

Pixel Policy

2016-04-12



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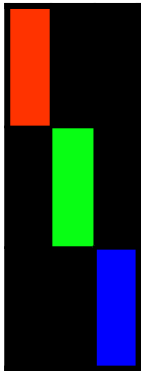
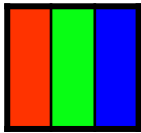


LCD panel deficiencies



- All LCD monitors can have different types of deficiencies; for example, constant/blinking bright/dark pixels or sub-pixels.
- It can even be other deficiencies inside the LCD panel such as scratches, bubbles, dent or other foreign material from the LCD panel manufacturing.
- No scratches or threads wider than 0.1 mm or any bubble, dent or other foreign material larger than 0.5 mm diameter is accepted in any new FlexScan or FORIS model

Pixel definition



1 pixel is 1 screen dot

1 pixel is built from 3 dots or sub-pixels next to each other; Red + Green + Blue

The number of pixels in an LCD screen with the resolution;

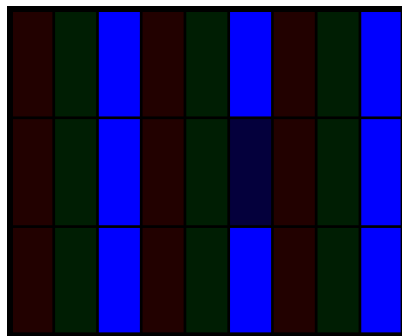
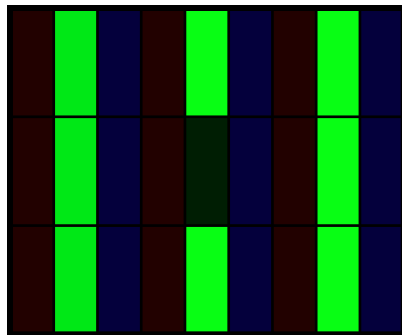
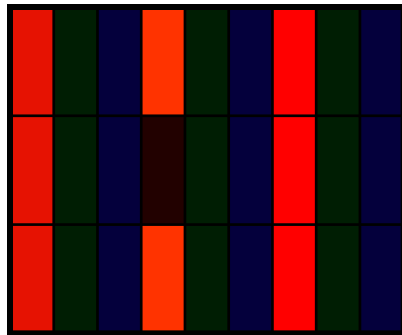
$1920 \times 1080 = 2\,073\,600$ pixels

1 sub-pixel is 1 red, green or blue dot

The number of sub-pixels in an LCD screen with the resolution;

$1920 \times 1080 = 2\,073\,600 \times 3 = 6\,220\,800$ sub-pixels

Verification of pixel faults

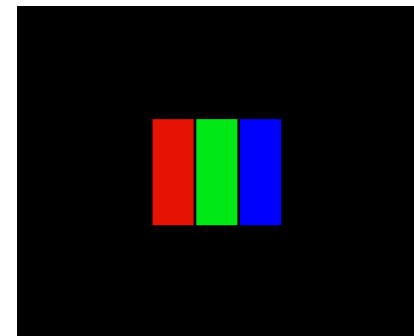
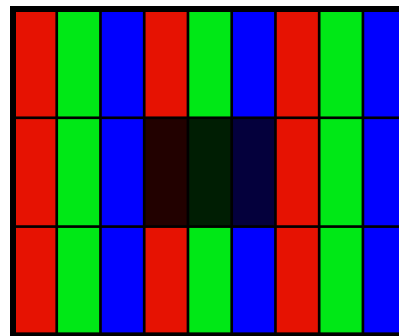


To verify if an entire pixel is faulty;
View the screen with a red, green, blue and black window.

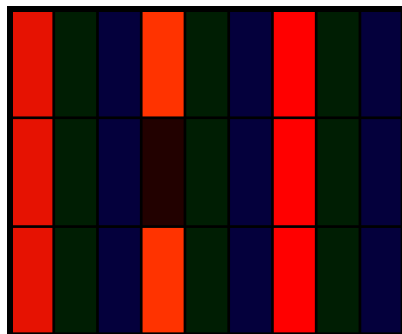
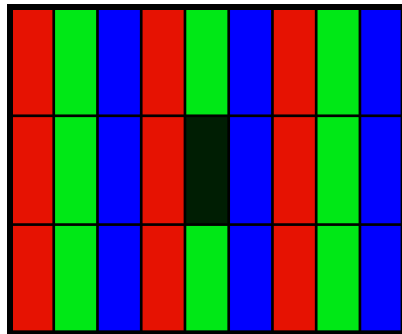
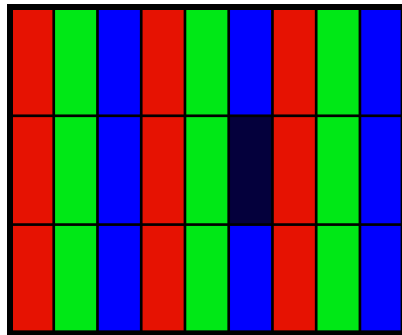
If 1 pixel is dark on a red and green and blue window the entire pixel is faulty. If no fault is visible on 1 or 2 of the colors, there are only 1 or 2 faulty sub-pixels.

If there is a white pixel on a black window the entire pixel is faulty.

If the bright point is red, green, blue, yellow, cyan or magenta it is only 1 or 2 faulty sub-pixels.



Verification of pixel faults



The blue color have the lowest bright level and green the highest.

If a blue sub-pixel is dark, the defect is barely visible on a white screen. It is only seen as a slightly yellow dot on the white screen. The lightning green and red sub-pixels next to the dark blue makes this yellow impression.

If a green sub-pixel is dark, the defect is more easy to see on a white screen. It is seen as a magenta dot on the white screen. The lightning red and blue sub-pixels next to the dark green makes this magenta impression.

On a one-colored screen a dark sub-pixel from this specific color will give an impression of a black dot. There will be 5 dark sub-pixels in one line. On a screen with an other color will this dark sub-pixel not be visible at all.

EIZO Zero Bright Pixel Policy

- EIZO Guarantees Zero Bright Pixels for Six Months with current monitors of ColorEdge, FORIS and selected FlexScan models.
- Under this warranty, no bright sub-pixels* are allowed for six months from the date of purchase.
- *A bright sub-pixel is defined as one that is fully lit and must be visible in an ambient illuminance of more than 500 lux (typical office environment) and viewing distance of more than 35 cm.
- Partially lit sub-pixels, dark pixels, and foreign substances in the LCD structure are not covered.
- See links below for details:

[*Applicable Models and Warranty terms*](#)

[*EIZO Bright Pixel Policy Conditions*](#)

EIZO specifications

EIZO defines 4 different types of pixel faults;

- Type 1: Full bright (“stuck on/high/white”) pixel/3 sub-pixels next to each other. It is seen as a white bright dot on a dark screen.
- Type 2: Full dark (“stuck off/low/black”) pixel/3 sub-pixels next to each other. It is seen as a black dot on a white screen.
- Type 3a: Single bright (“stuck on/high”) sub-pixel. Can be located as a single or double. It can be seen as a bright colored (red, yellow, green, cyan, blue or magenta) dot on a dark/black screen.
- Type 3b: Single dark (“stuck off/low) sub-pixel. Can be located as a single or double. It can be seen as a black dot on a colored (red, green or blue)screen.

NB! New monitors with more faulty pixels or sub-pixels than defined below is considered as faulty.

	EIZO Zero Bright Pixel Policy Selected models of FlexScan, ColorEdge and FORIS monitors Max. allowed numbers of faulty pixels or sub-pixels per monitor independent on resolution	FlexScan EV2416W, EV2316W, EV2216W, S2133 & S1933 Max. allowed numbers of faulty pixels or sub-pixels per monitor independent on resolution	ISO 9241-307:2008 Class 1 Max. allowed numbers of faulty pixels or sub-pixels per monitor with 2 million pixels, resolution 1920x1080
Type 1	0	0	2
Type 2	0	0	2
Type 3a	0	2	6
Type 3b	5	5	10
Total	5	5	14

Summary

EIZO accepts 0 pixel faults on all current models

EIZO accepts 0 bright sub-pixel faults on current monitors of FORIS, ColorEdge and selected FlexScan models

EIZO accepts a total of 5 bright + dark sub-pixel faults on current FlexScan, FORIS and ColorEdge models

The ISO standard, ISO 9241-307:2008, class 1 most often referred to, allows up to 4 pixel faults and up to 10 sub-pixel faults on a monitor with 2 million pixels / resolution 1920 x 1080