

Integrated High Definition Digital TV Processors

DVD

Digital Camera

Digital TV

Imaging

IP Core

Product Brief

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Description

The SupraHD family of highly-integrated high definition digital TV processors are single IC HDTV solutions intended to meet the requirements for Digital Television receivers (Terrestrial ATSC) and the unidirectional Integrated Digital Cable Ready Markets (OpenCable).

SupraHD integrates an industry standard 32-bit MIPS CPU*, high-performance MP@HL MPEG2 decoder, CableCARD interface, HDMI receiver, LVDS and 1394 interfaces, NTSC/PAL decoder, NTSC/PAL encoder, and standard DTV I/O functionality into a single package allowing television systems to be designed with a minimum of external circuitry, lowering the overall system cost and reducing development time.

* Depending on product version.

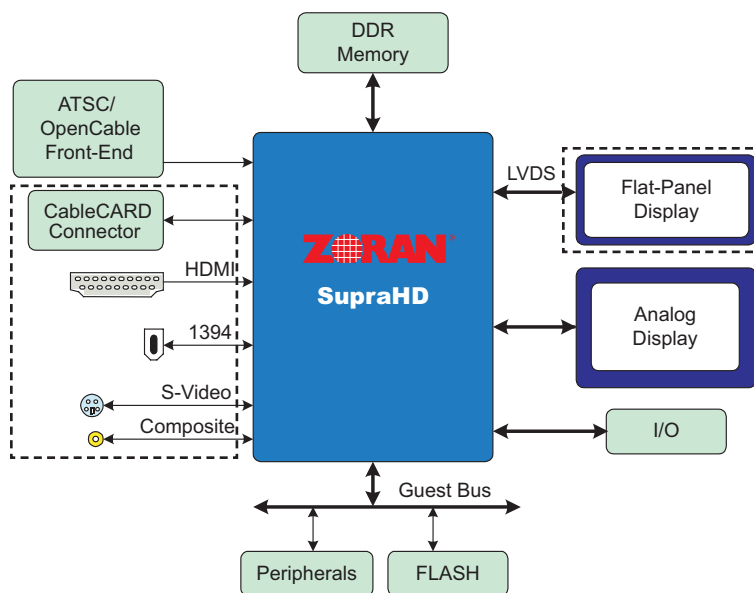
Software Compatibility

The SupraHD IC software API is compatible with the proven Zoran Generation9 family of products allowing current Zoran DTV customers to leverage their existing software development so that new product designs are completed faster and in production sooner.

Applications

- OpenCable/ATSC televisions
- Flat Panel televisions
- CRT televisions
- TV analog to digital upgrade module

System Block Diagram



----- Dashed lines = Optional Items

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System Features

Integrated 32-Bit MIPS CPU

- High performance CPU
- 32-bit MIPS 32 enhanced architecture
- EJTAG port for debug
- Memory Management Unit (MMU)

High-Performance MPEG-2 Video Decoding Engine

- Decodes all ATSC compliant formats
- Supports Slice-level and Frame-level error concealment
- EIA-608 and EIA-708B Closed Caption support

Integrated HDMI Receiver

- Supports all DTV resolutions
- Integrated RGB <=> YUV Color Space Conversion

Integrated LVDS

- Direct to panel
- PWM support

1394A Fully-Compliant Cable Ports at 100/200/400 Megabits per Second (Mbps/s)

- Integrated Link and PHY
- DTCP Content Protection

Transport Interface

- ATSC/DVB/DIRECTV compliant TS demultiplexer
- Supports Partial Transport and PID filtering
- Direct CableCARD support *
- Serial and Parallel inputs

Integrated NTSC/PAL Decoder

- Adaptive 2D/3D comb filter
- VBI decoder

Integrated NTSC/PAL Decoder

High-Performance 32-Bit DDR Memory Interface

- 512 MByte memory address range
- Interfaces to x8, x16, or x32 DDR SDRAM devices

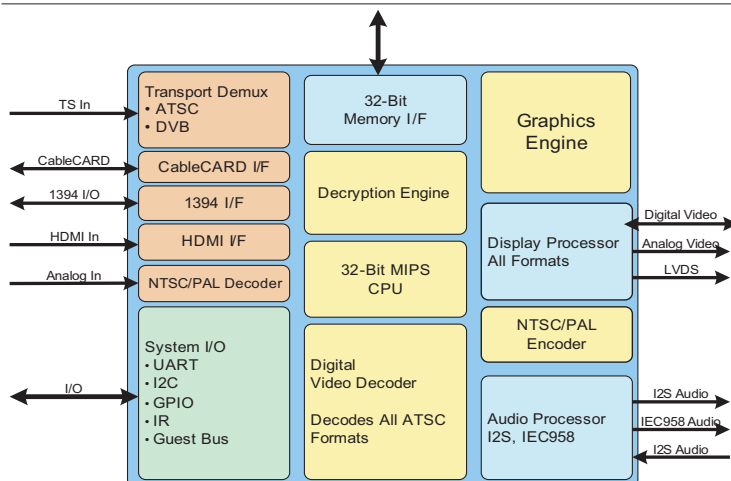
System I/O Functions

- Two UARTs
- Three I2C control interfaces (up to 400kb/s)
- One SPI control interface (up to 2Mb/s)
- IR Receive, IR Blast
- GuestBus interface

Digital Video Output
Analog Video Output
PBGA Package

* Depending on product version.

IC Block Diagram



SupraHD Family

- SupraHD 680 - Complete set of features
- SupraHD 660 - Cablecard NOT INCLUDED
- SupraHD 640 - Cablecard, 1394, HDMI, LVDS and NTSC Decoder NOT INCLUDED - SD output only

Export Classification Control Number (ECCN): 5A992 Product Order Code: ZR39640, ZR39660, ZR39680

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