

## MIRAI Pixel Policy – Based on ISO 13406-2

Every pixel on a colour LCD panel is made up of 3 sub-pixels (red, green and blue) and each sub pixel is operated by its own transistor. Therefore, an LCD panel with a native resolution of 1024 x 768 has over 7.86K pixels and over 2.3M sub-pixels and transistors. Pixels or sub-pixels can occasionally become defective and this can occur at any stage in the life of the LCD panel. Pixel defects cannot be repaired and are accepted as a phenomenon of LCD technology.

In order to protect the consumer, **ISO** created a standard (**ISO 13406-2**) to regulate how many pixel or sub-pixel failures are acceptable in a display before it should be replaced under warranty. Alongside all reputable manufacturers, MIRAI operates under and supports **ISO 13406-2**.

Native Resolution	No. of Million Pixels	Allowable Pixel Defects	Allowable Sub-Pixel Defects	Sub-Pixel Defects Within 5 x 5 block
1024 x 768	0.79	2	4	2
1280 x 1024	1.31	3	7	3
1366 x 768	1.05	3	6	3
1400 x 1050	1.47	3	8	3
1440 x 900	1.30	3	7	3
1680 x 1050	1.76	3	8	3
1600 x 1200	1.92	4	10	4
1920 x 1080	2.07	4	10	4
2048 x 1536	3.15	6	16	6

The above table allows for 2 malfunctioning pixels, 5 malfunctioning sub-pixels or 2 malfunctioning sub-pixels within a 5 x 5 block, per 1 million pixels. This is the guideline for Class-II LCD panels.

### Identifying a Pixel Defect:

Type 1 – A whole pixel constantly illuminated; this would constantly show as a bright white spot on the screen.

Type 2 – A whole pixel not illuminated; this would show as a constant black spot on the screen.

Type 3 – One or two sub-pixel defects per pixel; this would constantly show as a basic colour (red, green, blue) or Cyan, Magenta or Yellow.