MYSON-CENTURY TECHNOLOGY

MTL011 (Preliminary)

SXGA Smart Panel Controller

FEATURES

General

- Auto configuration of sampling clock frequency, phase, H/V center, as well as white balance.
- Auto detection of present or non-present or over range sync signals and their polarities.
- Composite sync separation and odd/even field detection of interlaced video.
- No external memory required.
- On-chip output PLL provide clock frequency fine-tune (inverse, duty cycle and delay).
- Serial 2-wire I^2C host interface.
- Embedded timing controller.
- Embedded power regulator.
- Embedded power on reset circuit.
- 3.3V supplier in 144-pin LQFP or 160-pin PQFP package.

Input Processor

- Single RGB (24-bit) input rates up to 135MHz.
- Support both non-interlaced and interlaced RGB graphic input signals.
- YUV 4:2:2 or YUV 4:1:1 (CCIR601/CCIR656) interlaced video input.
- Glue-less connection to Philips SAA711x digital video decoder.
- Built-in YUV to RGB color space converter.
- Compliant with digital LVDS/PanelLink TMDS input interface.
- PC input resolution up to SXGA 1280x1024 @ 75Hz.

Video Processor

- Independent programmable Horizontal and Vertical scaling up ratios from 1 to 32
- Flexible de-interlacing unit for digital YUV video input data.
- Zoom to full screen resolution of de-interlaced YUV video data stream.
- Built-in programmable gain control for white balance alignments.
- Built-in programmable 10-bit gamma correction table.
- Built-in programmable temporal color dithering.
- Built-in programmable interpolation look-up table.
- Built-in programmable sharpening & smoothing filters for edge enhancement.
- Support smooth panning under viewing window change.

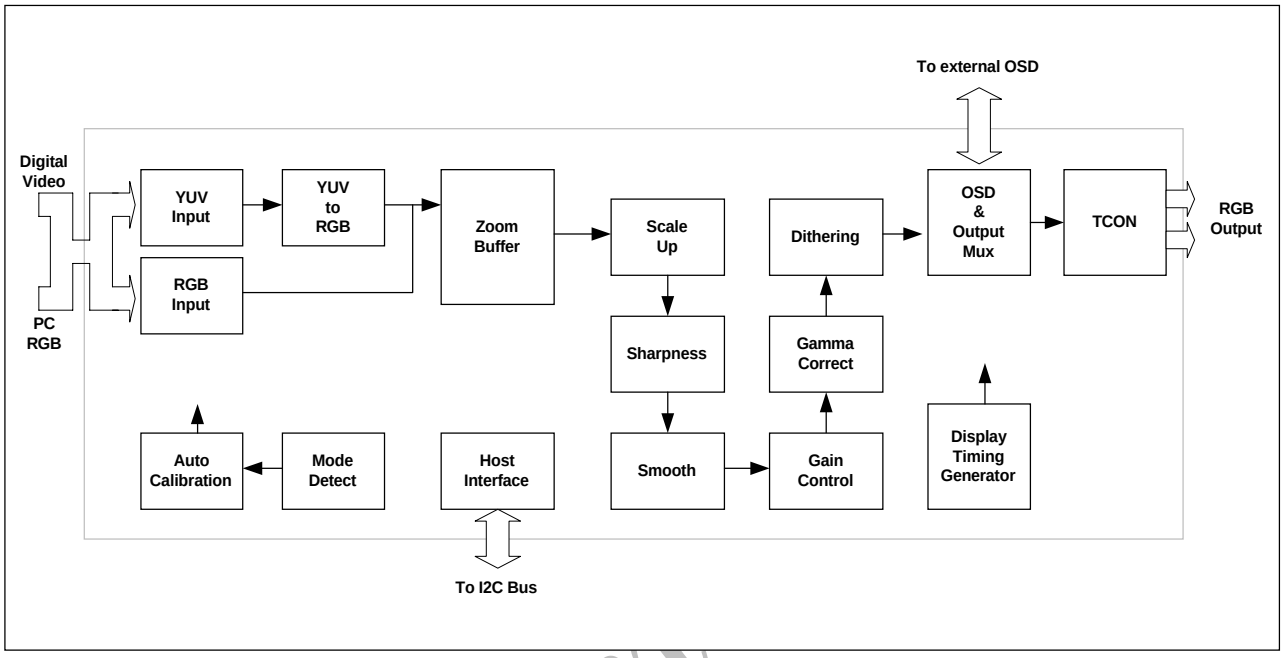
Output Processor

- Dual pixel (36/48-bit) per clock digital RGB output.
- Built-in output timing generator with programmable clock and H/V sync.
- Support VGA/SVGA/XGA/SXGA display resolution.
- Overlay input interface with external OSD controller.
- Double scan capability for interlaced input.

GENERAL DESCRIPTION

The MTL011 Smart Panel or Smart Integration Display Controller is a low-cost input format converter for TFT-LCD Monitor or LCD TV application which accepts 15-pin D-sub RGB graphic signals (through ADC), YUV signals from digital video decoder or digital RGB graphic signals from PanelLink TMDS receiver. It includes a RGB/YUV input processor, video scaling up processor, OSD input interface and output display processor in 144-pin LQFP or 160-pin PQFP package.

BLOCK DIAGRAM



PPLICATIONS