# DisplayPort Detective Plus

EXT-DP-EDIDP

User Manual

Release A1

Gefen

# Important Safety Instructions

**GENERAL SAFETY INFORMATION**

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

Gefen, LLC
c/o Customer Service
20600 Nordhoff St.
Chatsworth, CA 91311

| | |
|---|---|
| Telephone: | (818) 772-9100 |
| | (800) 545-6900 |
| Fax: | (818) 772-9120 |
| Email: | support@gefen.com |
| Visit us on the Web: | www.gefen.com |
| Technical Support Hours: | 8:00 AM to 5:00 PM Monday - Friday, Pacific Time |

**DisplayPort 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 DisplayPort cable between the source and the DisplayPort Detective Plus, the cable should not exceed 30 feet (10 meters) in length.

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

- The *DisplayPort Detective Plus* comes with 7 pre-programmed EDID banks.  If these EDID banks are erased or over-written with another EDID, the original EDID cannot be restored.

# Features and Packing List

## Features

- Supports resolutions up to 2560 x 1600 (WQXGA)
- EDID presets for custom resolution support
- Supports RGB and YCbCr color spaces
- Write-protect switch
- No power supply required after initial EDID programming
- Can be powered via USB port or from the included power supply
- Upload / download EDID (.bin) files
- Copy EDID from connected display into non-volatile internal memory
- Firmware upgradeable

## Packing List

The *DisplayPort 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 DisplayPort Detective Plus
- 1 x 6 ft. DisplayPort cable
- 1 x 5V DC power supply
- 1 x Quick-Start Guide

# Table of Contents

## 01    Getting Started

## 02    Operating the DisplayPort Detective Plus

## 03    Advanced Operation

## 04    Appendix

# DisplayPort Detective Plus

# 01 Getting Started

# Panel Layout

**Front Panel**
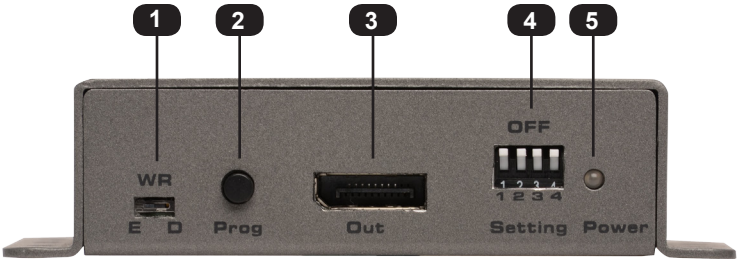
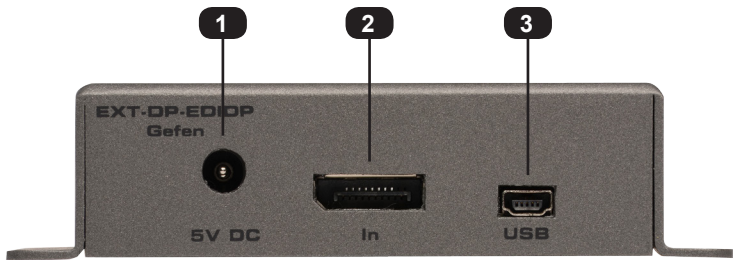| ID | Name | Description |
|----|------|-------------|
| 1 | WR | Write-enable switch.  Flip this switch to the "E" position to allow the *DisplayPort Detective Plus* to be programmed with an EDID.  Set this switch to the "D" position to disable programming and prevent an accidental erasure of the current EDID. |
| 2 | Prog | Press this button to begin programming an EDID.  See EDID Programming for more information. |
| 3 | Out | Connect the display to this port using a DisplayPort cable. |
| 4 | DIP switches | Use this DIP switch bank to select a pre-programmed EDID.  See EDID Programming for more information. |
| 5 | Power | This LED will glow bright blue when the unit is powered. |

## Back Panel



| ID | Name | Description |
|----|------|-------------|
| 1 | 5V DC | Connect the included 5V DC power supply to this power receptacle. |
| 2 | In | Connect the DisplayPort source to this port using a DisplayPort cable. |
| 3 | USB | Connect a USB Type A to Mini-USB Type B cable (not included) to provide an alternate power source for the *DisplayPort Detective Plus*. |

## Bottom Panel
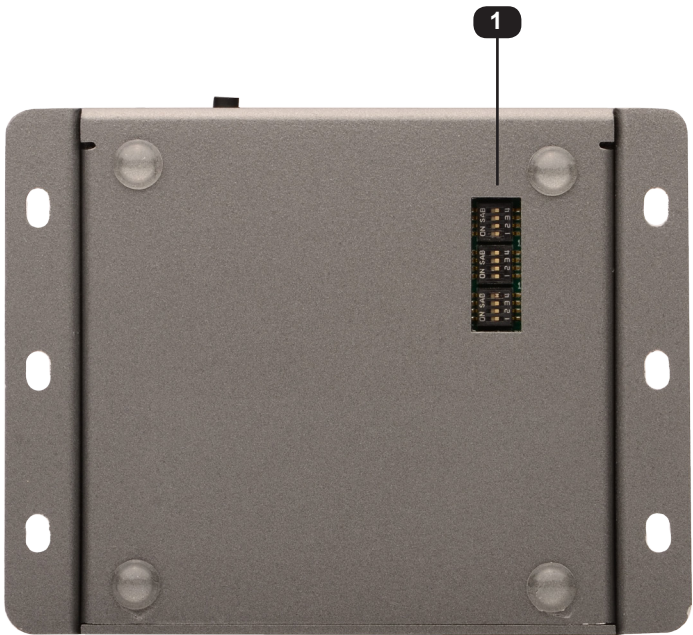


| ID | Name | Description |
|----|------|-------------|
| 1 | DIP switches | See DIP Switch Banks for more information on using these DIP switches. |

# Installation

## Connecting the DisplayPort Detective Plus

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

1.  Connect the included DisplayPort cable from the DisplayPort source to the DP In port on the detective. If using a different DisplayPort cable, this cable should not exceed 30 feet (10 meters) in length.

2.  Use another DisplayPort cable to connect the display (or other sink) to the DP Out port on the detective. The DisplayPort cable should not exceed 50 feet (15 meters) in length.

3.  Connect the included 5V DC power supply to the power receptacle on the detective.

4.  Connect the power supply to an available electrical outlet.

## Sample Wiring Diagram

**DISPLAYPORT CABLE**



Computer

DisplayPort Detective Plus

Monitor

**EXT-DP-EDIDP**

# DisplayPort Detective Plus

## 02 Operating the DisplayPort Detective Plus

# EDID Programming

Before using the *DisplayPort 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.

## Programming an External EDID

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

2.   Connect a DisplayPort cable from the sink device to the **DP 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 will glow bright blue 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 blue.

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

| LED | Status | | Conditions |
|-----|--------|---|-----------|
| Power | Solid blue | 🔵 | •     Detective is powered<br>•     HPD is high<br>•     EDID has been successfully written<br>      (to a EDID bank or the local input) |
| | Solid red | 🔴 | •     Bad EDID<br>•     HPD is low |
| | Flashing blue | | •     EDID is being read from sink<br>•     EDID is being read from EDID bank |

# Passing HDCP Content

In order for the *DisplayPort 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 DisplayPort Detective Plus by disconnecting and then reconnecting the power.



DIP switch 4 in ON position

⚠️ **IMPORTANT:** When enabling or disabling HDCP pass-through, the *DisplayPort 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 (**DP In**) port. However, the *DisplayPort Detective Plus* also allows EDID data to be stored directly to any of 7 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 DisplayPort cable from the sink device to the **DP 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, specifiying 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 *DisplayPort Detective Plus* provides the option of loading the EDID data, stored in a EDID bank, to the local input (**DP In**).

1. Begin by powering-on the *DisplayPort 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 |
|------|----------|----------|----------|----------|
| 0 | OFF | OFF | OFF | Not used |
| 1 | ON | OFF | OFF | |
| 2 | OFF | ON | OFF | |
| 3 | ON | ON | OFF | |
| 4 | OFF | OFF | ON | |
| 5 | ON | OFF | ON | |
| 6 | OFF | ON | ON | |
| 7 | ON | ON | ON | |



Slide switch to the "**E"** position

DIP switches
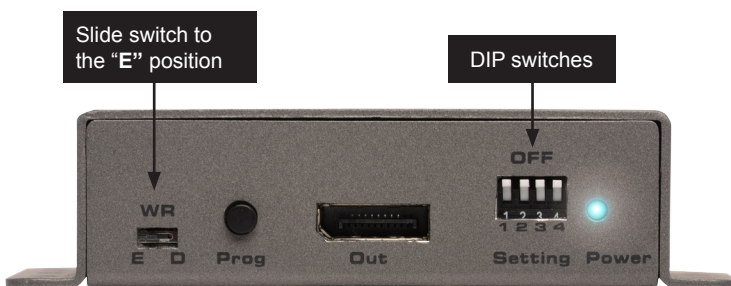
3. Set the **WR** (write) switch to the **"E"** position in order to allow the EDID to be written to the local input.

4. Press the **Prog** button. The **Power** LED will slowly flash blue as the EDID is written to the local input. Once completed, the **Power** LED will glow solid blue.

## 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 (**DP In**) before it can be saved to a file.

1.   Connect the *DisplayPort Detective Plus* to the computer using a USB-to-Mini USB cable. The USB connection will power the *DisplayPort 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 (**DP In**) of the *DisplayPort Detective Plus*.  The EDID file must be in binary (`.bin`) format.

1.  Connect the *DisplayPort Detective Plus* to the computer using a USB-to-Mini USB cable.  The USB connection will power the *DisplayPort 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 *DisplayPort Detective Plus* to the computer using a USB-to-Mini USB cable.  The USB connection will power the *DisplayPort 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 uploaded to the EDID bank, the following will be displayed:

    ```
    File: viewsonic.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.

# DIP Switch Banks

## DIP Switch Configuration

On the bottom panel of the *DisplayPort Detective Plus* are a 3 banks of DIP switches. Remove the piece of colored tape to reveal the DIP switches.  Each DIP switch bank is identified below.

Bank 5    Bank 6    Bank 7

Enabling / disabling EDID Pass-Through Mode

When the *DisplayPort Detective Plus* is in pass-through mode, any EDID information contained on the local input (**In**) is ignored.  This feature allows the source to use the EDID from the downstream sink (e.g. display, etc).

| Bank | DIP Switch | Setting | Description |
|------|-----------|---------|-------------|
| 5 | 3 | ON | • Pass-through EDID.  The downstream EDID is used by the source. |
| | | OFF (default) | • Uses the local EDID. |

> **NOTE:**  The position of DIP SW 3 (ON or OFF) has no affect on uploading, storing, or recording EDID data.

HPD (Hot-Plug Detect)

To set HPD in pass-through mode, set DIP switch 1 in Bank 7 to the ON (up) position. To disable pass-through mode and set HPD to "always HIGH", set DIP switch 1 (Bank 7) to the OFF (down) position.

| Bank | DIP Switch | Setting | Description |
|------|-----------|---------|-------------|
| 7 | 1 | ON | HPD pass-through. |
| | | OFF (default) | HPD always high. |

# DisplayPort Detective Plus

# 03   Advanced Operation

# Using the Virtual COM Port

## Connecting the DisplayPort Detective Plus

When the *DisplayPort Detective Plus* is connected to a computer running the Windows® operating system, a vitual communications port is created.  Macintosh computers are also supported.

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 *DP-Detective*, as shown below:



Set the terminal program to use the specified COM port
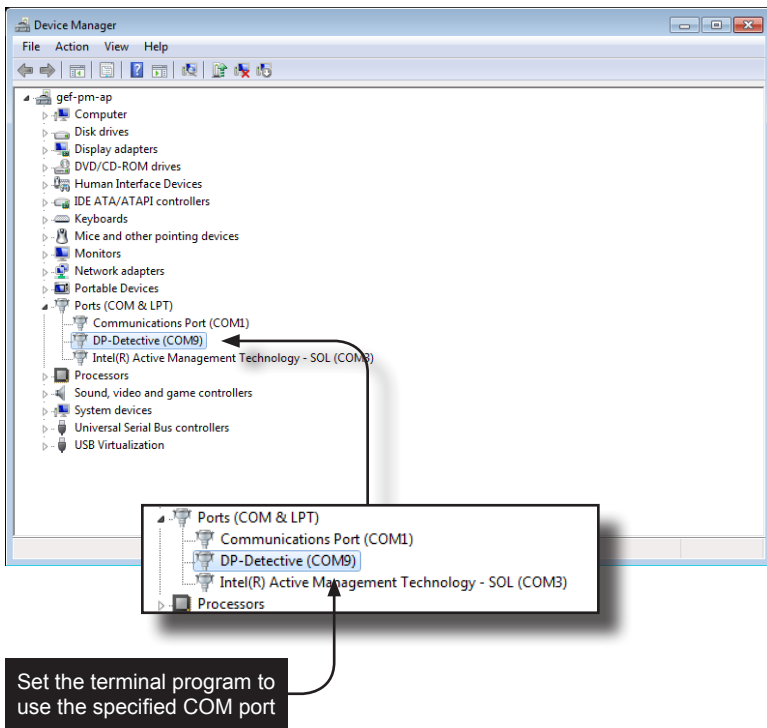
4.    Refer to Installing the DisplayPort Driver, if driver is not present or is listed as an unknown device.

5.    Launch the terminal-emulation program and set the terminal-emulation program to use the COM port specified next to the driver.  In the example, above,  COM 9 has been automatically assigned by the driver.

## Installing the DisplayPort Driver

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

1.  Download the DP-Detective driver from the Gefen Web site.

2.  Extract the contents of the .ZIP file to the Windows® Desktop. By default, the contents of the .ZIP file will be placed in a folder called **DP-Detective**.

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**.
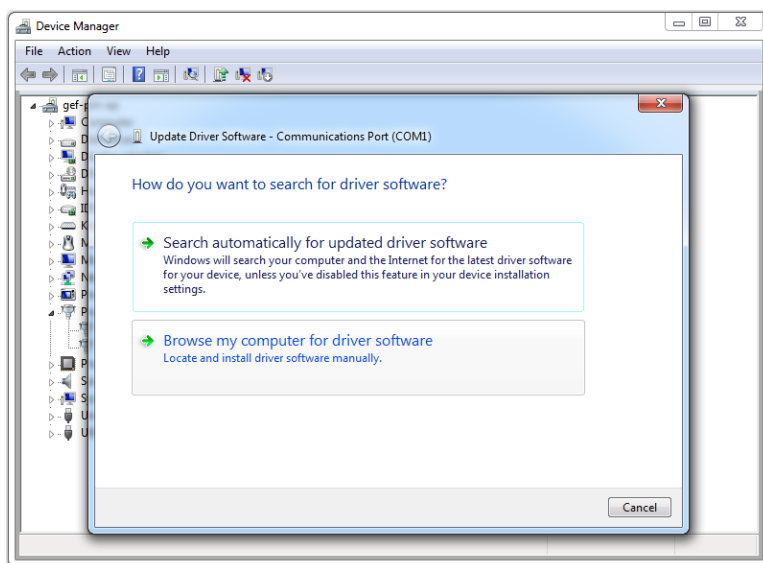


8.  On the next screen, click the **Browse...** button.

9. Select the `DP-Detective.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:
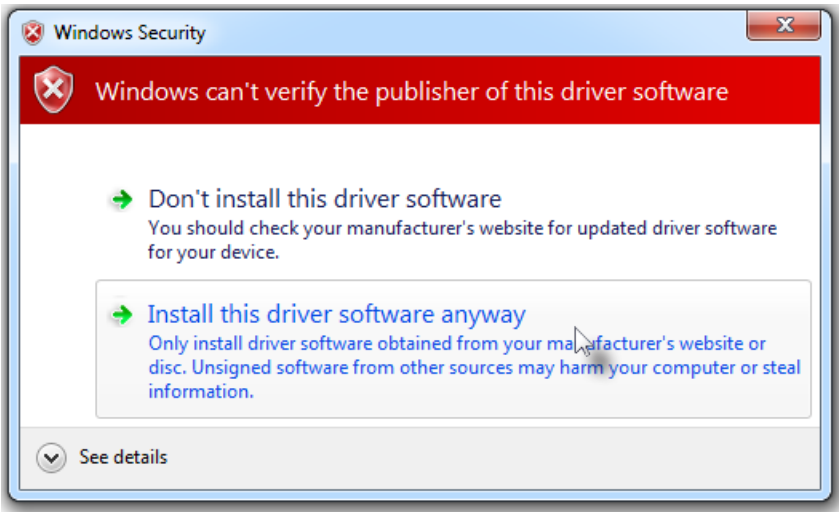


11. Select **Install this software anyway**. The driver installation may take a couple of minutes.

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 *DisplayPort Detective Plus*.

| Command | Description |
|---|---|
| `#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 |
| `#fpga_upgrade` | Upgrades the FPGA as part of the firmware upgrade |
| `#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) |
| `#praledid` | Displays the contents of all EDID banks |
| `#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 firmware and FPGA version |

> ⚠️ **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.

# #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 ... 7]

*Example*:

#edidbatolo 2

# #ediddetolo

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

*Syntax*:

#ediddetolo

*Parameters*:

*None*

*Examples*:

#ediddetolo

## #ediddstoba

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

*Syntax*:

#ediddstoba param1

*Parameters*:

*param1*                              EDID bank                                         [1 ... 7]

*Examples*:

#ediddstoba 3

## #ediddstolo

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

*Syntax*:

#ediddstolo

*Parameters*:

*None*

*Example*:

#ediddstolo

# #eredidbank

The #eredidbank command erases the specified EDID bank.

*Syntax*:

```
#eredidbank param1
```

*Parameters*:

*param1*                    Bank                                    [1 ... 7]

*Example*:

```
#eredidbank 2
```

# #fpga_upgrade

The #fpga_upgrade command upgrades the FPGA as part of the firmware upgrade process.

*Syntax*:

```
#fpga_upgrade
```

*Parameters*:

*None*

*Example*:

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

# #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 #eredidbank

Erase EDID bank
Syntax: #eredidbank [param]
Param is bank number 1-7
 e.g.: #eredidbank 3

#help

*************** Command List ******************

#help
#loedidtolo
#loedidtoba
#prbaedid
#prloedid
#praledid
#stedidbank
#eredidbank
#fw_upgrade
#fpga_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 ... 7]

*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)

# #praledid

The #praledid command displays the contents of all EDID banks.

*Syntax*:

```
#praledid
```

*Parameters*:

*None*

*Example*:

```
#praledid
--- EDID bank 1 ---

Manufacture   :DEL
Monitor Name  :DELL U3011
Serial Number :
Resolution    :2560x1600
Refresh Rate  :68Hz...76Hz


--- EDID bank 2 ---

Manufacture   :GEF
Monitor Name  :
Serial Number :
Resolution    :1920x1080
Refresh Rate  :28Hz...32Hz


--- EDID bank 3 ---
Bank is empty


--- EDID bank 4 ---
Bank is empty


--- EDID bank 5 ---
Bank is empty


--- EDID bank 6 ---
Bank is empty


--- EDID bank 7 ---

Manufacture   :GEF
Monitor Name  :
Serial Number :
Resolution    :1920x1080
Refresh Rate  :28Hz...32Hz
```

# #prbaedid

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

*Syntax*:

```
#prbaedid param1
```

*Parameters*:

| | | |
|---|---|---|
| *param1* | Bank | [1 ... 7] |

*Example*:

```
#prbaedid 7

Manufacture   :GEF
Monitor Name  :
Serial Number :
Resolution    :1920x1080
Refresh Rate  :28Hz...32Hz

00: 00 FF FF FF FF FF FF 00 1C A6 DE 66 00 00 00 00
10: 06 10 01 03 80 59 32 78 2A B2 ED A4 54 48 98 24
20: 0F 47 4A 20 00 00 31 40 45 40 61 40 81 80 A9 40
30: 01 01 01 01 01 01 F3 39 80 18 71 38 2D 40 58 2C
40: 45 00 C4 8E 21 00 00 1E F3 39 80 D0 72 38 2D 40
50: 10 2C 45 80 C4 8E 21 00 00 1E 01 1D 80 18 71 1C
60: 16 20 58 2C 25 00 C4 8E 21 00 00 9E 00 00 00 FC
70: 00 48 44 4D 49 2D 32 2D 48 44 53 44 49 0A 01 AA
80: 02 03 35 71 5B 05 14 04 13 02 03 11 12 90 1F 06
90: 07 15 16 01 0E 00 0F 00 1D 00 1E 00 0A 0B 19 1A
A0: 29 0F 04 07 3D 04 C0 15 04 50 83 7F 00 00 66 03
B0: 0C 00 10 00 80 01 1D 00 72 51 D0 1E 20 6E 28 55
C0: 00 C4 8E 21 00 00 1E 01 1D 00 BC 52 D0 1E 20 B8
D0: 28 55 40 C4 8E 21 00 00 1E 01 1D 80 D0 72 1C 16
E0: 20 10 2C 25 80 C4 8E 21 00 00 9E FA 1C 80 3E 73
F0: 38 2D 40 7E 2C 45 80 C4 8E 21 00 00 1E 00 00 FB
```

## #prdsedid

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

*Syntax*:

```
#prdsedid
```

*Parameters*:

*None*

*Example*:

```
#prdsedid

Manufacture    :DEL
Monitor Name   :DELL P2210
Serial Number :
Resolution     :1680x1050
Refresh Rate   :68Hz...76Hz

00: 00 FF FF FF FF FF FF 00 10 AC 4D 40 53 4B 47 43
10: 0F 13 01 04 A5 2F 1E 78 3E EE 95 A3 54 4C 99 26
20: 0F 50 54 A5 4B 00 71 4F 81 80 B3 00 01 01 01 01
30: 01 01 01 01 01 01 7C 2E 90 A0 60 1A 1E 40 30 20
40: 36 00 DA 28 11 00 00 1A 00 00 00 FF 00 55 38 32
50: 38 4B 39 34 37 43 47 4B 53 0A 00 00 00 FC 00 44
60: 45 4C 4C 20 50 32 32 31 30 0A 20 20 00 00 00 FD
70: 00 38 4B 1E 53 10 00 0A 20 20 20 20 20 20 00 3D
```

# #prloedid

The #prloedid command displays the EDID on the local input (bank 0).

*Syntax*:

#prloedid

*Parameters*:

*None*

*Example*:

```
#prloedid

Manufacture    :DEL
Monitor Name   :DELL P2210
Serial Number :
Resolution     :1680x1050
Refresh Rate   :68Hz...76Hz

00: 00 FF FF FF FF FF FF 00 10 AC 4D 40 53 4B 47 43
10: 0F 13 01 04 A5 2F 1E 78 3E EE 95 A3 54 4C 99 26
20: 0F 50 54 A5 4B 00 71 4F 81 80 B3 00 01 01 01 01
30: 01 01 01 01 01 01 7C 2E 90 A0 60 1A 1E 40 30 20
40: 36 00 DA 28 11 00 00 1A 00 00 00 FF 00 55 38 32
50: 38 4B 39 34 37 43 47 4B 53 0A 00 00 00 FC 00 44
60: 45 4C 4C 20 50 32 32 31 30 0A 20 20 00 00 00 FD
70: 00 38 4B 1E 53 10 00 0A 20 20 20 20 20 20 00 3D
```

## #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

 DP Detective:
Firmware version 1.30
FPGA version 20
```

# DisplayPort Detective Plus

**04  Appendix**

# Firmware Upgrade Procedure

The following items are required to update firmware:

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

When upgrading the firmware, both the `#fw_upgrade` and the `#fpga_upgrade` commands must be executed and in any order. The following instructions are for use with Windows® Hyperterminal.

## Using the #fpga_upgrade command

1.  Download the firmware files from the Gefen Web site.

2.  Extract the contents of the .ZIP file to the Windows® Desktop. The .ZIP file will contain two files: `dp_detective_fpga_[version].bin` and `DPDET_e_[version].bin`.

3.  Connect the USB cable between the computer and the *DisplayPort Detective Plus*.

4.  Launch Hyperterminal and select the Virtual COM Port. For more information see Using the Virtual COM Port.

5.  Type the command: `#fpga_upgrade`.

6.  The following will be displayed on the terminal screen:

    ```
    SPI Flash erasing. Please wait about 30sec ...
    Erazed Subsector: 294
    ```

7.  After about 30 seconds, the following prompt will appear on the terminal screen:

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

8.  In Hyperterminal, click **Transfer** --> **Send File...**

9.  Select the file: `dp_detective_fpga_[version].bin`

10. Select **YModem** from the Protocol drop-down list and click the **OK** button.

    The firmware update procedure will begin. This process should take about 30 seconds. After the firmware update is successful, the following will be displayed in the terminal program:

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

## Using the #fw_upgrade command

1.  Within the terminal program, type the command: `#fw_upgrade`.

2.  The following will be displayed on the terminal screen:

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

3.  In Hyperterminal, click **Transfer** --> **Send File...**

4.  Select the file: `DPDET_e_1_25.bin`.

5.  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 will be displayed in the terminal program:

    ```
    File: DPDET_e_1_25.bin, Size: 27952 Bytes

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

# Specifications

| Supported Formats | |
|---|---|
| Resolution (max.) | 2560 x 1600 (WQXGA) |

| Electrical | |
|---|---|
| Maximum Pixel Clock | 360 MHz |
| Status indicator | 1 x LED, bi-color (blue / red) |

| Connectors | |
|---|---|
| Input | 1 x DisplayPort, 20-pin, female |
| Output | 1 x DisplayPort, 20-pin, female |
| USB | 1 x USB Mini-B |

| Control | |
|---|---|
| DIP switches (front panel) | 4 x Piano DIP switches<br>for pre-programmed EDID selection |
| Programming button | 1 x Push button, momentary switch |
| Write-protect switch | 1 x 2-position, slide switch |
| DIP switches (bottom panel) | 3 x DIP banks<br>each containing 4 DIP switches<br>(used for EDID management) |

| Operational | |
|---|---|
| Power Input | 1 x 5V DC |
| Power Consumption | 2.5W (max.) |

| Physical | |
|---|---|
| Dimensions (W x H x D) | 4.25" x 1" x 3.4"<br>(108mm x 25mm x 87mm) |
| Unit Weight | 0.2 lbs (0.09 kg) |

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