

EDID 101H

EDID Emulator with EDID Minder for HDMI



Extron Electronics
INTERFACING, SWITCHING AND CONTROL

Safety Instructions

Safety Instructions • English

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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.

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Instructions de sécurité • Français

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Korean

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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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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.

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Conventions Used in this Guide

Notifications

The following notifications are used in this guide:

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 “Ø” is used for the number zero and “O” is 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.
```

Specifications Availability

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

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Introduction

This section describes this user guide and the EDID 101H, including:

- [About this Guide](#)
- [About the EDID 101H](#)
- [EDID 101H Features](#)
- [Application Diagram](#)

About this Guide

This guide contains information about the Extron EDID 101H with instructions on how to install, configure, and operate the unit. Throughout this guide the EDID 101H is referred to as the “EDID 101” or the “device”.

About the EDID 101H

The Extron EDID 101H is an HDCP compliant EDID Emulator for HDMI signal sources. It features EDID Minder, an Extron exclusive technology designed to provide automatic and continuous Extended Display Identification Data (EDID) management. EDID Minder ensures that the source powers up properly and reliably outputs content. Pre-stored EDID is communicated to the source based on a user-selected resolution and refresh rate. The EDID 101H can also capture and store EDID information from a connected display. A unique Hot Plug Detect (HPD) port provides control for remote cameras and other signal sources that require a periodic HPD trigger.

The EDID 101H is housed in a compact one-inch high, quarter rack width enclosure for convenient, discreet installation (see [Mounting the EDID 101H](#) on page 15). An energy-efficient external universal power supply is included.

EDID 101H Features

EDID Minder — Automatically manages EDID communication between connected devices. EDID Minder ensures that all sources power up properly and reliably output content for display.

Selectable resolutions and refresh rates — Pre-stored EDID is communicated to the source based on a user-selected resolution and refresh rate.

EDID capture mode — When connected to a display, the EDID 101H offers the option of capturing and then storing EDID information from the display device.

Supports computer video to 1920x1200, including HDTV 1080p60 and 2K.

HDCP compliant — Fully supports HDCP-encrypted sources.

HDCP authentication and signal presence LED indicators — Provide signal status for real-time feedback and monitoring of key performance parameters.

HDMI to DVI Interface Format Correction — Automatically reformats HDMI source signals for output to a connected DVI display.

HPD - Hot Plug Detect control port — Provides unique contact closure control port for remote cameras and other devices that require a periodic HPD trigger for proper operation.

Automatic input cable equalization to 50 feet at 1080p60 with 8-bit color when used with Extron HDMI Pro Series cable — Actively conditions incoming HDMI signals to compensate for signal loss when using long cables, low quality cables, or source devices with poor signal output.

Provides +5 VDC, 250 mA power on the output for external peripheral devices

Includes LockIt HDMI cable lacing brackets

Energy-efficient external universal power supply included — Provides worldwide compatibility, low power consumption, and reduced operating costs.

Application Diagram

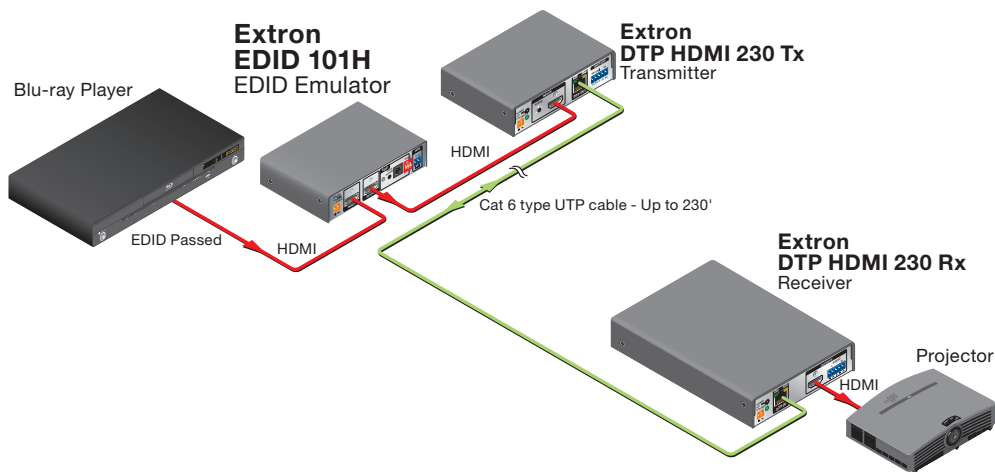


Figure 1. EDID 101H Application Diagram

Installation and Configuration

This section describes the installation, and configuration of the EDID 101H, including:

- [Installation Overview](#)
- [Front Panel Features](#)
- [Rear Panel Features and Cabling](#)
- [EDID Minder](#)
- [EDID 101H Configuration](#)

Installation Overview

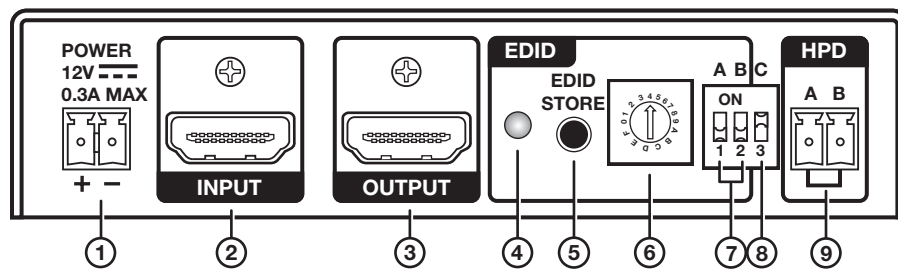


Figure 2. EDID 101H Rear Panel

1. Mount the EDID 101H (see [Mounting the EDID 101H](#) on page 15). Do not connect power to the source, the display, or the EDID 101H at this time.

TIP: If access to the EDID 101H is restricted after mounting or installation, configure the EDID 101H prior to the installation.

3. Configure the EDID 101H (see [EDID 101H Configuration](#) on page 11).
4. Connect an HDMI cable from the source to the Input (②).
5. Connect an HDMI cable from the Output (③) to the video display or distribution system input.
6. Connect power and turn on the video display or distribution system.
7. Apply power to the EDID 101H (①). The power LED lights green.
8. Turn on the video source.

The video source reads the EDID from the EDID 101H.

Front Panel Features

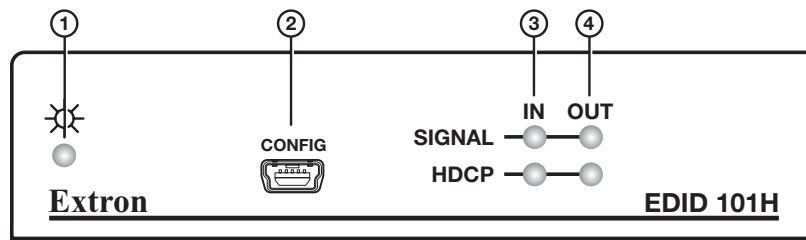


Figure 3. EDID 101H Front Panel Indicators and Configuration Port

- ① **Power LED** – Lights green when an external power supply is connected and powered.
- ② **Config port** – Connect a host computer using a USB mini type-B connector for configuration using SIS commands, and for firmware updates (see [Connecting to the USB Port](#) on page 16).
- ③ **Signal In LED** – Lights green when an HDMI signal is detected on the input.
HDCP In LED – Lights green when the source device requires HDCP encryption and the signal has been authenticated.
- ④ **Signal Out LED** – Lights green when an active sink (display) device is connected to the output.
HDCP Out LED – Lights green when HDCP is authenticated between the HDMI output and the connected sink device. This occurs only when the source device requires HDCP and is authenticated.

If the source does not require HDCP or if the sink device is not HDCP compliant, the LED does not light.

Rear Panel Features and Cabling

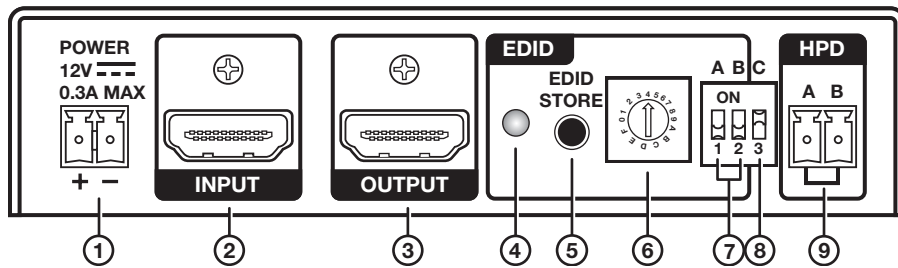


Figure 4. EDID 101H Rear Panel

- ① **Power Connector** – Connect the included 12 VDC power supply to this two-pole, 3.5 mm captive screw connector.

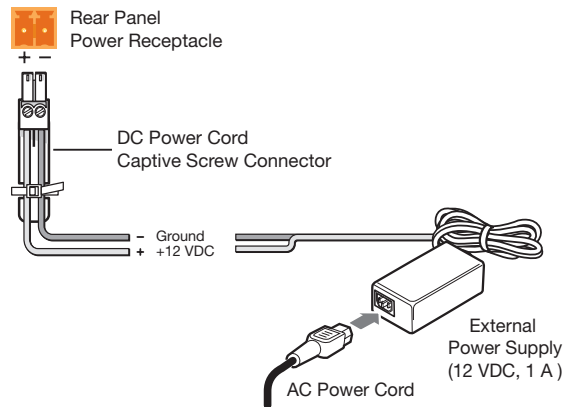


Figure 5. 12 VDC Power Connection to EDID 101H

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.
- 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.

- ② **HDMI input** – Connect an HDMI source to this female HDMI type-A connector.

HDCP – When required, the HDMI input negotiates and authenticates HDCP with a source device. The authentication process is repeated when a stored EDID is changed.

- ③ **HDMI output** – Connect a display or other output device to this female HDMI type-A connector. The HDMI output provides +5 VDC, (up to 250 mA with over-current protection) on pin 16.

HDCP – If a connected output device requires HDCP encryption, the EDID 101H output negotiates and authenticates HDCP directly.

Video Format Correction – When the current input signal is HDMI and the connected output is DVI, the signal is converted to DVI format. This is based on the capability of the connected output device as listed in its EDID.

The EDID information is read from the connected output device and written to memory whenever the output device is connected to this port and powered on.

NOTE: The EDID information is also read and stored whenever power is recycled to the connected output device or when the output device is replaced.

To securely fasten an HDMI cable to the EDID 101H using the included LockIt HDMI cable lacing brackets:

1. Plug the HDMI cable into the panel connection (see figure 5).

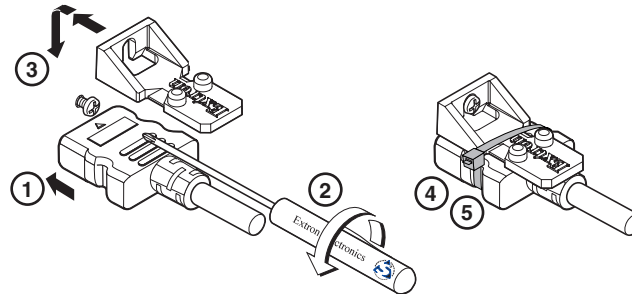


Figure 6. Installing the LockIt Lacing Bracket

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 connector 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. Hold the connector securely against the lacing bracket, then tighten the tie wrap and remove the excess length.

- ④ **EDID Store LED** – One bi-color LED lights green when power is connected. It flashes amber when reading and storing EDID from a connected output device, returning to green when recording is complete.

- ⑤ **EDID Store button** – One recessed push button initiates both reading and storing EDID. With both A and B DIP switches set off (down), press the store button to read the EDID of a device connected to the output. The EDID is then stored to a user slot selected by the rotary switch. Up to 15 EDID files can be stored.

Reset – To reset the EDID 101H to its default state, press and hold the EDID button while applying power. As power is applied, all front panel LEDs blink three times indicating a successful reset.

- ⑥ **EDID selection rotary switch** – One 16-position rotary switch combined with DIP switches A and B (see figure 4, ⑦ on page 5) provide a choice of user stored or pre-programmed EDID (see **EDID 101H Configuration** on page 11).

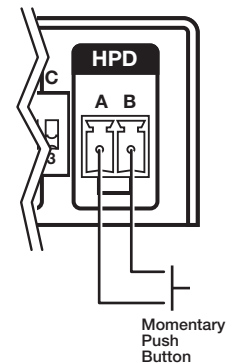
User Loaded EDID – With both DIP switches off (down) rotary positions 1 through F store user loaded EDIDs (see **Record EDID to a Memory Slot** on page 11). The memory slot is selected before initiating the EDID read and store.

Automatic EDID – With both DIP switches off (down) and the rotary switch at position 0, the EDID of a device connected to the output is automatically stored upon detection of HPD. If no device is detected, the default EDID (720p60) is loaded.

- ⑦ **DIP switch A and B** – Two 2-position DIP switches, A and B, are used with the rotary switch to select from pre-programmed HDMI and DVI EDID, or to allow recording a custom EDID from a connected display. The “off” position is down.

- ⑧ **DIP Switch C** – DIP switch C enables (default: up) or disables (down) HDCP authorization.

- ⑨ **Hot Plug Detect (HPD)** – One 2-pole 3.5 mm captive screw connector used to manually toggle HPD on the HDMI input. When the two pins (A and B) are shorted together, an HPD event is initiated on the HDMI input.



NOTES:

- The length of the exposed wires in the stripping process is critical. The ideal length is 3/16 inch (5 mm). If it is any longer, the exposed wires may touch, causing a short circuit between them. If it is any 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.

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, 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 in the EDID 101H.

Automatic Mode

In automatic mode (see **Record EDID Automatically:** on page 11), the EDID 101H automatically reads and stores EDID from the connected output. 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, a factory default EDID (720p @ 60 Hz, 2-Ch audio) is present.

User Assigned Mode

In user assigned mode (see **Assign Pre-programmed EDID:** on page 11), the user can select from 48 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, fifteen user-loaded slots are available to save the EDID of connected displays (see **Record EDID to a Memory Slot:** on page 11). 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 **X2** for consistency with the memory location SIS command.

EDID 101H Memory Slot Locations

<div>X2</div>	DIP A	DIP B	Rotary Switch Position	Native Resolution	Refresh Rate	¹ Rate Type	² Video Format	³ Audio Type	X2	DIP A	DIP B	Rotary Switch Position	Native Resolution	Refresh Rate	¹ Rate Type	² Video Format	³ Audio Type
1	Up (ON)	Down (OFF)	0	800x600	60 Hz	PC	DVI	n/a	33	Up (ON)	Up (ON)	0	720p	50 Hz	PC	HDMI	2-Ch
2	Up (ON)	Down (OFF)	1	1024x768	60 Hz	PC	DVI	n/a	34	Up (ON)	Up (ON)	1	720p	60 Hz	PC	HDMI	2-Ch
3	Up (ON)	Down (OFF)	2	1280x720	60 Hz	PC	DVI	n/a	35	Up (ON)	Up (ON)	2	1080i	50 Hz	PC	HDMI	2-Ch
4	Up (ON)	Down (OFF)	3	1280x768	60 Hz	PC	DVI	n/a	36	Up (ON)	Up (ON)	3	1080i	60 Hz	PC	HDMI	2-Ch
5	Up (ON)	Down (OFF)	4	1280x800	60 Hz	PC	DVI	n/a	37	Up (ON)	Up (ON)	4	1080p	50/25 Hz	PC	HDMI	2-Ch
6	Up (ON)	Down (OFF)	5	1280x1024	60 Hz	PC	DVI	n/a	38	Up (ON)	Up (ON)	5	1080p	50 Hz	PC	HDMI	2-Ch
7	Up (ON)	Down (OFF)	6	1360x768	60 Hz	PC	DVI	n/a	39	Up (ON)	Up (ON)	6	1080p	60/24 Hz	PC	HDMI	2-Ch
8	Up (ON)	Down (OFF)	7	1366x768	60 Hz	PC	DVI	n/a	40	Up (ON)	Up (ON)	7	1080p	60 Hz	PC	HDMI	2-Ch
9	Up (ON)	Down (OFF)	8	1400x1050	60 Hz	PC	DVI	n/a	41	Up (ON)	Up (ON)	8	720p	50 Hz	PC	HDMI	Multi-Ch
10	Up (ON)	Down (OFF)	9	1440x900	60 Hz	PC	DVI	n/a	42	Up (ON)	Up (ON)	9	720p	60 Hz	PC	HDMI	Multi-Ch
11	Up (ON)	Down (OFF)	A	1600x900	60 Hz	PC	DVI	n/a	43	Up (ON)	Up (ON)	A	1080i	50 Hz	PC	HDMI	Multi-Ch
12	Up (ON)	Down (OFF)	B	1600x1200	60 Hz	PC	DVI	n/a	44	Up (ON)	Up (ON)	B	1080i	60 Hz	PC	HDMI	Multi-Ch
13	Up (ON)	Down (OFF)	C	1680x1050	60 Hz	PC	DVI	n/a	45	Up (ON)	Up (ON)	C	1080p	50/25 Hz	PC	HDMI	Multi-Ch
14	Up (ON)	Down (OFF)	D	1920x1080	60 Hz	PC	DVI	n/a	46	Up (ON)	Up (ON)	D	1080p	50 Hz	PC	HDMI	Multi-Ch
15	Up (ON)	Down (OFF)	E	1920x1200	60 Hz	PC	DVI	n/a	47	Up (ON)	Up (ON)	E	1080p	60/24 Hz	PC	HDMI	Multi-Ch
16	Up (ON)	Down (OFF)	F	2048x1080	60 Hz	PC	DVI	n/a	48	Up (ON)	Up (ON)	F	1080p	60 Hz	PC	HDMI	Multi-Ch
17	Down (OFF)	Up (ON)	0	800x600	60 Hz	PC	DVI	n/a	49	Down (OFF)	Down (OFF)	0	Output (auto)				
18	Down (OFF)	Up (ON)	1	1024x768	60 Hz	PC	DVI	n/a	50	Down (OFF)	Down (OFF)	1	User Slot 1				
19	Down (OFF)	Up (ON)	2	1280x768	60 Hz	PC	DVI	n/a	51	Down (OFF)	Down (OFF)	2	User Slot 2				
20	Down (OFF)	Up (ON)	3	1280x800	60 Hz	PC	DVI	n/a	52	Down (OFF)	Down (OFF)	3	User Slot 3				
21	Down (OFF)	Up (ON)	4	1280x1024	60 Hz	PC	DVI	n/a	53	Down (OFF)	Down (OFF)	4	User Slot 4				
22	Down (OFF)	Up (ON)	5	1360x768	60 Hz	PC	DVI	n/a	54	Down (OFF)	Down (OFF)	5	User Slot 5				
23	Down (OFF)	Up (ON)	6	1366x768	60 Hz	PC	DVI	n/a	55	Down (OFF)	Down (OFF)	6	User Slot 6				
24	Down (OFF)	Up (ON)	7	1400x1050	60 Hz	PC	DVI	n/a	56	Down (OFF)	Down (OFF)	7	User Slot 7				
25	Down (OFF)	Up (ON)	8	1440x900	60 Hz	PC	HDMI	2-Ch	57	Down (OFF)	Down (OFF)	8	User Slot 8				
26	Down (OFF)	Up (ON)	9	1600x900	60 Hz	PC	HDMI	2-Ch	58	Down (OFF)	Down (OFF)	9	User Slot 9				
27	Down (OFF)	Up (ON)	A	1600x1200	60 Hz	PC	HDMI	2-Ch	59	Down (OFF)	Down (OFF)	A	User Slot 10				
28	Down (OFF)	Up (ON)	B	1680x1050	60 Hz	PC	HDMI	2-Ch	60	Down (OFF)	Down (OFF)	B	User Slot 11				
29	Down (OFF)	Up (ON)	C	1920x1200	60 Hz	PC	HDMI	2-Ch	62	Down (OFF)	Down (OFF)	C	User Slot 12				
30	Down (OFF)	Up (ON)	D	2048x1080	60 Hz				62	Down (OFF)	Down (OFF)	D	User Slot 13				
31	Down (OFF)	Up (ON)	E	480p	60 Hz				63	Down (OFF)	Down (OFF)	E	User Slot 14				
32	Down (OFF)	Up (ON)	F	576p	50 Hz				64	Down (OFF)	Down (OFF)	F	User Slot 15				

Table 1. EDID 101 Memory Locations (see footnotes on the following page)

Footnotes for the EDID table (see page 9)

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

¹Rate Type

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

²Video Format

- **DVI** – These EDIDs are 128-byte EDID files, which specify a DVI sink. They do not contain an extension block.
- **HDMI** – These EDIDs 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 EDIDs are DVI formatted EDID files that do not support audio.
- **2-Ch** – These EDIDs are HDMI formatted EDID files, with support for basic LPCM (2-Ch) audio.
- **Multi-Ch** – These EDIDs 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)

EDID 101H Configuration

The EDID 101H can be configured prior to installation. EDIDs are recorded from a display or a pre-programmed EDID is selected.

TIP: If access to the EDID 101H is restricted after mounting or installation, configure the EDID 101H prior to the installation.

Assign Pre-programmed EDID:

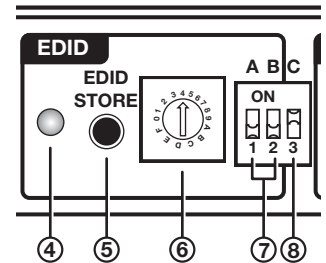
Configure the DIP switches and rotary switch corresponding to the desired native rate, video format, and audio format (see [EDID 101H Memory Slot Locations](#) on page 9).

NOTE: Configuring the EDID 101 rotary and DIP switches allow a user to select a pre-programmed EDID file based on the native rate of a display (such as 1280x1024 @ 60 Hz), but does not force a video source to output that rate. Since EDID reporting is not limited to a single video rate (the native rate), each Extron EDID also lists other common video rates for use by the video source.

Record EDID to a Memory Slot:

To record EDID from a connected display:

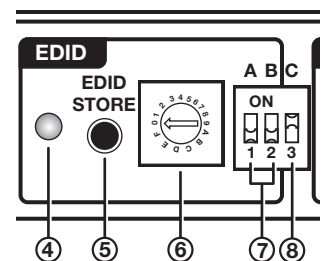
1. Set DIP switches A and B (ⓐ) to the down (off) position.
2. Turn the rotary switch (ⓑ) to the desired user slot location (1 through F) to store the display EDID.
3. Connect the display device to the Output connector of the EDID 101H (see figure 3, ⓐ on page 5).
4. Connect a power source and apply power to the EDID 101H. The green power LED lights when power is available.
5. Power on the display device.
6. Press **EDID STORE** (ⓓ) once to store the display EDID to the memory slot selected in step 2. The LED (ⓐ) flashes amber. When the LED returns to green, the EDID is stored.



NOTE: An EDID stored in user slots 1 through F is saved until a new EDID is manually stored to that slot or the device is reset.

Record EDID Automatically:

1. Set DIP switches A and B (ⓐ) to the down (off) position.
2. Turn the rotary switch (ⓑ) to position 0.
3. Connect a power source and apply power to the EDID 101H. The green power LED lights.
4. Connect the display device to the Output connector of the EDID 101H (see figure 3, ⓐ on page 4).
5. Power on the display device.
6. The display EDID data is automatically read and stored to rotary switch position 0.



NOTE: The EDID stored in this memory slot updates automatically when a different display is connected to the output. It reverts to the default EDID after a power cycle.

Remote Communication and Control

This section describes remote operation of the EDID 101H. Topics include:


- [Using Simple Instruction Set \(SIS\) Commands](#)
- [Command and Response Table for SIS Commands](#)

Using Simple Instruction Set (SIS) Commands

The EDID 101H is remotely set up and controlled using Extron SIS commands issued from a host computer or other device, such as a control system. SIS commands are issued from the computer USB port to the front panel Config port (see [Connecting to the USB Port](#) on page 16 to connect to this port).

Host-to-device Communications

SIS commands consist of one or more characters per field. No special characters are required to begin or end a command sequence. You can enter these commands from your computer using a communication software program such as Extron DataViewer or HyperTerminal. When the device determines that a command is valid, it executes the command and sends a response to the host device.

Most responses from the EDID 101H to the host computer end with a carriage return and a line feed (CR/LF = ) , which signals the end of the response character string. A string is one or more characters.

Device-initiated Messages

When a local event such as a front panel selection or a change in signal status takes place, the switcher responds by sending a message to the host, indicating what change has occurred. No response is required from the host.

Error Responses

If the device is unable to execute a command it receives because the command is invalid or contains invalid parameters, the device returns an error response to the host. The following error response codes can be sent:

E01 – Invalid input channel number (out of range)

E10 – Invalid command

E13 – Invalid value (out of range)

Using the Command and Response Table

The command and response table is shown on the following pages. Symbols are used throughout the table to represent variables in the command and response fields. Symbol definitions and an ASCII-to-hexadecimal (HEX) conversion table are shown below. Command and response examples are shown throughout the command and response table.

NOTE: Upper and lower case text can be used interchangeably unless otherwise stated.

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

Figure 7. ASCII to Hex Conversion Table

Symbol Definitions

- ↵ = CR/LF (carriage return with line feed) (hex 0D 0A)
- ← = Soft carriage return (no line feed)
- = Space
- Esc** = Escape
- X1** = Status
 - 0 = Off, disabled, or undetected
 - 1 = On, enabled, or detected
- X2** = The EDID memory slot location from EDID table (see [EDID 101H Memory Slot Locations](#) on page 9).
 - 1 through 48 = factory assigned slots
 - 49 = automatically detected EDID slot
 - 50 through 64 = user assigned slots
- X3** = 256 bytes of raw hex data (text representation).
- X4** = Native resolution and refresh rate.
- X5** = Unit name. The name can have up to 24 alphanumeric characters including hyphens (-), with no spaces. The first character must be a letter, and the last character cannot be a hyphen.
The default is EDID-101H.
- X6** = Software version to the second decimal place.

Command and Response Table for SIS Commands

Command	ASCII Command (Host to Device)	Response (Unit to Device)	Additional Description
Video Mute			
Video mute	[X1]B	Vmt [X1]↵	Mute the video signal.
View video mute status	B	[X1]↵	Show video mute status [X1]. 1 = muted, 0 = unmuted (default)
Audio Mute			
Audio mute	[X1]Z	Amt [X1]↵	Mute the audio signal.
View audio mute status	Z	[X1]↵	Show audio mute status [X1]. 1 = muted, 0 = unmuted (default)
Signal Status			
Request status of all signals	[Esc]LS ↵	SigI [X1]•SigO [X1]•HdcpI [X1]•HdcpO [X1]↵	Show signal presence or absence for all inputs and the output. I = input O = output
DIP C (HDCP authorized) status	[Esc]STAT ↵	Dip [X1]↵	
EDID Minder			
View native EDID resolution	[Esc]NEDID ↵	[X4]↵	Show native resolution and refresh rate [X4] from current EDID selection.. Example: 1600x1200 @ 60 Hz ↵
View EDID assignment	[Esc]AEDID ↵	EdidA [X2]↵	1-64 (see the EDID 101H Memory Slot Locations on page 10).
View EDID in hex format	[Esc]REDID ↵	[X3]↵	[X3] = current EDID assignment: 256 bytes of raw hex data (text representation).
Import EDID to specified memory slot	[Esc]S [X2]EDID ↵	EdidS [X2]↵	Store the EDID of the connected display as user-assigned EDID file [X2]. [X2] = 50 through 64
Export EDID from any slot	[Esc]NEDID ↵	[X4]↵	Show native resolution and refresh rate [X4] from current EDID selection.
Device Name			
Set device name	[Esc] [X5]CN ↵	Ipn • [X5]↵	[X5] can consist of up to 24 alphanumeric characters, including the hyphen (-).
Set name to default	[Esc] • CN ↵	Ipn • EDID - 101H ↵	
View unit name	[Esc]CN ↵	[X5]↵	Show the current device name ([X5]).
Information Requests			
Request part number	N	60 - nnn - nn ↵	Show the part number of the device
Query firmware version	Q	[X6]↵	Show firmware build number [X6], expressed to the second decimal place.
Resetting			
Reset	[Esc]ZXXX ↵	Zpx ↵	Reset the device to its factory default values.
Firmware			
Upload firmware	[Esc]UPLOAD ↵	. . . go UPL ↵	after upload completes.

Reference Information

- [Mounting the EDID 101H](#)
- [Connecting to the USB Port](#)
- [DataViewer](#)
- [Updating the Firmware](#)

Mounting the EDID 101H

The one inch high, quarter-rack width three inch deep enclosure can be

- Set on a table,
- Mounted on a rack shelf,
- Mounted under a desk or table-top.

Desktop Placement

Attach the four provided rubber feet to the bottom of the EDID 101H 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:

Elevated operating ambient temperature — If the units are installed in a closed or multiunit 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.

Reduced air flow — Install the equipment in the rack so that the equipment gets adequate air flow for safe operation.

Mechanical loading — Mount the equipment in the rack so that uneven mechanical loading does not create a hazardous condition.

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.

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

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

Connecting to the USB Port

A mini type- B USB Config port located on the front panel (see [Front Panel Features](#) on page 4) is used to connect to a host computer for configuration using SIS commands with Extron DataViewer, or for updating firmware with the Extron Firmware Loader utility. DataViewer and Firmware Loader are available at www.extron.com. The programs are also necessary to install the USB driver to the connected computer.

To connect the EDID 101H to a host computer:

NOTE: If an Extron USB device has never been connected to the host computer, prior to connecting the Config (USB) port for the first time, you must install and activate the USB driver. The simplest way to do this is to install either Dataviewer (see [DataViewer](#) on page 18) or the Firmware Loader utility (see [Updating the Firmware](#) on page 19).

1. Connect a USB A to mini B cable between the Config port on the front panel of the EDID 101H and a USB port of the PC.

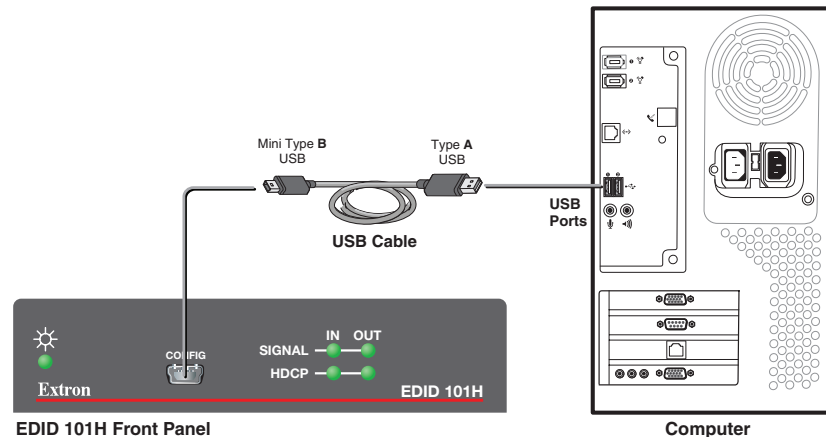


Figure 8. Connecting a PC to the Front Panel USB Port

2. If this is the first time an EDID 101H is connected to the PC, the Found New Hardware Wizard opens (see figure 9).

NOTE: The wizard opens only on the first occasion you connect the EDID 101H to that USB port. The wizard reopens if you connect the EDID 101H to a different USB port or if you connect a different piece of equipment, requiring a different driver, to the same USB port.

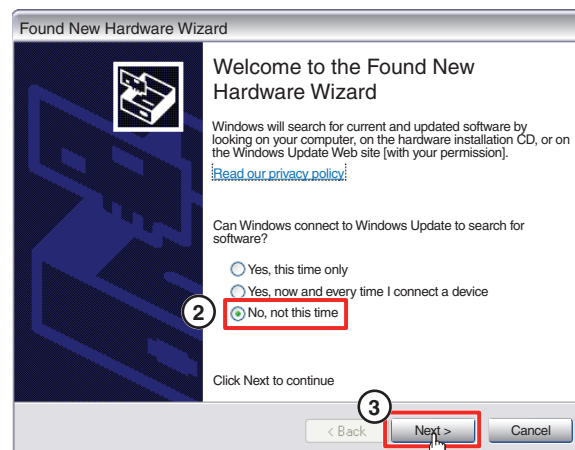


Figure 9. Found New Hardware Wizard Welcome Screen

Select **No, not this time**.

4. Click **Next**.
5. The following dialog box opens:

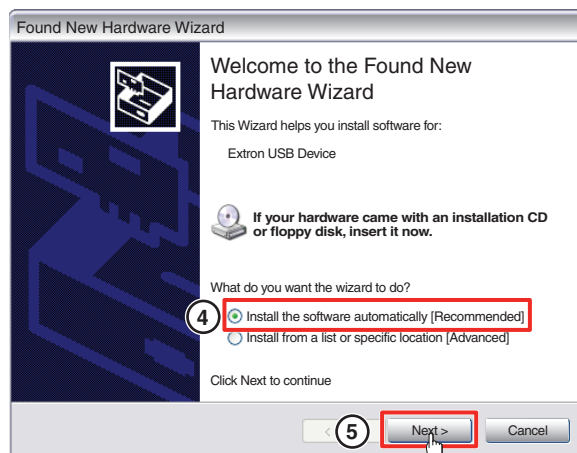


Figure 10. Installing the Software Automatically

Select **Install the software automatically (Recommended)**.

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

6. Click **Next**.
- The PC locates the driver needed and installs it in the correct location on the hard drive.
7. When the **Completed** dialog opens, click **Finish** to close the wizard.

NOTE: The wizard opens only on the first occasion you connect the EDID 101H to that USB port. The wizard reopens if you connect the EDID 101H to a different USB port or if you connect a different piece of equipment, requiring a different driver, to the same USB port.

8. Configure the EDID 101H as required (see [Remote Communication and Control](#) on page 12).

DataViewer

DataViewer is an enhanced terminal emulation program that facilitates analysis of RS-232, USB, and TCP/IP communication with Extron devices. The software allows users to send commands to a device and view the responses in ASCII or hexadecimal format. Command and response logs can be saved in text or HTML format.

DataViewer is available at www.extron.com. Enter **DataViewer** in the search engine to locate the program.

Download the installation file and load the program on the PC connected to the EDID 101H.

NOTES:

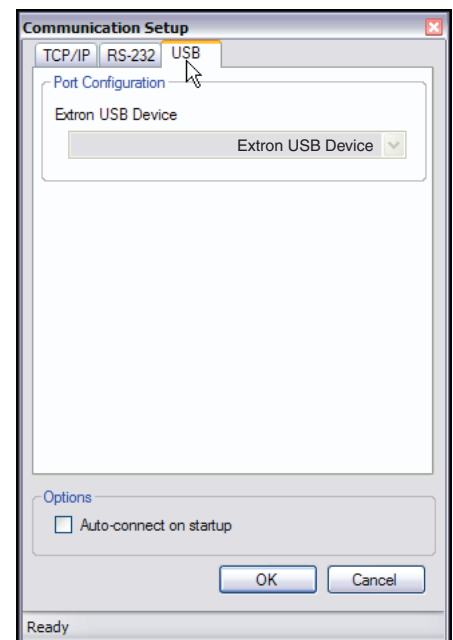
- Only the USB tab is available for the EDID 101H.
- If an Extron USB device has never been connected to the host computer, after installing DataViewer, you must then install and activate the USB driver (see [Connecting to the USB Port](#) on page 16).

To run DataViewer:

1. Click the DataViewer desktop icon.
2. The Communications Setup dialog opens.
Select the **USB** tab.
3. From the **Port Configuration** drop-down list select **Extron USB Device**.
4. Select the startup options.
To automatically connect to the EDID 101H, click **Auto-connect on startup**.
5. Click **OK** to start using the program.

You are now ready to configure DataViewer or to begin entering commands.

Use the DataViewer help file for more information on the program.



Updating the Firmware

Firmware updates are released periodically on the Extron website. You can find the version currently loaded on your device using SIS commands (see [Command and Response Table for SIS Commands](#) on page 14). Compare this with the latest release for the EDID 101H 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 section describes how to update firmware for the EDID 101H including:

- [Download and Install Firmware Loader](#)
- [Downloading EDID 101H Firmware](#)
- [Loading the EDID 101H Firmware](#)

Download and Install Firmware Loader

Use the Extron Firmware Loader utility 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 page, click the **Software** link from the list on the left sidebar menu.
3. Software downloads are arranged in alphabetical order. Click the “**F**” link, then locate Firmware Loader and click the **Download** link on the same row.


Description	Part Number	Version	Date	Size	
<div><div>Firmware Loader</div><div>Extron Firmware Loader is a computer software application that allows you to update Extron products with field-upgradable firmware. The software supports firmware updates to Extron products connected via USB, serial (RS-232), or addressable on your local area network (LAN).</div><div> Release Notes</div></div>	79-508-01	5.1	Jul 20, 2012	13.5 MB	Download

Figure 11. Firmware Loader Download Link

The information page opens.

4. Enter the requested information, then click **Download fw_loader_vnxxnx.exe** (where *vnxxnx* is the Firmware Loader version number).
5. Follow the instructions on the remainder 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 your file browser, locate the downloaded executable installer file and double-click it to launch the installer.
7. Follow the instructions on the Installation Wizard dialog boxes 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 EDID 101H Firmware

To obtain the latest version of firmware for your device:

1. Go to the Extron website at www.extron.com and click the **Download** tab.
2. On the Download Center page, click the **Firmware** link from the list on the left sidebar menu.
3. The firmware files are arranged in alphabetical order. Click the “**E**” at the top the page, then locate EDID 101H firmware file and click its **Download** link.

NOTE: Click **Release Notes**. These notes show the issues addressed by the latest update. If these issues do not affect you, you may decide not to upgrade the firmware.

4. Click the **EDID 101H Download** link. The information page opens.
5. Enter the requested user information, then click **Download**.
6. Follow the instructions on the remainder of the download screens to save the executable firmware file to your computer. Note the folder to which the file was saved.
7. In your file browser, locate the downloaded executable file, and double-click 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 EDID 101H Firmware

To load a new version of firmware to the device using Firmware Loader, connect your computer to the front panel USB Configuration port (see [Connecting to the USB Port](#) on page 16).

1. If you have not already done so, download and install the Firmware Loader executable installer file to your computer (see [Download and Install Firmware Loader](#) on page 19).
2. If necessary, download the latest version of EDID 101H firmware and install it on your computer (see [Downloading EDID 101H Firmware](#) above).
3. Open the Firmware Loader from the **Start** menu:

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

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

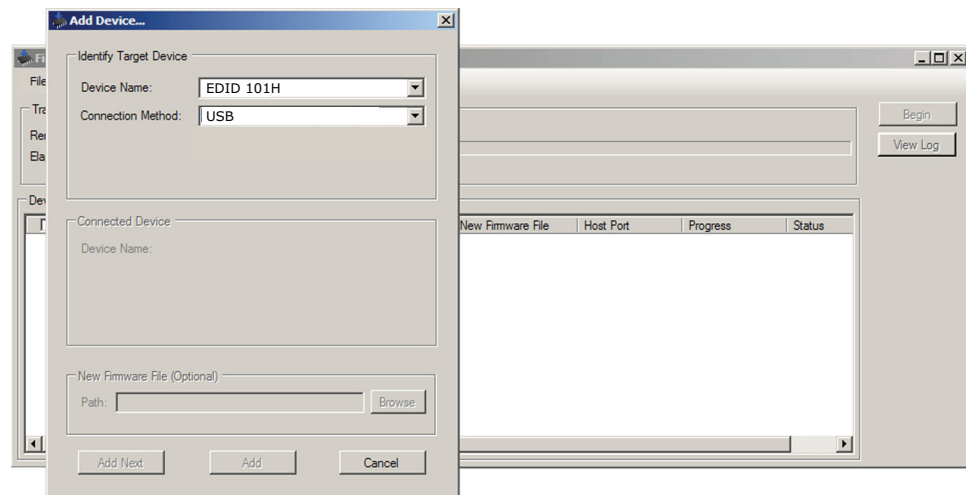


Figure 12. Opening Firmware Loader

4. On the Add Device dialog, select **EDID 101H** from the **Device Names** drop-down list.
5. From the **Connection Method** drop-down list, select **USB**.
6. Click **Connect**. If the connection is successful, EDID 101H is displayed in green in the Connected Device panel, followed by a green check mark.

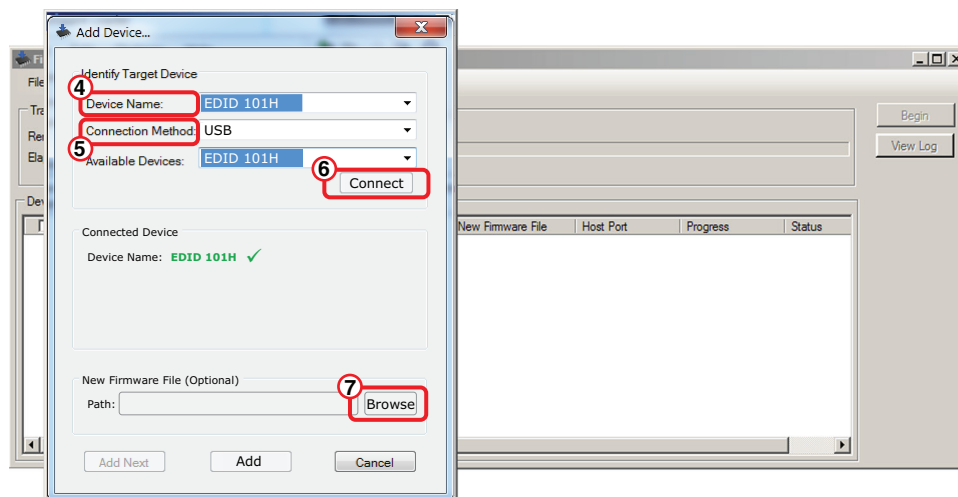


Figure 13. Add Device Dialog

7. To upload the firmware file, in the New Firmware File (Optional) panel, click **Browse**. The file browser opens.
8. Navigate to the new firmware file, which has an S19 extension, and **double-click** it.

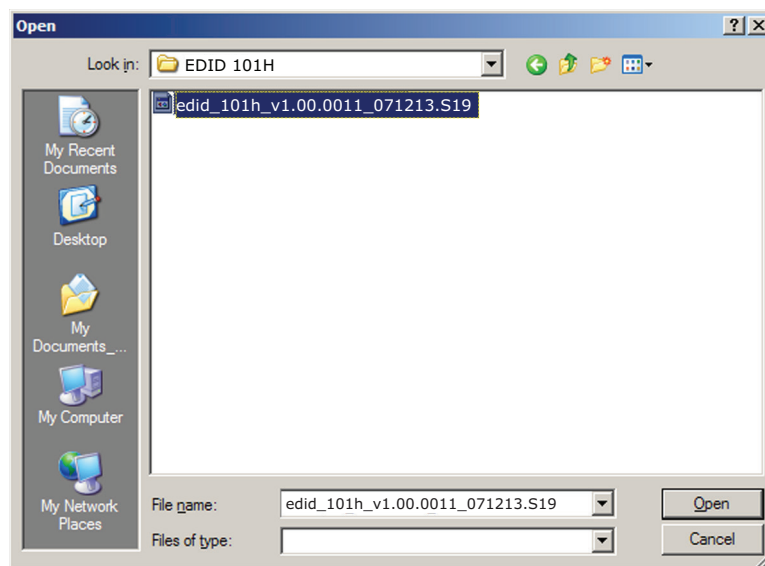


Figure 14. Open Dialog for Firmware File Selection

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 EDID 101H to stop functioning.

NOTES:

- The original factory-installed firmware is permanently available on the EDID 101H. 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\EDID 101H (Windows XP) or C:\Program Files (x86)\Extron\Firmware\EDID 101H (Windows 7).

The path to the new firmware file is in the **Path** field (see figure 15).

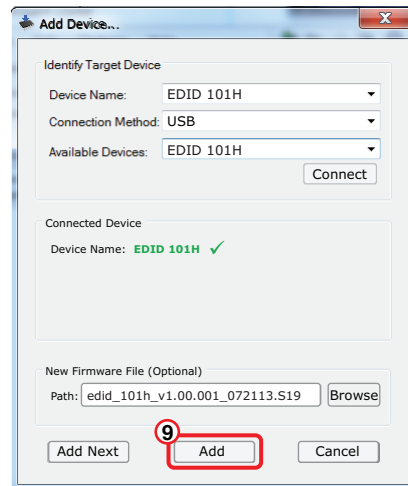


Figure 15. Path to the New Firmware File on the Add Device Dialog

- 9. If this is the only device you are uploading firmware to,** click **Add**. The Add Device dialog closes and the EDID 101H firmware file is added to the Devices panel of the Firmware Loader main screen.

If you are uploading the firmware to multiple EDID 101H units that are connected to your computer, do the following:

- a.** Click **Add Next**. Your first device is added to the Devices panel of Firmware Loader. The Add Device dialog remains open.
- b.** For each additional device you want to add to Firmware Loader, 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 dialog.

When the last device is added, the Add Device dialog closes and the EDID 101H firmware file is added to the Devices panel of the Firmware Loader main screen (see figure 16 on the next page).

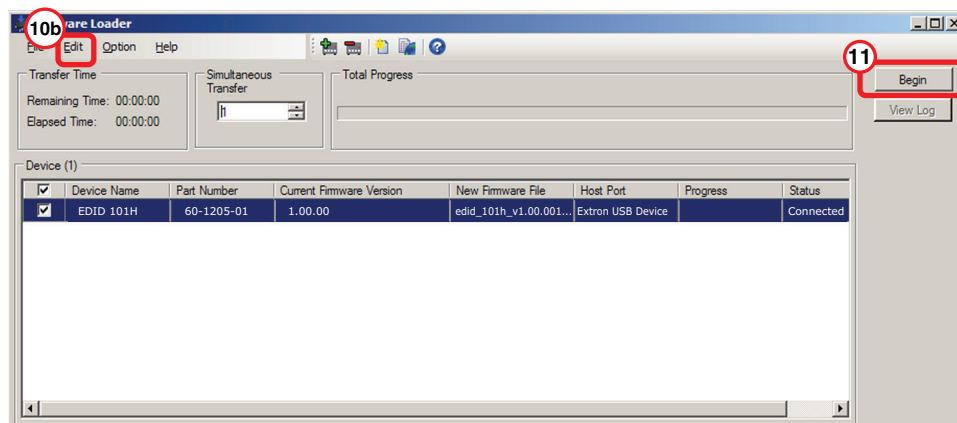


Figure 16. Firmware Loader Screen with an EDID 101H Added

- 10.** If there are multiple devices listed, but you do not want to upload the firmware to all, remove one or more using the **Devices** panel.

To remove one or more devices:

- a.** In the **Device (n)** panel, highlight the names of devices to delete by clicking on them. A checkmark is placed in the first column of each selected device.
- b.** Select **Edit>Remove Selected Device(s)** from the toolbar. The **Remove Device(s)** dialog opens.
- c.** From the **Remove Device(s)** dialog box, select or deselect devices on the list as desired, then click **Remove**.

To remove **all** devices, select **Edit>Remove All Devices** from the toolbar menu.

The dialog box closes.

- 11.** Click **Begin**. The following indicators show the progress of the update:
- The **Transfer Time** panel shows the remaining and elapsed time for the update.
 - The **Total Progress** panel displays a progress bar with **Uploading...** above it.
 - In the **Devices** panel, the **Progress** column displays an incrementing percentage and another progress bar. The **Status** column displays **Uploading**.
- 12.** The upload is complete when the **Remaining Time** field in the **Transfer** panel 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.

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.

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 Pte Ltd
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 or 800.633.9876
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 Europe +800.3987.6673 (Inside Europe Only) Extron USA - East +1.919.850.1000 +1.919.850.1001 FAX	Extron Asia +65.6383.4400 +65.6383.4664 FAX	Extron Japan +81.3.3511.7655 +81.3.3511.7656 FAX	Extron China +86.21.3760.1568 +86.21.3760.1566 FAX	Extron Middle East +971.4.299.1800 +971.4.299.1880 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
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