

## User's Guide



## **3G HD-SDI 101**

### **Cable Equalizer**

# 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 présents 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 maradas 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.

## Avvertimento

**Alimentazione** • Non fare funzionare 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, déconnectez 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** • Achémener 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 sensibles de surchauffer. Ces ouvertures ne doivent jamais être bloquées par des objets.

**Lithium Batterie** • Il a danger d'explosion s'il y a un remplacement incorrect de la batterie. Remplacer uniquement avec une batterie du même type ou d'un équivalent recommandé 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 unmittelbar dagegen gestellt werden können.

**Wartung** • Alle Wartungsmaßnahmen sollten nur von qualifiziertem Servicepersonal durchgeführt werden. Die internen Komponenten des Gerätes 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 anderer 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 conectada 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.

**Protección del 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.

## 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暴露的危险电压，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。按照生产厂的建议处理废弃电池。

## 声明

所使用电源为 A 级产品，在生活环境中，该产品可能会造成无线电干扰。在这种情况下，可能需要用户对干扰采取切实可行的措施。

### FCC Class A Notice

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. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation. The Class A 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 with FCC emissions limits.*

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## About this Manual

This manual contains information about the Extron 3G HD-SDI 101 cable equalizer, with instructions on how to mount and operate this unit.

## About the 3G HD-SDI 101

The Extron 3G HD-SDI 101 is a compact, economical cable equalizer, which compensates for the signal degradation that takes place when video signals are passed through long lengths of coaxial cable.

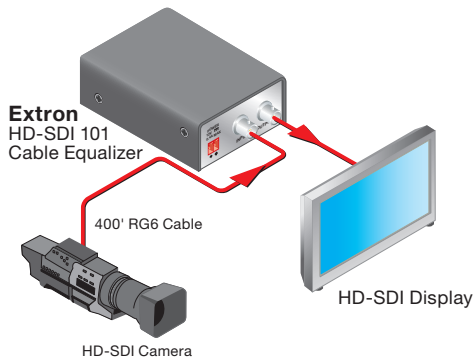
The equalizer is placed at the end of the long cable run, close to the display device, and enables Serial Digital Interface (SDI) signals to run up to 500'. High Definition SDI (HD-SDI) and Third Generation SDI (3G-SDI) signals can run up to 400'.

Input signals at all rates are equalized.

The 3G HD-SDI 101 automatically recognizes and re-clocks output signals for SDI and HD-SDI standard data rates:

- 270 Mbps (SMPTE 259M)
- 1.485 Gbps (SMPTE 292M)
- 2.97 Gbps (SMPTE 424M).

Signals at all other rates pass through (equalized but not re-clocked).



**Typical application for the 3G HD-SDI 101**

# Introduction

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## 3G HD-SDI 101 Features

**Power LED** — The front panel LED illuminates green when power is connected.

**Power supply** — An external 12 VDC power supply

**High data transfer rates** — Up to 2.97 Gbps

**Long cable runs** — Up to 500' (150 m) for SDI signals using Extron RG6 cable

**High quality signals** — Signals at all rates are equalized to give optimum signal quality. In addition, signals at standard data rates 270 Mbps (SMPTE 259M), 1.485 Gbps (SMPTE 292M), and 2.97 Gbps (SMPTE 424M) are automatically recognized and re-clocked.

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## Mounting the 3G HD-SDI 101

The small size of this extender allows it to be mounted on a tabletop, on a rack, or under furniture.

**NOTE** *The 3G HD-SDI 101 is designed to be placed at the end of a long cable run and close to the display device.*

### Tabletop placement

Attach the four included rubber feet to the bottom of the unit and place it in any convenient location.

### Rack Mounting

#### UL guidelines for rack mounting

The following Underwriters Laboratories (UL) guidelines are relevant to the safe installation of the 3G HD-SDI 101 in a rack:

1. **Elevated operating ambient temperature** — If the unit is 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 equipment in an environment compatible with the maximum ambient temperature (T<sub>ma</sub>: +122 °F, +50 °C) specified by Extron.
2. **Reduced air flow** — Install the equipment in the rack so that the equipment gets adequate air flow for safe operation.
3. **Mechanical loading** — Mount the equipment in the rack so that uneven mechanical loading does not create a hazardous condition.
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. Give appropriate consideration to the equipment nameplate ratings.
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 (such as power strips).

# Installation and Operation, cont'd

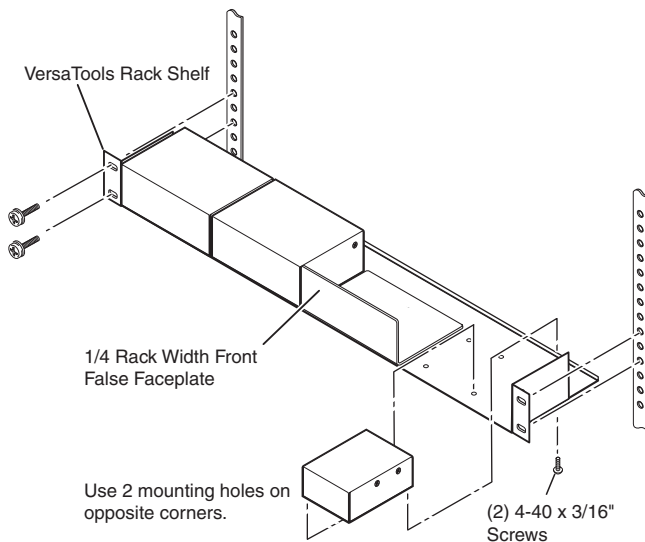
## Rack mounting procedures

The unit can be mounted in the front or rear of any of these rack systems:

- RSF 123 3.5" deep 1U VersaTools® rack shelf kit (part #60-190-20)
- RSB 123 3.5" deep 1U VersaTools rack shelf (part #60-604-20)
- RSU 126 6" deep 1U universal rack shelf kit (part #60-190-10)
- RSB 126 6" deep 1U basic rack shelf (part #60-604-10)
- RSU 129 9.5" deep 1U universal rack shelf kit (part #60-190-01)
- RSB 129 9.5" deep 1U basic rack shelf (part #60-604-01)

To rack mount the 3G HD-SDI 101, follow these directions:

1. If necessary, remove rubber feet from the bottom of the unit.
2. Secure the 3G HD-SDI 101 to the shelf with two 4-40 x 3/16" screws in opposite corners of the base (see figure 2-1, below).
3. Install false faceplate(s) or other unit(s) to the rack shelf.
4. Attach the shelf to the rack with the four provided 10-32 x 3/4" bolts.



### **Rack mounting the 3G HD-SDI 101**

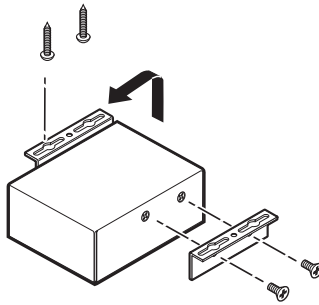


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## Furniture mounting

The 3G HD-SDI 101 can be mounted under furniture using optional mounting kit MBU 125 (part # 70-077-01) as follows:

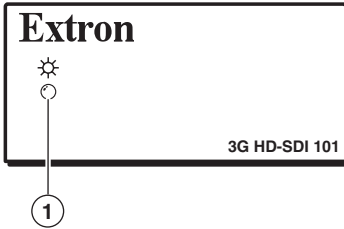
1. Attach the mounting brackets to the 3G HD-SDI 101 with the provided machine screws as shown in the figure below.
2. Hold the 3G HD-SDI 101 with the attached brackets against the underside of the table or other furniture. Mark the location of the screw holes in the brackets on the mounting surface.
3. Drill  $3/32$ " (2 mm) diameter pilot holes,  $1/4$ " (6.3 mm) deep in the mounting surface at the marked screw locations.
4. Insert #8 wood screws into the four pilot holes. Tighten each screw into the mounting surface until just less than  $1/4$ " of the screw head protrudes.
5. Align the mounting screws with the slots in the brackets and place the 3G HD-SDI 101 and brackets against the surface, with the screws through the bracket slots.
6. Slide the 3G HD-SDI 101 slightly forward or back, then tighten all four screws to secure the unit in place.



***Mounting the 3G HD-SDI 101 under a desk***

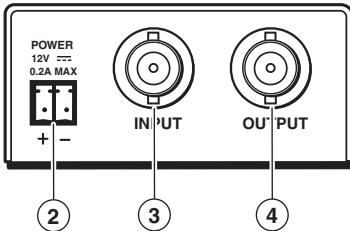
# Installation and Operation, cont'd

## Front Panel Features



- ① **Power LED** — The LED illuminates green when the unit is receiving power.

## Rear Panel Features



- ② **Power connector** — The external 12 VDC, 2A power supply (provided) is connected to this 2-pole, orange, 3.5 mm captive screw connector.
- ③ **HD-SDI input** — One female BNC connector accepts HD-SDI input.
- ④ **HD-SDI output** — One female BNC connector provides HD-SDI output.

## Input Cable Length

For SDI signals, the maximum length from the signal source to the 3G HD-SDI 101 input is 500' (150 m).

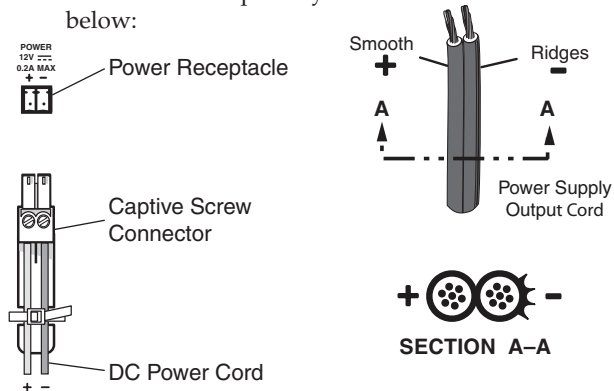
For HD-SDI signals, the maximum length from the signal source to the 3G HD-SDI 101 input is 400' (120 m).

**NOTE** *The maximum signal transmission distance depends on signal resolution, the source, the display, and the quality of the cable. These maximum distances were measured using Extron RG6 super high resolution cable.*

## 3G HD-SDI 101 Operation

To operate the 3G HD-SDI 101 cable equalizer, follow these instructions:

1. Mount the 3G HD-SDI 101 in a convenient location at the end of a long cable run and close to the display device.
2. Connect the power supply (provided) to the equalizer, using the captive screw connector. Ensure the connections have the correct polarity as shown in the illustration below:



For connections to captive screw receptacles, the length of the exposed wires is critical.

### NOTE

The ideal length of stripped wire is 3/16" (5 mm):

- If the stripped section of wire is longer than 3/16", the exposed wires may touch, causing a short circuit between them.
- If the stripped section of wire is shorter than 3/16", the wires can be easily pulled out even if tightly fastened by the captive screws.

### CAUTION

Do not tin the wires. Tinned wire does not hold its shape and can become loose over time.

3. Use a BNC connector to connect the input signal from the source.

All input signals are equalized.

Input signals at 270 MHz, 1.485 GHz, or 2.97 GHz are re-clocked. Signals at other rates are passed through without re-clocking.

4. Use a BNC connector to connect the output signal to the display device.

# Reference Material

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## Specifications

### Video

Gain .....	Unity
Resolution.....	8 or 10 bits, automatic
Operation Standards.....	SMPTE 259M, SMPTE 292M, SMPTE 424M, ITU-R BT.601, ITU-R BT.1120
Auto data rate lock.....	Yes

### Video input

Number/Signal Type.....	1 single link SDI, HD-SDI, or 3G-SDI digital component video
Connectors .....	1 female BNC
Data rates.....	19 Mbps to 2.97 Gbps
Input cable equalization.....	Automatic for up to -30 dB of cable loss
HD-SDI, 3G-SDI .....	120 m (400') using Extron RG6 cable 60 m (200') using Extron RG59 cable
SDI.....	150 m (500') using Extron RG6 cable 120 m (400') using Extron RG59 cable

**NOTE** *Transmission distance varies depending on the signal resolution and on the type of cable, source, and display used in the system.*

Nominal level .....	0.8 Vp-p
Minimum/maximum levels.....	0.5 V to 1 Vp-p with no offset
Impedance .....	75 ohms
Return loss.....	<-15 dB @ 5 MHz to 2.97 GHz
DC offset (max. allowable).....	5 V
Input coupling .....	AC

### Video output

Number/Signal type .....	1 single link SDI, HD-SDI, or 3G-SDI digital component video
Connectors .....	1 female BNC
Re-clocking.....	Automatic for 270 Mbps, 1.485 Gbps, 2.97 Gps, or bypassed for other rates
Nominal level .....	0.8 Vp-p
Minimum/maximum levels.....	0.5 V to 1 Vp-p
Impedance .....	75 ohms
Return loss.....	<-25 dB @ 100 MHz
DC offset.....	±5 mV with input at 0 offset

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## General

External power supply .....	100 VAC to 240 VAC, 50/60 Hz, external; to 12 VDC, 2A, regulated
Power input requirements .....	12 VDC, 0.2A
Temperature/humidity .....	Storage: -40° to +158°F (-40 to +70°C)/ 10% to 90%, noncondensing Operating: +32° to +122°F (0° to +50°C)/ 10% to 90%, noncondensing
Cooling .....	Convection, no vents
Mounting	
Rack mount .....	Yes, with optional 1U, 9.5" deep rack shelf, part #60-190-01 (RSU 129), or 60-604-01 (RSB 129); or with VersaTools® 1U, 3.5" deep rack shelf, part #60-190-20 (RSF 123) or 60-604-20 (RSB 123); or with Back of the Rack mounting kit, part #70-367-01 (MBB 100)
Furniture mount .....	Yes, with optional VersaTools Under Desk Mounting Kit, part #70-212-01 (MBU 123)
Enclosure type .....	Metal
Enclosure dimensions .....	1.0" H x 2.2" W x 3.0" D (<1U high, one eighth rack wide) (2.5 cm H x 5.6 cm W x 7.6 cm D) (Depth excludes connectors.)
Product weight .....	0.4 lbs (0.2 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 ±10%.*

**NOTE**

*Specifications are subject to change without notice.*

## Reference Material, cont'd

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### Included Parts

These items are included in each order for a HD-SDI 101 3G:

Included parts	Replacement part number
3G HD-SDI 101	60-963-01
12 VDC, 2 A mountable desktop power supply	
IEC power cord	
(4) Rubber feet	
(2) Strips of Velcro	
Product label	33-1661-01
<i>3G HD-SDI 101 User's Guide</i>	

### Accessories

Accessories	Part number
RSU 129, 9.5" deep, rack shelf kit	60-190-01
RSB 129, 9.5" deep, basic rack shelf	60-604-01
RSU 126, 6" deep, rack shelf kit	60-190-10
RSB 126, 6" deep, basic rack shelf	60-604-10
RSF 123, 3.5" deep VersaTools® rack shelf kit	60-190-20
RSB 123, 3.5" deep VersaTools basic rack shelf	60-604-20
MBB 100, Back of the Rack mounting kit	70-367-01
MBU 125, Under-desk mounting kit	70-077-01
RG6 BNC cable (various lengths)	26-383-xx
RG59 Non-Plenum cable (various lengths)	22-145-xx
RG59 Plenum cable (various lengths)	22-146-xx

# 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

**Asia:**

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

**Europe, Africa, and the Middle East:**

Extron Electronics, Europe  
Beeldschermweg 6C  
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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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