OP-Code des 68HC11

1. Byte (*DIR* INDX)

MSB	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
	INH	INH	REL	INH	ACCA	ACCB	INDX	EXT	IMM	DIR	INDX	EXT	IMM	DIR	INDX	EXT
LSB									ACCA	ACCA	ACCA	ACCA	ACCB	ACCB	ACCB	ACCB
0	TEST	SBA	BRA	TSX	NEG	NEG	NEG	NEG	SUB	SUB	SUB	SUB	SUB	SUB	SUB	SUB
1	NOP	CBA	BRN	INS					CMP	CMP	CMP	CMP	CMP	CMP	CMP	CMP
2	IDIV	*BRSET*	BHI	PULA					SBC	SBC	SBC	SBC	SBC	SBC	SBC	SBC
3	FDIF	*BRCLR*	BLS	PULB	COM	COM	COM	COM	SUBD	SUBD	SUBD	SUBD	ADDD	ADDD	ADDD	ADDD
4	LSRD	*BSET*	BCC	DES	LSR	LSR	LSR	LSR	AND	AND	AND	AND	AND	AND	AND	AND
5	ASLD	*BCLR*	BCS	TXS					BIT	BIT	BIT	BIT	BIT	BIT	BIT	BIT
6	TAP	TAB	BNE	PSHA	ROR	ROR	ROR	ROR	LDA	LDA	LDA	LDA	LDA	LDA	LDA	LDA
7	TPA	TBA	BEQ	PSHB	ASR	ASR	ASR	ASR		STA	STA	STA		STA	STA	STA
8	INX	18	BVC	PULX	ASL	ASL	ASL	ASL	EOR	EOR	EOR	EOR	EOR	EOR	EOR	EOR
9	DEX	DAA	BVS	RTS	ROL	ROL	ROL	ROL	ADC	ADC	ADC	ADC	ADC	ADC	ADC	ADC
A	CLV	1A	BPL	ABX	DEC	DEC	DEC	DEC	ORA	ORA	ORA	ORA	ORA	ORA	ORA	ORA
B	SEV	ABA	BMI	RTI					ADD	ADD	ADD	ADD	ADD	ADD	ADD	ADD
C	CLC	BSET	BGE	PSHX	INC	INC	INC	INC	CPX	CPX	CPX	CPX	LDD	LDD	LDD	LDD
D	SEC	BCLR	BLT	MUL	TST	TST	TST	TST	BSR	JSR	JSR	JSR	CD	STD	STD	STD
E	CLI	BRSET	BGT	WAI			JMP	JMP	LDS	LDS	LDS	LDS	LDX	LDX	LDX	LDX
F	SEI	BRCLR	BLE	SWI	CLR	CLR	CLR	CLR	XGDX	STS	STS	STS	STOP	STX	STX	STX

2. Byte in **18**ner Gruppe (IY-Befehle) (INDY)

MSB	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
	INH	INH	REL	INH	ACCA	ACCB	INDY	EXT	IMM	DIR	INDY	EXT	IMM	DIR	INDY	EXT
LSB									ACCA	ACCA	ACCA	ACCA	ACCB	ACCB	ACCB	ACCB
0				TSY			NEG				SUB				SUB	
1											CMP				CMP	
2											SBC				SBC	
3							COM				SUBD				ADDD	
4							LSR				AND				AND	
5				TYS							BIT				BIT	
6							ROR				LDA				LDA	
7							ASR				STA				STA	
8	INY			PULY			ASL				EOR				EOR	
9	DEY						ROL				ADC				ADC	
A				ABY			DEC				ORA				ORA	
B											ADD				ADD	
C		BSET		PSHY			INC		CPY	CPY	CPY	CPY			LDD	
D		BCLR					TST				JSR				STD	
E		BRSET					JMP				LDS		LDY	LDY	LDY	LDY
F		BRCLR					CLR		XGDY		STS			STY	STY	STY

2. Byte in **1A** Gruppe (IY-Befehle und CPD)

MSB	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
	INH	INH	REL	INH	ACCA	ACCB	INDX	EXT	IMM	DIR	INDX	EXT	IMM	DIR	INDX	EXT
LSB									ACCA	ACCA	ACCA	ACCA	ACCB	ACCB	ACCB	ACCB
0																
1																
2																
3									CPD	CPD	CPD	CPD				
4																
5																
6																
7																
8																
9																
A																
B																
C											CPY					
D																
E															LDY	
F															STY	

2. Byte in **CD** Gruppe (IX-Befehle mit IY indexiert und CPD mit IY indexiert)

MSB	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
	INH	INH	REL	INH	ACCA	ACCB	INDX	EXT	IMM	DIR	INDY	EXT	IMM	DIR	INDY	EXT
LSB									ACCA	ACCA	ACCA	ACCA	ACCB	ACCB	ACCB	ACCB
0																
1																
2																
3											CPD					
4																
5																
6																
7																
8																
9																
A																
B																
C											CPX					
D																
E															LDX	
F															STX	

1 Byt Befehle des 68HC11

OP-Code des 68HC11
1. Byte

MSB	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
	INH	INH	REL	INH	ACCA	ACCB	INDX	EXT	IMM	DIR	INDX	EXT	IMM	DIR	INDX	EXT
LSB									ACCA	ACCA	ACCA	ACCA	ACCB	ACCB	ACCB	ACCB
0	TEST	SBA		TSX	NEG	NEG										
1	NOP	CBA		INS												
2	IDIV			PULA												
3	FDIF			PULB	COM	COM										
4	LSRD			DES	LSR	LSR										
5	ASLD			TXS												
6	TAP	TAB		PSHA	ROR	ROR										
7	TPA	TBA		PSHB	ASR	ASR										
8	INX			PULX	ASL	ASL										
9	DEX	DAA		RTS	ROL	ROL										
A	CLV			ABX	DEC	DEC										
B	SEV	ABA		RTI												
C	CLC			PSHX	INC	INC										
D	SEC			MUL	TST	TST										
E	CLI			WAI												
F	SEI			SWI	CLR	CLR			XGDX				STOP			

2 Byt Befehle des 68HC11

OP-Code des 68HC11
1. Byte

MSB	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
	INH	INH	REL	INH	ACCA	ACCB	INDX	EXT	IMM	DIR	INDX	EXT	IMM	DIR	INDX	EXT
LSB									ACCA	ACCA	ACCA	ACCA	ACCB	ACCB	ACCB	ACCB
0			BRA				NEG		SUB	SUB	SUB		SUB	SUB	SUB	
1			BRN						CMP	CMP	CMP			CMP	CMP	
2			BHI						SBC	SBC	SBC			SBC	SBC	
3			BLS				COM			SUBD	SUBD			ADDD	ADDD	
4			BCC				LSR		AND	AND	AND		AND	AND	AND	
5			BCS						BIT	BIT	BIT		BIT	BIT	BIT	
6			BNE				ROR		LDA	LDA	LDA		LDA	LDA	LDA	
7			BEQ				ASR			STA	STA			STA	STA	
8		**18**	BVC				ASL		EOR	EOR	EOR		EOR	EOR	EOR	
9			BVS				ROL		ADC	ADC	ADC		ADC	ADC	ADC	
A			BPL				DEC		ORA	ORA	ORA		ORA	ORA	ORA	
B			BMI						ADD	ADD	ADD			ADD	ADD	
C			BGE				INC			CPX	CPX			LDD	LDD	
D			BLT				TST		BSR	JSR	JSR			STD	STD	
E			BGT				JMP			LDS	LDS	LDS		LDX	LDX	
F			BLE				CLR			STS	STS	STS		STX	STX	

2. Byte in **18**ner Gruppe (IY-Befehle)

MSB	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
	INH	INH	REL	INH	ACCA	ACCB	INDY	EXT	IMM	DIR	INDY	EXT	IMM	DIR	INDY	EXT
LSB									ACCA	ACCA	ACCA	ACCA	ACCB	ACCB	ACCB	ACCB
0				TSY												
1																
2																
3																
4																
5				TYS												
6																
7																
8	INY			PULY												
9	DEY															
A				ABY												
B																
C				PSHY												
D																
E																
F									XGDY							

3 Byt Befehle des 68HC11

OP-Code des 68HC11
1. Byte

MSB	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
	INH	INH	REL	INH	ACCA	ACCB	INDX	EXT	IMM	DIR	INDX	EXT	IMM	DIR	INDX	EXT
LSB									ACCA	ACCA	ACCA	ACCA	ACCB	ACCB	ACCB	ACCB
0								NEG				SUB				SUB
1												CMP	CMP			CMP
2												SBC	SBC			SBC
3								COM	SUBD			SUBD	ADDD			ADDD
4		BSET						LSR				AND				AND
5		BCLR										BIT				BIT
6								ROR				LDA				LDA
7								ASR				STA				STA
8		**18**						ASL				EOR				EOR
9								ROL				ADC				ADC
A		**1A**						DEC				ORA				ORA
B												ADD				ADD
C		BSET						INC	CPX			CPX	LDD			LDD
D		BCLR						TST				JSR	CD			STD
E								JMP	LDS				LDX			LDX
F								CLR								STX

2. Byte in **18**ner Gruppe (IY-Befehle)

MSB	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
	INH	INH	REL	INH	ACCA	ACCB	INDY	EXT	IMM	DIR	INDY	EXT	IMM	DIR	INDY	EXT
LSB									ACCA	ACCA	ACCA	ACCA	ACCB	ACCB	ACCB	ACCB
0							NEG				SUB				SUB	
1											CMP				CMP	
2											SBC				SBC	
3							COM				SUBD				ADDD	
4							LSR				AND				AND	
5											BIT				BIT	
6							ROR				LDA				LDA	
7							ASR				STA				STA	
8							ASL				EOR				EOR	
9							ROL				ADC				ADC	
A							DEC				ORA				ORA	
B											ADD				ADD	
C							INC			CPY	CPY				LDD	
D							TST				JSR				STD	
E							JMP				LDS			LDY	LDY	
F							CLR				STS			STY	STY	

2. Byte in **1A** Gruppe (IY-Befehle und CPD)

MSB	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
	INH	INH	REL	INH	ACCA	ACCB	INDX	EXT	IMM	DIR	INDX	EXT	IMM	DIR	INDX	EXT
LSB									ACCA	ACCA	ACCA	ACCA	ACCB	ACCB	ACCB	ACCB
0																
1																
2																
3										CPD	CPD					
4																
5																
6																
7																
8																
9																
A																
B																
C											CPY					
D																
E															LDY	
F															STY	

2. Byte in **CD** Gruppe (IX-Befehle mit IY indexiert und CPD mit IY indexiert)

MSB	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
	INH	INH	REL	INH	ACCA	ACCB	INDX	EXT	IMM	DIR	INDY	EXT	IMM	DIR	INDY	EXT
LSB									ACCA	ACCA	ACCA	ACCA	ACCB	ACCB	ACCB	ACCB
0																
1																
2																
3											CPD					
4																
5																
6																
7																
8																
9																
A																
B																
C											CPX					
D																
E															LDX	
F															STX	

4 Byt Befehle des 68HC11

OP-Code des 68HC11
1. Byte

MSB	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
	INH	INH	REL	INH	ACCA	ACCB	INDX	EXT	IMM	DIR	INDX	EXT	IMM	DIR	INDX	EXT
LSB									ACCA	ACCA	ACCA	ACCA	ACCB	ACCB	ACCB	ACCB
0																
1																
2		BRSET														
3		BRCLR														
4																
5																
6																
7																
8		**18**														
9																
A		**1A**														
B																
C																
D																
E		BRSET														
F		BRCLR														

2. Byte in **18**ner Gruppe (IY-Befehle)

MSB	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
	INH	INH	REL	INH	ACCA	ACCB	INDY	EXT	IMM	DIR	INDY	EXT	IMM	DIR	INDY	EXT
LSB									ACCA	ACCA	ACCA	ACCA	ACCB	ACCB	ACCB	ACCB
0																
1																
2																
3																
4																
5																
6																
7																
8																
9																
A																
B																
C		BSET							CPY			CPY				
D		BCLR														
E													LDY			LDY
F																STY

2. Byte in **1A** Gruppe (IY-Befehle und CPD)

MSB	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
	INH	INH	REL	INH	ACCA	ACCB	INDX	EXT	IMM	DIR	INDX	EXT	IMM	DIR	INDX	EXT
LSB									ACCA	ACCA	ACCA	ACCA	ACCB	ACCB	ACCB	ACCB
0																
1																
2																
3									CPD			CPD				
4																
5																
6																
7																
8																
9																
A																
B																
C																
D																
E																
F																

5 Byt Befehle des 68HC11

2. Byte in **18**ner Gruppe (IY-Befehle)

MSB	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
	INH	INH	REL	INH	ACCA	ACCB	INDY	EXT	IMM	DIR	INDY	EXT	IMM	DIR	INDY	EXT
LSB									ACCA	ACCA	ACCA	ACCA	ACCB	ACCB	ACCB	ACCB
0																
1																
2																
3																
4																
5																
6																
7																
8																
9																
A																
B																
C																
D																
E		BRSET														
F		BRCLR														