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INTERFACING, SWITCHING AND DISTRIBUTION

User's Manual



DA RGB/YUV Series

RGB and Component Video Distribution Amplifiers

68-512-01 **Rev. C**
06 06

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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.

Conserver 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.

Eviter 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.

Precaucion

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 especificamente recomendados por el fabricante, ya que podrian 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

Alimentations• 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, 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 • 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 sensibles de surchauffer. Ces ouvertures ne doivent jamais être bloquées par des objets.

Lithium Batterie • Il a danger d'explosion s'll y a remplacment incorrect de la batterie. Remplacer uniquement avec une batterie du meme type ou d'un ype equivalent recommande par le constructeur. Mettre au reut les batteries usagees conformement 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 Erdanschluß, 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 Stomversorgung (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 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 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.

Litium-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 puentearia ni eliminaria.

Desconexión de alimentación eléctrica • Para desconectar con seguridad la acometida 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 deba 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 sobrecalientamiento 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.

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: These units was tested with shielded cables on the peripheral devices and between the transmitter and receiver. Shielded cables must be used with the units 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

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
3821 AH Amersfoort
The Netherlands

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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安全须知 • 中文



这个符号提示用户该设备用户手册中的操作和维护说明。

这个符号警告用户该设备机壳内暴露的危险电压，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。 设备必用有地线供电系统供电。第三条线（地线）是安设施，不能不用或跳过。

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

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。 设备部没有用户可以更换的零件。为避免出现触电危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。必须使与厂家推荐的相同或相近型号的电池。按照生产厂的

议处理废弃电池。

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Quick Start Guide — DA RGB/YUV

Step 1

Turn the equipment off and disconnect the equipment from the power source.

Step 2

Rack, under-desk, or through-desk mount the DA as desired.

DA2 RGBHV — Use an optional RSU 129 1U Rack Shelf, part **#60-190-01**, for rack mounting.

Use an optional MBU 125 Under-Desk Mount Kit, part **#70-077-01**, to mount the DA under furniture.

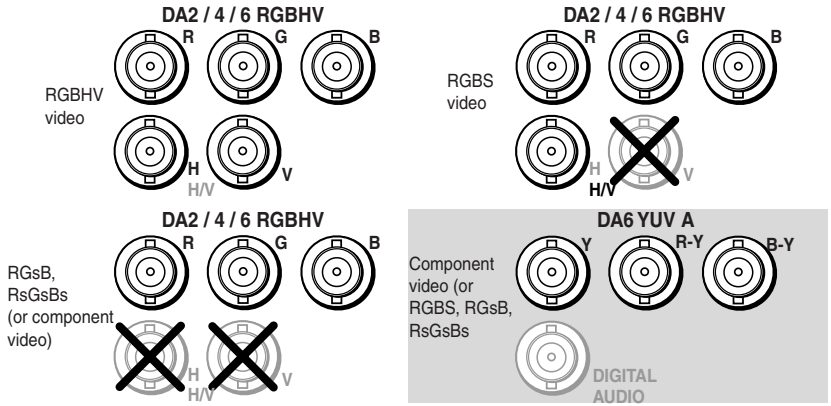
Use an optional MBD 129 Thru-Desk Mount Kit, part **#70-077-02**, to mount the DA through furniture.

DA4 RGBHV — Use the included rack mounting bracket for rack or through-desk mounting.
DA6 RGBHV
DA6 YUV A

Use an optional MBU 149 1U Enclosure Under-Desk Mount Kit, part **#70-222-01**, to mount the DA under furniture.

Step 3

Video input — Connect the RGB or component video input as shown. You **can** connect RGsB or RsGsBs video to a **DA6 YUV A**. You **can also** connect RGBS video to a DA6 YUV A by connecting the composite sync (S) input to the digital audio input BNC.



Step 4

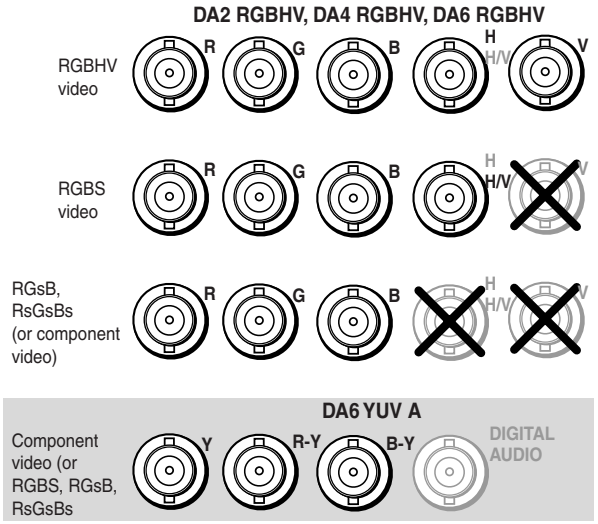
(DA6 YUV A only) Digital audio input — Connect a digital audio source to the input Digital Audio connector. If you are using the DA to buffer RGBS video, connect the composite sync (S) input to this connector in place of the digital audio.

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Quick Start Guide — DA RGB/YUV, cont'd

Step 5

Video outputs — Connect RGB or component video displays or other devices as shown. You **can** use a DA6 YUV A to buffer RGsB or RsGsBs video. You **can also** output RGBS video by connecting the composite sync (S) plane on the digital audio BNC to the composite sync (S) input of the video displays or other devices.

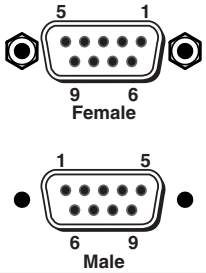


Step 6

(DA6 YUV A only) Digital audio outputs — Connect digital audio devices to the output Digital Audio connectors. If you are using the DA to buffer RGBS video, connect this connector to the composite sync (S) input of the video displays or other devices in place of the digital audio.

Mute function

Mute connector (all, excluding DA6 YUV A) — Each active pin of the 9-pin D connector is assigned to one of the DA's outputs (pin 2 is assigned to all DA outputs). Short and latch an active pin to ground to mute that output's R, G, and B video planes.



Pin	Contact closure	Function
1	Out #1	Mute output #1
2	Out all	Mute all outputs
3	—	Not used
4	Out #2	Mute output #2
5	Gnd	Ground
6	Out #3	Mute output #3
7	Out #4	Mute output #4
8	Out #5	Mute output #5
9	Out #6	Mute output #6

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Chapter One

Introduction

About the Distribution Amplifiers

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About the Distribution Amplifiers

The Extron DA RGB/YUV series (figure 1-1) is a family of three RGB video distribution amplifiers (DAs) and one component video DA with digital audio. The DAs buffer one RGB or component video input and distribute the buffered signals to multiple destinations with no loss of signal quality. The models available are:

- **DA2 RGBHV** — One input, two output RGBHV DA
- **DA4 RGBHV** — One input, four output RGBHV DA
- **DA6 RGBHV** — One input, six output RGBHV DA
- **DA6 YUV A** — One input, six output component video and digital audio DA. The DA also can buffer RGsB, and RsGsGs video. If you use the audio plane for the composite sync plane, you can buffer RGBS video.

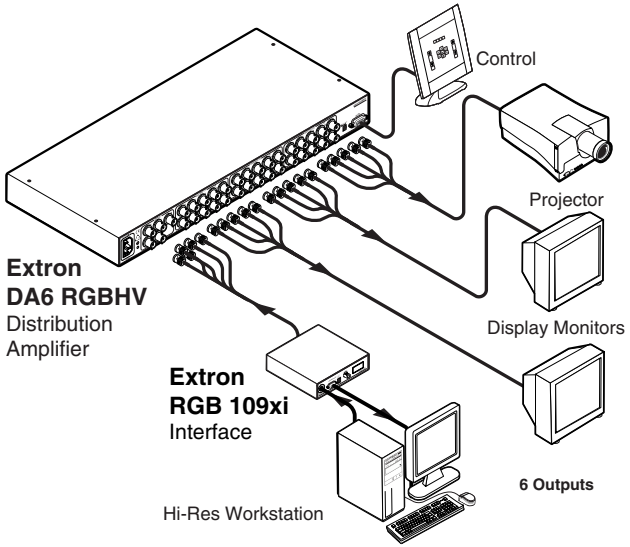


Figure 1-1 — Typical DA6 RGBHV application

Each of the models inputs and outputs video on female BNC connectors. The DA6 YUV A also inputs and outputs digital audio on female BNC connectors.

All models can be mounted in a standard 19″ rack. The DA2 RGBHV is in a 1U half-rack width enclosure and requires an optional Extron 1U universal rack shelf for rack mounting. The remaining DAs are in 1U full-rack width enclosures and include appropriate rack-mounting hardware. All DAs are also furniture-mountable. The DAs have an internal switching power supply for worldwide power compatibility.

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Chapter Two

Installation and Operation

Installation Overview

Mounting Options

Rear Panel Connections

Controls and Indicators

Operation and Troubleshooting

Installation Overview

Install a DA RGB/YUV by performing the following steps:

1. Turn off the input and output devices, and unplug their power cords.
2. If desired, mount the DA in a rack, under a furniture surface, or through furniture. See *Mounting Options*, below.
3. Connect the input and all desired outputs. See *Rear Panel Connections* later in this chapter.
4. Plug in the DA and the input and output devices. Turn on the input and output devices. See *Operation and Troubleshooting* later in this chapter.

Mounting Options

Rack mounting the DA

Rack mount the DA as follows:

Rack mounting the DA2

1. If rubber feet were installed on the bottom of the DA, remove them.
2. Place the DA on one half of an optional RSU 129 1U (one unit high, 19" wide) rack shelf (part **#60-190-01**). Align the front of the DA with the front of the shelf, and align the threaded holes on the bottom of the DA with the holes in the rack shelf (figure 2-1).
3. Secure the DA to the rack shelf with the two provided 4-40 x 3/16" machine screws. Insert the screws from the underside of the shelf, and securely fasten them at diagonally opposite corners.
4. Fasten the false front panel (provided with the rack shelf) to the unoccupied side of the rack (figure 2-1), or install a second half-rack-width device in that side by repeating steps **1** through **3**.
5. Secure the rack shelf to the rack using four 10-32 x 3/4" bolts. Insert the bolts through #10 beveled washers, then through the holes in the rack mounting flanges.

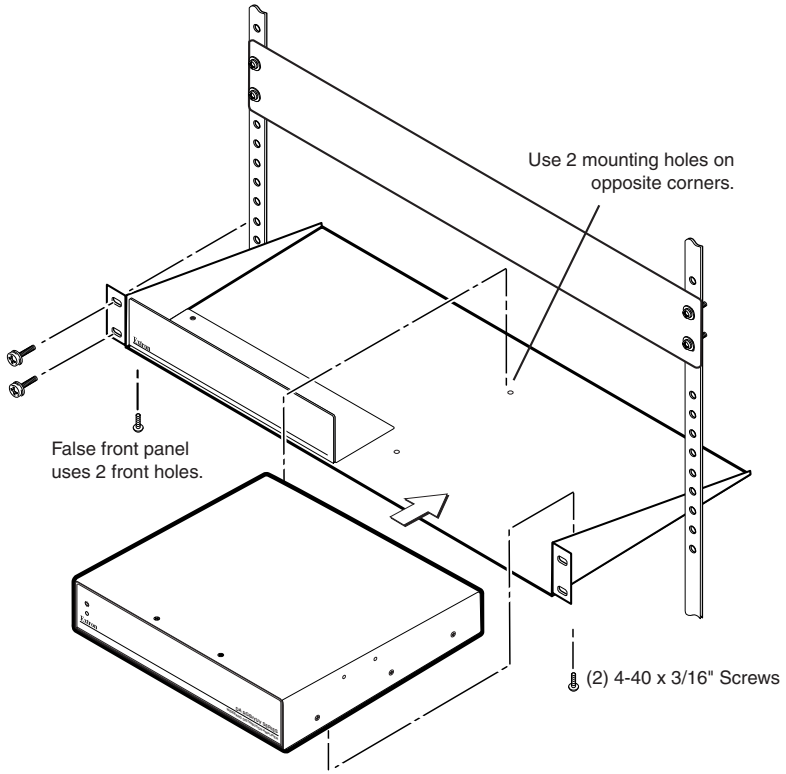


Figure 2-1 — Rack mounting a DA2 RGBHV

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Rack mounting the DA4 and DA6

1. Attach the rack mount brackets to the DA with the eight provided #8 machine screws (figure 2-2).

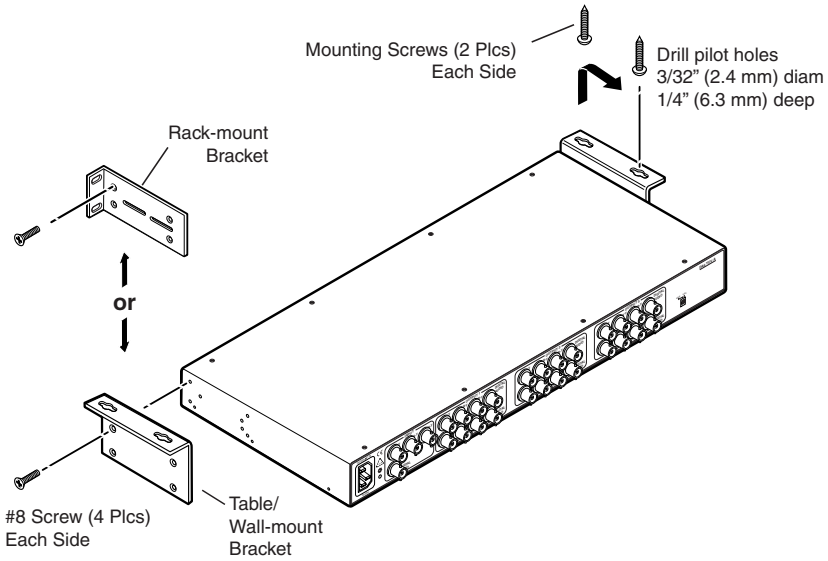


Figure 2-2 — Rack mounting a DA4 or DA6

2. Insert the DA into the rack, aligning the holes in the mounting bracket with those of the rack.
3. Secure the DA to the rack using the supplied machine screws.

Under-furniture mounting the DA

The DAs can be mounted under a table or other horizontal surface. The DA2 RGBHV requires an optional Extron MBU 125 under-desk mounting kit (part **#70-077-01**). The DA4 and DA6 models require the included table/wall mount bracket. Mount the DA under a desk or table as follows:

1. Secure the under-desk mounting brackets to the DA with the four (DA2) or eight (DA 4 and DA6) machine screws provided in the mounting kit (figure 2-2 for the DA4 and DA 6 or figure 2-3 for the DA 2).
2. Hold the DA with attached brackets against the underside of the desk or other furniture. Mark the location of holes for screws on the desk.

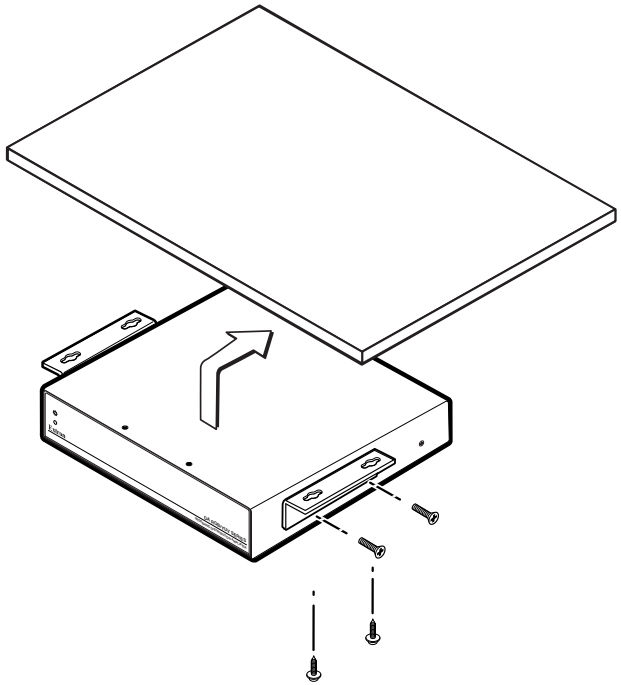


Figure 2-3 — Under-furniture mounting

3. Drill 1/4" (6.4 mm) deep, 3/32" (2 mm) diameter pilot holes in the table or desk at the marked screw locations from the underside or inside (the concealed side) of the furniture, where the DA will be located.
4. Insert the four wood screws into the pilot holes. Fasten each screw into the installation surface until just less than 1/4" of the screw head protrudes.
5. Align the installed screws with the slots in the mounting brackets, and place the DA against the surface, with the screws through the bracket slots.
6. Slide the DA slightly forward or back, then tighten all four screws to fasten it in place.

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Through-furniture mounting the DA

The DAs can be mounted through a desk or other furniture. The DA2 RGBHV requires an optional MBD 129 Through-Desk Mount Kit, part #**70-077-02**. The DA4 and DA6 models require the included through-desk and rack mounting bracket. Mount the DA through a desk or table as follows (figure 2-4):

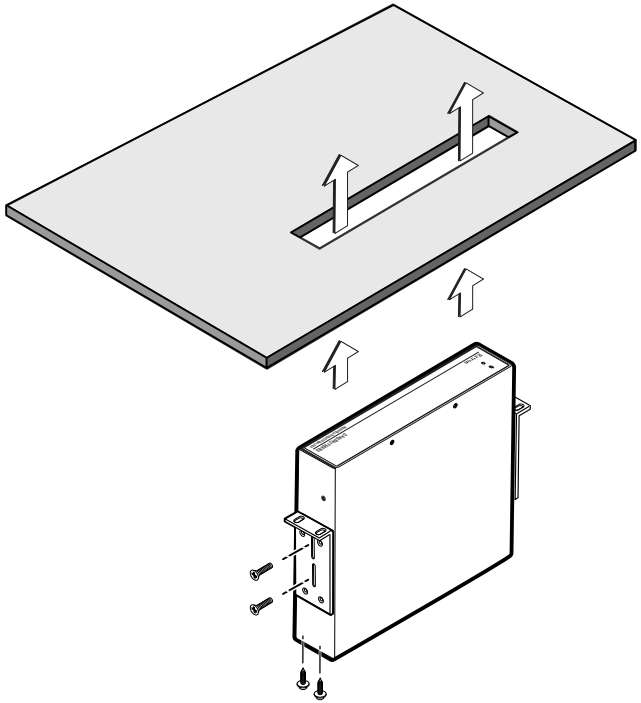


Figure 2-4 — Through-desk mounting

1. Loosely attach the mounting brackets to the DA using the four machine screws and washers supplied with the mounting kit. On the DA4 and DA 6 models, use two screws on each side of the DA, inserted through the adjustable (slotted) holes on the brackets.
2. Hold the DA against the inside of the surface through which it will be mounted. Mark the four screw holes on the inside of the surface to which you are mounting the device.
3. Drill four pilot holes, each 3/32" in diameter by 1/4" deep, where you made marks.
4. Using the four provided wood screws, attach the brackets to the mounting surface.
5. Slide the DA up and down or back and forth in the mounting brackets until the face of the DA is at the desired height. Tighten the screws that secure the bracket in place.

   If the screws are inaccessible to a screwdriver:

   a. Mark the location of the brackets relative to the screws.
   b. Remove the DA from inside the furniture.
   c. Tighten the screws.
   d. Replace the DA inside the surface (repeat step **4**).

Rear Panel Connections

All connectors are on the rear panel. The DA can buffer and output RGBHV or component video to up to six video devices. The DA6 YUV A also buffers and outputs digital audio. All DAs output the identical video and/or digital audio output. The DAs perform no sync or video format manipulation.

DA2 RGBHV is in a half-rack width enclosure and the rest of the models are in full-rack width enclosures. Figure 2-5 shows a DA2 RGBHV. Figure 2-6 shows a DA4 RGBHV. Figure 2-7 shows a DA6 YUV A (component video and digital audio). The three DAs shown have all of the connector configurations that are available in the DA RGB/YUV product family covered in this manual.

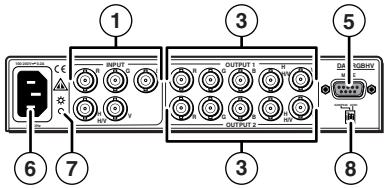


Figure 2-5 — DA2 RGBHV rear panel

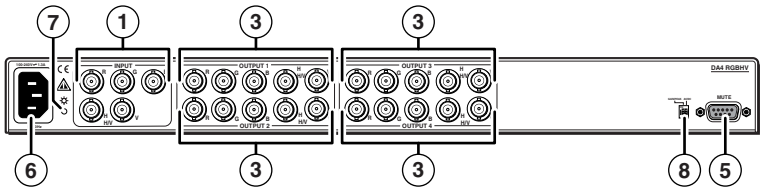


Figure 2-6 — DA4 RGBHV rear panel

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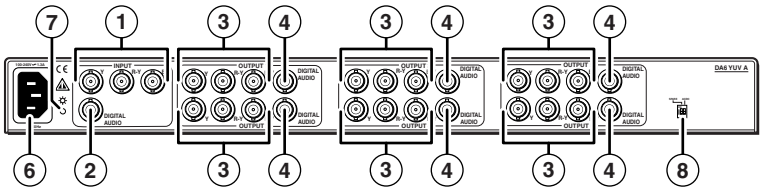


Figure 2-7 — DA6 YUV A rear panel

Input connections

(1) **RGB and component video inputs** — Connect an RGB or component video source to these BNC connectors. Connect the cables as shown in figure 2-8.

You **can** connect RGsB or RsGsBs video to a DA6 YUV A. You **can also** connect RGBS video to a DA6 YUV A by connecting the composite sync (S) input to the digital audio input BNC.

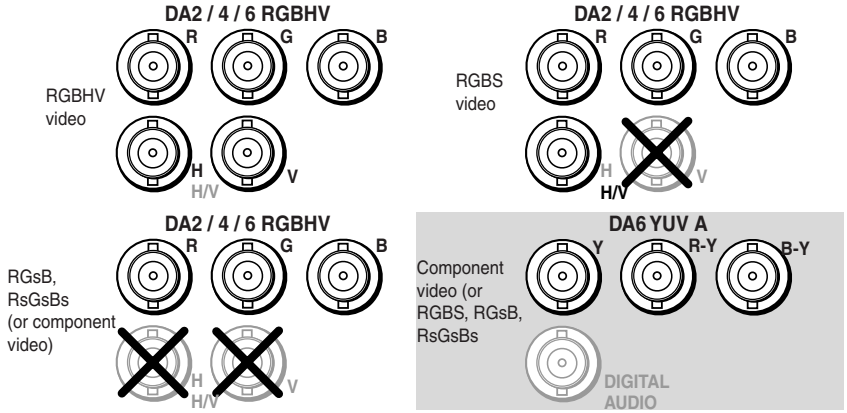


Figure 2-8 — Video input connections

(2) **Digital audio input connection (DA6 YUV A only)** — Connect a digital audio source to this female BNC connector.

If you are using the DA to buffer RGBS video, connect the composite sync (S) input to this connector.

Output connections

(3) **RGB and component video outputs** — Connect RGB or component video displays or other devices to these BNC connectors for each video output. Connect the cables as shown in figure 2-9.

You can use a DA6 YUV A to buffer RGsB or RsGsBs video. You can also output RGBS video by connecting the composite sync (S) plane on the digital audio BNC to the composite sync (S) input of the video displays or other devices.

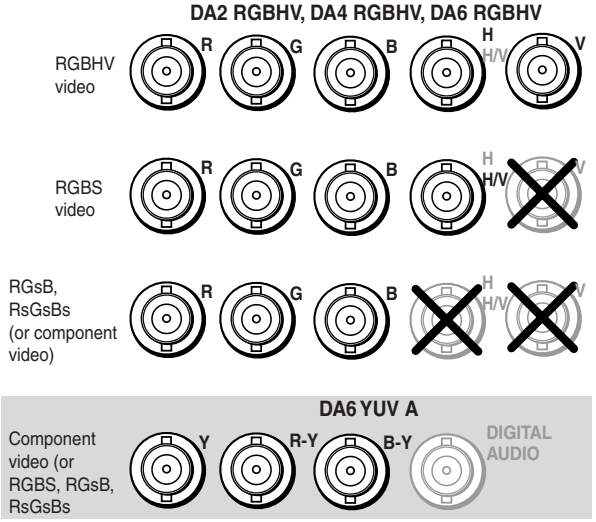


Figure 2-9 — Video output connections

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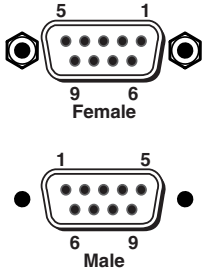
④ **Digital audio output (DA6 YUV A only)** — Connect digital audio devices to these female BNC connectors for each audio output.

If you are using the DA to buffer RGBS video, connect this connector to the composite sync (S) input of the video displays or other devices.

Mute connection

⑤ **Mute connector (all, excluding DA6 YUV A) —** The Mute connector provides a way to mute (blank) any or all outputs. Each active pin of the 9-pin D connector is assigned to one of the DA's outputs (pin 2 is assigned to all DA outputs) (figure 2-10). When you short and latch an active pin or pins to ground, the DA mutes the associated output(s).

NOTE *Only the R, G, and B video signals are muted. The H and V video signals are still distributed.*



Pin	Contact closure	Function
1	Out #1	Mute output #1
2	Out all	Mute all outputs
3	—	Not used
4	Out #2	Mute output #2
5	Gnd	Ground
6	Out #3	Mute output #3
7	Out #4	Mute output #4
8	Out #5	Mute output #5
9	Out #6	Mute output #6

Figure 2-10 — Mute connector and pinout

Pins associated with an output number greater than what is available for a specific DA have no function in smaller DAs. For example, pin 6 (output 3) through pin 9 (output 6) have no function on the DA2 RGBHV.

Power connection

⑥ **AC power connector —** Plug a standard IEC power cord into this connector to connect the DA to a 100VAC to 240VAC, 50 or 60 Hz power source.

Controls and Indicators

Each of the DAs has power LEDs on both the front panels (figure 2-11) and rear panels (figure 2-5 through figure 2-7) and two DIP switch controls on the rear panel.

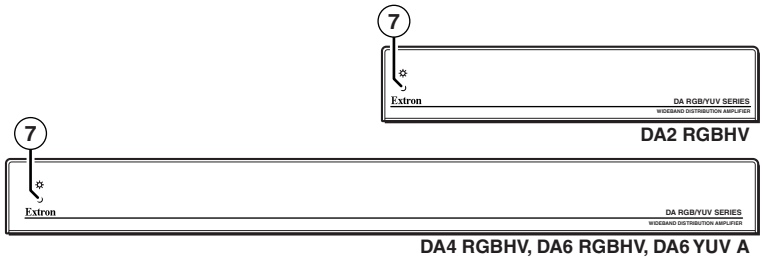
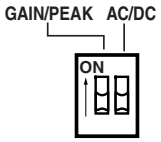


Figure 2-11 — DA RGB/YUV series front panels

⑦ **Power LEDs —** When lit, the front and rear power LEDs indicate that power is applied to the DA.

⑧ **DIP switches —** The DAs have two rear panel DIP switches; one to turn gain and peaking on and off (**spare on the DA6 YUV A**) and one to turn AC coupling on and off.



Gain/Peak switch (DA2 RGBHV, DA4 RGBHV, and DA6 RGBHV only) — Turn this switch on and off while viewing the displayed image to set the level that provides the best picture quality.

- **On (up)** — Applies gain and peaking. Use this position for long cable runs (up to 200 feet using Extron MHR cable).
- **Off (down)** — No gain or peaking. Use this position for short cable runs.

AC/DC switch — Input coupling.

- **On (up)** — Use this position when the signal source has a high DC offset.
- **Off (down)** — This is the default position for the best picture quality.

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Operation and Troubleshooting

Connect the power cords and turn on the displays (projectors or monitors), the DA, and the input device (computer). The image should appear on the screens.

If the image does not appear or is not displayed correctly

1. Ensure that all devices are plugged in.
2. Make sure that each device is receiving power. The DA's front and rear panel power LEDs indicate if the DA is receiving power.
3. Check the cabling and make adjustments as needed.
4. **If all displays are blank (DA2 RGBHV, DA4 RGBHV, and DA6 RGBHV only)**, check that a contact closure device is not set to mute all outputs via the DA's Mute connector (see *Mute connection* and item ⑤, earlier in this chapter).
5. **If individual displays are blank (DA2 RGBHV, DA4 RGBHV, and DA6 RGBHV only)**, check to ensure that a contact closure device is not set to mute the individual outputs via the DA's Mute connector (see *Mute connection* and item ⑤, earlier in this chapter).
6. **(DA2 RGBHV, DA4 RGBHV, and DA6 RGBHV only)** If the edges of the image seem to exceed their boundaries or if thin lines and sharp edges look thick and fuzzy, try changing the Gain/Peak DIP switch to On (up) (see *Controls and Indicators* and item ⑧, earlier in this chapter). If the image is too bright, turn the Gain/Peak switch to Off (down).
7. Call the Extron S³ Sales & Technical Support Hotline if necessary.

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Appendix A

Reference Information

Specifications

Part Numbers

Specifications

Video

Gain	0 dB (unity), or 1.1 dB (110%), switch-selectable (When input = 0.7 V, output = 0.7 V or 0.8 V, respectively.)
Peaking	0 dB or +6 dB at 100 MHz, switch-selectable
Bandwidth	350 MHz (-3 dB), fully loaded

Video input

Number/signal type	
DA6 YUV A	1 RGBS (only when the digital audio channel is not used), RGsB, RsGsBs, component video, S-video, composite video
All other models	1 RGBHV, RGBS, RGsB, RsGsBs, component video, S-video, composite video
Connectors	
DA6 YUV A	3 or 4 BNC female (the fourth can be used for digital audio input instead of video sync)
All other models	5 female BNC
Nominal level (at unity gain)	1 Vp-p for Y of component video and S-video, and for composite video 0.7 Vp-p for RGB 0.3 Vp-p for R-Y and B-Y of component video, and for C of S-video
Minimum/maximum levels	Analog: 0.3 V to 1.5 Vp-p with no offset at unity gain
Impedance	75 ohms
Horizontal frequency	15 kHz to 180 kHz
Vertical frequency	15 Hz to 170 Hz
Return loss	<-38 dB @ 5 MHz
DC offset (max. allowable)	5.0 V (in AC coupling mode)
Input coupling	AC/DC, switch-selectable

Video output

Number/signal type	
DA6 YUV A	6 RGBS (only when the digital audio channel is not used), RGsB, component video, S-video, composite video (follows input type)
All other models	2, 4, or 6 RGBHV, RGBS, RGsB, RsGsBs, component video, S-video, composite video (follows input type)
Connectors	
DA6 YUV A	6 x 4 BNC female
All other models	(2, 4, or 6) x 5 BNC female
Nominal level	1 Vp-p for Y of component video and S-video, and for composite video 0.7 Vp-p for RGB 0.3 Vp-p for R-Y and B-Y of component video, and for C of S-video
Minimum/maximum levels	0.3 Vp-p to 1.5 Vp-p (follows input)
Impedance	75 ohms
Return loss	<-44 dB @ 5 MHz
DC offset	±5 mV with input at 0 offset

Sync

Input/output type	
DA6 YUV A	RGBS (only when the digital audio channel is not used), RGsB, RsGsBs
All other models	RGBHV, RGBS, RGsB, RsGsBs
Input level	Analog or TTL: 0.5 V to 5 Vp-p
Output level	TTL: 5 Vp-p, unterminated
Input impedance	510 ohms
Output impedance	75 ohms
Max. input voltage	5.0 Vp-p
Max. propagation delay	35 ns
Max. rise/fall time	4 ns
Polarity	Positive or negative (follows input)

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Digital audio — DA6 YUV A only

NOTE *Digital audio input/output is available when RGBS is not used as the video input signal.*

Sampling rates	32 kHz, 44.1 kHz, 48 kHz, 96 kHz, etcetera

Digital audio input — DA6 YUV A only

Number/signal type	1 Dolby Digital, DTS, AES/EBU
Connectors	1 BNC female
Impedance	510 ohms
Nominal level	1 V (for consumer level) or 2 V (for professional level)
Min./max. input levels	0.5 V to 5 Vp-p

Digital audio output — DA6 YUV A only

Number/signal type	6 Dolby Digital, DTS, AES/EBU
Connectors	6 BNC female
Impedance	75 ohms
Output level	2.5 Vp-p, 75 ohms terminated
Max. propagation delay	35 ns
Max. rise/fall time	4 ns
Polarity	Positive or negative (follows input)

Control/remote — distribution amplifier (not applicable for DA6 YUV A)

Contact closure	(1) 9-pin female D connector
Contact closure pin configurations	Pin 1 = mute output #1, pin 2 = mute all outputs, pin 3 = reserved, pin 4 = mute output #2, pin 5 = GND, pin 6 = mute output #3, pin 7 = mute output #4, pin 8 = mute output #5, pin 9 = mute output #6

General

Power	100 VAC to 240 VAC, 50/60 Hz, 10 watts, internal, autoswitchable
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
Rack mount	
DA2 RGBHV	Yes, with optional RSU 129 1U rack shelf, part #60-190-01 or 60-604-01
All other models	Yes, with included brackets
Enclosure type	Metal
Enclosure dimensions	
DA2 RGBHV	1.7" H x 8.7" W x 9.4" D (1U high, half rack wide) 4.3 cm H x 22.1 cm W x 23.9 cm D
All other models	1.75" H x 17.5" W x 8.5" D (1U high, full rack wide) 4.4 cm H x 44.4 cm W x 21.6 cm D (Depth excludes connectors.)
Product weight	
DA2 model	2.0 lbs (0.9 kg)
DA4 model	3.7 lbs (1.7 kg)
DA6 models	3.9 lbs (1.8 kg)
Shipping weight	
DA2 model	4 lbs (2 kg)
Other models	7 lbs (4 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.*

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Part Numbers

DA part numbers

Distribution Amplifier	Part #
DA2 RGBHV	60-488-01
DA4 RGBHV	60-489-01
DA6 RGBHV	60-490-01
DA6 YUV A	60-494-01

Included parts

Extron Part	Part #
DA RGB/YUV User's Manual	
Rack mounting bracket kit (DA4/6 models only)	

Optional accessories

Extron Part	Part #
RSU 129 1U Universal Rack Shelf Kit (DA2 RGBHV only)	60-190-01
MBU 125 Under-Desk Mount Kit (DA2 RGBHV only)	70-077-01
MBD 129 Thru-Desk Mount Kit (DA 2 RGBHV only)	70-077-02
MBU 149 1U Enclosure Under-Desk Mount Kit (DA4 & DA6)	70-222-01
SVHSM-BNCF adapter	26-353-01

Bulk cable

Super High Resolution Cable	Part #
RG6-5 bulk, 500'	22-100-02
Mini High Resolution Cable	**Part #**
MHR-5 Mini HR bulk, 500'	22-020-02
MHR-5 Mini HR bulk, 1000'	22-020-03
Plenum Mini High Resolution Cable	**Part #**
MHR-5P Plenum bulk, 500' (1000')	22-103-02 (-03)
M59 Cable	**Part #**
M59-5 (-6) bulk, 500'	22-127(133)-02

Assorted connectors

BNC connectors	Part #
BNC MHR crimp connectors, qty. 50	100-074-51
BNC M59 crimp connectors, qty. 50	100-452-51
BNC bulkhead connectors, qty. 50	100-076-51

Pre-cut cables

All Extron BNC cables have male connectors on both ends.

BNC-4 and BNC-5 Mini HR Cable	Part #
MHR-4 (-5) -3' (3 feet/0.9 meters)	26-210 (260)-01
MHR-4 (-5) -6' (6 feet/1.8 meters)	26-210 (260)-02
MHR-4 (-5) -12' (12 feet/3.6 meters)	26-210 (260)-03
MHR-4 (-5) -25' (25 feet/7.6 meters)	26-210 (260)-04
MHR-4 (-5) -35' (35 feet/10.6 meters)	26-210 (260)-12
MHR-4 (-5) -50' (50 feet/15.2 meters)	26-210 (260)-05
MHR-4 (-5) -75' (75 feet/22.8 meters)	26-210 (260)-06
MHR-4 (-5) -100' (100 feet/30.4 meters)	26-210 (260)-07
BNC-5 and BNC-6 M59 Cable	**Part #**
M59-5 (-6) -3' (3 feet/0.9 meters)	26-499 (529)-01
M59-5 (-6) -6' (6 feet/1.8 meters)	26-499 (529)-02
M59-5 (-6) -12' (12 feet/3.6 meters)	26-499 (529)-03
M59-5 (-6) -25' (25 feet/7.6 meters)	26-499 (529)-04
M59-5 (-6) -35' (35 feet/10.6 meters)	26-499 (529)-12
M59-5 (-6) -50' (50 feet/15.2 meters)	26-499 (529)-05
M59-5 (-6) -75' (75 feet/22.8 meters)	26-499 (529)-06
M59-5 (-6) -100' (100 feet/30.4 meters)	26-499 (529)-07

NOTE *Bulk cable in lengths up to 5000' (1524 meter) rolls is available with or without connectors.*

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