HDMI
Detective Plus

EXT-HD-EDIDPN

User Manual

Release A3

Gefen®

Important Safety Instructions

1. Read these instructions.
2. Keep these instructions.
3. Heed all warnings.
4. Follow all instructions.
5. Do not use this product near water.
6. Clean only with a dry cloth.
7. Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
8. Do not install or place this product near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
9. Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
10. Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
11. Only use attachments/accessories specified by the manufacturer.
12. To reduce the risk of electric shock and/or damage to this product, never handle or touch this unit or power cord if your hands are wet or damp. Do not expose this product to rain or moisture.
13. Unplug this apparatus during lightning storms or when unused for long periods of time.
14. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.
15. Batteries that may be included with this product and/or accessories should never be exposed to open flame or excessive heat. Always dispose of used batteries according to the instructions.

Warranty Information

Gefen warrants the equipment it manufactures to be free from defects in material and workmanship.

If equipment fails because of such defects and Gefen is notified within two (2) years from the date of shipment, Gefen will, at its option, repair or replace the equipment, provided that the equipment has not been subjected to mechanical, electrical, or other abuse or modifications. Equipment that fails under conditions other than those covered will be repaired at the current price of parts and labor in effect at the time of repair. Such repairs are warranted for ninety (90) days from the day of reshipment to the Buyer.

This warranty is in lieu of all other warranties expressed or implied, including without limitation, any implied warranty or merchantability or fitness for any particular purpose, all of which are expressly disclaimed.

1. Proof of sale may be required in order to claim warranty.

2. Customers outside the US are responsible for shipping charges to and from Gefen.

3. Copper cables are limited to a 30 day warranty and cables must be in their original condition.

The information in this manual has been carefully checked and is believed to be accurate. However, Gefen assumes no responsibility for any inaccuracies that may be contained in this manual. In no event will Gefen be liable for direct, indirect, special, incidental, or consequential damages resulting from any defect or omission in this manual, even if advised of the possibility of such damages. The technical information contained herein regarding the features and specifications is subject to change without notice.

For the latest warranty coverage information, refer to the Warranty and Return Policy under the Support section of the Gefen Web site at www.gefen.com.

PRODUCT REGISTRATION

Please register your product online by visiting the Register Product page under the Support section of the Gefen Web site.

Contacting Gefen Technical Support

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Visit us on the Web: www.gefen.com

Technical Support Hours: 8:00 AM to 5:00 PM Monday - Friday, Pacific Time

HDMI Detective Plus is a trademark of Gefen, LLC.

Important Notice

Gefen, LLC reserves the right to make changes in the hardware, packaging, and any accompanying documentation without prior written notice.

Operating Notes

- When connecting a HDMI cable between the source and the HDMI Detective Plus, the cable should not exceed 30 feet (10 meters) in length.

- The HDMI cable between the HDMI Detective Plus and the display (or other sink device) should not exceed 50 feet (15 meters) in length.

- The HDMI Detective Plus comes pre-programmed with 6 default EDID profiles as well as 6 user-programmable EDID banks. If these default EDID profiles are erased or overwritten with other EDID data, the original default EDID profiles cannot be restored.

Features and Packing List

Features

- Supports resolutions up to 1080p Full HD, and 1920 x 1200 (WUXGA)
- HDMI Features Supported:
  - ► HDCP
  - ► 12-bit Deep Color
  - ► LPCM 7.1 audio, Dolby® TrueHD, Dolby Digital® Plus, and DTS-HD Master Audio™
  - ► 3DTV pass-through
  - ► Lip-Sync pass-through
  - ► CEC pass-through
- USB port for advanced programming of features such as EDID management
- Configurable using Gefen EDID Tool+ software, downloadable from Gefen website
- DDC re-clocking
- Records the EDID from a display
- 6 pre-programmed EDID profiles
- 6 user-programmable EDID banks
- Selectable HDCP pass-through
- Field upgradable firmware via USB port
- Compact and portable

Packing List

The HDMI Detective Plus ships with the items listed below. If any of these items are not present in your box when you first open it, immediately contact your dealer or Gefen.

- 1 x HDMI Detective Plus
- 1 x 1ft. Locking HDMI Cable
- 1 x 6ft. Mini USB to USB Cable
- 1 x 5V DC power supply
- 1 x Quick-Start Guide

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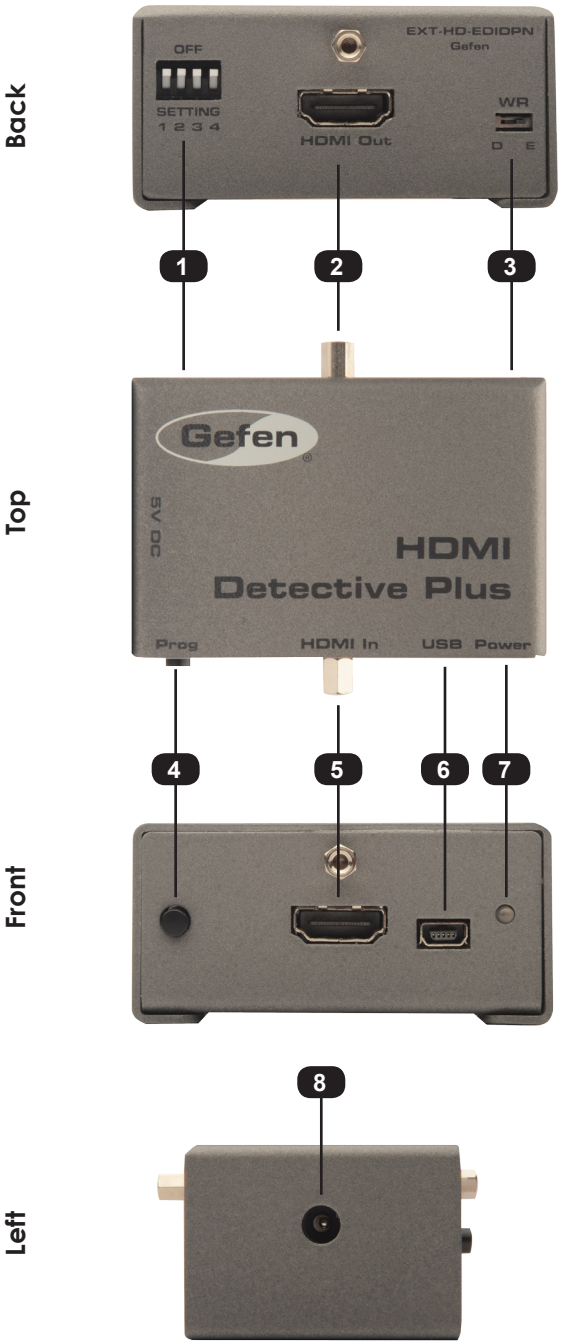
HDMI Detective Plus

01 Getting Started

Panel Layout



ID	Name	Description
1	DIP Switches	Use this DIP switch bank to select a pre-programmed EDID. See EDID Programming for more information.
2	HDMI Out	Connect the Hi-Def display to this port using an HDMI cable.
3	WR	Write-enable switch. Flip this switch to the “E” position to allow the HDMI Detective Plus to be programmed with an EDID. Set this switch to the “D” position to disable programming and prevent an accidental erasure of the current EDID.
4	Prog	Press this button to begin programming an EDID. See EDID Programming for more information.
5	HDMI In	Connect the Hi-Def source to this port using the included HDMI cable.
6	USB	Connect the included USB Type A to Mini-USB Type B cable to this connector. This interface provides serial control for the detective.
7	Power	This LED will glow bright green when the unit is powered.
8	5V DC	Connect the included 5V DC power supply to this power receptacle.

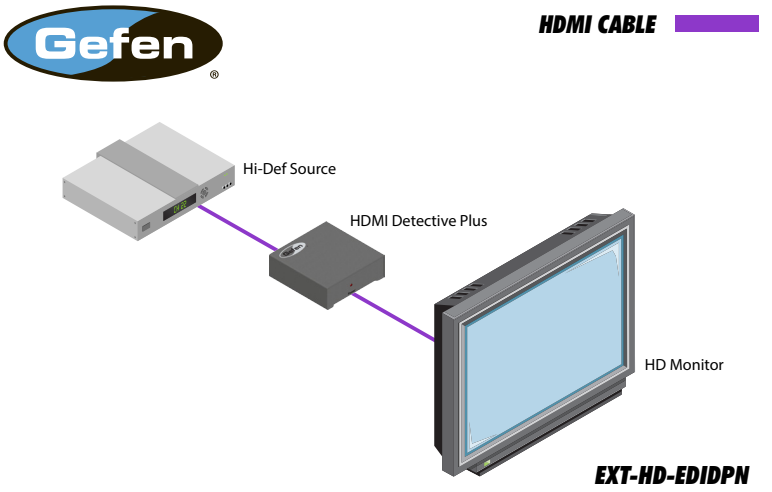
Installation

Connecting the HDMI Detective Plus

STOP: Before connecting the HDMI Detective Plus, the unit must be programmed with an EDID. See EDID Programming for more information, before continuing.

1. Connect the included HDMI cable from the Hi-Def source to the HDMI input on the detective. If using a different HDMI cable, this cable should not exceed 30 feet (10 meters) in length.
2. Use another HDMI cable to connect the display (or other sink) to the HDMI Out port on the detective. The HDMI cable should not exceed 50 feet (15 meters) in length.
3. OPTIONAL: Connect a USB-to-Mini USB cable to control the detective using serial commands. See Using the Virtual COM Port for more information on using this feature.
4. Connect the included 5V DC power supply to the power receptacle on the detective.
5. Connect the power supply to an available electrical outlet.

Sample Wiring Diagram



HDMI Detective Plus

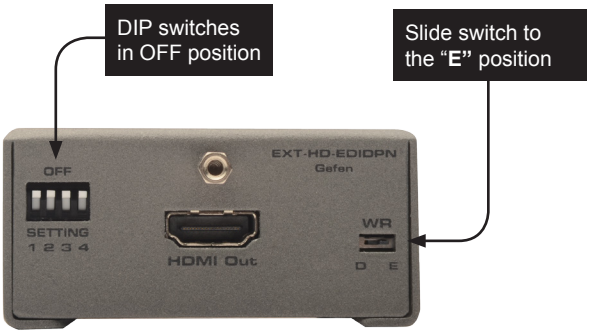
02 Operating the HDMI Detective Plus

EDID Programming

Before using the HDMI Detective Plus, the unit must be programmed with an EDID. Once programmed, the EDID data will be read by the source, providing all the necessary details of the type of signal that the display (or other sink device) can process. When a source device uses the EDID stored in the HDMI Detective Plus, this is called *local mode*.

Programming an External EDID

1. Begin by powering-on the display (or other sink device) containing the EDID to be recorded.
2. Connect a HDMI cable from the sink device to the **HDMI Out** port on the detective.
3. Make sure all DIP switches are in the OFF position.
4. Set the **WR** (write) switch to the **"E"** position in order to allow the EDID to be written to the detective.



5. Connect the included 5V DC power supply to the detective. The **Power** LED, on the other side of the unit, will glow solid green if the sink device contains a valid EDID. If the EDID is corrupt or invalid, then the **Power** LED will glow bright red.
6. Press **Prog** button. The **Power** LED will slowly flash as the EDID is recorded.
7. Once the EDID has been recorded, the **Power** LED glow bright green.

NOTE: When the HDMI Detective Plus is used in *local mode*, HPD (Hot-Plug Detect) is always high.

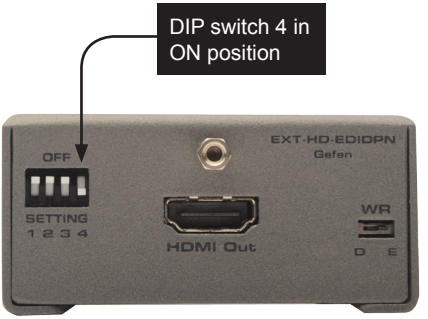
The table below provides a status summary of the Power LED.

LED	Status	Conditions
Power	Solid green	• Detective is powered • HPD is high • EDID has been successfully written (to a EDID bank or the local input)
	Solid red	• Bad EDID • HPD is low
	Flashing green	• EDID is being read from sink • EDID is being read from EDID bank

Passing HDCP Content

In order for the HDMI Detective Plus to pass HDCP content (e.g. Blu-ray, etc.), set DIP switch 4 to the ON (down) position.

After setting DIP switch 4 to the ON position, reboot the HDMI Detective Plus by disconnecting and then reconnecting the power.



IMPORTANT: When enabling or disabling HDCP pass-through, the HDMI Detective Plus must be power-cycled in order for the DIP switch setting to take effect.

Recording an EDID to a EDID Bank

When an EDID is recorded, the EDID data is stored on the local input (HDMI input) port. However, the HDMI Detective Plus also allows EDID data to be stored directly to any of 6 EDID banks. Each EDID can then be recalled at any time. The data in an EDID bank is saved even when the power is disconnected.

1. Begin by powering-on the display (or other sink device) containing the EDID to be recorded.

2. Connect a HDMI cable from the sink device to the **HDMI Out** port on the detective.

3. Connect a USB-to-Mini-USB cable between the detective and a PC. The USB connection will power the detective.

4. On the PC, launch a terminal-emulation program (e.g. Hyperterminal, etc).

   Refer to Using the Virtual COM Port for more information on terminal communication settings.

5. Execute the `#ediddstoba` command, specifying the bank in which to store the EDID.

   For example, if we wanted to store the EDID in bank 3, we would type and enter the following command:

   ```
   #ediddstoba 3
   ```

Loading an EDID from a EDID Bank

> **NOTE:** Before an EDID can be loaded to the local input, the EDID must be stored in an EDID bank. See Recording an EDID to a EDID Bank for more information.

The HDMI Detective Plus provides the option of loading the EDID data, stored in a EDID bank, to the local input (HDMI input).

1. Begin by powering-on the HDMI Detective Plus.
2. Select the EDID from the EDID bank, using the piano DIP switches. Refer to the chart, below. DIP switch 4 is not used when selecting an EDID bank.

Bank	DIP SW 1	DIP SW 2	DIP SW 3	DIP SW 4
1	ON	OFF	OFF	Not used
2	OFF	ON	OFF	
3	ON	ON	OFF	
4	OFF	OFF	ON	
5	ON	OFF	ON	
6	OFF	ON	ON	

3. Set the **WR** (write) switch to the **"E"** position in order to allow the EDID to be written to the local input.
4. Press the **Prog** button. The **Power** LED will slowly flash green as the EDID is written to the local input. Once completed, the **Power** LED will glow solid green.
5. Set the **WR** (write) switch to the **"D"** position to prevent the EDID from being accidentally overwritten.

Saving the Local EDID to a File

Once an EDID has been recorded (see Programming an External EDID), the EDID can be saved to a file on a computer using the `#saveloedid` command. The EDID must be loaded to the local input (HDMI input) before it can be saved to a file.

1. Connect the HDMI Detective Plus to the computer using a USB-to-Mini USB cable. The USB connection will power the HDMI Detective Plus.

2. On the PC, launch a terminal-emulation program. We will be using Windows® Hyperterminal to illustrate this example.

   Refer to Using the Virtual COM Port for more information on terminal communication settings.

3. Type and enter the following command line:

   ```
   #saveloedid param1
   ```

   where `param1` = the filename used to save the EDID. The file type can be either a `.txt` file or a `.bin` file.

   In this example, we will save the local EDID to the filename “Dell30.bin”:

   ```
   #saveloedid Dell30.bin
   ```

4. After executing the command, the terminal program responds with the following:

   ```
   Waiting for the file to be received ... (press 'a' to abort)
   ```

5. Open the **Transfer** menu and select **Receive File...**

6. Click the **Browse...** button to select the location where the file will be saved.

7. Select **Ymodem** as the receiving protocol.

8. Click the **Receive** button.

9. After the EDID has been saved, the following will be displayed:

   ```
   Saving EDID successfully.
   ```

Uploading an EDID file to the Local Input

The `#loedidtolo` command allows any EDID file to be directly uploaded to the local input (HDMI input) of the HDMI Detective Plus. The EDID file must be in binary (`.bin`) format.

1. Connect the HDMI Detective Plus to the computer using a USB-to-Mini USB cable. The USB connection will power the HDMI Detective Plus.
2. On the PC, launch a terminal-emulation program. We will be using Windows® Hyperterminal to illustrate this example.

   Refer to Using the Virtual COM Port for more information on terminal communication settings.
3. Type and enter the following command line:

   ```
   #loedidtolo param1
   ```

   where `param1` is the EDID filename. The file type must be binary (`.bin`).

   In this example, we will load an EDID file named “visio.bin”:

   ```
   #loedidtolo visio.bin
   ```
4. After executing the command, the terminal program responds with the following:

   ```
   Waiting for the file to be sent ... (press 'a' to abort)
   ```
5. Open the **Transfer** menu and select **Send File...**
6. Click the **Browse...** button to select the EDID file.
7. Select **Ymodem** as the sending protocol.
8. Click the **Send** button.
9. After the EDID has been uploaded, the following will be displayed:

   ```
   File: visio.bin, Size: 128 Bytes

   Download successfully
   ```

   Note in the example, above, the file size is displayed as 128 bytes. This number will vary depending upon the size of the EDID that is uploaded. The two most common file sizes are 128 and 256 bytes.

Uploading an EDID file to a EDID Bank

In some instances, uploading the EDID directly to the local input is not desired. In this case, an EDID can also be uploaded to the desired EDID bank using the `#loedidtoba` command. The EDID file must be in binary (`.bin`) format.

1. Connect the HDMI Detective Plus to the computer using a USB-to-Mini USB cable. The USB connection will power the HDMI Detective Plus.

2. On the PC, launch a terminal-emulation program. We will be using Windows® Hyperterminal to illustrate this example.

   Refer to Using the Virtual COM Port for more information on terminal communication settings.

3. Type and enter the following command line:

   ```
   #loedidtoba param1
   ```

   where `param1` is the EDID bank where the EDID file will be uploaded. The file type must be binary (`.bin`).

   In this example, we will upload an EDID file to EDID bank 3:

   ```
   #loedidtoba 3
   ```

4. After executing the command, the terminal program responds with the following:

   ```
   Waiting for the file to be sent ... (press 'a' to abort)
   ```

5. Open the **Transfer** menu and select **Send File...**

6. Click the **Browse...** button to select the EDID file.

7. Select **Ymodem** as the sending protocol.

8. Click the **Send** button.

9. After the EDID has been successfully uploaded to the EDID bank, the message "`Download successfully`" will be displayed, along with the filename and size. The following is an example:

   ```
   File: viewsonic.bin, Size: 128 Bytes

   Download successfully
   ```

HDMI
Detective Plus

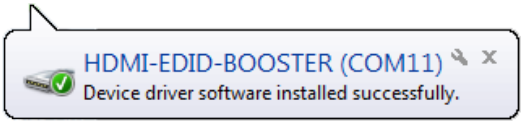
03 Advanced Operation

Using the Virtual COM Port

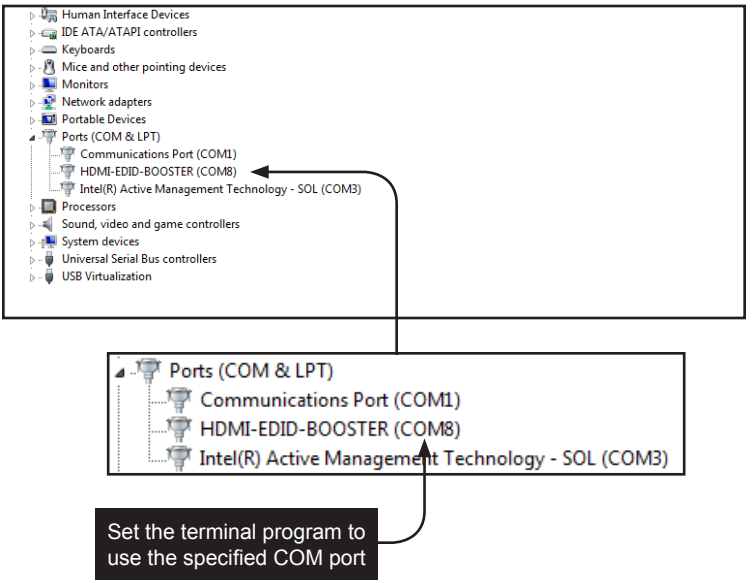
When the HDMI Detective Plus is connected to a computer running the Windows® operating system, a vitual communications port is created.

1. Connect the USB-to-Mini USB cable between the detective and the PC.

2. The COM port driver will automatically be installed:



3. Go to **Control Panel** > **Device Manager** and click **Ports** to see the driver. The driver will be identified as HDMI-EDID-BOOSTER, as shown below:



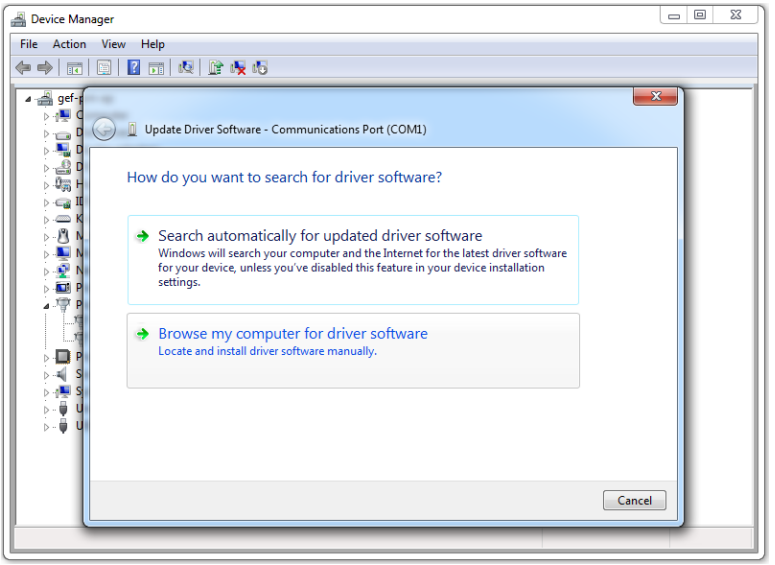
4. Refer to Installing the Driver, if driver is not present or is listed as an unknown device.

5. Launch the terminal-emulation program and set the terminal-emulation program to use the COM port specified next to the driver. COM 8 has been automatically assigned by the driver.

Installing the Driver

NOTE: Manual installation of the driver is required *only* if the computer does not recognize the HDMI Detective Plus.

1. Download the driver from the Downloads section of the Gefen Web site. (http://www.gefen.com/support/download.jsp)
2. Extract the contents of the .ZIP file to the Windows® Desktop
3. From the **Device Manager**, expand the **Ports** section.
4. Disconnect the USB cable from the detective then press the **F5** key on the computer to refresh the device list.
5. Reconnect the USB cable to the detective. "Unknown device" should now appear under the **Ports** section.
6. Right-click on "Unknown device" and select **Update Driver Software**.
7. Select **Browse my computer for driver software**.

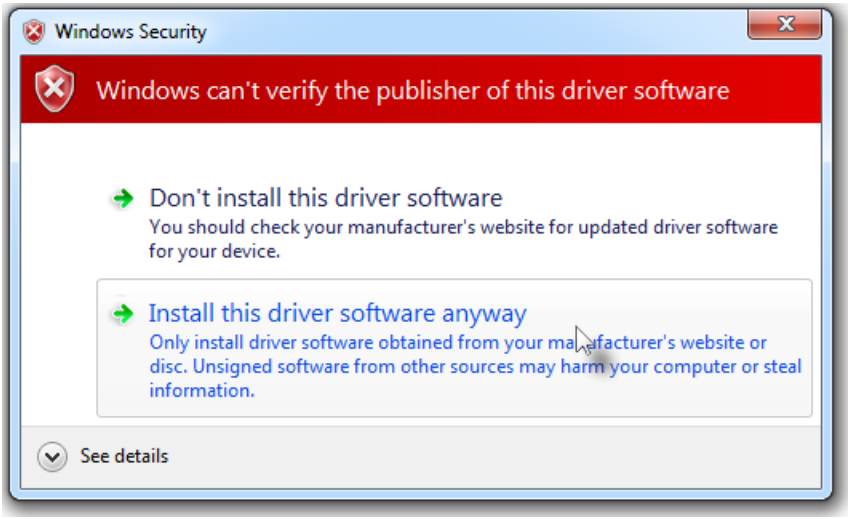


8. On the next screen, click the **Browse...** button.

(continued on next page)

9. Select the `.inf` file within the folder, created in step 2, then click the **OK** button.

10. While attempting to install the driver, the following dialog may be displayed:



11. Select **Install this software anyway**. The driver installation may take a couple of minutes.

12. Once the driver has been successfully installed, click the **Close** button on the dialog to complete the installation.

Commands

The following list of commands are used to control various features of the HDMI Detective Plus.

Command	Description
#ddcmode	Sets the DDC mode
#edidbatolo	Copies the specified EDID bank to the local input
#ediddetolo	Copies the default EDID bank to the local input
#ediddstoba	Read downstream EDID and stores in EDID Bank
#ediddstolo	Read the downstream EDID and stores in the local input
#eredidbank	Erases the specified EDID bank
#fadefault	Resets the unit to factory-default settings
#fw_upgrade	Upgrades the device firmware
#help	Displays a list of all available commands
#loedidtoba	Loads the external EDID to the specified EDID bank
#loedidtolo	Loads the external EDID to the local input (Bank 0)
#prbaedid	Displays the contents of the specified EDID bank
#prdsedid	Displays the downstream EDID
#prloedid	Displays the contents of the local input (Bank 0)
#saveloedid	Saves the local EDID to a .bin or .txt file
#show_ver_data	Displays the current version of firmware

IMPORTANT: When sending commands, a carriage return must be included at the end of the command. When using parameters, a space *must* be included between the command and the parameter.

#ddcmode

The `#ddcmode` command sets the DDC mode. Use this command to enable / disable HDCP with the local EDID or use EDID pass-through with HDCP enabled. If *param1* is not supplied, then the current DDC mode is returned.

Syntax:

```
#ddcmode param1
```

Parameters:

param1 Value [0 ... 2]

Value	Description
1	Local EDID with HDCP enable
2	Local EDID with HDCP disable
3	EDID pass-through with HDCP enable

Examples:

```
#ddcmode 2
DDC mode set to Local EDID HDCP disable


#ddcmode
DDC mode is Local HDCP Enable
```

#edidbatolo

The `#edidbatolo` command loads the EDID from the specified EDID bank and writes it to the local input.

Syntax:

```
#edidbatolo param1
```

Parameters:

param1	EDID bank	[1 ... 6]

Example:

```
#edidbatolo 2
EDID bank 2 stored to local
```

#ediddetolo

The `#ediddetolo` command reads the default EDID and stores it in the local input.

Syntax:

```
#ediddetolo
```

Parameters:

None

Example:

```
#ediddetolo

EDID default 1 stored to local
```

#ediddstoba

The `#ediddstoba` command reads the downstream EDID and stores it to the specified EDID bank.

Syntax:

```
#ediddstoba param1
```

Parameters:

param1	EDID bank	[1 ... 6]

Examples:

```
#ediddstoba 3
Downstream EDID stored in bank 3
```

#ediddstolo

The `#ediddstolo` command reads the downstream EDID and stores it to the local input.

Syntax:

```
#ediddstolo
```

Parameters:

None

Example:

```
#ediddstolo
Downstream EDID stored to local
```

#erediddbank

The `#erediddbank` command erases the specified EDID bank.

Syntax:

```
#erediddbank param1
```

Parameters:

param1	Bank	[1 ... 6]

Example:

```
#erediddbank 2
EDID bank 2 is erased
```

#fadefault

The `#fadefault` command resets the HDMI Detective Plus to factory-default settings.

Syntax:

```
#fadefault
```

Parameters:

None

Examples:

```
#fadefault

Return to Factory default
```

#fw_upgrade

The `#fw_upgrade` command upgrades the device firmware.

Syntax:

```
#fw_upgrade
```

Parameters:

None

Example:

See Firmware Upgrade Procedure for more information on upgrading the firmware.

#help

The `#help` command displays a list of available commands. This command can also be used to get help for a specific command.

Syntax:

```
#help [param1]
```

Parameters:

param1	Command (optional)

Examples:

```
#help #erediddbank
Erase EDID bank.
Syntax: #erediddbank param1
Param1 = 1 - 6
Example: #erediddbank 1
```

```
#help

*** Available Commands  ***

#help
#show_ver_data
#loedidtoba
#loedidtolo
#ediddstolo
#ediddetolo
#edidbatolo
#ediddstoba
#prloedid
#prdsedid
#prbaedid
#saveloedid
#ddcmode
#erediddbank
#fadefault
#fw_upgrade
```

#loedidtoba

The `#loedidtoba` command loads an EDID file to the specified EDID bank.
See Uploading an EDID file to a EDID Bank for details on using this command.

Syntax:

```
#loedidtoba param1
```

Parameters:

param1	Bank	[1 ... 6]

Example:

```
#loedidtoba 3
Waiting for the file to be sent ... (press 'a' to abort)
```

#loedidtolo

The `#loedidtoba` command loads an EDID file to the local input. Once stored in the local input, the EDID can be stored to an EDID bank using the `#loedidtoba` command, for future use. See Uploading an EDID file to the Local Input for details on using this command.

Syntax:

```
#loedidtolo
```

Parameters:

None

Example:

```
#loedidtoba
Waiting for the file to be sent ... (press 'a' to abort)
```

#prbaedid

The `#prbaedid` command displays the EDID from the specified bank.

Syntax:

```
#prbaedid param1
```

Parameters:

param1	Bank	[1 ... 6]

Example:

```
#prbaedid 3

0x00 0xFF 0xFF 0xFF 0xFF 0xFF 0xFF 0x00
0x34 0xA9 0xAF 0xA0 0x01 0x01 0x01 0x01
0x00 0x14 0x01 0x03 0x80 0x00 0x00 0x78
0x0A 0xDA 0xFF 0xA3 0x58 0x4A 0xA2 0x29
0x17 0x49 0x4B 0x00 0x00 0x00 0x01 0x01
0x01 0x01 0x01 0x01 0x01 0x01 0x01 0x01
0x01 0x01 0x01 0x01 0x01 0x01 0x02 0x3A
0x80 0x18 0x71 0x38 0x2D 0x40 0x58 0x2C
0x45 0x00 0xBA 0x88 0x21 0x00 0x00 0x1E
0x01 0x1D 0x80 0x18 0x71 0x1C 0x16 0x20
0x58 0x2C 0x25 0x00 0xBA 0x88 0x21 0x00
0x00 0x9E 0x00 0x00 0x00 0xFC 0x00 0x50
0x61 0x6E 0x61 0x73 0x6F 0x6E 0x69 0x63
0x54 0x56 0x30 0x0A 0x00 0x00 0x00 0xFD
0x00 0x17 0x3D 0x0F 0x44 0x0F 0x00 0x0A
0x20 0x20 0x20 0x20 0x20 0x20 0x01 0xC7
0x02 0x03 0x2A 0x71 0x49 0x90 0x05 0x20
0x04 0x03 0x02 0x07 0x06 0x01 0x23 0x09
0x07 0x01 0x73 0x03 0x0C 0x00 0x10 0x00
0xB8 0x2D 0x2F 0xC0 0x07 0x81 0x49 0x01
0xFE 0x06 0x08 0x00 0x00 0x00 0xE3 0x05
0x1F 0x01 0x01 0x1D 0x00 0x72 0x51 0xD0
0x1E 0x20 0x6E 0x28 0x55 0x00 0xBA 0x88
0x21 0x00 0x00 0x1E 0x8C 0x0A 0xD0 0x8A
0x20 0xE0 0x2D 0x10 0x10 0x3E 0x96 0x00
0xBA 0x88 0x21 0x00 0x00 0x18 0x8C 0x0A
0xD0 0x8A 0x20 0xE0 0x2D 0x10 0x10 0x3E
0x96 0x00 0x0B 0x88 0x21 0x00 0x00 0x18
0x8C 0x0A 0xA0 0x14 0x51 0xF0 0x16 0x00
0x26 0x7C 0x43 0x00 0xBA 0x88 0x21 0x00
0x00 0x98 0x00 0x00 0x00 0x00 0x00 0x00
0x00 0x00 0x00 0x00 0x00 0x00 0x00 0x86
```

#prdsedid

The #prdsedid command displays the EDID stored in the specified EDID bank.

Syntax:

#prdsedid

Parameters:

None

Example:

#prdsedid

```
0x00 0xFF 0xFF 0xFF 0xFF 0xFF 0xFF 0x00
0x10 0xAC 0x54 0x40 0x55 0x34 0x31 0x42
0x0F 0x14 0x01 0x03 0x80 0x2C 0x19 0x78
0xEE 0xEE 0x95 0xA3 0x54 0x4C 0x99 0x26
0x0F 0x50 0x54 0xA5 0x4B 0x00 0x71 0x4F
0x81 0x80 0xA9 0xC0 0x01 0x01 0x01 0x01
0x01 0x01 0x01 0x01 0x01 0x01 0x30 0x2A
0x40 0xC8 0x60 0x84 0x64 0x30 0x18 0x50
0x13 0x00 0xBB 0xF9 0x10 0x00 0x00 0x1E
0x00 0x00 0x00 0xFF 0x00 0x43 0x32 0x30
0x31 0x52 0x30 0x34 0x45 0x42 0x31 0x34
0x55 0x0A 0x00 0x00 0x00 0xFC 0x00 0x44
0x45 0x4C 0x4C 0x20 0x45 0x32 0x30 0x31
0x30 0x48 0x0A 0x20 0x00 0x00 0x00 0xFD
0x00 0x38 0x4C 0x1E 0x53 0x10 0x00 0x0A
0x20 0x20 0x20 0x20 0x20 0x20 0x00 0x7C
```

#prloedid

The #prloedid command displays the EDID on the local input.

Syntax:

#prloedid

Parameters:

None

Example:

#prloedid

```
0x00 0xFF 0xFF 0xFF 0xFF 0xFF 0xFF 0x00
0x1C 0xA6 0x00 0x00 0x00 0x00 0x00 0x00
0x00 0x11 0x01 0x03 0x80 0x81 0x49 0x78
0x0A 0xCF 0x9B 0xA3 0x57 0x4C 0x9E 0x26
0x0F 0x4A 0x4C 0x20 0x00 0x00 0x01 0x01
0x01 0x01 0x01 0x01 0x01 0x01 0x01 0x01
0x01 0x01 0x01 0x01 0x01 0x01 0x01 0x1D
0x80 0xD0 0x72 0x1C 0x16 0x20 0x10 0x2C
0x80 0xD0 0x72 0x1C 0x16 0x20 0x10 0x2C
0x01 0x1D 0x00 0xBC 0x52 0xD0 0x1E 0x20
0xB8 0x28 0x55 0x40 0xC4 0x8E 0x21 0x00
0x00 0x18 0x00 0x00 0x00 0xFC 0x00 0x47
0x45 0x46 0x45 0x4E 0x0A 0x20 0x20 0x20
0x20 0x20 0x20 0x20 0x00 0x00 0x00 0xFD
0x00 0x3B 0x3D 0x0F 0x44 0x0F 0x00 0x0A
0x20 0x20 0x20 0x20 0x20 0x20 0x01 0xCF
0x02 0x03 0x18 0x71 0x45 0x94 0x13 0x11
0x12 0x1F 0x23 0x0F 0x07 0x07 0x83 0x7F
0x00 0x00 0x65 0x03 0x0C 0x00 0x10 0x00
0x8C 0x0A 0xD0 0x90 0x20 0x40 0x31 0x20
0x0C 0x40 0x55 0x00 0x13 0x8E 0x21 0x00
0x00 0x18 0x8C 0x0A 0xD0 0x90 0x20 0x40
0x31 0x20 0x0C 0x40 0x55 0x00 0xC4 0x8E
0x21 0x00 0x00 0x18 0xF3 0x39 0x80 0xD0
0x72 0x38 0x2D 0x40 0x10 0x2C 0x45 0x80
0xC4 0x8E 0x21 0x00 0x00 0x1E 0x00 0x00
0x00 0xFF 0x00 0x00 0x00 0x00 0x00 0x00
0x00 0x00 0x00 0x00 0x00 0xFF 0x00 0x00
0x00 0x00 0x00 0xFF 0x00 0x00 0x00 0x00
0x00 0x00 0x00 0x00 0x00 0x00 0x00 0xFF
0x00 0x00 0x00 0x00 0x00 0x00 0x00 0x00
0x00 0x00 0x00 0x00 0x00 0x00 0x00 0x68
```

#saveloedid

Saves the local EDID to a `.bin` or `.txt` file. After executing the command line, use the YModem protocol within the terminal program (e.g. Hyperterminal, etc) to save the EDID data to the file. See Saving the Local EDID to a File for details on using this command.

Syntax:

```
#saveloedid param1
```

Parameters:

param1	Filename

Examples:

```
#saveloedid edidtest.bin
Waiting for the file to be received ... (press 'a' to abort)
```

#show_ver_data

Displays the current firmware and FPGA version.

Syntax:

```
#show_ver_data
```

Parameters:

None

Example:

```
#show_ver_data

EXT-HD-EDIDPN

Release version: 2.23
Release date: Oct 20 2013
Release time: 17:22:17
```

HDMI Detective Plus

04 Appendix

Default EDID Profiles

The HDMI Detective Plus comes 6 pre-programmed EDID profiles. The details of each default EDID profile is described below.

EDID Profile	Supported Features
1	640 x 480 @ 60Hz (IBM, VGA) 1920x1080i @ 50Hz - HDTV (16:9, 1:1) [Native] 1280x720p @ 50Hz - HDTV (16:9, 1:1) 720x576p @ 50Hz - EDTV (4:3, 16:15) 720x576p @ 50Hz - EDTV (16:9, 64:45) 1920x1080p @ 50Hz - HDTV (16:9, 1:1) Audio Format #1 : LPCM, 8-Channel, 24-Bit, 20-Bit, 16-Bit Sampling Frequency : 48 kHz, 44.1 kHz, 32 kHz YCbCr 4:4:4, YCbCr 4:2:2
2	640 x 480 @ 60Hz (IBM, VGA) 1920x1080i @ 50Hz - HDTV (16:9, 1:1) [Native] 1280x720p @ 50Hz - HDTV (16:9, 1:1) 720x576p @ 50Hz - EDTV (4:3, 16:15) 720x576p @ 50Hz - EDTV (16:9, 64:45) 1920x1080p @ 50Hz - HDTV (16:9, 1:1) Audio Format #1 : LPCM, 8-Channel, 24-Bit, 20-Bit, 16-Bit Sampling Frequency : 48 kHz, 44.1 kHz, 32 kHz YCbCr 4:4:4, YCbCr 4:2:2
3	640 x 480 @ 60Hz (IBM, VGA) 1920x1080i @ 50Hz - HDTV (16:9, 1:1) [Native] 1280x720p @ 50Hz - HDTV (16:9, 1:1) 720x576p @ 50Hz - EDTV (4:3, 16:15) 720x576p @ 50Hz - EDTV (16:9, 64:45) 1920x1080p @ 50Hz - HDTV (16:9, 1:1) Audio Format #1 : LPCM, 2-Channel, 24-Bit, 20-Bit, 16-Bit Sampling Frequency : 48 kHz, 44.1 kHz, 32 kHz YCbCr 4:4:4, YCbCr 4:2:2

EDID Profile	Supported Features
4	640 x 480 @ 60Hz (IBM, VGA) 1920x1080i @ 59.94/60Hz - HDTV (16:9, 1:1) [Native] 1280x720p @ 59.94/60Hz - HDTV (16:9, 1:1) 720x480p @ 59.94/60Hz - EDTV (16:9, 32:27) 720(1440)x480i @ 59.94/60Hz - SDTV (16:9, 32:27) 1920x1080p @ 59.94/60Hz - HDTV (16:9, 1:1) Audio Format #1 : LPCM, 2-Channel, 24-Bit, 20-Bit, 16-Bit Sampling Frequency : 48 kHz, 44.1 kHz, 32 kHz YCbCr 4:4:4, YCbCr 4:2:2
5	720 x 400 @ 70Hz (IBM, VGA) 640 x 480 @ 60Hz (IBM, VGA) 800 x 600 @ 60Hz (VESA) 1024 x 768 @ 60Hz (VESA) 1280x720 @ 60 Hz (16:9 Aspect Ratio) 1280x1024 @ 60 Hz (5:4 Aspect Ratio) 1920x1080i @ 59.94/60Hz - HDTV (16:9, 1:1) 1280x720p @ 59.94/60Hz - HDTV (16:9, 1:1) 720x480p @ 59.94/60Hz - EDTV (4:3, 8:9) 720x480p @ 59.94/60Hz - EDTV (16:9, 32:27) 1920x1080p @ 59.94/60Hz - HDTV (16:9, 1:1) [Native] 1440x480p @ 59.94/60Hz (4:3, 4:9 or 8:9[3]) 1440x480p @ 59.94/60Hz (16:9, 16:27 or 32:27[3]) YCbCr 4:4:4, YCbCr 4:2:2 Audio Format #1 : LPCM, 8-Channel, 24-Bit, 20-Bit, 16-Bit Sampling Frequency : 96 kHz, 88.2 kHz, 48 kHz, 44.1 kHz, 32 kHz Audio Format #2 : LPCM, 2-Channel, 24-Bit, 20-Bit, 16-Bit Sampling Frequency : 192 kHz, 176.4 kHz, 96 kHz, 88.2 kHz, 48 kHz, 44.1 kHz, 32 kHz Audio Format #3 : DTS, 6-Channel, 1536 k Max bit rate Sampling Frequency : 96 kHz, 88.2 kHz, 48 kHz, 44.1 kHz, 32 kHz Audio Format #4 : 6-Channel, 648 k Max bit rate Sampling Frequency : 96 kHz, 88.2 kHz, 48 kHz, 44.1 kHz, 32 kHz

EDID Profile	Supported Features
6	720 x 400 @ 70Hz (IBM, VGA) 640 x 480 @ 60Hz (IBM, VGA) 640 x 480 @ 67Hz (Apple, Mac II) 640 x 480 @ 72Hz (VESA) 640 x 480 @ 75Hz (VESA) 800 x 600 @ 60Hz (VESA) 800 x 600 @ 72Hz (VESA) 800 x 600 @ 75Hz (VESA) 832 x 624 @ 75Hz (Apple, Mac II) 1024 x 768 @ 60Hz (VESA) 1024 x 768 @ 70Hz(VESA) 1024 x 768 @ 75Hz (VESA) 1280 x 1024 @ 75Hz (VESA) 1152 x 870 @ 75Hz (Apple, Mac II) 1152x864 @ 75 Hz (4:3 Aspect Ratio) 1280x800 @ 60 Hz (16:10 Aspect Ratio) 1280x960 @ 60 Hz (4:3 Aspect Ratio) 1280x1024 @ 60 Hz (5:4 Aspect Ratio) 1440x900 @ 75 Hz (16:10 Aspect Ratio) 1680x1050 @ 60 Hz (16:10 Aspect Ratio) 1600x1200 @ 60 Hz (4:3 Aspect Ratio) 1920x1080p @ 59.94/60Hz - HDTV (16:9, 1:1) [Native] 1280x720p @ 59.94/60Hz - HDTV (16:9, 1:1) 1920x1080i @ 59.94/60Hz - HDTV (16:9, 1:1) 720x480p @ 59.94/60Hz - EDTV (16:9, 32:27) 1920x1080p @ 23.97/24Hz - HDTV(16:9, 1:1) 1920x1080p @ 29.97/30Hz - HDTV(16:9, 1:1) 640x480p @ 59.94/60Hz - EDTV (4:3, 1:1) YCbCr 4:4:4, YCbCr 4:2:2 Audio Format #1 : LPCM, 2-Channel, 24-Bit, 20-Bit, 16-Bit Sampling Frequency : 48 kHz, 44.1 kHz, 32 kHz

Installing the Gefen EDID Tool+

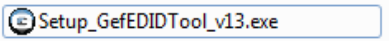
IMPORTANT: The Gefen EDID Tool+ application, User Manual, and Firmware (See Firmware Upgrade Procedure) can be downloaded from the Support Section of the Gefen web site under EDID Storage Detectives. Before launching the Gefen EDID Tool+, make sure that a USB cable is connected between the Booster for HDMI with EDID Detective and the computer that is running the Gefen EDID Tool+.

The Gefen EDID Tool+ is a free downloadable application from Gefen that provides EDID management for select Booster and Detective-based units using an intuitive Windows® interface. Available EDID Tool+ features depend on which Gefen EDID Tool+ compatible product is being used.

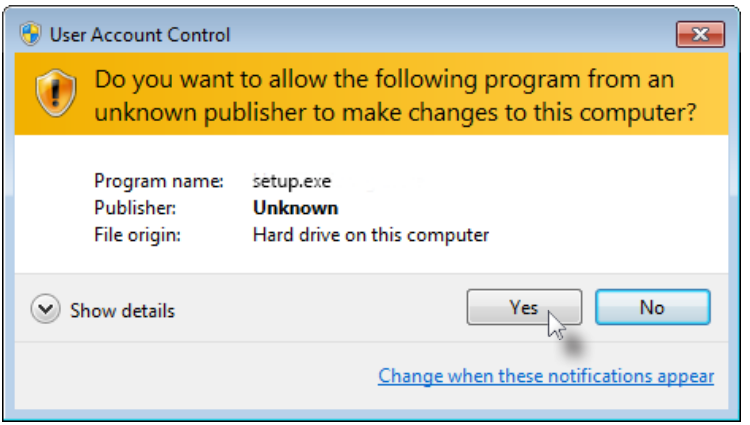
1. Extract the contents of the .zip file to a folder on the Windows® Desktop.

   There will be two files within the folder: `setup.exe` and the user manual for the Gefen EDID Tool+.

2. Double-click the `setup.exe` file to launch the installation Wizard.

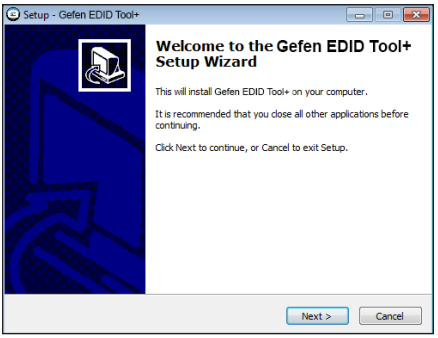


   If the following dialog box is displayed, then click **Yes** to continue with the installation Wizard.



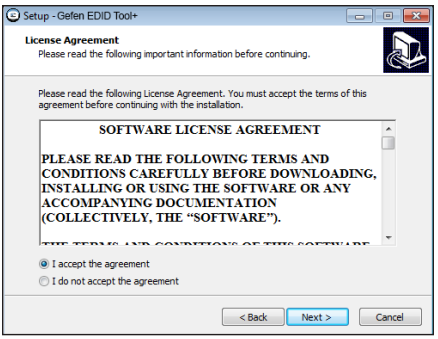
3. The **Welcome** dialog box will be displayed.

4. Click the **Next** button.

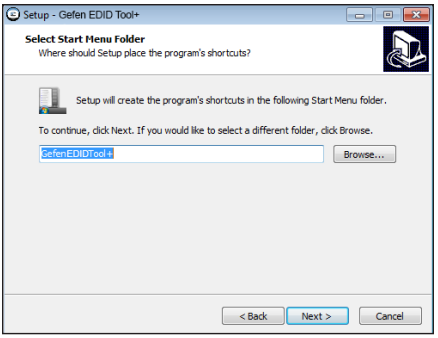


5. The **Software License Agreement** dialog will be displayed.

   Click the radio button next to **I accept the agreement**, then click the **Next** button.



6. The Select Destination Location dialog will be displayed.

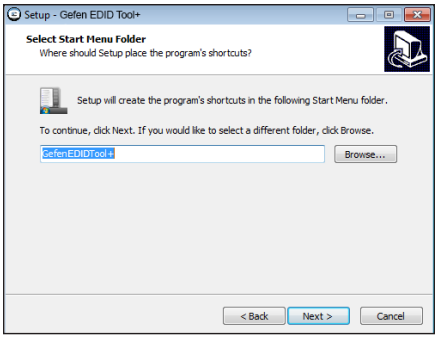


   The default installation path is: `C:\Program Files (x86)\Gefen EDID Tool+`.

7. Click the **Browse...** button to change the installation path. Otherwise, click the **Next** button to continue with the default installation path.

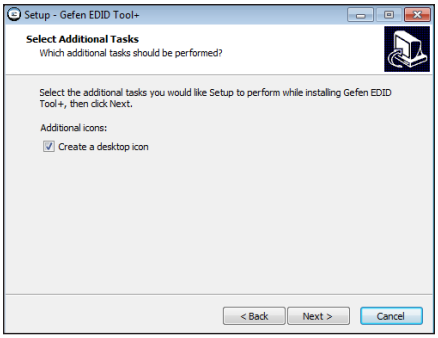
8. Select the Start Menu Folder where the application icon will be created. The default folder name is **Gefen Edid Tool+**.

9. Click the **Next** button.



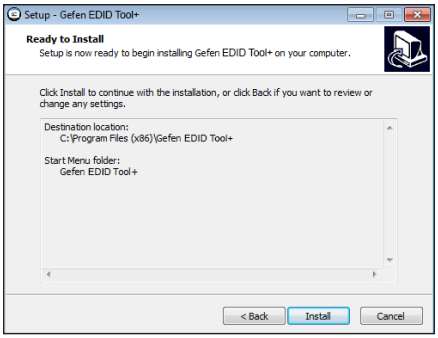
10. The **Select Additional Tasks** dialog will be displayed.

    By default, the **Create a deskop** check box is selected. If a desktop icon is not desired, check this box to deselect this task. Otherwise, click the **Next** button to continue.



11. The **Ready to Install** dialog will be displayed.

    Click the **Install** button to begin the installation process.



Firmware Upgrade Procedure

The following items are required to update firmware:

- HDMI Detective Plus
- Computer running Windows XP
- Terminal-emulation program (e.g. HyperTerminal)
- USB-to-Mini USB cable
- Firmware file

When upgrading the firmware, use the `#fw_upgrade` command. The following instructions are for use with Windows® Hyperterminal.

1. Download the firmware file from the Gefen Web site.
2. Extract the contents of the `.zip` file to the Windows® Desktop. The `.zip` file will contain the firmware file (`*.bin`).
3. Within the terminal program, type the command: `#fw_upgrade`.
4. The following will be displayed on the terminal screen:

   ```
   Waiting for the file to be sent ... (press 'a' to abort)
   ```

5. In Hyperterminal, click **Transfer** --> **Send File...**
6. Select the firmware file.
7. Select **YModem** from the Protocol drop-down list and click the **OK** button.

   The firmware update procedure will begin. This process should take only a few seconds. After the firmware update is successful, the following message will appear:

   ```
   Download successfully
   You have to reset the device to a new version that would start
   work
   ```

Specifications

Supported Formats	
Resolution (max.)	1080p Full HD

Electrical	
Maximum Pixel Clock	225 MHz
Status indicator	1 x LED, bi-color (green / red)

Connectors	
Input	1 x HDMI Type-A, 19-pin, female
Output	1 x HDMI Type-A, 19-pin, female
USB	1 x USB Mini-B

Control	
DIP switches (front panel)	4 x Piano DIP switches for pre-programmed EDID selection
Programming button	1 x Push button, momentary switch
Write-protect switch	1 x 2-position, slide switch

Operational	
Power Input	1 x 5V DC
Power Consumption	5W (max.)

Physical	
Dimensions (W x H x D)	2.7” x 1.3” x 1.8” (68mm x 33mm x 46mm)
Unit Weight	0.18 lbs (0.08 kg)

Stretch it, Switch it, Split it.
Gefen's got it. ®

20600 Nordhoff St., Chatsworth CA 91311
1-800-545-6900 818-772-9100 fax: 818-772-9120
www.gefen.com support@gefen.com

This product uses UL or CE listed power supplies.