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Nota di contenuto	Digital Signal Processing and Applications with the C6713 and C6416 DSK; TOPICS IN DIGITAL SIGNAL PROCESSING; Contents; Preface; List of Examples; Programs/Files on Accompanying CD; 1 DSP Development System; 1.1 Introduction; 1.2 DSK Support Tools; 1.2.1 DSK Board; 1.2.2 TMS320C6713 Digital Signal Processor; 1.3 Code Composer Studio; 1.3.1 CCS Installation and Support; 1.3.2 Useful Types of Files; 1.4 Quick Test of DSK; 1.5 Support Files; 1.6 Programming Examples to Test the DSK Tools; 1.7 Support Programs/Files Considerations; 1.7.1 Initialization/Communication File; 1.7.2 Vector File 1.7.3 Linker Command File1.8 Compiler/Assembler/Linker Shell; 1.8.1 Compiler; 1.8.2 Assembler; 1.8.3 Linker; 1.9 Assignments; References; 2 Input and Output with the DSK; 2.1 Introduction; 2.2 TLV320AIC23 (AIC23) Onboard Stereo Codec for Input and Output; 2.3 Programming Examples Using C Code; 2.4 Assignments; References; 3 Architecture and Instruction Set of the C6x Processor; 3.1 Introduction; 3.2 TMS320C6x Architecture; 3.3 Functional Units; 3.4 Fetch and Execute Packets; 3.5 Pipelining; 3.6 Registers; 3.7 Linear and Circular Addressing Modes; 3.7.1 Indirect Addressing 3.7.2 Circular Addressing3.8 TMS320C6x Instruction Set; 3.8.1 Assembly Code Format; 3.8.2 Types of Instructions; 3.9 Assembler Directives; 3.10 Linear Assembly; 3.11 ASM Statement within C; 3.12 C

- Callable Assembly Function; 3.13 Timers; 3.14 Interrupts; 3.14.1 Interrupt Control Registers; 3.14.2 Interrupt Acknowledgment; 3.15 Multichannel Buffered Serial Ports; 3.16 Direct Memory Access; 3.17 Memory Considerations; 3.17.1 Data Allocation; 3.17.2 Data Alignment; 3.17.3 Pragma Directives; 3.17.4 Memory Models; 3.18 Fixed- and Floating-Point Format; 3.18.1 Data Types 3.18.2 Floating-Point Format 3.18.3 Division; 3.19 Code Improvement; 3.19.1 Intrinsics; 3.19.2 Trip Directive for Loop Count; 3.19.3 Cross-Paths; 3.19.4 Software Pipelining; 3.20 Constraints; 3.20.1 Memory Constraints; 3.20.2 Cross-Path Constraints; 3.20.3 Load/Store Constraints; 3.20.4 Pipelining Effects with More Than One EP within an FP; 3.21 Programming Examples Using C, Assembly, and Linear Assembly; 3.22 Assignments; References; 4 Finite Impulse Response Filters; 4.1 Introduction to the z-Transform; 4.1.1 Mapping from s-Plane to z-Plane; 4.1.2 Difference Equations; 4.2 Discrete Signals 4.3 FIR Filters 4.4 FIR Lattice Structure; 4.5 FIR Implementation Using Fourier Series; 4.6 Window Functions; 4.6.1 Hamming Window; 4.6.2 Hanning Window; 4.6.3 Blackman Window; 4.6.4 Kaiser Window; 4.6.5 Computer-Aided Approximation; 4.7 Programming Examples Using C and ASM Code; 4.8 Assignments; References; 5 Infinite Impulse Response Filters; 5.1 Introduction; 5.2 IIR Filter Structures; 5.2.1 Direct Form I Structure; 5.2.2 Direct Form II Structure; 5.2.3 Direct Form II Transpose; 5.2.4 Cascade Structure; 5.2.5 Parallel Form Structure; 5.2.6 Lattice Structure; 5.3 Bilinear Transformation 5.3.1 BLT Design Procedure

Sommario/riassunto

This book is a tutorial on digital techniques for waveform generation, digital filters, and digital signal processing tools and techniques. The typical chapter begins with some theoretical material followed by working examples and experiments using the TMS320C6713-based DSP Starter Kit (DSK). The C6713 DSK is TI's newest signal processor based on the C6x processor (replacing the C6711 DSK).
