

## 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).

Rev. SpC

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Last Content Update: 02/23/2017

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## COMPARABLE PARTS

View a parametric search of comparable parts.

## DOCUMENTATION

### Application Notes

- AN-1256: Manual Scaling in the ADV7186
- AN-1260: Crystal Design Considerations for Video Decoders, HDMI Receivers, and Transceivers

### Data Sheet

- ADV7186: Video Decoder and Display Processor Data Sheet

## DESIGN RESOURCES

- ADV7186 Material Declaration
- PCN-PDN Information
- Quality And Reliability
- Symbols and Footprints

## DISCUSSIONS

View all ADV7186 EngineerZone Discussions.

## SAMPLE AND BUY

Visit the product page to see pricing options.

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**NOTES**