



# **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	PADDs	PADDUS
	subtraction	PSUB	PSUBs	PSUBUS
	multiplication	PMULL/H		
	multiply and add	PMADD		
Comparison	compare	PCMPEQ PCMPGT		
Conversion	pack	PUNPCKL/H	PACKSS	PACKUS
	unpack			
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		