

## Limits on I/O resolutions and cable lengths on Fusion controllers

Output	F980	F940, F960, F964
<b>Min Analog Output</b>	640x480x60x8	640x480x60x8
<b>Max Analog Output</b>	2560x1600x60x16 (a) 2048x1536x60x32 (b)	2560x1600x60x16 (a) 2048x1536x60x32 (b)
<b>Min Digital Output</b>	640x480x60x8	640x480x60x8
<b>Max Digital Output</b>	1920x1200x60x16 (c)	1920x1200x60x16 (d) 2048x1080x60x16 (e)
<b>Input</b>		
<b>Min Analog Input</b>	640x480x60x8	1920x1080x16x60
<b>Max Analog Input</b>	640x480x60x8	1920x1080x16x60
<b>Window</b>		
RGB		
<b>RGB window size - minimum (f)</b>	124x34 pixels	124x34 pixels
<b>RGB window size - maximum</b>	4096x3072 pixels (g) 20,481x16,384 (h)	4096x3072 pixels (g) 20,481x16,384 (h)
Video		
<b>Video window size - minimum (f)</b>	124x34 pixels	124x34 pixels
<b>Video window size - maximum</b>	32,766x15,367 pixels	32,766x15,367 pixels
<b>Misc.</b>		
<b>Max Screen Resolution (i)</b>	16,384 pixels horiz 16,384 pixels vert	16,384 pixels horiz 16,384 pixels vert
<b>Max DVI cable length (j)</b>	12.5-meters at 1920x1080 res	12.5-meters at 1920x1080 res
<b>Max VGA cable length (k)</b>	100-ft at 1920x1080 res	100-ft at 1920x1080 res

## **NOTES:**

- a) tested with 100-ft VGA cable (see [j] below); max resolution for **RGB** windows; can't display **video**
- b) tested with 100-ft VGA cable (see [j] below); max resolution for **video** windows
- c) 2-meter DVI-D cable tested on Dell 2407WPF monitor; same applies for 1920x1080 resolution; at 1600x1200 resolution, longer DVI cables can be used
  
- d) 12.5-meter, high-quality DVI-D cable (see note j below); tested on Dell 2407WPF monitor
  
- e) 5-meter DVI-D cable; tested on Sony 4K projector using reduced blanking (resulted in pixel clock of 148.5MHz); higher resolution might be possible, up to digital pixel clock limit of 165MHz
- f) i.e., smallest stable size you can shrink the window
- g) source scaling (i.e., window is smaller than twice its native input size on both sides)
  
- h) destination scaling (i.e., window is at least greater than twice its native input size on both sides)
  
- i) largest overall wall size (sum of the pixels in all displays horizontally or vertically); as an example, at an individual screen resolution of 1600x1200, largest wall can be 10 displays horizontally and 13 displays vertically
  
- j) use high quality DVI cable (e.g., p/n DVI-231-SHR from DVIgear or p/n 40300 from CablesToGo); max supported distances and resolutions are also dependent on both the monitor and the chipset used in the graphics card; limit of testing by Jupiter Systems (i.e., longer cables may work okay but aren't recommended)
  
- k) for sending RGB input to controller or sending output signal to monitor; use high quality VGA cable (e.g., p/n CC320B-100A from Cablesdirect.com or p/n 28008 from CablesToGo); limit of testing by Jupiter Systems (i.e., longer cables may work okay but aren't recommended)