

537356

00.29.10.0

KEYBOARD & CAM REFERENCE

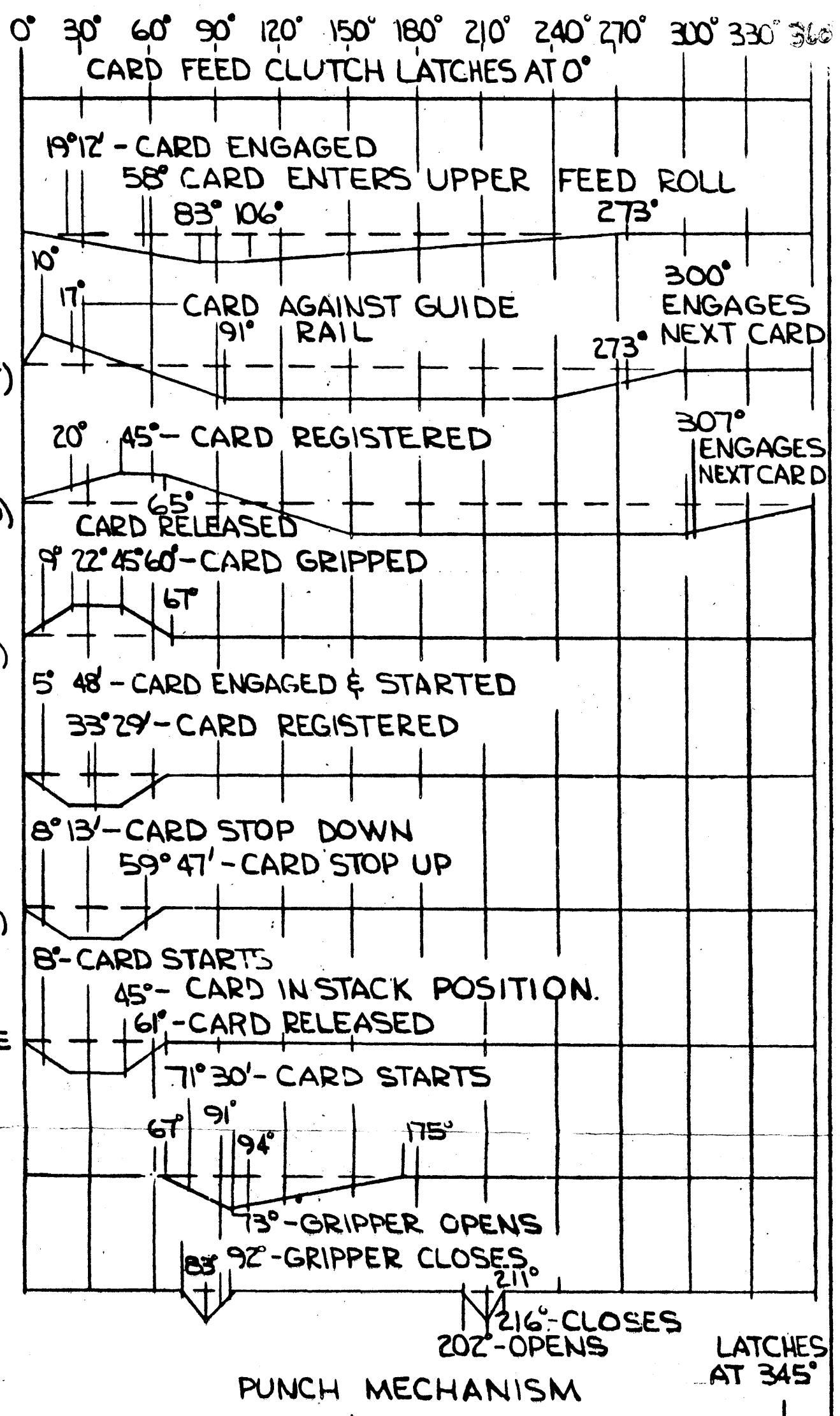
MASTER

STEM POS	GRAPHIC		CARD CODE		BAILS		LATCHES	
	ALPHA	NUMERIC	ALPHA	NUMERIC	ALPHA	NUMERIC	ALPHA	NUMERIC
1	ERROR RESET							
2	MULTI-PUNCH							
3	NUMERIC							
4	Q	+	11-8	12-8-6	13,9	12,8,6		
5	A		12-1		15,3			
6	@	#	8-4	8-3	9,7	8,2		
7	Z		0-9		1,11			
8	W	-	0-6	0-8-5	14	14,8,4	X	
9	S	>	0-2	0-8-6	14	14,8,6	X	
10	%	,	0-8-4	0-8-3	14,9,7	14,8,2		
11	X	7	0-7	0-8-7	14	14,8	X	X
12	E	)	12-5	11-8-5	15	10,8	X	X
13	D	:	12-4	8-2	15,7	8		X
14	*	\$	11-8-4	11-8-3	7,9	8,2	X	X
15	C	"	12-3	8-7	15,5	8		X
16	R	¢	11-9	12-8-2	13,11	12,8		X
17	F	;	12-6	11-8-6	15	10,8	X	X
18	<	.	12-8-4	12-8-3	9,7	8,2	X	X
19	V	=	0-5	6-8	1	8,6	X	
20	T	0-8-2	0-3	0-8-2	14,5	14,8		X
21	G	-	12-7	11-8-7	15	10,8	X	X
22	MASTERCARD						X	X
23	B	|	12-2	11-8-2	15	10,8	X	X
24	Y	|	0-8	12-8-7	1,9	12,8		X
25	H	'	12-8	8-5	15,9	8,4		
26	DUP							
27	N	(	11-5	12-8-5	13	12,8	X	X
28	U	1	0-4	1	1,7			X
29	J	4	11-1	4	13,3			X
30	-	-	11	11	13	10		
31	M	7	11-4	7	13,7			X
32	I	2	12-9	2	15,11			X
33	K	5	11-2	5	13	4	X	
34	/	0	0-1	0	14,3	14		
35	,	8	0-8-3	8	1,9,5	8		
36	O	3	11-6	3	13	2	X	
37	L	6	11-3	6	13,5	6		
38	SPACE						X	X
39	.	9	12-8-3	9	15,9,5			X
40	P	&	11-7	12	13	12	X	
41	SKIP						X	X
42	RELEASE						X	X
43	AUX DUP						X	X
44	FEED							
45	REGISTER						X	X
46	PROG 2							
47	ALPHA							
48	LEFT ZERO						X	X
49	LEFT ZERO							
50	PROG 1							

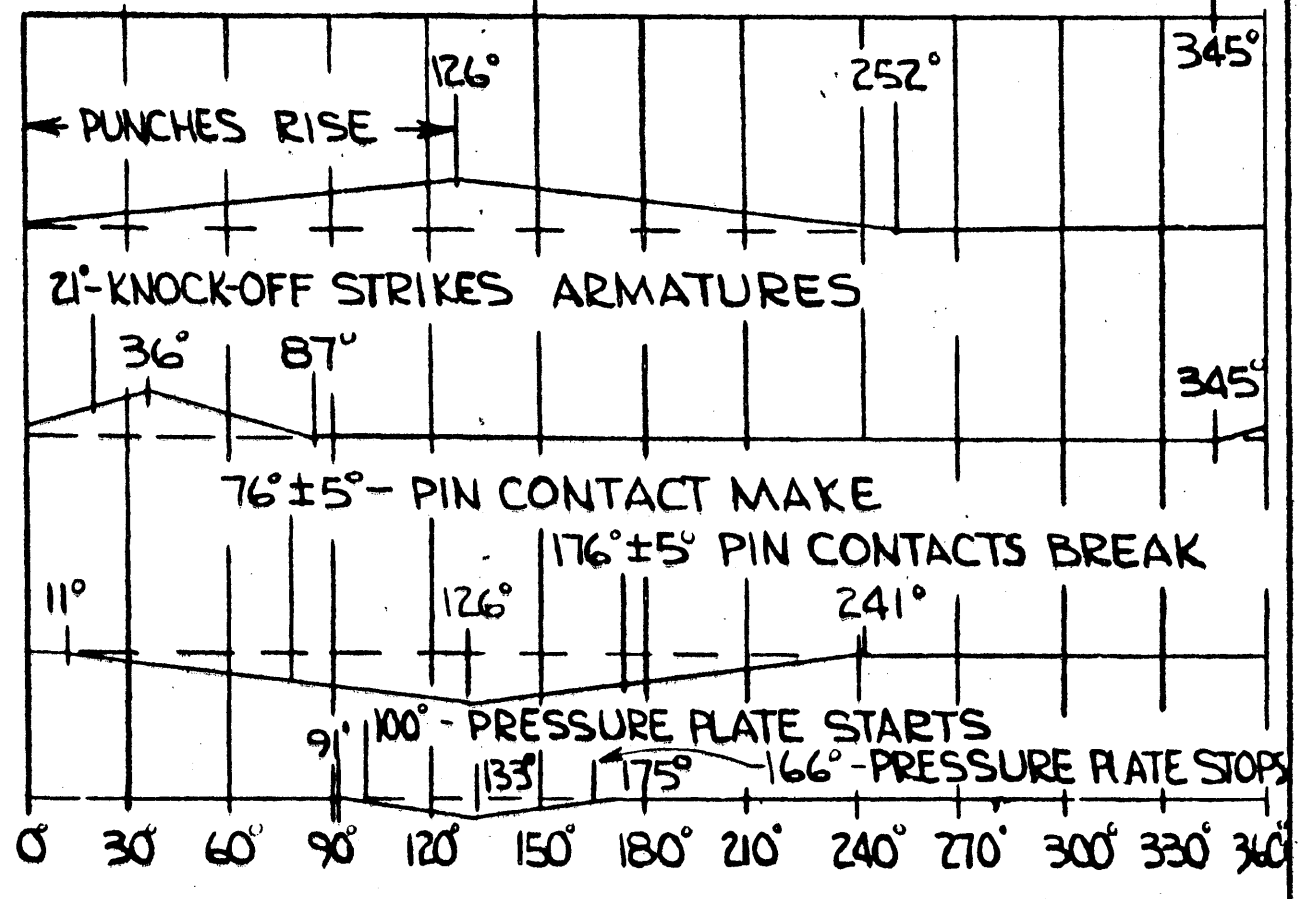
ODD NUMBER BAILS ON RIGHT SIDE OF KEYBOARD
EVEN NUMBER BAILS ON LEFT SIDE OF KEYBOARD

- CARD FEED CLUTCH
60 RPM
1° = 2.78 MS
- CARD FEED KNIFE
- CARD ALIGNER
(VERTICAL ALIGNMENT)
- CARD PUSHER FEED
(FOR DETAIL CARD)
- PRESSURE ROLLS
(ON FEED WHEELS)
- INSERTING ROLL
(FOR MASTER CARD)
- CARD REGISTER STOP
(FOR MASTER STOP)
- EJECT ROLL
(FOR CARD TO BE STACKED)
- CARD PUSHER-STACKER
- STACKER DRUM GRIPPERS
- PUNCH CLUTCH
1200 RPM
1° = .139 MS } NON-PRINT
1080 RPM } PRINT
1° = .154 MS
- PUNCH BAIL
- ARMATURE KNOCK-OFF
- PIN OPER CAM
- PRINT CAM

MECHANICAL TIME CHART
CARD FEED MECHANISM



PUNCH MECHANISM



INTERNATIONAL BUSINESS MACHINES CORP.		DATE	CHANGE NO.	DATE	CHANGE NO.	NOTE	DEVELOPMENT NO.
NAME SYSTEMS DIAGRAM		12-30-64	205199			X PRINT TO ENG. SPEC. NO. 695291	00.29.10.0
DESIGN	WT 11-23-64 MODEL						
CHECK	LF 11-23-64 DRAW						
APPRO	JKC 11-23-64 CHECK						

5373561

5406556
 0104E

MODEL "B" 29 WIRING DIAGRAM INDEX

NAME	SECTION	PART NO
POWER SUPPLY 60 CYCLE		5761451
POWER SUPPLY 50 CYCLE		5761461
NUM KYBD-INTERPOSER MAG-PIN SENSE	1 AND 2	960865
64 CHARACTER KYBD	3 AND 4	5405944
CARD FEED-PROG SELECT - PRINT	5 AND 6	5405916
DUP-CLEAR-RELEASE-CARD LEVER	7 AND 8	5405938
PCH CLUTCH-MP-ALPHA-KYBD RESTORE	9 AND 10	5405939
SKIP-ESC MAG	11 AND 12	5405948
FIELD SIZE - ENCODE	13 AND 14	960785
IA RLG DECODE-READOUT	15 AND 16	5405957
BIT REG AND LZ REGISTER-SMS CARD	17, 18, 19, 20, 21, 22	960866
COMPONENT LOCATION	23 AND 24	960867
KEYBOARD AND CAM REFERENCE		5373561
PRINT-SMS CARD		375105
ARC SUPP-SMS CARD		375106
ENCODE-SMS CARD		375107
COMBINATION KYBD CODE CHART		5367164
NUMERIC KYBD CODE CHART		5367184

FOR ENGINEERING USE

PREVIOUS ASSIGNED PAGE(S) PART NUMBER(S)
 INDEX PAGE(S) P/N 5406555

LOGIC PAGE(S) P/N 5405938, 5405955, 5405956

REPLACED BY P/N(S) 960865, 960866, 960867

NOTES

- I PRINT TO ENG SPEC 895291
- II PART NUMBERS, 5406551 THRU 5406600 ARE RESERVED FOR MODEL "B" INDEX PAGES. (ENG NOTE)
- III LAST BALLON USED (25) NOT USED 11, 24, 26, 41-48, 72, AND 87 (ENG NOTE)

CIRCUIT AND PACKAGING STANDARD	
APPROVAL	DATE

INTERNATIONAL BUSINESS MACHINES CORP.				DATE	CHANGE NO.	APPROVAL	DATE	CHANGE NO.	APPROVAL	DEVELOPMENT NO.
NAME	SYSTEMS DIAGRAM			21 NOV 69	920126					5405556
	W D INDEX			9 JAN 70	920164					
DESIGN	REP	21 NOV 69	MODEL							5406556
DETAIL			SCALE							
CHECK	RC L	21 NOV 69	DRAW	V H	21 NOV 69					
APPRO	NR W	21 NOV 69	CHECK							

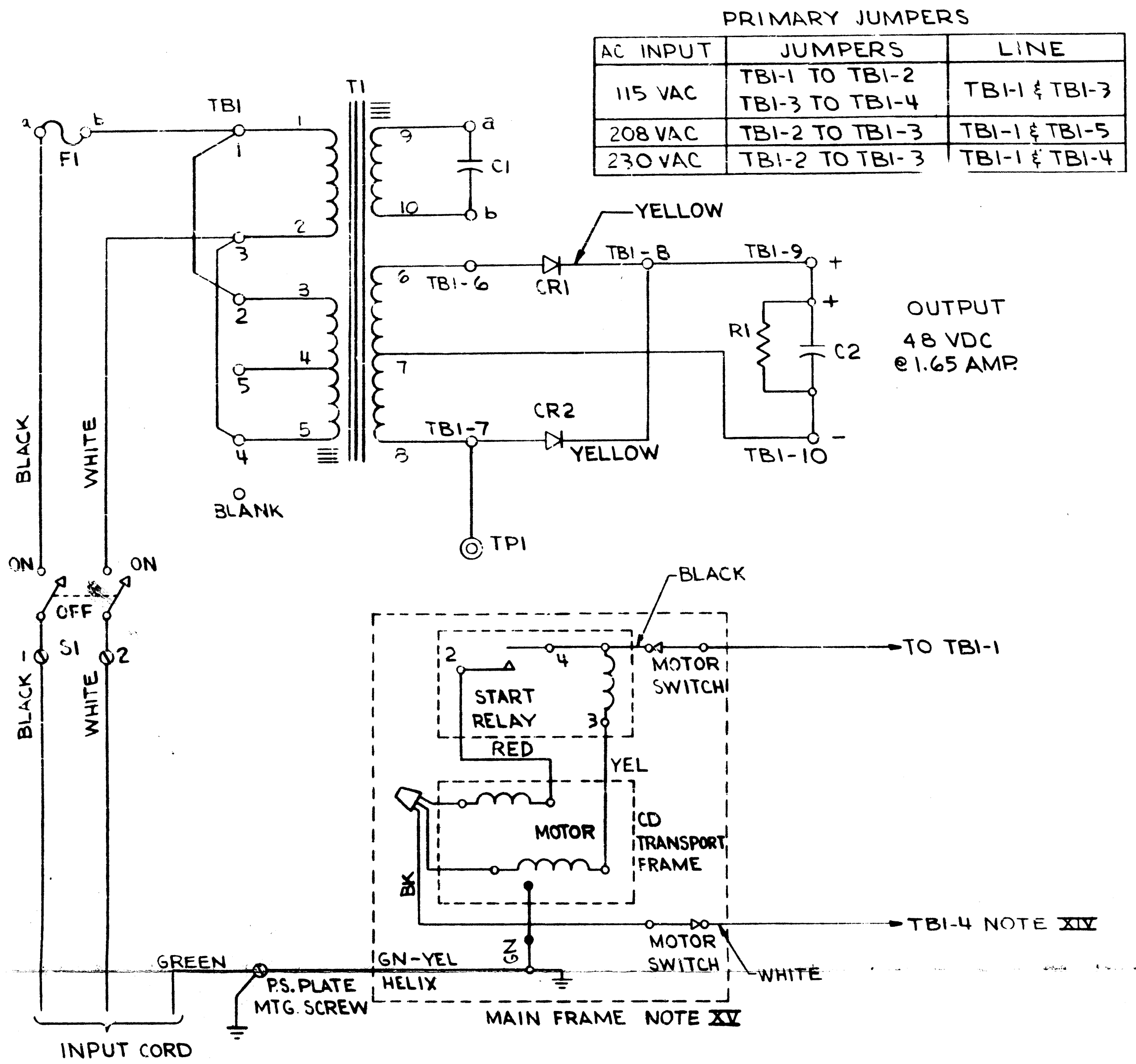
C

5761451

POWER SUPPLY 60 HZ

REFERENCE DRAWING

YF337



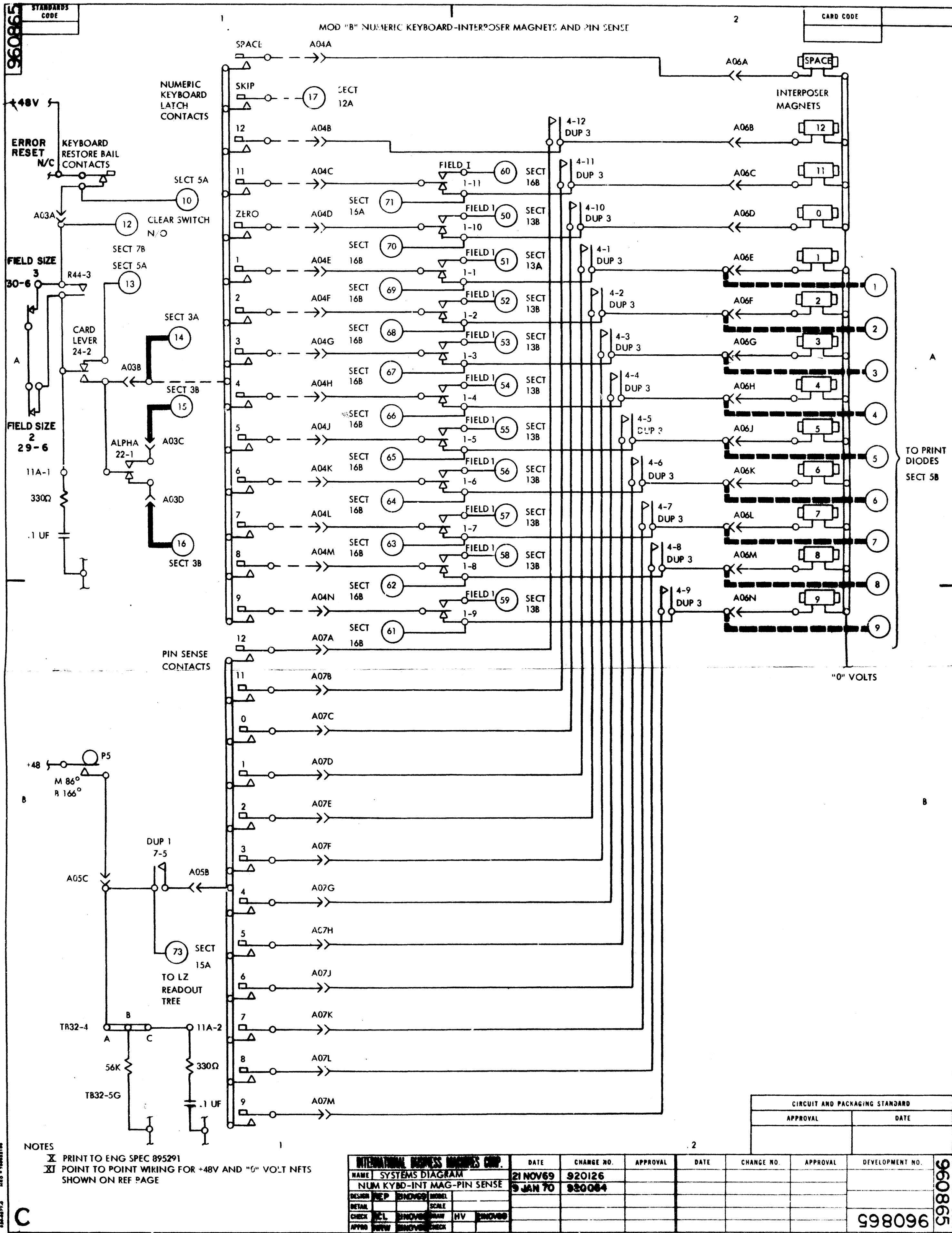
SYMBOL	DESCRIPTION	PART NO
T1	FERRO REGULATOR	5761559
CR1 & CR2	2A. FLANGLSS RECTIFIER	5323537
C1	CAPACITOR 6MFD 330 VAC	2159748
C2	CAPACITOR 5000MFD 55VDC	208222
R1	RESISTOR 500 Ω 10 W	338571
S1	SWITCH	5214428
F1	FUSE 4A	1143492

NOTE XII

NOTES

- XI FACTORY WIRED FOR 115 V AC
- XII FOR 208/230V INPUT, USE 615683 (2A) FUSE
- XIII WIRING DIAGRAM 5253883 APPLIES TO UNITS PRIOR TO EC708099 LEVEL
- XIV FOR 208V INPUT, CONNECT THIS LEAD TO TBI-5
- XV MAIN FRAME INF FOR THE O29 GROUP

INTERNATIONAL BUSINESS MACHINES CORP.		DATE	CHANGE NO.	DATE	CHANGE NO.	NOTE	DEVELOPMENT NO.
NAME	WIRING DIAGRAM -	20 JUL 66	708099			X PRINT TO ENG. SPEC. NO. 895291	5761451
	48VDC @ 1.65A P/S 60HZ	10 APR 67	709472				
DESIGN	CMC-666 MODEL	3 NOV 67	710705				5761451
DETAIL	CMC-666	6 MAR 68	710998-A				YF337
CHECK	CMC-666						
APPRO	CMC-666	10 OCT 68	711702-A				



NOTES
 X PRINT TO ENG SPEC 895291
 XI POINT TO POINT WIRING FOR +48V AND "0" VOLT NETS SHOWN ON REF PAGE

INTERNATIONAL BUSINESS MACHINES CORP.				DATE	CHANGE NO.	APPROVAL	DATE	CHANGE NO.	APPROVAL	DEVELOPMENT NO.
NAME | SYSTEMS DIAGRAM				21 NOV 69	920126					960865
NUM KYBD-INT MAG-PIN SENSE				9 JAN 70	820084					
DESIGN	W.P.	UNDOVER	MODEL							998096
DRAW	W.P.	UNDOVER	SCALE							
CHECK	W.P.	UNDOVER	DATE							
APPROV	W.P.	UNDOVER	CHECK							

CIRCUIT AND PACKAGING STANDARD	
APPROVAL	DATE

960865

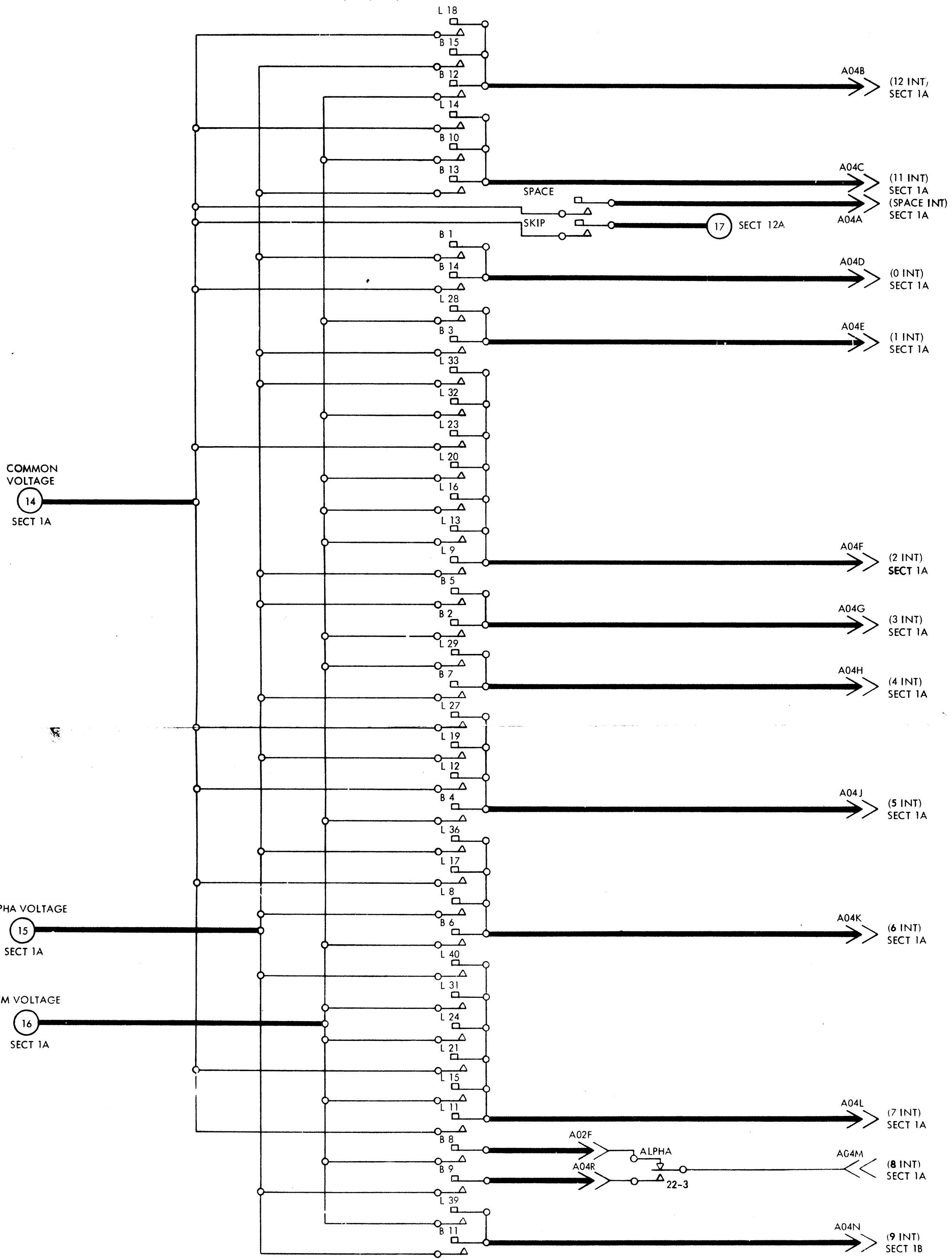
C

5405914

3

MOD "A", "B", "C", "10" & "11" 64 CHARACTER KEYBOARD

4



NOTES XI POINT TO POINT WIRING FOR +48V AND "0" VOLT NETS SHOWN ON REF PAGE

INTERNATIONAL BUSINESS MACHINES CORP.				DATE	CHANGE NO.	DATE	CHANGE NO.	NOTE	DEVELOPMENT NO.
NAME	SYSTEMS DIAGRAM			19 SEP 66	205636 - G			NOTE X PRINT TO ENG. SPEC. NO. 895291	5405914
	64 CHAR KYBD			18 OCT 66	205811-A				
DESIGN	EB	11 SEP 66	MODEL						
DETAIL	AG	9 SEP 66							
CHECK	RAS	9 SEP 66	DRAW	GT	7 SEP 66				
APPRO	RSS	9 SEP 66	CHECK						

5405916

STANDARDS CODE

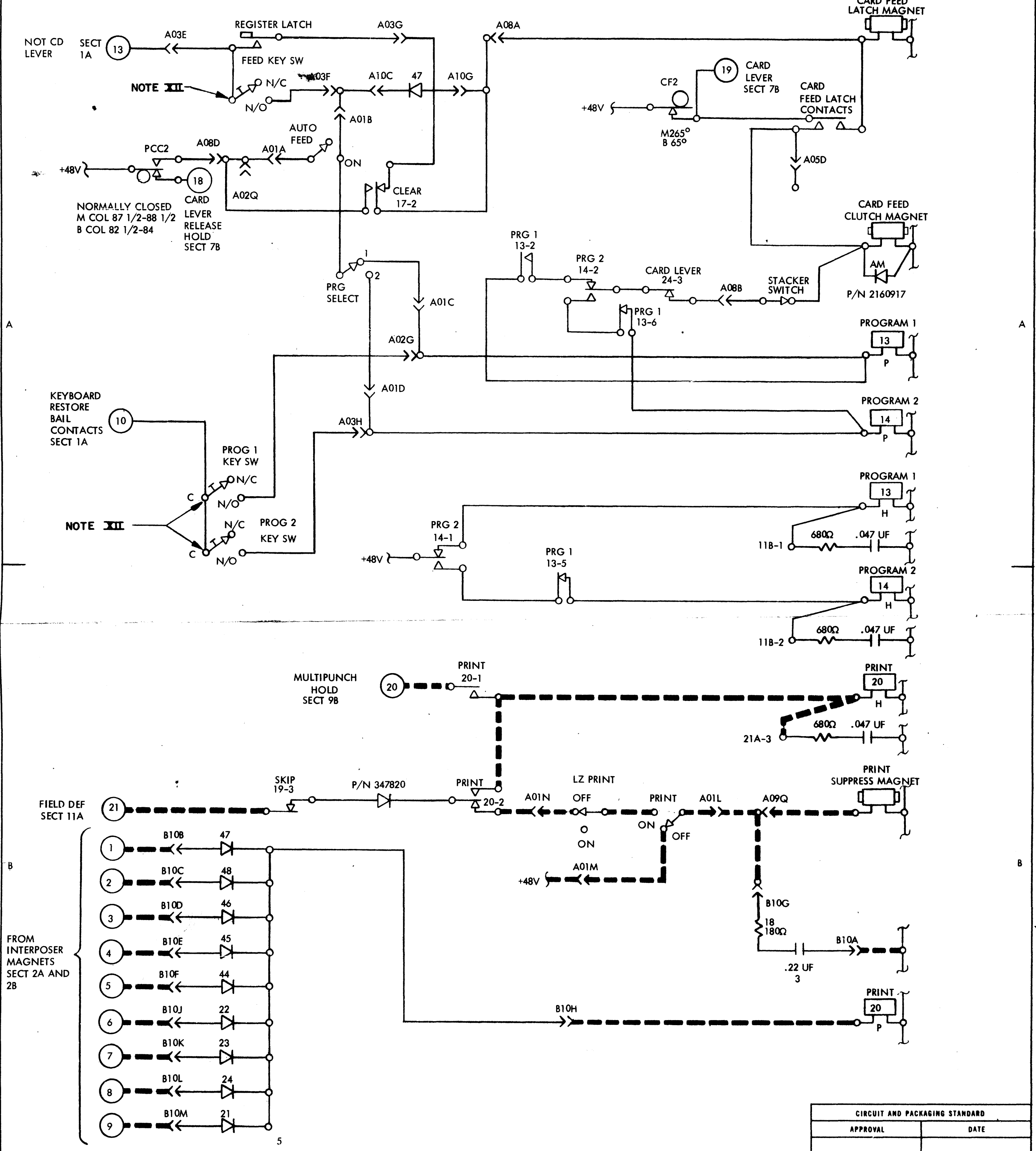
5

6

CARD CODE

MOD "A" AND "B" CARD FEED-PROG SELECT-PRINT

MASTER



NOTES
 X PRINT TO ENG SPEC NO 895291
 XI POINT TO POINT WIRING FOR +48V AND "0" VOLT NETS SHOWN ON REF PAGE
 XII A STRAP CONTACT KEYBOARD MAY BE INSTALLED ON THIS M/C

INTERNATIONAL BUSINESS MACHINES CORP.									
NAME	DATE	CHANGE NO.	APPROVAL	DATE	CHANGE NO.	APPROVAL	DEVELOPMENT NO.		
SYSTEMS DIAGRAM	11 OCT 68	206435							
CD FEED-PROG SEL-PRINT	23 MAR 71	920307							
DESIGN EB	15 SEP 66	MODEL							
DETAIL AG	25 SEP 66	SCALE							
CHECK RAS	25 SEP 66	DRAWN IDI	1 AUG 68						
APPRO RSS	25 SEP 66	CHECK							

CIRCUIT AND PACKAGING STANDARD	
APPROVAL	DATE

C

5405916

5405958

STANDARDS CODE

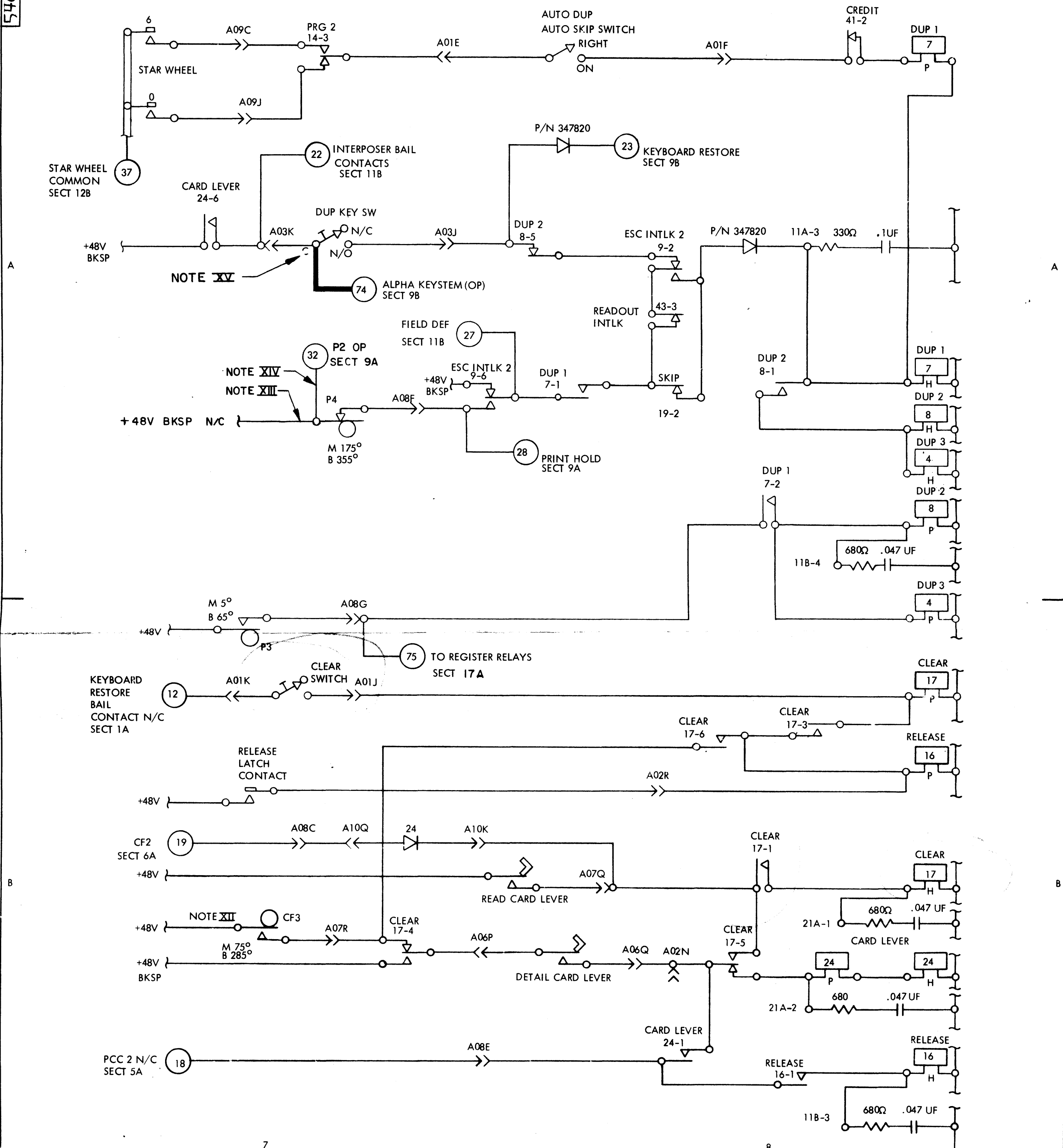
7

8

MASTER

CARD CODE

MOD "B" DUP-CLEAR - RELEASE - CARD LEVER



NOTES

- X PRINT TO ENG SPEC NO 895291
- XI POINT TO POINT WIRING FOR +48V AND "0" VOLT NETS SHOWN ON REF PAGE
- XII CF 3 TIMING FOR VLCD AND/OR HSS M90° ± 2° B 300° ± 5°
- XIII FACTORY REMOVE EC 920064 OCT 69
- XIV FACTORY INSTALL EC 920064 OCT 69
- XV A STRAPCONTACT KEYBOARD MAY BE INSTALLED ON THIS M/C

CIRCUIT AND PACKAGING STANDARD			
APPROVAL	DATE	APPROVAL	DATE

INTERNATIONAL BUSINESS MACHINES CORP.				DATE	CHANGE NO.	APPROVAL	DATE	CHANGE NO.	APPROVAL	DEVELOPMENT NO.
NAME				11OCT68	206435					
SYSTEMS DIAGRAM				4 NOV 69	920064					
DUP-CLEAR-REL-CD LEVER				23MAR71	920307					
DESIGN	EB	15SEP68	MODEL							
DETAIL	AG	9SEP68	SCALE							
CHECK	RAS	9SEP68	DRAW	IDI	1AUG68					
APPRO	RRS	9SEP68	CHECK							

14-00000-01

C

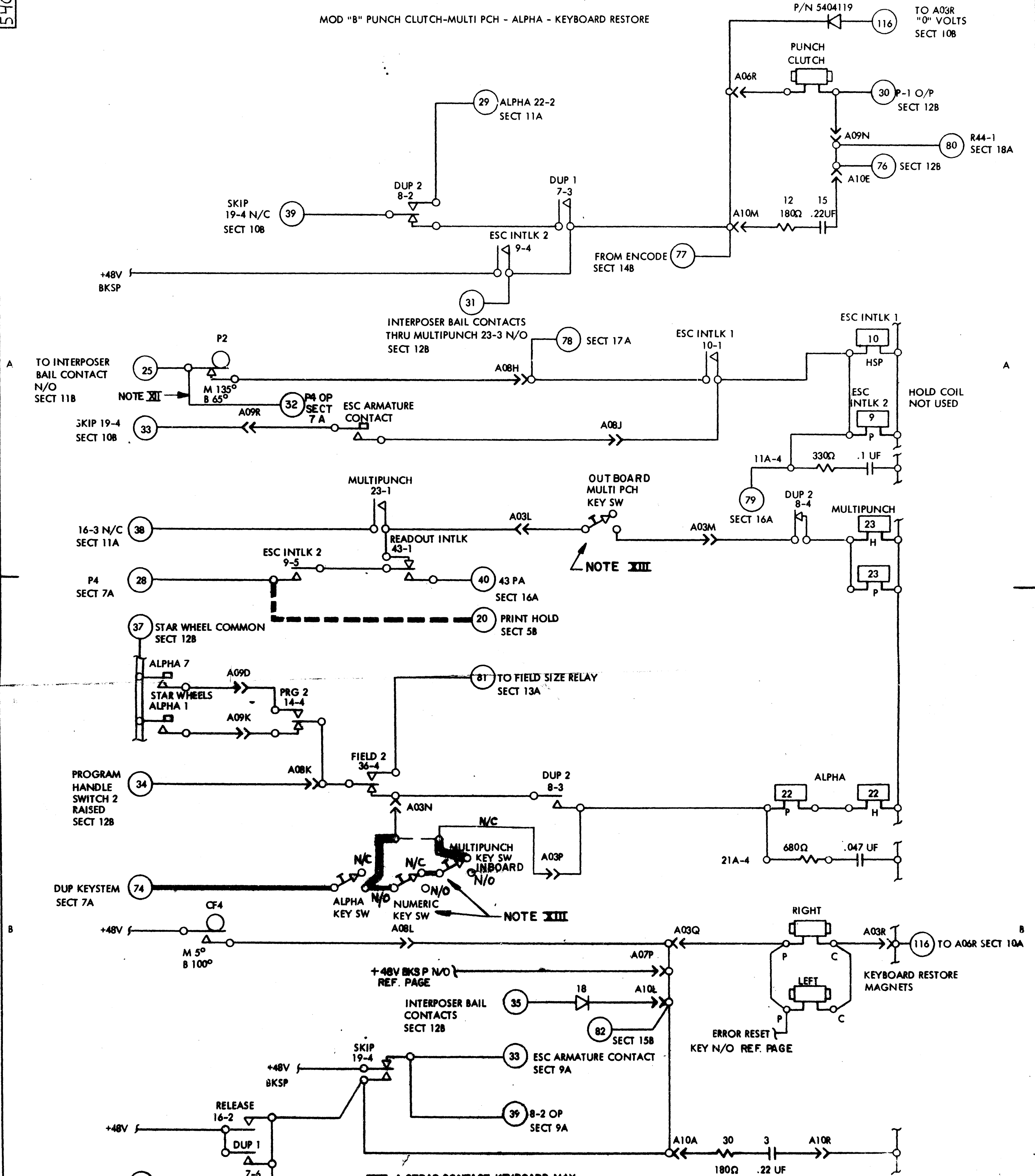
5405958

5405939

STANDARDS CODE

CARD CODE

MOD "B" PUNCH CLUTCH-MULTI PCH - ALPHA - KEYBOARD RESTORE



- NOTES
- X PRINT TO ENG SPEC 895291
 - XI POINT TO POINT WIRING FOR +48V AND "0" VOLT NETS SHOWN ON REF PAGE
 - XII FACTORY INSTALL EC 920064 OCT 69

XIII A STRAP CONTACT KEYBOARD MAY BE INSTALLED ON THIS M/C

DATE	CHANGE NO.	APPROVAL	DATE	CHANGE NO.	APPROVAL	DEVELOPMENT NO.
19 SEP 68	206331-C					
18 JAN 69	920013					
4 NOV 68	920064					
23 MAR 71	920307					

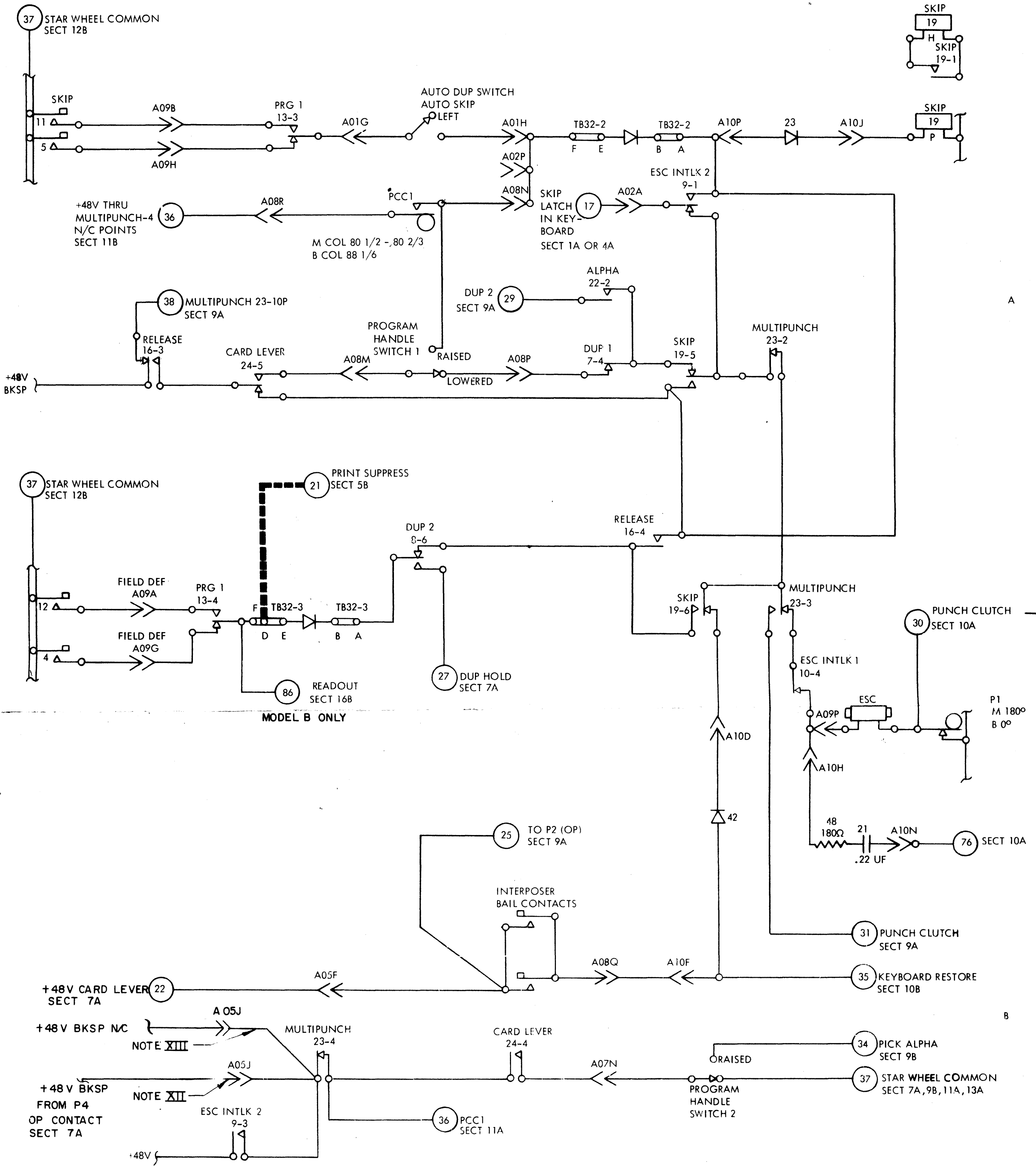
5405939

5405948

11

MOD "A" & "B" SKIP-ESCAPE MAGNET

12



- NOTES
- XI POINT TO POINT WIRING FOR +48V AND "0" VOLT NETS SHOWN ON REF PAGE
 - XII FACTORY REMOVED EC 920064 OCT 69
 - XIII FACTORY INSTALLED EC 920064 OCT 69

INTERNATIONAL BUSINESS MACHINES CORP.		DATE	CHANGE NO.	DATE	CHANGE NO.	NOTE	DEVELOPMENT NO.
NAME SYSTEMS DIAGRAM		19 SEP 66	205666 - G			X PRINT TO ENG. SPEC. NO. 895291	5405948
SKIP - ESCAPE - MAGNET		18 OCT 66	205811 - A				
DESIGN	EB 1 SEP 66 MODEL	11 NOV 66	205813 - A				
DETAIL	AG 9 SEP 66	4 NOV 69	920064				
CHECK	RAS 9 SEP 66 DRAW GT 7 SEP 66						
APPRO	RSS 9 SEP 66 CHECK						

960785

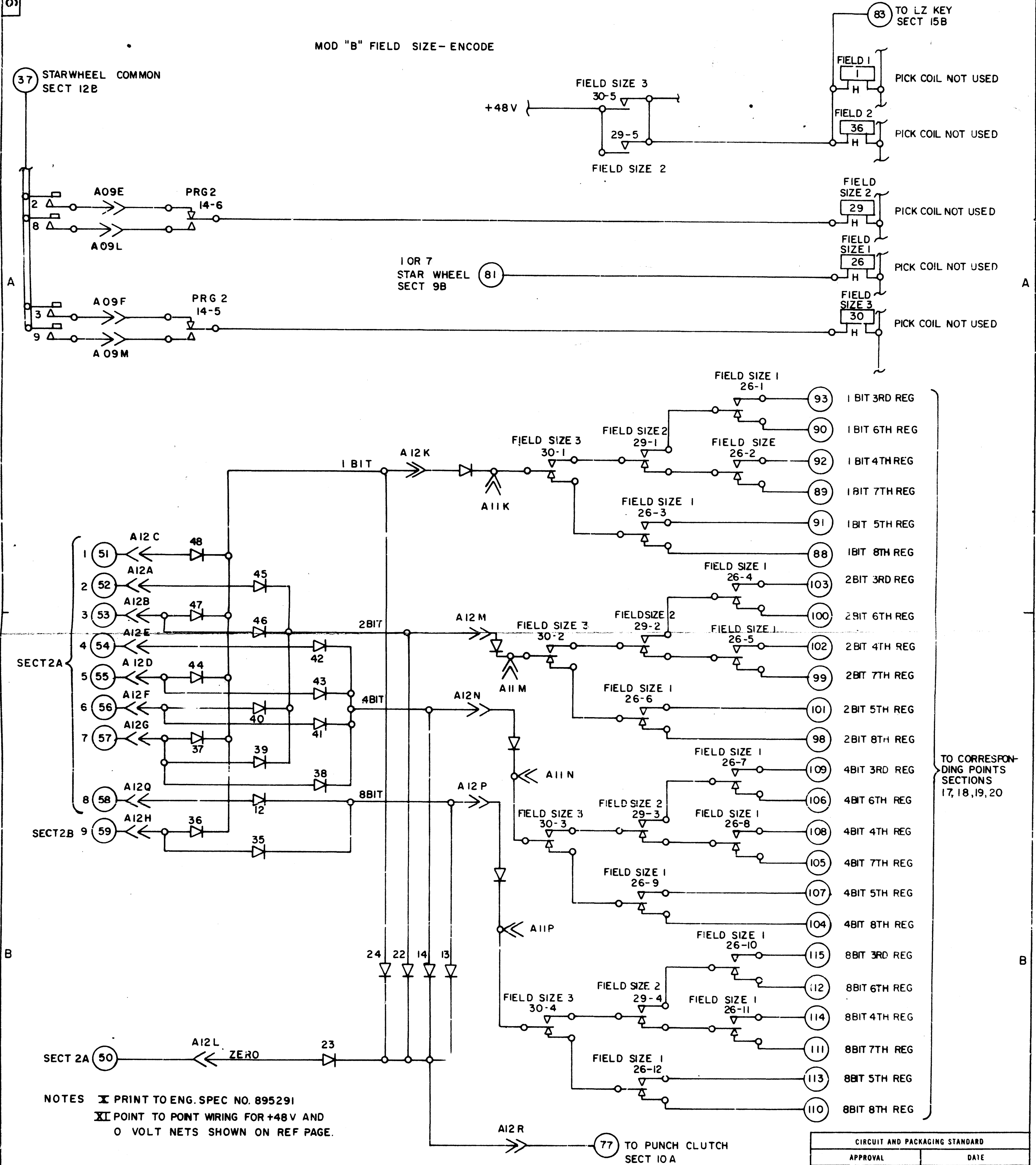
STANDARDS CODE
01046

13

14

CARD CODE

MOD "B" FIELD SIZE- ENCODE



NOTES X PRINT TO ENG. SPEC NO. 895291
 XI POINT TO POINT WIRING FOR +48V AND
 O VOLT NETS SHOWN ON REF PAGE.

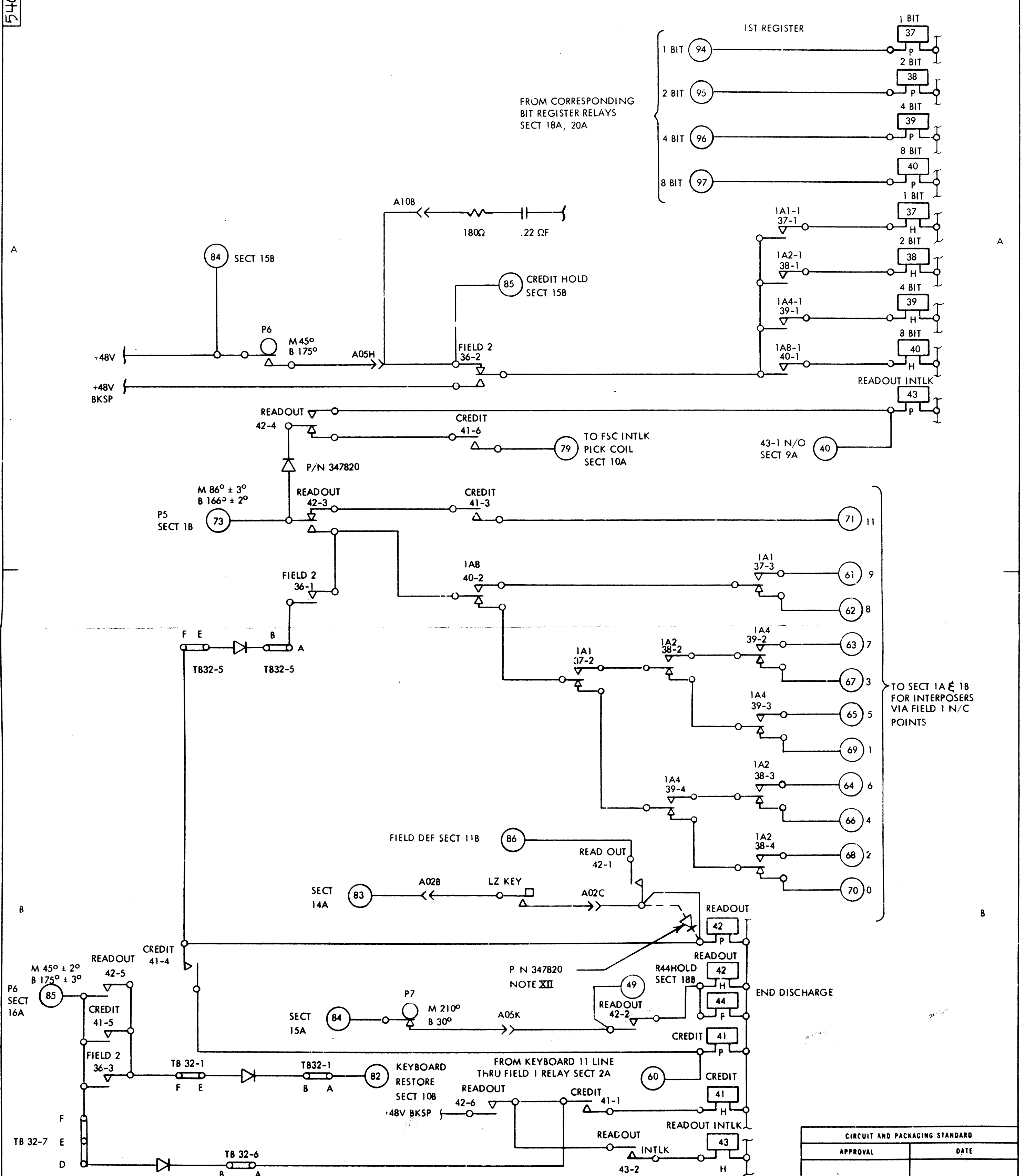
CIRCUIT AND PACKAGING STANDARD	
APPROVAL	DATE

INTERNATIONAL BUSINESS MACHINES CORP.		DATE	CHANGE NO.	APPROVAL	DATE	CHANGE NO.	APPROVAL	DEVELOPMENT NO.
NAME	SYSTEMS DIAGRAM	11 JUN 69	920086					
FIELD SIZE-ENCODE		14 JUL 69	920086A					
DESIGN REP	14 JUL 69	MODEL						
DETAIL REP	14 JUL 69	SCALE	4 NOV 69	920064				
CHECK	RCL 14 JUL 69	DRAW	9 APR 70	920064A				
APPRO	NRW 14 JUL 69	CHECK						

960785

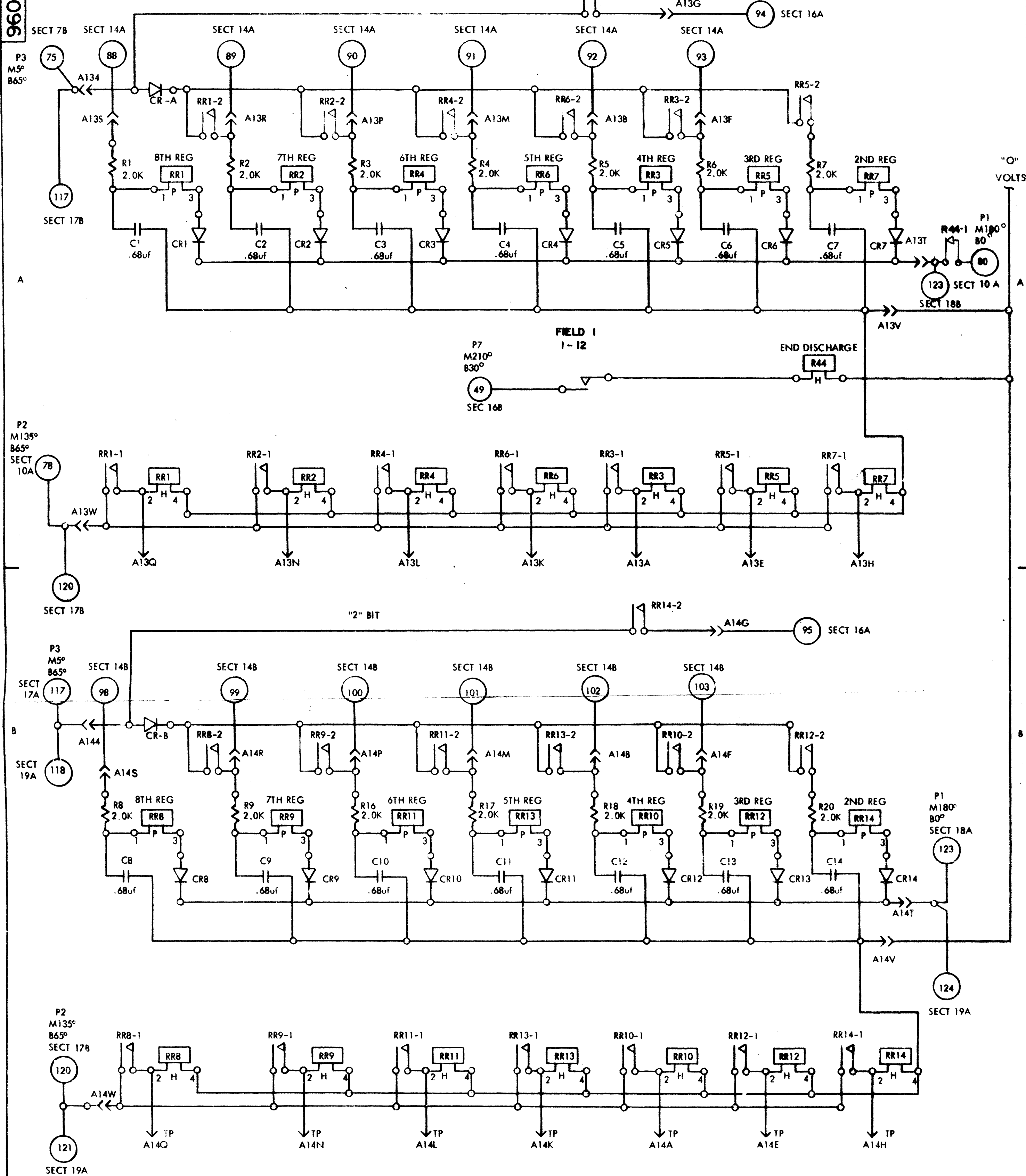
SECURITY INFO PROHIBITED

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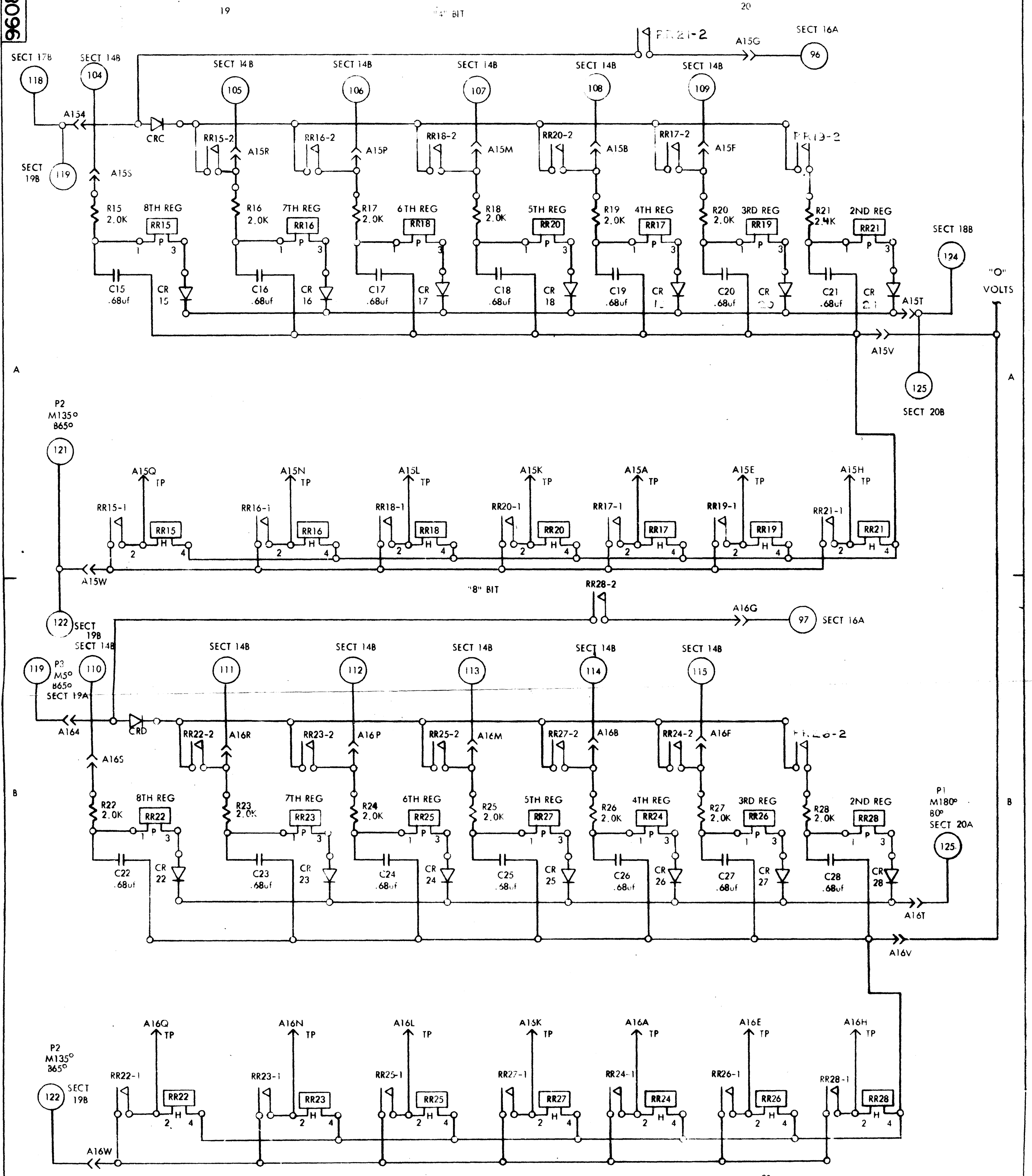


NOTES
 X PRINT TO ENG SPEC NO 895291
 XI POINT TO POINT WIRING FOR +48V AND "0" VOLT NETS SHOWN ON REF PAGE
 XII DIODE NOT REQUIRED ON NON-PRINT. JUMPER IS INSTALLED ON NON-PRINT MACHINES

INTERNATIONAL BUSINESS MACHINES CORP.		DATE	CHANGE NO.	APPROVAL	DATE	CHANGE NO.	APPROVAL	DEVELOPMENT NO.
NAME	SYSTEMS DIAGRAM	18SEP68	206331-C					
1A REG DECODE - READOUT								
DESIGN	EB 11SEP66	MODEL						
DETAIL	AG 9SEP66	SCALE						
CHECK	RAS 9SEP66	DRAWN	IDI 2AUG68					5405957
APPROV	RSS 9SEP66	CHECK						

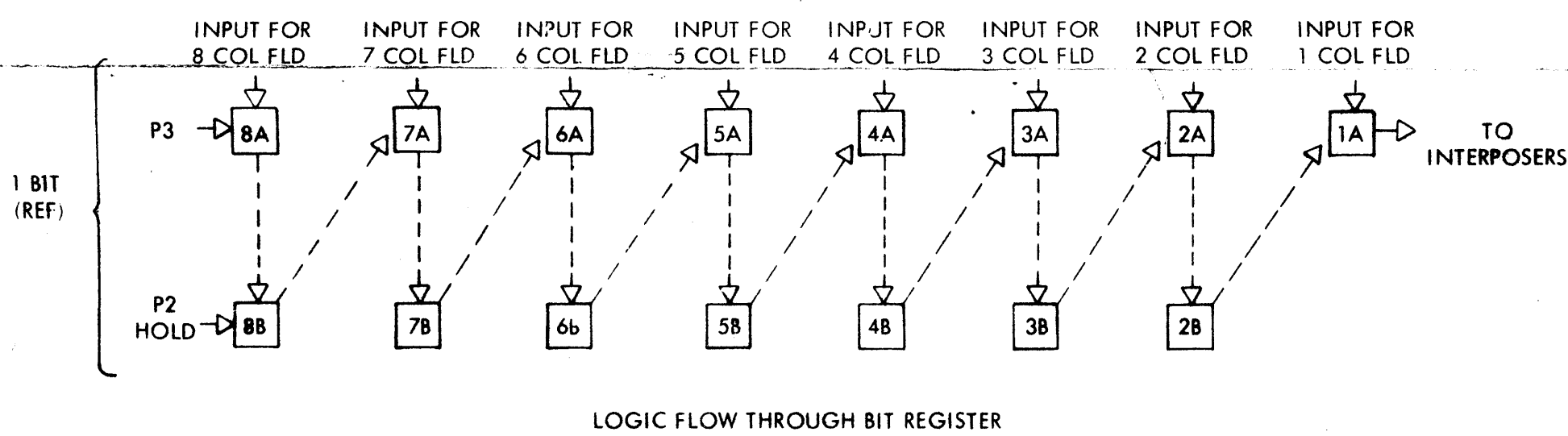
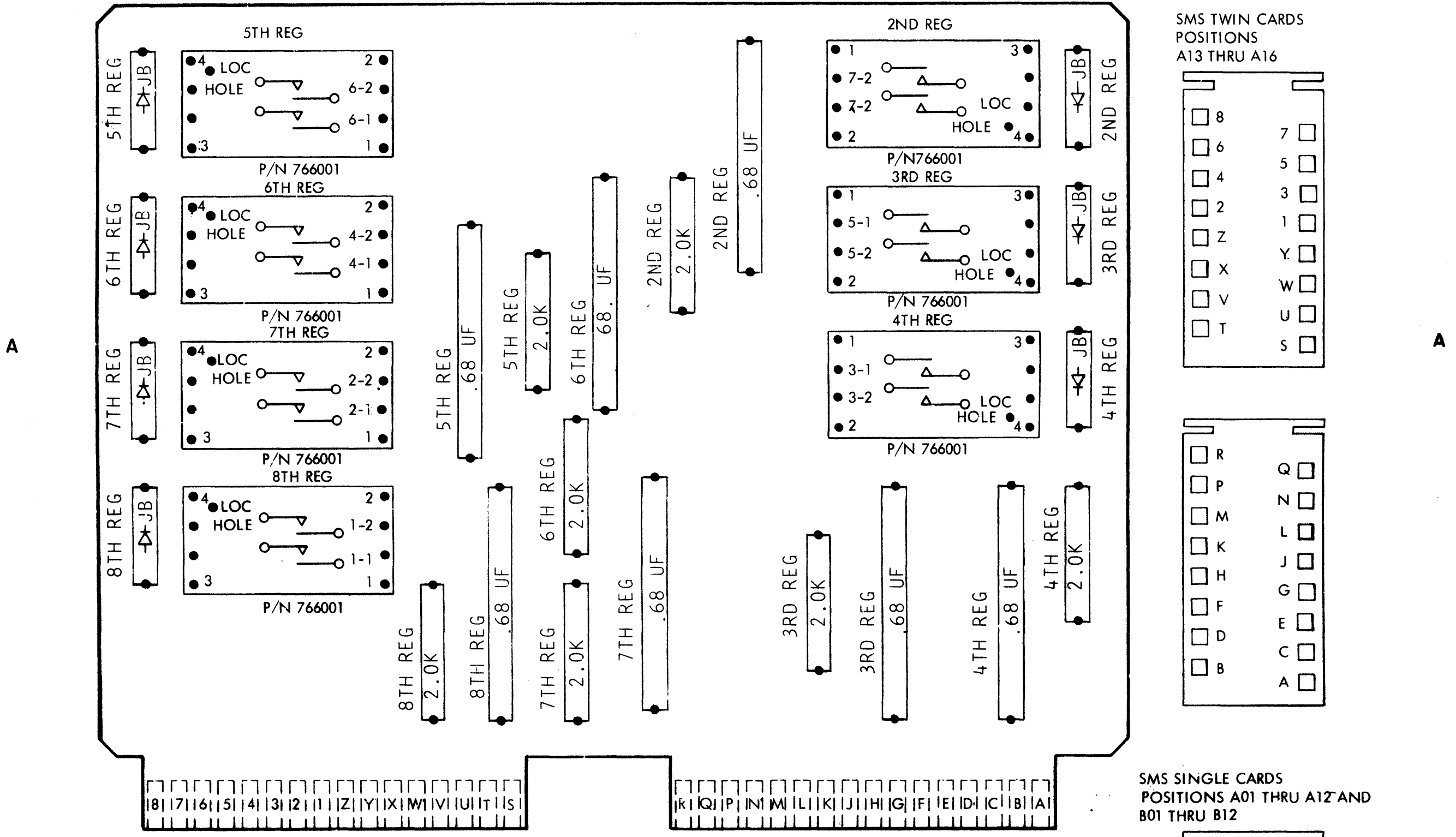


INTERNATIONAL BUSINESS MACHINES CORP.		DATE	CHANGE NO.	DATE	CHANGE NO.	NOTE	DEVELOPMENT NO.
NAME		21 NOV 69	920126			NOTE 1 PRINT TO END. OPER. NO. 895291	998096
DESIGNED BY							
DRAWN BY							
APPROVED BY							



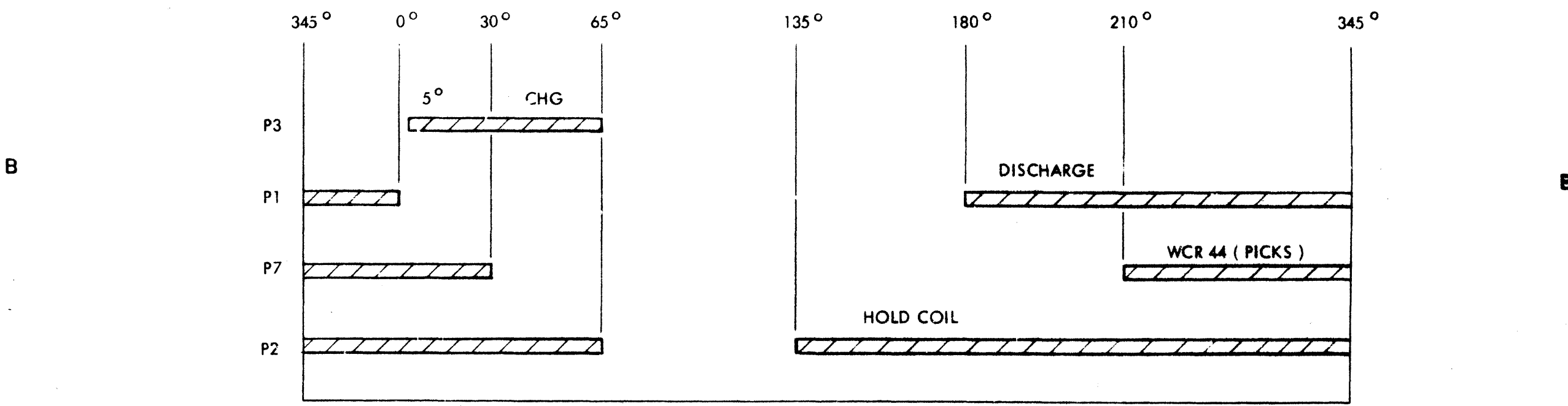
INTERNATIONAL BUSINESS MACHINES CORP.		DATE	CHANGE NO.	DATE	CHANGE NO.	NOTE	DEVELOPMENT NO.
NAME SYSTEMS DIAGRAM		21 NOV 69	920126			X PRINT TO ENL. SPEC. NO. 895291	
DESIGNED BY	REP	INNOV8	MODEL				
CHECKED BY	REP	INNOV8	DRAWN BY	H V	INNOV8		
APPROVED BY	REP	INNOV8	CHECKED				
							998096

LEFT ZERO RESISTER



LOGIC FLOW THROUGH BIT REGISTER

VIEW - TOP OF OPEN GATE (WIRING SIDE)



INTERNATIONAL BUSINESS MACHINES CORP.				DATE	CHANGE NO.	DATE	CHANGE NO.	NOTE	DEVELOPMENT NO.
NAME TWIN CARD ASSEMBLY LEFT				21NOV69	920126			X PRINT TO ENG. SPEC. NO. 895291	998096
ZERO REGISTER									
DESIGN	REP	21NOV69	MODEL						
DETAIL									
CHECK	MCL	21NOV69	DRAW	HV	21NOV69				
APPRO	NRW	21NOV69	CHECK						

960867

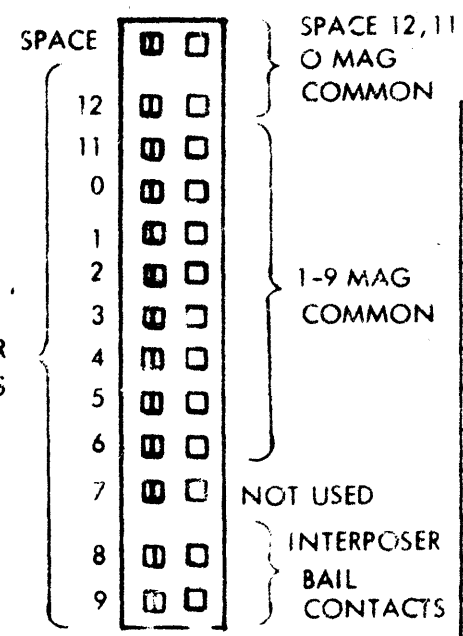
STANDARDS CODE
01046

23

24

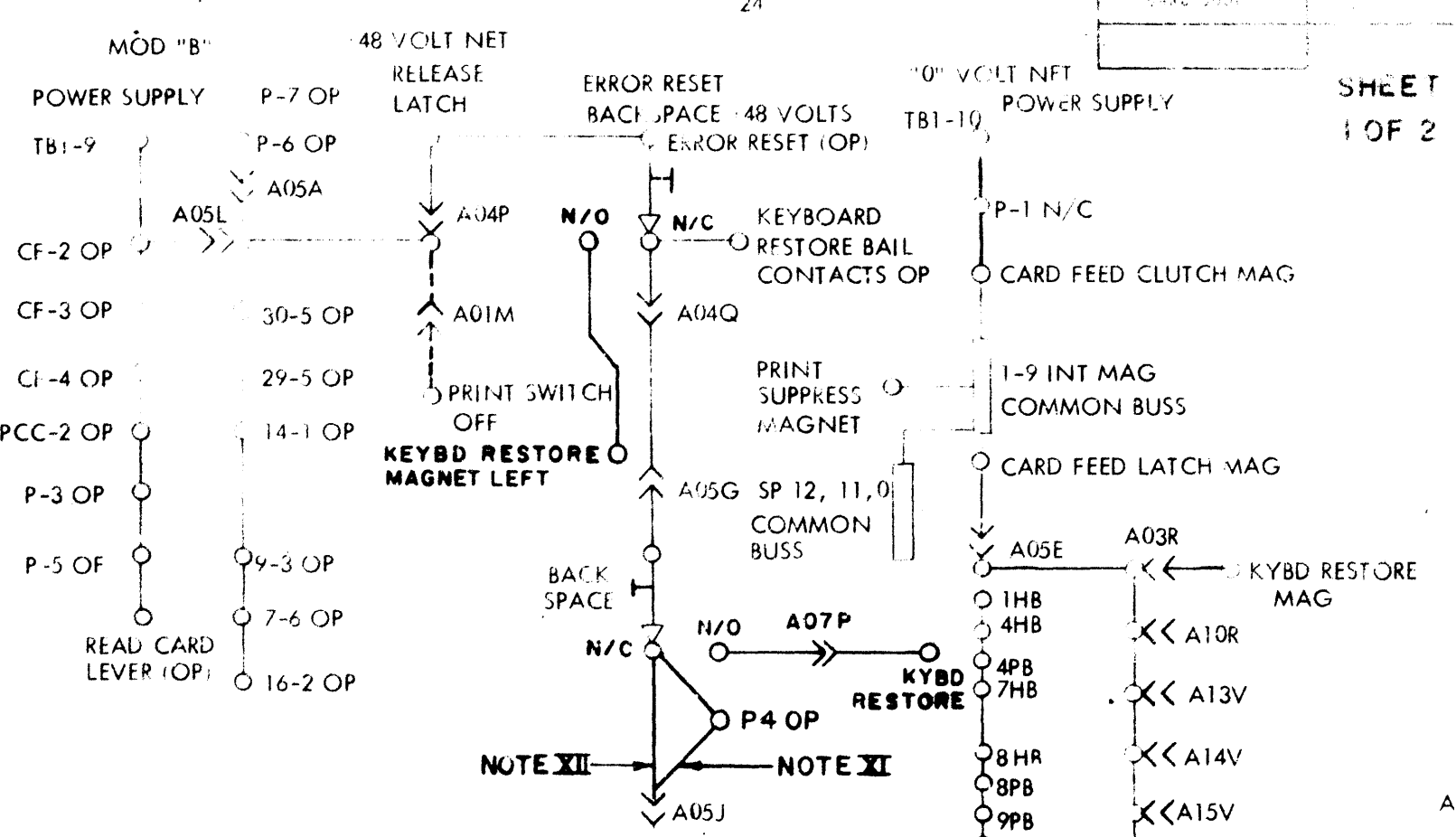
SHEET 1 OF 2

PUNCH UNIT TERM BLOCK
FACING WRINKLED LUGS



DISCRETE COMPONENTS

PART NO	FROM	TO	SECT
2160917		ACROSS CD FD MAG	6A
347820	19-3 N/C	20-2OP	5B
347820	7-6 N/O	8-5 N/C	8A
347820	9-2 N/O	11A-3	8A
347820	42-4 OP	42-3 OP	15A
5404119	A03R	A06R	10A
347820	42-1 N/O	42 PA	16B
5404119	A 12 K	A 11 K	13A
5404119	A 12 M	A 11 M	13B
5404119	A 12 N	A 11 N	14B
5404119	A 12 P	A 11 P	14B



WIRE CONTACT RELAY LOCATION

RELAY	NO	COIL P	H	1	2	3	4	5	6	7	8	9	10	11	12	PART NO	COIL TYPE
FIELD 1				14A	1A	1A	1A	1A	1A	1A	1A	1A	1A	1A	1A	255735	PU HRH
DUP 3	7	8A	8A	8A	7B	10A	12A	1B	9B							196198	PU HRH
DUP 2	8	8B	8A	8A	9A	10B	10A	7A	11A							196198	PU HRH
ESC INLK 2	9	10A		12A	8A	11B	9A	9A	7A							196198	PU HRH
ESC INLK 1	10	10A		10A	*	12B										398273	HSP
PROGRAM 1	13	6A	6A	6A	6A	11A	11B	6A	6B							196198	PU HRH
PROGRAM 2	14	6A	6B	6B	6A	7A	9B	13A	13A							196198	PU HRH
RELEASE	16	8B	8B	8B	9A	12A										196208	PU HRH
CLEAR	17	8B	8B	8B	5A	8B	7B	8B	8B							196198	PU HRH
PRINT	19	12A	12A	12A	8A	5B	9B	12A	12A							196198	PU HRH
ALPHA	22	10B	10B	1A	12A	4B	XSKIP									196208	PU HRH
MULTIPUNCH	23	10B	10A	9A	12A	11B										104753	HSPU HOLD
CARD LEVER	24	8B	8B	8B	1A	6A	11B	11A	7A							196198	PU HRH
FIELD SIZE 1	26		14A	14A	14A	14A	14B	14B	14B	14B	14B	14B	14B	14B	14B	255735	PU HRH
FIELD SIZE 2	29		14A	14A	14A	14B	14B	14A	1A							196198	PU HRH
FIELD SIZE 3	30		14A	14A	14B	14B	14B	14A	1A							196198	PU HRH
FIELD 2	36		14A	15B	15A	15B	9B									196208	PU HRH
1A2 REG	37	16A	16A	16A	16B	16B										196208	PU HRH
1A3 REG	38	16A	16A	16A	16B	16B	16B									196208	PU HRH
1A4 REG	39	16A	16A	16A	16B	16B	16B									196208	PU HRH
1A5 REG	40	16A	16A	16A	15B											196208	PU HRH
CREDIT	41	16B	16B	16B	8A	15A	15B	15B	15A							196198	PU HRH
READOUT	42	16B	16B	16B	16B	15A	15A	15B	15B							196198	PU HRH
READOUT INLK	43	16A	16B	9A	16B	8A										196208	PU HRH
READ DISCHARGE	44	16B	18A	18A	1A											196208	PU HRH

* DO NOT INSERT WIRES

CONNECTOR CHART

SMS CARD NAME	CONNECTOR CHART																ARC SUPP	EN-CODE	BIT 1 REG	BIT 2 REG	BIT 4 REG	BIT 8 REG	PRINT			
SMS CARD CODE																	FFJ	FFK	HHS	HHS	HHS	HHS	FFH			
PIN	A01	A02	A03	A04	A05	A06	A07	A08	A09	A10	A11	A12	A13	A14	A15	A16	B10									
A	5A	12A	1A	1A	24A	2A	1B	6A	11A	10B		13B	18A	18B	20A	20B	6B									
B	5A	15B	1A	1A	1B	2A	1B	6A	11A	15A		13B	18A	18B	20A	20B	5B									
C	5A	16B	1A	1A	1B	2A	1B	7B	7A	5A		13B					5B									
D	5A	MCI	1A	1A	6A	2A	1B	5A	9B	12B		13B					5B									
E	7A	AUX DUP	5A	1A	24A	2A	1B	7B	13A	10A		13B	18A	18B	20A	20B	5B									
F	8A	4B	5A	1A	11B	2A	1B	7A	13A	12B		13B	18A	18B	20A	20B	5B									
G	11A	5A	5A	1A	24A	2A	1B	7B	11B	5A		13B	18A	18B	20A	20B	6B									
H	11A		5A	1A	15A	2A	1B	9A	11A	12B		13B	18A	18B	20A	20B	6B									
J	7B		7A	1A	11B	2A	1B	10A	7A	12A							5B									
K	7B		7A	1A	16B	2A	1B	9B	9B	7B	14A	13A	17A	17B	19A	19B	5B									
L	6B		10A	1A	24A	2A	1B	9B	13A	10B		13B	17A	17B	19A	19B	5B									
M	6B	XSKIP	0A	1A	VLD	2A	1B	11A	13A	10A	14B	13B	17A	17B	19A	19B	5B									
N	6B	8B	9B	1B	H.S	2B	12B	11A	10A	12B	14B	13B	17A	17B	19A	19B										
P	MCI	11A	10B	24A	HSS	7B	10B	11A	12B	12A	14B	13B	17A	17B	19A	19B										
Q		5A	10B	24A	MCI	8B	8B	12B	6B	7B		13B	17A	17B	19A	19B										
R		8B	10B	4B	HSS	10A	7B	1A	9A	10B		14B	17A	17B	19A	19B										
S													17A	17B	19A	19B										
T													18A	18B	20A	20B										
U																										
V													18A	18B	20A	20B										
W													17A	17B	19A	19B										
X																										
Y																										
Z																										
1																										
2																										
3																										
4													17A	17B	19A	19B										
5																										
6																										
7																										
8																										

LEGEND

- PRINT FEATURE WIRING
- COMBINATION KEYBOARD WIRING
- NUMERIC KEYBOARD WIRING

INTERNATIONAL BUSINESS MACHINES CORP.				DATE	CHANGE NO.	APPROVAL	DATE	CHANGE NO.	APPROVAL	DEVELOPMENT NO.
NAME: SYSTEMS DIAGRAM				21 NOV 69	920126					
COMPONENT LOCATION				9 JAN 70	920064					
DESIGN: RCL				9 APR 70	920064A					
CHECK: RCL										
APPRO: RCL										

960867

298096

960867

STANDARD CODE
01046

25

26

CARD CODE

SHEET 2 OF 2

PUNCH CAMS

NO	LOC	PART NO	M	B
1	12 B	309630	180°±2	0°±3
2	9A	309634	135°±3	65°±2
3	7B	350359	5°±1	85°±3
4	7A	309630	175°±3	355°±2
5	1B	309629	86°±3	166°±2
6	15 A	326429	45°±2	175°±3
7	15 B	309630	210°±3	30°±2

CARD FEED CAMS

NO	LOCATION	PART NO	MAKE CONTACT	BREAK CONTACT
2	6 A	344181	265°±5	65°±2
3	7 B	315042	75°±2	265°±5
4	9 B	313807	5°±2	100°±5

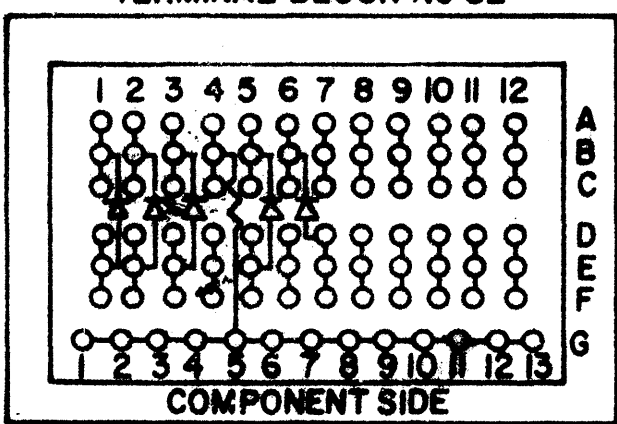
REED RELAY DATA

PART NO	COIL	1	2
766001	P H	N/O	N/O

ARC SUPPRESSION BLOCKS

PIN	1A	1B	2A
1	1A	6A	8B
2	1B	6B	8B
3	8A	8B	6B
4	10A	8B	10B

TERMINAL BLOCK NO 32



P/N 328602 P/N 328601

COMP P/N	1	2	3	4	5	6	7
DIODE 347820	15B	12A	11A	1B	15B	15B	
DIODE 347820	15B	12A	11A	1B	15B	15B	15B
DIODE 347820			11A	1B			
RESISTOR 5405904							
DIODE 347820	15B	12A	11A		15B		15B
DIODE 347820	15B	12A	11A		15B		15B
DIODE 347820	24A	24A	14A		1B		

TB 32 LOCATION

OP	4321	654321	2110987654321
N/C	0000	000000	00000000000000
N/O	0000	000000	00000000000000
COIL	0000	00 00	00 00
	PHHP	PH HP	PH HP
	BB AA	BB AA	BB AA

WIRE CONTACT RELAYS WIRING SIDE

25

26

CIRCUIT AND PACKAGING STANDARD	
APPROVAL	DATE

INTERNATIONAL BUSINESS MACHINES CORP.		DATE	CHANGE NO.	APPROVAL	DATE	CHANGE NO.	APPROVAL	DEVELOPMENT NO.
NAME		21 NOV 69	920126					
SYSTEMS DIAGRAM		9 JAN 70	920064					
COMPONENT LOCATION		9 APR 70	920064A					
DESIGN REP	21 NOV 69	MODEL						
DETAIL	SCALE							
CHECK PCL	21 NOV 69	RAW	H V	21 NOV 69				
APPRO	NRW	21 NOV 69	CHECK					

798096 798096

C

198096

537356

00.29.10.0

KEYBOARD & CAM REFERENCE

STEM POS	GRAPHIC		CARD CODE		BAILS		LATCHES	
	ALPHA	NUMERIC	ALPHA	NUMERIC	ALPHA	NUMERIC	ALPHA	NUMERIC
1	ERROR RESET							
2	MULTI PUNCH							
3	NUMERIC							
4	Q	+	11-8	12-8-6	13,9	12,8,6		
5	A		12-1		15,3			
6	@	#	8-4	8-3	9,7	8,2		
7	Z		0-9		1,11			
8	W	-	0-6	0-8-5	14	14,8,4	X	
9	S	>	0-2	0-8-6	14	14,8,6	X	
10	%	,	0-8-4	0-8-3	14,9,7	14,8,2		
11	X	?	0-7	0-8-7	14	14,8	X	X
12	E	)	12-5	11-8-5	15	10,8	X	X
13	D	:	12-4	8-2	15,7	8		X
14	X	\$	11-8-4	11-8-3	7,9	8,2	X	X
15	C	"	12-3	8-7	15,5	8		X
16	R	¢	11-9	12-8-2	13,11	12,8		X
17	F	;	12-6	11-8-6	15	10,8	X	X
18	<	.	12-8-4	12-8-3	9,7	8,2	X	X
19	V	=	0-5	6-8	1	8,6	X	
20	T	0-8-2	0-3	0-8-2	14,5	14,8		X
21	G	-	12-7	11-8-7	15	10,8	X	X
22	MASTERCARD						X	X
23	B	|	12-2	11-8-2	15	10,8	X	X
24	Y	|	0-8	12-8-7	19	12,8		X
25	H	'	12-8	8-5	15,9	8,4		
26	DUP							
27	N	(	11-5	12-8-5	13	12,8	X	X
28	U	1	0-4	1	1,7			X
29	J	4	11-1	4	13,3			X
30	-	-	11	11	13	10		
31	M	7	11-4	7	13,7			X
32	I	2	12-9	2	15,11			X
33	K	5	11-2	5	13	4	X	
34	/	0	0-1	0	14,3	14		
35	,	8	0-8-3	8	19,5	8		
36	O	3	11-6	3	13	2	X	
37	L	6	11-3	6	13,5	6		
38	SPACE						X	X
39	.	9	12-8-3	9	15,9,5			X
40	P	&	11-7	12	13	12	X	
41	SKIP						X	X
42	RELEASE						X	X
43	AUX DUP						X	X
44	FEED							
45	REGISTER						X	X
46	PROG 2							
47	ALPHA							
48	LEFT ZERO						X	X
49	LEFT ZERO							
50	PROG 1							

ODD NUMBER BAILS ON RIGHT SIDE OF KEYBOARD
EVEN NUMBER BAILS ON LEFT SIDE OF KEYBOARD

CARD FEED CLUTCH
60 RPM
1° = 2.78 MS

CARD FEED KNIFE

CARD ALIGNER
(VERTICAL ALIGNMENT)

CARD PUSHER FEED
(FOR DETAIL CARD)

PRESSURE ROLLS
(ON FEED WHEELS)

INSERTING ROLL
(FOR MASTERCARD)

CARD REGISTER STOP
(FOR MASTERCARD STOP)

EJECT ROLL
(FOR CARD TO BE STACKED)

CARD PUSHER-STACKER

STACKER DRUM GRIPPERS

PUNCH CLUTCH
1200 RPM } NON-PRINT
1080 RPM } PRINT
1° = .154 MS

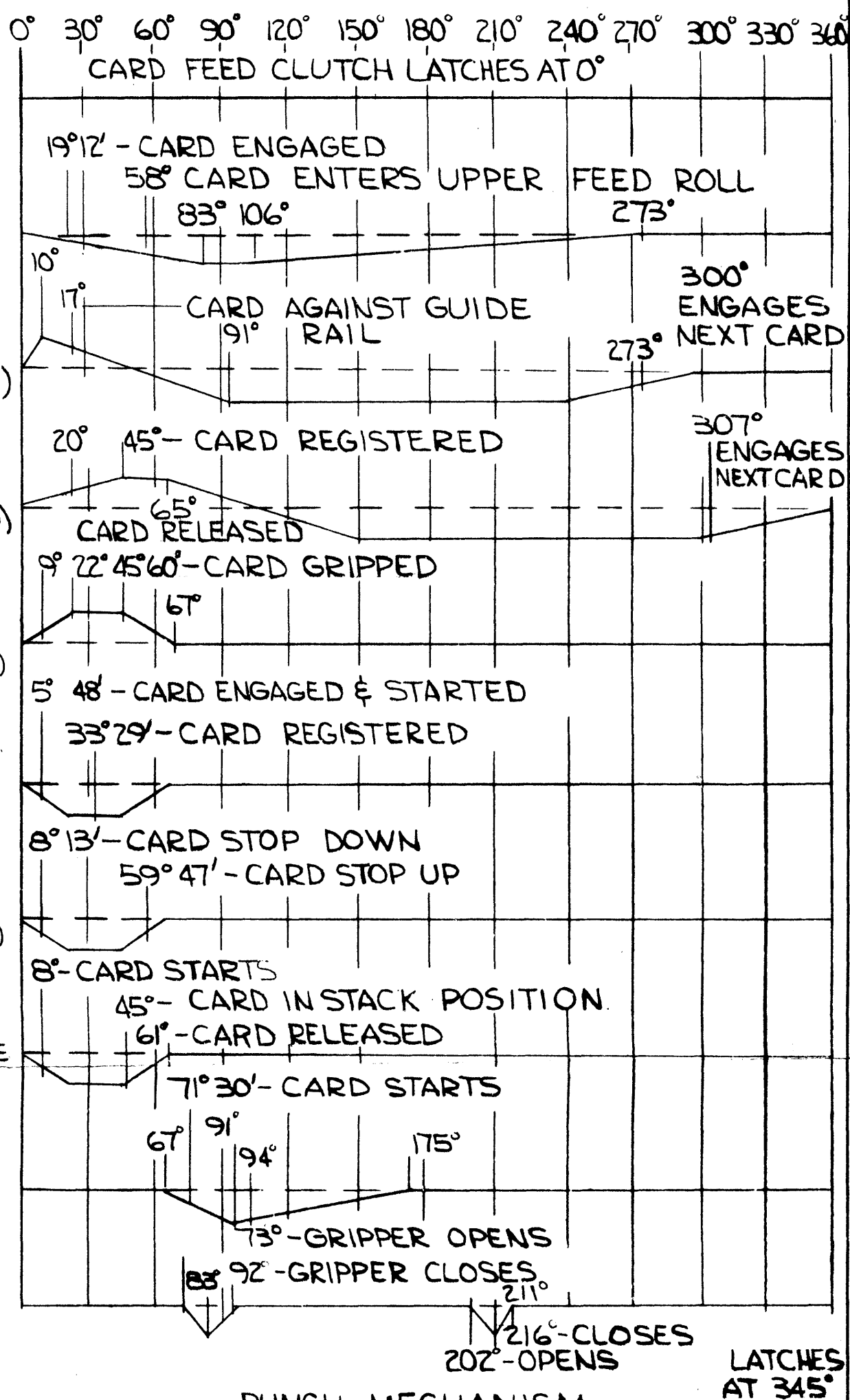
PUNCH BAIL

ARMATURE KNOCK-OFF

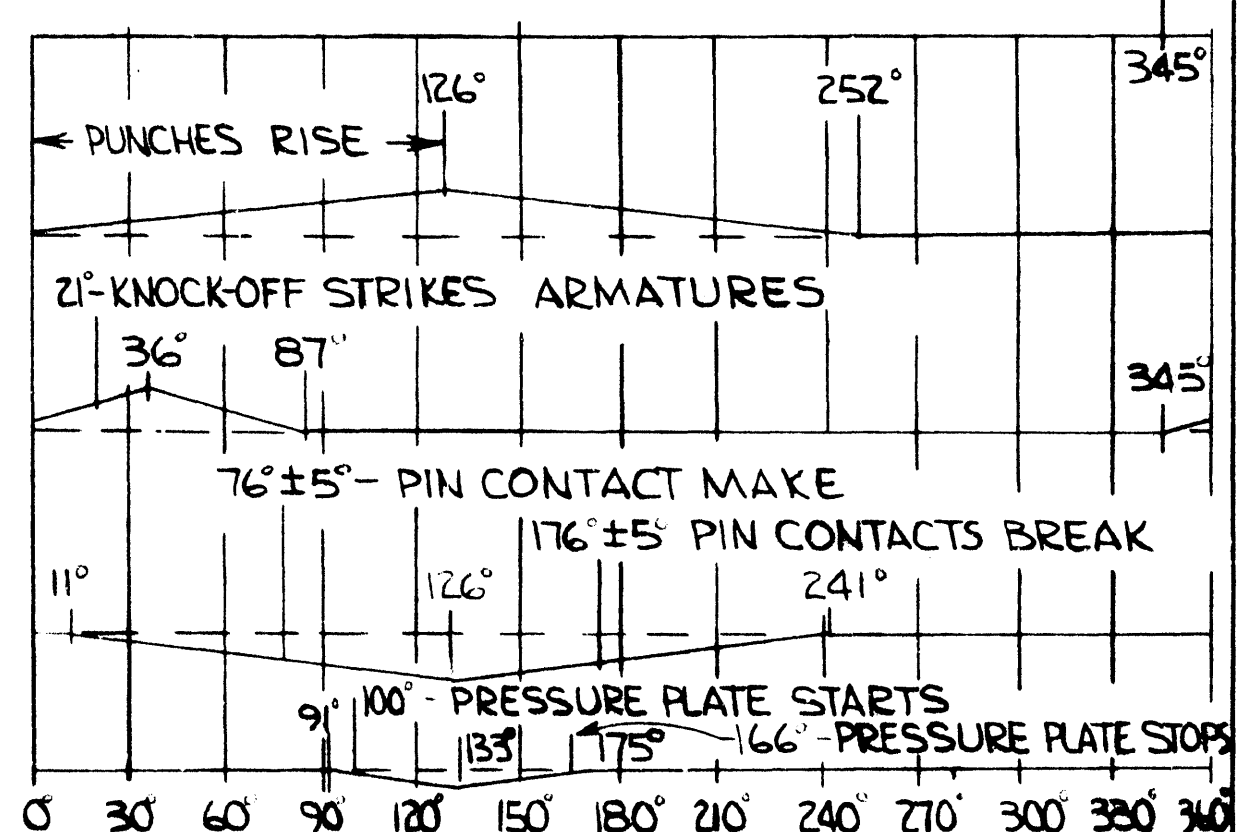
PIN OPER CAM

PRINT CAM

MECHANICAL TIME CHART
CARD FEED MECHANISM



PUNCH MECHANISM



INTERNATIONAL BUSINESS MACHINES CORP.		DATE	CHANGE NO.	DATE	CHANGE NO.	NOTE	DEVELOPMENT NO.
NAME	SYSTEMS DIAGRAM	12-30-64	205199			X PRINT TO ENG. SPEC. NO. 895291	5373561
DESIGN	WT 11-23-64	MODEL					00.29.10.0
CHECK	LF 11-23-64	DRAW	CA 12-2-64				
APPRO	JKC 11-23-64	CHECK	11-29-64				

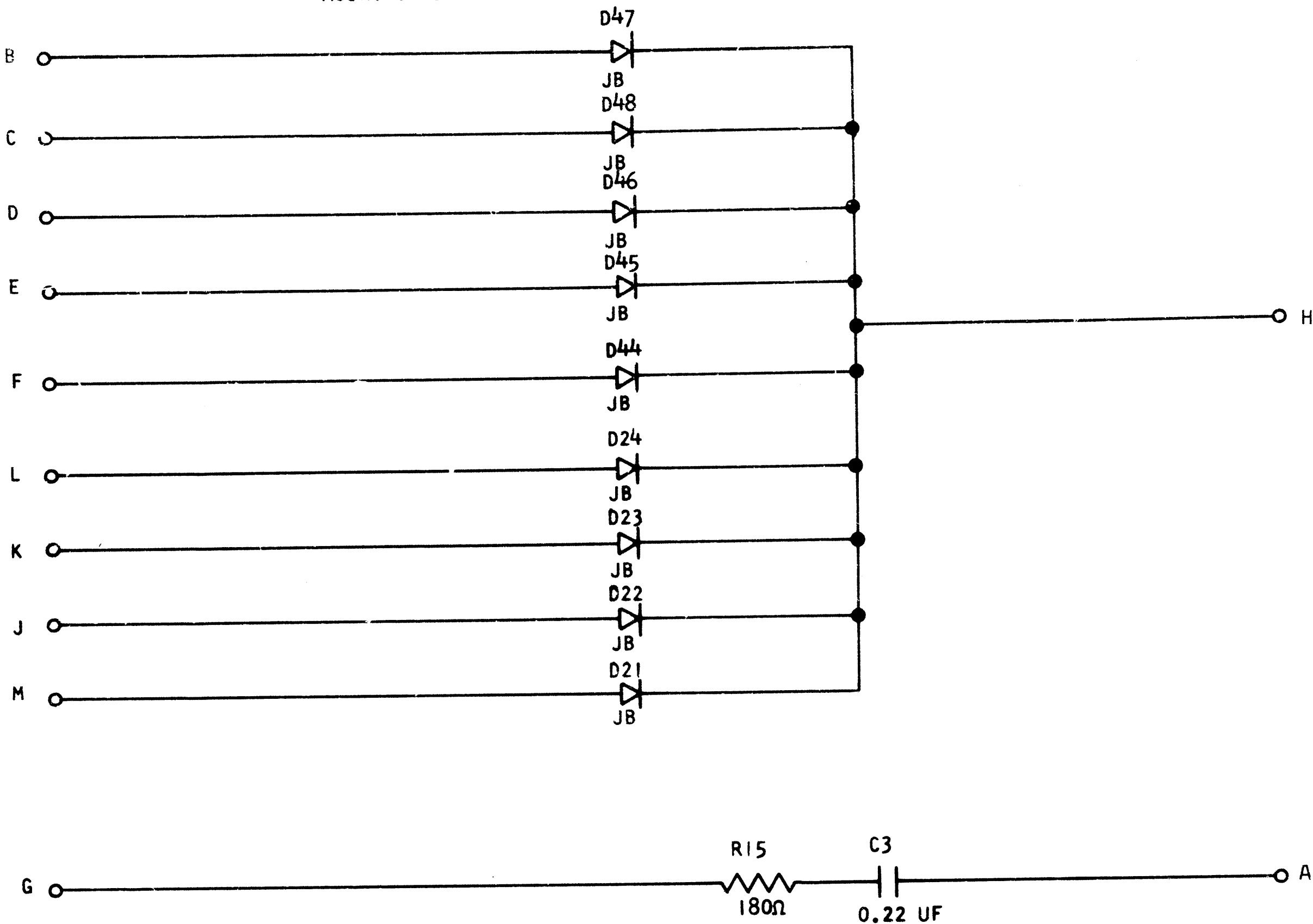
375105

PRINT

MOUNT CARD ON 1.0 INCH CENTERS - NOTE XIII

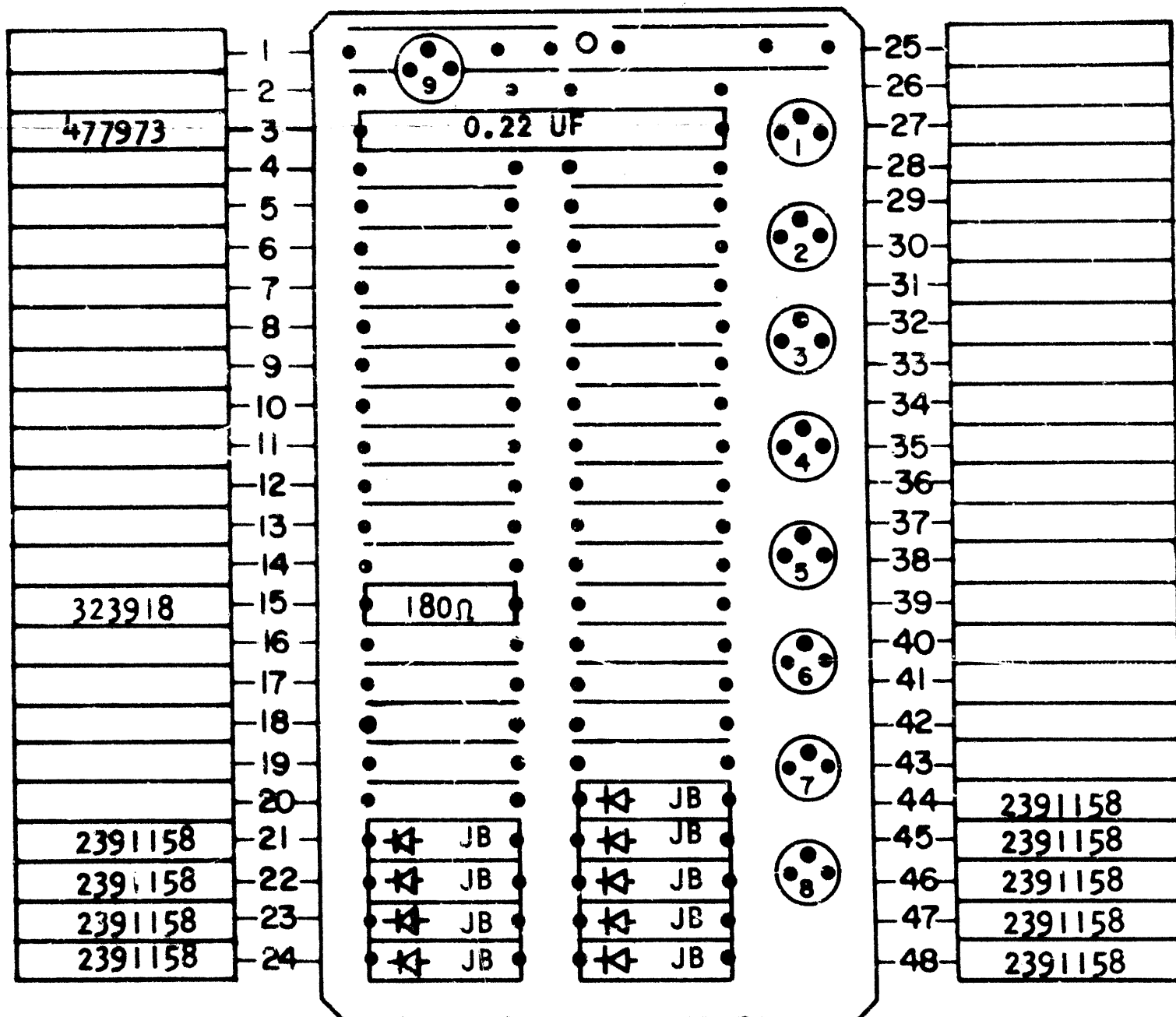
STANDARDS CODE
2-7045

375105
FFH-



NOTES

- X CIRCUIT MUST CONFORM TO ENGINEERING SPECIFICATION
- XI ASSEMBLE TO ENGINEERING SPECIFICATION 895396 AND 891999
- XII ALL RESISTORS ARE 1/2 WATT AND ± 5% UNLESS OTHERWISE NOTED
- XIII MAXIMUM HEIGHT COMPONENTS MAY PROJECT ABOVE COMPONENT SIDE OF CARD WILL BE .640



B MFG. ENG. PW 5.31.66

CIRCUIT AND PACKAGING STANDARD

APPROVAL DATE

KNT NPB

5/6/66

HOLE PATTERN
493457

397327

COMPONENT SIDE

INTERNATIONAL BUSINESS MACHINES CORP.				DATE	CHANGE NO.	APPROVAL	DATE	CHANGE NO.	APPROVAL	DEVELOPMENT NO.
NAME	CARD ASM TSTR - PRINT			1 JUN 66	126540	AKK				PA-3400 A
DESIGN	VE	5 APR 66	MODEL	SMS						375105
DETAIL	VE	5 APR 66	SCALE	NONE						
CHECK	VE	5 APR 66	DRAW	VE	5 APR 66					
APPRO			CHECK	CFC	4-11-66					

82-3987-2 6-22-61

375106

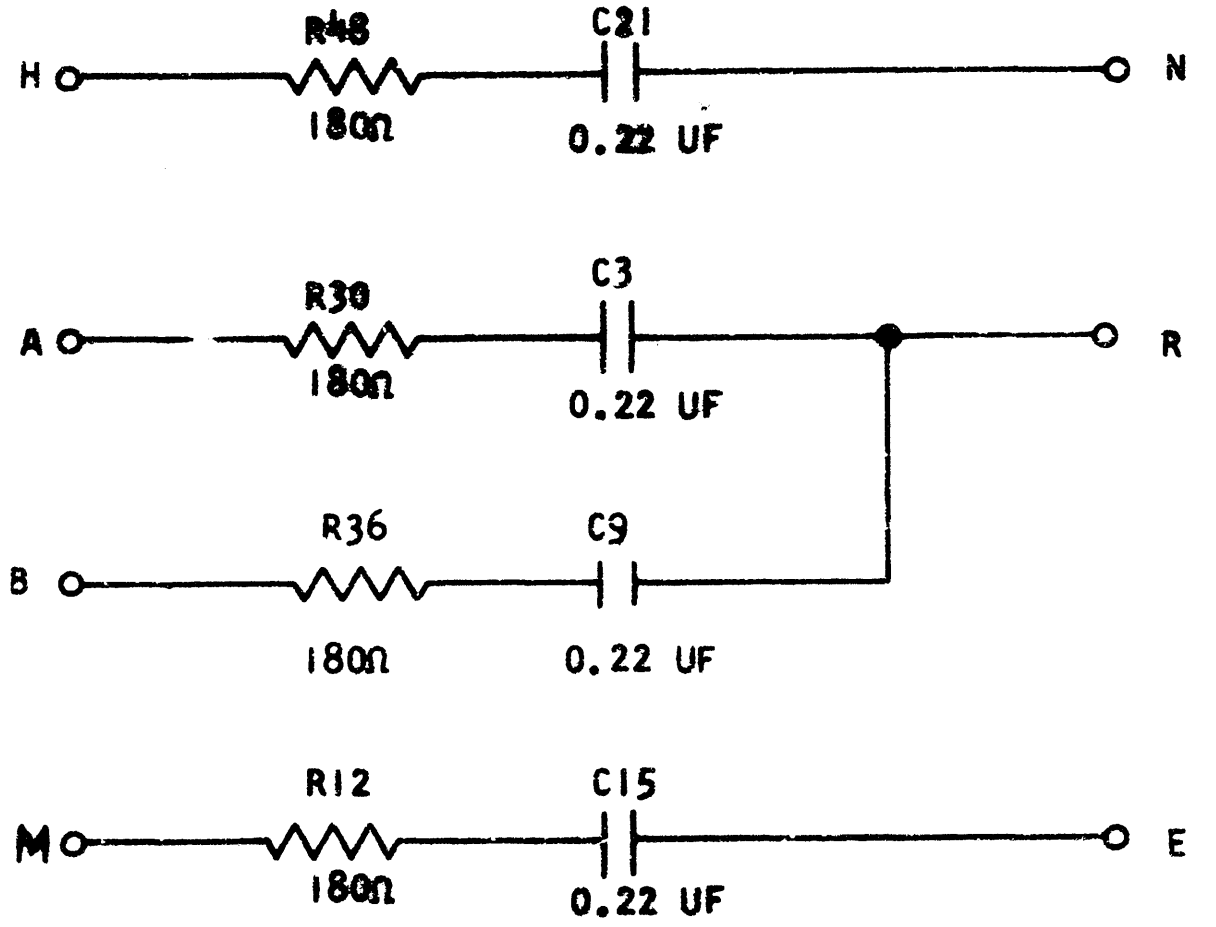
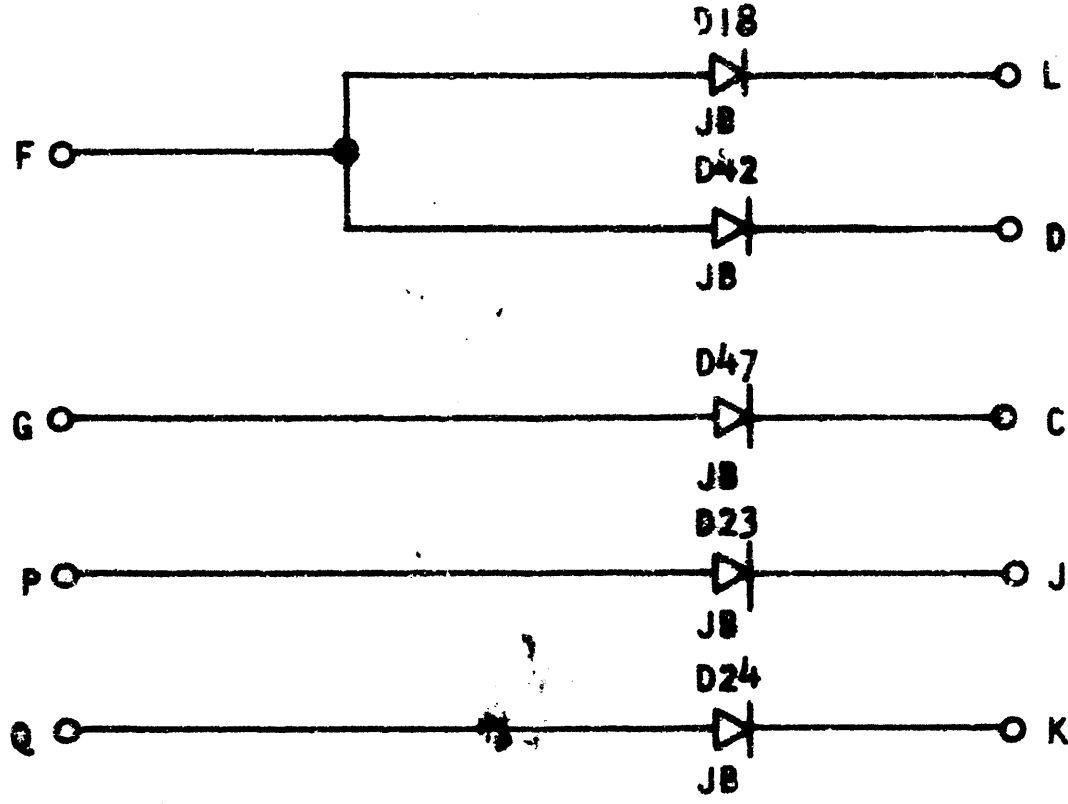
ARC SUPPRESSION

MOUNT CARD ON 1.0 INCH CENTERS - NOTE XIII

375106

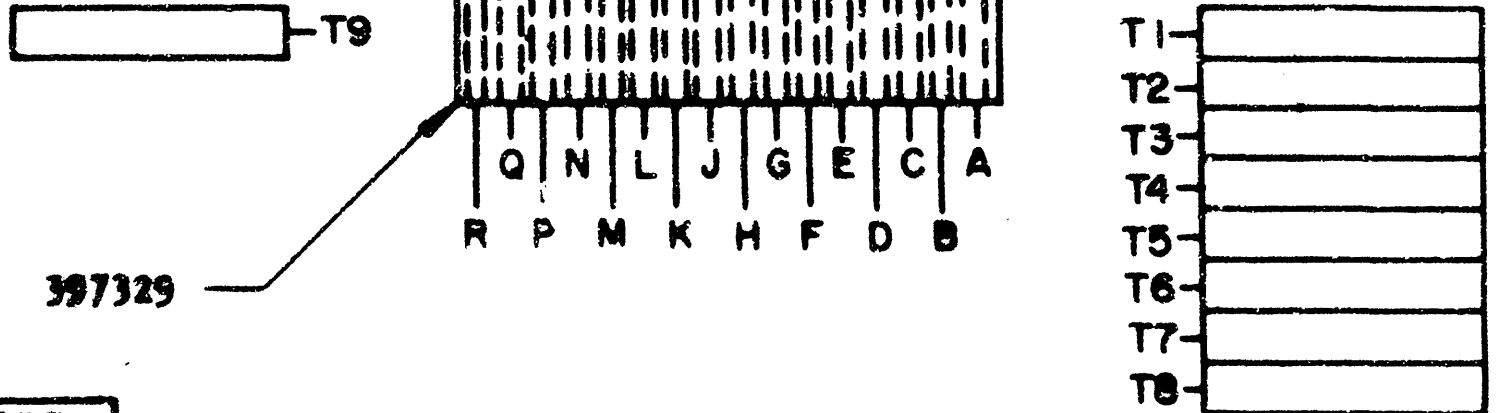
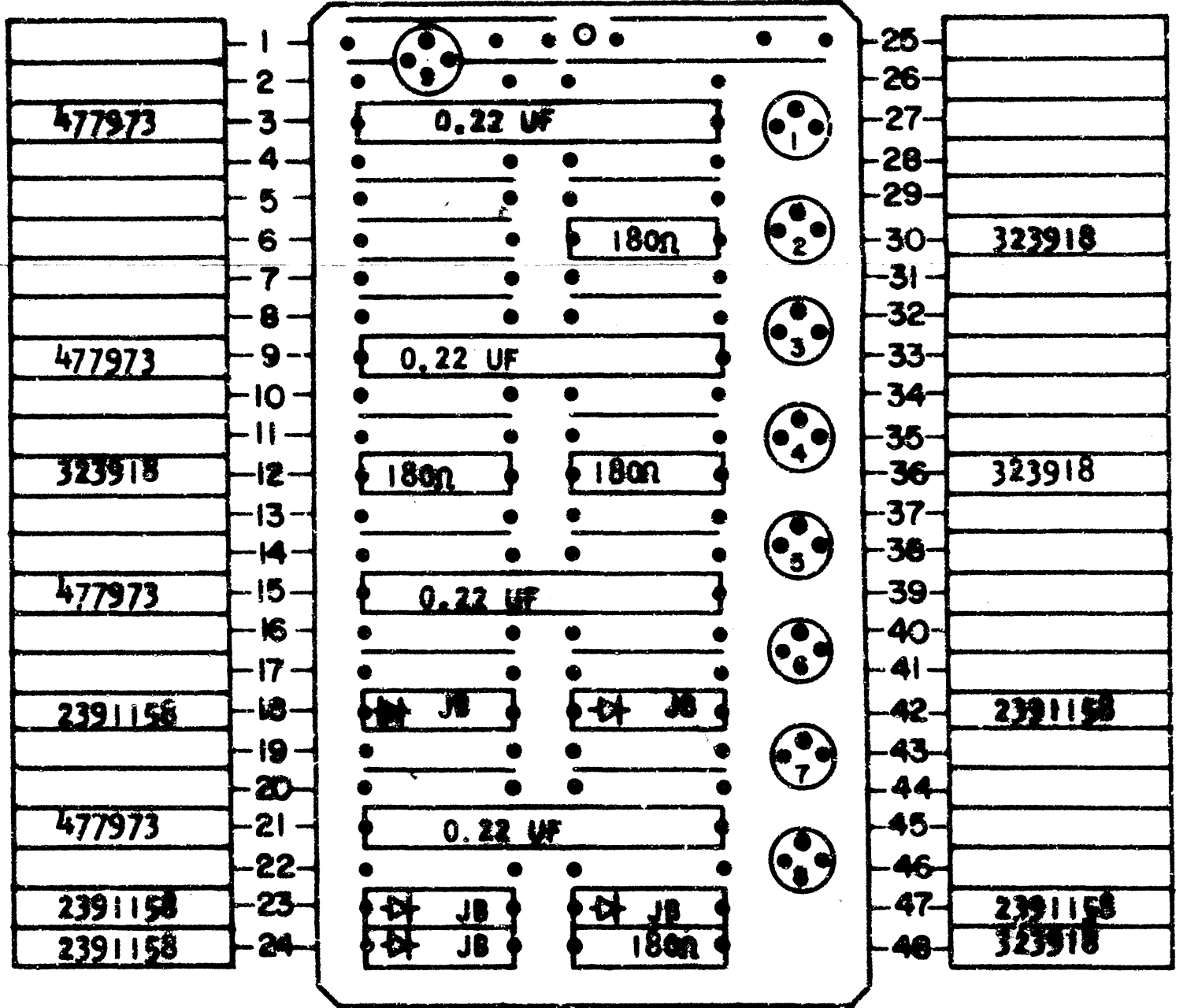
FFJ -

STANDARDS CODE
2-7045



NOTES

- I CIRCUIT MUST CONFORM TO ENGINEERING SPECIFICATION
- II ASSEMBLE TO ENGINEERING SPECIFICATION 895396 AND 891999
- XII ALL RESISTORS ARE 1/2 WATT AND ± 5% UNLESS OTHERWISE NOTED
- XIII MAXIMUM HEIGHT COMPONENTS MAY PROJECT ABOVE COMPONENT SIDE OF CARD WILL BE .640



B	MFG. ENG.	PW	26APR67
	CIRCUIT AND PACKAGING STANDARD		
	APPROVAL	DATE	

KMT LPT	5/6/66	HOLE PATTERN	493457
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INTERNATIONAL BUSINESS MACHINES CORP.				DATE	CHANGE NO.	APPROVAL	DATE	CHANGE NO.	APPROVAL	DEVELOPMENT NO.
NAME	CARD ASM TSTR -			1 JUN 66	126340	GWS				PA-3401A
DESIGN VE	ARC SUPPRESSION			16 FEB 67	131072	GWS			375106	
DETAIL VE	NONE			27 APR 67	131083	GWS				
CHECK VE	NONE									
APPRO	CHECK CFE 4-11-66									

82-3987-2 6-22-61

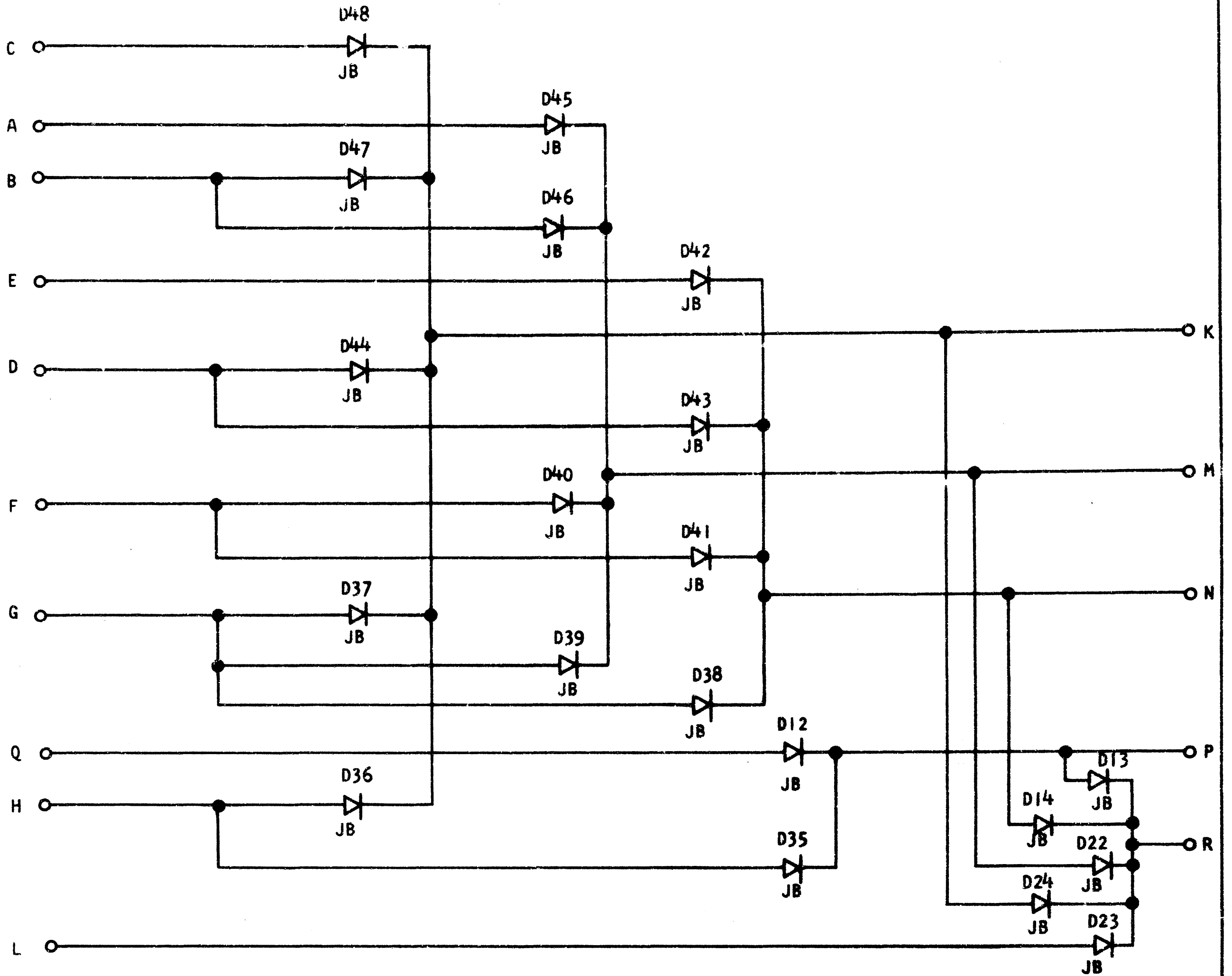
375107

ENCODE

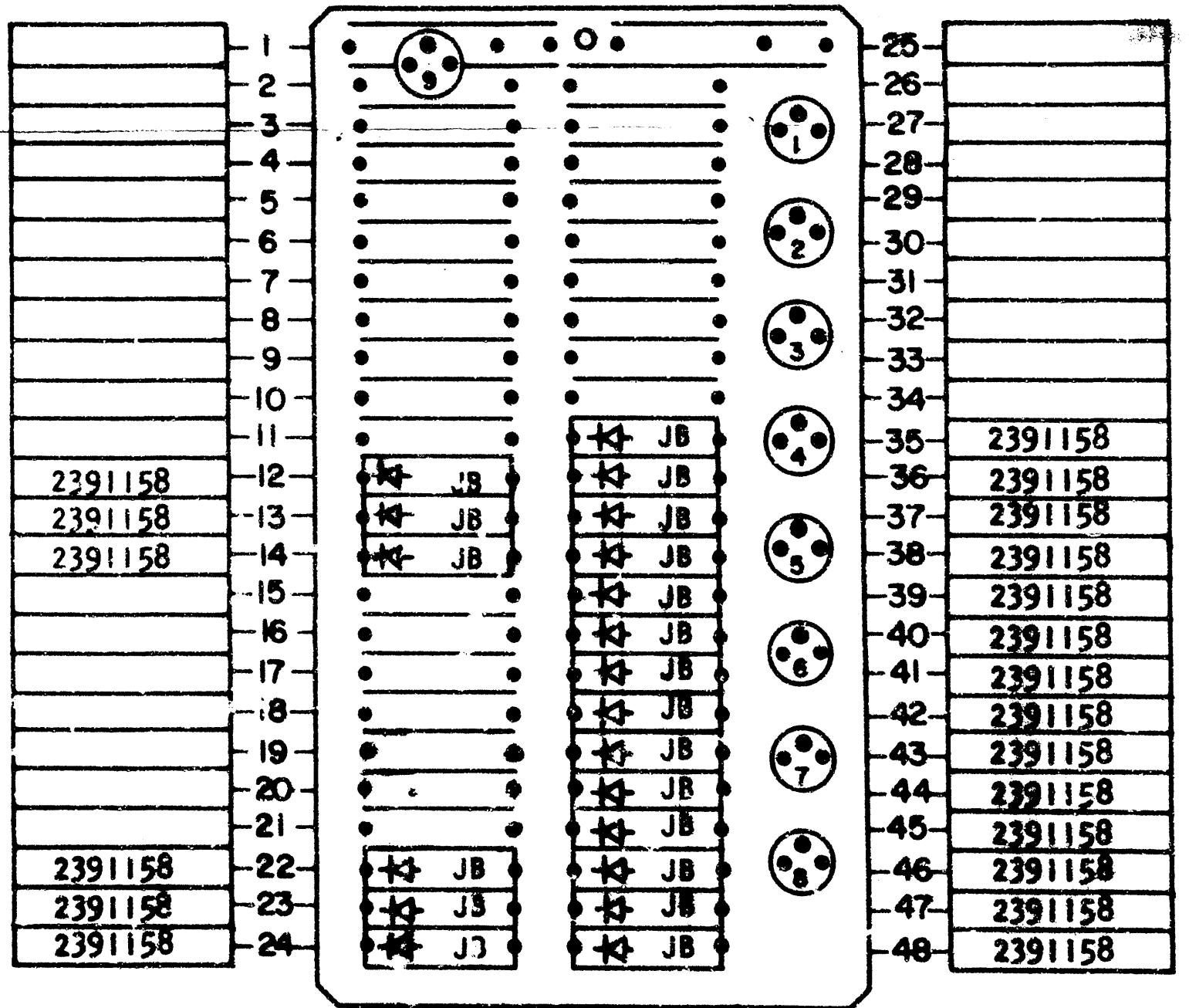
375107

FFK -

STANDARDS CODE 2-7045



NOTES
 I CIRCUIT MUST CONFORM TO ENGINEERING SPECIFICATION
 XI ASSEMBLE TO ENGINEERING SPECIFICATION 895396 AND 891999



T9

Q N L J G E C A
R P M K H F D B

397331

COMPONENT SIDE

T1
T2
T3
T4
T5
T6
T7
T8

B MFG. ENG. PW 5-31-66

CIRCUIT AND PACKAGING STANDARD

APPROVAL DATE

KMT/PPB 5/6/66

HOLE PATTERN 493457

INTERNATIONAL BUSINESS MACHINES CORP.					DATE	CHANGE NO.	APPROVAL	DATE	CHANGE NO.	APPROVAL	DEVELOPMENT NO.
NAME CARD ASM TSTR - ENCODE					1 JUN 66	126540	XXX				PA-3402 A
DESIGN	VE	5APR66	MODEL	SMS							375107
DETAIL	VE	5APR66	SCALE	NONE							
CHECK	VE	5APR66	DRAW	VE 5APR66							
APPRO			CHECK	CFc 4-11-66							

82-3987-2 6-22-61

STANDARDS CODE	5367164	TECH SERVICES APPRO	SYM	DATE	CHANGE NO	TECH APPRO	SYM	DATE	CHANGE NO	TECH APPRO	DEVELOPMENT NO	Q/M
RELEASED FOR ASM	QTY	ELEC		5-21-64	205050-A		21SER65	205328			5367164	
		MET		9-28-64	205050-Q		30JUN66	205516				
		PLASTIC		12-30-64	205198		21MAY70	920250				
		FINISH		5-25-65	205282							

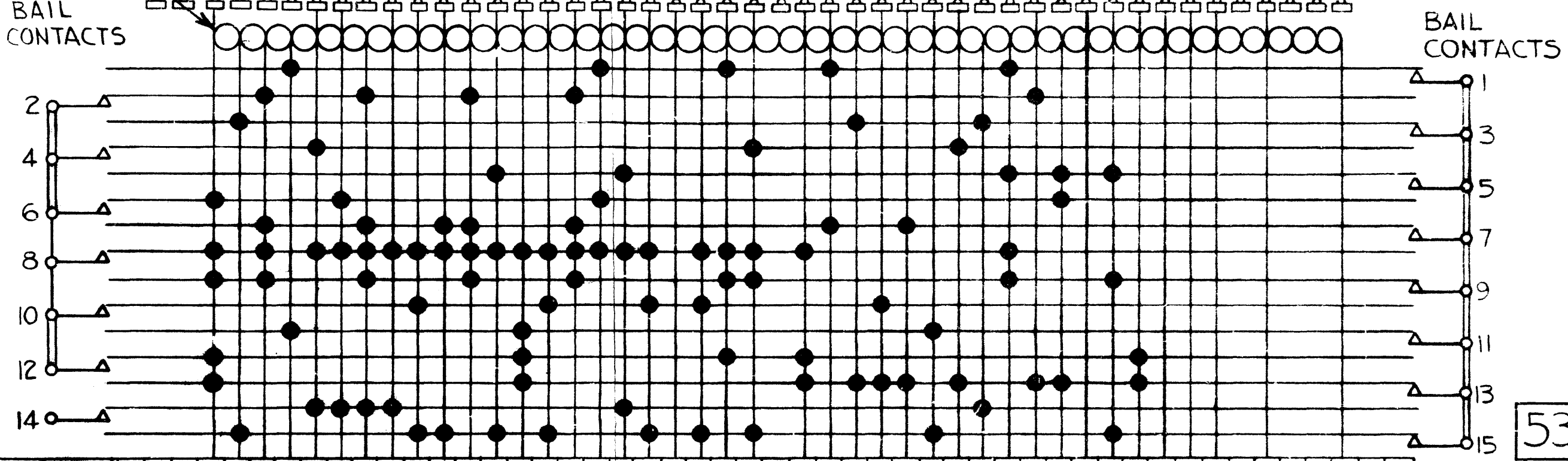
REFERENCE DRAWING

KEY BUTTON, LATCH & PERMUTATION CODE CHART *

INTERLOCK DISCS

- ALPHA 6
- ALPHA 2
- COMMON 7
- COMMON 5
- NUMERIC 2
- COMMON 11
- NUMERIC 7
- COMMON 2
- COMMON 6
- ALPHA 12
- NUMERIC 2
- COMMON 7
- OPTION - MC
- COMMON 7
- NUMERIC 2
- COMMON 5
- NUMERIC 1
- NUMERIC 4
- NUMERIC 7
- ALPHA 2 2
- ALPHA 6
- SPACE BAR
- NUMERIC 9
- ALPHA 7
- SKIP
- RELEASE
- OPTION - AUX DUP
- REG
- OPTION - LEFT ZERO

ARM ASM CONT		
FUNCTION	PART NO	POS
ALPHA 0	5367211	1
NUMERIC 3	5367212	2
ALPHA 1	5367213	3
NUMERIC 5	5367214	4
ALPHA 3	5367215	5
NUMERIC 6	5367216	6
ALPHA 4	5367217	7
NUMERIC 8	5367218	8
ALPHA 8	5367219	9
NUMERIC 11	5367220	10
ALPHA 9	5367221	11
NUMERIC 12	5367222	12
ALPHA 11	5367223	13
COMMON 0	5367224	14
ALPHA 12	5367225	15



KEYBUTTON CHART	CHARACTER SET		STEM POS
	E "A"	EL	
ERROR RESET (TRANSFER)			1
MULT PCH			2
NUMERIC			3
+			4
A			5
#			6
-			7
>			8
%			9
?			10
X			11
E			12
:			13
\$			14
//			15
C			16
R			17
F			18
<			19
=			20
V			21
T			22
G			23
B			24
Y			25
H			26
N			27
U			28
J			29
-			30
M			31
I			32
K			33
7			34
8			35
3			36
6			37
SPACE BAR			38
9			39
&			40
SKIP			41
REL			42
AUX DUP			43
FEED			44
REG			45
PROG TWO			46
ALPHA			47
LEFT ZERO			48
(2) STEMS			49
PROG ONE			50

BAIL CONTACTS	13	15	14	14	14	15	15	15	13	15	14	15	15	13	13	13	13	13
	9	3	11		7	5	11	5	9	9	7	3	7	11		5		13
PUNCHES	11	12	0	0	0	0	12	12	12	11	12	0	12	11	0	11	11	11
	8	1	9	6	2	7	5	4	3	9	6	5	3	7	2	8	8	5

\$ IN MACHINE FINAL ASSEMBLY ADD
1 SPACER FOR MODELS A AND C ONLY
TO DISABLE LEFT ZERO KEY.

5367164

IBM MATERIAL	NO	TOLERANCE UNLESS OTHERWISE NOTED	LINEAR ±	MUST CONFORM TO ENG SPEC 890350	INTERNATIONAL BUSINESS MACHINES CORP	
CASE DEPTH		CORNERS AND/OR EDGES BROKEN	ANGLES ±	ALIGNMENT WITHIN	NOTE I	NAME CODE CHART -
HARDNESS		RADI UNLESS OTHERWISE NOTED	OUTSIDE MAX	CONC TO DU WITHIN	TIR NOTE II	64 CHAR KEYBOARD
SURFACE TREATMENT			INSIDE MAX	FLAT WITHIN	NOTE III	DESIGN FSV 7-28-64 TYPE
				PARALLEL TO DU WITHIN	NOTE IV	DETAIL
				STRAIGHT WITHIN	NOTE V	CHECK RAS 8-21-64 DRAW CDA 5-14-64
				SQUARE TO DU WITHIN	NOTE VI	APPRO JKC 8-21-64 CHECK JMA 5-14-64

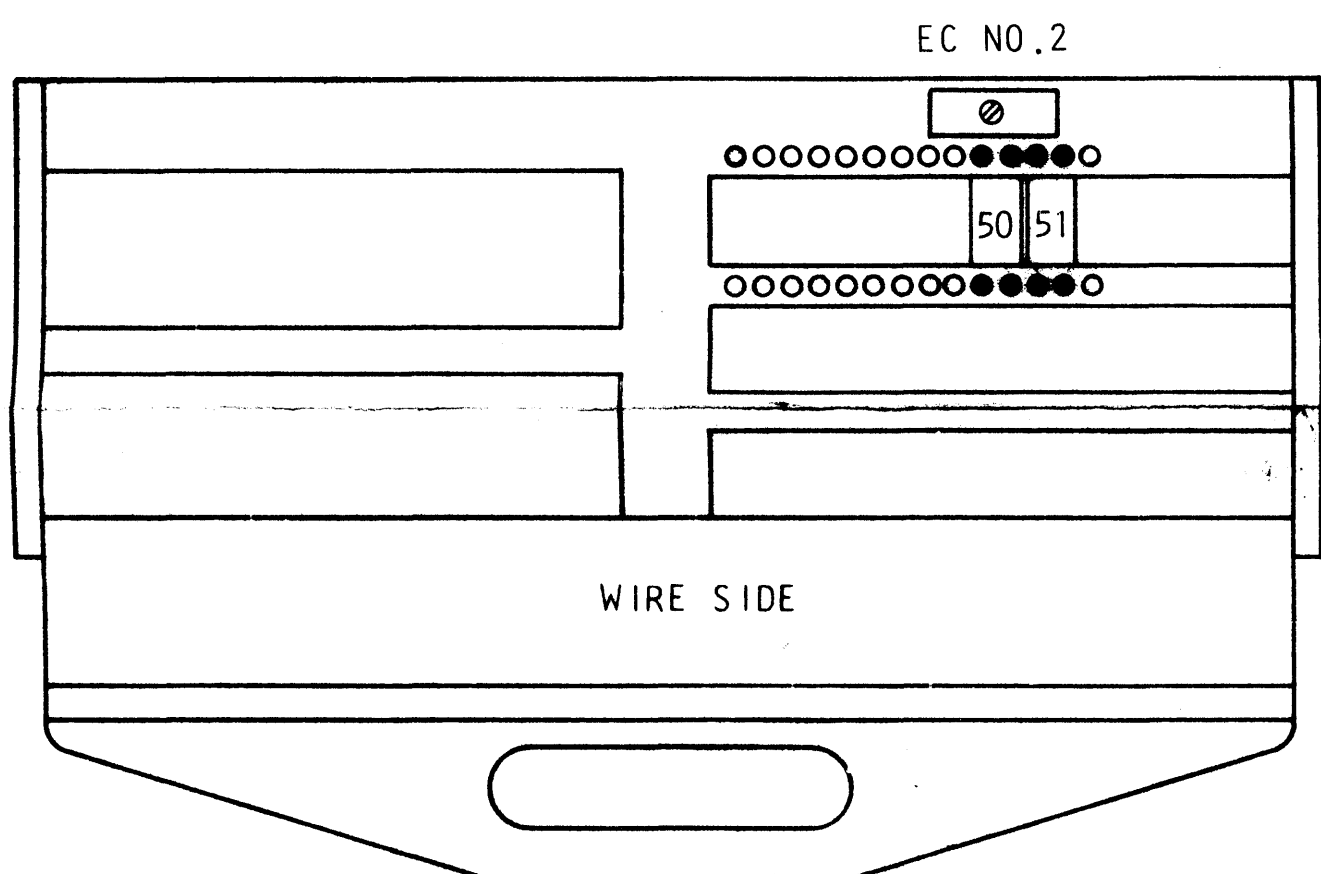
FEEATJURE

PAGES

5405964

MASTER

NAME	SECTION
X-SKIP FEATURE	1, 2, 7, 10, 11, 12, 16



ADD

PART NO.	DESCRIPTION	FROM	TO
196208	RELAY 50-4 POS	---	---
196208	RELAY 51-4 POS	---	---
347820	DIODE	PLT-EC2-D	CATH-EC2-H
347820	DIODE	PLT-EC2-B	CATH-EC2-F
347820	DIODE	PLT-EC2-C	CATH-EC2-G
347820	DIODE	PLT-EC2-A	CATH-EC2-E
347820	DIODE	PLT-51PB	CATH-51PA
5404119	DIODE-SLIP ON	PLT-A12R	CATH-A10M
5404119	DIODE-SLIP ON	PLT-A02M	CATH-A04C
205330	BRASS JPR	50 HA	50-1 N/O
205330	BRASS JPR	51 HA	51-1 N/O
205331	BRASS JPR	50 HB	50 PB
205331	BRASS JPR	51 HB	51 PB
5406373	CABLE	---	---

KEYBUTTONS
COMBINATION KEYBOARDS-REPLACE DASH KEYBUTTON WITH KEYBUTTON P/N 5353766
NUMERIC KEYBOARD - REPLACE 11 KEYBUTTON WITH KEYBUTTON P/N 5422188

DELETE

PART NO.	DESCRIPTION	FROM	TO
GATE	JPR	8-6 N/O XII	*9-6 OP XII
GATE	CABLE	*A10M XII	A12R XII
GATE	CABLE	*1-11 N/C XII	41-3 N/O XII
GATE	JPR	1-11 N/C XII	*4-11 OP XII
GATE	CABLE	*4-11 OP XII	A06C XII
GATE	CABLE	1-11 N/O XII	*41PA XII

* DENOTES WIRE END TO BE REMOVED AND TAPED

INTERNATIONAL BUSINESS MACHINES CORP.		DATE	CHANGE NO.	DATE	CHANGE NO.	NOTE	DEVELOPMENT NO.
NAME	SYSTEMS DIAGRAM	19OCT66	205745 B			X PRINT TO ENG. SPEC. NO. 895291	
DESIGN	AG	14FEB67	205854				
DETAIL		17JUL67	206089				
CHECK	RAS	2JUN70	206226				
APPRO	PH						

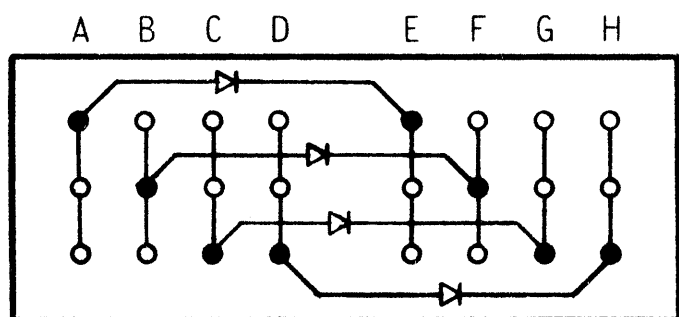
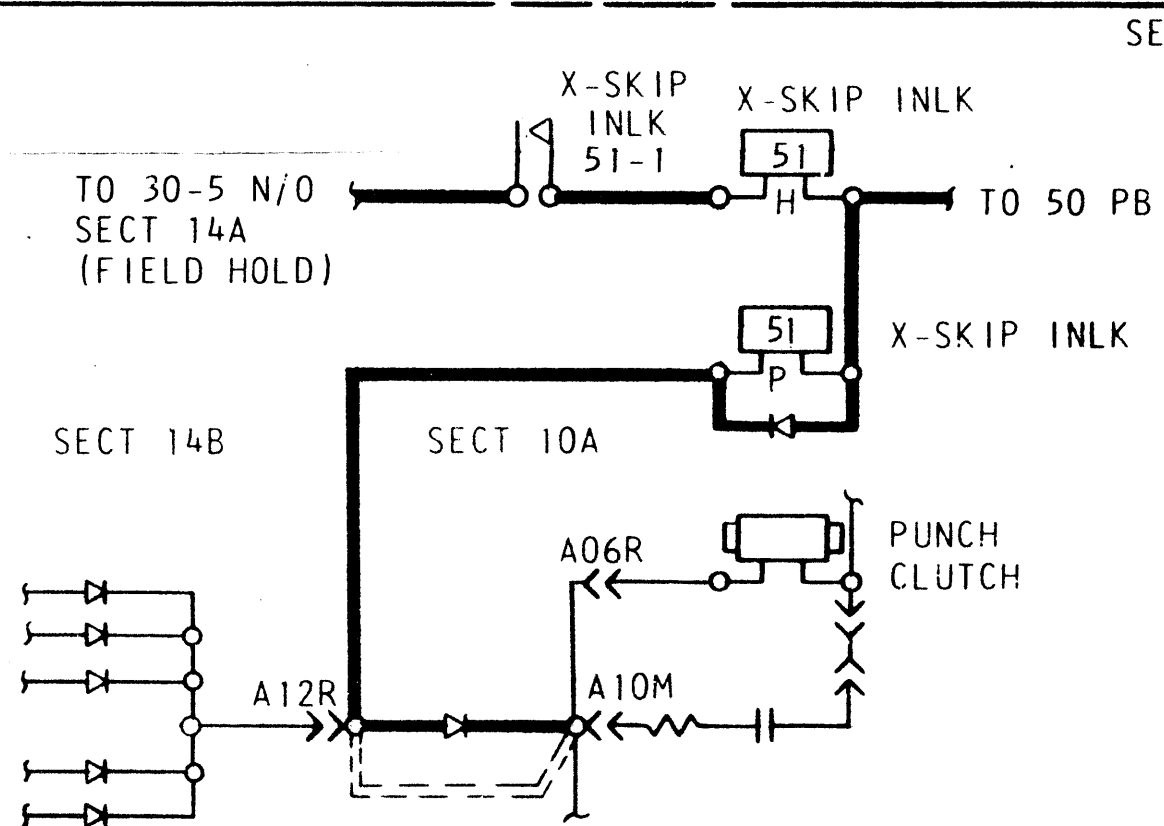
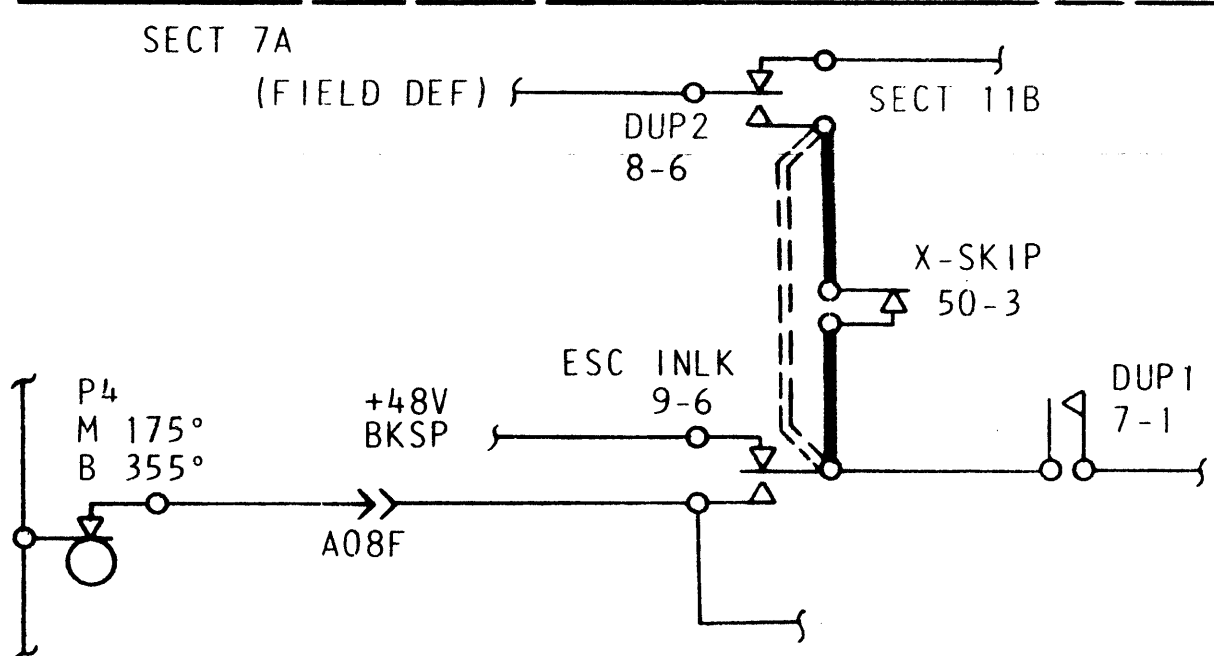
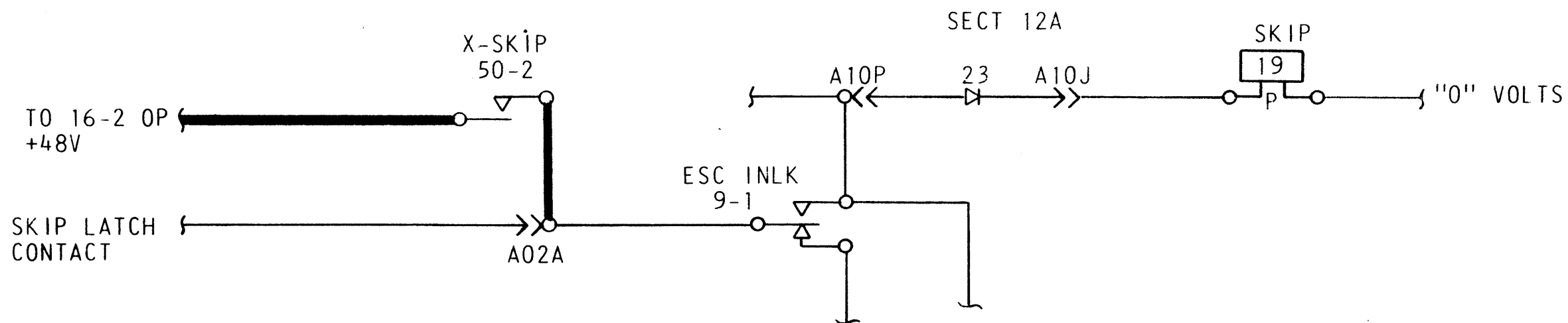
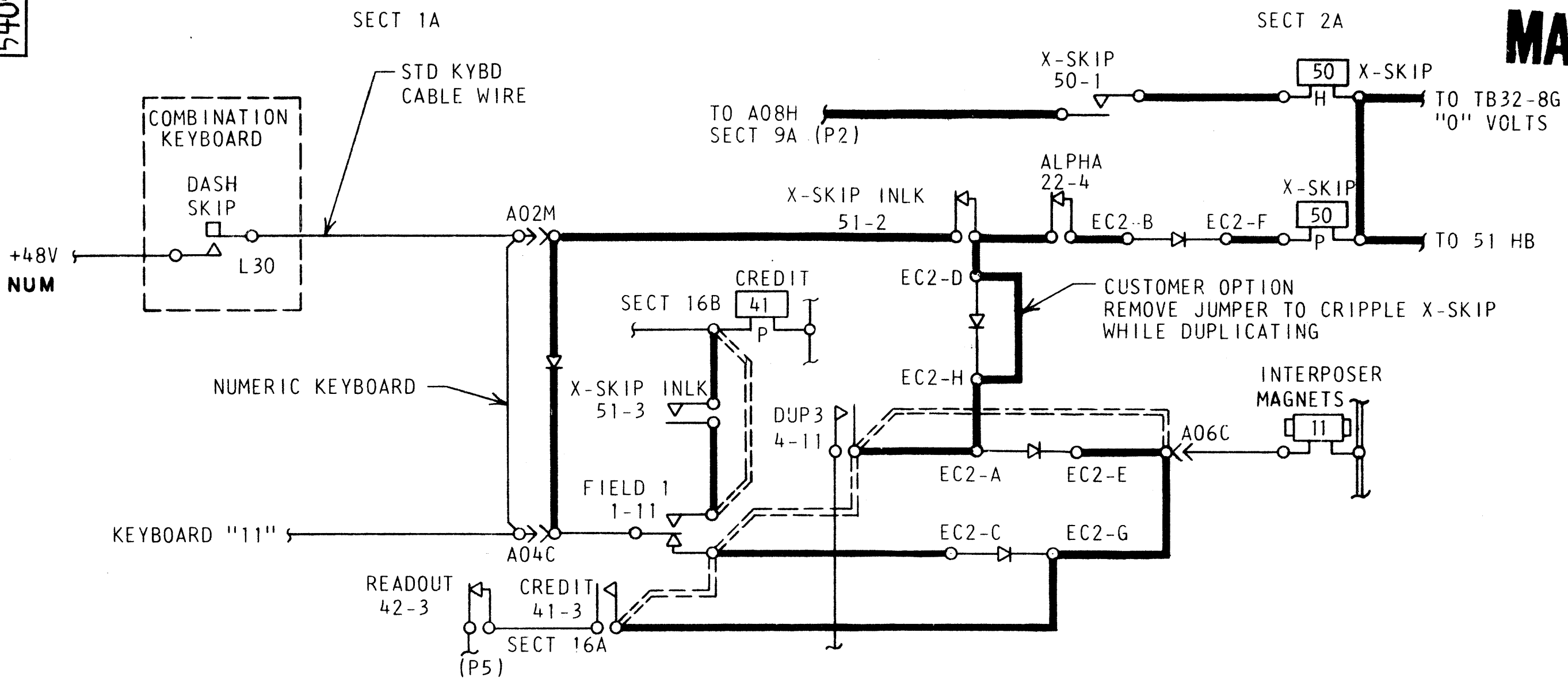
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5405964

MODEL B
X-SKIP

SHEET 2 OF 2

MASTER



— STANDARD WIRING
 - - - REMOVED WIRING
 ——— ADDED WIRING

NOTES

- XI STANDARD WIRES ARE SHOWN FOR REFERENCE ONLY. CONSULT MACHINE LOGIC DIAGRAMS FOR DETAIL WIRING
- XII REMOVE THIS LEAD AND TAPE END

INTERNATIONAL BUSINESS MACHINES CORP.		DATE	CHANGE NO.	DATE	CHANGE NO.	NOTE	DEVELOPMENT NO.
NAME	SYSTEMS DIAGRAM	19OCT66	205745 B			X PRINT TO ENG. SPEC. NO. 895291	5405964
DESIGN	AG 1SEP66 MODEL	14FEB67	205854				
DETAIL		12JUL 67	206089				
CHECK	RAS 1SEP66 DRAW IDJ 19OCT66	8 JUN 70	920106				
APPRO	FH 3SEP66 CHECK						

5405965

INDEX PAGE
29 WIRING DIAGRAM SUPPLEMENT
MODELS A, B & C

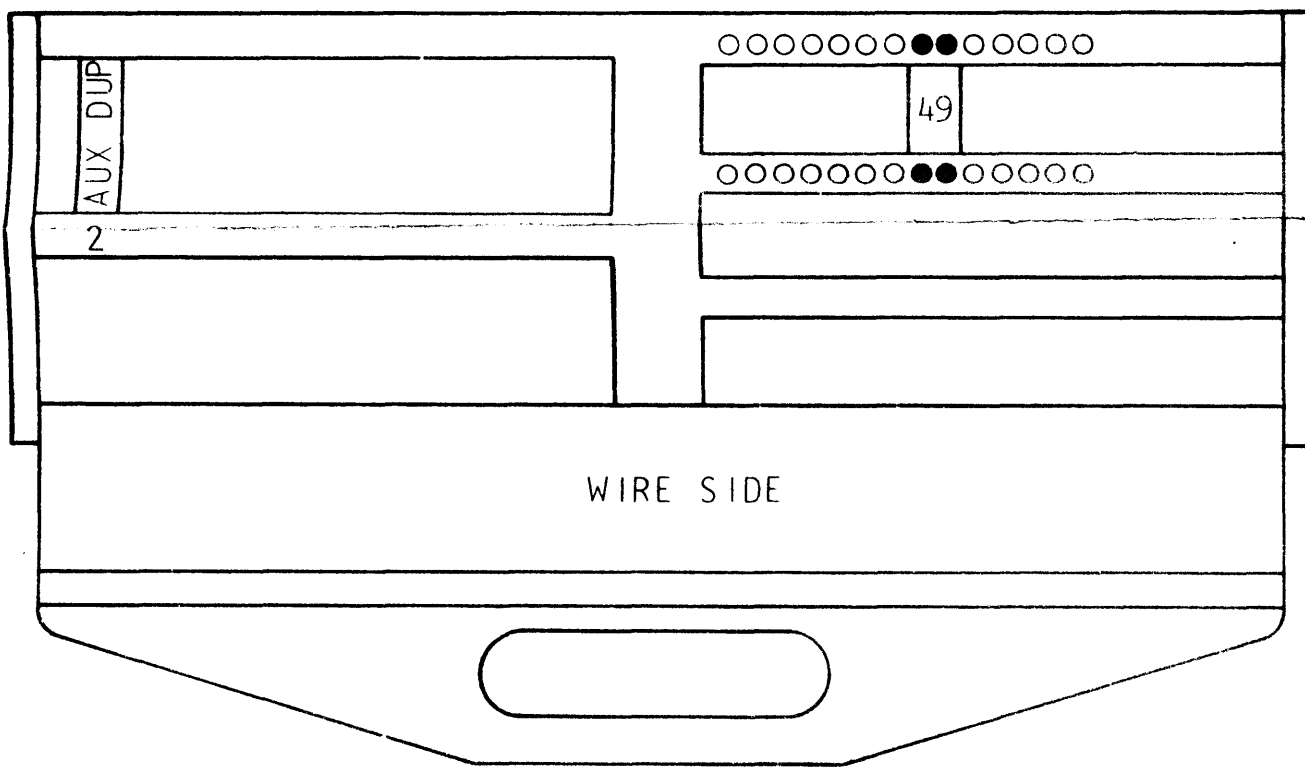
SHEET 1 OF 2

MASTER

NAME	SECTION
AUX DUP FEATURE	1, 2, 8

ADD

PART NO.	DESCRIPTION	FROM	TO
205330	BRASS JPR	49HA	49-1 N/O
196208	RELAY 49-4 POS	—	—
5406097	CABLE	—	GATE
5406064	CABLE	CD TRANS	GATE



DELETE

PART NO.	DESCRIPTION	FROM	TO
GATE	CABLE	*8 HA XII	4 HA XII
GATE	CABLE	4 PA XII	*7-2 N/O XII

* DENOTES WIRE ENDS TO BE REMOVED AND TAPED

INTERNATIONAL BUSINESS MACHINES CORP.				DATE	CHANGE NO.	DATE	CHANGE NO.	NOTE	DEVELOPMENT NO.
NAME	SYSTEMS DIAGRAM			19OCT66	205745 B			X PRINT TO ENG. SPEC. NO. 895291	5405965
DESIGN	AG	15EP66	MODEL	14FEB67	205854				
DETAIL				12JUL67	206089				
CHECK	RAS	15EP66	DRAW	ID1	16OCT66				
APPRO	FH	35EP66	CHECK						

5405965

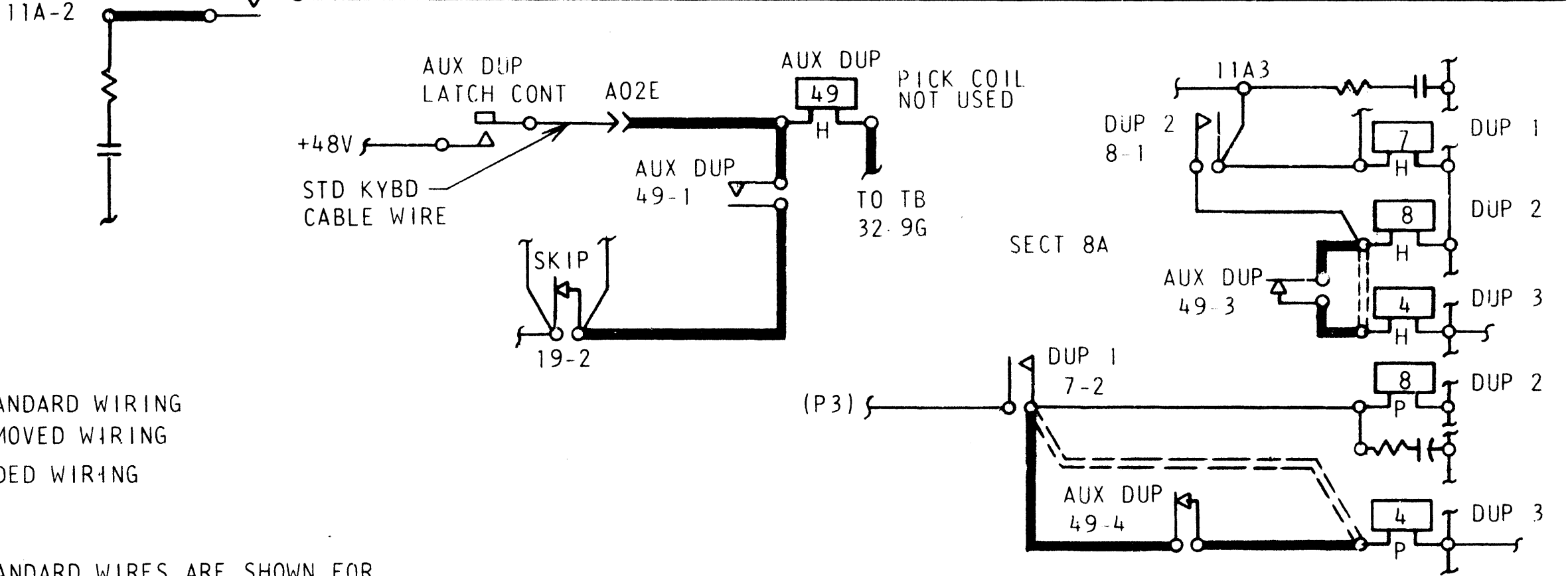
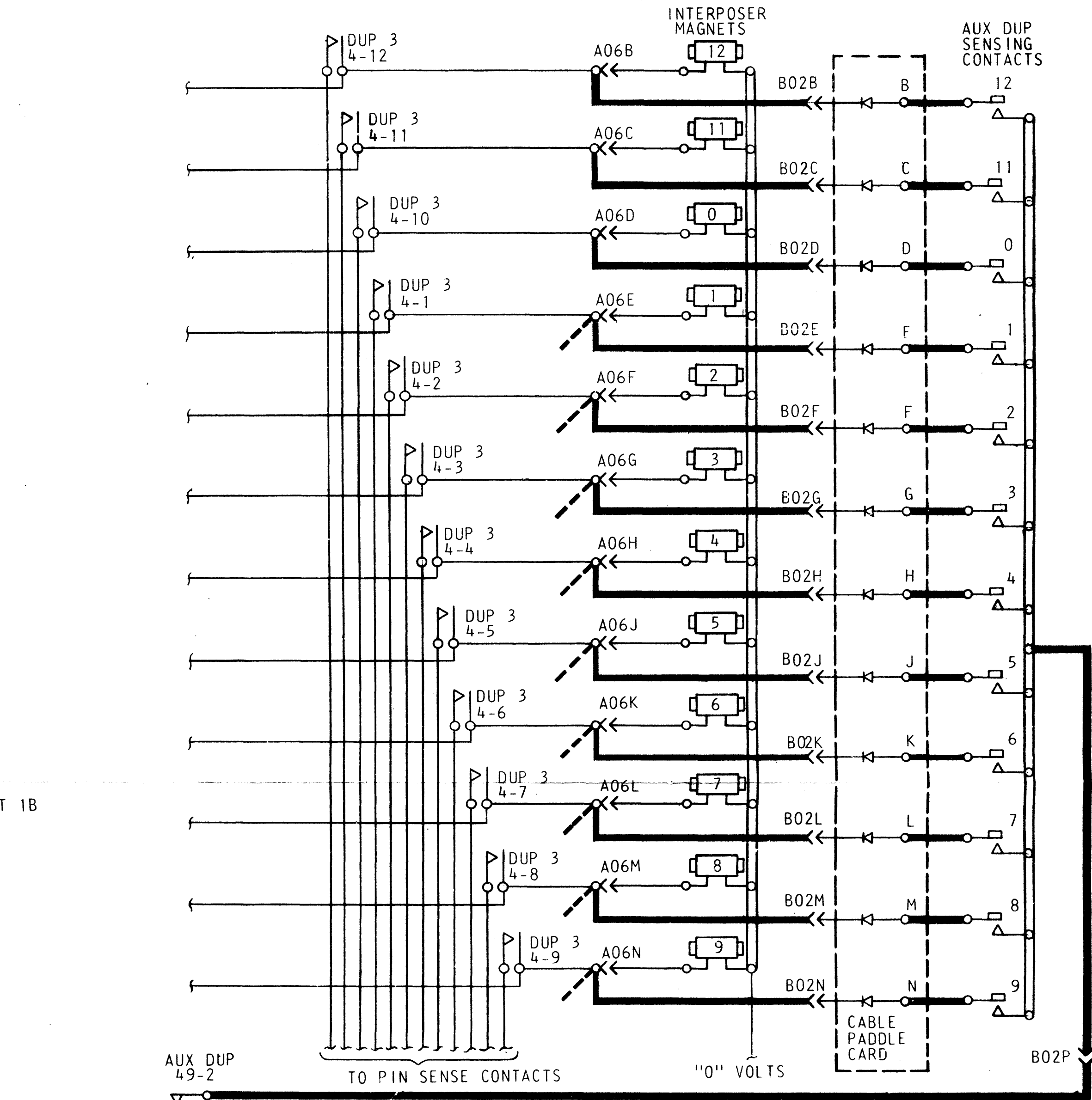
AUXILIARY DUPLICATION
AUX DUP

SHEET 2 OF 2

MASTER

SECT 2A

SECT 1B



- STANDARD WIRING
- == REMOVED WIRING
- ADDED WIRING

NOTES
 XI STANDARD WIRES ARE SHOWN FOR REFERENCE ONLY. CONSULT MACHINE LOGIC DIAGRAMS FOR DETAIL WIRING
 XII REMOVE THIS LEAD AND TAPE END

INTERNATIONAL BUSINESS MACHINES CORP.		DATE	CHANGE NO.	DATE	CHANGE NO.	NOTE	DEVELOPMENT NO.
NAME	SYSTEMS DIAGRAM	19OCT66	205745 B			NOTE X PRINT TO ENG. SPEC. NO. 895291	5405965
DESIGN	AG 15EP64 MODEL	14FEB67	205854				
DETAIL		12JUL 67	206089				
CHECK	RAS 15EP64 DRAW IDI						
APPRO	FH 35E						

5405966

INDEX PAGE
29 WIRING DIAGRAM SUPPLEMENT
MODELS A, B & C

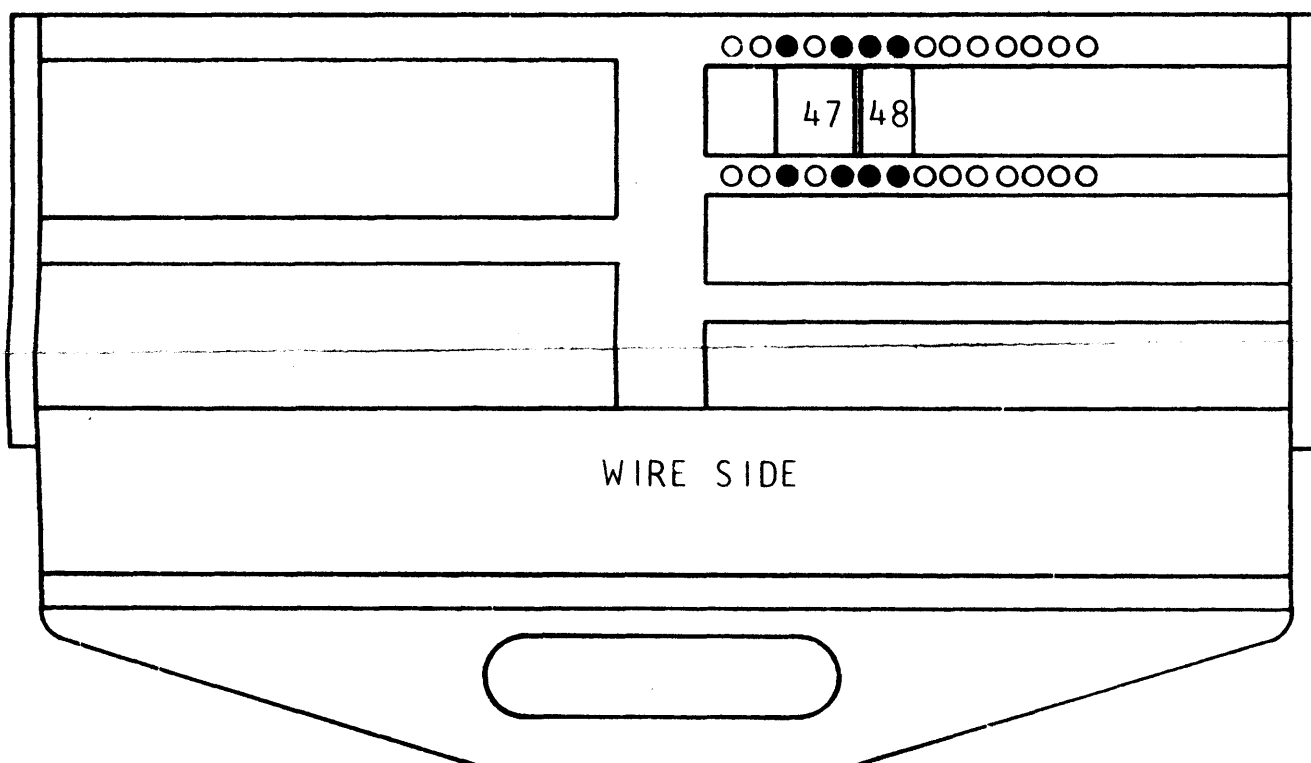
SHEET 1 OF 2

MASTER

NAME	SECTION
MCI FEATURE	5, 7, 8, 9, 11

ADD

PART NO.	DESCRIPTION	FROM	TO
196198	RELAY 47-6 POS	————	————
196208	RELAY 48-4 POS	————	————
205330	BRASS JPR	47 HA	47-1 N/O
205331	BRASS JPR	47 HB	47 PB
205331	BRASS JPR	48 HB	48 PB
205329	BRASS JPR	48 PA	48-1 N/O
347820	DIODE	PLT-47 PB	CATH-47 PA
347820	DIODE	PLT-48-2 N/O	CATH-48 HA
347820	DIODE	PLT-32-10 E	CATH-32-10B
347820	DIODE	PLT-32-11 E	CATH-32-11B
5406087	CABLE	————	GATE
	STD TRANS CABLE WIRE	REG MAG	INT 3 COM
	STD TRANS CABLE WIRE	A05Q	REG MAG
	STD SWITCH CABLE WIRE	ADAS N/O	MC SW/OP
	STD SWITCH CABLE WIRE	A01P	MC SW/NO
	STD KYBD CABLE WIRE	MC LATCH/NO	48 VOLTS
	STD KYBD CABLE WIRE	MC LATCH/OP	A02D



DELETE

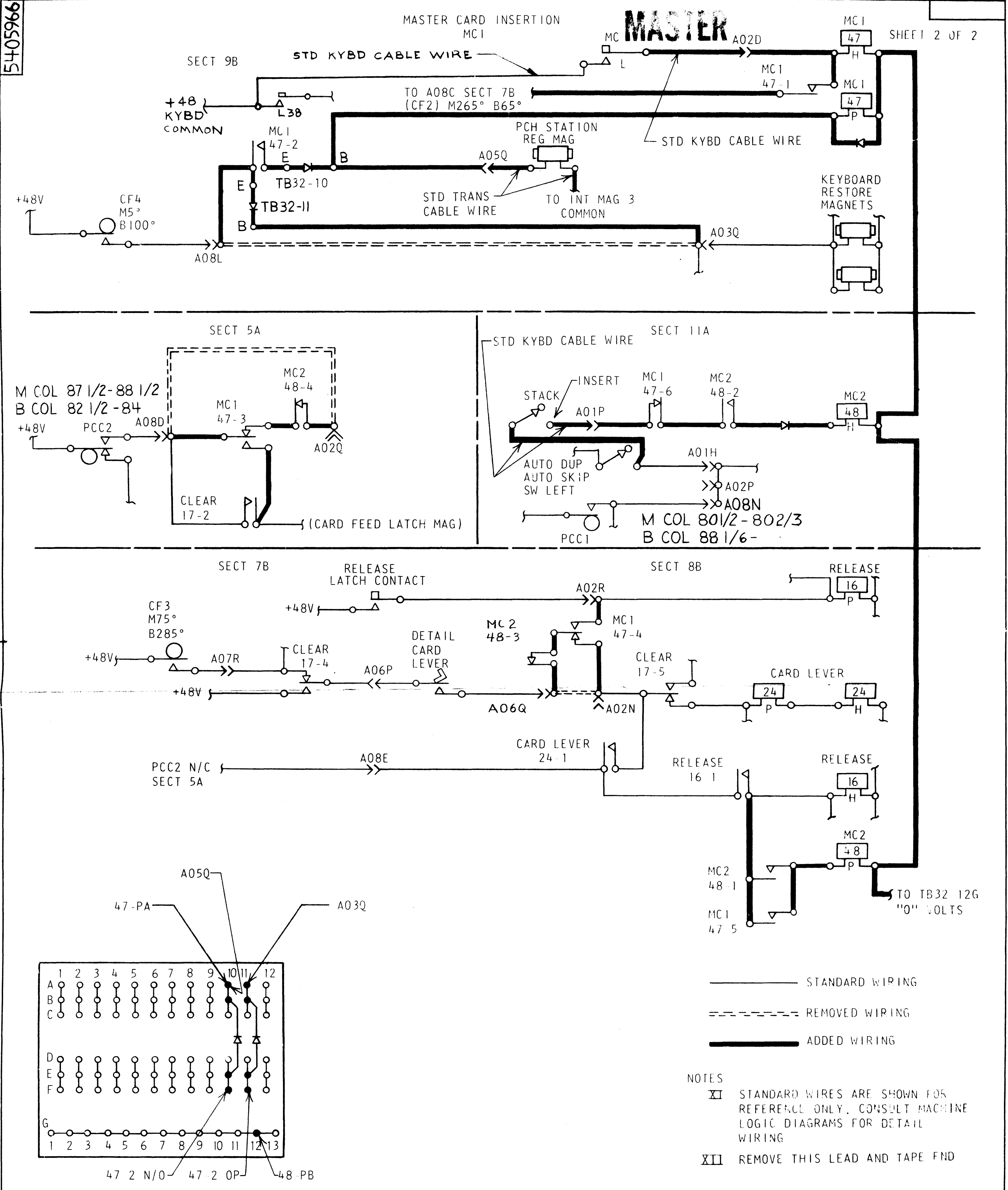
PART NO.	DESCRIPTION	FROM	TO
—	CABLE	* A03Q XII	A08L XII
—	CABLE	* A02Q XII	A08D XII
—	CABLE	* A02N XII	A06Q XII

* DENOTES WIRE END TO BE REMOVED AND TAPED.

PRINT SUITABLE FOR EC MA KUP

INTERNATIONAL BUSINESS MACHINES CORP.				DATE	CHANGE NO.	DATE	CHANGE NO.	NOTE	DEVELOPMENT NO.
NAME	SYSTEMS DIAGRAM			19OCT66	205745 B			X PRINT TO ENG. SPEC. NO. 895291	5405966
DESIGN	AG	ISEP	MODEL	14FEB67	205854				
DETAIL				12 JUL 67	206089				
CHECK	RAS	ISEP	DRAW	15 JAN 69	920013				
APPRO	FH	3 SEP 68	CHECK						

5405966

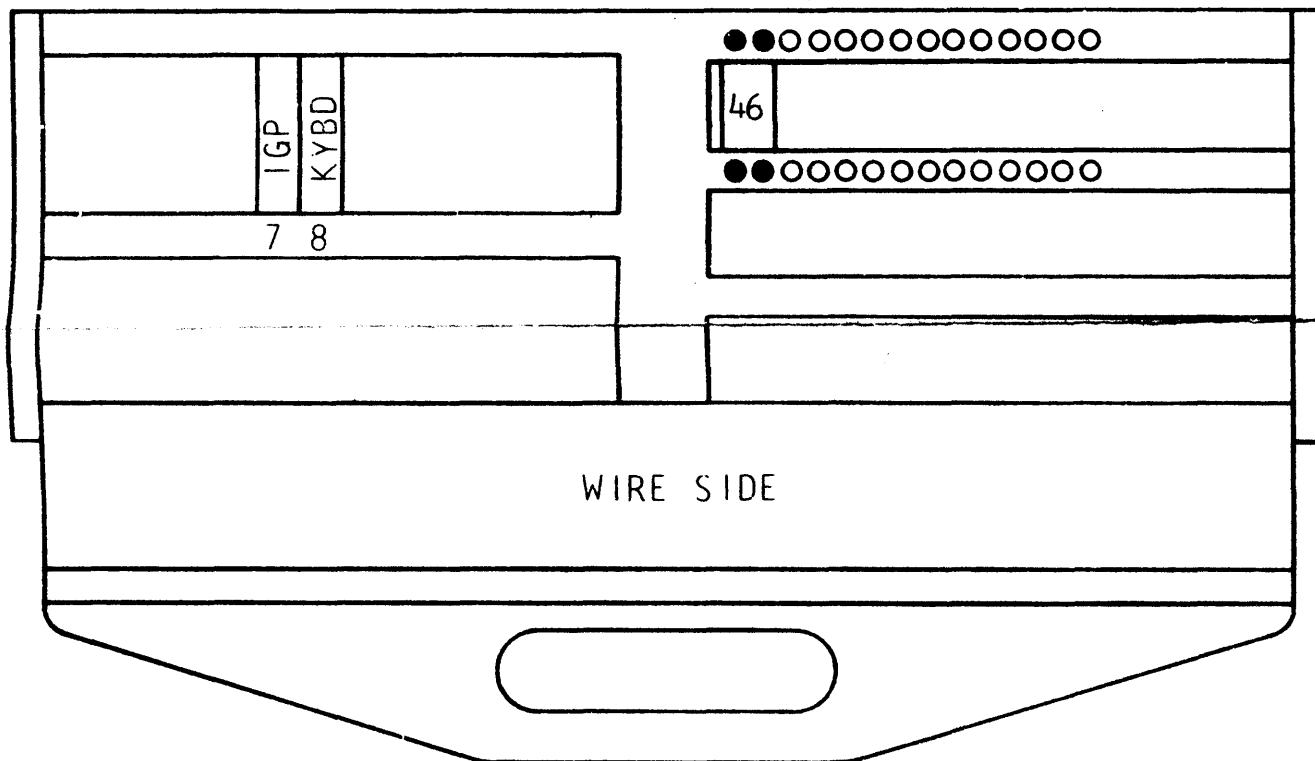


INTERNATIONAL BUSINESS MACHINES CORP.		DATE	CHANGE NO.	DATE	CHANGE NO.	NOTE	DEVELOPMENT NO.
NAME	SYSTEMS DIAGRAM	19OCT66	205745 B			X PRINT TO ENG. SPEC. NO. 895291	5405966
		14FEB67	205854				
DESIGN	AG 15SEP66 MODEL	12 JUL 67	206089				
DETAIL		15 JAN 69	920013				
CHECK	RAS 15SEP66 DRAW	18OCT66					
APPRO	FH 3SEP66 CHECK						

5405967

MASTER

NAME	SECTION
IGP FEATURE	7,8



ADD

PART NO.	DESCRIPTION	FROM	TO
196208	RELAY 46-4 POS		
205330	BRASS JPR	46 HA	46-1 N/O
205331	BRASS JPR	46 HB	46 PB
347820	DIODE	PLT-17-6 N/O	CATH-16 PA
5406358	CABLE		GATE
5406067	CABLE	KYBD	GATE
5406063	CABLE	CD TRANS	GATE
	TRANSPORT CABLE-STD	A05N	P6 OP

DELETE

PART NO.	DESCRIPTION	FROM	TO
GATE	JPR	*17 PA XII	17-3 OP
GATE	JPR	17-3 N/O	*17-6 N/O XII
GATE	JPR	*16 PA XII	*17-6 N/O XII
GATE	CABLE	A07R XII	*17-4 N/C XII
GATE	JPR	*17-4 N/C XII	17-6 OP

* DENOTES WIRE ENDS TO BE REMOVED AND TAPED

INTERNATIONAL BUSINESS MACHINES CORP.				DATE	CHANGE NO.	DATE	CHANGE NO.	NOTE	DEVELOPMENT NO.
NAME	SYSTEMS DIAGRAM			19OCT66	205745 B			NOTE X PRINT TO ENG. SPEC. NO. 895291	
DESIGN	AG	15EP66	MODEL	14FEB67	205854				
DETAIL				12 JUL 67	206089				
CHECK	RAS	15EP66	DRAW	IDI	18OCT66	1 OCT 69	920094		
APPRO	FH	35EP66	CHECK						

5405967

5405967

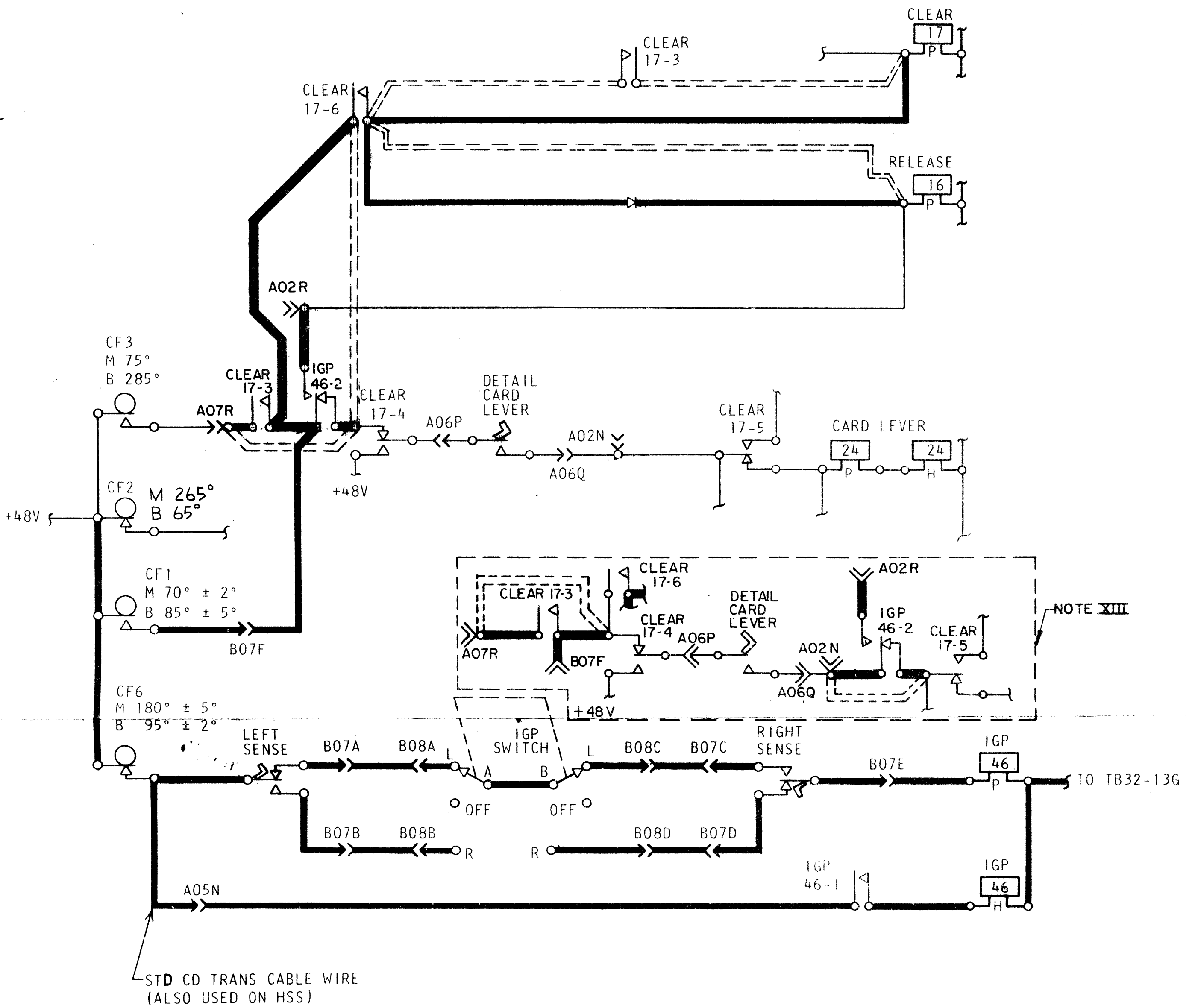
INTERSPERSED GANG PUNCH
IGP

SHEET 2 OF 2

SECT 7B

SECT 8B

MASTER



PART NAME	PART NO.
CAM CF-1	311384
CAM CF-6	315381
SWITCH IGP	382297
SWITCH RIGHT SENSE	5404396
SWITCH LEFT SENSE	5404296

— STANDARD WIRING
 - - - REMOVED WIRING
 ——— ADDED WIRING

NOTES

- XI STANDARD WIRES ARE SHOWN FOR REFERENCE ONLY. CONSULT MACHINE LOGIC DIAGRAMS FOR DETAIL WIRING
- XII REMOVE THIS LEAD AND TAPE END
- XIII WIRING BEFORE EC920094 OCT 1969

INTERNATIONAL BUSINESS MACHINES CORP.		DATE	CHANGE NO.	DATE	CHANGE NO.	NOTE	DEVELOPMENT NO.
NAME SYSTEMS DIAGRAM		19OCT66	205745 B			X PRINT TO RMB. SPEC. NO. 895271	
		14FEB67	205854				
DESIGN AG	15SEP66	MODEL		12JUL 67	206089		
CHECK P.A.S.	15SEP66	DRAW IDI	18OCT66	1 OCT 69	920094		
APPRO F.H.	3SEP66	CHECK					

5405967

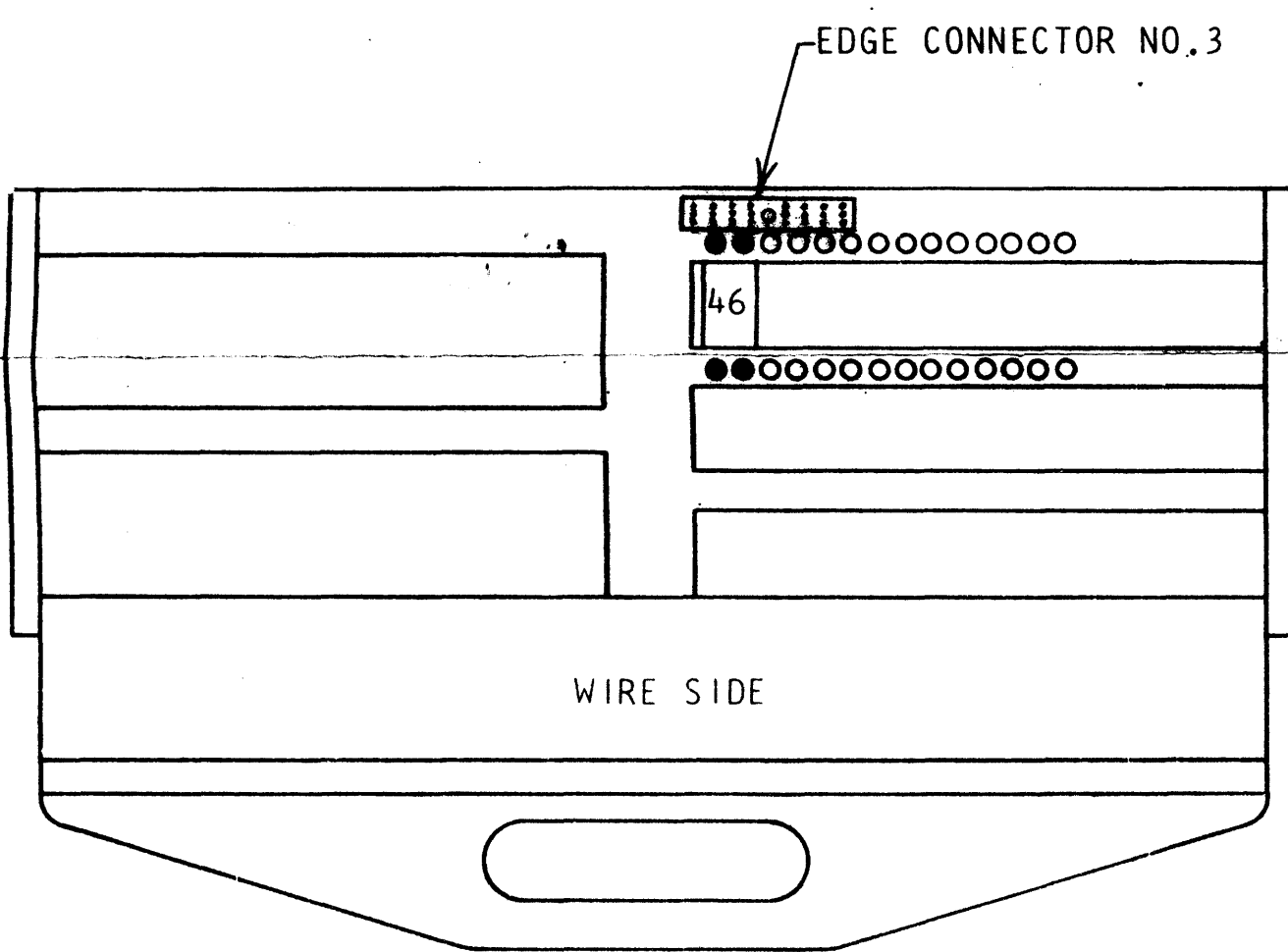
5405968

INDEX PAGE
29 WIRING DIAGRAM SUPPLEMENT
MODELS A, B & C

SHEET 1 OF 2

MASTER

NAME	SECTION
HSS FEATURE	9, 10, 11, 12
KYBD, VLCD AND CAM	P/N 5404109



ADD

PART NO.	DESCRIPTION	FROM	TO
196206	RELAY 46-4 POS		
205329	BRASS JPR	46 PA	46-1 N/O
5820454	RESISTOR 180Ω	EC-G	EC-A
5400890	CAPACITOR .22 UF	EC-G	EC-B
347820	DIODE	PLT-32-12E	CATH-32-12B
TRANSPORT	CABLE ASM	A05N	P6 OP
205331	BRASS JPR'S USED	48-2 N/O	48-3 N/O
205331	WITH HSS/VLCD	48-2 OP	48-3 OP
5406353	CABLE		GATE
STD TRANS	CABLE WIRES	ECA	A05P
		ECB	P1 COM
129245	JUMPER	EC3-3b	46-4N0
347820	DIODE	PLT-EC3-2b	CATH-EC3-2G

DELETE

PART NO.	DESCRIPTION	FROM	TO
GATE	CABLE	A08R XII	*23-4 N/C XII
GATE	CABLE	A08J XII	*10-1 N/O XII
GATE	CABLE	*A08K XII	14-4 OP XII

ADD

PART NO.	DESCRIPTION	FROM	TO
5406353	CABLE	TB32-8F	46-3 N/C XIV

DELETE

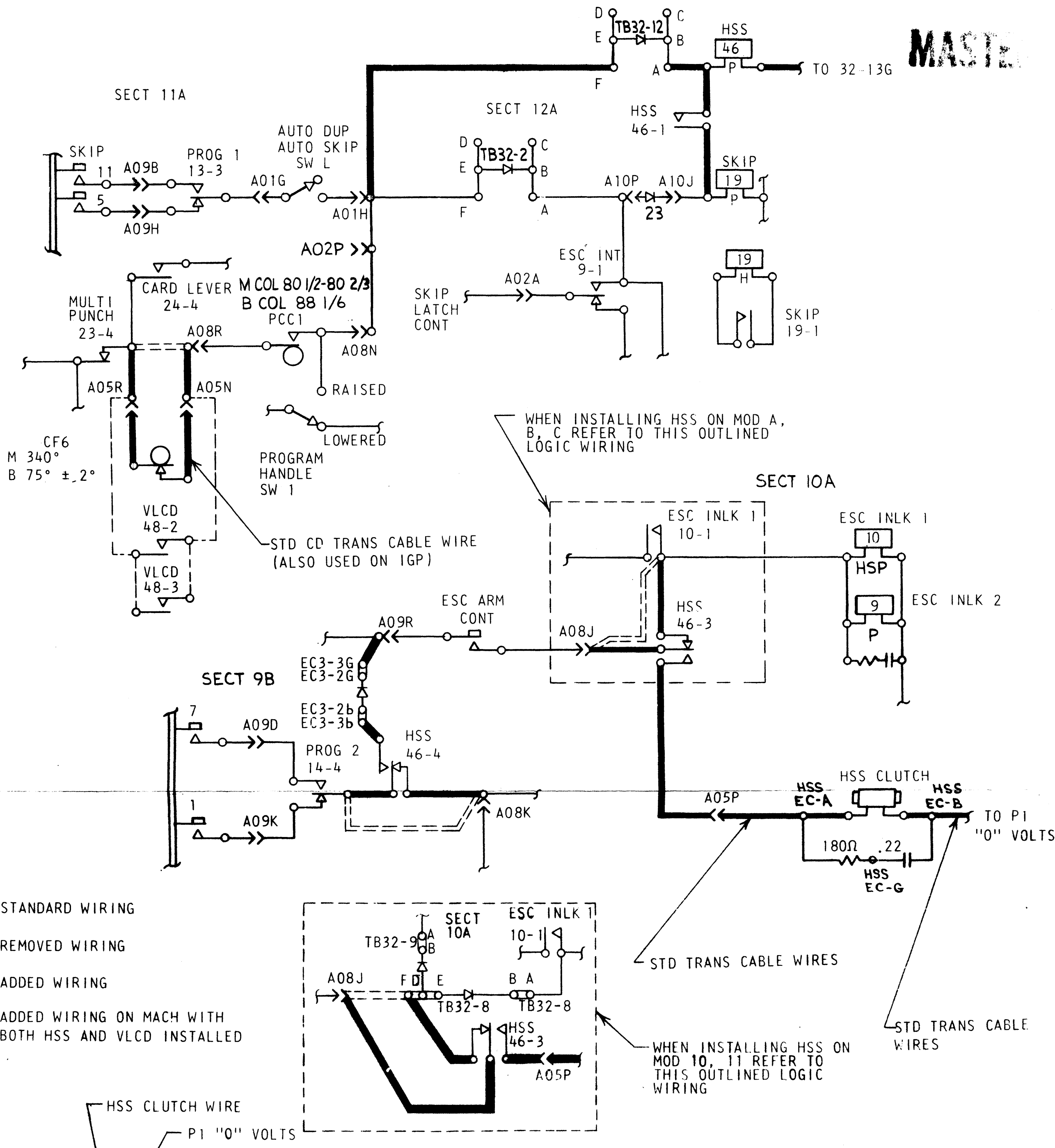
PART NO.	DESCRIPTION	FROM	TO
GATE	CABLE	TB32-8F	A08J XIV

* DENOTES WIRE ENDS TO BE REMOVED AND TAPED

INTERNATIONAL BUSINESS MACHINES CORP.				DATE	CHANGE NO.	DATE	CHANGE NO.	NOTE	DEVELOPMENT NO.
NAME	SYSTEMS DIAGRAM			19OCT66	205745 B			X PRINT TO ENG. SPEC. NO. 895291	5405968
DESIGN	AG	15 SEP 66	MODEL	14FEB67	205854				
DETAIL				12 JUL 67	206089				
CHECK	RAS	15 SEP 66	DRAW	2 FEB 68	206295				
APPRO	FH	3 SEP 66	CHECK	1 OCT 69	92009 4				

HIGH SPEED SKIP
HSS

MASTER



- NOTES
- XI STANDARD WIRES ARE SHOWN FOR REFERENCE ONLY. CONSULT MACHINE LOGIC DIAGRAMS FOR DETAIL WIRING
 - XII REMOVE THIS LEAD AND TAPE END
 - XIII CF 3 TIMING TO BE
M 90° ± 2°
B 300° ± 5°
 - XIV FOR SELF CHECK ONLY

INTERNATIONAL BUSINESS MACHINES CORP.				DATE	CHANGE NO.	DATE	CHANGE NO.	NOTE	DEVELOPMENT NO.
NAME				19OCT66	205745 B			X PRINT TO ENG. SPEC. NO. 895291	5405968
DESIGN				14FEB67	205854				
DETAIL				12JUL67	206089				
CHECK				2FEB68	206295				
APPRO				1 OCT 69	920094				

5405969

INDEX PAGE
29 WIRING DIAGRAM SUPPLEMENT
MODELS A, B & C

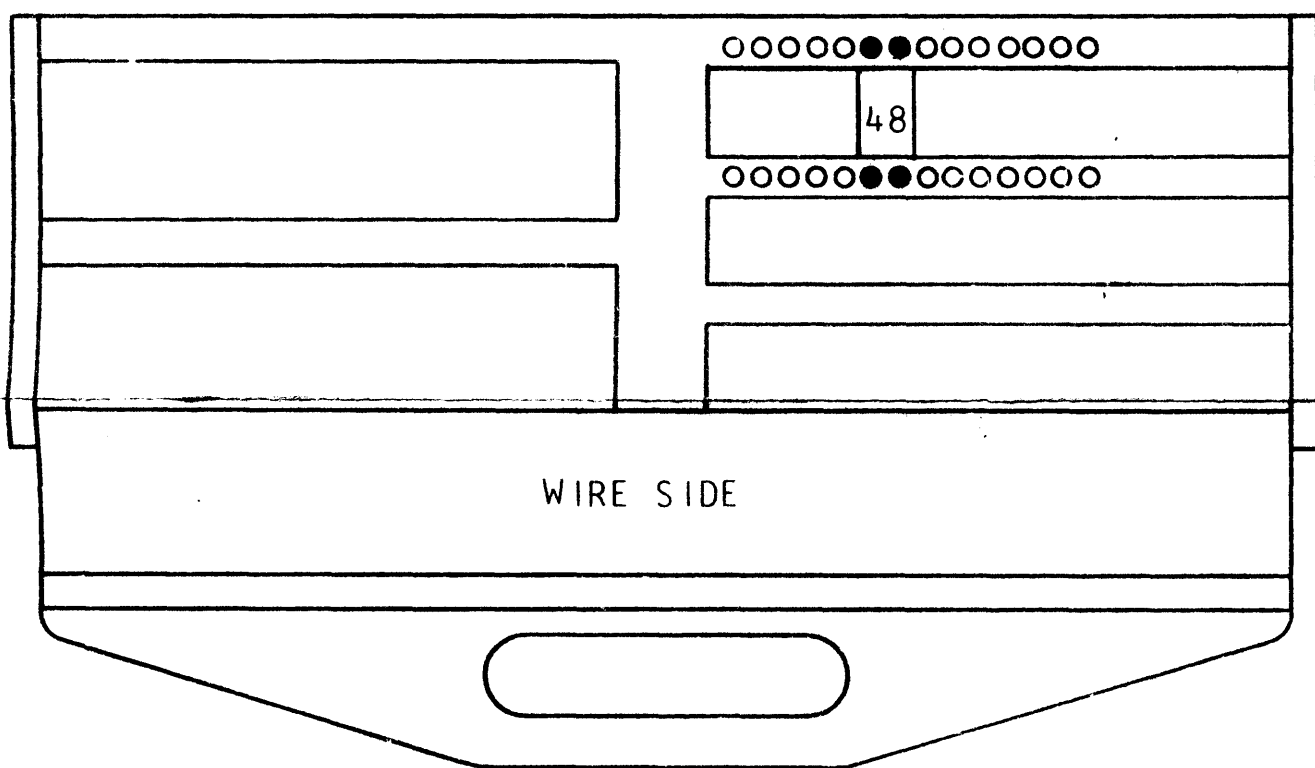
SHEET 1 OF 2

MASTER

NAME	SECTION
VLCD FEATURE	9, 10, 11, 12
KYBD, VLCD AND CAM	P/N 5404109

ADD

PART NO.	DESCRIPTION	FROM	TO
205331	BRASS JPR	48 HA	48-1 N/O
347820	DIODE	PLT-32-11 E	CATH-32-11B
347820	DIODE	PLT-32-10 E	CATH-32-10B
347820	DIODE	PLT-32-10 G	CATH-32-10C
347820	DIODE	PLT-48PB	CATH-48HB
5404119	DIODE-SLIP ON	PLT-A08L	CATH-A07P
196208	RELAY 48-4 POS	---	---
5406363	CABLE	---	GATE
STD CARD TRANS		A05M	AUX MAG
CABLE WIRES		AUX MAG	INT MAG



DELETE

PART NO.	DESCRIPTION	FROM	TO
GATE	CABLE	A03Q	* A08L XII
GATE	CABLE	* A01H XII	* A02P XII

* DENOTES WIRE END(S) TO BE REMOVED AND TAPED

INTERNATIONAL BUSINESS MACHINES CORP.				DATE	CHANGE NO.	DATE	CHANGE NO.	NOTE	DEVELOPMENT NO.
NAME SYSTEMS DIAGRAM				19OCT66	205745 B			X PRINT TO ENG. SPEC. NO. 895291	5405969
DESIGN AG 15EP66 MODEL				14FEB67	205854				
DETAIL				12JUL67	206089				
CHECK RAS 15EP66 DRAW IDI 18OCT66									
APPRO FH 35EP66 CH. CK									

5405969

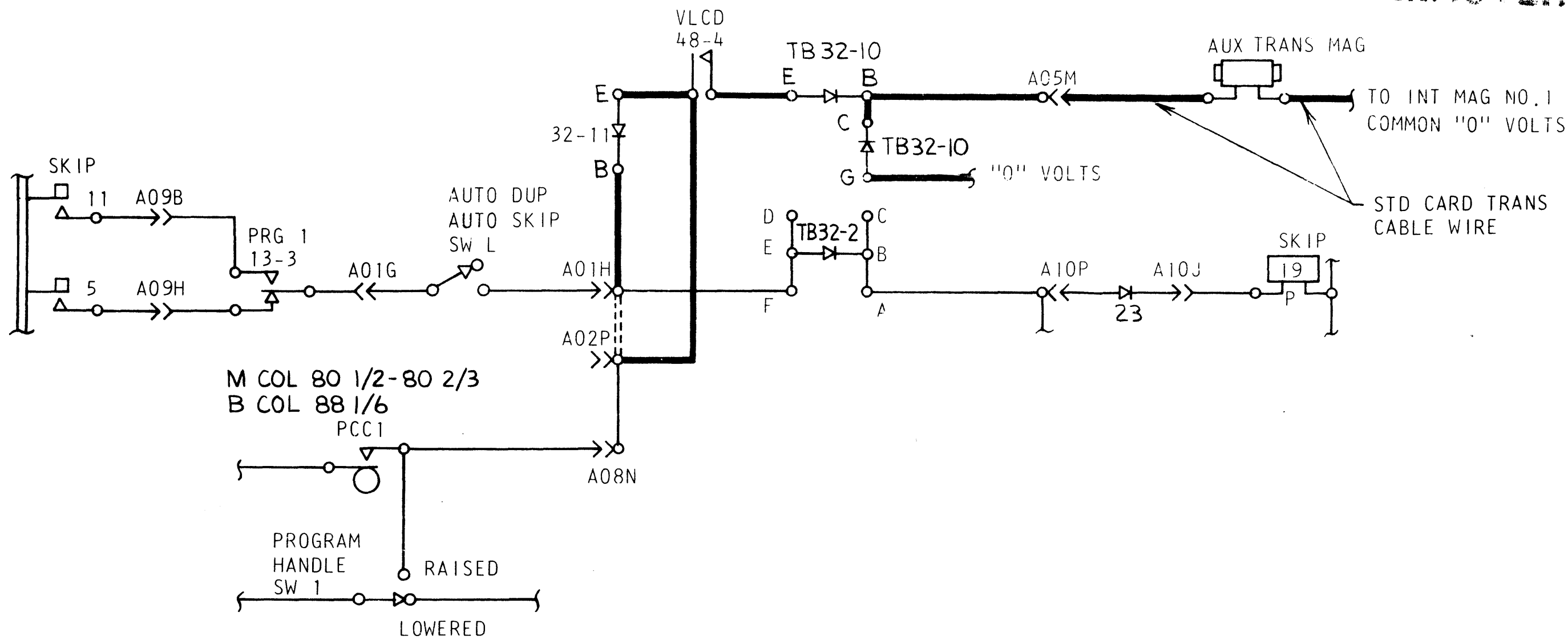
VARIABLE LENGTH CARD DEVICE
VLCD

SHEET 2 OF 2

SECT 11A

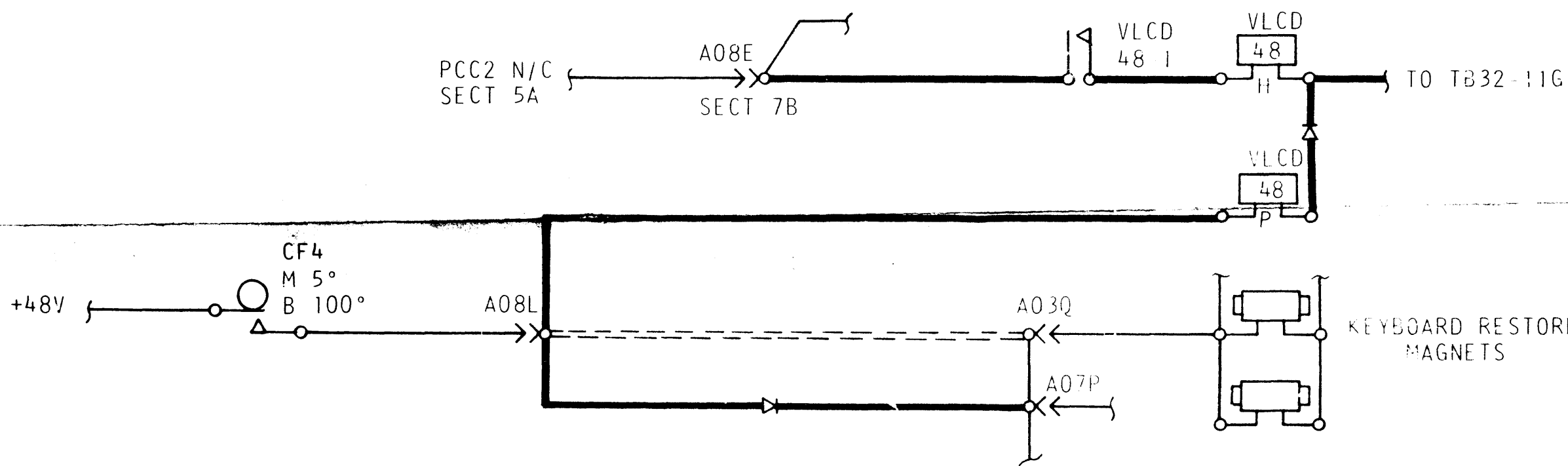
SECT 12A

MASTER

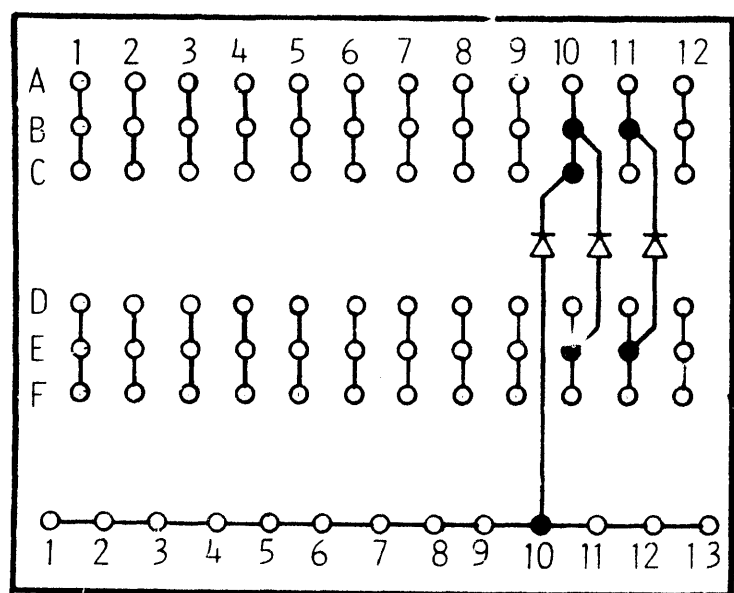


SECT 9B

SECT 10B



- STANDARD WIRING
- REMOVED WIRING
- ADDED WIRING



TERMINAL BLOCK 32
COMPONENT SIDE

- NOTES:
- XI STANDARD WIRES ARE SHOWN FOR REFERENCE ONLY. CONSULT MACHINE LOGIC DIAGRAMS FOR DETAIL WIRING.
 - XII REMOVE THIS LEAD AND TAPE END

INTERNATIONAL BUSINESS MACHINES CORP.		DATE	CHANGE NO.	DATE	CHANGE NO.	NOTE	DEVELOPMENT NO.
NAME	SYSTEMS DIAGRAM	19OCT66	205745 B			X PRINT TO ENG. SPEC. NO. 895291	
DESIGN	AG 1SEP66	14FEB67	205854				
DETAIL		12JUL67	206089				
CHECK	RAS 1SEP66						
APPRO	FH 3SEP66						

5405969

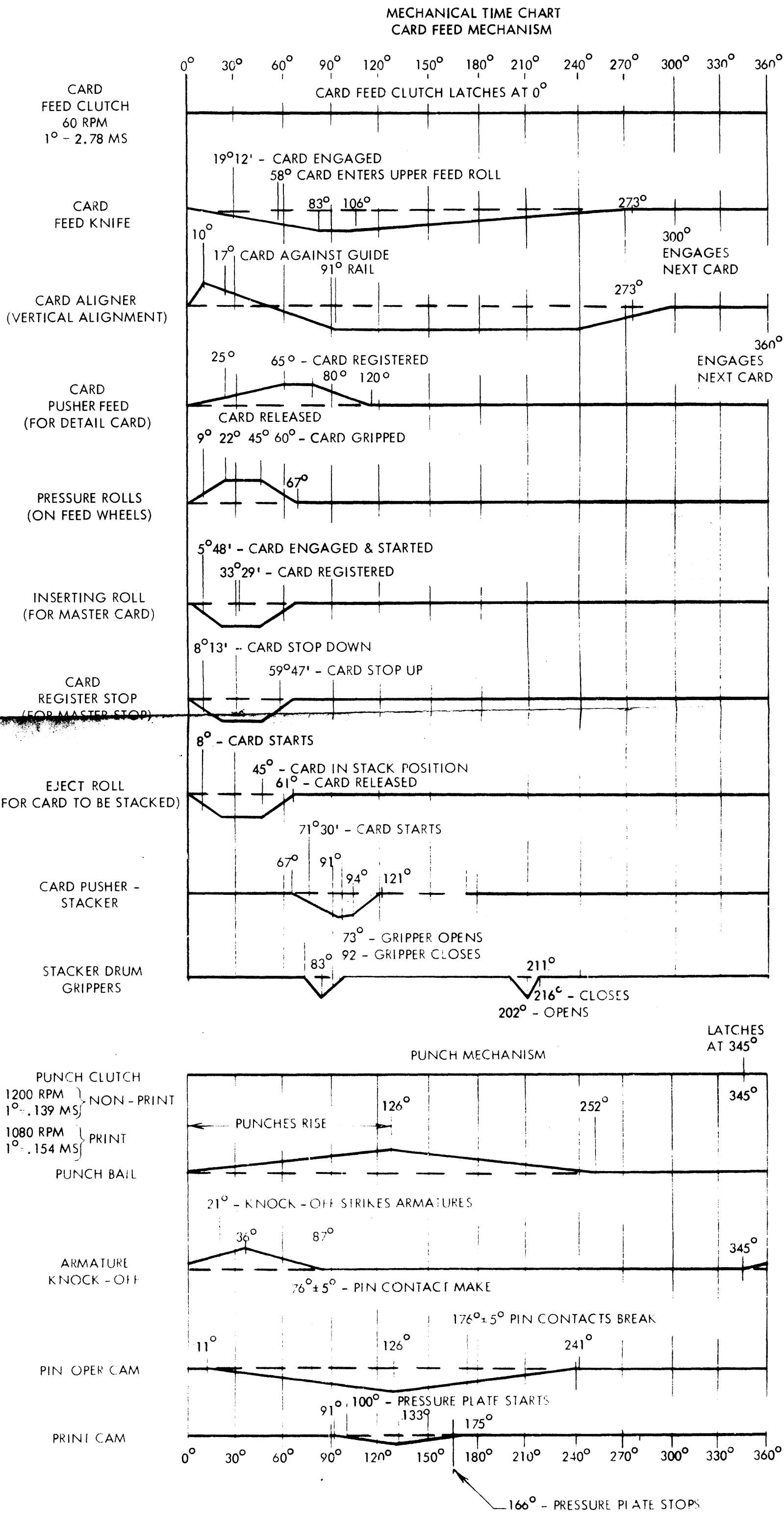
540409

KEYBOARD VLCD & CAM REFERENCE

02.29.10.0

STEM POS	GRAPHIC		CARD CODE		BAILS		LATCHES	
	ALPHA	NUMERIC	ALPHA	NUMERIC	ALPHA	NUMERIC	ALPHA	NUMERIC
1	ERROR RESET							
2	MULTI PUNCH							
3	NUMERIC							
4	Q	+	11-8	12-8-6	13-9	12-8-6		
5	A		12-1		15-3			
6	@	#	8-4	8-3	9-7	8-2		
7	Z		0-9		1-11			
8	W	-	0-6	0-8-5	14	14-8-4	X	
9	S	>	0-2	0-8-6	14	14-8-6	X	
10	%	,	0-8-4	0-8-3	14-9-7	14-8-2		
11	X	?	0-7	0-8-7	14	14-8	X	X
12	E	)	12-5	11-8-5	15	10-8	X	X
13	D	:	12-4	8-2	15-7	8		X
14	*	\$	11-8-4	11-8-3	7-9	8-2	X	X
15	C	"	12-3	8-7	15-5	8		X
16	R	¢	11-9	12-8-2	13-11	12-8		X
17	F	;	12-6	11-8-6	15	10-8	X	X
18	<	.	12-8-4	12-8-3	9-7	8-2	X	X
19	V	=	0-5	6-8	1	8-6	X	
20	T	0-8-2	0-3	0-8-2	14-5	14-8		X
21	G	—	12-7	11-8-7	15	10-8	X	X
22	MASTER CARD						X	X
23			12-2	11-8-2	10-8			X
24	Y	!	0-8	12-8-7	1-9	12-8		X
25	H	'	12-8	8-5	15-9	8-4		
26	DUP							
27	N	(	11-5	12-8-5	13	12-8	X	X
28	U	1	0-4	1	1-7			X
29	J	4	11-1	4	13-3			X
30	-	-	11	11	13	10		
31	M	7	11-4	7	13-7			X
32	I	2	12-9	2	15-11			X
33	K	5	11-2	5	13	4	X	
34	/	0	0-1	0	14-3	14		
35	,	8	0-8-3	8	1-9-5	8		
36	0	3	11-6	3	13	2	X	
37	L	6	11-3	6	13-5	6		
38	SPACE						X	X
39	.	9	12-8-3	9	15-9-5			X
40	P	&	11-7	12	13	12	X	X
41	SKIP						X	X
42	RELEASE						X	X
43	AUX DUP						X	X
44	FEED							
45	REGISTER						X	X
46	PROG 2							
47	ALPHA							
48	LEFT ZERO						X	X
49	LEFT ZERO							
50	PROG 1							

ODD NUMBER BAILS ON RIGHT SIDE OF KEYBOARD
EVEN NUMBER BAILS ON LEFT SIDE OF KEYBOARD



INTERNATIONAL BUSINESS MACHINES CORP.		DATE	CHANGE NO.	DATE	CHANGE NO.	NOTE	DEVELOPMENT NO.
NAME		7-13-65	205333			X PRINT TO ENG. SPEC. NO. 895291	02.29.10.0
SYSTEMS DIAGRAM		25 MAY 66	205639				
DESIGN	WT 52665	MODEL					
CHECK	LF 52665	DRAW	GT 4-19-65				
APPRO	RLJ 52665	CHECK	DJR 4-21-65				

6014045