

65XX PERIODIC OP-CODE CHART

LSN\MSN			-0-	-2-	-4-	-6-	-8-	-A-	-C-	-E-	MODE [†]
0	1	2	<u>BRK</u> ORA	<u>JSR</u> AND	<u>RTI</u> EOR	<u>RTS</u> ADC	STA	LDY LDA LDX	CPY CMP	CPX SBC	## X* ##
3	4	5	ORA <u>ASL</u>	BIT AND ROL	EOR LSR	ADC ROR	STY STA STX	LDY LDA LDX	CPY CMP DEC	CPX SBC INC	ZZ
8	9	A	PHP ORA <u>ASL</u>	PLP AND <u>ROL</u>	PHA EOR <u>LSR</u>	PLA ADC <u>ROR</u>	DEY TXA	TAY LDA TAX	INY CMP DEX	INX SBC NOP	-- ## --
C	D	E	ORA <u>ASL</u>	BIT AND ROL	JMP EOR LSR	<u>JMP</u> ADC ROR	STY STA STX	LDY LDA LDX	CPY CMP DEC	CPX SBC INC	AB
0	1	2	BPL ORA	BMI AND	BVC EOR	BVS ADC	BCC STA	BCS LDA	BNE CMP	BEQ SBC	-- *Y --
3	4	5	ORA <u>ASL</u>	AND ROL	EOR LSR	ADC ROR	STY STA <u>STX</u>	LDY LDA <u>LDX</u>	CMP DEC	SBC INC	ZX
8	9	A	CLC ORA	SEC AND	CLI EOR	SEI ADC	TYA STA TXS	CLV LDA TSX	CLD CMP	SED SBC	-- AY --
C	D	E	ORA <u>ASL</u>	AND ROL	EOR LSR	ADC ROR	STA	LDY LDA <u>LDX</u>	CMP DEC	SBC INC	AX
LSN\MSN			-1-	-3-	-5-	-7-	-9-	-B-	-D-	-F-	MODE [†]
			-0-	-2-	-4-	-6-	-8-	-A-	-C-	-E-	
0	1	2	BRK	JSR	RTI	RTS					--
3	4	5									
8	9	A	ASL	ROL	LSR	ROR					AC
C	D	E				JMP					**
0	1	2									
3	4	5					STX	LDX			ZY
8	9	A									
C	D	E						LDX			AY
LSN\MSN			-1-	-3-	-5-	-7-	-9-	-B-	-D-	-F-	MODE [†]

[†]EXCEPTIONS TO ADDRESS MODES INDICATED BY THE UNDERSCORE. ACTUAL ADDRESS MODE NOTED IN THE LOWER PORTION OF THE CHART.

65XX ADDRESS MODES

MODE [†]	DESCRIPTION
--	IMPLIED
**	INDIRECT
*Y	(INDIRECT), Y
##	IMMEDIATE
AB	ABSOLUTE
AC	ACCUMULATOR
AX	ABSOLUTE, X
AY	ABSOLUTE, Y
X*	(X), INDIRECT
ZX	ZERO PAGE, X
ZY	ZERO PAGE, Y
ZZ	ZERO PAGE ABSOLUTE
MODE [†]	DESCRIPTION

How to read the OP-Code Chart

Find the most significant nibble (high-order hex digit) in the row to the right of the MSN label.
Find the least significant nibble (LSN) in one of the three columns at left.
The corresponding op-code is listed in the body of the chart, in a position corresponding to the LSN.
Find the address mode at the far right column, at the position corresponding to the mnemonic.
Empty spaces in the top chart (including entire rows for LSN in {6, 7, B, and F}) indicate undocumented or illegal op-codes.
Example: Op-code A2 matches LDX, immediate mode, while Op-code BE matches LDX, absolute, Y mode.