

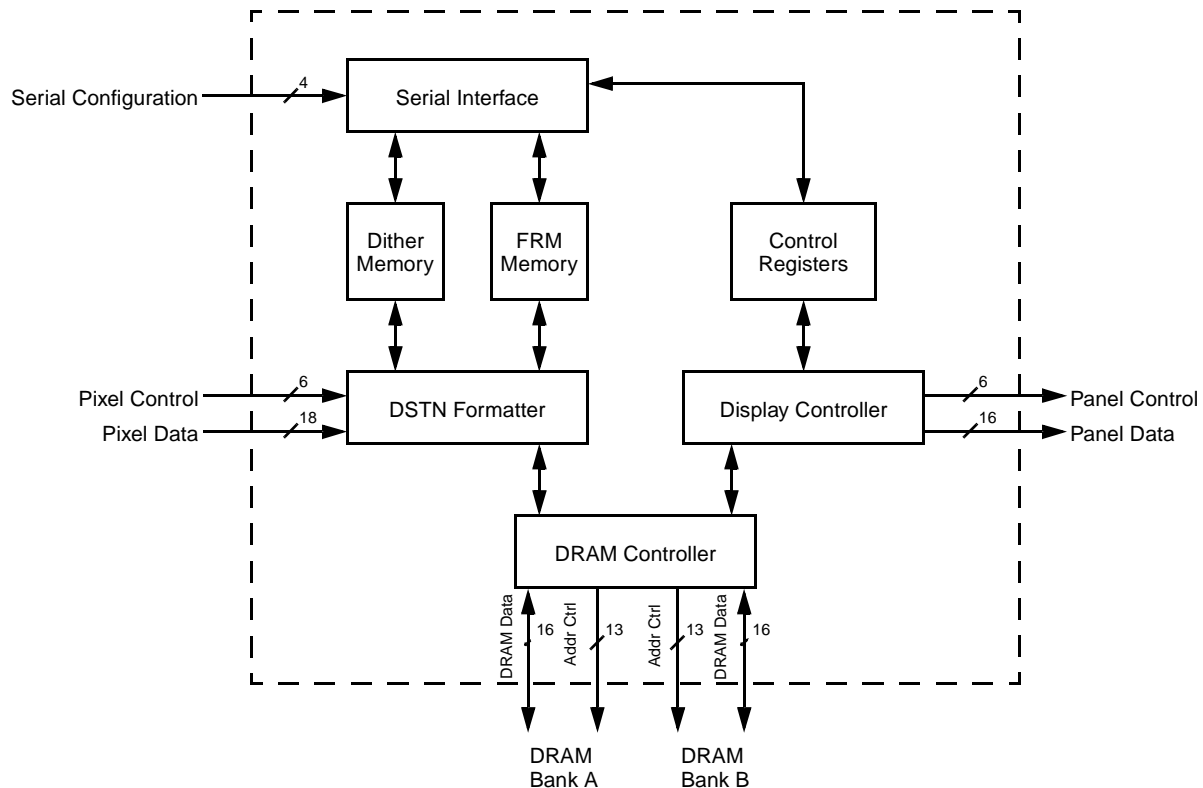
## 9210 Dual-Scan Flat Panel Display Controller

### General Description

The 9210 is a video companion device suitable for use in systems that use either the MediaGX™ MMX™-Enhanced Processor or the GXLV Processor Series of low voltage integrated processors along with a companion I/O device, also provided by National Semiconductor. The 9210 connects directly to either the processor or the companion I/O (55xx) and converts the proprietary digital RGB output

stream to the digital graphics input stream required by most industry standard DSTN color flat panel LCDs. It can drive all standard DSTN flat panels up to 1024x768 resolution. The system connection example on the following page shows how the 9210 interfaces with the rest of the system components.

### Internal Block Diagram

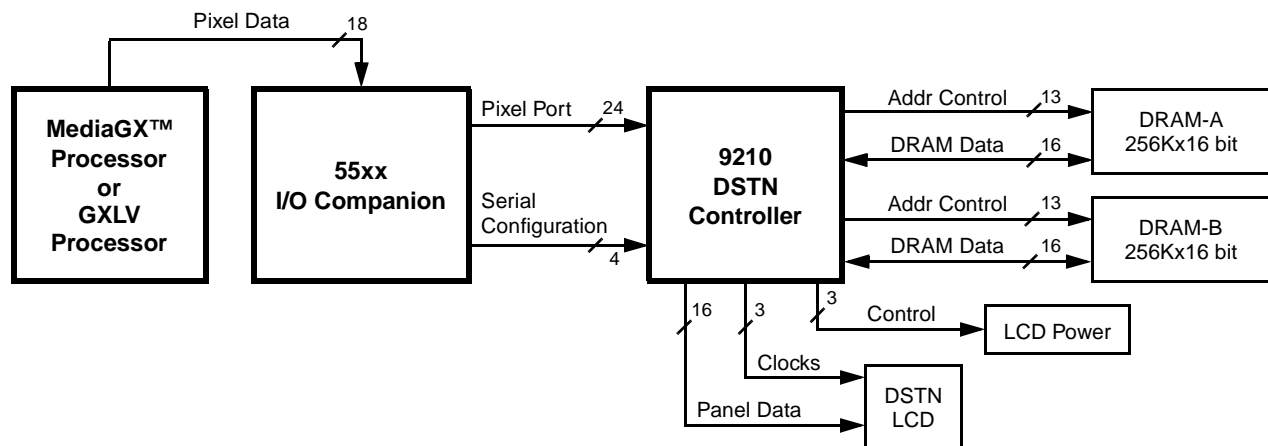


## Highlights (Continued)

### Features

- 18-bit color support for digital pixel input
- 65 MHz pixel clock operation supports up to 1024x768 panels
- Simultaneous CRT and DSTN display with up to 75 Hz refresh rate
- 2X display refresh modes, up to 120 Hz
- Supports most SVGA DSTN panels and the VESA FPD/ (Flat Panel Display Interface) Revision 1.0 Specification
- TFT panel support provided by use of one connector; allows a pass-through mode for the digital pixel input
- Programmable frame rate modulation (FRM), up to 32 levels
- Programmable dither, up to 16 levels
- Supports EDO memory, 16-bit interface
- Configuration via a serial programming interface
- Low-power, 3.3V operation
- 144-pin LQFP (Low-profile Quad Flat Pack)

### System Connection Example



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2. A critical component is any component of a life support device or system whose failure to perform can be reasonably expected to cause the failure of the life support device or system, or to affect its safety or effectiveness.



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