

# Enhance LCD screen clarity with ClearType technology

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**ClearType is a font smoothing technology, built into Windows, developed by Microsoft itself to make text easier to read on the LCD screen. If the text being read on the computer is blurred, tweaking the ClearType settings can definitely improve the situation.**

Some problems can cause slight blurring on the text, making it difficult to read. New users often use the native resolution of the screen, this resolution is also used by Windows by default. But some games, other applications can reduce it and not reset the resolution when turned off. In addition, Windows does not always handle high-resolution screens well without some tweaking.

In this article, TipsMake.com will guide you to use the built-in ClearType tool in Windows 7, Windows 8 and Windows 10. If you are using Windows Vista, XP you need to download ClearType Tuner PowerToy and follow The instructions in this article. It works similar to the built-in toolkit on Windows.

**Please refer to the article:**

1. Using ClearType Tuner in Windows 7
2. Adjust screen resolution on Windows 10/8/7

## What is ClearType?

ClearType is the font smoothing technology introduced by Microsoft for the first time on Windows XP. It is designed to smooth fonts on the screen with Sub-pixel rendering (a way to increase clarity on the liquid crystal display of a computer screen) so that they will be easier to read.

This technology is built on the research achievements of font display technology, which has been pursued by Microsoft experts since the 90s. Copyrighted to develop Apple TrueType font, expert team of Microsoft has spent nearly two years studying the combination of font formats and user psychology. The conclusion given is that reading is also a form of pattern recognition. The reader only really "reads" when the word recognition process becomes an unconscious task and the conscious part is free to grasp the meaning of the word.

Going a step further, Microsoft experts found that the word recognition process was only truly unconscious when typographical elements, such as shape, density, distance between characters . coordinated so that they are really easy to read. Capturing these results, Microsoft began conducting research on how typography displays on

liquid crystal displays.

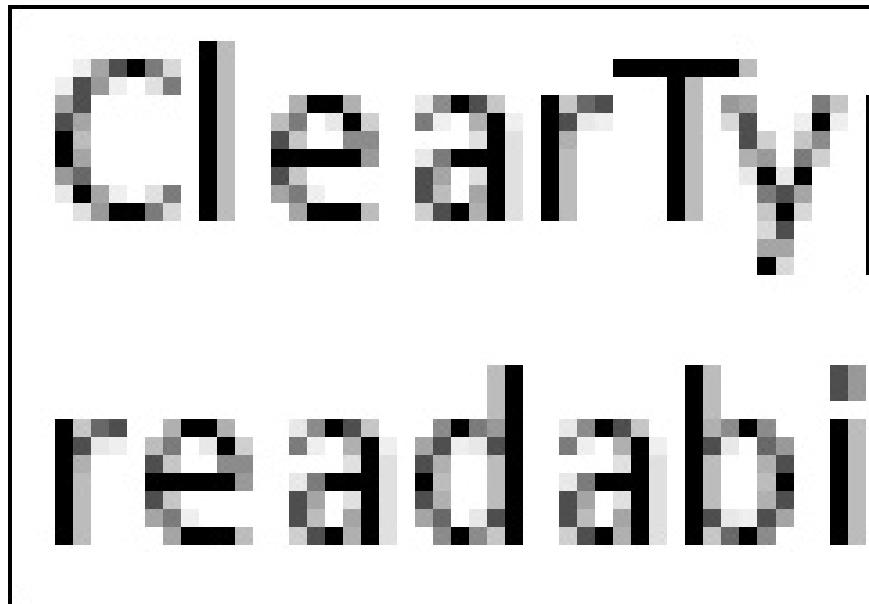
## How does ClearType work?

To understand how ClearType works, we must first understand the difference between LCD screens and other screen types. Most screen types create images through the arrangement of pixels (pixels). A pixel on the LCD screen is composed of three other "sub-pixels": one red (Red), one green (Green) and one blue (Blue) ( RGB color system) (picture below). The eye is often invisible and we can only detect this structure when looking through magnifying glass panels.

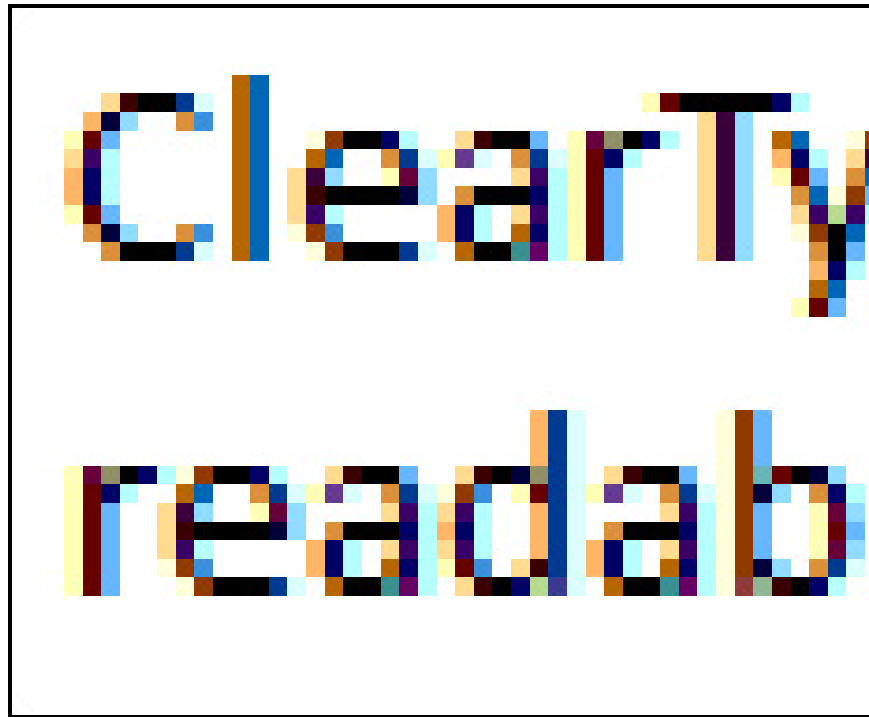
Traditional computer screens implicitly understand pixels in either "on" or "off" (on / off) modes in the form of small black squares. The characters that appear on the screen are created by many small squares (pixels) like that. The actual "skip" of each pixel has an internal structure, the traditional screen only pays attention to the smoothness of the body of the font, regardless of the sharpness of the edges.

Therefore, fonts with old technology look jagged, smooth contours and "pixel" on the LCD screen, but watch normally on CRT monitors.

ClearType uses multiple colors on text to make the text easier to read, while traditional text rendering technology only displays black pixels, colors often appear jagged on the LCD screen. So, at 500% magnification, standard-built text will look like this:



When ClearType is enabled, the text will look like the image below. You will notice the shadows around the colored characters, making them smoother on the LCD screen.



When scaling the text to normal, the difference in text will be clearly shown in the two scenarios that turn on and off ClearType.

ClearType is a software readability of text on e Pocket PC screens and on your computer scre paper.

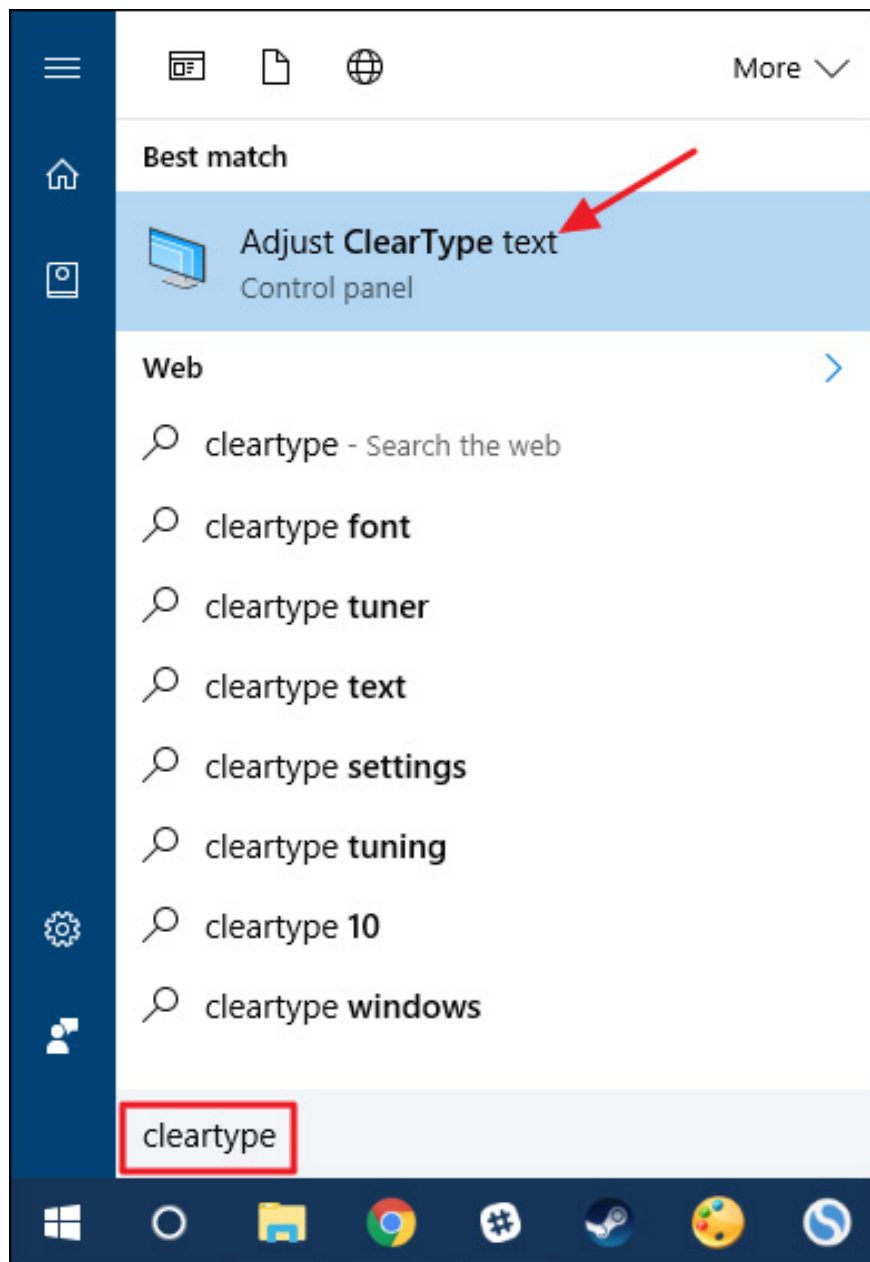
ClearType is a software  
readability of text on e  
Pocket PC screens and  
on your computer scre  
paper.

*Shrink text in normal mode before and after ClearType is turned on*

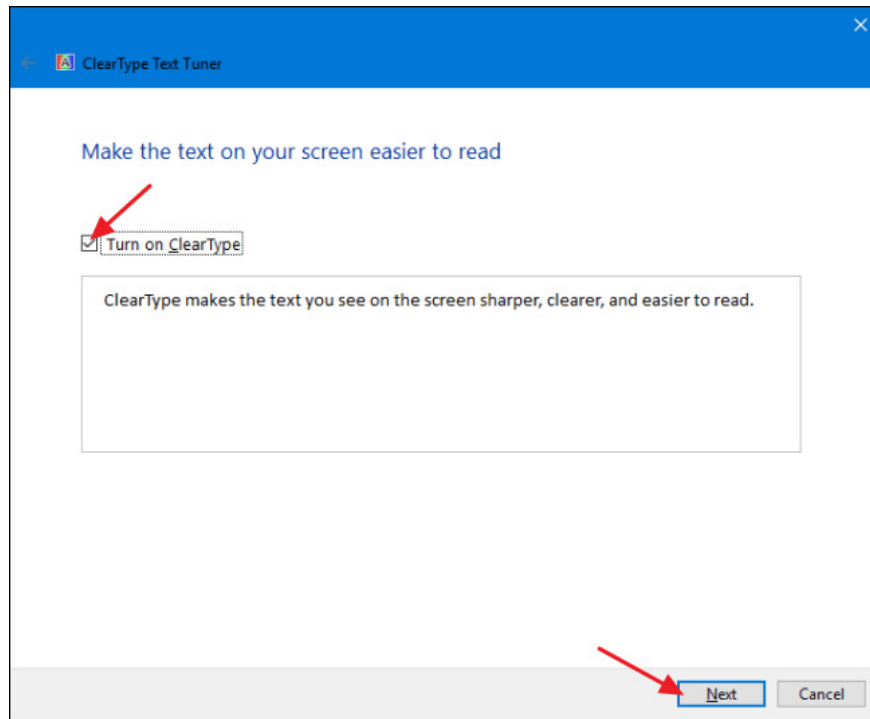
ClearType solves the defects on the LCD screen thanks to the sub-pixel display quality, the characters displayed are not only smooth at the body, but also at the corners and edges.

## **How to turn on and off ClearType**

ClearType is enabled by default on Windows 7, Windows 8 and Windows 10. To enable or disable ClearType, you need to start ClearType Text Tuner. **Go to Start** , type " *ClearType* " and select **Adjust ClearType Text** .



To change the mode of ClearType, simply check the **Turn on ClearType** checkbox and click **Next** .

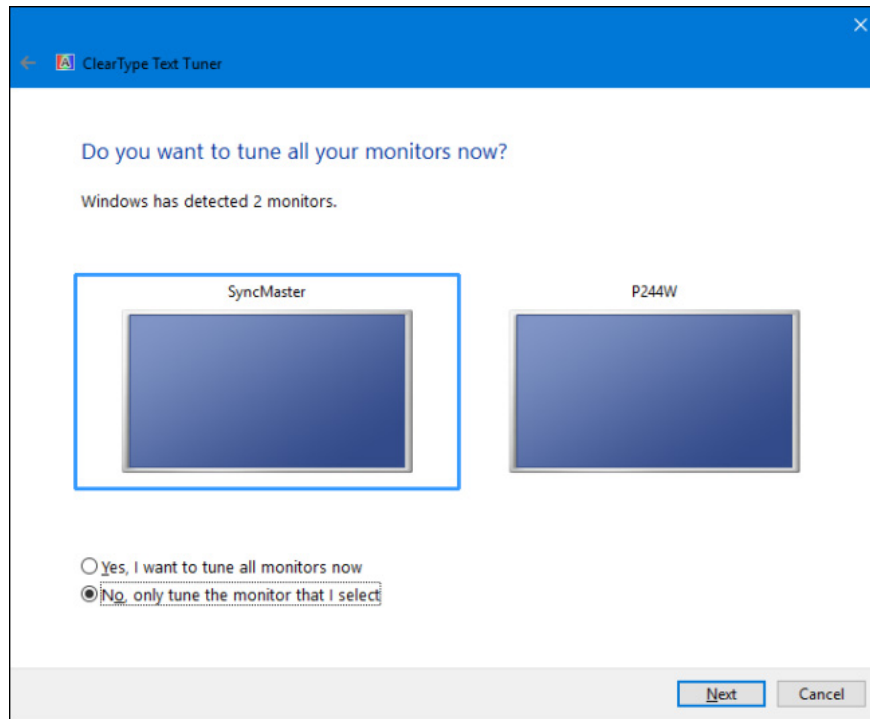


If you are turning off ClearType, the wizard will work and complete almost the entire ClearType tweaking process, then you just need to finish and save the settings.

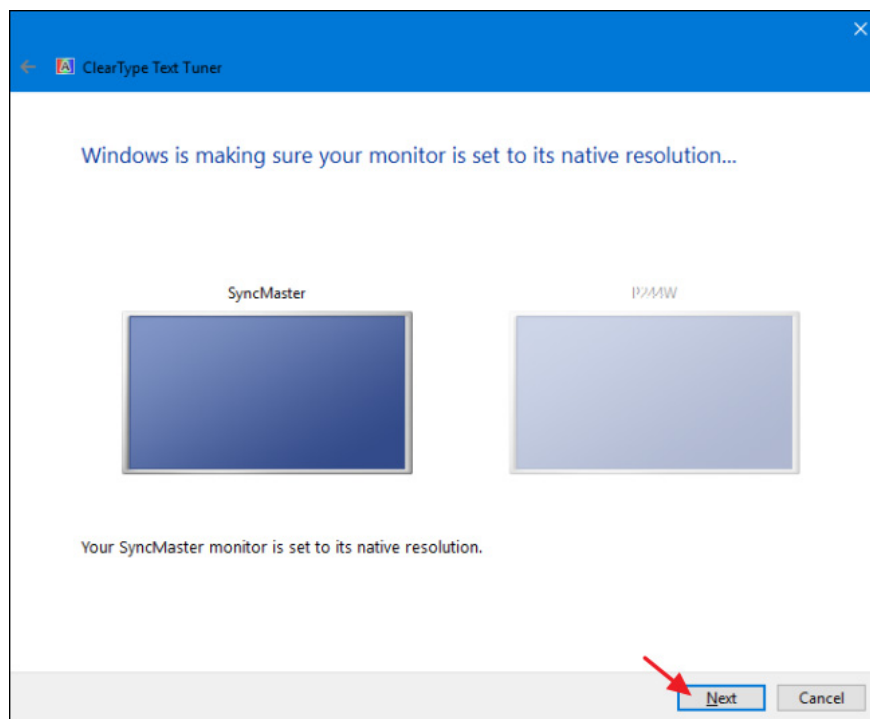
If you are turning ClearType to on or just want to tweak it, the wizard will help you take a step-by-step process and we will also explain in detail below.

## Refine ClearType for computer screens

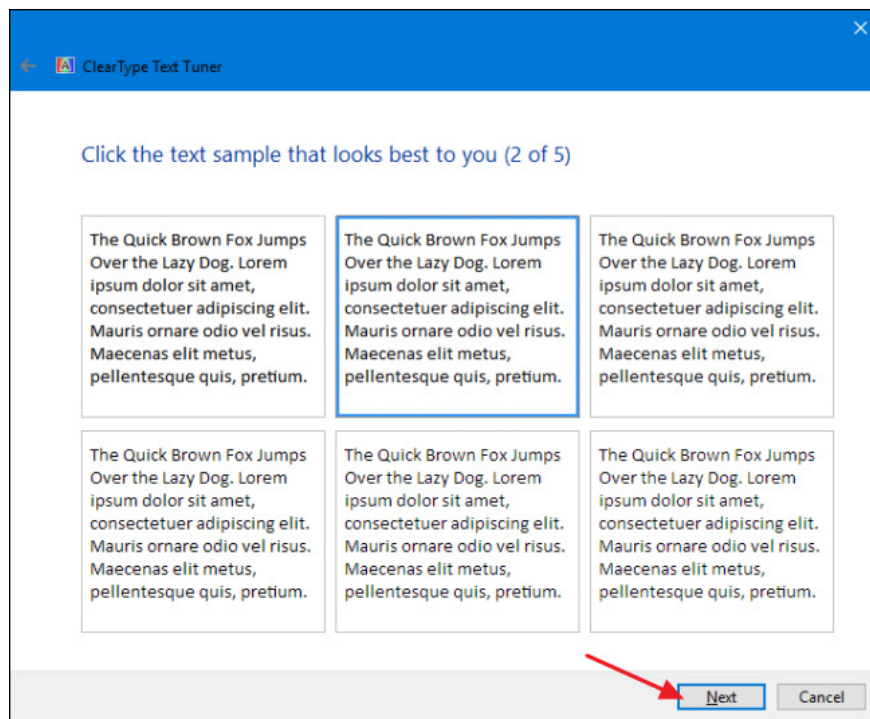
In ClearType Text Tuner, when the **Turn on ClearType option** is enabled and click **Next** , you will get the opportunity to tweak the ClearType for the screen. If there is more than one screen, it is possible to adjust them all in turn, or just the screen needed. This article only adjusts one screen, because the tool will work the same for fine-tuning all screens. If the computer is connected to only one monitor, the following window will not be displayed.



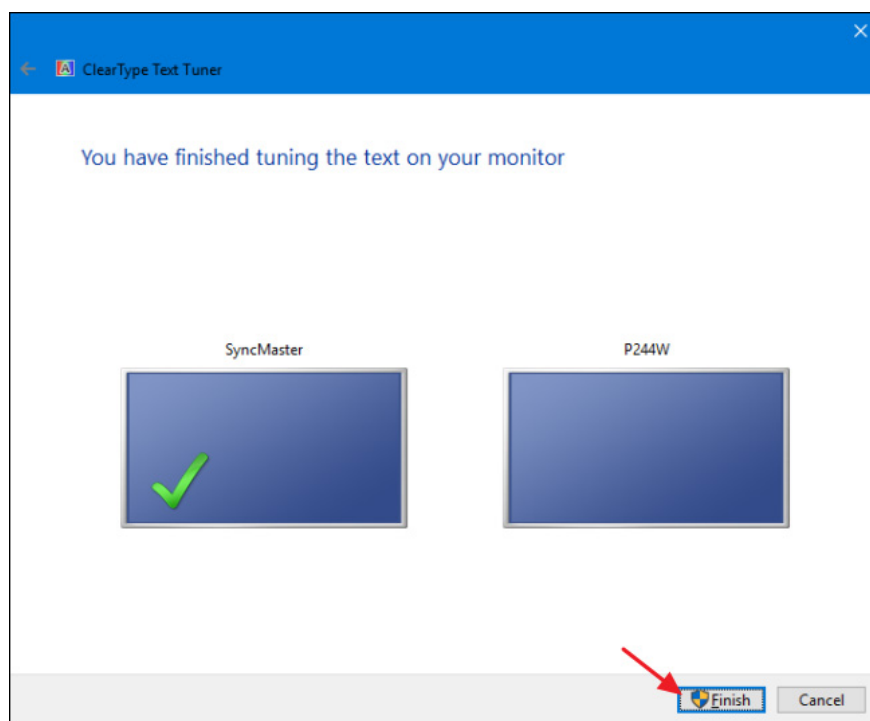
The first thing that ClearType does is make sure the screen is set at its native resolution. If not, you need to bring the current resolution to this level.



Next, there will appear 4 to 5 small frames (depending on the version of Windows) that require text selection to look the best in the given models. The template being used on the current screen will be highlighted, but you can change it to suit your needs, then click **Next**.



When finished, click **Finish** , the ClearType window will close. If you perform fine tuning on multiple screens, you will be redo the above steps.



ClearType tweaking can definitely help you find the best text template for your screen. Although there are no problems with blurring on the text border, you may still want to look through the options when adjusting to optimize the reading experience on your computer screen.

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