



C5060-PBR-01C January 2001

Dual Interface, All-In-One UXGA LCD Controller

The gm5060 device is an all-in-one image processor for displays with a dual (analog and digital) interface supporting resolutions up to UXGA. The gm5060 leverages Genesis patented third-generation scaling technology as well as a proven integrated ADC/PLL and an Ultra-Reliable DVI™ receiver to provide excellent image quality in simple and cost-effective system solutions.

FEATURES

- Zoom and shrink scaling (all resolutions from VGA to UXGA)
- Frame rate conversion (FRC)
- Integrated 8-bit triple-channel ADC / PLL up to 165MHz
- All system clocks synthesized from a single external crystal
- Integrated Ultra-Reliable DVI™ receiver up to 165MHz
- Integrated High-bandwidth Digital Content Protection (HDCP)
- Embedded microcontroller simplifies OSD creation
- On-chip versatile OSD engine
- Programmable gamma correction (CLUT)
- RealColor™ technology provides flesh tone adjustment
- PWM backlight intensity control
- 5 Volt tolerant inputs
- **High-Quality Advanced Scaling**
 - Fully programmable zoom/shrink ratios
 - Independent horizontal / vertical zoom and shrink
 - Variable sharpness control
 - Moire cancellation
- **Analog RGB Input Port**
 - Supports up to UXGA 60Hz input (recovery modes available for higher refresh rates)
 - Phase and image positioning
 - Input format detection
 - Compatibility with all graphic cards and standard VESA modes
- **Ultra-Reliable DVI™ Receiver**
 - Single link on-chip TMDS Rx up to 165 MHz operation
 - Direct connect to all DVI compliant TMDS transmitters
 - High-bandwidth Digital Content Protection (HDCP)
- **RealColor™ Technology**
 - Color filtering in YUV domain
 - Digital brightness, contrast, hue and saturation control for analog, digital and video inputs
 - Proprietary flesh-tone adjustment
- **Digital Video Port**
 - 8-bit ITU-R BT656 input video
 - Seamless connection to commercially available video capture devices
- **Frame Store Interface**
 - Support for up to 143MHz SDRAM or SGRAM
- **On-chip OSD Controller**
 - Bit-mapped OSD capability - 4-bit per pixel true-color
 - Horizontal and vertical stretch of OSD images
 - Blinking, transparency and blending
- **Output Format**
 - Up to UXGA 60Hz (double wide output)
- **Simplicity and Flexibility of Design Speeds Time to Market**
- **Complete reference design kit available (software and hardware)**

PACKAGE

- 292-pin PBGA

APPLICATIONS

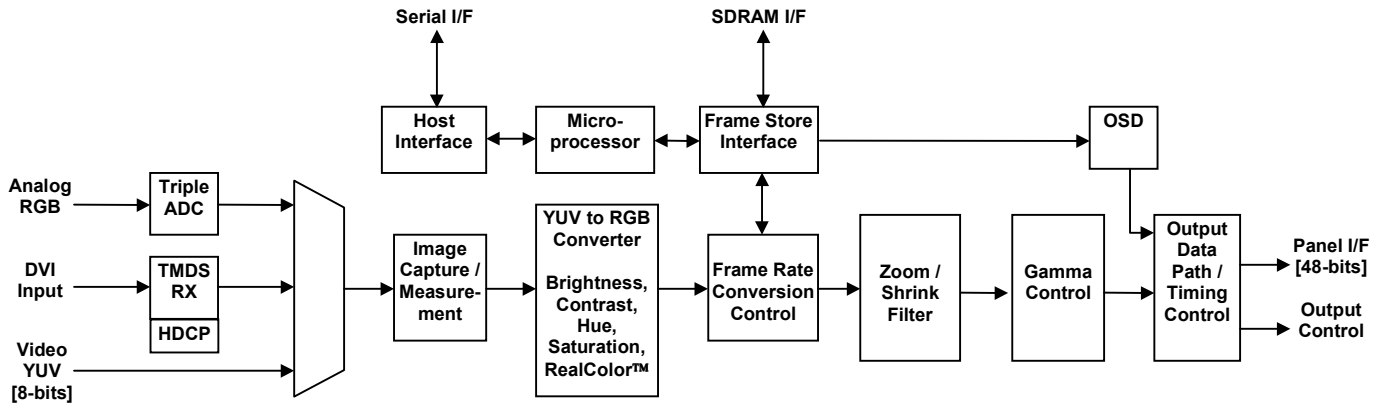
- Feature-optimized for UXGA LCD monitors with dual analog/digital interface

Genesis Microchip Inc.

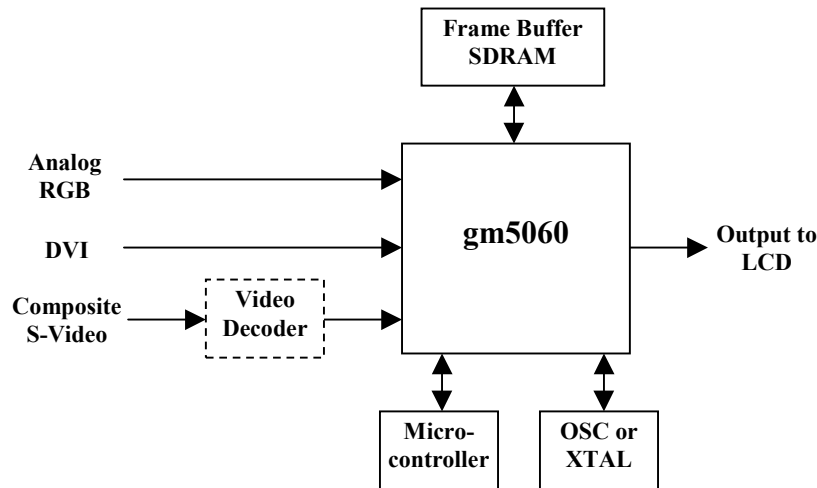
165 Commerce Valley Dr. West • Thornhill • ON Canada • L3T 7V8 • Tel: (905) 889-5400 • Fax: (905) 889-5422
2150 Gold Street • Alviso • CA USA 95002 • Tel: (408) 262-6599 • Fax: (408) 262-6365
4F, No. 24, Ln 123, Sec 6, Min-Chung E. Rd. • Taipei • Taiwan • Tel: (2) 2791-0118 • Fax: (2) 2791-0196
www.genesis-microchip.com / info@genesis-microchip.com



gm5060 Functional Block Diagram



gm5060 System Design Example



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