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Avoiding Burn-In On An Intelligent Display

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## Avoiding Burn-In On An Intelligent Display

Have you ever been bewildered by the ghost-like images or discolouration that appear on your phone screen, LCD monitor or any other intelligent display screens? You must have also noticed that these stubborn images are mostly found around the areas which have been constantly used or where images have been constantly projected, for example, navigation buttons on a phone or a channel logo on a TV channel.

This phenomenon is known as a screen burn-in.

So what is a burn-in? How is it caused? What should you do to avoid burn-in on an intelligent display? Let's find out.

### What is burn-in?

Burn-in is a visible mark that is left on an intelligent display and remains there even if the content changes on the display. In other words, it appears as if the images were permanently burned-in onto the screen, hence the name burn-in. The burn-in could be in the form of an image outline or a text outline or a discolouration.

### How is a burn-in caused?

The continuous display of static images over an extended period of time can create a permanent shadow or ghost of that image on the screen.

The common instances where you might find a burn-in on your intelligent display are:

- Channel logos from TV channels
- Navigation buttons or notification bar on your smart device
- Certain icons or banners on gaming console monitors

### Let's take a look at a more technical explanation for burn-in:

The images on an intelligent display are made up of thousands and thousands of picture elements or pixels. Each pixel is composed of three sub-pixels - red, blue, and green - which blend together to form various shades of colours. However, with time and prolonged use, the sub-pixels age and lose their intensity. Also, the sub-pixels have a varying lifecycle and do not age at the same rate. For example, the red pixels have the highest luminous efficiency, followed by the green and then the blue. Low luminous efficiency means that the blue pixels require more electricity to achieve the same level of brightness as the red or green one. The higher current causes the blue pixel to degrade faster, shortening its lifespan. This causes the blue pixel to not glow as brightly as the other two pixels. And this gradually shifts the colours of the screen in one area more than in other, leaving what looks like a ghost image or a discolouration behind.

## How to avoid a burn-in?

Burn-in makes the intelligent display screen start to look really bad. Let's take a look at the few steps you can do to avoid a burn-in on an intelligent display.

### ✔ Lower the brightness of your screen

Lowering the screen's brightness will improve the life of the display. LEDs wear out when they are being used and more brightness means more current. It is best to keep the brightness lower than 50% to minimise the risk of a burn-in.

### ✔ Turn down the amount of time that your screen stays on

Lowering the screen timeout not only saves battery life but also prevents a screen burn-in. Also using a black or moving screensaver lessens the chance of potential image retention issues. Turn the display off when you're not using the device.

### ✔ Use the sleep timer

Set the sleep timer if you are likely to fall asleep in front of your TV or bedroom smart display. This is to make sure that the screen does not stay on all night and damage your display.

### ✔ Change the wallpaper to black

Using a black wallpaper instead of bright wallpapers will not only solve the problem of burn-in but will also improve the battery performance of your device.

### ✔ Avoid leaving static images on

Change the screen content frequently. If there is a static image such as a logo or, say, a channel number on the screen, it is likely to get burned-in. The same goes for camera surveillance type systems. Turn the screen off or change to a different input and display every now and then to help keep the image from getting burned-in.

### ✔ Use an immersive full-screen mode

Change to an immersive full-screen mode if available. This will remove the top and bottom bars.

### ✔ Remove any static navigation icons

There are certain applications that can remove the navigation bar and add it back when needed.

### ✔ Keyboards with a darker theme

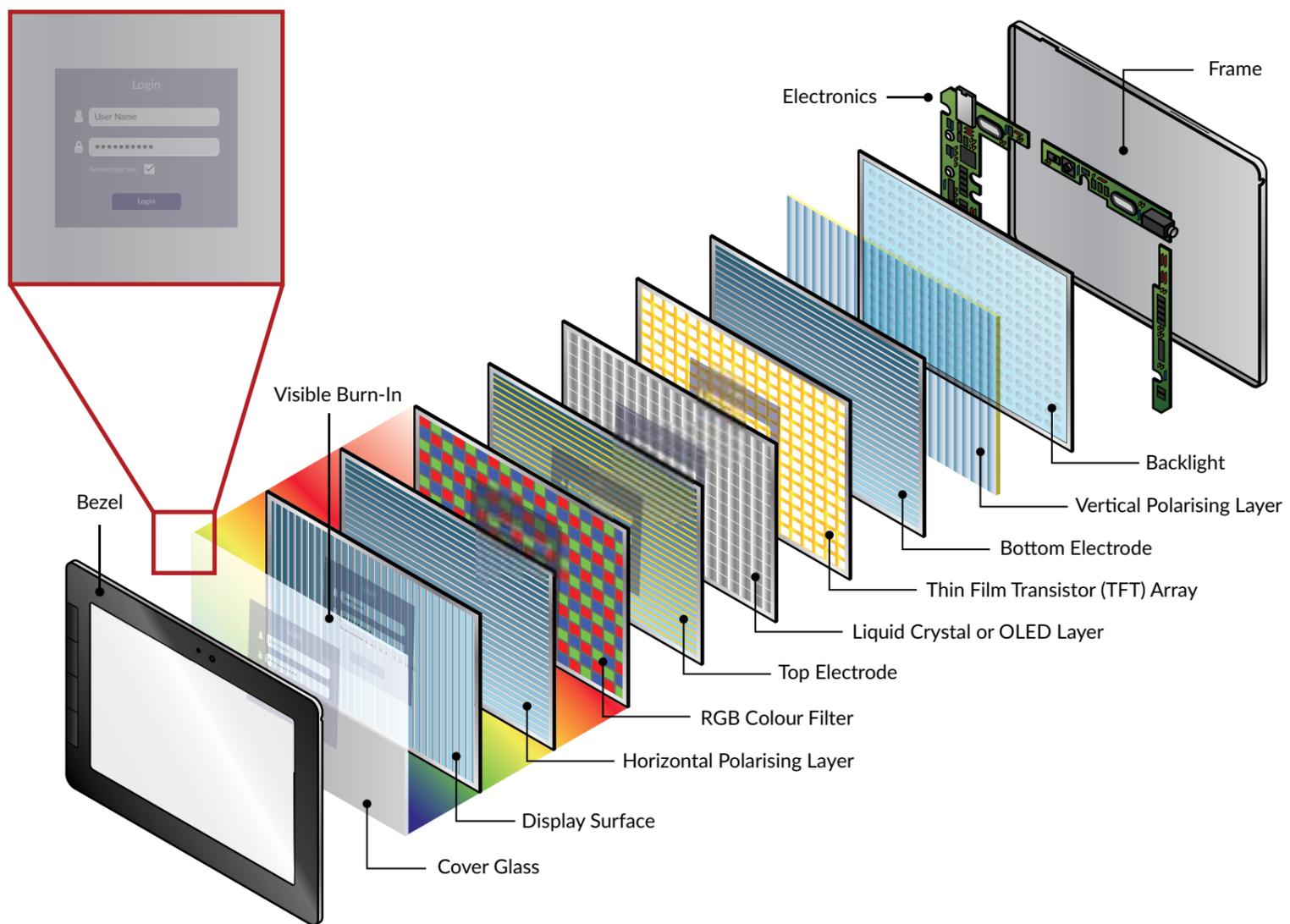
Use on-screen keyboards that have a darker theme. This is to prevent colour degradation in the lower half of the display.

✔ **Avoid using certain display filters**

Avoid using display filters that could accelerate a burn-in.

Once the burn-in has come into effect, it cannot be repaired. However, it can be slowed down and the visibility of the ghost images can be lessened. Take a note of the above-mentioned points to avoid burn-in on an intelligent display.

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