## Optimizing LCD Displays

Environment: *Windows XP, 2000*

LCD displays are great, they take up very little space and typically look very sharp and bright compared to CRT's they are replacing. However, the number one complaint when moving from CRT to LCD is the desktop and fonts look too small to many users when setup optimally. This article will explain the optimum way to setup an LCD monitor and provide tips on getting the best experience from it.

Native Resolution

The first thing to understand is that an LCD panel (unlike a CRT) has a native resolution, that is the panel is made up thousands or even millions of individual pixels that light up or turn off. Therefore the LCD panel will state on the box or in the documentation what the native resolution is. A panel that has a 1024x768 native resolution has 1024 pixels across and 768 pixels down (786,432 dots). As a result, your screen resolution that is set in Windows should be set to 1024x768. If the pane's native resolution is 1280x1024 then set your resolution to that.
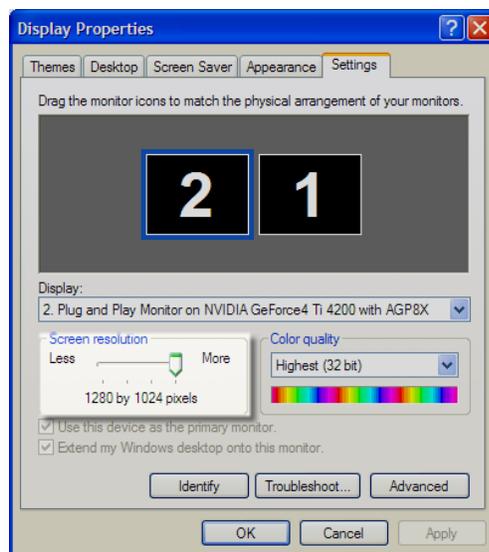

This is done by right-clicking on the desktop, go to Properties, Settings, then adjusting the resolution slider bar (see below).

Often doing this will make a noticeable difference in the sharpness of text on your screen because setting the resolution to anything lower than the native resolution (higher is not possible) will result in a display that must interpolate your screen image – i.e. more than one physical pixel is used to represent a single pixel of display image. This will result in blocky looking, or not smooth looking text and graphics. Some panels deal with this better than others so your mileage may vary.

Enlarging Small Fonts in Native Resolution

So if you've set your LCD to the optimum Native Resolution but everything looks small, here's what you need to do:
1. Right click on the desktop, select *Properties, Settings, Advanced*. On the General tab, locate the "DPI setting" dropdown box. This will say Normal size (96 DPI) by default, choose Large size (120 DPI) instead and restart your computer if asked. What this does is enlarge everything; fonts, icons, menus, etc. You can also designate a custom size but try 120 DPI first, this usually will give you just the increase in size you desire.
2. Right click on the desktop, select *Properties, Appearance*. On the Font size dropdown, choose Large fonts instead of the default Normal. This will increase the size of most fonts and may also be desirable.
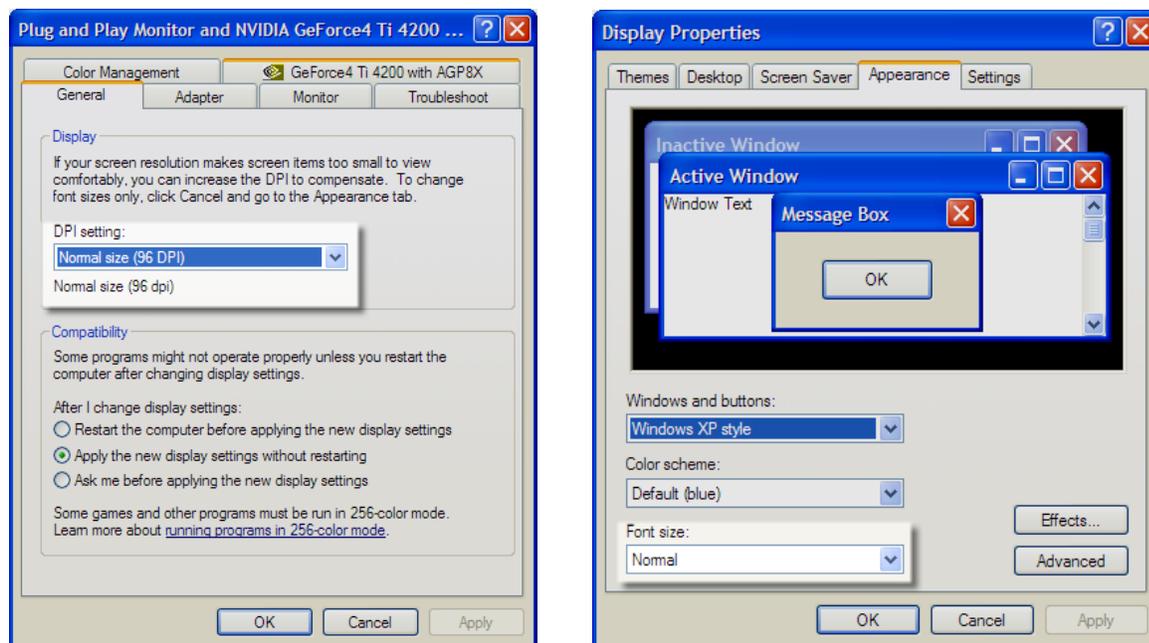
Recommendation: Don't adjust fonts or DPI too large since that reduces what you can fit on your screen but this method is preferred over lowering screen resolution as previously discussed.

ClearType Tuning for Smoothing

The previous adjustments may be all that you need to get a great looking LCD display setup. But sometimes a little smoothing will make things look even better so I recommend you try Microsoft's ClearType Tuning utility (works with XP and 2000). This free utility is available as a web-based utility or to download and install into your Windows Control Panel utilities.

Web version: http://www.microsoft.com/typography/cleartype/tuner/Step1.aspx
Download version: http://www.microsoft.com/typography/ClearTypePowerToy.mspx

If these links change, just search Google or Microsoft.com for "cleartype" and you will find it.
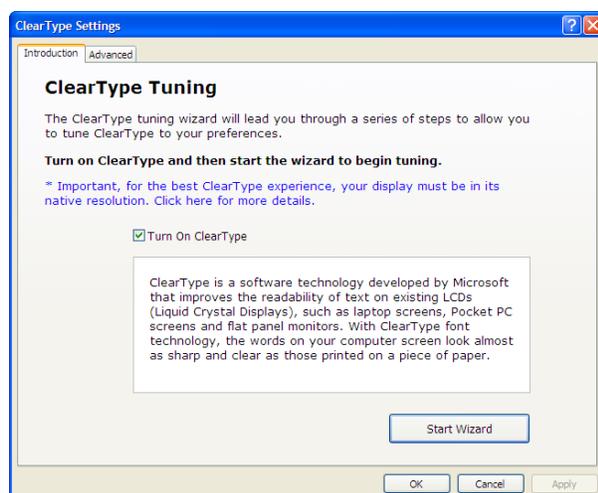
The web version installs an ActiveX control and walks you through the adjustment procedure. If you download the utility, you will find a *ClearType Tuner* icon in your control panel. Run it and respond to the questions – kind of like an eye exam; which one looks better, etc. By responding and "tuning" your display to your eyes and turning the feature on or off you will see the difference as it smooths the fonts which is especially helpful on LCD displays because text can sometimes look stair-stepped or jagged, especially noticeable with *italicized* fonts.