

User Guide

HDMI

HD 4K 101 Plus

Cable Equalizer



Extron

Safety Instructions

Safety Instructions • English

WARNING: This symbol, , when used on the product, 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.

ATTENTION: This symbol, , when used on the product, is intended to alert the user of important operating and maintenance (servicing) instructions in the literature provided with the equipment.

For information on safety guidelines, regulatory compliances, EMI/EMF compatibility, accessibility, and related topics, see the Extron Safety and Regulatory Compliance Guide, part number 68-290-01, on the Extron website, www.extron.com.

تعليمات السلامة • العربية

تحذير: هذا الرمز، , عند استخدامه على المنتج، مخصص لتبيين المستخدم فيما يتعلق بوجود جهد كهربائي غير معزول على الغلاف الخارجي للمنتج وهو ما قد ينطوي على مخاطر حدوث صدمة كهربائية.

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Sicherheitsanweisungen • Deutsch

WARUNG: Dieses Symbol  auf dem Produkt soll den Benutzer darauf aufmerksam machen, dass im Inneren des Gehäuses dieses Produktes gefährliche Spannungen herrschen, die nicht isoliert sind und die einen elektrischen Schlag verursachen können.

VORSICHT: Dieses Symbol  auf dem Produkt soll dem Benutzer in der im Lieferumfang enthaltenen Dokumentation besonders wichtige Hinweise zur Bedienung und Wartung (Instandhaltung) geben.

Weitere Informationen über die Sicherheitsrichtlinien, Produkthandhabung, EMI/EMF-Kompatibilität, Zugänglichkeit und verwandte Themen finden Sie in den Extron-Richtlinien für Sicherheit und Handhabung (Artikelnummer 68-290-01) auf der Extron-Website, www.extron.com.

Instrucciones de seguridad • Español

ADVERTENCIA: Este símbolo, , cuando se utiliza en el producto, avisa al usuario de la presencia de voltaje peligroso sin aislar dentro del producto, lo que puede representar un riesgo de descarga eléctrica.

ATENCIÓN: Este símbolo, , cuando se utiliza en el producto, avisa al usuario de la presencia de importantes instrucciones de uso y mantenimiento estas están incluidas en la documentación proporcionada con el equipo.

Para obtener información sobre directrices de seguridad, cumplimiento de normativas, compatibilidad electromagnética, accesibilidad y temas relacionados, consulte la Guía de cumplimiento de normativas y seguridad de Extron, referencia 68-290-01, en el sitio Web de Extron, www.extron.com.

Instructions de sécurité • Français

Avertissement : Ce pictogramme, , lorsqu'il est utilisé sur le produit, signale à l'utilisateur la présence à l'intérieur du boîtier du produit d'une tension électrique dangereuse susceptible de provoquer un choc électrique.

Attention : Ce pictogramme, , lorsqu'il est utilisé sur le produit, signale à l'utilisateur des instructions d'utilisation ou de maintenance importantes qui se trouvent dans la documentation fournie avec l'équipement.

Pour en savoir plus sur les règles de sécurité, la conformité à la réglementation, la compatibilité EMI/EMF, l'accessibilité, et autres sujets connexes, lisez les informations de sécurité et de conformité Extron, réf. 68-290-01, sur le site Extron, www.extron.com.

Istruzioni di sicurezza • Italiano

AVVERTENZA: Il simbolo, , se usato sul prodotto, serve ad avvertire l'utente della presenza di tensione non isolata pericolosa all'interno del contenitore del prodotto che può costituire un rischio di scosse elettriche.

ATTENZIONE: Il simbolo, , se usato sul prodotto, serve ad avvertire l'utente della presenza di importanti istruzioni di funzionamento e manutenzione nella documentazione fornita con l'apparecchio.

Per informazioni su parametri di sicurezza, conformità alle normative, compatibilità EMI/EMF, accessibilità e argomenti simili, fare riferimento alla Guida alla conformità normativa e di sicurezza di Extron, cod. articolo 68-290-01, sul sito web di Extron, www.extron.com.

Instrukcje bezpieczeństwa • Polska

OSTRZEŻENIE: Ten symbol, , gdy używany na produkt, ma na celu poinformować użytkownika o obecności izolowanego i niebezpiecznego napięcia wewnętrz obudowy produktu, który może stanowić zagrożenie porażenia prądem elektrycznym.

UWAGI: Ten symbol, , gdy używany na produkt, jest przeznaczony do ostrzegania użytkownika ważne operacyjne oraz instrukcje konserwacji (obsługi) w literaturze, wyposażone w sprzęt.

Informacji na temat wytycznych w sprawie bezpieczeństwa, regulacji wzajemnej zgodności, zgodność EMI/EMF, dostępności i Tematy pokrewne, zobacz Extron bezpieczeństwa i regulacyjnego zgodności przewodnik, część numer 68-290-01, na stronie internetowej Extron, www.extron.com.

Инструкция по технике безопасности • Русский

ПРЕДУПРЕЖДЕНИЕ: Данный символ, , если указан на продукте, предупреждает пользователя о наличии неизолированного опасного напряжения внутри корпуса продукта, которое может привести к поражению электрическим током.

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Для получения информации о правилах техники безопасности, соблюдении нормативных требований, электромагнитной совместимости (ЭМП/ЭДС), возможности доступа и других вопросах см. руководство по безопасности и соблюдению нормативных требований Extron на сайте Extron: www.extron.com, номер по каталогу - 68-290-01.

安全说明 • 简体中文

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注意:  产品上的这个标志意在提示用户, 设备随附的用户手册中有重要的操作和维护(维修)说明。

关于我们产品的安全指南、遵循的规范、EMI/EMF 的兼容性、无障碍使用的特性等相关内容，敬请访问 Extron 网站，www.extron.com，参见 Extron 安全规范指南，产品编号 68-290-01。

安全記事 • 繁體中文

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有關安全性指導方針、法規遵守、EMI/EMF 相容性、存取範圍和相關主題的詳細資訊，請瀏覽 Extron 網站www.extron.com，然後參閱《Extron 安全性與法規遵守手冊》，準則編號 68-290-01。

安全上のご注意 • 日本語

警告: この記号  が製品上に表示されている場合は、筐体内に絶縁されていない高電圧が流れ、感電の危険があることを示しています。

注意: この記号  が製品上に表示されている場合は、本機の取扱説明書に記載されている重要な操作と保守(整備)の指示についてユーザーの注意を喚起するものです。

安全上のご注意、法規厳守、EMI/EMF適合性、その他の関連項目については、エクストロンのウェブサイト www.extron.com より『Extron Safety and Regulatory Compliance Guide』(P/N 68-290-01) をご覧ください。

안전 지침 • 한국어

경고: 이 기호  가 제품에 사용될 경우, 제품의 인클로저 내에 있는 접지되지 않은 위험한 전류로 인해 사용자가 감전될 위험이 있음을 경고합니다.

주의: 이 기호  가 제품에 사용될 경우, 장비와 함께 제공된 책자에 나와 있는 주요 운영 및 유지보수(정비) 지침을 경고합니다.

안전 가이드라인, 규제 준수, EMI/EMF 호환성, 접근성, 그리고 관련 항목에 대한 자세한 내용은 Extron 웹 사이트(www.extron.com)의 Extron 안전 및 규제 준수 안내서, 68-290-01 조항을 참조하십시오.

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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. This interference must be corrected at the expense of the user.

NOTE: 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.

Conventions Used in this Guide

Notifications

In this user guide, the following are used:

 **WARNING:** Potential risk of severe injury or death.

AVERTISSEMENT : Risque potentiel de blessure grave ou de mort.

ATTENTION:

- Risk of property damage.
- Risque de dommages matériels.

NOTE: A note draws attention to important information.

Specifications Availability

Product specifications are available on the Extron website, www.extron.com.

Extron Glossary of Terms

A glossary of terms is available at <http://www.extron.com/technology/glossary.aspx>.

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Introduction

This guide describes the function, installation, and operation of the HD 4K 101 Plus cable equalizer. Unless otherwise stated, the term “cable equalizer” refers to this product.

This section provides the following information:

- [About the HD 4K 101 Plus](#)
- [Features](#)

About the HD 4K 101 Plus

The HD 4K 101 Plus is a cable equalizer that actively conditions incoming HDMI signals to compensate for signal loss when using long HDMI cables, low quality HDMI cables, or source devices with poor HDMI signal output. It extends Ultra High Definition (UHD) and 4K signals up to 50 feet (15 meters).

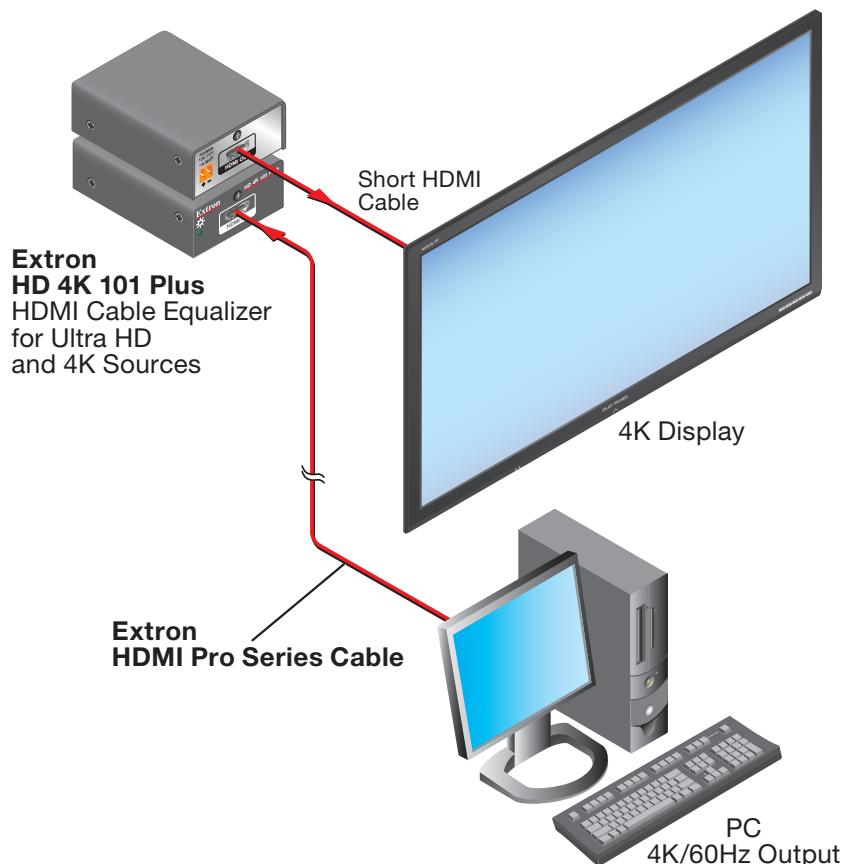


Figure 1. HD 4K 101 Plus Application Diagram

The HD 4K 101 Plus supports resolutions up to UHD (3840x2160 @ 60 Hz) or 4K (4096x2160 @ 60 Hz). It is also able to support a 225 MHz pixel clock rate with 1080p @ 60 Hz (8, 10, or 12-bit) or 1920x1200 @ 60 Hz resolution.

The HD 4K 101 Plus also passes Extended Display Identification Data (EDID) information and supports the long distance transmission of HDTV signals with High-bandwidth Digital Content Protection (HDCP) for copy protection of digital television broadcasts and high resolution digital video output from DVD, HD DVD, and Blu-ray Disc™ players.

With the appropriate adapters from Extron, the HD 4K 101 Plus is fully compatible with all Extron HDMI and DVI products that support both 1080p @ 60 Hz and UHD and 4K @ 60 Hz resolutions.

Features

- **Supports UHD and 4K signals** — The HD 4K 101 Plus supports computer video resolutions up to 2560x1600, HDTV 1080p/60 Deep Color, UHD resolutions at 3840x2160 @ 60 Hz (4:4:4) and 4K resolutions 4096x 2160 @ 60 Hz (4:4:4).
- **HDCP compliant** — The HD 4K 101 Plus supports HDCP 1.4 and 2.3.
- **Supports pixel clocks up to 600 MHz** — The HD 4K 101 Plus handles up to 600 Mhz pixel clock to ensure compatibility with HDMI 2.0.
- **Supports HDMI specifications** — The HD 4K 101 Plus supports data rates up to 18.0 Gbps, Deep Color up to 12-bit, 4K, 3D, Lip Sync, and HD lossless audio formats.
- **Extends UHD and 4K video signals up to 50 feet (15 meters) over HDMI cable.**
- **Automatic input cable equalization** — The HD 4K 101 Plus actively conditions incoming HDMI signals to compensate for signal loss when using long HDMI cables, low quality HDMI cables, and source devices with poor HDMI signal output.
- **DDC and HDCP copy protection transmission support** — Display Data Channel (DDC) allows pass-through of EDID and HDCP information between source and display.
- **Pass through EDID communication and HDCP key exchange between the display and source** — The HD 4K 101 Plus passes Extended Display Identification Data (EDID) information and supports the long distance transmission of HDTV signals with High-bandwidth Digital Content Protection (HDCP) for copy protection.
- **Input** — One HDMI connector.
- **Output** — One HDMI connector.
- **LockIt HDMI cable lacing brackets included** — LockIt lacing brackets are used to secure HDMI cables connected to the HDMI input and output connectors, preventing accidental disconnection of the cables.
- **LED indicator for source signal presence and power** — Indicator illuminates amber when power is detected and green when a signal is present.
- **Can be powered directly from the HDMI source device** — Attached source devices that provide +5 VDC on the HDMI output can power the HD 4K 101 Plus, eliminating the need for power supply installation.
- **Enclosure** — Compact 1-inch (2.5 cm) high, 1/8 rack wide, 3-inch deep enclosure.
- **Rack and furniture mounting** — The cable equalizer can be mounted on a rack shelf or under a desk or podium using optional mounting brackets.

Panel Features

This section describes:

- **HD 4K 101 Plus Front Panel**
- **HD 4K 101 Plus Rear Panel**

HD 4K 101 Plus Front Panel

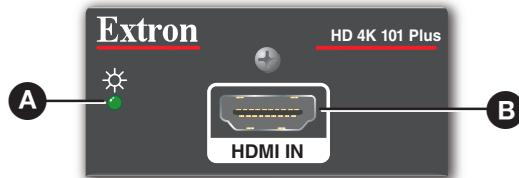


Figure 2. HD 4K 101 Plus Front Panel

- A Status LED** — Lights amber when the product is receiving power from either the 12 VDC connector or via Pin 18 of the HDMI input from a source device. The LED lights green when an HDMI signal is present, which is detected from TMDS Clock.
- B HDMI Input** — A single female HDMI Type A connector. The input equalizes the input cable signal at the highest support rate of 600 MHz (see the Input Cable Lengths table below).

The input can also receive power from the video source, via pin 18 (+5 VDC) of the HDMI connector. If the source does not supply adequate power, the status LED will not light amber, and an external power supply must be used (see **Attention** on page 6). The Extron PS Series Desktop Power Supply is sold separately at www.extron.com.

Input Cable Lengths

Resolution	Refresh Rate (Hz)	Maximum distance
720p	24/30	175 feet (53.3 meters)
720p	60	150 feet (45.7 meters)
1080i	30/60	150 feet (45.7 meters)
1080p	24/30	150 feet (45.7 meters)
1080p (8 bit or deep color)	60	125 feet (38.1 meters)
3840x2160 (UHD)	24/30	75 feet (22.9 meters)
4096x2160 (4K)	24/30	75 feet (22.9 meters)
3840x2160 (UHD)	60	50 feet (15.2 meters)
4096x2160 (4K)	60	35 feet (10.7 meters)

Resolution	Refresh Rate (Hz)	Maximum distance
PC Rates		
1024x768	60	150 feet (45.7 meters)
1280x1024	60	150 feet (45.7 meters)
1600x1200	60	125 feet (38.1 meters)
1920x1080	24/30	150 feet (45.7 meters)
1920x1080	60	125 feet (38.1 meters)
1920x1200	60	125 feet (38.1 meters)
2560x1600	30	75 feet (22.9 meters)
2560x1600	60	50 feet (15.2 meters)
3840x2160	24/30	75 feet (22.9 meters)
4096x2160	24/30	75 feet (22.9 meters)
3840x2160	60	50 feet (15.2 meters)
4096x2160	60	35 feet (10.7 meters)

NOTE: To send signals the distances shown in the Input Cable Lengths table above, Extron recommends the use of HDMI Pro cables (see www.extron.com).

Securing the HDMI Connector

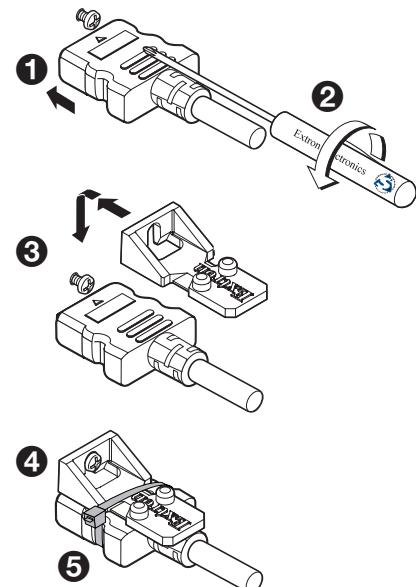
Use a HDMI cable to connect the input source to the female HDMI socket on the front panel of the HD 4K 101 Plus (**figure 2**, **B**, on page 3). Use a HDMI cable to connect the output sink to the female HDMI socket on the rear panel of the HD 4K 101 Plus (**figure 3**, **B**, on page 5).

Use the provided LockIt HDMI Cable Lacing Bracket to secure the HDMI connector:

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.
- Ne serrez pas trop la vis de montage du connecteur HDMI. Le blindage auquel elle est attachée est très fin et peut facilement être dénudé.



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, and then remove any excess length.

HD 4K 101 Plus Rear Panel

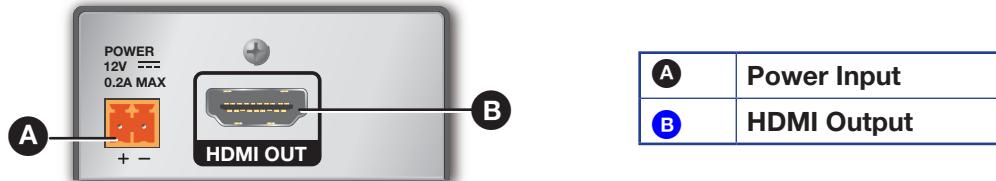


Figure 3. HD 4K 101 Plus Rear Panel

- A Power Input** — Connect the (optional) 12 VDC, 0.5 A power supply to this single female, two-pole, 3.5 mm, captive screw connector.

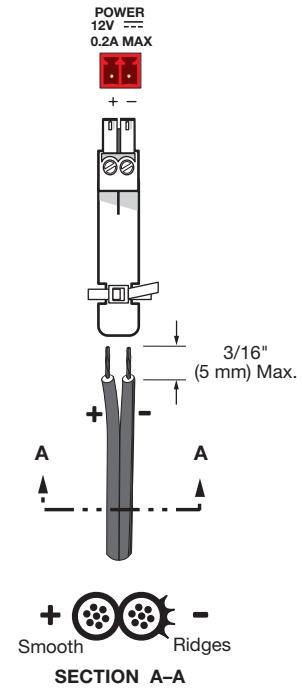
CAUTION: The DC output cables must be kept separate from each other while the power supply is plugged in. Remove power before wiring.

ATTENTION : Les câbles de sortie CC doivent être séparés les uns des autres tant que la source d'alimentation est branchée. Coupez l'alimentation avant d'effectuer tout raccordement.

ATTENTION:

- Do not connect any external power supplies until you have read the **Attention notifications** on page 6.
- Ne branchez pas de sources d'alimentation externes avant d'avoir lu les **mises en garde** sur la page 6.

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.



ATTENTION:

- The length of the exposed wires in the stripping process is critical. The ideal length is 3/16 inch (5 mm). Any longer and the exposed wires may touch, causing a short circuit between them. Any shorter and the wires can be easily pulled out even if tightly fastened by the captive screws.
- La longueur des câbles exposés est primordiale lorsque l'on entreprend de les dénuder. La longueur idéale est de 5 mm (3/16 inches). S'ils sont trop longs, les câbles exposés pourraient se toucher et provoquer un court-circuit. S'ils sont trop courts, ils peuvent être tirés facilement, même s'ils sont correctement serrés par les borniers à vis.

3. Ensure the connections have the correct polarity as shown in the figure above.
4. Slide the exposed ends of the wire into the captive screw connector and secure by tightening the screws.
5. Use the supplied tie wrap to strap the power cord to the extended tail of the connector.

ATTENTION:

- Always use a power supply provided by 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.
- Utilisez toujours une source d'alimentation fournie ou recommandée par Extron. L'utilisation d'une source d'alimentation non autorisée annule toute certification de conformité réglementaire, et peut endommager la source d'alimentation et l'unité.
- If not provided with a power supply, this product is intended to be supplied by a UL Listed power source marked "Class 2" or "LPS", rated output 12VDC min. 0.2A.
- Si le produit n'est pas fourni avec une source d'alimentation, il doit être alimenté par une source d'alimentation certifiée UL de classe 2 ou LPS, avec une tension nominale 12 Vcc, 0.2 A minimum.
- Extron power supplies are certified to UL/CSA 60950-1 and are classified as LPS (Limited Power Source). Use of a non-LPS or unlisted power supply will void all regulatory compliance certification.
- Les sources d'alimentation Extron sont qualifiées UL/CSA 60950-1 et sont classées LPS (Limited Power Source). L'utilisation d'une source d'alimentation non-listée ou non-listée LPS annulera toute certification de conformité réglementaire.
- 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.
- Sauf mention contraire, les adaptateurs CA/CC ne conviennent pas à une utilisation dans les espaces d'aération ou dans les cavités murales. La source d'alimentation doit être placée à proximité de l'équipement Extron dans un emplacement ordinaire soumis à un degré de pollution de catégorie II, solidement fixé au rack d'équipement d'une baie technique, d'un pupitre, ou d'un bureau.
- The installation must always be in accordance with the applicable provisions of National Electrical Code ANSI/NFPA 70, article 725 and the Canadian Electrical Code part 1, section 16.
- L'installation doit toujours être conforme aux dispositions applicables du Code américain de l'électricité (National Electrical Code) ANSI/NFPA 70, article 725, et du Code canadien de l'électricité.
- The power supply shall not be permanently fixed to building structure or similar structure.
- La source d'alimentation ne devra pas être fixée de façon permanente à une structure de bâtiment ou à une structure similaire.
- Do not tin the wire leads before installing into the connector. Tinned wires are not as secure in the connector and could be pulled out. They may also break after being bent several times.
- Ne pas étamer les conducteurs avant de les insérer dans le connecteur. Les câbles étamés ne sont pas aussi bien fixés dans le connecteur et pourraient être tirés. Ils peuvent aussi se casser après avoir été pliés plusieurs fois.

B HDMI Output (see [figure 3](#) on page 5)— One female HDMI Type A connector used for HDMI output. The output supports a pixel clock up to 600 MHz. The cable length connecting to the display device must be a maximum of 12 feet (3.6 m).

NOTE: Use the provided LockIt HDMI lacing bracket to secure the HDMI connector (see [Securing the HDMI Connector](#) on page 4).

Powering via the Input Source

The HD 4K 101 Plus can receive power from the input device via the 5 VDC signal on pin 18 of the HDMI cable. This eliminates the external power supply. If an external power supply is needed, connect the optional Extron 12 V/0.5 A power supply.

NOTES:

- If the source does not adequately supply the +5 VDC power, an external power supply must be used.
- To verify if the source is providing power, connect a short HDMI cable from the input device to the input of the cable equalizer. If the HD 4K 101 Plus front panel LED lights amber, the source is supplying power.

Internal Settings

Under most conditions, the HD 4K 101 Plus works without adjustments. However, the quality of the image displayed may be affected by a combination of the source, display, and cable length. If so, the HD 4K 101 Plus has two sets of jumper switches that are used to adjust Equalization (EQ), and Pre-emphasis (see [figure 4](#) and the table for [Internal Jumper Settings](#) on page 8).

Follow these instructions to get access to these jumper switches:

ATTENTION:

- Electrostatic discharge (ESD) can damage IC chips even though you cannot feel, see, or hear it. Use electrostatic discharge (ESD) precautions (be electrically grounded) when making connections.
- Les décharges électrostatiques peuvent endommager les puces de circuit même si vous ne pouvez pas les sentir, les voir ou les entendre. Prenez des précautions contre les décharges électrostatiques (soyez électriquement relié à la terre) lorsque vous effectuez des connexions.

1. Remove the screws holding the cover to the base, one screw on the front panel and two screws on each side. Set aside the cover and retain the screws.

NOTE: Do not remove the screw from the back panel. This secures the internal circuit board and does not attach the base to the cover.

2. Locate the four sets of jumper switches on the side of the circuit board (see [figure 4](#)).

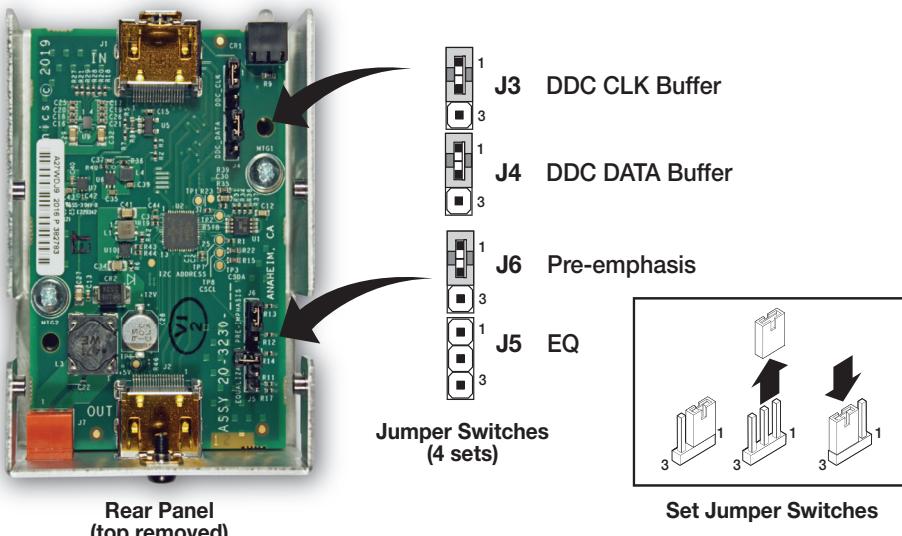
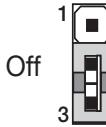
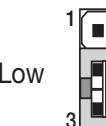
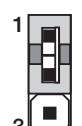
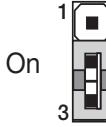
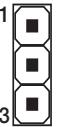


Figure 4. Locating the Jumper Switches

3. Set the jumper switches as required (see the Internal Jumper Settings table).

4. Replace the cover, using the screws that were removed and saved in step 1.

Internal Jumper Settings				
Jumper	Function	Jumper Pins 2 and 3	Jumper Pins 1 and 2	No Jumper
J3 (DDC CLK Buffer) J4 (DDC DATA Buffer)	Some applications require that the DDC be buffered for proper operation. Adjusting this jumper can clean up the signal to allow it to extend further. NOTE: Jumpers J3 and J4 must be configured together, either both on or both off.	Off 	On Default 	NA
J5 (EQ)	Adjusting this jumper can improve the image for some applications with longer cable runs, image artifacts, or both. Setting for J5 (EQ), based on resolutions and the input HDMI cable lengths used: <ul style="list-style-type: none">• High: 1080p @ 60 Hz with input cables 100-125 feet. 4k/30 with input cables 50-75 feet. 4k/60 with input cables 25-35 feet.• Mid: 1080p @ 60 Hz with input cables 50-100 feet. 4k/30 with input cables 25-50 feet. 4k/60 with input cables 15-25 feet.• Low: 1080p @ 60 Hz with input cables 15-50 feet. 4k/30 with input cables 15-25 feet. 4k/60 with input cables less than 15 feet.	Low 	Mid 	High Default 
J6 (Pre-emphasis)	Adjusting this jumper can compensate for signal degradation in applications with higher data rate, higher resolution, or both. This adjustment is recommended for resolutions of 2560x1600 @ 60 Hz or higher.	On 	Off Default 	Not used 

Connecting for Long Cable Runs

To use the HD 4K 101 Plus effectively, follow the recommendations in figure 5 for cable lengths between the source device and HD 4K 101 Plus and between the HD 4K 101 Plus and the display device. Position the HD 4K 101 Plus at the end of the cable closest to the display.

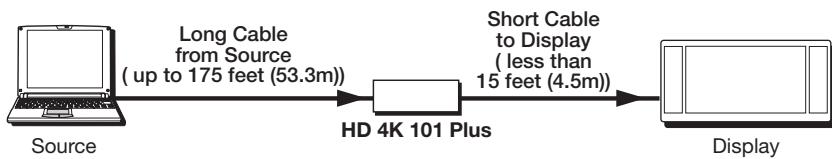


Figure 5. Optimum Cable Lengths for the HD 4K 101 Plus

Mounting

Mounting the HD 4K 101 Plus

The HD 4K 101 Plus can be set on a table, mounted on a rack shelf, or mounted under a desk, podium, or table.

ATTENTION:

- Installation and service must be performed by authorized personnel only.
- L'installation et l'entretien doivent être effectués uniquement par un technicien qualifié.

Tabletop Mounting

Attach the four provided rubber feet to the bottom of the HD 4K 101 Plus and place the unit in any convenient location.

Rack Mounting

See the Extron [website](#) for a list of optional rack mounting kits suitable for the HD 4K 101 Plus. Follow the instructions provided with the kit.

Underwriters Laboratories 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.
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).

Under Desk Mounting

See the Extron [website](#) to find the optional under desk mounting kit suitable for the HD 4K 101 Plus. Follow the instructions provided with the kit.

Through Desk Mounting

See the Extron [website](#) to find the optional through desk mounting kit suitable for the HD 4K 101 Plus. Follow the instructions provided with the 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
1230 South Lewis Street
Anaheim, CA 92805
U.S.A.

Asia:

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

Japan:

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

Europe:

Extron Europe
Hanzeboulevard 10
3825 PH Amersfoort
The Netherlands

China:

Extron China
686 Ronghua Road
Songjiang District
Shanghai 201611
China

Middle East:

Extron Middle East
Dubai Airport Free Zone
F13, PO Box 293666
United Arab Emirates, Dubai

Africa:

Extron South Africa
3rd Floor, South Tower
160 Jan Smuts Avenue
Rosebank 2196, South Africa

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 or 800.633.9876

Asia: 65.6383.4400

Europe: 31.33.453.4040 or 800.3987.6673

Japan: 81.3.3511.7655

Africa: 27.11.447.6162

Middle East: 971.4.299.1800

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.