

Product Brief

SCARABAEUS+

SDA 9400

Scanrate Converter Using
Embedded Dram Technology Units



Potential Application

The SDA 9400 is a new component of the Infineon MEGAVISION® IC set for building mid and low TV sets

- 100/120 Hz interlaced TV sets
- 50/60 Hz Progressive Scan TV sets

Features

■ Two Input Data Formats

- 4:2:2 luminance and chrominance parallel (2 x 8 wires)
- ITU-R 656 data format (8 wires)

■ Flexible Compression of the Input Signal

- Digital vertical compression of the input signal (1.0, 1.25, 1.5, 1.75, 2.0, 3.0, 4.0)
- Digital horizontal compression of the input signal (1.0, 2.0, 4.0)

■ Noise Reduction

- Motion adaptive spatial and temporal noise reduction (3D-NR)
- Flexible programming of the temporal noise reduction parameters
- Automatic measurement of the noise level (5 Bit value, readable by I²C Bus)

■ 3-D Motion Detection

- High performance motion detector for scan rate conversion

- Global motion detection flag (readable by I²C Bus)
- Movie mode and phase detector (readable by I²C Bus)

■ Embedded Memory 5 Mbit Embedded DRAM Core for Frame Memory, (2 Field Memories) 192 kbit Embedded DRAM Core for Line Memories

■ Flexible Clock and Synchronization Concept

■ Scan Rate Conversion

- Motion adaptive 100/120 Hz interlaced scan conversion
- Motion adaptive 50/60 Hz progressive scan conversion
- Simple static interlaced and progressive conversion modes for 100/120 Hz interlaced or 50/60 Hz progressive scan conversion: e.g. ABAB, AABB, AA*B*B, AAAA, BBBB, AB, AA*
- Large area and line flicker reduction

■ Flexible Digital Vertical Expansion of the Output Signal (1.0, ...[1/32]..., 2.0)

■ Flexible Output Sync Controller

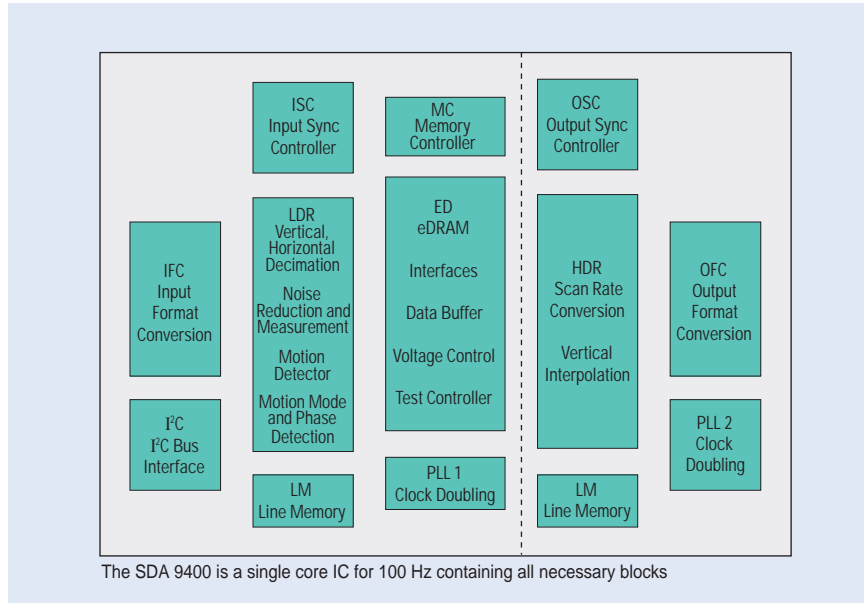
■ Signal Manipulations

- Insertion of coloured background
- Vertical and/or horizontal windowing with four different speed factors
- Flash generation (for supervising applications, motion flag readable by I²C Bus)
- Still field
- Support for split screen applications (PIP processor necessary)
- Still-in-moving picture, Moving-in-still picture (PIP processor necessary)
- Multiple picture display
- Tuner scan (4 and 16 times for 4:3, 12 times for 16:9 tubes)

Technical Data

- I²C Bus control (400 kHz)
- P-MQFP-64 package
- 3.3 V ± 5% supply voltage
- 0.35 μm CMOS technology
- 4:2:2 processing
- Embedded memory
 - 5 Mbit embedded DRAM core for one frame memory (2 field memories)
 - 192 kbit embedded DRAM core for line memories

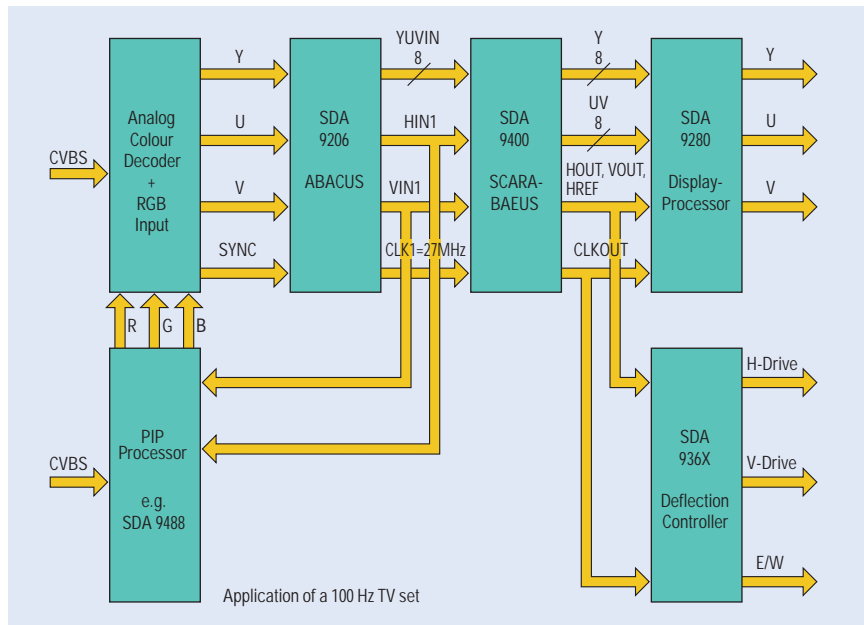
Block Diagram SDA 9400



The SDA 9400 contains all necessary functional blocks on a single chip:

- Flexible input sync controller
- Input format conversion
- Low data rate processing
- Memory controller
- Flexible output sync controller
- Output format conversion
- High data rate processing
- I²C Bus interface
- PLL for frequency doubling and in a leading edge technology 5.2 Mbit embedded DRAM for line and field memories.

Application Example



Availability

The SDA 9400 and a complete documentation is available in samples 1998. Mass production is scheduled for Q2 1999.

A dedicated engineering support team is there to assist you. Also an application board is available. Please contact your local Infineon office for further details.

How to reach us:

<http://www.infineon.com>

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