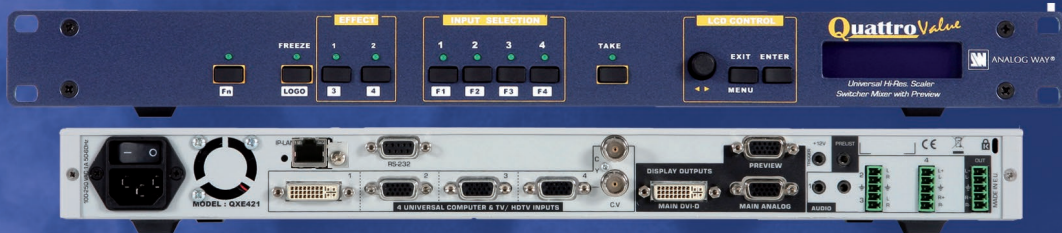


QuattroValue

[MAIN] — [PREVIEW]
black black
black black
black black
input 1 input 1
black black



1920x1080



THANK YOU

Thank you for choosing Analog Way. By following these simple steps, you should be able to unleash the powerful **Quattro Value** High Resolution Digital and Analog Computer & Video Up/Down Scaler Switcher straight out of the box.

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SAFETY INSTRUCTIONS

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

CAUTION :

- **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 or direct sunlight). Slots and openings in the device are provided for ventilation and to avoid overheating. Make sure the device is never placed on or near a textile surface that could block the openings. Also keep away from excessive dust, vibrations and shocks.
- **POWER CORD. :** Use the On (I) / Off (O) switch to power On or Off devices equipped with that switch. All other devices should be plugged and unplugged from wall outlet. In both cases, please follow these instructions :
 1. The power cord of the device should be unplugged from the outlet when left unused for several days.
 2. To unplug the device, do not pull on the power cord but always on the plug itself.
 3. The outlet should always be near the device and easily accessible.
 4. 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 you 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 TBTS defined under EN60950.
- **SERVICING :** Do not attempt to service this product yourself by opening or removing covers and screws since it may expose you 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.

Afin de mieux comprendre le fonctionnement de cet appareil nous vous conseillons de bien lire toutes les consignes de sécurité et de fonctionnement de l'appareil avant utilisation. Conserver les instructions de sécurité et de fonctionnement afin de pouvoir les consulter ultérieurement. Respecter 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 et aux 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.
- **CORDON D'ALIM. :** Les appareils sont équipés d'un interrupteur général (Marche I / Arrêt O), la mise en tension et la mise hors tension se fait en actionnant cet interrupteur général. 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 :

1. Le matériel relié a demeure au réseau, doit avoir un dispositif de sectionnement facilement accessible qui doit être incorporé à l'extérieur de l'appareil.
2. Débrancher le cordon d'alimentation de la prise murale si vous prévoyez de ne pas utiliser l'appareil pendant quelques jours ou plus.
3. Pour débrancher le cordon, tirez le par la fiche. Ne tirez jamais sur le cordon proprement dit.
3. La prise d'alimentation doit se trouver à proximité de l'appareil et être aisément accessible.
4. 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. Vérifier le câble d'alimentation de temps en temps. Contacter votre revendeur ou le service après vente pour un remplacement.

- **CONNEXIONS :** Toutes les entrées et sorties (exceptée l'entrée secteur) sont de type TBTS (Très Basse Tension de Sécurité) définies selon EN 60950.
- **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, risque d'exposer l'utilisateur à des chocs électriques ou autres dangers. Contacter le service après vente ou votre revendeur ou s'adresser 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.

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 fuoriuscita d'aria calda, né in un posto esposto direttamente ai raggi del sole, a polvere eccessiva, a vibrazioni o a shock meccanici. Ciò 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.
- **CAVO DI ALIMENTAZIONE :** Gli apparecchi con un interruttore (commutatore) generale (Accesso I / Speuto 0), accendere ou spagnere l'apparecchio si fa usando l'interruttore.
Attenzione : il cavo di alimentazione è il solo modo di disconnettere l'apparecchio dell'alimentazione. Per assicurarsi che totalmente l'apparecchio non è più collegato, il cavo deve essere disconnesso della presa murale.

Seguire le istruzioni seguenti :

1. Il materiale collegato a residenza alla rete, deve avere un dispositivo di sezionamento facile da raggiungere e che deve essere inserito all'esterno del apparecchio.
2. Disconnettere l'apparecchiatura dalla presa murale se si prevede di non utilizzarla per qualche giorno.
3. Per disconnettere il cavo tirare facendo forza sul connettore. La presa d'alimentazione deve trovarsi in prossimità dell'apparecchiatura ed essere facilmente accessibile.
4. 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 può 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 (eccetto l'alimentazione) sono di tipo TBTS definite secondo EN 60950.
- **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 ciò può 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.

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.
- **NETZKABEL:** Da die Geräte über einen Hauptschalter (An / Aus 0) verfügen, erfolgt die Stromversorgung und -unterbrechung über diesen Hauptschalter.
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 :

1. Wenn Geräte dauerhaft am Netz bleiben, müssen sie über eine leicht zugängliche Trennvorrichtung verfügen, die außen am Gerät angebracht sein muss.
2. Das Kabel mittels dem Stecker herausziehen. Niemals am Stromkabel selbst ziehen.
3. Die Steckdose muß sich in der Nähe des Geräts befinden und leicht zugänglich sein.
4. 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 :** Bei allen Ein- und Ausgängen (außer der Stromversorgung) handelt es sich, gemäß EN60950, um Sicherheits Kleinspannungsanschlüsse.
- **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 Gehäuses sowie 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.

INSTRUCCIONES DE SEGURIDAD

Para comprender mejor el funcionamiento de este aparato, le recomendamos que le acudadosamente 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 calor intensas.
- **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.
- **CABLE DE ALIMENTACIÓN :** Los equipos incluyan interruptor general de alimentación (Encender / Apagar 0), la puesta en marcha o desconexión se realiza por medio de este interruptor. 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:

1. 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.
2. 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.
3. El enchufe de alimentación debe estar cerca del aparato y ser de fácil acceso.
4. 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 (excepto la entrada del sector) son de tipo TBTS (Muy Baja Tensión de Seguridad) definidas según EN 60950
- **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 diríjase con personal cualificado únicamente.
- **ABERTURAS Y ORIFICIOS :** Los aparatos pueden contener aberturas (aireación, ranuras, etc.). No introduzca 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.

1-1. ACCESSORIES SUPPLIED

- 1 x Quattro Value (QXE421)
- 1 x AC Power supply cord.
- 1 x HD15 male / 5 x BNC female cable adaptor
- 1 x set of 3 MCO (5-pin) female connectors
- 1 x User Manuel (PDF version)*.

* Download on our website: www.analogway.com/technical_support/

1-2. QUATTRO VALUE GENERAL INFORMATION

The QUATTRO VALUE by Analog Way is a High Resolution Digital and Analog Computer & Video Up/Down Scaler Switcher. In addition, the device offers a true scaled preview and many effects including High Resolution PIP in Computer & Video formats.

It is fitted with 4 Universal A/V inputs including one DVI, and 3 outputs : 1 Analog and 1 DVI for the Main; 1 Analog for the Preview. It performs an ultra fast and smooth transition between any Video or Computer sources. It also allows a true seamless switching between one computer Input (direct) and any other Video or Computer Input.

Preview : The device is fitted with a true scaled Preview out offering the possibility to visualize any source before displaying it on the Main output. Preview out ensures easy and safe presentations since any Video or Computer source can be monitored on a simple LCD screen before being displayed to the audience.

PIP : The device creates High quality picture insertion from any input. The PIP can be sized and moved anywhere over the background image. Background image can be switched between one Computer source (the reference computer) and a Frame. The PIP source can be fast & smoothly switched through a fade to black or customized color. The PIP opening offers a choice between Cut and Fade.

Title Effect : The device can mix a Computer source with a Title (reference computer) with any Video or Computer source. The title remains on the screen during the transition. The device also features a shadow title effect with settable vertical size and position that enhances the readability of the titling text over very bright images.

Fade Effect : The device features cross-fade effects between Computer (reference computer) and Video (TV/HDTV) or Computer sources, with adjustment of the cross-fading duration.

Logos and Frames : The device can store in its non volatile memory 8 Still and 1 Animated Logos and 4 Full Frame Images in true Hi-Res. 16 million colors. Recording is done either by direct acquisition from Input source or from Computer download of image files. Up to 2 Logos can be assigned to each input to be displayed at any position on the output screen.

The device is a High Performance State of the Art Up/Down Video and Computer Scaler. Ready to fit the native resolution of the latest HD display devices, it provides a high quality image thanks to its high quality digital decoder, improved 3:2 and 2:2 pull down circuitry, auto-adaptative pixel by pixel 3D motion compensation, time base corrector, frame rate converter & follower.

Easy to use, the device offers Auto Setup function, Auto Clock and Phase for Computers. Each input image control – brightness, contrast, color, hue, processing, aspect ratio, zoom, etc ... - can be individually set and stored in non volatile memories. Each of the 4 Inputs is fitted with a stereo audio line. The audio can either follow or break away from the Video image. The device is fitted with a Dual RS232 Com port for Integral remote control and automatic control of other devices in the installation. Full Firmware upgrade maintains high value to your equipment through permanent additional possibility in the apparatus life time.

This ultra compact and user friendly device is especially dedicated to high resolution A/V presentation displays, conference and boardrooms, and events.

1-3. DEVICES & REFERENCES

REFERENCE	DESIGNATION
QXE421	QUATTRO VALUE

1-4. INSTALLATION

IMPORTANT : Please read all the safety instructions page 3 before starting.

- *Table Top Mounting* : The device can be used directly on a table : the unit is equipped with 4 plastic feet.
- *Rack Mounting* : The device is compatible with a 19" enclosure. To install the device into a 19" rack: Attach the device to the rack by using 4 screws in the front panel holes (screws are not included).

- IMPORTANT :**
- **The openings in the rear and side panels are for cooling. Do not cover these openings.**
 - **Be sure that no weight is added to the device in excess of 2 kg (4.4 lbs.).**
 - **The maximum ambient operating temperature must not exceed 40°C (104°F).**
 - **The rack and all mounted equipment in it must be reliably grounded to national and local electrical codes.**

1-5. FRONT PANEL DESCRIPTION OF THE QUATTRO VALUE



Fn : Secondary function selection button.

FREEZE : Freeze the main output (the blinking LED indicates the FREEZE is active).

LOGO : Allows to display logo onto the Main output.

NOTE : Logo display can be used by first pressing Fn.

EFFECT : Selection of the 4 EFFECT PRESET.

NOTE : Effect preset #3 & 4 can be used by first pressing Fn.

INPUT SELECTION :

- Selection of the 4 input sources : 1 to 4.
- Selection of the 4 frames : F1 to F4.

NOTE : - Frame selection can be used only when Fn is activate (LED blinking quickly).

- The pre-selected source (LED blinking slowly) is displayed onto the PREVIEW output.
- The pre-selected frame (LED blinking quickly) is displayed onto the PREVIEW output.
- The source/frame displayed onto the MAIN output is indicate by a turn ON LED.

- A long push (1 second) on the selected/preselected input button allows to activate the **BLACK** function. A black screen is displayed onto the corresponding output. A short push on the same button allows to inactive this function.

TAKE : Allows to display the pre-selected source onto the Main output with the selected effect.

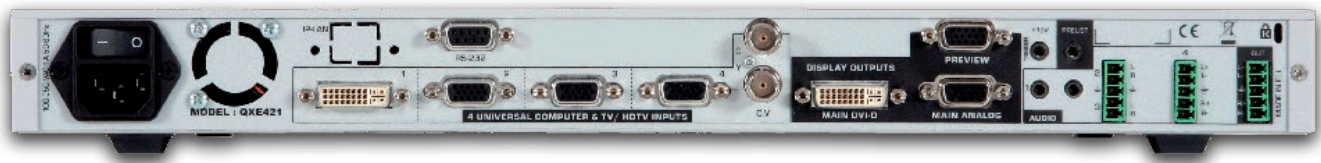
CONTROL Allows to scroll thru the different menus (in Control mode).



EXIT – MENU : Switches between Status and Control mode.

ENTER : Validates a selected item.

1-6. REAR PANEL DESCRIPTION OF THE QUATTRO VALUE



100-250 VAC, 1A, 50-60 Hz : AC power inlet.

O / I : AC power switch (O = OFF, I = ON).

IP/LAN : LAN communication port on a RJ45 connector.

RS-232 : RS-232 communication port on a DB9 female connector.

4 UNIVERSAL COMPUTER & TV/HDTV INPUTS :

1 : Universal (computer and video) input on a DVI-I female connector.

NOTE : This input accepts analog & digital Computer source.

2 to 3 : Universal (computer and video) inputs on a HD15 female connector.

4 : Universal (computer and video) input on HD15 and 2Xbnc female connectors.

NOTE : All the universal inputs accept the following video source : Composite Video, S-Video, SD-YUV, RGBHV, RGSB, RGSB & HD-YUV (HDTV)

DISPLAY OUTPUTS :

PREVIEW : PREVIEW output on a HD15 female connector.

MAIN DVI : MAIN digital & analog output on a DVI-I female connector.

MAIN ANALOG : MAIN analog output on a HD15 female connector.

AUDIO :

1 : Unbalanced stereo audio input #1 on 3.5 mm jack female connectors.

2 & 3 : Unbalanced stereo audio input #2 & #3 on MCO male connectors.

4 : Balanced stereo audio input #4 on a MCO male connector.

OUT : Stereo audio output (balanced & unbalanced) on a MCO male connector.

PRELIST : Prelist stereo audio output (unbalanced) on a MCO male connector.

Trigger +12 V : A room (+ 12 Vdc trigger) command (3.5 mm jack female), allows to control external functions such as up/down screen, lighting...

STARTING

2-1. QUATTRO VALUE CONNECTIONS

NOTE : Turn OFF all of your equipment before connecting.

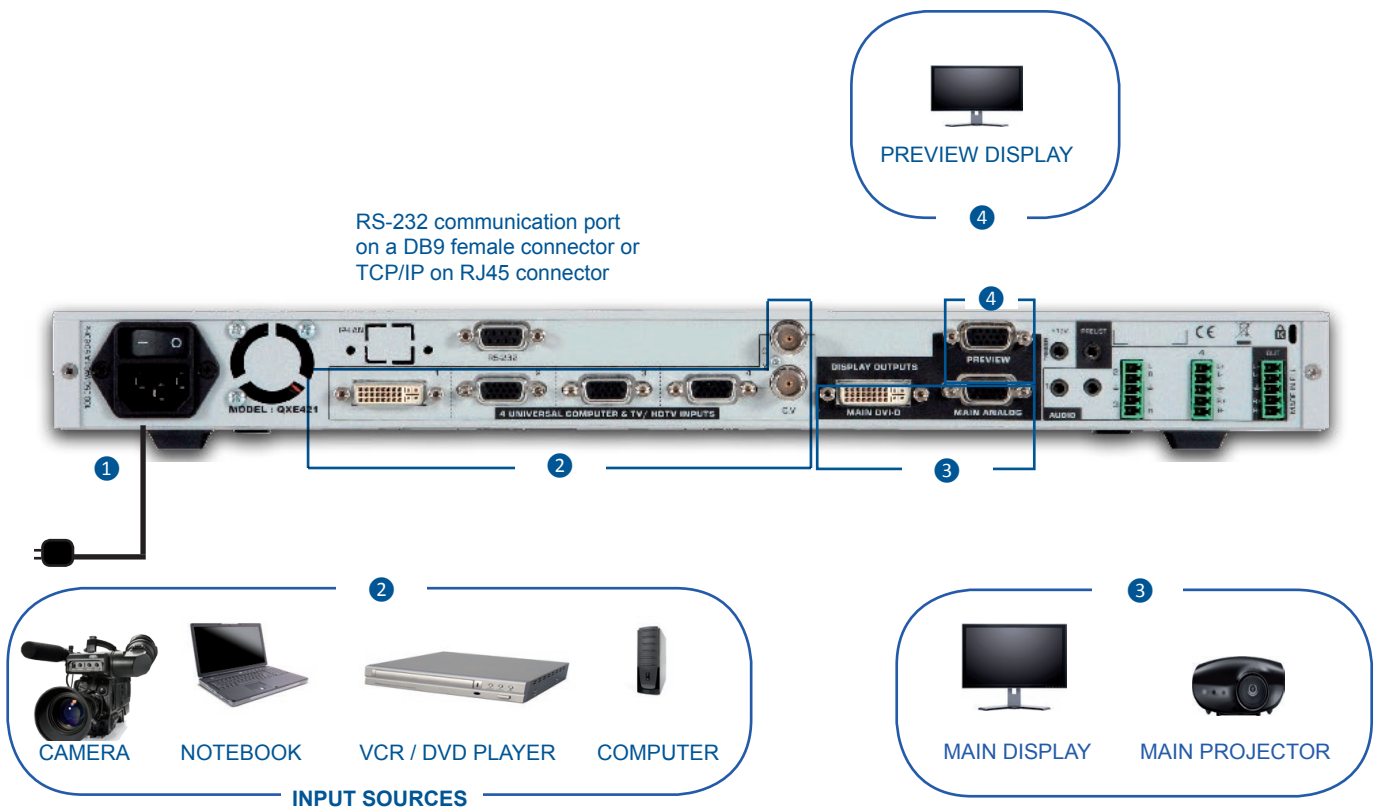
- 1 Connect the AC power supply cord to the device and to an AC power outlet.
- 2 Connect your computer & video sources to the 4 universal inputs of the device.
 - If you need to connect a digital computer source, use the input #1 (DVI-I IN connector).
 - Connect your others sources to the unused inputs. See following sections to have a complete description.

IMPORTANT : Connect only one source per input.

- 3 Connect your MAIN display device (projector, plasma screen...) to the HD15 or DVI-I MAIN connector.
- 4 If required, connect your PREVIEW display device (projector, plasma screen...) to the HD15 PREVIEW connector.

Turn ON the device (rear panel switch), then turn ON all your input sources and then your display device.

Connection diagram:



2-2. INPUT #1 DESCRIPTION

1) CONNECTION :

You can connect to this input one of the following source :

- A composite video source.
- A S.video source.
- A Component video source.
- A HD-YUV source.
- A RGBS video source.
- An analog (RGBHV, RGsB, RGBS) computer source.

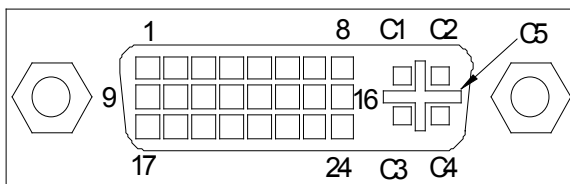
NOTE: You can use the DVI / HD15 adaptor provided with the device to connect analog sources to the DVI-I (IN) connector.

- A digital computer source.

2) DVI-I PIN ASSIGNMENT :

The DVI-I female connector can be used with digital signals as well as analog signals. The table hereafter explains the pin assignment of this connector.

Pin	Function	Pin	Function	Pin	Function
1	TMDS Data 2-	9	TMDS Data 1-	17	TMDS Data 0-
2	TMDS Data 2+	10	TMDS Data 1+	18	TMDS Data 0+
3	TMDS Data 2 Shield	11	TMDS Data 1 Shield	19	TMDS Data 0 Shield
4	Not used.	12	Not used.	20	Not used.
5	Not used.	13	Not used.	21	Not used.
6	DDC Clock	14	+ 5V (Power)	22	TMDS Clock Shield
7	DDC Data	15	Ground for (+5V)	23	TMDS Clock+
8	Analog Vertical Sync.	16	Hot plug detect.	24	TMDS Clock-
C1	Analog Red video (or Cr / Pr or C)				
C2	Analog Green Video (or Y or composite video)				
C3	Analog Bleu Video (or Cb / Pb)				
C4	Analog Horizontal Sync (or composite sync)				
C5	Analog Common Ground Return				



DDC = Display Data Channel.

TMDS = Transition Minimized Differential Signal.

3) AUDIO SOURCE :

You can connect an AUDIO stereo source to the 3.5mm jack connector.

2-3. INPUT #2 to 8 DESCRIPTION

1) CONNECTION :

You can connect to these inputs one of the following sources :

- A composite source.

NOTE : Input #7 can accept a composite video source on the BNC connector. The input #8 can accept a composite on the RCA connector.

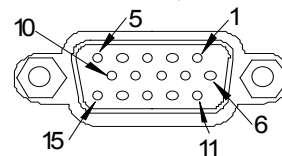
- A S.VIDEO source.

NOTE : The input #7 can accept a S.VIDEO source on its BNC connectors. The input #8 can accept a S.VIDEO source on the 4-pin mini DIN.

- A Component video source.
- A HD-YUV source.
- A RGBS video source.
- An analog (RGBHV, RGsB, RGBS) computer source.

2) HD15 PIN ASSIGNMENT :

SIGNAL	COMPUTER (analog)	VIDEO RGB/S	YUV & HD-YUV	S.VIDEO (Y/V)	COMPOSITE VIDEO
PIN 1	RED.	RED.	Cr /	Pr.C (chrominance).	VIDEO (NTSC, PAL...)
PIN 2	GREEN.	GREEN.	Y.	Y (luminance).	
PIN 3	BLUE.	BLUE.	Cb / Pb.	C return.	Return.
PIN 6	RED return.	RED return.	Cr / Pr return.			Y return.
PIN 7	GREEN return.	GREEN return.	Y return.	Cb / Pb return.	
PIN 8	BLUE return.	BLUE return.	Cb / Pb return.		
PIN 10	GND.	GND.			
PIN 13	H sync or C sync (S).	C sync (S).			
PIN 14	V sync.				



HD15 female connector of the device

3) AUDIO SOURCE

- You can connect an unbalanced stereo audio source to the 3.5mm jack connector (input #2 & 8).
- You can connect an unbalanced stereo audio source to the MCO connector (input #3 to 6).
- You can connect an unbalanced or balanced stereo audio source to the MCO connector (input #7).

2-4. OUTPUT DESCRIPTION

1) PREVIEW OUTPUT :

You can connect to this output an analog display device. The preview output format is XGA at 60 Hz.

2) MAIN ANALOG OUTPUT :

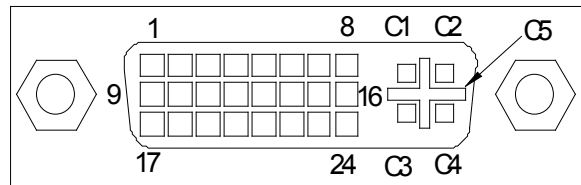
You can connect to this output an analog display device.

3) MAIN DVI OUTPUT :

You can connect to this output an analog or digital display device.

4) DVI-I PIN ASSIGNMENT (QXE421) :

Pin	Function	Pin	Function	Pin	Function
1	TMDS Data 2-	9	TMDS Data 1-	17	TMDS Data 0-
2	TMDS Data 2+	10	TMDS Data 1+	18	TMDS Data 0+
3	TMDS Data 2 Shield	11	TMDS Data 1 Shield	19	TMDS Data 0 Shield
4	Not used.	12	Not used.	20	Not used.
5	Not used.	13	Not used.	21	Not used.
6	DDC Clock	14	+ 5V (Power)	22	TMDS Clock Shield
7	DDC Data	15	Ground for (+5V)	23	TMDS Clock+
8	Analog Vertical Sync.	16	Hot plug detect.	24	TMDS Clock-
C1	Not used				
C2	Not used				
C3	Not used				
C4	Not used				
C5	Not used				



DDC = Display Data Channel.

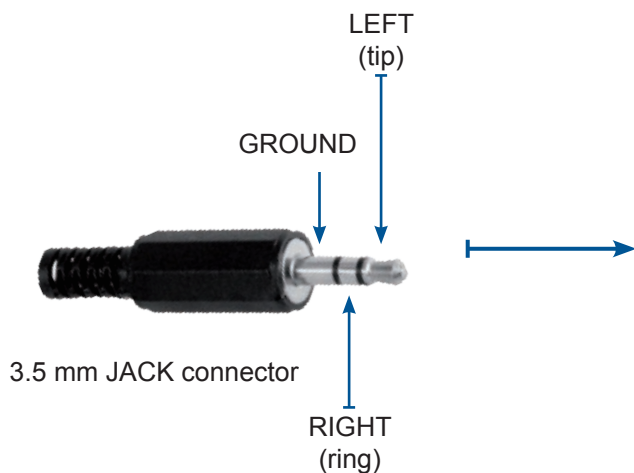
TMDS = Transition Minimized Differential Signal.

2-5. AUDIO INPUTS

Each audio input either has a 3.5 mm jack female connector or a 5-pin MCO male connector.

1) 3.5 mm jack female connector

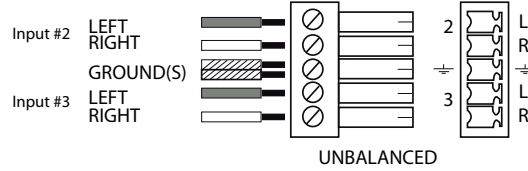
The INPUT #1 is equipped with this audio connector. This connector allows connecting only UNBALANCED audio source. Connect your UNBALANCED audio sources as follow :



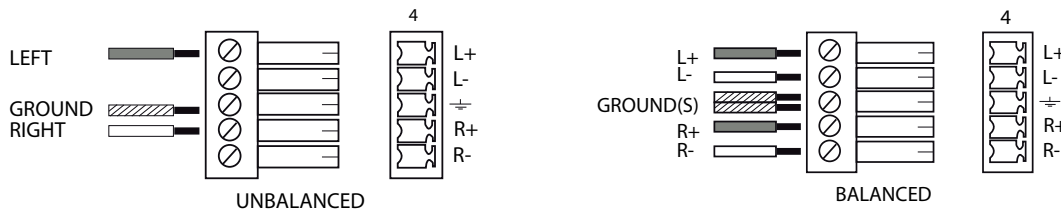
2) MCO male connector

Input #2 to 4 are equipped with this connector. Connect your audio sources as follow :

- Input #2 & 3 : unbalanced connection only.



- Input #4 : balanced & unbalanced connection.



2-6. PRELIST AUDIO

You can connect an unbalanced stereo audio device to the 3.5mm jack connector (for audio control).

2-7. AUDIO OUTPUT

The audio output is equipped with a 5-pin MCO male connector. This connector allows connecting BALANCED or UNBALANCED audio systems.



OPERATING MODE

The device can be used in two different switching modes.

- The **SEAMLESS MODE**, allows switching seamlessly, fading and titling between the “reference” COMPUTER input and the other inputs. Other inputs are scaled to the same format as the “reference” COMPUTER format.
NOTE : Input #1 and #8 can be used as the reference capter input.
NOTE : The “reference” Computer is not scaled.
- The **FAST SWITCHING MODE** allows selecting an output format corresponding to your application. All video inputs are scaled to the selected format. The switching between two inputs will go through a fade colored transition. The output rate can be selected between 60 Hz, 75 Hz or can be synchronized to one of the video input frame rate in order to improve the motion picture. In this case, the output frame rate will be 50 Hz if the input is in PAL or SECAM, and 59.94 Hz if the input is in NTSC.

3-1. SETTINGS

- 1) We recommend resetting the device to its default values, with the LCD menu (CONTROL > Default value > yes) before proceeding.
- 2) Select a switching mode with the LCD menu (SWITCHING > fast switching or seamless). Please see the Switching mode table below.
- 3) Select the Auto settings function with the LCD menu (INPUT > Auto settings). This function will detect automatically the source type connected to the inputs of the device. Sometimes, the auto setting may not detect the source type : in this case select manually the source type with the LCD menu (INPUT > Input type).
- 4) If you have selected the fast switching mode : select one of the output formats with the LCD menu (OUTPUT > output format).

NOTE : For fixed pixels display devices (DMD, LCD, PLASMA...), always select the output format corresponding to the native resolution of your device. Thus, the display device will not have to scale the image and the result will be better.

NOTE : In SEAMLESS mode, the output format is the same as the “reference” computer format.

SWITCHING MODE TABLE

SWITCHING MODE	FAST SWITCHING		SEAMLESS
	internal rate	“input # x”	
TRANSITION	All switching through a fade color, a fade frame or a clean cut.	All switching through a fade color, a fade frame or a clean cut.	<ul style="list-style-type: none"> • Seamless or fade transition between the “reference” computer and all other the inputs. • Between "non reference" inputs switching through a fade color, a fade frame or a clean cut.
OUTPUT FRAME RATE	Generated by the device (60 Hz or 75 Hz).	Synchronized on the selected input frame rate (50 Hz if PAL or SECAM and 59.94 Hz if NTSC).	Synchronized on the “reference” Computer frame rate (input #1 or input #8).

3-2. SWITCHING OPERATIONS

- The device allows 4 different switching effects : CUT*, FADE*, FADE COLOR and CLEAN CUT. The CUT effect allows switching seamlessly between 2 sources. The FADE effect allows fading out the displayed source while another source is fading in. The FADE COLOR effect allows switching between 2 sources with a fading through the color of your choice. The CLEAN CUT allows a clean switching thanks to a fast freeze of the displayed source.
- PIP* = Picture in Picture is also available effect.
- QXE421 also enables you to key text onto the displayed image (TITLE* effect).



* The CUT, FADE, PIP and TITLE effects are active in **SEAMLESS** mode and only between the reference computer input and the other inputs.

IMPORTANT : The CUT, FADE, PIP and TITLE effects are active in SEAMLESS mode and only between the reference computer input and the other inputs.

• **CUT (SEAMLESS) :**

- 1) Pre-select the reference computer input with the INPUT SELECTION button (The LED is blinking).
- 2) Select an EFFECT PRESET, assign it the CUT effect. Then press TAKE. The reference computer input is then displayed onto the main output.
- 3) Pre-select another input then press on TAKE. The transition operates seamlessly.

• **FADE :**

- 1) Pre-select the reference computer input with the INPUT SELECTION button (The LED is blinking).
- 2) Select an EFFECT PRESET, assign it the FADE effect. Then press TAKE. The reference computer input is then displayed onto the main output.
- 3) Pre-select another input then press TAKE again. The transition operates with a fading between the two sources.

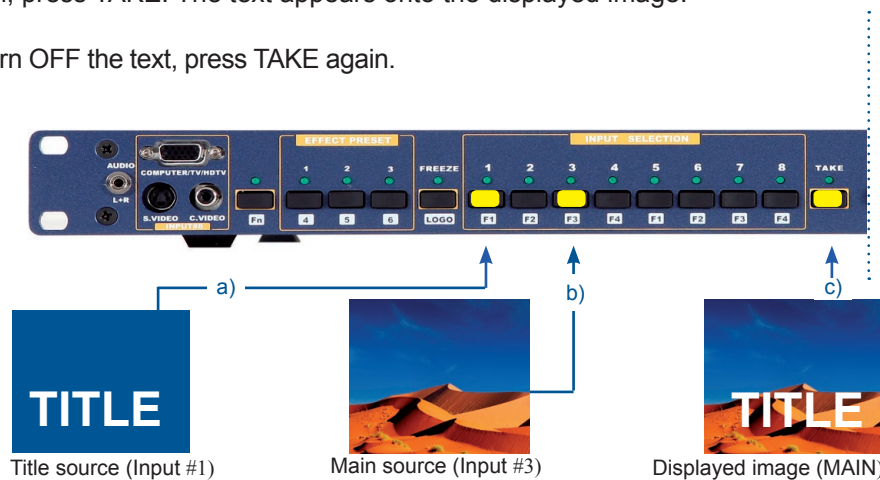
• **TITLE :**

The TITLE effect allows to insert text onto another source (video or computer). This effect is only active between the reference computer input and the other inputs.

Create the text to be displayed on the computer used as the reference input, using software such as PowerPoint® : the text should be bright (yellow, white...) on a black background.

- a) Display the main background source on the main output.
- b) Pre-select the reference computer input (input #1).
- c) Select an EFFECT PRESET, then assign it the TITLE effect.
- d) Then, press TAKE. The text appears onto the displayed image.

NOTE : To turn OFF the text, press TAKE again.



NOTE :

- a) For a better readability, you can display a shadow bar onto your text (EFFECT > title > intensity).
- b) To turn OFF the text, press TAKE again.
- c) To switch between sources without turning OFF the text, press the button of the desired source and press TAKE. The transition operates with a fade color.

• **FADE COLOR :**

The FADE COLOR allows switching between 2 sources with a fading to a color of your choice. This transition operates in Fast Switching mode and sometimes in Seamless mode (only when the other effects are not possible). You can select the color of the fading with the LCD CONTROL menu.

• **CLEAN CUT :**

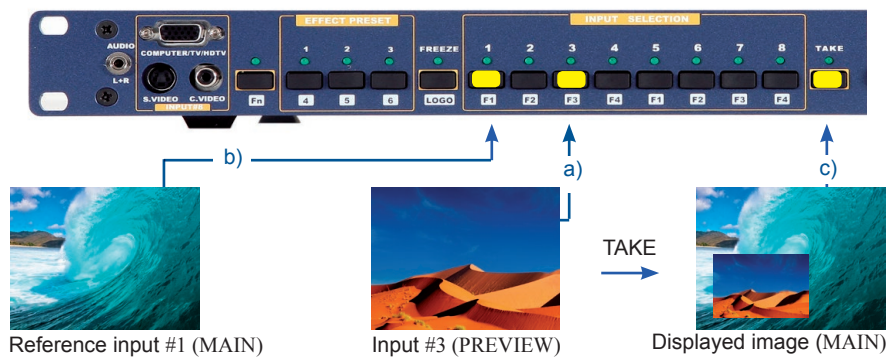
The CLEAN CUT allows a clean switch thanks to a fast freeze of the displayed source. Activate the CLEAN CUT with the LCD menu (CONTROLS > transition > clean cut).

• **PIP :**

The PIP effect allows to insert a source onto the reference computer input or onto a frame. This effect is only possible between the reference input/frame and the other inputs.

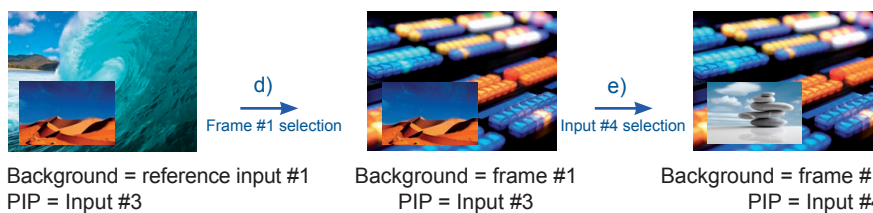
Display on the MAIN output the reference computer input or a frame (input #1 in this example).

- a) Pre-select the input used for the PIP effect (input #3 in this example). The LED is blinking.
- b) Select an EFFECT PRESET, then assign it the PIP effect. You can then adjust position and size of your PIP.
- c) Press TAKE. The PIP appears onto the displayed image.



NOTE : To display OFF the PIP, press on TAKE.

- d) You can change the background image during a PIP effect (between the reference input & the frames store). Press the reference input selection button or Fn button plus the desired frame selection button. The transition of the background operates seamlessly.
- e) You can change the PIP source (between the other inputs except for the reference input). Press the desired input selection button. The transition of the PIP operates with a fade to black or a customized color.



3-3. DISPLAY DEVICE ADJUSTMENTS

• IN SEAMLESS MODE :

- 1) Select the reference computer source. The reference computer image is displayed onto the output.
- 2) Adjust directly the display device itself, using its position and size controls, to fill the computer image in full screen.



1



2

• IN FAST SWITCHING MODE :

- 1) Display the centering pattern with the LCD menu (OUTPUT > test pattern > centering).
- 2) Display a black output.
- 3) Adjust directly the display device itself, using its position and size controls, to fill the centering pattern in full screen.

3-4. IMAGE ADJUSTMENTS

For each input source connected to the device, make the following adjustments :

NOTE : In seamless mode the reference computer input can not be adjusted.

- 1) Select the source you want to adjust (with the front panel "INPUT SELECTION" buttons).
- 2) Select the aspect ratio of your input source with the LCD menu (IMAGE > aspect ratio).
- 3) Use the Centering function (IMAGE > centering) to automatically position the image in the Centering pattern.

IMPORTANT : For best results, display a full size bright image (no black border) to perform a centering. If necessary, correct the adjustment with the position & size functions (IMAGE > pos settings).

NOTE : The centering function is only available for computer sources.

NOTE : In case of same Input/Output resolution, the centering also achieves automatic pixel clock adjustments. It may be useful, to improve manually the pixel clock and phase using the LCD menu (IMAGE > optimize > clock or phase).

- 4) As required, make the other adjustments, available in the LCD IMAGE menu (color, brightness...).

NOTE : To set the image adjustments to the factory settings, use the Preset function (IMAGE > preset > yes).

NOTE : The adjustments are automatically stored in NON-volatile memories. The device comes with 40 NON-volatile image memories. Each of these memories contains the input channel number, the input and output format parameters and all of the image adjustments (position, size, brightness...). When the 40 memories are used, each new memorization erases the oldest record.

3-4. AUDIO ADJUSTMENTS

- 1) Adjust the master volume (AUDIO > master volume).
- 2) Set the auto follow or breakaway audio mode (AUDIO > audio source > auto follow or input # x):
 - auto follow = the audio switching follows automatically the video switching.
 - breakaway = the selected audio input is permanently diffused.
- 3) For each audio input, adjust the level (AUDIO > audio level) and the balance (AUDIO > audio balance).
- 4) Adjust your microphone (AUDIO > mic-control).

4-1. LOGO INSERTION

This function allows storing up to 8 static logos & 1 animated logo in order to key them into the displayed image (up to 2 logos simultaneously).

IMPORTANT : The output format used when displaying logos should be the same as the one used during the logo storing.

• HOW TO STORE A LOGO :

- 1) Select the source of the logo to be stored (with the INPUT SELECTION buttons).
- 2) Select the record logo mode (**LOGOS/FRAME > record logo or record anim**) : the device displays a white rectangle corresponding to the logo selection area. Then adjust the position and size of the logo selection area with the LCD **record logo/anim** menu functions.

NOTE : The logo area is limited to one eighth (1/8) of the displayed area.

- 3) If necessary, adjust the luma key level (**LOGOS/FRAME > record logo or record anim > luma key level**). This function allows “erasing” the darkest portion of the logo selection area in order to make special logo contour. Otherwise set the **luma key** level to zero.

NOTE : You can change the color of the “erased portion” of the logo (**LOGOS/FRAME > record logo > back. Color**).

- 4) Store the logo into a memory (**LOGOS/FRAME > record logo > store > empty or logo x**). The memorization of the logo starts and will take few seconds.

NOTE : Follow steps (1) to (4) to store another logo (up to 8).

• HOW TO ASSIGN A LOGO :

NOTE : You can assign the stored logos to one or more of the 8 inputs (up to 2 logos per inputs).

- 5) In the **assignment** menu (**LOGOS/FRAME > use logo/frame > assignment**), select the input that you want to assign a logo to, then select an index (1 or 2) and finally select the required logo.

NOTE : To remove a logo from an input, select the corresponding input & index and select none.

- 6) With the INPUT SELECTION buttons, display successively all your inputs to verify your logo assignment. If no logo appears on an input: verify that the LCD display function of the corresponding input is not set to the **OFF** position. In this case press **ENTER** to set it **ON** (see how to display OFF or ON a logo).

• HOW TO DISPLAY A LOGO OFF or ON :

- 7) To turn the assigned logo OFF or ON of an input, select the corresponding input in the **display** menu (**LOGOS/FRAME > use logo/frame > display**) and press **ENTER** to change the status (ON or OFF).

NOTE : When turning a logo ON or OFF, this one appears/disappears with a fade effect. You can adjust the duration of this fade effect (**LOGOS/FRAME > use logo/frame > fade duration**).

IMPORTANT : You can also use the front panel **LOGO** button (Fn then **LOGO**) to turn the logo ON or OFF of the selected input.

• HOW TO ADJUST THE LOGO POSITION :

- 8) Select the input with the logo to be adjusted (with the INPUT SELECTION buttons).
- 9) In the assignment menu (**LOGOS/FRAME > use logo/frame > assignment**), select the input and the logo to adjust. Then adjust the logo position with the H & V position functions.

• EXAMPLE OF LOGO INSERTION :



Logo source
(white border = logo area)



Video source



Video source with inserted logo
(logo recorded with luma key)

4-2. USING THE FRAME

This function allows memorizing up to 4 frames (images) in order to display them at any time during the show.

IMPORTANT : The output format used when displaying the frame should be the same as the one used during the FRAME storing.

• HOW TO STORE A FRAME :

- 1) Select the source to be stored as a frame (with the INPUT SELECTION buttons).
- 2) Select the **record frame** mode (**LOGOS/FRAME > record frame**) : the device displays a white rectangle corresponding to the frame selection area onto the output. If necessary adjust the position and size of the frame selection area (**IMAGE > pos settings**).
- 3) Store the frame (**LOGOS/FRAME > record frame > store**). The memorization starts and will take about 2 minutes.

NOTE : For motion picture, use the **FREEZE** function, before doing the memorization.

• HOW TO DISPLAY the FRAME ON or OFF :

- 4) To turn the FRAME ON, select a Frame selection button on the front panel (**Fn** then **F1, F2, F3** or **F4**) then press TAKE.
- 5) To turn the FRAME OFF, select an input selection button, then press TAKE.

FRONT PANEL MENU DISPLAY DESCRIPTION

5-1. INTRODUCTION

The front panel display menu presents 2 modes : **STATUS MODE** and **CONTROL MODE**.

- The **STATUS MODE** indicates the input and output status of the device.
- The **CONTROL MODE** allows selecting and adjusting the parameters of the device.

5-2. CONTROL BUTTONS

The front panel display is controlled by 2 buttons and 1 knob :

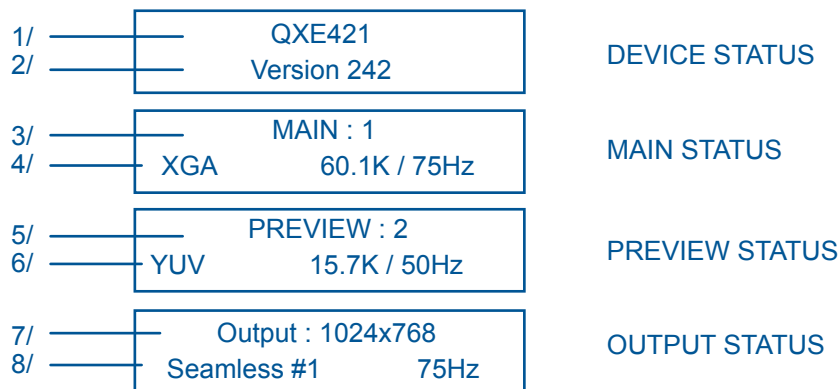
◀▶ knob : • In **CONTROL MODE**, turn this knob to scroll thru the different menus.

EXIT / MENU button : • In **STATUS MODE**, press this button to enter **CONTROL MODE**.
• In **CONTROL MODE**, press this button to :
- return to the previous menu without saving the selection.
- return to **STATUS MODE** (press several times).

ENTER button : • From **STATUS MODE**, press this button to enter **CONTROL MODE**.
• From **CONTROL MODE**, press this button to confirm a selected item.

5-3. INTRODUCTION

When switching ON, the front panel display shows the product's name and firmware version as follows :



1/ Device reference

2/ Device version

3/ MAIN output : selected input number

4/ Format, line & frame frequency to the selected input

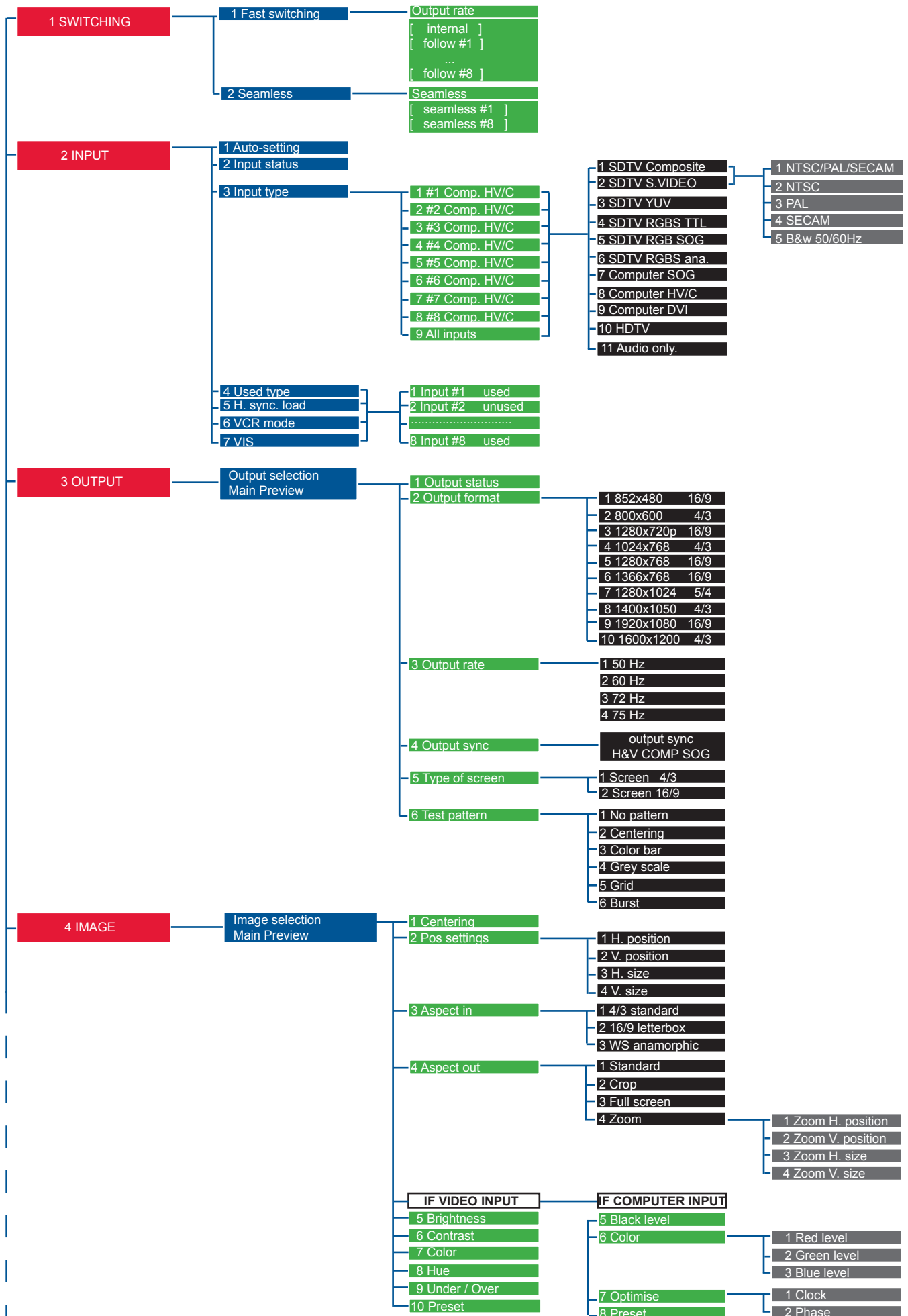
5/ PREVIEW output : pre-selected input number

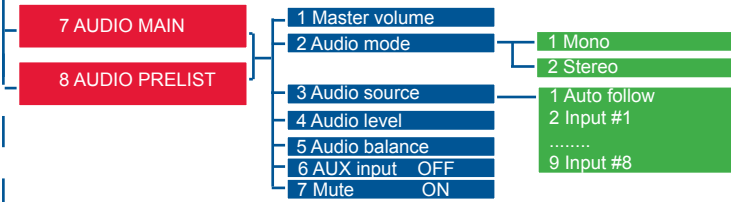
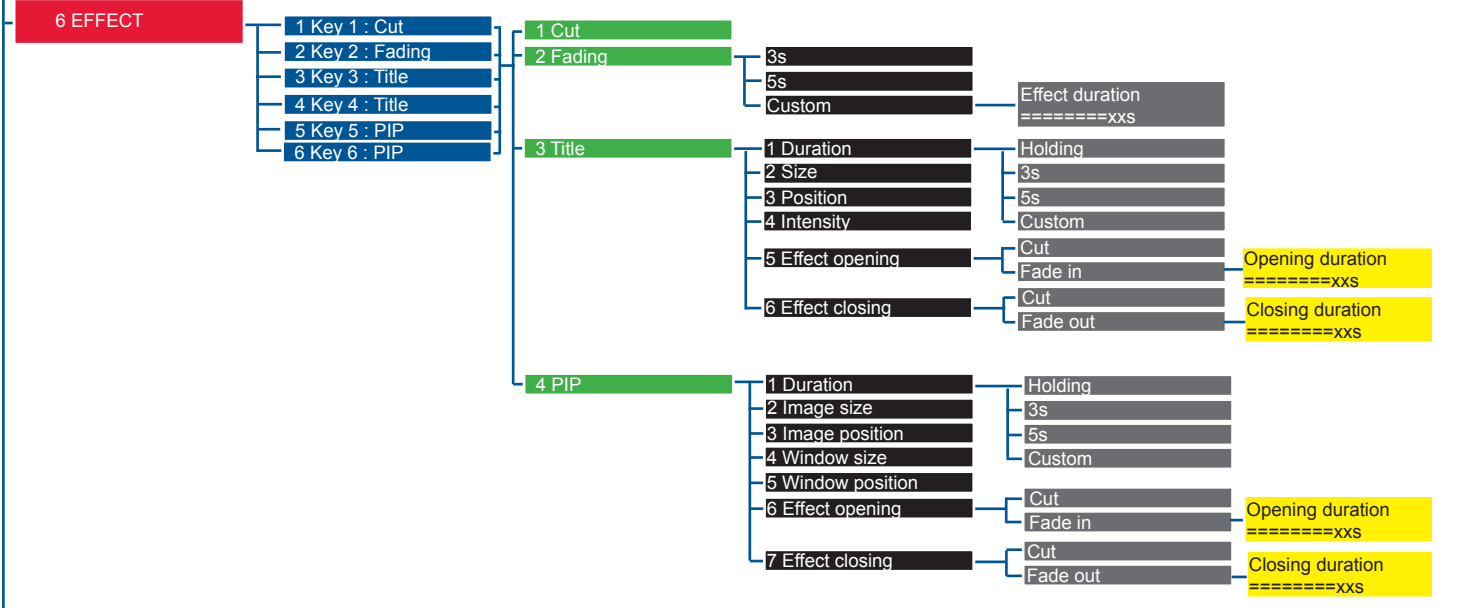
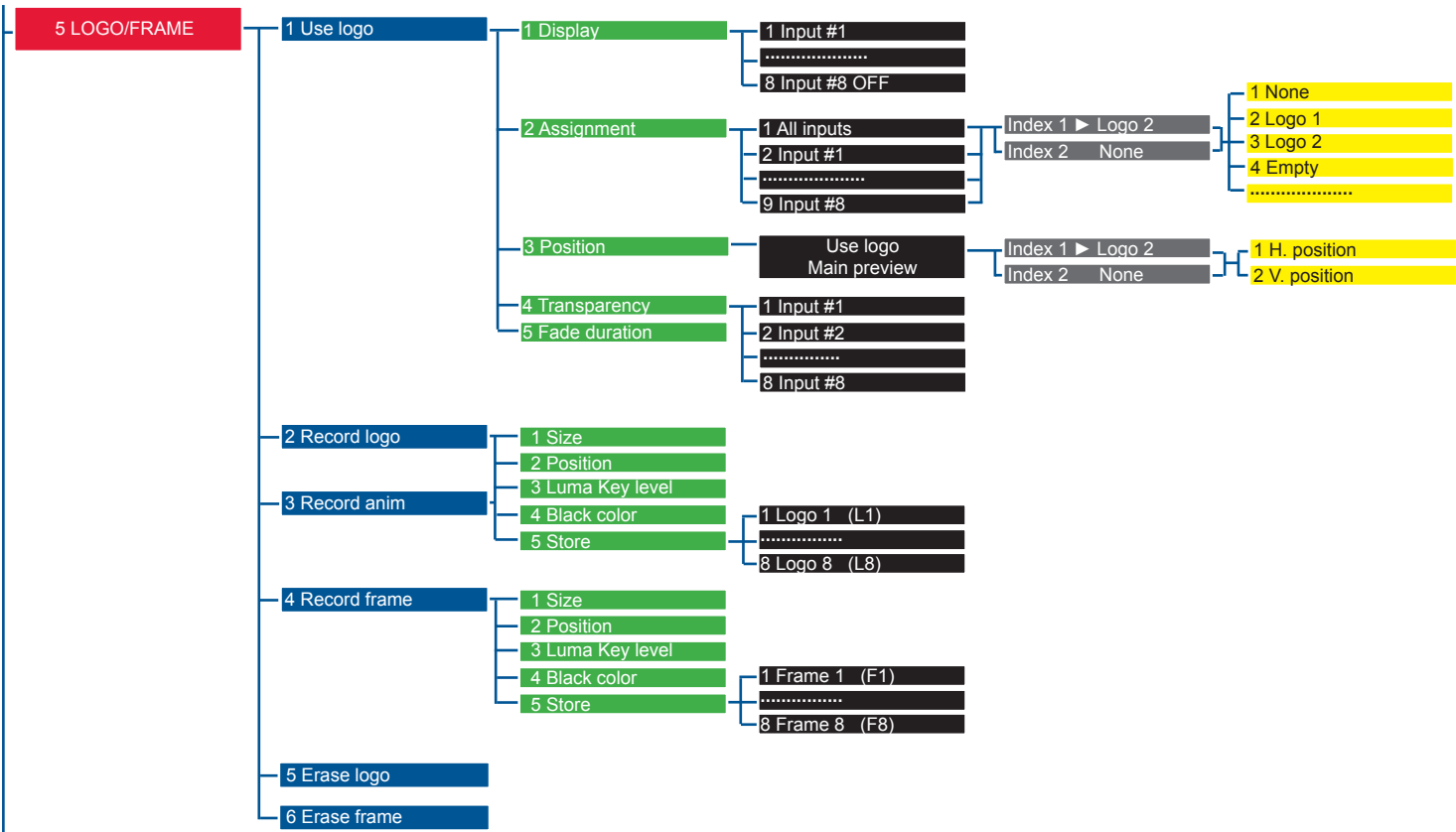
6/ Format, line & frame frequency of the pre-selected input

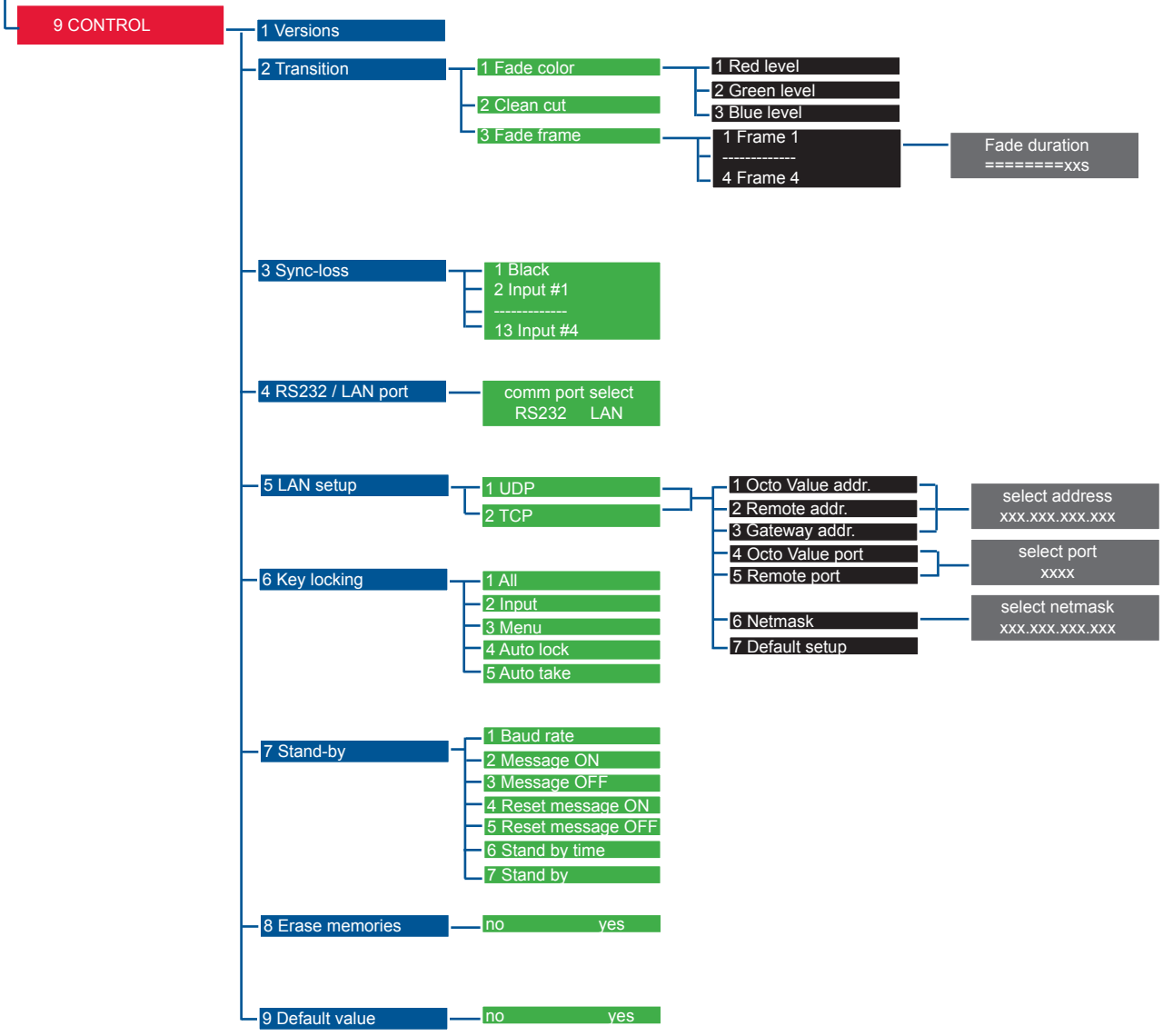
7/ Output format

8/ Switching mode & output frame rate

5-4. CONTROL MODE







5-5. FUNCTIONS DESCRIPTION

1 ► [SWITCHING] + ENTER.

1-1 [Fast switching] + ENTER.

Select an item with ◀▶ + ENTER.

- [Internal rate] : The output frame rate is 60 Hz or 75 Hz depending of the selected output format. A higher frame frequency gives a better visual aspect when displaying static pictures.
- [Follow # x] : The output frame rate is identical to the selected input Frame Rate : 50 Hz if the input video standard is PAL or SECAM and 59.94 Hz if the input video standard is NTSC. This function allows improving the motion pictures.

1-2 [Seamless] + ENTER.

Select the computer input used as reference with ◀▶ + ENTER.

- [Seamless #1] : The device is in Seamless mode. The output format & rate are the same as computer #1.
- [Seamless #8] : The device is in Seamless mode. The output format & rate are the same as computer #8.

2 ► [INPUT] + ENTER.

2-1 [Auto settings] + ENTER.

This function detects automatically the input type of each source connected to the inputs.

2-2 [Input status] + ENTER.

Indicates the status of the selected input.

2-3 [Input type] + ENTER.

① Select an input with ◀▶ + ENTER.

② Select the input signal type with ◀▶ + ENTER between :

- [SDTV Composite]
- [SDTV S.VIDEO]
- [SDTV YUV]
- [SDTV RGBS TTL]
- [Computer DVI]
- [HDTV] : HDTV input format (720p, 1035i and 1080i).
- [Audio only] : Select this function if you only want to connect an audio source (no video signal needed).
- [SDTV RGB SOG]
- [SDTV RGBS ana.]
- [Computer SOG]
- [Computer HV/C]

③ Then for [SDTV Composite] and [SDTV S.VIDEO], select the video standard with ◀▶ + ENTER between :

- [NTSC / PAL / SECAM] : automatic NTSC, PAL, and SECAM standard detection.
- [NTSC] : NTSC standard detection only.
- [NTSC 4.43 60 Hz] : NTSC 4.43 60Hz detection.
- [SECAM] : SECAM standard detection only.
- [PAL] : PAL standard detection only.
- [PAL 4.43 60Hz] : PAL 4.43 60Hz detection.
- [B & W 50/60 Hz] : Black and White detection.

2-4 [used input] + ENTER.

Select an input and then select an item ◀▶ + ENTER between :

- [used] : A signal is connected to the input.
- [unused] : No signal is connected to the input. The input is unused.

2-5 [H sync load] + ENTER.

Select for each input the load of the H Sync. with ◀▶ + ENTER.

2-6 [VCR mode] + ENTER.

This function allows improving the image contour of low quality VHS tapes. Select [on] with ENTER.

2-7 [VIS] + ENTER.

This function allows defining the sources which are synchronized together (external genlock). The synchronized sources can be seamlessly switched between themselves during an effect (into a PIP for example). This switching mode is called VIS (Vertical Interval Switching).

3► [OUTPUT] + ENTER.

3-1 [Output status] + ENTER.

Indicates the status of the output.

3-2 [Output format] + ENTER.

Select one of the available output formats with ◀▶ + ENTER.

For the MAIN output :

- [852x 480 ---- 16/9]
- [800x 600 ---- 4/3]
- [1280x 720 ---- 16/9]
- [1024x 768 ---- 4/3]
- [1280x 768 ---- 16/9]
- [1280x 800 ---- 4/3]
- [1280x1024 ---- 4/3]
- [1366x 768 ---- 16/9]
- [1400x1050 ---- 4/3]
- [1440x 900 ---- 16/9]
- [1600x1200 ---- 4/3]
- [1920x1080 ---- 16/9]
- [1920x1080B ---- 16/9]
- [1920x1080HD ---- 16/9]
- [1920x1200 ---- 16/9]

For the PREVIEW output :

- [1024x768 ---- 4/3]

NOTE : For fixed pixels display devices (DMD, LCD, PLASMA...), always select the output format corresponding to the native resolution of the display device. Thus, the display device will not have to scale the image and the result will be better.

3-3 [Output rate] + ENTER.

For the MAIN output :

- [50 Hz] : 50 Hz output frame rate
- [60 Hz] : 60 Hz output frame rate
- [72 Hz] : 72 Hz output frame rate
- [75 Hz] : 75 Hz output frame rate

For the PREVIEW output :

- [60 Hz] : 60 Hz output frame rate

3-4 [Output sync] + ENTER.

Select the Output Sync. type with ◀▶ + ENTER.

For the MAIN & PREVIEW outputs :

- [H&V] : H & V Separate Sync.
- [COMP] : Composite Sync.
- [SOG] : Sync On green.

3-5 [Type of screen] + ENTER.

Select an item with ◀▶ + ENTER.

For the MAIN & PREVIEW outputs :

- [screen 4/3] : If your image is displayed on a 4/3 wall mounted projection screen shape.
- [screen 16/9] : If your image is displayed on a 16/9 wall mounted projection screen shape.

NOTE : Available only in case of 4/3 output format.

3-6 [Test pattern] + ENTER.

Select an item with ◀▶ + ENTER.

For the MAIN & PREVIEW outputs :

- [no pattern] : No test pattern is displayed.
- [centering] : Displays a centering pattern (for position and size adjustments).
- [color bar] : Displays a color bar pattern.
- [grey scale] : Displays a grey scale pattern.
- [grid] : Displays a grid pattern.
- [burst] : Displays a burst pattern.

4► [IMAGE] + ENTER.

► If the selected input type is a VIDEO signal the IMAGE MENU displays the following items :

4-1 [Pos. settings] + ENTER.

Select one of the following functions with ◀▶ + ENTER.

4-1-1 [H position] + ENTER.

Adjust the Horizontal position with ◀▶ + ENTER.

4-1-2 [V position] + ENTER.

Adjust the Vertical position with ◀▶ + ENTER.

4-1-3 [H size] + ENTER.

Adjust the Horizontal size with ◀▶ + ENTER.

4-1-4 [V size] + ENTER.

Adjust the Vertical size with ◀▶ + ENTER.

4-2 [Aspect in] + ENTER.

Select the Aspect Ratio of your input source with ◀▶ + ENTER.

- [4/3 standard] : 4/3 input format.
- [16/9 letterbox] : Letterbox input format.
- [WS anamorphic] : Widescreen Anamorphic input format (video) or 16/9 input format (computer).

4-3 [Aspect out] + ENTER.

Select one of the following output aspect ratio with ◀▶ + ENTER.

- [Standard] : The entire image and the aspect ratio are preserved.
- [Crop] : The image is zoomed without deformation to fill the screen, but some borders of the image will be cropped. The aspect ratio is preserved.
- [Full Screen] : The image is stretched to fill the screen. The aspect ratio is not preserved.
- [Zoom] : The image can be zoomed, cropped and stretched at your convenience.

4-4 [Brightness] + ENTER.

Adjust the Brightness with ◀▶ + ENTER.

4-5 [Contrast] + ENTER.

Adjust the Contrast with ◀▶ + ENTER.

4-6 [Color] + ENTER.

Adjust the Color with ◀▶ + ENTER.

4-7 [Hue] + ENTER.

Adjust the Tint of the picture (NTSC only) with ◀▶ + ENTER.

4-8 [U/overscan] + ENTER.

Select Underscan or Overscan with ◀▶ + ENTER.

- [underscan] : Underscan mode. The entire image is visible on the screen. Computer mode is underscan.
- [overscan] : Overscan mode. The image is displayed about 8 % bigger than in underscan mode, to avoid seeing the corners and the borders. Standard TV display mode is overscan.

4-9 [Preset] + ENTER.

This function allows setting all the image parameters to the factory settings. Select [YES] and validate with ENTER.

► **If the selected input type is a COMPUTER signal the IMAGE MENU displays :**

4-1 [Centering] + ENTER.

Adjust automatically the image in the centering pattern.

4-2 [Pos. settings] + ENTER.

Select one of the following functions with ◀▶ + ENTER.

4-2-1 [H position] + ENTER.

Adjust the Horizontal position with ◀▶ + ENTER.

4-2-2 [V position] + ENTER.

Adjust the Vertical position with ◀▶ + ENTER.

4-2-3 [H size] + ENTER.

Adjust the Horizontal size with ◀▶ + ENTER.

4-2-4 [V size] + ENTER.

Adjust the Vertical size with ◀▶ + ENTER.

4-3 [Aspect in] + ENTER.

Select the Aspect Ratio of your input source with ◀▶ + ENTER.

- [4/3 standard] : 4/3 input format.
- [16/9 letterbox] : Letterbox input format.
- [WS anamorphic] : Widescreen Anamorphic input format (video) or 16/9 input format (computer).

4-4 [Aspect out] + ENTER.

Select one of the following output aspect ratio with ◀▶ + ENTER.

- [Standard] : The entire image and the aspect ratio are preserved.
- [Crop] : The image is zoomed without deformation to fill the screen, but some borders of the image will be cropped. The aspect ratio is preserved.
- [Full Screen] : The image is stretched to fill the screen. The aspect ratio is not preserved.
- [Zoom] : The image can be zoomed, cropped and stretched at your convenience.

4-5 [Black level] + ENTER.

Adjust the black level with ◀▶ + ENTER.

4-6 [Color] + ENTER.

Select a color (Red, Green, or Blue) with ◀▶ + ENTER and adjust the level with ◀▶ + ENTER.

4-7 [Optimize] + ENTER.

Select an item with ◀▶ + ENTER.

- [clock] : Manual adjustment of the pixel clock.
- [phase] : Manual adjustment of the pixel phase.

4-8 [Preset] + ENTER.

This function allows setting all the image parameters to the factory settings. Select [YES] and validate with ENTER.

NOTE : If the selected input is the reference computer input, the available adjustments are : Black level & Color.

5► [LOGOS/FRAME] + ENTER

5-1 [Use logo] + ENTER.

Select an item with ◀▶ + ENTER.

5-1-1 [Display] + ENTER.

This function allows turning ON or OFF the assigned logos of each input. Select an input with ◀▶ and press ENTER to select ON or OFF.

NOTE : To display a logo the output format should be the same as the one used during the storing.

5-1-2 [Assignment] + ENTER.

This function allows assigning the stored logos to an input (up to 2 logos simultaneously).

- ① Select an input with ◀▶ + ENTER.
- ② Select the INDEX 1 or INDEX 2 with ◀▶ + ENTER.
- ③ Then select a logo or none with ◀▶ + ENTER.

5-1-3 [Position] + ENTER.

Adjust the logo position with H & V position functions.

5-1-4 [Transparency] + ENTER.

This function allows adjusting the logo transparency.

5-1-5 [Fade duration] + ENTER.

This function allows adjusting the fade duration of the logo when you turn ON or OFF a logo. Adjust the duration with ◀▶ and validate with ENTER.

5-2 [Record logo] + ENTER.

This mode allows storing up to 8 logos in order to key them on the displayed image (up to 2 logos simultaneously). Select an item with ◀▶ + ENTER.

5-2-1 [H position] + ENTER.

Adjust the Horizontal position of the logo area with ◀▶ + ENTER.

5-2-2 [V position] + ENTER.

Adjust the Vertical position of the logo area with ◀▶ + ENTER.

5-2-3 [H size] + ENTER.

Adjust the Horizontal size of the logo area with ◀▶ + ENTER.

5-2-4 [V size] + ENTER.

Adjust the Vertical size of the logo area with ◀▶ + ENTER.

NOTE : The logo area is limited to one eighth (1/8) of the displayed area.

5-2-5 [Luma key level] + ENTER.

This function allows “erasing” the darkest portion of your logo area in order to make special logo contour. Adjust the luma key level with ◀▶ + ENTER.

5-2-6 [Back. Color] + ENTER.

This function allows coloring the “erased portions” of the logo when using the luma key. Select a level with ◀▶ + ENTER.

5-2-7 [Store] + ENTER.

This function allows storing the logo into one of the 8 memories. Select a logo memory with ◀▶ + ENTER. The memorization will take few seconds.

5-3 [Record anim] + ENTER.

This mode allows storing an animated logo in order to key them into the displayed image. Select an item with ◀▶ + ENTER.

5-3-1 [H position] + ENTER.

Adjust the Horizontal position of the logo area with ◀▶ + ENTER.

5-3-2 [V position] + ENTER.

Adjust the Vertical position of the logo area with ◀▶ + ENTER.

5-3-3 [H size] + ENTER.

Adjust the Horizontal size of the logo area with ◀▶ + ENTER.

5-3-4 [V size] + ENTER.

Adjust the Vertical size of the logo area with ◀▶ + ENTER.

NOTE : The logo area is limited to one eighth (1/8) of the displayed area.

5-3-5 [Luma key level] + ENTER.

This function allows “erasing” the darkest portion of your logo area in order to make special logo contour. Adjust the luma key level with ◀▶ + ENTER.

5-3-6 [Back. Color] + ENTER.

This function allows coloring the “erased portions” of the logo when using the luma key. Select a level with ◀▶ + ENTER.

5-3-7 [Recording time] + ENTER.

Adjust the recording time with ◀▶ + ENTER.

5-3-8 [Store] + ENTER.

This function allows storing the logo into the memory. The memorization will take few seconds.

5-4 [Record frame] + ENTER.

This mode allows storing up to 4 frames in order to display them at any time during the show.

5-4-1 [H position] + ENTER.

Adjust the Horizontal position of the frame area with ◀▶ + ENTER.

5-4-2 [V position] + ENTER.

Adjust the Vertical position of the frame area with ◀▶ + ENTER.

5-4-3 [H size] + ENTER.

Adjust the Horizontal size of the frame area with ◀▶ + ENTER.

5-4-4 [V size] + ENTER.

Adjust the Vertical size of the frame area with ◀▶ + ENTER.

5-4-5 [Luma key level] + ENTER.

This function allows “erasing” the darkest portion of your frame in order to make special frame contour. Adjust the luma key level with ◀▶ + ENTER.

5-4-6 [Store]

This function allows storing the displayed image (frame) into a one of the 4 memories. Presses ENTER to start the memorization of the frame. The memorization will take about 2 minutes.

5-5 [Erase logo] + ENTER.

This function allows erasing the memorized logos. Select an item with ◀▶ + ENTER.

5-6 [Erase frame] + ENTER.

This function allows erasing the memorized frames. Select an item with ◀▶ + ENTER.

6 ► [EFFECT]

This menu allows storing an effect in each of the effect buttons (EFFECT PRESET).

- ① First select an effect button with LCD menu or with the front panel button.
- ② Then select one of the following effects:

6-x-1 [Cut] : allows switching seamlessly the pre-selected input onto the MAIN output.

6-x-2 [Fading] : allows fading the pre-selected input to the MAIN output. You can select the duration of the transition as indicated below :

- [1s] : 1 second transition.
- [3s] : 3 second transition.
- [5s] : 5 second transition.
- [Custom] : Select a duration from 0.5 second up to 25 seconds by 0.5 second steps.

6-x-3 [Title] : Allows overlaying a title on the MAIN output. The title should be created using software such as PowerPoint : the text should be bright (yellow, white) on a black background. A shadow bar is also available for increasing the readability of the text on bright images

- ① Select the [duration] of the transition with ◀▶ + ENTER between :

- [holding] : The text appears after pushing on the TAKE button, and will be removed only by a second push on the TAKE button.
- [3s] : 3 second transition.
- [5s] : 5 second transition.
- [custom] : Select a duration from 0.5 second up to 25 seconds by 0.5 second steps.

- ② Select the [Size] of the shadow bar with ◀▶ + ENTER.

- ③ Select the vertical [Position] of the shadow bar with ◀▶ + ENTER.

- ④ Select the [Intensity] of the shadow with ◀▶ + ENTER.

- ⑤ Select the [Effect opening] and the [effect closing] of the title between [Cut] & [Fade] with ◀▶ + ENTER.

6-x-4 [PIP] : Allows displaying a picture into another picture. The PREVIEW image is reduced and displayed onto the MAIN image.

- ① Select the [duration] of the transition, and validate with ENTER.

- [holding] : The PREVIEW image appears after pressing on the TAKE button, and will be removed only by a second push on the TAKE button.
- [3s] : 3 second transition.
- [5s] : 5 second transition.
- [custom] : Select a duration from 0.5 second up to 25 seconds by 0.5 second steps.

- ② Adjust the [Image size] of the PIP with H and V, and validate with ENTER.

- ③ Set the horizontal and vertical [Image position] of the PIP with the H and V knob, and validate with ENTER.

- ④ Adjust the [Window size] of the PIP with the H and V knob, and validate with ENTER. This function allows, for example, cutting the black bars of a letterbox source.

- ⑤ Adjust the [Window position] of the PIP with the H and V knob, and validate with ENTER.

- ⑥ Select the [Effect opening] and the [effect closing] of the PIP between [Cut] & [Fade] with ◀▶ + ENTER.

7► [AUDIO MAIN] + ENTER.

7-1 [Master volume] + ENTER.

Adjust the audio output level with ◀▶ + ENTER.

7-2 [Audio mode] + ENTER.

Select the output audio mode with ◀▶ + ENTER.

- [Mono] : Set the output in mono mode.
- [Stereo] : Set the output in stereo mode.

7-3 [Audio source] + ENTER.

Select an item with ◀▶ + ENTER :

- [auto follow] : The audio follows the video image.
- [input --] : The selected audio input is permanently diffused.

7-4 [Audio level] + ENTER.

This function allows to separately adjust the level of each audio input. Adjust the level with ◀▶ + ENTER.

NOTE : This function acts on the selected (diffused) audio input.

7-5 [Audio balance] + ENTER.

This function allows adjusting for each input the audio balance. Adjust the level with ◀▶ + ENTER.

NOTE : This function acts on the selected (diffused) audio input.

7-6 [AUX input] + ENTER.

7-7 [Mute off] + ENTER.

Switch ON or OFF the audio output. Validate with ENTER.

8► [AUDIO PRELIST] + ENTER.

8-1 [Master volume] + ENTER.

Adjust the audio output level with ◀▶ + ENTER.

8-2 [Audio mode] + ENTER.

Select the audio mode of the output with ◀▶ + ENTER.

- [Mono] : Set the output in mono mode.
- [Stereo] : Set the output in stereo mode.

8-3 [Audio source] + ENTER.

Select an item with ◀▶ + ENTER:

- [auto follow] : The audio follows the video image.
- [input --] : The selected audio input is permanently diffused.

8-4 [Audio level] + ENTER.

This function allows to separately adjust the level of each audio input. Adjust the level with ◀▶ + ENTER.

NOTE : This function acts on the selected (diffused) audio input.

8-5 [Audio balance] + ENTER.

This function allows adjusting for each input the audio balance. Adjust the level with ◀▶ + ENTER.

NOTE : This function acts on the selected (diffused) audio input.

8-6 [AUX input] + ENTER.

8-7 [Mute off] + ENTER.

Switch ON or OFF the audio output. Validate with ENTER.

9► [CONTROL] + ENTER.

9-1 [Versions] + ENTER.

Version __ = update version.

I1 to I4 = Identification number.

K, A, B, C, O = status of the internal firmware versions.

9-2 [Transition] + ENTER.

Select an item with ◀▶ + ENTER

9-2-1 [Fade color] + ENTER.

This function allows selecting the color of the frame during the fade through frame transition. Select a color (red, green and blue) with ◀▶ + ENTER and adjust the level with ◀▶ + ENTER. During the adjustment the color is displayed on the output. To obtain black, set the 3 levels to minimum. To obtain white, set the 3 levels to maximum. To obtain grey, set the 3 levels in the middle.

9-2-2 [Clean cut] + ENTER.

This function allows a clean switching thanks to a fast freeze of the displayed source. Select a function with ◀▶ + ENTER.

- [from computer] : The CLEAN CUT operates only when switching from a computer source. Switching from the source operates with a fade color.
- [from video] : The CLEAN CUT operates only when switching from a video source. Switching from the source operates with a fade color.
- [from all] : The CLEAN CUT operates when switching from any source.

9-2-3 [Fade frame] + ENTER.

This function allows switching by a fading through a frame (instead of a color). Select a frame and adjust the duration of the transition with ◀▶ + ENTER.

9-3 [Sync loss] + ENTER.

Allows to display a frame or a source in case of sync-loss of the selected input. Select an items with ◀▶ + ENTER

9-4 [RS232/LAN port] + ENTER.

Select the communication port with ◀▶ + ENTER.

- [RS232] : Enables the RS-232 communication port. (Default setting).
- [LAN] : Enables the LAN communication port.

IMPORTANT : To avoid address conflicts, configure the LAN communication port (with the LAN setup menu) before activating it.

NOTE : The RS-232 & the LAN communication ports can not be used simultaneously.

9-5 [LAN setup] + ENTER.

Allows configuring the LAN communication port. Select the UDP or TCP protocol with ◀▶ + ENTER then select items with ◀▶ + ENTER.

- [device addr.] : Every device connected to an IP network must have a unique IP address. This address is used to reference the specific unit. IP addresses are specified as x.x.x.x where each x is a number from 1 to 254. Assign the device to a unique IP address with ◀▶ + ENTER. (Default value: 192.168.0.2).
- [remote addr.] : This is the destination IP address used with an outgoing connection. Select the destination IP address with ◀▶ + ENTER. (Default value : 192.168.0.1).
- [gateway addr.] : The gateway address, or router, allows communication with other LAN segments. The gateway address should be the IP address of the router connected to the same LAN segment as the unit. Select the gateway address with ◀▶ + ENTER. (Default value : 192.168.0.1).
- [device port] : Every TCP connection and every UDP datagram is defined by a destination IP address and a port number. Select a local port number with ◀▶ + ENTER between 10000 and 10999. (Default value : 10500).
- [remote port] : You must set the remote TCP port number for the unit to make outgoing connections. This parameter defines the port number on the target host to which a connection is attempted. Select a remote port number with ◀▶ + ENTER between 00000 and 655000. (Default value: 10500).
- [netmask] : A netmask defines the number of bits taken from the IP address that are assigned for the host section. The device prompts for the number of host bits to be entered, then calculates the netmask, which displays in standard decimal-dot notation when the saved parameters are displayed. Select the netmask with ◀▶ + ENTER. (Default value: 255.255.255.0).
- [default setup] : Set all the LAN settings to default value. Select [YES] and validate with ENTER.

MAC address : The MAC address, also referred to hardware address, is a unique number assigned to each device. The MAC address is available on the bottom device label.

9-6 [key locking] + ENTER.

Select an item with ◀▶ and change the mode with ENTER.

- [All] : Locks/unlocks all the front panel switches.
- [Menus] : Locks/unlocks the LCD CONTROL switches.
- [autolock] : Allows selecting an input only if a signal is connected.
- [Input] : Locks/unlocks the INPUT SELECTION and FREEZE switches.

NOTE : To unlock press simultaneously ENTER and EXIT.

9-7 [Stand-by] + ENTER.

9-7-1 [Baud rate] + ENTER.

Select the baud rate of the display device with ◀▶ + ENTER (9600, 2400 & 1200).

9-7-2 [Message ON] + ENTER.

This function allows to store the ON message of your display device. Whenever your device goes out of stand-by mode it will send the stored message to your display device. The ON message can be composed of up to 50 bytes. For each byte, select the needed ASCII code with ◀▶ and validate with ENTER.

NOTE : The 0 value allows to display : no data.

9-7-3 [Message OFF] + ENTER.

This function allows to store the OFF message of your display device. Whenever your device goes out of stand-by mode it will send the stored message to your display device. The OFF message can be composed of up to 50 bytes. For each byte, select the required ASCII code with ◀▶, then press ENTER.

NOTE : The 0 value allows to display: no data.

9-7-4 [Reset mess ON] + ENTER.

Allows to reset the ON message.

9-7-5 [Reset mess OFF] + ENTER.

Allows to reset the OFF message.

9-7-6 [Stand by time] + ENTER.

When the device doesn't detect any signal on the selected input, it sets itself to STANDBY mode after the duration of your choice. Select a duration with ◀▶ + ENTER.

NOTE : Select OFF to inactivate this function.

9-7-7 [Stand by] + ENTER.

Allows to set the device to STANDBY mode. To get out of STANDBY mode, press one of the front panel buttons.

9-8 [Erase memories] + ENTER.

This function allows erasing all NON-volatile image memories. Select [YES] and validate with ENTER.

9-9 [Default value] + ENTER.

This function allows setting the following functions to the factory settings. Select [YES] and validate with ENTER.

FUNCTION	POSITION
input type	Computer HV/C.
used input	All used.
H sync load	All Hi-Z.
VCR mode	All off
output format	SXGA 60Hz 4/3.
Output sync	H&V.
type of screen	4/3
test pattern	no
switching	seamless #1
pos. settings	0
aspect ratio in	4/3
aspect ratio out	1:1
brightness	128
black level	128
contrast	128
color	128
hue	128
under/overscan	overscan
sharpness	3
master volume	192
audio source	auto follow
audio level	48
audio balance	32
auxiliary input	OFF
mute	OFF
display logo	all ON
assignment	all none
key locking	all unlock
fade color	R, G, B = 0
RS232/LAN port	RS232

UPDATING THE DEVICE

6-1. INTRODUCTION

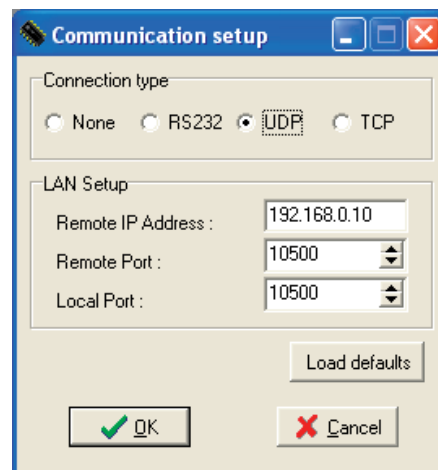
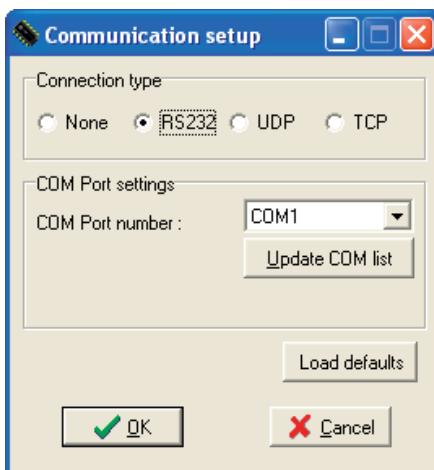
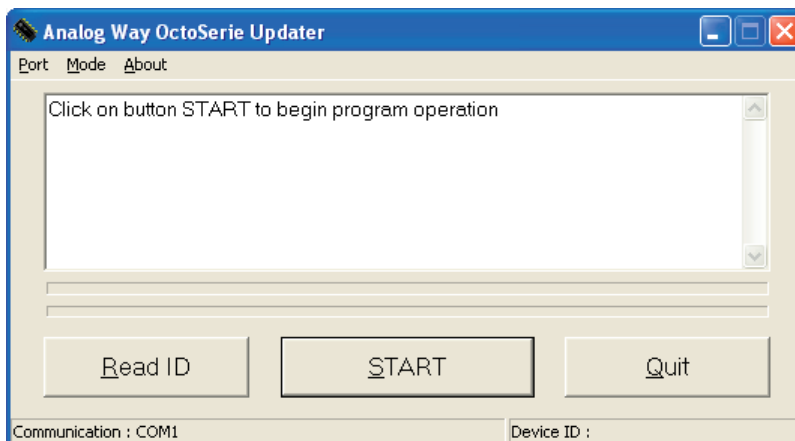
The device can be updated via the RS232 communication port or via LAN communication port a computer (PC).

6-2. CONNECTION

- 1) Connect the device to an AC power outlet.
- 2) Switch ON the device (REAR PANEL SWITCH = I).
- 3) Connect the device to the computer used for the update via the desired communication port.
 - For the RS232 communication port : Connect the RS232 connector of the device to the serial port of your computer with a DB9 M/F straight cable.
 - For the LAN communication port : Connect the RJ45 connector of the device to your network according to your installation. Then with the front panel display menu configure the LAN communication port (CONTROL > LAN setup) and activate the LAN communication port (CONTROL > RS232/LAN port > LAN).

6-3. UPDATE INSTRUCTIONS

- 1) Switch ON the device.
- 2) Open the file : Octo Value Updater (in Start > Program > ANALOGWAY > Octo Value Updater).
- 3) Click on the Port menu and select setup : the Communication setup window open.
 - If you use the RS232 port : Select RS232 and the Com port connected to the device.
 - If you use the LAN Port : Select UDP or TCP and select the communication parameters.
- 4) Click on START on the software. The update will start.
- 5) When the software displays : Program operation completed, click on the Quit button to close the update software. Your device is now ready to work.



NOTE : The updater files are available on our web site : <http://www.analogway.com>

REMOTE CONTROL SOFTWARE

Your device is shipped with a Windows compatible Remote Control Software. This software allows you to control and make all adjustments by a simple mouse click.

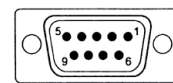
NOTE : Preferably use Windows NT, 2000 or XP for LAN operation.

7-1. CONNECTIONS

① CONNECTING TO THE RS232 PORT :

- Connect the serial port of your control device to the RS232 port (DB9 Female connector) of the device with a **straight** cable (DB9 Female / DB9 Male).
- **Speed transmission** : 9600 bauds, 8 data bits, 1 stop bit, no parity bit, no flow control.
- **Pin-out** :

PIN #	FUNCTIONS
2	TRANSMIT DATA (Tx)
3	RECEIVE DATA (Rx)
5	GROUND (Gnd)



DB9 female (Rear panel of the device)

② CONNECTING TO THE LAN PORT :

- Connect the LAN port (RJ45 connector) of the device to your network according to your installation.

7-2. SOFTWARE INSTALLATION

- ① Turn your computer ON and wait for Windows to completely start.
- ② Insert the CD-ROM into your drive : the ANALOG WAY home window will open automatically.
- ③ Select the language of the CD-ROM menus, then click on "Install a Remote Control Software" and select the name of your device.

IMPORTANT : If the Autorun is not enabled : From the Windows desktop, open My Computer and select the CD-ROM drive. Select the Autorun folder, and then select the autorun.exe file.

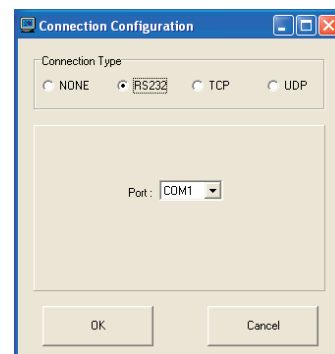
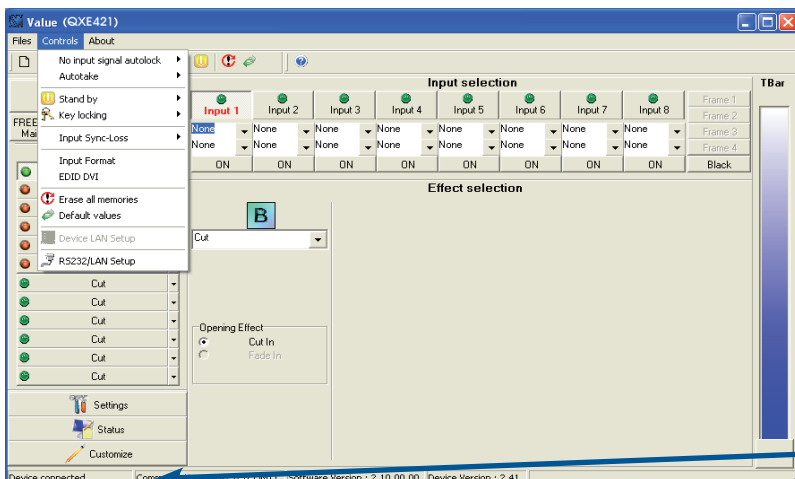
- ④ Follow the Windows installation instructions.

7-3. COMMUNICATION SETUP

- ① Connect the RS232 or RJ45 cable between the device and the control device as indicated in the section 7-1.
- ② Then power ON all of the devices.
- ③ Click on the program files Octo Value in Start > program > ANALOGWAY > Octo Value to run the software.
- ④ Click on Control menu and select RS232/LAN setup, then :

• CASE OF RS232 PORT :

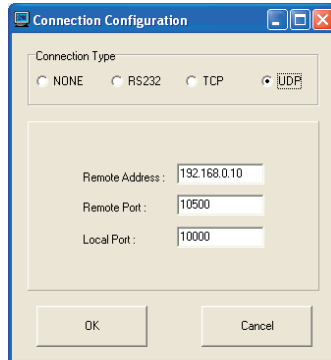
- With the front panel display menu of the device, verify that the RS232 port is activated (CONTROL > RS232/ LAN port > RS232).
- With the Control menu of the software, select RS232/LAN setup, then select RS232 and select the COM port number corresponding to the connection of the device in the Port field.



If the communication is OK, the message "Device connected" is displayed as well as the model in the windows title bar.

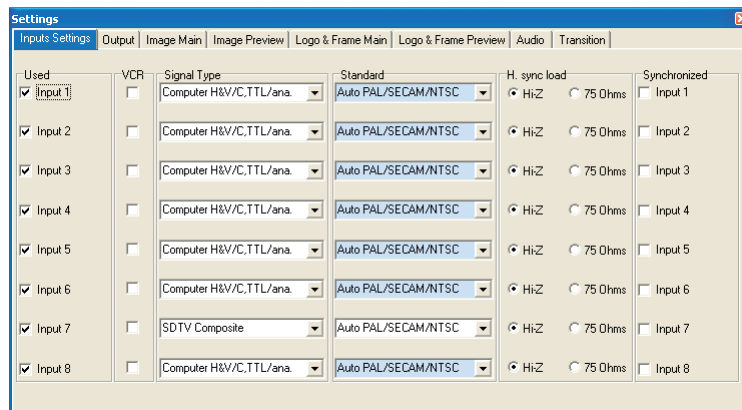
• **CASE OF LAN PORT :**

- With the front panel display menu of the device, verify the configuration of the LAN communication port (CONTROL > LAN setup), then activate the LAN communication port (CONTROL > RS232/LAN port > LAN).
- With the Control menu of the software, select RS232/LAN setup and LAN Setup. Then configure the Local port, the Remote IP address and the Remote port and click on Apply to setup the new values. The software will also display Device connected.

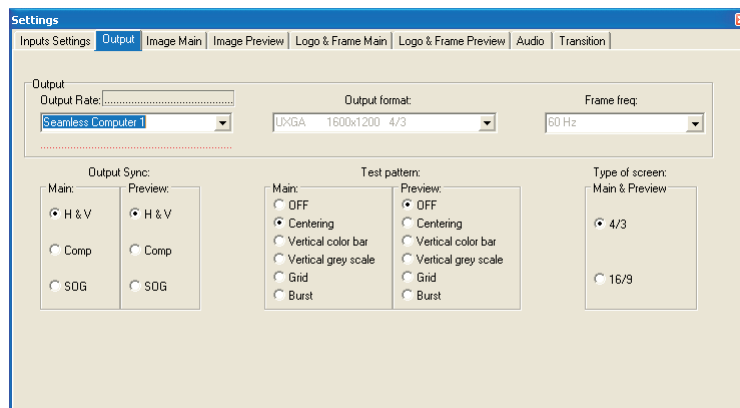


7-4. USING THE SOFTWARE

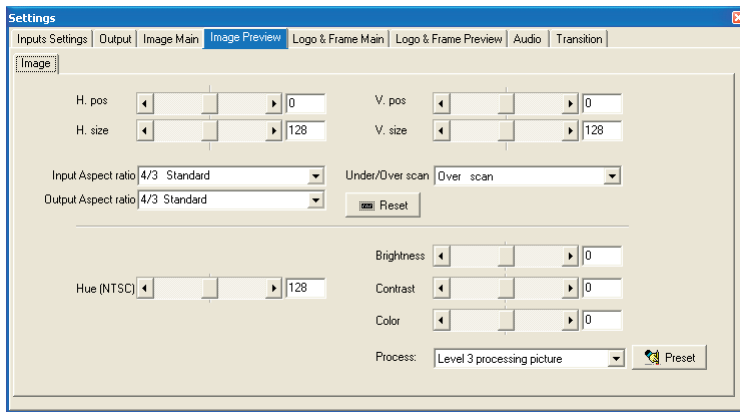
- ① Click on the Settings button (left bottom of the window) to display the Settings window.
- ② Click on the Input Settings tab and select the Signal Type for each input. Then make the other adjustments (video Standard...).



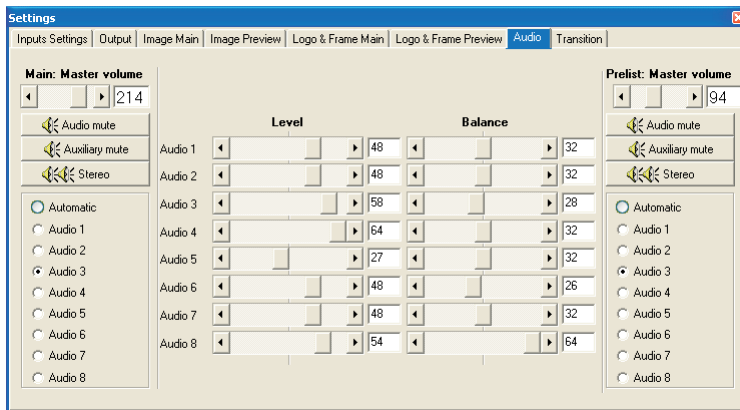
- ③ Click on the Output tab, then select the Switching mode (internal rate, input #- rate, or seamless), then select the desired adjustment (output sync, output format, output rate...).



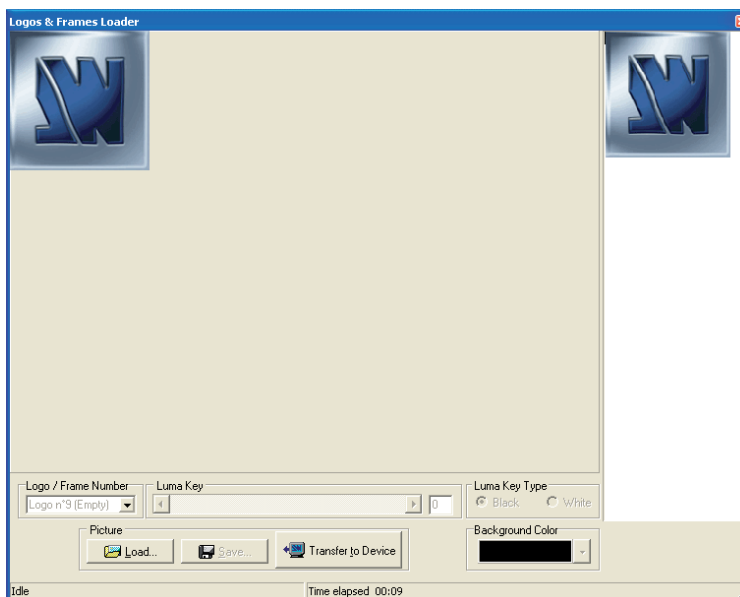
- ④ Click on the Image tab and adjust your input.



- ⑤ Click on the Audio tab and select Automatic (follow switching mode) or an Audio source (breakaway mode). Then adjust the Level and the Balance of each audio source.



7-5. Frames and Logos Loader



The RCS provides additional functionality. It can download logos, animated logo or frames via the RS-232 or Ethernet (LAN). This feature also allows downloading a logo animated in GIF format.

To download logos, it is recommended not to exceed 1/8th of the final size of the output image Main.

Supported formats are : JPEG, BMP, GIF, JPG, ICO, EMF, WMF.

TECHNICAL SPECIFICATIONS

8-1. COMPUTER & VIDEO INPUTS

• ANALOG COMPUTER

Connectors : HD15 (inputs #2 to 8) and DVI-I (input #1).
Line frequency : Up to 110 kHz.
Frame frequency : Up to 130 Hz.
Resolution : Up to 1600 x 1200/60Hz.
Sync. types : RGBHV, RGB/S, RGsB (Sync On Green).
Levels : R, G, B = 0.7 Vp/p.
H & V Sync = TTL
Composite Sync = TTL and 0.3 V.
SOG (Sync On Green) = 0.3 V.
Impedance : R, G, B = 75 ohms.
H = 75 ohms or Hi-Z.
V = Hi-Z.

• DIGITAL COMPUTER INPUT

Connectors : DVI-I (input #1).
Format : Digital Visual Interface (DVI)
TMDS single link.
Resolution : Up to 1600 x 1200/60Hz RB (reduced blanking) and 1920x1080/60Hz.

• RGB/S VIDEO

Connectors : HD15 (inputs #2 to 8) and DVI-I (input #1).
Frequency : 15.625 kHz / 50 Hz (625 lines).
15.734 kHz / 60 Hz (525 lines).
Levels : R, G, B = 0.7 Vp/p.
SYNC. = 0.3 Vp/p or TTL.
Impedance : RGB = 75 ohms.
SYNC. = 75 ohms or Hi-Z.

• COMPONENT

Connectors : HD15 (inputs #2 to 8) and DVI-I (input #1).
Frequency : 15.625 kHz / 50 Hz (625 lines).
15.734 kHz / 60 Hz (525 lines).
Levels : Y = 1 Vp/p (0.7 V Luma + 0.3 V Sync.).
R-Y = 0.7 Vp/p.
B-Y = 0.7 Vp/p.
Impedance : Y, R-Y, B-Y = 75 ohms.

• HDTV

Connectors : HD15 (inputs #2 to 8) and DVI-I (input #1).
Formats : HD-YUV (1080i/60-50Hz, 1080p, 720p/60-50Hz, 480p/60Hz).
Levels : Y = 1 Vp/p (0.7 V + sync.).
R-Y = 1 Vp/p (0.7 V + sync.).
B-Y = 1 Vp/p (0.7 V + sync.).
Sync. : Tri-level : $\pm 0.3V$ (positive/negative).
Bi-level : 0.3V (negative).
Impedance : 75 ohms.

• S.VIDEO

Connectors : 4-pin mini DIN (input #8), BNC (input #4), HD15 (inputs #2 to 8) and DVI-I (input #1).
Standards : PAL (15.625 kHz / 50 Hz – 625 lines) or NTSC (15.734 kHz / 60 Hz – 525 lines).
Levels : Y = 1 Vp/p.
C = 0.3 Vp/p.
Impedance: 75 ohms.

• COMPOSITE VIDEO

Connectors : BNC (input #4), RCA (input #8), HD15 (inputs #2 to 8) and DVI-I (input #1).
Standards : PAL / SECAM (15.625 kHz / 50 Hz – 625 lines) or NTSC (15.734 kHz / 60 Hz – 525 lines).
Level : 1 Vp/p.
Impedance : 75 ohms.

8-2. DISPLAY OUTPUTS

• MAIN ANALOG

Connectors : HD15 and DVI-I (2x buffered).
Resolution : 4/3 & 5/4 : 800x600, 1024x768, 1280x1024, 1400x1050, 1600x1200.
16/9 & 16/10 : 852x480, 1280x720, 1280x768, 1366x768, 1920x1080.
Frame frequency : 50, 60, 72^{***}, 75^{***} Hz and follow (^{***} = *not available for all resolutions*).
Sync. types : RGBHV, RGB/S, RGsB (Sync On Green).
Levels : R, G, B = 0.7 Vp/p.
H & V Sync = TTL
Composite Sync = TTL and 0.3 V.
SOG (Sync On Green) = 0.3 V.
Impedance : R, G, B = 75 ohms.

• MAIN DIGITAL

Connector : DVI-I.
Format : Digital Visual Interface (DVI). TMDS Single link.
Resolution : Up to 1600 x 1200 @ 60 Hz.

• PREVIEW

Connectors : HD15.
Format : XGA / 60 Hz.
Sync. types : RGBHV.
Levels : R, G, B = 0.7 Vp/p.
H & V Sync = TTL
Impedance : R, G, B = 75 ohms.

8-3. AUDIO INPUTS

Connectors : Jack 3.5 mm (inputs #1) and MCO (inputs #2, 3 & 4).
Type : Stereo unbalanced.
Levels : $V_i = + 18$ dBu (max).
 $Z_i = 20$ k Ω unbalanced.
 $Z_i = 40$ k Ω balanced.
Gain : Adjustable.

8-4. MAIN AUDIO OUTPUT

Connectors : MCO.
Type : Stereo balanced & unbalanced.
Levels : $V_o = + 18$ dBu max (unbalanced).
 $Z_o = 300$ Ω (unbalanced).
 $V_o = + 24$ dBu max (balanced).
 $Z_o = 600$ Ω (balanced).
Gain : 0 dB nominal (adjustable with Master volume).

8-5. PRELIST AUDIO OUTPUT

Connectors : Jack 3.5 mm.
Type : Unbalanced.
Levels : $V_o = + 18$ dBu max.
 $Z_o = 300$ Ω .
Gain : 0 dB nominal (adjustable with Master volume).

8-6. COMMUNICATION PORTS

• RS232 (on DB9 female connector)

Data Rate : 9600 Bauds, 8 data bits, 1 stop bit, no parity bit, no flow control.

Pin-out :

PIN #	FUNCTIONS
2	Tx1 (transmit data to the control device)
3	Rx1 (receive data from the control device)
4	Rx2 (receive data from the display device)
5	GROUND (Gnd)
8	Reserved for manufacturer.
9	Tx2 (transmit data to the display device)

• LAN

Protocol : TCP (Transmission Control Protocol) / UDP (User Datagram Protocol).

Data Rate : 10 / 100 Mbps.

LED functions (on RJ45 connector) :

Left LED	Right LED	Meaning
OFF	OFF	No link
OFF	ON	100 BASE-T link.
ON	OFF	10 BASE-T link.

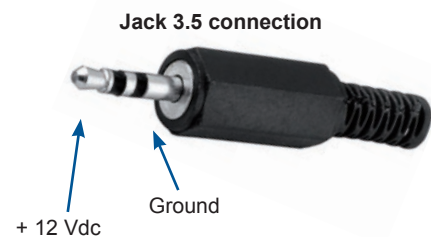
8-7. TRIGGER

Connector : Jack 3.5 mm female.

Command levels : **ON** = + 12 Vdc trigger. **OFF** = 0 Vdc.

Output Current : 0.1 A max at + 12 Vdc.

NOTE : This output is activate with the AC Power Switch (ON/OFF).



8-8. ENVIRONMENTAL

Power Supply : Internal CE / UL / CSA / IEC 950 (50 W), universal, automatic.

Input : 100 VAC to 250 VAC; 50-60 Hz; I = 1 A Max.

Storage Temperature : - 40 °C to + 70 °C (- 40 °F to + 158 °F).

Operating temperature : 0 °C to + 50 °C (32 °F to 122 °F).

Hygrometry : 10% to 80% (without condensation).

Dimensions : D 265 x W 482 x H 44 mm / D 10.4" x W 19" x H 1.74".

Compatible with the 19" rack (height = 1 unit).

Weight : 3.5 kg / 7.7 lbs.

A. INTRODUCTION

If you need to use your own Software Control program from a PC or WORKSTATION with an RS232 port, the device allows communication through an ASCII code protocol.

The device treats any character that it receives on the RS-232 as a possible command but only accepts legal commands. There is no starting/ending code needed in a command string.

A command can be a single character typed on a keyboard and does not require any special character before or after it. (It is not necessary to press "ENTER" on the keyboard). A command can be preceded by a value (See chapter B).

When the device receives a valid command, it will execute the command. Then it will send back the status of the parameters that have changed due to this command. If the command cannot be executed (value out of range, no signal on the selected input), the device will just send back the current status of the corresponding parameters.

If the command is invalid, an error response will be returned to the control device. All responses returned to the control device end with a carriage return <CR> and a line feed <LF> signaling the end of the response character string (see chapter C).

B. COMMANDS STRUCTURE

Commands are usually composed of a numerical value followed by the command character. The characters used without any numerical value return the current setting of the command.

Command = Value (optional) + Character.

Examples :

Command		Response	Description
Value	Character		
none	FY	OSYN	Read the output sync type.
10	V	VP10	Set Vertical position to 10.

C. ERROR RESPONSES

When the device receives from the control device an invalid command or value, it returns an error response :

Command		Response	Description
Value	Character		
none	z	E10	Invalid command.
70260	H	E13	Invalid value.

D. COMMANDS AND RESPONSES TABLE

CD	RESPONSE	COMMAND DESCRIPTION	TYPE	VALUE		
				MIN	MAX	DESCRIPTION
SELECTION COMMANDS						
CC	CC	MAIN selected input.	Rd	0	12	1 = input #1 2 = input #2
CN	CN	Background selection (PIP effect only)	Rd/Wr	0	8	3 = input #3 4 = input #4
cc	cc	PREVIEW selected input (read only).	Rd	0	8	5 = input #5 6 = input #6
cn	cn	Input pre-selection or PIP switching	Rd/Wr	0	8	7 = input #7 8 = input #8 9 = frame #1 10 = frame #2 11 = frame #3
OB	OB	Black screen on the MAIN output	Rd/Wr	0	1	1 = black output
ob	ob	Black screen on the PREVIEW output	Rd/Wr	0	1	1 = black output
TK	TK	TAKE (transition).	Rd/Wr	0	1	1 = start the transition (automatic reset at the end of the effect duration). 0 = stop the transition (for holding effect).
TV	TV	Transition availability.	Rd	0	1	1 = New input ready to commute.
FZ	FZ	FREEZE MAIN.	Rd/Wr	0	1	0 = inactive 1 = active.
fz	fz	FREEZE PREVIEW.	Rd/Wr	0	1	0 = inactive 1 = active.
INPUT COMMANDS						
PC	PC	Input selection for adjustment.	Rd/Wr	0	8	0 = all inputs. 1 = input #1... 8 = input #8
PE	PE	Input disabling (works with PC)	Rd/Wr	0	1	0 = disable 1 = enable.
PL	PL	H sync load selection (works with PC).	Rd/Wr	0	1	0 = Hi-Z load 1 = 75Ω load.
PR	PR	RGB input type selection (works with PC command).	Rd/Wr	0	10	0 = composite 1 = S.VIDEO 2 = YUV 3 = RGBS (TTL) 4 = RGsB (SOG) 5 = RGBS (ana) 6 = computer (SOG) 7 = comp (HV or C.) 8 = computer DVI 9 = HDTV YUV 10 = audio only
PI	PI	Input standard selection (works with PC command).	Rd/Wr	0	4	0 = NTSC/PAL/SECAM. 1 = NTSC. 2 = PAL. 3 = SECAM 4 = Black & White.
PP	PP	VCR mode	Rd/Wr	0	1	0 = OFF 1 = ON.
OUTPUT COMMANDS						
XR	XR	Switching mode selection.	Rd/Wr	0	10	0 = internal rate 1 = follow input #1 2 = follow input #2... 8 = follow input #8 9 = seamless #1 10 = seamless #8
OF	OF	Output formats selection.	Rd/Wr	0	9	0 = 800x600 4/3 1 = 1024x768 4/3 2 = 1280x1024 4/3 3 = 1400x1050 4/3 4 = 1600x1200 4/3 5 = 852x480 16/9 6 = 1280x720 16/9 7 = 1280x768 16/9 8 = 1366x768 16/9 9 = 1080p 16/9
OR	OR	Output rate selection.	Rd/Wr	0	3	0 = 50 Hz 1 = 60 Hz 2 = 72 Hz 3 = 75 Hz
OY	OY	Output sync selection (M).	Rd/Wr	0	2	0 = H & V sync. 1 = Composite sync.
oy	oy	Output sync selection (P).	Rd/Wr	0	2	2 = SOG
OS	OS	Type of screen selection	Rd/Wr	0	1	0 = 4/3 screen 1 = 16/9 screen
OP	OP	Test pattern selection (M).	Rd/Wr	0	5	0 = no pattern 1 = centering 2 = color
op	pop	Test pattern selection (P).	Rd/Wr	0	5	3 = grey scale 4 = grid. 5 = burst

NOTE : (M) = MAIN output. Rd/Wr = Read and write command. (P) = PREVIEW output. Rd = Read only command.

CD	RESPONSE	COMMAND DESCRIPTION	TYPE	VALUE		
				MIN	MAX	DESCRIPTION
IMAGE COMMANDS						
yC	yC	Automatic centering (M).	Rd/Wr	0	1	1 = centering action (automatic reset).
HP	HP	Horizontal position (M).	Rd/Wr	0	255	
VP	VP	Vertical position (M).	Rd/Wr	0	255	
HW	HW	Horizontal size (M).	Rd/Wr	0	255	
VS	VS	Vertical size (M).	Rd/Wr	0	255	
BR	BR	Brightness adjustment (M).	Rd/Wr	0	255	
CT	CT	Contrast adjustment (M).	Rd/Wr	0	255	
CL	CL	Color adjustment (M).	Rd/Wr	0	255	
HU	HU	Hue adjustment (M).	Rd/Wr	0	255	
QP	QP	Sharpness adjustment (M).	Rd/Wr	0	7	0 = level 1... 7 = level 8.
OV	OV	Underscan / overscan (M)	Rd/Wr	0	1	0 = underscan 1 = overscan
IA	IA	Input aspect ratio selection (M)	Rd/Wr	0	2	0 = 4/3 1 = 16/9 2 = 16/9 anamorphic
OA	OA	Output aspect ratio (M)	Rd/Wr	0	3	0 = 1:1 1 = crop 2 = Full screen 3 = zoom.
ZW	ZW	Zoom: horizontal size (M).	Rd/Wr	10	200	10 = 10 % 100 = 100 % (no zoom) 200 = 200 %
ZS	ZS	Zoom: vertical size (M).	Rd/Wr	10	200	10 = 10 % 100 = 100 % (no zoom) 200 = 200 %
ZH	ZH	Zoom: horizontal position (M).	Rd/Wr	0	255	
ZV	ZV	Zoom vertical position (M).	Rd/Wr	0	255	
QR	QR	Red level adjustment (M)	Rd/Wr	0	255	
QG	QG	Green level adjustment (M)	Rd/Wr	0	255	
QB	QB	Bleu level adjustment (M)	Rd/Wr	0	255	
MC	CLK	Number of pixels per line (M)	Rd/Wr	0	65535	
MP	PHA	Pixels phase adjustment (M)	Rd/Wr	0	31	
yP	yP	PRESET (M).	Rd/Wr	0	1	1 = PRESET action (automatic reset).
yc	yc	Automatic centering (P).	Rd/Wr	0	1	1 = centering action (automatic reset).
hp	hp	Horizontal position (P).	Rd/Wr	0	255	
vp	vp	Vertical position (P).	Rd/Wr	0	255	
hw	hw	Horizontal size (P).	Rd/Wr	0	255	
vs	vs	Vertical size (P).	Rd/Wr	0	255	
br	br	Brightness adjustment (P).	Rd/Wr	0	255	
ct	ct	Contrast adjustment (P).	Rd/Wr	0	255	
cl	cl	Color adjustment (P).	Rd/Wr	0	255	
hu	hu	Hue adjustment (P).	Rd/Wr	0	255	
qp	qp	Image process adjustment (P)	Rd/Wr	0	7	0 = level 1... 7 = level 8.
ov	ov	Underscan / overscan (P)	Rd/Wr	0	1	0 = underscan 1 = overscan
ia	ia	Input aspect ratio selection (P)	Rd/Wr	0	2	0 = 4/3 1 = 16/9 2 = 16/9 anamorphic
oa	oa	Output aspect ratio (P)	Rd/Wr	0	3	0 = 1:1 1 = crop 2 = Full screen 3 = zoom.
zw	zw	Zoom horizontal size (P).	Rd/Wr	0	255	0 = 100 % 255 = 200%
zs	zs	Zoom vertical size (P).	Rd/Wr	0	255	0 = 100 % 255 = 200%
zh	zh	Zoom horizontal position (P).	Rd/Wr	0	255	
zv	zv	Zoom vertical position (P).	Rd/Wr	0	255	
qr	qr	Red level adjustment (P)	Rd/Wr	0	255	
qg	qg	Green level adjustment (P)	Rd/Wr	0	255	
qb	qb	Bleu level adjustment (P)	Rd/Wr	0	255	
mc	mc	Number of pixels per line (P)	Rd/Wr	0	65535	
mp	mp	Pixels phase adjustment (P)	Rd/Wr	0	31	
yp	yp	PRESET (P).	Rd/Wr	0	1	1 = PRESET action (automatic reset).
YS	YS	STORE.	Rd/Wr	0	1	1 = STORE action (automatic reset).

NOTE : (M) = MAIN output. Rd/Wr = Read and write command. (P) = PREVIEW output. Rd = Read only command.

CD	RESPONSE	COMMAND DESCRIPTION	TYPE	VALUE		
				MIN	MAX	DESCRIPTION
EFFECTS COMMANDS						
EF	EF	Effect selection.	Rd/Wr	0	4	0 = CUT. 1 = FADING. 2 = TITLE. 4 = PIP.
ED	ED	Effect duration selection.	Rd/Wr	5	255	5 = 0.5 second 244 = 24.5 seconds 255 = holding
ea	ea	Horizontal position of the effect.	Rd/Wr	0	255	
eb	eb	Vertical position of the effect	Rd/Wr	0	255	
ec	ec	Horizontal size of the effect	Rd/Wr	0	255	0 = PIP 1:1 5 = size mini 255 = size maxi
ed	ed	Vertical size of the effect.	Rd/Wr	0	255	0 = PIP 1:1 5 = size mini 255 = size maxi
ee	ee	Window horizontal position (PIP).	Rd/Wr	0	255	
ef	ef	Window vertical position (PIP).	Rd/Wr	0	255	
eg	eg	Window horizontal size (PIP).	Rd/Wr	0	255	
eh	eh	Window vertical size (PIP).	Rd/Wr	0	255	
eO	eO	Effect options	Rd/Wr	0	5	0 = without 1 = shadow 2 = smooth 3 = edge
ei	ei	Effect options parameters (size, shadow...).	Rd/Wr	0	255	0 = size mini 255 = size maxi.
ej	ej	Effect options parameters (color).	Rd/Wr	0	255	
EO	EO	Effect opening type.	Rd/Wr	0	1	0 = Cut 1 = fade
EC	EC	Effect closing type.	Rd/Wr	0	1	0 = Cut 1 = fade
Eo	Eo	Effect opening duration (0.1 sec step)	Rd/Wr	0	255	
Ec	Ec	Effect closing duration (0.1 sec step)	Rd/Wr	0	255	
TO	TO	Effect in progress.	Rd	0	1	0 = no effect in progress. 1 = effect in progress.
AUDIO COMMANDS						
AC	AC	Audio source selection of the MAIN.	Rd/Wr	1	8	1 = audio source #1... 8 = audio source #8.
ac	ac	Audio source selection of the PRELIST output.	Rd/Wr	1	8	1 = audio source #1... 8 = audio source #8.
AO	AO	Audio mode of the MAIN output.	Rd/Wr	0	1	0 = auto follow 1 = breakaway
ao	ao	Audio mode of the PRELIST output.	Rd/Wr	0	1	0 = auto follow 1 = breakaway
AV	AV	Mater volume of the MAIN output.	Rd/Wr	0	255	0 = minimum 255 = maximum
av	av	Mater volume of the PRELIST output.	Rd/Wr	0	255	0 = minimum 255 = maximum
AT	AT	Mute of the MAIN output.	Rd/Wr	0	1	0 = mute OFF 1 = mute ON
at	at	Mute of the PRELIST output	Rd/Wr	0	1	0 = mute OFF 1 = mute ON
AS	AS	Mono/stereo mode of the MAIN output.	Rd/Wr	0	1	0 = stereo 1 = mono
as	as	Mono/stereo mode of the PRELIST.	Rd/Wr	0	1	0 = stereo 1 = mono
AL	AL	Audio level (works with PC command)	Rd/Wr	0	64	0 = minimum 1 = maximum
AB	AB	Audio balance (works with PC)	Rd/Wr	0	64	0 = left to maximum 64 = right to maximum
AX	AXMU	Auxiliary source to MAIN.	Rd/Wr	0	1	0 = used 1= unused.
ax	axmu	Auxiliary source to PRELIST.	Rd/Wr	0	1	0 = used 1= unused.

NOTE : (M) = MAIN output. Rd/Wr = Read and write command. (P) = PREVIEW output. Rd = Read only command.

CD	RESPONSE	COMMAND DESCRIPTION	TYPE	VALUE		
				MIN	MAX	DESCRIPTION
FRAME & LOGOS COMMANDS						
LM	LM	Frame/logo mode.	Rd/Wr	0	3	0 = use & assignment mode. 1 = logo recording mode. 2 = animated logo recording mode 3 = frame recording mode. 4 = erasing logo mode. 5 = erasing frame mode. 6 = logo transfer mode.
LX	LX	Status of the logo programmer	Rd	0	4	0 = free. 1 = logo/frame in recalling process. 2 = logo/frame in storing process. 3 = output format incompatible with the logo. 4 = logo/frame in erasing process.
LA	LA	Logo index #1 assignment.	Rd/Wr	0	9	0 = no logo 1 = logo 1... 8 = logo 8 9 = animated logo
LB	LB	Logo index #2 assignment.	Rd/Wr	0	9	
LF	LF	Frame assignment.	Rd/Wr	0	4	0 = no frame 1 = frame 1 2 = frame 2 3 = frame 3 4 = frame 4
LC	LC	• In logo recording mode : number of the logo to be store (1 to 8). • In frame recording mode : number of the frame to be store (1 to 4). • In erase logo mode : number of the logo to be erase (1 to 8) • In erase frame mode : number of the frame to be erase (1 to 4).	Rd/Wr	0	8	In erase mode : 0 = erase all
LD	LD	Display logo (according to PCH)	Rd/Wr	0	1	0 = Display OFF 1 = Display ON
LU	LU	Horiz. position of the logo storing area.	Rd/Wr	0	255	
Lu	Lu	Vert. position of the logo storing area.	Rd/Wr	0	255	
LK	LK	Horizontal size of the logo storing area.	Rd/Wr	5	255	5 = 3% 255 = 100%
Lk	Lk	Vertical size of the logo storing area.	Rd/Wr	5	255	5 = 3% 255 = 100%
LQ	LQ	Pixels number in a line of the storing area.	Rd	0	65535	
Lq	Lq	Lines number of the storing area.	Rd	0	65535	
LH	LH	Horizontal position of the logo 1 (M).	Rd/Wr	0	255	
LV	LV	Vertical position of the logo 1 (M).	Rd/Wr	0	255	
LW	LW	Logo 1 horiz. size % output format (M).	Rd	5	255	5 = 3% 255 = 100%
LS	LS	Logo 1 vert. size % output format (M).	Rd	5	255	5 = 3% 255 = 100%
LT	LT	Logo 1 type (M).	Rd	0	2	0 = incrusting logo 1 = cutting logo 2 = animating logo
LP	LP	Pixels number in a line of logo 1 (M).	Rd	0	65535	These 2 commands allow calculating the duration of the storing.
LL	LL	Lines number in a logo 1 (M).	Rd	0	65535	
Lh	Lh	Horizontal position of the logo 2 (M).	Rd/Wr	0	255	
Lv	Lv	Vertical position of the logo 2 (M).	Rd	0	255	
Lw	Lw	Logo 2 horiz. size% output format (M)	Rd	5	255	5 = 3% 255 = 100%
Ls	Ls	Logo 2 vert. size % output format (M)	Rd	5	255	5 = 3% 255 = 100%
Lt	Lt	Logo 2 type (M).	Rd	0	2	0 = incrusting logo 1 = cutting logo 2 = animating logo
Lp	Lp	Pixels number in a line of logo 2 (M).	Rd	0	65535	These 2 commands allow calculating the duration of the storing.
LI	LI	Lines number in a logo 2 (M).	Rd	0	65535	
LN	LN	Pixels number in a line of a frame (M)	Rd	0	65535	
Ln	Ln	Line number of a frame (M).	Rd	0	65535	

NOTE : (M) = MAIN output. Rd/Wr = Read and write command. (P) = PREVIEW output. Rd = Read only command.

CD	RESPONSE	COMMAND DESCRIPTION	TYPE	VALUE		
				MIN	MAX	DESCRIPTION
CONTROLS COMMANDS						
YE	YE	Erase all memories.	Rd/Wr	0	1	1 = erase all memories (automatic reset).
YI	YI	Auto-lock	Rd/Wr	0	1	0 = off 1 = on.
SR	SR	Red adjustment of the FADE.	Rd/Wr	0	255	
SG	SG	Blue adjustment of the FADE.	Rd/Wr	0	255	
SB	SB	Green adjustment of the FADE.	Rd/Wr	0	255	
SW	SW	Transition.	Rd/Wr	0	5	0 = fade color 1 = clean cut 2 = frame 1 3 = frame 2 4 = frame 3 5 = frame 4
YL	YL	Sync loss	Rd/Wr	0	15	0 = black 1 = input 1 2 = input 2... 8 = input 8 9 = frame 1... 10 = frame 2 12 = frame 3... 15 = frame 6
xi	xi	Identification number byte 0 & 1	Rd	0	65535	
xj	xj	Identification number byte 2 & 3	Rd	0	65535	
xk	xk	Identification number byte 4 & 5	Rd	0	65535	
xl	xl	Identification number byte 6 & 7	Rd	0	65535	
xU	VERU	Update version.	Rd	0	65535	Example : VERU104 = version 1.4
YR	YR	DEFAULT VALUE.	Rd/Wr	0	1	1 = Default value action (automatic reset).
COMMUNICATION COMMANDS						
ne	ne	Communication port selection	Rd/Wr	0	1	0 = RS232 1 = LAN
nr	nr	Reset of the LAN parameters.	Rd/Wr	0	1	1 = reset.
ns	ns	Store the LAN parameters.	Rd/Wr	0	1	1 = store.
na	na	IP address and port selection (for modification)	Rd/Wr	0	3	0 = all IP address / ports 1 = IP local address / local port 2 = IP remote address / remote port 3 = IP gateway address.
nw	nw	First byte of the address selected by the na command.	Rd/Wr	0	255	
nx	nx	Second byte of the address selected by the na command.	Rd/Wr	0	255	
ny	ny	Third byte of the address selected by the na command.	Rd/Wr	0	255	
nz	nz	Forth byte of the address selected by the na command.	Rd/Wr	0	255	
np	np	Number of the port (local or or remote) selected by the na command.	Rd/Wr	0	65500	local port : 10000 to 10999. remote port : 0 to 65500.
nk	nk	netmask.	Rd/Wr	0	24	Value = number of bit to 0 (from right). example : 2 ► 255.255.255.252 3 ► 255.255.255.248 8 ► 255.255.255.0..... 24 ► 255.0.0.0
nt	TCP	protocol selection.	Rd/Wr	0	1	0 = UDP 1 = TCP

NOTE : (M) = MAIN output. Rd/Wr = Read and write command. (P) = PREVIEW output. Rd = Read only command.

CD	RESPONSE	COMMAND DESCRIPTION	TYPE	VALUE		
				MIN	MAX	DESCRIPTION
STATUS COMMANDS						
UN	UN	Measures unity in tens of kHz.	Rd	0	65535	ex : 14500 = 145 MHz
IL	IL	Horizontal period of input signal (M)	Rd	0	65535	Line frequency (in kHz) = (UN VALUE)x10 ÷ (IL VALUE).
il	il	Horizontal period of input signal (P)	Rd	0	65535	Line frequency (in kHz) = (UN VALUE)x10 ÷ (il VALUE).
ID	ID	Vertical period of input signal (M)	Rd	0	65535	Frame frequency (in Hz) = (Line frequency in Hz) ÷ (ID VALUE).
id	id	Vertical period of input signal (P)	Rd	0	65535	Frame frequency (in Hz) = (Line frequency in Hz) ÷ (id VALUE).
IP	IP	Input Sync. detection (M).	Rd	0	1	0 = no Sync. detected 1 = Sync. detected.
ip	ip	Input Sync. detection (P).	Rd	0	1	0 = no Sync. detected 1 = Sync. detected.
IH	IH	Sign of the horizontal input Sync. (M)	Rd	0	1	0 = negative 1 = positive.
ih	ih	Sign of the horizontal input Sync. (P)	Rd	0	1	0 = negative 1 = positive.
IV	IV	Sign of the vertical input Sync. (M)	Rd	0	1	0 = negative 1 = positive.
iv	iv	Sign of the vertical input Sync. (P)	Rd	0	1	0 = negative 1 = positive.
IK	IK	Input Sync type detection (M).	Rd	0	3	0 = Separate H & V sync. 1 = Composite sync. (TTL). 2 = SOG (Sync. On Green). 3 = Composite sync. (analog).
ik	ik	Input Sync type detection (P).	Rd	0	3	
II	II	Interlaced signal detection (M).	Rd	0	1	0 = not interlaced 1 = interlaced.
ii	ii	Interlaced signal detection (P).	Rd	0	1	0 = not interlaced 1 = interlaced.
IO	IO	"Out of range" signal detection (M).	Rd	0	1	0 = In range 1 = Out of range.
io	io	"Out of range" signal detection (P).	Rd	0	1	0 = In range 1 = Out of range.
						0 = no signal 1 = wrong signal 2 = NTSC std (3.58/60) 3 = PAL std (4.43/50) 4 = SECAM (50Hz) 5 = B&W (50Hz) 6 = B&W (60Hz) 7 = YUV 50Hz 8 = YUV 60Hz 9 = RGB 50Hz 10 = RGB 60Hz 11 = 640x480 12 = 800x600 13 = 1024x768 14 = 1280x1024 15 = 1400x1050 16 = 1600x1200 17 = 852x480 18 = 1280x720 19 = 1280x768 20 = 1366x768 21 = 1680x1050 22 = 1920x1080 23 = 1080i 50 24 = 1080i60 25 = 720p 50 26 = 720p 60 26 = 1080p 24 28 = 1080p 25 29 = 1080p 30 30 = 1080p 50 31 = 1080p 60 32 = 1080sf 24 33 = 480p 50 34 = 480p 60 35 = 480p 72
IF	IF	Standard input signal detection (M).	Rd	0	35	
if	if	Standard input signal detection (P).	Rd	0	35	
XA	XA	Synchronized input.	Rd	0	8	Identical as XR command.
XF	XF	Synchronized input standard (M).	Rd	0	29	Identical as IF command.
XT	REFT	Frame frequency of the synchronized input (M).	Rd	0	65535	Value in hundredth of Hz.

OTHERS COMMANDS

TP	TP	T-BAR position.	Rd/Wr	0	255	
TB	TB	Executed percentage of the effect.	Rd	0	65535	0 = 0% 65535 = 100%
?	DEV	Device type.	Rd	0	65535	
#	#1,...#0	Send all device parameters.	Rd			

NOTE : (M) = MAIN output. Rd/Wr = Read and write command. (P) = PREVIEW output. Rd = Read only command.

E. ASCII / HEX / DEC TABLE

ASCII	HEX	DEC	ASCII	HEX	DEC	ASCII	HEX	DEC
space	20	32	@	40	64	'	60	96
!	21	33	A	41	65	a	61	97
"	22	34	B	42	66	b	62	98
#	23	35	C	43	67	c	63	99
\$	24	36	D	44	68	d	64	100
%	25	37	E	45	69	e	65	101
&	26	38	F	46	70	f	66	102
'	27	39	G	47	71	g	67	103
(	28	40	H	48	72	h	68	104
)	29	41	I	49	73	i	69	105
*	2A	42	J	4A	74	j	6A	106
+	2B	43	K	4B	75	k	6B	107
,	2C	44	L	4C	76	l	6C	108
-	2D	45	M	4D	77	m	6D	109
.	2E	46	N	4E	78	n	6E	110
/	2F	47	O	4F	79	o	6F	111
0	30	48	P	50	80	p	70	112
1	31	49	Q	51	81	q	71	113
2	32	50	R	52	82	r	72	114
3	33	51	S	53	83	s	73	115
4	34	52	T	54	84	t	74	116
5	35	53	U	55	85	u	75	117
6	36	54	V	56	86	v	76	118
7	37	55	W	57	87	w	77	119
8	38	56	X	58	88	x	78	120
9	39	57	Y	59	89	y	79	121
:	3A	58	Z	5A	90	z	7A	122
;	3B	59	[	5B	91	{	7B	123
<	3C	60	\	5C	92	|	7C	124
=	3D	61	]	5D	93	}	7D	125
>	3E	62	^	5E	94	~	7E	126
?	3F	63	_	5F	95	DEL	7F	127

F. RS-232 Sample for QXE

How to use :

The device treats any character that it receives on the RS-232 or LAN as a possible command but only accepts legal commands.

There is no starting/ending code needed in a command string.

A command can be a single character typed on a keyboard and does not require any special character before or after it.

When the device receives a valid command, it will execute the command. Then it will send back the status of the parameters that have changed due to this command. If the command cannot be executed (value out of range, no signal on the selected input). The device will just send back the current status of the corresponding parameters.

Commands are usually composed of numerical values followed by the command characters. The characters used without any numerical value return the current setting of the command.

Write command = Value + Character (s) code.

A read command is constituted by index followed by a command coded in 1 or 2 alpha numeric characters, same structure as write command without the value.

Read command = Character (s) code.

Some Useful Command :

Serial command from controller	Response from switcher	Comment
4cn	cn4	Pre-select source 4 / display source 4 on preview
TV	TV0	Source 4 selected on preview Is the switcher ready to take?
TV	TV1	No, the switcher is busy Is the switcher ready to take?
1TK	TK1	Yes, the switcher is ready Take the pre-selected source to Main Take initiated

How to set up a PIP :

Serial command from controller	Response from switcher	Comment
5cn	cn5	Pre-select source 5/ display source 5 on preview (if you want to select the input 3, just replace 5 by 3 => 3cn)
6EI	EI6	Set the preview with a PIP effect. You'll see the PIP displayed on your preview screen
1es	es1	To set up the preview image in 1:1
0es	es0	To set up the image size manually
#eg	eg#	All the Position commands are referred to the left top corner of the screen To set up the Hsize, with # equal to the size in pixels
#eh	eh#	To set up the Vsize, with # equal to the size in pixels
#ee	ee#	To set up the H image position, with # equal to the position in pixels
#ef	ef#	To set up the V image position, with # equal to the position in pixels
#ec	ec#	To set up the H Windows size, with # equal to the size in pixels
#ed	ed#	To set up the V Windows size, with # equal to the size in pixels
#ea	ea#	To set up the H Windows position, with # equal to the position in pixels
#eb	eb#	To set up the V Windows position, with # equal to the position in pixels

Serial command from controller	Response from switcher	Comment
0EO	EO0	Activate the cut opening effect
0EC	EC0	Activate the cut closing effect
1EO	EO1	Activate the fade opening effect
1EC	EC1	Activate the fade closing effect
27Eo	Eo27	Set up the opening fade duration to 2,7 seconds
18Ec	Ec18	Set up the closing fade duration to 1,8 seconds
1TK	TK1	Take the preview

All the other commands can be found in the QXE421 RS-232 command file.

ANALOG WAY LIMITED WARRANTY

All **Analog Way** products have a 3 years warranty on parts and labor, back to factory, but do not include faults resulting from user negligence, special modifications, electrical surges, abuse (drop/crush), and/or other unusual damage.

SERVICES AND RMA

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 map below for information on which regional maintenance center you depend on.

RMA Conditions :

1. Prior to returning any item, you must receive a Return Material Authorization (RMA) number.
2. All RMA numbers must appear on the return-shipping label.
3. All shipping and insurance charges on all RMAs must be prepaid by the customer.



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For more documentation, general information, or simply to keep up to date with new releases and upcoming Analog Way products, please log on to www.analogway.com.

Before calling your regional maintenance center, please gather the following information :

- Serial number of the unit
- Firmware version (look in : CONTROL MENU/VERSIONS)
- Model reference (**QXE421**)
- Description of failure

Information on Unit Disposal

In the European Union :

If the product is used for business purposes and you want to discard it :

Please contact your Analog Way dealer who will inform you about take-back of the product. You might be charged for the costs arising from take-back and recycling.

For Spain :

Please contact the established collection system or your local authority for take-back of your used product.

In other countries outside the EU :

If you wish to discard of this product, please contact your local authorities and ask for the correct method of disposal.

```
[MAIN] -- [PREVIEW]
black      black
black      black
black      black
input 1    input 1
black      black
```



1920x1080

Version : 2.45 - 06/12/11
Code : 140112

Designs and specifications are subject to change without notice
The illustrations and screens described in this manual may be exaggerated or simplified for easy
recognition and may be slightly different from the actual unit.

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