

# Extron® Electronics

INTERFACING, SWITCHING AND DISTRIBUTION



## User's Manual



## *DVI DA2 and DVI DA4* Digital Visual Interface Distribution Amplifier

68-1376-01  
Rev. D  
04 09

# 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 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.

## 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 Objekte darauf- 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.*

**NOTE** *For complete safety information about these products please read the Safety Compliances sheet, which is available online at [www.extron.com](http://www.extron.com).*

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## DVI DA2 and DVI DA4

# 1 Chapter One

## Introduction

About this Manual

About the DVI DA2 and DVI DA4

DVI DA2 and DVI DA4 Features

# Introduction

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## About This Manual

This manual describes the installation, operation, and specifications of the Extron DVI DA2 and DVI DA4 Distribution Amplifiers.

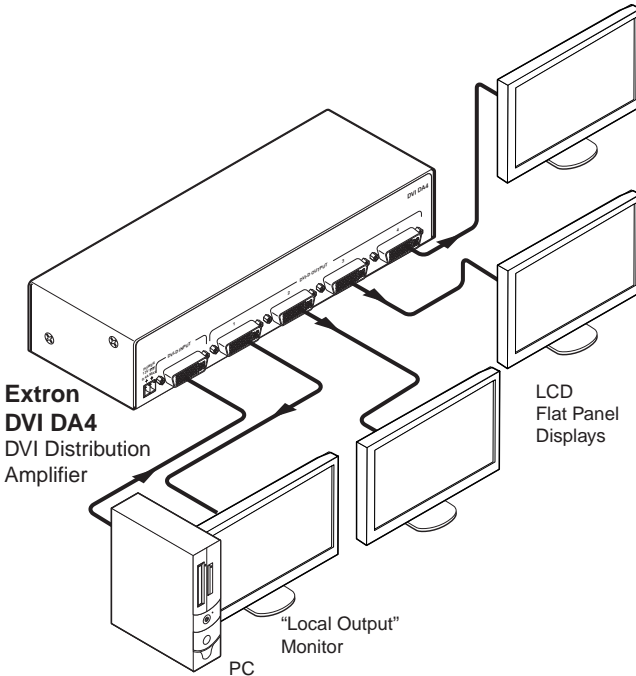
Unless stated otherwise, all references to the "distribution amplifier" or "the unit" in this manual refer to the features or operation of both models.

## About the DVI DA2 and DVI DA4

The Digital Visual Interface (DVI) Distribution Amplifiers (DAs) have one input and either two (DVI DA2) or four (DVI DA4) outputs.

Both distribution amplifiers accept one single link DVI-D input and drive two (DVI DA2) or four (DVI DA4) single link DVI-D output signals.

In both models, Output 1, is used for Digital Display Channel (DDC) reference.





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## DVI DA2 and DVI DA4 Features

**External power supply** — The DVI DA2 and DVI DA4 are powered by an external 12 VDC power supply (provided with the units).

**DVI-D input** — Both distribution amplifiers accept one single link DVI-D input, with a resolution range up to 1920 x 1200 or 1080p @ 60 Hz.

**Input Equalization** — Input Equalization (EQ) conditions the input signals to ensure the integrity of the signals delivered to the output devices.

**DVI-D outputs** — The units drive two (DVI DA2) or four (DVI DA4) single link DVI-D output signals.

**DDC routing to the local monitor** — Output 1 is used as a DDC reference and is labeled "Local Output" for easy reference. The video source uses the bidirectional DDC to communicate with the local monitor, which allows the source to determine the resolution and refresh rate of the signal that it sends.

**NOTE** *Since output 1 is used as the reference, all other display devices must be capable of handling resolutions equal to or greater than that of the local monitor.*

**NOTE** *The actual signal transmission distance can vary greatly and depends on signal resolution, cable type, cable quality, graphics card and the display used in the system.*

**Versatile mounting options** — Both units are 1U high, 3" (7.62 cm) deep, and 1/2 rack (8.7" or 22.1 cm) wide, allowing them to be conveniently mounted in a rack, under a desk or set on a tabletop.





## DVI DA2 and DVI DA4

# 2 Chapter Two

## Installation and Operation

Installation Overview

Mounting the Distribution Amplifier

Front Panel Features

Rear Panel Features

Cable Connections

Operation

Troubleshooting

# Installation and Operation

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## Installation Overview

Both distribution amplifiers can be mounted on tabletops, under furniture, and in racks by following these steps:

1. Turn off all electrical equipment. Make sure that the input sources, the DA and the output display(s) are all turned off and all power sources and signal cables are disconnected.
2. Mount the unit as described in "Mounting the Distribution Amplifier", below.
3. Connect the Cables (see "Cable Connections" on page 2-8).
4. Plug in the power supply, then turn on the display devices and input devices (see "Operation" on page 2-11).

## Mounting the Distribution Amplifier

The 1 U, half rack size of the distribution amplifiers allows them to be mounted in racks, under furniture or on tabletops.

### Tabletop placement

Attach the four provided 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 these products in a rack:

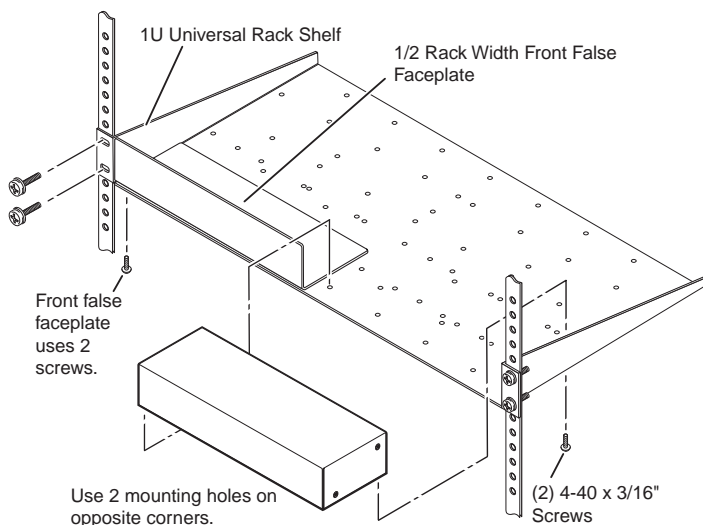
1. **Elevated operating ambient temperature** — If the unit is installed in a closed or multi-unit rack assembly, the operating ambient temperature of the rack environment may be greater than room ambient temperature. Therefore, install the equipment in an environment compatible with the maximum ambient temperature ( $T_{ma}$ : +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 when addressing this concern.

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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 the use of power strips).

### Rack mounting procedure

These distribution amplifiers can be mounted on any of the following rack shelves:

- RSF 123 (part # 60-190-20) 1U 3.5" VersaTools® rack shelf kit
- RSB 123 (part # 60-604-21) 1U 3.5" VersaTools basic rack shelf
- RSU 126 (part # 60-190-10) 1U 6" rack shelf kit
- RSB 126 (part # 60-604-11) 1U 6" basic rack shelf
- RSU 129 (part # 60-190-01) 1U 9.5" rack shelf kit
- RSB 129 (part # 60-604-02) 1U 9.5" basic rack shelf



### Rack mounting the DVI DA2 or DVI DA4

To mount the distribution amplifier on a rack shelf:

1. If necessary, remove rubber feet from the bottom of the unit.
2. Align two diagonally opposite mounting holes on the unit with two pre-drilled holes in the shelf. Use the two provided 4-40 x 3/16" screws to secure the unit on the shelf.
3. Install other unit(s) or false faceplate(s) on the rack shelf.

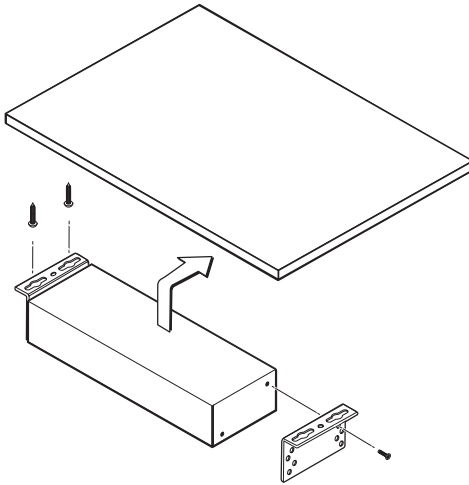
## Installation and Operation, cont'd

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4. Attach the shelf to the rack with the four provided 10-32 x 3.4" screws.

### Under-desk mounting

The DVI DA2 and DVI DA4 can be mounted under furniture using the optional Extron MBU 123 under-desk mounting kit (part # 70-212-01).



### Under furniture mounting

To mount the unit under a desk or table:

1. If necessary, remove rubber feet from the bottom of the unit.
2. Secure the under-desk mounting brackets to the unit with the four provided 4-40 x 3/16" screws.
3. Hold the unit, with the mounting brackets attached, under the furniture where it will be secured. Mark the position of the holes on the underside of the furniture.
4. In the marked positions, drill four pilot holes 3/32" (2 mm) in diameter and 1/4" (6 mm) deep.
5. Insert the four provided wood screws into the pilot holes and tighten until approximately 1/4" (6 mm) of the screw head is protruding.
6. Guide the holes of the mounting brackets over the protruding screw head and slide the unit forward or backward to seat it firmly under the furniture.
7. Tighten all four wood screws to secure the unit in place.

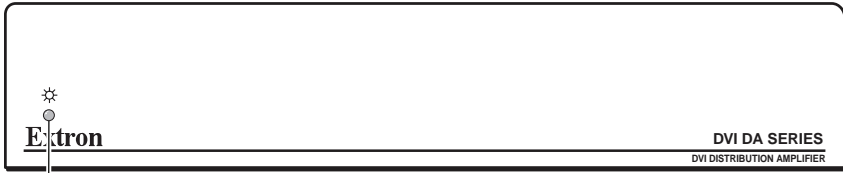


## Installation and Operation, cont'd

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### Front Panel Features

The front panels of the DVI DA2 and DVI DA4 are identical and shown in the illustration below.

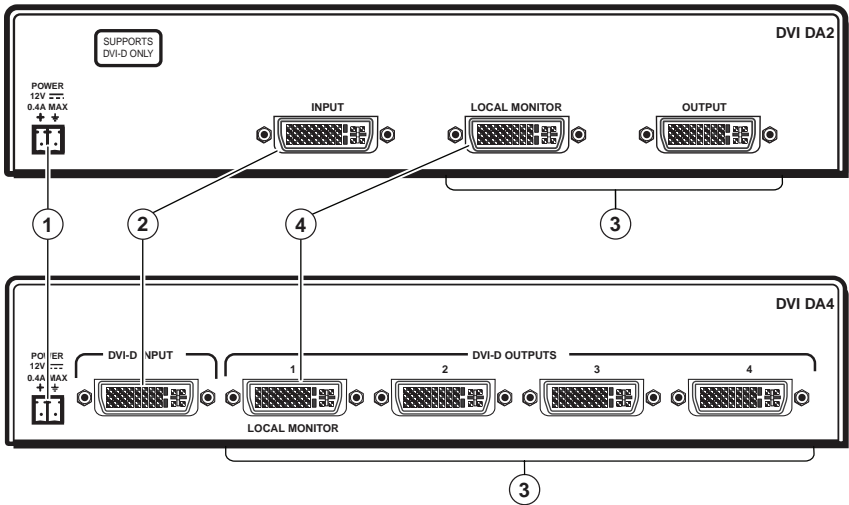


#### ***Front panel features***

- ① **LED indicator** — On both the DVI DA2 and DVI DA4, the LED indicator illuminates green when the unit is receiving power.



## Rear Panel Features



### Rear panel features

- ① **Power input** — Connect the provided power supply to the 3.5 mm, 2-pole captive screw power receptacle.
- ② **Input connector** — Connect the input signal to the female DVI connector. The DVI input signal is equalized to ensure integrity.

**NOTE** Although DVI-I dual link connectors are used, the DVI DA2 and DVI DA4 are only compatible with single-link DVI-D video signals.

- ③ **Output Connectors** — Connect up to two (DVI DA2) or four (DVI DA4) DVI-D outputs to display devices, using the female DVI connectors.
- ④ **Local Monitor connector** — Output 1 (Local Monitor) is used as a Hotplug Detect, a DDC clock, and a DDC data reference. For the input device to provide a signal at the correct resolution and refresh rate, there must be a display device connected to output 1.

**NOTE** To ensure proper operation, display devices connected to outputs 2-4 must be able to handle resolutions equal or greater than that of the local monitor on output 1.

## Cable Connections

### DVI Connections

1. Use a DVI cable to connect the source device to the female DVI-I input.

**NOTE** *Although DVI-I connectors are used, these distribution amplifiers are only compatible with single-link DVI-D video signals.*

For sources providing HDMI signals, use a HDMI to DVI adapter or cable, such as the Extron HDMIF-DVIDM female HDMI to male DVI-D adapter (#26-616-01) or the Extron HDMI M-DVI-D M series of HDMI male to DVI male cables (#26-614-xx).

The input signal is one single link DVI-D with a resolution range up to 1920 x1200 or 1080p @ 60 Hz.

Input EQ conditions input signals to ensure the integrity of the signals delivered to the output devices.

2. Use DVI-I cables to connect up to four display devices.

To output a HDMI signal, use a HDMI to DVI adapter, such as the Extron HDMIF-DVIDM female HDMI to male DVI-D adapter (#26-616-01).

**NOTE** *The actual signal transmission distance can vary and depends on signal resolution, cable quality, graphics card, and display used in the system.*

Output 1 is used as a DDC reference and is labeled "Local Monitor" for easy reference. For the input device to provide a signal at the correct resolution and refresh rate, one output device must be connected to output 1.

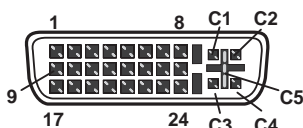
**NOTE** *To ensure proper operation, display devices connected to outputs 2-4 must be able to handle resolutions equal or greater than that of the local monitor on output 1.*

## DVI connector pin assignments

The illustration below shows the pin assignments for the DVI-I male and female connectors.

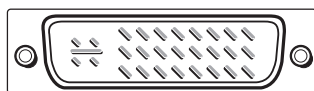
**NOTE** Although DVI-I dual link connectors are used, the DVI DA2 and DVI DA4 are only compatible with single-link DVI-D video signals.

**DVI-I Dual Link - Female**  
(analog and digital)



Three rows of 8 holes and two contacts above and below the "+" socket.

**DVI-I Dual Link - Male**  
(analog and digital)



Three rows of 8 pins and two contacts above and below the flat blade.

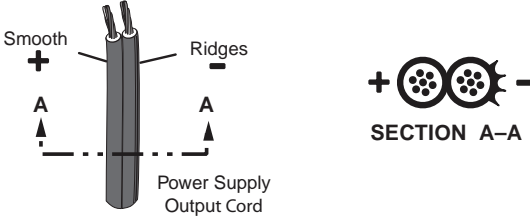
Pin	Signal	Pin	Signal	Pin	Signal
1	TMDS data 2-	9	TMDS data 1-	17	TMDS data 0-
2	TMDS data 2+	10	TMDS data 1+	18	TMDS data 0+
3	TMDS data 2/4 shield	11	TMDS data 1/3 shield	19	TMDS data 0/5 shield
4	TMDS data 4-	12	TMDS data 3-	20	TMDS data 5-
5	TMDS data 4+	13	TMDS data 3+	21	TMDS data 5+
6	DDC clock	14	+5 V power	22	TMDS clock shield
7	DDC data	15	Ground	23	TMDS clock+
8	Analog vertical sync	16	Hot plug detect	24	TMDS clock-
C1	Unused	C3	Unused	C5	Unused
C2	Unused	C4	Unused		

# Installation and Operation, cont'd

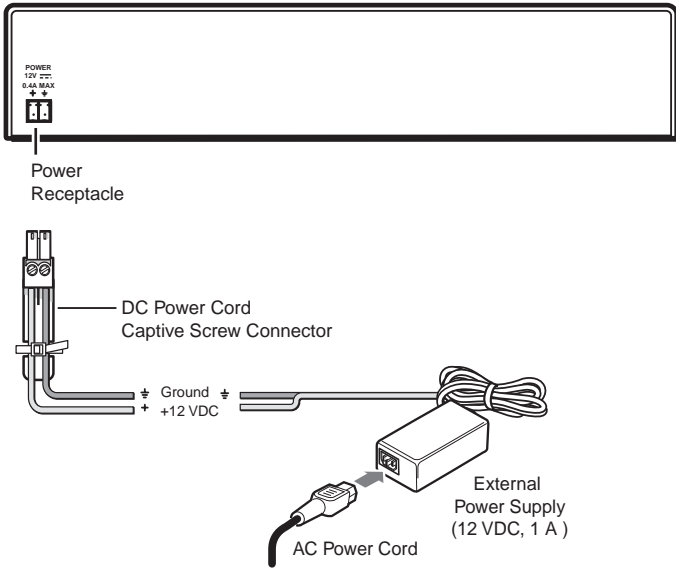
## Power Connections

1. Connect the captive screw connector from the supplied 12 VDC power supply into the power receptacle.

**NOTE** Ensure the cable is connected with the correct polarity.



## Cable Polarity



## Connecting the power supply

2. Connect the AC power cord of the power supply unit to a 110 or 220 VAC electrical source.

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## Operation

1. Connect the power supply (see page 2-10).
2. Connect and power on the local monitor (see page 2-8).
3. Connect and power on any other output displays (see page 2-8).
4. Connect and power on the source device (see page 2-8).

**NOTE** *Output 1 (Local Monitor) is used as a DDC reference and must be connected to the distribution amplifier before the source device is powered on. If the source device cannot communicate with the local monitor when it is being powered on, it may not be able to send a video signal or the signal may have the wrong resolution or refresh rate.*

## Troubleshooting

**No output signal** — Check that the front panel LED is on (lit green). If it is not, check the power supply connections to the unit (see page 2-10).

**No output signal or poor quality signal** — Check the integrity of the cabling to output 1 and ensure that output 1 (Local Monitor) is connected to the distribution amplifier before powering on the source device.

If the source device cannot communicate with output 1 when it is being powered on, it may not be able to send a video signal or the signal may have the wrong resolution or refresh rate.

**No output signal or poor quality signal** — Check the input and output cabling (see page 2-8). DVI signals run at very high frequency and poor connections can cause degradation or loss of the signal, or jitter. To avoid this:

- Use only cable that is designed for DVI signals.
- Limit or avoid the use of adapters.

**Display device displays a flashing black or blue screen, snow or other distortion** — A device that is not HDCP compliant may be receiving HDCP-encrypted signals.

The DVI DA2 and DVI DA4 are not High-Bandwidth Digital Content Protection (HDCP) compliant. They will only pass HDCP-encrypted signals to the local output device.

**Signal on local monitor but not on other displays** — Check that all output devices (monitors or projectors) can handle resolutions equal to or greater than that of the local monitor.



## DVI DA2 and DVI DA4

# A

# **Appendix A**

## **Reference Information**

Specifications

Included Parts

Accessories

# Reference Information

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## Specifications

### Video

Maximum bit rate.....	4.95 Gbps (1.65 Gbps per color)
Maximum pixel clock .....	165 MHz
Resolution range .....	Up to 1920x1200 or 1080p @ 60 Hz
Formats .....	RGB and YCbCr digital video
Standards.....	DVI 1.0

### Video Input

Numbers/signal type.....	1 single link DVI-D (or HDMI*)
Connectors .....	1 female DVI-I

**NOTE**     *\*Appropriate DVI-D to HDMI cables or adapters are required for HDMI signal input/output*

### Video Output

Numbers/signal type	
DVI DA2.....	2 single link DVI-D (or HDMI*): 1 main, 1 local

**NOTE**     *Local output is used for DDC communications and hot plug detection*

DVI DA4.....	4 single link DVI-D (or HDMI*)
Connectors .....	2 or 4 female DVI-I (depending on model)

**NOTE**     *\*Appropriate DVI-D to HDMI cables or adapters are required for HDMI signal input/output*

### General

External power supply .....	100 VAC to 240 VAC, 50/60 Hz, external; to 12 VDC, 1A, regulated
Power input requirements .....	12 VDC, 0.4 A
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



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## Mounting

Rack mount ..... Yes, with optional shelf kits or basic shelves

Furniture mount ..... Yes, with optional Under-desk mounting kit

Enclosure type ..... Metal

Enclosure dimensions ..... 1.75" H x 8.75" W x 3.0" D  
(1U high, half rack wide)  
(4.4 cm H x 22.2 cm W x 7.6 cm D)  
(Depth excludes connectors.)

Product weight ..... 2.8 lbs (1.3 kg)

Shipping weight ..... 5 lbs (3 kg)

Vibration ..... ISTA 1A in carton (International Safe Transit Association)

## Regulatory Compliance

Safety ..... C-tick, CUL, UL

EMI/EMC ..... CE, C-tick, FCC Class A, ICES, VCCI

MTBF ..... 30,000 hours

Warranty ..... 3 years parts and labor

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

**NOTE**     *Specifications are liable to change without notice*

# Reference Information

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## Included Parts

These items are included:

Included parts	Replacement part number
DVI DA2	60-886-01
DVI DA4	60-922-01
12 VDC Desktop power supply with orange captive screw attached	70-055-01
(1) IEC cord	
(4) Rubber feet (not attached)	
<i>Setup Guide — DVI DA2 and DVI DA4</i>	

## Accessories

Accessories	Part number
DVID SL series (3, 6 or 15 feet single link DVI-D male to male patch cables)	26-585-0x
IN9700 series (25, 35, 50 or 75 feet single link DVI-D male to male long distance extension cables)	26-584-0x
HDMIF-DVIDM (HDMI female to DVI-D male adapter)	26-616-01
MBU 123 (Under desk mount kit)	70-212-01
RSF 123 (3.5" deep, 1U rack shelf kit)	60-190-20
RSB 123 (3.5" deep, 1U basic rack shelf)	60-604-21
RSU 126 (6" deep, 1U rack shelf kit)	60-190-10
RSB 126 (6" deep, 1U basic rack shelf)	60-604-11
RSU 129 (9.5" deep, 1U rack shelf kit)	60-190-01
RSB 129 (9.5" deep, 1U basic rack shelf)	60-604-02

# 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 USA  
1001 East Ball Road  
Anaheim, CA 92805  
U.S.A.

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

Extron Europe  
Hanzeboulevard 10  
3825 PH Amersfoort  
The Netherlands

**Asia:**

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

**Japan:**

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

**China:**

Extron China  
686 Ronghua Road  
Songjiang District  
Shanghai 201611  
China

**Middle East:**

Extron Middle East  
Dubai Airport Free Zone  
F12, PO Box 293666  
United Arab Emirates, Dubai

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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