

# **Video Decoder and Display Processor**

Data Sheet ADV7186

# **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

Robust synchronization extraction for poor video sources

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

input

RGB graphics up to  $800 \times 600$  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 and 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**

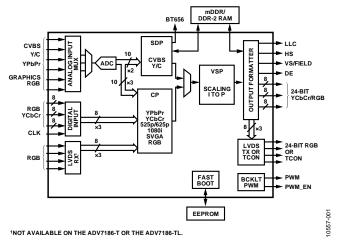


Figure 1

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

ADV7186 Data Sheet

**NOTES** 

