

Display Performance for Coral

Coral can overlap 6 layers. However, when using high resolutions, there may be limitations to the count of layers and pixel data that can be displayed simultaneously according to the data supply capacity of the graphics memory.

The display performance is decided by the below factors.

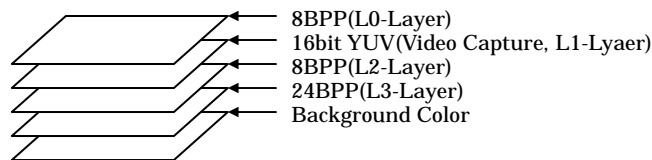
- Resolution and speed of dot clock
- Graphics memory bus width (64bit or 32bit)
- Number of display layers and overlapped area
- Color mode of a layer
- Display starting position of a layer
- Bank interleave (Place the each layers frame buffer to different bank)

The maximum performances in each sample case are the below.

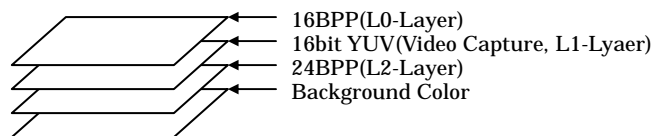
- Condition:Geometry:166MHz, Others and memory:133MHz,
Memory bus:32bit, Include rendering and video capturing

1.SVGA(800x600)

Limitation Case 1 :8BPP x 2-layers + 16bit YUV x 1-layer + 24BPP x 1-layer

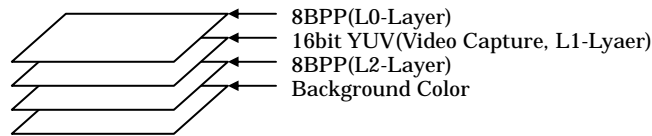


Limitation Case 2 :16BPP x 1-layer + 16bit YUV x 1-layer + 24BPP x 1-layer

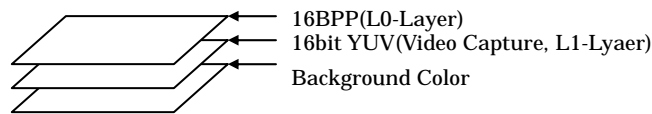


2.XGA(1024x768)

Limitation Case 3 :8BPP x 2-layers + 16bit YUV x 1-layer



Limitation Case 4 :16BPP x 1-layers + 16bit YUV x 1-layer

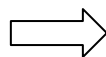
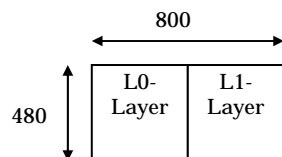


Note: These “limitation case” are just sample and these are different in some case. Thus please check them by a customer whether there is a problem or not on your condition.

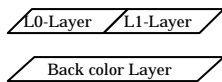
And the display controller has to read a number of pixel data in a limited time from graphics memory. This means the performance is dependant on the how many layer are overlapped to certain area.

For example,

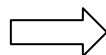
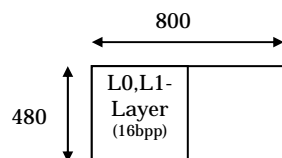
Case1. Half-size of 2 Layers are just side by side,(not overlapped)



This case, you can consider it as almost 1 layer.



Case2. Half-size of 2 Layers are overlapped.



This case, you have to consider it as 2-layers

