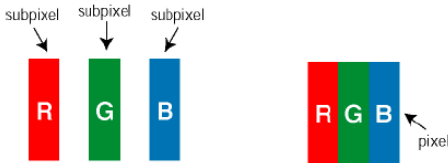


Philips Plasma- & LCD-TV / Portable DVD Player Pixel Defect Policy

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 PDP / TFT panels used in Plasma- & LCD-TV / Portable DVD Player sets are sometimes unavoidable. No manufacturer can guarantee that all panels will be free from pixel defects, but Philips guarantees that any Plasma- & LCD-TV / Portable DVD Player with an unacceptable number of defects will be repaired during the warranty period in line with your local guarantee conditions. This notice explains the different types of pixel defects and defines acceptable defect levels for each 12NC / Plasma or LCD screen. In order to qualify for repair under warranty, the number of pixel defects on a Plasma and LCD panel must exceed a certain level which is given in the reference table. If a Plasma or a LCD screen is within specification a warranty exchange / claim back will be refused . Additionally, because some types or combinations of pixel defects are more noticeable than others, Philips sets even higher quality standards for those.

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 colors.

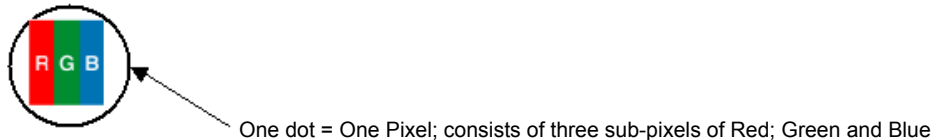


Types of Pixel Defects + Dot definition

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

Dot definition = What is a defective “Dot” ?:

One or more defective, adjacent sub-pixel are defined as one “dot”. The no. of defective sub-pixels are not relevant to define a defective dot. This means that a defective dot can consist of one, two or three defective sub-pixels which can be dark or lit.



Bright Dot Defects

Bright dot defects appear as pixels or sub-pixels that are always lit or "on". These are the examples of bright dot defects:



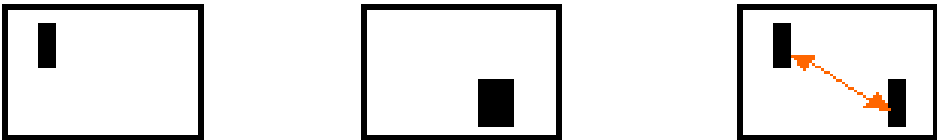
One lit red, green or blue sub-pixel	Two adjacent lit sub-pixels: - Red + Blue = Purple - Red + Green = Yellow - Green + Blue = Cyan (Light Blue)	Three adjacent lit sub-pixels (one white dot)
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Blinking / Dithering Dot Defects

A blinking / dithering dot is caused by pixels or sub-pixels which will lit intermittently. A blinking / dithering dot can be considered / counted as a “Bright dot defect” in the reference table

Dark Dot Defects

Black dot defects appear as pixels or sub-pixels that are always dark or "off". These are the examples of black dot defects:



One dark dot	Two adjacent dark dots= 1 pair of dark dots	Two dark dots, specifications defines the minimum distance between dark dots
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Examples PDP / LCD-TFT display failures

Below you will find examples of failures typical for PDP / LCD screens. This overview should help you in judging whether a specific failure visible on the screen is caused by the PDP / LCD itself or by electronics driving the device. Be aware that this overview will only cover a part of all possible screen failures. Before you decide to exchange the PDP / LCD screen please check / verify your judgment always by justification with the matching service manual. Here you will also find further diagnosis-, and exchange instructions.

Failure	Typical screen picture covered by warranty	Failure	Typical screen picture covered by warranty
only LCD - screen related			
BRIGHTNESS NOT UNIFORM / DECREASING Light output is different / decreasing due to a backlight failure Effect can be visible in vertical or horizontal direction depending on the arrangement of the lamps Backlight-lamps cannot be replaced !		LIGHT LEAKAGE some screen-areas you might see a higher brightness level	
SLIGHT 'WEAR AND TEAR' SCRATCHES ON SURFACE accepted only in combination with a valid in warranty LCD panel defect			
Mechanical failures	Damages NOT covered by warranty	Mechanical failures	Damages NOT covered by warranty
STICKING IMAGE Unlike phosphor-based displays such as CRTs and plasma flat panels, LCD displays do not suffer from permanent image burn-in resulting from the prolonged display of static images. However, a temporary retained image may result in such displays, if a static image is displayed for a long time—an effect known as "image sticking."	IMAGE 	MURA This effect gives a kind of "dark imprint" on the screen. With a unique picture content you have the impression of lower light output in this areas	
PLASMA / LCD - screen related			
LINE IN PICTURE Vertical or horizontal line defect Can be a colored or a white / dark line.		DOTTED LINE IN PICTURE A dotted colored line will be change with different test pattern / picture content.	
INTERRUPTED LINE IN PICTURE The location of the open V- or H-line is best visible with different test pattern / picture content.		HALF IMAGE Half image, can be either horizontal or vertical	
VERTICAL OR HORIZONTAL BLOCK Vertical or horizontal block defect. A certain area is not visible/dark.		DOT DEFECTS Pixel failures resulting in a dark or bright / dithering dot For specification see separate table	
		NO / DARK PICTURE No picture or slightly visible content in the background due to missing backlight Check servicemannual for driving circuit; backlight-lamps cannot be replaced !	
Mechanical failures	Damages NOT covered by warranty	Mechanical failures	Damages NOT covered by warranty
SCRATCHES ONLY: Scratches on the surface or polarizer (LCD) or Filter glass plate (Plasma)		GLASS / POLARIZER BROKEN Glass or frame broken	
only PLASMA - screen related			
Failures	Damages NOT covered by warranty		
BURN - IN: A characteristic of Plasma Display Panels is that displaying the same image for a long time can cause a permanent after-image to remain on the screen. This is called phosphor burn in. Normal use of the TV should involve the showing of pictures that contain constantly moving and changing images that fill the screen.			

Proximity of Pixel Defects

Because pixel and sub-pixels defects of the same type that are nearby one another may be more noticeable, Philips also specifies tolerances for the proximity of pixel defects. In the table below you can find specifications about:

- Allowed amount of adjacent dark dots = (adjacent dark dots =1 pair of dark dots)
- Minimum distance between dark dots
- Total no. of all defective dots

Pixel Defect Tolerances

In order to qualify for repair due to pixel defects during the warranty period, a PDP / TFT panel in a Philips Plasma / LCD-TV must have pixel or sub-pixel defects exceeding the tolerances listed in the following table.

Update of this document:

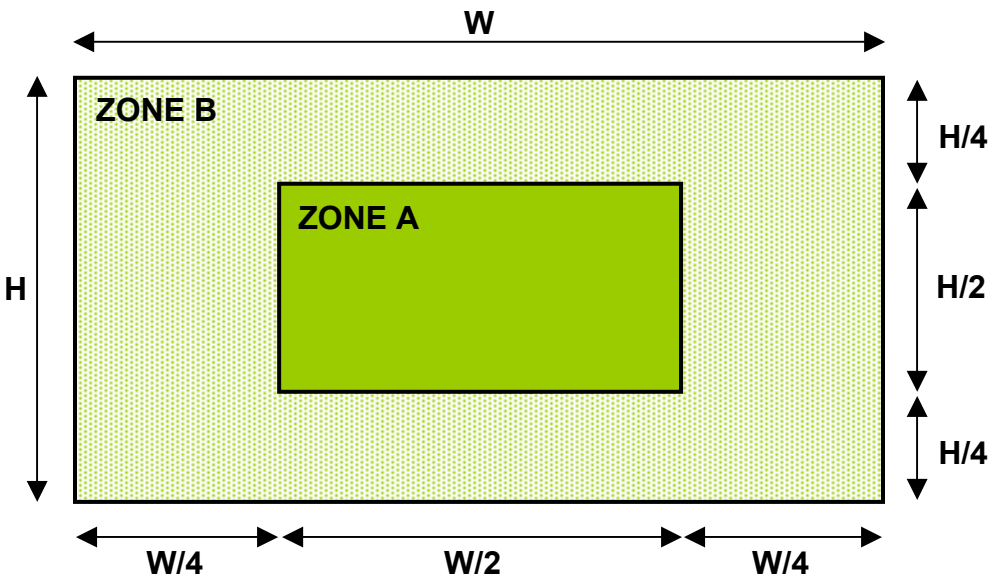
Due to reduced lifecycles and introduction of new sets/ Plasma and LCD screens this document is continuously maintained by EuroService. Please visit at regular intervals our web-page: www.atyourservice.ce.philips.com , click on "Service Information", next click on the link "FTV" and follow the instructions to check for available updates. If this is the case, please download the recent version from our web-side and take care that all persons involved are using the new document.

PERSONAL NOTES:

only PLASMA SCREEN (PDP) related

Compared to the LCD pixel evaluation the Plasma pixel evaluation is defined in an A-zone and a B-zone. The max. quantity of pixels in the A-zone or the B-zone is fixed in ANNEX 2.

Definition of A and B zone



Overview list of failures

Failure related to:	Failure:	In spec	Out of Spec	Claimable	NOT Claimable
P I X E L S	< =max. amount of bright dots	x			x
	<= max. amount of dark dots	x			x
	<= total amount of defective dots	x			x
	> max. amount of bright dots		x	x	
	> max. amount of dark dots		x	x	
	> total amount of defective dots		x	x	
P I C T U R E	Line in picture		x	x	
	Dotted line in picture		x	x	
	Interrupted line in picture		x	x	
	Vertical or horizontal block		x	x	
	Mura		x		x
	Sticking Image		x		x
	Dot defects		x	x	
	Brightness not uniform/decreasing		x	x	
	No/dark picture		x	x	
	Light leakage		x	x	
DAMAGE	Burn in		x		x
	Scratches on the polarizer	N/A			x
	Broken polarizer				x
	Damaged frame				x
WEAR AND TEAR	Wear and Tear Scratches only for LCD and only in combination with a valid in warranty LCD panel defect!		x	x	

For every Plasma related claim first do a REPAIR ON BOARD LEVEL to avoid any unnecessary PDP exchange !

REPLACING THE PANEL IS ALWAYS OPTIONAL BUT, THE PRICE OF THE DEFECTIVE PANEL IS ONLY REFUNDED IF ABOVE MARK IS 'OUT OF SPEC'.