

## User's Manual



***P/2 DA2 Plus***  
**Distribution Amplifier**

68-1237-01 **Rev. A**  
07 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.

**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.

### 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'il y a un remplacement incorrect de la batterie. Remplacer uniquement avec une batterie du même type ou d'un type 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 andere Gefahren bestehen.

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

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

### Advertencia

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

**Desconexión de alimentación eléctrica** • Para desconectar con seguridad la 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 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.

# FCC Class A Notice

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

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

# Extron's Warranty

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

**USA, Canada, South America, and Central America:**  
Extron Electronics  
1001 East Ball Road  
Anaheim, CA 92805, USA

**Europe, Africa, and the Middle East:**  
Extron Electronics, Europe  
Beeldschermweg 6C  
3821 AH Amersfoort  
The Netherlands

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

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

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

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

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

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

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

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## 安全须知 • 中文



这个符号提示用户该设备用户手册中有重要的操作和维护说明。



这个符号警告用户该设备机壳内有露的危险电压，有触电危险。

### 注意

**阅读说明书** • 用户使用该设备前必须阅读并理解所有安全和使用说明。

**保存说明书** • 用户应保存安全说明书以备将来使用。

**遵守警告** • 用户应遵守产品和用户指南上的所有安全和操作说明。

**避免追加** • 不要使用该产品厂商没有推荐的工具或追加设备，以避免危险。

### 警告

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

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

**电源线保护** • 妥善布线，避免被踩踏，或重物挤压。

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

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

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

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## Description

The P/2 DA2 Plus is a high performance one input, two output distribution amplifier that accepts video input from a VGA-QXGA compatible PC and distributes that signal to separately buffered outputs. Each output can be extended with Extron MHR cables up to 100' (@XGA signal rate) in length.

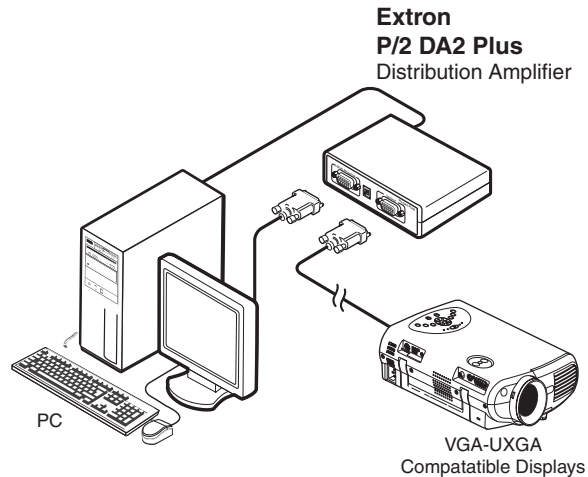
The distribution amplifier routes all video ID bits to its attached VGA input cable. The attached power supply cable allows for convenient power hookup.

## Features

- **Power LED** — useful in system troubleshooting
- **Impedance DIP switches** — for solving laptop compatibility problems and reflection problems due to long cable runs
- **Bandwidth** — 300 MHz (-3 dB) RGB video bandwidth maintains signal integrity
- **ID bits pass-through** — routes ID bits to the local monitor output to allow automatic scan rate selection by DDC

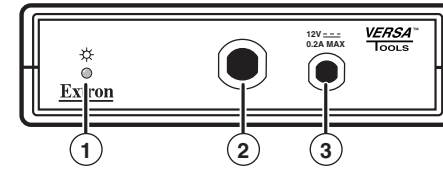
## Installation

1. Power off the computer and its local monitor.
2. Connect the computer's VGA output to the input cable of the distribution amplifier. See *Front Panel Features*.



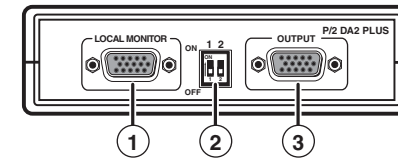
3. Connect the computer's monitor to the "Local Monitor" output and connect the display device to the "Output" of the distribution amplifier. Set the input and output impedance DIP switches, as explained in *Rear Panel Features*.
4. Plug in the distribution amplifier's power supply and power on the local monitor, computer, and display device.

## Front Panel Features



- ① **Power LED indicator** — A green LED indicates that the distribution amplifier is receiving power.
- ② **Input connector** — Connect the attached input cable's 15-pin HD connector to the computer's VGA output.
- ③ **Power supply** — Connect the attached external 12 VDC , 1 A power supply to a 100 to 240 VAC power source.

## Rear Panel Features



- ① **Local Monitor** — Attach a local monitor to the 15-pin HD female VGA connector.
- ② **DIP Switches** —  
**Switch 1 (sync input impedance)** – Default setting is down (510 ohms). If the image from a laptop computer becomes unstable, slide the switch up (10k ohms).  
**Switch 2 (sync output impedance)** – Default setting is up (50 ohms). If the front LED is green and all the input and output cables are properly connected, but there is no image at the projector, slide the switch down (75 ohms).  
**NOTE** These DIP switches only affect the Output display and not the Local Monitor display.
- ③ **Output connector** — Connect the output display device to the 15-pin HD female connector.

## Operation

After the distribution amplifier and its connected devices are powered up, the system is fully operational. For further information, see *Troubleshooting* below.

## Troubleshooting

Check all cable connections. If problems still exist, check the following steps:

1. If the image on the laptop and/or projector is distorted or unstable, do the following:
  - Check if the front LED is lit.
  - Slide DIP switch 1 to a different position to see if the image becomes normal.
2. If there is no image on the projector, do the following:
  - Check if the front LED is lit.
  - Check if the laptop's VGA signal is routed to the VGA port. Each laptop uses a different key combination for this function.
  - Slide DIP switch 2 to a different position and see if an image appears.
3. If the image still does not display correctly, call Extron's Sales and Technical Support Hotline.

## Specifications

### Video

Gain .....	Unity
Bandwidth .....	300 MHz (-3 dB), fully loaded
Long distance driveability .....	100' with Extron MHR cables @XGA signal rate

### Video input

Number/signal type.....	1 VGA-QXGA, RGBHV, RGBS, RGsB, RsGsBs
Connectors .....	(1) 15-pin HD male cable (built-in)
Nominal level .....	0.7 Vp-p for RGB
Minimum/maximum levels.....	Analog: 0.4 V to 1.4 Vp-p with no offset at unity gain
Impedance .....	75 ohms
Horizontal frequency.....	15 kHz to 135 kHz
Vertical frequency.....	30 Hz to 170 Hz
Return loss .....	<-38.3 dB @ 5 MHz

### Video output

Number/signal type.....	2 VGA-XGA, RGBHV, RGBS, RGsB, RsGsBs
Connectors .....	(2) 15-pin HD female
Nominal level .....	0.7 Vp-p for RGB
Minimum/maximum levels.....	0.4 V to 1.4 Vp-p, follows input
Impedance .....	75 ohms
Return loss .....	-41 dB @ 5 MHz
DC offset .....	±5 mV maximum with input at 0 offset

### Sync

Input type .....	RGBHV, RGBS, RGsB, RsGsBs
Output type.....	RGBHV, RGBS, RGsB, RsGsBs
Input level .....	1.7 V to 5 Vp-p
Output level .....	TTL: 5 Vp-p, unterminated
Input impedance .....	510 ohms
Output impedance .....	50 ohms (output resistor value)
Max. propagation delay .....	60 ns
Max. rise/fall time .....	4 ns
Polarity.....	Positive or negative

## Installation and Operation, cont'd

### General

External power supply .....	100 VAC to 240 VAC, 50/60 Hz, 4.5 watts, external, autoswitchable; to 12 VDC, 1 A, regulated
Power input requirements .....	12 VDC, 1 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
Rack mount .....	No
Enclosure type .....	Plastic
Enclosure dimensions .....	1.5" H x 5.0" W x 2.5" D 3.8 cm H x 12.7 cm W x 6.4 cm D (Depth excludes connectors.)
Product weight .....	1.6 lbs (0.7 kg)
Shipping weight .....	3 lbs (2 kg)
Vibration .....	ISTA 1A in carton (International Safe Transit Association)
Listings.....	UL, CUL
Compliances.....	CE, FCC Class A, AS/NZS, ICES, VCCI
MTBF.....	30,000 hours
Warranty .....	3 years parts and labor

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

**NOTE** Specifications are subject to change without notice.

(7.51-121505-D4)

### Included Parts

Description	Part number
P/2 DA2 Plus	60-046-03
P/2 DA2 Plus User's manual	
Self-adhesive rubber feet	
Tweezer (small screwdriver)	
IEC power cord	

### Cables: VGA M-M MD

Description	Part number
VGA M-M MD/3 — 3' (90 cm)	26-238-14
VGA M-M MD/6 — 6' (1.8 m)	26-238-01
VGA M-M MD/10 — 10' (3.0 m)	26-238-07
VGA M-M MD/15 — 15' (4.5 m)	26-238-02
VGA M-M MD/25 — 25' (7.6 m)	26-238-03
VGA M-M MD/35 — 35' (10.6 m)	26-238-17
VGA M-M MD/50 — 50' (15.2 m)	26-238-18
VGA M-M MD/75 — 75' (22.8 m)	26-238-19
VGA M-M MD/100 — 100' (30.4 m)	26-238-20

### Cables: SYM BNCM

Description	Part number
SYM BNCM/3 — 3' (90 cm)	26-533-12
SYM BNCM/6 — 6' (1.8 m)	26-533-02
SYM BNCM/12 — 12' (3.6 m)	26-533-03
SYM BNCM/25 — 25' (7.6 m)	26-533-04
SYM BNCM/50 — 50' (15.2 m)	26-533-05
SYM BNCM/75 — 75' (22.8 m)	26-533-06
SYM BNCM/100 — 100' (30.4 m)	26-533-07

## Installation and Operation, cont'd

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### Cables: SYM BNCF

Description	Part number
SYM BNCF/0.5 — 3" (15 cm)	26-531-01
SYM BNCF/1 — 1' (30 cm)	26-531-11
SYM BNCF/3 — 3' (90 cm)	26-531-12
SYM BNCF/6 — 6' (1.8 m)	26-531-02