

How to Setup a Monitor with a Windows 10 Laptop

Introduction:

Over the past decade, computer technologies have been advancing at a staggering pace. Specifically, the demand and use for computer peripherals such as computer monitors and wireless mechanical keyboards has become ever so prevalent. According to a 2015 New York Times's report, the use of multiple monitors has been proven to increase productivity by at least 30 percent. The following user instructions provide all the steps required to set up a 144hz monitor on a Windows 10 laptop.



Required Materials:

- Computer monitor
- Monitor AC power cable
- HDMI cable
- Windows 10 laptop



Section 1: Physical Set-up

Step 1: First, locate the **AC power cable port** on the back of the monitor. Take your **AC power cable** and plug it into the appropriate port. Plug the other end into an electrical outlet as shown in *Figure 1*.



Figure 1: Plug AC power cable to both the monitor and electrical outlet

Step 2: Locate the **HDMI port** on both the laptop and the back of the monitor and plug into both with the HDMI cable, connecting the two devices.

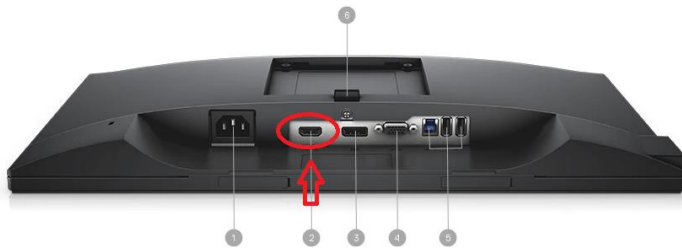


Figure 2: HDMI port on the monitor




Figure 3: HDMI port on the laptop

Step 3: Power on the laptop and now you should be greeted with duplicated screens seen in *Figure 4*.

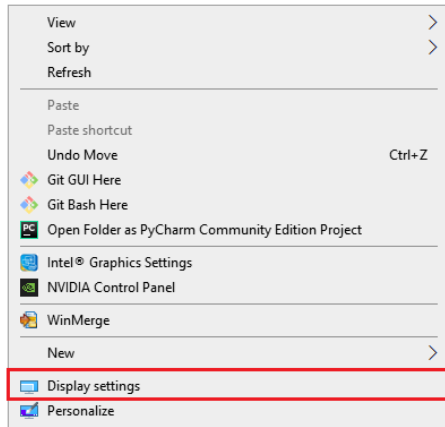


Figure 4: Laptop and Monitor should be showing the same screen now

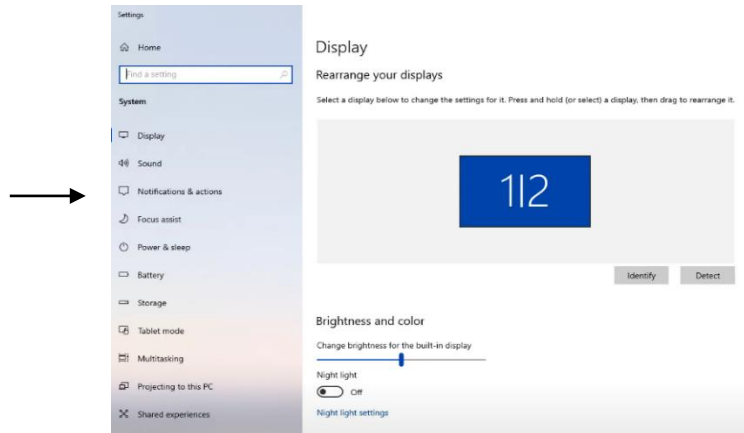
 **Caution:** Cable should not be plugged in near water (e.g. near a bathtub, sink, or faucet). Care should be taken so that no liquid is spilled onto any form of electronics.

Section 2: Display Configuration

Step 1: Right click on the desktop and select “**Display settings**”. The blue box showing “1 | 2” indicates that your displays are duplicated.

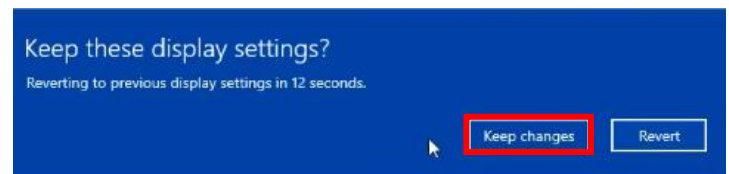
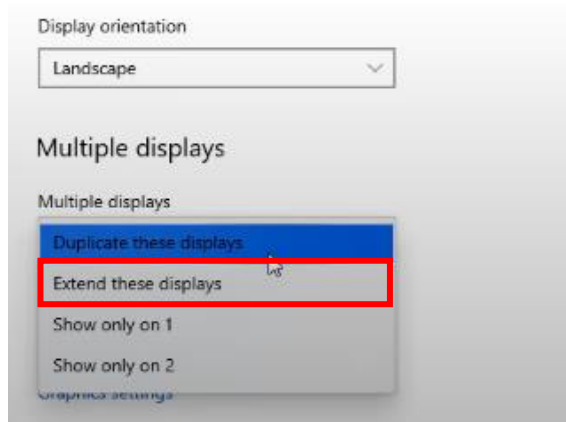


Right click desktop -> Display settings

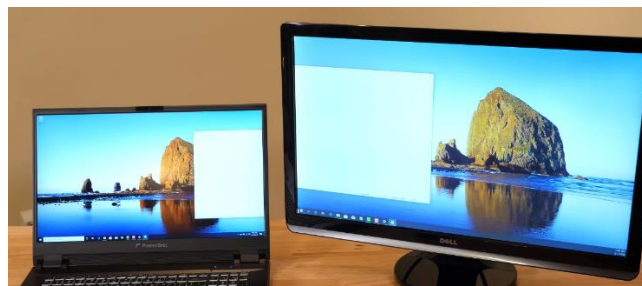
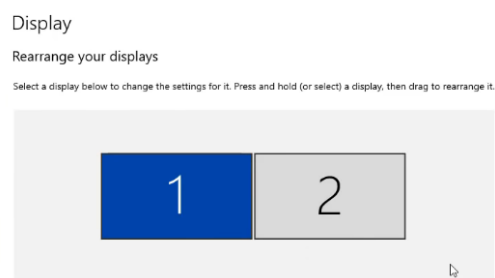


Clicking “Display settings” will bring you to this screen

Step 2: Scroll down to “**Multiple Displays**” and select “**Extend these displays**”. You will be prompted with if you want to keep these display settings. Press “**Keep Changes**”.



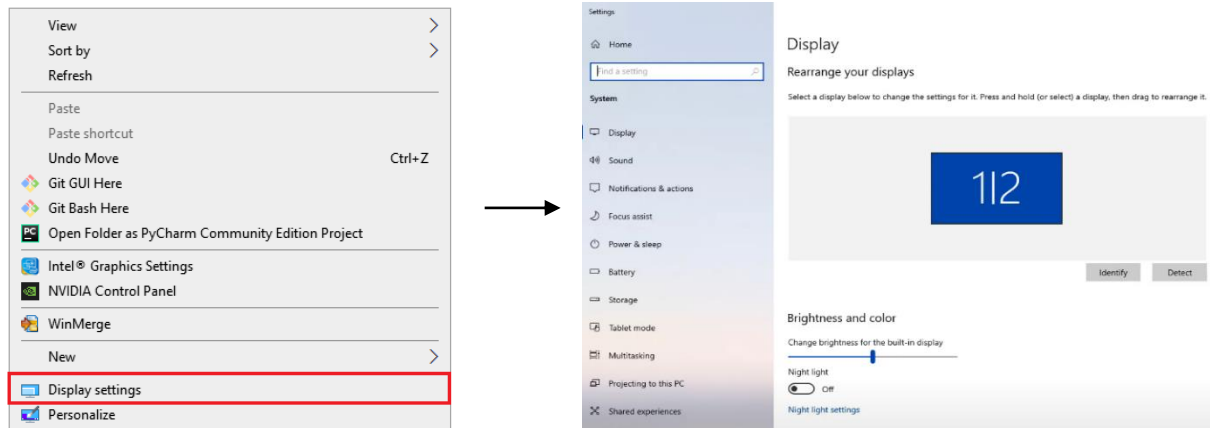
Step 3: Your display settings should now show two separate screen and you will now be able to use both the monitor and the laptop screen.



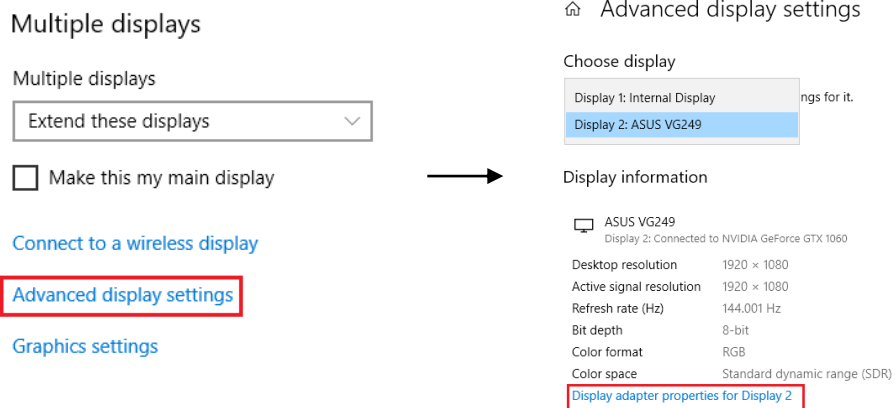
Section 3: Refresh Rate Calibration (Optional)

❗ Check your monitor model's for its advertised refresh rate, usually of increments 60hz, 75hz, 120hz, or 144hz. If your monitor supports a higher refresh rate, (industry standard is 60hz) proceed to read the following steps for refresh rate calibration.

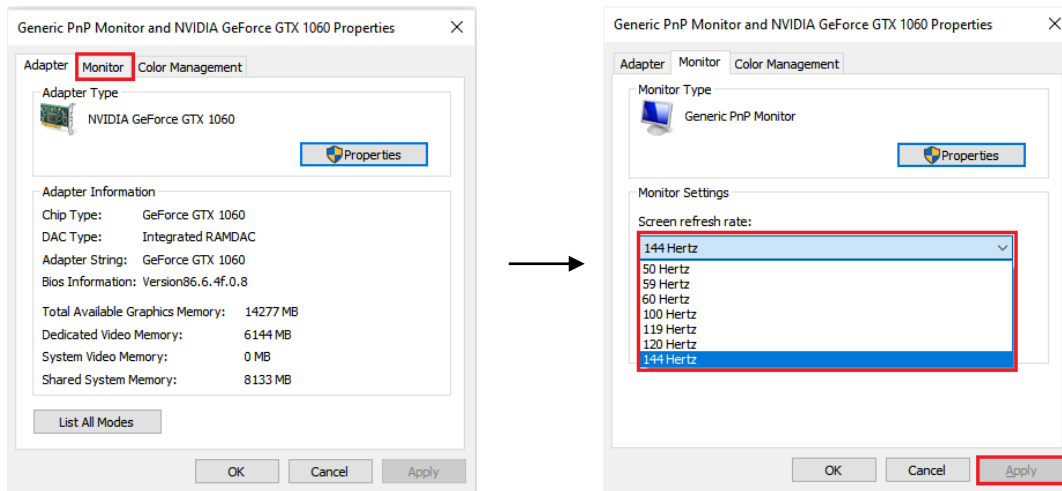
Step 1: Right click the **desktop** and select **“Display settings”**.



Step 2: Scroll down and select **“Advanced display settings”**. Locate **“Choose display”** and select your monitor model. Select **“Display adapter properties”**.



Step 3: Select the “**Monitor**” tab. On the monitor tab, select the dropdown menu “**Screen refresh rate**” and select your desired refresh rate. Click “**Apply**”.



Conclusion:

After following these instructions, you will now be able to use both your laptop screen and your monitor, as well as have calibrated your refresh rate if you followed the optional “**Section 3: Refresh Rate Calibration**”. You can drag applications across one screen to the other. Now you can write code on the main monitor while watching a youtube video on the laptop screen. This will hopefully improve productivity in your daily life and tasks.



Works Cited

1. <https://www.youtube.com/watch?v=eiR2Z2s2QrQ> (Helpful video to follow along to the instructions)
2. <https://www.business.com/articles/increasing-productivity-how-dual-monitors-can-save-you-time-and-money/#:~:text=While%20you%20can%20accomplish%20most,a%20Jon%20Peddie%20Research%20survey.>