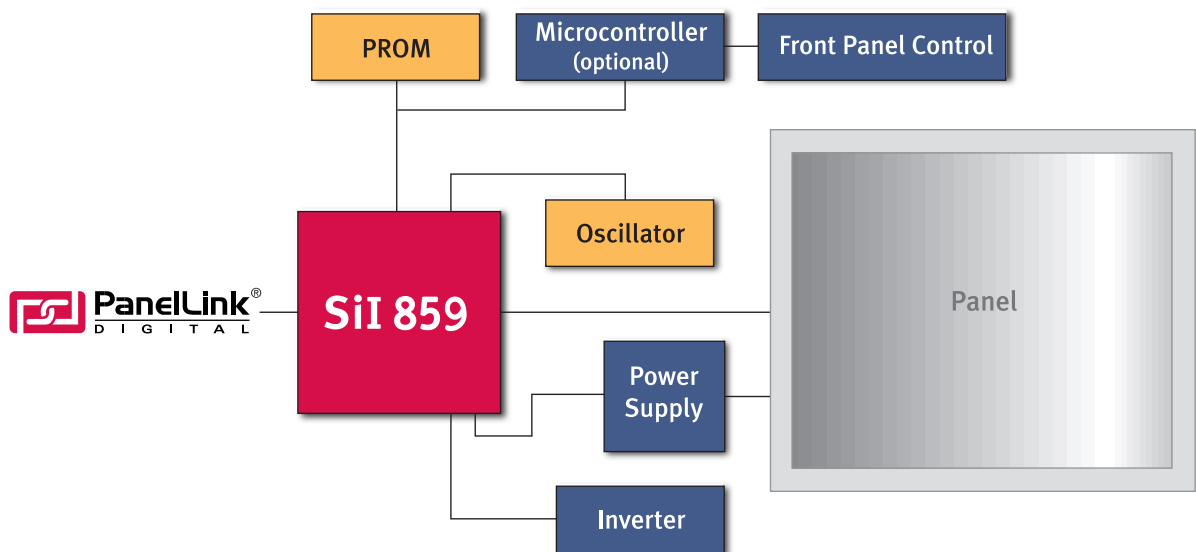


Raising the bar in price/performance for the competitive LCD monitor market, the SiI 859 brings rich enhancements to the low-cost, pure digital monitor. By providing competitive advantages over analog and dual-mode LCD monitors, pure digital monitors using the SiI 859 are a superior value proposition for the end user. Among these differentiating advantages include: lower cost by eliminating unnecessary analog conversion components, ease of use with no adjustments ever required, and the best possible image quality.

As with earlier generations of PanelLink controllers, the SiI 859 provides an integrated PanelLink Digital receiver, programmable On-Screen Display (OSD), power management and image processing, including: scaling, dithering and independent input & output gamma tuning. The SiI 859 adds higher bandwidth up to a 112 MHz pixel clock rate and improved scaling with programmable weight tables. A low-jitter 5x clock multiplier provides more cost-effective and lower EMI clocking options. These improvements are delivered in a 100-pin TQFP package that is pin-compatible with the popular SiI 851 controller for an easy upgrade path.

The SiI 859 provides a single-chip solution with the highest image quality and a rich feature set. Fully DVI compliant, the SiI 859 has been tested for compatibility with all LCD panels. Its flexibility for fully customizable OSD, gamma tuning and even programmable scaling weights define the SiI 859 as the price performance leader.



Sil 859 Features

PanelLink® Controller

- Provides consistent, high-quality pure-digital visual experience
- Enables easy development of DVI-compliant, pure-digital LCD monitors
- Eliminates analog image processing artifacts ("Pixel Dust")
- A cost-effective, single-chip solution that lowers costs, increases reliability and saves board space, making product design easier

Input

- PanelLink Digital receiver for guaranteed compatibility with DVI specification
- Supports input resolutions from 25MHz to 112MHz pixel clock rate

Output

- Frequency range: 25MHz to 112MHz
- Output data timing may be staggered to reduce ground bounce
- 24-bit one-pixel/clock or 48-bit two-pixel/clock output for true color (16.7 million) support

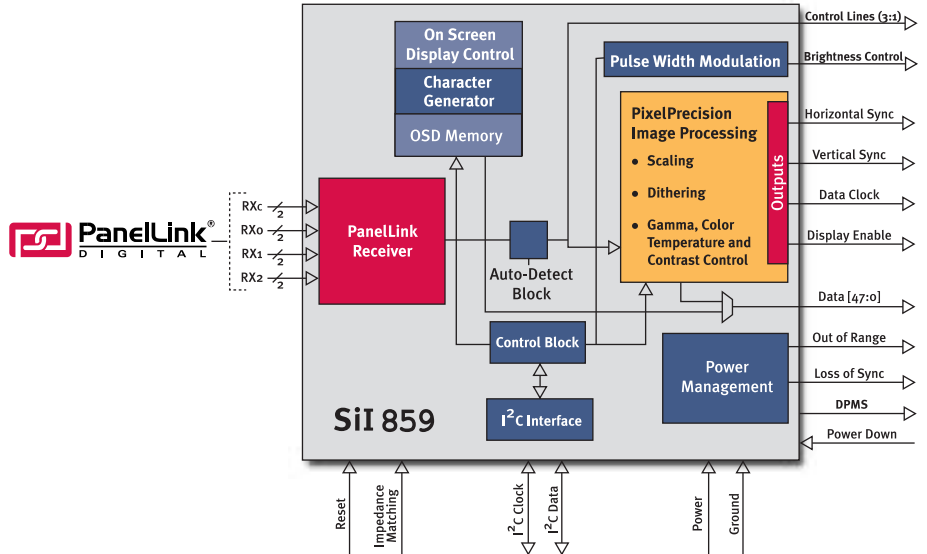
PixelPrecision Scaling Algorithm

- Finite Impulse Response (FIR) filter provides high image quality for both text and graphics using programmable weight tables. Algorithm allows for sharpening filter to be applied for enhanced text scaling
- Dithering allows 24-bit true color (16.7 million) to be shown on 18-bit TFT panels
- Independently programmable input and output gamma look up tables
- Frame rate preservation locks outgoing frame rate with incoming frame rate to prevent temporal artifacts such as judder¹ and tearing²

Part Number - SiI859CT100

¹ Judder - Objects moving in abrupt steps across the screen.

² Tearing - The screen splits from one image to the next along a horizontal line.



- Automatically upscales and downscales any image to output panel resolution
- Auto-detect functionality ensures rapid scaling of incoming images

On-Screen-Display (OSD)

- Fully programmable OSD support allows for localized messaging for specific regions and market segments
- Built-in loss-of-sync and out-of-range functions
- Micro-controller optional for lower cost

Power Management

- Supports DVI and VESA® DPMS™ power management functionality
- Pulse Width Modulation (PWM) output can be used to control backlight brightness

Silicon Image's SiI 859 Starter Kit

The CP859DVI starter kit includes all of the hardware, software and documentation necessary to set up a high-performance, DVI-compliant monitor using Silicon Image's SiI 859. The SiI 859's registers and configuration EEPROM on the development board can be programmed and read in real time through a serial port. A programmable EDID EEPROM enables easy system-level Plug & Play testing. The printed circuit board schematics, sample firmware, configuration files and application notes are provided as references so that new designs can quickly launch to market with the SiI 859.

Contents include:

Hardware

- SiI 859 development board
- Power supply and cables

Software

- Digital Visual Editor
- 8051 firmware
- Evaluation C compiler
- Sample OSDs

Documentation

- SiI 859 starter kit user's guide
- SiI 859 datasheet
- Reference schematics

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