



The gm5010 device is a feature optimized all-in-one image processor for LCD displays addressing mainstream dual interface (analog and digital) XGA monitors. The gm5010 leverages Genesis Advanced Image Processing technology as well as a proven integrated ADC/PLL and an Ultra-Reliable DVI receiver with content protection to provide excellent image quality in simple and cost-effective system solutions. Flexibility, performance and a high level of integration make the gm5010 an optimal solution for mainstream DVI-compliant LCD monitors with dual interfaces.

FEATURES

- Zoom and shrink scaling (all resolutions from VGA to XGA as well as SXGA down to XGA)
- Integrated 8-bit triple-channel ADC / PLL
- Integrated Ultra-Reliable DVI™ receiver
- Integrated High-bandwidth Digital Content Protection (HDCP)
- On-chip versatile OSD engine
- All system clocks synthesized from a single external crystal
- 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 ratios
 - Independent horizontal / vertical zoom and shrink
 - Variable sharpness control
 - Moire cancellation
- **Analog RGB Input Port**
 - Supports up to SXGA at 85Hz
- **Ultra-Reliable DVI™ Digital Input Port**
 - Single link on-chip DVI receiver
 - Direct connect to all DVI compliant digital 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
 - Flesh tone adjustment

- **Digital Video Port**
 - 8-bit ITU-R BT656 input video
 - Seamless connection to commercially available video capture devices
- **Auto-Configuration / Auto-Detection**
 - Phase and image positioning
 - Input format detection
- **On-chip OSD Controller**
 - 256 24-bit True colors palette
 - Horizontal and vertical stretch of OSD images
 - Blinking, transparency and blending
 - On-chip RAM for downloadable fonts
- **Output Format**
 - Single/double wide up to XGA 85Hz output
 - Support for 8 or 6-bit panels (with high-quality dithering)
- **RealRecovery™**
 - Provides robust image display of XGA 85Hz input mode on 60Hz and 75Hz panels
- **System on a Chip Solution Provides Most Cost Effective System Cost**
- **Simplicity of Design Speeds Time to Market**
- **Complete reference design kit available (software and hardware)**

PACKAGE

- 208-pin PQFP

APPLICATIONS

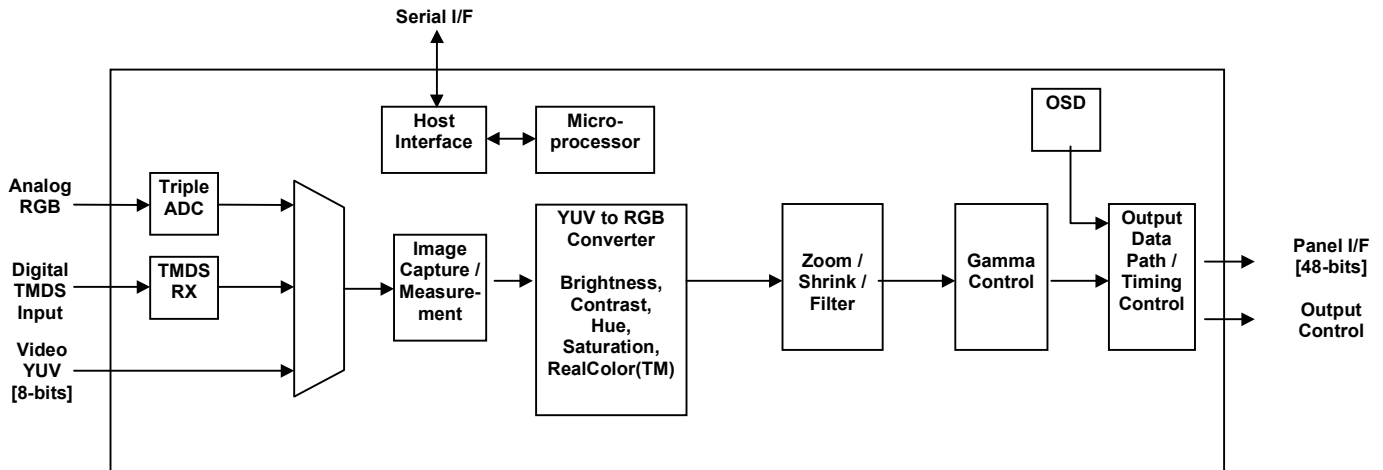
- Mainstream XGA LCD monitors with dual analog/digital interface

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gm5010 Functional Block Diagram



gm5010 System Design Example

