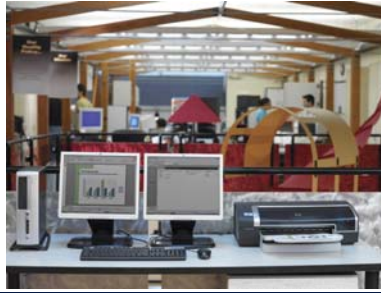


# TFT-LCD flat panel monitor image retention



TFT-LCD flat panel monitors are one of the most advanced display technologies on the market today. As with many cutting-edge technological advancements, however, there are some negative side effects involved. One of these is a phenomenon known as image retention or temporary image persistence. The problem occurs when a static image becomes "stuck" and leaves a faint "ghost" or shadow imprint on the screen. In most instances, this does not permanently damage the screen and can be easily reversed or prevented by taking some simple steps. Unfortunately, in some rare cases it may not be reversible. Here are some basic tips on how you can prevent, minimize, or correct image retention.

## Use a screensaver

Most users will rarely experience image retention with their flat panel monitor. The chances further lessen if the use of static images is limited to less than five hours at any one time. Usage that lasts more than five hours will increase the possibility of this phenomenon and should be avoided to prevent this condition. HP recommends that you change the images on your computer screen periodically, or even better, employ the use of a random display screensaver. A screensaver helps prevent image retention by using rotating images on the screen when the display is not in active use. It can both prevent the occurrence of image retention and help reverse any residual effects once it has occurred.

## Use Sleep mode

To prevent image retention, activate Sleep mode when the monitor is not in use so the monitor doesn't hold a static image (Control Panel > Power Options).

## Use the whole screen

Another way to prevent image retention is to adjust your display settings so that the entire screen is used. If you have a black edge along any of the viewable margins, it may cause an image retention problem.

## Turn off the monitor

The easiest way to prevent image retention is to turn the monitor off when it's not in use. This also helps extend the monitor's lifespan and reduce power consumption and energy costs. Tools such as the HP Display LiteSaver utility make this even easier to do.

## Use HP Display LiteSaver utility

The HP Display LiteSaver utility is a software application that helps protect displays against image retention by enabling users to turn off/on their monitor's Sleep mode at predefined (user selectable) times. The HP Display LiteSaver utility is free and available for download on the hp.com support website, located at [h18007.www1.hp.com/support/files/monitors/us/download/22076.html](http://h18007.www1.hp.com/support/files/monitors/us/download/22076.html).

## Use HP LCD First-Aid utility

It is possible to correct image retention by retraining the pixels. The HP LCD First-Aid utility is a software application that uses full-screen test patterns to exercise the pixels and minimize retained (stuck) images. The HP LCD First-Aid utility is also free and available for download on the hp.com support website. Click on [welcome.hp.com/country/us/en/support.html?pageDisplay=drivers](http://welcome.hp.com/country/us/en/support.html?pageDisplay=drivers), select "Download drivers and software (and firmware)," type "LCD First-Aid" in the "For product" box provided, and then click on the ">>" button to perform the search.

## Prevention versus correction

Following these simple steps will help you get the best usage out of your flat panel monitor. While image retention is a disappointing problem to have—especially with a high-priced display system—the problem can be prevented.

Note that the tips provided above do not correct or reverse image retention within any specific time period. Elimination or reversal of image retention will vary according to usage, display settings, power settings, and environmental temperatures.

For more information on TFT-LCD technologies and HP flat panel monitors, please visit us on the Web at [www.hp.com/products/monitors](http://www.hp.com/products/monitors).

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