

SEQUENCING INSTRUCTIONS

Unconditional Jump:

JMP	124000	Jump;	P = EL
JPL	134000	Jump to subroutine;	L = P; P = EL

Conditional Jump:

JAP	130000	Jump if A is positive; P = ± Δ if:	A > 0
JAN	130400	Jump if A is negative;	A < 0
JAZ	131000	Jump if A is zero;	A = 0
JAF	131400	Jump if A is nonzero;	A ≠ 0
JXN	133400	Jump if X is negative;	X < 0
JPC	132000	Increment X and jump if positive;	
		X = X + 1; P = P + Δ if	X > 0
JNC	132400	Increment X and jump if negative;	
		X = X + 1; P = P + Δ if	X < 0
JXZ	133000	Jump if X is zero;	X = 0

Skip Instructions:

SKP	140000	Skip next location if specified condition is true;	P = P + 1
-----	--------	----------------------------------------------------	-----------

Specified Condition:

EQL	000000	Equal to
UEQ	002000	Unequal to
GRE	001000	Signed greater or equal to
LST	003000	Signed less than
MLST	003400	Magnitude less than
MGRE	001400	Magnitude greater or equal to
IF	000000	May be used freely to obtain easy readability
O	000000	

PRIVILEGED INSTRUCTIONS

The instructions available only to programs running in system mode (ring 2 or 3) are termed privileged instructions, which are:

IOF	150401	Turn off interrupt system
ION	150402	Turn on interrupt system
PIOF	150405	Turn off paging and interrupt
PION	150412	Turn on page and interrupt
POF	150404	Turn off memory management system
PON	150410	Turn on memory management system
LWCS	143500	Load writable control store
WAIT	151000	Give up priority, reset current PID bit
IDENT	143600	Identify interrupt
IOX	164000	Input/Output
IOXT	150415	Input/Output
TRA	150000	Transfer internal register to A
TRR	150100	Transfer internal register from A
MCL	150200	Masked clear of register
MST	150300	Masked set of register
LRB	152600	Load register block
SRB	152402	Store register block
IRW	153400	Inter-register write
IRR	153600	Inter-register read
REX	150407	Reset extended address mode
SEX	150406	Set extended address mode
EXAM	150416	Memory examine T = memory location pointed to by AD register
DEPO	150417	Memory deposit Memory location pointed to by AD register
OPCOM	150400	Set in OPCOM mode

TRANSFER INSTRUCTIONS

Load Independent Instructions:

TRA	150000	Transfer data to/from internal register to A
TRR	150100	Transfer A to specified internal register

Inter-level Instructions:

IRR	153600	Inter-register Read A: = Specified register on specified level
IRW	153400	Inter-register Write Specified register on specified level = A

INPUT/OUTPUT CONTROL

IOX	164000	Transfer data to/from specified device
IOXT	150415	Transfer data to/from specified device
IDENT	1436PL	Transfer IDENT code of interrupting device with highest priority on the specified level to A register.
PL10	000004	Level 10
PL11	000011	Level 11
PL12	000022	Level 12
PL13	000043	Level 13

MEMORY EXAMINE/DEPOSIT INSTRUCTIONS

EXAM	150416	Memory examine T = memory location pointed to by AD register
DEPO	150417	Memory deposit Move T to memory location pointed to by AD register

ARGUMENT INSTRUCTIONS

SAA	170400	Set argument to A;	A: = ARG
AAA	172400	Add argument to A;	A: = A + ARG
SAX	171400	Set argument to X;	X: = ARG
AAAX	173400	Add argument to X;	X: = X + ARG
SAT	171000	Set argument to T;	T: = ARG
AAT	173000	Add argument to T;	T: = T + ARG
SAB	170000	Set argument to B;	B: = ARG
AAB	172000	Add argument to B;	B: = B + ARG

SYSTEM CONTROL INSTRUCTIONS

IOF	150401	Turn off interrupt system
ION	150402	Turn on interrupt system
LWCS	143500	Load writable control store
MON	153000	Monitor call instruction
PIOF	150405	Turn off paging and interrupt
PION	150412	Turn on page and interrupt
POF	150404	Turn off paging system
PON	150410	Turn on paging system
REX	150407	Reset extended address mode
SEX	150406	Set extended address mode
WAIT	151000	Halt the program/ Give up priority
OPCOM	150400	Start MOPC

REGISTER BLOCK INSTRUCTIONS

Addressing: (EL) + 1 + 2 + 3 + 4 + 5 + 6 + 7
P X T A D L STS B

LRB	152600	Load register block
SRB	152402	Store register block

NORD-100 MNEMONICS AND THEIR OCTAL VALUES

15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
----	----	----	----	----	----	---	---	---	---	---	---	---	---	---	---

AAA : 172400	COPY : 146100	ION : 150402	MGRE : 001400	PVL : 000004	SSC : 000080
AAB : 172000	CSR : 000010	IOX : 164000	MIN : 040000	RADD : 146000	SSK : 000020
AAT : 173000	DA : 000005	IOXT : 150415	MIX3 : 143200	RAND : 144400	SSM : 000070
AAX : 173400	DB : 000003	IRW : 153400	MLST : 003400	RCLR : 146100	SSO : 000060
ACTL : 000011	DD : 000001	JAF : 131400	MON : 153000	RDCR : 146200	SSQ : 000040
ADC : 001000	DEPO : 150417	JAN : 130400	MPY : 120000	RDIV : 141800	SSG : 000010
ADD : 060000	DL : 000004	JAP : 130000	MST : 160300	REXO : 146500	SSZ : 000030
AD1 : 000400	DNZ : 162000	JAZ : 131000	NLZ : 161400	RINC : 146400	ST : 000080
ALD : 000012	DP : 000002	JMP : 124000	ONE : 000200	RMPY : 141200	STA : 004000
AND : 070000	DT : 000006	JNC : 132400	OPCOM : 150400	RORA : 146400	STD : 020000
,B : 000400	DX : 000007	JPC : 132000	OPR : 000002	ROT : 001000	STF : 030000
BAC : 000600	ECCR : 000015	JPL : 134000	ORA : 074000	RSUB : 146800	STS : 000001
BANC : 177000	EQL : 000000	JXN : 133400	PANC : 000000	SA : 000060	STT : 010000
BAND : 177200	EXAM : 150416	JXZ : 133000	PANS : 000000	SAA : 170400	STX : 014000
BCM : 000400	EXIT : 146142	LBYY : 142200	PCR : 000003	SAB : 170000	STZ : 000000
BLDA : 176800	EXR : 140600	LCIL : 000011	PEA : 000015	SAD : 164800	SUB : 064000
BLDC : 176400	FAD : 100000	LDA : 044000	PES : 000013	SAT : 171000	SWAP : 144000
BORA : 177600	FDV : 114000	LDD : 024000	PGS : 000003	SAX : 171400	SX : 000070
BORC : 177400	FMU : 110000	LDF : 034000	PIO : 000006	SB : 000030	TRA : 150000
BSET : 174000	FSB : 104000	LDT : 060000	PIE : 000007	SBYT : 142800	TRR : 150100
BSKP : 175000	GEQ : 000400	LDX : 064000	PIOF : 150405	SD : 000010	UCIL : 000012
BSTA : 176200	GRE : 001000	LIN : 003000	PION : 150412	SHA : 154400	UEQ : 002000
BSTC : 176000	I : 001000	LMP : 000002	PL10 : 000004	SHD : 154200	WAIT : 151000
CCLR : 000010	IDENT : 143600	LRB : 152600	PL11 : 000011	SHT : 154000	,X : 002000
CILR : 000012	IF : 000000	LSS : 002400	PL12 : 000022	SKP : 140000	ZIN : 002000
CLD : 000100	IIC : 000006	LST : 003000	PL13 : 000043	SL : 000040	ZRO : 000000
CM1 : 000200	IIE : 000005	LWCS : 143500	POF : 150406	SP : 000020	
CM2 : 000600	IOF : 150401	MCL : 150200	PON : 150410	SRB : 152402	



NORSK DATA A.S

Postb. 4 - Lindeberg gård, Oslo 10 - Tel. (02) 30 90 30
Scanned by Jonny Oddene for Sintran Data © 2010