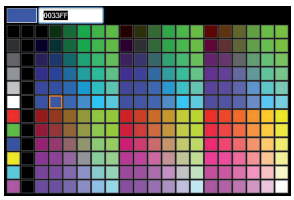
HOW TO USE THE CHROMA KEYING:

- Manually: Set the Hue and luminance to choose the color space you want to delete into your image.



- Set it manually looking at the color change into Current color. If you want, you can quickly select a color from a color panel, clicking on **Import from RGB color.**





Then click on the color itself to obtain the color panel.

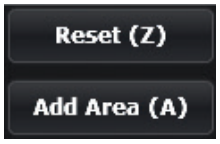
Once your main color is chosen, you can define a degree of tolerance around this color. The tolerance will define, around the main color, an area that will be keyed too.

KEYING ASSISTANT:

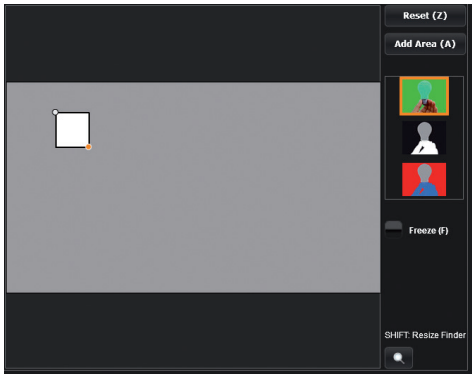
To enable the keying assistant click on: 

Then use the white square to define an area which exemplifies the color you want to key.

NOTE: You can use shift on your computer keyboard in order to size the white square.



For the first application, we advise you to reset all the previous keying settings. Click on **RESET** to reset all previous settings.
To start deleting, move your white square on your live image and then press **ADD AREA**. You can add several areas.



At any moment you can freeze the live content of your source using the **FREEZE** button.
Mask options are available if you want to visualize the keyed content versus the non keyed content. The pixel color replacement used in each mask option is described in the chart below.

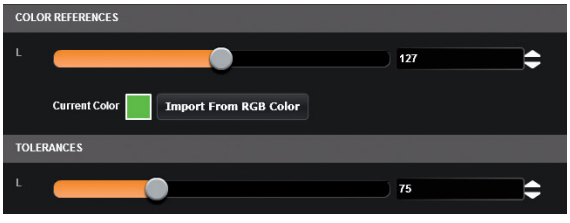
Only for CremaTTe®

Mask	Transparent pixels	Non transparent pixels	Semi-transparent pixels
 No mask	Transparent	Original pixels color	Original pixels color
 Black & white	Black	White	Grey
 Red & blue	Red	Blue	Grey

NOTE: The masks are really useful for configuring the Crematte keying, see below.

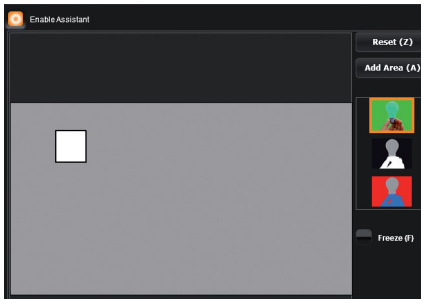
HOW TO USE THE LUMA KEYING:

Select the lumakiller and then adjust manually, or using to the assistant, the luma level:
Manually: Set the Luminance value or select it with the color panel clicking on **Import from RGB color.**
Then adjust to tolerance to increase the range of luminance levels around your reference luma.



ASSISTANT:

The easiest way to find the exact luma you want to remove is to use the assistant. Simply move the white square to an area you want to remove and click on **ADD AREA** to determine the correct luma value.



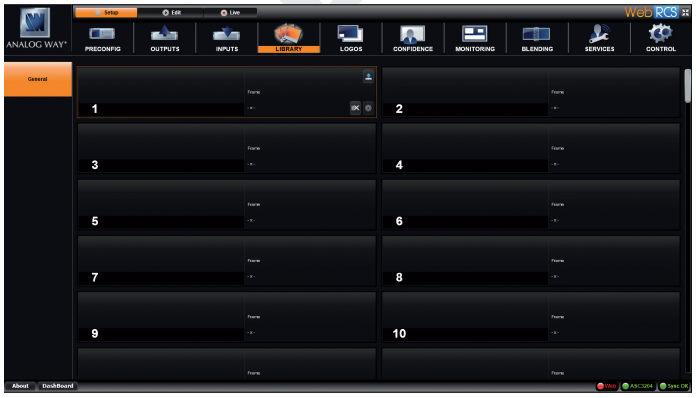
HOW TO USE THE CREMATTE® KEYING:

The CremaTTe® algorithm was developed by Analog Way to perform a high quality keying. If your live source contains some transparent area or if you need to key a difficult video of people with wispy hair, you need to use CremaTTe® algorithm.
Using the CremaTTe® algorithm, we advise you to start by using the keying assistant.

1. Start to remove the main color using the white square in the keying assistant.
2. Remember that you can freeze the source, and that you can add several areas by simply clicking several time on **ADD AREA** button.
3. After some iteration, most of colors are deleted, enable the **RED & BLUE mask** to help you find any missed garbage on the screen.
4. At this point, with the mask enabled, you should have only **RED & BLUE pixels** on your live image.
5. **EDGE SMOOTHING:** the edge smoothing settings allow you to determinate some area where you want to add transparency. Adjusting the H S L values will display some **GREY pixels** around the edge of your live content. Those **GREY pixels** will later be rendered semi-transparent.
6. Adjust accurately the HSL in order to make transparent only the desired area. (A too high level will make transparent some solid area).
7. At this point, disable the mask and return to you original live image.

8. You can see that some area still have some color reflections. This can occur mainly on clothes and hairs. Adjust the **COLOR CORRECTION RATIO** using the Hue and Saturation settings to find the best result. Be careful with the color correction, a wrong setting can modify badly the color of skin. Try to find the best compromise between color modifications and reflect areas deleted.

7.3.10 Library management

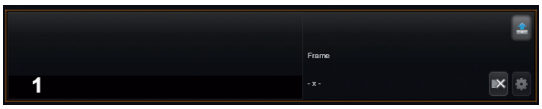


In the Library management, under the **SETUP** menu, you can upload up to 50 Logos + 50 Frames (or 100 Frames or 100 Logos) that will be used later in the Edit screen. On the library tab, you find the 100 empty slots that you can load one by one. After loading, every Logo/Frame can be individually deleted by clicking on the Red Cross.
To erase all Logos/Frames, please refer to the **CONTROL** tab chapter.

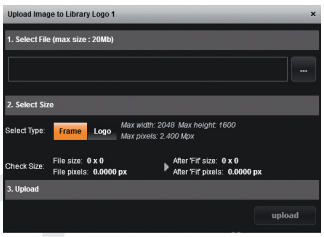
Please find the list of the supported formats:

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

To upload an image from a file, just position your mouse on the selected number frame.



Then click on the upload button: and you will get the following window for letting you upload the file from your computer directly to the library on the unit.

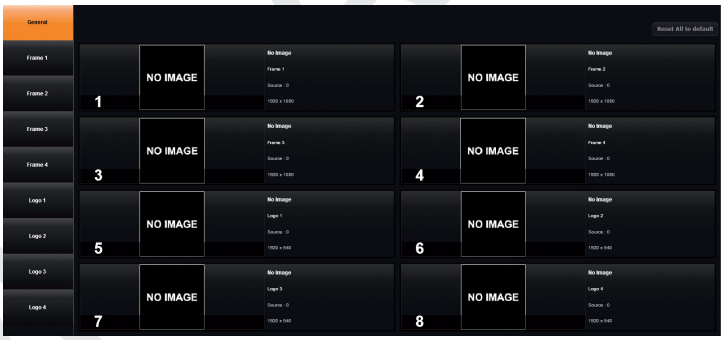


Then choose your Logo/Frame into your directory, press open to load it.

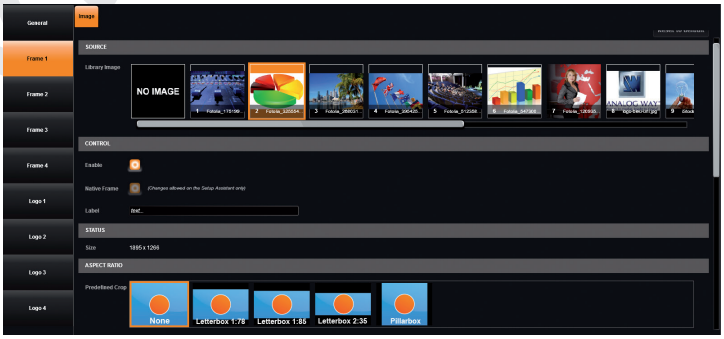
To be able to use those Logos please refer to the *chapter* ***7.4.6. Logos and Frames management***.

7.3.11 Logo management

To use still image(Frame)/Logo with this device, you have access to 8 fast slots. Those slots can be loaded thanks to the image library.



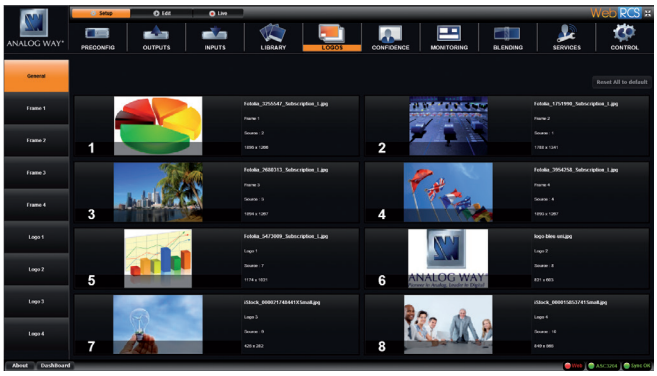
To have access to the all library of images, simply click on Frame1 or to the “Setup” shortcut, available on each slot.



Please choose your frame under the library images to access a lot of settings:

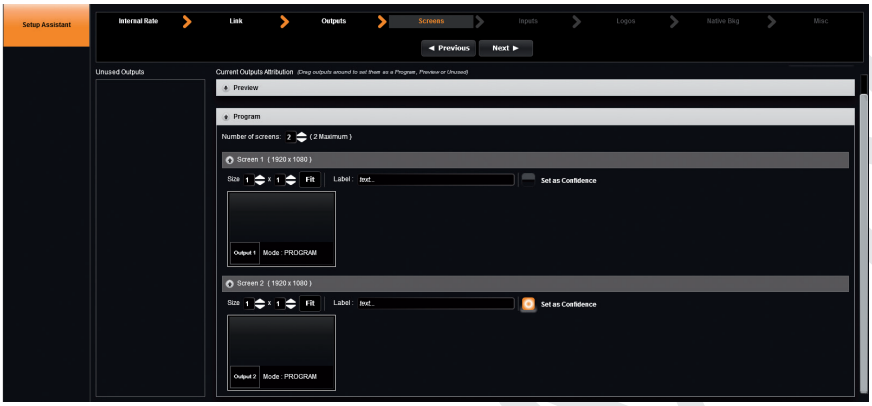
- **ENABLE:** Enable or not this slot.
- **NATIVE FRAME:** Shows you if the native background is enabled and which output is chosen. You can change this parameter into the Setup assistant only.
- **LABEL:** Rename this frame
- **STATUS AND SNAPSHOT:** Allows you to see the resolution and a quick snapshot of the logo/frame
- **ASPECT RATIO:** Set up the aspect In, Out and crop your frame.

Affect all your slots to an image in order to have all your slots filled:



Remember that you will have access to this menu at any time. Those 8 slots can be loaded with another images in the future.

7.3.12 Confidence management



The confidence management allows a lot of settings on your confidence output. First of all you need to set up one of your output as a confidence output. To do that, please go under the preconfig menu, then “screens”. Select one of your screens and enable the **“SET AS CONFIDENCE”** button. The confidence button is only available on Program screens.

Then come back to the confidence tab into the confidence menu:

You can choose the margin between each windows of your confidence output.
You have to possibility to choose the background color too.

Click on your screen number to have access to all available layouts:

Groups of 4, 3, 2 or 1 windows layouts are available. Please select the pattern you want to display on your confidence output.
Then you can manage the content for each windows. Preview, Program and input are available to fill the windows. For each windows number, select in the list the content you want to display.

7.3.13 Monitoring management

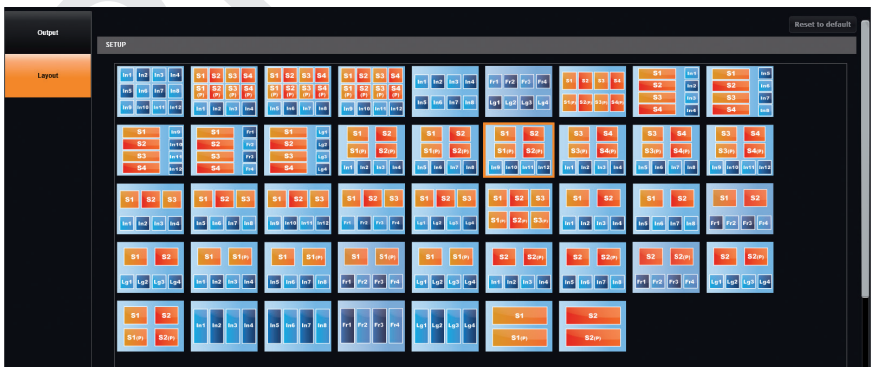
The Monitoring output allows you to have a full Preview of your different outputs but also your sources.
In addition, you have access to a lot of status shortcuts directly on the screen like **HDCP** status, **KEYING** status, **FREEZE** status etc.

To set up your Monitoring output, you can choose:

- **FORMAT:** Choose the output format
- **TIMING:** Choose the signal timing format
- **TYPE:** You can choose the type of output synchronization on analog plug or digital plug
- **LABEL:** Rename your output
- **STATUS:** Access the output status
- **PATTERN:** A pattern is available to test your output without any input selected
- **FLICKER:** Choose the value of the flicker filter to disabled the flicker effect on your screen (interlaced lines effect)
- **GAMMA:** Increase or decrease the luminosity of your output
- **HDCP:** Enable/disable and see the **HDCP** status

Depending on the output format chosen previously, all settings might not appear.

Into the layout tab, you can choose one of the monitoring layouts. Simply click on the desired layout to automatically see this layout appear on your monitoring screen.



A fullscreen mode is also available. Clicking on **FULLSCREEN** logo, allow you to select the source which will fill the monitoring output.
Then you can choose to display or not the OSD on it.

7.3.14 Blending management

To have access to the blending management, you first need to built, into the Setup assistant, a screen with multiple outputs (screens section)
Then go to the **BLENDING** section:

First of all, please adjust your video projectors in the best way thanks to the grid test pattern. Remember that you can adjust the number of lines and rows on the grid test pattern.

Then, the covering area can be adjusted in pixel in real time thanks to the Soft Edge centering test pattern. After enabling the Soft Edge centering test pattern, simply align the two lines one on the other, increasing the covering value.

Two lines do not move and two other lines move when you increase the covering value. The aim is to align exactly the half lines in order to have 2 full lines.
If you don't see 4 half lines when increasing the covering area, click on the left/right part of your Soft Edge to display the blending adjustments. Then disable the blending for the left part then the right part. Your pattern will display the 4 half lines now.

Once your covering area is well defined, you need to adjust for left & right, the black levels.

Click on the left/right side into the overview of your Soft Edge, some settings will appear. Then adjust the black levels for each side thanks to the R,G,B level.

The goal here is to have your Soft Edge area with the same level of black on left, right and center.
Then you will adjust the black area, pixel by pixel. It will delete the last white band that can appear when you use DLP projectors.
Only the blending needs to be adjusted now:

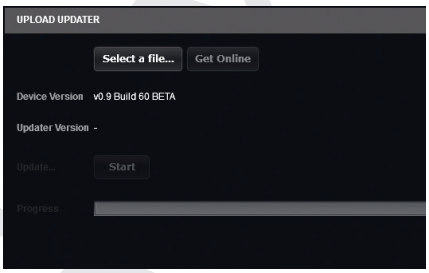
Click on Enable individual blending in order to activate the blending curves. You can draw a curve by moving the 2 points. Do the same for left and right or enable the blending curves symmetry.

7.3.15 Services management

UPDATE:

You have several way to update your **Ascender 32**:

- by USB key:
  Simply download the update file on your computer from the website. Then take the file **LivecoreUpdate_xxx.awp** and copy it into the main directory file on your USB key.
  When the unit is running and the home menu is displayed, simply plug the USB key, the update is automatically detected. A warning messag will be displayed on the front panel screen of the unit. Please press YES or NO with the help of the contextual button in order to launch or not the update. Unplug the USB when it starts to install the version.
  In the case of booting problem, the usb key can be introduced before the booting sequence to force the unit to update. Switch off the unit, plug the usb key with the update file into it, and then switch on the device.



- by using the upload updater:
  Click on “Select a file on your disk” button in order to open the directory file on your computer. Simply select the file you take from Analog Way’s servers and click ok. Then click on GO to launch the update.

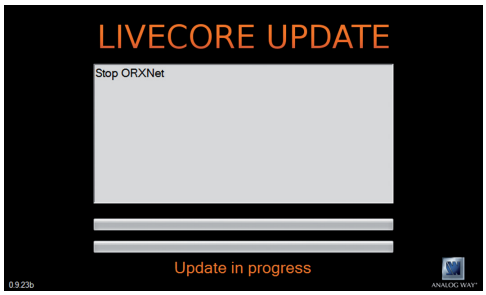
Here are the update steps. When detected, the LCD front panel screen will display:

Then the unit start to decode the package

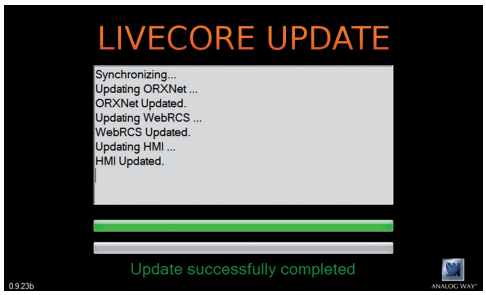
The next step is to unpack the package, when it is finished, you will have the next message:

The updater will be launch into the **Ascender 32** displaying:

The update is now ready to start and this following screen will be displayed:

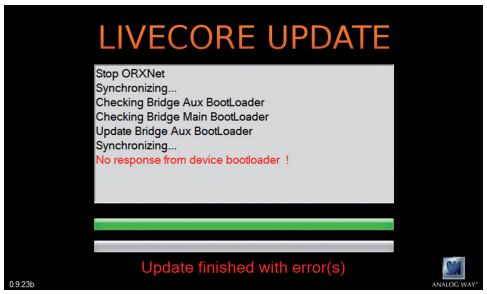


Wait for the update to finish displaying this screen:

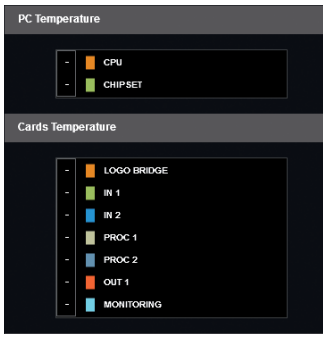


You update is now successfully completed.

If case of message like:



That means the update has failed, please try to update the unit again by restarting the updater. If the unit does not boot, please use the USB updater.

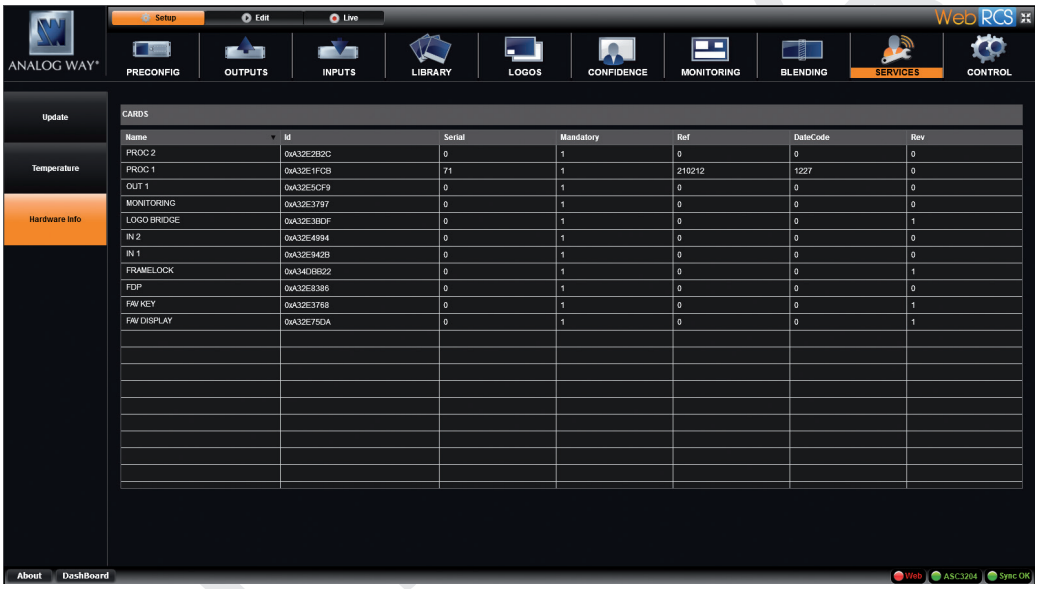


TEMPERATURE:

The temperature section will show you some component overheating alert if your unit reaches some temperature. If you have some alert enable, please contact your local technical support.

HARDWARE INFORMATION:

Here is a resume of all the cards information, Name ID etc... This is only for maintenance purpose.



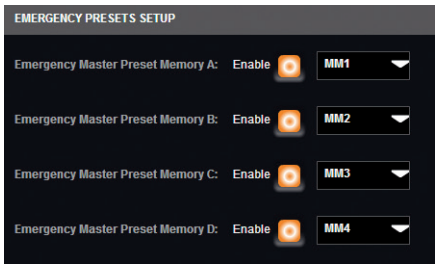
7.3.16 Control management

In this menu, all specific settings, which can not be sorted under the other menus,are listed.

Network
The web interface loaded into the unit uses the IP configuration.
Under **INTERFACE**, you can define a new:

- IP address
- Netmask
- Gateway
- Port: Choose the port
- Protocol: Choose TCP (by default) or UDP

Choose DHCP if you want an automatic IP address assignment.
Under the Web RCS feature, you can define the communication Port. You also have an indication on the number of connected devices.



Emergency presets:
The emergency presets allow you the recall quickly some Master Memories *(see chapter: **7.5 Live / Master memories**)*. You have the possibility to have up to 4 emergency memories. Please enable the feature then choose for each line a master memory which will be recalled in case of problem. By enabling the emergency memories, some new buttons will appear into the live edition:

If you click on A B C or D, it will recall automatically the MM1 MM2 MM3 or MM4 on the main screen.

Auto Calibrate
Click on start to launch an auto calibration, in terms of colors, on your analog input/output chips. *(See chapter: **11. Maintenance and support**)*

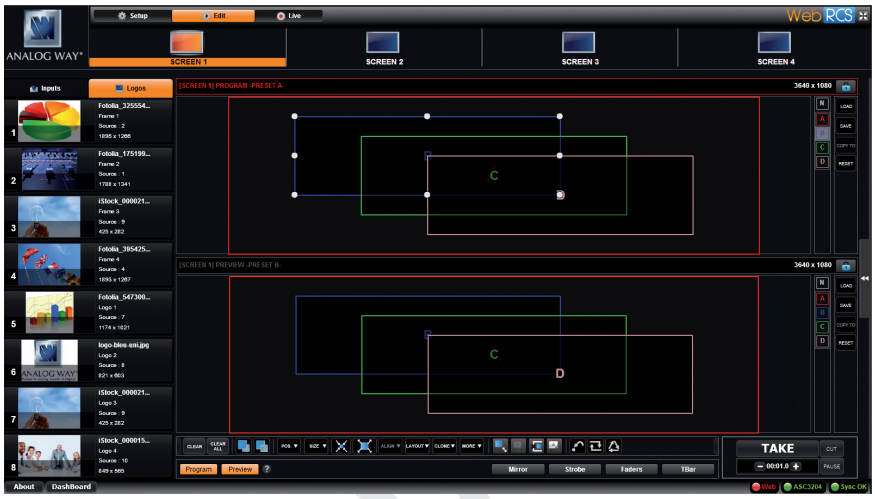
Erase memories
Into this section, you can erase individual settings.
• Erase input settings memory: All input settings will return to their default value. This includes image, aspect, user format and keying parameters.
• Erase preset memories: All preset memories will return to their default value.

Factory reset
Click on start to erase all settings (except network and Web RCS parameters). The unit will reboot itself after the factory reset. Do not forget to refresh your Internet browser by using CTRL+F5. (Clean browser cache.)

7.4 Edit

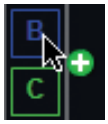
7.4.1 Layer management

When you enter into the Edit menu, you will encounter by default this window.

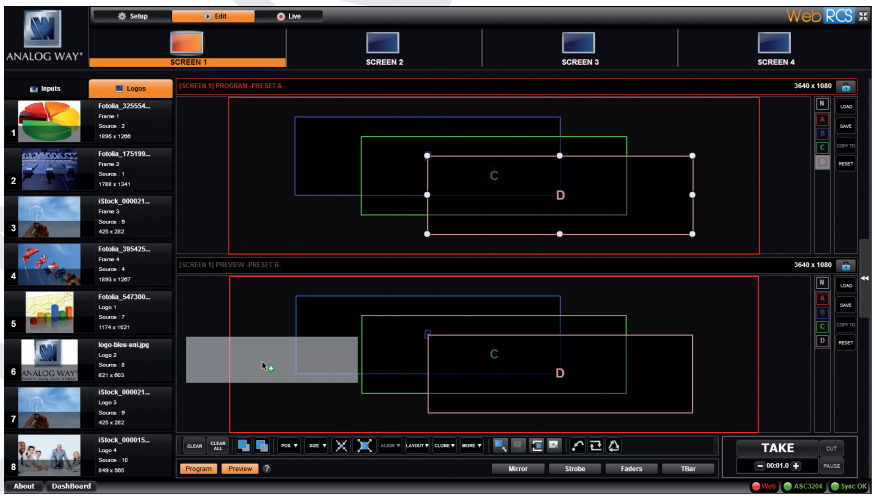


On this example, we have the Screen 1 Program and the Screen 1 Preview. The following example can be applied for any other output configurations.

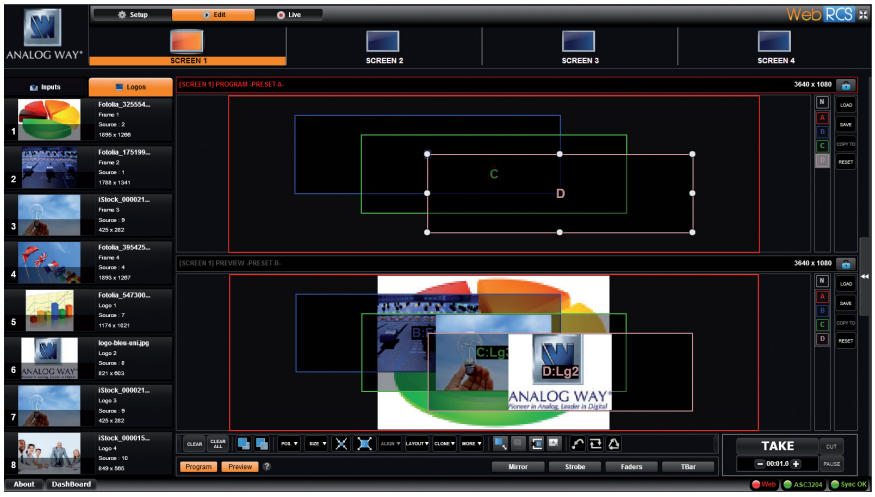
To display an input into one of the available layers A, B, C or D, simply drag and drop the input from the left to the layer on the chosen screen. Remember that a layer can be filled with an input but also with logos or frames.



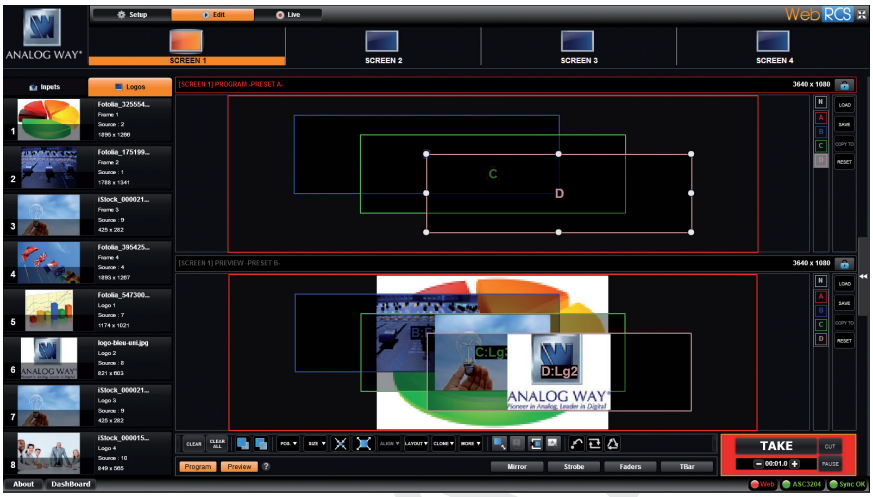
You can affect a source to a layer by dropping the selected source into the layer letter.



Your sources are now affected to layers. When a layer contains an input, it displays on the Web RCS an image into it or a live capture of the affected input. You can affect the inputs directly to any preset, even to the Program preset.



In this example, 4 inputs are affected to 4 layers into the Screen 1 Preview. The **TAKE** button on the bottom right side allows sending your configuration, made on the Preview screen, to the Program screen.



The Preview screen is now displayed into the Program screen. By default, the unit works with the **PRESET COPY** mode. That means, after a **TAKE**, the Preview becomes the previous Program. In that way, it is really easy to play with 2 presets one after the other.

Layers management

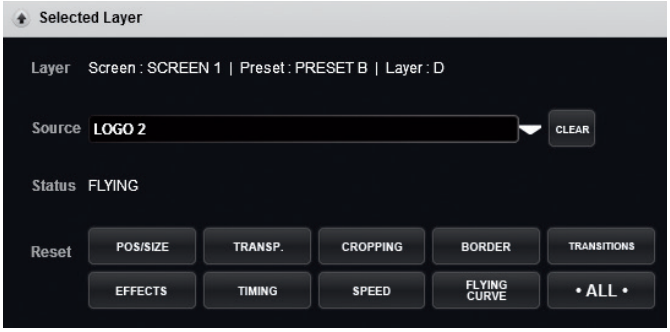
In this Edit mode, you have access to a lot of preset tools that can help you to create the preset you imagined.

7.4.2 Layer adjustments

A lot of layer adjustments are available into the right tab. Please click on the 2 arrows on the extreme right part of the Web RCS, to make it appear.

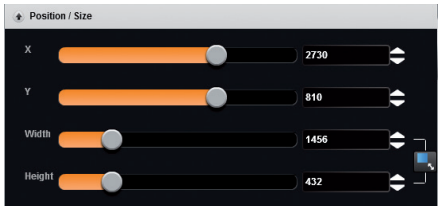
Selected layer

You first have the screen selected, the preset selected, the layer selected and then the source number affected to the selected layer.



Reset feature: into this tab you can reset every layer settings you want (Pos/Size, Transparency, Cropping, Border, Transitions, Effects, Timing, Speed or Curves) or you can choose to reset every settings in one click using the **ALL** button.

The deleted settings are only for the selected layer into the selected preset.

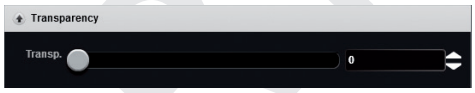


Position/Size

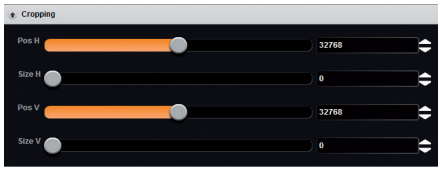
Adjust the size horizontally (X) or vertically (Y), then adjust the width and the height of your layer. You can use the cursor or directly enter a value. To keep the aspect ratio by using the cursor, please enable the **KEEP ASPECT RATIO** button. You will find it on the right of the width and height cursors.

Transparency

Use the Transparency to give at your layer a transparent effect, all layers behind it, will appear less or more giving the transparency value.



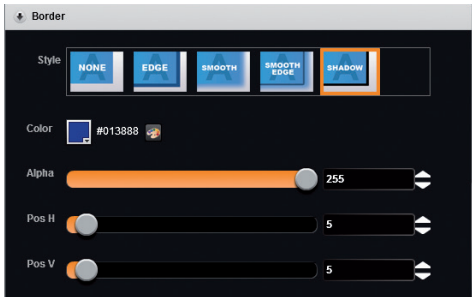
Cropping



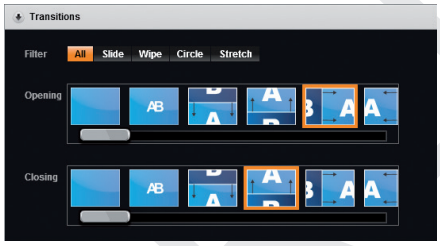
The Cropping feature allows you to cut into the image the part you don't want. Simply increase the size horizontally or vertically and then adjust the position to display only the desired content. This crop is a layer crop, all inputs affected to this layer will be cropped.

Borders

Borders can be chosen between 4 patterns: **EDGE**, **SMOOTH**, **SMOOTH EDGE** or **SHADOW**. For each pattern you will have specific values to adjust like colors, transparency, width/height or position V and position H.



Transitions



On the Transitions section, you can filter which transitions you want to see. For example Slide, Wipe, Circle or Stretch transitions.
Each layer can be defined by an opening and a closing transition. The opening effect will be applied when the layer switch from a source to another or when the layer is not present on the screen and appears.
To set up the duration of the transition, please see below the timing and duration settings. If you want to force the layer to go out of the screen, see **FORCE TRANSITION** into the next page.

7.4.3 Effects

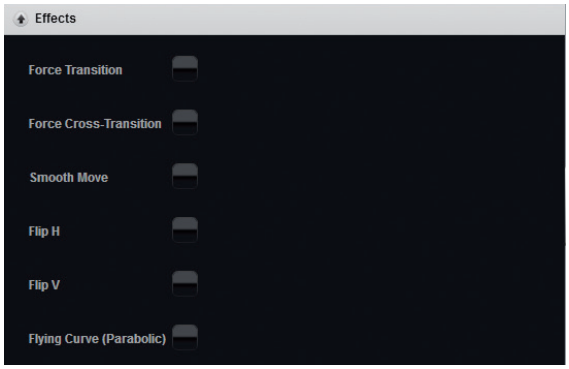
A lot of transition effects are available, each effect is affected to a layer, every layer can have a specific effect.

H&V Flip

The H&V Flip rotates the PIP on a horizontal or vertical axe. All data will be flipped.

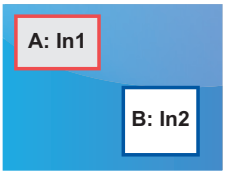
Force transition

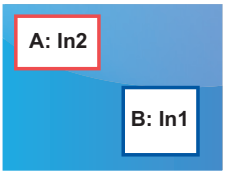
The Force Transition button disables the switch between two sources into the same layers. Enabling the Force Transition, it forces the layer to go out and then go in with the desired effect instead of mixing directly the two sources.



Force Cross-Transition

Enabling this function, you will disable the flying PIP feature. You will force the transition of the source into the layer instead of using the flying PIP.





Going from the first picture to the second picture:
With the force cross transition, layers stay in position and each layer fade the sources.
Without the force cross transition, there is no fade, the layers fly until their final destination.

Smooth Move

Enable the Smooth Move to perform a smooth transition on the layer. Disable the smooth move if you require a rectilinear move.

Flying Curve: Parabolic

Define, instead of a straight move during a PIP slide, a parabolic motion.

Timing

Here is the section where the layer transition duration is defined.
First of all you have to define the global transition duration preset under the **DURATION** value. This is the total duration of your transition.

Next you will have to adjust the beginning, the end and the duration of each layer transition. Simply click on the selected layer bar and adjust the start and the end of the transition, then move the bar, thanks to the middle button, to place your transition into the total transition duration.

If you want to set up your preset accurately, you need to set up the opening and the closing timing. The opening settings will affect only the opening transition of layer and the closing affects only the closing transition layers.

Speed

When the layer is flying over the screen, you can define a nonlinear speed depending on its position during the transition. Please adjust the speed depending of the position thanks to the start and end speed value. To use this setting, the smooth move has to be enabled.

7.4.4 Layer selection and native background

In the **EDIT** menu you can select any of your layers quickly by clicking on the layer shortcut (N, A, B, C, D).
If you select the native background layer, a specific menu will open.

In this window you can choose the “set” you want to use into your actual preset. You can adjust different parameters for this preset:

- The background color: If you chose color into your set, the color settings will be the affected color. If you chose input or frame, the color will be still here, but under your input/frame. The only way to see it is to have a smaller image/frame than the output resolution.
- The transparency of the native background layer
- The transition type (cut or fade to color) and the timing of this transition.

NOTES:

1/ You cannot define your native background **SET** into this section, you can only load it. If you want to modify your set, you have to go to the **SETUP > PRECONFIGURATION > SETUP ASSISTANT MENU**.

2/ A set is affected to a preset (Preview or Program), in that way you can do transition between 2 sets of native background, simply load set 1 into the Program and then load set 2 into your Preview.

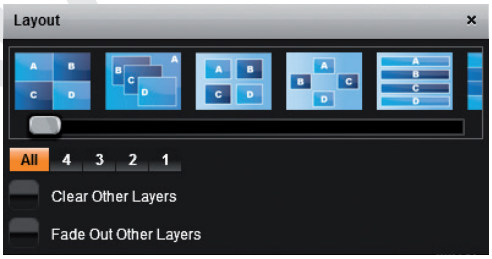
Layer Layout

The layer layout gives you access to a lot of predefined preset patterns with 4, 3, 2 or 1 PIP already sized and placed into the output. It can help you to quickly set up 3 PIPs side by side for example.

Once clicking on the layout button, you have access to the presets with 4, 3, 2, 1 PIP or all layouts.

Two other options are available below:

- **Clear other layers:** layers already displayed and not included into the chosen layout will be cleared
- **Fade out other layers:** layers already displayed and not included into the chosen layout will be faded out during the transition. They are still present on the preset but with a 100% transparency.



After having selected the layout, the changes are applied on the Preview screen. The size and position of all layers have changed. Of course you can still manage the new preset by positioning or resizing each layer thanks to the white circle around it.

Layer position

A layer position shortcut is also available. After having selected a layer, simply click on the Pos. button to have quickly access to a layer position. Choose the new position. The change is applied straight away on your preset.

Layer size

You can choose between several aspect ratio. Once selected, the new aspect ratio is applied on the selected layer.

Other layer adjustments:

- **CLEAR BUTTON:** This button allows you to clear the selected layer from your preset

- **CLEAR ALL BUTTON:** Remove all layers from your preset

- **RAISE BUTTON:** Increase the Z level (depth) of your layer

- **LOWER BUTTON:** Decrease the Z level (depth) of your layer

- **ALIGN BUTTON:** You need first to select at less 2 layers, then you can align them horizontally or vertically.

- **CONTENT SIZE:** Set layer size to its content size.

- **SCREEN SIZE:** Set layer size to screen size.

- **CLONE BUTTON:** Copy the selected layer into another chosen layer

- **KEEP ASPECT RATIO BUTTON:** Enabling this feature will keep the layer aspect ratio during resizing.

- **WIREFRAME MODE:** Allows to enable/disable the layer content on your Web RCS

- **TRAP LAYERS ON SCREEN:** Disable fact to put a layer out of the screen

- **HIDE UNUSED LAYERS:** All empty layers will not be displayed into the Web RCS

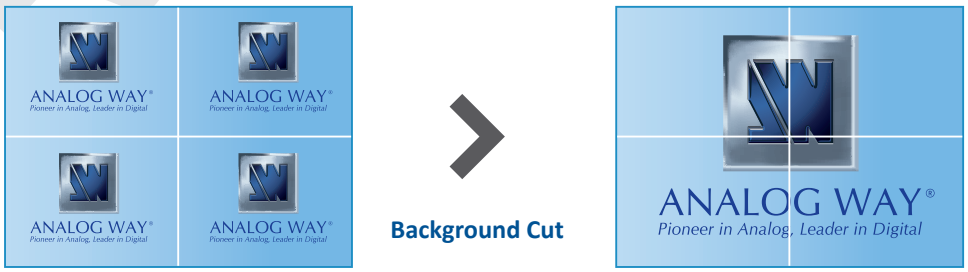
- **RELOAD PROGRAM:** Load the preset of the Program screen into the Preview screen

- **TOGGLE PRESET:** Swap the preset between the Program screen and the Preview screen

- **STEP BACK:** Return to the configuration you had before the last **TAKE**.

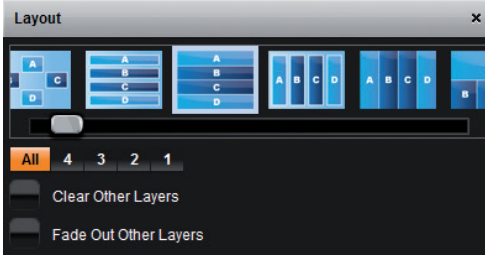
- **MORE BUTTON:** Background Cut feature.

The Background Cut is a feature developed by Analog Way engineers which allows you to perform an amazing effect based on crop feature.
The Background Cut will calculate automatically, depending on your layers sizes/positions, the specific layer crop, in order to create a full screen image.



4 layers with same input

4 layers make 1 image



HOW TO USE THE BACKGROUND CUT:

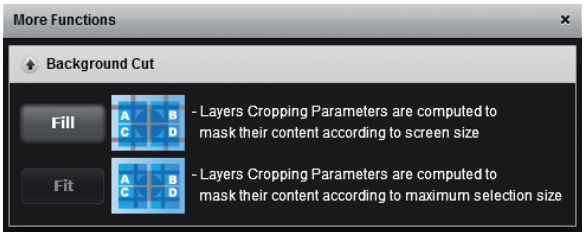
First of all select your own preset

Then fill all layers with the same inputs.

NOTE: Be sure your input is set up as FULL SCREEN mode under ASPECT menu.

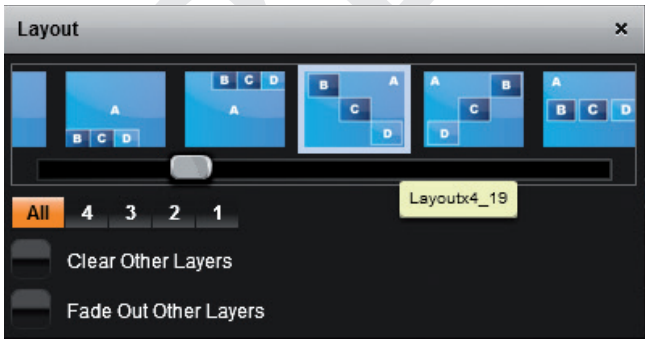
Activating the Background Cut feature will calculate and apply automatically the best crop on all your layers in order to create one full screen image composed of 4 layers.

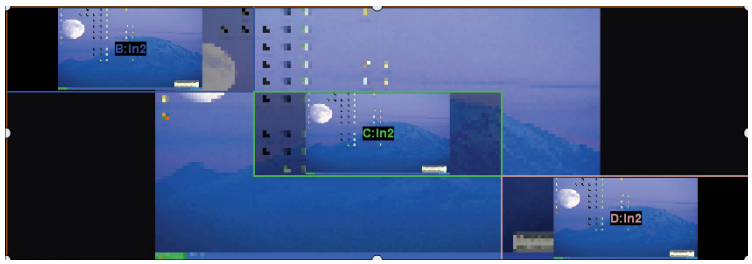
Click on **MORE,** then use the **FILL** feature:



Using **TAKE** you can send your configuration to the Program output to see the result.

To go deeper with this effect you can try it with different preset layout:

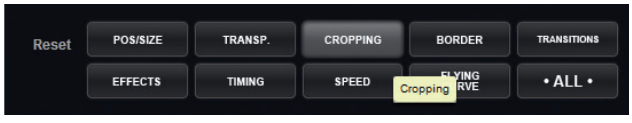


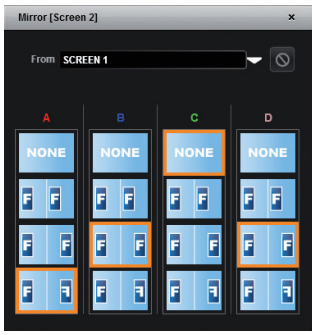


NOTE: Don't forget to press the FILL button after changing your layout in order to calculate the new crop according to the new layer positions

If you want, for any reason, to reset the background cut feature, simply reset your layer 

Or reset manually each layer crop by using:





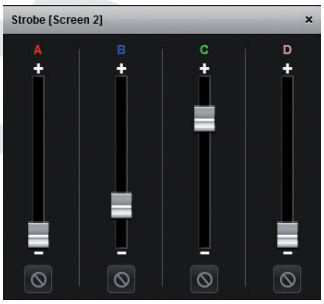
- MIRROR BUTTON: Mirror

The mirror button allows you to define for each layer the way it will be copied in the preset. You can choose to mirror the layer, flip the position, or flip the position and the data from another screen. To access this feature, you first need to be in a hybrid configuration with 2, 3 or 4 Programs (*see chapter: **7.3.4 Screens***), then into the Setup assistant, you need to activate the “screen mirroring”.

- STROBE BUTTON: Strobe

Using the strobe settings, will allow you to play with the refresh rate of an input. You will have access to 4 cursors.

Each cursor represents one layer. Increasing the cursor level, you will perform a strobbing effect on the specified layer. At the bottom of each cursor, a stop button allows you to stop immediately the effect.

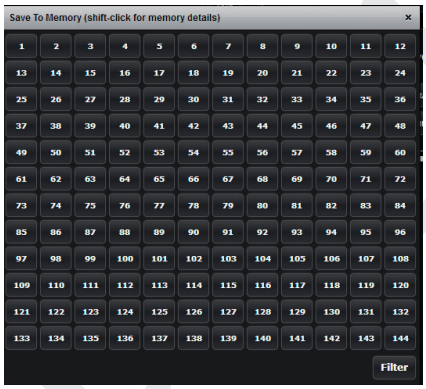


- FADERS BUTTON: Faders

Add some transparency to a layer. Simply move the cursor corresponding to the wanted layer.

Under each layer transparency cursor you have an automatic increase/ decrease transparency button which fades in or out your layer to the selected transparency.

7.4.5 Preset load and save management

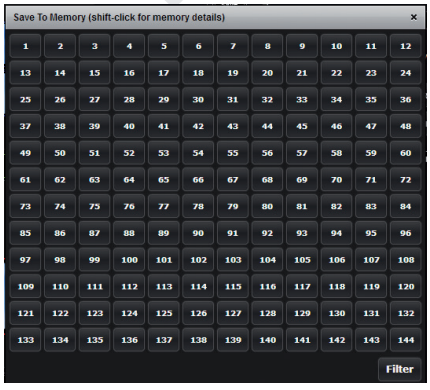


Save a preset

Once your preset is set up, you can store it into one of the 144 preset slots. To do that, click on **SAVE** and choose the number corresponding to the slot number.

Once saved, you can have access to memory detail, simply click on it holding the shift button. You can view your preset and change the name.

When you attempt to save a preset on an already saved slot, this message will appear:



Load a preset

In the same idea, if you want to recall an already saved preset, simply load it using the **LOAD** button on the right side of the Edit mode and select the slot to load.

Reset button

You can reset a preset using the reset button. Using that, all sizes and positions will be deleted. Your layers will be A0, B0, C0 and D0. If the “Hide unused layers” button is enabled and no more layers are available, you still have access to the layer selection on the right, thanks to the A, B, C and D buttons.

7.4.6 Logos and Frames management

On the Edit section, you can have access to your 8 still slots. Those slots can be filled by logos and frames.
To load the slots, go into the Setup section and click on Logos menu.
Or into the Edit section, under the logos tab, click on the Setup button to access to the slot configuration.
Choose the logo into your library to fill the slot. Other logos setups are available. *(See chapter: **7.3.11 Logo management**)*

7.5 Live

Use only the live mode when all your presets are correctly done and ready to use. This mode is for live use.

On the right, you will find all your memorized presets under the tab called **" MEMORIES ".**
A simple drag and drop on the screen will load your preset into the screen (Program or Preview).

You can at any time modify a memory by clicking on the Setup shortcut on the right of you preset memory.

LABEL: don't forget that you can affect a name to your memories.

If you want to change an input into your preset into the live mode, simply use the left source ribbon and drag and drop your input into a layer.

Under each preset you have its size and its duration.
Remember that a preset saved into a screen with a 1024x768 resolution, will keep its size into a screen of higher resolution.
If you want the preset to be adapted to the screen size, use the **AUTOSCALE** button. With this function enabled, all presets will be automatically stretched to the right size to fill the selected screen.

FILTER FEATURE: use the Filter feature to load and take only some presets information.
Choose between: source, pos/size, transparency, cropping, border, transitions, effects, timing, speed, flying curves, Native background and ALL at the same time. Only the selected feature will be load and take with the preset.
If you want to load the entire preset, please use ALL.

You still have access to the **LOAD/SAVE/RESET** preset feature.

Once your preset is ready to send, use the **T-bar**, or the **TAKE** button.
You still have access to **FADE TO BLACK** and **STEP BACK** buttons.

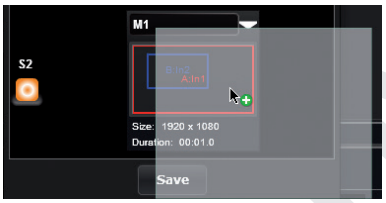
When you use several screens, you have the possibility to load a preset in one of the screens. You can **TAKE** the Program on one screen separatly, or all at the same time, by clicking on this button: 

A **FADE TO BLACK** and a **STEP BACK** buttons are also available. The **FADE TO BLACK** transforms your Program in a black screen using a fade effect on all your PIPs and a **STEP BACK** goes back to your previous preset.

MASTER MEMORIES: in order to take simultaneously several screens, you have the possibility to build some master memories. The **MM** (Master Memories) is a group of memories (M), it can load several memories in one time on several screens. Before starting to create your MM, please create before all the memories for all your screens. Then to build a **MM**, please click on the button 

and select a slot. You have access to 144 MM.

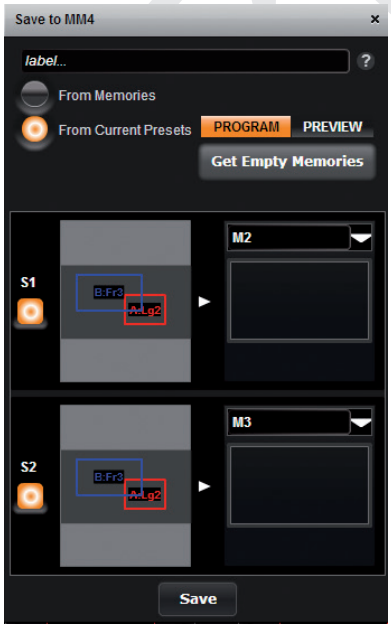
This windows will open:
Please select “From Memories” to store from existing memories. A screen can be part of the Master Memories or not, simply select or unselect the screen button. In this example S1 and S2 are selected



Then affect to the screens the chosen memories by clicking on the right arrow or directly by drag and drop the memories from the memories list.

Once you have chosen for each screen the memories affected: simply click on **SAVE** to save your Master Memories. You can save your master memory from existing memories or from the current configuration.

To do that, when saving the MM, please click on **FROM CURRENT PRESET:**



In that box, you can choose to save from **PREVIEW** or from **PROGRAM**.
To save the master memory, we need valid memory slots. As the current preset is not already saved, the unit has to save each screen configuration into a valid memory, and then build the master memory.
In our case the S1 will be saved into memory 2 and S2 will be saved into memory 3.

BE CAREFUL TO NOT SAVE INTO EXISTING MEMORY, IT WILL BE OVERWRITTEN.

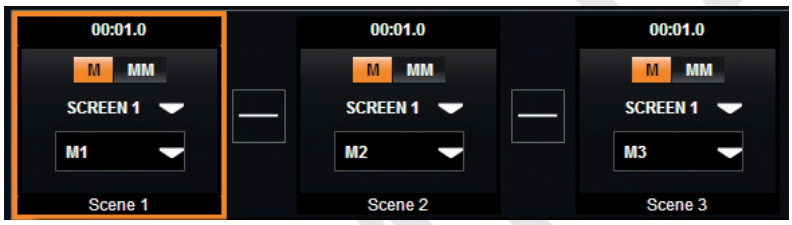
If you want an automatic research of free memory slots, please click on **GET EMPTY MEMORIES**.
Once you choose the correct memory slot, simply click on save to record your master memory.

The Master Memory is now saved, and can be recalled by the **LOAD MASTER MEMORY** button or simply by drag and drop the master memory to the screen windows. In the same way of the standard memory, you can have an overview of all your master memories clicking on the master memories tab.

You now have 2 possibilities to display the Master memories.
Click on the view button (on the right of Master Memory button), to have access to the block list or detailed list of master memories.

To rename or display the detail of your master memory, use the detailed list view.

SEQUENCE: The sequence feature consists on a timeline composed by 16 scenes. Each scene can be filled by a preset memory or by a master memory. Simply click on **M** or **MM** to choose between memory and master memory.



When memory is chosen, please select the screen where you want to load the content. When you select master memories, you don't have to select a screen as the master memory will load content on every screen. To select the memory or master memory number, simply choose it into the list or drag and drop it into the scene box from the memories selection (on the right).

This toolbar acts like a command for your timeline.
Simply click on play to launch the timeline.
You can stop the timeline at any moment using the pause or stop button.
Use the loop button to load again your timeline when it's finished.
The random button will play randomly your scene.
Take a look at the global time of your timeline thanks to the clock on the right of the toolbar.

8. OPERATING THROUGH THE FRONT PANEL

8.1 Front panel

8.1.1 LCD screen

Ascender 32 offers a LCD screen on the front panel which allows you to always have an overview of your settings. The LCD screen is a 4,3" diagonal size and a 800x480 pixels resolution.

Analog Way developed an ergonomic HMI to help customer to setup the unit with the help of the front panel.

You will find same settings into the front panel menu and into the Web RCS. Please refer to the specific setting chapter menu if you need accurate explanation on a setting.

Please take a look at the menu tree if you want to have a clear view of all available menus.

On the LCD you will find all menus around a text area. This text area describes the selected menu. To navigate into menu, simply turn the scroll knob to the chosen directory/menu and press **ENTER** button to enter into the menu or validate the setting. You can use the **EXIT** menu at any time to perform a step back into the menu structure.

CONTEXTUAL BUTTONS:

Four contextual buttons were put in place to help you to overview the state of your unit.

- The top one and the last one contextual buttons allow the customer to quickly navigate into the menu architecture. By clicking on those buttons, the cursor is now on the top menu list, and then using the scroll knob, you can choose to come back directly at the home menu, or choose the directory you want. Then click **ENTER** to validate your choice
- The second one is the dashboard shortcut. Pressing this button, you have access to the dashboard, all main information on your device.
- The third one is the **ABOUT** shortcut. Click on this button to have more information about Analog Way **Ascender 32** unit.
- The fourth button will display a specific Layer's summary window.

On some specific menus, the Contextual buttons have different functions:

- The contextual button 2 and 3 can display the text: Program and Preview. Depending on the modification you will apply, select the **PROGRAM** or the **PREVIEW** contextual button in order to apply your setting on the Program or Preview preset.

8.1.2 Front panel buttons

The front panel buttons provide you a full access to your layer/source and preset. *(See the front panel description at chapter: **5.1.2 Front panel**)*

First of all select your **SCREEN** number, in order to know on which screen you will do the modification.
Don't forget to always check on which screen you are doing the setup.
Then select the **PROGRAM** or **PREVIEW** buttons, in order to choose on which preset you will work.
We advise you to always play on the Preview preset.

Then you can build your own preset using the **LAYER SELECTION** buttons:

- Press native BKG button then press a source button (1-8) to affect the SET 1-8 into the selected preset (selected screen/selected Program or Preview)
- Press A, B, C or D to have access to a live layer, into this layer you can affect a source (press the **SOURCE** button 1-12) or affect a frame/logo pressing the **FRAME/LOGO** button and then press the **SOURCE** button 1-8.

Press the **FRAME/LOGO** button before pressing the **SOURCE** button, will act like a shift button, the source 1 to 8 become to frame/logo from 1 to 8.

Pressing the **COLOR** button instead of source 1 to 12 will simply fill your selected layer with a color.
If you want to clear a layer, simply select your layer and then click on **CLEAR** button. It affects no source to your layer. After a take you layer will be close.

The TAKE button:

The **TAKE** button is the final button to press, this button will copy your Preview preset into your Program preset according to all the settings you adjusted into your Preview preset.

FEATURES SHORTCUTS:

- **ASPECT IMAGE LAYER:** clicking on this button, after selecting a layer, you layer will be size on a different known aspect ratio in order to quickly find the best layer size.
- **FREEZE:** after selecting a layer then a source, press the **FREEZE** button to perform a freeze on the chosen input. This input stay frozen until you disable the freeze feature.
- **PRESET LOAD/SAVE:** those buttons give you a quick access to the list of 64 preset slots. Clicking on **LOAD/SAVE** will display on the LCD the list of preset, simply select the chosen one to **LOAD** or **SAVE** into this slot.

- **STEP BACK:** press the **STEP BACK** button to recall your previous preset on your Preview preset.
- **STAND-BY:** Hold this button to turn your unit in stand-by mode.

BUTTON COLOR USAGE:

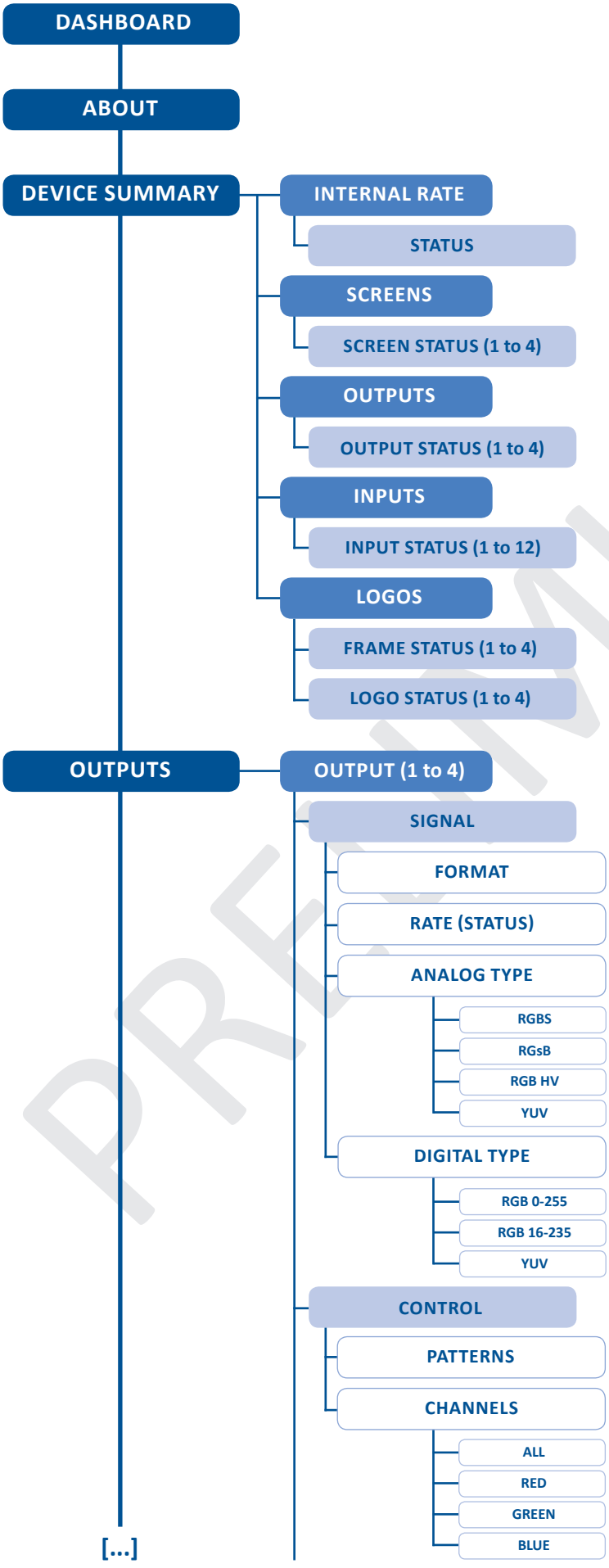
Using the front panel you can see that each button can have a specific color according to the fact the input is present on Program or not. Please find an array of this color status:

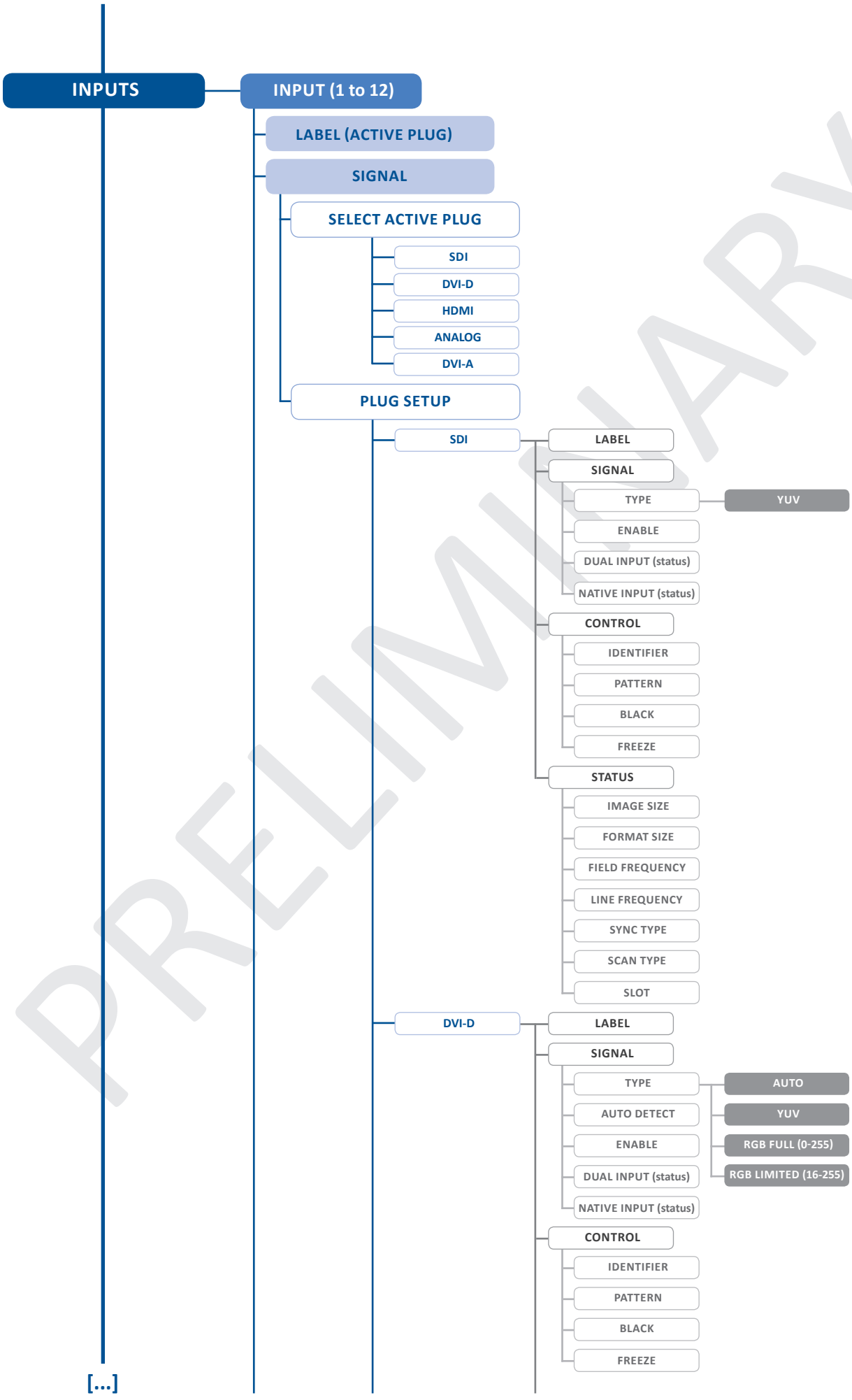
Solid red:	#1 = Source is on the Program output #2 = Freeze enable #3 = Stand-by button #4 = Preset Selection
Solid green:	#1 = Source is on Preview #2 = Function available for modification
Blinking red:	Layer/source selected or is currently active on the Program output
Blinking green:	Layer/source selected or is not currently active on the Program output
Solid orange:	Contextual button

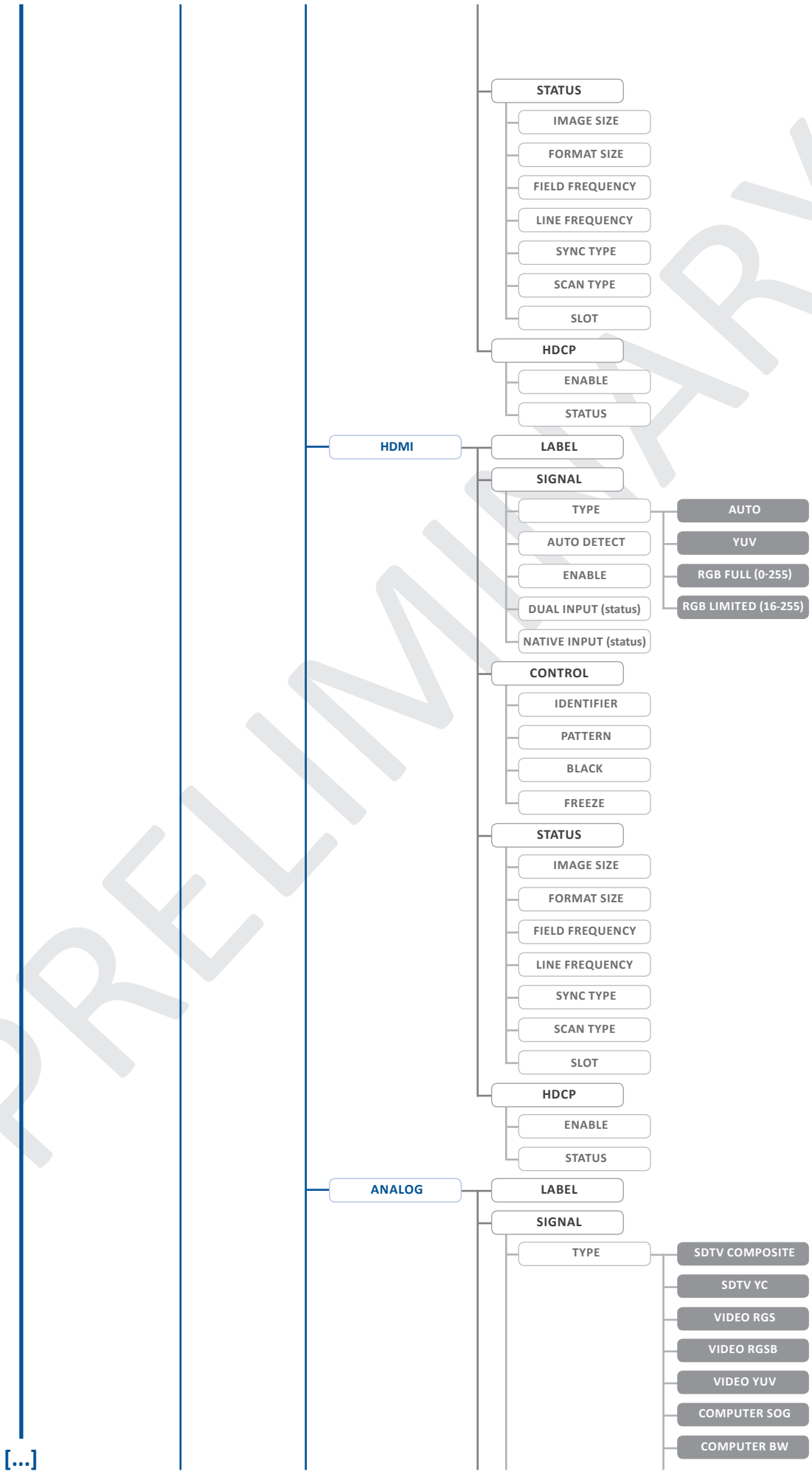
FINE TUNING:

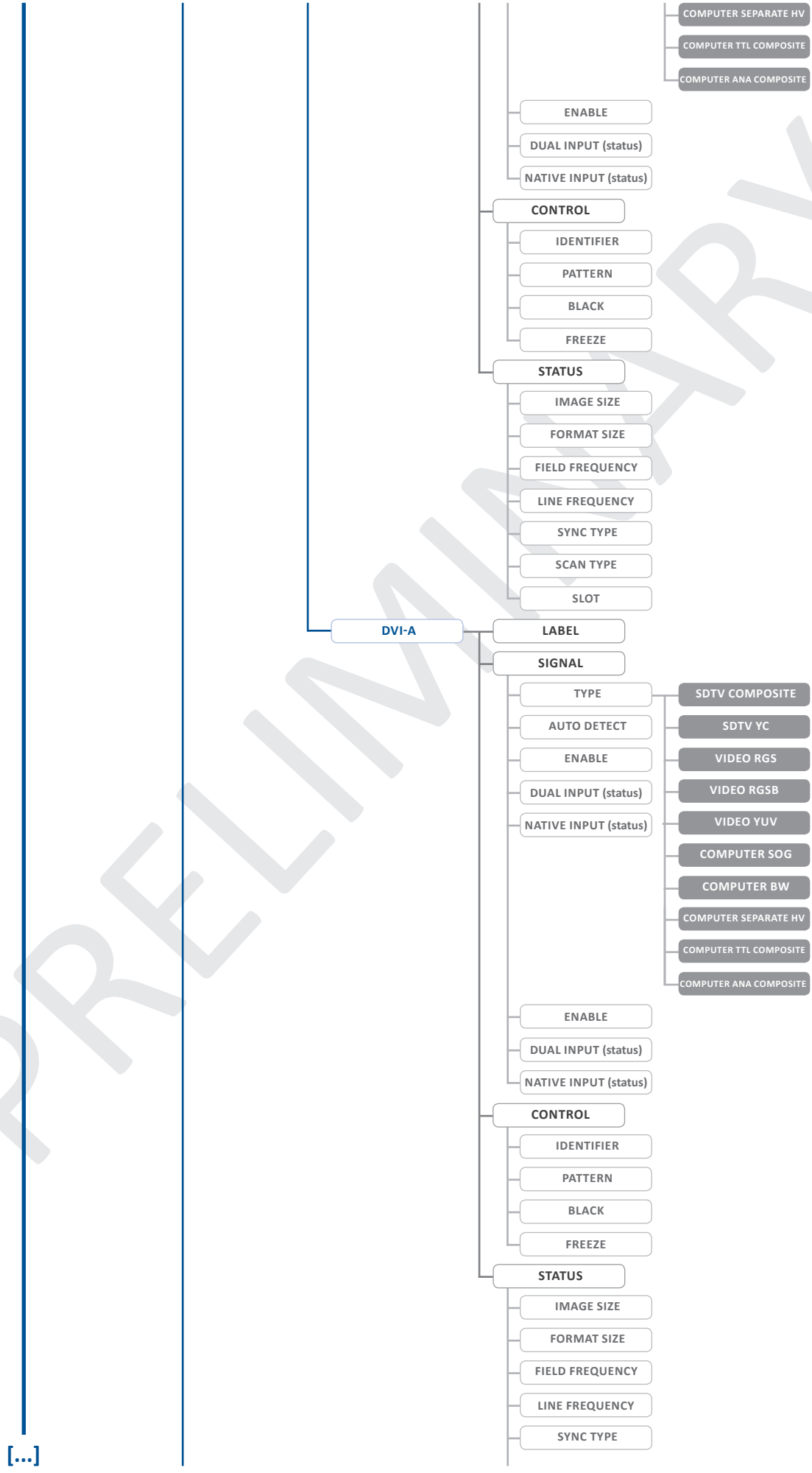
Ascender 32 front panel allows you to use the scroll knob button to navigate easily into the menu. Pressing on this specific button will enable/disable the **FINE TUNING** feature.
This feature increases the sensibility of the button and can be helpful if you want to adjust a specific value in a high band value.
To set up it correctly, simply turn the knob quickly next to the desired value, then push the button to activate the **FINE TUNING**, and then take your time to adjust accurately the exact value. This can be helpful to adjust an exact pixel size/position or to set up the accurately Soft Edge.

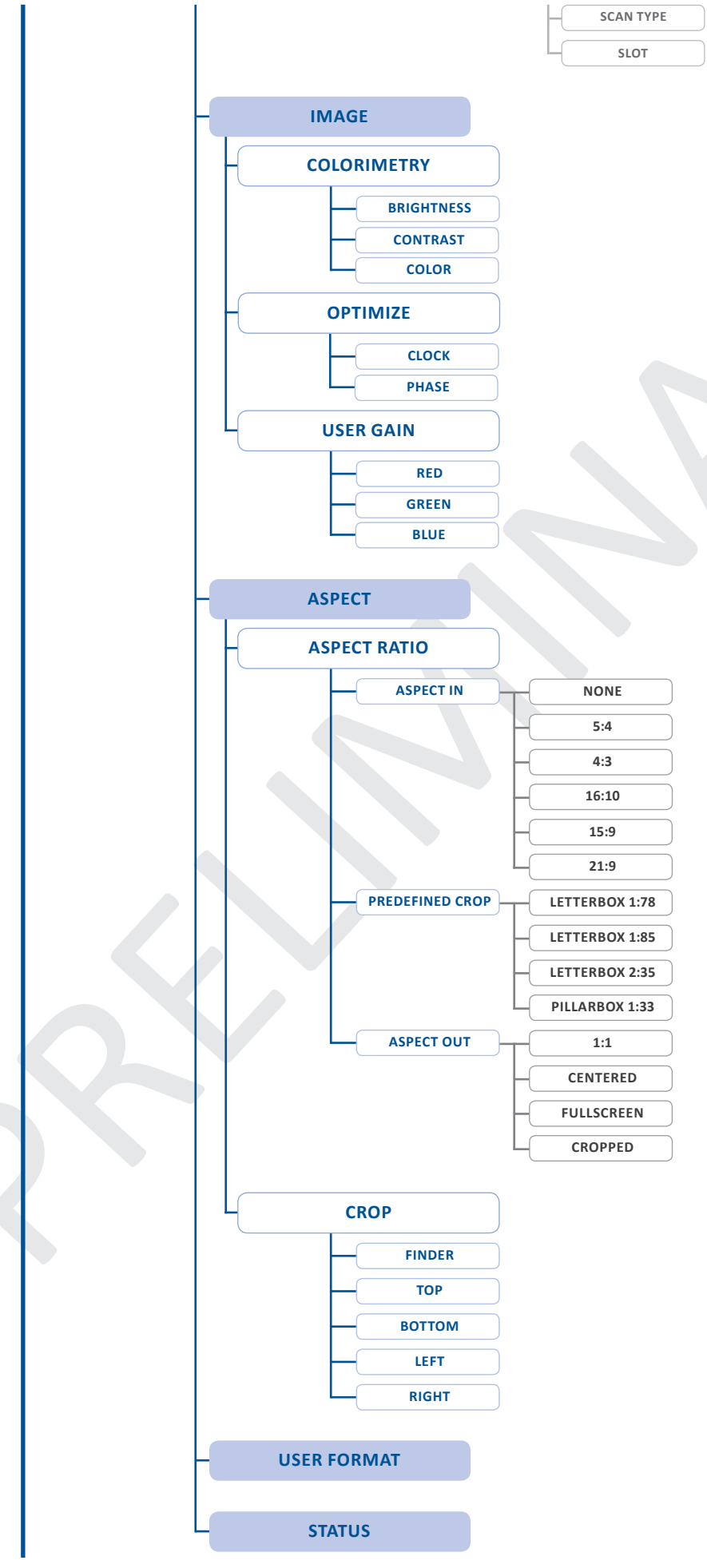
8.2 Menu tree



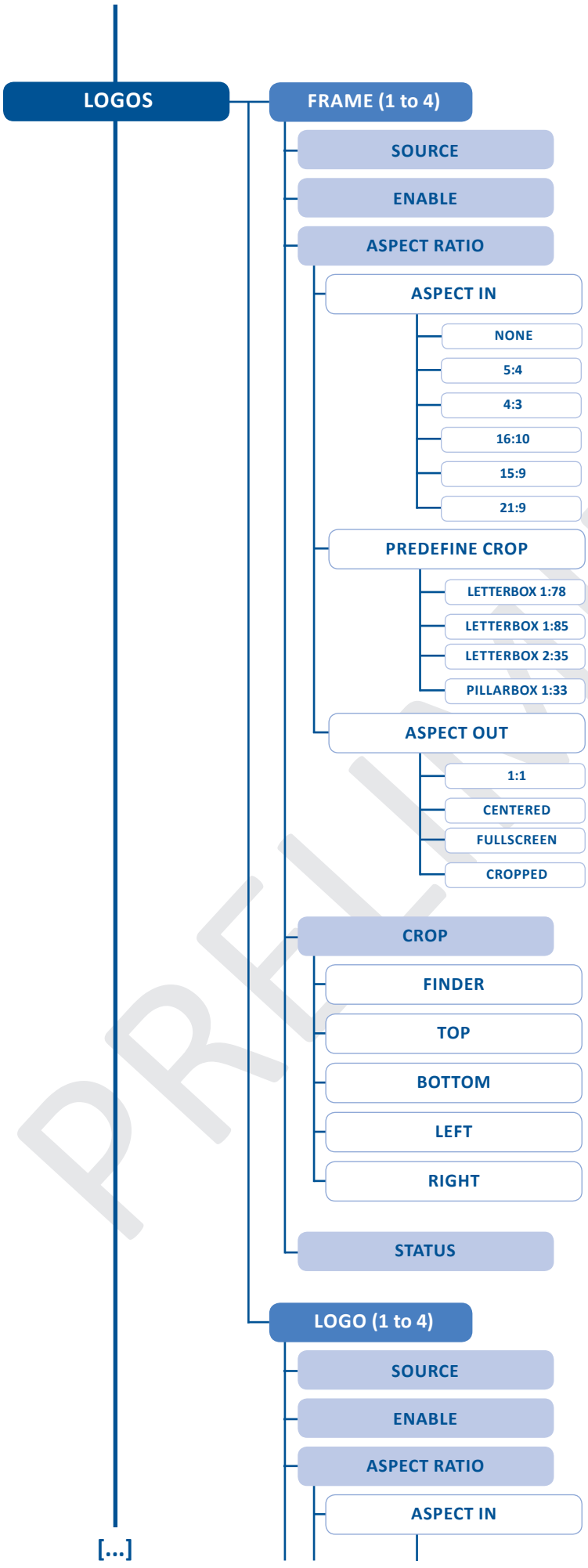


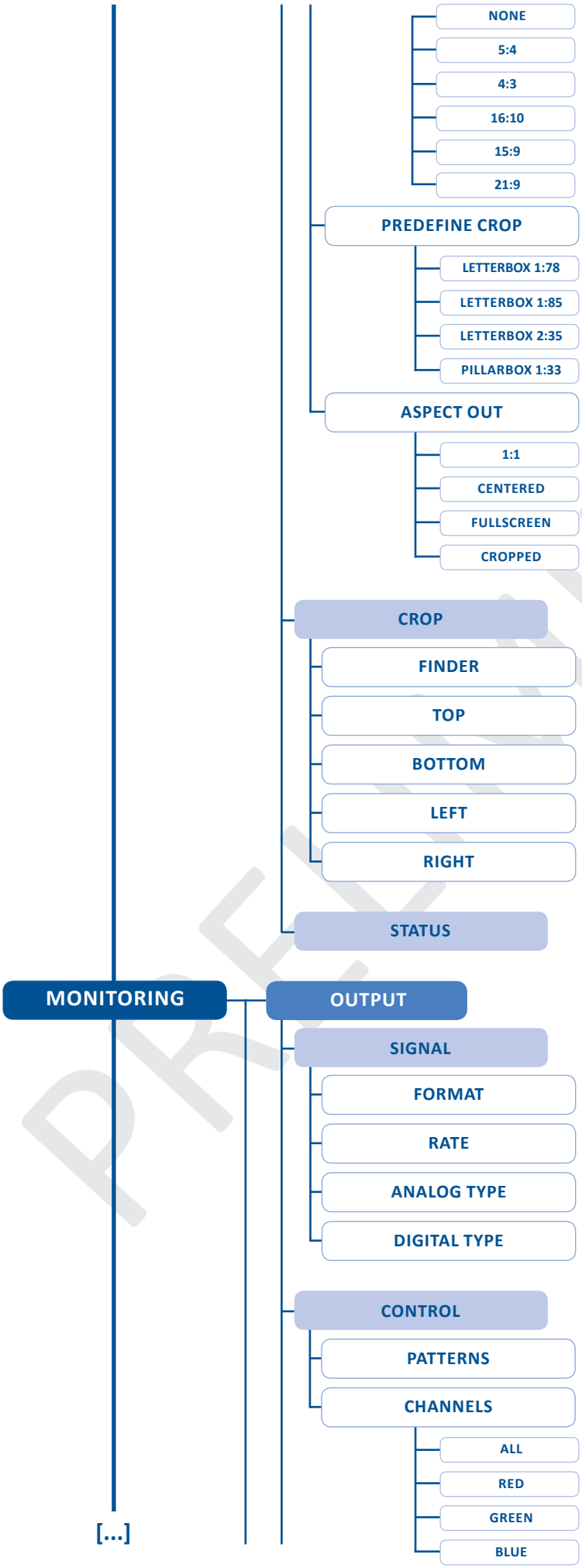


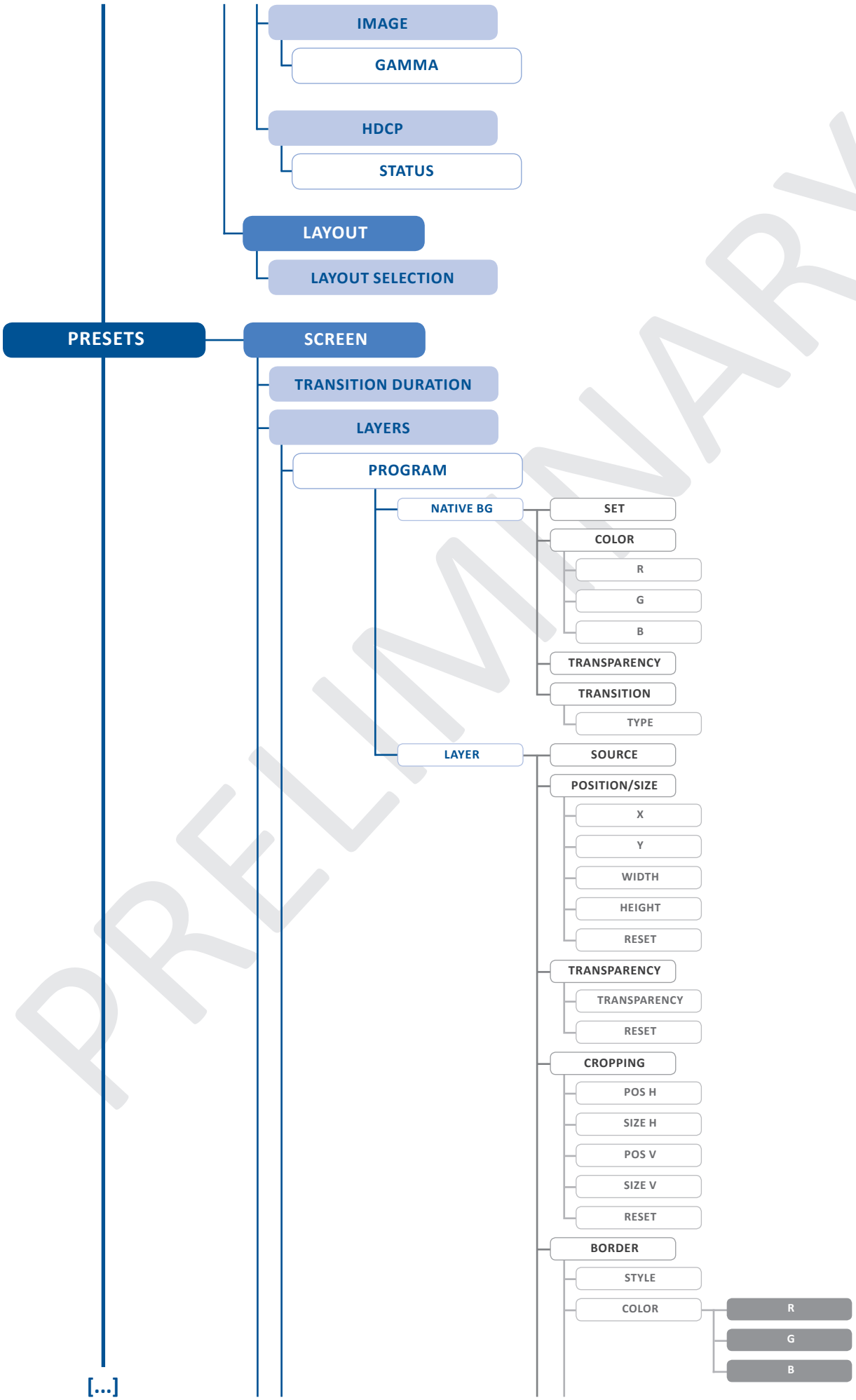


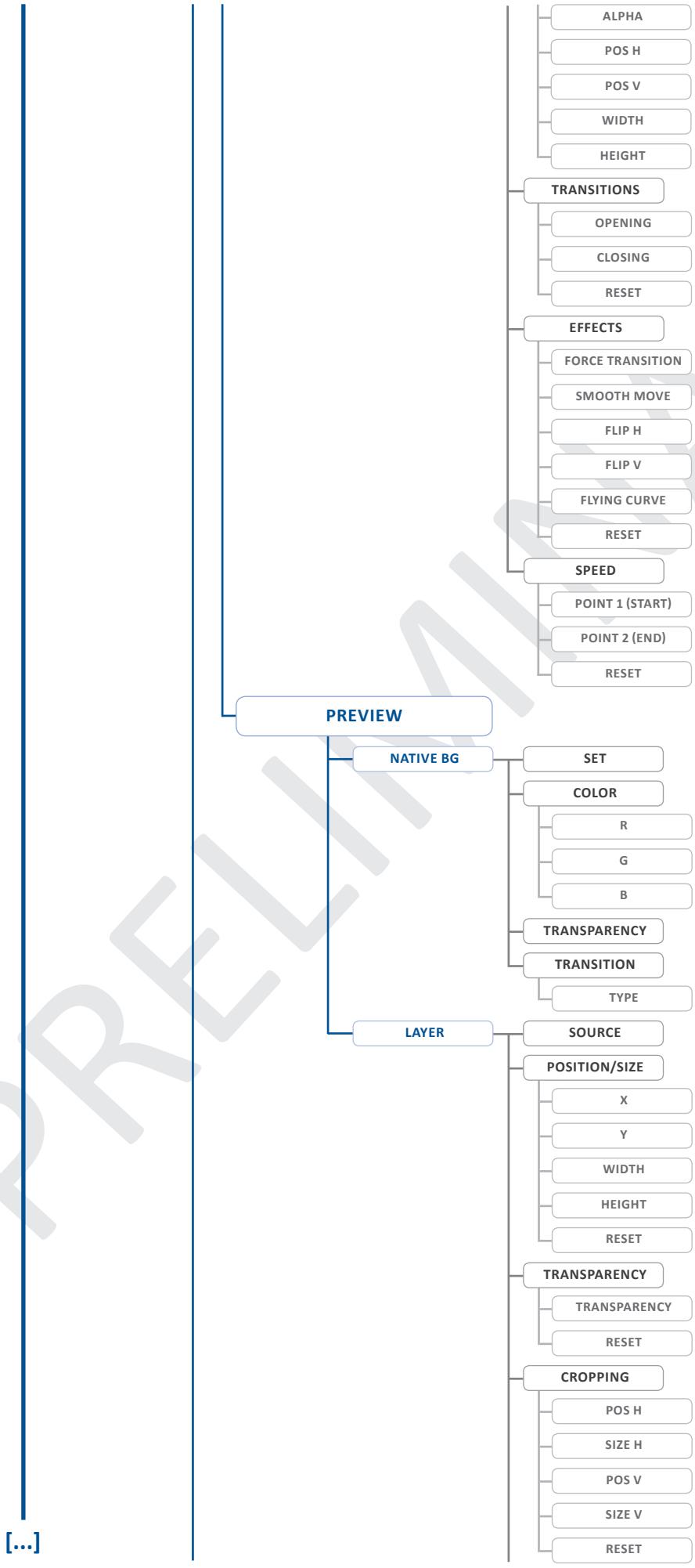


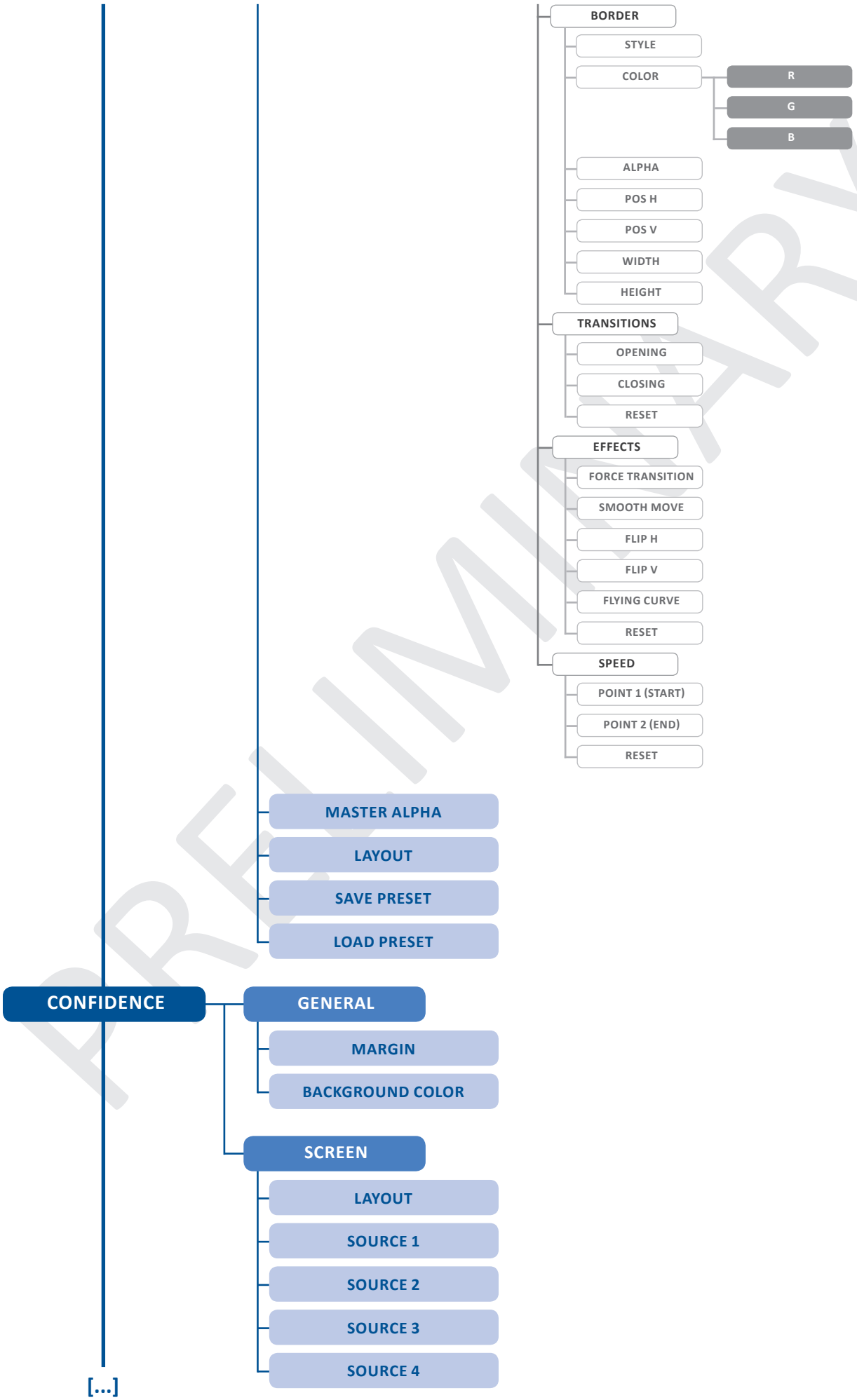
[...]

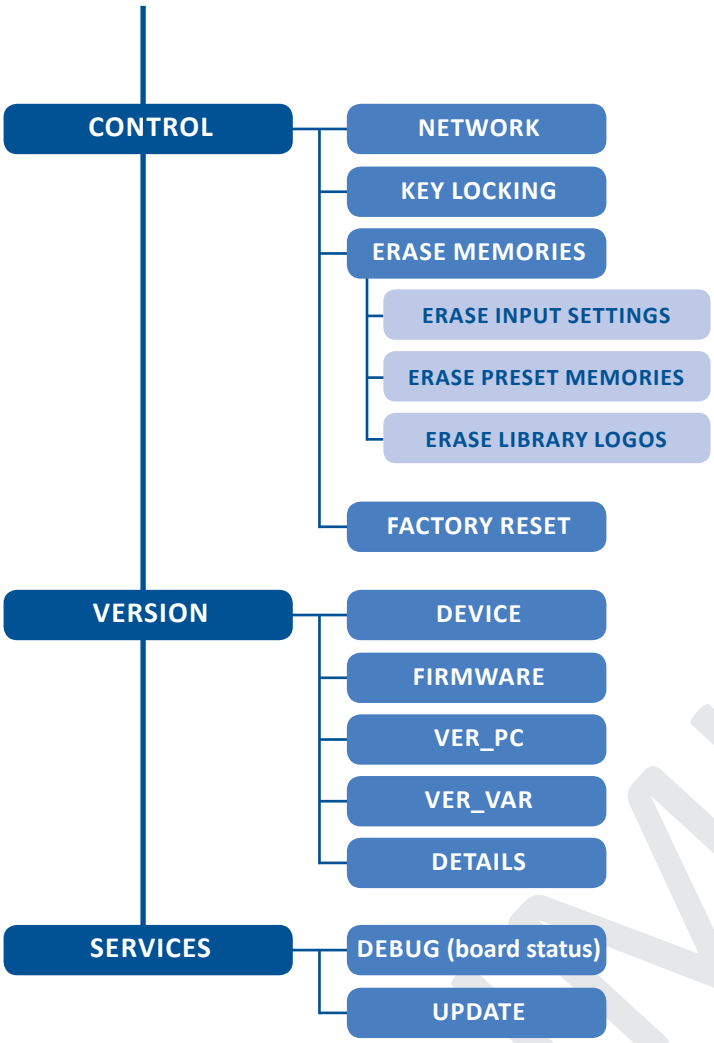












9. ADDITIONAL REMOTE CONTROL SYSTEMS

Ascender 32 offers the ability to be controlled by multiple simultaneous connections. This functionality allows for multiple operator stations and operators. For example, one operator may connect a computer using the WebRCS and focus their efforts on managing Screen 1, while a second operator connects a second computer and uses the webRCS to manage Screen 2, 3 or 4. A third connection might interface to a control system such as those offered by Crestron, AMX, or High Resolution Systems to offer custom-configured functionality such as recalling specific presets or inputs though a touchpanel.

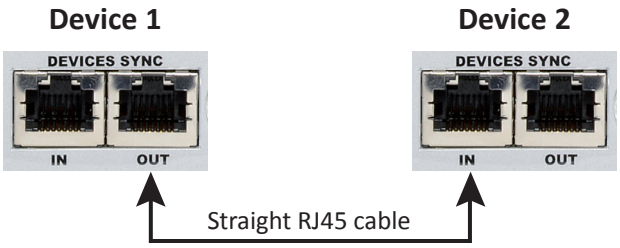
Ascender 32 is limited to a maximum of 5 connections. Attempts to connect more than this number of devices will result in a failed connection.

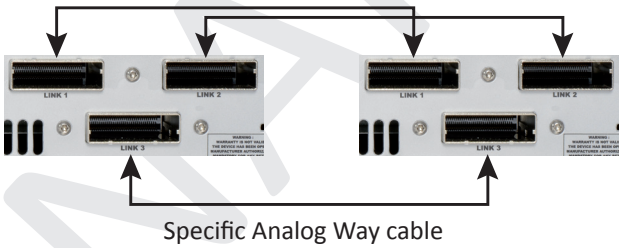
To take advantage of this feature, simply use an additional device and connect as described in earlier chapters. The current number of active connections can be monitored from the Dashboard (*see chapter: **11.3. Dashboard (Web RCS)***). Connections which are broken due to a network error may remain listed as active connections until the timeout period has expired.

10. ASSEMBLING AND DEVICES COUPLING

The **Ascender 32** can be used in multiple device configuration such as a large multi-device screen blend (Hard Edge and Soft Edge). In cases where the blended screen involves more than one **Ascender 32** device, it becomes desirable to improve the syncronization or effects and transitions between the multiple units, to ensure the consistency of any moving images which cross the boundary between devices. The **Ascender 32** offers a pair of Device Link ports for this purpose.

To use the Device Link feature in a multi-device setup, you will need one standard straight CAT5 ethernet cable. Start by connecting the Cat5 cable from the Device Link output RJ-45 jack of device 1 to the Device link input RJ-45 jack of device 2.





NOTES:

1/ Up to 2 devices can be connected using Device Link.

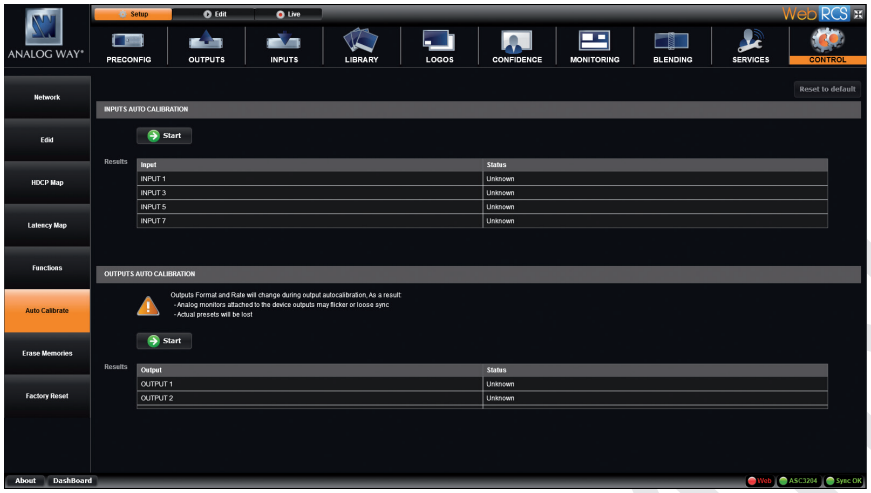
2/ The Cat5 based Device Link does not pass any video picture information. This link can only be used to synchronize the timing of effects and processing on **Ascender 32** devices used as part of the same multi-device screen blend (Hard Edge and Soft Edge). Video information should be shared using specific Analog Way cables.

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

11. MAINTENANCE AND SUPPORT

11.1 Auto Calibration

Ascender 32 includes an automatic calibration system. This system will calibrate all analog outputs/inputs thanks to internal test pattern. To be sure the calibration will do in the right way, please unplug all video input/output cable. The unit is able to perform itself the calibration without any other devices plugged.
Go into the **CONTROL** menu, and then auto calibrate.



Choose Input or Output calibration and click and **START** button to launch the process.
NOTE: Don't press START if you are running a show, live modifications can appear on your screen.
Don't press START if you don't need any calibration.

11.2 Remote maintenance

Ascender 32, thanks to the Ethernet connection, can be controlled by an external user using the remote maintenance system. This remote maintenance is based on an Ethernet access thanks to the RJ45 cable.
To be able to control the unit from another place, your unit as to be connected to the web, please check into the Dashboard if all alarms are **GREEN**, particularly the ETHERNET alarm, and the WEB alarm.
To activate the remote maintenance or to receive more information about this service, please contact your local technical support.

11.3 Dashboard (Web RCS)

On the Web RCS, you have access to a chart with global information on the unit.
Please click on the Dashboard button: DashBoard

On this chart, you will find under the **INFO** tab, the Device name, the Serial number of your product, the actual firmware and the software version of the Web RCS.
Under **CONNECTIVITY**, you will find the current IP address of your unit and its MAC address.
Then you find an some **RED**/**GREEN** alarm which give you information about the unit connectivity.

If it is GREEN:
Ethernet: your unit is connected to your internet network
Web RCS: your unit is connected to a Web RCS, it gives you the number of connections
Link: your unit recognize other **Ascender 32** unit on the network..
Web: your unit is actually connected to the web (web update is available)
Vertige: a **Vertige™** remote controller is detected.
Sync: Synchronization is established with a controller.

If it is RED:
Your unit is not connected to the specific field.

Under **STATISTICS**, you can overview your **Ascender 32** use information. Find the running time since the last boot, or the total running time since you bought the unit. Running Cycles, stored presets number, stored Logos number and stored input settings information are also available.

12. APPLICATIONS NOTE AND TIPS

12.1 HDCP

HDCP is a content protection mechanism which uses encrpytion to prevent high value content from being delivered to non-authorized devices. For example, Blu-ray players use HDCP on their HDMI outputs to ensure that the HDMI output cannot be routed to a digital recording device.

Ascender 32 is fully HDCP compliant, meaning that you will be able to use the **Ascender 32** to accept HDCP protected sources and route them to any HDCP protected outputs. As Analog Way is a licenced HDCP adoptor, this also means that the **Ascender 32** is prevented from displaying any HDCP protected images on any non-HDCP compliant outputs (as is the case for all licenced HDCP compliant devices).

HDCP can only be used on certain connection formats, including DVI, HDMI, and Displayport. Keep in mind that simply because a connection is using a DVI, HDMI, or Displayport connection, it does not gaurentee that the devices connected are maintaining an active HDCP connection. For example, you may find video recording or capture devices equipped with an HDMI input, however HDCP licencing forbids these devices from capturing HDCP protected content.

HDCP is not supported on connection formats such as composite, component, Svideo, SD-SDI, HD-SDI, 3G-SDI, or VGA. This means that any source which becomes protected by HDCP cannot be converted to these formats. For example, while you may find a Blu-ray player which can directly output a composite video signal, HDCP licencing forbids converting the HDCP protected HDMI signal back to composite or any other non-protected format.

To help troubleshoot HDCP in your installation, **Ascender 32** offers a convenient HDCP map as well as HDCP status information. To access the HDCP map, use the Web RCS and navigate to the **SETUP > CONTROL > HDCP Map** page. Each input and output page is also equiped with HDCP status information to indicate in realtime when HDCP encryption is being used.

Certain devices such as Macintosh computers can be particularly tricky to use in conjunction with an HDCP compliant presentation switcher such as the **Ascender 32**. This is because devices like the Mac computers can be used to output both HDCP protected content (such as a movie downloaded from iTunes) as well as non-HDCP protected content (such as a Keynote presentation or the desktop). When a computer first connects to an HDCP compliant device such as the **Ascender 32**, it learns the capabilities of the device through the EDID connection. Upon seeing the HDCP compatibility of the attached **Ascender 32**, devices like the Mac computers will immediately attempt to use HDCP encrpytion at all times, despite the content currently displayed on the computer screen. Since this source would now be considered as an HDCP protected source, **Ascender 32** would be required to prevent it from being displayed on VGA or SDI outputs and only allow it to be displayed on outputs protected by HDCP. To work around this problem, **Ascender 32** allows the HDCP features of a particular input to be disabled, which in turn informs the Mac computer to avoid using HDCP, and allows content such as Keynote and the desktop to be displayed, as this input will no longer use HDCP protection. Please note that disabling the HDCP features of the input do not circumvent HDCP protections, and thus do not allow you to view any content which requires this protection.

For more information about HDCP, please refer to our whitepapers on HDCP, or visit the HDCP foundation website.

13. WARRANTY

13.1 Warranty conditions

Analog Way warrants the product against any defects in materials and workmanship for a period of three (3) years from the date of purchase when used in accordance with the user's manual and standard industry practices.

- In the unlikely event of any malfunction from such defects during the warranty period, Analog Way will, at its discretion, repair or replace the defective units.
- The warranty does not apply if the product is determined to have been:
  - Improperly installed or abused,
  - Handled with improper care,
  - Used or stocked in abnormal conditions,
  - Modified, opened,
  - Damaged by fire, war, or Natural disasters (Acts of God)
- Analog Way's direct employees are solely authorized to make this determination.
- Analog Way reserves the right to refuse for repair and service a product for which the warranty is void.
- In no way shall Analog Way be responsible for direct or indirect loss of profit or consequential damages resulting from any defect in this product.

NOTE:
Analog way provides a warranty extension of 2 years, it includes parts, labor and return shipping. If you are interested, please get contact with your area sales representative.

13.2 Repair and return instructions

These Return Material Authorization (RMA) regulations determine the procedure to be followed when returning defective product. The aim is to ensure fast and simple handling of the returned product and bring the best satisfaction

In the unlikely event that a product is required to return for repair, please call the regional Maintenance center / Customer Service, and ask to receive a Return Material Authorization number (RMA). Three regional maintenance centers are available depending on your location. *(See chapter: **14. Contact information**)*

- Before sending any device to Analog Way, please contact us to obtain a Return Material Authorization (RMA) number. Please have the model and serial number available and the reason for calling.
- RMAs are valid for 30 days, after which a new RMA must be requested.
- Package the unit securely in the original shipping materials or suitable equivalent. Analog Way is not responsible for damage which occurs due to improper packaging. The customer assumes responsibility until the unit arrives at our facility.
- Out-of-warranty products will be charged evaluation fee if no problems are found or if you choose not to proceed with the repair.
- Discontinued products are not admitted for return and repair.
- Be sure to include the RMA number clearly on the shipping label or on the exterior of the package.
- No unit will be accepted without a valid RMA clearly visible.

13.3 Return conditions

In the unlikely event that you want to return the product, please call the regional Maintenance center / Customer Service

- If you are unhappy with the performance of any product purchased from us, you can return it within 30 days of purchase.
- Returned equipment must be in original condition with all accessories and packaging materials.
- Returns may be subject to a refurbishment and/or restocking fee.

14. CONTACT INFORMATION

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