

65(C)02 Opcode table

M	S	LSB	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
B																		
0	BRK			ORA (zp,X)			TSB zp	ORA zp	ASL zp	RMB0 zp	PHP	ORA #	ASLA		TSB ab	ORA ab	ASL ab	BBR0 zp,rl
1	BPL rl			ORA (zp),Y	ORA (zp)		TRB zp	ORA zp,X	ASL zp,X	RMB1 zp	CLC	ORA ab,Y	INC A		TRB ab	ORA ab,X	ASL ab,X	BBR1 zp,rl
2	JSR ab			AND (zp,X)			BIT zp	AND zp	ROL zp	RMB2 zp	PLP	AND #	ROL A		BIT ab	AND ab	ROL ab	BBR2 zp,rl
3	BMI rl			AND (zp),Y	AND (zp)		BIT zp,X	AND zp,X	ROL zp,X	RMB3 zp	SEC	AND ab,Y	DEC A		BIT ab,X	AND ab,X	ROL ab,X	BBR3 zp,rl
4	RTI			EOR (zp,X)				EOR zp	LSR zp	RMB4 zp	PHA	EOR #	LSR A		JMP ab	EOR ab	LSR ab	BBR4 zp,rl
5	BVC rl			EOR (zp),Y	EOR (zp)			EOR zp,X	LSR zp,X	RMB5 zp	CLI	EOR ab,Y	PHY			EOR ab,X	LSR ab,X	BBR5 zp,rl
6	RTS			ADC (zp,X)			STZ zp	ADC zp	ROR zp	RMB6 zp	PLA	ADC #	ROR A		JMP (ab)	ADC ab	ROR ab	BBR6 zp,rl
7	BVS rl			ADC (zp),Y	ADC (zp)		STZ zp,X	ADC zp,X	ROR zp,X	RMB7 zp	SEI	ADC ab,Y	PLY		JMP (ab,X)	ADC ab,X	ROR ab,X	BBR7 zp,rl
8	BRA rl			STA (zp,X)			STY zp	STA zp	STX zp	SMB0 zp	DEY	BIT #	TXA		STY ab	STA ab	STX ab	BBS0 zp,rl
9	BCC rl			STA (zp),Y	STA (zp)		STY zp,X	STA zp,X	STX zp,Y	SMB1 zp	TYA	STA ab,Y	TXS		STZ ab	STA ab,X	STZ ab,X	BBS1 zp,rl
A	LDY #			LDA (zp,X)			LDY zp	LDA zp	LDX zp	SMB2 zp	TAY	LDA #	TAX		LDY ab	LDA ab	LDX ab	BBS2 zp,rl
B	BCS rl			LDA (zp),Y	LDA (zp)		LDY zp,X	LDA zp,X	LDX zp,Y	SMB3 zp	CLV	LDA ab,Y	TSX		LDY ab,X	LDA ab,X	LDX ab,Y	BBS3 zp,rl
C	CPY #			CMP (zp,X)			CPY zp	CMP zp	DEC zp	SMB4 zp	INY	CMP #	DEX		CPY ab	CMP ab	DEC ab	BBS4 zp,rl
D	BNE rl			CMP (zp),Y	CMP (zp)			CMP zp,X	DEC zp,X	SMB5 zp	CLD	CMP ab,Y	PHX			CMP ab,X	DEC ab,X	BBS5 zp,rl
E	CPX #			SBC (zp,X)			CPX zp	SBC zp	INC zp	SMB6 zp	INX	SBC #	NOP		CPX ab	SBC ab	INC ab	BBS6 zp,rl
F	BEQ rl			SBC (zp),Y	SBC (zp)			SBC zp,X	INC zp,X	SMB7 zp	SED	SBC ab,Y	PLX			SBC ab,X	INC ab,X	BBS7 zp,rl

65(C)02 Addressing modes

–	Implied
A	Accumulator
#	Immediate
zp	Zero-page
zp,X	Zero-page X indexed
zp,Y	Zero-page Y indexed
(zp)	Zero page indirect
(zp,X)	Zero-page X indexed indirect
(zp),Y	Zero-page indirect, Y indexed
ab	Absolute
ab,X	Absolute X indexed
ab,Y	Absolute Y indexed
(ab)	Absolute indirect
(ab,X)	Absolute X indexed indirect
rl	Relative
zp,rl	Zero-page relative

65C02 Specific Opcodes

BBR0 zp,rl	BBR1 zp,rl	BBR2 zp,rl	BBR3 zp,rl	BBR4 zp,rl	BBR5 zp,rl	BBR6 zp,rl	BBR7 zp,rl
BBS0 zp,rl	BBS1 zp,rl	BBS2 zp,rl	BBS3 zp,rl	BBS4 zp,rl	BBS5 zp,rl	BBS6 zp,rl	BBS7 zp,rl
RMB0 zp	RMB1 zp	RMB2 zp	RMB3 zp	RMB4 zp	RMB5 zp	RMB6 zp	RMB7 zp
SMB0 zp	SMB1 zp	SMB2 zp	SMB3 zp	SMB4 zp	SMB5 zp	SMB6 zp	SMB7 zp
STZ zp	STZ zp,X	STZ ab	STZ ab,X				
BIT #	BIT zp,X	BIT ab,X					
TSB zp	TSB ab						
TRB zp	TRB ab						
INC A	DEC A						
PHY	PLY						
PHX	PLX						
STA (zp)	LDA (zp)	ADC (zp)	SBC (zp)	ORA (zp)	AND (zp)	EOR (zp)	CMP (zp)
JMP (ab,X)							
BRA rl							

	-	A	#	zp	zp,X	zp,Y	(zp)	(zp,X)	(zp),Y	ab	ab,X	ab,Y	(ab)	(ab,X)	rl
ADC	.	69	75	75	6D	7D	71	61	72	6D	7D	79	.	.	LDY
AND	.	29	25	35	2D	3D	31	21	32	2D	3D	39	.	.	LSR
ASL	0A	.	06	16	0E	1E	.	.	.	0E	1E	.	EA	.	NOP
BBR0	.	.	.	.	.	.	.	.	.	0F	.	.	ORA	.	ORA
BBR1	.	.	.	.	.	.	.	.	.	1F	.	.	PHA	48	PHA
BBR2	.	.	.	.	.	.	.	.	.	2F	.	.	PHP	08	PHP
BBR3	.	.	.	.	.	.	.	.	.	3F	.	.	PHX	DA	PHX
BBR4	.	.	.	.	.	.	.	.	.	4F	.	.	PHY	5A	PHY
BBR5	.	.	.	.	.	.	.	.	.	5F	.	.	PLA	68	PLA
BBR6	.	.	.	.	.	.	.	.	.	6F	.	.	PLP	28	PLP
BBR7	.	.	.	.	.	.	.	.	.	7F	.	.	PLX	FA	PLX
BBS0	.	.	.	.	.	.	.	.	.	8F	.	.	PLY	7A	PLY
BBS1	.	.	.	.	.	.	.	.	.	9F	.	.	RMBO	.	RMBO
BBS2	.	.	.	.	.	.	.	.	.	AF	.	.	RGB1	.	RGB1
BBS3	.	.	.	.	.	.	.	.	.	BF	.	.	RGB2	27	RGB2
BBS4	.	.	.	.	.	.	.	.	.	CF	.	.	RGB3	37	RGB3
BBS5	.	.	.	.	.	.	.	.	.	DF	.	.	RGB4	47	RGB4
BBS6	.	.	.	.	.	.	.	.	.	EF	.	.	RGB5	57	RGB5
BBS7	.	.	.	.	.	.	.	.	.	FF	.	.	RGB6	67	RGB6
BCC	.	.	.	.	.	.	.	.	.	.	.	.	RGB7	77	RGB7
BCS	.	.	.	.	.	.	.	.	.	2A	26	36	ROL	2E	ROL
BEQ	.	.	.	34	2C	3C	.	.	.	6A	66	76	ROR	6E	ROR
BIT	.	89	24	.	.	.	.	.	.	.	.	.	RTI	.	RTI
BMI	.	.	.	.	.	.	.	.	.	30	.	.	RTS	60	RTS
BNE	.	.	.	.	.	.	.	.	.	D0	.	.	SBC	.	SBC
BPL	.	.	.	.	.	.	.	.	.	10	.	.	SEC	38	SEC
BRA	.	.	.	.	.	.	.	.	.	80	.	.	SED	F8	SED
BRK	00	.	.	.	.	.	.	.	.	.	.	.	SEI	78	SEI
BVC	.	.	.	.	.	.	.	.	.	50	.	.	SMB0	.	SMB0
BVS	.	.	.	.	.	.	.	.	.	70	.	.	SMB1	97	SMB1
CLC	18	.	.	.	.	.	.	.	.	.	.	.	SMB2	A7	SMB2
CLD	D8	.	.	.	.	.	.	.	.	.	.	.	SMB3	B7	SMB3
CLI	58	.	.	.	.	.	.	.	.	.	.	.	SMB4	C7	SMB4
CLV	B8	.	.	.	.	.	.	.	.	.	.	.	SMB5	D7	SMB5
CMP	.	.	C5	D5	CD	DD	.	C1	D2	CD	DD	D9	SMB6	E7	SMB6
CPX	.	E0	E4	.	EC	.	.	.	.	EC	.	.	SMB7	F7	SMB7
CPY	.	C0	C4	.	CC	.	.	.	.	CC	.	.	STA	.	STA
DEC	.	3A	C6	D6	CE	DE	.	.	.	CE	DE	.	STX	86	STX
DEX	CA	.	.	.	.	.	.	.	.	.	.	.	STY	84	STY
DEY	88	.	.	.	.	.	.	.	.	.	.	.	STZ	64	STZ
EOR	.	49	45	55	4D	5D	51	41	52	4D	5D	59	TAX	AA	TAX
INC	.	1A	E6	F6	EE	FE	.	.	.	EE	FE	.	TAY	A8	TAY
INX	E8	.	.	.	.	.	.	.	.	.	.	.	TRB	.	TRB
INY	C8	.	.	.	.	.	.	.	.	.	.	.	TSB	04	TSB
JMP	.	.	.	.	.	.	.	.	.	.	.	.	TSX	BA	TSX
JSR	.	.	.	.	20	.	.	.	.	4C	.	.	TXA	8A	TXA
LDA	.	A9	A5	B5	AD	BD	B1	A1	B2	AD	BD	B9	TXS	9A	TXS
LDX	.	A2	A6	.	AE	.	B6	.	.	AE	.	BE	TYA	98	TYA