



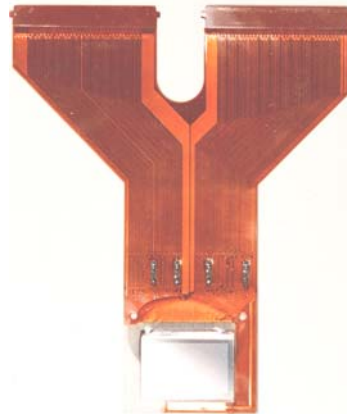
# MD1280P4 Eastwood-WXB

## 1280 × 768 LCOS MicroDisplay

PRELIMINARY PRODUCT BRIEF  
 CONFIDENTIAL  
 V0.1 dev 10/27/03

### OVERVIEW

The MD1280P4 Eastwood-HDb device is a high-resolution Liquid Crystal on Silicon (LCOS) microdisplay optimized for high performance single-panel, dual-panel and triple panel projection applications. The MD1280P4 boasts a high contrast ratio, high brightness, and a very fast LC switching time. This display has been designed for optical engine architectures that require very high refresh rates and 24-bit color. Both field sequential and scrolling color management techniques are supported.



### TYPICAL APPLICATIONS

- Rear Projection Televisions
- Front Projectors

### ACHIEVABLE DIAGONALS (PIXEL ARRAY)

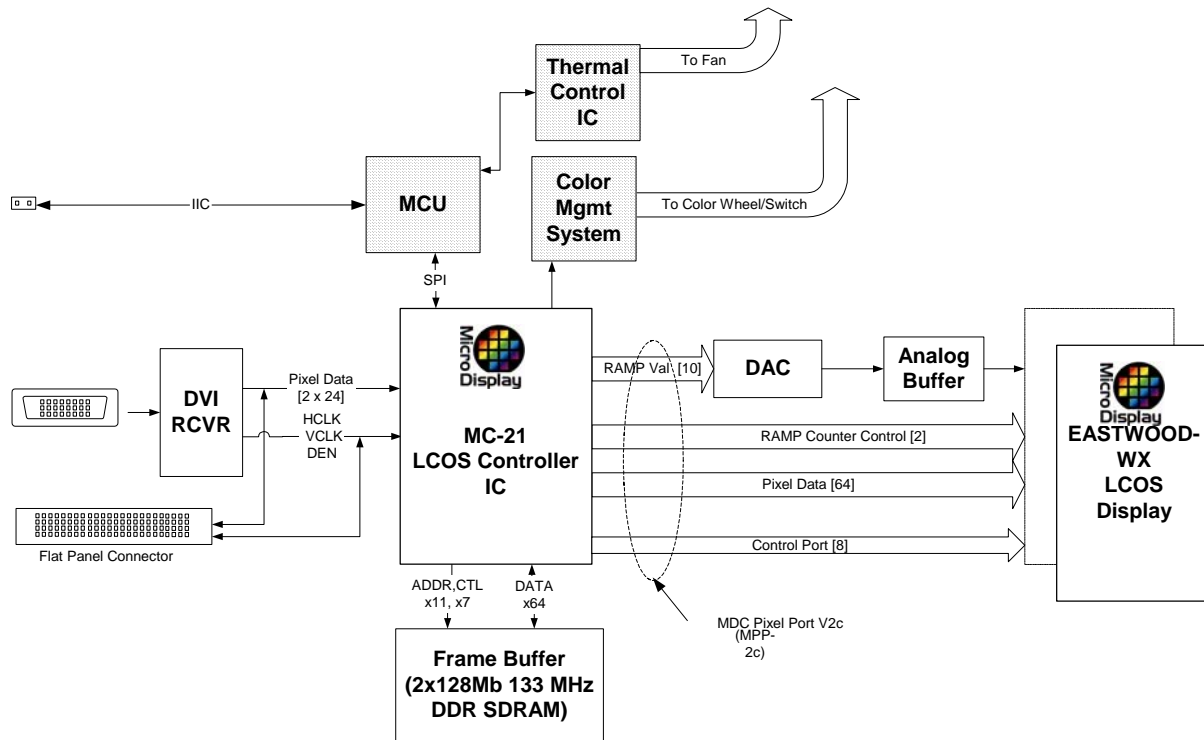
Resolution	Diagonal
1296 × 784 Full Array	0.83 inch (21.1 mm)
1280 × 768 WXGA	0.82 inch (20.8 mm)
1280 × 720 720p	0.81 inch (20.5 mm)
1024 × 768 XGA	0.70 inch (17.9 mm)

### INTERFACE

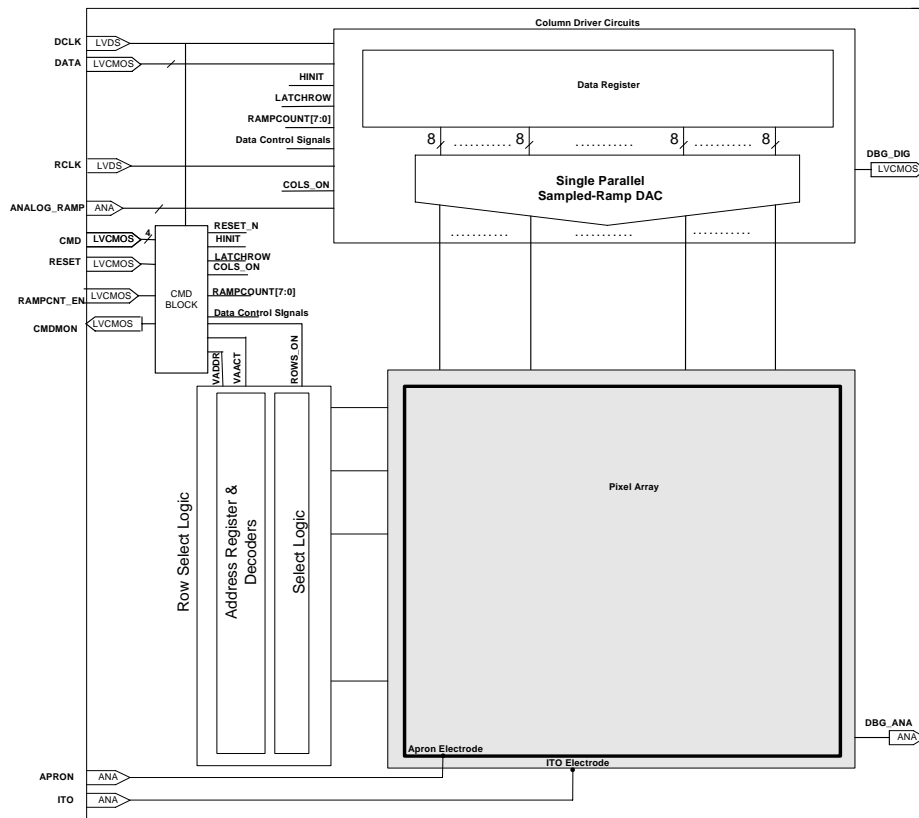
- Fully digital LVCMOS double-data-rate (DDR) pixel interface
- Parallel 32-pixel raster-order inputs
- Integrated digital-to-analog converters (no voltage offset matching required)
- Massively parallel sampled-ramp digital-to-analog conversion
- Integrated LVDS clock receivers
- Flexible image timing supports custom drive schemes
- Line-wide and array-wide pixel-reset functions ("FlashClear")
- Random vertical addressing
- Supports many color management schemes including simple and super scrolling color

### KEY SPECIFICATIONS

<b>Display type</b>	Gray-scale active-matrix liquid-crystal-on-silicon CMOS backplane
<b>Display mode</b>	Reflective, normally white, nematic liquid-crystal material
<b>Grayscale accuracy</b>	24 bits (8 bits per color)
<b>Signal Interface</b>	MicroDisplay PixelPort 2C(MPP2C)
<b>Field rate</b>	60 Hz – 540 Hz
<b>Photopic Reflectivity</b>	~ 63% over F# = 2.8 (full visible spectrum)
<b>Contrast Ratio</b>	~ 600:1 over F# = 2.8 (full visible spectrum, with ContrastCoupler™)
<b>Liquid Crystal Switching Speed</b>	0.15ms 90%-10% (bright to dark) @ 50C 1.0ms 10%-90% (dark to bright) @ 50C
<b>Coating</b>	Anti-reflection coated, R < 0.3% between 420 – 680 nm
<b>Pixel-mirror fill factor</b>	90.4%
<b>Pixel pitch</b>	13.95µm * 13.95 µm
<b>Dimensions of pixel array</b>	17.86 mm x 11.16 mm
<b>Dimensions of display cell</b>	21.86 mm x 16.49. mm
<b>Supply voltage</b>	12.0 V Analog, 3.3 V Digital
<b>Power Consumption</b>	<400 mW @ 540 fields/sec
<b>Storage temperature</b>	5°C to 60°C



Typical system using the MD1280P4



Internal architecture of the MD1280P4