MICRONAS

PVP 9390A

Dec/2003

PVP 9390A
Single-Chip Multistandard Picture-in-Picture IC

The Picture-in-picture Video Processor PVP 9390A is the successor of Micronas' well-known SDA 948xX / SDA 958xX (PIP IV) IC family which integrates ADC, DAC, RGB switch, and digital signal processing (color decoding, decimation, storing, output signal processing, data slicing) on a single silicon chip.

The PVP 9390A is designed for 50-Hz and 60-Hz CRT TV applications, but can also be deployed in double-scan applications as 100-Hz and flat panel TVs. Other applications are multimedia and surveillance systems, as well as camera monitoring and video conferencing systems.

With Micronas' single-chip processor family VCT 48/49xxI the PVP 9390A allows a cost-effective feature upgrade of single-scan TV sets to reach a competitive market position.

Front-end

- Input Switch for four CVBS signals
- Y/C input
- YUV input
- Three 8-bit A/D converters

Digital Video Processing

- Multistandard color decoder for all versions of PAL, SECAM, and NTSC
- Horizontal and vertical lowpass-filtering
- Decimation and resizing to discrete $\frac{1}{2}, \frac{1}{4}, \frac{1}{9}$ down to $\frac{1}{81}$ PIP
- Fine zooming in between $\frac{1}{4}$ and $\frac{1}{81}$ PIP
- Slicing and filtering of Closed Caption and WSS data e.g. for parental control

Post Processing

- Free positioning of PIP, as well as POP
- PIP frame control including color, shape, and width
- 18 different MultiPIP modes
- High-speed video switch for inserting external analog RGB or YUV
- OSD with five characters per PIP
- Wipe in/out feature

New Hardware Features

Significant new PVP 9390A hardware characteristics in comparison to the SDA 948xX / SDA 958xX (PIP IV) family are:

- Advanced deep submicron technology
- Leadfree PMQFP44 package
- 3.3 V and 1.8 V supply voltage
- 4 CVBS inputs, separate YUV inputs
- 3.3 V IOs
- No reference voltage adjustments required
- 768 kbit on-chip memory
- Reset input, clock output
- I^2C-programmable general-purpose outputs

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Evaluation and Software Support

- PVP evaluation module for complementing Micronas VCT 48/49xxI based TV systems
- Visual I^2C for PC-controlled parameter setting
- Driver software for quick and easy implementation of PIP features

Miscellaneous

- The PVP 9390A is software compatible to the SDA 948xX / SDA 958xX (PIP IV) family

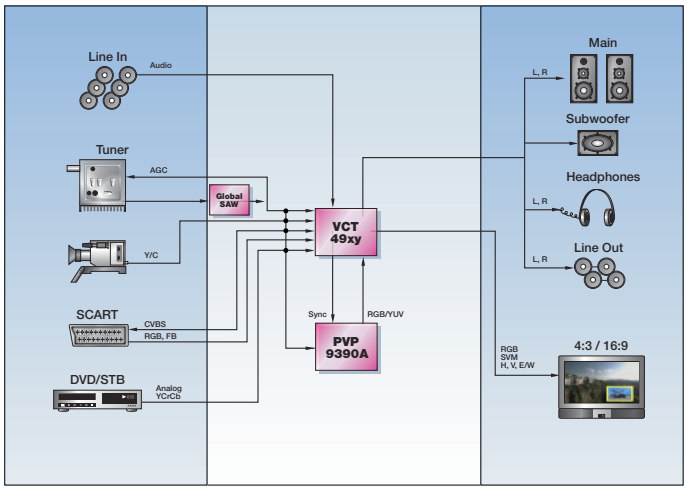

Fig. 1: Application example for the PVP 9390A

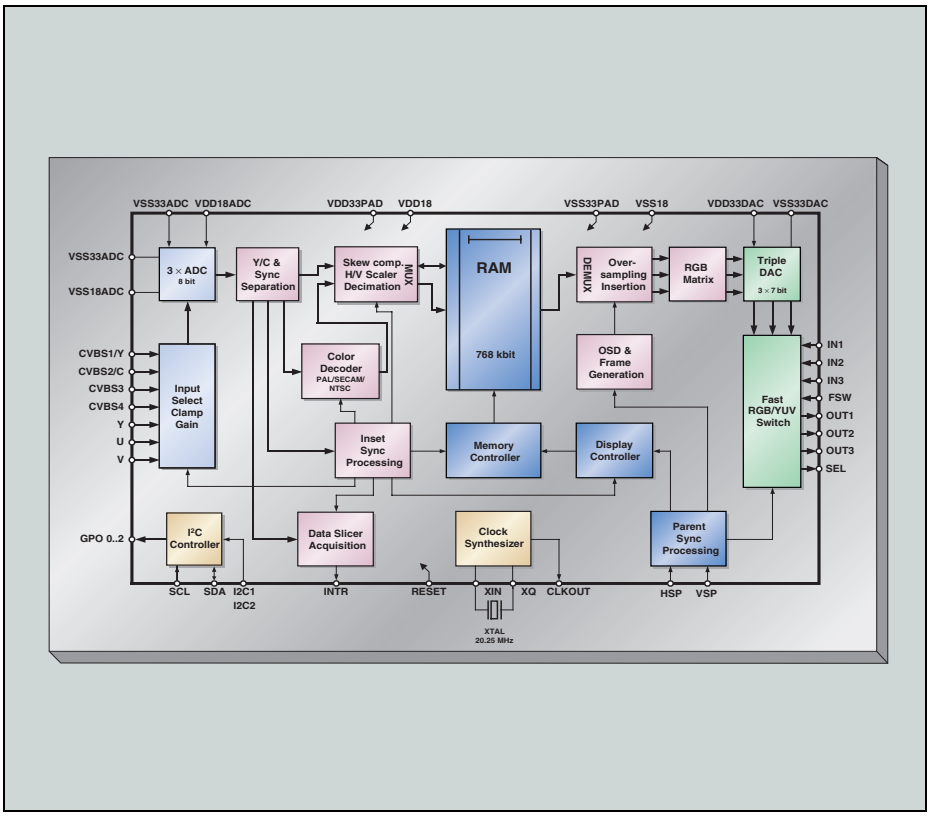

Fig. 2: Block diagram of the PVP 9390A

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