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Change DPI Scaling Level for Displays in Windows 10

How to Change DPI Scaling Level for Displays in Windows 10

Published by [Shawn Brink](#)

24 Apr 2020

Category: [Customization](#)

How to Change DPI Scaling Level for Displays in Windows 10

Dots per inch (DPI) is the physical measurement of number of pixels in a linear inch of a display. DPI is a function of display resolution and size; a higher resolution or a smaller size will lead to higher DPI, and a lower resolution or a larger size will lead to lower DPI. When a display has a higher DPI, pixels are smaller and closer together, so that the user interface (UI) and other displayed content appears smaller than intended.

Windows ensures that everything appears on the screen at a usable and consistent size by instructing applications (including the Windows desktop shell) to resize their content by a scale factor. This number depends on the display DPI as well as other factors that impact the user's perception of the display. Almost all desktop displays and most current laptop displays are in the range of 95-110 DPI; for these devices, no scaling is required, and Windows sets a scale factor of 100%. However, there are a number of new devices, particularly in the premium laptop and tablet markets, which have higher displays with over 200 DPI. For these devices, Windows sets higher scale factors to ensure that the user experience is comfortably viewable.

When you change the DPI scaling level for your displays, it changes the size of text, apps and other items to appear larger or smaller. A higher DPI level has everything appear larger, and a lower DPI level has everything appear smaller.

The default DPI level is 100% (96 DPI).

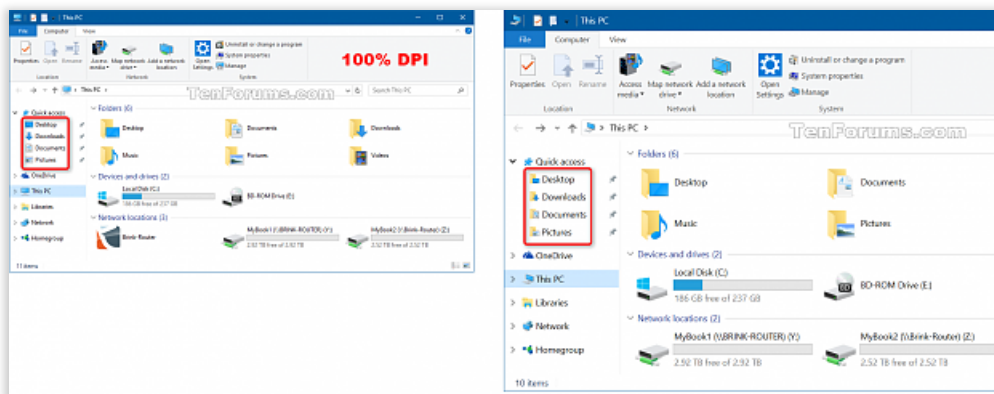
For more about display scaling, see:

- [Display Scaling in Windows 10 - Ask the Core Team - Site Home - Microsoft Docs](#)
- [Display Scaling changes for the Windows 10 Anniversary Update | Microsoft Docs](#)

• High DPI Scaling Improvements for Desktop Applications and "Mixed Mode" DPI Scaling in the Windows 10 Anniversary Update | Building Apps for Windows

This tutorial will show you how to change the **DPI scaling level** for all or specific displays to make everything appear smaller or larger on the display(s) for only your account in **Windows 10**.

✍ When you use a DPI over the default 100%, the icons of the default folders under **Quick access** in the navigation pane of File Explorer will be on a folder instead of just an icon like below.



If you have an app that doesn't scale properly when you are using a high DPI setting, then you could use **compatibility mode** to **Disable display scaling on high DPI settings** for the app.

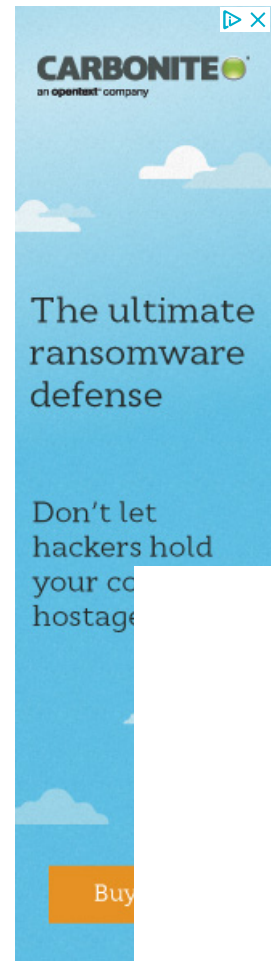
Contents

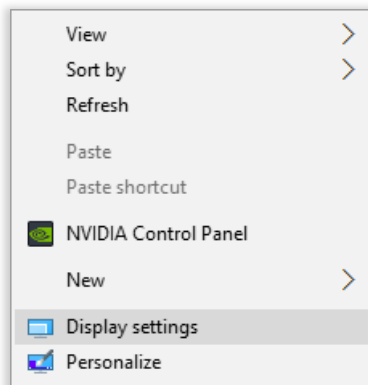
- **Option One:** To Change DPI Scaling Level Per Display in Settings app
- **Option Two:** To Set Custom DPI Scaling Level for All Displays in Settings
- **Option Three:** To Set Custom DPI Scaling Level for All Displays in Registry Editor
- **Option Four:** To Restore Default DPI Scaling Level for All Displays using a REG file

OPTION ONE

To Change DPI Scaling Level Per Display in Settings app


- 1 Do **step 2** or **step 3** below for what you would like to open **Display** in Settings.
- 2 Open **Settings**, click/tap on the **System** icon, and go to **step 4** below.
- 3 Right click or press and hold on your desktop, click/tap on **Display**, and go to **step 4** below. (see screenshot below)






4 Click/tap on **Display** on the left side. (see screenshot below [step 6](#))

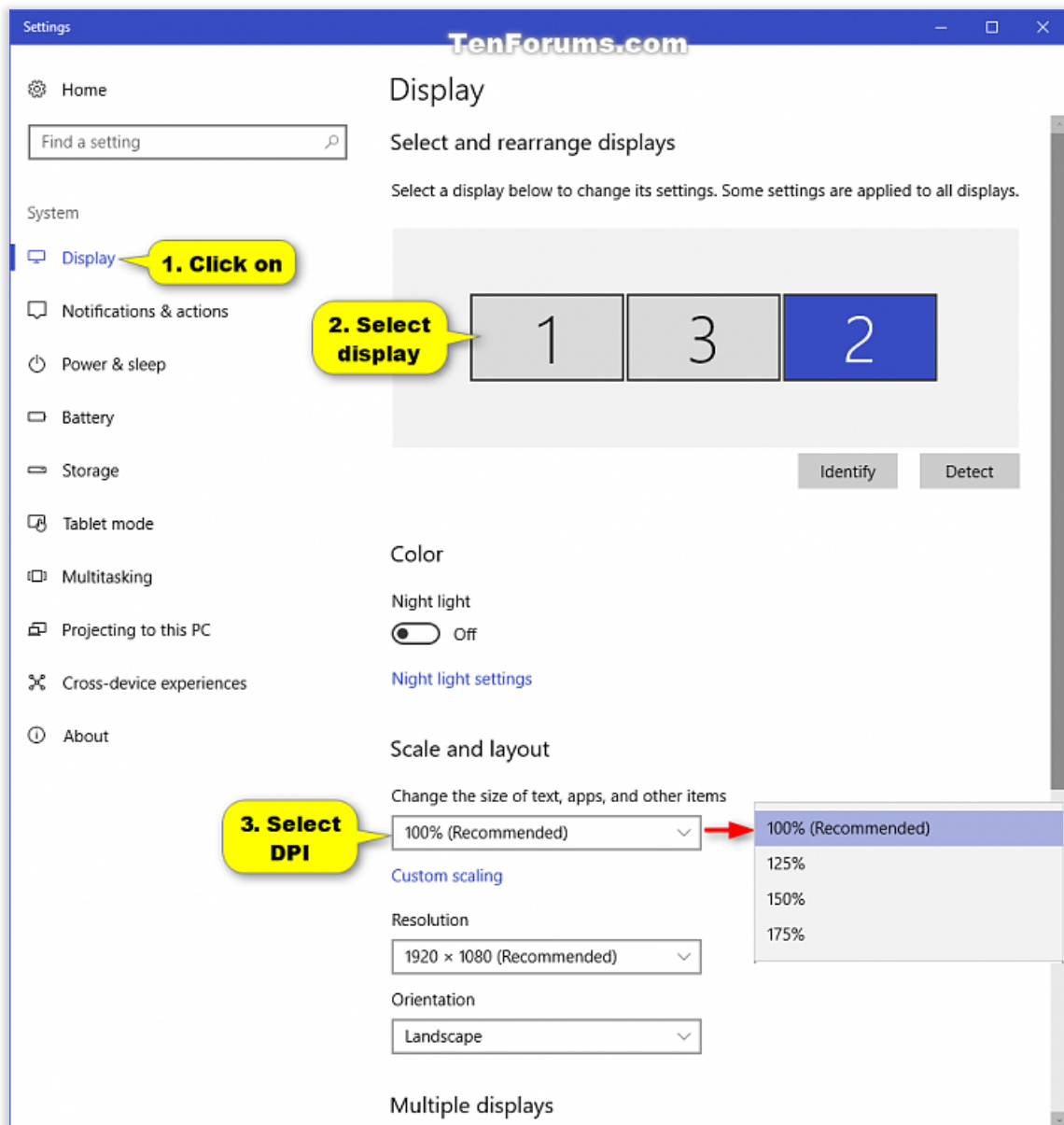
5 If you have more than one display connected to your PC, then select a **display** at the top on the right side that you want to change the DPI of. (see screenshot below [step 6](#))

 If all your displays are not shown, then click/tap on the **Detect** link to see if Windows can find it. If you are not sure which display belongs to what number, then you can click/tap on the **Identify** link to have each display's number briefly appear on each display to see.


6 Under **Change the size of text, apps, and other items**, select the DPI percentage from the drop down you want to set for that display. (see screenshot below)

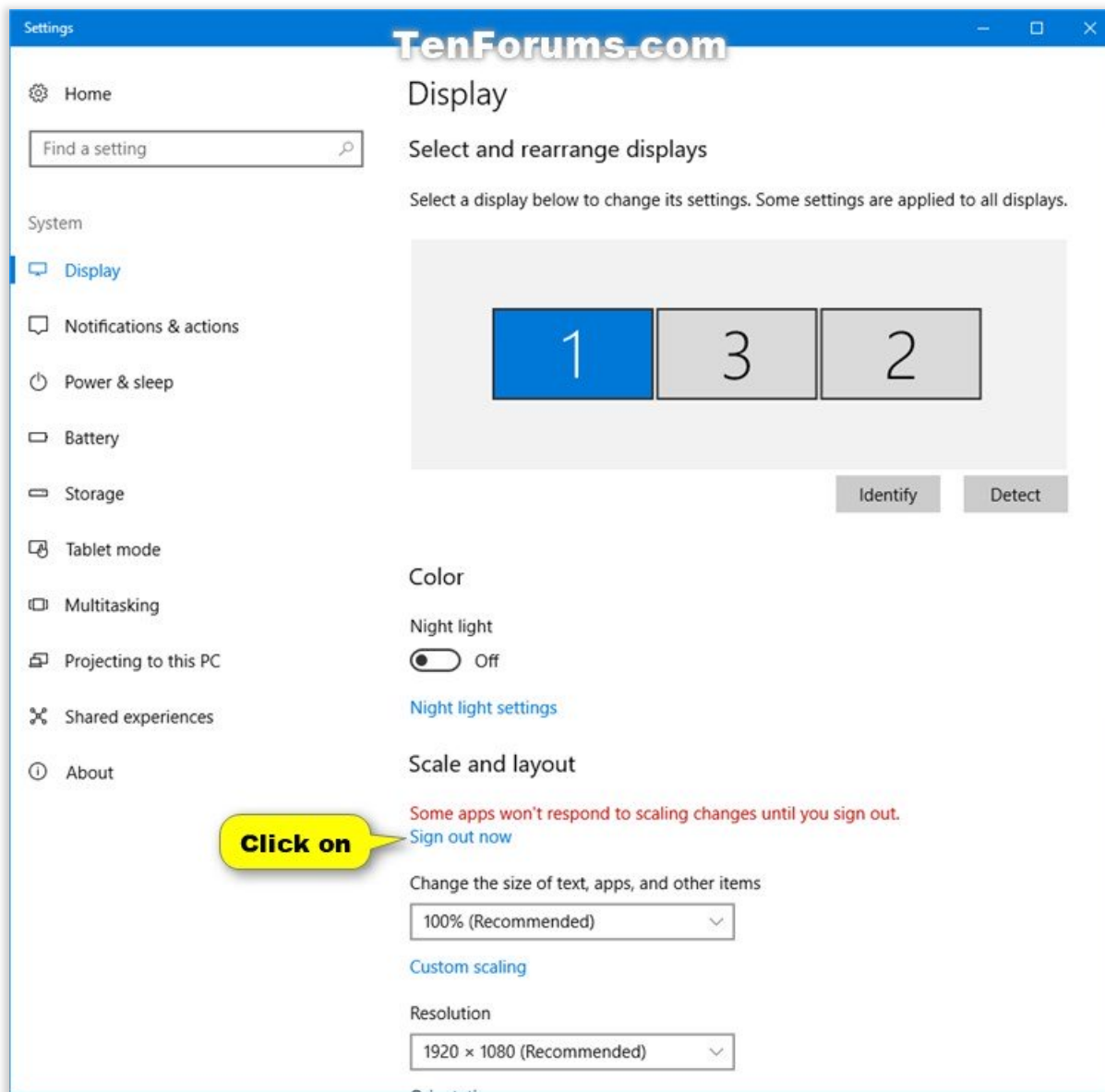
 This setting is stored as the **DpiValue** DWORD data value in a long subkey per display in the registry location below.

HKEY_CURRENT_USER\Control Panel\Desktop\PerMonitorSettings



7 Click/tap on the **Sign out now** link to apply. (see screenshot below)

 Starting with **Windows 10 build 17083**, your DPI scaling changes are applied instantly without the need to sign out.

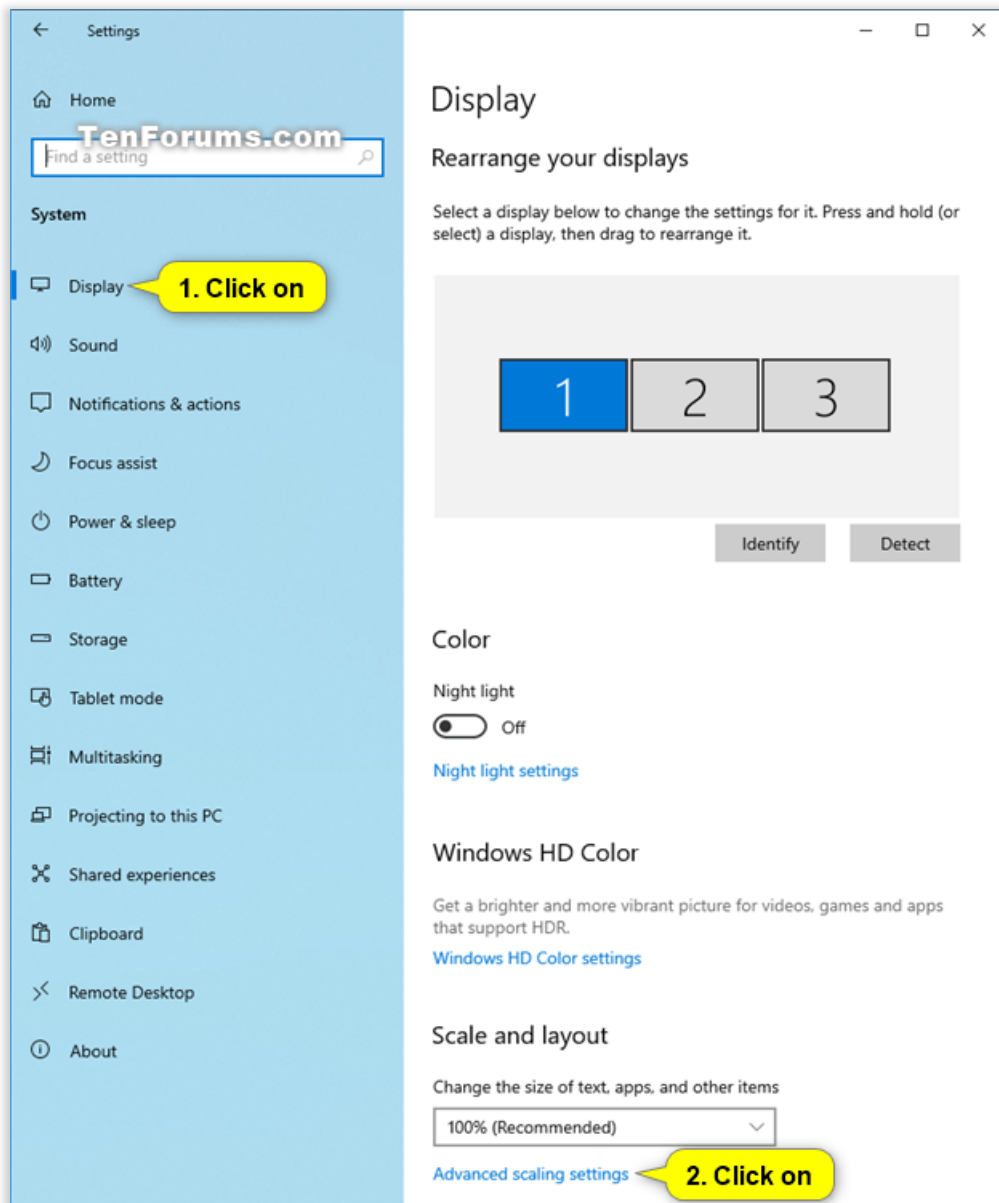


OPTION TWO

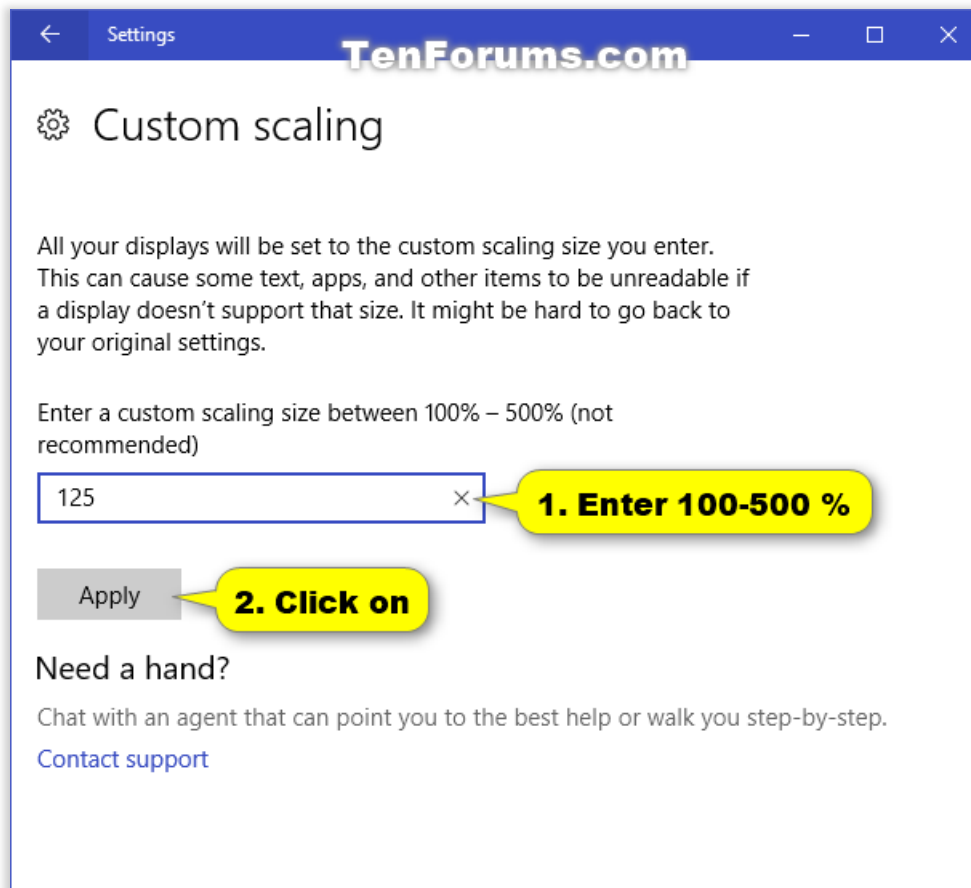
To Set Custom DPI Scaling Level for All Displays in Settings

 This option is only available starting with **Windows 10 build 15019**.

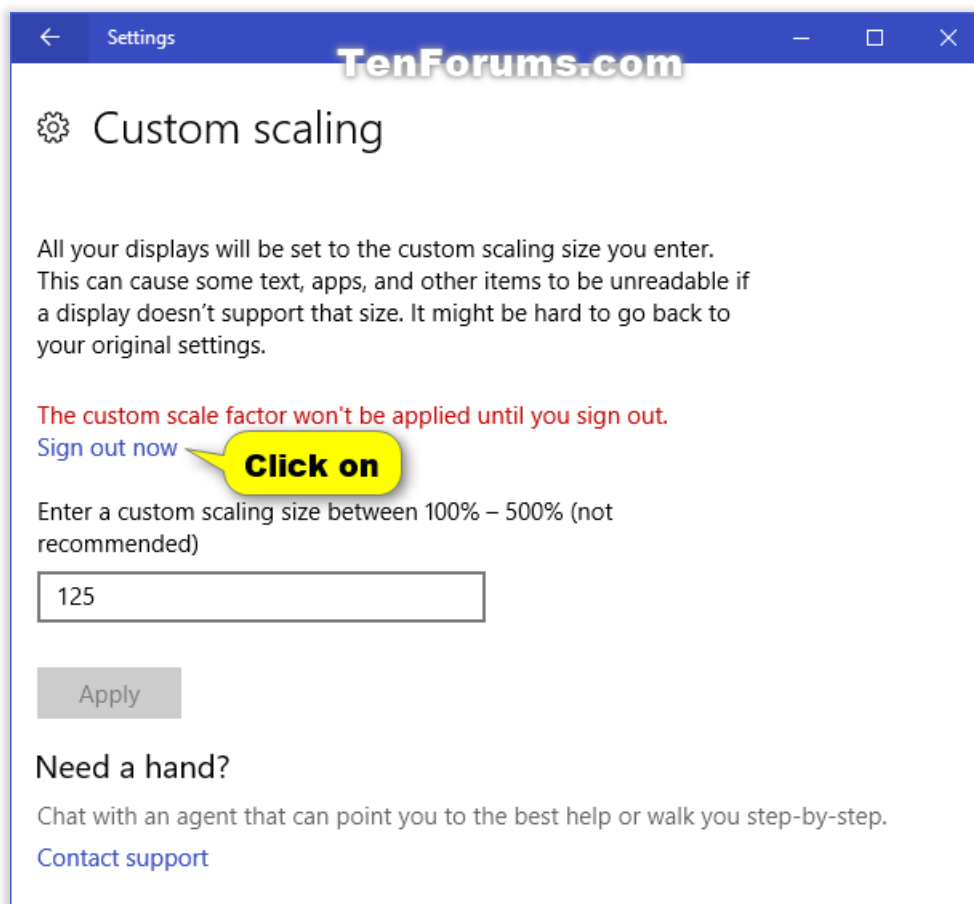
- 1 Open **Settings**, and click/tap on the **System** icon.
- 2 Click/tap on **Display** on the left side, and click/tap on the **Advanced scaling settings** link under **Scale and layout** on the right side. (see screenshot below)



3 Enter a custom scaling size between **100-500** % you want for all displays, and click/tap on **Apply**. (see screenshot below)

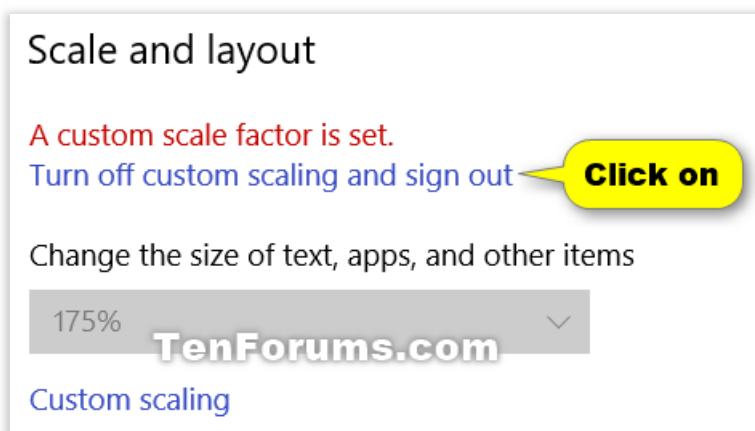


- 4 Click/tap on **Sign out now** to apply. (see screenshot below)



To turn off custom scaling:

- A) Open **Settings**, and click/tap on the **System** icon.
- B) Click/tap on **Display** on the left side, and click/tap on the **Turn off custom scaling and sign out** link under **Scale and layout** on the right side. (see screenshot below)

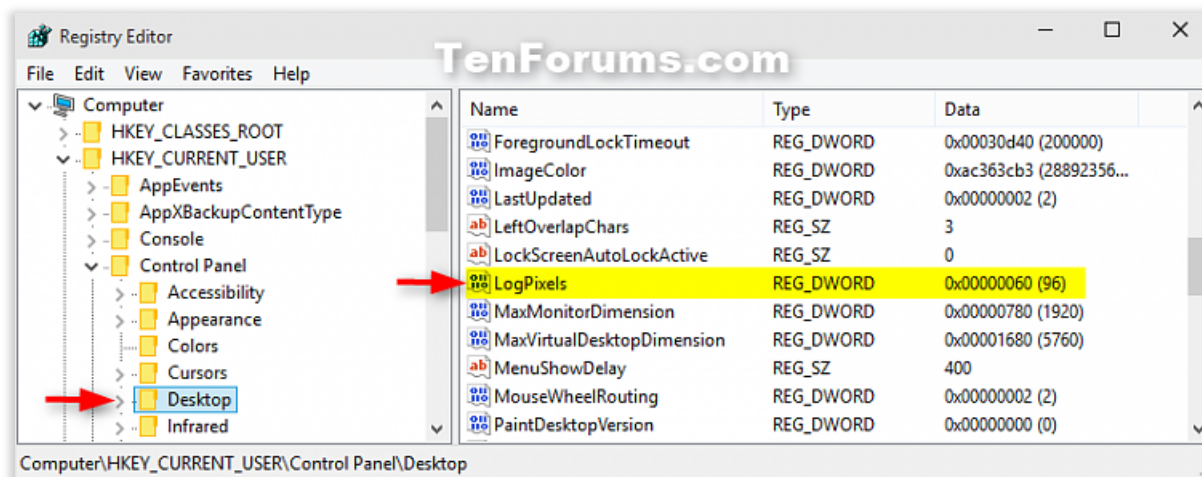


OPTION THREE

To Set Custom DPI Scaling Level for All Displays in Registry Editor

- 1 Type **regedit** in the search box (Win+S) on the Start menu or taskbar, and click/tap on **OK** to open Registry Editor.
- 2 If prompted by **UAC**, click/tap on **Yes**.
- 3 In Registry Editor, navigate to the location below. (see screenshot below)

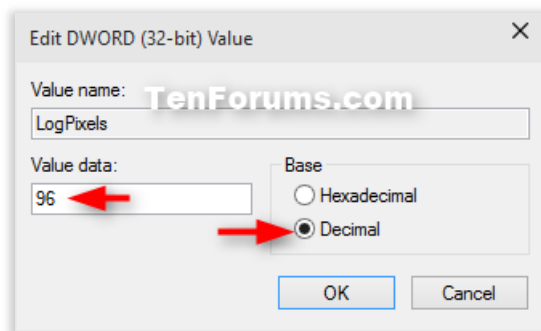
HKEY_CURRENT_USER\Control Panel\Desktop



- 4 In the right pane of the **Desktop** key, double click/tap on the **LogPixels** DWORD to modify it. (see screenshot above)

✍ If the **LogPixels** DWORD doesn't exist, then right click or press and hold on an empty area in the right pane of the **Desktop** key, click/tap on **New**, click/tap on **DWORD (32-bit) Value**, type **LogPixels**, and press **Enter**.


- 5 Select (dot) **Decimal**, type in the value data from the table below for the DPI scaling level you want, and click/tap on **OK**. (see screenshot below)

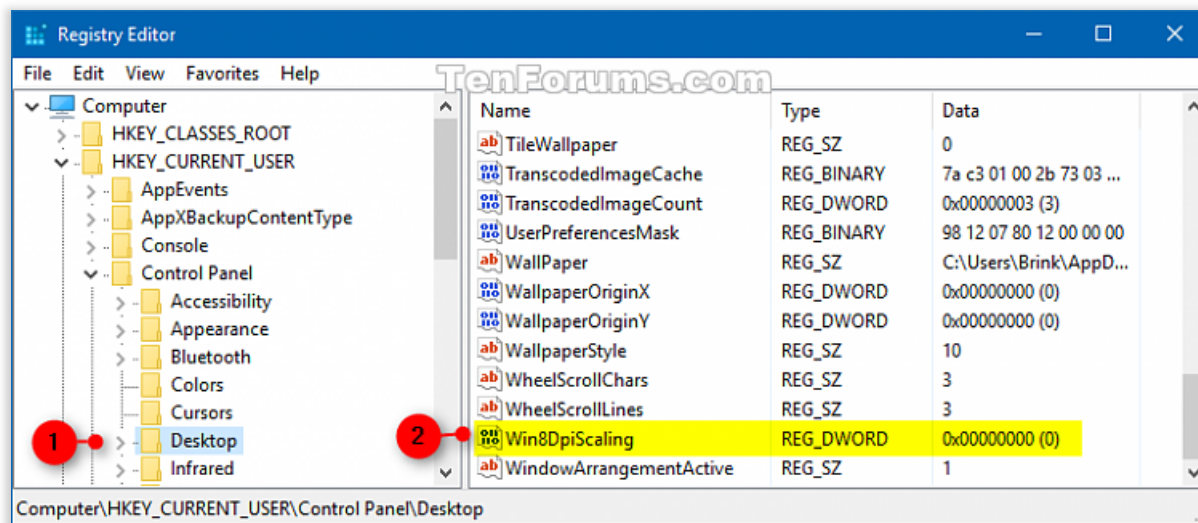


DPI Scaling Level	Value data
Smaller 100% (default)	96

Larger 150%	144
Extra Large 200%	192
Custom 250%	240
Custom 300%	288
Custom 400%	384
Custom 500%	480

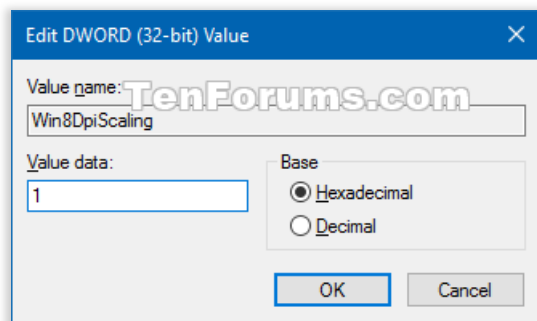
6 In the right pane of the **Desktop** key, double click/tap on the **Win8DpiScaling** DWORD to modify it. (see screenshot below)

 If the **Win8DpiScaling** DWORD doesn't exist, then right click or press and hold on an empty area in the right pane of the **Desktop** key, click/tap on **New**, click/tap on **DWORD (32-bit) Value**, type **Win8DpiScaling**, and press **Enter**.



7 Type **0** or **1** for the value data based on the table below, and click/tap on **OK**. (see screenshot below)

Value data	Description
0	Enter 0 if you used 96 in step 5 for no custom DPI scaling.
1	Enter 1 if you used any other size in step 5 for custom DPI scaling.



8 Close Registry Editor

- 9 **Sign out** and **sign in** to Windows to apply.

OPTION FOUR

To Restore Default DPI Scaling Level for All Displays using a REG file

- 1 Click/tap on the Download button below to download the file below.

Restore_Default_DPI_in_Windows_10.reg



- 2 Save the .reg file to your desktop.
- 3 Double click/tap on the downloaded .reg file to merge it.
- 4 When prompted, click/tap on **Run, Yes (UAC), Yes**, and **OK** to approve the merge.
- 5 **Sign out** and **sign in** to Windows to apply.
- 6 You can now delete the downloaded .reg file if you like.

That's it,
Shawn

Related Tutorials

- [How to Change Screen Resolution of Displays in Windows 10](#)
- [How to Change Screen Refresh Rate of a Display in Windows 10](#)
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- [How to Turn On or Off Fix Scaling for Apps that are Blurry in Windows 10](#)
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Joanne

Posts : 585

Windows 10 Pro
64bit; Windows 10
TP; KDE Neon

06 Aug 2015

#1

Brink, can I ask you something just out of curiosity?

Your option 3, To Set Custom DPI Scaling Level for All Displays in Control Panel, after the .reg file has been applied, does it change the size of the Taskbar and Start Menu items', as well? So, if after applying the .reg file, you set a Custom DPI of 125%, will that get applied to the Start Menu items and the Taskbar icons, too?

Because when I've tried the custom DPI setting on Win 10 Pro, without your .reg file applied, it changed the text size in the menus but not on the Start Menu and the Taskbar.

Thank you.

 My Computers ▾

Quote



Brink

Posts : 48,165

64-bit Windows 10
Pro for
Workstations build
196124

Thread Starter

06 Aug 2015

#2

Hello Joanne, :)

The selected DPI would be applied to everything. Did you sign out/in or restart afterwards to fully apply?

The .reg file option is removed now, since it no longer has any affect though.

 My Computers ▾

Quote



Joanne

06 Aug 2015

#3

Windows 10 Pro
64bit; Windows 10
TP; KDE Neon

Ah yes, you are right Brink, I'm sorry.

The custom DPI setting does increase the size of everything. It does not resolve the blurry text issue on all those windows components and menus, though. I've already resolved this. Got confused, sorry.

:)

 My Computers ▾

Quote



Brink

Posts : [48,165](#)
64-bit Windows 10
Pro for
Workstations build
196124
Thread Starter

[06 Aug 2015](#)

#4

Yeah, it would be nice to set a custom SPI without risk of slightly blurry text.

 My Computers ▾

Quote



AmigaRoots

Posts : [73](#)
Windows 10 x64
Pro

[12 Aug 2015](#)

#5

Unfortunately, the DPI problem in Windows 10 is very serious. I have many system windows and non-Microsoft programs that are extremely blurry. Using 125% DPI and the "Let me choose one scaling level for all my displays" setting which helped, is gone.

[This](#) is the only solution that currently works for me - it seems that with every new Windows edition, more and more hacks and workarounds are required to make it work sanely.

Interesting [info](#) here too, and an alternative fix.

 My Computer ▾

Quote



him

Posts : [31](#)
Windows 7
Ultimate x64

[19 Aug 2015](#)

#6

DPI scaling issue? Or something else?

Guys, hoping that you will be able to help.

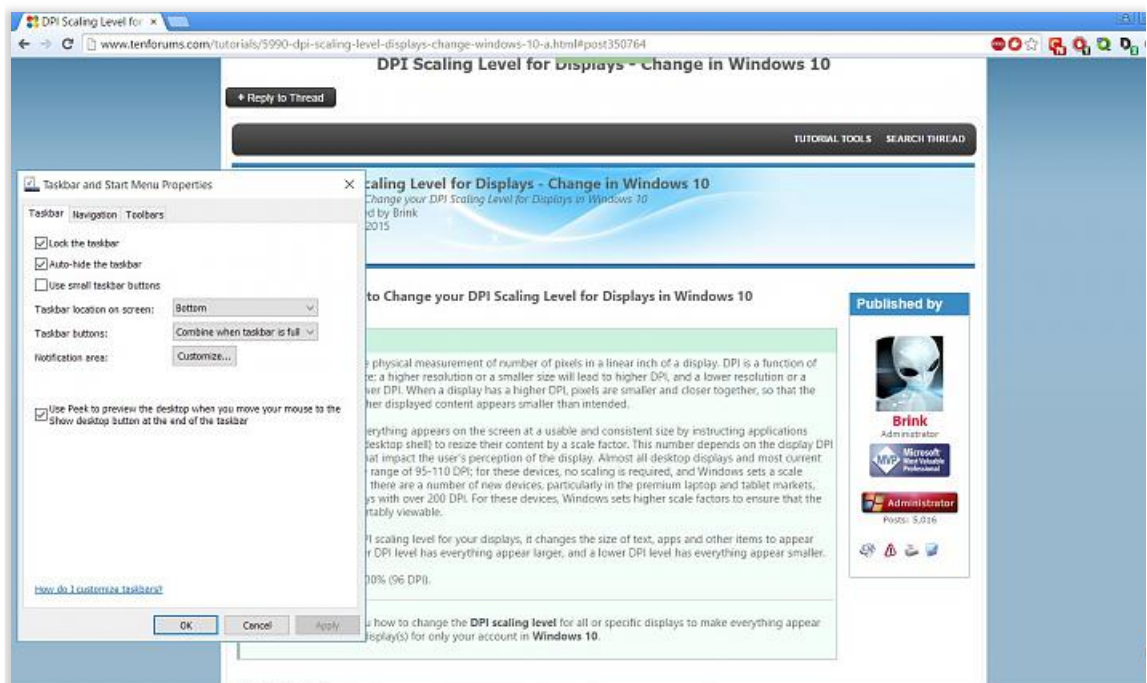
I have tried all settings/tools available - WinAero Tweaker, [Xplorer DPI](#) and the Registry trick from this thread. However, the blurry text issue is not solved. Any thoughts could it be related to hardware/driver issue in my case (please see PC specs under my name/profile)? The display hardware is ATI HD 6650 which is built into the APU A8-3850. The PC is about 3~3.5 yrs old now. Also, the monitor is working on VGA rather than DVI, ever since my graphics card conked off (Sapphire ATI HD 7750).

Please provide your thoughts.

Update:

Mild OC was enabled in the BIOS. The figure was set to 105% of CPU speed. This worked fine with dedicated graphics card. However, with in-built graphics, this does not seem to work. I remember this issue long back too with Win 7. When I increased the percentage to 101 or more, the font would become blurry. This is same issue with Win 10.

Now, I have set the frequency to 100% and the fonts are much better. I cannot say that they are great, but they are much better. As someone mentioned, Win 10 bumps the DPI to 125% by default. So, everything seems bigger, but is also not as crisp. Hope this helps others who may have similar issues.



Last edited by him; 19 Aug 2015 at 12:42. **Reason:** Improvement in situation

My Computer

Quote

Today's Refinance Rate

2.59%

APR

Calculate Payment

Terms & Conditions apply. NMLS#1136

15-Year Fixed	2.50%	2.59% APR
30-Year Fixed	2.75%	2.97% APR
5/1 ARM	3.00%	3.17% APR
\$225,000 (5/1 ARM)	\$1,054/mo	3.17% APR
\$350,000 (5/1 ARM)	\$1,476/mo	3.19% APR

**It's better to bundle**

Changing addresses? Bundle home & auto with Allstate & save up to 25%.

Ad Allstate

**Brink**

Posts : 48,165

64-bit Windows 10
Pro for
Workstations build
196124

Thread Starter

19 Aug 2015

#7

Hello him,

The VGA connection doesn't help, but anytime you change the DPI, I've noticed text to be a bit blurry. It appears to be a bug from not using the recommended (default) DPI and screen resolution. 😞

My Computers ▾

Quote

**Kumar**

Posts : 7

Windows 10

22 Aug 2015

#8

Using a Monoprice 30" monitor capable of 2560x1600 resolution connected with an HDMI cable to my PC video card.

Followed your steps to set custom scaling level to 150%. This is necessary to make various windows and fonts legible on this large high resolution monitor. But this results in my resolution (as reported by Speccy) to fall from 2560x1600 to 1707x1067. [Control Panel shows screen resolution set at the native 2560x1600, as does the NVidia Control Panel.] If I remember right, this did not happen with Windows 7.

How can I have larger legible fonts in all the programs and the desktop and still keep my resolution at 2560x1600?

My Computer ▾

Quote

22 Aug 2015

#9

Brink

Posts : 48,165
 64-bit Windows 10
 Pro for
 Workstations build
 19H1
 Thread Starter

Hello Kumar, and welcome to Ten Forums. :)

It may be an incompatibility issue with Speccy if it's showing the correct resolution in Settings and the Control Panel.

I'm afraid that it seems blurry text is a side effect of setting a higher DPI so far. You might see if playing with different combinations of DPI and resolution settings may help. In addition, make sure you have the latest video driver installed. Next, you might all see if using the **ClearType Text Tuner** may help.

 **My Computers** ▾

 **Quote**

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How to Hide or Show Taskbar on Multiple Displays in Windows 10 Windows includes a special application desktop toolbar called the taskbar that shows on the bottom of a display screen by default. The taskbar allows you to find, see, open, and...

HiDPI Displays in General Support

So, I've been on Windows 10 for all of two days now. I've tried out a few of the programs that were driving me nuts in Windows 7/8 when it comes to HiDPI scaling on apps not "designed" with HiDPI in mind. Turns out Windows 10 is no different. Is...

Can We Guess Your Level Of Education? in Chillout Room

Can We Guess Your Level Of Education? I think my results were pretty good considering having only a grade 12 diploma....

One one of two displays works -- hardware issue in Drivers and Hardware

Got fed up with the daily CHKDSKs on my Win10TP install so I "cleaned" the drive and reinstalled using build 9879. First thing I noticed is that, unlike

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