



Combination TV Encoder and Digital Visual Interface (DVI) Transmitter

CX25890/1/2

Dual video streams, simultaneous operation, independent resolutions and content

Conexant's broadband communications portfolio includes a comprehensive suite of semiconductor solutions that enable the digital home and information network. The CX25890/1/2 is a high performance, single-chip device that combines a Digital Visual Interface (DVI) transmitter with a TV out encoder - each operating independently of one another. The combination device can be used in a variety of notebook and desktop PCs as well as consumer appliance applications such as set-top boxes and DVD players.

No limitations – Only flexibility

Today's graphics chips typically provide two digital output ports, which when combined with the CX25890/1/2 gives the user the ability to connect up to two different display media simultaneously. TV and video editing applications are well suited for this device. Download photos from your digital camera onto your PC - assemble a slide show - edit images and add captions - and see the results on the TV at the same time you're editing on a flat panel connected to your PC. Drive two different types of TVs off of one set-top box (one flat panel and one traditional analog TV). All these application scenarios are possible because the CX25890/1/2 truly provides system manufacturers the flexibility to create one design for multiple applications.

Three versions of the DVI transmitter + TV out encoder are available. All three provide simultaneous operation with different resolutions along with concurrent and independent content.

CX25890 has standard analog NTSC/PAL/SECAM/Component TV out and a single link DVI transmitter. It is the most cost-effective member of the product series.

CX25891 provides all features in the CX25890, adds high definition television (HDTV) TV out, and incorporates the ability to have a high-resolution dual link DVI output. The CX25891 supports any of the following combinations: TV out and single link DVI, dual link DVI, or two single DVI links.

CX25892 includes everything in the CX25891 but adds the industry standard high bandwidth digital content protection (HDCP), for both single link DVI and dual-link DVI.

The CX25890/1/2 is packaged in a 128-pin ETQFP (14.0 mm x 14.0 mm). All series members are pin compatible with each other.



Distinguishing Features

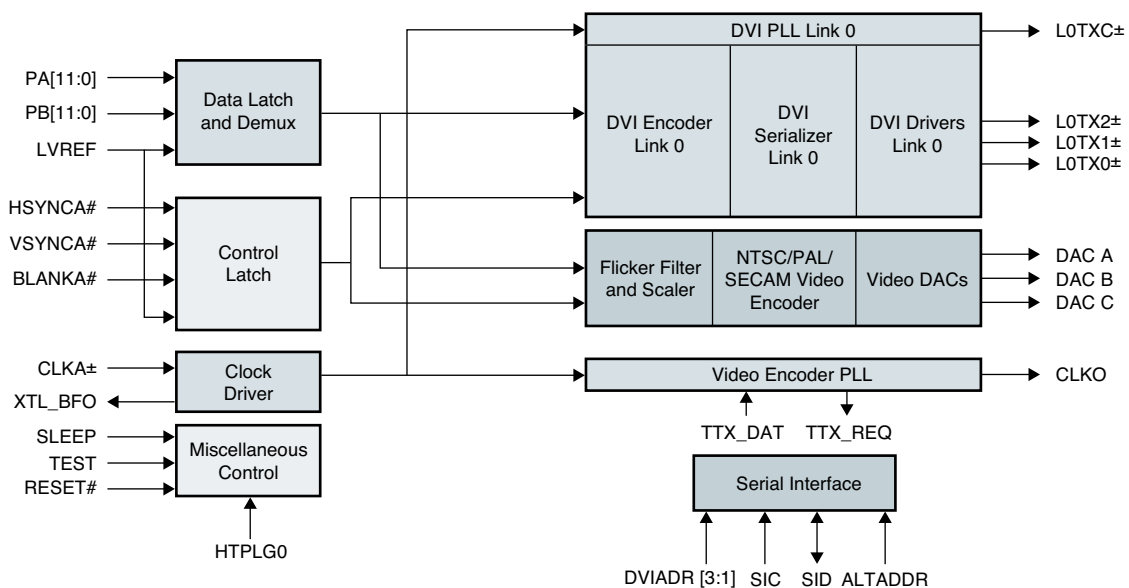
- Simultaneous DVI transmitter and TV output from two independent digital input streams
- Two different yet concurrent displays driven by two DVI links
- Flexible, single-chip solution for low, mid and high-end applications
- Lowest cost solution and component count requiring smaller layout space
- Highest performance TV out technology including HDTV output (CX25891/2 only)
- Adaptive flicker filtering for enhanced TV image output
- HDCP for CX25892
- Register compatible with prior Conexant TV encoders

Part Number CX25890/1/2

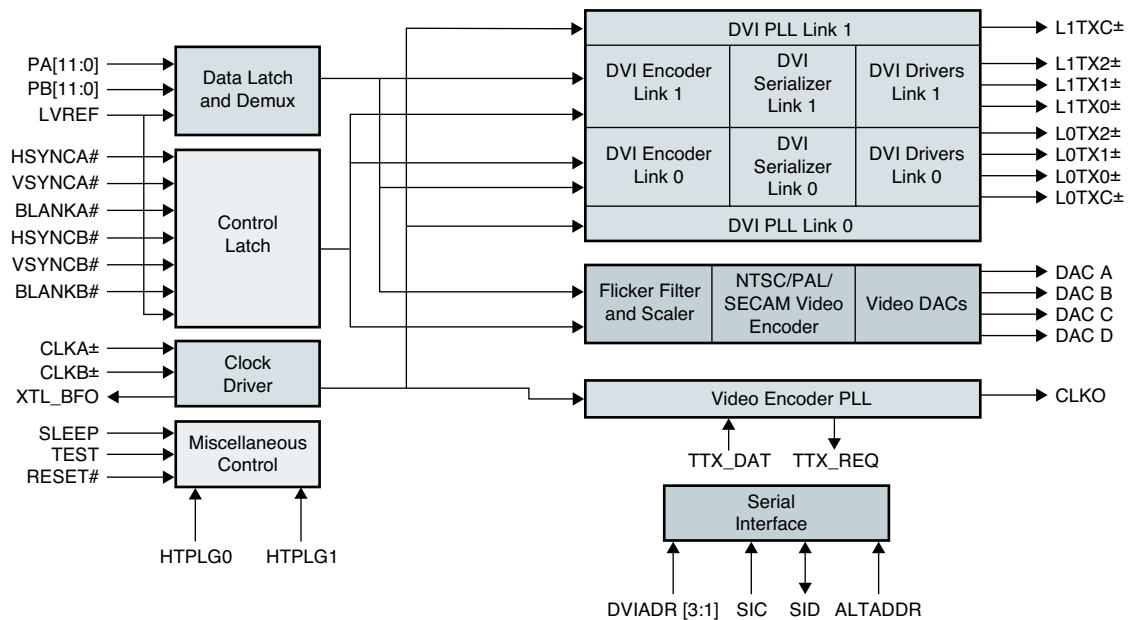
Description	Video Encoder and DVI Transmitter
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Feature Overview

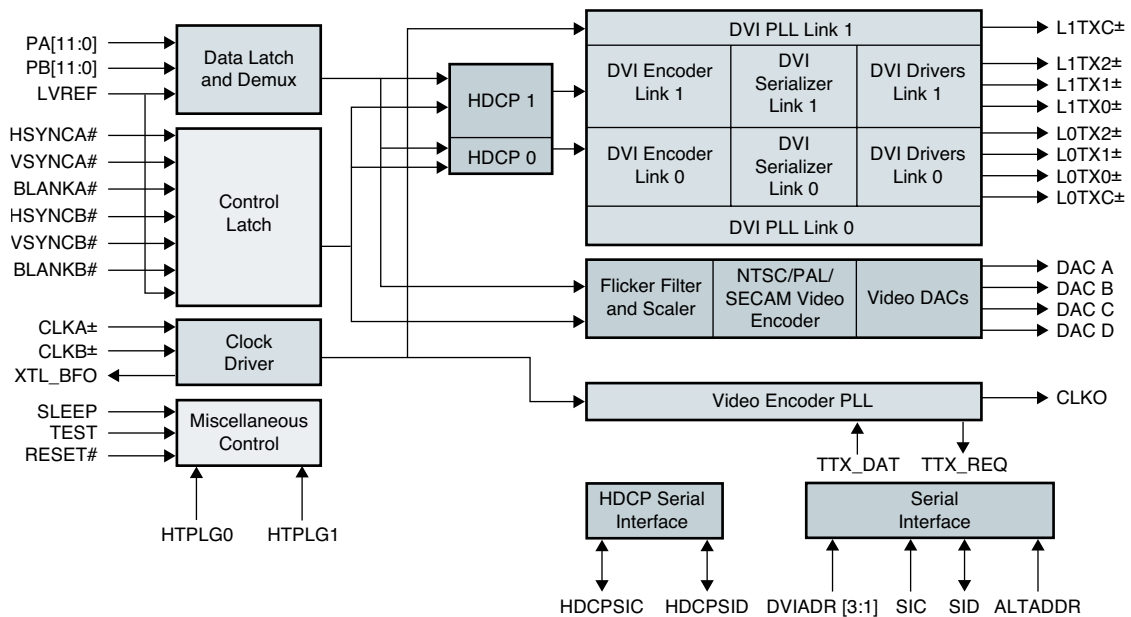
	TV Encoder	HDTV TV Out	Macrovision	Independent DVI Links (Channels)	HDCP 1.0	Concurrent Operation	Independent Resolutions on each channel
CX25890	Yes	No	Yes	1	No	Yes	Yes
CX25891	Yes	Yes	Yes	2	No	Yes	Yes
CX25892	Yes	Yes	Yes	2	Yes	Yes	Yes



CX25890 Block Diagram



CX25891 Block Diagram



CX25892 Block Diagram

CX25890

- (CX25890 Continued)**

- CX25891**

- Dual-link DVI supports DVI resolutions from 1600 x 1200 to 2048 x 1536 (maximum)
- Two simultaneous concurrent DVI links (same content) up to 1600 x 1200
- Two concurrent DVI links (different content) up to 1600 x 1200
- High-Resolution DVI 1.0 Support
- HDTV output mode
 - Compliant with EIA770-3 and SMPTE274M/293M/296M
 - Component (YPrPb) or RGB HD outputs
 - Automatic tri-level sync and broad pulse generation
 - HDTV Macrovision copy protection for 525p(480p) and 625p
 - Support for Japan D1(525i), D2 (D1 and 525p), D3 (D2 and 750p), D4 (D3 and 1125i) HDTV format
- 1080i, 720p, 480p ATSC resolutions for both HDTV and DVI
- SCART RGB or Y/C output for Europe
- Component YUV analog output
- 4 x 10-bit DACs
- Simultaneous S-video with up to 2 Composite video outputs
- Standard PAL WSS and SECAM ITU-R TST.1119-1 wide-screen signaling
 - EIAJ CPR-1204-1 and CPR-1204-2 supported too
- Pin compatibility with CX25890 and CX25892

- High-bandwidth Digital Content Protection (HDCP) 1.0 support
- Pin compatibility with CX25890 and CX25891