

TECHNICAL BRIEF

BY: AZD ENGINEERING



TFT LCD Panel Resolution and Pixel Characteristics

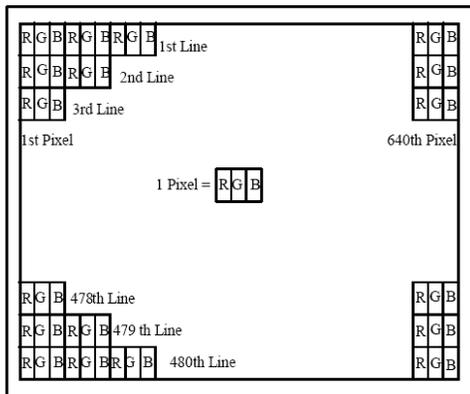
Various resolutions and pixel configurations have a lot to do with viewing characteristics of TFT displays. AZ Displays TFT LCDs come either with “Delta” or “Stripe” arrangements of pixels. Since each pixel/column of a digital TFT display already consists of three distinct colors and analog TFT displays with “stripe” pixel configuration have separate columns for each of the 3 colors, digital TFT LCDs are able to display higher resolutions and sharper images (see example in New Releases section below).

Resolution and Pixel Configuration

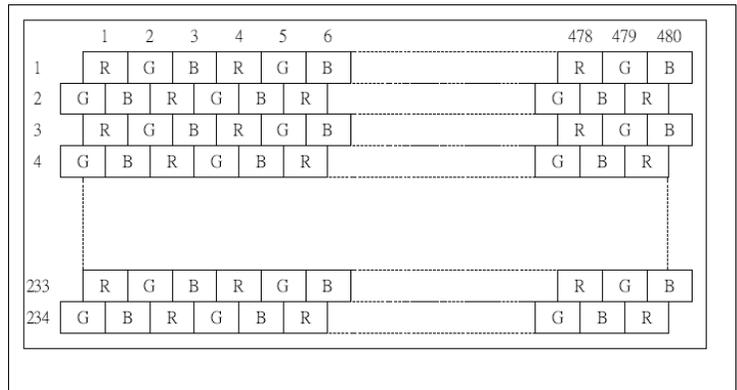
The resolution of a TFT LCD is defined as a dot array or a matrix structure of dots. There are many names for such type of arrangements. The basic common resolution and standard screen size is VGA (video graphic array), which consists of a 640x480 dot matrix. Additional names have also been developed based on this standard sized resolution as seen from the chart below.

Resolution Name	QVGA (Quarter VGA)	VGA	HVGA (Half VGA)	SVGA (Super VGA)	XGA
Pixel Matrix	320 X 240	640 X 480	640x 240	800 X 600	1024 X 764

In any case, such common and unique forms for such LCD resolutions carry two types of pixel configurations. Since the pixels in a TFT display are made up of 3 different colors (red, green, and blue), these pixels are arranged in two different configurations, RGB Delta and RGB Stripe. RGB Delta carries single color columns alternating between Red, Green and Blue while RGB Stripe carries a mixed pattern arrangement of Red, Green and Blue pixels.



RGB STRIPE



RGB DELTA

New Releases

AZ Displays' 3.5" analog TFT LCD p/n: PA035XUJ has a resolution of 480x234 pixels. But in a case of our digital TFT p/n: PD035VX2, we were able to fit 640x480 actual pixels into the same diagonal size of 3.5" which results in a crisper image and display. Please contact AZ Displays for a comparison demo of the PA035XUJ and PD035VX2 side by side