



**IA MMX™
Instruction Set
Summary**





APPENDIX A IA MMX™ INSTRUCTION SET SUMMARY

Table A-1 summarizes the IA MMX™ instruction set base mnemonics. The instructions are grouped by categories of related functions.

Most of the instructions have multiple variations that are not listed in Table A-1. For example, PADD has the following variations: PADDB, PADDW, and PADDD. The instruction variations and mnemonics are detailed in the Instruction description section of Chapter 5.

Table A-1. IA MMX Instruction Set Summary, Grouped into Functional Categories

CATEGORY		Wraparound	Signed Saturation	Unsigned Saturation
Arithmetic	addition	PADD	PADDSS	PADDUS
	subtraction	PSUB	PSUBS	PSUBUS
	multiplication	PMULL/H		
	multiply and add	PMADD		
Comparison	compare	PCMPEQ PCMPGT		
Conversion	pack unpack	PUNPCKL/H	PACKSS	PACKUS
Logical		Packed	Full 64-bit	
	and		PAND	
	and not		PANDN	
	or		POR	
	exclusive or		PXOR	
Shift	shift left logical	PSLL	PSLL	
	shift right logical	PSRL	PSRL	
	shift right arithmetic	PSRA		
Data Transfer Operations		32-bit transfers		64-bit transfers
	register←register	MOVD	MOVQ	
	load from memory	MOVD	MOVQ	
	store to memory	MOVD	MOVQ	
FP and MMX™ State Management		EMMS		