

PHILIPS

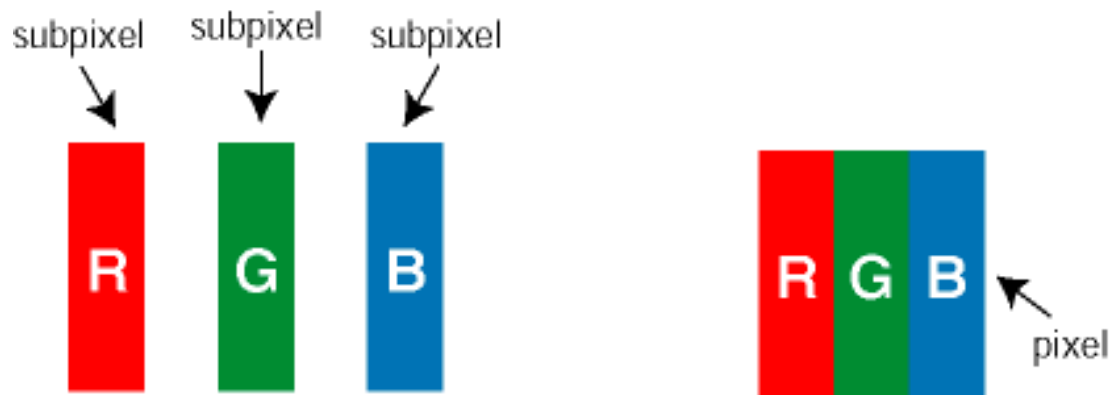
Philips Flat Panel Monitor
Pixel Defect Policy

Philips' Flat Panel Monitors Pixel Defect Policy

Philips strives to deliver the highest quality products. We use some of the industry's most advanced manufacturing processes and practice stringent quality control. However, pixel or sub pixel defects on the TFT LCD panels used in flat panel monitors are sometimes unavoidable. No manufacturer can guarantee that all panels will be free from pixel defects, but Philips guarantees that any monitor with an unacceptable number of defects will be repaired or replaced under warranty. This notice explains the different types of pixel defects and defines acceptable defect levels for each type. In order to qualify for repair or replacement under warranty, the number of pixel defects on a TFT LCD panel must not exceed these acceptable levels. For example, no more than 0.0004% of the sub pixels on a 15" XGA monitor may be defective. Furthermore, Philips sets even higher quality standards for certain types or combinations of pixel defects that are more noticeable than others.

Pixels and Sub pixels

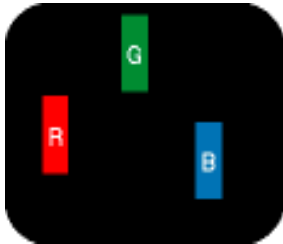
A pixel, or picture element, is composed of three sub pixels in the primary colors of red, green and blue. Many pixels together form an image. When all sub pixels of a pixel are lit, the three colored sub pixels together appear as a single white pixel. When all are dark, the three colored sub pixels together appear as a single black pixel. Other combinations of lit and dark sub pixels appear as single pixels of other colours.



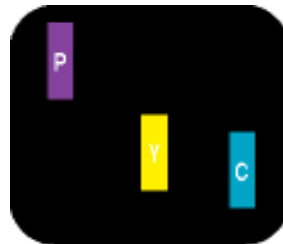
Type of Pixel Defects

Pixel and sub pixel defects appear on the screen in different ways. There are two categories of pixel defects and several types of sub pixel defects within each category.

Bright Dot Defects Bright dot defects appear as pixels or sub pixels that are always lit or 'on'. These are the types of bright dot defects:



One lit red, green or blue sub pixel



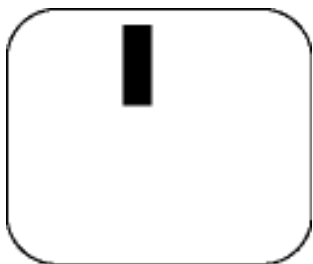
Two adjacent lit sub pixels: -
 Red + Blue = Purple - Red +
 Green = Yellow - Green + Blue
 = Cyan (Light Blue)



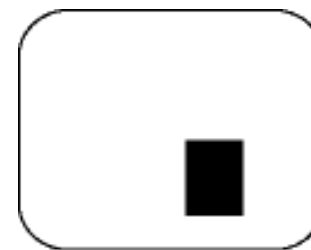
**Three adjacent lit sub pixels
 (one white pixel)**

Type of Pixel Defects (cont)

Black Dot Defects Black dot defects appear as pixels or sub pixels that are always dark or 'off'. These are the types of black dot defects:



One dark sub pixel



Two or three adjacent dark sub pixels






Proximity of Pixel Defects

Because pixel and sub pixels defects of the same type that are near to one another may be more noticeable, Philips also specifies tolerances for the proximity of pixel defects.

Pixel Defect Tolerances

In order to qualify for repair or replacement due to pixel defects during the warranty period, a TFT LCD panel in a Philips flat panel monitor must have pixel or sub pixel defects exceeding the tolerances listed in the following tables.

Pixel Defect Tolerances – Bright Dot

							ACCEPTABLE LEVEL			
<i>Model</i>	150S5FB 150S5FS	150B5CB 150B5CS	170S5FG 170S5FB 170S5FS	170C4FS	170B5CB 170B5CS	170W4P	190S5CB 190S5CS	190P5EB	200P4VG 200P4VB	230W5VS
1 lit sub pixel	4 or fewer	0	4 or fewer	6 or fewer	0	0	3 or fewer	0	0	0
2 adjacent lit sub pixels	2 or fewer	0	2 or fewer	2 or fewer	0	0	1 or fewer	0	0	0
3 adjacent lit sub pixels (1 white pixel)	0	0	0	0	0	0	0	0	0	0
Distance between 2 Bright Dot Defects*	15mm or more	0	15mm or more	15mm or more	0	0	25mm or more	0	0	0
Total Bright dot defects of all types	4 or fewer	0	4 or fewer	6 or fewer	0	0	3 or fewer	0	0	0

Pixel Defect Tolerances – Black Dot

	ACCEPTABLE LEVEL									
<i>Model</i>	150S5FB 150S5FS	150B5CB 150B5CS	170S5FG 170S5FB 170S5FS	170C4FS	170B5CB 170B5CS	170W4P	190S5CB 190S5CS	190P5EB	200P4VG 200P4VB	230W5VS
1 dark sub pixel	4 or fewer	4 or fewer	4 or fewer	6 or fewer	4 or fewer	4 or fewer	5 or fewer	4 or fewer	4 or fewer	5 or fewer
2 adjacent dark sub pixels	2 or fewer	1 or fewer	2 or fewer	3 or fewer	1 or fewer	2 or fewer	2 or fewer	2 or fewer	2 or fewer	2 or fewer
3 adjacent dark sub pixels	0	0	0	0	0	0	0	0	0	1 or fewer
Distance between 2 Black Dot defects*	15mm or more	15mm or more	15mm or more	15mm or more	15mm or more	15mm or more	15mm or more	5mm or more	15mm or more	15mm or more
Total Black dot defects of all types	4 or fewer	4 or fewer	4 or fewer	6 or fewer	4 or fewer	4 or fewer	5 or fewer	4 or fewer	4 or fewer	5 or fewer

Pixel Defect Tolerances – Overall Acceptable Level

	ACCEPTABLE LEVEL									
<i>Model</i>	150S5FB 150S5FS	150B5CB 150B5CS	170S5FG 170S5FB 170S5FS	170C4FS	170B5CB 170B5CS	170W4P	190S5CB 190S5CS	190P5EB	200P4VG 200P4VB	230W5VS
Total bright or black dot defects of all types	5 or fewer	4 or fewer	5 or fewer	8 or fewer	4 or fewer	4 or fewer	5 or fewer	4 or fewer	4 or fewer	5 or fewer

* Note: 1 or 2 adjacent sub pixel defects = 1 dot defect

