

ML86V8208



PRODUCT OVERVIEW (February 18, 2005)

SINGLE-CHIP VIDEO DECODER LCD CONTROLLER

*OkI, Network Solutions
for a Global Society*

Description

The ML86V8208 offers a PAL/NTSC/SECAM decoder with video standard auto detection and a scan conversion circuit with programmable LCD controller interface as a single device solution. Therefore, an easy implementation of video systems with VGA or W-VGA resolution is possible.

The video decoder part is equipped with 3 ADC channels allowing a combination of different video standards to be connected to ML86V8208. This makes ML86V8208 applicable for a variety of applications, e.g. for automotive entertainment systems or TV applications. Furthermore a digital video interface, complying with the 24 bit RGB/YCbCr or 16bit 4:2:2 / 8bit ITU-R BT.656 standard, is available.

The scan conversion circuit accomplishes the intra field interlaced-to-progressive (I/P) conversion and the fade in of the OSD. In order to enhance the I/P conversion, an additional interface for OKI's ML87V2103 field recursive noise reduction FIFO with motion adaptive I/P conversion is integrated. The connection of the ML87V2103 noise reduction FIFO is optional.

Analog Video Input

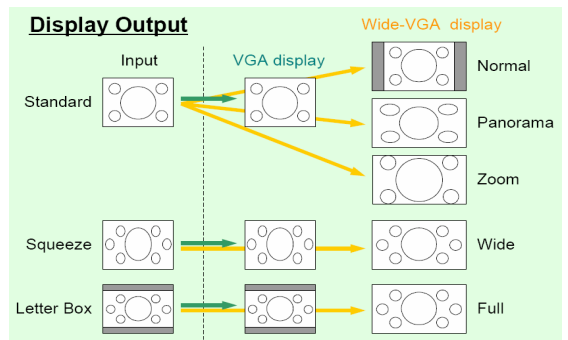
- Input scan format : 480i, 576i
- Various Input-Port configurations:

	: Composite x 4
	: Composite x 3 + S-Video x 1
	: Composite x 3 + RGB* x 1
	: Composite x 2 + S-Video x 2
	: Composite x 2 + S-Video x 1 + RGB* x 1
	: Composite x 1 + S-Video x 3
	: Composite x 1 + S-Video x 2 + RGB* x 1

RGB*: YPbPr is also available.

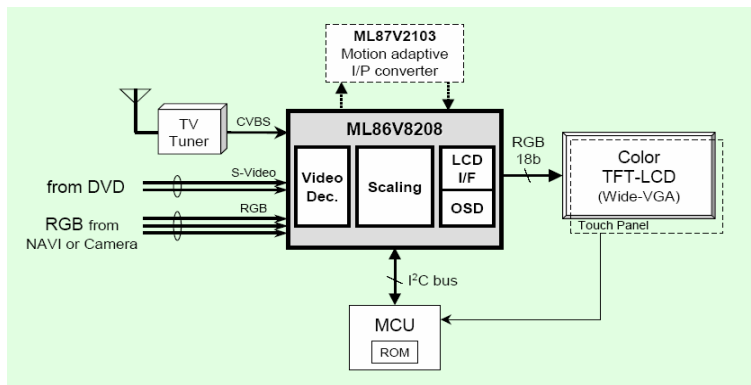
Digital Video Input

- Input scan format : 480i, 576i, 480p, 576p, max 800 active pixels / line



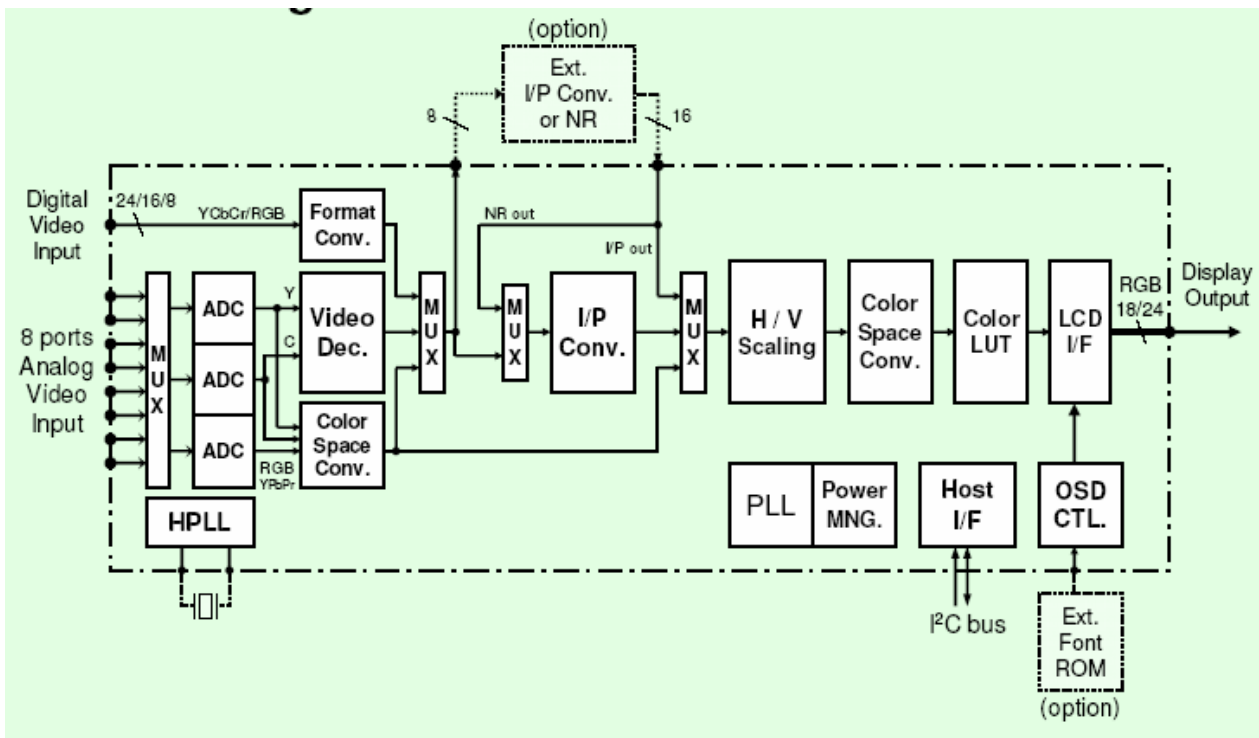
The LCD controller part provides the digital interface for a colour TFT-LCD (RGB: 18 or 24 bit, 262K or 16M colours) with FRC.

Typical Application (simplified)



Complying with the standard for TV sets, ML86V8208 is configured and controlled by an I2C bus system.

Block Schematic Diagram



Essential Features

- Display Size : 854 x 480, 800 x 480, or 640 x 480 pixels
- Display Interface : Colour TFT-LCD, RGB 18 (with FRC) or 24 bits
- Display Colour : 262k or 16M colours
- Analogue Video Input : Composite Video x 4 or S-Video x 2 or Component Video x 1 (RGB / YPbPr)
- Digital Video Input : YCbCr 24bit 4:2:2 / 8bit (ITU-R BT.656)
- Video decoder : NTSC / PAL / SECAM (auto-detection)
- I/P conversion : Intra-field interpolation or External device (ML87V2103)
- Colour Look up table : 256 x 8bit x 3 (RGB)
- On Screen Display : 16 / 24 pixel font, 1 / 2 / 4 / 16 colours, 16 level transparency, 4KB Font RAM, 1KB Text RAM,
- Output Clock : < 50MHz (internal PLL)
- Operating Temp. : - 40 to 85 °C
- Supply Voltage : Analogue 3.3V ± 0.3V, Logic 2.5V ± 0.25V
- Package : 176-pin LQFP, 0.5mm pitch (LQFP176-P-2424-0.50-BK)