Product Brief
SDA 9489X

"PIP IV Advanced" Single-Chip Multi Standard Picture in Picture IC

The SDA 9489X integrates analog (clamping, ADC, DAC, RGB switch) and digital signal processing (color decoding, decimation, storing, output signal processing, data slicing etc.) on a single silicon.

SDA

Potential Application

The SDA 9489X "PIP IV Advanced" is a de luxe single-chip Picture in Picture IC for high end applications that requires only a small amount of external components. It is suitable for the following applications:

- TVs for NTSC, PAL and SECAM (all versions each) markets
- Multimedia and security appliances
- Camera monitoring
- Video teleconferencing

Features

- Picture reduction to 1/2, 1/4, 1/9, 1/16, 1/36 and 1/81 keeping picture resolution horizontally and vertically at highest level
- Horizontally and vertically independent fine variation (zooming) of subpicture between 1/4 and 1/81
- Freely programmable positioning of subpicture on the main picture as well as POP positioning

- PIP frame control including color, shape and width
- 16:9 compatibility
- Digital signal processing for picture quality optimization
- Three CVBS inputs; at the SDA 9589X version also YUV (or full Y/C) signals may be put to the inputs; analog YUV or RGB output
- Integrated high speed video switch for inserting an external RGB or YUV source onto the screen (e.g. OSD)
- 18 different Multi PIP modes incl. double window mode
- On-screen display of 5 characters per subpicture
- Acquisition and filtering of closed caption and WSS data (e.g. for violence blocking purposes)
- Wipe in/out feature
- Display on VGA and SVGA screens at correct aspect ratio possible
- Suitable for 100/120 Hz and progressive scan applications

- I^2C-Bus control
- 0.35 μm CMOS technology
- 3.3 V supply voltage
- P-DSO-28 package
- Full SDA 9488X compatibility

Development and Support Package

- Data sheet
- Technical articles
- PIP module and interface board for evaluation
- SIMON Software for Windows based PC to control evaluation boards via I^2C Bus
- SIMON interface module
- Auto demo package for demonstration
- Driver software for easy and fast implementation of PIP feature in programm code
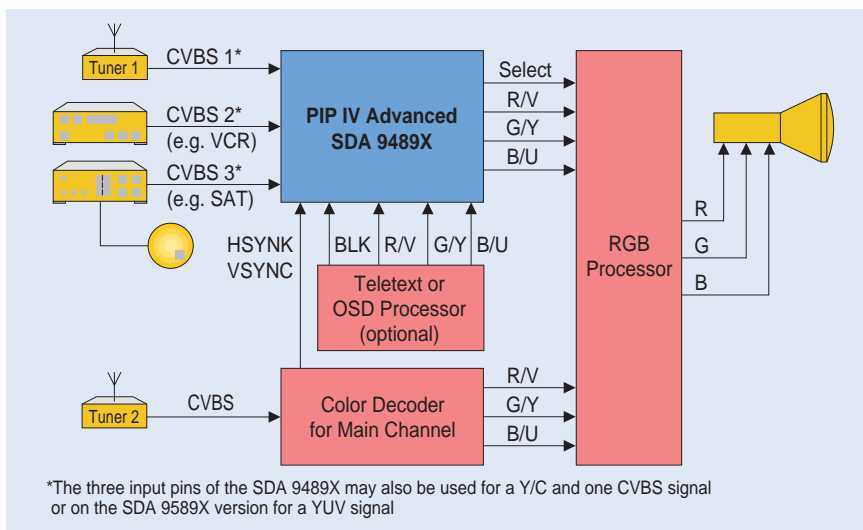
SDA 9489X Block Diagram
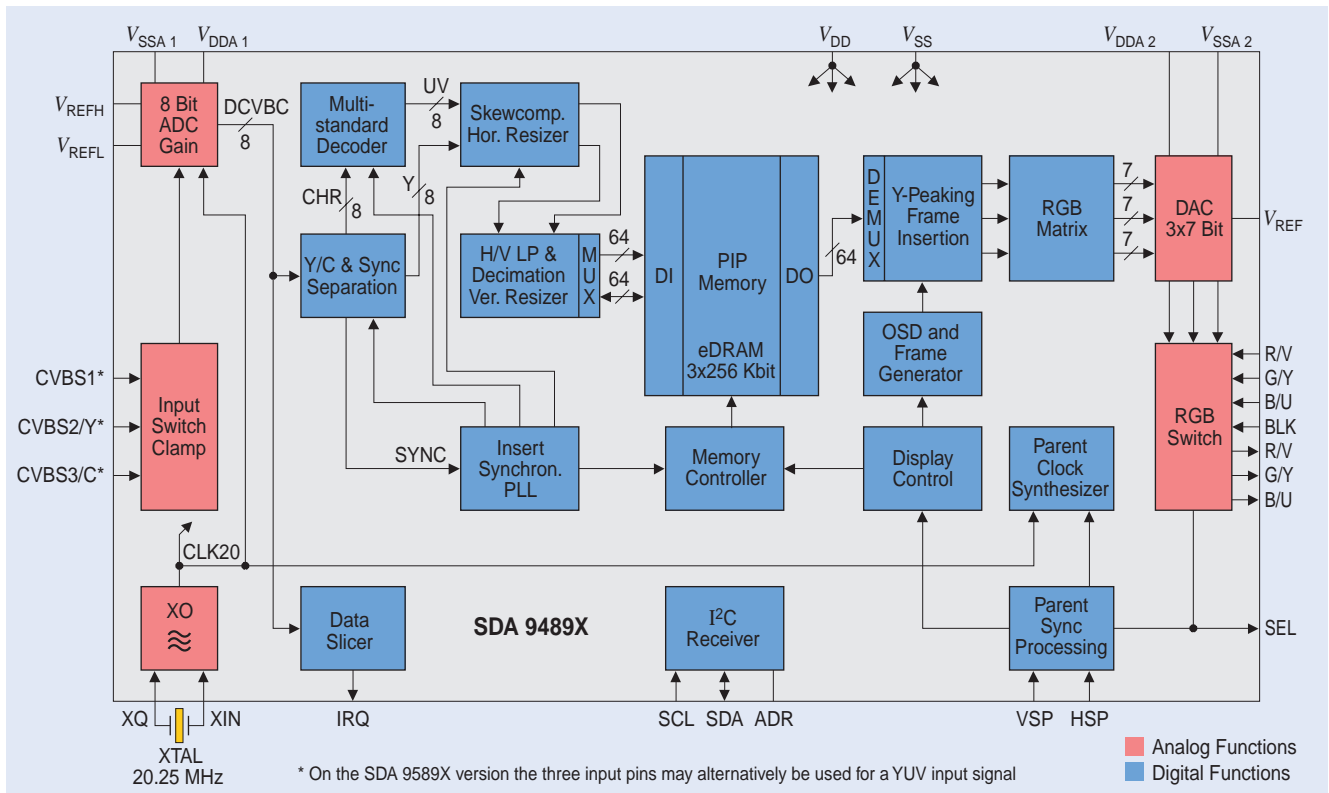
The SDA 9489X integrates different functional blocks on a single chip

- Input video switch
- Signal clamping and 8-Bit AD Converter
- NTSC, PAL, SECAM Chroma decoder
- Horizontal and vertical resizing unit
- Decimation logic
- 768 Kbit on-chip memory
- Output signal processing, e.g. peaking
- Digital data slicer
- OSD generator
- Triple 7-Bit DA Converter
- RGB/YUV Switch
- SYNC processing/generation and memory control logic

Availability

Samples of the SDA 9489X are available for evaluation in 1999 with complete documentation. Our highly experienced engineering support team, as well as our worldwide FAE network can assist you with your design in work. Please contact your local Infineon office for further details. Ask for PIP IV driver software to simplify your development work.

SDA 9489X Application Example

*The three input pins of the SDA 9489X may also be used for a Y/C and one CVBS signal or on the SDA 9589X version for a YUV signal