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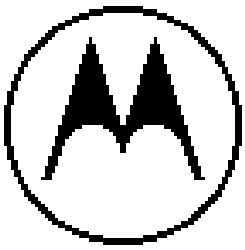

MOTOROLA

MC68340

Integrated Processor with DMA
User's Manual

PREFACE

The complete documentation package for the MC68340 consists of the MC68340UM/AD, *MC68340 Integrated Processor with DMA User's Manual*, M68000PM/AD, *MC68000 Family Programmer's Reference Manual,* and the MC68340P/D, *MC68340 Integrated Processor with DMA Product Brief*.

The *MC68340 Integrated with DMA Processor User's Manual* describes the programming, capabilities, registers, and operation of the MC68340; the *MC68000 Family Programmer's Reference Manual* provides instruction details for the MC68340; and the *MC68340 Integrated Processor with DMA Product Brief* provides a brief description of the MC68340 capabilities.

This user's manual is organized as follows:

Section 1	Device Overview	Section 8	Timer Modules
Section 2	Signal Descriptions	Section 9	IEEE 1149.1 Test Access Port
Section 3	Bus Operation		
Section 4	System Integration Module	Section 10	Applications
Section 5	CPU32	Section 11	Electrical Characteristics
Section 6	DMA Controller Module	Section 12	Ordering Information and Mechanical Data
Section 7	Serial Module		

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TABLE OF CONTENTS

TABLE OF CONTENTS (Continued)

TABLE OF CONTENTS (Continued)

TABLE OF CONTENTS (Continued)

Section 4
System Integration Module

TABLE OF CONTENTS (Continued)

Section 5
CPU32

TABLE OF CONTENTS (Continued)

TABLE OF CONTENTS (Continued)

TABLE OF CONTENTS (Continued)

TABLE OF CONTENTS (Continued)

Section 6
DMA Controller Module

TABLE OF CONTENTS (Continued)

Section 7
Serial Module

TABLE OF CONTENTS (Continued)

TABLE OF CONTENTS (Continued)

Section 8
Timer Modules

TABLE OF CONTENTS (Continued)

TABLE OF CONTENTS (Concluded)

LIST OF ILLUSTRATIONS

LIST OF ILLUSTRATIONS (Continued)

LIST OF ILLUSTRATIONS (Continued)

LIST OF ILLUSTRATIONS (Continued)

LIST OF ILLUSTRATIONS (Concluded)

LIST OF TABLES

LIST OF TABLES (Continued)

SECTION 1
DEVICE OVERVIEW

The MC68340 is a high-performance 32-bit integrated processor with direct memory access (DMA), combining an enhanced M68000-compatible processor, 32-bit DMA, and other peripheral subsystems on a single integrated circuit. The MC68340 CPU32 delivers 32-bit CISC processor performance from a lower cost 16-bit memory system. The combination of peripherals offered in the MC68340 can be found in a diverse range of microprocessor-based systems, including embedded control and general computing. Systems requiring very high-speed block transfers of data can especially benefit from the MC68340.

The MC68340's high level of functional integration results in significant reductions in component count, power consumption, board space, and cost while yielding much higher system reliability and shorter design time. The 3.3-V MC68340V is particularly attractive to applications requiring a very tight power budget. Complete code compatibility with the MC68000 and MC68010 affords the designer access to a broad base of established real-time kernels, operating systems, languages, applications, and development tools—many oriented towards embedded control.

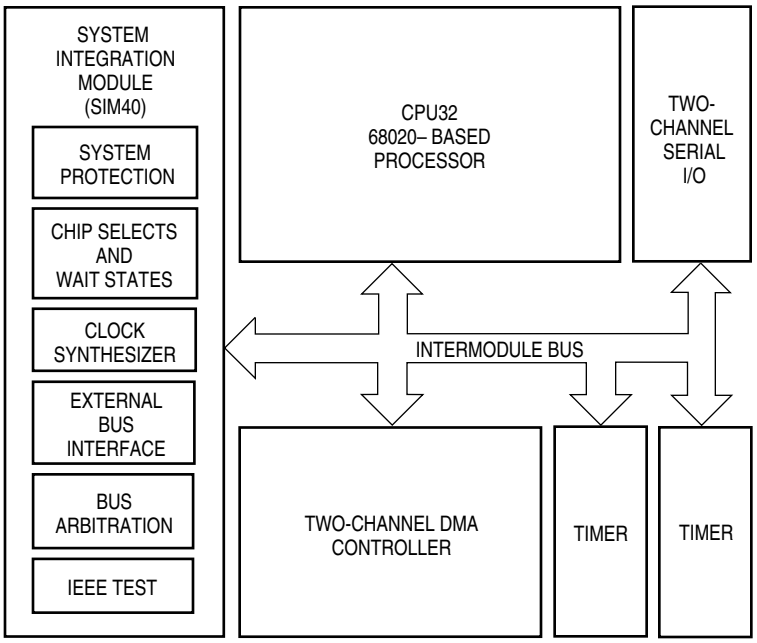

Figure 1-1. Block Diagram