MI2154

UNIVAC 9200/9300

INDICATOR MASK REFERENCE DATA

CUSTOMER ENGINEERING
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SPERRY UNIVAC

SECTION LOCATOR

SECTION 1

INTRODUCTION

INTRODUCTION

The intent of this book is to provide a quick Indicator/Signal to Logic Page/Element cross reference for the UNIVAC ® 9200/9300 System.

Section 2 provides the cross reference for the Processor Display Indicators.

Section 3 provides the cross reference for the I/O Display Indicators.

Section 4 provides a logic page cross reference for Control Panel Indicators and Switches.

Section 5 provides reference data on Printer Fuse Fault Detection.

SECTION 2

UNIVAC 9200/9300 PROCESSOR DISPLAY INDICATORS

DISPLAY	IND	SIGNAL	DESCRIPTION	PAGE ELE.
A	0	GPERAX	* Channel Error from input Bus or BCW parity error or memory address error F/F, or interface check F/F.	479-040
A	1	ARAD	Restrict alter and Display F/F.	360-101
A	2	AAERR	* Address Error F/F	355-072
A	3	APERR	* Parity Error Second Phase	355-078

* Channel Error Indicators: Functional only if Multiplexer Channel is used. Can be operated by momentary-action switch. Clears device address register, and clears or sets operational indicators to ready Multiplexer Channel synchronizer for proper operation.

A	4	AB0	B-register 0 2^3 Bit	352-056
A	5	AB1	B-register 1 2^2 Bit	352-063
A	6	AB2	B-register 2 2^1 Bit	352-068
A	7	AB3	B-register 3 2^0 Bit	352-074
A	8	AB4	B-register 4 2^7 Bit	352-080
A	9	AB5	B-register 5 2^6 Bit	352-086
A	10	AB6	B-register 6 2^5 Bit	352-092
A	11	AB7	B-register 7 2^4 Bit	352-099
A	12	AD0A	D-register 0 Bit 2^7	354-001
A	13	AD1A	D-register 1 Bit 2^6	354-011
A	14	AD2A	D-register 2 Bit 2^5	354-021
A	15	AD3A	D-register 3 Bit 2^4	354-031
A	16	AD4A	D-register 4 Bit 2^3	354-039

DISPLAY	IND	SIGNAL	DESCRIPTION	PAGE ELE.
A	17	AD5A	D-register 5 Bit 2^2	354-104
A	18	AD6A	D-register 6 Bit 2^1	354-059
A	19	AD7A	D-register 7 Bit 2^0	354-069
B-register (8 bits) Auxiliary Processor Data Register				
D-register (9 bits) Receives Data From Memory Data Register				
B	0	ATFF1	Test terminal one (Pulse catcher)	362-061
B	1	ATFF2	Test terminal two (Pulse catcher)	363-062
B	2	AT	Determines I/O or Proc. Mode (Set = I/O)	342-015
B	3	AFPB	First Rank of the First Pass F/F	338-043
B	4	ALP	Last Pass F/F	338-002
B	5	AMA01	Memory Address Bit 1	326-069
B	6	AMA02	Memory Address Bit 2	326-006
B	7	AMA03	Memory Address Bit 3	326-012
B	8	AMA04	Memory Address Bit 4	326-019
B	9	AMA05	Memory Address Bit 5	326-024
B	10	AMA06	Memory Address Bit 6	326-040
B	11	AMA07	Memory Address Bit 7	326-031
B	12	AMA08	Memory Address Bit 8	326-047
B	13	AMA09	Memory Address Bit 9	326-056
B	14	AMA10	Memory Address Bit 10	324-050
B	15	AMA11	Memory Address Bit 11	324-065
B	16	AMA12	Memory Address Bit 12	324-081
B	17	AMA13	Memory Address Bit 13	324-012
B	18	AMA14	Memory Address Bit 14	324-027
B	19	AMA15	Memory Address Bit 15	324-040

DISPLAY	IND	SIGNAL	DESCRIPTION	PAGE ELE.
C	0	AME	Memory Enable	336-042
C	1	C1NTB	Initial Request Granted (Second Phase)	384-010
C	2	AWA	Write F/F	336-065
C	3	AM2	Console Priority Granted F/F	360-080
C	4	ARLB	F-register (Function)	312-010
C	5	ACHTR	Function Code D-register	312-009
C	6	ANC	Function Code A-register	312-015
C	7	ACL	Function Code 91-96	312-023
C	8	AF4	Function Register 4	312-028
C	9	AF5A	Function Register 5	312-034
C	10	AF6	Function Register 6	312-038
C	11	AF7A	Function Register 7	312-044
C	12	ASB3A	SB-3 Sequence Counter	314-008
C	13	ASB2A	SB-2 Sequence Counter	314-022
C	14	ASB1A	SB-1 Sequence Counter	314-024
C	15	ASB0A	SB-0 Sequence Counter	314-033
C	16	ASA3A	SA-3 Sequence Counter	316-033
C	17	ASA2A	SA-2 Sequence Counter	316-043
C	18	ASA1A	SA-1 Sequence Counter	316-014
C	19	ASA0A	SA-0 Sequence Counter	316-021
D	0	AMF	ASCII Mode F/F	342-002
D	1	ARC	Recomplement F/F	340-011
D	2	ACP	Complement F/F	340-020
D	3	ABM2	OP_2 Field Exhausted (END) Jam 14	340-031

DISPLAY	IND	SIGNAL	DESCRIPTION	PAGE ELE.
D	4	ASOP2	OP_2 Sign Control	344-020
D	5	ASP	Sign Control OP1 (Plus)	344-027
D	6	AAZ	Adder Output Zero	340-039
D	7	ACF2	First Phase Carry F/F = 2	350-035
D	8	AKO	Condition Code 0 index	346-010
D	9	AK1	Condition Code 1, 6 bytes	346-062
D	10	ASIRF	Store Interrupt Request	342-026
D	11	C1NT1N	Interrupt - Enter I/O mode	384-053
D	12	ATOB	Time Out B	383-116
D	13	ATOA	Time Out A	383-105
D	14	ATOIC	Time Out Point C	383-101
D	15	CP5B	Printer Priority PTR PRI Granted F/F	383-064
D	16	CP4A	Multiplexer Priority Granted 1 Rank	383-051
D	17	CP3B	Punch Priority Granted	383-043
D	18	CP2B	Punch (Reader) Priority Granted	383-028
D	19	CP1B	Reader Priority Granted	383-013
E	0	ACF	Carry F/F	350-065
E	1	ACF1	First Phase Carry F/F = 1	350-010
E	2	ADTB	Transfer D-reg. to B-register	330-043
E	3	GOBX	Zero B-register sets D-reg. B F/F In Write	477-015
E	4	GPTOX	Burst mode time out F/F	477-031

DISPLAY	IND	SIGNAL	DESCRIPTION	PAGE ELE.
E	5	GSEL	Initial Select or Selective Reset	474-014
E	6	AMAN	Request Memory Initial Network	360-050
E	7	PRDY	Printer Ready	397-063
E	8	RRDY	Reader Ready	403-080
E	9	NRDY	Punch Ready	408-110
E	10	NRRDY	Punch Reader Ready	423-062
E	11	AS1	First Rank Significance F/F	387-031
E	12	AS	Significance F/F	387-051
E	13	AUD	UN Digit F/F (sign in OP_1 field unequal to dec. digit) Processor option - Edit, Mult., or Divide	387-061
E	14	AODF	Odd Digit - 2 phase; used to control OP_2 alignment to OP_1. Initially set, causes a digit shift of OP_2 if Reset. Also controls decimals complement on divide.	387-021
E	15	ADS	Digit Select	388-056
E	16	AE4	E-register 4	388-005
E	17	AE5	E-register 5	388-009
E	18	AE6	E-register 6	388-012
E	19	AE7	E-register 7	388-017

SECTION 3

UNIVAC 9200/9300 I/O DISPLAY INDICATORS

DISPLAY	IND	SIGNAL	DESCRIPTION	PAGE ELE.
A	0	PQOP	Operator Error (Printer)	430-057
A	1	PREI	Interlock or High Voltage Error	430-005
A	2	PQFD	Paper runaway	430-058
A	3	PQMEM	Memory Parity or Overload	430-059
A	4	PRINT	Print Order F/F	426-004
A	5	PSLF	Paper Feed Order	426-008
A	6	PFOOF	Paper Loop Control	426-125
A	7	PRUN	Print Order in Process	427-061
A	8	PR	Printer Request	427-092
A	9	PINT	Printer Interrupt	429-036
A	10	PMOTUP	Printer Motor Up to Speed	428-004
A	11	PINHB	Printer Inhibit Interrupt	426-048
A	12	PRCO	Printer Cont. (Ready to Print)	427-004
A	13	PBR	Printer Bar Moving to Right	427-031
A	14	PFS	First Scan F/F (Printer)	427-040
A	15	PSS	Start Scan F/F (Printer)	427-011
A	16	PFIRE	Allow Actuator Firing	427-051
A	17	PCOM	Character Comparison	429-030
A	18	P129	Jam MA-8 Lines	397-014
A	19	PNUMI	Numeric Instruction	439-046
B	0	RERRI	Reader Empty Hopper Stacker Full	400-014
B	1	RFAULT	Reader Fault or Misfeed	400-036

DISPLAY	IND	SIGNAL	DESCRIPTION	PAGE ELE.
B	2	RERR3	Reader Jam or Stacker Jam	400-036
B	3	RERR4	Parity Error (during read)	400-043
B	4	READ	Read Order F/F	400-004
B	5	RGO	Activate Reader	404-006
B	6	RTRANSA	Reader Translate	400-008
B	7	RFEED	Reader Feed	401-006
B	8	RR	Reader Memory Request F/F	401-106
B	9	RINTA	Reader Interrupt Request	401-016
B	10	RMOTUP	Reader Motor Up to Speed	404-018
B	11	RINHB	Inhibit Reader Interrupt Request	400-063
B	12	RCLHO	Reader Clutch Hold	402-121
B	13	RALLON	Reader PCL (Photocell) Allow	401-014
B	14	GPXX2	General Purpose Channel (Display Connector)	462-25
B	15	PFOD	Paper Feed Order Display	426-126
B	16	CSD01	Sequence Counter Second Phase 2^1 Bit	399-017
B	17	CSD00	I/O Sequence Counter 0 Second Phase 2^0 Bit	399-008
B	18	CSC01	I/O Sequence Counter First Phase 2^1 Bit	398-026
B	19	CSC00	I/O Sequence Counter First Phase 2^0 Bit	398-010

DISPLAY	IND	SIGNAL	DESCRIPTION	PAGE ELE.
C	0	NQOP	Operator's Error (Punch)	408-090
C	1	NERR7	Card Travel Abnormal (Punch)	408-024
C	2	NQCK	Punch Check or Photocell Check Error	408-091
C	3	NERR4	Parity Error (during punch)	408-036
C	4	NPU	Punch Order	405-007
C	5	NPEA	Punch Entry Alert	406-013
C	6	NTRANS	Punch Translate Mode	405-023
C	7	NFEED	Punch Manual Feed	408-061
C	8	NPUNR	(Punch) Entry Priority Select	405-121
C	9	NINT	(Punch) Interrupt	405-108
C	10	NMUP	(Punch) Motor Up to Speed	407-007
C	11	NINHB	Punch Inhibit Interrupt	405-019
C	12	NPCON	(Punch) Data Control	405-015
C	13	NPEND	Punch End F/F	405-066
C	14	NRIA	Punch Ready Interlock Alert	407-063
C	15	NE04	Punch Entry Counter "04"	406-350
C	16	NE03	Punch Entry Counter "03"	406-300
C	17	NE02	Punch Entry Counter "02"	406-101
C	18	NE01	Punch Entry Counter "01"	406-083
C	19	NE00	Punch Entry Counter "00"	406-065

DISPLAY	IND	SIGNAL	DESCRIPTION	PAGE ELE.
D	0	NSW1	Switch #1 Ready Storage Station (Punch)	407-054
D	1	NSW2	Card Present Switch #2 (Punch)	406-001
D	2	NSW3	Card Present Switch #3 (Punch)	405-041
D	3	NEO	Shift Upper Half Even to Odd Storage (Punch)	409-034
D	4	NR	Not Read Order (Punch)	420-003
D	5	NRISWC	Not Reader Initial Write Sprocket Control (Punch)	420-012
D	6	NPIN1	Punch (Pinch #1 Feed Control)	407-016
D	7	NPIN2	Punch (Pinch #2 Feed Control)	405-031
D	8	NCS	Clear Even Column Storage Control	409-026
D	9			
D	10	GPRDX	Not Selection Inhibit F/F G.P. Channel	473-020
D	11	GOPX	Simulate Operation in G.P. Channel	480-016
D	12	GDA0X	Device Address Register 0 G.P. Channel Decoder	472-056
D	13	GDA1X	Device Address Register 1 G.P. Channel Decoder	472-061
D	14	GDA2X	Device Address Register 2 G.P. Channel Decoder	472-066
D	15	GDA3X	Device Address Register 3 G.P. Channel Decoder	472-070
D	16	GDA4X	Device Address Register 4 G.P. Channel Decoder	472-075
D	17	GDA5X	Device Address Register 5 G.P. Channel Decoder	472-080

DISPLAY	IND	SIGNAL	DESCRIPTION	PAGE ELE.
D	18	GDA6X	Device Address Register 6 G.P. Channel Decoder	472-085
D	19	GDA7X	Device Address Register 7 G.P. Channel Decoder	472-090
E	0	GINFEX	Interface Error Multiplexer Channel	479-016
E	1	GADEX	Device Address Parity Error Multiplexer Chan.	479-046
E	2	GPEX	Input Bus Error, Buffer Control, Word Parity Error, Memory Address Parity Error (GAPEX)	479-031
E	3	GADROX	G.P. Address Out	473-031
E	4	GSELOX	G.P. Select Out	469-046
E	5	GOPINIX	G.P. Operational IN	469-101
E	6	GADINIX	G.P. Address IN	469-081
E	7	GXCOMOX	G.P. Command Out	473-110
E	8	GSTINI	G.P. Status IN from Bus, Simulator Status In, Special Adapter Status In	469-027
E	9	GSEROX	G.P. Service Out F/F	473-125
E	10	GSRINIX	G.P. Service IN F/F	469-171
E	11	GPCRX	G.P. Channel Time Out Request F/F	469-115
E	12	GXSUPOX	G.P. Suppress Out to Control Unit	476-016
E	13	GSELINIX	G.P. Select In F/F	469-150
E	14	GKOTX	G.P. Channel Terminate Condition Code Bit 0 F/F	475-036
E	15	GKINX	G.P. Input Data Direction Condition Code Bit 1 F/F	475-046

DISPLAY	IND	SIGNAL	DESCRIPTION	PAGE ELE.
E	16	GBPARX	G.P. Output Bus Parity Output	475-016
E	17	GSD02X	G.P. Channel Sequence Control Second Rank F/F 2	478-055
E	18	GSD01X	G.P. Channel Sequence Control Second Rank F/F 1	478-065
E	19	GSD00X	G.P. Channel Sequence Control Second Rank F/F 0	478-075

SECTION 4

PRINT REFERENCES FOR INDICATORS & SWITCHES

CONTROL PANEL PRINT INDICATOR

INDICATORS	PRINT/ELEMENT
PROC ABNORMAL	355081
PRINTER ABNORMAL	355097
READER ABNORMAL	355087
PUNCH ABNORMAL	355086
RUN	348026
STOP	342050
OPERATOR REQUEST	360035
TEST	361131
DISPLAY SELECT A	361039
DISPLAY SELECT B	361052
DISPLAY SELECT C	361064
DISPLAY SELECT D	361074
DISPLAY SELECT E	361086
INDICATORS 0-19	(PRINTS) 364, 365, 366, 367, 368
POWER ON	PRINT 3842017 SHEET 6

SWITCHES	PRINT/ELEMENT
POWER ON	PRINT 3842017 SHEET 6
POWER OFF	PRINT 3842017 SHEET 6
START	381089
INSTRUCTION	342046
CYCLE	360037
LOAD	360036
OPERATOR REQUEST	360016
CLEAR	360002
CHANNEL CLEAR	360011
TEST A	361090
TEST B	361095
TEST C	361096
TEST D	323085
PROC-I/O	361001
DISPLAY SELECT A	361002
DISPLAY SELECT B	361003
DISPLAY SELECT C	361004
DISPLAY SELECT D	361005
DISPLAY SELECT E	361006
DISPLAY	360014
ALTER	360015
DATA ENTRY SWS.	PRT. 354 (D-REG)
MEMORY ADDRS. SWS.	PRT. 324 & 326

SWITCHES	PRINT/ELEMENT
PRINTER	
OFF LINE	429040
CLEAR	428070
HOME	426012
SPACE	426020
READER	
OFF LINE	402059
CLEAR	402057
FEED	402060
CONTINUOUS	402061
PUNCH	
OFF LINE	408001
CLEAR	408070
FEED	408051
CONTINUOUS	408050

MISCELLANEOUS	
READER	
SECTOR A	402053
SECTOR B	402055
STACKER JAM	402054
HOPPER EMPTY	402056
STACKER FULL	402056
FAULT (INTERLOCK)	402058
INITIAL SPROCKET	PRT. 404, SH. 1
80-COL. WRITE	PRT. 404, SH. 1
READER SPROCKET	PRT. 404, SH. 1
PRINTER	
ABNORMAL INTERLOCKS	430001
PAPER LOOP CELL 1	428041
PAPER LOOP CELL 2	428044
PAPER LOOP CELL 3	428046
PRINTER FUSE DETECT	428088
BAR SPROCKET 1	428049
BAR SPROCKET 2	428051
PAPER LOOP SPROCKET	428085
POWER ON CLEAR SIGNAL	360001

SECTION 5

PRINTER FUSE FAULT DETECTION

PRINTER FUSES

An open printer fuse will result in a printer abnormal indication. Depressing the printer CLEAR switch will not clear the abnormal. (NOTE: An open printer interlock will indicate the same symptom.) To check for a printer abnormal, perform the following steps:

1. Load in a program that will print a line of all characters, or key in the following program:

```
0016   47F0 0200
0200   9214 0080
0204   D283 0081 0080
020A   A403 0001
020E   47F0 020E
```

   This program will print one line of character M's (132 print positions).

2. Depress General Clear.

3. Place the Printer "cheater" switch in the down position. This is a toggle switch located on PC board 10B30. It must be held down until after the line has been printed.

4. Depress Printer Clear. The abnormal indicator will go out if the fault is a fuse.

5. Depress the START button to print one line. Advance the form until the printed line is above the printer form scale.

6. Release the printer "cheater" switch.

Examine the printed line. One print position blank represents an open fuse. Determine the PC board location with the chart below.

Card Loc.	Odd	Prt.		Pos.	Card Loc.	Even	Prt.		Pos.
10A21	1	5	9	13	11A28	2	4	6	8
10A23	3	7	11	15	11A30	10	12	14	16
10A25	17	21	25	29	11A32	18	20	22	24
10A27	19	23	27	31	11A34	26	28	30	32
10A29	33	37	41	45	11A36	34	36	38	40
10A31	35	39	43	47	11A38	42	44	46	48
10A33	49	53	57	61	11A40	50	52	54	56
10A35	51	55	59	63	11A42	58	60	62	64
10A37	65	69	73	77	11A44	66	68	70	72
10A39	67	71	75	79	11A46	74	76	78	80
10A41	81	85	89	93	11A48	82	84	86	88
10A43	83	87	91	95	11A50	90	92	94	96
10A45	97	101	105	109	11A52	98	100	102	104
10A47	99	103	107	111	11A54	106	108	110	112
10A49	113	117	121	125	11A56	114	116	118	120
10A51	115	119	123	127	11A58	122	124	126	128
10A53	129	131	+	170V	11A60	130	132		

The printer "cheater" switch bypasses the fuse detection circuitry. With the switch depressed, printing will occur with an open fuse. It is important to note that printing will also be allowed with other printer malfunctions including a High Voltage fault. It is, therefore, very important that only a few lines be printed, and, when finished, that the switch be returned to normal.