**MAKITSO Pixel Policy / Digital Signage Products**

**MAKITSO implements the ISO 9241 standard as a pixel policy for MAKITSO products**
*http://en.wikipedia.org/wiki/ISO_9241#ISO-9241-302.2C_303.2C_305.2C_307:2008_pixel_defects*

**General information**

Defective pixels are pixels on a liquid crystal display (LCD) that are not performing as expected. In LCD manufacture, it is common for a display to be manufactured that has a number of sub-pixel defects (each pixel is composed of three primary-colored sub-pixels, RGB). The number of faulty pixels tolerated, before a screen is approved for rejection by MAKITSO as stated below

**Defect description**
Dark dot defects
A dark dot defect is usually caused by a transistor in the transparent electrode layer that is stuck "off".

Bright dot defects
A bright dot defect is a group of three sub-pixels (one pixel) all of whose transistors are stuck "on".

Dead sub-pixels
A dead sub-pixel is a pixel that is always "off".

Bright sub-pixels
A stuck sub-pixel is a pixel that is always "on".

**Bright / dead dot / sub-pixels policy (visible as bright pixel on dark background or vice versa).**

| | |
|---|---|
| 3 bright sub-pixels (1 dot) = | **1 is allowed** |
| 3 dead sub-pixels (1 dot) = | **1 is allowed** |
| 2 bright or dead sub-pixels = | **2 are allowed** |
| 1 bright or dead sub-pixel (RGB) = | **4 are allowed** |

**Total allowed number of bright sub-pixels/dots = 6 are allowed**

If the defective pixels exceed the permitted numbers the LCD is considered defective and shall be replaced or compensated

Information:
A Full HD LCD has a resolution of 1920x1080 pixels. A Full HD LCD contains 2.073.600 pixels and 6.220.800 sub-pixels. Most of the time if a pixel/sub-pixel is defective it barely visible special when content displayed on the LCD is not static.