LCD Monitor Information

Diamond Digital Thin-Film Transistor (TFT) LCD monitors provides the latest technology for desktop and other types of computer display. Their compact size makes them an ideal solution where space is limited, while the TFT technology with its high brightness and contrast and flicker-free image makes TFT monitors comfortable to view for long periods of time. TFT screens also have low power consumption, approximately one third of that required by a conventional CRT-based monitor with the same display size.

TFT Panel Resolution

Unlike CRT monitors, TFT panels of this type of monitor have a fixed resolution. The table below shows the native resolution for each size TFT panel size. Optimal performance is only available when the signal produced by the computer's graphics card is the same as the resolution of the monitor.

TFT Panel Size	Native Resolution (in pixels)
15”	1024 x 768
17” & 19”	1280 x 1024
20”	1600 x 1200

Lower resolution signals such as VGA (640 x 480 pixels), Super VGA (800 x 600 pixels) or XGA (1024 x 768 pixels) can be displayed, but the monitor must expand these signals to fill the screen area. Image scaling and interpolation (ratiometric expansion) is carried out by the monitor in order to fill the screen, which reduces the quality of the image that is displayed when compared with quality available with an SXGA resolution signal.

Pixel Defect Specification

In a TFT LCD screen, each pixel is made up of three coloured dots (red, green and blue). Each dot has one transistor that turns it on or off individually. If one of these transistors fails, then a coloured dot is permanently turned on (a "bright" dot) or off (a "black" dot). All panel manufacturers have to decide how many broken dots to tolerate before rejecting the whole panel. Please find below a general description of the number of 'broken dots" that are deemed to be acceptable. This description applies to most Mitsubishi and Diamond Digital products with an LCD panel. A small number of products may have different levels of acceptable defects. In this case a note will appear on the product documentation and on our website at www.mitsubishielectric.com.au.

Note that in the description, a "dot" is a single colour element of red or green or blue. A "pixel" is made up of three dots - one red and one green and one blue.

The acceptable defect level for panels up to 17” diagonal size

1. Bright Dots

A maximum of three (3) bright dots of any colour, separated by a minimum distance of 15 mm except in the case of horizontally connected dots.

A maximum of two (2) horizontally connected bright dots of any colour.

2. Black Dots

A maximum of five (5) black dots of any colour, separated by a minimum distance of 15 mm except in the case of horizontally connected dots.

A maximum of two (2) horizontally connected black dots of any colour.

3. Total defects

A total sum of all defects dots (bright & black) must not exceed six (6).

The acceptable defect level for panels over 17” diagonal size

4. Bright Dots

A maximum of four (4) bright dots of any colour, separated by a minimum distance of 15 mm except in the case of horizontally connected dots.

A maximum of three (3) horizontally connected bright dots of any colour.

5. Black Dots

A maximum of eight (8) black dots of any colour, separated by a minimum distance of 15 mm except in the case of horizontally connected dots.

A maximum of three (3) horizontally connected black dots of any colour.

6. Total defects

A total sum of all defects dots (bright & black) must not exceed eight (8).