



GRAPHIC EVOLUTION™ (GSE2811R)

User's Manual

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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: Only use the power supply indicated on the device or on the power source. Devices equipped with a grounding plug should only be used with a grounding type outlet. In no way should this grounding be modified, avoided or suppressed.

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:

- The power cord of the device should be unplugged from the outlet when left unused for several days.
- To unplug the device, do not pull on the power cord but always on the plug itself.
- The outlet should always be near the device and easily accessible.
- Power supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them.

If the power supply cord is damaged, unplug the device. Using the device with a damaged power supply cord may expose 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.

INSTRUCTIONS DE SÉCURITÉ:

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 proximité de 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 bouche 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 ou sur son bloc alimentation. Pour les appareils équipés d'une alimentation principale avec fil de terre, ils 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'ALIMENTATION : Pour les appareils équipés d'un interrupteur général (Marche / Arrêt O), la mise sous tension et la mise hors tension se fait en actionnant cet interrupteur général. Pour les appareils sans interrupteur général, la mise sous tension et la mise hors tension se fait directement en connectant et déconnectant le cordon d'alimentation de la prise murale.

Dans les 2 cas ci-dessus appliquer les consignes suivantes :

- Débrancher le cordon d'alimentation de la prise murale si vous prévoyez de ne pas utiliser l'appareil pendant quelques jours ou plus.
- Pour débrancher le cordon, tirez le par la fiche. Ne tirez jamais sur le cordon proprement dit.
- La prise d'alimentation doit se trouver à proximité de l'appareil et être aisément accessible.
- Ne laissez pas tomber le cordon d'alimentation et ne posez pas d'objets lourds dessus.

Si le cordon d'alimentation est endommagé, débranchez le immédiatement de la prise murale. Il est dangereux de faire fonctionner cet 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.

ISTRUZIONI DI SICUREZZA

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 fuoriscia 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 erraneo funzionamento e un incidente.

ALIMENTAZIONE : Far funzionare l'apparecchiatura solo con la sorgente d'alimentazione indicata sull'apparecchiatura o sul suo alimentatore. Per le apparecchiature fornite di un'alimentazione principale con cavo di terra, 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 : Per le apparecchiature fornite di interruttore generale (Acceso / Spento O), l'accensione e lo spegnimento dell'apparecchiatura si effettuano attraverso l'interruttore. Per le apparecchiature senza interruttore generale, l'accensione e lo spegnimento si effettuano direttamente inserendo o disinserendo la spina del cavo nella presa murale.

In entrambe i casi applicare i seguenti consigli :

- Disconnettere l'apparecchiatura dalla presa murale se si prevede di non utilizzarla per qualche giorno.
- Per disconnettere il cavo tirare facendo forza sul connettore.
- La presa d'alimentazione deve trovarsi in prossimità dell'apparecchiatura ed essere facilmente accessibile.
- Non far cadere il cavo di alimentazione né appoggiarci sopra degli oggetti pesanti.

Se il cavo di alimentazione è 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.

SICHERHEITSHINWEISE:

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.

VORSICHT & WARNUNG

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 oder dem Netzteil angegebenen Netzspannung betreiben. Geräte mit geerdeter Hauptstromversorgung müssen an eine Stromquelle mit effizienter Erdung angeschlossen werden. Diese Erdung darf auf keinen Fall geändert, umgangen oder entfernt werden.

STROMKABEL : Für Geräte mit einem Hauptschalter (Ein/Aus) erfolgt die Stromversorgung und unterbrechung mittels dieses Hauptschalters. Geräte ohne Hauptschalter werden durch das Einstecken oder Herausziehen des Steckers in den Wandanschluß ein- oder ausgeschaltet. Für beide Fälle gelten folgende Richtlinien :

- Den Stecker aus dem Wandanschluß herausziehen wenn Sie das Gerät mehrere Tage oder länger nicht benutzen.
- Das Kabel mittels dem Stecker herausziehen. Niemals am Stromkabel selbst ziehen.
- Die Steckdose muß sich in der Nähe des Geräts befinden und leicht zugänglich sein.
- Das Stromkabel nicht fallen lassen und keine schweren Gegenstände auf es stellen.

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

ANSCHLÜSSE : Bei allen Ein- und Ausgängen (außer der Stromversorgung) handelt es sich, gemäß EN 60950, 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 lea cuidadosamente 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.

PRECAUCIONES Y OBSERVACIONES

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 o en su bloque de alimentación. Los aparatos equipados con una alimentación principal con hilo de tierra 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 : Para los aparatos equipados con un interruptor general (Marcha I / Paro O), la puesta bajo tensión y la puesta fuera de tensión se hace accionando este interruptor general.. En los aparatos que no tienen interruptor general, la puesta bajo tensión y la puesta fuera de tensión se hace directamente conectando y desconectando el enchufe mural.

En ambos casos, se deberá respetar las siguientes consignas:

- Desconectar el aparato del enchufe mural si no piensa utilizarlo durante varios días.
- Para desconectar el cable, tire de la clavija. No tire nunca del cable propiamente dicho.
- El enchufe de alimentación debe estar cerca del aparato y ser de fácil acceso.
- No deje caer el cable de alimentación ni coloque objetos pesados encima de él.

Si el cable de alimentación sufre 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.

GRAPHIC EVOLUTION™ (GSE2811R)

Chapter 1 : INTRODUCTION

1-1. SUPPLIED EQUIPMENT

- 1 GRAPHIC EVOLUTION™ (GSE2811R).
- 1 AC power supply cord.
- 1 user's manual.

Supplied equipment with the OPT-GSW2-VO option:

- 1 video output cable (DB9 M to 4BNC + mini DIN 4).

1-2. GENERAL INFORMATION

The GRAPHIC EVOLUTION™ inserts (PIP), cuts, fades, wipes and instantaneously mixes (no glitch) between 16 high-resolution and TV/Video sources which can range (Auto Sync and Auto Scan) from 15 kHz up to 130 kHz (up to 1600 x 1280), with no synchronization "dropouts".

The GRAPHIC EVOLUTION™ Up or Down scales each input to one user-programmable output format, matching the native resolution of any projector (LCD, DLP or CRT), plasma display, video wall or multisync. monitor. All input and output parameters and formats can be stored and saved as NON-volatile memory. In addition, several sequences with users' effects can be run automatically. An RS-232 Remote Control input is provided.

The GRAPHIC EVOLUTION™'s outputs are :

- 1 MAIN output (BNC + HD15).
- 1 PREVIEW output for visualization and adjustment before the switch.
- 4 TALLY outputs (that can be selected from any of the 16 inputs to indicate who is "ON AIR").
- TV video output (option).

The output format can be selected in D-ILA, SXGA, XGA₂, SVGA, or VGA and remains constant no matter which input is selected. This allows for a "one time" adjustment of your display device.

The GRAPHIC EVOLUTION™ comes with a "natural color" Comb Filtering decoder with a robust sync. detection, an enhanced 3D Auto Adaptive Motion Compensation video scaling process and a 3/2 pull down Film to video correction (NTSC). This device takes the term "user friendly" to a new level. PIP (Picture in Picture), seamless fading and effects combined with direct access auto-recognition inputs, makes live High End presentations better and easier than before.

For Multi-screen applications, 2 or 3 GRAPHIC EVOLUTION™'s can be "Stacked" together and controlled by only one Remote Control Unit (Ref. RCU2811).

1-3. GRAPHIC EVOLUTION™ REFERENCES

REFERENCES	DESIGNATIONS
GSE2811R	GRAPHIC EVOLUTION™ (without option)
GSE2811R-D1	GRAPHIC EVOLUTION™ (with optional SDI input)
OPT-GSW2-VO	Optional video outputs (Composite video + S.VIDEO + YUV)
ADD-ON-1	Optional upgrade for "Edge blending" application.
ADD-ON-2	Optional upgrade for PIP, POP & TITLE switching.

1-4. GRAPHIC EVOLUTION™ OPTIONAL ACCESSORIES

REFERENCES	DESIGNATIONS
RCU2811	REMOTE CONTROL UNIT (allows to control up to 3 GSW2811R/GSE2811R).
SWM2811	SHOW MANAGER™ control software (allows to control up to 16 GSW2811R/GSE2811R).
KSW2811	KIT DOUBLER CONTROL FOR 3 GSW2811R/GSE2811R.

Chapter 2 : INSTALLATION

IMPORTANT : Please read all of the safety instructions (pages 2 to 4) before starting.

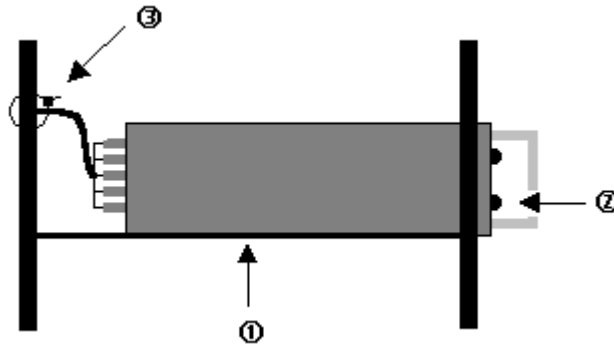
- **Table top mounting:** The GRAPHIC EVOLUTION™ can be used directly on a table: the unit is equipped with 4 plastics feet.
- **Rack mounting :** The GRAPHIC EVOLUTION™ is compatible with a 19" enclosure. Please follow the instructions below to install the GRAPHIC EVOLUTION™ in a 19" rack.

① Place the GRAPHIC EVOLUTION™ in your rack.

NOTE: Your rack must be equipped with some braces.

② Attach the GRAPHIC EVOLUTION™ to the rack by using 4 screws in the front panel holes (screws are not included).

③ Connect all of the cables of the GRAPHIC EVOLUTION™ and attach them to the rack with some tie wraps.



- IMPORTANT:**
- The openings in the front and in the rear panels are for cooling. Do not cover these openings.
 - Be sure that no weight in excess of 2 kg (4.4 Lbs.) is added onto the GRAPHIC EVOLUTION™.
 - 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.

Chapter 3 : TECHNICAL DESCRIPTION

3-1. FRONT PANEL

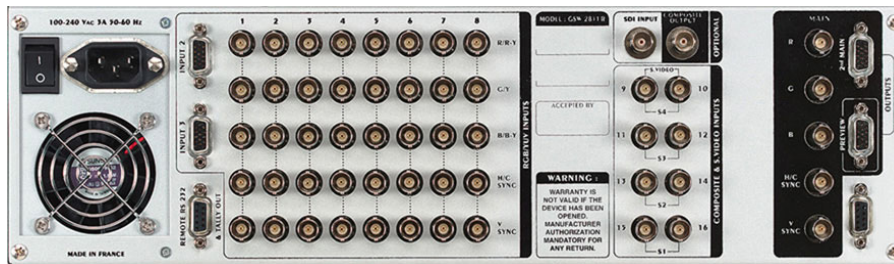
AW KEY:

Key ON: indicates device power ON.

Key slow blinking (once by second): indicates the updating is in progress.

Key fast blinking (several times by second): indicates the updating has been interrupted.

3-2. REAR PANEL



POWER CONNECTOR:

Standard IEC input connector (100-240 VAC, 50-60Hz automatic).

O / I :

Power switch (O = OFF , I = ON).

RGB / YUV INPUTS

1 to 8 :

8 x RGB/YUV inputs on 3, 4, or 5 BNC connectors. The RGB/YUV inputs can accept both COMPUTER sources (RGBHV, RGBS, and RGSB (SOG) signals), standard TV/VIDEO sources (YUV(Component), RGBS (TTL), RGSB (SOG), and RGBS (analog) signals), and HDTV sources (720p & 1080i with bi-level sync only).

- RGB HV (Separate H & V Sync.) : on 5 BNC connectors.
- RGB S (Composite Sync.) : on 4 BNC connectors (R, G, B, C SYNC).
- RGSB (SOG) : on 3 BNC connectors (R, G, B).
- YUV (COMPONENT) : on 3 BNC connectors (R-Y, Y, B-Y).
- 720 p & 1080i with bi-level sync : on 5 BNC connectors (RGBHV).

INPUT 2 :

2nd connector (HD 15 F) of the RGB/YUV INPUT 2.

INPUT 3 :

2nd connector (HD 15 F) of the RGB/YUV INPUT 3.

NOTE: For the INPUT #2 and #3, never connect simultaneously sources on the HD15 and on the BNC connectors.

REMOTE RS-232 & TALLY OUT

RS-232 :

Standard remote control RS-232 on DB9 F connector.

TALLY OUT :

4 tally outputs on DB9 F connector.

NOTE: This connector is also used for updating the device (See Chapter 6 : UPDATING THE GRAPHIC EVOLUTION™).

OPTIONAL

SDI INPUT :

Optional SDI input on BNC connector.

COMPOSITE OUTPUT :

Optional composite output on BNC connector.

COMPOSITE & S.VIDEO INPUTS

9 to 16 :

8 composite video inputs on BNC connectors.

S1 to S4 :

4 S.VIDEO (Y/C) inputs on 2 x BNC connectors.

OUTPUTS

MAIN :

MAIN output for the MAIN display device (video projector, PLASMA, data monitor) on 3, 4, or 5 BNC connectors.

2nd MAIN :

Additional MAIN output on HD15 F connector.

PREVIEW :

PREVIEW output for the PREVIEW MONITOR, on HD 15 F connector.

OPTIONAL VIDEO OUTPUT

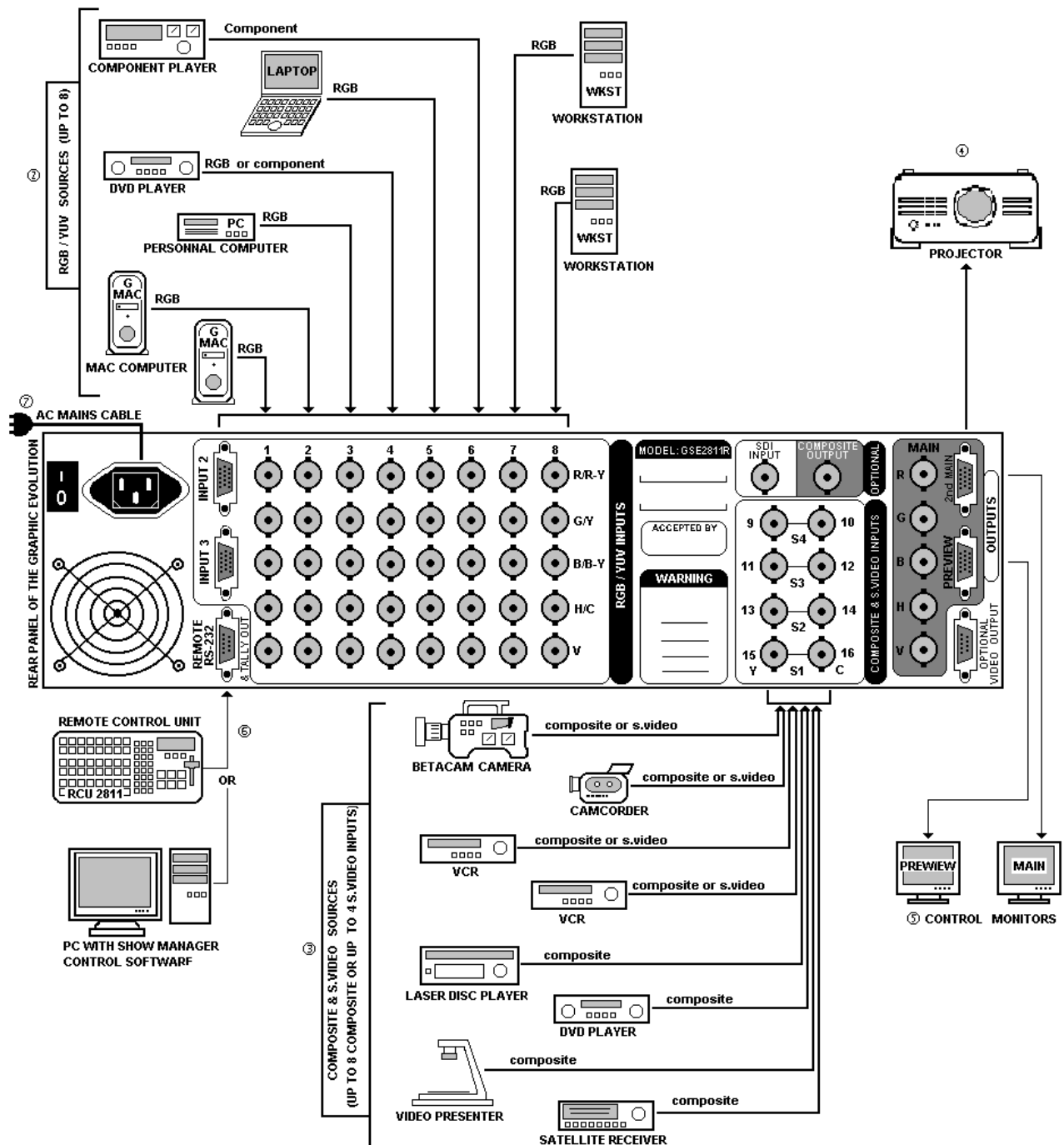
Optional video output (YUV or S.VIDEO) on DB9 F connector.

Chapter 4 : STARTING

4-1. CONNECTIONS

- ① Turn OFF all of your equipment before connecting.
- ② Connect your computers (PC, MAC, workstation), your component and RGBS video sources to the inputs (1 to 8) of the GSE2811R.
- ③ Connect your COMPOSITE sources to the inputs (9 to 16) and/or your S.VIDEO sources to the inputs (S1 to S4).
- ④ Connect your MAIN display device (data projector, plasma screen...) to the "MAIN" output (BNC (x5) connectors).
- ⑤ Connect your control monitors to the PREVIEW output and to the 2nd MAIN output (HD15 connectors).
- ⑥ Connect the control device (RCU2811 or PC with SHOW MANAGER™ Control software) to the REMOTE RS-232 connector of the GSE2811R with a DB9 M/F straight cable.
- ⑦ Connect the AC power supply cord to the GRAPHIC EVOLUTION™ and to an AC power outlet.
- ⑧ Turn ON the projector, the local monitors, the GRAPHIC EVOLUTION™ (rear panel switch), the control device and then all of your input sources.

NOTE: If output image pixelize, switch OFF and ON the GRAPHIC EVOLUTION™.



4-2. RGB/YUV INPUTS (1 to 8)

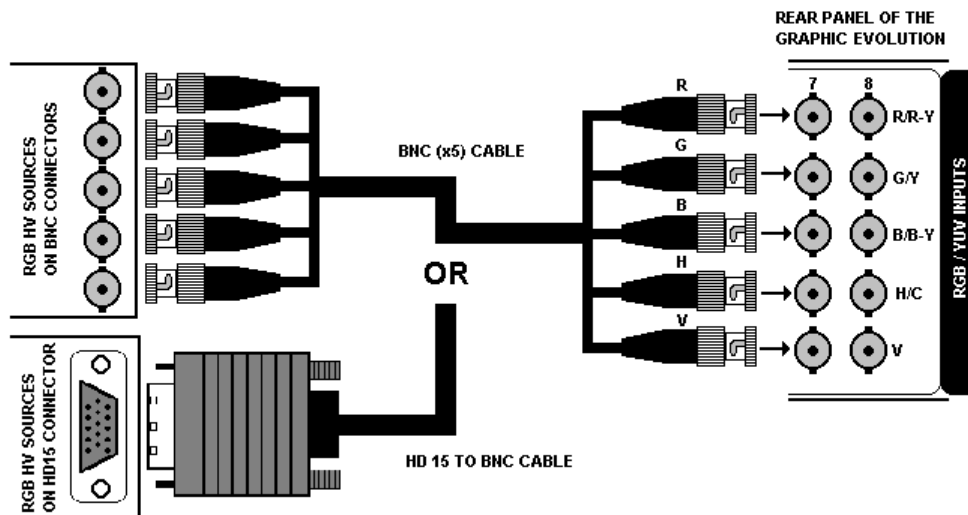
The RGB/YUV INPUTS can accept both COMPUTER sources (RGBHV, RGBS, and RGsB (SOG) signals), standard TV/VIDEO sources (YUV(Component), RGBS (TTL), RGsB (SOG), and RGBS (analog) signals), and HDTV sources (720p & 1080i with bi-level sync only).

① COMPUTER SOURCES:

Connect your COMPUTERS (PC, MAC, WORKSTATION) with BNC (x5) cables to the RGBHV (#1 to #8) inputs.

NOTE: • For RGBS signals connect the Sync cable to the H/C BNC connector.

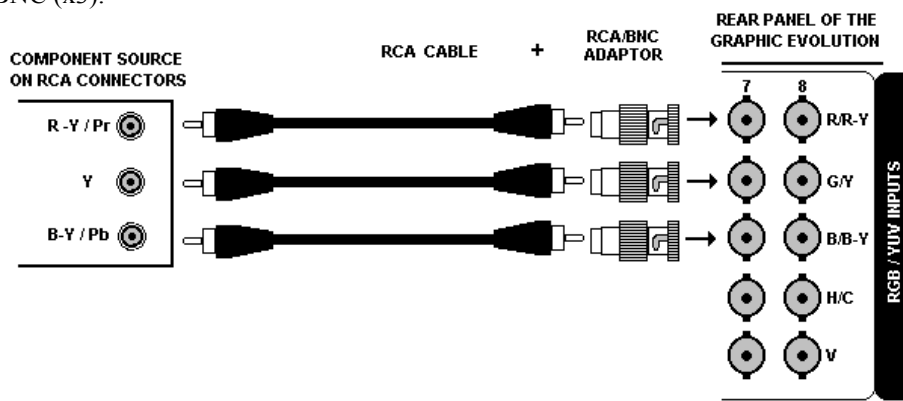
• The Input #2 and #3, are equipped with an additional HD15 connector. You can also connect your computer source either on the BNC connectors **or** either on the HD15 connector.



② TV/VIDEO SOURCES:

• COMPONENT VIDEO SIGNAL :

The Component Video signal, also called YUV (Y, R-Y, B-Y) or BETACAM™ is widely used in broadcasting and is available on high-quality DVD players. The COMPONENT signal is transmitted with 3 coaxial cables, and also has a better quality picture than COMPOSITE and S.VIDEO signals. The COMPONENT connectors are usually RCA (x3), or BNC (x3).



• RGBS VIDEO SIGNAL:

This signal is widely used in broadcasting and is available on European DVD player and Satellite receivers. The RGB.S signal is transmitted with 4 coaxial cables, and also has a better picture quality than COMPOSITE and S.VIDEO signals. The RGB.S connectors are usually BNC connectors for Broadcasting equipment, and SCART connector for DVD players and Satellite Receivers. Connect the RGBS VIDEO signal with BNC cables to the R, G, B, H/C BNC connectors of the #1 to #8 inputs of the GRAPHIC EVOLUTION™.

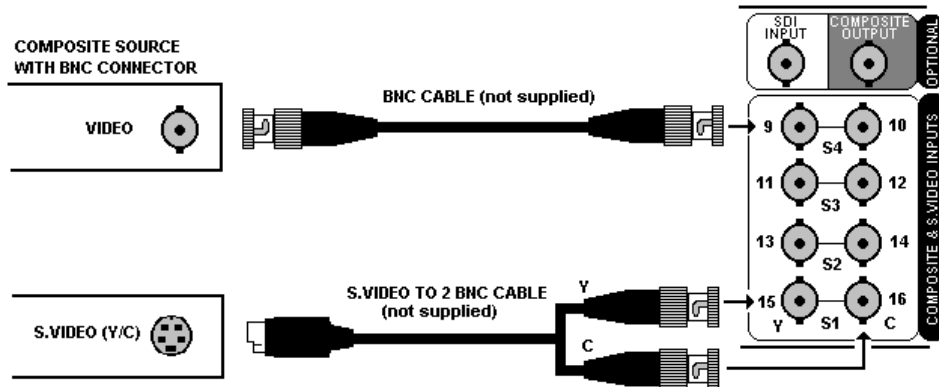
③ HDTV SOURCES:

• **720p & 1080i:** The GRAPHIC EVOLUTION™ accepts the 720p & 1080i HDTV formats with bi-level sync only (RGBHV). Connect your 1080i signal as a Computer signal. For 1080i signals with tri-level sync you may required an interface (i.e.: TV-HDTV INTERFACE, reference: HDI100).

4-3. COMPOSITE INPUTS (9 to 16) & S.VIDEO INPUTS (S1 to S4):

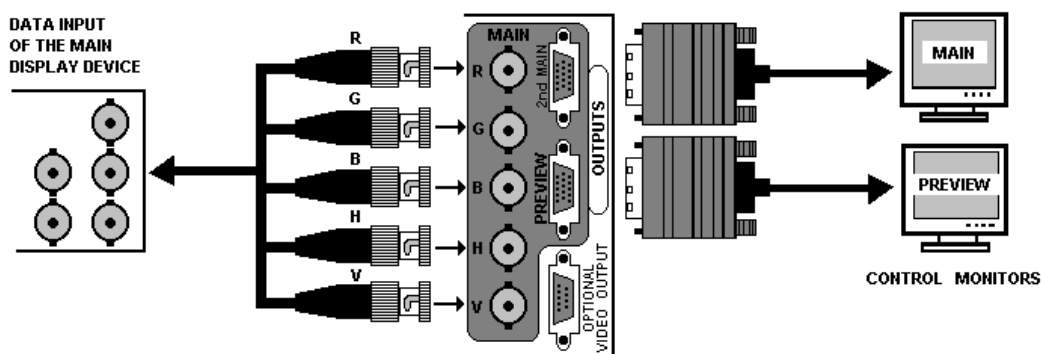
The **Composite Video** signal, usually called COMPOSITE or VIDEO, is available on most video equipment (VCR, DVD, CAMCORDER...), but is also the lowest in picture quality. The video standard of this signal can be NTSC, PAL or SECAM. The signal is transmitted on a single coaxial cable, and is connected to the video equipment with an RCA or a BNC connector.

The **S.VIDEO** signal, also called Y/C, HI-8™, or S.VHS™, is available on DVD players and high quality VCRs (S.VHS). The S.VIDEO signal in which the Luminance (Y) and Chrominance (C) information are separately transmitted (2 wires) gives a higher quality picture than the Composite video signal. The S.VIDEO connector is usually a 4 pin Mini-DIN connector also called Oshiden™ connector. It can also sometimes be on 2 BNC connectors.



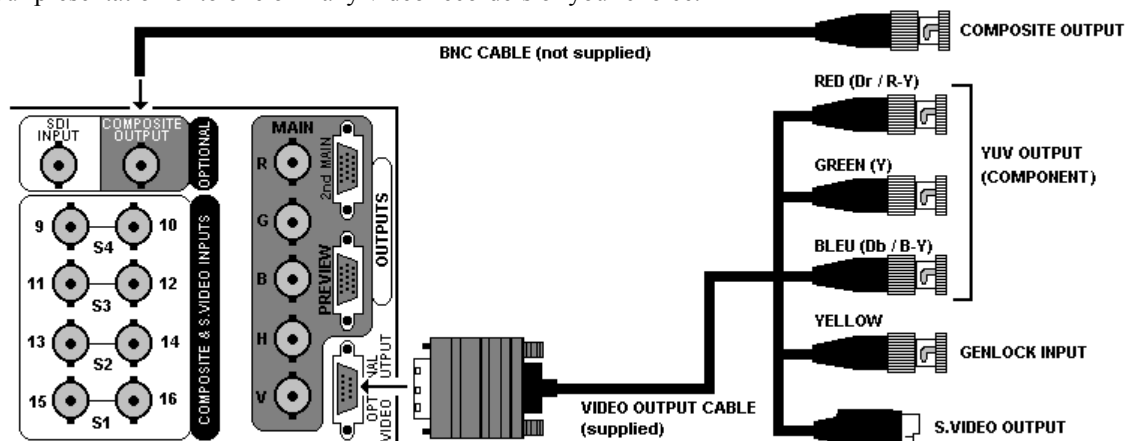
4-4. MAIN AND PREVIEW OUTPUTS

The GRAPHIC EVOLUTION™ is equipped with 1 MAIN OUTPUT on BNC (x5) connectors for the DISPLAY DEVICE, and two monitoring outputs on HD 15 connectors.



4-5. OPTIONAL VIDEO OUTPUT (OPT-GSW2-VO option)

The GRAPHIC EVOLUTION™ equipped with this option provides simultaneously 3 video signals (composite video, S.VIDEO and YUV) in output. These 3 video outputs display the same image as the MAIN output. Therefore you can record your presentation onto one or many video recorders of your choice.



Chapter 5 : OPERATING MODE

This chapter explains the adjustment operations for an installation with the GRAPHIC EVOLUTION™. The GRAPHIC EVOLUTION™ is controllable only by its RS-232 interface. Also, all of these operations can be done either by the REMOTE CONTROL UNIT (RCU2811) or either by the SHOW MANAGER™ control software. For more information, please refer to the user's manual of the corresponding control device.

5-1. SETTINGS

- ① We recommend to reset the GRAPHIC EVOLUTION™ to all of its default values before proceeding (LCD menu of the RCU2811: **control menu > default value > yes**). Then switch OFF and ON the device.
- ② Select the type of signal connected to the RGB/YUV inputs (**input menu > RGB/YUV inputs >...**).
- ③ Select the **Output sync.** type which correspond to your display device (**outputs menu > output sync >...**).
- ④ Select the **Output rate** mode (**outputs menu > output rate >...**). Please see the Output rate mode table below.
- ⑤ Select an **Output format** (**outputs menu > output format >...**).

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

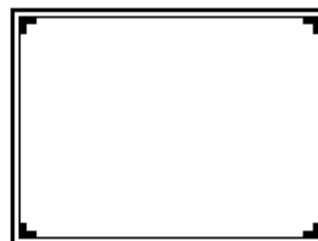
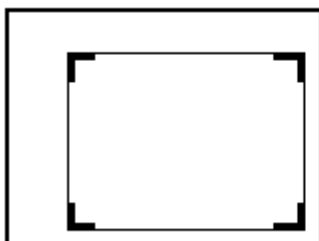
- ⑥ Select the **Type of screen** (4/3 or 16/9) corresponding to your wall mounted projection screen shape (**outputs menu > type of screen > 4/3 or 16/9**).
- ⑦ Select the COMPOSITE & S.VIDEO mode corresponding to your configuration (**input menu > CV/SV mode >...**).

OUTPUT RATE MODE TABLE

MODES	Output rate = "input #" rate	Output rate = internal rate
APPLICATIONS	Movie and motion pictures display.	Video presentation (static pictures).
OUTPUT RATE	Locked on the Frame Rate of the video input selected in the "Output rate" menu (menu # 2-2) (50 Hz if PAL or SECAM and 59.94 Hz if NTSC).	Generated by the GRAPHIC EVOLUTION™ (60 Hz or 75 Hz).
OUTPUT FORMAT.	• 640 x 480 L • 800 x 600 L • 1024 x 768 L • 1280 x 1024 L • 1365 x 1024 L • 1365 x 768 L • HDTV 480p • HDTV 720p	• VGA 60 Hz • SVGA 60 Hz • XGA 60 Hz • SXGA 60 Hz • D-ILA 4/3 • D-ILA 16/9 • HDTV 480p • HDTV 720p • VGA 75 Hz • SVGA 75 Hz • XGA 75 Hz

5-2. DISPLAY DEVICES ADJUSTMENTS

- ① Set the MAIN test pattern on the "ON" position (**outputs menu > test pattern > main > on**). Four corner shapes appear on the MAIN displays.
- ② Adjust directly the display device itself, using its H and V size and position control parameter to fill the four corner shapes in the full screen.



- ③ Renew the same process to adjust your PREVIEW display device.

NOTE: Now the display devices are identically adjusted, you can also make the image adjustments on the display device of your choice. When you are in a live display, you can make corrections on the PREVIEW monitor only, without disturbing the MAIN display device.

5-3. IMAGE ADJUSTMENTS

For each input source connected to the GRAPHIC EVOLUTION™, make the following adjustments:

- ① Select the source you want to adjust.

NOTE: If the Pattern is well adjusted on both PREVIEW and MAIN, then the input adjustment can be made on the PREVIEW or MAIN as well.

- ② Select the aspect ratio (4/3, letterbox...) of your source (**image menu > aspect ratio >...**).
- ③ Adjust the vertical and horizontal position. The adjustments are visible on the selected output.
- ④ Press on the STORE button for 3 seconds until the LED flashes once to memorize all of the adjustments.

NOTE: The GRAPHIC EVOLUTION™ is provided 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 memory.

- ⑤ If needed, make the others adjustments, available in the **image menu** (color, brightness, image process...). Validate each adjustment with **ENTER**.

NOTE: To erase the image adjustments, use the Preset function (**image menu > preset**).

5-4. OPTIONAL VIDEO OUTPUT ADJUSTMENT

- ① Select the video "output rate" (**outputs menu > video output > output rate >...**).
- ② Select the output standard (**outputs menu > video output > video standard > NTSC or PAL**).
- ③ Select the zoom mode (**outputs menu > video output > U/Over scan > underscan or overscan**).
- ④ Select a level of anti-flicker (**outputs menu > video output > flicker adj. >...**).

5-5. SWITCHING OPERATION

- ① Pre-select an input (KEY blinking).
- ② Select a TRANSITION effect with the EFFECTS keys.
- ③ Press on TAKE. The pre-selected input is displayed on the MAIN output with the selected effect transition.

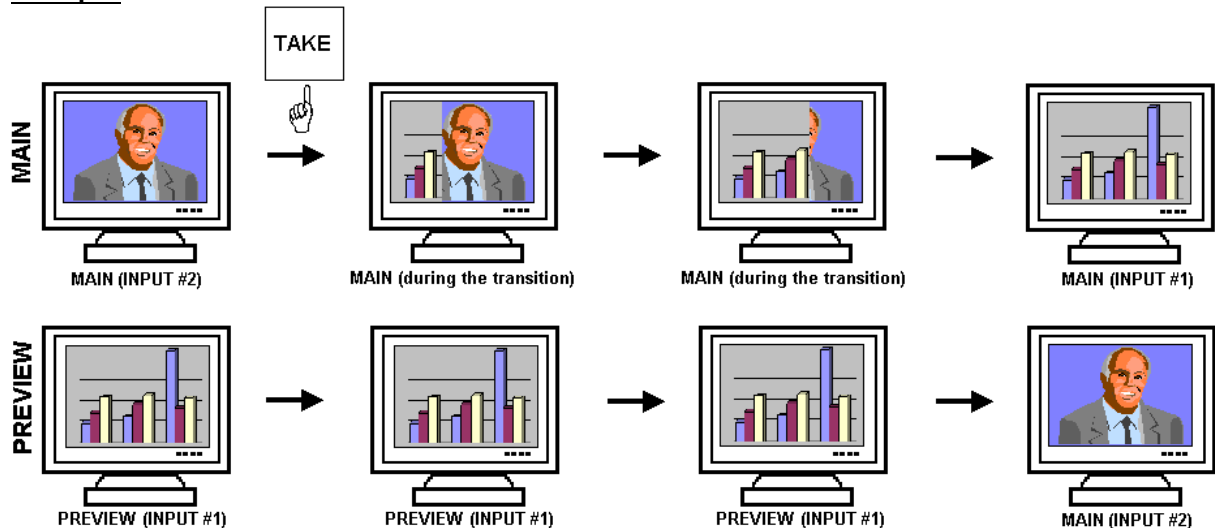
NOTE: According to the selected effect the TAKE key may turn ON or blink during the transition. When the TAKE key is turned ON you should wait for the end of the transition before doing another selection. When the TAKE key is blinking, it means that an effect is active and holding, then you should press the TAKE key to stop the transition.

5-6. EXAMPLES OF TRANSITIONS & EFFECTS

① WIPE TRANSITION:

- Assign a WIPE to one of the EFFECTS keys: Press one EFFECTS key, select a WIPE (for example: **hor wipe > left to right**) then select the duration.
- Press the TAKE key to activate the transition: the PREVIEW image appears onto the MAIN display with a wipe transition.

Example:



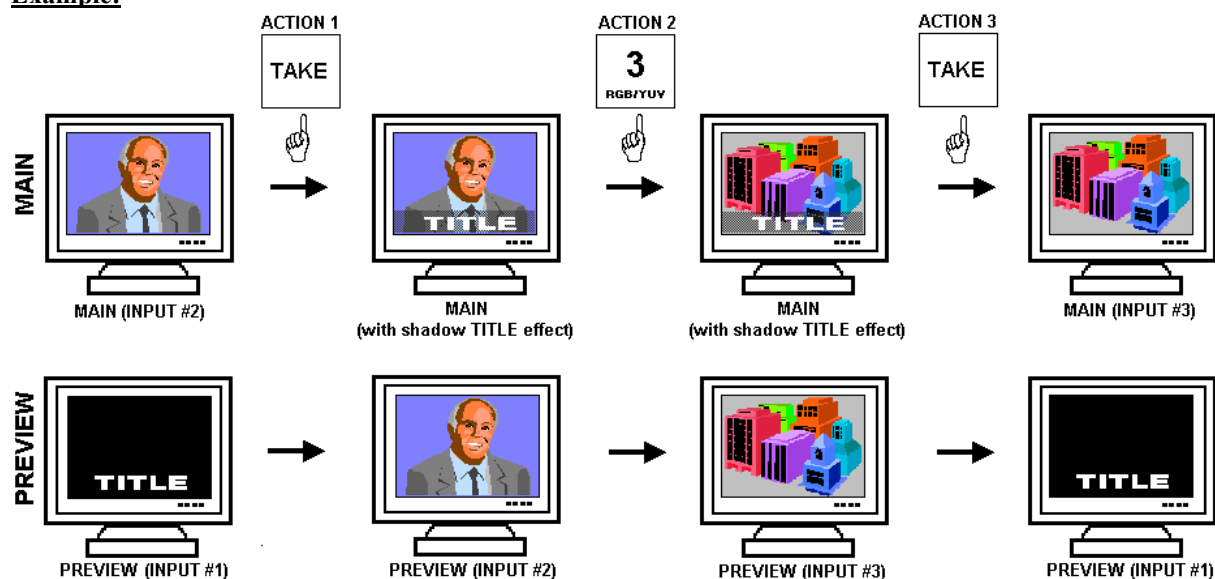
② TITLE EFFECT (OR SHADOW TITLE):

The TITLE effect allows to display a text onto the MAIN image. For a better readability you also can display a shadow bar onto your text.

- Create the text to displayed with the computer connected to the GSE2811R thanks to a drawing software like Power Point (text in white onto a black background).
- Display on the MAIN output the source to titling (INPUT #2 in the example below), then pre-select the source used for create the text: the image appears on the PREVIEW output (INPUT #1 in the example below).
- Assign the TITLE effect to one of the EFFECTS keys: Press one EFFECTS key, select **title** or **shadow title**, then select the duration.
- Press the TAKE key to activate the effect (ACTION 1): the text is now displayed onto the image of the MAIN output.

NOTE: With the ADD-ON-2 upgrade, you can change the background image (PREVIEW image) by selecting another input (ACTION 2): the transition operates with a fading to black. To remove the TITLE effect, press the TAKE key (ACTION 3).

Example:



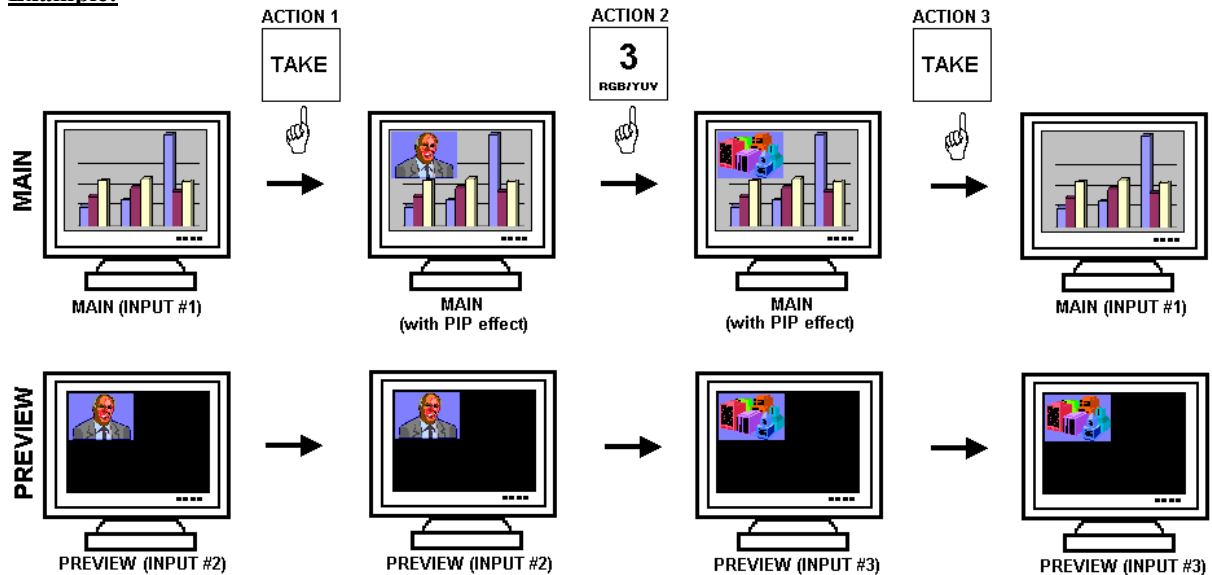
5-6. EXAMPLES OF TRANSITIONS & EFFECTS (continued)

③ PIP EFFECT:

The PIP effect allows to insert an image into another one.

- Assign the PIP effect to one of the EFFECTS keys: Press one EFFECTS key, select **PIP**, then make all the needed adjustments (duration, size, position...).
- Press the TAKE key to activate the effect (ACTION 1 in the example below): the PREVIEW image is now inserted into the MAIN image.

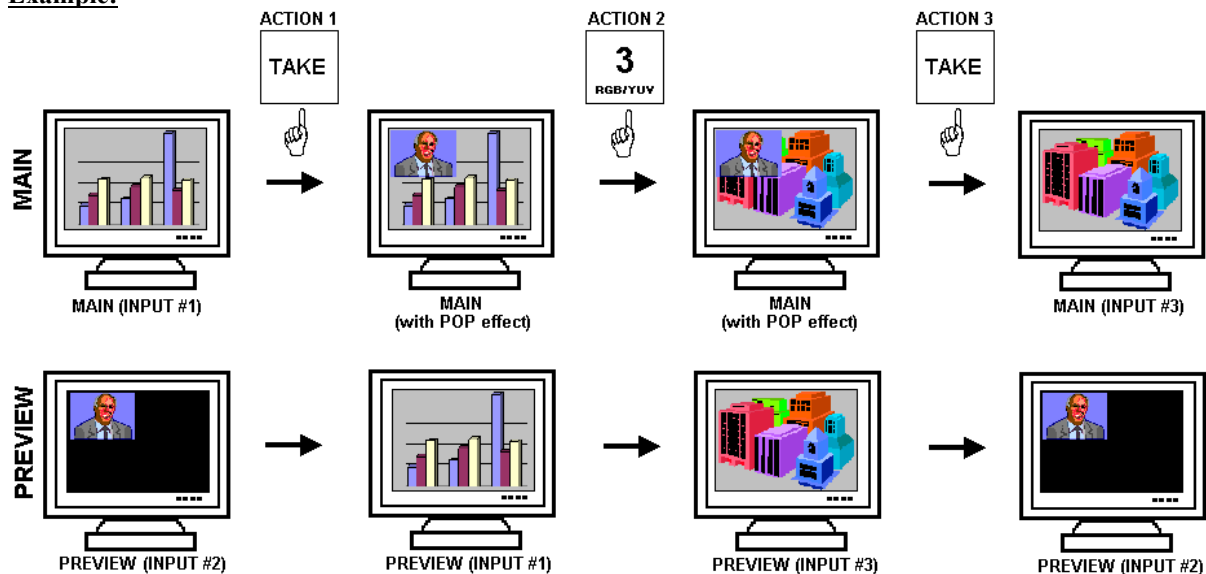
NOTE: With the ADD-ON-2 upgrade, you can change the image in the PIP (PREVIEW image) by selecting another input (ACTION 2): the transition operates with a fading to black. To remove the PIP effect, press the TAKE key (ACTION 3).

Example:

④ POP EFFECT (available with the ADD-ON-2 upgrade only):

The POP effect allows to change the background image when an image is inserted into another one.

- Assign the POP effect to one of the EFFECTS keys: Press one EFFECTS key, select **POP**, then make all the needed adjustments (size, position...).
- Press the TAKE key to activate the effect (ACTION 1 in the example below): the PREVIEW image is now inserted into the MAIN. To change the background image, press directly on the needed input selection key (ACTION 2): the transition operates with a fading to black. To remove the POP effect, press the TAKE key (ACTION 3).

Example:

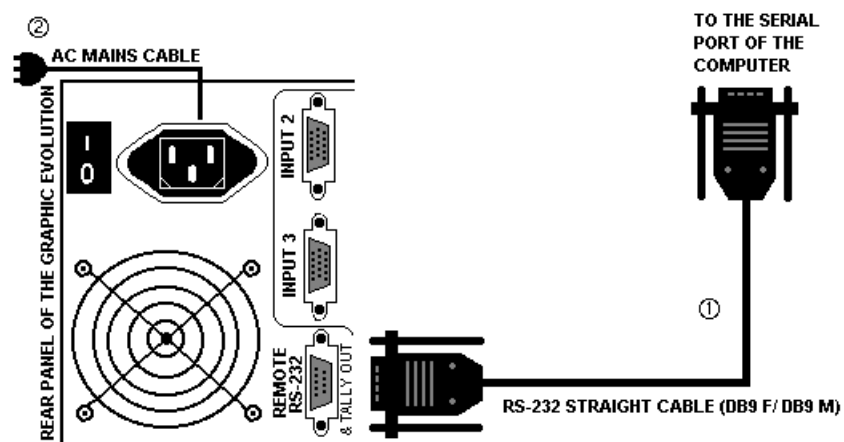
NOTE: The POP effect can not be use as extended effect in multi-screen application of the ADD-ON-1 upgrade.

Chapter 6 : UPDATING THE GRAPHIC EVOLUTION™

The GRAPHIC EVOLUTION™ can be update thanks a COMPUTER (PC) via its REMOTE (RS-232) connector.

6-1. CONNECTIONS

- ① Connect the "REMOTE RS-232 & TALLY OUT" connector of the GRAPHIC EVOLUTION™ to the SERIAL port of your COMPUTER with a DB9 M/F straight cable.
- ② Connect the GRAPHIC EVOLUTION™ to a AC power outlet.
- ③ Switch OFF the GRAPHIC EVOLUTION™ (REAR PANEL SWITCH = O).



6-2. UPDATE INSTRUCTIONS

- ① Open the file "Analog way GSW2811R updater" (in start/Program/ANALOG WAY/GSW2811R).
- ② Click on "START" on the SOFTWARE.
- ③ Press the **AW** button of the GRAPHIC EVOLUTION™ (FRONT PANEL), and SWITCH it ON simultaneously (REAR PANEL SWITCH = I). The update will start. Then you can release the **AW** button.
- ④ When the software displays "Program operation completed", SWITCH OFF and ON the GRAPHIC EVOLUTION™ with the REAR PANEL SWITCH.
- ⑤ Click on the "Quit" button to close the updater software.

NOTE: YOUR GRAPHIC EVOLUTION™ IS NOW READY TO WORK.

NOTE: THE UPDATER FILES ARE AVAILABLE ON OUR WEB SITE: www.analogway.com

Chapter 7 : RS-232 PROGRAMMER'S GUIDE

7-1. INTRODUCTION

If you need to use your own Control Software from a PC or WORKSTATION with an RS-232 port, the GRAPHIC EVOLUTION™ allows communicating through an ASCII code protocol.

The GRAPHIC EVOLUTION™ treats any character received on its RS-232 as a possible command but, it only accepts legal commands. There is no starting/ending in a command string.

A command can be 1 or 2 characters typed on a keyboard and does not require any special characters before or after it. (it is not necessary to press "ENTER" on the keyboard). A command can be preceded by a value (see chapter 7-3. COMMANDS STRUCTURE).

When the GRAPHIC EVOLUTION™ receives a valid command, it will execute the command. Then it will send back the status of all the parameters that have changed due to this command from the control device.

For example: When you pre-select an input the GRAPHIC EVOLUTION™ indicates the input that you have pre-selected and the status of all its parameters (input standard, image adjustment,...)

If the command cannot be executed (value out of range, no signal on the selected input), the GRAPHIC EVOLUTION™ just send back the current status of the corresponding parameters.

If the command is invalid, an error response will be returned to the controlling device. All responses sent to the controlling device end with a carriage return <CR> and a line feed <LF> signaling the end of the response character string. (see chapter 7-4. ERROR RESPONSES).

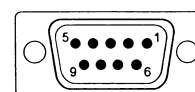
7-2. CONNECTION

• CONNECTING THE RS-232

Connect the serial port of your controlling device to the REMOTE RS-232 connector of the GRAPHIC EVOLUTION™ with a **straight** cable (DB9 pins female / DB9 pins male).

• PIN-OUT

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



DB 9 female connector
(Rear panel of the GRAPHIC EVOLUTION™)

- **SPEED TRANSMISSION** : 9600 bauds, 8 data bits, 1 stop bit, no parity bit, no flow control.

7-3. COMMANDS STRUCTURE

Commands are usually composed of a numerical value followed by the command characters (1 or 2). The characters used without any numerical value return the current setting of the command.

COMMAND structure = VALUE (optional) + CHARACTER(S)

Examples:

COMMAND		RESPONSE	DESCRIPTION
VALUE	CHARACTER(S)		
none	fm	OSYN0	Read the Sync type of the MAIN output.
10	V	VP10	Set Vertical position to 10.

7-4. ERROR RESPONSES

When the GRAPHIC EVOLUTION™ receives from the controlling device an invalid command or value, it returns an error response:

COMMAND		RESPONSE	DESCRIPTION
VALUE	CHARACTER(S)		
none	BB	E10	Invalid command.
70260	V	E13	Invalid value.

7-5. COMMANDS AND RESPONSES TABLE

The following table resumes all of the commands which are recognized as valid and responses that will be returned to the control device.

ASCII COMMAND	RESPONSE	COMMAND DESCRIPTION	TYPE	VALUE		
				MIN	MAX	DESCRIPTION
FRONT PANEL COMMANDS						
C	CH	MAIN selected input (read only).	Rd	0	21	Please see value description (next section).
c	ch	Input pre-selection (PREVIEW).	Rd/Wr	0	21	Please see value description (next section).
G	TAKE	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).
Z	FRZ	FREEZE MAIN.	Rd/Wr	0	1	0 = inactive 1 = active.
z	frz	FREEZE PREVIEW.	Rd/Wr	0	1	0 = inactive 1 = active.
M	STO	STORE (MAIN).	Rd/Wr	0	1	1 = STORE action (automatic reset).
m	sto	STORE (PREVIEW).	Rd/Wr	0	1	1 = STORE action (automatic reset).
R	REC	RECALL (MAIN).	Rd/Wr	0	1	1 = RECALL action (automatic reset).
r	rec	RECALL (PREVIEW).	Rd/Wr	0	1	1 = RECALL action (automatic reset).
H	HP	Horizontal position (MAIN).	Rd/Wr	0	255	
h	hp	Horizontal position (PREVIEW).	Rd/Wr	0	255	
V	VP	Vertical position (MAIN).	Rd/Wr	0	255	
v	vp	Vertical position (PREVIEW).	Rd/Wr	0	255	
W	HW	Horizontal size (MAIN).	Rd/Wr	0	255	
w	hw	Horizontal size (PREVIEW).	Rd/Wr	0	255	
S	VS	Vertical size (MAIN).	Rd/Wr	0	255	
s	vs	Vertical size (PREVIEW).	Rd/Wr	0	255	
INPUT COMMANDS						
PC	PCH	Input selection for adjustment.	Rd/Wr	0	21	Please see value description (next section).
PE	PEN	Input disabling (works with PC)	Rd/Wr	0	1	0 = Input disable 1 = Input enable.
PL	PLD	H sync load selection (works with PC).	Rd/Wr	0	1	0 = Hi-Z load 1 = 75Ω load.
PR	PRGB	RGB input type selection (works with PC command).	Rd/Wr	0	6	0 = SDTV YUV 4 = computer (SOG) 1 = SDTV RGBS (TTL) 5 = comp (HV or C.) 2 = SDTV RGsB (SOG) 6 = HDTV. 3 = SDTV RGBS (ana)
PI	PSTD	Input standard selection (works with PC command).	Rd/Wr	0	4	0 = automatic standard detection. 1 = NTSC. 2 = PAL. 3 = SECAM 4 = Black & White.
ys	ISHR	Composite or S.VIDEO mode selection.	Rd/Wr	0	4	0 = 8 CV 3 = 2 CV + 3 SV 1 = 6 CV + 1 SV 4 = 4 SV 2 = 4 CV + 2 SV
OUTPUT COMMANDS						
F	OFMT	Output formats selection.	Rd/Wr	0	10	0 = VGA 60 Hz 6 = XGA 75 Hz 1 = SVGA 60 Hz 7 = D-ILA 4-3. 2 = XGA 60 Hz 8 = D-ILA 16/9 3 = SXGA 60 Hz 9 = 480p 4 = VGA 75 Hz 10 = 720p 5 = SVGA 75 Hz
fm	OSYN	MAIN output sync selection.	Rd/Wr	0	2	0 = Separate H & V sync. 2 =SOG 1 = Composite sync.
fp	osyn	PREVIEW output sync selection.	Rd/Wr	0	1	0 = Separate H & V sync. 1 = Composite sync.
fs	SCRN	Type of screen selection	Rd/Wr	0	1	0 = 4/3 screen 1 = 16/9 screen
pm	PAT	MAIN test pattern selection.	Rd/Wr	0	1	0 = OFF 1 = ON
pp	pat	PREVIEW test pattern selection.	Rd/Wr	0	1	0 = OFF 1 = ON
XR	REFR	Input synchronization selection.	Rd/Wr	0	21	0 = Internal rate. 17 = S.VIDEO1 rate. 1 = RGB/YUV1 rate. 21 = SDI input rate. 9 = COMPOSITE 9 rate.
ur	ADJR	Red level adjustment.	Rd/Wr	0	255	
ug	ADJG	Green level adjustment.	Rd/Wr	0	255	
ub	ADJB	Bleu level adjustment.	Rd/Wr	0	255	

NOTE: Rd = Read only command.

Rd/Wr = Read and write command.

7-5. COMMANDS AND RESPONSES TABLE (continued)

ASCII COMMAND	RESPONSE	COMMAND DESCRIPTION	TYPE	VALUE		
				MIN	MAX	DESCRIPTION
IMAGE COMMANDS						
QO	OVR	Underscan / overscan (MAIN)	Rd/Wr	0	1	0 = underscan 1 = overscan
qo	ovr	Underscan / overscan (PREVIEW)	Rd/Wr	0	1	0 = underscan 1 = overscan
A	ASP	Input aspect ratio selection (MAIN)	Rd/Wr	0	2	0 = 4/3 standard 1 = 16/9 letterbox 2 = 16/9 or WS anamorphic
a	asp	Input aspect ratio selection (PREV.)	Rd/Wr	0	2	Identical as A command
K	BLK	Black level adjustment (MAIN).	Rd/Wr	0	255	
k	blk	Black level adjustment (PREVIEW).	Rd/Wr	0	255	
B	BRG	Brightness adjustment (MAIN).	Rd/Wr	0	255	
b	brg	Brightness adjustment (PREVIEW).	Rd/Wr	0	255	
D	CON	Contrast adjustment (MAIN).	Rd/Wr	0	255	
d	con	Contrast adjustment (PREVIEW).	Rd/Wr	0	255	
O	COL	Color adjustment (MAIN).	Rd/Wr	0	255	
o	col	Color adjustment (PREVIEW).	Rd/Wr	0	255	
T	HUE	Hue adjustment (MAIN).	Rd/Wr	0	255	
t	hue	Hue adjustment (PREVIEW).	Rd/Wr	0	255	
QP	PRO	Image process adjustment (MAIN).	Rd/Wr	0	7	0 = level 1..... 7 = level 8.
qp	pro	Image process adjustment (PREVIEW)	Rd/Wr	0	7	Identical as QP command.
QF	QF	Optimize adjustment (MAIN).	Rd/Wr	0	255	
qf	qf	Optimize adjustment (PREVIEW).	Rd/Wr	0	255	
QH	QH	Horizontal smoothing (MAIN).	Rd/Wr	0	1	0 = OFF 1 = ON
qh	qh	Horizontal smoothing (PREVIEW).	Rd/Wr	0	1	0 = OFF 1 = ON
QV	QV	Vertical smoothing (MAIN).	Rd/Wr	0	1	0 = OFF 1 = ON
qv	qv	Vertical smoothing (PREVIEW).	Rd/Wr	0	1	0 = OFF 1 = ON
ym	PRES	PRESET (MAIN).	Rd/Wr	0	1	1 = PRESET action (automatic reset).
yp	pres	PRESET (PREVIEW).	Rd/Wr	0	1	1 = PRESET action (automatic reset).
EFFECTS COMMANDS						
E	EFF	Effect selection.	Rd/Wr	0	20	Please see value description (next section).
ed	EFD	Effect duration selection.	Rd/Wr	5	255	Please see value description (next section).
eh	EFH	Horizontal position of the effect.	Rd/Wr	0	255	
ev	EFV	Vertical position of the effect (PIP...)	Rd/Wr	0	255	
es	EFS	Vertical size of the effect (PIP, SHADOW...)	Rd/Wr	0	200	0 = 0 % 200 = 100 % (For PIP : MIN value = 30).
eH	EFs	Horizontal size of the PIP.	Rd/Wr	0	255	0 = 0 % 200 = 100 %
ex	EFx	Horizontal shape position (PIP) or Intensity (Shadow title).	Rd/Wr	0	255	
ey	EFy	Vertical shape position (PIP).	Rd/Wr	0	255	
eX	EFX	Horizontal shape size (PIP).	Rd/Wr	0	200	
eY	EFY	Vertical shape size (PIP).	Rd/Wr	0	200	
g	EON	Effect in progress.	Rd	0	1	0 = no effect in progress. 1 = effect in progress.
xC	ICHS	New background source during a POP.	Rd	0	21	Identical as c command.
TALLY OUTPUTS COMMANDS						
ja	TALA	Input number for TALLY1	Rd/Wr	1	21	Please see value description (next section).
jb	TALB	Input number for TALLY2.	Rd/Wr	1	21	Please see value description (next section).
jc	TALC	Input number for TALLY3.	Rd/Wr	1	21	Please see value description (next section).
jd	TALD	Input number for TALLY4.	Rd/Wr	1	21	Please see value description (next section).
JA	TAON	TALLY1 status.	Rd	0	1	0 = TALLY1 inactive 1 = TALLY1 active.
JB	TBON	TALLY2 status.	Rd	0	1	0 = TALLY2 inactive 1 = TALLY2 active.
JC	TCON	TALLY3 status.	Rd	0	1	0 = TALLY3 inactive 1 = TALLY3 active.
JD	TDON	TALLY4 status.	Rd	0	1	0 = TALLY4 inactive 1 = TALLY4 active.

7-5. COMMANDS AND RESPONSES TABLE (continued)

ASCII COMMAND	RESPONSE	COMMAND DESCRIPTION	TYPE	VALUE		
				MIN	MAX	DESCRIPTION
STATUS COMMANDS						
U	UNIT	Measures unity in kHz.	Rd	0	65535	
IL	ILD	Horizontal period of input signal (M)	Rd	0	65535	Please see value description (next section).
il	ild	Horizontal period of input signal (P)	Rd	0	65535	Please see value description (next section).
ID	IFD	Vertical period of input signal (M)	Rd	0	65535	Please see value description (next section).
id	ifd	Vertical period of input signal (P)	Rd	0	65535	Please see value description (next section).
IP	IPS	Input Sync. detection (MAIN).	Rd	0	1	0 = no Sync. detected 1 = Sync. detected.
ip	ips	Input Sync. detection (PREVIEW).	Rd	0	1	0 = no Sync. detected 1 = Sync. detected.
IH	IHP	Sign of the horizontal input Sync. (M)	Rd	0	1	0 = negative 1 = positive.
ih	ihp	Sign of the horizontal input Sync. (P)	Rd	0	1	0 = negative 1 = positive.
IV	IVP	Sign of the vertical input Sync. (M)	Rd	0	1	0 = negative 1 = positive.
iv	ivp	Sign of the vertical input Sync. (P)	Rd	0	1	0 = negative 1 = positive.
IK	IST	Input Sync type detection (MAIN).	Rd	0	3	0 = Separate H & V sync. 1 = Composite sync. (TTL). 2 = SOG (Sync. On Green). 3 = Composite sync. (analog).
ik	ist	Input Sync type detection (PREVIEW).	Rd	0	3	Identical as IK command.
II	IIN	Interlaced signal detection (MAIN).	Rd	0	1	0 = not interlaced 1 = interlaced.
ii	iin	Interlaced signal detection (P).	Rd	0	1	0 = not interlaced 1 = interlaced.
IO	IOO	"Out of range" signal detection (M).	Rd	0	1	0 = In range 1 = Out of range.
io	ioo	"Out of range" signal detection (P).	Rd	0	1	0 = In range 1 = Out of range.
IF	IFA	Standard input signal detection (M).	Rd	0	27	Please see value description (next section).
if	ifa	Standard input signal detection (P).	Rd	0	27	Please see value description (next section).
XR	REFR	Input synchronization selection.	Rd/Wr	0	21	0 = Internal rate 17 = S.VIDEO1 rate. 1 = RGB/YUV1 rate. 21 = SDI input rate. 9 = COMPOSITE 9 rate.
XA	REFA	Synchronized input status.	Rd	0	21	Identical as XR command.
XF	REFF	Standard of the referenced input.	Rd	0	27	Please see value description (next section).
XT	REFT	Frame frequency of the referenced input.	Rd	0	65535	Value in Hz.
CONTROLS COMMANDS						
yl	LOCK	FRONT PANEL locking.	Rd/Wr	0	31	1 = locks the INPUT SELECT keys. 2 = locks the ADJUST buttons. 4 = locks the EFFECT keys. 8 = locks the CONTROL keys. 16 = lock the FREEZE keys.
yc	EPOS	Erase all memories.	Rd/Wr	0	1	1 = erase all memories (automatic reset).
yd	DEMO	Demo mode.	Rd/Wr	0	1	0 = demo mode inactive. 1 = demo mode active.
xi	I	Identification number.	Rd	0	65535	Values displayed in hexadecimal in the GSE2811R.
xk	K_	"K" Firmware Version.	Rd	0	65535	
xx	X_	"X" Firmware Version.	Rd	0	65535	
xy	Y_	"Y" Firmware Version.	Rd	0	65535	
xs	S_	"S" Firmware Version.	Rd	0	65535	
xd	D_	"D" Firmware Version.	Rd	0	65535	
xa	A_	"A" Firmware Version.	Rd	0	65535	
xb	B_	"B" Firmware Version.	Rd	0	65535	
Y	FRES	DEFAULT VALUE.	Rd/Wr	0	1	1 = Default value action (automatic reset).
OTHERS COMMANDS						
L	CUT	CUT effect.	Rd/Wr	0	1	1 = CUT action (automatic reset).
N	TBP	T-BAR position.	Rd/Wr	0	255	
@	@	Percentage of the executed effect.	Rd	0	16383	0 = 0% 16383 = 100%
ua	TBA	T-BAR availability.	Rd	0	1	0 = T-BAR unavailable. 1 = T-BAR available.
?	DEV	Device type.	Rd	0	65535	12 = GSW2811R/GSE2811R
#	DEV12	Send all device parameters.	Rd			

7-5. COMMANDS AND RESPONSES TABLE (continued)

ASCII COMMAND	RESPONSE	COMMAND DESCRIPTION	TYPE	VALUE		
				MIN	MAX	DESCRIPTION
SEQUENCE MODE COMMANDS						
el	SEQS	Function of the sequence mode.	Rd/Wr	0	5	Please see value description (next section).
ei	SEQV	Validation of the selected function.	Rd/Wr	0	1	Please see value description (next section).
er	SEQC	Current step selection.	Rd/Wr	1	40	Please see value description (next section).
ut	tkev	Status of the pre-selected input.	Rd	0	1	Please see value description (next section).
VIDEO OUTPUT COMMANDS (OPTIONAL)						
Qs	VSTD	Output video standard selection.	Rd/Wr	0	1	0 = NTSC 1 = PAL
Qf	VAF	Anti-flicker level selection.	Rd/Wr	0	2	0 = level 1 1 = level 2 2 = level 3
Qr	VREF	Reference signal of the video output.	Rd/Wr	0	2	0 = internal rate 1 = follow 2 = genlock.
Qv	VERV	Status of the video output version.	Rd	0	65535	
Qo	VOVR	Zoom mode selection.	Rd/Wr	0	1	0 = overscan 1 = underscan.
ADD-ON-1 COMMANDS (OPTIONAL)						
eS	EDGS	Size of the blending.	Rd/Wr	0	255	0 = 0% 255 = 50%
eA	EDGA	Position of the device in function of the screen.	Rd/Wr	0	255	bits 0-3: position of the device. bits 4-7: number of device for the screen.
eC	PEDG	Image cutting.	Rd/Wr	0	1	0 = inactive 1 = active.
eT	EDGT	Type of softedge	Rd/Wr	0	255	0 = no softedge. 1 = linear softedge bit 7 = active/inactive the softedge.
eP	EDPM	MAIN image position.	Rd/Wr	0	255	
eZ	EDZM	MAIN image size.	Rd/Wr	0	255	
ep	EDPP	PREVIEW image position.	Rd/Wr	0	255	
ez	EDZP	PREVIEW image size.	Rd/Wr	0	255	
eH	EFs	Horizontal size of the PIP.	Rd/Wr	0	255	
ek	EDFC	Softedge - Control point #1 (X)	Rd/Wr	1	63	
eK	EDSC	Softedge - Control point #2 (X)	Rd/Wr	1	63	
ej	EDFL	Softedge - Control point #1 (Y)	Rd/Wr	1	63	
eJ	EDSL	Softedge - Control point #2 (Y)	Rd/Wr	1	63	

7-6. VALUES DESCRIPTION TABLE

ASCII COMMAND	RESPONSE	COMMAND DESCRIPTION	VALUE DESCRIPTION	
C	CH	MAIN selected input (read only).	0 Black	11 COMPOSITE #11 input
			1 RGB/YUV #1 input	12 COMPOSITE #12 input
			2 RGB/YUV #2 input	13 COMPOSITE #13 input
			3 RGB/YUV #3 input	14 COMPOSITE #14 input
			4 RGB/YUV #4 input	15 COMPOSITE #15 input
			5 RGB/YUV #5 input	16 COMPOSITE #16 input
			6 RGB/YUV #6 input	17 S.VIDEO #1 input
			7 RGB/YUV #7 input	18 S.VIDEO #2 input
			8 RGB/YUV #8 input	19 S.VIDEO #3 input
			9 COMPOSITE #9 input	20 S.VIDEO #4 input
			10 COMPOSITE #10 input	21 SDI input
c	ch	Input pre-selection (PREVIEW).	Identical as C command.	
PC	PCH	Input selection for adjustment.	0 All inputs	11 COMPOSITE #11 input
			1 RGB/YUV #1 input	12 COMPOSITE #12 input
			2 RGB/YUV #2 input	13 COMPOSITE #13 input
			3 RGB/YUV #3 input	14 COMPOSITE #14 input
			4 RGB/YUV #4 input	15 COMPOSITE #15 input
			5 RGB/YUV #5 input	16 COMPOSITE #16 input
			6 RGB/YUV #6 input	17 S.VIDEO #1 input
			7 RGB/YUV #7 input	18 S.VIDEO #2 input
			8 RGB/YUV #8 input	19 S.VIDEO #3 input
			9 COMPOSITE #9 input	20 S.VIDEO #4 input
			10 COMPOSITE #10 input	21 SDI input

7-6. COMMANDS AND RESPONSES TABLE (continued)

ASCII COMMAND	RESPONSE	COMMAND DESCRIPTION	VALUE DESCRIPTION
E	EFF	Effect selection.	00 = CUT. 01 = FADING: automatic from 0.5 to 25 seconds or T-BAR. 02 = TITLE: automatic from 0.5 to 25 seconds or T-BAR. 03 = TITLE: holding. 04 = SHADOW TITLE: automatic from 0.5 to 25 seconds or T-BAR. 05 = SHADOW TITLE: holding. 06 = HOR WIPE, Left to Right: automatic from 0.5 to 25 sec or T-BAR. 07 = HOR WIPE, Right to Left: automatic from 0.5 to 25 sec or T-BAR. 08 = HOR WIPE, to Center: automatic from 0.5 to 25 seconds or T-BAR. 09 = HOR WIPE, from Center: automatic from 0.5 to 25 sec or T-BAR. 10 = VERT WIPE, Up: automatic from 0.5 to 25 seconds or T-BAR. 11 = VERT WIPE, Down: automatic from 0.5 to 25 seconds or T-BAR. 12 = VERT WIPE, to Center: automatic from 0.5 to 25 seconds or T-BAR. 13 = VERT WIPE, from Center: automatic from 0.5 to 25 sec or T-BAR. 14 = DIAMOND WIPE, to Center: automatic from 0.5 to 25 sec or T-BAR. 15 = DIAMOND WIPE, from Center: automatic from 0.5 to 25 sec or T-BAR. 16 = Normal PIP : automatic from 0.5 to 25 seconds or T-BAR. 17 = Normal PIP : holding. 18 = Fade PIP : automatic from 0.5 to 25 seconds or T-BAR. 19 = Fade PIP : holding. 20 = POP.
ed	EFD	Effect duration selection (from 0.5s to 25.5 seconds by 0.1s step).	5 = 0.5 second ... 255 = 25.5 seconds.
el	SEQS	Selection of a function of the sequence mode.	0 = no function selected. 1 = add step function. 2 = play sequence function. 3 = list sequence function. 4 = erase last function. 5 = clear sequence function.
ei	SEQV	Validation of the selected function.	1 = validate the selected function of the sequence mode (automatic reset). For example: • If add step selected, this command add a step into your sequence. • If erase last selected, this command erase the last step of your sequence.
er	SEQC	Current step selection.	1 = select step # 1. 40 = select step # 40.
ut	tkev	Status of the pre-selected input (read only).	The command indicates if the pre-selected input is ready to commute or not. 0 = pre-selected input not ready to commute. The validation of the selected function can not be activate. 1 = pre-selected input ready to commute. The validation of the selected function can be activate.
ja	TALA	Input number for TALLY1	Identical as C command.
jb	TALB	Input number for TALLY2	Identical as C command.
jc	TALC	Input number for TALLY3	Identical as C command.
jd	TALD	Input number for TALLY4	Identical as C command.
IL	ILD	This command allows to calculate the input line frequency in Hz (MAIN).	Line frequency (in kHz) = (UNIT VALUE) ÷ (ILD VALUE).
il	ild	This command allows to calculate the input frame frequency in Hz (PREV).	Line frequency (in kHz) = (UNIT VALUE) ÷ (ild VALUE).
ID	IFD	This command allows to calculate the input frame frequency in Hz (MAIN).	Frame frequency (in Hz) = (Line frequency in Hz) ÷ (IFD VALUE).

7-6. COMMANDS AND RESPONSES TABLE (continued)

ASCII COMMAND	RESPONSE	COMMAND DESCRIPTION	VALUE DESCRIPTION
id	ifd	This command allows to calculate the input frame frequency in Hz (PREV).	Frame frequency (in Hz) = (Line frequency in Hz) ÷ (ifd VALUE).
IF	IFA	Input standard detection (MAIN).	0 = no signal 1 = "out of range" signal 2 = NTSC std (3.58 / 60) 3 = NTSC (3.58 / 50) 4 = NTSC (4.43 / 60) 5 = NTSC (4.43 / 50) 6 = PAL M (3.58 / 60) 7 = PAL comb (3.58 / 50) 8 = PAL (4.43 / 60) 9 = PAL std (4.43 / 50) 10 = SECAM (50Hz) 11 = Black and white (50Hz) 12 = Black and white (60 Hz) 13 = YUV 50 Hz 14 = YUV 60 Hz 15 = RGB 50 Hz 16 = RGB 60 Hz 17 = VGA1 350L 18 = VGA2 400L 19 = VGA3 480L 20 = PLASMA 42" 21 = SVGA 22 = MAC 23 = XGA 24 = PLASMA 50' 25 = MAC 21' 26 = SXGA 27 = UXGA
if	ifa	Input standard (PREVIEW)	Identical as IF command.
XF	REFF	Standard of the referenced input (read only).	Identical as IF command.

7-7. 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

Chapter 8 : TECHNICAL SPECIFICATIONS

RGB/YUV INPUTS

• COMPUTER FORMATS (PC, MAC , Workstation).

Compatibility: Line frequency : From 31.5 kHz to 130 kHz.
Resolutions : From 640 x 480 to 1600 x 1280.
Sync : Separate H & V, COMP, SOG.

Levels: R, G, B = 3 x 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 = Hi-Z or 75 ohms.
V = 75 ohms.

• VIDEO FORMATS

• RGB/S (on 4 BNC connectors).

15.625 kHz / 50 Hz 15.735 kHz / 60 Hz (625L525L).

Level: R, G, B = 3 x 0.7 Vp/p.
Sync. = 0.3 V or TTL.

Impedance: RGB = 75 ohms.
Sync. = 75 ohms or Hi-Z.

• Y DR DB (R-Y / Y / B-Y) COMPONENT (on 3 BNC connectors).

15.625 kHz / 50 Hz 15.735 kHz / 60 Hz (625L525L).

Level: Y = 1 Vp/p (0.7 V Luma + 0.3 V Sync.).
Dr = 0.7 Vp/p.
Db = 0.7 Vp/p.

Impedance: Y, Dr, Db = 75 ohms.

• HDTV FORMATS

• 720p & 1080i

Levels: R, G, B = 3 x 0.7 Vp/p.
Sync.: H & V Sync. = TTL (Bi-level).
Impedance: 75 Ohms.

COMPOSITE & S.VIDEO INPUTS

• S.VIDEO (on 2 BNC connectors).

PAL / SECAM 15.625 kHz / 50 Hz (625L)
NTSC 3.58 MHz / 4.43 MHz 15.735 kHz / 60 Hz (525L)

Level: Y = 1 Vp/p (0.7 V Luma + 0.3 V Sync.).
C = 0.3 Vp/p (chroma burst).

Impedance: 75 ohms.

• COMPOSITE VIDEO (on 1 BNC connector)

PAL / SECAM 15.625 kHz / 50 Hz (625L)
NTSC 3.58 MHz / 4.43 MHz 15.735 kHz / 60 Hz (525L)

Level: 1 Vp/p (0.7 V Luma + 0.3 V Sync.).

Impedance: 75 ohms.

SDI INPUT (Optional input on BNC connector).

Signal: Component (4:2:2) serial digital input conforming to SMPTE-259M.
Data rate: 270 Mbps.

MAIN & PREVIEW OUTPUTS• **MAIN (on BNC & HD15 female connectors)**

Levels: R, G, B = 3 x 0.7 Vp/p.
 Separate H & V Sync. = TTL.
 Composite Sync = TTL.
 SOG = 0.3 Vp/p.

Impedance: 75 ohms.

Resolution: One of the available format in the output menu (See section 5-1.)

• **PREVIEW (on HD 15 female connector)**

Levels: R, G, B = 3 x 0.7 Vp/p.
 Separate H & V Sync. = TTL.
 Composite Sync = TTL.

Impedance: 75 ohms.

Resolution: One of the available format in the output menu (See section 5-1.)

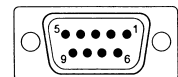
REMOTE PORT & TALLY OUT• **REMOTE RS-232 (on DB 9 F connector)**

Level: RS-232.
Data Rate: 9600 Bauds, 8 data bits, 1 stop bit, no parity bit,
 no flow control.

• **TALLY OUT (on DB 9 F connector)**

Rating: 20 Vdc, 50 mA (open collector).

PIN #	FUNCTIONS
1	tally # 1
2	Tx (transmit data)
3	Rx (receive data)
4	NC
5	Ground
6	tally # 2
7	tally # 3
8	NC
9	tally # 4

**DB9 Female connector****OPTIONAL VIDEO OUTPUT**• **COMPOSITE VIDEO (on BNC connector)**

PAL / SECAM 15.625 kHz / 50 Hz (625L)
 NTSC 3.58 MHz / 4.43 MHz 15.735 kHz / 60 Hz (525L)

Level: 1 Vp/p (0.7 V Luma + 0.3 V Sync.).

Impedance: 75 ohms.

• **S.VIDEO (on DB9 connector)**

PAL / SECAM 15.625 kHz / 50 Hz (625L)
 NTSC 3.58 MHz / 4.43 MHz 15.735 kHz / 60 Hz (525L)

Levels: Y = 1 Vp/p (0.7 V Luma + 0.3 V Sync.).
 C = 0.3 Vp/p (chroma burst).

Impedance: 75 ohms.

OPTIONAL VIDEO OUTPUT (continued)**• Y DR DB (R-Y / Y / B-Y) COMPONENT (on DB9 connector)**

15.625 kHz / 50 Hz 15.735 kHz / 60 Hz (625L525L).

Levels:

Y = 1 Vp/p (0.7 V Luma + 0.3 V Sync.).

Dr = 0.7 Vp/p.

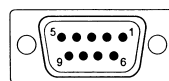
Db = 0.7 Vp/p.

Impedance:

Y, Dr, Db = 75 ohms.

• DB9 PIN ASSIGNMENT

PIN #	FUNCTIONS
1	RTN
2	(red, green, bleu, genlock)
3	RED (R-Y)
4	GREEN (Y)
5	BLEU (B-Y)
6	Y (S.VIDEO)
7	genlock
8	RTN (Y+C)
9	C (S.VIDEO)



DB9 Female connector

ENVIRONMENTAL*Power Supply:*

Internal CE / UL / CSA / IEC 950 (130W).

Input : 100VAC to 240VAC ; 50-60Hz ; I = 3A Max.

Storage Temperature:

-25 °C to +85 °C (-13 °F to +185 °F).

Operating temperature:

0 °C to 50 °C (32 °F to 122 °F).

Maximum ambient operating temperature:

< 40 °C (< 104 °F).

Hygrometry:

10% to 80% (without condensation).

*Dimension:*W480 x D340 x H133mm / 19"W x 13.4"D x 5.2"H.
(Compatible with a Standard 19" rack, Height = 3 U).*Weight:*

9 kg / 20 lbs. (without option)

9.5 kg / 21 lbs. (with the SDI (-D1) or the OPT-GSW2-VO option).

10 kg / 22 lbs. (with the SDI (-D1) and the OPT-GSW2-VO options).

WARRANTY

Analog Way warrants the product against any defects in materials and workmanship for a period of three years from the date of purchase (back to the factory).

In the event of any malfunction during the warranty period, Analog Way will, at its discretion, repair or replace the defective units, including free materials and labor.

This warranty does not apply if the product has been :

- improperly installed or abused,
- handled with improper care,
- used or stocked in abnormal conditions,
- modified, opened,
- damaged by fire, war, or Natural disasters (Acts of God).

In no way shall Analog Way be responsible for direct or indirect loss of profit or consequential damages resulting from any defect in this product.

In case of any problem, get the serial number of the unit, a description of the problem, and then call your authorized dealer.