

User's Manual



SCS 300

Sync Converter/Stabilizer

Precautions

Safety Instructions • English



This symbol is intended to alert the user of important operating and maintenance (servicing) instructions in the literature provided with the equipment.



This symbol is intended to alert the user of the presence of uninsulated dangerous voltage within the product's enclosure that may present a risk of electric shock.

Caution

Read Instructions • Read and understand all safety and operating instructions before using the equipment.

Retain Instructions • The safety instructions should be kept for future reference.

Follow Warnings • Follow all warnings and instructions marked on the equipment or in the user information.

Avoid Attachments • Do not use tools or attachments that are not recommended by the equipment manufacturer because they may be hazardous.

Consignes de Sécurité • Français



Ce symbole sert à avertir l'utilisateur que la documentation fournie avec le matériel contient des instructions importantes concernant l'exploitation et la maintenance (réparation).



Ce symbole sert à avertir l'utilisateur de la présence dans le boîtier de l'appareil de tensions dangereuses non isolées posant des risques d'électrocution.

Attention

Lire les instructions • Prendre connaissance de toutes les consignes de sécurité et d'exploitation avant d'utiliser le matériel.

Conservier les instructions • Ranger les consignes de sécurité afin de pouvoir les consulter à l'avenir.

Respecter les avertissements • Observer tous les avertissements et consignes marqués sur le matériel ou présentés dans la documentation utilisateur.

Éviter les pièces de fixation • Ne pas utiliser de pièces de fixation ni d'outils non recommandés par le fabricant du matériel car cela risquerait de poser certains dangers.

Sicherheitsanleitungen • Deutsch



Dieses Symbol soll dem Benutzer in der im Lieferumfang enthaltenen Dokumentation besonders wichtige Hinweise zur Bedienung und Wartung (Instandhaltung) geben.



Dieses Symbol soll den Benutzer darauf aufmerksam machen, daß im Inneren des Gehäuses dieses Produktes gefährliche Spannungen, die nicht isoliert sind und die einen elektrischen Schock verursachen können, herrschen.

Achtung

Lesen der Anleitungen • Bevor Sie das Gerät zum ersten Mal verwenden, sollten Sie alle Sicherheits- und Bedienungsanleitungen genau durchlesen und verstehen.

Aufbewahren der Anleitungen • Die Hinweise zur elektrischen Sicherheit des Produktes sollten Sie aufbewahren, damit Sie im Bedarfsfall darauf zurückgreifen können.

Befolgen der Warnhinweise • Befolgen Sie alle Warnhinweise und Anleitungen auf dem Gerät oder in der Benutzerdokumentation.

Keine Zusatzgeräte • Verwenden Sie keine Werkzeuge oder Zusatzgeräte, die nicht ausdrücklich vom Hersteller empfohlen wurden, da diese eine Gefahrenquelle darstellen können.

Instrucciones de seguridad • Español



Este símbolo se utiliza para advertir al usuario sobre instrucciones importantes de operación y mantenimiento (o cambio de partes) que se desean destacar en el contenido de la documentación suministrada con los equipos.



Este símbolo se utiliza para advertir al usuario sobre la presencia de elementos con voltaje peligroso sin protección aislante, que puedan encontrarse dentro de la caja o alojamiento del producto, y que puedan representar riesgo de electrocución.

Precaución

Leer las instrucciones • Leer y analizar todas las instrucciones de operación y seguridad, antes de usar el equipo.

Conservar las instrucciones • Conservar las instrucciones de seguridad para futura consulta.

Obedecer las advertencias • Todas las advertencias e instrucciones marcadas en el equipo o en la documentación del usuario, deben ser obedecidas.

Evitar el uso de accesorios • No usar herramientas o accesorios que no sean específicamente recomendados por el fabricante, ya que podrían implicar riesgos.

Warning

Power sources • This equipment should be operated only from the power source indicated on the product. This equipment is intended to be used with a main power system with a grounded (neutral) conductor. The third (grounding) pin is a safety feature, do not attempt to bypass or disable it.

Power disconnection • To remove power from the equipment safely, remove all power cords from the rear of the equipment, or the desktop power module (if detachable), or from the power source receptacle (wall plug).

Power cord protection • Power cords should be routed so that they are not likely to be stepped on or pinched by items placed upon or against them.

Servicing • Refer all servicing to qualified service personnel. There are no user-serviceable parts inside. To prevent the risk of shock, do not attempt to service this equipment yourself because opening or removing covers may expose you to dangerous voltage or other hazards.

Slots and openings • If the equipment has slots or holes in the enclosure, these are provided to prevent overheating of sensitive components inside. These openings must never be blocked by other objects.

Lithium battery • There is a danger of explosion if battery is incorrectly replaced. Replace it only with the same or equivalent type recommended by the manufacturer. Dispose of used batteries according to the manufacturer's instructions.

Avertissement

Alimentation • Ne faire fonctionner ce matériel qu'avec la source d'alimentation indiquée sur l'appareil. Ce matériel doit être utilisé avec une alimentation principale comportant un fil de terre (neutre). Le troisième contact (de mise à la terre) constitue un dispositif de sécurité : n'essayez pas de la contourner ni de la désactiver.

Déconnexion de l'alimentation • Pour mettre le matériel hors tension sans danger, déconnecter tous les cordons d'alimentation de l'arrière de l'appareil ou du module d'alimentation de bureau (s'il est amovible) ou encore de la prise secteur.

Protection du cordon d'alimentation • Acheminer les cordons d'alimentation de manière à ce que personne ne risque de marcher dessus et à ce qu'ils ne soient pas écrasés ou pincés par des objets.

Réparation-maintenance • Faire exécuter toutes les interventions de réparation-maintenance par un technicien qualifié. Aucun des éléments internes ne peut être réparé par l'utilisateur. Afin d'éviter tout danger d'électrocution, l'utilisateur ne doit pas essayer de procéder lui-même à ces opérations car l'ouverture ou le retrait des couvercles risquent de l'exposer à de hautes tensions et autres dangers.

Fentes et orifices • Si le boîtier de l'appareil comporte des fentes ou des orifices, ceux-ci servent à empêcher les composants internes de se réchauffer. Ces ouvertures ne doivent jamais être bloquées par des objets.

Lithium Batterie • Il y a danger d'explosion s'il y a remplacement incorrect de la batterie. Remplacer uniquement avec une batterie du même type ou d'un type équivalent recommandée par le constructeur. Mettre au rebut les batteries usagées conformément aux instructions du fabricant.

Vorsicht

Stromquellen • Dieses Gerät sollte nur über die auf dem Produkt angegebene Stromquelle betrieben werden. Dieses Gerät wurde für eine Verwendung mit einer Hauptstromleitung mit einem geerdeten (neutralen) Leiter konzipiert. Der dritte Kontakt ist für einen Erdschluss, und stellt eine Sicherheitsfunktion dar. Diese sollte nicht umgangen oder außer Betrieb gesetzt werden.

Stromunterbrechung • Um das Gerät auf sichere Weise vom Netz zu trennen, sollten Sie alle Netzkabel aus der Rückseite des Gerätes, aus der externen Stromversorgung (falls dies möglich ist) oder aus der Wandsteckdose ziehen.

Schutz des Netzkabels • Netzkabel sollten stets so verlegt werden, daß sie nicht im Weg liegen und niemand darauf treten kann oder Objekte darauf- oder unmittelbar dagegengestellt werden können.

Wartung • Alle Wartungsmaßnahmen sollten nur vom qualifiziertem Servicepersonal durchgeführt werden. Die internen Komponenten und Gezäts sind wartungsfrei. Zur Vermeidung eines elektrischen Schocks versuchen Sie in keinem Fall, dieses Gerät selbst öffnen, da beim Entfernen der Abdeckungen die Gefahr eines elektrischen Schlags und/oder andere Gefahren bestehen.

Schlitze und Öffnungen • Wenn das Gerät Schlitze oder Löcher im Gehäuse aufweist, dienen diese zur Vermeidung einer Überhitzung der empfindlichen Teile im Inneren. Diese Öffnungen dürfen niemals von anderen Objekten blockiert werden.

Lithium-Batterie • Explosionsgefahr, falls die Batterie nicht richtig ersetzt wird. Ersetzen Sie verbrauchte Batterien nur durch den gleichen oder einen vergleichbaren Batterietyp, der auch vom Hersteller empfohlen wird. Entsorgen Sie verbrauchte Batterien bitte gemäß den Herstelleranweisungen.

Advertencia

Alimentación eléctrica • Este equipo debe conectarse únicamente a la fuente/tipo de alimentación eléctrica indicada en el mismo. La alimentación eléctrica de este equipo debe provenir de un sistema de distribución general con conductor neutro a tierra. La tercera pata (puesta a tierra) es una medida de seguridad, no puentearla ni eliminarla.

Desconexión de alimentación eléctrica • Para desconectar con seguridad la computadora de alimentación eléctrica al equipo, desenchufar todos los cables de alimentación en el panel trasero del equipo, o desenchufar el módulo de alimentación (si fuera independiente), o desenchufar el cable del receptáculo de la pared.

Instalación de cables de alimentación • Los cables de alimentación eléctrica se deben instalar en lugares donde no sean pisados ni apretados por objetos que se puedan apoyar sobre ellos.

Reparaciones/mantenimiento • Solicitar siempre los servicios técnicos de personal calificado. En el interior no hay partes a las que el usuario debe acceder. Para evitar riesgo de electrocución, no intentar personalmente la reparación/mantenimiento de este equipo, ya que al abrir o extraer las tapas puede quedar expuesto a voltajes peligrosos u otros riesgos.

Ranuras y aberturas • Si el equipo posee ranuras o orificios en su caja/alojamiento, es para evitar el sobrecalentamiento de componentes internos sensibles. Estas aberturas nunca se deben obstruir con otros objetos.

Batería de litio • Existe riesgo de explosión si esta batería se coloca en la posición incorrecta. Cambiar esta batería únicamente con el mismo tipo (o su equivalente) recomendado por el fabricante. Desachar las baterías usadas siguiendo las instrucciones del fabricante.

Precautions

安全须知 • 中文



这个符号提示用户该设备用户手册中有重要的操作和维护说明。



这个符号警告用户该设备机壳内有露的危险电压，有触电危险。

注意

阅读说明书 • 用户使用该设备前必须阅读并理解所有安全和使用说明。

保存说明书 • 用户应保存安全说明书以备将来使用。

遵守警告 • 用户应遵守产品和用户指南上的所有安全和操作说明。

避免追加 • 不要使用该产品厂商没有推荐的工具或追加设备，以避免危险。

警告

电源 • 该设备只能使用产品上标明的电源。设备必须使用有地线的供电系统供电。第三条线（地线）是安全设施，不能不用或跳过。

拔掉电源 • 为安全地从设备拔掉电源，请拔掉所有设备后或桌面电源的电源线，或任何接到市电系统的电源线。

电源线保护 • 妥善布线，避免被踩踏，或重物挤压。

维护 • 所有维修必须由认证的维修人员进行。设备内部没有用户可以更换的零件。为避免出现触电危险不要自己试图打开设备盖子维修该设备。

通风孔 • 有些设备机壳上有通风槽或孔，它们是用来防止机内敏感元件过热。不要用任何东西挡住通风孔。

锂电池 • 不正确的更换电池会有爆炸的危险。必须使用与厂家推荐的相同或相近型号的电池。按照生产厂家的建议处理废弃电池。

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SCS 300 Sync Converter/Stabilizer

1 Chapter One

Introduction

About this Manual

About the SCS 300

Features

Introduction

About this Manual

This manual documents the features, installation, operation, and specifications of the Extron SCS 300 Sync Converter/ Stabilizer.

About the SCS 300

The SCS 300 Sync Converter/ Stabilizer is a 1U high, quarter rack width, 6" deep, sync converter and stabilizer with Advanced Digital Sync Processing (ADSP™). The SCS 300 accepts RGBHV, RGBS, RGsB, or RsGsBs signal inputs; automatically strips off the sync on green or the sync on red, green, and blue; and outputs RGBHV/RGBS or RGsB through five BNC connectors on the rear panel.

An identical and simultaneous output is provided via a 15-pin HD (VGA) connector on the front panel. The output sync is restored to the original timing using the Extron ADSP technology. Horizontal shift adjustments are made from the front panel. A bank of eight DIP switches allows the user to set various sync output formats, set sync input impedance, and control the removal of serration pulses.

Features

Inputs — Female BNCs for RGBHV, RGBS, RGsB, or RsGsBs inputs

Simultaneous output — Female 15-pin HD and female BNCs for RGBHV, RGBS, RGsB, or RsGsBs outputs.

Signal conversion — With all DIP switches down, any input signal type (RGBS, RGsB or RsGsBs) is converted to RGBHV output.

Flexibility — DIP switches allow sync control for various sync output formats, input impedance termination, and the passing or removal of serration pulses.

Output sync restoration — Using ADSP, the output sync can be restored to the original timing.

Furniture and wall mountability — The SCS 300 can be mounted onto or in furniture or to a projector pole, using a suitable Extron mounting kit (see Appendix A, "Reference Material," for a list).



SCS 300 Sync Converter/Stabilizer

2 Chapter Two

Installation, Connection, and Settings

Mounting the SCS 300

Rear Panel Features and Connection

Front Panel Features and Settings

Auto Memory for H-shift Control Settings

Front Panel DIP Switch Settings

Installation, Connection, and Settings

Mounting the SCS 300

The SCS 300 can be mounted on a 1U rack shelf, under or through a desk, or attached to the projector pole.

UL requirements for rack mounted devices

The following Underwriters Laboratories (UL) requirements pertain to the safe installation of the SCS 300 in a rack.

1. **Elevated operating ambient temperature** — If installed in a closed or multi-unit rack assembly, the operating ambient temperature of the rack environment may be greater than room ambient temperature. Therefore, install the SCS in an environment compatible with the maximum ambient temperature ($T_{ma} = +122\text{ }^{\circ}\text{F}, +50\text{ }^{\circ}\text{C}$) specified by Extron.
2. **Reduced air flow** — Install the equipment in a rack so that the amount of air flow required for safe operation of the equipment is not compromised.
3. **Mechanical loading** — Mount the equipment in the rack so that a hazardous condition is not achieved due to uneven mechanical loading.
4. **Circuit overloading** — Connect the equipment to the supply circuit and consider the effect that circuit overloading might have on overcurrent protection and supply wiring. Appropriate consideration of equipment nameplate ratings should be used when addressing this concern.
5. **Reliable earthing (grounding)** — Maintain reliable grounding of rack-mounted equipment. Pay particular attention to supply connections other than direct connections to the branch circuit (e.g. use of power strips).

Mounting the SCS 300 on a rack shelf

For optional rack mounting, mount the SCS 300 on a standard 9.5" deep Universal or Basic rack shelf (Extron part #60-190-01, **RSU 129**, or #60-604-01, **RSB 129**) (figure 2-1), or on a 6" deep Universal or Basic rack shelf (Extron part #60-190-10, **RSU 126**, or #60-604-10, **RSB 126**) (figure 2-2). On the standard 9.5" deep rack shelf, the SCS 300 can be mounted in one of four locations at the rear of the rack or the front of the rack shelf:

1. If the SCS 300 has feet installed, remove them.
2. Align the SCS 300 over the shelf so that the two threaded holes in the base line up with two holes in the shelf.
3. Use two 4-40 x 3/16" screws to mount the SCS 300 to the shelf.

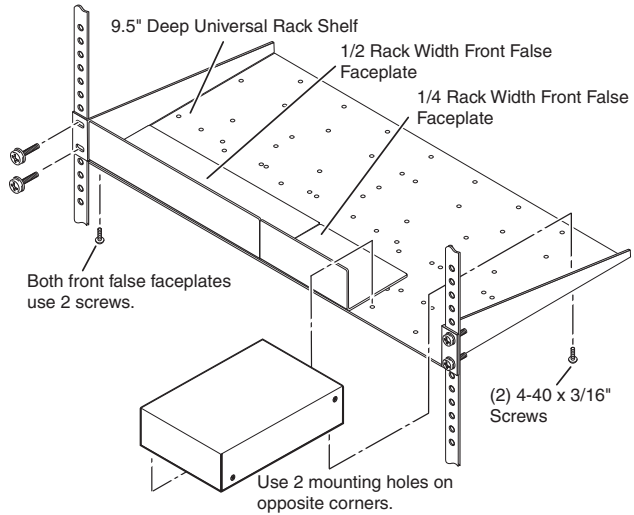


Figure 2-1 — Mounting the SCS 300 on a standard 9.5" deep rack shelf

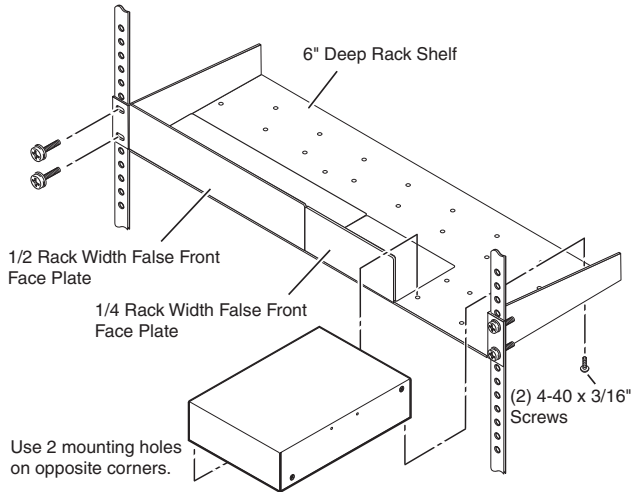


Figure 2-2 — Mounting the SCS 300 on a 1U 6" deep rack shelf

4. If the shelf is not already mounted in the rack, use the supplied hardware to mount it, following the instructions that came with the shelf.
5. When mounted, continue the installation by connecting the input, output, and power cables.

Mounting the SCS 300 under a desk

To mount the SCS 300 under a desk or in a podium using the under desk mounting kit (Extron part # 70-077-01, MBU 125), do the following:

1. Attach the mounting brackets to the SCS 300 using the four machine screws supplied with the mounting kit as shown in figure 2-3.

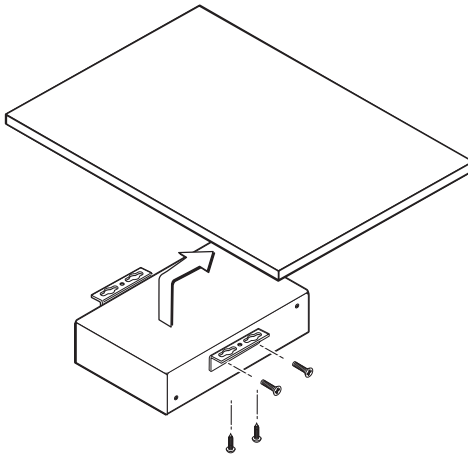


Figure 2-3 — Attaching the under desk brackets

2. Holding the device up against the underside of the surface to which you are mounting it, mark the four screw holes.
3. Drill four pilot holes, each $3/32$ " (2 mm) in diameter by $1/4$ " (6.4 mm) deep, where marked on the template.
4. Using the four supplied wood screws, attach the brackets under the mounting surface (see figure 2-3).
5. When the SCS 300 is mounted, continue the installation by connecting the input, output, and power cables.

Mounting the SCS 300 through a desk

To mount the SCS 300 through a desk or table using the through desk mounting kit (Extron part # 70-077-02, MBD 129), do the following:

1. Attach the mounting brackets to the SCS 300 using four machine screws and washers supplied with the mounting kit, as shown in figure 2-4.

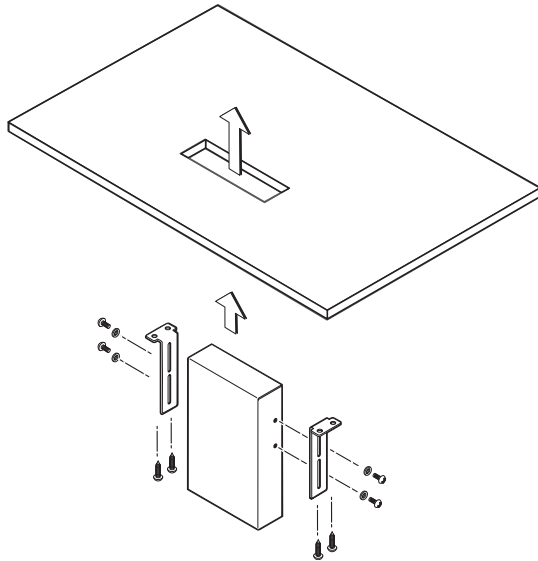


Figure 2-4 — Attaching the through desk brackets

2. Holding the device up against the underside of the surface to which you are mounting, mark the four screw holes.
3. Drill four pilot holes, each $\frac{3}{32}$ " (2 mm) in diameter by $\frac{1}{4}$ " (6.4 mm) deep, where marked on the template.
4. Using the four supplied wood screws, attach the brackets to the mounting surface (see figure 2-4).
5. When the SCS 300 is mounted, continue the installation by connecting the input, output, and power cables.

Mounting the SCS 300 to a projector pole

To mount the SCS 300 to a projector pole, use one of the optional accessory Projector Mounting Kits (PMK series). To install the Extron PMK, follow the instructions supplied with the kit. To attach the SCS 300 to the PMK, use the two supplied 4-40 x 3/16" screws in the opposite diagonal corners of the device base to secure it to the bracket, as shown in figure 2-5.

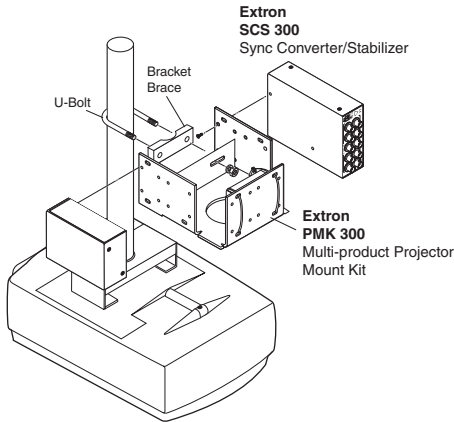


Figure 2-5 — Mounting the unit to a projector pole

Device connection

Upon completion of the mounting method chosen, the SCS 300 sync converter/stabilizer should be connected to a suitable video signal source and to a projector or other display device for output. Figure 2-6 shows an example of an application. Cable connections are made via the rear panel

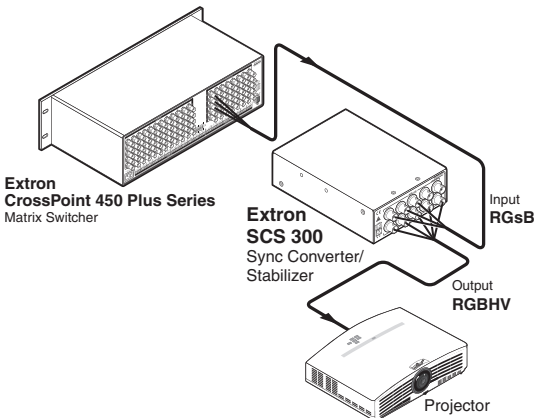


Figure 2-6 — Typical SCS 300 application

Rear Panel Features and Connection

The rear panel has three main features:

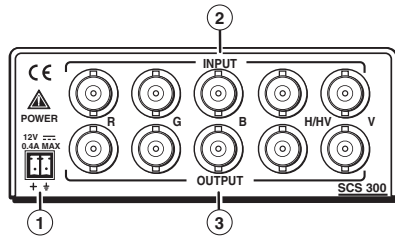


Figure 2-7 — Rear Panel features

- ① **Power connection point** — This dedicated female, 3.5mm, 2-pole captive screw connector enables connection of the 12 VDC external power supply. Wire the power supply cord into the supplied male orange connector as shown in figure 2-8.



CAUTION Power supply voltage polarity is critical. Incorrect voltage polarity can damage the power supply and the SCS 300. Identify the power cord negative lead by the ridges on the side of the cord (figure 2-8).

CAUTION The length of the exposed (stripped) copper wires is important. **The ideal length is 5/16" (7 mm).** Longer bare wires can short together. Shorter wires are not as secure in the captive screw connectors and could be pulled out.

NOTE Do not tin the stripped power supply leads before installing the captive screw connector. Tinned wires are not as secure in the captive screw connector and could be pulled out. Use the supplied tie warp to strap the wires to the connector.

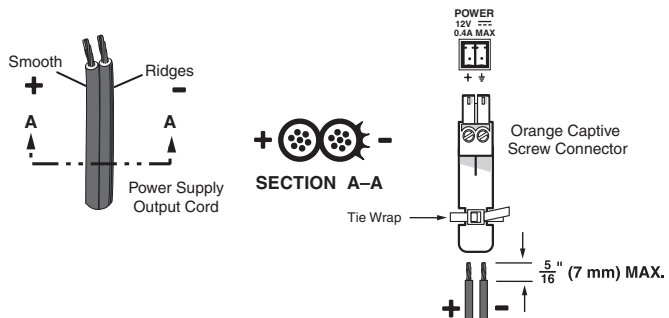


Figure 2-8 — Wiring the power connector

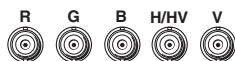
Installation, Connection, and Settings, cont'd

Insert the wired connector into the female, 2-pole captive screw connector (1) marked "power".

CAUTION When using a compatible power source from the projector, verify that it is 12 VDC positive.

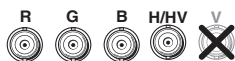
- 2 **Input connectors** — Non-interlaced video signal input is made on these five female BNC connectors, labeled Input. Connect the input devices' video signal cables to the BNC connectors, ensuring the correct cable matches the labeled input connector.

RGBHV — If all cables are connected, the sync input is separate horizontal and vertical.



RGBHV

RGBS — If the H/HV (composite sync) cable is connected, the input is composite sync.



RGBS

RGsB, RsGsBs — If coax cables are connected and terminated (75 ohms) to the red, green, and blue channels only, the input is sync on green.



RGsB/RsGsBs

- 3 **Output connectors** — The converted video signal output is carried on these five female BNC connectors, labelled Output. Use BNC cables to attach the output connectors to a projector or other display device. This output is simultaneous and identical to the output on the 15-pin HD connector on the front panel.

RGsB — When the DIP switch (SOG Out) is set to On, and terminated (75 ohms) coax cables are connected to red, green, and blue channels only, the output is sync on green.

RsGsBs — When the DIP switch (RsGsBs Out) is set to On, and terminated (75 ohms) coax cables are connected to red, green, and blue channels only, the output is sync on all.

RGBS — When the DIP switch (Comp sync out) is set to On, and the H/HV cable is connected, the output is composite sync.

RGBHV — When DIP switches 3, 4, and 5 are set to Off, and all cables are connected, the sync output is separate horizontal and vertical.

Front Panel Features and Settings

The front panel has four features:

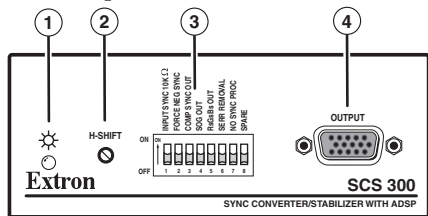


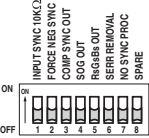



Figure 2-9 — Front Panel features

- 1 Power LED** — This green LED is lit when the device has power. 
- 2 Horizontal shift control** — This recessed rotary dial adjusts the horizontal shift. To adjust the horizontal shift, turn the dial using a Tweaker or other small screwdriver, and observe the left/right movement of the image on the screen. Stop when the image is centered. See below for details of auto memory for H-shift control settings. 
- 3 8-bank DIP switch** — The settings of these DIP switches control various sync adjustments. For details, see "Front Panel DIP Switch Settings," in this chapter. 
- 4 15-pin HD female connector** — The converted video signal is output on this connector. Connect a VGA cable to the connector and to a VGA display device, for simultaneous video signal output. 

NOTE *The output on the 15-pin HD connector is simultaneous and identical to the output on the five BNC connectors on the rear panel.*

Auto Memory for H-shift Control Settings

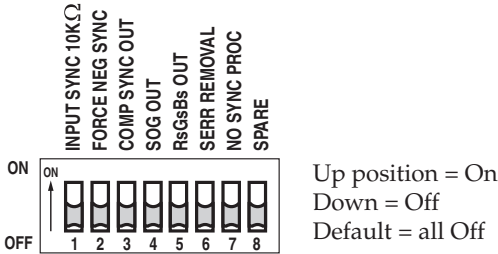
The SCS 300 has a non-volatile internal memory where H-shift settings are automatically saved, one setting for each of up to 15 different input rates. The unit automatically detects any new rate changes based on the horizontal and vertical frequencies, and then saves the H-shift position setting for that specific resolution.

Once all memory locations are full, the unit overwrites the locations in sequential order, beginning at number one. If for example a sixteenth input rate is detected, that rate's setting is saved ("overwritten") to memory location #1. All saved settings are retained in the memory after power down.

Installation, Connection, and Settings, cont'd

Front Panel DIP Switch Settings

The bank of eight DIP switches allows the user to control sync input termination, sync polarity, output sync format, and serration pulses, or to disable all sync processing. Switches furthest to the right takes the highest priority. Set each switch as desired, in the order they are listed:



Settings for the DIP switches on the SCS 300:

- Switch 1:** On = 10k ohm sync input termination
Off = 510 ohm sync input termination
- Switch 2:** On = Force negative sync polarity on output
Off = Sync polarity follows input
- Switch 3:** On = Enable composite sync output
Off = Disable composite sync output
- Switch 4:** On = Sync on green output
Off = Disable sync on green output
- Switch 5:** On = Enable RsGsBs (sync on all)
Off = Disable RsGsBs

NOTE When switch #s 3, 4, and 5 are in the off position, Horizontal and Vertical sync is on.

- Switch 6** On = Disable (remove) serration pulses
Off = Enable (pass) serration pulses
- Switch 7:** On = Disables sync processing
Off = Normal sync processing

NOTE If switch #7 is in the on position, it disables all switches except for switch #1, and deactivates all sync processing and timing changes. However, sync edges will still be reshaped.

- Switch 8:** Spare



SCS 300 Sync Converter/Stabilizer

A

Appendix A

Reference Material

Specifications

Included Parts

Optional Accessories

Reference Material

Specifications

Video

Gain	Unity
Bandwidth	300 MHz @ -3 dB

Video input

Number/signal type.....	1 analog RGBHV, RGBS, RGsB, RsGsBs
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NOTE *Not compatible with interlaced signals.*

Connectors	5 BNC female
Nominal level	0.7 Vp-p for RGB
Minimum/maximum levels.....	Analog: 0.3 V to 1.5 Vp-p with no offset
Impedance	75 ohms
Horizontal frequency.....	24 kHz to 130 kHz
Vertical frequency.....	40 Hz to 120 Hz
Nominal maximum return loss ..	<-30 dB @ 5 MHz
Maximum allowed DC offset	4.0 V
Input coupling.....	AC

Video output

Number/signal type.....	2 analog RGBHV, RGBS, RGsB, RsGsBs
Connectors	5 BNC female and (1) 15-pin HD female
Nominal level	0.7 Vp-p for RGB
Minimum/maximum levels.....	0.3 V to 1.5 Vp-p with no offset (follows input)
Impedance	75 ohms
Nominal maximum return loss ..	-30 dB @ 5 MHz
DC offset	±5 mV maximum with no input signal and at 0 offset

Sync

Input type	RGBHV, RGBS, RGsB, RsGsBs
Output type.....	RGBHV, RGBS, RGsB, RsGsBs (switch selectable)
Input level	Sync on R/G/B (RGsB, RsGsBs): 0.15 to 0.6 Vp-p TTL 2.0 V to 5.5 Vp-p with ±0.2 VDC offset max.
Output level	Sync on R/G/B (RGsB, RsGsBs): 0.3 Vp-p TTL 5.0 Vp-p unterminated
Input impedance	510 ohms or 10k ohms, selectable
Output impedance	75 ohms

Max. propagation delay	48 nS
Max. rise/fall time	3.5 nS
Polarity	
RGBHV,.....	For RGBHV input, output is positive or negative (follows input) or is forced negative (switch selectable).
RGBS, RGsB, RsGsBs	Negative

General

Power	100 VAC to 240 VAC, 50/60 Hz, external, auto-switchable; to 12 VDC, 1 A, regulated
Power input requirement.....	12 VDC, 0.4 A
Temperature/humidity	Storage -40° to +158°F (-40° to +70°C)/ 10% to 90%, non-condensing Operating +32° to +122°F (0° to +50°C)/ 10% to 90%, non-condensing
Rack mount	Yes, with optional 9.5" deep rack shelf, part #60-190-10 or 60-604-01; or 6" deep rack shelf, part #60-190-10 or 60-604-10. Also furniture mountable with optional kit #70-077-01 or #70-077-02; or projector mountable with kits #70-563-02/-03, #70-526-02/-03, or #70-077-04
Enclosure type	Metal
Enclosure dimensions	1.7" H x 4.3" W x 6" D, (1U high, ¼ rack wide) 4.2 cm H x 10.9 cm W x 15.2 cm D (Depth excludes connectors.)
Product weight	0.8 lbs (0.4 kg)
Shipping weight	2 lbs (1 kg)
Vibration.....	ISTA 1A in carton (International Safe Transit Association)
Listings.....	UL, CUL
Compliances.....	CE, FCC Class A, VCCI, AS/NZS, ICES
MTBF.....	30,000 hours
Warranty.....	3 years parts and labor

NOTE All nominal levels are at $\pm 10\%$.

NOTE Specifications are subject to change without notice.

Reference Material, cont'd

Included Parts

Included parts	Replacement part number
SCS 300	60-811-01
Rubber feet (4)	
12 VDC Desktop power supply (1)	
IEC cord (1)	
2-pole, captive screw plug, orange (1)	10-762-01LF
Tweaker (small screwdriver)	
SCS 300 User's manual	

Optional Accessories

These items can be ordered separately.

Item	Part number
PMK 350, black, white	70-563-02, 03
PMK 250 black, white	70-526-02, 03
PMK 200	70-077-04
RSU 129, 9.5" deep Universal rack shelf	60-190-01
RSB 129, 9.5" deep Basic rack shelf	60-604-01
RSU 126, 6" deep Universal rack shelf	60-190-10
RSB 126, 6" deep Basic rack shelf	60-604-10
MBU 125, Under desk mounting kit	70-077-01
MBD 129, Through desk mounting kit	70-077-02
BNC cables	26-260-xx
SY VGA cables	26-53-xx
VGA cables	26-238-xx

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FCC Class A Notice

Note: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference, in which case the user will be required to correct the interference at his own expense.

Note: This unit was tested with shielded cables on the peripheral devices. Shielded cables must be used with the unit to ensure compliance.

Extron's Warranty

Extron Electronics warrants this product against defects in materials and workmanship for a period of three years from the date of purchase. In the event of malfunction during the warranty period attributable directly to faulty workmanship and/or materials, Extron Electronics will, at its option, repair or replace said products or components, to whatever extent it shall deem necessary to restore said product to proper operating condition, provided that it is returned within the warranty period, with proof of purchase and description of malfunction to:

**USA, Canada, South America,
and Central America:**

Extron Electronics
1001 East Ball Road
Anaheim, CA 92805, USA

Europe, Africa, and the Middle East:

Extron Electronics, Europe
Beeldschermweg 6C
3821 AH Amersfoort
The Netherlands

Asia:

Extron Electronics, Asia
135 Joo Seng Road, #04-01
PM Industrial Bldg.
Singapore 368363

Japan:

Extron Electronics, Japan
Kyodo Building
16 Ichibancho
Chiyoda-ku, Tokyo 102-0082
Japan

This Limited Warranty does not apply if the fault has been caused by misuse, improper handling care, electrical or mechanical abuse, abnormal operating conditions or non-Extron authorized modification to the product.

If it has been determined that the product is defective, please call Extron and ask for an Applications Engineer at (714) 491-1500 (USA), 31.33.453.4040 (Europe), 65.6383.4400 (Asia), or 81.3.3511.7655 (Japan) to receive an RA# (Return Authorization number). This will begin the repair process as quickly as possible.

Units must be returned insured, with shipping charges prepaid. If not insured, you assume the risk of loss or damage during shipment. Returned units must include the serial number and a description of the problem, as well as the name of the person to contact in case there are any questions.

Extron Electronics makes no further warranties either expressed or implied with respect to the product and its quality, performance, merchantability, or fitness for any particular use. In no event will Extron Electronics be liable for direct, indirect, or consequential damages resulting from any defect in this product even if Extron Electronics has been advised of such damage.

Please note that laws vary from state to state and country to country, and that some provisions of this warranty may not apply to you.



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