# DP4K-EDID-EMLTR
**DisplayPort 1.2 EDID Emulator**

The DP4K-EDID-EMLTR DisplayPort 1.2 EDID Emulator copies the EDID of the desired DisplayPort display and connects directly to the DisplayPort source to ensure that the EDID is not lost in connections between devices such as splitters and extenders.

**Note: The DP4K-EDID-EMLTR must be installed with the DP-HP-MNTR-SRC DisplayPort Hot Plug Maintainer (sold separately) in order to use it with KVM or Video-only switches (see page 5).**

- Emulates a DisplayPort display (sink device) by providing Hot Plug Detect and EDID to the DisplayPort source device.
- Supports Ultra-HD 4Kx2K resolutions up to 3840x2160 @60Hz 4:4:4, 2560x1600 (WQXGA), 2560x1440p (WQHD), and HDTV resolutions to 1080p @144Hz.
- DisplayPort features supported:
    - DisplayPort v1.2a
    - 10-bit Color / 30-bit Deep Color
    - RGB, YCC 4:4:4, YCC 4:2:2
    - LPCM
    - Bandwidth up to 5.4Gbps per channel (21.6Gbps total)
- HDCP 1.3 compliant.
- Supports Learning and Emulation modes.
    - Learning mode: store a display's EDID for later use.
    - Emulation mode: provides EDID to the DisplayPort source device from the emulator's internal memory.
        - Does not support headless operation – monitor must be connected.
- Pre-programmed with many standard resolutions with native set to 1080p @60Hz.
    - Use learning mode to program other resolutions.
- LED indicators provide signal status information.
- Compact design for easy installation and operation.
- No power supply – powered by video source.
- Ideal for resolving signal handshaking problems between a source and a display.
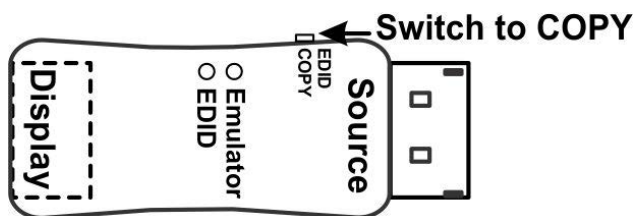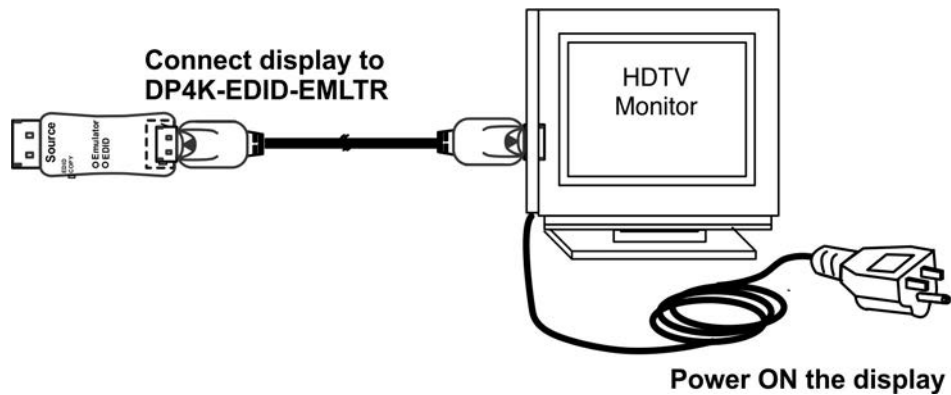
## Installation

### Teach the Emulator
1. Switch the EDID/COPY switch on the emulator to "COPY".
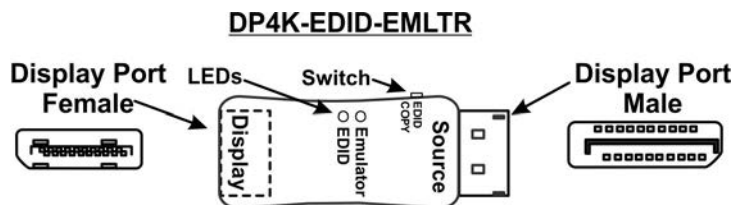


**DP4K-EDID-EMLTR**

2. Connect a DisplayPort cable between the emulator (at "Display") and the display device and power ON the display device.

**Connect display to
DP4K-EDID-EMLTR**

HDTV
Monitor

**Power ON the display**

3. Plug the DisplayPort male ("Source") connector of the DP4K-EDID-EMLTR emulator into the video source.  Power ON the video source (if not already ON).
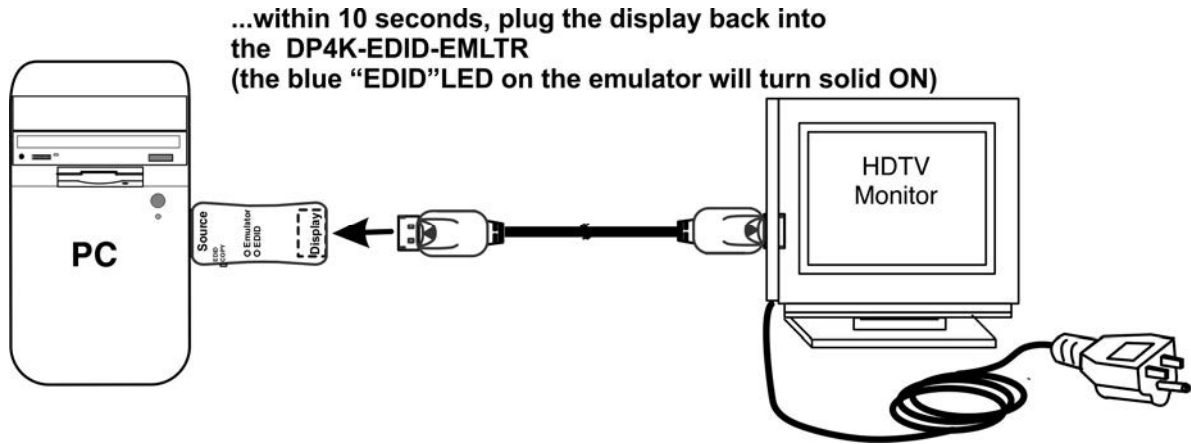
**Connect DP4K-EDID-EMLTR
to a Source and power ON the Source**

PC

HDTV
Monitor

**Power ON the display**
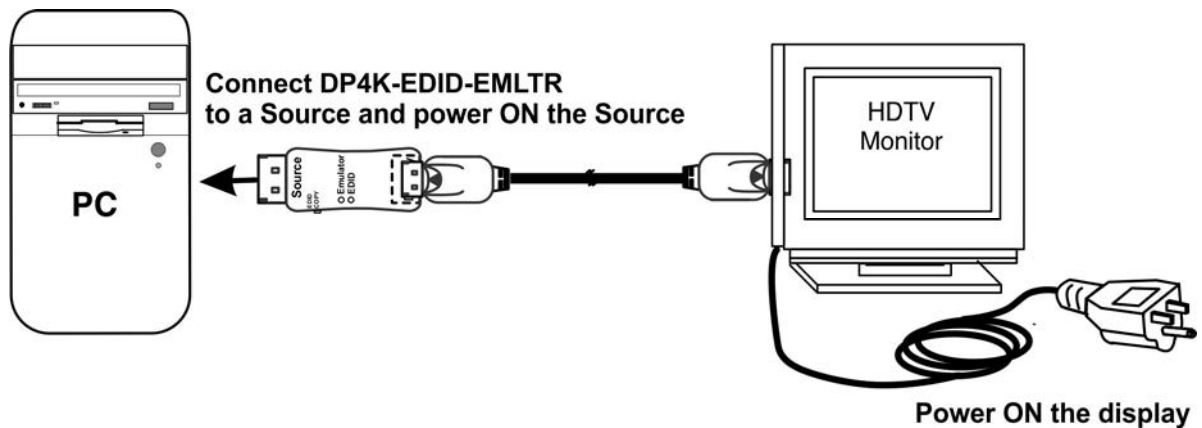
4. Unplug the DisplayPort cable from the emulator, causing the blue "EDID" LED to flash.   This indicates the emulator is in Learning Mode.

**Disconnect the display from
the  DP4K-EDID-EMLTR.....
(the blue "EDID"LED on the emulator will flash)**

PC

HDTV
Monitor
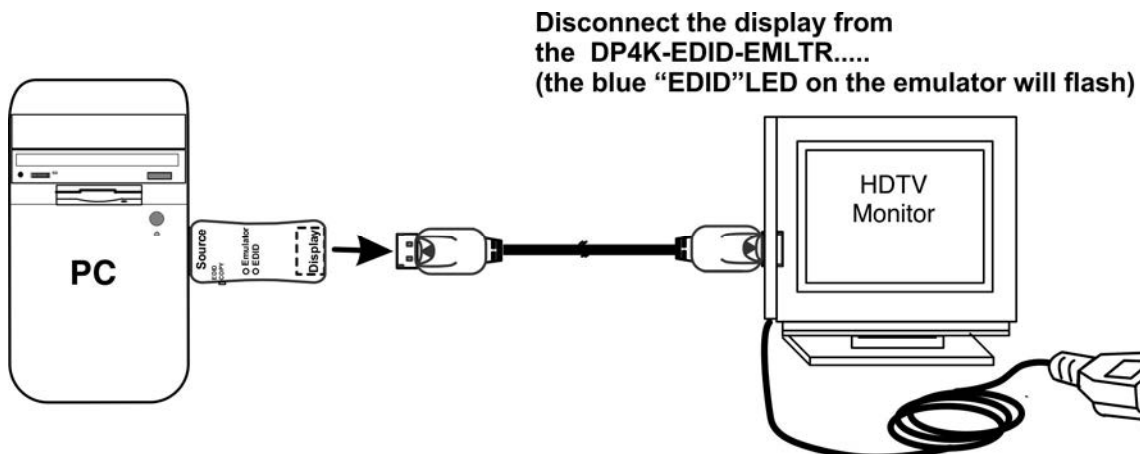
**Note: While teaching the emulator, the monitor may or may not display video. As long as the video shows up after the step 5, the teaching step is successful.**

5. Within 10 seconds, plug the DisplayPort cable back into the emulator.   The blue "EDID" LED should change to solid ON,  indicating that Learning Mode has been successful and the emulator is now in Emulation Mode.   Video should be displayed.

**...within 10 seconds, plug the display back into the DP4K-EDID-EMLTR (the blue "EDID"LED on the emulator will turn solid ON)**

**Note:** If the emulator needs to be reset back to its default EDID resolution of 1920x1080p, switch the EDID/COPY switch to "EDID".

If the DisplayPort cable is unplugged during Learning Mode or the 10 seconds is allowed to elapse,  Learning Mode will fail and both LEDs will go dark.   The emulator will remain at the last EDID it learned.

The EDID table copied during the Learning Mode will be available to provide the desired resolution to your monitor(s).  **Note:  Make sure your monitor is capable of displaying the selected resolution.**
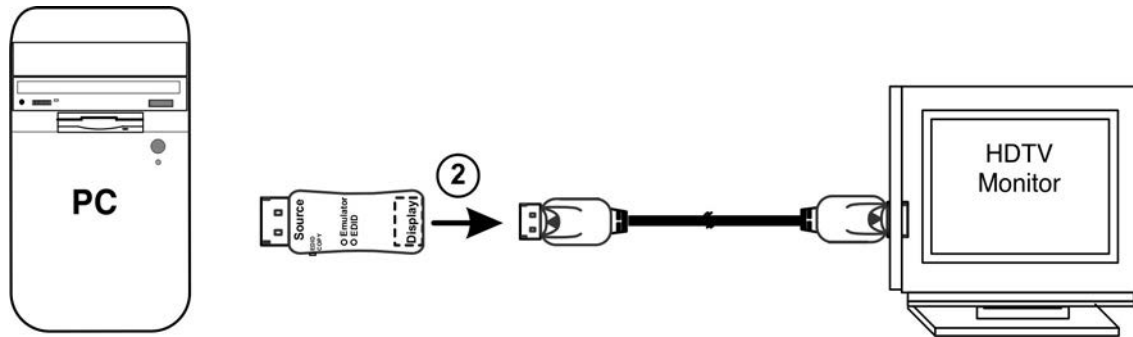
## Connect to Your Application
Once the emulator has learned the EDID table and is in Emulation Mode,  the emulator can be placed in its ultimate configuration, following these steps, in order.
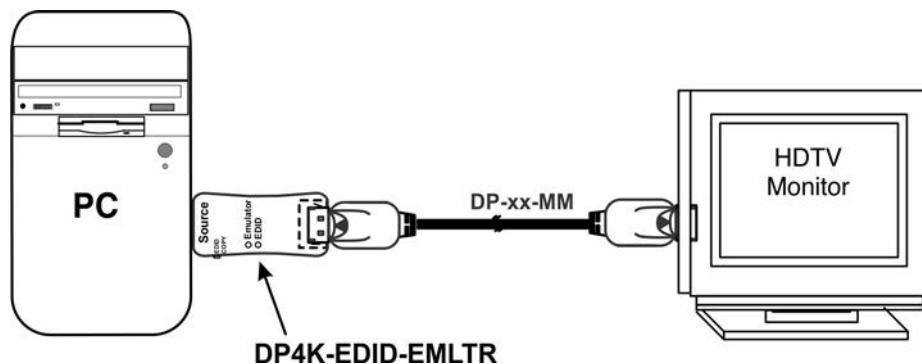
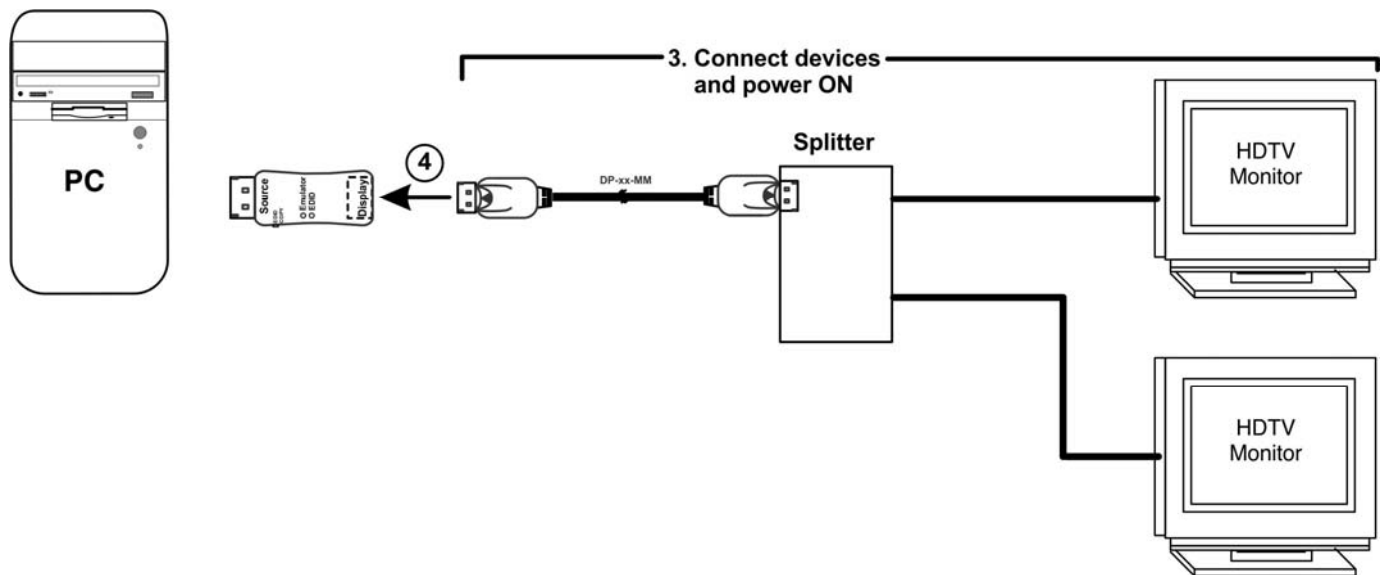1. Unplug the emulator from the video source.
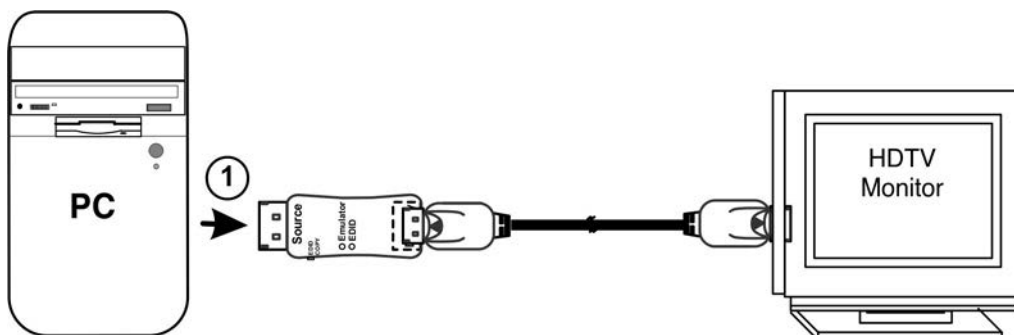
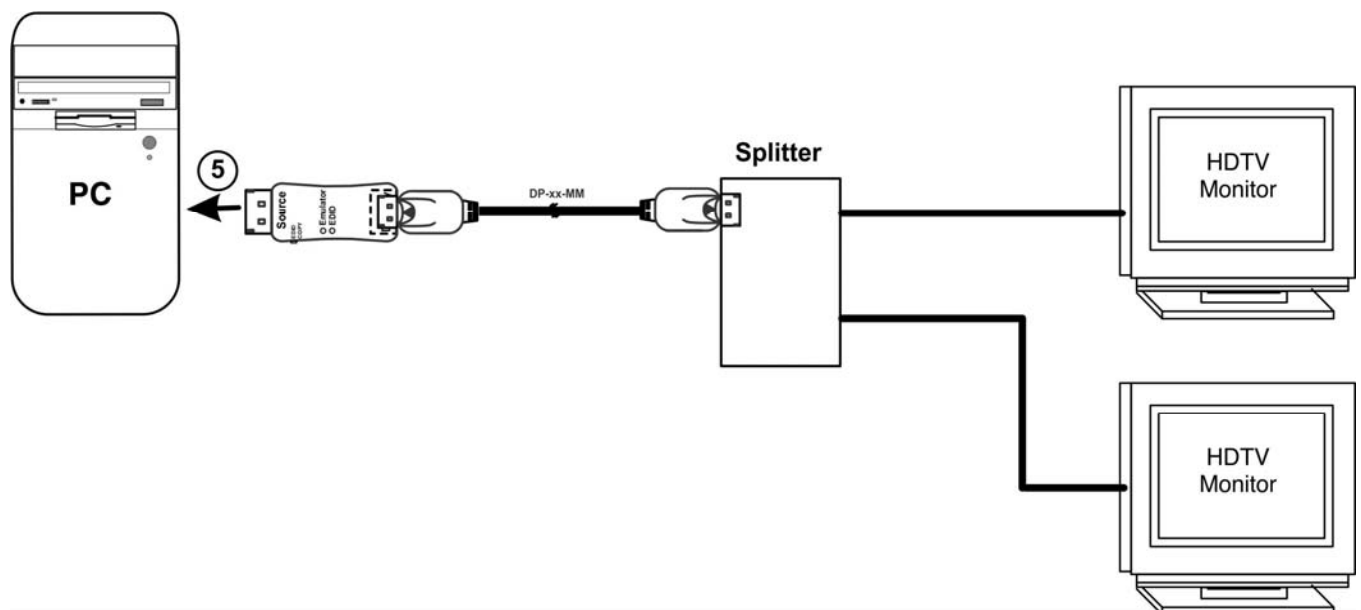2. Unplug the cable from the "Display" port going to the monitor.

3. Make your connections from the DisplayPort cable to the display, splitter or extender and power the splitter or extender and associated display(s) ON.

4.  Plug the DisplayPort cable back into the "Display" port on the emulator.

5. Plug the emulator back into the video source.

# Using the DP4K-EDID-EMLTR with a KVM or Video-Only Switch

The DP4K-EDID-EMLTR is not recommended to be used alone with KVM or Video-only switches.  Using it by itself with a KVM or Video-only switch will cause the emulator to go into learning mode and/or cause your display organization of applications and files to be re-arranged each time the video input on the switch is moved to another input and then back again.   If you intend to use the HD4K-EDID-EMLTR with a KVM or Video-only switch, you will need to additionally install a DP-HP-MNTR-SRC DisplayPort Hot Plug Maintainer (sold separately).

When connected as described below, the EDID Emulator can be used and the preferred EDID settings will remain unchanged even if the connected display is randomly changed.

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**Note:** If the emulator needs to be reset back to its default EDID resolution of 1920x1080p, switch the EDID/COPY switch to "EDID".

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## Protect the EDID that was learned
1. First follow the steps outlined in **"Teach the Emulator**" on page 1.

2. Disconnect the emulator from the source.  With the emulator disconnected, it will not go back into learning mode and will instead retain the EDID table that was learned.
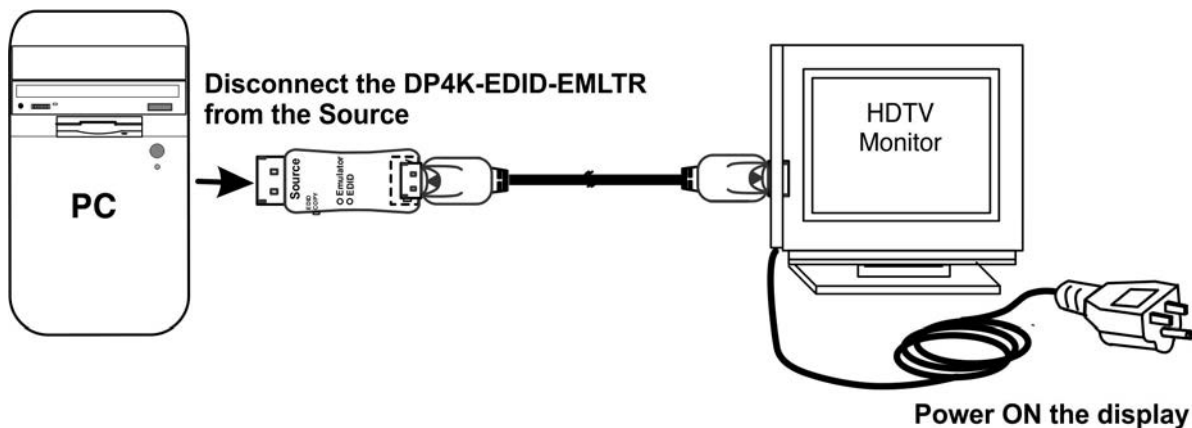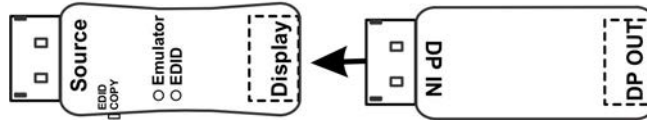


7. Now disconnect the display from the emulator.
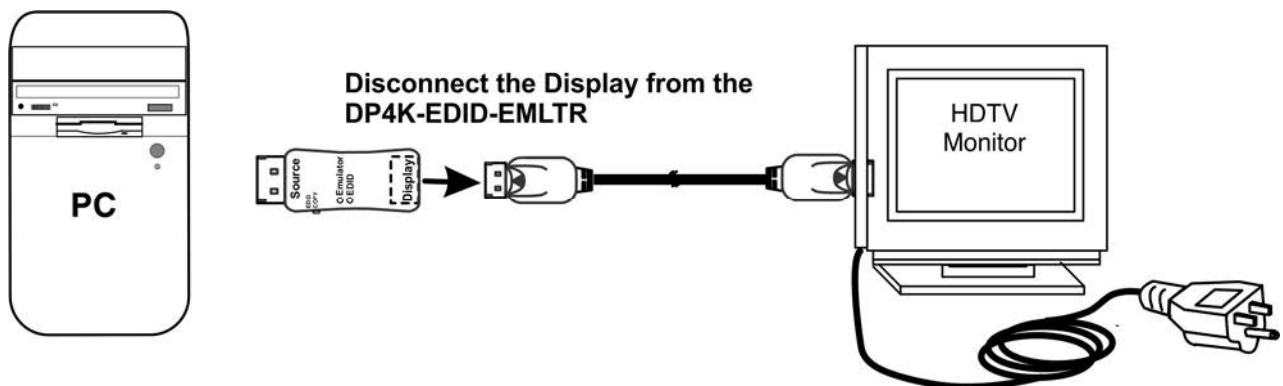
8.  Connect a DP-HP-MNTR-SRC Hot Plug Maintainer to the emulator.  This will prevent the emulator from sensing that the display has been removed when the emulator is reconnected to the source.

**Connect the DP-HP-MNTR-SRC to the DP4K-EDID-EMLTR**

## Now Connect to Application

9. Connect the assembly back to the source.

**Connect the DP4K-EDID-EMLTR back into the Source.**

PC
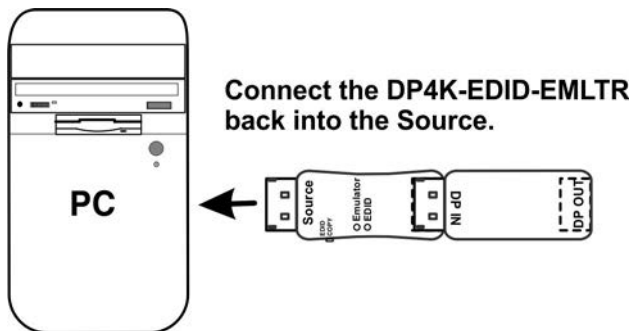
10.  Now connect any display, KVM switch or Video-only switch to the "DP OUT" on the DP-HP-MNTR-SRC.   The EDID learned in steps 1-5 will remain intact and the resolution set will be just as it was.

**Connect any display or KVM switch to source with DP4K-EDID-EMLRT and DP-HP-MNTR-SRC in series and the EDID of the monitor that was learned will be what is displayed.**

PC

PC

KVM Switch

HDTV Monitor

USB KEYBOARD

USB MOUSE
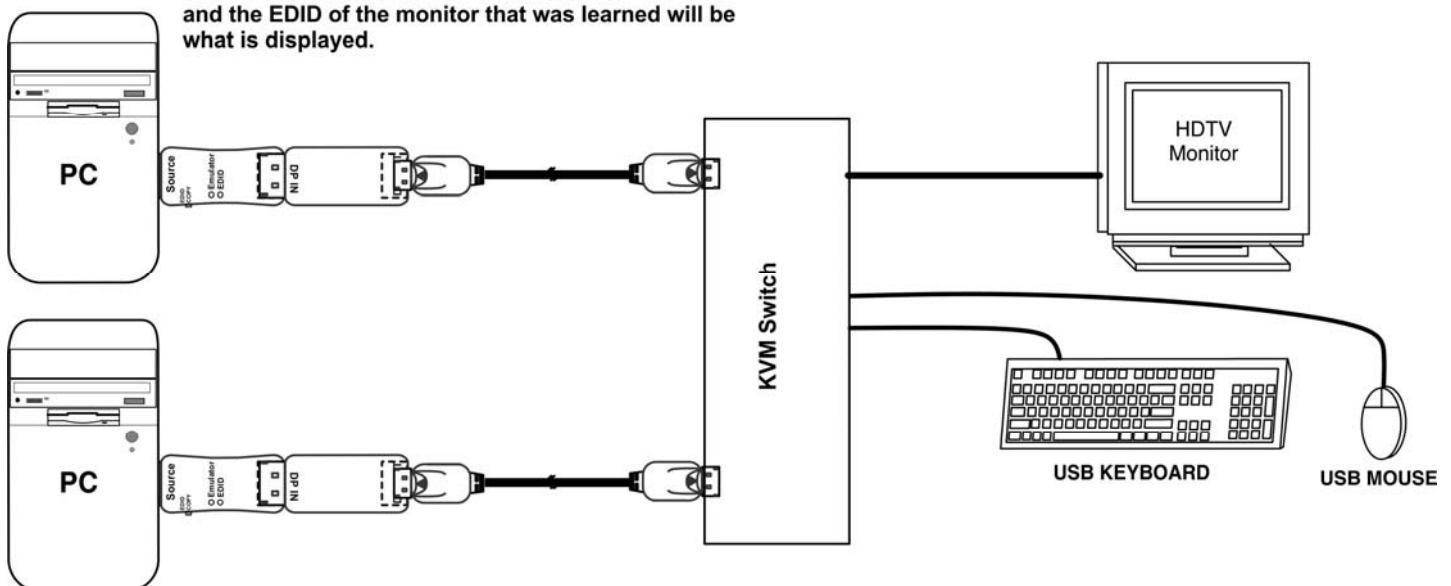
## Specifications

| | |
|---|---|
| **Video Format** | DP 1.2 |
| **Max. Resolution** | 3840x2160p@60Hz |
| **Default Resolution** | 1920x1080p@60Hz |
| **Color Depth** | RGB/YCC444/YCC422: 16-bit |
| **Support pass-through** | Yes |
| **Support headless (no monitor actually attached)** | No |
| **HDCP Support** | HDCP 1.3 |
| **Audio Format** | LPCM |
| **Power Supply** | By video source |
| **Operating Temperature** | 0 to 50°C |
| **Dimension** | 2.835 x 0.4724 x 1.1811 in |
| | 72 x 12 x 30 mm |
| **Compliance** | CE, FCC, RoHS |

## EDID mode resolutions

| Resolution | Resolution |
|---|---|
| 640 x 480p @60Hz | 1440 x 900p @60Hz |
| 720 x 480p @60Hz | 1680 x 1050p @60Hz |
| 800 x 600p @60Hz | 1920 x 1080p @60Hz * |
| 1024 x 768p @60Hz | 2560 x 1440p @60Hz |
| 1280 x 720p @60Hz | 2560 x 1600p @60Hz |
| 1280 x 800p @60Hz | 3840 x 2160p @30Hz |
| 1280 x 960p @60Hz | 3840 x 2160p @60Hz |
| 1280 x 1024p @60Hz | |

**\*1920 x 1080p @60Hz is the native resolution in EDID mode**

**Note: 8K (7680x4320) resolution is not supported.**

**Audio EDID**
LPCM 2-channel, 16/20/24 bit depths at 32/44/48/88/96/176/192 kHz