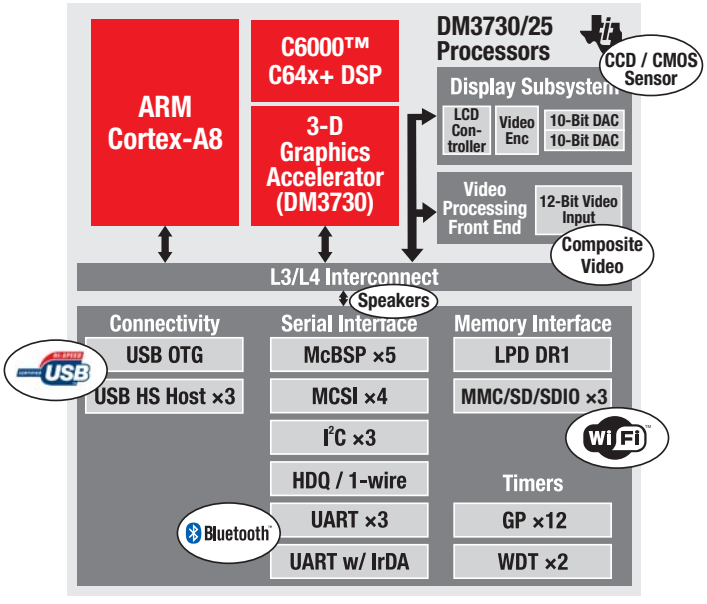
DaVinci™ DM37x Video Processors

Overview

Software and hardware engineers can easily design more media-rich, portable applications utilizing the new DaVinci DM37x video processors. The **DM3730** and **DM3725** processors with their ARM® Cortex™-A8 and TMS320C64x+™ DSP core, imaging and video accelerator (IVA), 3-D graphics processor (DM3730 only) and high-performance peripherals (USB 2.0, SD/MMC) integrated on a single system-on-chip (SoC), are suitable for applications requiring HD video processing or a large amount of data processing. These applications include navigation systems, media players, medical patient monitoring devices, industrial test and measurement devices, industrial vision and portable communications.

Technical details

- The DM3730 and DM3725 video processors are pin compatible and software compatible with each other, as well as with Sitara™ AM3715 and AM3703 processors. Each device can be configured to operate at multiple operating points enabling low power or high performance modes.
- 800-MHz C64x+™ DSP with 720p 30 frames per second (fps) HD video encoding and decoding, which offfers numerous price, feature and power options to enable a range of end products from a single software and hardware investment
- The DM3730 processor has a POWERVR™ 200-MHz graphics accelerator, supports OpenGL® ES 2.0 and renders 20 million polygons per second, coupled with the advanced display subsystem, which allows intensive signal analysis and processing and seamless HD video decoding for multi-media applications
- Allows developers to create a user interface enabling stunning 3-D graphics navigation with life-like effects
- 20 percent increase in LPDDR controller performance and 100 percent increase in L1 cache compared to OMAP3530 processor (increased memory bandwidth) to provide increased multi processor performance and reduces latency



▲ *DM3730/DM3725 block diagram*

Community support

Helping make development easier, customers can start developing their designs today with:

- **TMDXEVM3730 EVM**, which includes a TI *Bluetooth*® WiFi™ module.

Key Features and Benefits:

- C64x+ DSP adds signal processing and 720p video and audio
  - High-resolution audio/video decoding and encoding
  - DSP allows advanced signal processing and algorithms
  - DSP offloads ARM processor, providing additional application headroom to run more intense, high-level applications
- Offering higher performance, lower power and compatibility with OMAP3530 processor
  - Software compatible with OMAP3530 and AM37x processors
  - Offering higher performance, lower power and compatibility with OMAP3530 processor
  - Allows access to technical development forums (blogs and online communities) to aid design (Sitara™, BeagleBoard-xM, ARM)
- Comprehensive SDK provides quick demo and development
  - SDK contains everything developers need to evaluate and begin development on the DM3730 EVM quickly
  - Unique software offering helps leverage the DSP easily
  - Includes free A/V codecs and software for DSP-accelerated signal processing algorithms
- The SDK includes Linux kernel 2.6.32 board support package (BSP) complete with graphical user interface, graphics, applications, demonstrations and development utilities. The **SDK** also offers a royalty-free library of DSP-optimized signal-processing algorithms accessible from the

ARM processor through a set of easy-to-use application programming interfaces (APIs). The DSP library contains more than 80 algorithms, including multi-media decoders and encoders, math functions, digital filtering including Fast Fourier Transform (FFT), and image processing including image filtering and analysis.

- Support for the Linux and Android™ operating systems is available today. Windows CE™ support will be available in 4Q10.

Get started today

Customers can begin designing by downloading the DM3730 software for use on the DM3730 evaluation module, TMDXEVM3730, available for $1,495 USD from TI. Customers may also develop on the **BeagleBoard-xM**, a low-cost, open-source community board equipped with the DM3730 processor, available for $179 USD from Digi-Key. The DM37x processors will be available for purchase starting at $22.65 USD in 1,000 unit quantities (1 KU) at **www.ti.com/dm3730-pbpf**.

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