

# **Video Decoder and Display Processor**

**ADV7186 Data Sheet** 

### **FEATURES**

3D comb video decoder

Overlay support for external graphical HMI/OSD

Fastboot and bitmap load from external EEPROM

LVDS transmitter and receiver (OpenLDI mapping)

Hardware downscaling/upscaling to QVGA and WXGA panel resolutions

Fully differential analog input

LCD controller

**Qualified for automotive applications** 

Video decoder

NTSC/PAL/SECAM color standards support

NTSC/PAL 2D/3D motion detecting comb filter

Advanced time-base correction (TBC) with frame synchronization

Vertical peaking and horizontal peaking filters

Any-to-any,  $3 \times 3$  color space conversion (CSC) matrix

Video signal processor

Edge adaptive interlaced-to-progressive conversion of 525i and 625i

**Bitmap overlay from EEPROM** 

Low cost bitmap overlay requiring no external memory Hardware downscaling/upscaling to QVGA and WXGA

panel resolutions

Adaptive contrast enhancement (ACE)

Up-dither of course resolution input signals

Vertical flip/horizontal mirror orientation control

### **Analog input**

Single low power 10-bit analog-to-digital converter (ADC)

6-channel analog input mux

Single-ended or fully differential input

3-channel antialiasing filter

525i-/525p-/625i-/625p-/720p-/1080i-component analog

RGB graphics up to 800 × 600 at 60 Hz (SVGA)

# **Digital input**

Flexible 24-bit pixel input interface

LVDS receiver (OpenLDI mapping)

## **Digital output**

Flexible 24-bit pixel output interface

LVDS transmitter (OpenLDI mapping)

Independent BT.656 output channel

#### LCD controller

Timing controller (TCON) for LCD panels PWM backlight control

Programmable gamma correction

#### General

**Dual standard identification (STDI) function support** 

1 programmable interrupt request output pin

Spread spectrum output pixel clock

Support for low power mobile DDR (LPDDR) and DDR2 SDRAM

LVDS Rx available on ADV7186BBCZ and ADV7186BBCZ-T only

LVDS Tx available on ADV7186BBCZ only

TCON available on ADV7186BBCZ-T and ADV7186BBCZ-TL

## **APPLICATIONS**

Navigation radios and infotainment head units Central console and rear seat monitors Parking guide and ADAS vision systems Pico and mini projectors **Industrial monitors and displays** 

#### FUNCTIONAL BLOCK DIAGRAM

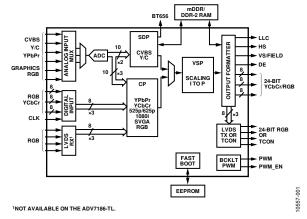


Figure 1.

For more information about the ADV7186, including the complete data sheet, contact your local Analog Devices, Inc., sales office at www.analog.com/sales.

**Document Feedback** 

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**NOTES**