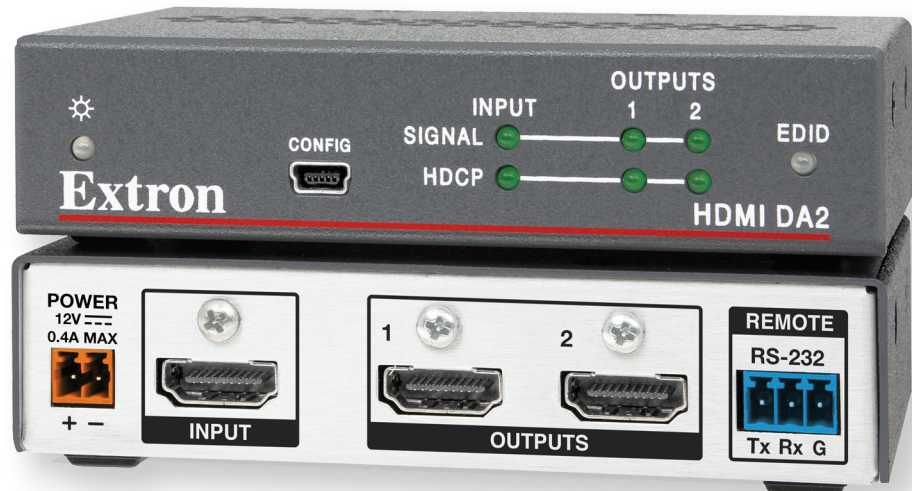


HDMI DA2

Distribution Amplifier



Extron® Electronics
INTERFACING, SWITCHING AND CONTROL

68-1844-01 Rev. A
05 12

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 enclosure that may present a risk of electric shock.

Caution

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

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

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

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

Consignes de Sécurité • Français



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



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

Attention

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

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

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

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.

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.

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。

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 instructions of the manufacturer.

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 y a danger d'explosion s'il y a remplacement incorrect de la batterie. Remplacer uniquement avec une batterie du même type ou d'un type équivalent 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 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 Stromversorgung (falls dies möglich ist) oder aus der Wandsteckdose ziehen.

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

Wartung • Alle Wartungsmaßnahmen sollten nur 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.

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。不要有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。

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. The Class A limits 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 interference; the user must correct the interference at his own expense.

NOTE: This unit was tested with shielded I/O cables on the peripheral devices. Shielded cables must be used to ensure compliance with FCC emissions limits.

For more information on safety guidelines, regulatory compliances, EMI/EMF compatibility, accessibility, and related topics, see the "[Extron Safety and Regulatory Compliance Guide](#)" on the Extron website.

Copyright

© 2012 Extron Electronics. All rights reserved.

Trademarks

All trademarks mentioned in this guide are the properties of their respective owners.

Conventions Used in this Guide

Notifications

DANGER: Danger indicates a situation that will result in death or severe injury.

WARNING: A warning indicates a situation that has the potential to result in death or severe injury.

CAUTION: A caution indicates a situation that may result in minor injury.

ATTENTION: Attention indicates a situation that may damage or destroy the product or associated equipment.

NOTE: A note draws attention to important information.

TIP: A tip provides a suggestion to make working with the application easier.

Software Commands

Commands are written in the fonts shown here:

```
^ARMerge Scene , ,Op1 scene 1,1 ^B 51 ^W ^C  
[ 01 ] R 0004 00300 00400 00800 00600 [ 02 ] 35 [ 17 ] [ 03 ]  
[Esc] [X1] * [X17] * [X20] * [X23] * [X21] CE ←
```

NOTE: For commands and examples of computer or device responses mentioned in this guide, the character “0” is used for the number zero and “O” represents the capital letter “o.”

Computer responses and **directory paths** that do not have variables are written in the font shown here:

```
Reply from 208.132.180.48: bytes=32 times=2ms TTL=32  
C:\Program Files\Extron
```

Variables are written in slanted form as shown here:

```
ping xxx.xxx.xxx.xxx -t  
SOH R Data STX Command ETB ETX
```

Selectable items, such as menu names, menu options, buttons, tabs, and field names are written in the font shown here:

```
From the File menu, select New.  
Click the OK button.
```

Contents

Introduction 1

- About the HDMI DA2 1
- HDMI DA2 Features 1
- HDMI DA2 Application Diagram..... 2

Installation 3

- Installation Overview 3
- Rear Panel Features..... 3
- Connecting the Power Supply 4
- Connecting the Input Source 5
- Connecting the Output Displays..... 5
- Wiring for RS-232 Control (Optional) 6
- Connecting to the USB Port 7

Operation 9

- HDMI DA2 Front Panel Features 9
 - Power Status LED 9
 - USB Config Port..... 9
 - Signal Status LEDs..... 10
 - EDID LED 10
- EDID Minder 11
 - Automatic Mode..... 11
 - User Assigned Mode..... 11
- HDMI DA2 Memory Locations..... 12

Reference Information 14

- HDMI DA2 Specifications 14
- Accessories and Part Numbers..... 15
 - Included Parts 15
 - Optional Parts 16

SIS Commands..... 17

- Introduction to SIS 17
- Symbols Used in this Guide 18
 - Error Messages..... 18
- Command and Response Table for SIS Commands 19

Updating Firmware 21

- Downloading and Installing Firmware Loader . 21
- Downloading HDMI DA2 Firmware 22
- Loading the Firmware to the HDMI DA2 23

Mounting 27

- Desktop Placement 27
- Rack Mounting 27
 - UL Guidelines for Rack Mounting..... 27
 - Rack Mounting Procedure 27
- Under-desk Mounting 27

Introduction

This guide describes the function, installation, and operation of the Extron HDMI DA2 distribution amplifier. Unless otherwise stated, the terms “distribution amplifier” or “DA” refer to the HDMI DA2.

This section provides the following information:

- [About the HDMI DA2](#)
- [HDMI DA2 Features](#)
- [HDMI DA2 Application Diagram](#)

About the HDMI DA2

The Extron HDMI DA2 distribution amplifier distributes one HDMI input signal to two outputs simultaneously. It is fully High-bandwidth Digital Content Protection (HDCP) compliant.

The HDMI DA2 supports data rates up to 6.75 Gbps (2.25 Gbps per color) with up to 12-bit deep color and uses the EDID Minder® feature for EDID management.

The automatic output compatibility correction feature scans each output device to ensure that the output signal is compatible with the audio capabilities, color depth, and format requirements of the device. Each output is adjusted independently.

HDMI DA2 Features

HDMI signal distribution — The HDMI DA2 accepts one HDMI input and provides two HDMI outputs.

Key Minder® — Key Minder authenticates and maintains continuous HDCP encryption between the input and output devices to enable simultaneous distribution of a single encrypted source to two displays.

Signal Status LEDs — Front panel signal status LEDs indicate TMDS and HDCP status for the input and each output.

EDID Minder — This feature allows the user to choose from a list of 46 factory-loaded EDID files, to import EDID information from either of the display devices, or to import and save an EDID file from a PC. EDID Minder has two modes of operation that can be selected and configured using SIS commands:

- **Automatic:** EDID from the display connected to output 1 is read and stored at the input automatically (default mode). Use SIS commands to read and store EDID from output 2.
- **User assigned:** EDID can be manually assigned from the internal factory EDID table, which contains 46 unique EDID files categorized by native resolution and audio support. Additionally, there are four user slots available to store and recall EDID from connected displays.

Output Compatibility Correction — The HDMI DA2 monitors the EDID of each connected display to ensure it is compatible with the current input signal. The following adjustments are made for each output independently:

- **Interface format:** If the connected display is DVI and the input signal is HDMI, the signal is reformatted to DVI. If the output is HDMI and the input is DVI, no reformatting is needed because HDMI is backwards compatible with DVI.
- **Video color bit depth:** If the connected output device does not support the color bit depth of the input signal, it is truncated down to the next level that is supported (12-bit > 10-bit > 8-bit). The signal can be forced to always truncate to 8-bit via Simple Instruction Set (SIS™) commands, disabling deep color.
- **Audio:** If the connected output device does not support the audio format of the input signal, audio is muted.

NOTE: These adjustments do not affect the actual video or audio data (there is no video scaling or audio decoding or mixing). It is up to the user or installer to ensure that the connected display device is compatible with the video resolution of the input signal.

Easy mounting options — The HDMI DA2 is a quarter rack wide, 1 inch high, and 3 inches deep, which allows the unit to be conveniently mounted in a rack or under furniture.

HDMI DA2 Application Diagram

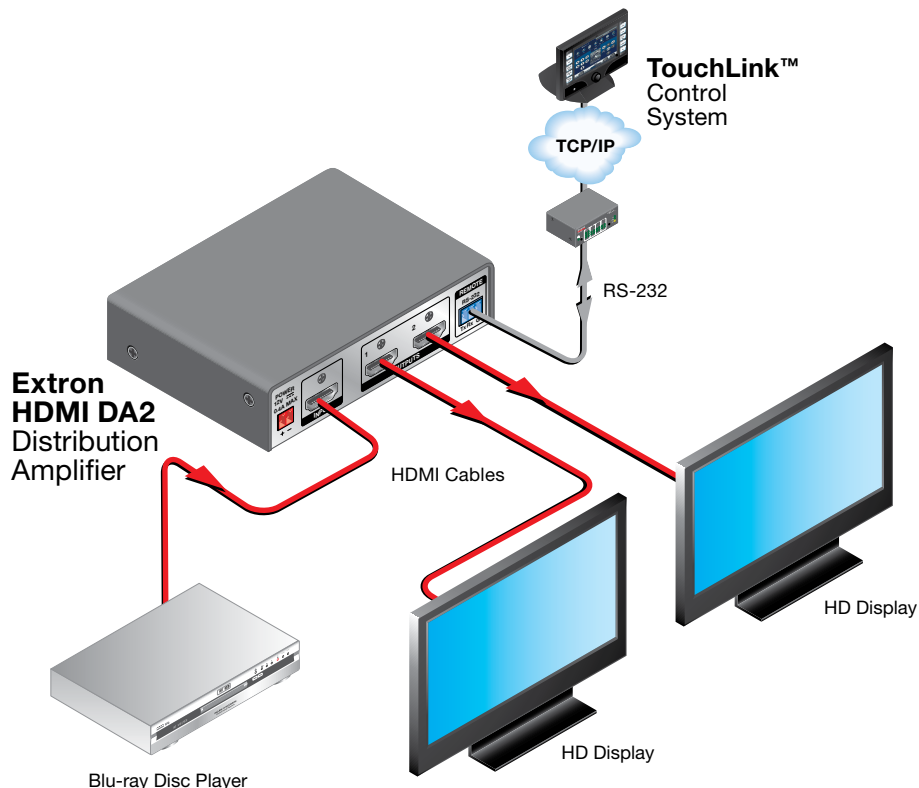


Figure 1. HDMI DA2 Application Diagram

Installation

This section of the guide describes the following topics concerned with the installation and setup of the HDMI DA2 distribution amplifier.

- [Installation Overview](#)
- [Rear Panel Features](#)
- [Connecting the Power Supply](#)
- [Connecting the Input Source](#)
- [Connecting Output Displays](#)
- [Wiring for RS-232 Control](#)
- [Connecting to the USB Port](#)

Installation Overview

To install and set up the HDMI DA2, follow these instructions:

1. **Mount the HDMI DA2** in a suitable location (see page 27).
2. **Connect the provided 12 VDC power supply** to the power connector. Be sure to read all attention points, notes, and warnings in this section before powering up the HDMI DA2 (see page 4).
3. **Connect the display devices** to the HDMI DA2 and power them on (see page 5).
The distribution amplifier automatically reads and stores EDID from the display connected to output 1.
4. If necessary, connect a control PC to the **rear panel captive screw connector** (see page 6) or the **front panel USB port** (see page 7).
5. Configure the HDMI DA2, using **SIS commands** (see page 17).
6. Connect and power on the **input device** (see page 5).

Rear Panel Features

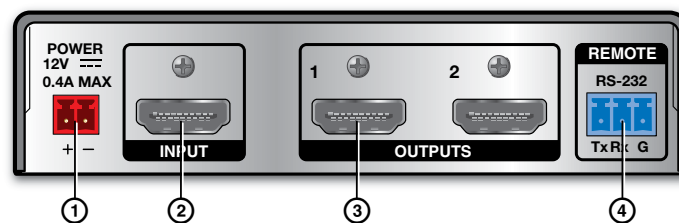


Figure 2. HDMI DA2 Rear Panel

- ① Power supply connector
- ② HDMI input connector
- ③ HDMI output connectors
- ④ RS-232 connectors

Connecting the Power Supply

Connect the provided 12 VDC, 1 A power supply to the HDMI DA2 by following these instructions:

- ATTENTION:**
- This product is intended to be supplied by a Listed Power Unit marked "Class 2" or "LPS," rated 12 VDC, maximum 1.0 A. Always use a power supply supplied or specified by Extron. Use of an unauthorized power supply voids all regulatory compliance certification and may cause damage to the supply and the end product.
 - Unless otherwise stated, the AC/DC adapters are not suitable for use in air handling spaces or in wall cavities. The power supply is to be located within the same vicinity as the Extron AV processing equipment in an ordinary location, Pollution Degree 2, secured to the equipment rack within the dedicated closet, podium, or desk.
 - The installation must always be in accordance with the applicable provisions of National Electrical Code ANSI/NFPA 70, article 75, and the Canadian Electrical Code part 1, section 16. The power supply shall not be permanently fixed to building structure or similar structure.

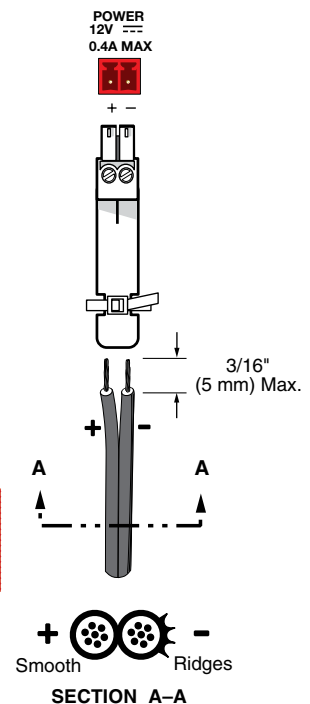
1. Cut the DC output cord to the length needed.
2. Strip the jacket to expose 3/16 inch (5 mm) of the conductor wire.

- NOTES:**
- The length of the exposed wires in the stripping process is critical. The ideal length is 3/16 inches (5 mm). If the exposed section is longer, the exposed wires may touch, causing a short circuit between them. If it is shorter, the wires can be easily pulled out, even if tightly fastened by the captive screws.
 - Do not tin the wires. Tinned wire does not hold its shape and can become loose over time.

3. Strip the jacket to expose 3/16 inch (5 mm) of the conductor wire.

WARNING: Remove power before wiring. The two power cord wires must be kept separate while the power supply is plugged in.

4. Verify the polarity of the wires.
5. Slide the exposed end into the captive screw connector and secure by tightening the screw.
6. Use the supplied tie wrap to strap the power cord to the extended tail of the connector.



Connecting the Input Source

Use a HDMI cable to connect the input source to the female HDMI socket on the rear panel (② in figure 2).

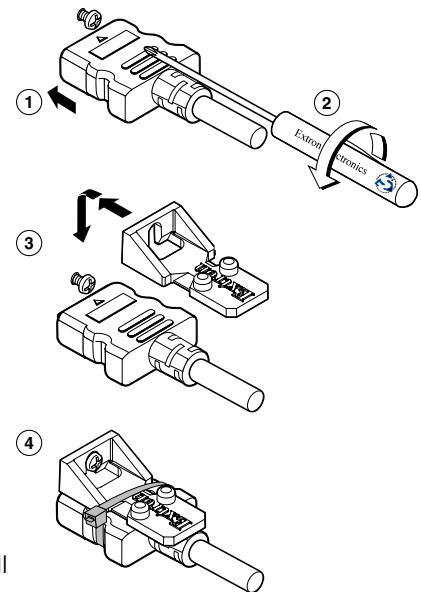
The connectors are fully HDCP compliant. With cables up to 25 feet (7.6 m) they support resolutions of up to 1080p @ 60 Hz with 12-bit color. With cables up to 50 feet (15.2 m) they support 1080p or 1920x1200 @ 60 Hz with 8-bit color.

Follow these instructions to secure the input and output HDMI connectors to the HDMI DA2 with the LockIt™ HDMI lacing bracket provided:

1. Plug the HDMI cable into the panel connection.
2. Loosen the HDMI connection mounting screw from the panel enough to allow the LockIt lacing bracket to be placed over it. The screw does not have to be removed.
3. Place the LockIt lacing bracket on the screw and against the HDMI connector, then tighten the screw to secure the bracket.

ATTENTION: Do not overtighten the HDMI connection mounting screw. The shield it fastens to is very thin and can easily be stripped.

4. Loosely place the included tie wrap around the HDMI connector and the LockIt lacing bracket as shown.
5. While holding the connector securely against the lacing bracket, tighten the tie wrap, then remove any excess length.



Connecting the Output Displays

Use a HDMI cable to connect up to two output displays to the female HDMI sockets on the rear panel (③ in figure 2 on page 3).

NOTE: Secure the input and output HDMI connectors to the HDMI DA2 with the provided LockIt™ HDMI lacing bracket (see [Connecting the Input Source](#)).

Connect the primary display to output 1 since EDID from output 1 is read and stored automatically. If necessary, EDID can be configured using [SIS commands](#) (see page 17).

The HDMI DA2 monitors the EDID of each connected display to ensure it is compatible with the current input signal. The following adjustments are made for each output independently:

- **Interface format:** If the connected display is DVI and the input signal is HDMI, the signal is reformatted to DVI. If the output is HDMI and the input is DVI, no reformatting is needed because HDMI is backwards compatible with DVI.
- **Video color bit depth:** If the connected output device does not support the color bit depth of the input signal, it is truncated down to the next level that is supported (12-bit > 10-bit > 8-bit). The signal can be forced to always truncate to 8-bit via SIS commands, disabling deep color.
- **Audio:** If the connected output device does not support the audio format of the input signal, audio is muted.

If the source requires HDCP encryption and the display is not HDCP compliant, that output channel outputs a green screen.

Both outputs carry +5 VDC and up to 250 mA on pin 18, regulated by a current limiting circuit.

Wiring for RS-232 Control (Optional)

RS-232 communication between the HDMI DA2 and a host PC can be used to update firmware or configure the distribution amplifier using SIS commands (see “[Command and Response Table for SIS Commands](#)” on page 19).

The computer connects to either the rear panel 3-pole RS-232 port (④ in [figure 2](#) on page 3) or the front panel USB port (② in [figure 7](#) on page 9) of the distribution amplifier.

NOTES:

- Neither port has precedence and commands from either port are handled in the order they are received.
- Extron recommends that the USB port is used for temporary connections. If a permanent connection is required, the RS-232 port should be used.

1. Connect an RS-232 cable, such as Extron universal control cable (UC 50' or UC100') to the computer, using a female 9-pin D connector (see figure 3):
 - Data received by the computer = pin 2
 - Data transmitted by the computer = pin 3
 - Ground = pin 5
2. Wire the opposite end of the cable to the provided 3-pole captive screw plug (see figure 3):
 - Data transmitted by the HDMI DA2 = pin 1, which plugs into the Tx (transmit) port
 - Data received by the HDMI DA2 = pin 2, which plugs into the Rx (receive) port
 - Ground = pin 3, which plugs into the G (ground) port

NOTES:

- The wiring in the RS-232 cables crosses over so that the Tx on the distribution amplifier connects to the Rx of the control device and vice versa. Ground always connects to ground.
- If you use cable that has a drain wire, tie the drain wire to the ground at both ends.

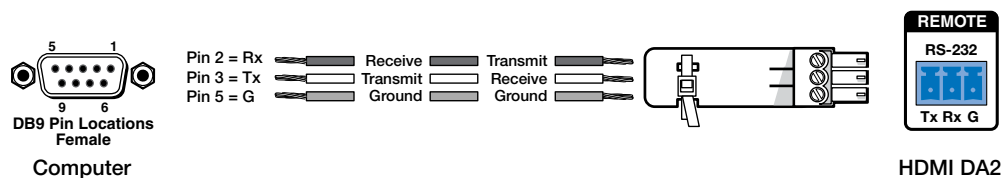


Figure 3. Wiring the HDMI DA2 for RS-232 Control

Connecting to the USB Port

The mini Type B USB port is located on the HDMI DA2 front panel (② in figure 7 on page 9). It can be used to connect the distribution amplifier to a host computer to update firmware or for configuration using SIS commands.

1. Connect a USB A to mini B cable between the USB Config port on the front panel of the HDMI DA2 and the USB port of the PC.

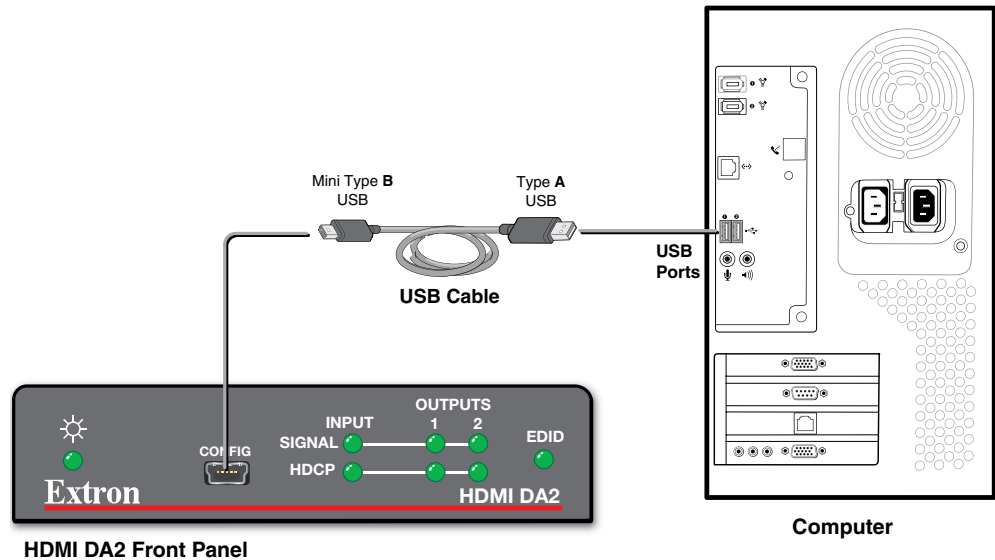


Figure 4. Connecting a PC to the HDMI DA2 Front Panel USB Port

2. If this is the first time an HDMI DA2 has been connected to the PC, the Found New Hardware Wizard opens. The first screen offers to connect to Windows Update to search the web for the appropriate driver needed for the USB port to communicate with the distribution amplifier. This is not necessary if the USB driver is already on your PC.



Figure 5. Found New Hardware Wizard Welcome Screen

- Select **Yes, this time only** to connect the PC to Windows Update only this one time.
 - Select **Yes, now, and every time I connect a device** to automatically connect to Windows Update every time the HDMI DA2 connects to this USB port.
 - Select **No, not this time** if you do not want to connect to Windows Update (for example, if the driver is already on the PC).
3. Click **Next**. The next screen of the Wizard opens:



Figure 6. Installing the Software Automatically

4. Select **Install the software automatically (Recommended)** and click **Next**.

NOTE: You do not need to insert an installation disc.

The PC locates the driver needed and installs it in the correct location on the hard drive.

5. When the Completed screen appears, click **Finish** to close the wizard.

NOTE: The wizard appears only on the first occasion you connect the HDMI DA2 to that USB port. The wizard reappears if you connect the HDMI DA2 to a different USB port or if you connect a different piece of equipment, requiring a different driver, to the same USB port.

6. Configure the HDMI DA2 as required (see "**Operation**" on page 9).

Operation

This section of the manual provides information on:

- [HDMI DA2 Front Panel Features](#)
- [EDID Minder](#)

HDMI DA2 Front Panel Features

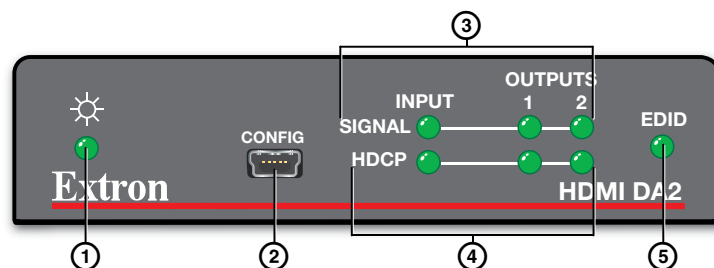


Figure 7. HDMI DA2 Front Panel

- ① Power status LED
- ② USB Config port
- ③ Signal LEDs
- ④ HDCP LEDs
- ⑤ EDID LED

Power Status LED

The power status LED lights green when power is applied to the unit.

USB Config Port

The USB Config port is used for SIS configuration, monitoring, and firmware updates. This port can be used as an alternative to the rear panel RS-232 captive screw connectors.

- NOTES:**
- Neither port has precedence and commands from either port are handled in the order they are received.
 - Extron recommends that the USB port is used for temporary connections. If a permanent connection is required, the RS-232 port should be used.

When the USB Config Port is connected to the HDMI DA2 for the first time, the Found New Hardware Wizard opens to install the correct device driver (see "[Connecting to the USB Port](#)" on page 7).

Signal Status LEDs

Input Signal LED

The input signal LED lights green when a TMDS signal is detected on the HDMI input. If the source requires HDCP encryption, this LED may light only after the HDCP has been authenticated.

Output Signal LEDs

There are two output signal LEDs, one for output 1 and the other for output 2. The LEDs light green when a TMDS signal is being transmitted to a sink device on the corresponding HDMI output.

Input HDCP LED

The Input HDCP LED lights green when the source device requires HDCP encryption and it has been authenticated with the HDMI input.

Output HDCP LEDs

There are two output HDCP LEDs, one for output 1 and the other for output 2. The LEDs light green when HDCP has been authenticated between the HDMI output and the corresponding sink device. This happens when the source device requires HDCP encryption and it has already been authenticated on the HDMI input.

The LEDs do not light if the source does not require HDCP encryption or if the sink is not HDCP compliant. If HDCP encryption is required but the sink device is not HDCP compliant, that output channel outputs a green screen.

EDID LED

The EDID LED lights green when the EDID is successfully stored from the selected output device (output 1 by default).

The LED lights amber if the internal, factory-installed EDID is used or if the EDID was not successfully stored.

For information about using the EDID Minder, see "[EDID Minder](#)" on page 11.

EDID Minder

EDID Minder ensures that the connected source sees the EDID of a display, even if a display is not connected. Depending on the EDID mode selected (by SIS command), the EDID of a connected display can be stored automatically, or the user can manually select from the table of factory loaded EDID files. This EDID is stored on an EEPROM located at the HDMI input.

By default, the HDMI DA2 is configured to store EDID from the display connected to output 1 automatically. The unit reverts to this configuration after a factory reset.

Automatic Mode

In automatic mode, the HDMI DA2 automatically reads and stores EDID from output 1 (a different output can be chosen using SIS commands). This EDID is retained until a different display is connected or the unit is power-cycled. If no display is connected when the unit is powered on, then a factory default EDID (720p @ 60 Hz, 2-Ch audio) is present.

User Assigned Mode

In user assigned mode, the user can select from 46 factory loaded EDID files, each categorized by rate type (PC or HDTV), video format (DVI or HDMI), audio type (2-Ch or Multi-Ch), and native resolution. The unit retains this setting after a power cycle.

Additionally, four user-loaded slots are available to save the EDID of any connected display. EDIDs saved to these slots are retained after a power cycle. Upon a factory reset, these EDIDs revert to the factory default (720p @ 60 Hz, 2-Ch audio).

A table showing the factory loaded EDID options is shown on the following page. The EDID memory location is labelled **x4** for consistency with the value in the SIS commands.

HDMI DA2 Memory Locations

X4	Native Resolution	Refresh Rate	¹ Rate Type	² Video Format	³ Audio Type	Pixel Clock	X4	Native Resolution	Refresh Rate	¹ Rate Type	² Video Format	³ Audio Type	Pixel Clock
1	Output 1 (default)						30	1360x768	60 Hz	PC	HDMI	2-ch	85.5 MHz
2	Output 2						31	1366x768	60 Hz	PC	HDMI	2-ch	86 MHz
3	Reserved						32	1440x900	60 Hz	PC	HDMI	2-ch	121.75 MHz
4	Reserved						33	1400x1050	60 Hz	PC	HDMI	2-ch	106.5 MHz
5	Reserved						34	1680x1050	60 Hz	PC	HDMI	2-ch	97.75 MHz
6	Reserved						35	1600x900	60 Hz	PC	HDMI	2-ch	162 MHz
7	Reserved						36	1600x1200	60 Hz	PC	HDMI	2-ch	119 MHz
8	Reserved						37	1920x1200	60 Hz	PC	HDMI	2-ch	154 MHz
9	800x600	60 Hz	PC	DVI	n/a	40 MHz	38	2048x1080	60 Hz	PC	HDMI	2-ch	148.5 MHz
10	1024x768	60 Hz	PC	DVI	n/a	65 MHz	39	480p	60 Hz	HDTV	HDMI	2-ch	27 MHz
11	1280x720	60 Hz	PC	DVI	n/a	79.5 MHz	40	576p	50 Hz	HDTV	HDMI	2-ch	27 MHz
12	1280x768	60 Hz	PC	DVI	n/a	79.5 MHz	41	720p	50 Hz	HDTV	HDMI	2-ch	74.25 MHz
13	1280x800	60 Hz	PC	DVI	n/a	83.5 MHz	42	720p	60 Hz	HDTV	HDMI	2-ch	74.25 MHz
14	1280x1024	60 Hz	PC	DVI	n/a	108 MHz	43	720p	50 Hz	HDTV	HDMI	2-ch	74.25 MHz
15	1360x768	60 Hz	PC	DVI	n/a	85.5 MHz	44	1080i	60 Hz	HDTV	HDMI	2-ch	74.25 MHz
16	1366x768	60 Hz	PC	DVI	n/a	86 MHz	45	1080p	50 Hz	HDTV	HDMI	2-ch	148.5 MHz
17	1440x900	60 Hz	PC	DVI	n/a	121.75 MHz	46	1080p	60 Hz	HDTV	HDMI	2-ch	148.5 MHz
18	1400x1050	60 Hz	PC	DVI	n/a	106.5 MHz	47	480p	60 Hz	HDTV	HDMI	multi-ch	27 MHz
19	1680x1050	60 Hz	PC	DVI	n/a	97.75 MHz	48	576p	50 Hz	HDTV	HDMI	multi-ch	27 MHz
20	1600x900	60 Hz	PC	DVI	n/a	162 MHz	49	720p	50 Hz	HDTV	HDMI	multi-ch	74.25 MHz
21	1600x1200	60 Hz	PC	DVI	n/a	119 MHz	50	720p	60 Hz	HDTV	HDMI	multi-ch	74.25 MHz
22	1920x1080	60 Hz	PC	DVI	n/a	148.5 MHz	51	1080i	50 Hz	HDTV	HDMI	multi-ch	74.25 MHz
23	1920x1200	60 Hz	PC	DVI	n/a	154 MHz	52	1080i	60 Hz	HDTV	HDMI	multi-ch	74.25 MHz
24	2048x1080	60 Hz	PC	DVI	n/a	148.5 MHz	53	1080p	50 Hz	HDTV	HDMI	multi-ch	148.5 MHz
25	800x600	60 Hz	PC	HDMI	2-ch	40 MHz	54	1080p	60 Hz	HDTV	HDMI	multi-ch	148.5 MHz
26	1024x768	60 Hz	PC	HDMI	2-ch	65 MHz	55	User loaded slot 1					
27	1280x768	60 Hz	PC	HDMI	2-ch	79.5 MHz	56	User loaded slot 2					
28	1280x800	60 Hz	PC	HDMI	2-ch	83.5 MHz	57	User loaded slot 3					
29	1280x1024	60 Hz	PC	HDMI	2-ch	108 MHz	58	User loaded slot 4					

Table 1. HDMI DA2 Memory Locations (^{1,2,3} see footnotes on the following page)

Footnotes for the EDID table (see page 12)

The following footnotes apply to the EDID table on the previous page:

¹Rate Type

- PC: These are primarily VESA standard computer rates, based on the most commonly used native resolutions. They are designed to be used with computer sources.
- HDTV: These are video rates standardized by SMPTE and CEA. They are designed to be used with video and computer sources.

²Video Format

- DVI: These are 128-byte EDID files, which specify a DVI sink. They do not contain an extension block.
- HDMI: These are 256-byte EDID files, each containing a CEA extension block. They each specify an HDMI sink device with audio support.

³Audio Type

- n/a: These are DVI formatted EDID files; therefore, they do not support audio.
- 2-Ch: These are HDMI formatted EDID files, with support for basic 2-channel (stereo) audio.
 - LPCM (2-Ch)
- Multi-Ch: These are HDMI formatted EDID files with support for multiple audio formats, up to 8 channels.
 - LPCM (2-Ch)
 - LPCM (8-Ch)
 - Dolby Digital (6-Ch)
 - DTS (7 Ch)
 - Dolby Digital Plus (8-Ch)
 - DTS-HD (8-Ch)
 - Dolby TrueHD (8-Ch)

Reference Information

This section provides information about

HDMI DA2 Specifications

Accessories and Part Numbers

HDMI DA2 Specifications

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

Video

Maximum data rate	Up to 6.75 Gbps (2.25 Gbps per color)
Maximum pixel clock	165 MHz
Resolution range	Up to 1920x1200 or 1080p @ 60Hz, 12-bit color
Formats	RGB and YCbCr digital video
Standards	DVI 1.0, HDMI, HDCP

Video input

Number/signal type	(1) single link HDMI
Connectors	(1) Female 19-pin HDMI Type A
Input cable length	Up to 50' (15 m) with 1080p @60 Hz, 8-bit color Up to 25' (7.5 m) with 1080p @60 Hz, 12-bit color

NOTE: The transmission distance varies greatly depending on the signal resolution and on the type of cable, graphics card, and display used in the system.

Video output

Number/signal type	(2) single link HDMI
Connectors	(2) Female 19-pin HDMI Type A

Control

Serial control port	RS-232, 3.5 mm, 3-pole captive screw connector
Baud rate and protocol	9600 baud, 8 data bits, 1 stop bit, non-parity
Serial pin configuration	1 = Tx, 2 = Rx, 3 = GND
USB control port	(1) front panel female mini USB B
USB standards	USB 2.0, low speed
Program control	Extron Simple Instruction Set (SIS)

General

Power.....	External
Input.....	100-240 VAC, 50-60 Hz
Output.....	12 VDC, 1 A, 12 watts
Power consumption	
Device.....	4.0 watts
Device and power supply.....	5.3 watts
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, vent on top
Thermal dissipation	
Device.....	13.1 BTU / hr
Device and power supply.....	17.5 BTU / hr
Mounting	
Rack mount.....	Yes, with optional kit
Furniture mount.....	Yes, with optional kit
Enclosure type	Metal
Enclosure dimensions	1.0" H x 4.3" W x 3.0" D (quarter rack width) (2.5 cm H x 10.9 cm W x 7.6 cm D) (Depth excludes connectors.)
Product weight.....	1.6 lbs (0.7 kg)
Shipping weight	3 lb (2 kg)
Vibration	ISTA 1A in carton (International Safe Transit Association)
Regulatory compliance	
Safety.....	CE, c-UL, UL
EMI/EMC.....	CE, C-tick,FCC Class A, ICES, VCCI
Environmental	Complies with the applicable requirements of RoHS and WEEE.
MTBF.....	30,000 hours
Warranty	3 years parts and labor; touchscreen display and overlay components are covered for 1 year

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

NOTE: Specifications are subject to change without notice.

Accessories and Part Numbers

Included Parts

Description	Part Number
HDMI DA2	60-997-01
12 VDC, 1 A Power Supply	
IEC cord	
(4) Rubber feet	
(1) 3.5 mm, 3-pole captive screw connector, with tail	
(1) 3.5 mm, 3-pole captive screw connector, with tail	
(2) 3/16" zip tie	
(3) HDMI LockIt kits	
<i>HDMI DA2 Setup Guide</i>	

Optional Parts

Description	Part Number
RSF 123: 3.5 inches deep, 1U rack shelf kit	60-190-20
RSB 123: 3.5 inches deep, 1U basic rack shelf	60-604-21
RSU 126: 6 inches deep, 1U rack shelf kit	60-190-10
RSB 126: 6 inches deep, 1U basic rack shelf	60-604-11
RSU 129: 9.5 inches deep, 1U rack shelf kit	60-190-01
RSB 129: 9.5 inches deep, 1U basic rack shelf	60-604-02
UC 50' (50 feet / 15.2 m)	26-518-01
UC 100' (100 feet / 30.5 m)	26-518-02
9DM-9DM232 12' (12 feet / 3.6 m)	26-434-06
USB CFG Cable (6 feet / 1.8 m)	26-654-06
MBU 125 under-desk mounting kit	70-077-01

SIS Commands

This section provides information about the SIS commands that are used to configure the HDMI DA2. The following topics are discussed:

- [Introduction to SIS](#)
- [Symbols Used in this Guide](#)
- [Command and Response Table for SIS Commands](#)

Introduction to SIS

The HDMI DA2 accepts SIS commands from a host device such as a computer running the Extron DataViewer utility or other control system. The host device can be connected to the 3-pin captive screw connector on the rear panel or to the config port on the front panel. To connect to the config port, use the optional Extron 9-pin D female to 2.5 mm TRS Configuration cable (part number **70-335-01**).

The protocol is 9600 baud, 8 data bit, 1 stop bit, and no parity.

- NOTES:**
- The wiring in the RS-232 cables crosses over so that the HDMI DA2 transmit (Tx) wire connects with the control device receive (Rx) and vice versa.
 - Only one serial port can be used at a time. If the front port is in use, the rear captive screw connector must be disconnected from the computer or other control device. Likewise, if the captive screw port is in use, the config port on the front panel must be disconnected from the computer or other control device.

SIS commands consist of strings (one or more characters per command field). Unless otherwise stated, upper and lower case characters can be used interchangeably. Commands do not require any special characters to begin or end the command string. Each response from the HDMI DA2 ends with a carriage return and a line feed (CR/LF = **↵**), which signals the end of the response character string.

When the HDMI DA2 is first switched on, it sends the message:

(c) Copyright 2012, Extron Electronics HDMI DA Series, V x.xx,
60-997-01↵ where 60-997-01 is the catalog part number and V x.xx is the firmware version number.

Symbols Used in this Guide

When programming in the field, certain characters are most conveniently represented by their hexadecimal rather than their ASCII values. The table below shows the hexadecimal equivalent of each ASCII character:

ASCII to HEX Conversion Table										Esc	1B	CR	0D	LF	0A
Space	20	!	21	"	22	#	23	\$	24	%	25	&	26	'	27
(	28	)	29	*	2A	+	2B	,	2C	-	2D	.	2E	/	2F
0	30	1	31	2	32	3	33	4	34	5	35	6	36	7	37
8	38	9	39	:	3A	;	3B	<	3C	=	3D	>	3E	?	3F
@	40	A	41	B	42	C	43	D	44	E	45	F	46	G	47
H	48	I	49	J	4A	K	4B	L	4C	M	4D	N	4E	O	4F
P	50	Q	51	R	52	S	53	T	54	U	55	V	56	W	57
X	58	Y	59	Z	5A	[	5B	\	5C	]	5D	^	5E	_	5F
,	60	a	61	b	62	c	63	d	64	e	65	f	66	g	67
h	68	i	69	j	6A	k	6B	l	6C	m	6D	n	6E	o	6F
p	70	q	71	r	72	s	73	t	74	u	75	v	76	w	77
x	78	y	79	z	7A	{	7B	|	7C	}	7D	~	7E	DEL	7F

Table 2. ASCII to HEX Conversion Table

↵ — carriage return with line feed

← — carriage return (no line feed)

• — space character

Esc — Escape key

The **xn** values defined in this section are the variables used in the fields of the Command Response Table.

x1 — Output (1 or 2)

x2 — Status

0 = disabled, off, or undetected

1 = enabled, on, or detected

x3 — Video color bit depth

0 = auto (based on EDID of sink)

1 = force 8-bit

2 = pass-through

x4 — EDID memory location (see **"HDMI DA2 Memory Locations" Table** on page 12)

x5 — EDID data as 256 bytes of Hex data (text representation)

x6 — Native resolution and refresh rate (translated from Hex)
for example: 1600x1200 @60Hz

x7 — Controller software version to the second decimal place

Error Messages

E01 — Invalid input channel number (too large)

E10 — Invalid command

E13 — Invalid value (too large)

Command and Response Table for SIS Commands

Command	ASCII Command (host to unit)	Response (unit to host)	Additional Description
Video Mute			
Video mute single output	[X1]*[X2]B	Vmt[X1]*[X2]←	Video mute output [X1] (1 or 2)
Video mute all outputs	[X2]B	Vmt[X2]←	Video mute all outputs
Query Video mute status	B	Vmt[X2]•[X2]←	output 1 status, output 2 status [X2] = 0 (mute disabled) or 1 (mute enabled)
Audio Mute			
Audio mute single output	[X1]*[X2]Z	Vmt[X1]*[X2]←	Video mute output [X1] (1 or 2)only
Audio mute all outputs	[X2]Z	Vmt[X2]←	Video mute all outputs
Query Audio mute status	Z	Amt[X2]•[X2]←	[X2] = 0 (mute disabled) or 1 (mute enabled)
Video Color Bit Depth			
Set video bit depth for a specific input	[Esc]V[X1]*[X3]BITD←	[X1]BitdV[X3]←	[X3] = 0 (auto, based on sink EDID) 1 (force 8-bit) 2 (pass-through, unmodified)
Set video bit depth for all inputs	[Esc]V*[X3]BITD←	BitdV[X3]←	
View video bit depth for all inputs	[Esc]V*BITD←	BitdV[X3]•[X3]←	video bit depth for output 1•video bit depth for output 2
Signal Status			
Request all signal status	[Esc]LS←	Sig[X2]*[X2]•[X2]←	Shows the signal status ([X2]) for the input*output1•output2. [X2] = 0 (signal undetected) or 1 (signal detected)
Request all HDCP status	[Esc]HDCP←	Hdcp[X2]*[X2]•[X2]←	[X2] = 0 (HDCP on) or 1 (HDCP off)
EDID Minder			
Assign EDID to input	[Esc]A*[X4]EDID←	EdidA[X4]←	[X4] = EDID memory location (1-54) see table 1 on page 12
View EDID assignment	[Esc]A*EDID←	[X4]←	
Save EDID of output to user location	[Esc]S[X1]*[X4]EDID←	[X1]EdidS[X4]←	Store the EDID of output [X1] into EDID memory location [X4]
View/Read EDID in Hex	[Esc]R*EDID←	[X5]←	Read out EDID in Hex from currently selected EDID
View EDID native resolution	[Esc]N*EDID←	[X6]←	Resolution and refresh rate of currently selected EDID <i>Example: 1600x1200@60Hz</i>

Command	ASCII Command (host to unit)	Response (unit to host)	Additional Description
Other			
Request part number	N	60-997-01 ↵	
Query firmware version	Q	x7 ↵	x7 = Firmware build (2 decimal places)
Reset	Esc ZXXX ←	Zpx ↵	

Updating Firmware

Updates to the HDMI DA2 firmware are released periodically on the Extron website. You can find which version is currently loaded on your DA using SIS commands. Compare this with the latest release on the Extron website and decide whether to update your firmware.

TIP: Read the Release Notes provided on the website with the latest firmware to determine whether you need the latest version.

This chapter describes how to update firmware for the HDMI DA2:

- [Downloading and Installing Firmware Loader](#)
- [Downloading HDMI DA2 Firmware](#)
- [Loading the Firmware to the HDMI DA2](#)

Downloading and Installing Firmware Loader

Extron recommends using the Firmware Loader software to update the firmware on Extron products. If you do not already have Firmware Loader installed on your computer, download it as follows:

1. Go to the Extron website at www.extron.com and click the **Download** tab.
2. On the Download Center screen, click the **Software** link on the left sidebar menu.
3. On the next Download Center screen, locate Firmware Loader and click its **Download** link.

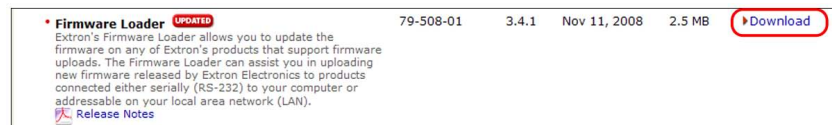


Figure 8. Firmware Loader Download Link

4. On the next screen, enter the requested information, then click the **Download fw_loader_vnxxn.exe** button (where n is the Firmware Loader version number).
5. Follow the instructions on the rest of the download screens to save the executable Firmware Loader installer file to your computer. Note the folder to which the file was saved.
6. In Windows Explorer or another file browser, locate the downloaded executable installer file and double-click it to open it.
7. Follow the instructions on the Installation Wizard screens to install Firmware Loader on your computer. Unless you specify otherwise, the installer program places the Firmware Loader file, FWLoader.exe, at `c:\Program Files\Extron\FWLoader`.

Downloading HDMI DA2 Firmware

To obtain the latest version of firmware for your HDMI DA2:

1. Visit the Extron website (www.extron.com), click the **Download** link at the top of the page, then click the **Firmware** link on the left sidebar menu.



Figure 9. Firmware Link on the Download Tab

2. On the Download Center screen, locate the section for the HDMI DA2 firmware
3. (Optional) click **Release Notes**. These notes show the issues that have been addressed by the latest update. If these issues do not affect you, you may decide not to upgrade the firmware.
4. Click the **HDMI DA2 Download** link.
5. On the next screen that appears, enter the requested user information, then click the **Download** button.
6. Follow the instructions on the rest of the download screens to save the executable firmware file to your computer. Note the folder to which the file was saved.
7. In Windows Explorer or another file browser, locate the downloaded executable file, and double-click it to open it.
8. Follow the instructions on the Installation Wizard screens to install the new firmware on your computer. A Release Notes file and a set of instructions for updating the firmware are also loaded.

Loading the Firmware to the HDMI DA2

To load a new version of firmware to the switcher using Firmware Loader, connect your computer serial port to the first three pins of the switcher Remote port (see "[Wiring for RS-232 Control](#)" on page 6 for information on connecting to the serial port).

1. If you have not already done so, download and install the Firmware Loader executable installer file to your computer (see "[Downloading and Installing Firmware Loader](#)" on the previous page).
2. If necessary, download the latest version of HDMI DA2 firmware and install it on your computer (see "Downloading the HDMI DA2 Firmware" on the previous page).
3. Open the Firmware Loader via your desktop **Start** menu by making the following selections:

Start > All Programs > Extron Electronics > Firmware Loader > Firmware Loader

The Firmware Loader window opens with the Add Device window displayed in front of it.

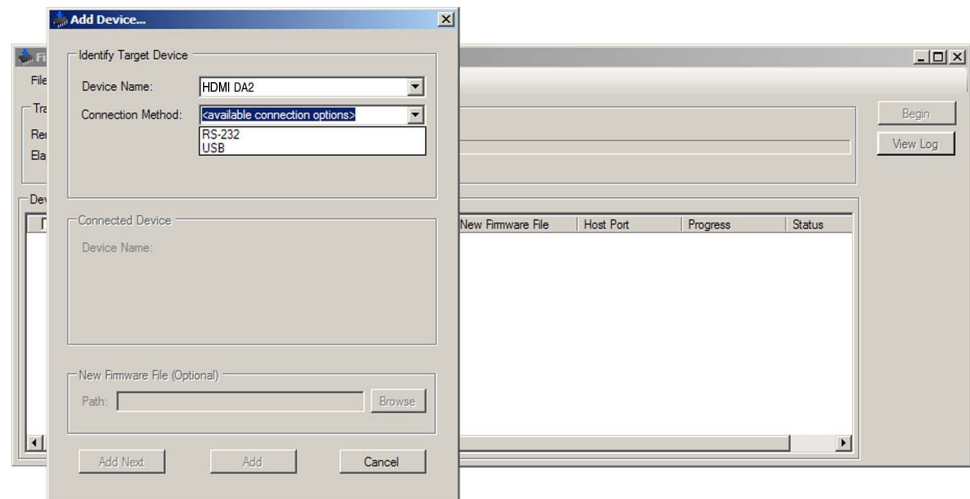


Figure 10. Opening Firmware Loader

4. On the Add Device window, select **HDMI DA2** from the **Device Names** drop-down menu.
5. From the **Connection Method** drop-down menu, select either **RS-232** or **USB**.
6. Depending on the connection method that you selected, additional options appear. Make the appropriate selections for your connection method.
 - **RS-232:** Select the appropriate options from the **Com Port** and **Baud Rate** menus (this information is provided by your system administrator).
 - **USB:** Only the **Extron USB Device_0** option is available on the **Available Devices** menu. Make sure that it is selected.
7. Click **Connect**. If the connection is successful, HDMI DA2 is displayed in green in the Connected Device section, followed by a green check mark.
8. Click the **Browse** button in the New Firmware File (Optional) section.

9. On the Open window, navigate to the new firmware file, which has an S19 extension, and double-click it.

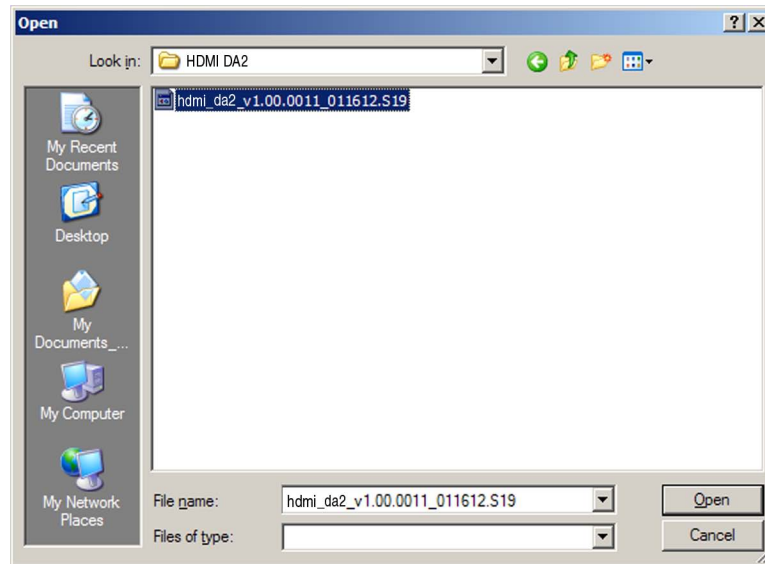


Figure 11. Open Window for Firmware File Selection

ATTENTION: Valid firmware files must have the file extension **S19**. A file with any other extension is not a firmware upgrade for this product and could cause the HDMI DA2 to stop functioning.

NOTES:

- The original factory-installed firmware is permanently available on the HDMI DA2. If the attempted firmware upload fails for any reason, the unit reverts to the factory version.
- When downloaded from the Extron website, by default the firmware is placed in a folder at **C:\Program Files\Extron\Firmware\HDMI DA2** (Windows XP) or **C:\Program Files (x86)\Extron\Firmware\HDMI DA2** (Windows 7).

On the Add Device window, the path to the new firmware file is displayed in the **Path** field.

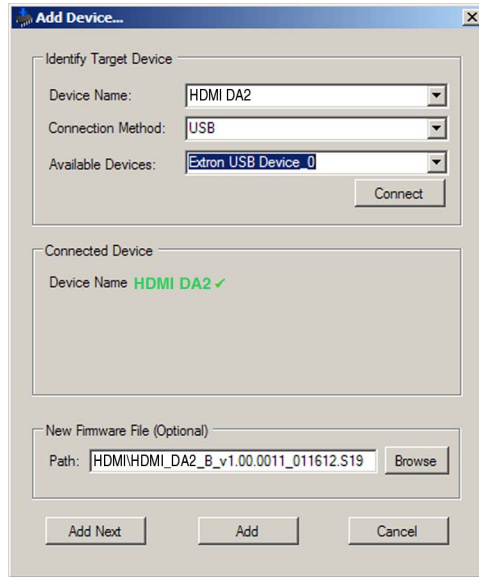


Figure 12. Path to the New Firmware File on the Add Device Window

- 10.** If this is the only device to which you are uploading firmware, click **Add**. The HDMI DA2 information is added to the Devices section of the Firmware Loader window and the Add Device window closes.

If you will be uploading the firmware to multiple HDMI DA2 units that are connected to your computer, do the following:

- a.** Click **Add Next**. Your first device is added to the Devices section of Firmware Loader window, and the Add Device window remains open.
- b.** For each additional device you want to add to the Firmware Loader window, repeat steps **5** through **9**, then click **Add Next**.
- c.** For the **last** device, click **Add** (instead of **Add Next**) to add the device and to close the Add Device window.

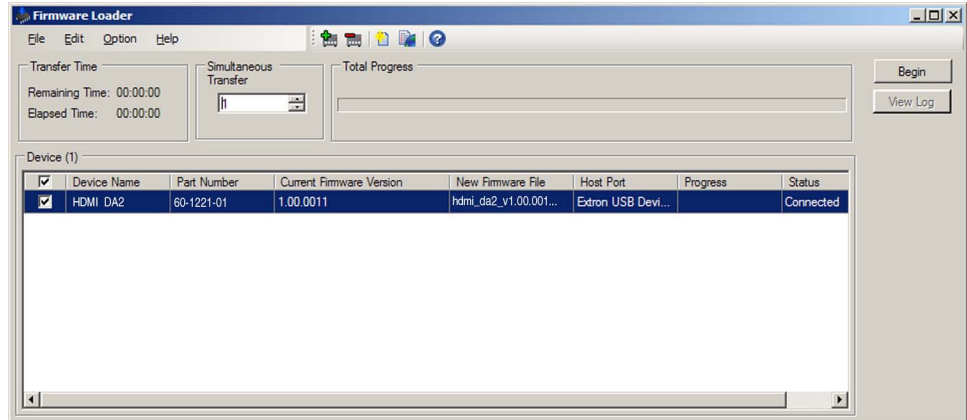


Figure 13. Firmware Loader Screen with a HDMI DA2 Added

11. If you want to remove a device from the Devices section, do the following:
 1. Click on the names of the devices to be deleted, to highlight them.
 2. Select **Remove Selected Device(s)** from the **Edit** menu.
 3. On the Remove Device(s) window, select or deselect any devices on the list as desired, then click **Remove**.

To remove **all** devices, select **Remove All Devices** from the **Edit** menu.
12. Click **Begin**. The following indicators show the progress of the update:
 - The Transfer Time section shows the amounts of remaining and elapsed time for the update.
 - The Total Progress section displays a progress bar with **Uploading...** above it.
 - In the Devices section, the Progress column displays an incrementing percentage and another progress bar. The Status column displays **Uploading**.
13. The upload is complete when the **Remaining Time** field shows **00.00.00**, the Progress column shows **100%**, and **Completed** is displayed above the progress bar and in the **Status** field. Close the Firmware Loader window.

Mounting

Desktop Placement

Attach the four provided rubber feet to the bottom of the HDMI DA2 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. Consider the equipment nameplate ratings when addressing this concern.
- 5. Reliable earthing (grounding)** — Maintain reliable grounding of rack-mounted equipment. Pay particular attention to supply connections other than direct connections to the branch circuit (such as the use of power strips).

Rack Mounting Procedure

The unit can be mounted on any of these optional rack systems, including:

- **RSF 123:** 3.5 inches deep, 1U rack shelf kit (part number **60-190-20**)
- **RSB 123:** 3.5 inches deep, 1U basic rack shelf (part number **60-604-21**)
- **RSU 126:** 6 inches deep, 1U rack shelf kit (part number **60-190-10**)
- **RSB 126:** 6 inches deep, 1U basic rack shelf (part number **60-604-11**)
- **RSU 129:** 9.5 inches deep, 1U rack shelf kit (part number **60-190-01**)
- **RSB 129:** 9.5 inches deep, 1U basic rack shelf (part number **60-604-02**)

To mount the unit on a rack shelf, follow the instructions provided with the shelf accessories.

Under-desk Mounting

Mount the unit under a desk or podium, using the optional Extron MBU 125 under-desk mounting kit (part number **70-077-01**). Follow the instructions provided with the MBU 125 kit.

Extron 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
U.S.A.

Japan:

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

Europe and Africa:

Extron Europe
Hanzeboulevard 10
3825 PH Amersfoort
The Netherlands

China:

Extron China
686 Ronghua Road
Songjiang District
Shanghai 201611
China

Asia:

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

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 if modifications were made to the product that were not authorized by Extron.

NOTE: If a product is defective, please call Extron and ask for an Application Engineer to receive an RA (Return Authorization) number. This will begin the repair process.

USA: 714.491.1500
Asia: 65.6383.4400

Europe: 31.33.453.4040
Japan: 81.3.3511.7655

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.

Extron Headquarters +1.800.633.9876 (Inside USA/Canada Only) Extron USA - West +1.714.491.1500 +1.714.491.1517 FAX	Extron USA - East Extron USA - East +1.919.850.1000 +1.919.850.1001 FAX	Extron Europe +800.3987.6673 (Inside Europe Only) +31.33.453.4040 +31.33.453.4050 FAX	Extron Asia +800.7339.8766 (Inside Asia Only) +65.6383.4400 +65.6383.4664 FAX	Extron Japan +81.3.3511.7655 +81.3.3511.7656 FAX	Extron China +4000.398766 Inside China Only +86.21.3760.1568 +86.21.3760.1566 FAX	Extron Middle East +971.4.2991800 +971.4.2991880 FAX	Extron Korea +82.2.3444.1571 +82.2.3444.1575 FAX	Extron India 1800.3070.3777 Inside India Only +91.80.3055.3777 +91.80.3055.3737 FAX
--	--	---	---	---	--	---	---	--

Free Manuals Download Website

<http://myh66.com>

<http://usermanuals.us>

<http://www.somanuals.com>

<http://www.4manuals.cc>

<http://www.manual-lib.com>

<http://www.404manual.com>

<http://www.luxmanual.com>

<http://aubethermostatmanual.com>

Golf course search by state

<http://golfingnear.com>

Email search by domain

<http://emailbydomain.com>

Auto manuals search

<http://auto.somanuals.com>

TV manuals search

<http://tv.somanuals.com>