

Integrated Digital TV Processor

DVD

Digital Camera

Digital TV

Imaging

IP Core

ZR39140

Product Brief

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Benefits Overview

The SupraTV 140 (Part Number ZR39140) targets digital video applications that require high levels of system integration with optimal cost and performance. Suitable for free-to-air digital Set Top Boxes and Integrated Digital Televisions, SupraTV 140 enables industry-leading products to be developed with a best-in-class cost performance balance.

The use of programmable DSP-based technology and a MIPS32 CPU with Memory Management Unit (MMU) not only provides options for product differentiation but enables access to industry

standard operating systems and middlewares such as Linux, Nucleus+ and MHEG-5, MHP.

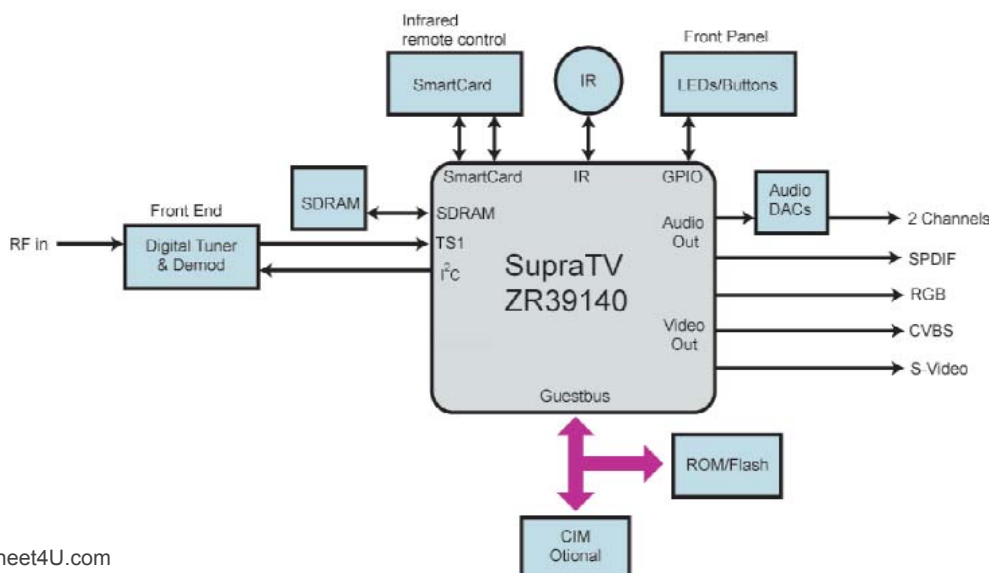
Integration of typically external support components such as a Digital Timing Oscillator which replaces the external VCXO, smartcard protection and control functions help reduce the overall product bill of materials and system cost.

With a comprehensive set of software drivers, proven tool kit and reference platform the SupraTV 140 allow product development times are kept to a minimum.

Features Summary

- **32-bit MIPS 4KEc CPU with MMU (> 170 Dhrystone MIPS)**
 - 8K I-cache, 8K D-cache
- **Programmable transport demultiplexer**
 - Single Transport input
 - 32-PID filters with flexible section filtering
 - DVB descrambling support
- **MPEG-2 video decoder, ISO/IEC13818-2 (MP@ML)**
 - Picture CD and JPEG decoding
 - Support for bitrates up to 15 Mbits/sec
- **High performance graphics subsystem**
 - 2D graphics accelerator supporting six planes
 - 4 or 8 bit CLUT OSD, 16 bit RGB with Antiflicker filtering
 - Flexible down/up-scaling of video
- **Integrated PAL/NTSC Video Encoder**
 - VBI reinsertion (Teletext, WSS, CC)
 - Simultaneous CVBS, S-Video and Component output
- **Unified SDRAM memory architecture (64Mbit to 256Mbit)**
- **Guestbus with glueless interface to peripheral devices**
 - ATAPI, flash memory, Common Interface, USB/LAN bridge
- **Smartcard interface with integrated protection and control**
- **Programmable audio DSP**
 - Support for MPEG audio layers 1 & 2, Dolby Digital, MP3, WMA
 - Postprocessing and enhancement algorithms
- **Two-channel audio output**
 - SPDIF output
- **Set Top Box interfaces including: UARTs, I2C, IR, GPIOs**
- **Single 20.25 MHz crystal**
 - Integrated digital timing oscillator replacing external VCXO
- **256-pin PQFP package**

Set Top Box Block Diagram



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SupraTV 140 Development Platform

A comprehensive development platform is available for the SupraTV 140, including evaluation boards for terrestrial, satellite and digital cable-based products. An Integrated Development Environment includes a proven windows-based GNU tool kit, Zoran's SiliconSoftware® drivers, and additional applications to assist in adding functions such as flash memory burning, a high-performance code download mechanism, software protection and a sophisticated

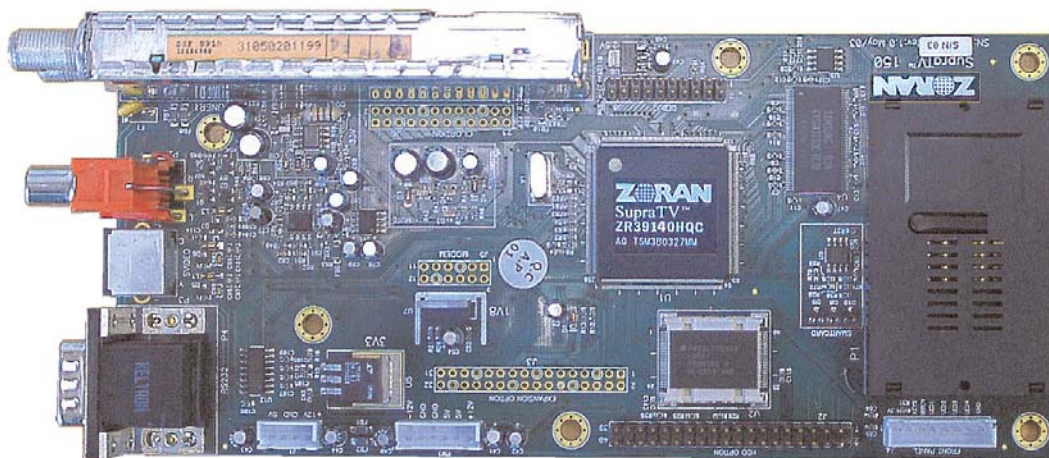
GUI development tool, Embedded Wizard, automatic code generator.

The SupraTV 140 platform will significantly reduce the time taken to develop feature-rich digital television and Set Top Box products.

SupraTV 140 Evaluation Board

The SupraTV 140 evaluation board supports all needed peripherals and is available with a COFDM, QPSK or QAM front-end. Combo

products with single-stream Personal Video Recording support the connection of appropriate storage devices.



Zoran SiliconSoftware API Package

Zoran provides software support for the SupraTV 140 and documented Application Programming Interface. Based on the Company's extensive DVD and HDTV experience, the API provides a stable base on which users can build their own applications.

A software stack, including the operating system (Nucleus+), is available on a royalty-free basis. Zoran's SiliconSoftware API will be supported on future SupraTV ICs. Software portability from one gen-

eration to the next minimizes project design time and effort while enabling software reusability.

Other components of the software package available include adaptation layers for the support of popular middlewares and applications including an EPG for free-to-air services, and other third party software.

For more information, contact Zoran's Sunnyvale office or the office nearest you:

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