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DP-HP-MNTR-SRC

DisplayPort 1.4 Hotplug Maintainer, Connects to Source/Computer

The DP-HP-MNTR-SRC manages communication between a DisplayPort source device (e.g., computer) and sink device (e.g., monitor) with the purpose of maintaining the screen settings in the event of the sink device being disconnected. One application of this device is to resolve screen resetting issues when employing a DisplayPort KVM to actively switch between two sources and a single sink. By installing the DP-HP-MNTR-SRC in series with the source and KVM, the source will see a constantly connected sink and will therefore maintain the screen setting when the KVM user selects the other channel.

Features:

- Emulates a DisplayPort display (sink device) by providing Hot Plug Detect to the DisplayPort source device.
- Designed for use with KVM/video switches.
  - When the input channel is deselected, the host computer connected to that input channel via the DisplayPort Hotplug Maintainer will recognize the monitor as connected.
  - Eliminates the need to reconfigure monitor settings – keeps screen settings while switching to another computer and then back.
- Supports all source and display resolutions, including Ultra-HD 8K (7680x4320) @30Hz, 4Kx2K (4096x2160 and 3840x2160) @60Hz, 2560x1600 (WQXGA), 2560x1440p (WQHD), and HDTV 1080p @120Hz.
- The Hotplug Maintainer is completely transparent.
- DisplayPort features supported:
  - DisplayPort v1.4
    - Backwards compatible with DisplayPort 1.2/1.1
  - Multi-Stream Transport (MST)
  - 10-bit Color / 30-bit Deep Color
  - RGB, YCC 4:4:4, YCC 4:2:2
  - LPCM
  - HDR
  - High-bandwidth HBR3
  - Bandwidth up to 8.1Gbps per channel (32.4Gbps total)
- Compact design for easy installation and operation.
- No power supply- powered by video source.
- TAA Compliant
- One 1-foot DisplayPort male-to-female cable (NTI# DP-1-MF) included
  - We recommend using this to ensure a tight connection to the source.

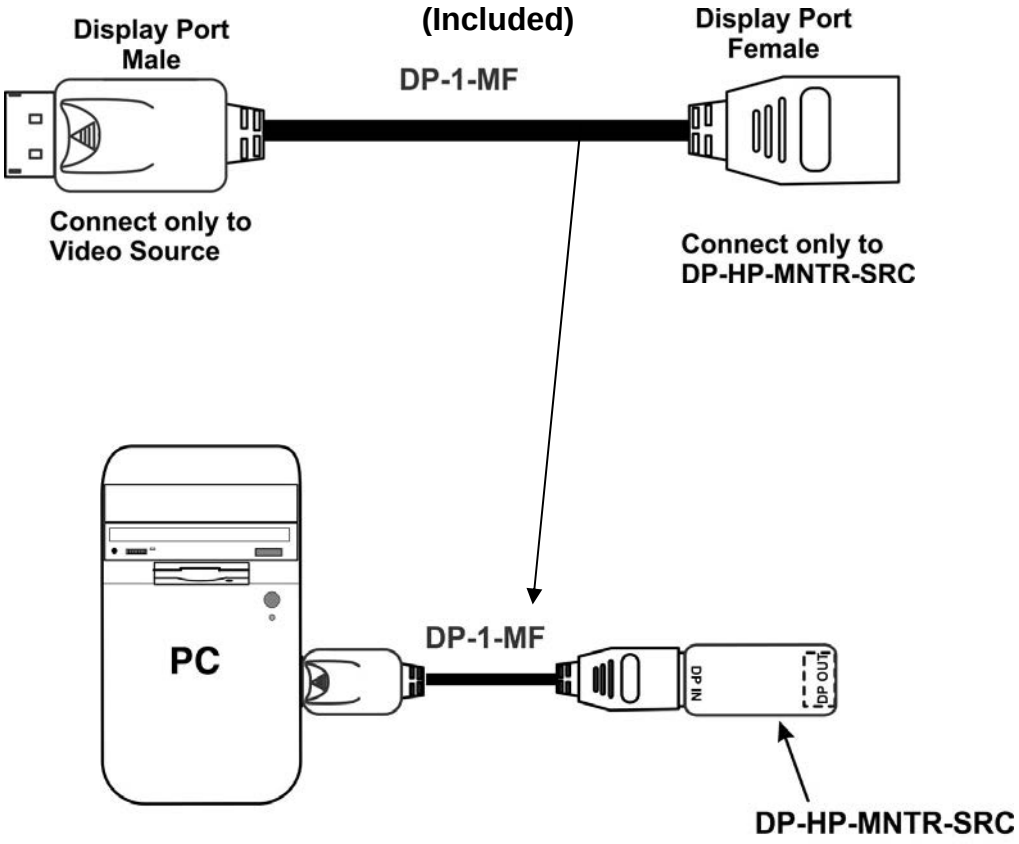
Installation

Connect to Your Application

The DP-HP-MNTR-SRC is outfitted with a full-size DisplayPort plug and receptacle. The plug is to be inserted into the video source port, and the cable connecting to the downstream KVM Switch should be plugged into the receptacle. The DP-HP-MNTR-SRC is powered by the DisplayPort source.

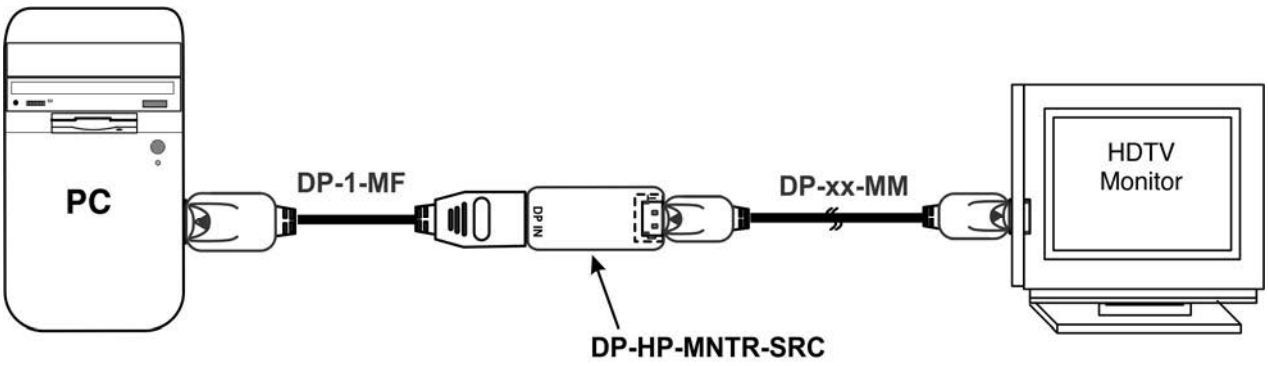
The recommended installation procedure is as follows:

1. Power down all equipment
2. Plug the DP-1-MF into the source port. (We recommend using this to ensure a tight connection to the source.) Plug the DP-HP-MNTR-SRC into the female port of the DP-1-MF.
3. Connect all cabling
4. Power up the monitor
5. If there is any, power up mid-stream equipment (e.g., KVM Switch)
6. Power up source. If there is a KVM switch, ensure that the KVM is set to the source that is being powered
7. Once the source is fully booted and an image is displayed, the DP-HP-MNTR-SRC is functioning. The KVM Switch (if any) can be switched and other sources can be powered.

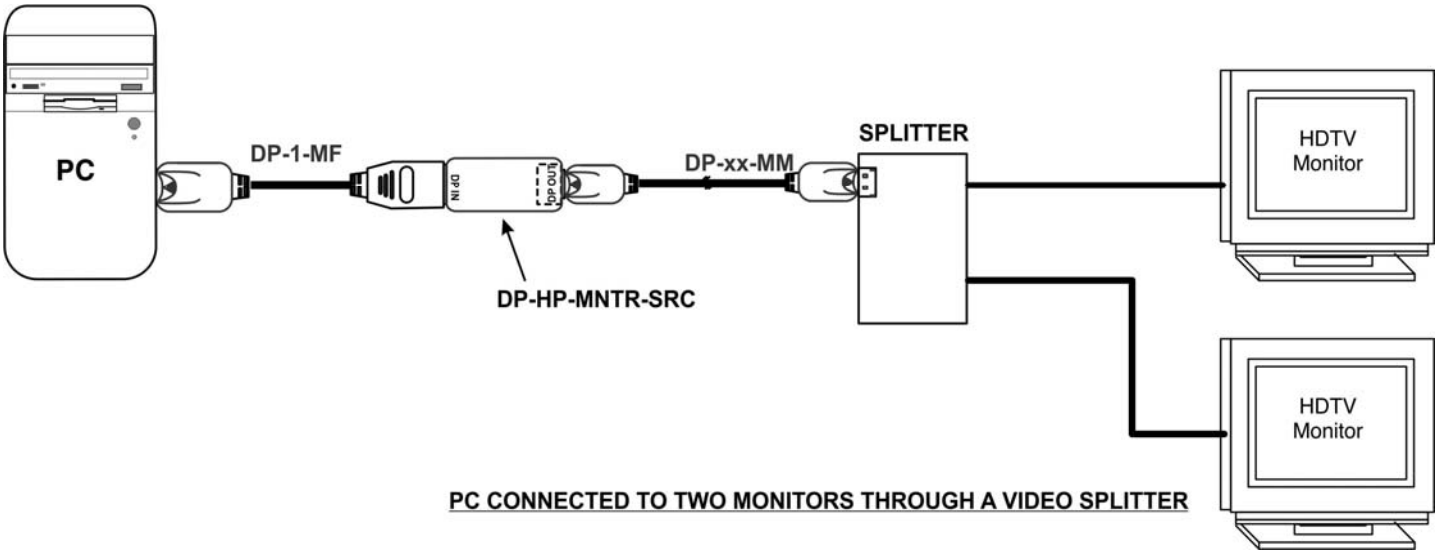


PC/VIDEO SOURCE WITHOUT A MONITOR

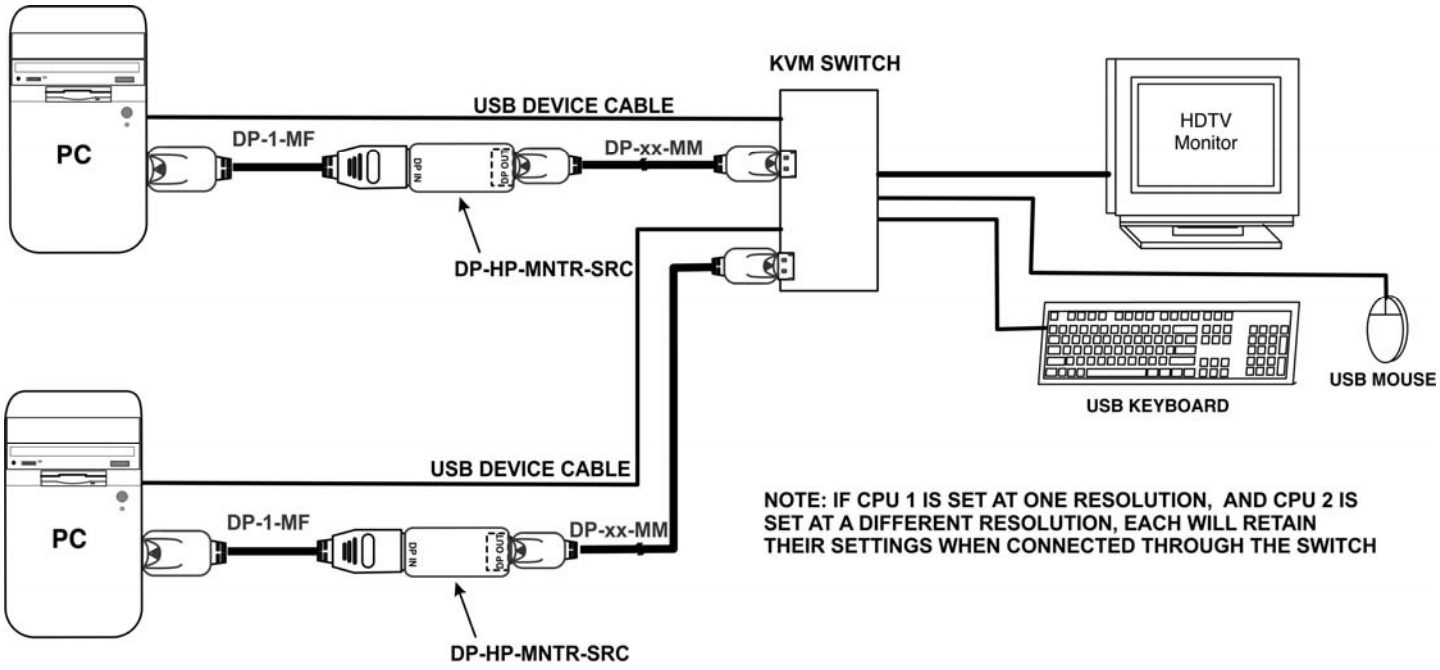
For an improved connection between the video source and the DP-HP-MNTR-SRC, connect the DP-1-MF between the source and the DP-HP-MNTR-SRC (above).



PC/VIDEO SOURCE WITH A MONITOR



PC CONNECTED TO TWO MONITORS THROUGH A VIDEO SPLITTER



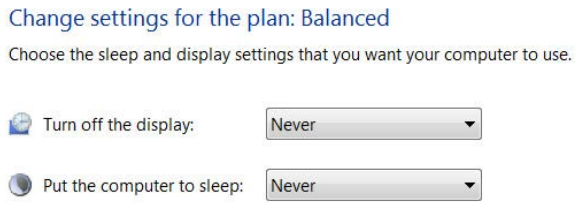
NOTE: IF CPU 1 IS SET AT ONE RESOLUTION, AND CPU 2 IS SET AT A DIFFERENT RESOLUTION, EACH WILL RETAIN THEIR SETTINGS WHEN CONNECTED THROUGH THE SWITCH

TWO CPUS CONNECTED TO USER THROUGH A KVM SWITCH

Specifications

Video Format	DP 1.4, 1.2, 1.1
Max. Resolution	7680x4320 @30Hz
Color Depth	RGB/YCC444/YCC422: 16-bit
Support pass-through	Yes
Support headless (no monitor actually attached)	Yes
HDCP Support	HDCP 1.4 and HDCP 2.2
Audio Format	LPCM
Power Supply	By video source
Operating Temperature	32 to 104°F (0 to 40°C)
Storage Temperature	-22 to 140°F (-30 to 60°C)
Operating and Storage Relative Humidity	5 to 90% non-condensing RH

Tip: When a computer turns OFF the display or goes to sleep, it will stop providing power on the video output ports and the DP-HP-MNTR-SRC will power OFF. As a result, windows may be resized and moved after the PC "wakes up" and starts to display again. To avoid the issue, it is recommended to disable the sleep mode and set the computer to not turn OFF the display. If you are running Windows, related settings are found in "Power Options".



Frequently Asked Questions

1. Would the computer see ANY change when monitor is power cycled? It is important that the monitor be sensed continuously without even a brief disconnect/reconnect when the monitor is powered OFF/ON, similar to how VGA/DVI (and most HDMI) monitors worked.

   The computer will NOT see ANY change when the monitor is power-cycled or when the monitor is disconnected.

2. Would the computer see ANY change if the monitor is unplugged/replugged downstream of the adapter?

   The computer will NOT see ANY change if the monitor is unplugged/replugged as long as the adapter is still connected to the computer.

3. Would the computer see the last-connected monitor if the computer is cold-booted with the monitor OFF? Does the adapter have non-volatile memory to store the monitor info?

   The computer will NOT see the last-connected monitor if the computer is cold-booted with the monitor OFF. The adapter does not have non-volatile memory.

4. Does the adapter introduce any latency?

   The adapter does not introduce latency.

5. Does the adapter support the following Ultrawide resolutions: 5120x1440 @ 144Hz and 3840x1600 @ 75Hz?

   The adapter supports up to 8k@30hz video which has 32.40 Gbit/s bandwidth. 5120x1440 @ 144Hz has similar bandwidth and 3840x1600 @ 75Hz has a much smaller bandwidth. In theory, both of these resolutions should work but we did not test them.

6. Does the adapter support Variable refresh rate and Audio?

   Yes. It does support Variable refresh rate and Audio.

7. Assuming the adapter contains active circuitry; does it draw power from the host computer or the monitor?

   The adapter is powered by the computer and the adapter's power consumption is minimal.

8. Will the maintainer correctly report display changes to the computer if the monitor is changed downstream of the adapter, either physically by unplugging and plugging in a different monitor, or by changing settings on the monitor (like Picture-by-picture) that causes the monitor to "disconnect" and reconnect as a monitor with different max resolution/refresh rate, etc.?

For example, turning on the 50/50 PBP mode on a 5120x1440 ultrawide display causes the monitor to "disconnect", then reconnect, identifying itself as a 2560x1440 display, and the adapter would then need to update the computer with this information so it can adjust the video output accordingly.

No. When the maintainer is connected to the computer, the computer will read monitor information from the maintainer and generate video signals correspondingly. When you change the monitor or change display mode on the monitor, the information on the adapter will not change unless you disconnect and reconnect the adapter to the computer. In your example, with the adapter always connected to the computer, when changing the display mode from 5120x1440 to 2560x1440, the monitor will probably show something like "signal out of range"