

## 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 × 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 coarse 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 input  
 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



<sup>1</sup>NOT AVAILABLE ON THE ADV7186-TL.

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](http://www.analog.com/sales).

**NOTES**