

Col Ref →			Opcode LSbits → MSbits ↓	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
Row Ref ↓	Opcode Size	Opcode Extension		0000	0001	0010	0011	0100	0101	0110	0111	1000	1001	1010	1011	1100	1101	1110	1111	
a	16/32-bit	00	00	NEOP NOP (16-bit only)	MOV MOVR (W → W) EXCH (W ↔ W)	GP Co-processor Move Ops (16-bit)		MOV W → (W15-lit7) W → (W14-edlit7)		MOV (W15-lit7) → W (W14-edlit7) → W		MOV lit5		MULSS MULUS	MULUU MULSU			POP (16-bit only)	PUSH (16-bit only)	
b			01	ASR by Short Lit	LSR by Short Lit	SL by Short Lit	PUSH PUSH Co-processor	ASR	LSR	SL	POP POP Co-processor	RLC	RLNC	RRC	RRNC	CP lit3	CPB lit3	CP	CPB	
c			10	BCLR	BSET	BTG	BTST	BTSTS	BSW	BTST Wn with Wb										
d			11	ADD	ADDC	SUB	SUBB	AND	IOR	SUBR	SUBBR	XOR	Inherent	ADD lit5	SUB lit5	COM	SUBR lit7	SE	ZE	
e		01	00	MOV.l lit32	GP Co-processor Move Ops (32-bit)			MOV.b/.w/.l literal MOVS				MOV.w/.l		MOV.w/.l		MOV.bz		MOV.bz		
f			01	ASR	LSR	SL	CLR	CP0	CP	CPB	SET	RLC	RLNC	RRC	RRNC	DTB	Instruction with File Register			
g			10	BCLR	BSET	BTG	BTST	BTSTS	BFINS lit16	BFINS BFEXT				TST	INC	DEC	COM	NEGF	INC2	DEC2
h			11	ADD	ADDWF	SUBFW	SUBB	Instruction with File Register		AND	IOR	SUB	SUBB	XORWF						
i	32-bit	10	00	Reserved for Co-processor Ops																
j			01				BOA BOB BSA BSB	BGT BGE BLT BLE	BC BNC BOV BNOV	BN BNN BZ BNZ	BLEU BGU BRA	Reserved for Co-processor Branches								
k			10	ADD lit16 and Wn	ADD lit16 and Wn	SUB lit16 and Wn CP (lit16)	SUBB CP (lit16)	AND lit16 and Wn	IOR lit16 and Wn	RET lit16 and Wn		XOR lit16 and Wn		RCALL REPEAT LNK	BRA RCALL GOTO CALL Wn	REPEAT CTXTSWP Wn	GOTO lit24	DISCTL	CALL lit24	
l			11	ADD Ws and lit7	ADDC Ws and lit7	SUB Ws and lit7	SUBB Ws and lit7	AND Ws and lit7	IOR Ws and lit7	AND1L Ws and lit7	SUBBR Ws and lit7	XOR Ws and lit7		MULSS/US slit8	MULSU/UU lit8	MULISS/US	MULIUU/SU MULAx	MULISS slit8	MULISU lit8	
m		11	00	MOV.l.b/.w/.s/l literal																
n			01																	
o			10	LAC, LIAC ADD, SUB		SAC, SLAC SACR slit6, SLAC		MIN, SRAC MAX, NORM		SFAC, SFTAC slit6 LUAC		MAC/SQRAC MSC/SQRSC		MPY/SQR MPYN/SQRN		EDAC ED				
p			11	ASRM LSRM SLM by lit5	ASRM LSRM SLM by Wb	FLIM MIN MAX	FFIL FFIR FBCL	DIVS DIVU DIVF	DIVSL DIVUL DIVFL			MOV.L Move Ws to f (extended) to Wd	MOV.L Move Ws to f (extended)	GOTO CALL lit32	MOV.F SWAP	BFINS BFEXT	RESET BOOTSWAP	MOV [Ws + slit14], Wrd	NOPR (32-bit)	