

Table of Contents

.....

***Introduction* 1**

Who Should Read This Book.....	2
How to Use This Book.....	2
How This Book Is Organized.....	2
Icons Used in This Book.....	4
Where to Go from Here	4

Part I: Understanding the Embedded Software and Tools for OMAP and DaVinci Processors.....5

Chapter 1: OMAP and DaVinci Processors — Hybrids of the Programming World 7

A Hybrid Is As a Hybrid Does	8
High Frequency Meltdowns	8
Multiplying Performance with Multi-Cores.....	9

Chapter 2: Using the Right Operating Systems 13

DSP/BIOS — Real, Real-Time	14
Linux — a Real Operating System for OMAP and DaVinci Devices	16
Using Applications	19
Connecting It All Together	20

Chapter 3: Digital Media Software: Standardizing How Codecs Work Together. 21

Taking a Look at TI Standards	22
XDAIS — Ensuring Codecs Play Fairly.....	22
XDM — Standard Interfaces for Common Classes of Codecs.....	26
RTSC — Standardized Packaging for All Codecs	28

Chapter 4: Multimedia Framework Products — Revving the Codec Engine 31

Multimedia Framework Products	31
DSP/BIOS Link.....	38
Picking the Right Multimedia Codecs	40

Chapter 5: Picking the Right Development Tools	43
Introducing TI Evaluation Modules	44
Digital Video Software Development Kits (DVSDK).....	45
Picking ARM Processor OS Tools.....	46
Tools for the OMAP and DaVinci DSP Processor	48
What's Going on with ARM-DSP Interactions?	49
<i>Part II: Building Something Real — Now!</i>	51
Chapter 6: Meet the Board!	53
Welcome to the OMAP3 EVM	54
“Hello World”	55
Running the Decode Demo	57
Chapter 7: Making Codecs Play Nice with Rules and Guidelines	59
Keeping Codec Producers Honest with the QualiTI Tool	60
Diving Deep into a Few XDAIS Rules.....	64
XDM and VISA Semantics.....	66
Chapter 8: Making a Standard Box for Codecs	69
Why Bother with RTSC Packaging?	70
Getting Help from the RTSC Codec Packaging Tool	73
Preserving All-Important Codec Performance	78
Chapter 9: Generating DSP Server Executables	81
Timeout for a Terminology Recap	82
Getting Help from the RTSC Server Packaging Tool	83
Bundling Multiple Codecs into Combos	88
Chapter 10: How Do I Test This Thing?	91
Using the DVSDK Demos	92
The Digital Video Test Bench	96
Making Single-Page Applications with DMAI	98
Using Pre-Canned Combos	100
<i>Part III: The Part of Tens</i>	101
Chapter 11: Ten (Almost) Codec Package Requirements	103
Chapter 12: Ten Super OMAP and DaVinci Resources	105
<i>Index</i>	107