TMS320C8x
System-Level
Synopsis

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Read This First

About This Manual

The TMS320C8x is Texas Instruments' first generation of single-chip multiprocessor digital signal processor (DSP) devices. A single 'C8x contains up to five powerful, fully programmable processors: a master processor (MP) and up to four parallel processors (PPs). The MP is a 32-bit RISC (reduced instruction set computer) processor with an integral, high-performance IEEE-754 floating-point unit. Each PP is a 32-bit advanced DSP that combines capabilities similar to those of conventional DSPs with advanced features to accelerate operation on a variety of data types.

The 'C8x supports a variety of parallel-processing configurations, which facilitate a wide range of multimedia and other applications that require high processing speeds. Applications include image processing, two-dimensional, three-dimensional, and virtual reality graphics, digital audio and video compression, and telecommunications.

This manual describes the 'C8x's features, architecture, and development environment.

Related Documentation From Texas Instruments

The following books describe the TMS320C8x and related support tools. To obtain a copy of any of these TI documents, call the Texas Instruments Literature Response Center at (800) 477–8924. When ordering, please identify the book by its title and literature number.

TMS320C80 Multimedia Video Processor Data Sheet (literature number SPRS023) describes the features of the 'C80 device and provides pinouts, electrical specifications, and timings for the device.

TMS320C80 (MVP) C Source Debugger User's Guide (literature number SPRU107) describes the 'C8x master processor and parallel processor C source debuggers. This manual provides information about the features and operation of the debuggers and the parallel debug manager; it also includes basic information about C expressions and a description of progress and error messages.

TMS320C80 (MVP) Code Generation Tools User's Guide (literature number SPRU108) describes the 'C8x code generation tools. This manual provides information about the features and operation of the linker and the master processor (MP) and parallel processor (PP) C compilers and assemblers. It also includes a description of the common object file format (COFF) and shows you how to link MP and PP code.

TMS320C80 (MVP) Master Processor User's Guide (literature number SPRU109) describes the 'C8x master processor (MP). This manual provides information about the MP features, architecture, operation, and assembly language instruction set; it also includes sample applications that illustrate various MP operations.

TMS320C80 (MVP) Multitasking Executive User's Guide (literature number SPRU112) describes the 'C8x multitasking executive software. This manual provides information about the multitasking executive software features, operation, and interprocessor communications; it also includes a list of task error codes.

TMS320C80 (MVP) Parallel Processor User's Guide (literature number SPRU110) describes the 'C8x parallel processor (PP). This manual provides information about the PP features, architecture, operation, and assembly language instruction set; it also includes software applications and optimizations.

TMS320C80 (MVP) Transfer Controller User's Guide (literature number SPRU105) describes the 'C80 transfer controller (TC).This manual provides information about the TC features, functional blocks, and operation; it also includes examples of block write operations for big- and little-endian modes.

TMS320C80 (MVP) Video Controller User's Guide (literature number SPRU111) describes the 'C80 video controller (VC). This manual provides information about the VC features, architecture, and operation; it also includes procedures and examples for programming the serial register transfer (SRT) controller and the frame timer registers.

TMS320C80 to TMS320C82 Software Compatibility User's Guide (literature number SPRU154) describes programming differences in the 'C80 and the 'C82.

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