PROJECT NO.	NAME	MACH	PART NO.	E C NO.	LOGIC NO.
	LOGIC INDEX	1443 PF	0749797	307327	00.00.00.0

FR CH	LOGIC NO.	LOGIC NAME	PART NO.	E C NO.
03 D1	00.00.01.0	MFI SHEET	736705	307322B
03 D1	20.00.00.1	CONNECTING LINES	749897	122139
03 D1	20.00.00.2	CONNECTING LINES	749863	118198
03 D1	20.00.01.1	CIRCUIT CARD LOCATION CHART	749875	305518
03 D1	20.00.02.1	EDGE CONNECTOR LIST	749998	122139
03 D1	20.00.03.0	SOLAR CELLS + MAGNETIC EMITTERS	749456	305540
03 D1	20.00.04.0	MOTORS CLUTCHES BRAKES	749457	305540
03 D1	20.00.05.0	HAMMER COILS	749458	307322B
03 D1	20.00.06.0	CARRIAGE BRUSHES + HR CBS	749459	122157
03 D1	20.00.07.0	POWER DISTRIBUTION	749454	307327
03 D1	20.00.08.0	INTLK OP CONTROLS + INDICATORS	749455	307322B
03 D1	20.00.09.0	POWER SUPPLY SCHEMATIC	749450	122121
03 D1	20.00.10.0	TERMINAL BLOCK ASSIGNMENTS	736661	122157
03 D1	20.00.11.0	CE REFERENCE CHARTS	736706	305549
03 D1	20.00.12.0	INTERCONNECTIONS 1441 TO 1443	736727	118202
03 D1	20.00.13.0	GATE VOLTAGE CHAINS	832554	118294
03 D1	20.01.00.1	CONTROLS	749900	305540
03 D1	20.02.00.1	SOLAR CELL + EMITTER AMP	749904	307322
03 D1	20.03.00.1	HAMMER RESTOR CONTROL	749906	118294
03 D1	20.04.00.1	TYPE BAR CONTROL	749907	307322
03 D1	20.05.00.1	CARRIAGE CONTROLS	749908	122139
03 D1	20.05.01.1	CARRIAGE CONTROLS	832608	122152
03 D1	20.05.02.1	CARRIAGE CONTROLS	749910	118294
03 D1	20.05.03.1	CARRIAGE CONTROLS	749911	118198
03 D1	20.05.04.1	CARRIAGE CONTROLS	749974	122152
03 D1	20.06.00.1	PRINT CONTROL	749914	122158
03 D1	20.07.00.1	PRINT CHARACTER COUNTER	749915	122152
03 D1	20.07.01.1	PRINT CHARACTER COUNTER	749916	122157
03 D1	20.07.02.1	PRINT CHARACTER COUNTER	749968	118294
03 D1	20.08.00.1	COMPARE	749918	122092
03 D1	20.09.00.1	PARITY CHK	749920	118213
03 D1	20.09.01.1	PARITY + SYNC CHECK LATCHES	749921	122157
03 D1	20.10.00.1	X ADDRESS DECODE	749922	115643K
03 D1	20.10.01.1	Y ADDRESS DECODE	749923	115643K
03 D1	20.10.02.1	Y ADDRESS DECODE	749924	118213
03 D1	20.10.03.1	ADDRESS DECODE	749925	115643N
03 D1	20.11.00.1	PRINT MAGNET DRIVERS	749926	118213
03 D1	20.11.01.1	PRINT MAGNET DRIVERS	749927	118213
03 D1	20.11.02.1	PRINT MAGNET DRIVERS	749928	118213
03 D1	20.11.03.1	PRINT MAGNET DRIVERS	749929	118213
03 D1	20.11.04.1	PRINT MAGNET DRIVERS	749930	118213
03 D1	20.11.05.1	PRINT MAGNET DRIVERS	749931	118225
03 D1	20.11.06.1	PRINT MAGNET DRIVERS	749932	118213
03 D1	20.11.07.1	PRINT MAGNET DRIVERS	749933	118213
03 D1	20.11.08.1	PRINT MAGNET DRIVERS	749934	118213
03 D1	20.11.09.1	PRINT MAGNET DRIVERS	749935	118225
03 D1	20.11.10.1	PRINT MAGNET DRIVERS	749936	118213
03 D1	20.11.11.1	PRINT MAGNET DRIVERS	749937	118213
03 D1	20.11.12.1	PRINT MAGNET DRIVERS	749938	118213
03 D1	20.11.13.1	PRINT MAGNET DRIVERS	749939	118213
03 D1	20.11.14.1	PRINT MAGNET DRIVERS	749940	118213
03 D1	20.14.00.1	DATA LINES	749951	118213

PROJECT NO.	NAME	MACH	PART NO.	E C NO.	LOGIC NO.
	LOGIC INDEX	1443 PF	0749797	307327	00.00.00.0

FR CH	LOGIC NO.	LOGIC NAME	PART NO.	E C NO.
03 D1	20.14.03.1	PRINTER INTERFACE	749954	305508
03 D1	20.15.00.1	CLOCK + CLOCK CONTROL	749955	122092
03 D1	20.15.01.1	CLOCK DECODE	749956	305518
03 D1	20.15.02.1	BUFFER ADDRESS REGISTER UNITS	749957	305518
03 D1	20.15.03.1	UNITS BIAS DRIVE	749958	115643G
03 D1	20.15.04.1	BUFFER ADDRESS REGISTER TENS	749959	115643G
03 D1	20.15.05.1	TENS BIAS DRIVE	749960	115643G
03 D1	20.15.06.1	BUFFER SWITCH CORE MATRIX SET RESET	749961	118294
03 D1	20.15.07.1	BUFFER SENSE WINDINGS + AMPLIFIERS	749962	118213
03 D1	20.15.08.1	BUFFER REGISTER	749963	122152
03 D1	20.15.09.1	BUFFER REGISTER	749964	118213
03 D1	20.15.10.1	INHIBIT GATES + DRIVERS	749965	118213
03 D1	20.15.11.1	VOLTAGE REGULATOR SCM LOAD CARDS	749966	118213
03 D1	99.99.91.1	METER CIRCUIT	736739	122120B
	99.99.95.0	METER POWER PACK	740581	118373

736705 1443 MFI CODE 00.00.01.0

CHECK BLOCK IF FEATURE IS ON MACHINE	MFI CODE	DESCRIPTION	CHASSIS
	BA	BASIC	03D1
	NPF	NON-BUFFERED	03D1
	PF	BUFFERED	03D1
		144 PRINT POSITIONS	03D1
	HSP	MULTIPLE TYPEBAR SELECTOR	03D1
		MOD I 150 LPM (52 CHAR BAR)	03D1
		MOD II 240 LPM (52 CHAR BAR)	03D1
		MOD III 140 LPM (52 CHAR BAR)	03D1
		MOD IV 230 LPM (52 CHAR BAR)	03D1
	1620	1620 ADAPTER	03E1
	1800	1800 ADAPTER	03E1

DATE	EC NO	DATE	EC NO	DATE	EC NO
9-6-63	117778				
12-9-63	118201				
3-4-64	118213				
18MAR66	125194				
MAR68	307322B				

01.84.30.1 1620

0749897 CONNECTING LINES FOR 1441 1443 PF 20.00.00.1

+Y DATA B 36.00.06.1	*1	+Y PROC BIT B 20.14.00.1
+Y DATA A 36.00.06.1	*2	+Y PROC BIT A 20.14.00.1
+Y DATA 8 36.00.06.1	*3	+Y PROC BIT 8 20.14.00.1
+Y DATA 4 36.00.06.1	*4	+Y PROC BIT 4 20.14.00.1
+Y DATA 2 36.00.06.1	*5	+Y PROC BIT 2 20.14.00.1
+Y DATA 1 36.00.06.1	*6	+Y PROC BIT 1 20.14.00.1
+Y DATA C 36.00.06.1	*7	+Y PROC BIT C 20.14.00.1
+Y CARR CTRL 36.00.06.1	*8	+Y CARR CTRL 20.14.03.1
-Y PRINT INSTR 36.00.06.1	*9	-Y PRINT INSTR 20.15.00.1 99.99.91.1
+Y PWR ON RESET 36.00.06.1	*A	+Y PWR ON RESET 20.01.00.1
-Y TD T OFF 36.00.06.1	*B	-Y TD T OFF 20.03.00.1 20.00.08.0
+Y STOR PR OUT 36.00.06.1	*C	+Y STOR PR OUT 20.09.00.1 20.01.00.1
-Y CARR + PRT BUSY 20.05.04.1		-Y CARR + PRT BUSY *Q—36.00.06.1
+Y CARR CH 9 20.05.02.1		+Y CARR CH 9 *R—36.00.06.1
+Y CARR CH 12 20.05.03.1		+Y CARR CH 12 *S—36.00.06.1
-Y PARITY CHECK 20.09.01.1		-Y PARITY CHECK *T—36.00.06.1
-Y I O CHK STP SW ON 36.00.06.1	*D	-Y I O CHK STP SW ON 20.09.01.1
+Y CARR BUSY 20.05.04.1		+Y CARR BUSY *U—36.00.06.1
+Y PR CHECK RESET 36.00.06.1	*E	+Y PR CHECK RESET 20.09.01.1
+Y RUN LATCH 20.01.00.1		+Y RUN LATCH *V—36.00.06.1
-Y PROC RELEASE 20.14.03.1		-Y PROC RELEASE *W—36.00.06.1
+Y 1443*GND 03D1E08J* 00.00.00.0		+Y 1443*PF* *X—36.00.06.1
+Y PRINT READY 20.14.03.1		+Y PRINT READY *Y—36.00.06.1
+Y SP SUPP MOD 36.00.06.1	*F	+Y SP SUPP MOD 20.01.00.1
-Y PROC+D CYCLE 36.00.06.1	*G	-Y PROC+D CYCLE 20.14.03.1
-Y TIME 105-000 36.00.06.1	*H	-Y TIME 105-000 20.05.00.1
+Y SYNC CHECK 20.09.01.1		+Y SYNC CHECK *Z—36.00.06.1
-Y TIME 060-090 CKT 1 36.00.06.1	*J	-Y TIME 060-090 CKT 1 20.14.03.1
-Y TIME 015-030 36.00.06.1	*K	-Y TIME 015-030 20.14.03.1
-Y CARR CH 1 20.05.03.1		-Y CARR CH 1 ¤1—36.00.06.1
+Y START RESET CKT 1 36.00.06.1	*L	+Y START RESET CKT 1 20.01.00.1
-Y TIME 090-000 36.00.06.1	*M	-Y TIME 090-000 20.14.03.1
-Y PROCESS M * SEE NOTE 1 * 36.00.06.1	*N	-Y PROCESS M 99.99.91.1
+Y BLOCK DATA 36.00.06.1	*P	+Y BLOCK DATA 20.01.00.1

Log page 01.84.30.1

*1—03D1F08A *2—03D1F08B *3—03D1F08C *4—03D1F08D *5—03D1F08E *6—03D1F08F
*7—03D1F08G *8—03D1F08H *9—03D1F06K *A—03D1F08K *B—03D1F08M *C—03D1F08N
*D—03D1F06C *E—03D1F06B *F—03D1F06M *G—03D1F06F *H—03D1F07K *J—03D1F06H
*K—03D1F066 *L—03D1F06R *M—03D1F07L *N—03D1F07M *P—03D1F06Q *Q—03D1F08P
*R—03D1F08Q *S—03D1F08R *T—03D1F06A *U—03D1F07R *V—03D1F08L *W—03D1F06D
*X—03D1F07N *Y—03D1F06E *Z—03D1F06L ¤1—03D1F06P

COMMENTS
NOTE 1 F07M CONNECTED TO F10M -12V WHEN THIS SIGNAL IS NOT AVAILABLE

TAG	DATE	E.C.NO.	TAG	DATE	E.C.NO.	TAG	DATE	E.C.NO.	TAG	DATE	E.C.NO.
A	06-18-62	1138516	B	10-09-62	115643	C	12-11-62	115643B	D	02-19-63	115643E
E	03-09-63	1156436	F	07-05-63	117777	G	08-22-63	117778	H	09-16-63	118192
J	10-01-63	118198	K	01-06-64	118202	L	04-08-64	118225	M	10-16-64	122102
N	10-26-64	122102A	P	02-08-65	122139						

-Y REG 1 20.15.08.1	BUFFER REG 1 *1--00.00.00.0
-Y REG 2 20.15.08.1	BUFFER REG 2 *2--00.00.00.0
-Y REG 4 20.15.08.1	BUFFER REG 4 *3--00.00.00.0
-Y REG 8 20.15.08.1	BUFFER REG 8 *4--00.00.00.0
-Y REG A 20.15.09.1	BUFFER REG A *5--00.00.00.0
-Y REG B 20.15.09.1	BUFFER REG B *6--00.00.00.0
-Y REG C 20.15.09.1	BUFFER REG C *7--00.00.00.0
-Y UNITS A 20.15.02.1	A R UNITS A *8--00.00.00.0
-Y UNITS B 20.15.02.1	A R UNITS B *9--00.00.00.0
-Y UNITS C 20.15.02.1	A R UNITS C *A--00.00.00.0
-Y UNITS D 20.15.02.1	A R UNITS D *B--00.00.00.0
-Y UNITS E 20.15.02.1	A R UNITS E *C--00.00.00.0
-Y TENS A 20.15.04.1	A R TENS A *D--00.00.00.0
-Y TENS B 20.15.04.1	A R TENS B *E--00.00.00.0
-Y TENS C 20.15.04.1	A R TENS C *F--00.00.00.0
-Y TENS D 20.15.04.1	A R TENS D *G--00.00.00.0
-Y TENS E 20.15.04.1	A R TENS E *H--00.00.00.0
-Y PCC 1 20.07.00.1	CHAR CTR 1 *J--00.00.00.0
-Y PCC 2 20.07.00.1	CHAR CTR 2 *K--00.00.00.0
-Y PCC 4 20.07.00.1	CHAR CTR 4 *L--00.00.00.0
-Y PCC 8 20.07.00.1	CHAR CTR 8 *M--00.00.00.0
-Y PCC A 20.07.01.1	CHAR CTR A *N--00.00.00.0
-Y PCC B 20.07.01.1	CHAR CTR B *P--00.00.00.0
-Y CARR 1 20.05.00.1	CARR D REG 1 *Q--00.00.00.0
-Y CARR 2 20.05.00.1	CARR D REG 2 *R--00.00.00.0
-Y CARR 4 20.05.00.1	CARR D REG 4 *S--00.00.00.0
-Y CARR 8 20.05.00.1	CARR D REG 8 *T--00.00.00.0
-Y CARR A 20.05.00.1	CARR D REG A *U--00.00.00.0
-Y CARR B 20.05.00.1	CARR D REG B *V--00.00.00.0
-Y HMR RESTR CTRL 20.03.00.1	HMR CTRL LTCH *W--00.00.00.0
-Y TB BRAKE 20.04.00.1	TB BRAKE *X--00.00.00.0
-Y RUN 20.01.00.1	RUN LATCH *Y--00.00.00.0
-Y HMR RDY 20.03.00.1	HMR RDY LTCH *Z--00.00.00.0
-Y PRINT 20.06.00.1	PRINT LATCH ¤1--00.00.00.0
-Y PR SCAN 6T 20.06.00.1	PR SCAN 6T LTCH ¤2--00.00.00.0
-Y PR CTRL 20.06.00.1	PR CTRL LTCH ¤3--00.00.00.0
-Y TB CL LT 20.04.00.1	TB CL LT ¤4--00.00.00.0
-Y TB CL RT 20.04.00.1	TB CL RT ¤5--00.00.00.0
-Y PCC ADV LTCH 20.07.01.1	PCC ADV LTCH ¤6--00.00.00.0
-Y PCC RESET 20.07.01.1	PCC RESET LTCH ¤7--00.00.00.0
-Y OPT TB ADV 20.07.02.1	OPT TB ADV LTCH ¤8--00.00.00.0
-Y CLOCK CTRL ON 20.15.00.1	CLK CTRL TRIG ¤9--00.00.00.0
-Y LN START 20.02.00.1	LINE START ¤A--00.00.00.0
-Y LN STOP 20.06.00.1	LINE STOP ¤B--00.00.00.0
-Y TB HOME LT 20.02.00.1	TB HOME LT ¤C--00.00.00.0
-Y HMR RESTR 20.02.00.1	HMR RESTORE ¤D--00.00.00.0
-Y HUNDREDS 20.15.06.1	A R HUNDREDS ¤E--00.00.00.0
-Y CARR RDY 20.05.04.1	CARR RDY ¤F--00.00.00.0

*1—03D1F10A	*2—03D1F10B	*3—03D1F10C	*4—03D1F10D	*5—03D1F10E	*6—03D1F10F
*7—03D1F10G	*8—03D1F10H	*9—03D1F10L	*A—03D1F10P	*B—03D1F10Q	*C—03D1F10R
*D—03D1F11A	*E—03D1F11B	*F—03D1F11C	*G—03D1F11D	*H—03D1F11E	*J—03D1F11G
*K—03D1F11H	*L—03D1F11L	*M—03D1F11P	*N—03D1F11Q	*P—03D1F11R	*Q—03D1F12A
*R—03D1F12B	*S—03D1F12C	*T—03D1F12D	*U—03D1F12E	*V—03D1F12F	*W—03D1F12G
*X—03D1F12H	*Y—03D1F12L	*Z—03D1F12P	¤1—03D1F12Q	¤2—03D1F12R	¤3—03D1F13A
¤4—03D1F13B	¤5—03D1F13C	¤6—03D1F13D	¤7—03D1F13E	¤8—03D1F13F	¤9—03D1F13G
¤A—03D1F13H	¤B—03D1F13L	¤C—03D1F13P	¤D—03D1F13Q	¤E—03D1F11F	¤F—03D1F13R

COMMENTS

TAG DATE E.C.NO.	TAG DATE E.C.NO.	TAG DATE E.C.NO.	TAG DATE E.C.NO.
A 10-09-62 115643	B 01-23-63 115643D	C 03-09-63 115643G	D 34-01-63 115643K
E 05-21-63 117776	F 08-22-63 117778	G 10-01-63 118198	

	A	B	C REMARKS	D	E	F
1						
2						
3						
4						
5						
6	NW— BA 0371598 14 20.01.00.1 20.01.00.1 20.07.00.1 20.07.00.1 20.01.00.1 20.01.00.1 20.07.02.1 20.07.01.1 RE NOTE001	TFU— BA 0370864 05 20.02.00.1 20.02.00.1 20.02.00.1 20.02.00.1 E	TMA— BA 0373254 01 20.11.00.1 20.11.00.1 20.11.00.1 20.11.00.1 20.11.00.1 20.11.00.1 20.11.00.1 20.11.00.1			
7	YMQ— BA 0372360 06 20.01.00.1 20.03.00.1 20.01.00.1 20.03.00.1 20.03.00.1 20.01.00.1	TFU— BA 0370864 05 20.02.00.1 20.02.00.1 20.02.00.1 20.02.00.1 E	TMA— BA 0373254 01 20.11.01.1 20.11.01.1 20.11.01.1 20.11.01.1 20.11.01.1 20.11.01.1 20.11.01.1			
8	D6T— BA 0370380 04 20.01.00.1 20.03.00.1 20.01.00.1 20.03.00.1	DHB— BA 0370348 06 20.02.00.1 20.14.03.1 20.01.00.1 20.02.00.1 20.02.00.1 20.04.00.1	TMA— BA 0373254 01 20.11.02.1 20.11.02.1 20.11.02.1 20.11.02.1 20.11.02.1 20.11.02.1 20.11.02.1	20.11.02.1 20.11.02.1 20.11.02.1 20.11.02.1 20.11.02.1 20.11.02.1	DFR— BA 0370226 04 20.06.00.1 20.05.03.1 20.05.04.1 20.05.04.1	
9	DHB— BA 0370348 06 20.01.00.1 20.02.00.1 20.06.00.1 20.02.00.1 20.15.01.1 20.02.00.1	D6V— BA 0370378 03 20.09.00.1 20.01.00.1 20.05.03.1	TMA— BA 0373254 01 20.11.03.1 20.11.03.1 20.11.03.1 20.11.03.1 20.11.03.1 20.11.03.1 20.11.03.1	20.11.03.1 20.11.03.1 20.11.03.1 20.11.03.1 20.11.03.1 20.11.03.1	DHB— BA 0370348 06 20.14.00.1 20.14.00.1 20.14.00.1 20.14.00.1 20.14.00.1 20.14.00.1	
10	DFR— BA 0370226 04 20.07.02.1 20.01.00.1 20.02.00.1 20.04.00.1	D6X— BA 0370376 02 20.10.03.1 20.05.00.1	TMA— BA 0373254 01 20.11.04.1 20.11.04.1 20.11.04.1 20.11.04.1 20.11.04.1 20.11.04.1 20.11.04.1	20.11.04.1 20.11.04.1 20.11.04.1 20.11.04.1 20.11.04.1 20.11.04.1	EVS— BA 0374710 06 20.01.00.1 20.01.00.1 20.09.01.1 20.09.01.1 20.01.00.1 20.01.00.1	
11	D6V— BA 0370378 03 20.04.00.1 20.04.00.1 20.04.00.1	D6T— BA 0370380 04 20.04.00.1 20.04.00.1 20.01.00.1 20.06.00.1	TMA— BA 0373254 01 20.11.05.1 20.11.05.1 20.11.05.1 20.11.05.1 20.11.05.1 20.11.05.1 20.11.05.1	20.11.05.1 20.11.05.1 20.11.05.1 20.11.05.1 20.11.05.1 20.11.05.1	D6X— BA 0370376 02 20.02.00.1 20.05.00.1	
12	DFJ— BA 0370232 12 20.01.00.1 20.09.01.1 20.09.01.1 20.02.00.1 20.05.04.1 20.05.01.1 20.02.00.1 20.02.00.1 RE NOTE002	D6W— BA 0370377 03 20.15.01.1 20.05.00.1 20.05.04.1	TMA— BA 0373254 01 20.11.06.1 20.11.06.1 20.11.06.1 20.11.06.1 20.11.06.1 20.11.06.1	20.11.06.1 20.11.06.1 20.11.06.1 20.11.06.1 20.11.06.1	DFJ— BA 0370232 12 20.05.01.1 20.08.00.1 20.15.06.1 20.05.03.1 20.05.04.1 20.05.02.1 20.14.03.1 RE NOTE003	
13	DFR— BA 0370226 04 20.01.00.1 20.03.00.1 20.03.00.1 20.04.00.1	DHB— BA 0370348 06 20.04.00.1 20.05.00.1 20.05.01.1 20.05.01.1 20.05.03.1 20.10.03.1	TMA— BA 0373254 01 20.11.07.1 20.11.07.1 20.11.07.1 20.11.07.1 20.11.07.1 20.11.07.1	20.11.07.1 20.11.07.1 20.11.07.1 20.11.07.1 20.11.07.1	YJK— BA 0370863 12 20.02.00.1 20.02.00.1 20.02.00.1 K L M G H J D E F	
14	D6T— BA 0370380 04 20.03.00.1 20.04.00.1 20.09.01.1 20.04.00.1	DFR— BA 0370226 04 20.05.04.1 20.04.00.1 20.05.04.1 20.05.00.1	TMA— BA 0373254 01 20.11.08.1 20.11.08.1 20.11.08.1 20.11.08.1 20.11.08.1 20.11.08.1 20.11.08.1	20.11.08.1 20.11.08.1 20.11.08.1 20.11.08.1 20.11.08.1 20.11.08.1	DFR— BA 0370226 04 20.07.00.1 20.07.01.1 20.08.00.1 20.10.03.1	YMP— BA 0372361 12 20.14.00.1 20.14.00.1 20.14.00.1 20.14.00.1 20.14.00.1 20.14.00.1 20.14.00.1 20.14.00.1 20.15.00.1 RE NOTE004

	A	B	C	D	E	F
15	D6X— BA 0370376 02 20.03.00.1 20.03.00.1	DHZ— BA 0372194 02 20.01.00.1 20.06.00.1	TMA— BA 0373254 01 20.11.09.1 20.11.09.1 20.11.09.1 20.11.09.1 20.11.09.1 20.11.09.1 20.11.09.1 20.11.09.1		DEN— BA 0372195 02 20.07.00.1 20.01.00.1	DEN— BA 0372195 02 20.09.01.1 20.03.00.1
16	D6V— BA 0370378 03 20.01.00.1 20.01.00.1 20.09.01.1	AXB— BA 0372201 02 20.05.01.1 20.05.01.1 20.05.01.1 20.06.00.1 20.06.00.1 20.06.00.1	TMA— BA 0373254 01 20.11.10.1 20.11.10.1 20.11.10.1 20.11.10.1 20.11.10.1 20.11.10.1 20.11.10.1 20.11.10.1		YM0— BA 0372360 06 20.05.02.1 20.05.02.1 20.05.02.1 20.05.02.1 20.05.02.1 20.05.02.1	D6T— BA 0370380 04 20.07.01.1 20.07.01.1 20.05.03.1 20.03.00.1
17	D6V— BA 0370378 03 20.05.03.1 20.05.00.1 C	D6V— BA 0370378 03 20.06.00.1 20.06.00.1 20.06.00.1	TMA— BA 0373254 01 20.11.11.1 20.11.11.1 20.11.11.1 20.11.11.1 20.11.11.1 20.11.11.1 20.11.11.1 20.11.11.1		YM0— BA 0372360 06 20.05.02.1 20.05.02.1 20.05.03.1 20.05.03.1 20.05.03.1 20.05.03.1	DFR— BA 0370226 04 20.03.00.1 20.03.00.1 20.09.01.1 20.09.01.1
18	AXX— BA 0372237 02 20.05.00.1 20.05.00.1 20.05.00.1 20.05.00.1 20.05.00.1 20.05.00.1 20.05.00.1 20.05.00.1 RE NOTE005	D6T— BA 0370380 04 20.06.00.1 20.05.01.1 20.03.00.1 20.05.04.1	TMA— 144 0373254 01 20.11.12.1 20.11.12.1 20.11.12.1 20.11.12.1 20.11.12.1 20.11.12.1 20.11.12.1 20.11.12.1		DHB— PF 0370348 06 20.14.00.1 20.14.00.1 20.14.00.1 20.14.00.1 20.14.00.1 20.14.00.1	D6U— PF 0370379 04 20.15.00.1 20.15.08.1 20.15.02.1 20.01.00.1
19	AXX— BA 0372237 02 20.05.00.1 20.05.00.1 20.05.00.1 20.05.00.1 20.05.00.1 20.05.00.1 20.05.00.1 20.05.00.1 RE NOTE006		TMA— 144 0373254 01 20.11.13.1 20.11.13.1 20.11.13.1 20.11.13.1 20.11.13.1 20.11.13.1 20.11.13.1 20.11.13.1		D6U— BA 0370379 04 20.05.02.1 20.05.03.1 20.09.01.1 20.09.01.1	YMP— BA 0372361 12 20.05.00.1 20.14.03.1 20.14.03.1 20.14.03.1 20.14.03.1 20.14.03.1 20.01.00.1 RE NOTE007
20	AXX— BA 0372237 02 20.05.00.1 20.05.00.1 20.05.00.1 20.05.00.1 20.05.00.1 20.05.00.1 20.05.00.1 20.05.00.1 RE NOTE008	D6T— BA 0370380 04 20.05.04.1 20.09.01.1 20.14.03.1 20.05.04.1	TMA— 144 0373254 01 20.11.14.1 20.11.14.1 20.11.14.1 20.11.14.1 20.11.14.1		D6T— PF 0370380 04 20.09.01.1 20.10.03.1 20.06.00.1 20.14.03.1	D6T— PF 0370380 04 20.06.00.1 20.14.03.1 20.06.00.1 20.06.00.1
21	D6X— BA 0370376 02 20.08.00.1 20.05.01.1	Z6H— PF 0372586 04 20.05.01.1 20.05.01.1 20.15.08.1 20.07.00.1	AXV— BA 0372244 04 20.10.00.1 20.10.00.1 20.10.00.1 20.10.00.1	AXV— BA 0372244 04 20.10.00.1 20.10.00.1 20.10.00.1 20.10.00.1	DHB— BA 0370348 06 20.10.03.1 20.01.00.1 20.10.03.1 20.10.03.1 20.05.04.1 20.14.03.1	D6T— PF 0370380 04 20.06.00.1 20.06.00.1 20.06.00.1 20.06.00.1
22	D6X— BA 0370376 02 20.07.01.1 20.05.01.1	D6T— BA 0370380 04 20.05.01.1 20.05.01.1 20.05.01.1 20.05.01.1	AXV— BA 0372244 04 20.10.00.1 20.10.00.1 20.10.01.1 20.10.01.1	AXV— BA 0372244 04 20.10.01.1 20.10.01.1 20.10.01.1 20.10.01.1	D6W— PF 0370377 03 20.10.01.1 20.10.01.1 20.10.01.1	D6V— PF 0370378 03 20.06.00.1 20.14.03.1 20.09.01.1
23	AXK— BA 0372209 02 20.05.02.1 20.05.02.1 20.05.02.1 B	DHB— BA 0370348 06 20.06.00.1 20.06.00.1 20.05.04.1 20.08.00.1 20.09.01.1 20.02.00.1	AXV— BA 0372244 04 20.10.01.1 20.10.01.1 20.10.01.1 20.10.02.1	AXV— BA 0372244 04 20.10.02.1 20.10.02.1 20.10.02.1 20.07.00.1	D6W— PF 0370377 03 20.10.01.1 20.10.00.1 20.10.00.1	D6W— PF 0370377 03 20.10.02.1 20.10.02.1 20.10.02.1
24	AXN— BA 0372212 01 20.05.02.1 20.05.02.1 20.05.02.1 20.05.02.1	AXN— BA 0372212 01 20.05.03.1 20.05.03.1 20.05.03.1 20.05.03.1	AXV— BA 0372244 04 20.10.02.1 20.10.02.1 20.05.04.1 20.15.06.1	DFR— BA 0370226 04 20.02.00.1 20.07.00.1 20.09.01.1 20.06.00.1	D6W— PF 0370377 03 20.10.00.1 20.10.00.1 20.10.00.1	D6W— PF 0370377 03 20.10.02.1 20.10.02.1 20.10.02.1
25	AXN— BA 0372212 01 20.05.02.1 20.05.02.1 20.05.02.1 20.05.02.1	AXC— BA 0372202 02 20.05.03.1 20.05.03.1 20.05.03.1 20.07.00.1 20.07.00.1 20.07.00.1	D6T— BA 0370380 04 20.01.00.1 20.05.00.1 20.02.00.1 99.99.91.1	NW— BA 0371598 14 20.01.00.1 P L M N H J K E F G B C D	D6W— PF 0370377 03 20.10.00.1 20.10.00.1 20.10.00.1	D6W— PF 0370377 03 20.10.02.1 20.10.01.1 20.10.01.1
26	D6V— BA 0370378 03 20.07.01.1 20.01.00.1 20.07.00.1	D6T— BA 0370380 04 20.15.01.1 20.07.01.1 20.01.00.1 20.07.00.1	AXS— BA 0372241 02 20.08.00.1 20.08.00.1 20.08.00.1 20.08.00.1 20.08.00.1 20.08.00.1	AXS— BA 0372241 02 20.08.00.1 20.08.00.1 20.08.00.1 20.08.00.1 20.08.00.1 20.08.00.1	D6W— BA 0370377 03 20.10.00.1 20.14.03.1 20.10.00.1	D6W— PF 0370377 03 20.10.01.1 20.10.01.1 20.10.01.1
27	DHE— BA 0370262 02 20.05.04.1 B		AXS— BA 0372241 02 20.08.00.1 20.08.00.1 20.08.00.1 20.08.00.1 20.08.00.1 20.08.00.1	DHJ— BA 0370352 01 20.09.00.1 20.09.00.1 20.09.00.1 20.09.00.1 20.09.00.1 20.09.00.1 20.09.00.1 RE NOTE009	DFR— PF 0370226 04 20.15.09.1 20.15.09.1 20.15.09.1 20.15.09.1	D6T— PF 0370380 04 20.15.02.1 20.10.03.1 20.10.03.1 20.10.03.1
28	D6W— BA 0370377 03 20.05.04.1 20.14.03.1 20.05.04.1	D6T— BA 0370380 04 20.07.00.1 20.07.00.1 20.07.00.1 20.09.01.1	DHV— BA 0372123 02 20.05.00.1 20.05.04.1	DHJ— BA 0370352 01 20.09.00.1 20.09.00.1 20.09.00.1 20.09.00.1 20.09.00.1 20.09.00.1 20.09.00.1 RE NOTE010	DFR— PF 0370226 04 20.15.08.1 20.15.08.1 20.15.08.1 20.15.08.1	DHC— BA 0370372 06 20.01.00.1 20.01.00.1 20.01.00.1 20.01.00.1 20.14.03.1 20.15.01.1

	A	B	C	D	E	F
	REMARKS					
29	DHB— BA 0370348 06 20.05.04.1 20.07.01.1 20.14.03.1 20.07.00.1 20.07.00.1 20.07.00.1	DFR— BA 0370226 04 20.07.01.1 20.07.01.1 20.07.01.1 20.07.00.1	DHB— BA 0370348 06 20.02.00.1 20.03.00.1 20.09.00.1 20.14.00.1 20.14.00.1 20.10.02.1	DEN— BA 0372195 02 20.09.01.1 20.03.00.1	DFR— PF 0370226 04 20.15.08.1 20.15.08.1 20.15.08.1 20.15.08.1	
30	DGY— BA 0370375 02 20.07.01.1 20.15.06.1	DFQ— BA 0370225 03 20.07.00.1 20.02.00.1 20.07.01.1	DGV— BA 0370378 03 20.14.03.1 20.01.00.1 B	DEN— BA 0372195 02 20.04.00.1 20.03.00.1	YKS— PF 0372221 04 20.15.02.1 20.15.02.1 20.15.02.1 20.15.03.1	YKS— PF 0372221 04 20.15.04.1 20.15.04.1 20.15.04.1 20.15.05.1
31		DGT— BA 0370380 04 20.07.01.1 20.07.02.1 20.07.01.1 20.07.01.1	DGT— BA 0370380 04 20.03.00.1 20.03.00.1 20.03.00.1 20.05.04.1	DHB— BA 0370348 06 20.01.00.1 20.09.01.1 20.09.01.1 20.05.03.1 20.09.01.1 20.15.01.1	YKS— PF 0372221 04 20.15.02.1 20.15.02.1 20.15.02.1 20.15.03.1	YKS— PF 0372221 04 20.15.04.1 20.15.04.1 20.15.04.1 20.15.05.1
32	DFQ— BA 0370225 03 20.07.01.1 20.05.03.1 20.07.02.1	DGT— BA 0370380 04 20.09.01.1 20.07.01.1 20.07.00.1 20.07.01.1	DGV— BA 0370378 03 99.99.91.1 99.99.91.1 99.99.91.1	DGV— PF 0370378 03 20.07.01.1 20.14.03.1 20.14.03.1	YKS— PF 0372221 04 20.15.02.1 20.15.02.1 20.15.02.1 20.15.03.1	YKS— PF 0372221 04 20.15.04.1 20.15.04.1 20.15.04.1 20.15.05.1
33	DHB— HSP 0370348 06 20.10.00.1 20.07.02.1 20.07.02.1 20.07.02.1 20.07.02.1 20.07.02.1	DGT— HSP 0370380 04 20.07.02.1 20.07.01.1 20.07.02.1 20.07.02.1	DHC— BA 0370372 06 20.05.04.1 99.99.91.1 99.99.91.1 99.99.91.1 20.06.00.1 D	DGT— PF 0370380 04 20.15.01.1 20.15.06.1 20.15.01.1 20.05.04.1	YKS— PF 0372221 04 20.15.02.1 20.15.02.1 20.15.02.1 20.15.03.1	YKS— PF 0372221 04 20.15.04.1 20.15.04.1 20.15.04.1 20.15.05.1
34	DGV— HSP 0370378 03 20.07.02.1 20.07.02.1 20.07.02.1	DGT— HSP 0370380 04 20.07.02.1 20.07.00.1 20.07.00.1 20.07.00.1	DHB— BA 0370348 06 20.05.04.1 20.06.00.1 20.14.03.1 20.05.00.1 20.15.01.1 20.15.01.1	DGT— BA 0370380 04 20.15.00.1 20.15.06.1 20.14.03.1 20.02.00.1	YKS— PF 0372221 04 20.15.02.1 20.15.02.1 20.15.02.1 20.15.03.1	YKS— PF 0372221 04 20.15.04.1 20.15.04.1 20.15.04.1 20.15.05.1
35	DGV— HSP 0370378 03 20.07.02.1 20.07.02.1 20.07.02.1	DGV— HSP 0370378 03 20.07.02.1 20.07.02.1 20.07.02.1	DFQ— BA 0370225 03 20.15.01.1 20.14.03.1 20.15.00.1	DFR— PF 0370226 04 20.15.09.1 20.06.00.1 20.15.09.1 20.06.00.1	YKZ— PF 0372228 06 20.15.02.1 20.15.02.1 20.15.06.1 20.15.06.1 20.15.06.1 20.15.06.1 20.15.06.1	YKS— PF 0372221 04 20.15.06.1 20.15.06.1 20.15.06.1 D
36	DGV— HSP 0370378 03 20.07.02.1 20.07.02.1 20.07.02.1	DGT— BA 0370380 04 20.15.00.1 20.07.00.1 20.15.00.1 20.07.01.1	ADC— BA 0373316 03 20.07.00.1 20.07.00.1 20.07.01.1 20.07.01.1		YKZ— PF 0372228 06 20.15.02.1 20.15.02.1 20.15.06.1 20.15.06.1 20.15.06.1 20.15.06.1	YKW— PF 0372225 03 20.15.07.1 20.15.11.1 C
37	DGT— BA 0370380 04 20.07.02.1 20.07.02.1 20.07.00.1 20.07.00.1	AXZ— HSP 0372239 01 20.07.00.1	ADC— BA 0373316 03 20.07.00.1 20.07.00.1 20.07.01.1 20.07.01.1		YKR— PF 0372220 03 20.15.08.1 20.15.10.1 20.15.10.1	
38	DGT— HSP 0370380 04 20.07.02.1 20.07.02.1 20.07.02.1 20.07.02.1	DGX— HSP 0370376 02 20.10.00.1 20.10.02.1	ADC— PF 0373316 03 20.15.00.1 20.15.00.1 20.15.00.1 20.15.00.1		YKT— PF 0372222 01 20.15.11.1	YKX— PF 0372226 01 20.15.11.1
39	DEN— HSP 0372195 02 20.09.01.1 20.09.01.1	DGT— HSP 0370380 04 20.09.01.1 20.09.01.1 20.09.01.1 20.09.01.1	DHF— PF 0370350 02 20.15.00.1 20.15.00.1	YKR— PF 0372220 03 20.15.08.1 20.15.10.1 20.15.10.1	YKT— PF 0372222 01 20.15.11.1	YKY— PF 0372227 03 20.15.07.1 20.15.11.1 C
40	AXG— HSP 0372206 01 20.09.01.1 20.09.01.1 20.09.01.1 20.09.01.1	DGX— BA 0370376 02 20.05.04.1 20.05.04.1	DEF— PF 0370216 04 20.15.00.1 20.15.00.1 20.15.00.1 20.06.00.1	YKR— PF 0372220 03 20.15.08.1 20.15.10.1 20.15.10.1	YKV— PF 0372224 01 20.15.11.1	YLA— PF 0372229 02 20.15.07.1 B
41			TDK— PF 0370551 03 20.15.00.1 B C	YKR— PF 0372220 03 20.15.08.1 20.15.10.1 20.15.10.1	YKV— PF 0372224 01 20.15.11.1	YLA— PF 0372229 02 20.15.07.1 20.15.07.1
42			DGX— PF 0370376 02 20.15.01.1 20.15.01.1	YKR— PF 0372220 03 20.15.09.1 20.15.10.1 20.15.10.1	YKU— PF 0372223 01 20.15.11.1	YLA— PF 0372229 02 20.15.07.1 20.15.07.1

	A	B	C	D	E	F
			REMARKS			
43			AXV— PF 0372244 04 20.15.08.1 20.15.08.1 20.15.01.1 20.15.02.1	YKR— PF 0372220 03 20.15.09.1 20.15.10.1 20.15.10.1	YKU— PF 0372223 01 20.15.11.1	YLA— PF 0372229 02 20.15.07.1 20.15.07.1
44			DFQ— PF 0370225 03 20.15.06.1 20.15.08.1 20.15.06.1	YKR— PF 0372220 03 20.15.09.1 20.15.10.1 20.15.10.1	DJA— PF 0373329 04 20.15.11.1 20.15.11.1 20.15.11.1 20.15.11.1	
45	ASQ— BA 0372245 02 20.03.00.1 20.03.00.1	ASQ— BA 0372245 02 20.04.00.1 20.04.00.1	ASQ— BA 0372245 02 20.05.04.1 20.04.00.1	ASQ— BA 0372245 02 20.05.04.1 20.05.04.1	DJB— PF 0373330 12 20.15.11.1 20.15.11.1 20.15.07.1 20.15.07.1 20.15.07.1 20.15.07.1 20.15.07.1 20.15.07.1 20.15.07.1 20.15.07.1	

NOTE 1	20.07.02.1	20.07.01.1	20.07.01.1	20.01.00.1	20.05.00.1	20.07.01.1
NOTE 2	20.05.00.1	20.10.02.1	20.15.00.1	20.05.04.1		
NOTE 3	20.14.03.1	99.99.91.1	20.05.04.1			
NOTE 4	20.09.00.1	20.09.01.1	20.09.01.1	20.01.00.1		
NOTE 5	20.05.00.1	20.05.00.1				
NOTE 6	20.05.00.1	20.05.00.1				
NOTE 7	20.01.00.1	20.05.04.1				
NOTE 8	20.05.00.1	20.05.00.1				
NOTE 9	20.09.00.1	20.09.00.1	20.09.00.1	20.09.00.1		
NOTE 10	20.09.00.1	20.09.00.1	20.09.00.1	20.09.00.1		

EDGE CONNECTOR LIST

PANEL 03D1 ENG. CHANGE NO. 122139

EDGE CONN.	SIGNAL NAME	DRAWINGS
A01A	-Y TBS 13	20.07.02.1 20.09.01.1
A01B	-Y TBS 39	20.07.00.1 20.07.01.1 20.07.02.1 20.09.01.1
A01C	-Y TBS 52	20.07.01.1 20.09.01.1
A01D	-Y TBS 63	20.07.02.1 20.09.01.1
A01E	-Y TBS 52+63	20.07.01.1
A01F	+Y TBS 13	20.07.00.1
A01G	+Y TBS 39	20.07.00.1
A01H	+Y TBS 63	20.07.01.1
A01J		
A01K		
A01L		
A01M		
A01N		
A01P		
A01Q		
A01R		
A02A	-Y CARR BRUSH 1	20.05.03.1
A02B	-Y CARR BRUSH 2	20.05.03.1
A02C	-Y CARR BRUSH 3	20.05.03.1
A02D	-Y CARR BRUSH 4	20.05.02.1
A02E	-Y CARR BRUSH 5	20.05.02.1
A02F	-Y CARR BRUSH 6	20.05.02.1
A02G	-Y CARR BRUSH 7	20.05.02.1
A02H	-Y CARR BRUSH 8	20.05.02.1
A02J		
A02K		
A02L		
A02M		
A02N	-Y CARR BRUSH 9	20.05.02.1
A02P	-Y CARR BRUSH 10	20.05.02.1
A02Q	-Y CARR BRUSH 11	20.05.02.1
A02R	-Y CARR BRUSH 12	20.05.03.1
A03A	-Y START KEY	20.01.00.1
A03B	-Y STOP	20.01.00.1
A03C	-Y RESET	20.01.00.1
A03D	-Y CARR RESTORE	20.05.00.1
A03E	+Y SPACE RESTR	20.05.00.1
A03F	-Y CARR STOP	20.01.00.1
A03G		
A03H	POWER ON IND	20.01.00.1
A03J		
A03K		
A03L		
A03M		
A03N	READY IND	20.01.00.1
A03P	SYNC CHECK IND	20.09.01.1
A03Q	PARITY CHK IND	20.09.01.1
A03R	FORM CHECK IND	20.01.00.1
A04A	+Y HMR RESTR CL	20.03.00.1
A04B	+Y CARR DETENT	20.05.04.1
A04C	+Y HMR RESTR BK	20.03.00.1
A04D	+Y CARR CLUTCH	20.05.04.1
A04E	-Y HRCB 3	20.01.00.1
A04F	+Y CARR BRAKE	20.05.04.1
A04G	-Y HRCB 4	20.03.00.1
A04H	+Y TB CL LT	20.04.00.1
A04J		
A04K		
A04L		
A04M		
A04N	+Y TB BRAKE	20.04.00.1
A04P	-Y FORM CHECK	20.01.00.1
A04Q	+Y TB CL RT	20.04.00.1
A04R	-Y HRCB 5	20.03.00.1
B01A		
B01B	CARR BRAKE CLAMP	20.05.04.1
B01C		
B01D	CARR DETENT CLAMP	20.05.04.1
B01E		
B01F	CARR CLUTCH CLAMP	20.05.04.1
B01G		
B01H		
B01J		
B01K		
B01L		
B01M		
B01N		
B01P		
B01Q		
B01R		
B03A	HMR RESTR CL CLAMP	20.03.00.1
B03B		
B03C	CRANK INTLK	20.01.00.1
B03D		
B03E		
B03F		
B03G		
B03H	END OF FORM IND	20.01.00.1
B03J		
B03K		
B03L		
B03M		
B03N		
B03P	TB DRIVE CLAMP	20.04.00.1
B03Q	+Y METER POWER PACK	99.99.91.1
B03R		
B04A	PR TIMER LT	20.02.00.1
B04B		
B04C	PR TIMER RT	20.02.00.1
B04D		
B04E		
B04F		
B04G	CARR BRK CTRL	20.02.00.1
B04H	-Y END OF FORM	20.01.00.1
B04J		
B04K		
B04L		
B04M		
B04N	PR TIMER LT RETURN	20.02.00.1

EDGE CONNECTOR LIST PAGE 2

PANEL 03D1 ENG. CHANGE NO. 122139

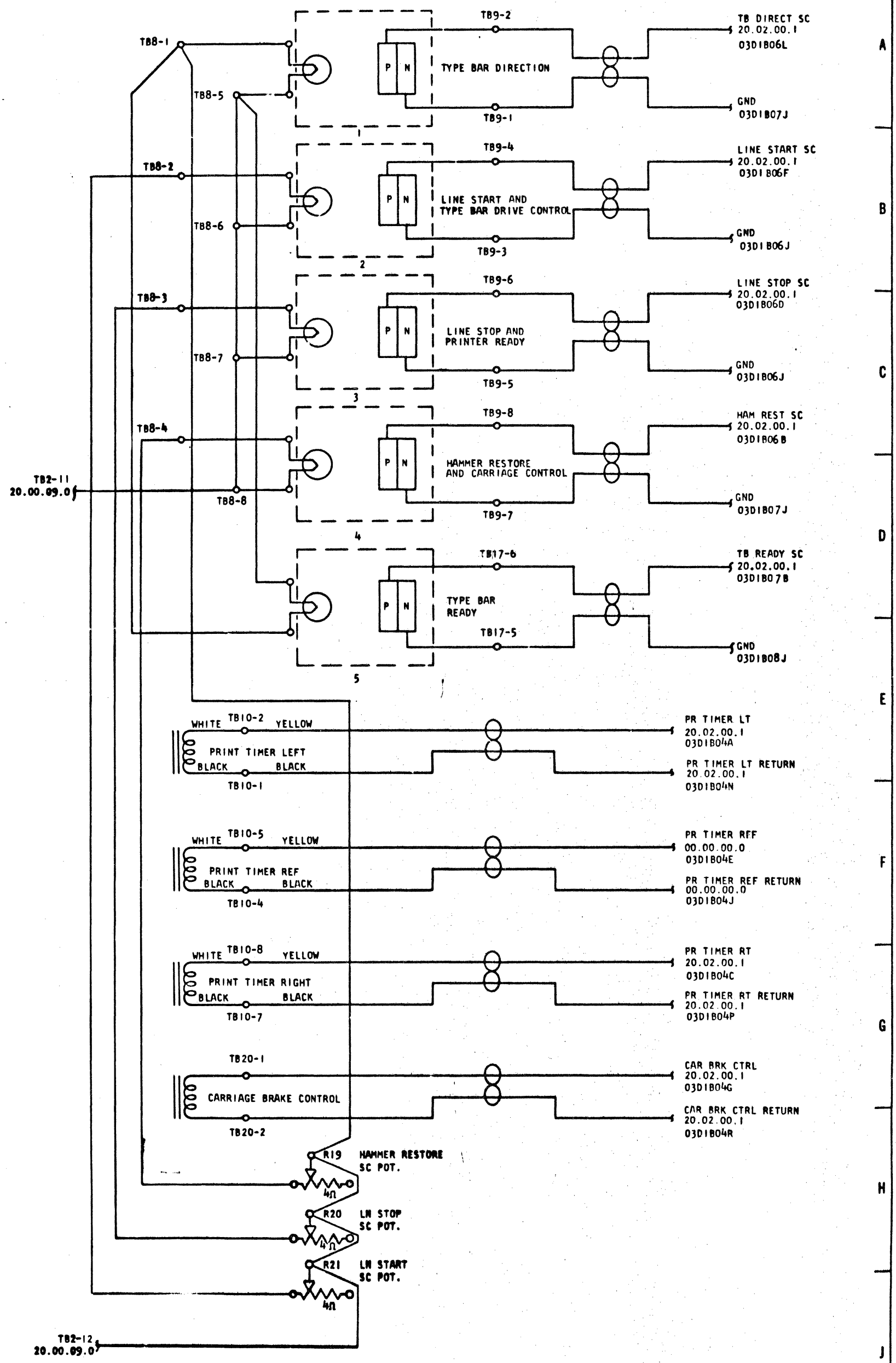
EDGE CONN.	SIGNAL NAME	DRAWINGS
B04P	PR TIMER RT RETURN	20.02.00.1
B04Q	-Y DETENT SW	20.05.04.1
B04R	CARR BRK CTRL RETURN	20.02.00.1
F06A	-Y PARITY CHECK	20.00.00.1
F06B	+Y PR CHECK RESET	20.00.00.1
F06C	-Y I O CHK STP SW ON	20.00.00.1
F06D	-Y PROC RELEASE	20.00.00.1
F06E	+Y PRINT READY	20.00.00.1
F06F	-Y PROC+D CYCLE	20.00.00.1
F06G	-Y TIME 015-030	20.00.00.1
F06H	-Y TIME 060-090CKT 1	20.00.00.1
F06J		
F06K	-Y PRINT INSTR	20.00.00.1
F06L	+Y SYNC CHECK	20.00.00.1
F06M	+Y SP SUPP MOD	20.00.00.1
F06N		
F06P	-Y CARR CH 1	20.00.00.1
F06Q	+Y BLOCK DATA	20.00.00.1
F06R	+Y START RESET CKT 1	20.00.00.1
F07A		
F07B		
F07C		
F07D		
F07E		
F07F		
F07G		
F07H		
F07J		
F07K	-Y TIME 105-000	20.00.00.1
F07L	-Y TIME 090-000	20.00.00.1
F07M	-Y PROCESS M	20.00.00.1
F07N	+Y 1443	20.00.00.1
F07P		
F07Q		
F07R	+Y CARR BUSY	20.00.00.1
F08A	+Y DATA B	20.00.00.1
F08B	+Y DATA A	20.00.00.1
F08C	+Y DATA 8	20.00.00.1
F08D	+Y DATA 4	20.00.00.1
F08E	+Y DATA 2	20.00.00.1
F08F	+Y DATA 1	20.00.00.1
F08G	+Y DATA C	20.00.00.1
F08H	+Y CARR CTRL	20.00.00.1
F08J		
F08K	+Y PWR ON RESET	20.00.00.1
F08L	+Y RUN LATCH	20.00.00.1
F08M	-Y TD T OFF	20.00.00.1
F08N	+Y STOR PR OUT	20.00.00.1
F08P	-Y CARR + PRT BUSY	20.00.00.1
F08Q	+Y CARR CH 9	20.00.00.1
F08R	+Y CARR CH 12	20.00.00.1
F09A	-Y RESET SCM	20.15.01.1
F09B	+Y PARITY CHK LTCH	20.09.01.1
F09C	-Y CARR READY	20.05.04.1
F09D		
F09E	+Y PRINT LATCH	20.06.00.1
F09F		
F09G	+Y MACH RESET	20.01.00.1
F09H		
F09J		
F09K		
F09L		
F09M		
F09N		
F09P		
F09Q		
F09R		
F10A	BUFFER REG 1	20.00.00.2
F10B	BUFFER REG 2	20.00.00.2
F10C	BUFFER REG 4	20.00.00.2
F10D	BUFFER REG 8	20.00.00.2
F10E	BUFFER REG A	20.00.00.2
F10F	BUFFER REG B	20.00.00.2
F10G	BUFFER REG C	20.00.00.2
F10H	A R UNITS A	20.00.00.2
F10J		
F10K		
F10L	A R UNITS B	20.00.00.2
F10M		
F10N		
F10P	A R UNITS C	20.00.00.2
F10Q	A R UNITS D	20.00.00.2
F10R	A R UNITS E	20.00.00.2
F11A	A R TENS A	20.00.00.2
F11B	A R TENS B	20.00.00.2
F11C	A R TENS C	20.00.00.2
F11D	A R TENS D	20.00.00.2
F11E	A R TENS E	20.00.00.2
F11F	A R HUNDREDS	20.00.00.2
F11G	CHAR CTR 1	20.00.00.2
F11H	CHAR CTR 2	20.00.00.2
F11J		
F11K		
F11L	CHAR CTR 4	20.00.00.2
F11M		
F11N		
F11P	CHAR CTR 8	20.00.00.2
F11Q	CHAR CTR A	20.00.00.2
F11R	CHAR CTR B	20.00.00.2
F12A	CARR D REG 1	20.00.00.2
F12B	CARR D REG 2	20.00.00.2
F12C	CARR D REG 4	20.00.00.2
F12D	CARR D REG 8	20.00.00.2
F12E	CARR D REG A	20.00.00.2

EDGE CONNECTOR LIST PAGE 3

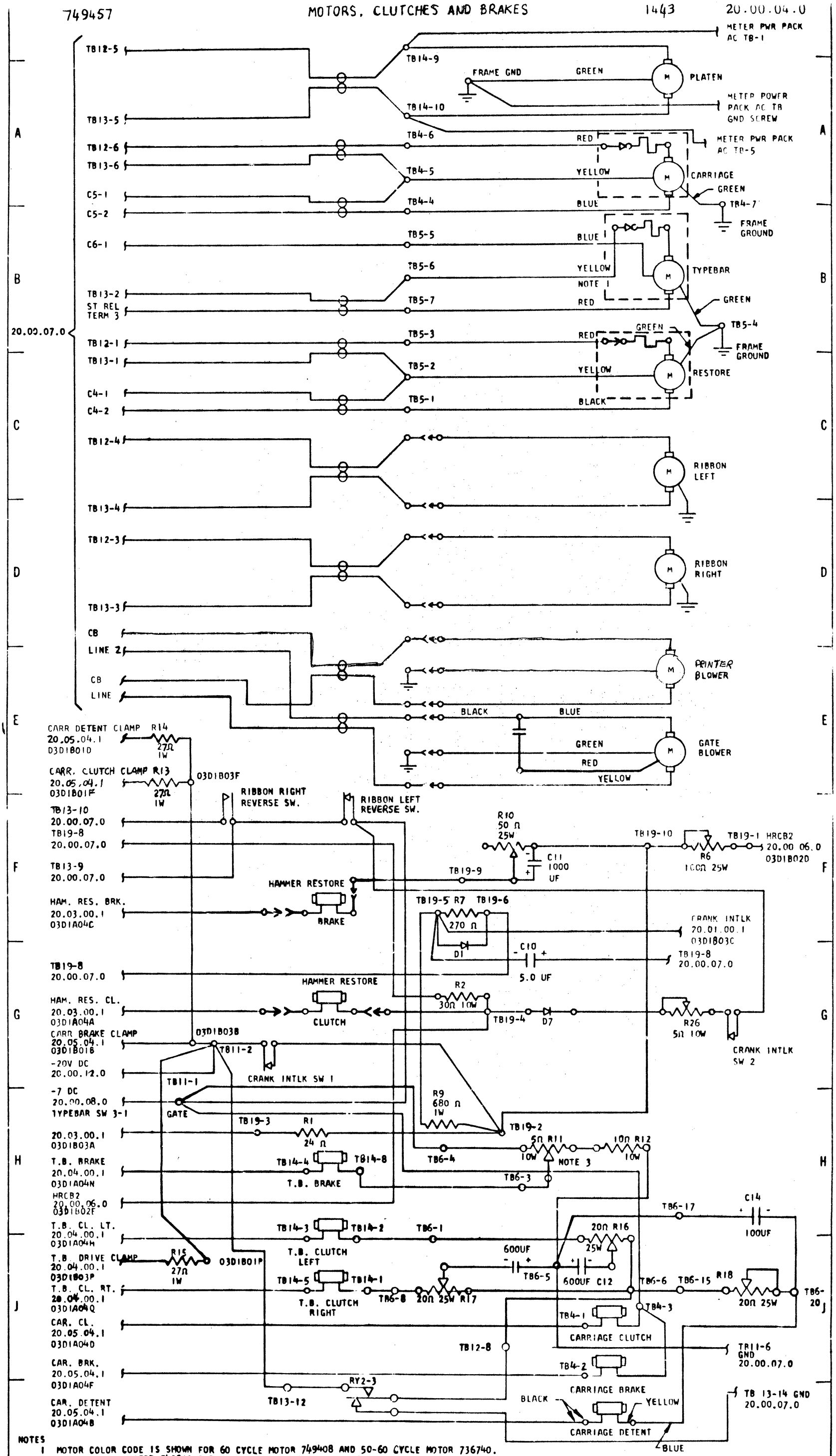
PANEL 03D1 ENG. CHANGE NO. 122139

EDGE CONN.	SIGNAL NAME	DRAWINGS
F12F	CARR D REG B	20.00.00.2
F12G	HMR CTRL LTCH	20.00.00.2
F12H	TB BRAKE	20.00.00.2
F12J		
F12K		
F12L	RUN LATCH	20.00.00.2
F12M		
F12N		
F12P	HMR RDY LTCH	20.00.00.2
F12Q	PRINT LATCH	20.00.00.2
F12R	PR SCAN GT LTCH	20.00.00.2
F13A	PR CTRL LTCH	20.00.00.2
F13B	TB CL LT	20.00.00.2
F13C	TB CL RT	20.00.00.2
F13D	PCC ADV LTCH	20.00.00.2
F13E	PCC RESET LTCH	20.00.00.2
F13F	OPT TB ADV LTCH	20.00.00.2
F13G	CLK CTRL TRIG	20.00.00.2
F13H	LINE START	20.00.00.2
F13J		
F13K		
F13L	LINE STOP	20.00.00.2
F13M		
F13N		
F13P	TB HOME LT	20.00.00.2
F13Q	HMR RESTORE	20.00.00.2
F13R	CARR RDY	20.00.00.2

END OF EDGE CONNECTOR LIST.



DATE	EC NO	DATE	EC NO	DATE	EC NO
6/14/62	EC 113851-H	9-6-63	117778		
12-10-62	115643	12-9-63	118201		
1-24-63	115643B	1-25-65	122121		
3-12-63	115643E	4-8-65	122152		
3-15-63	115643G	15SEP65 NOV66	122158 305540		



NOTES

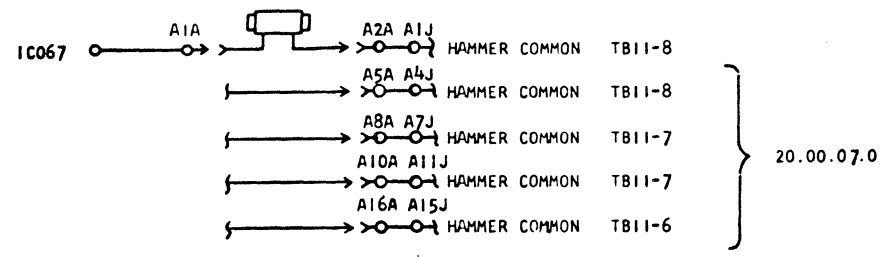
1 MOTOR COLOR CODE IS SHOWN FOR 60 CYCLE MOTOR 749408 AND 50-60 CYCLE MOTOR 736740. FOR 50 CYCLE MOTOR 749833 RED LEAD IS CONNECTED TO TB5-6, YELLOW LEAD TO TB5-7.

2

3 IF REQUIRED FOR PROPER TYPEBAR BRAKE OPERATION, REMOVE SLIDER WIRE AND ATTACH TO EITHER END OF RESISTOR.

DATE	EC NO	DATE	EC NO	DATE	EC NO
SEE INDEX CARD				12-15-64	122120
5-21-63	117775	3-4-64	118213	1-25-65	122121
7-9-63	117777	5-6-64	118232	2-17-65	122139
9-6-63	117778	5-14-64	118272	3-12-65	122143
12-1-63	118201	6-17-64	118273	5-18-65	122157
		9-4-64	118294	Nov66	306540

TYPICAL HAMMER CIRCUIT



DRIVER POS	CABLE INPUT	CARD RETURN	HAMMER COIL	PAGE NO.	DRIVER POS	CABLE INPUT	CARD RETURN	HAMMER COIL	PAGE NO.
IC067	A1A	A2A	001	20.11.00.1	IC13B	A7P	A8P	073	20.11.07.1
IC06A	A1B	A2B	002	20.11.00.1	IC13M	A7Q	A8Q	074	20.11.07.1
IC06B	A1C	A2C	003	20.11.00.1	IC13T	A7R	A8R	075	20.11.07.1
IC06M	A1D	A2D	004	20.11.00.1	IC13V	A9A	A10A	076	20.11.07.1
IC06T	A1E	A2E	005	20.11.00.1	IC13F	A9B	A10B	077	20.11.07.1
IC06V	A1F	A2F	006	20.11.00.1	IC13U	A9C	A10C	078	20.11.07.1
IC06F	A1G	A2G	007	20.11.00.1	IC13Y	A9D	A10D	079	20.11.07.1
IC06U	A1H	A2H	008	20.11.00.1	IC13K	A9E	A10E	080	20.11.07.1
IC06Y	A1K	A2K	009	20.11.00.1	IC147	A9F	A10F	081	20.11.08.1
IC06K	A1L	A2L	010	20.11.00.1	IC14A	A9G	A10G	082	20.11.08.1
IC077	A1M	A2M	011	20.11.01.1	IC14B	A9H	A10H	083	20.11.08.1
IC07A	A1N	A2N	012	20.11.01.1	IC14M	A9K	A10K	084	20.11.08.1
IC07B	A1P	A2P	013	20.11.01.1	IC14T	A9L	A10L	085	20.11.08.1
IC07M	A1Q	A2Q	014	20.11.01.1	IC14V	A9M	A10M	086	20.11.08.1
IC07T	A1R	A2R	015	20.11.01.1	IC14F	A9N	A10N	087	20.11.08.1
IC07V	A3A	A2A	016	20.11.01.1	IC14U	A9P	A10P	088	20.11.08.1
IC07F	A3B	A2B	017	20.11.01.1	IC14Y	A9Q	A10Q	089	20.11.08.1
IC07U	A3C	A2C	018	20.11.01.1	IC14K	A9R	A10R	090	20.11.08.1
IC07Y	A3D	A2D	019	20.11.01.1	IC157	A11A	A10A	091	20.11.09.1
IC07K	A3E	A2E	020	20.11.01.1	IC15A	A11B	A10B	092	20.11.09.1
IC087	A3F	A2F	021	20.11.02.1	IC15B	A11C	A10C	093	20.11.09.1
IC08A	A3G	A2G	022	20.11.02.1	IC15M	A11D	A10D	094	20.11.09.1
IC08B	A3H	A2H	023	20.11.02.1	IC15T	A11E	A10E	095	20.11.09.1
IC08M	A3K	A2K	024	20.11.02.1	IC15V	A11F	A10F	096	20.11.09.1
IC08T	A3L	A2L	025	20.11.02.1	IC15F	A11G	A10G	097	20.11.09.1
IC08V	A3M	A2M	026	20.11.02.1	IC15U	A11H	A10H	098	20.11.09.1
IC08F	A3N	A2N	027	20.11.02.1	IC15Y	A11K	A10K	099	20.11.09.1
IC08U	A3P	A2P	028	20.11.02.1	IC15K	A11L	A10L	100	20.11.09.1
IC08Y	A3Q	A2Q	029	20.11.02.1	IC167	A11M	A10M	101	20.11.10.1
IC08K	A3R	A2R	030	20.11.02.1	IC16A	A11N	A10N	102	20.11.10.1
IC097	A4A	A5A	031	20.11.03.1	IC16B	A11P	A10P	103	20.11.10.1
IC09A	A4B	A5B	032	20.11.03.1	IC16M	A11Q	A10Q	104	20.11.10.1
IC09B	A4C	A5C	033	20.11.03.1	IC16T	A11R	A10R	105	20.11.10.1
IC09M	A4D	A5D	034	20.11.03.1	IC16V	A12A	A13A	106	20.11.10.1
IC09T	A4E	A5E	035	20.11.03.1	IC16F	A12B	A13B	107	20.11.10.1
IC09V	A4F	A5F	036	20.11.03.1	IC16U	A12C	A13C	108	20.11.10.1
IC09F	A4G	A5G	037	20.11.03.1	IC16Y	A12D	A13D	109	20.11.10.1
IC09U	A4H	A5H	038	20.11.03.1	IC16K	A12E	A13E	110	20.11.10.1
IC09Y	A4K	A5K	039	20.11.03.1	IC177	A12F	A13F	111	20.11.11.1
IC09K	A4L	A5L	040	20.11.03.1	IC17A	A12G	A13G	112	20.11.11.1
IC107	A4M	A5M	041	20.11.04.1	IC17B	A12H	A13H	113	20.11.11.1
IC10A	A4N	A5N	042	20.11.04.1	IC17M	A12K	A13K	114	20.11.11.1
IC10B	A4P	A5P	043	20.11.04.1	IC17T	A12L	A13L	115	20.11.11.1
IC10M	A4Q	A5Q	044	20.11.04.1	IC17V	A12M	A13M	116	20.11.11.1
IC10T	A4R	A5R	045	20.11.04.1	IC17F	A12N	A13N	117	20.11.11.1
IC10V	A6A	A5A	046	20.11.04.1	IC17U	A12P	A13P	118	20.11.11.1
IC10F	A6B	A5B	047	20.11.04.1	IC17Y	A12Q	A13Q	119	20.11.11.1
IC10U	A6C	A5C	048	20.11.04.1	IC17K	A12R	A13R	120	20.11.11.1
IC10Y	A6D	A5D	049	20.11.04.1	IC187	A14A	A13A	121	20.11.12.1
IC10K	A6E	A5E	050	20.11.04.1	IC18A	A14B	A13B	122	20.11.12.1
IC117	A6F	A5F	051	20.11.05.1	IC18B	A14C	A13C	123	20.11.12.1
IC11A	A6G	A5G	052	20.11.05.1	IC18M	A14D	A13D	124	20.11.12.1
IC11B	A6H	A5H	053	20.11.05.1	IC18T	A14E	A13E	125	20.11.12.1
IC11M	A6K	A5K	054	20.11.05.1	IC18V	A14F	A13F	126	20.11.12.1
IC11T	A6L	A5L	055	20.11.05.1	IC18F	A14G	A13G	127	20.11.12.1
IC11V	A6M	A5M	056	20.11.05.1	IC18U	A14H	A13H	128	20.11.12.1
IC11F	A6N	A5N	057	20.11.05.1	IC18Y	A14K	A13K	129	20.11.12.1
IC11U	A6P	A5P	058	20.11.05.1	IC18K	A14L	A13L	130	20.11.12.1
IC11Y	A6Q	A5Q	059	20.11.05.1	IC197	A14M	A13M	131	20.11.13.1
IC11K	A6R	A5R	060	20.11.05.1	IC19A	A14N	A13N	132	20.11.13.1
IC127	A7A	A8A	061	20.11.06.1	IC19B	A14P	A13P	133	20.11.13.1
IC12A	A7B	A8B	062	20.11.06.1	IC19M	A14Q	A13Q	134	20.11.13.1
IC12B	A7C	A8C	063	20.11.06.1	IC19T	A14R	A13R	135	20.11.13.1
IC12M	A7D	A8D	064	20.11.06.1	IC19V	A15A	A16A	136	20.11.13.1
IC12T	A7E	A8E	065	20.11.06.1	IC19F	A15B	A16B	137	20.11.13.1
IC12V	A7F	A8F	066	20.11.06.1	IC19U	A15C	A16C	138	20.11.13.1
IC12F	A7G	A8G	067	20.11.06.1	IC19Y	A15D	A16D	139	20.11.13.1
IC12U	A7H	A8H	068	20.11.06.1	IC19K	A15E	A16E	140	20.11.13.1
IC12Y	A7K	A8K	069	20.11.06.1	IC207	A15F	A16F	141	20.11.14.1
IC12K	A7L	A8L	070	20.11.06.1	IC20A	A15G	A16G	142	20.11.14.1
IC137	A7M	A8M	071	20.11.07.1	IC20B	A15H	A16H	143	20.11.14.1
IC13A	A7N	A8N	072	20.11.07.1	IC20M	A15K	A16K	144	20.11.14.1

NOTES:

I PIN "J" HAMMER COMMON

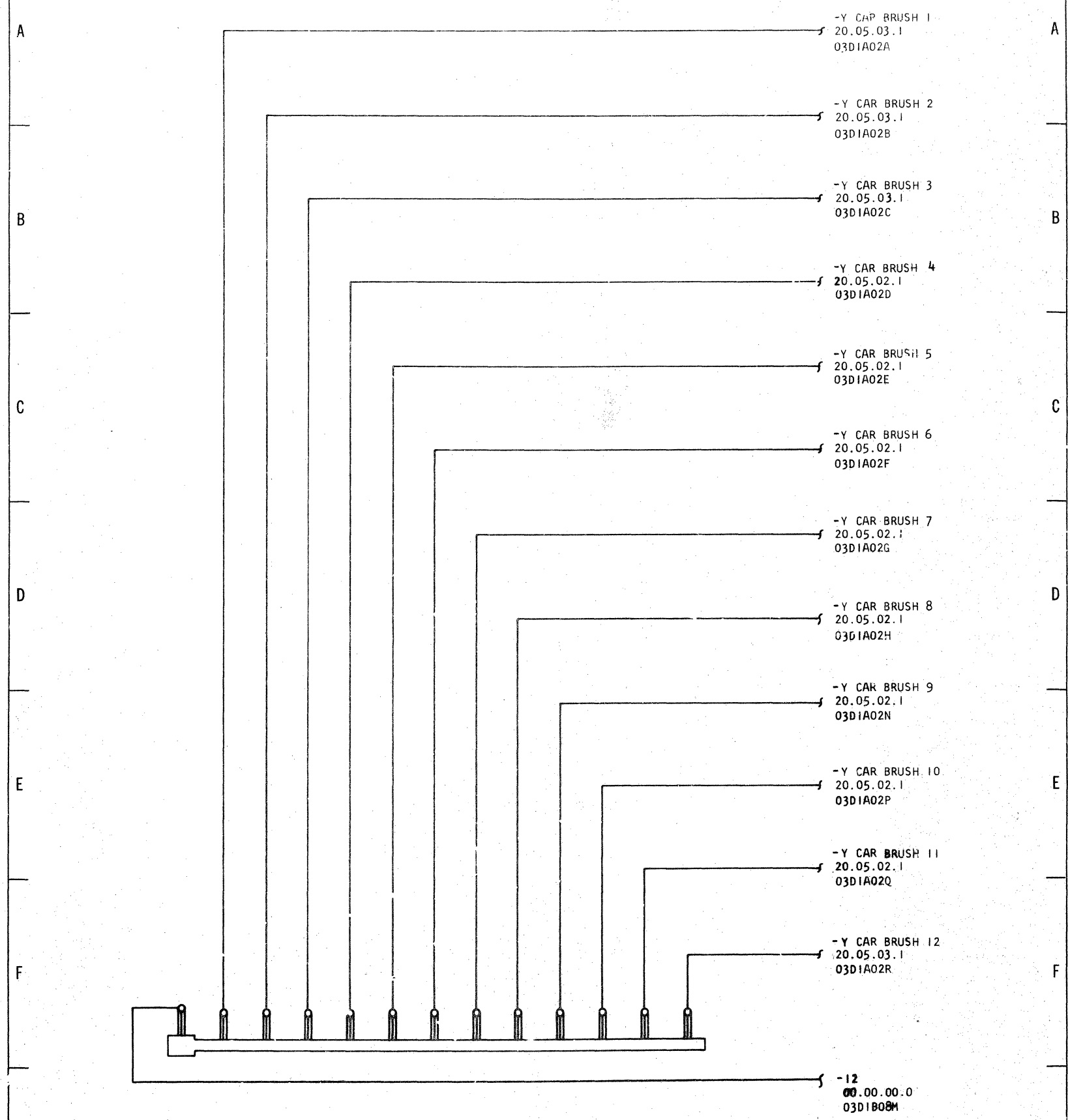
II POS 1-120 BASIC MACHINE
121-144 OPTIONAL (MOD I AND MOD II)

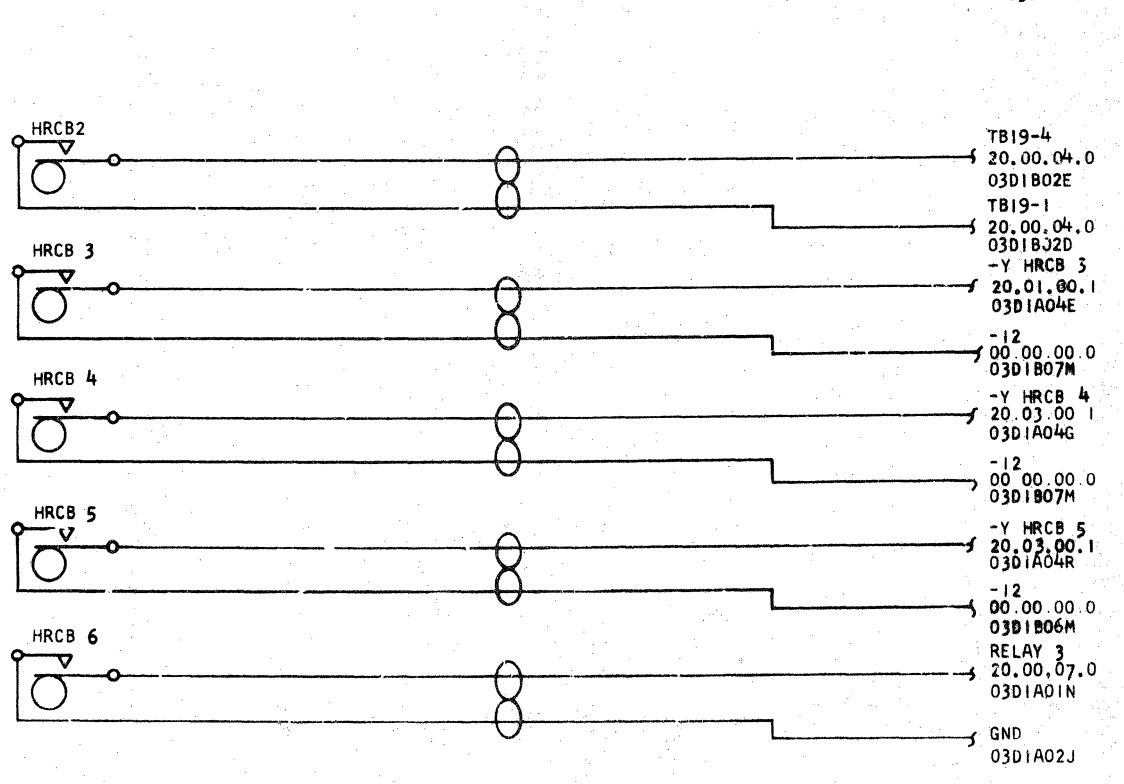
III BLACK COIL LEAD TO HAMMER COMMON

IV PIN 6 OF ALL DRIVER CARDS TIED TO +12M FOR VOLTAGE CLAMP

V 144 POS STANDARD ON MOD III AND MOD IV

DATE	EC NO	DATE	EC NO	DATE	EC NO
6/14/62	EC 113851-H	1-25-65	122121		
12-10-62	115643	MAR68	3073228		
9-6-63	117778				
12-9-63	118201				
3-4-64	118213				





DATE	EC NO	DATE	EC NO	DATE	EC NO
6/14/62	EC 113851-H	9-6-63	117778		
12-10-62	115643	5-18-65	122157		
1-24-63	115643B				
3-15-63	115643G				
7-9-63	117777				

208V A.C. CPU 20.00.12.0

5 AMP MAINLINE BREAKER

0.5 UF 600V

F1

F2 2.5 AMP 107663 *NOTE 2

1.0 AMP 252591 *NOTE 1 *NOTE 2

TB12-1

T.B. START DLY RY7

-Y TB START DLY 03D1A07C 20.01.00.1

-12V 03D1A07M

START RELAY RY6

TB13-1

TB5-3 RESTORE MOTOR TB5-2

TB5-7 TYPEBAR MOTOR TB5-6

TB13-2

RY2-1

0.5 UF 330 Ω C3

RY3-3 TB15-1 R4 25Ω TB15-3

TB12-3 C7

TB13-3

RIBBON RIGHT MOTOR

0.1 UF 250 Ω C2

RY1-3

TB15-2 R5 25Ω TB15-4

TB12-4 C8

TB13-4

RIBBON LEFT MOTOR

0.1 UF 250 Ω C1

F3 0.4 AMP *NOTE 2 111262 *NOTE 3

TB12-5 TB13-5

TB14-9 PLATEN MOTOR TB14-10

TB12-6

TB4-6 CARRIAGE MOTOR TB4-5

TB13-6

TB3-4 20.00.09.0 -7 DC PRIMARY

TB3-1 20.00.09.0

20.00.04.0

-12V 03D1B08M

TB12-10 RY8-1 30 Ω R8

RY2

TB12-7 D2

INTERLOCK 20.00.08.0 03D1A03G

TB13-7

RY4-2

TB13-11 RY3 RY3-1

HRCB6 03D1A01N 20.00.06.0

D3

TB12-9

RY3-2 RY4-1

THERMAL RELAY 5

C5 TB4-5 CARRIAGE MOTOR TB4-4

C6 R25 10K 2W TB5-5 TYPEBAR MOTOR

C4 TB5-2 RESTORE MOTOR TB5-1

D4

RY4

TB13-8

03D1D09L TYPEBAR SW 3-C 20.00.08.0 03D1D17L

-7 DC 20.00.09.0 +12M DC

TB11-3 (GATE)

TB16-7 20.00.12.0

RY2-3NC 20.00.04.0

TB11-8 TB11-7 (GATE) TB13-14

RY1

TB13-9

RIBBON RT REV SW OP 20.00.04.0

RY1-1

D5

RIBBON RT REV SW N/O 20.00.04.0

TB13-10

HAMMER COIL CABLE CONNECTORS 20.00.05.0

A1J A4J A7J A11J A15J

RY2-2 TB12-13

TB10-6 TB10-3

ANTI-CREEP SOLENOID

D6

TB12-12

TB11-6 GATE

TB19-7 R3 0.5 Ω TB19-8

-20V GND 20.00.12.0

TB16-2 20.00.12.0

-7 D.C. ZERO 20.00.09.0

03D1B03J C-10 20.00.04.0

TYPEBAR SW 2-3 20.00.08.0

TB6-5 20.00.04.0

RY8

R2 20.00.04.0

TB19-6 20.00.04.0

TB11-4 TB11-5 TB12-11

50 CYCLE

115V 220V

CONVENIENCE OUTLET

NOTE: 50 CYCLE OUTLET HAS ONE 115V SOCKET AND ONE 220V SOCKET.

115V AC CPU 20.00.12.0

FRAME BOND CPU 20.00.12.0

CARRIAGE FRAME GND

SHIELD CPU 20.00.12.0

DIST.BOX GND

SMS GATE

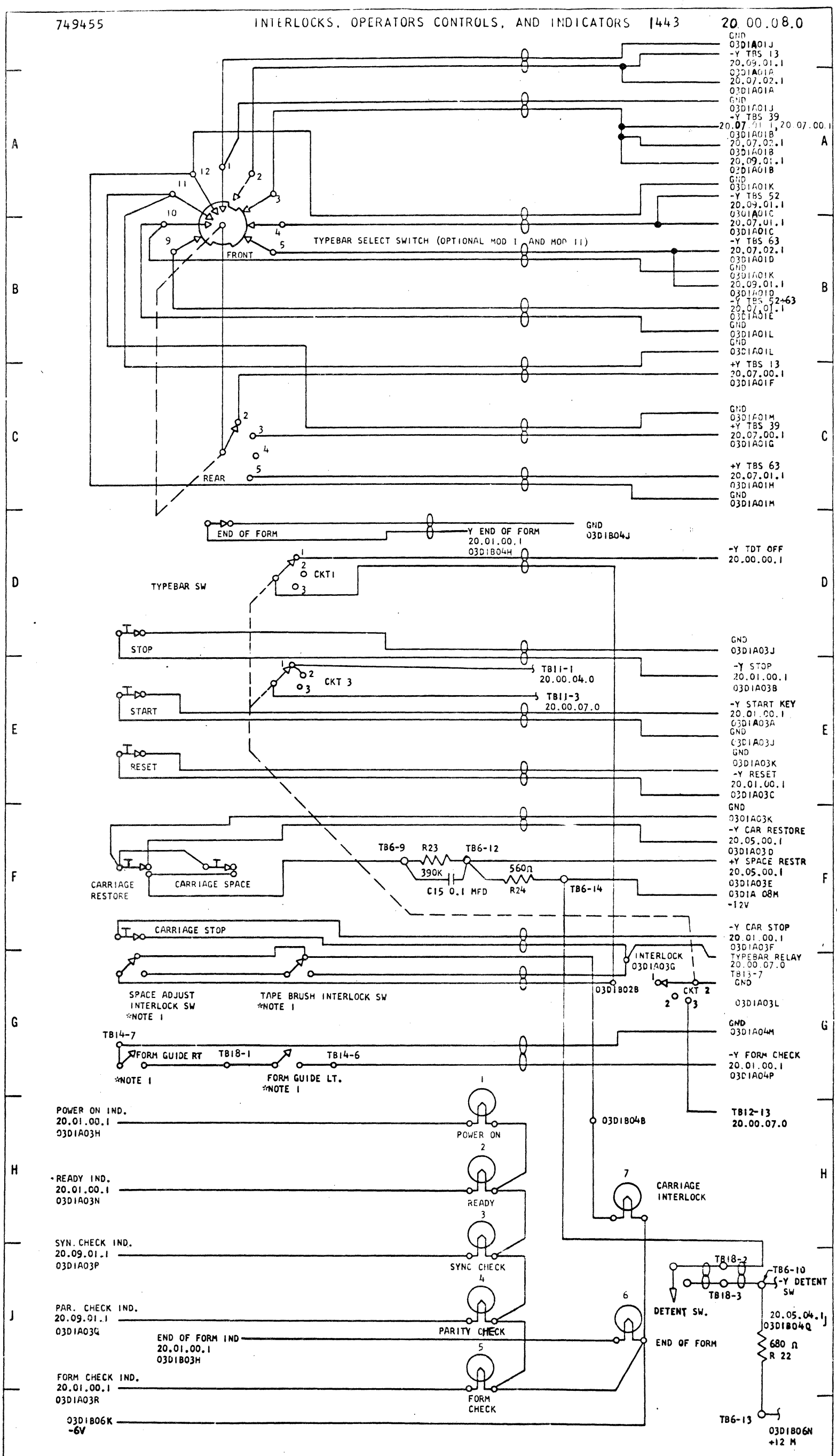
PRINTER FRAME

-7 D.C. POWER SUPPLY FRAME 20.00.09.0

*NOTE 1-FUSE 1 WILL BE 1.25A PART NUMBER 252592 ON 50 CYCLE MACHINES.
*NOTE 2-MACHINE MAY HAVE FUSE OR THERMAL PROTECTOR OR BOTH
*NOTE 3-FUSE 3 WILL BE 0.5A PART NUMBER 78999 ON 50 CYCLE MACHINES.

DATE	EC NO
SEE INDEX CARD	
4-16-64	118225
9-4-64	118294
12-15-64	122120
1-25-65	122121
3-12-65	122143
4-8-65	122152
5-18-65	122157
FEB67	305571
MAY68	307327

C.B. CC... NO. 378W



*NOTE 1 - THESE SWITCHES ARE ACTUATED FOR NORMAL OPERATION

DATE	EC NO
SEE INDEX CARD	
12-15-64	122120
1-25-65	122121
	122139
	122153
NOV66	305571

DATE	EC NO
FEB67	305571
MAR68	307322B

DATE	EC NO

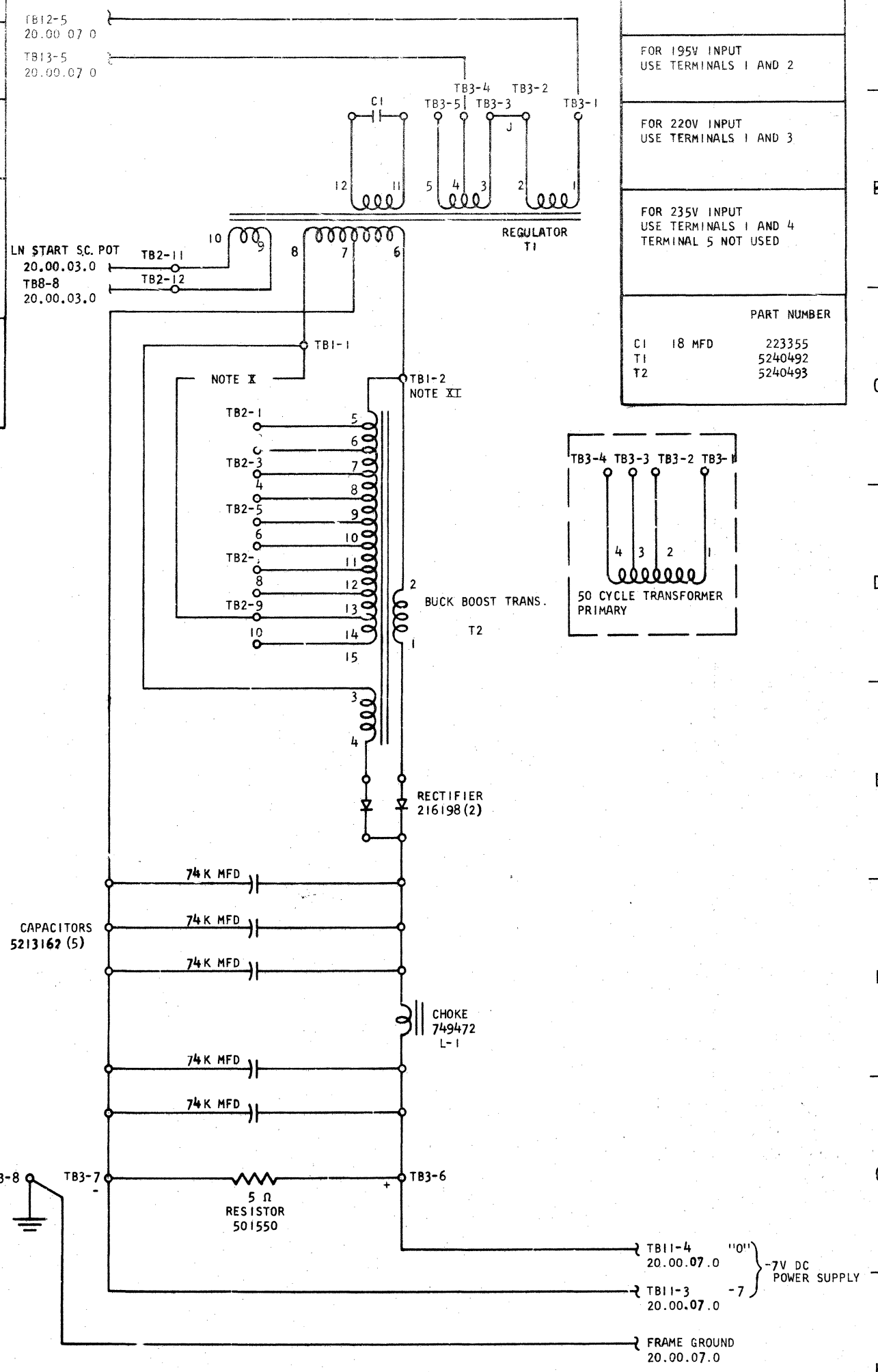
749450 POWER SUPPLY SCHEMATIC 1443 20.00.09.0

5240445
60 CYCLE
PRIMARY
FOR 115V INPUT JUMPER 1-3 AND 2-5 USE TERMINALS 1 AND 2
FOR 208V INPUT JUMPER 2-3 USE TERMINALS 1 AND 4
FOR 230V INPUT JUMPER 2-3 USE TERMINALS 1 AND 5

		PART NUMBER
C1	15 MFD	207361
T1		5240447
T2		5240448

5240490
50 CYCLE
PRIMARY
FOR 195V INPUT USE TERMINALS 1 AND 2
FOR 220V INPUT USE TERMINALS 1 AND 3
FOR 235V INPUT USE TERMINALS 1 AND 4 TERMINAL 5 NOT USED

		PART NUMBER
C1	18 MFD	223355
T1		5240492
T2		5240493



NOTES

X TERMINAL LOCATION OF THIS JUMPER MAY VARY FROM TB2-1 TO TB2-10 AS REQUIRED TO COMPENSATE FOR TOLERANCE OF ELECTRIC COMPONENTS AND ADJUST DC OUTPUT VOLTAGE.

XI

DATE	EC NO	DATE	EC NO	DATE	EC NO
6/14/62	EC 113851-H	9-6-63	117778		
2-11-63	115643D	12-9-63	118201		
3-12-63	115643E	3-4-64	118213		
5-21-63	117775	12-15-64	122120		
7-9-63	117777	1-25-65	122121		

C. B. CO., NO. 378W 41751

LOCATION CHART

NUMBER	LOCATION
TB1	-7 VOLT POWER SUPPLY
TB2	-7 VOLT POWER SUPPLY
TB3	-7 VOLT POWER SUPPLY
TB4	CARRIAGE FRAME-REAR
TB5	SUB-BASE RIGHT CENTER
TB6	ELECTRICAL BASE
TB7	NOT USED
TB8	SOLAR CELL UNIT
TB9	SOLAR CELL UNIT
TB10	SOLAR CELL UNIT
TB11	SMS GATE
TB12	POWER DISTRIBUTION BOX
TB13	POWER DISTRIBUTION BOX
TB14	CARRIAGE FRAME-RIGHT VERTICAL
TB15	POWER DISTRIBUTION BOX
TB16	SMS GATE
TB17	SOLAR CELL UNIT
TB18	CARRIAGE FRAME-LEFT
TB19	BOTTOM OF CABINET
TB20	CARRIAGE BRAKE CONTROL

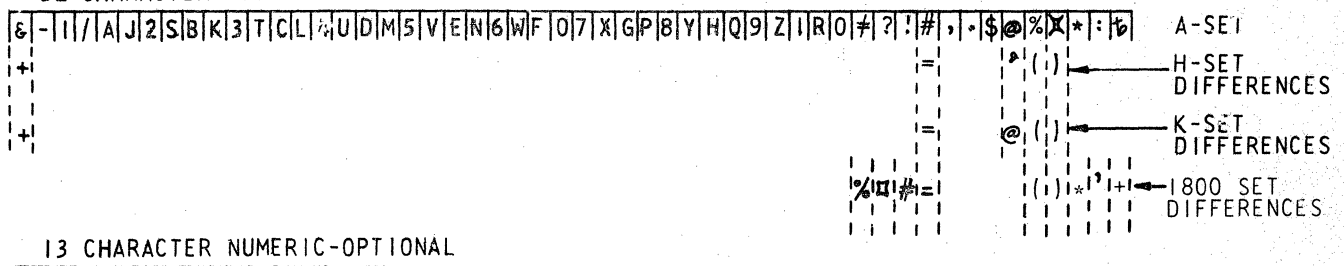
TERMINAL NUMBER ASSIGNMENTS

NUMBER	LOCATION
TB1-1	REGULATOR
TB1-2	REGULATOR
TB2-1	BUCK-BOOST TRANSFORMER
TB2-2	BUCK-BOOST TRANSFORMER
TB2-3	BUCK-BOOST TRANSFORMER
TB2-4	BUCK-BOOST TRANSFORMER
TB2-5	BUCK-BOOST TRANSFORMER
TB2-6	BUCK-BOOST TRANSFORMER
TB2-7	BUCK-BOOST TRANSFORMER
TB2-8	BUCK-BOOST TRANSFORMER
TB2-9	BUCK-BOOST TRANSFORMER
TB2-10	BUCK-BOOST TRANSFORMER
TB2-11	2.2V AC
TB2-12	2.2V AC
TB3-1	208/230V AC
TB3-2	JUMPERED FOR 208/230V
TB3-3	JUMPERED FOR 208/230V
TB3-4	208V AC
TB3-5	230V AC
TB3-6	DC ZERO
TB3-7	-7V DC
TB3-8	FRAME GROUND
TB4-1	CARRIAGE CLUTCH
TB4-2	CARRIAGE BRAKE
TB4-3	-7V TO CARRIAGE CLUTCH AND BRAKE
TB4-4	208/230V AC TO CARRIAGE MOTOR
TB4-5	208/230V AC TO CARRIAGE MOTOR
TB4-6	208/230V AC TO CARRIAGE MOTOR
TB4-7	CARRIAGE MOTOR FRAME
TB4-8	NOT USED
TB5-1	208/230V AC TO RESTORE MOTOR
TB5-2	208/230V AC TO RESTORE MOTOR
TB5-3	208/230V AC TO RESTORE MOTOR
TB5-4	TYPEBAR AND RESTORE MOTOR FRAME
TB5-5	208/230V AC TO TYPEBAR MOTOR
TB5-6	208/230V AC TO TYPEBAR MOTOR
TB5-7	208/230V AC TO TYPEBAR MOTOR
TB5-8	NOT USED
TB6-1	TB CLUTCH LEFT
TB6-2	NOT USED
TB6-3	TB BRAKE
TB6-4	-7V
TB6-5	DC ZERO
TB6-6	-20V
TB6-7	NOT USED
TB6-8	TB CLUTCH RIGHT
TB6-9	NOT USED
TB6-10	CARRIAGE DETENT SW. N/O
TB6-11	NOT USED
TB6-12	+Y SPACE RESTR
TB6-13	+12 M
TB6-14	-6 VTO CARRIAGE DETENT SW. OP
TB6-15	-20V
TB6-16	NOT USED
TB6-17	DC ZERO
TB6-18	NOT USED
TB6-19	NOT USED
TB6-20	CARR DETENT
TB7-1	NOT USED
TB7-2	NOT USED
TB8-1	2.2V AC TO SOLAR CELL BULBS
TB8-2	2.2V AC TO SOLAR CELL BULBS
TB8-3	2.2V AC TO SOLAR CELL BULBS
TB8-4	2.2V AC TO SOLAR CELL BULBS
TB8-5	2.2V AC TO SOLAR CELL BULBS
TB8-6	2.2V AC TO SOLAR CELL BULBS
TB8-7	2.2V AC TO SOLAR CELL BULBS
TB8-8	2.2V AC TO SOLAR CELL BULBS
TB9-1	TYPEBAR DIRECTION SOLAR CELL RETURN
TB9-2	TYPEBAR DIRECTION SOLAR CELL
TB9-3	LINE START SOLAR CELL RETURN
TB9-4	LINE START SOLAR CELL
TB9-5	LINE STOP SOLAR CELL RETURN
TB9-6	LINE STOP SOLAR CELL
TB9-7	HAMMER RESTORE SOLAR CELL RETURN
TB9-8	HAMMER RESTORE SOLAR CELL
TB10-1	PRINT TIMER LEFT RETURN
TB10-2	PRINT TIMER LEFT
TB10-3	ANTI CREEP SOLENOID
TB10-4	PRINT TIMER REFERENCE RETURN
TB10-5	PRINT TIMER REFERENCE
TB10-6	ANTI CREEP SOLENOID RETURN
TB10-7	PRINT TIMER RIGHT RETURN
TB10-8	PRINT TIMER RIGHT
TB11-1	-7V TO CLUTCHES AND BRAKES
TB11-2	-20V
TB11-3	-7V
TB11-4	HAMMER MARGINAL CHECK AND -20V DC ZERO
TB11-5	DC ZERO
TB11-6	DC ZERO TO HAMMER COILS
TB11-7	DC ZERO TO HAMMER COILS
TB11-8	DC ZERO TO HAMMER COILS
TB12-1	RESTORE MOTOR 208/230V AC COMMON SIDE
TB12-2	NOT USED
TB12-3	RIBBON RIGHT MOTOR 208/230V AC COMMON SIDE
TB12-4	RIBBON LEFT MOTOR 208/230V AC COMMON SIDE
TB12-5	PLATEN MOTOR 208/230V AC COMMON SIDE
TB12-6	CARRIAGE MOTOR 208/230V AC COMMON SIDE
TB12-7	-12V TO RELAY 2 COIL
TB12-8	-20V TO CLUTCHES AND BRAKES
TB12-9	HRCB 6
TB12-10	TYPEBAR STOP RELAY
TB12-11	DC ZERO
TB12-12	ANTI CREEP SOLENOID RETURN
TB12-13	ANTI CREEP SOLENOID
TB12-14	
TB13-1	208/230V AC TO RESTORE MOTOR
TB13-2	208/230V AC TO TYPEBAR MOTOR
TB13-3	208/230V AC TO RIBBON RIGHT MOTOR
TB13-4	208/230V AC TO RIBBON LEFT MOTOR
TB13-5	208/230V AC TO PLATEN MOTOR
TB13-6	208/230V AC TO CARRIAGE MOTOR
TB13-7	TYPEBAR STOP RELAY
TB13-8	RIBBON TIME DELAY CONTROL
TB13-9	RIBBON REVERSE CONTROL
TB13-10	RIBBON REVERSE CONTROL
TB13-11	-7V
TB13-12	-20V
TB13-13	NOT USED
TB13-14	DC ZERO
TB14-1	-20V - TYPEBAR CLUTCH RIGHT
TB14-2	-20V - TYPEBAR CLUTCH LEFT
TB14-3	TYPEBAR CLUTCH LEFT
TB14-4	TYPEBAR BRAKE
TB14-5	TYPEBAR CLUTCH RIGHT
TB14-6	FORM GUIDE LEFT
TB14-7	FORM GUIDE RIGHT
TB14-8	-7V - TYPEBAR BRAKE
TB14-9	208/230V AC TO PLATEN MOTOR
TB14-10	208/230V AC TO PLATEN MOTOR
TB15-1	RIBBON MOTOR ARC SUPPRESS
TB15-2	RIBBON MOTOR ARC SUPPRESS
TB15-3	RIBBON MOTOR ARC SUPPRESS
TB15-4	RIBBON MOTOR ARC SUPPRESS
TB16-1	NOT USED
TB16-2	GROUND
TB16-3	-12 VOLTS
TB16-4	+12 VOLTS
TB16-5	GROUND
TB16-6	-6 VOLTS
TB16-7	+12M VOLTS
TB16-8	GROUND
TB17-1	NOT USED
TB17-2	NOT USED
TB17-3	NOT USED
TB17-4	NOT USED
TB17-5	TYPEBAR READY SOLAR CELL RETURN
TB17-6	TYPEBAR READY SOLAR CELL
TB17-7	NOT USED
TB17-8	NOT USED
TB18-1	FORM GUIDE SWITCHES
TB18-2	CARRIAGE DETENT SW. OP
TB18-3	CARRIAGE DETENT SW. N/O
TB19-1	HRCB2
TB19-2	-20V
TB19-3	HAMMER RESTORE CLUTCH CLAMP
TB19-4	HAMMER RESTORE CLUTCH
TB19-5	CRANK INTERLOCK
TB19-6	GND
TB19-7	HAMMER MARGINAL CHECK
TB19-8	HAMMER MARGINAL CHECK GND
TB19-9	HAMMER RESTORE BRAKE
TB19-10	-20V
TB20-1	CARRIAGE BRAKE CONTROL
TB20-2	CARRIAGE BRAKE CONTROL RETURN

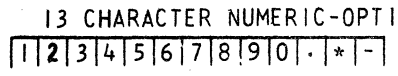
DATE	EC NO	DATE	EC NO	DATE	EC NO
2-63	117776	5-14-64	118272	5-18-65	122157
7-9-63	117777	9-4-64	118294		
8-26-63	118189	12-15-64	122120		
9-6-63	117778	1-25-65	122121		
12-9-63	118201		122139		

TYPEBAR CHARACTER ARRANGEMENT

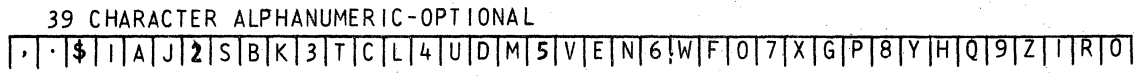
52 CHARACTER ALPHANUMERIC-STANDARD



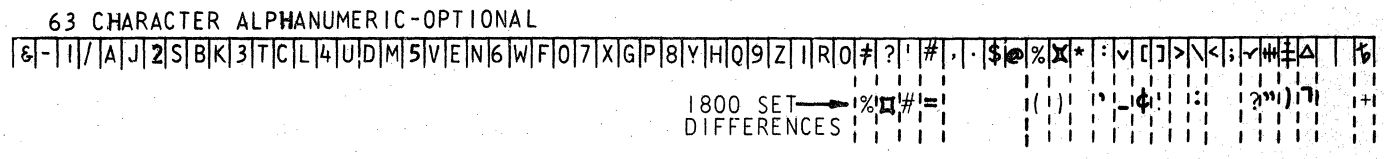
13 CHARACTER NUMERIC-OPTIONAL



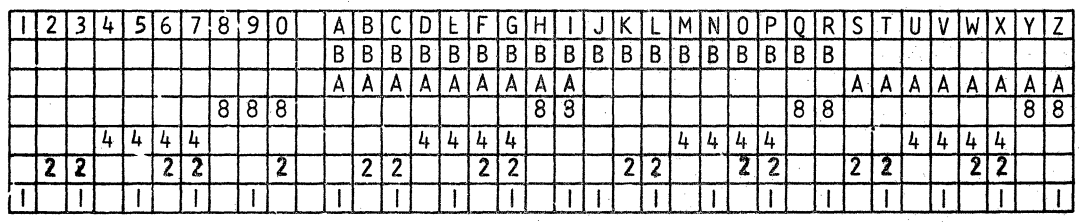
39 CHARACTER ALPHANUMERIC-OPTIONAL

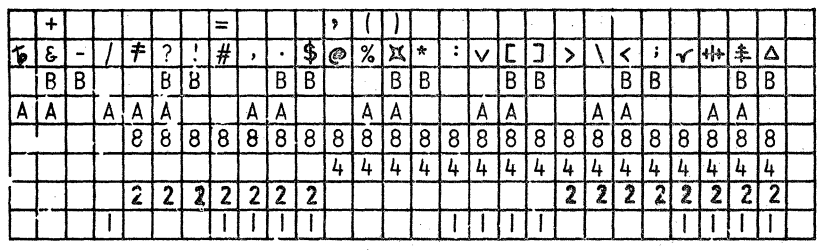


63 CHARACTER ALPHANUMERIC-OPTIONAL

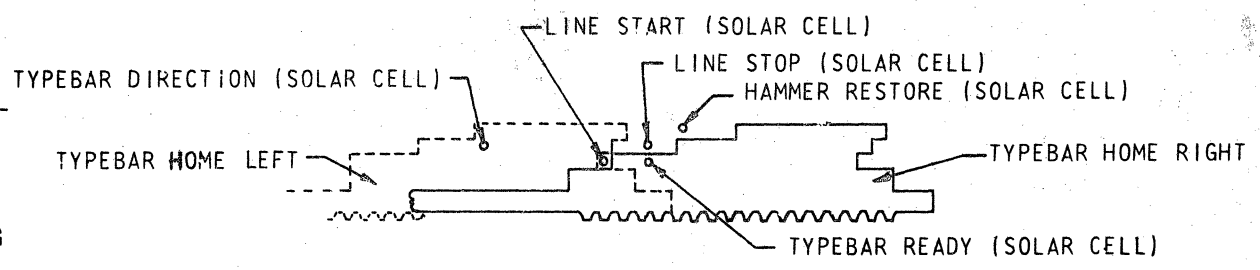


BCD CHARACTER CODE





TYPEBAR FLAG AND SOLAR CELL ARRANGEMENT

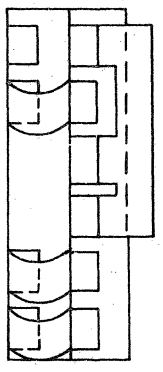


BUFFER-ADDRESS REGISTER TRIGGERS 2 OUT OF 5 ON CODE

DIGIT VALUE	TRIGGERS OFF	TRIGGERS ON
0	ABC	DE
1	BCE	AD
2	BCD	AE
3	ACD	BE
4	CDE	AB
5	BDE	AC
6	ADE	BC
7	ACE	BD
8	ABE	CD
9	ABD	CE

INTERCARD CONNECTIONS

SCM E44 MEM E45



CARD SIDE

DATE	EC NO	DATE	EC NO	DATE	EC NO
7-6-63	117778				
5-14-64	118272				
DEC66	305549				

AC POWER DISTRIBUTION FROM 1441

1443 REF PAGE	1443 TERMINAL	FUNCTION
20.00.07.0	CB1-P1-L	208V AC (220V AC W.T.)
20.00.07.0	CB1-P2-L	208V AC (220V AC W.T.)
20.00.07.0	BOND STUD TERM.	FRAME BOND
20.00.07.0	CONV. OUTLET TERM.	115V AC(0V) CONV. OUTLET
20.00.07.0	CONV. OUTLET TERM.	115V AC CONV. OUTLET
	CONV. OUTLET TERM.	220V AC RES FOR W.T. OUTLET SHIELD
20.00.07.1	FRAME BOND STUD	SHIELD (BOND)

CABLE ASSEMBLY 725925

1441 REF PAGE	1441 TERMINAL
38.11.22.0-J	TB5-5
38.11.22.0-G	TB5-7
38.11.51.0-E	TB5-4
38.11.51.0-H	TB5-2
38.11.51.0-H	TB5-3
38.11.51.0-F	TB5-1
38.11.51.0-H	BOND STUD(01B4)

DC POWER DISTRIBUTION FROM 1441

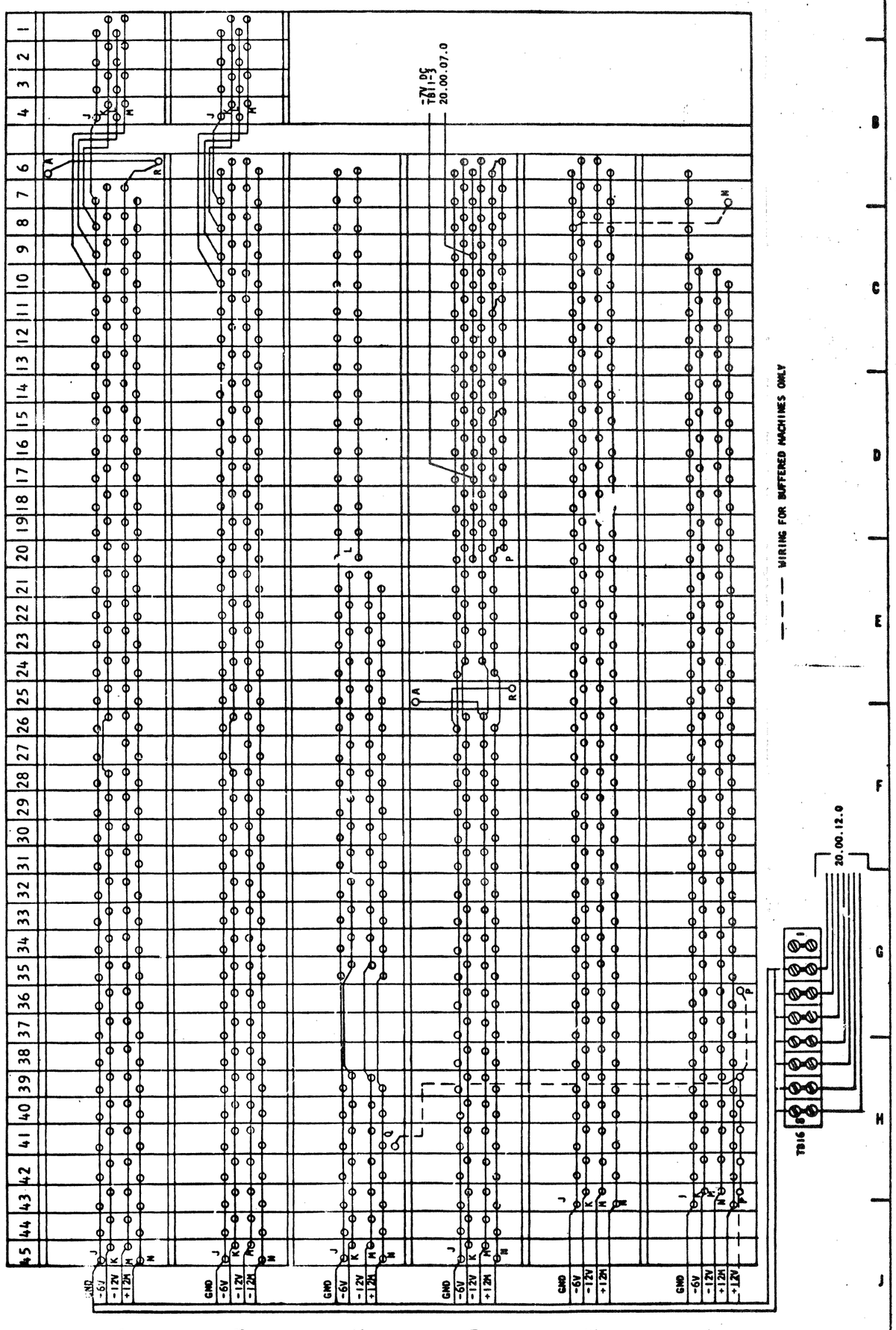
1443 REF PAGE	1443 TERMINAL	FUNCTION
	TB16-3	-12V DC
20.00.07.0	TB16-2	GND(-12V)
	TB16-6	-6V DC
	TB16-5	GND(-6V)
20.00.07.0	TB16-7	+12M DC
	TB16-8	GND(+12M)
	TB16-4	+12V DC
	TB16-8	GND(+12V)
20.00.04.0	TB11-2	-20V DC
20.00.07.0	TB11-4	GND(-20V)

CABLE ASSEMBLY 725926

1441 REF PAGE	1441 TERMINAL
38.11.43.0-D	TB5-17
38.11.43.0-E	TB5-16
38.11.43.0-E	TB5-15
38.11.43.0-F	TB5-14
38.11.43.0-F	TB5-13
38.11.43.0-G	TB5-12
38.11.43.0-G	TB5-11
38.11.43.0-G	TB5-12
38.11.43.0-A	TB5-10
38.11.43.0-B	TB5-9

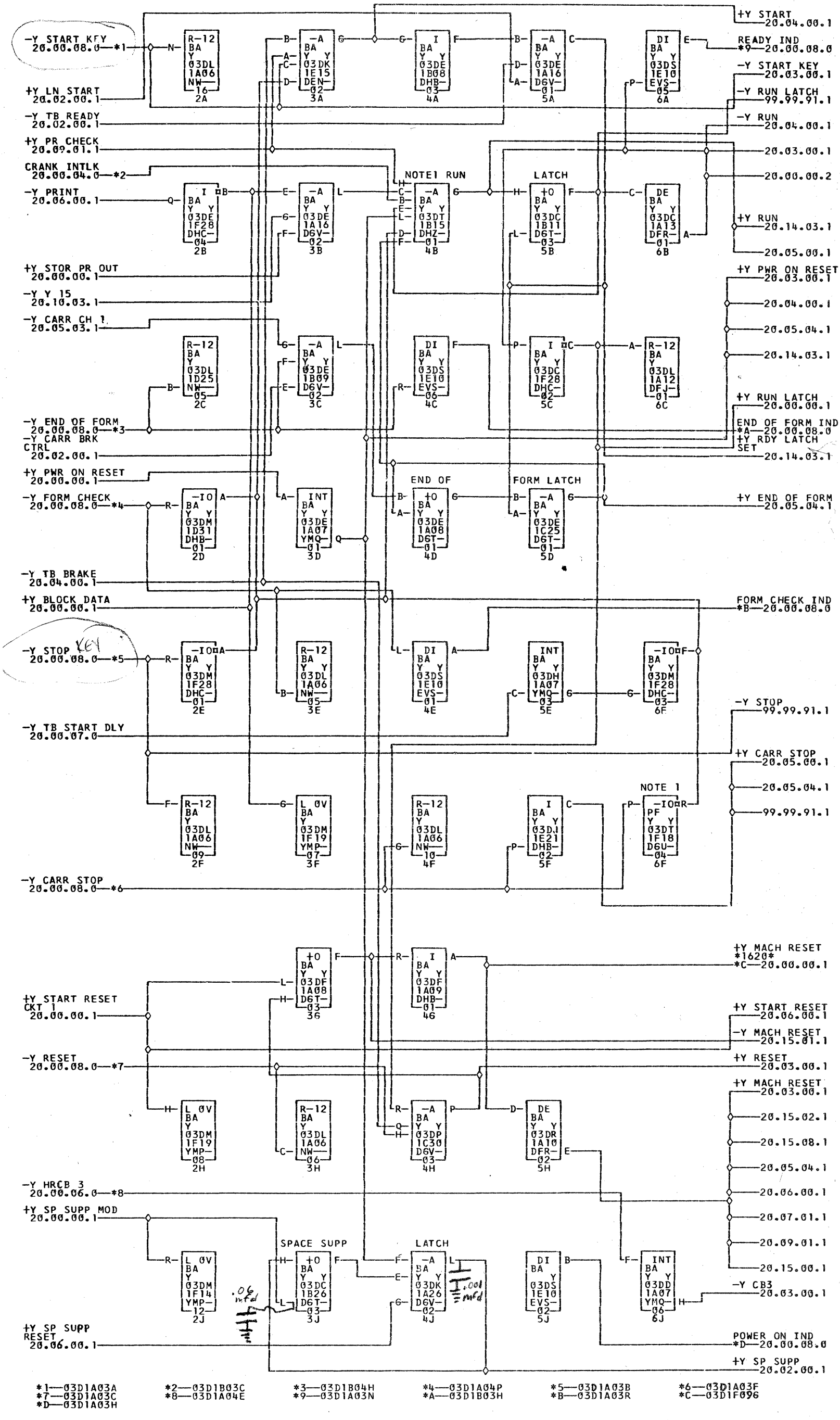
DATE	EC NO	DATE	EC NO	DATE	EC NO
9-6-63	117778				
1-20-64	118202				

832554 GATE VOLTAGE CHAINS 1443 20.00.13.0



DATE	EC NO	DATE	EC NO	DATE	EC NO
7-14-64	118294				

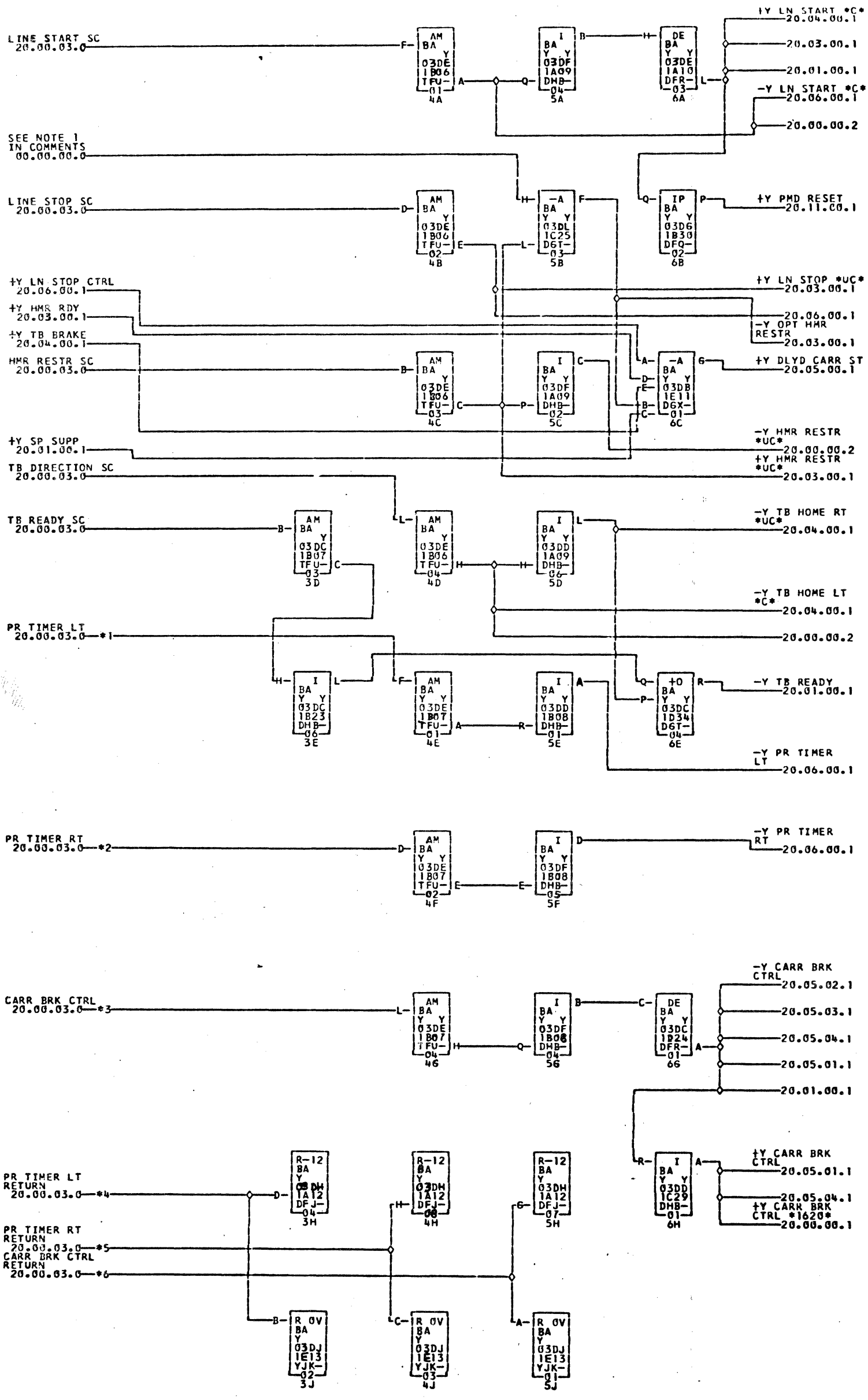
C. D. CO., NO. 44-811



COMMENTS

NOTE 1 B15B CONNECTED TO B15J WITH 35 UF CAP AND F18P CONNECTED TO F18J WITH 35 UF CAP. CONNECT THE + SIDE OF CAPACITORS TO J PINS

TAG	DATE	E.C.NO.	TAG	DATE	E.C.NO.	TAG	DATE	E.C.NO.	TAG	DATE	E.C.NO.
A	06-18-62	1138516	B	10-09-62	115643	C	12-13-62	115643B	D	02-19-63	115643E
E	03-09-63	1156436	F	03-14-63	115643H	G	04-01-63	115643K	H	04-17-63	115643M
J	05-21-63	117776	K	07-05-63	117777	L	08-22-63	117778	M	09-10-63	118192
N	10-01-63	118198	P	01-06-64	118202	Q	01-31-64	118213	R	04-08-64	118225
S	07-09-64	118285	T	12-07-64	122120	U	01-25-65	122120B	V	02-08-65	122139
W	04-07-66	305508	X	09-22-66	305540						

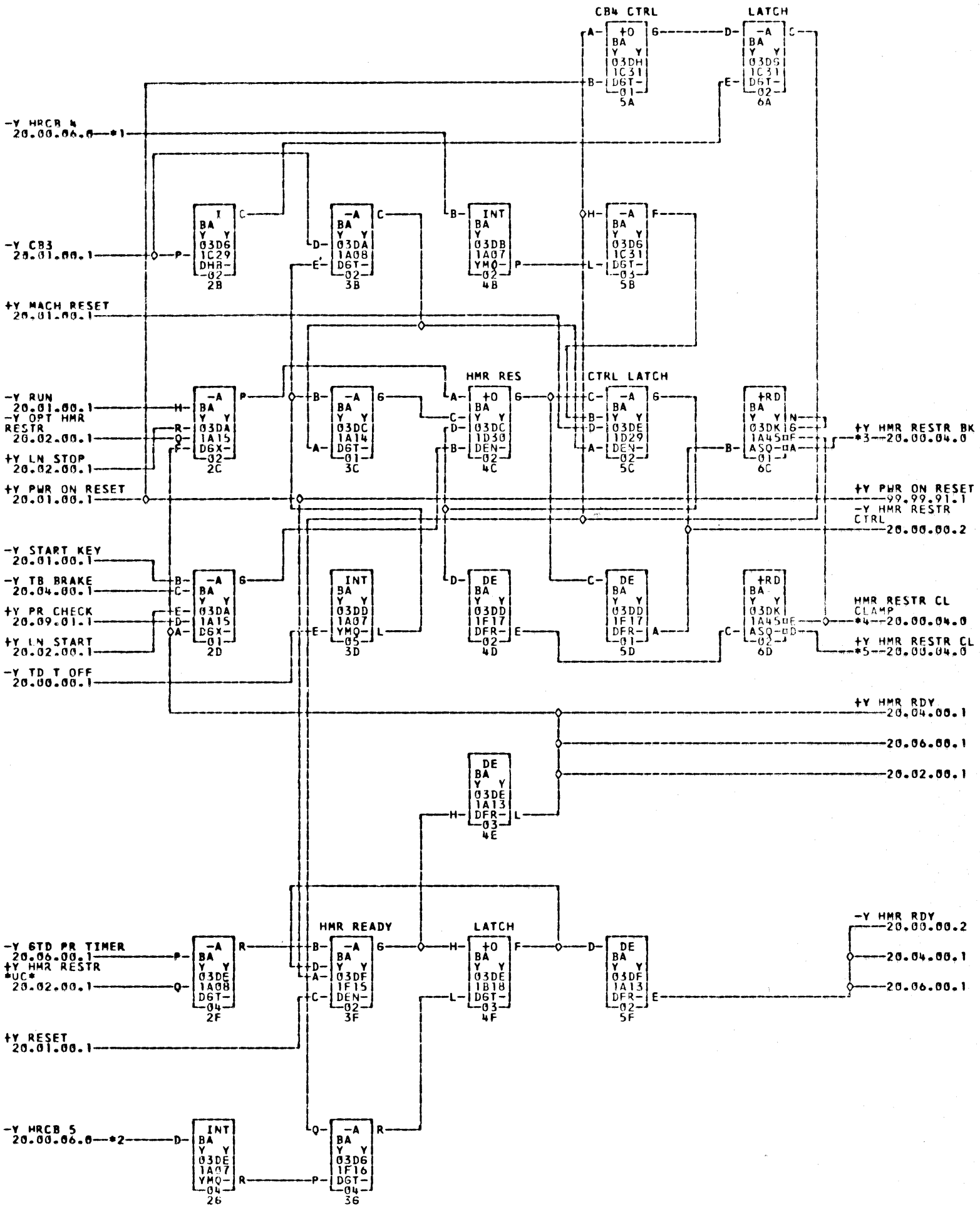


*1—03D1B04A *2—03D1B04C *3—03D1B046 *4—03D1B04N *5—03D1B04P *6—03D1B04R

COMMENTS

NOTE1 FOR MOD I AND MOD III THERE IS NO CONNECTION. FOR MOD II AND MOD IV CONNECT C28H TO A26Q

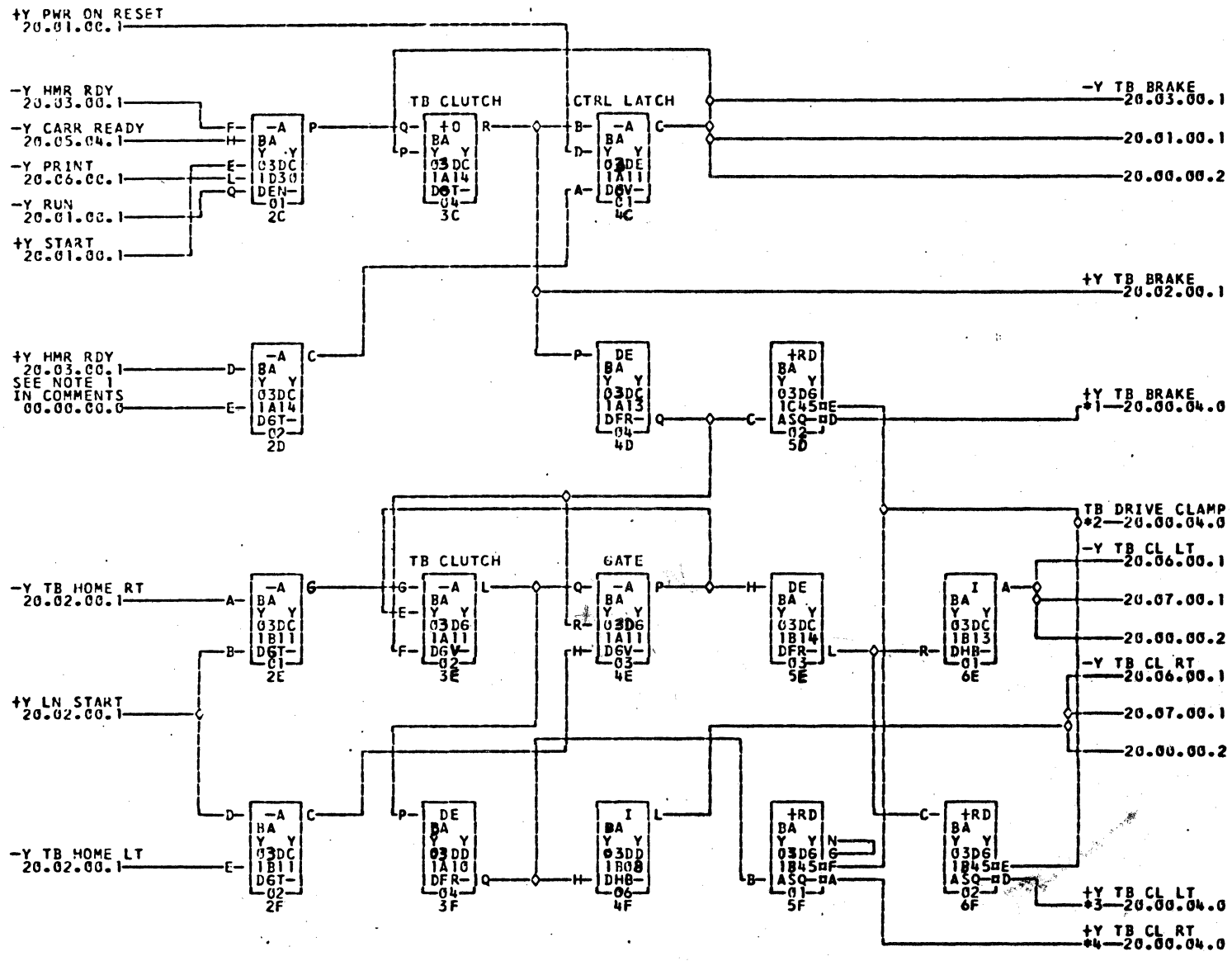
TAG	DATE	E.C.NO.	TAG	DATE	E.C.NO.	TAG	DATE	E.C.NO.	TAG	DATE	E.C.NO.
A	06-18-62	113851G	B	10-09-62	115643	C	12-14-62	115643B	D	01-23-63	115643D
E	03-07-63	115643G	F	04-01-63	115643K	G	04-17-63	115643M	H	08-22-63	117778
J	10-01-63	118198	K	01-31-64	118213	L	04-08-64	118225	M	05-11-64	118272
N	02-29-68	307322									



*1—03D1A04G *2—03D1A04R *3—03D1A04C *4—03D1B03A *5—03D1A04A

COMMENTS

TAG	DATE	E.C.NO.	TAG	DATE	E.C.NO.	TAG	DATE	E.C.NO.	TAG	DATE	E.C.NO.
A	06-18-62	1138516	B	10-09-62	115643	C	12-11-62	115643B	D	02-19-63	115643E
E	03-09-63	1156436	F	03-14-63	115643H	G	04-17-63	115643M	H	07-05-63	117777
J	09-10-63	118192	K	10-11-63	118199	L	11-23-63	118201	M	01-06-64	118202
N	01-31-64	118213	P	04-08-64	118225	Q	08-24-64	118294			

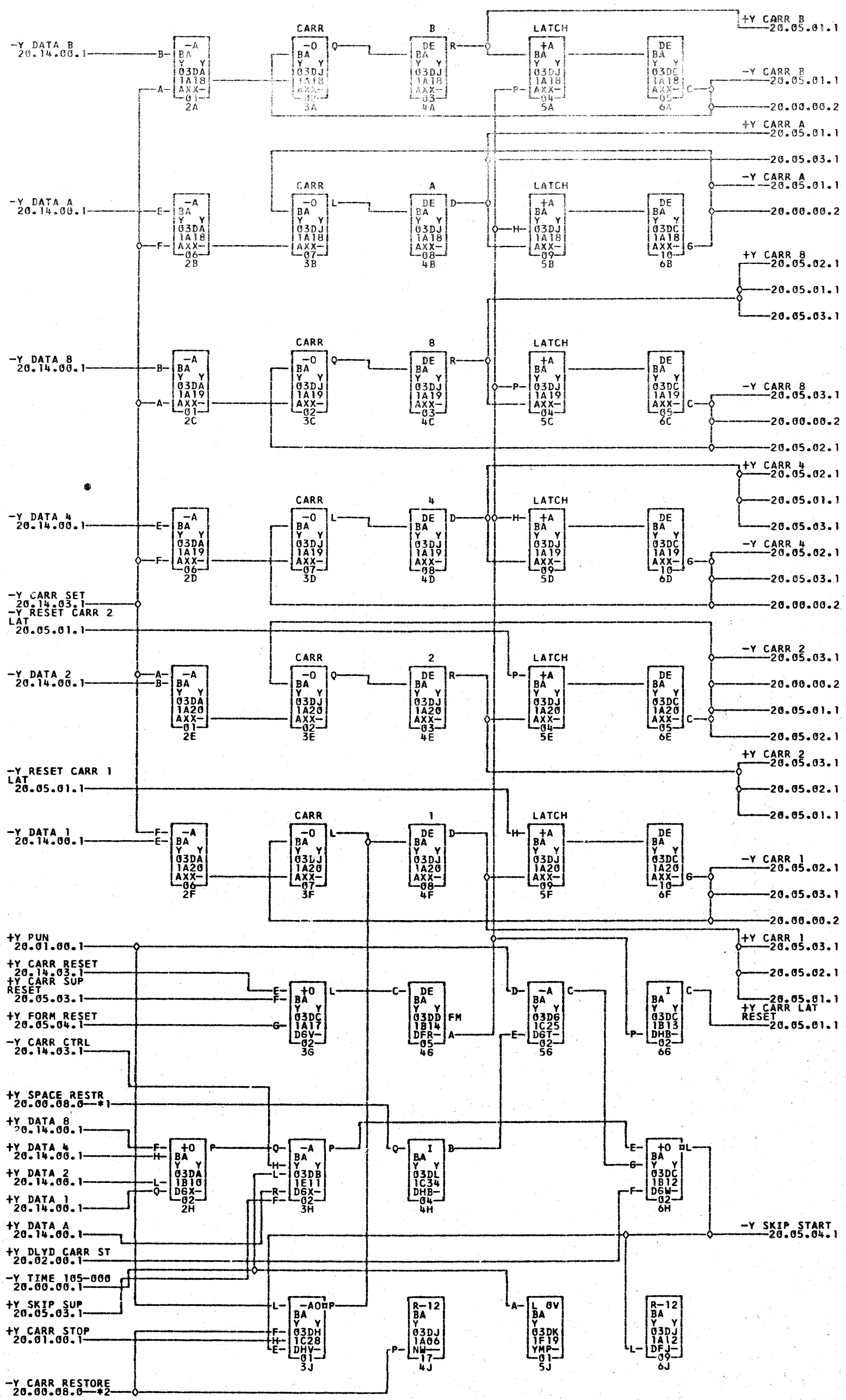


*1—03D1A04N *2—03D1B03P *3—03D1A04H *4—03D1A04Q

NOTE 1 FOR MOD I CONNECT A1N1 TO B11D
FOR MOD II AND MOD IV CONNECT A1N1 TO
A09F

COMMENTS

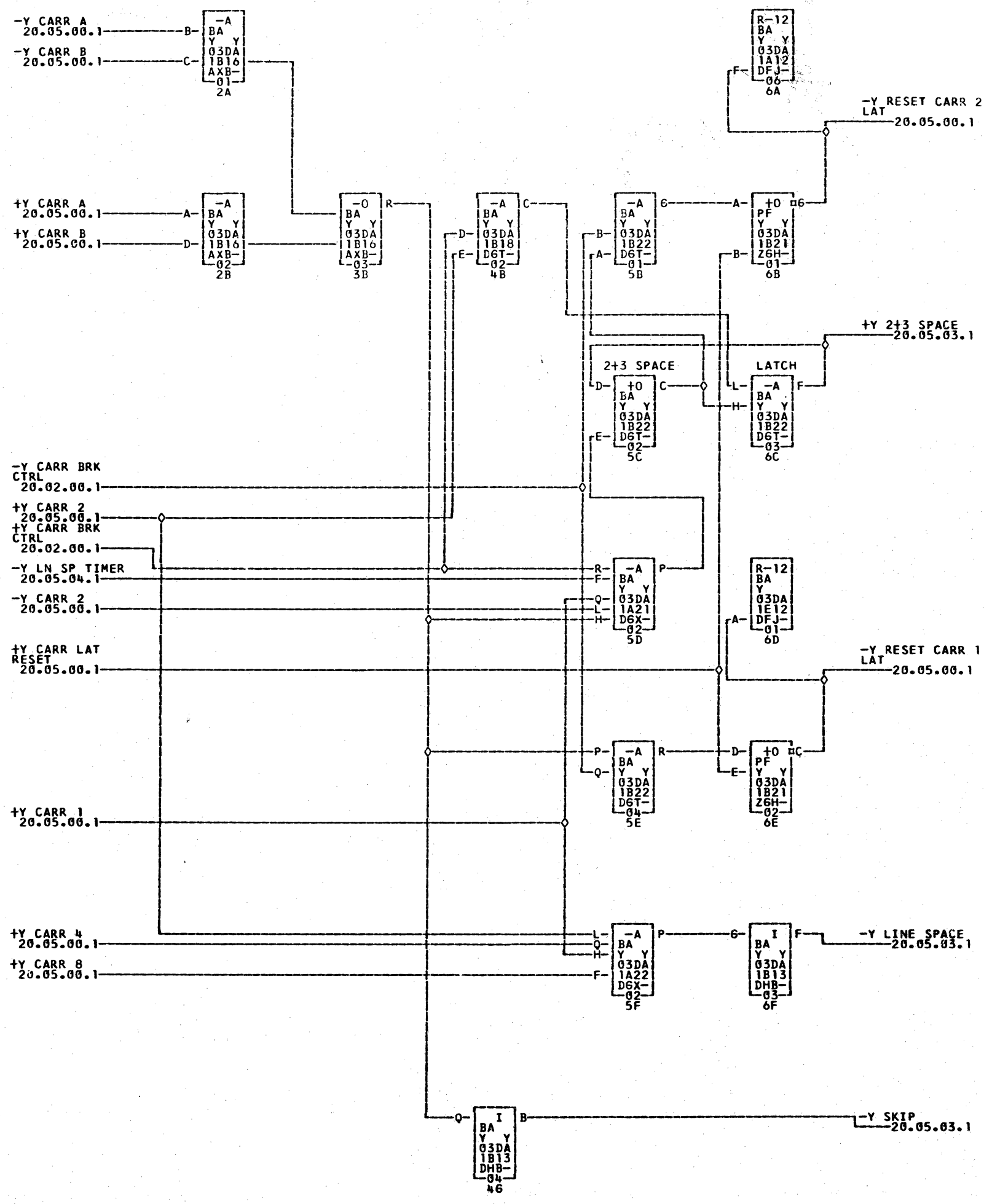
TAG	DATE	E.C.NO.	TAG	DATE	E.C.NO.	TAG	DATE	E.C.NO.	TAG	DATE	E.C.NO.
A	06-18-62	1138516	F	10-09-62	1156411	G	12-11-62	1156438	D	02-19-63	1156431
C	05-07-63	1156436	I	06-21-63	1156449	B	11-21-63	118201	H	01-31-64	118213
J	09-11-64	118272	K	01-24-66	118294	E	02-20-68	307322			



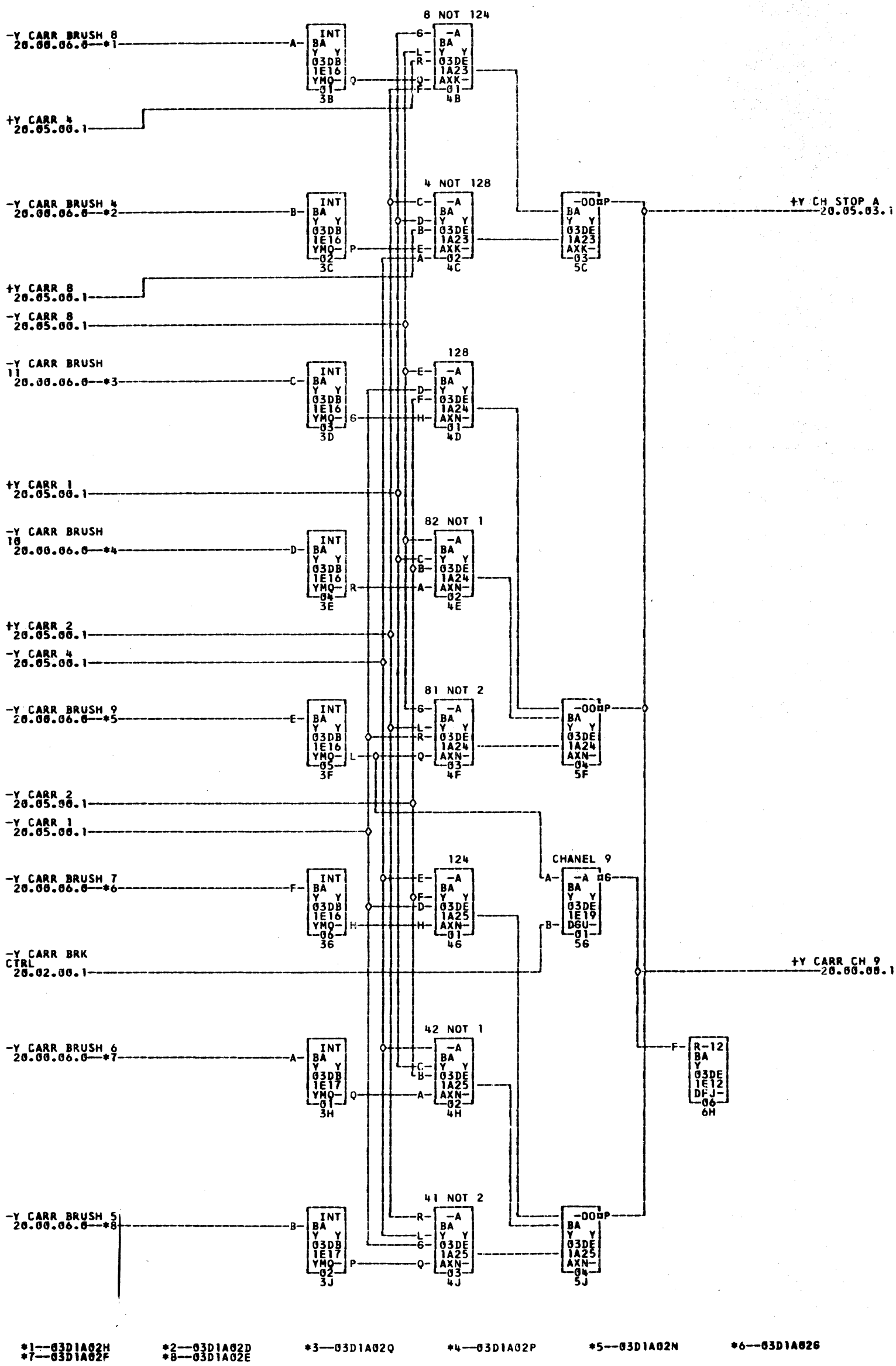
*1—03D1A03E *2—03D1A03D

COMMENTS

TAG	DATE	E.C.NO.	TAG	DATE	E.C.NO.	TAG	DATE	E.C.NO.	TAG	DATE	E.C.NO.
A	06-18-62	1138516	B	10-09-62	115643	C	12-13-62	115643B	D	01-23-63	115643D
E	02-19-63	115643E	F	03-09-63	1156436	G	03-14-63	115643H	H	04-01-63	115643K
J	08-22-63	117778	K	01-06-64	118202	L	02-08-65	122139			



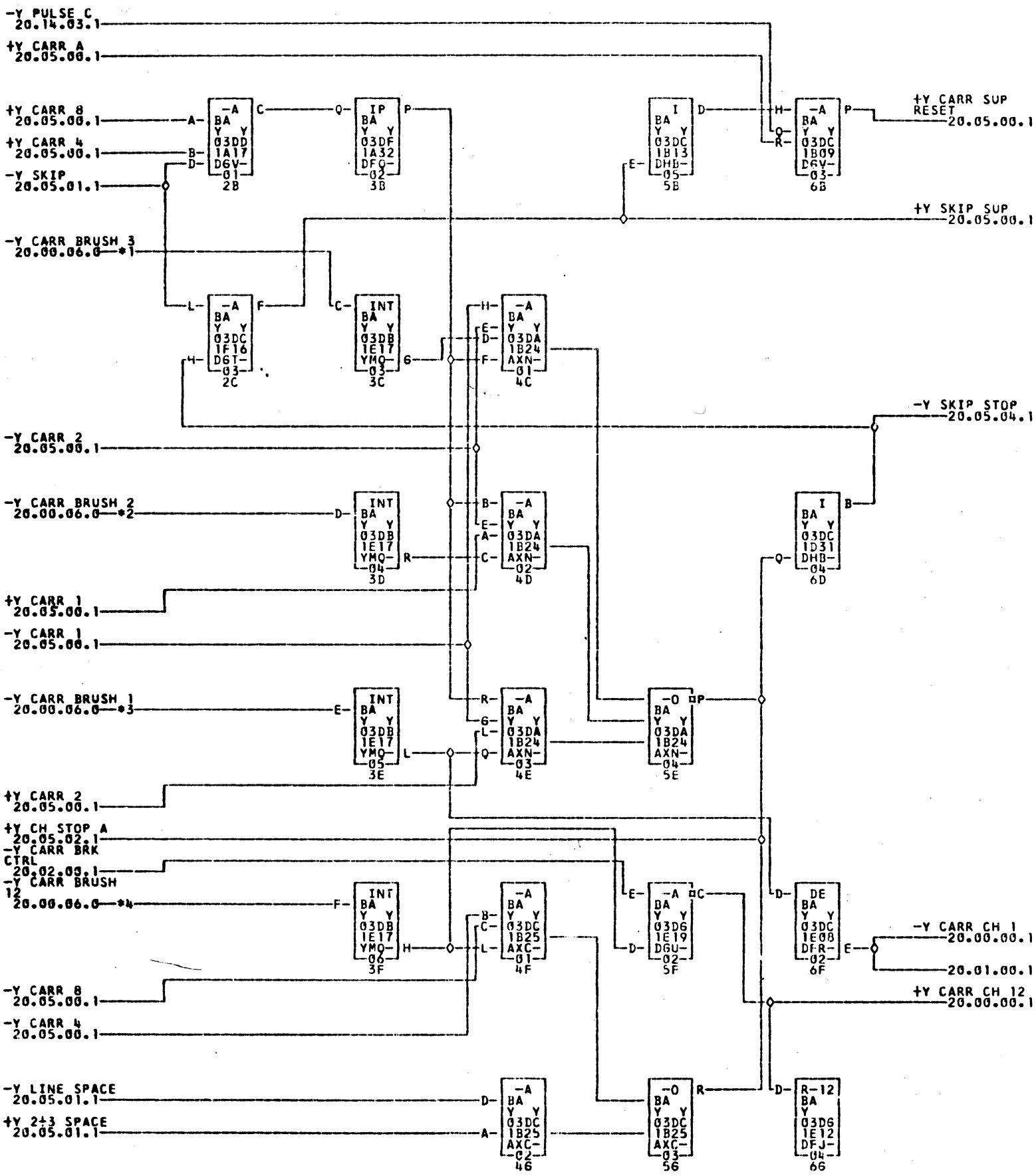
COMMENTS	TAG	DATE	E.C.NO.	TAG	DATE	E.C.NO.	TAG	DATE	E.C.NO.	TAG	DATE	E.C.NO.
	A	03-15-65	122152									



*1--03D1A02H *2--03D1A02D *3--03D1A02Q *4--03D1A02P *5--03D1A02N *6--03D1A026
*7--03D1A02F *8--03D1A02E

COMMENTS

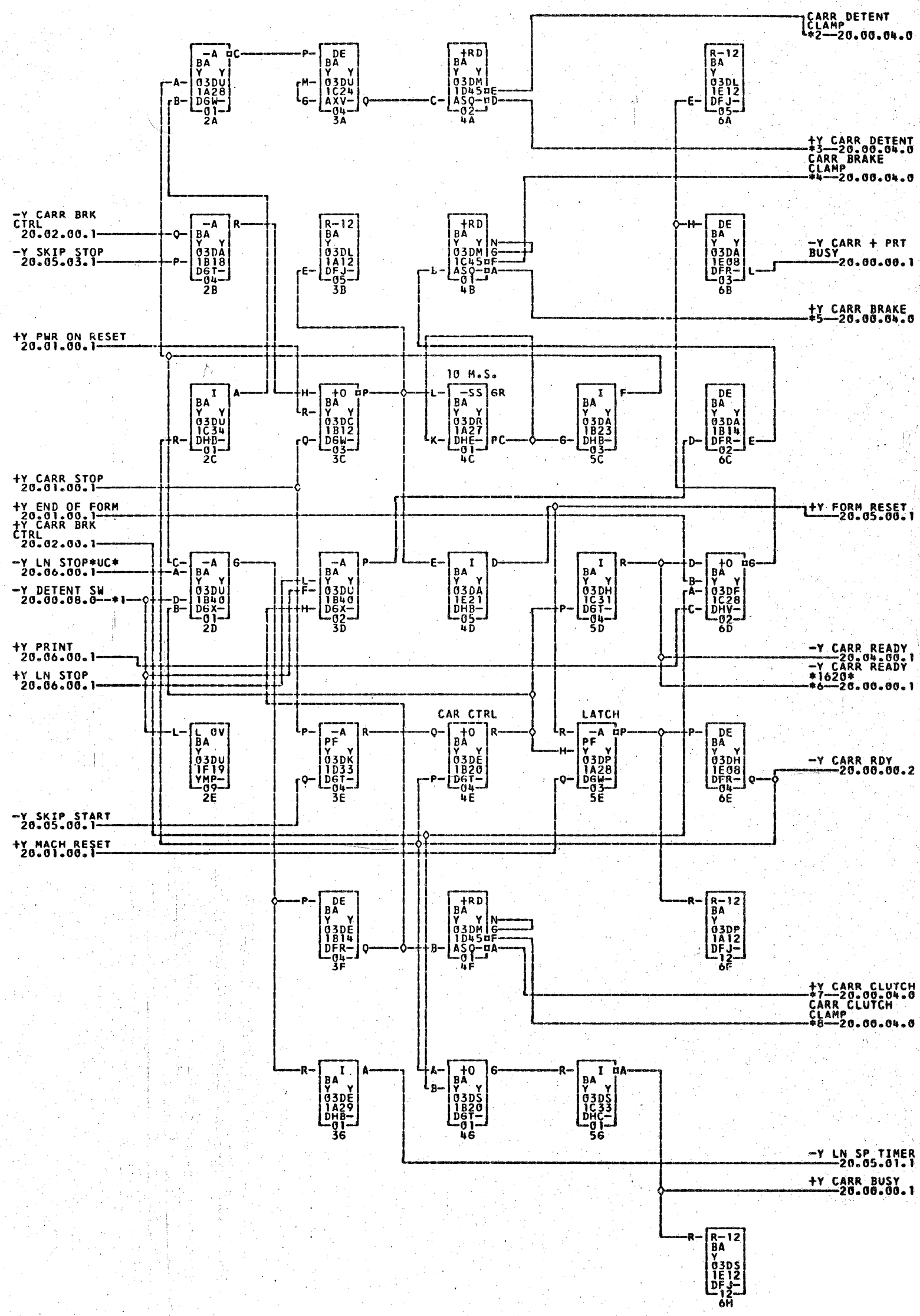
TAG	DATE	E.C.NO.	TAG	DATE	E.C.NO.	TAG	DATE	E.C.NO.	TAG	DATE	E.C.NO.
A	06-18-62	1138516	B	10-30-62	115643	C	12-21-62	1156438	D	03-09-63	1156436
E	10-01-63	118198	F	08-24-64	118294						



*1—03D1A02C *2—03D1A02B *3—03D1A02A *4—03D1A02R

COMMENTS

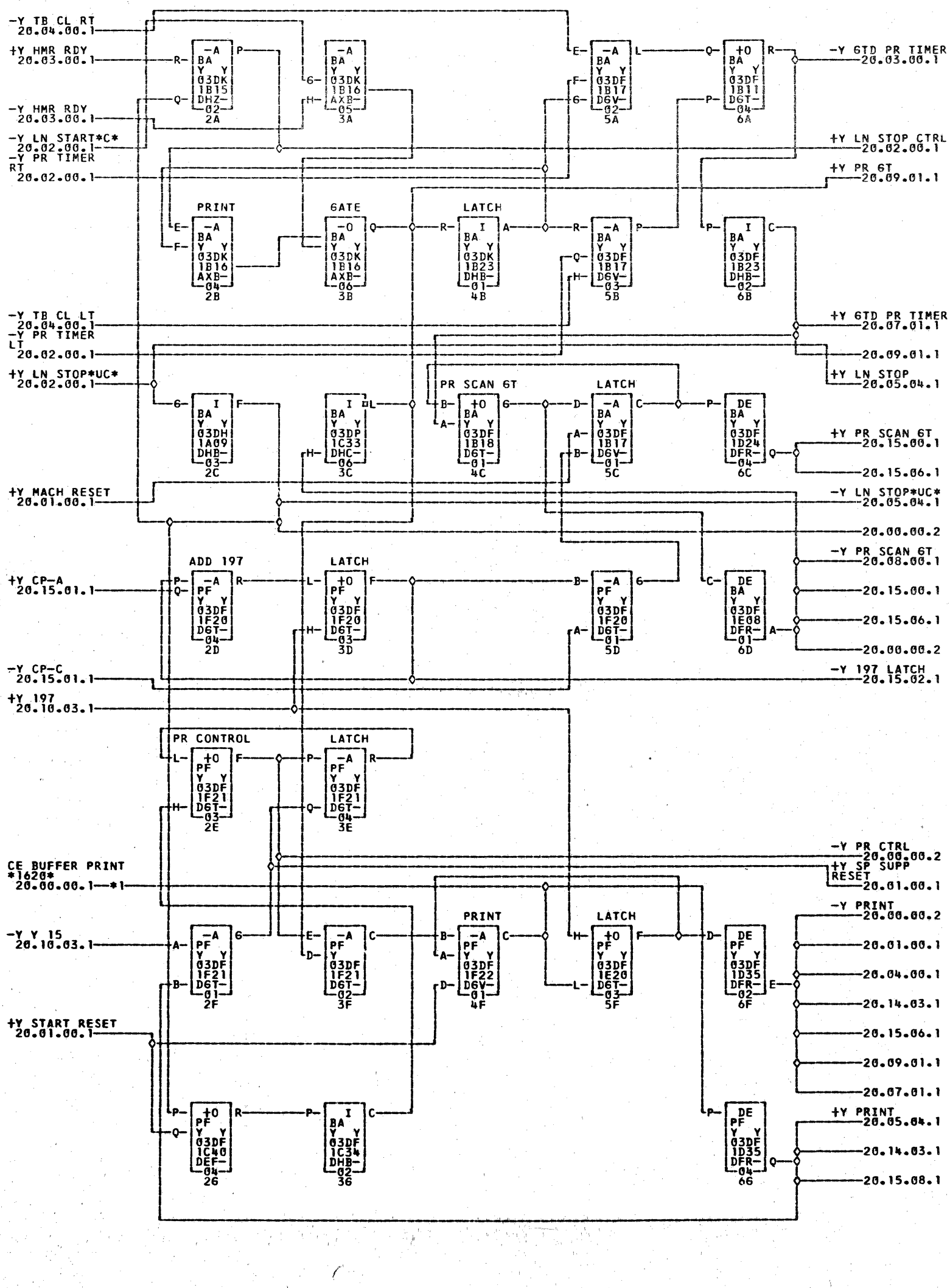
TAG	DATE	E.C.NO.	TAG	DATE	E.C.NO.	TAG	DATE	E.C.NO.	TAG	DATE	E.C.NO.
A	06-18-62	1138516	B	10-09-62	115643	C	12-13-62	115643B	D	01-23-63	115643D
E	02-19-63	115643E	F	03-09-63	115643G	G	10-01-63	118198			



*1—03D1B040 *2—03D1B01D *3—03D1A04B *4—03D1B01B *5—03D1A04F *6—03D1F09C
*7—03D1A04D *8—03D1B01F

COMMENTS

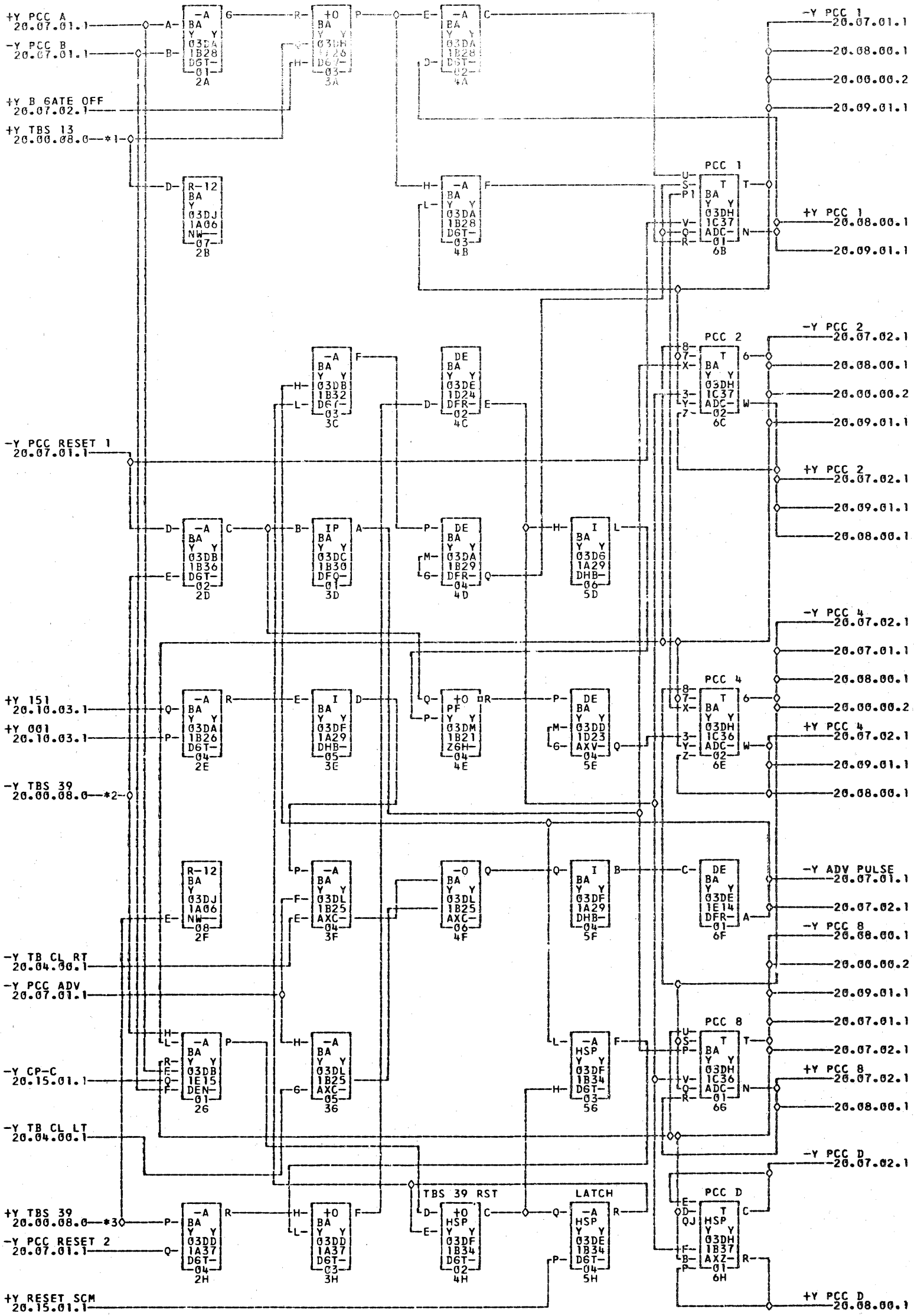
TAG	DATE	E.C.NO.	TAG	DATE	E.C.NO.	TAG	DATE	E.C.NO.	TAG	DATE	E.C.NO.
A	06-14-62	1138516	B	10-09-62	115643	C	12-13-62	115643B	D	01-23-63	115643D
E	02-19-63	115643E	F	03-09-63	115643G	G	04-01-63	115643K	H	04-17-63	115643M
J	05-21-63	117776	K	07-05-63	117777	L	10-01-63	118198	M	01-06-64	118202
N	01-31-64	118213	P	04-08-64	118225	Q	05-11-64	118272	R	06-17-64	118273
S	10-16-64	122102	T	10-26-64	122102A	U	02-08-65	122139	V	03-15-65	122152



*1—03D1F09E

COMMENTS

TAG	DATE	E.C.NO.	TAG	DATE	E.C.NO.	TAG	DATE	E.C.NO.	TAG	DATE	E.C.NO.
A	06-18-62	1138516	B	10-09-62	115643	C	12-13-62	115643B	D	02-19-63	115643E
E	03-09-63	1156436	F	04-01-63	115643K	G	05-08-63	115643N	H	08-22-63	117778
J	09-13-63	118197	K	01-06-64	118202	L	01-31-64	118213	M	08-24-64	118294
N	02-08-65	122139	P	03-15-65	122152	Q	08-19-65	122158			



*1—03D1A01F *2—03D1A01B *3—03D1A016

COMMENTS

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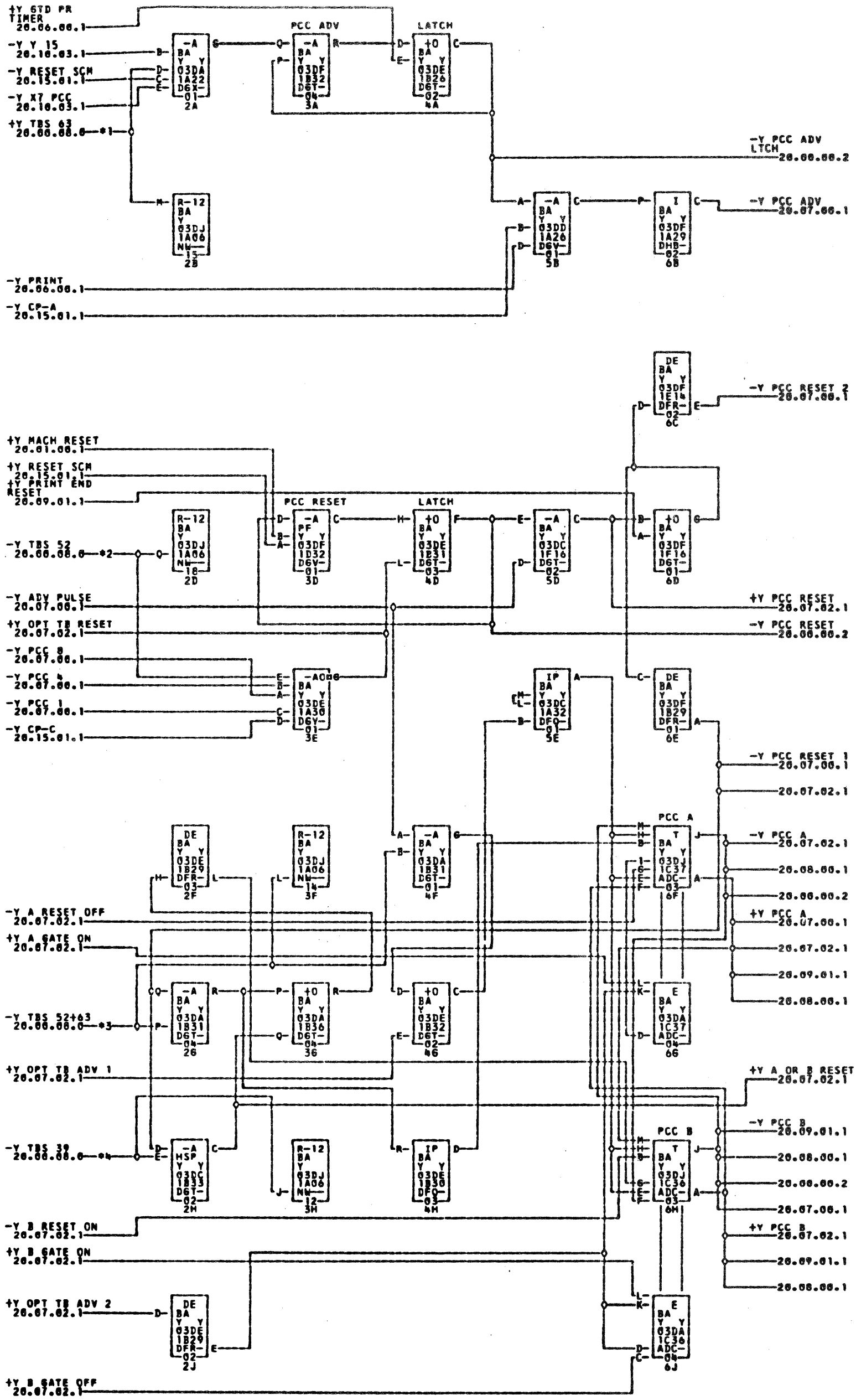
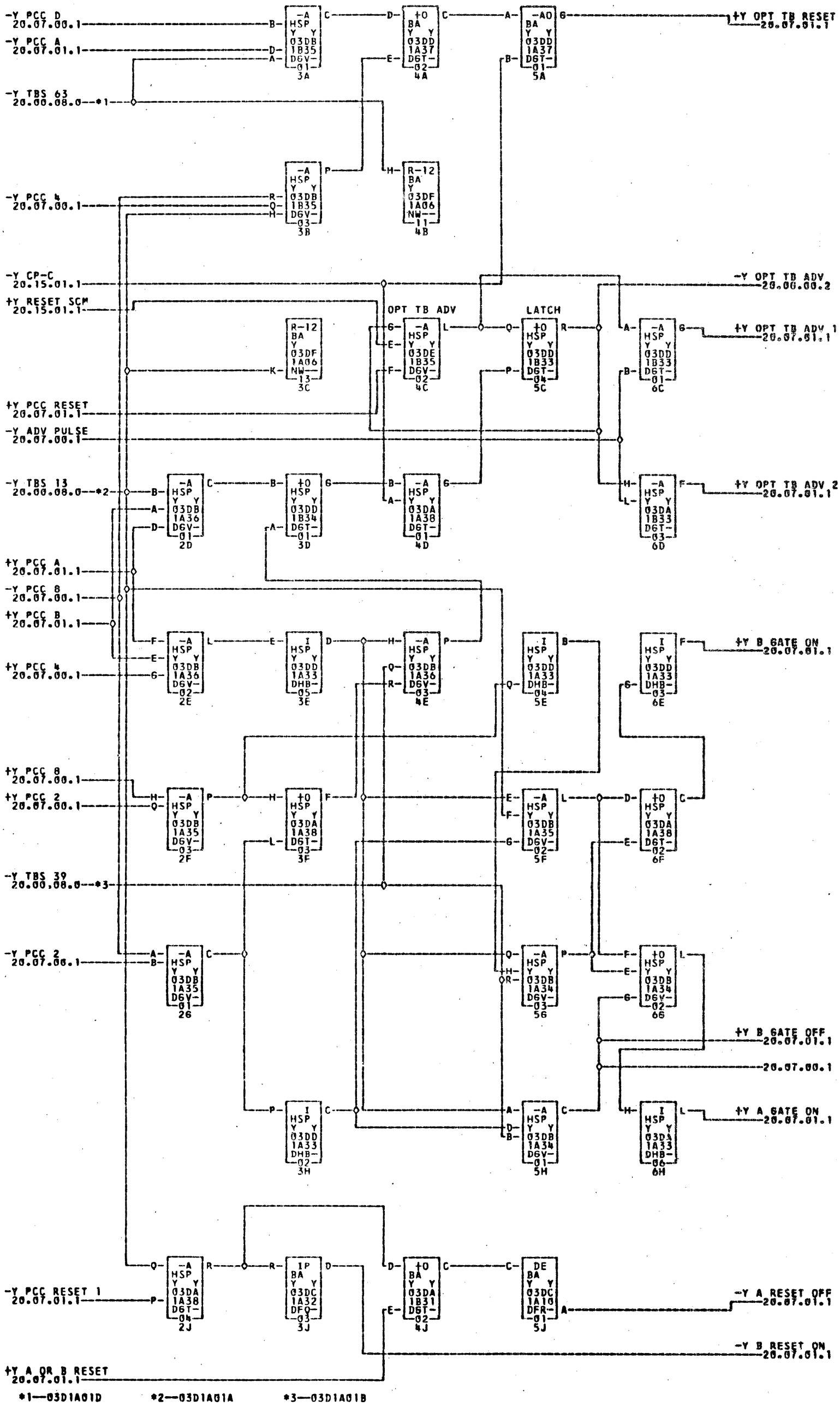
A	06-18-62	1138516	B	10-09-62	115643	C	12-13-62	115643B	D	02-19-63	115643E
E	03-09-63	1156436	F	03-14-63	115643H	6	04-01-63	115643K	H	07-05-63	117777
J	08-22-63	117778	K	10-01-63	118198	L	01-31-64	118213	M	03-15-65	122152



*1—03D1A61H *2—03D1A61C *3—03D1A61E *4—03D1A61B

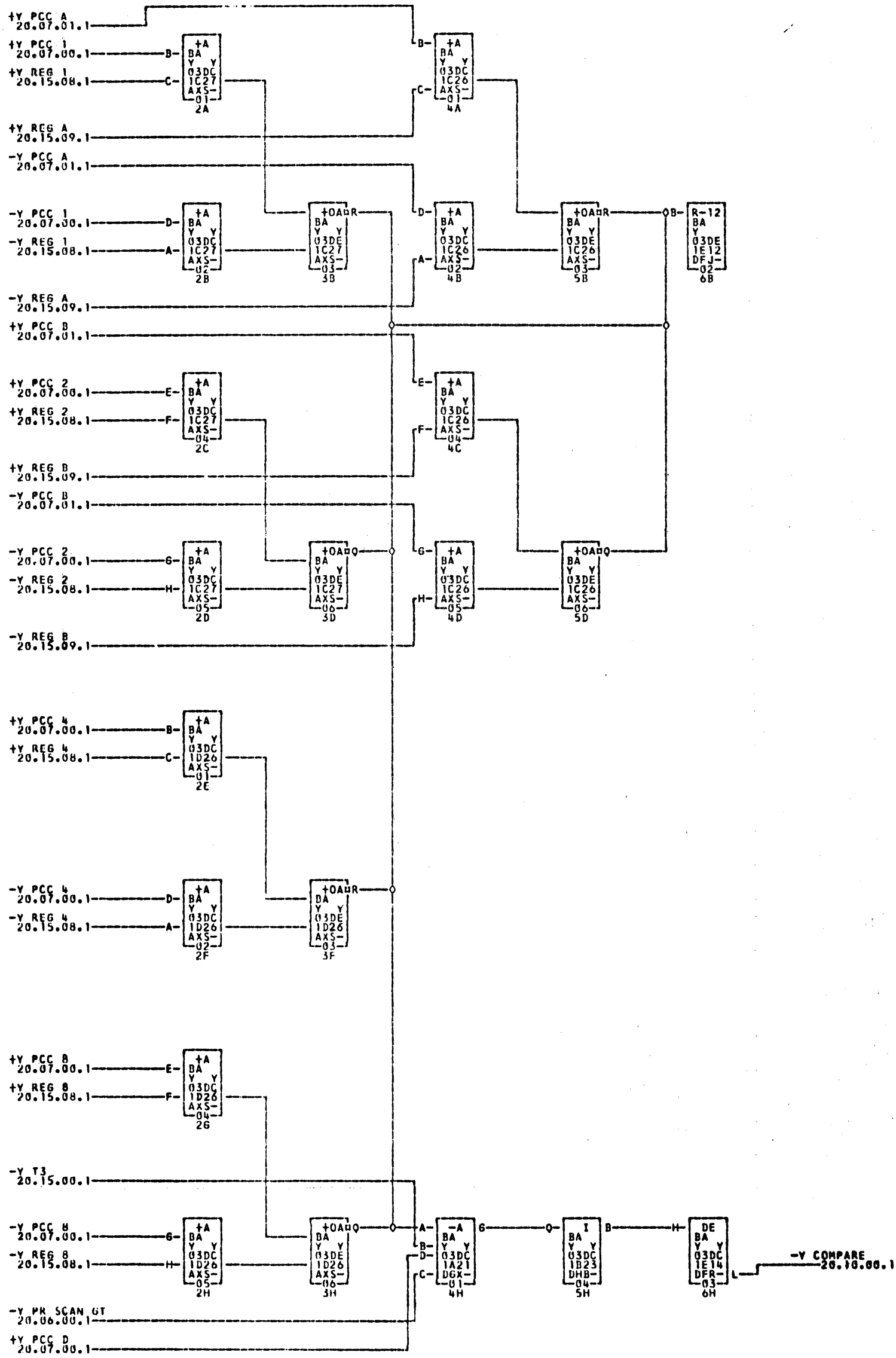
COMMENTS

TAG	DATE	E.C.NO.	TAG	DATE	E.C.NO.	TAG	DATE	E.C.NO.	TAG	DATE	E.C.NO.
A	06-18-62	1138516	B	10-09-62	115643	C	12-13-62	115643B	D	01-23-63	115643D
E	02-19-63	115643E	F	03-09-63	1156436	G	04-01-63	115643K	H	05-08-63	115643N
J	08-22-63	117778	K	09-16-64	122092	L	03-15-65	122152	M	04-29-65	122157



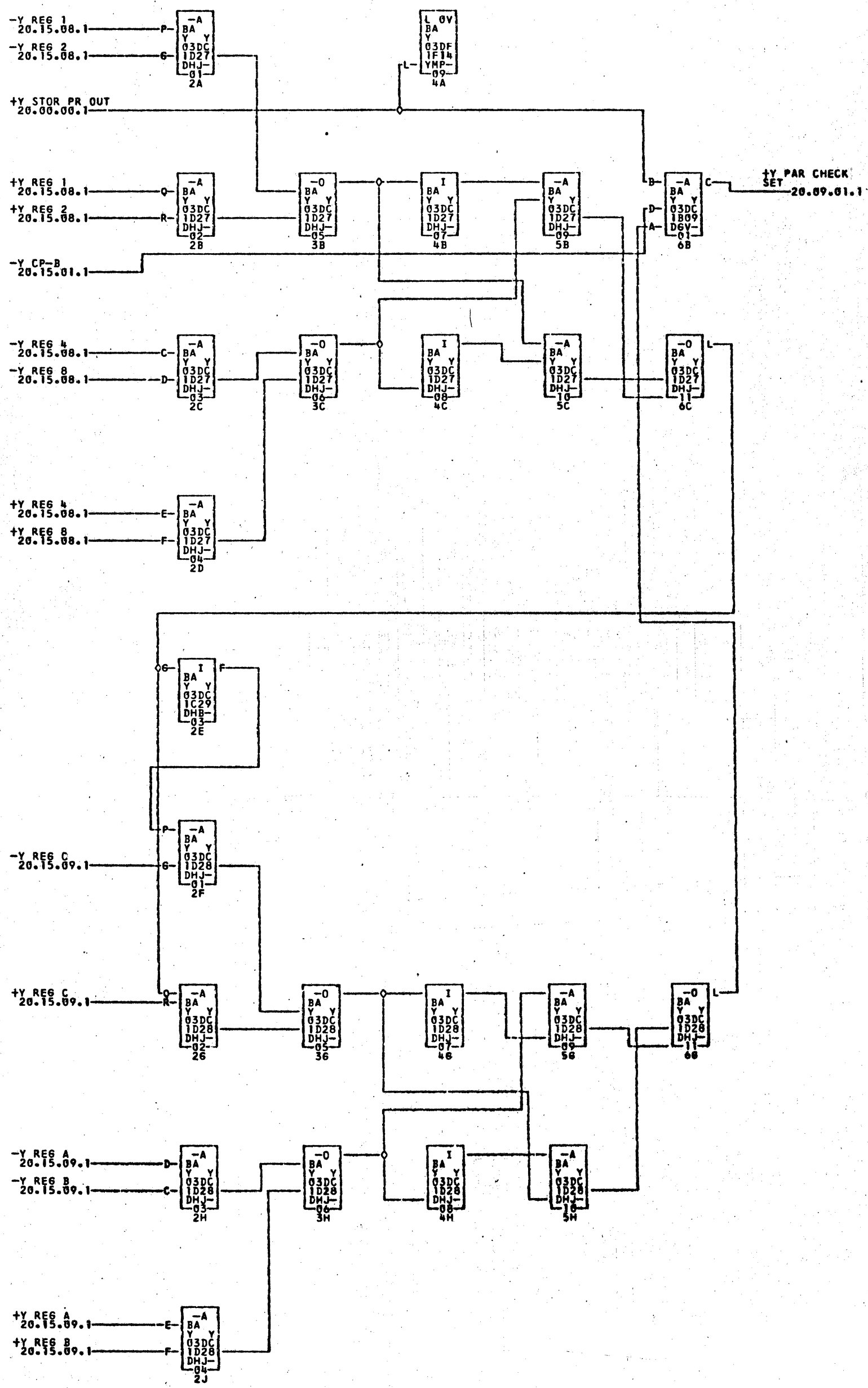
COMMENTS

TAG	DATE	E.C.NO.	TAG	DATE	E.C.NO.	TAG	DATE	E.C.NO.	TAG	DATE	E.C.NO.
A	06-18-62	1138516	B	10-09-62	115643	C	12-11-62	115643B	D	02-19-63	115643E
E	03-09-63	1156436	F	08-22-63	117778	G	10-01-63	118198	H	08-24-64	118294



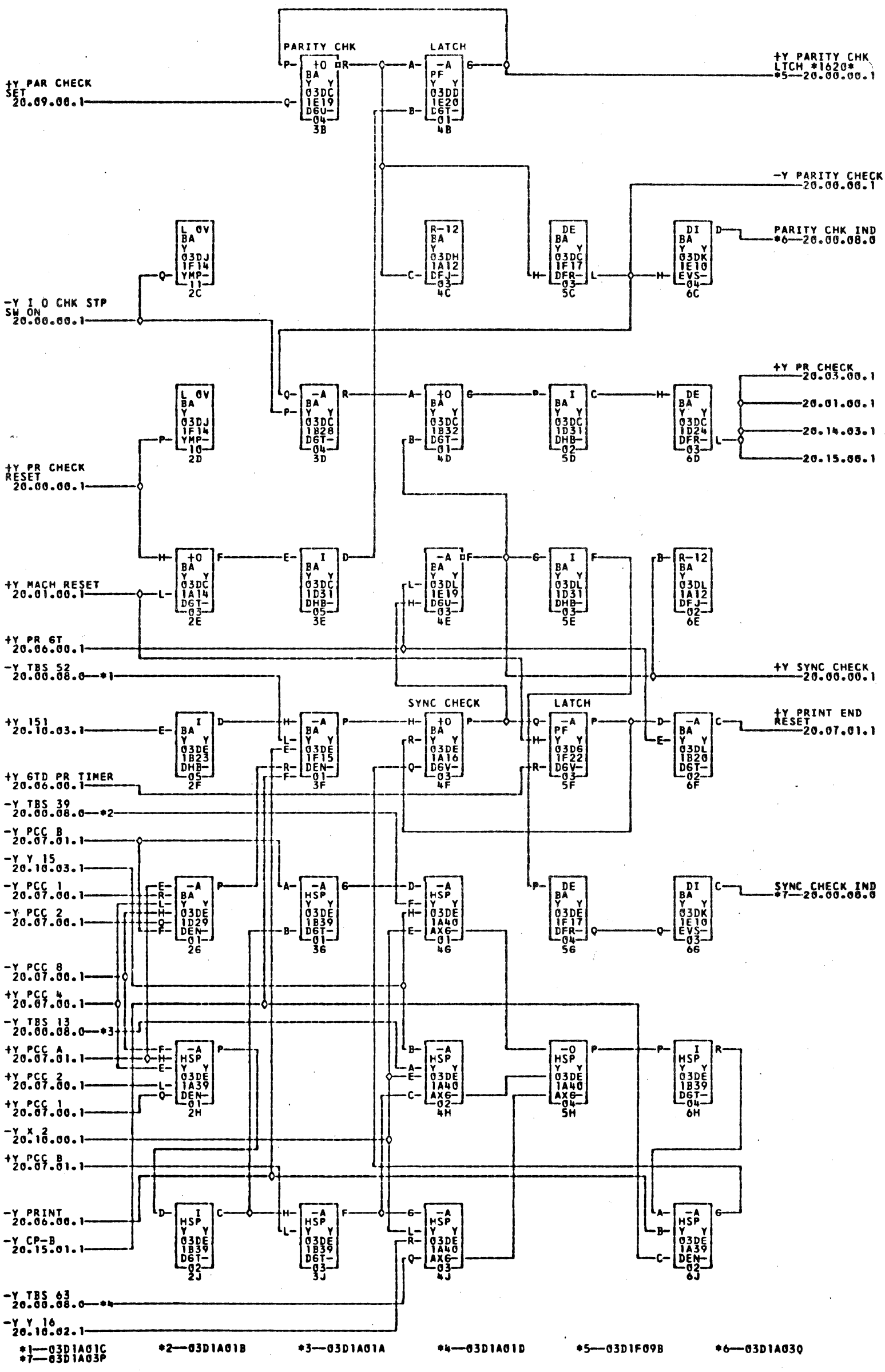
COMMENTS

TAG	DATE	E.C.NO.	TAG	DATE	E.C.NO.	TAG	DATE	E.C.NO.	TAG	DATE	E.C.NO.
A	06-18-62	113851G	B	10-09-62	115643	C	12-11-62	115643B	D	03-09-63	1156438
E	01-31-64	118213	F	09-16-64	122092						



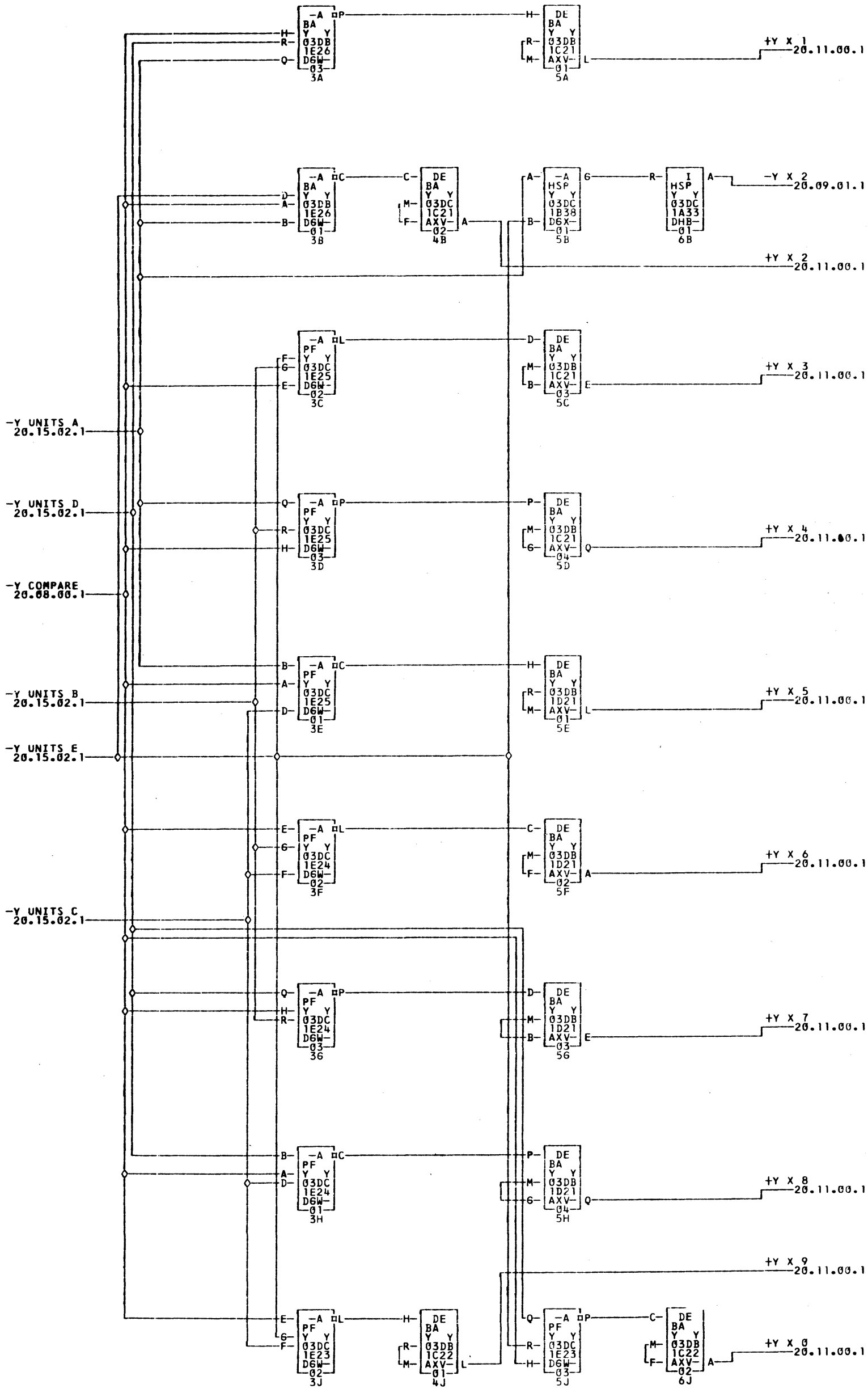
COMMENTS

TAG	DATE	E.C.NO.	TAG	DATE	E.C.NO.	TAG	DATE	E.C.NO.	TAG	DATE	E.C.NO.
A	06-18-62	1138516	B	10-09-62	115643	C	12-13-62	115643B	D	03-09-63	1156436
E	03-14-63	115643H	F	01-31-64	118213						



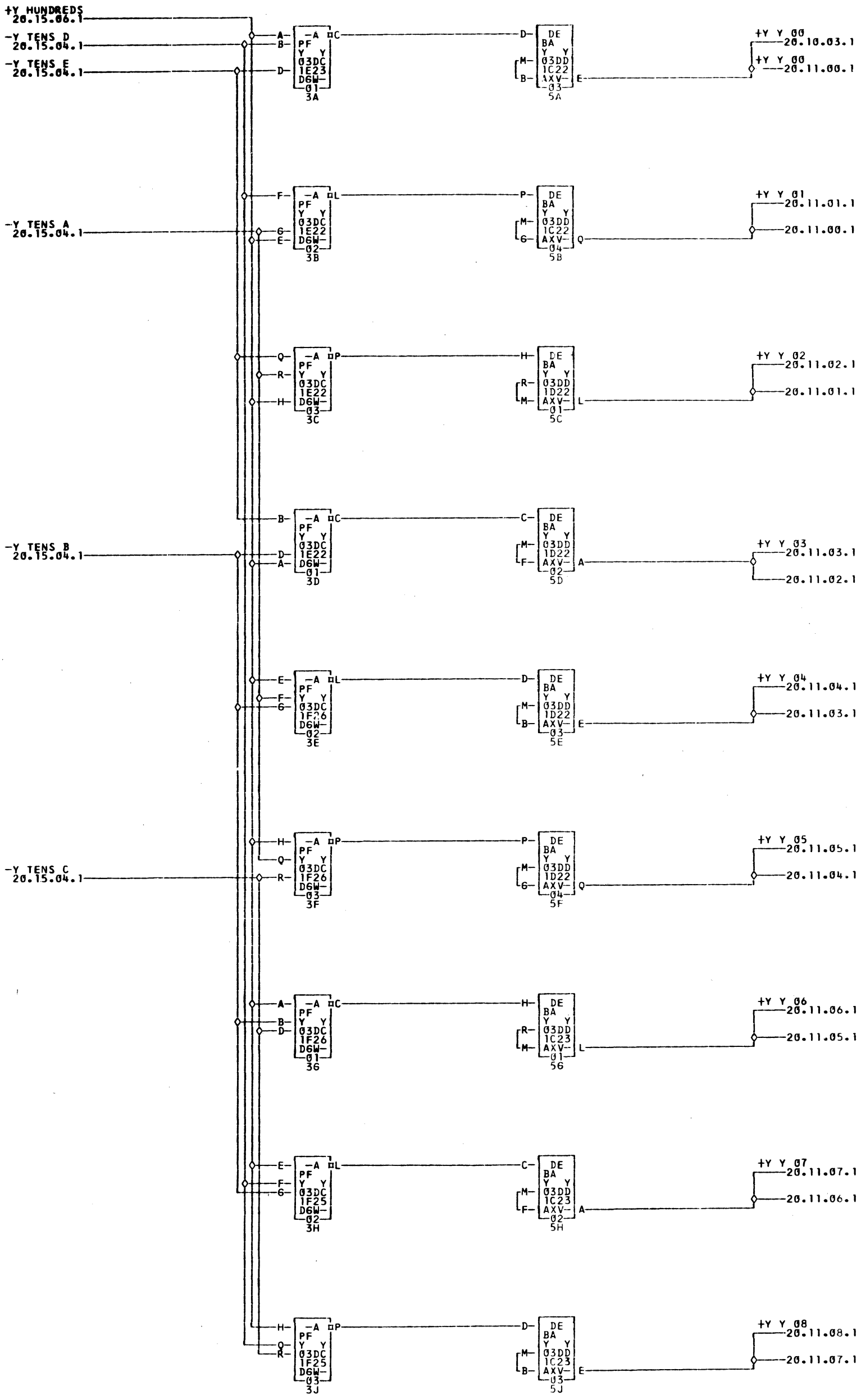
COMMENTS

TAG	DATE	E.C.NO.	TAG	DATE	E.C.NO.	TAG	DATE	E.C.NO.	TAG	DATE	E.C.NO.
A	06-18-62	1138516	B	10-09-62	115643	C	12-13-62	115643B	D	03-09-63	1150436
E	04-01-63	115643K	F	04-19-63	115643M	G	05-08-63	115643N	H	08-22-63	117778
I	01-31-64	118213	K	07-09-64	118285	L	09-16-64	122092	M	04-29-65	122157



COMMENTS

TAG	DATE	E.C.NO.	TAG	DATE	E.C.NO.	TAG	DATE	E.C.NO.	TAG	DATE	E.C.NO.
A	06-18-62	1138516	B	03-09-63	1156436	C	04-01-63	115643K			



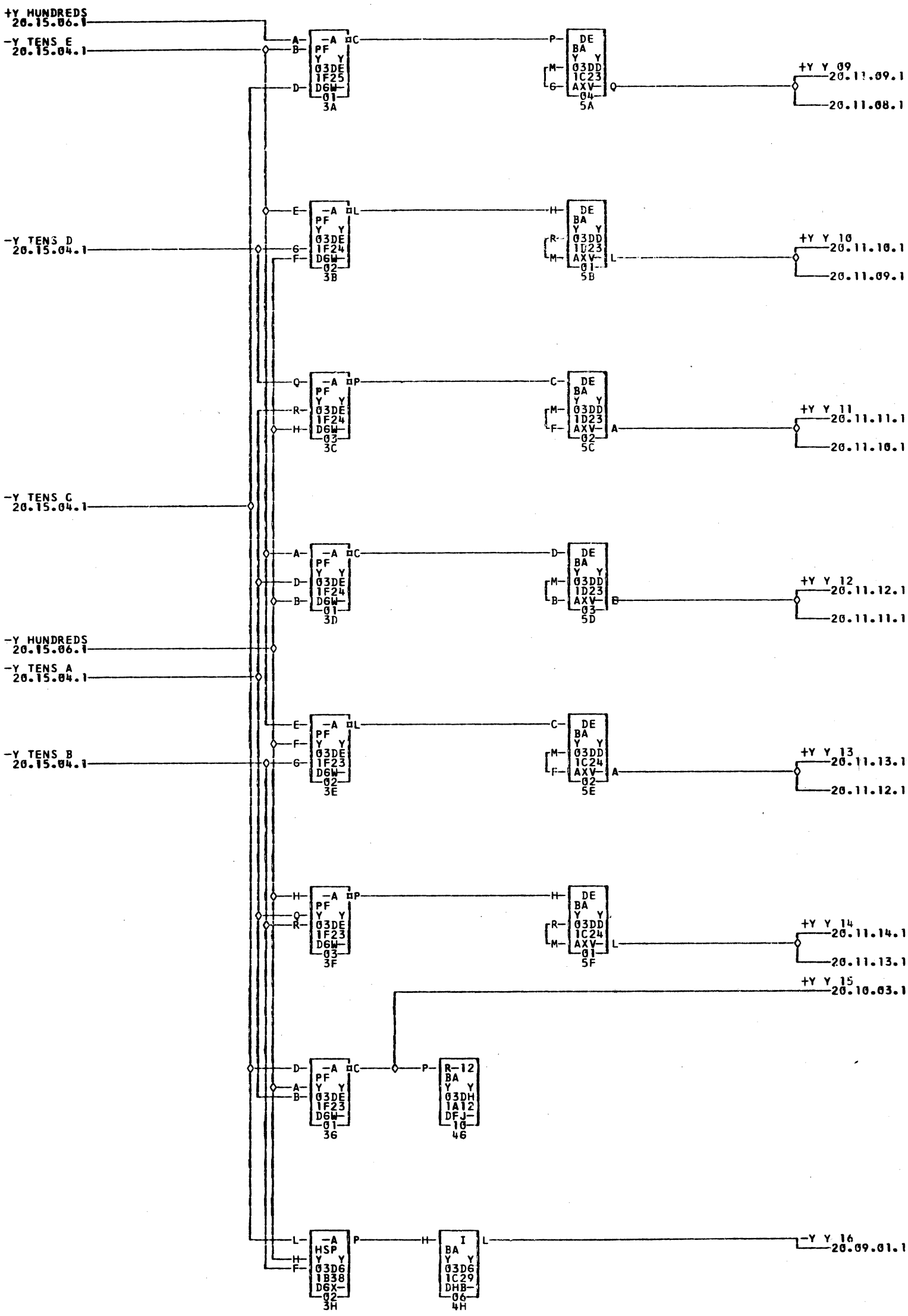
COMMENTS

TAG	DATE	E.C.NO.
A	06-18-62	1138516
E	04-01-63	115643K

TAG	DATE	E.C.NO.
B	10-09-62	115643

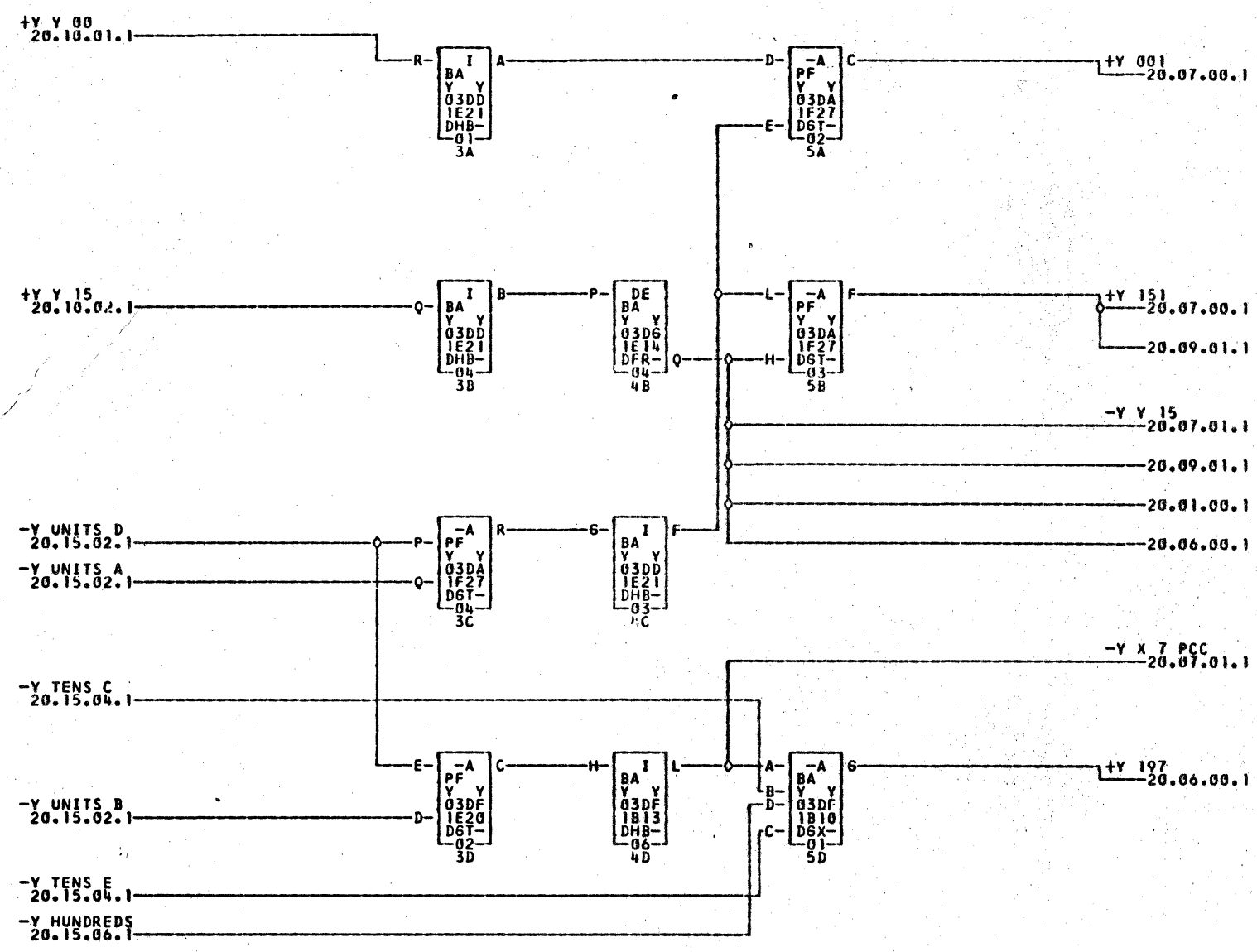
TAG	DATE	E.C.NO.
C	12-11-62	115643B

TAG	DATE	E.C.NO.
D	03-09-63	1156436



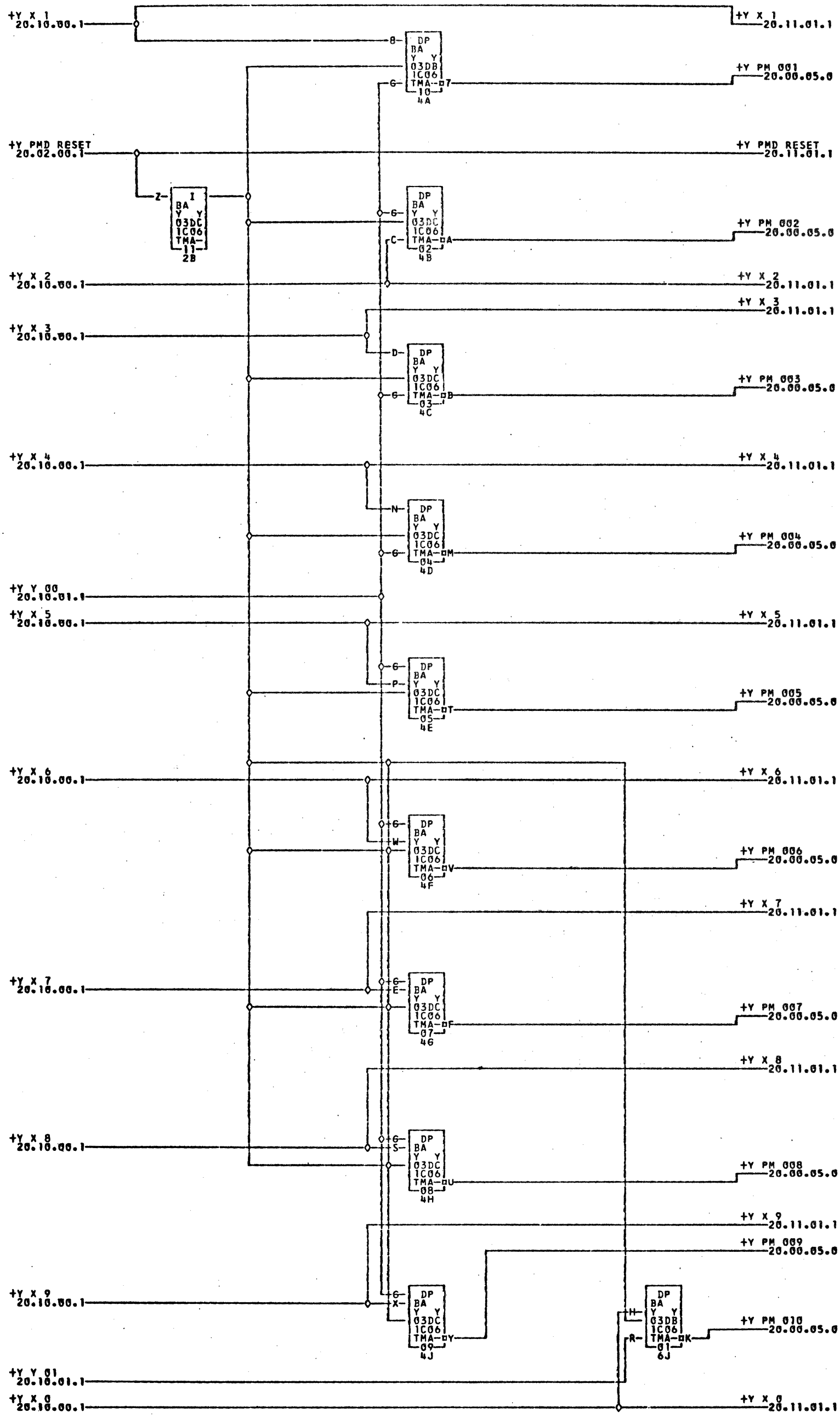
COMMENTS

TAG	DATE	E.C.NO.	TAG	DATE	E.C.NO.	TAG	DATE	E.C.NO.	TAG	DATE	E.C.NO.
A	06-18-62	1138516	B	10-09-62	115643	C	12-11-62	115643B	D	02-19-63	115643E
E	03-09-63	1156436	F	03-14-63	115643H	G	04-01-63	115643K	H	01-31-64	118213



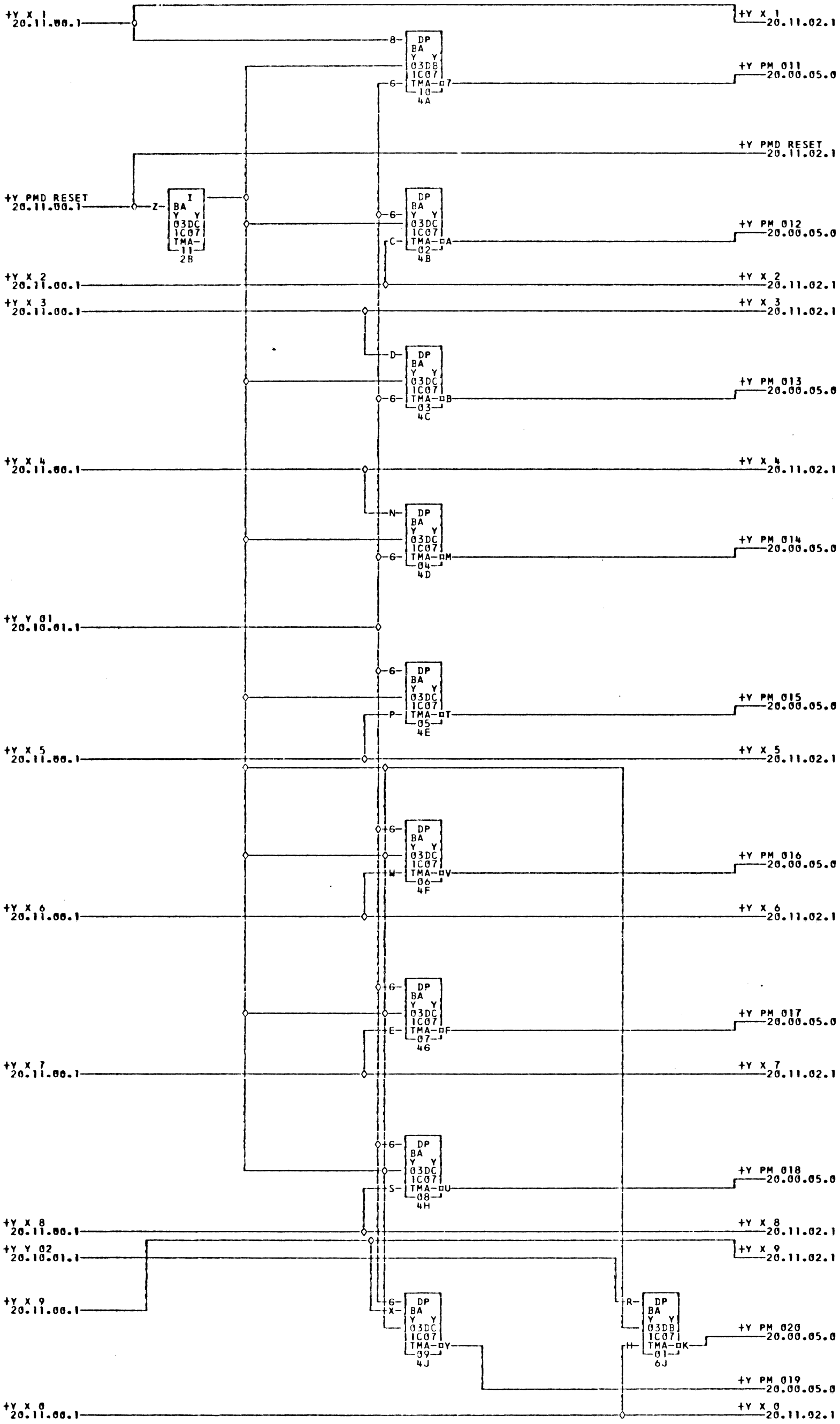
COMMENTS

TAG	DATE	E.C.NO.	TAG	DATE	E.C.NO.	TAG	DATE	E.C.NO.	TAG	DATE	E.C.NO.
A	06-18-62	1138516	B	10-09-62	115643	C	12-11-62	115643B	D	03-09-63	115643G
E	03-14-63	115643H	F	04-01-63	115643K	G	05-08-63	115643N			



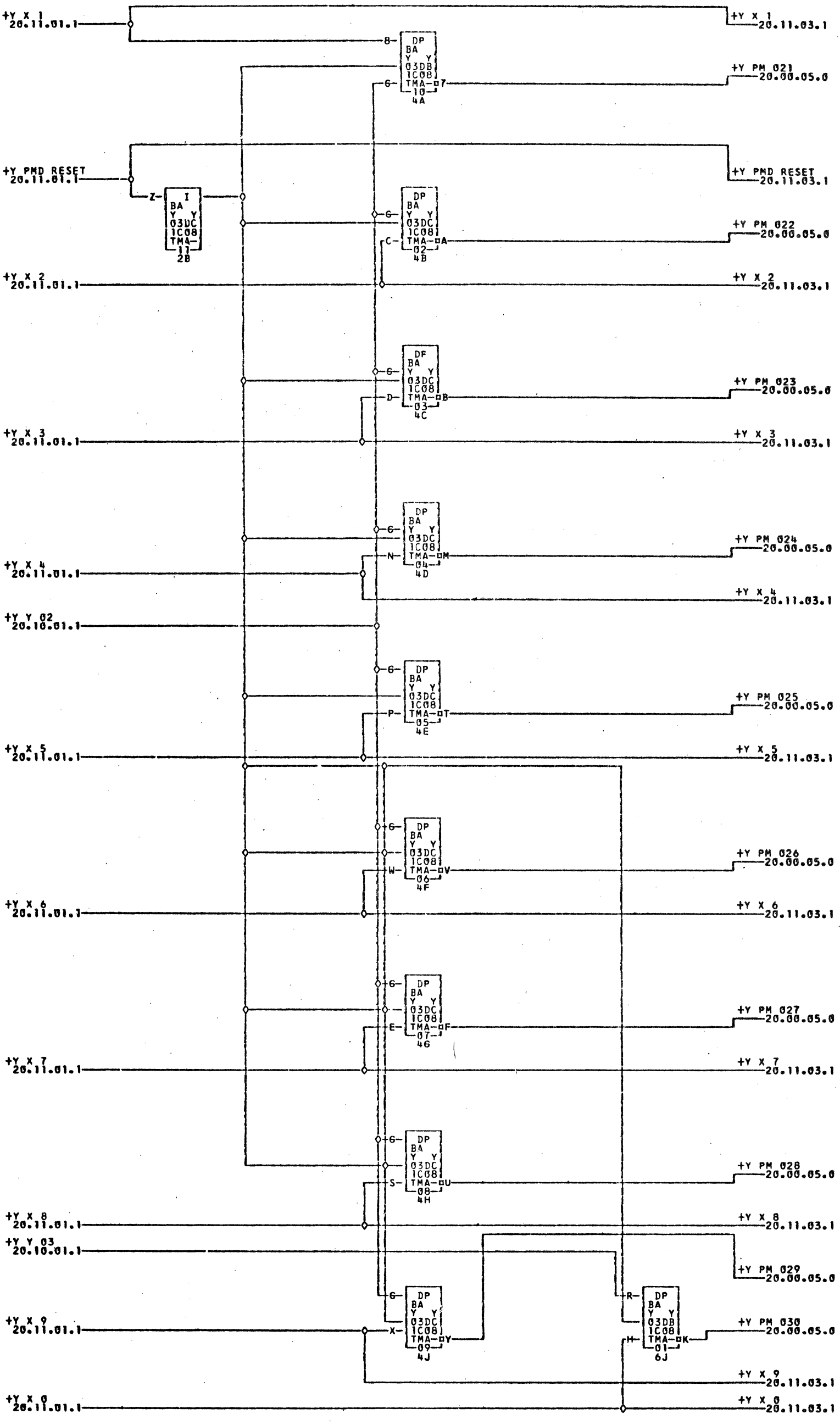
COMMENTS

TAG	DATE	E.C.NO.	TAG	DATE	E.C.NO.	TAG	DATE	E.C.NO.	TAG	DATE	E.C.NO.
A	06-18-62	1138516	B	10-09-62	115643	C	01-31-64	118213			

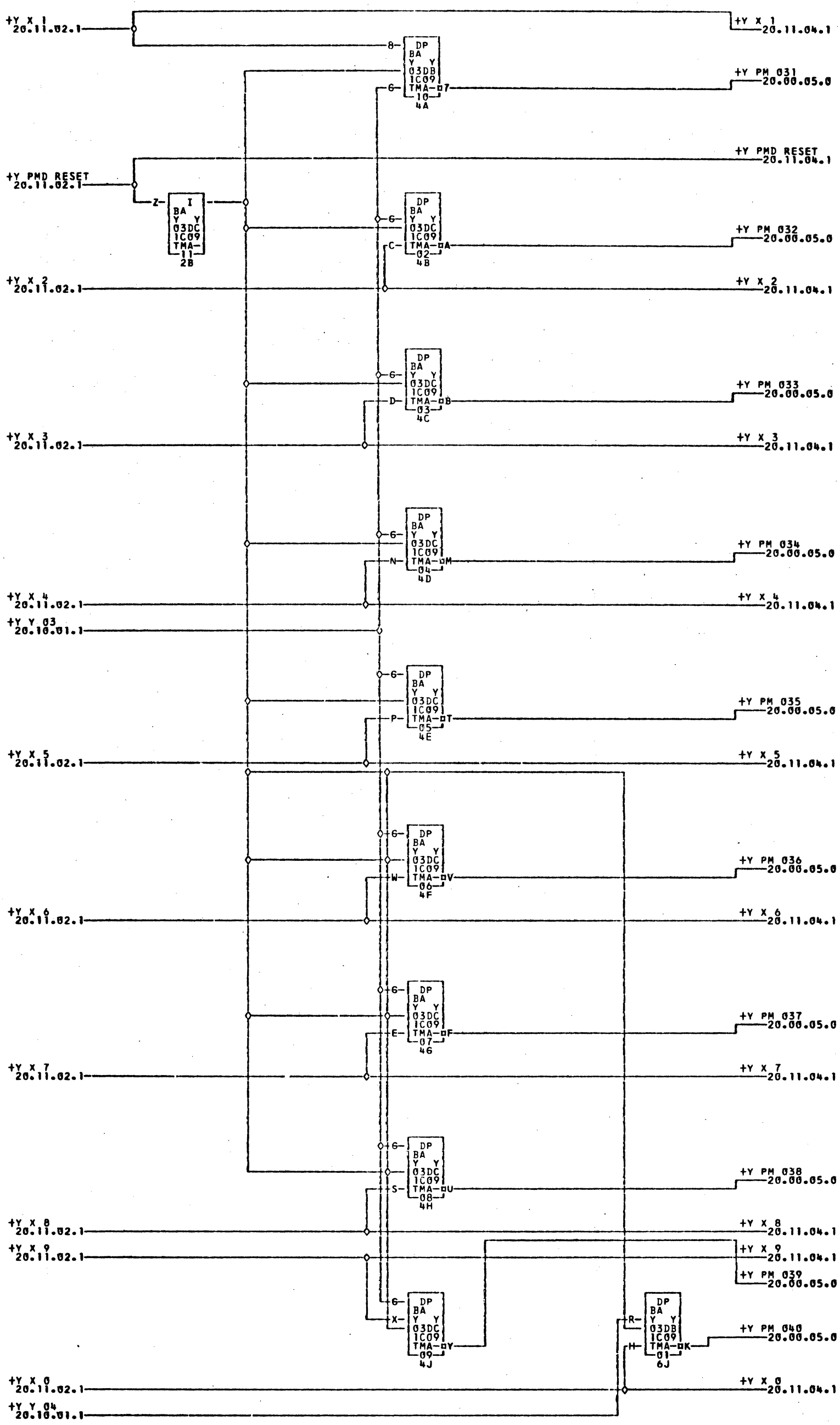


COMMENTS

TA6	DATE	E.C.NO.	TA6	DATE	E.C.NO.	TA6	DATE	E.C.NO.	TA6	DATE	E.C.NO.
A	06-18-62	1138516	B	10-09-62	115643	C	01-31-64	118213			

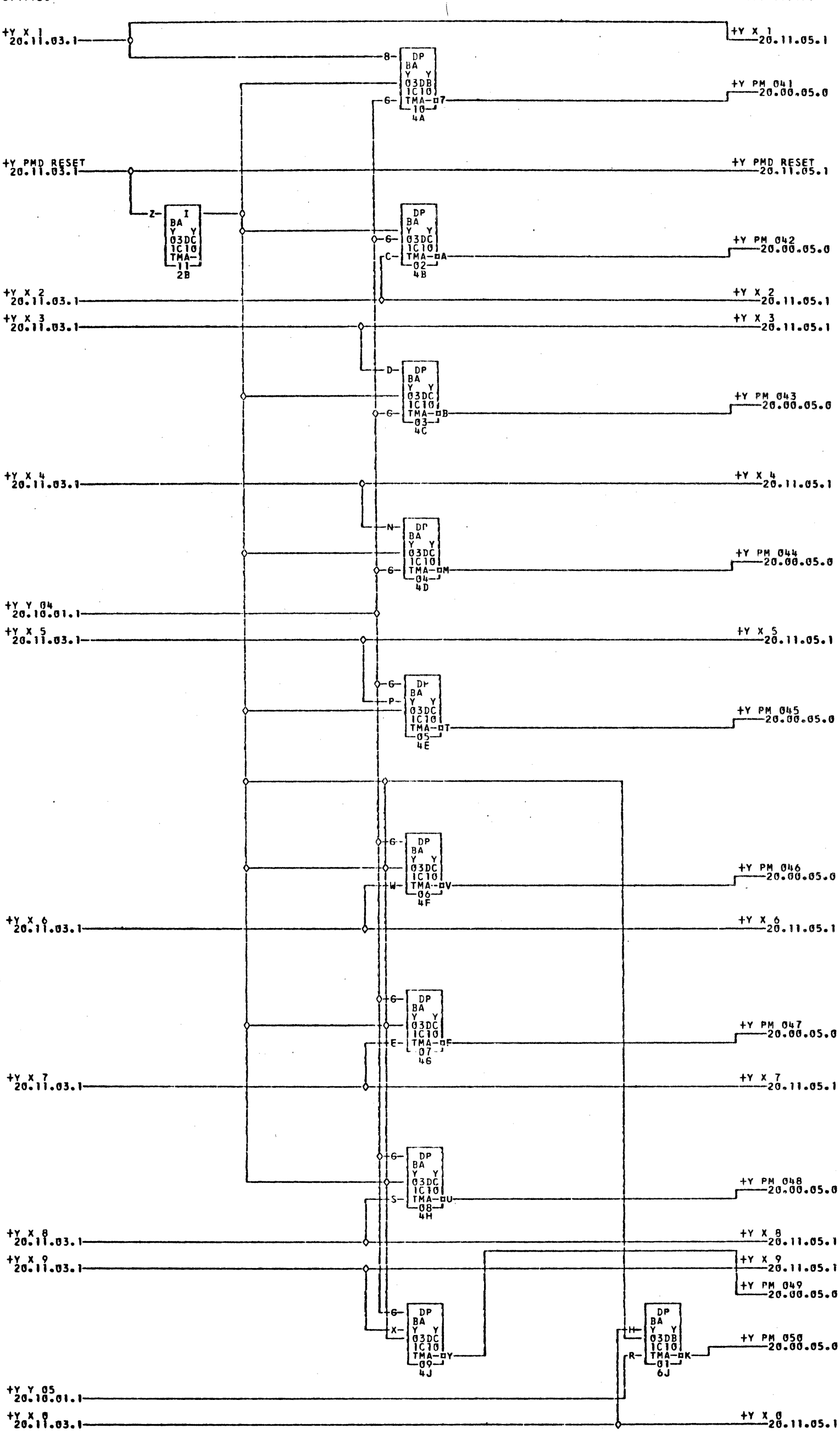


COMMENTS	TAG	DATE	E.C.NO.	TAG	DATE	E.C.NO.	TAG	DATE	E.C.NO.	TAG	DATE	E.C.NO.
	A	06-18-62	1138516	B	10-09-62	115643	C	01-31-64	118213			

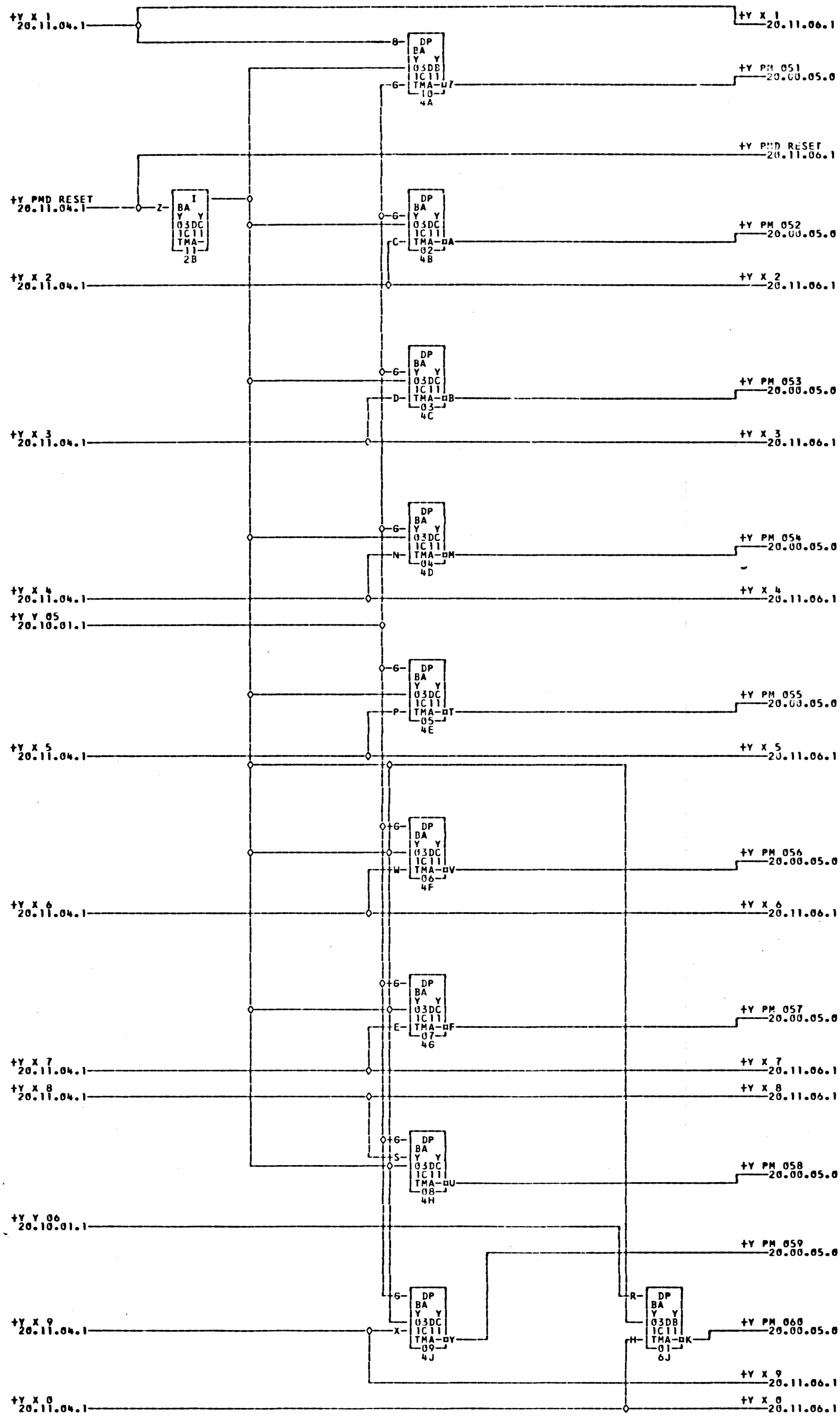


COMMENTS

TAG	DATE	E.C.NO.	TAG	DATE	E.C.NO.	TAG	DATE	E.C.NO.	TAG	DATE	E.C.NO.
A	06-18-62	1138516	B	10-09-62	115643	C	01-31-64	118213			



COMMENTS	TAG	DATE	E.C.NO.	TAG	DATE	E.C.NO.	TAG	DATE	E.C.NO.	TAG	DATE	E.C.NO.
	A	06-18-62	1138516	B	10-09-62	115643	C	01-31-64	118213			



COMMENTS

TAG	DATE	E.C.NO.	TAG	DATE	E.C.NO.	TAG	DATE	E.C.NO.	TAG	DATE	E.C.NO.
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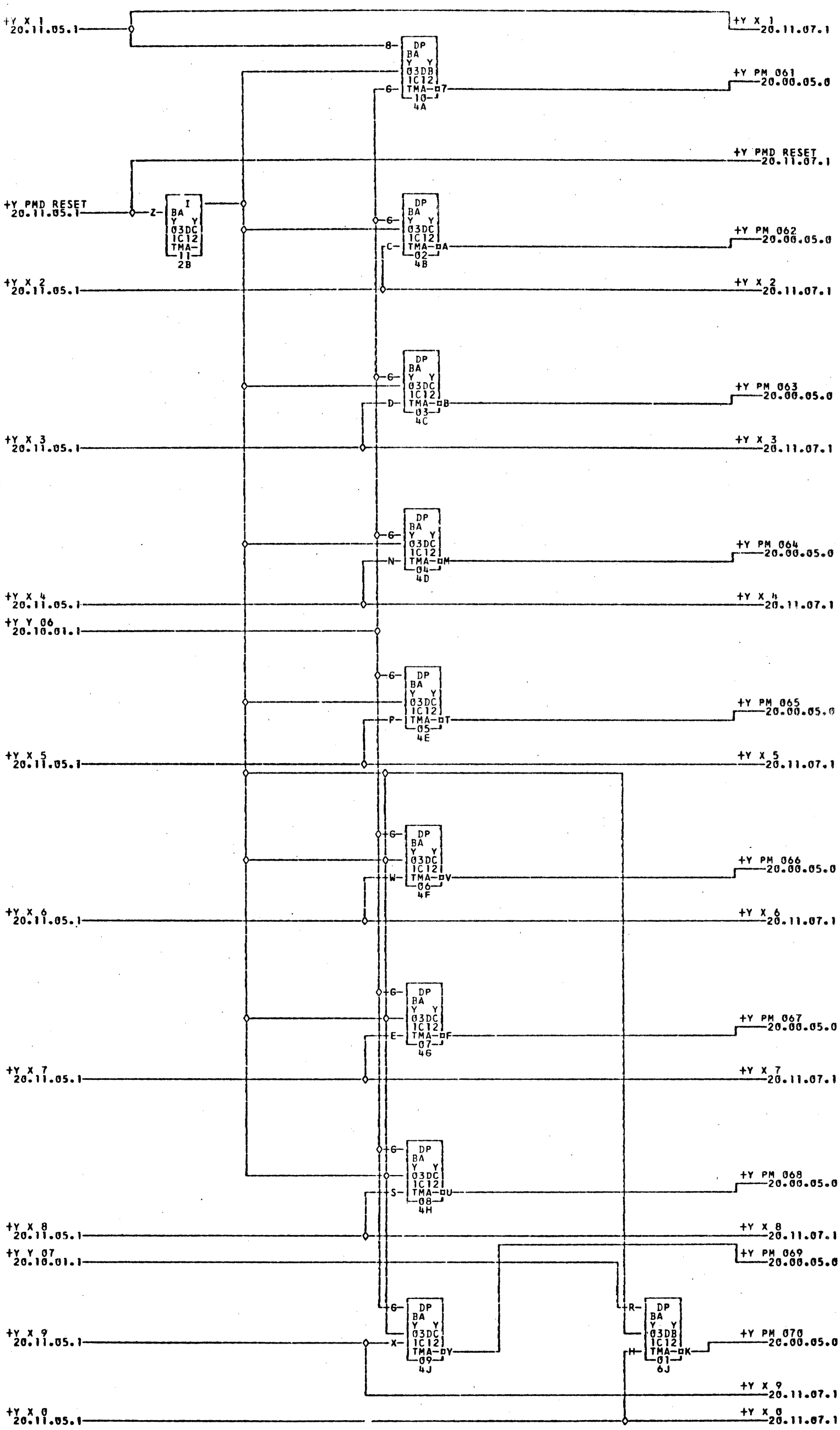
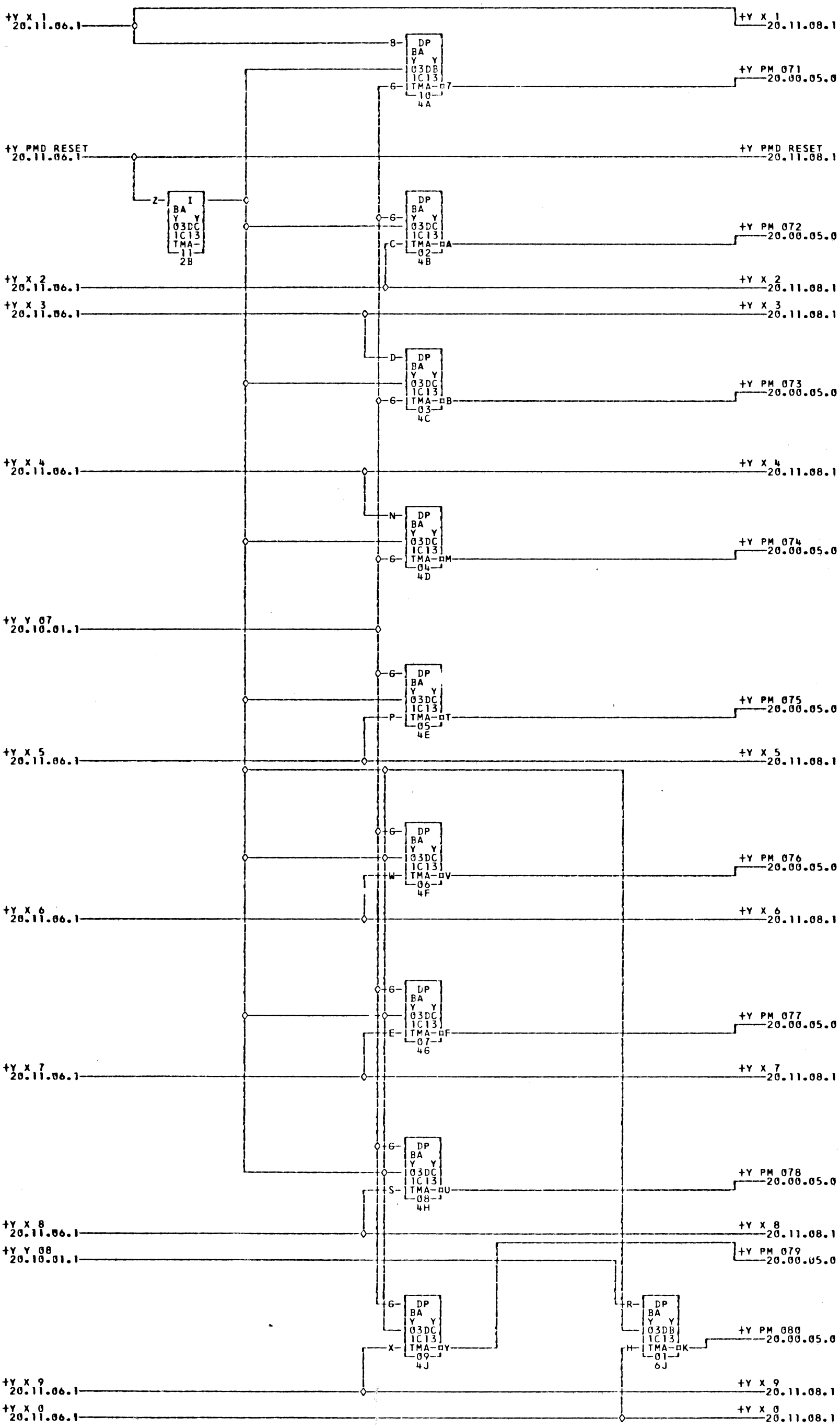
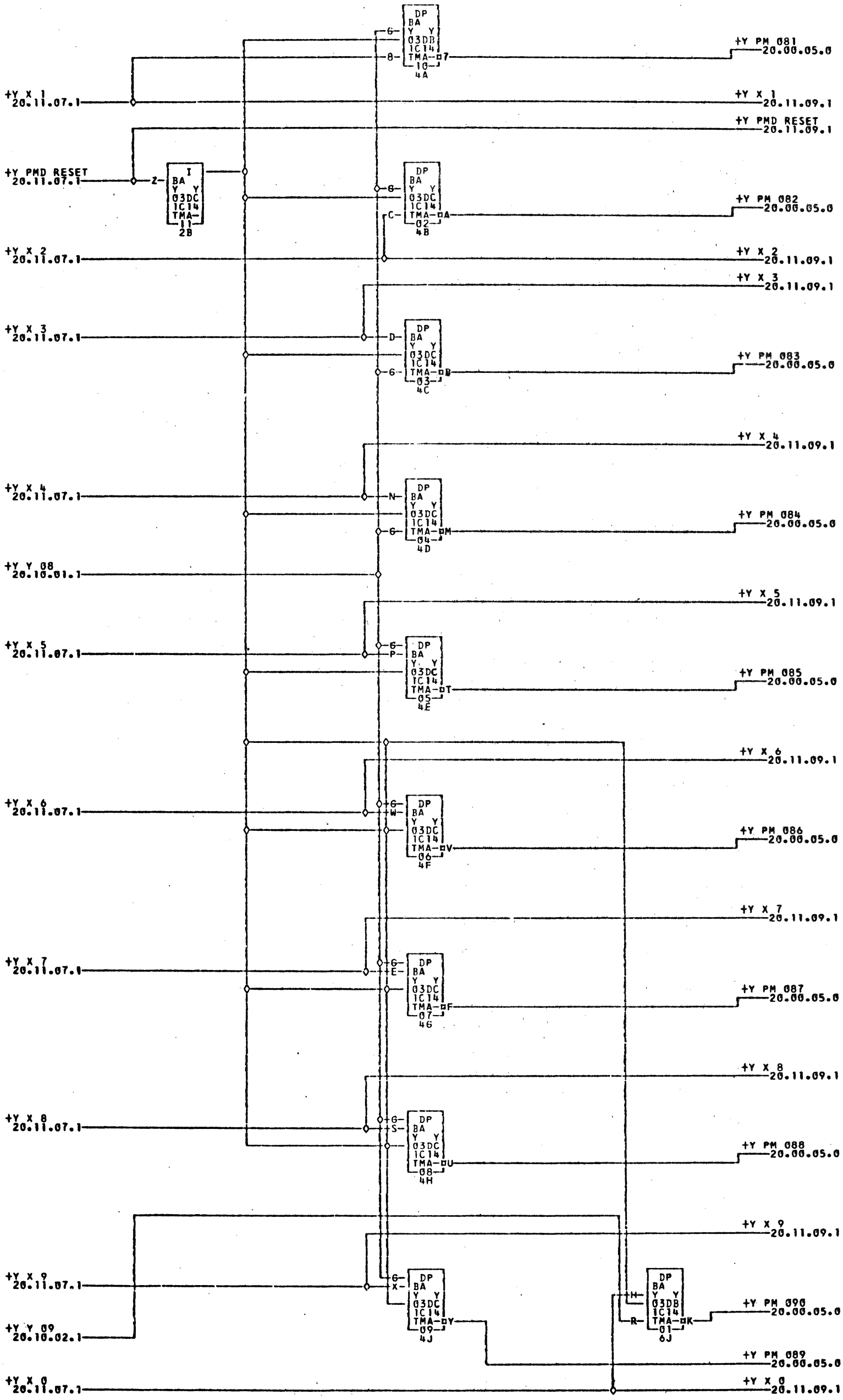


COMMENTS	TAG	DATE	E.C.NO.	TAG	DATE	E.C.NO.	TAG	DATE	E.C.NO.	TAG	DATE	E.C.NO.
	A	06-18-62	1138516	B	10-09-62	115643	C	01-31-64	118213			

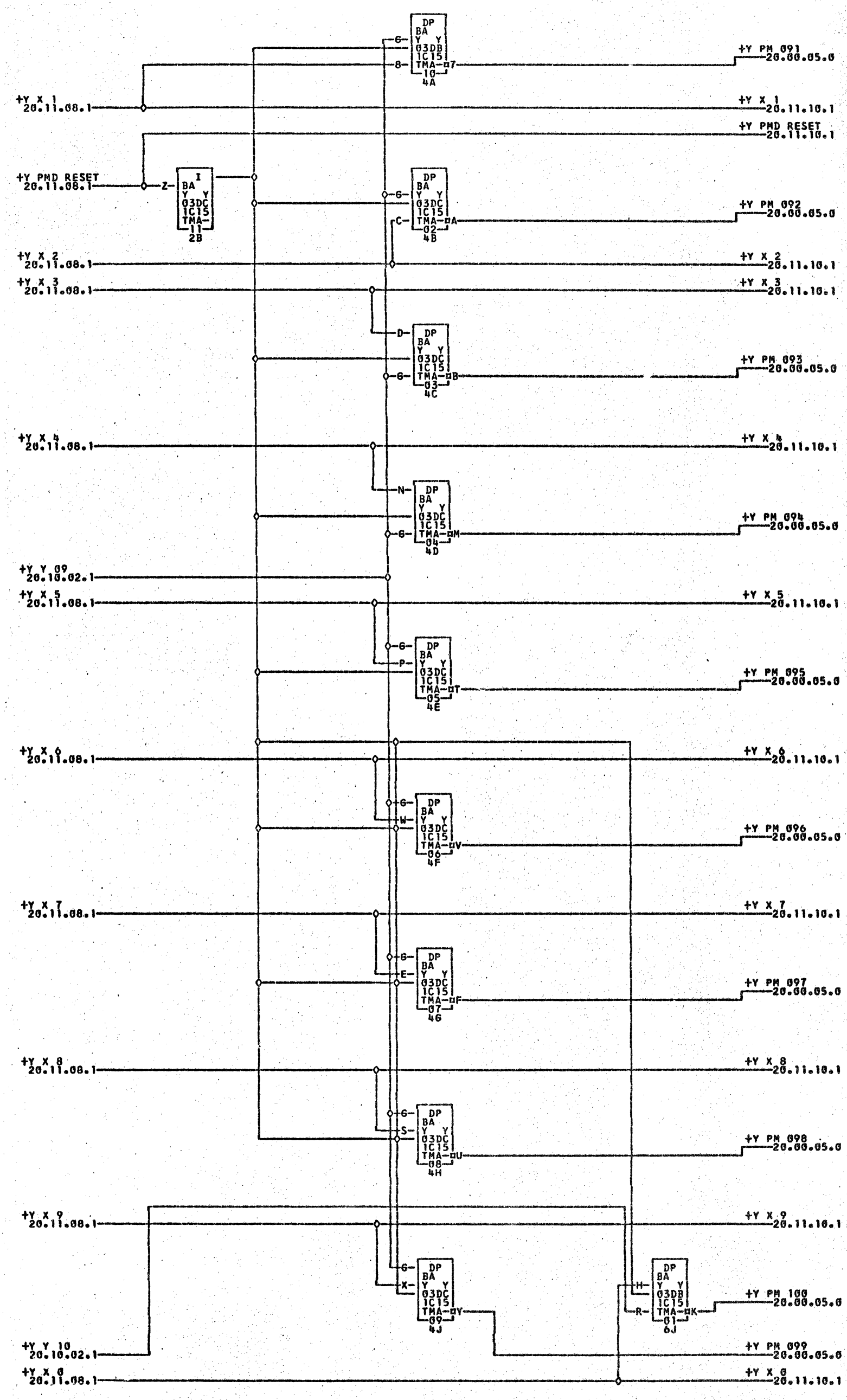


COMMENTS

TAG	DATE	E.C.NO.	TAG	DATE	E.C.NO.	TAG	DATE	E.C.NO.	TAG	DATE	E.C.NO.
A	06-18-62	1138516	B	10-09-62	115643	C	01-31-64	118213			



COMMENTS	TAG	DATE	E.C.NO.	TAG	DATE	E.C.NO.	TAG	DATE	E.C.NO.	TAG	DATE	E.C.NO.
	A	06-18-62	1138516	B	10-09-62	115643	C	01-31-64	118213			



COMMENTS

TAG	DATE	E.C.NO.	TAG	DATE	E.C.NO.	TAG	DATE	E.C.NO.	TAG	DATE	E.C.NO.
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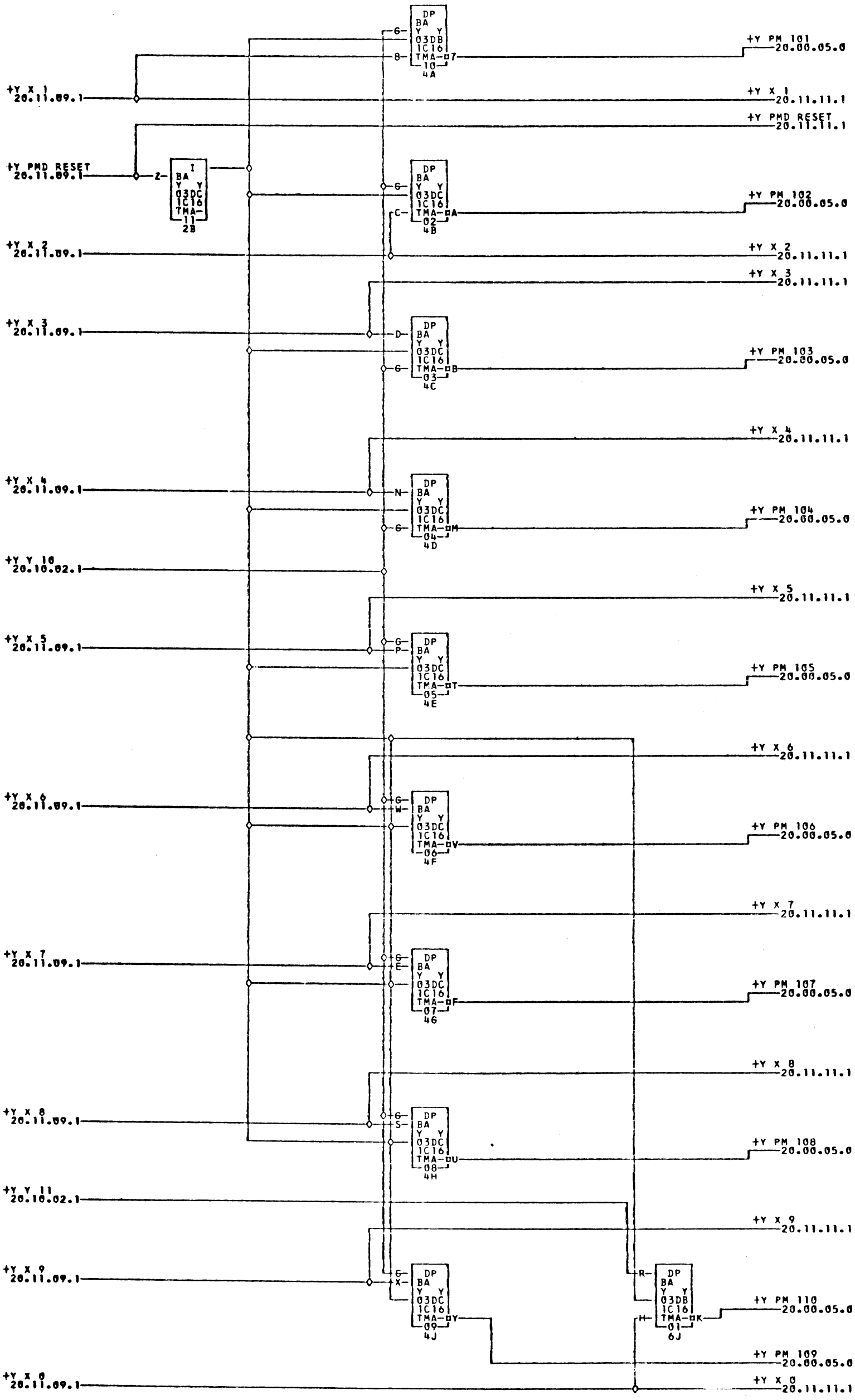
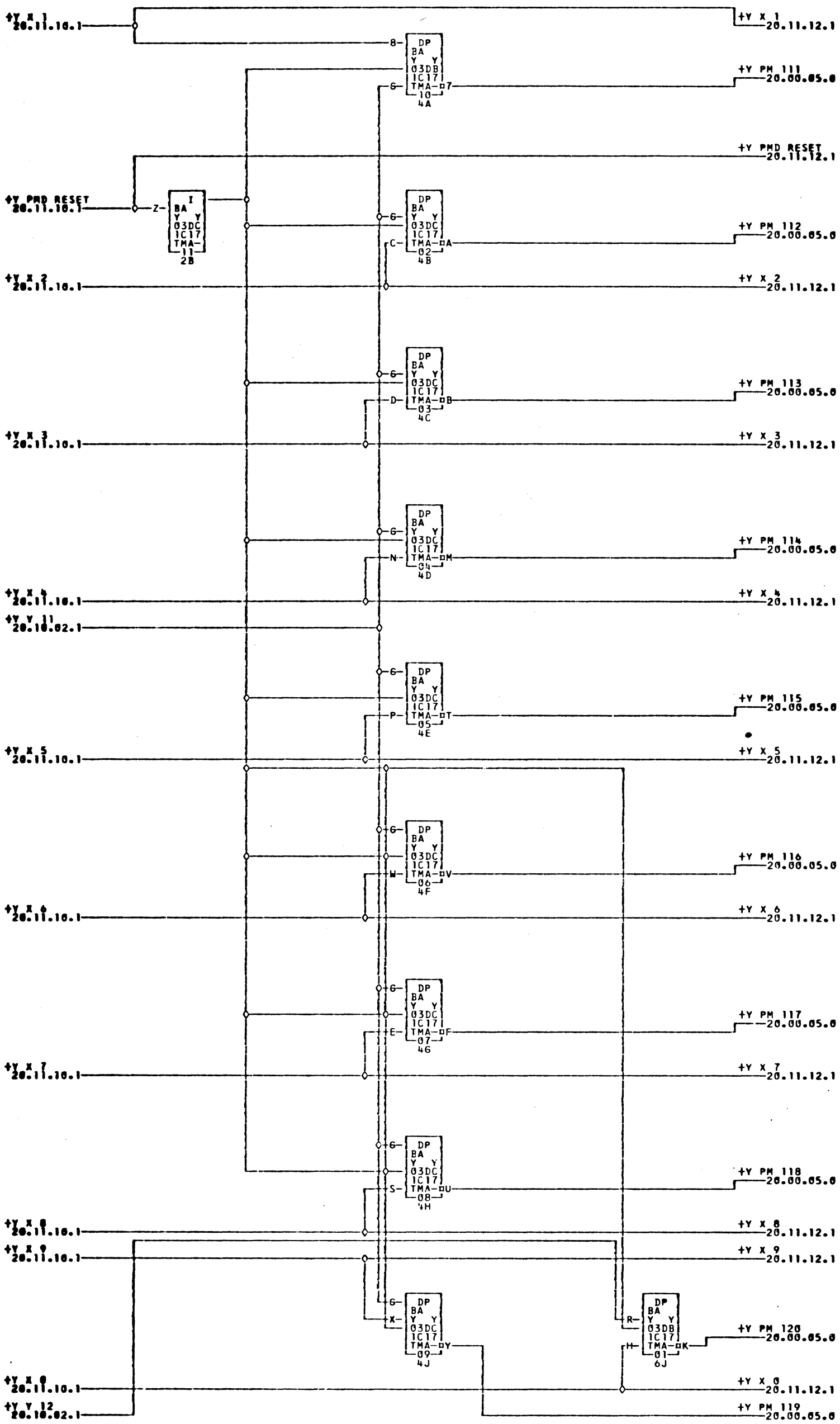


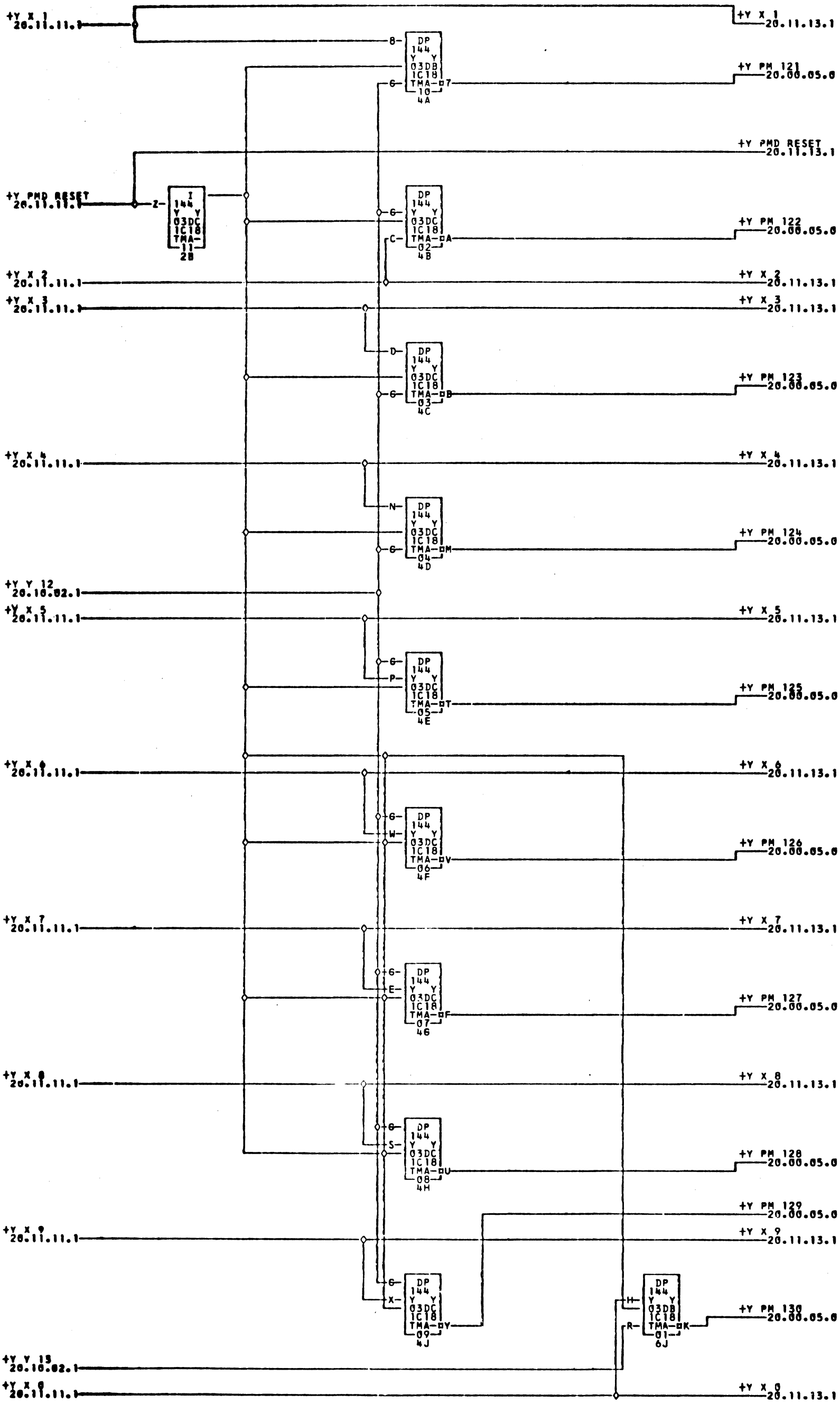
COMMENTS

TAG	DATE	E.C.NO.	TAG	DATE	E.C.NO.	TAG	DATE	E.C.NO.	TAG	DATE	E.C.NO.
A	06-18-62	1138516	B	10-09-62	115643	C	01-31-64	118213			



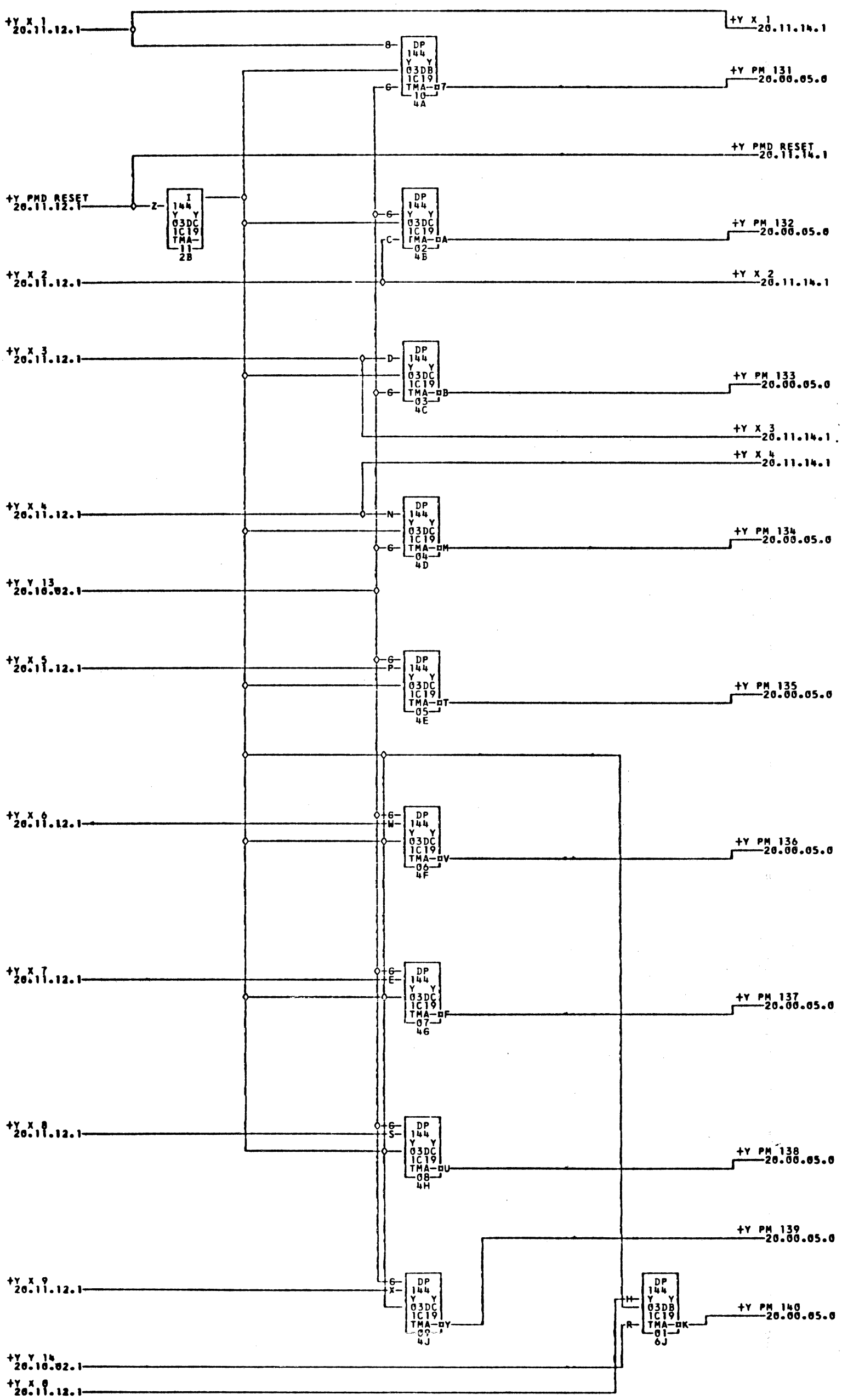
COMMENTS

TAG	DATE	E.C.NO.	TAG	DATE	E.C.NO.	TAG	DATE	E.C.NO.	TAG	DATE	E.C.NO.
A	06-18-62	1138516	B	10-09-62	115643	C	01-31-64	118213			

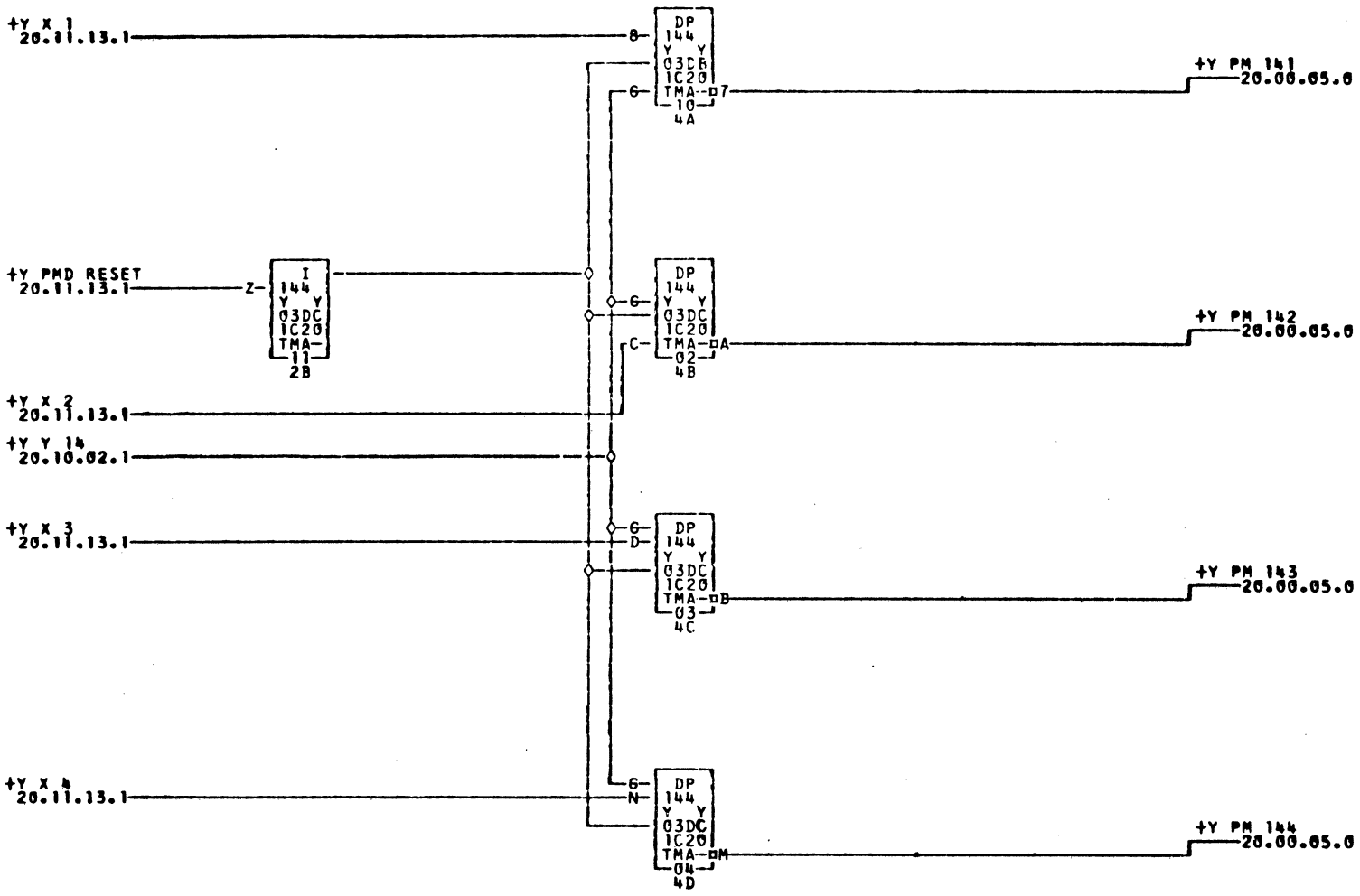


COMMENTS

TAG	DATE	E.C.NO.	TAG	DATE	E.C.NO.	TAG	DATE	E.C.NO.	TAG	DATE	E.C.NO.
A	06-18-62	1138516	B	10-09-62	115643	C	01-31-64	118213			

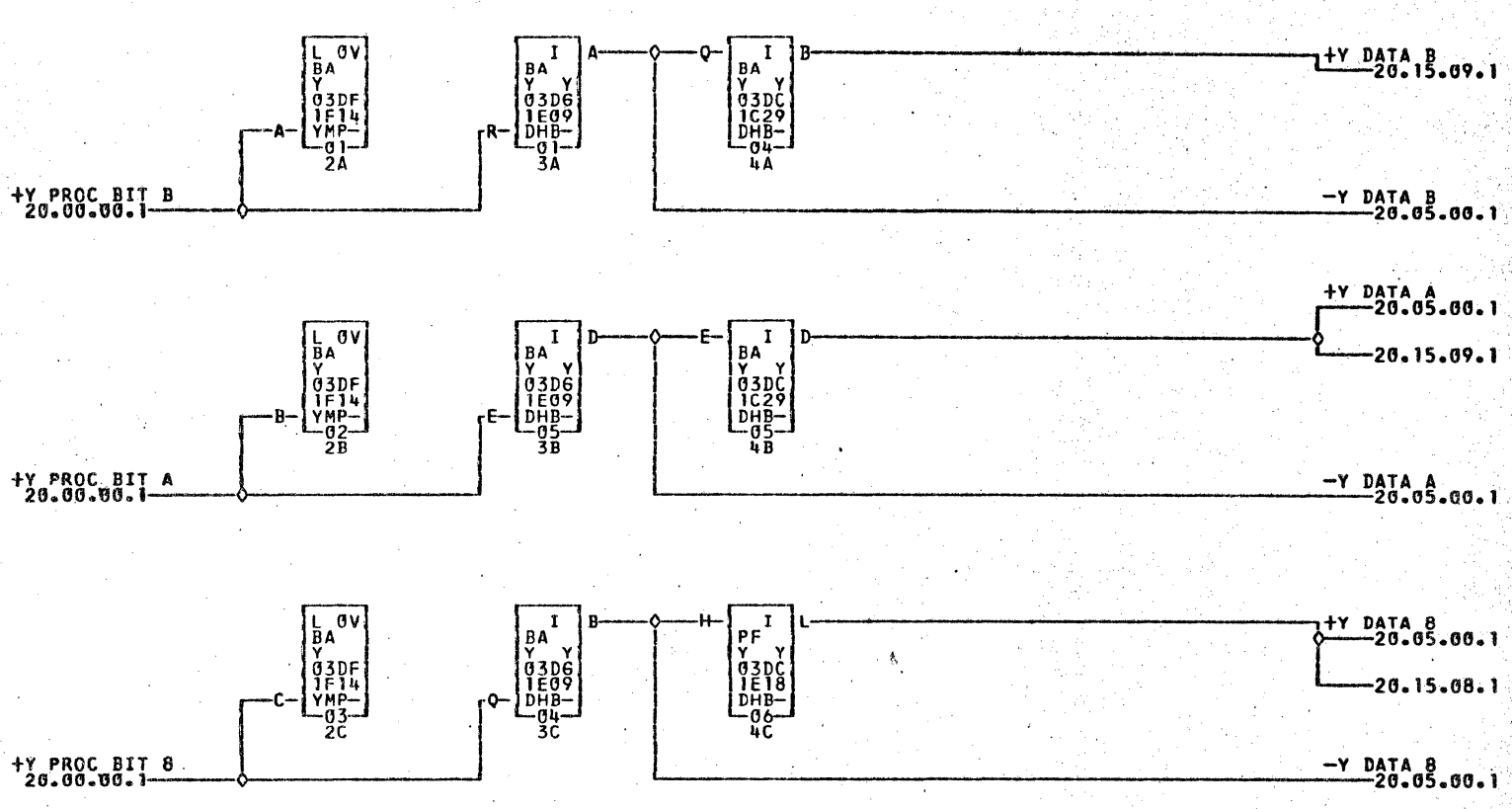


COMMENTS	TAG	DATE	E.C.NO.	TAG	DATE	E.C.NO.	TAG	DATE	E.C.NO.	TAG	DATE	E.C.NO.
	A	06-18-62	1138516	B	10-09-62	115643	C	01-31-64	118213			



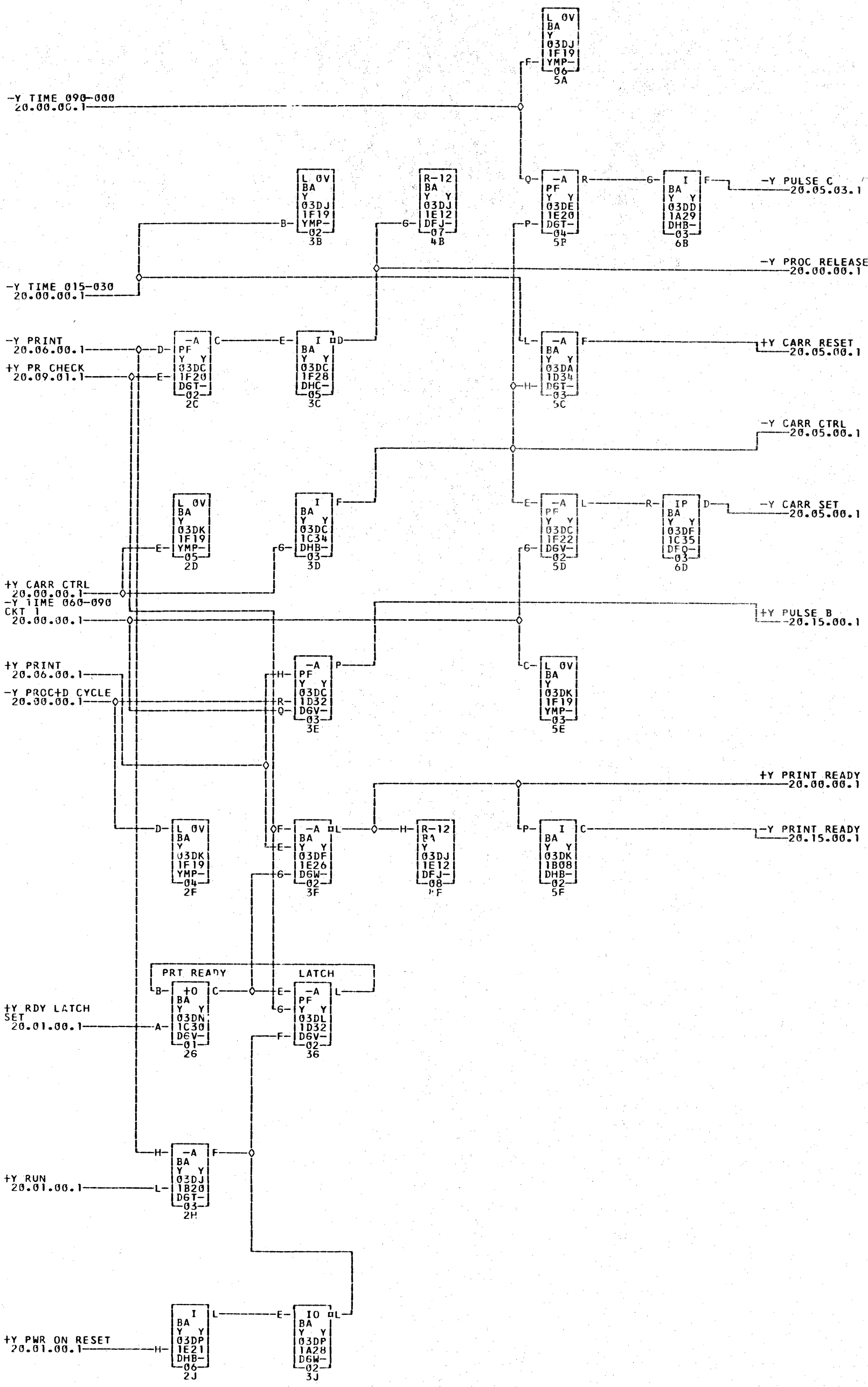
COMMENTS

TAG	DATE	E.C.NO.	TAG	DATE	E.C.NO.	TAG	DATE	E.C.NO.	TAG	DATE	E.C.NO.
A	06-18-62	1138516	B	10-09-62	115643	C	01-31-64	118213			



COMMENTS

TAG	DATE	E.C.NO.	TAG	DATE	E.C.NO.	TAG	DATE	E.C.NO.	TAG	DATE	E.C.NO.
A	06-18-62	1138516	B	10-09-62	115643	C	12-11-62	115643B	D	01-23-63	115643D
E	03-09-63	1156436	F	01-31-64	118213						



COMMENTS

TAG	DATE	E.C.NO.	TAG	DATE	E.C.NO.	TAG	DATE	E.C.NO.	TAG	DATE	E.C.NO.
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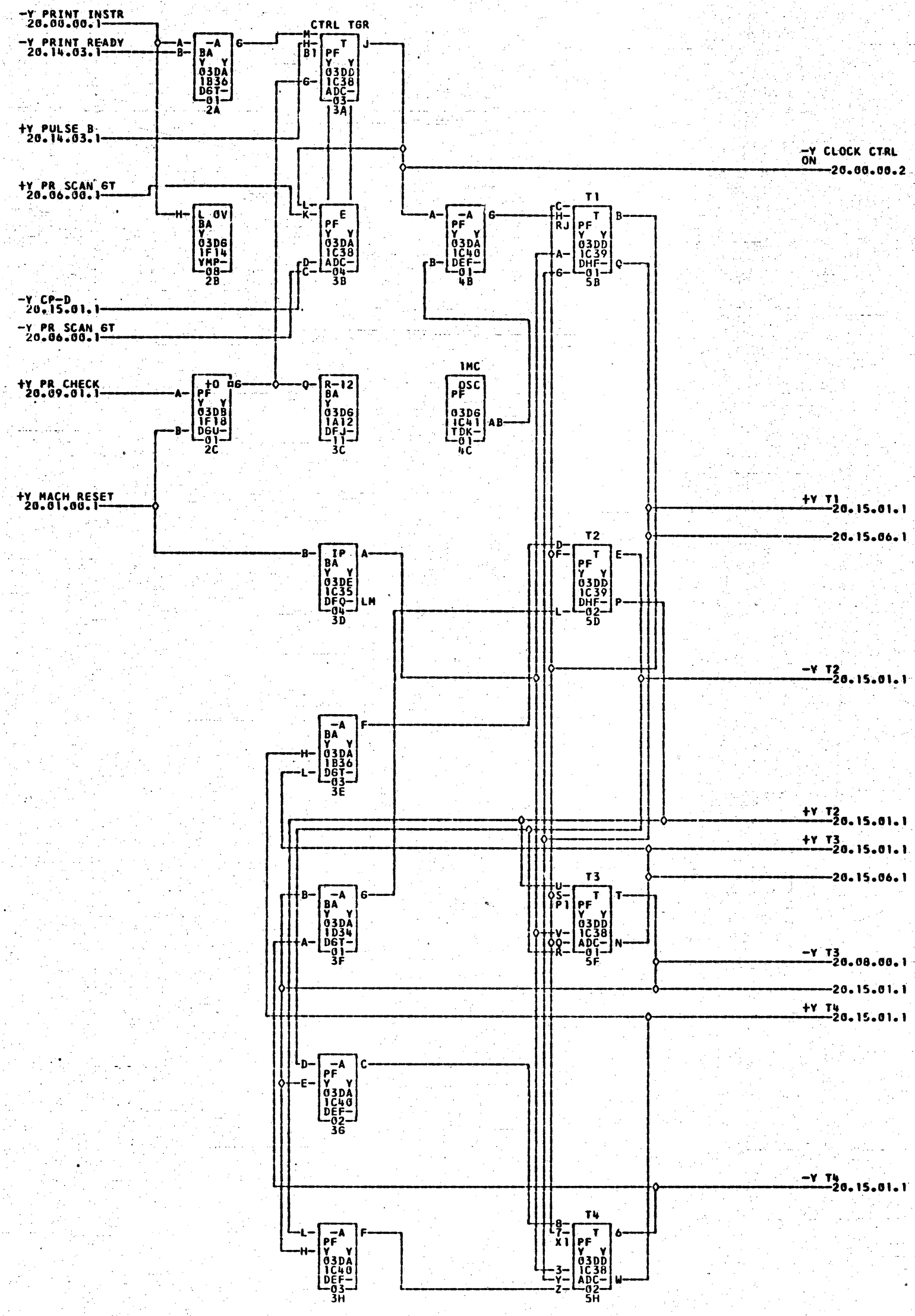
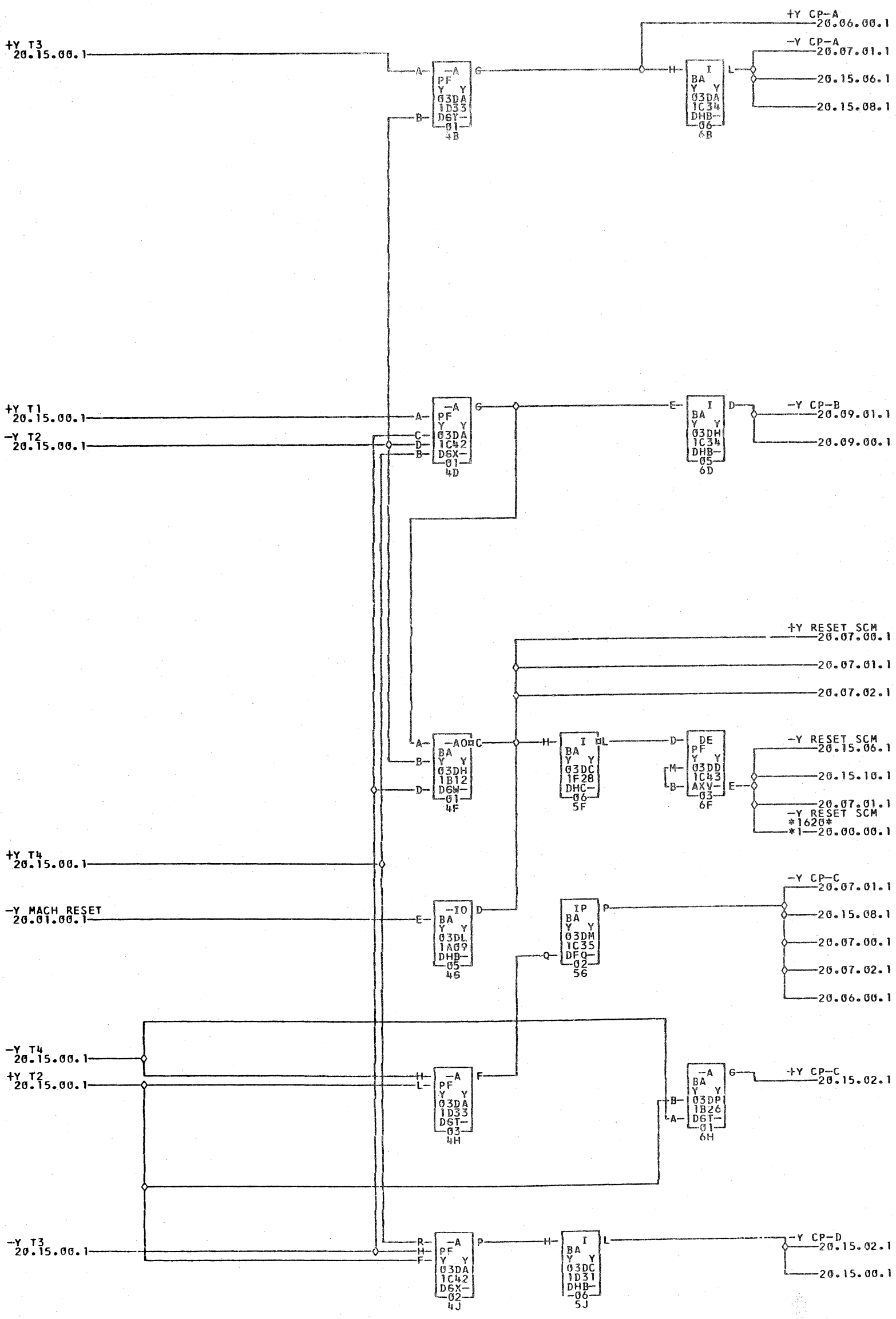
E	03-09-63	1156436	F	04-01-63	115643K	G	05-08-63	115643N	H	07-05-63	117777
J	08-22-63	117778	K	09-13-63	118197	L	11-23-63	1182C1	M	01-31-64	118213
N	04-08-64	118225	P	04-07-66	305508						



COMMENTS

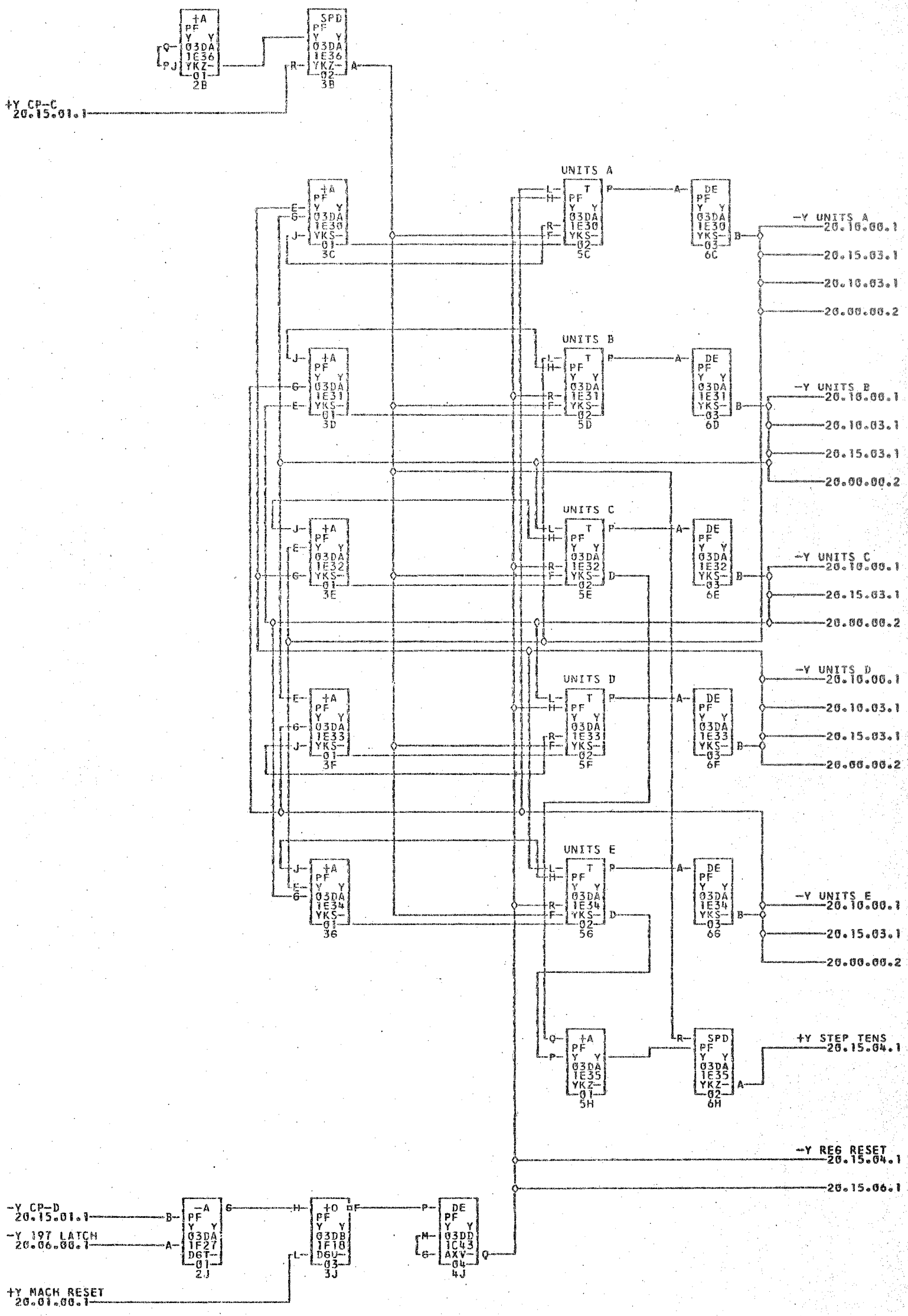
TAG	DATE	E.C.NO.	TAG	DATE	E.C.NO.	TAG	DATE	E.C.NO.	TAG	DATE	E.C.NO.
A	06-18-62	1138516	B	10-09-62	115643	C	12-11-62	1156438	D	02-19-63	115643E
E	03-09-63	1156436	F	04-24-63	115643K	G	09-13-63	118197	H	01-06-64	118202
J	09-16-64	122092									



*1—03D1F09A

COMMENTS

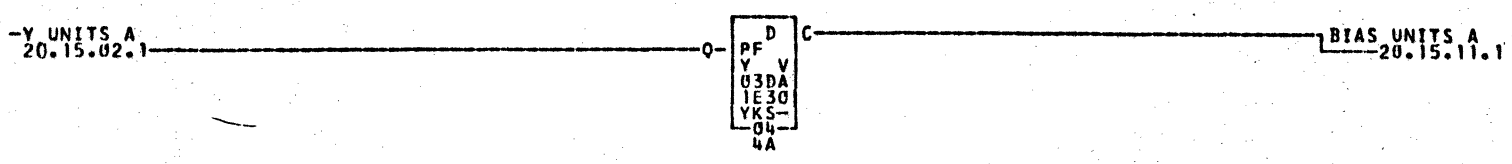
TAG	DATE	E.C.NO.	TAG	DATE	E.C.NO.	TAG	DATE	E.C.NO.	TAG	DATE	E.C.NO.
A	06-18-62	1138516	B	10-09-62	115643	C	12-13-62	115643B	D	02-19-63	115643E
E	03-09-63	1156436	F	04-01-63	115643K	G	04-17-63	115643M	H	05-08-63	115643N
J	01-31-64	118213	K	08-24-64	118294	L	09-16-64	122092	M	03-15-65	122152
N	08-19-65	122158	P	06-01-66	305518						

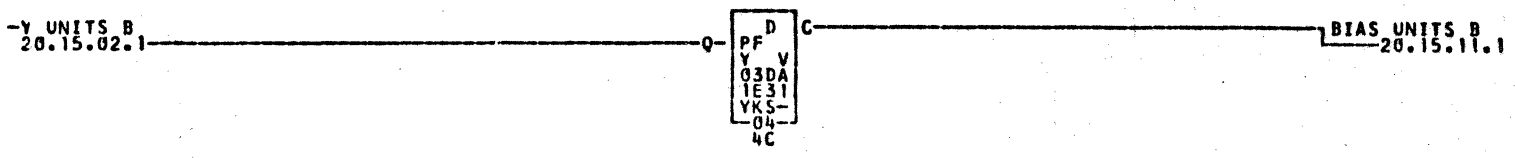


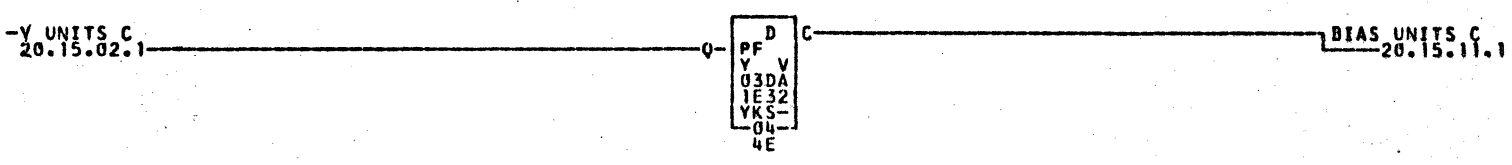
COMMENTS

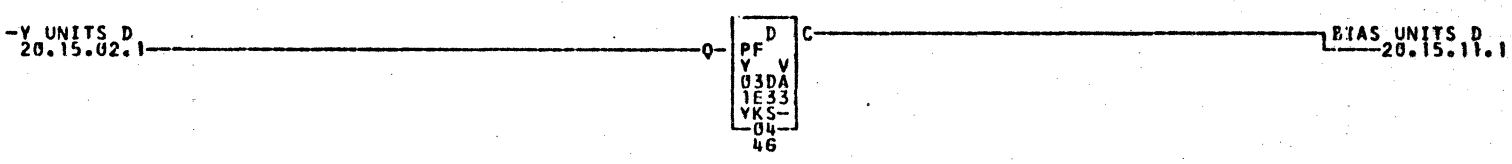
TAG	DATE	E.C.NO.	TAG	DATE	E.C.NO.	TAG	DATE	E.C.NO.	TAG	DATE	E.C.NO.
A	06-18-62	1138516	B	10-09-62	1115643	C	01-23-63	1115643D	D	03-09-63	1156436
E	04-01-63	1115643K	F	01-31-64	1118213						

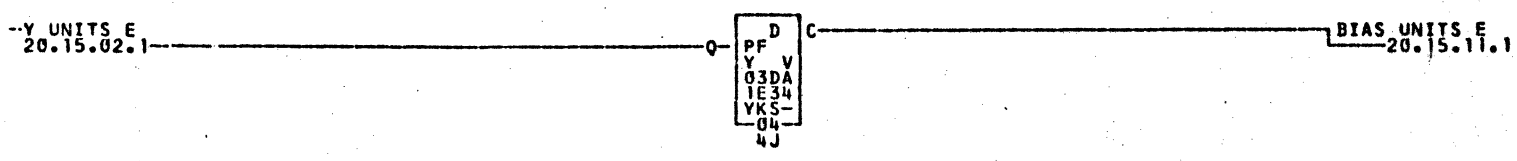
0749958 UNITS BIAS DRIVE 1443 PF 20.15.03.1



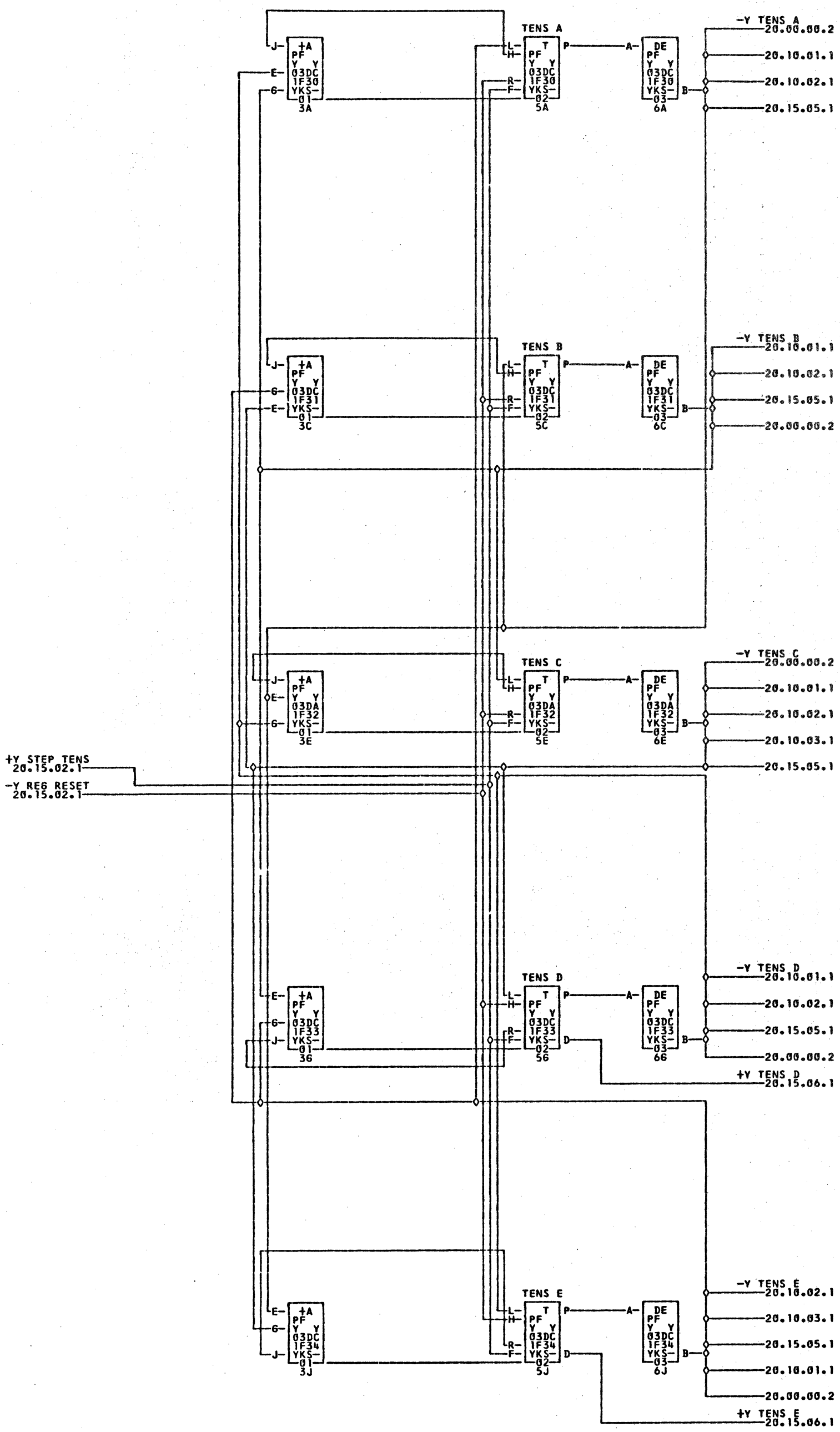






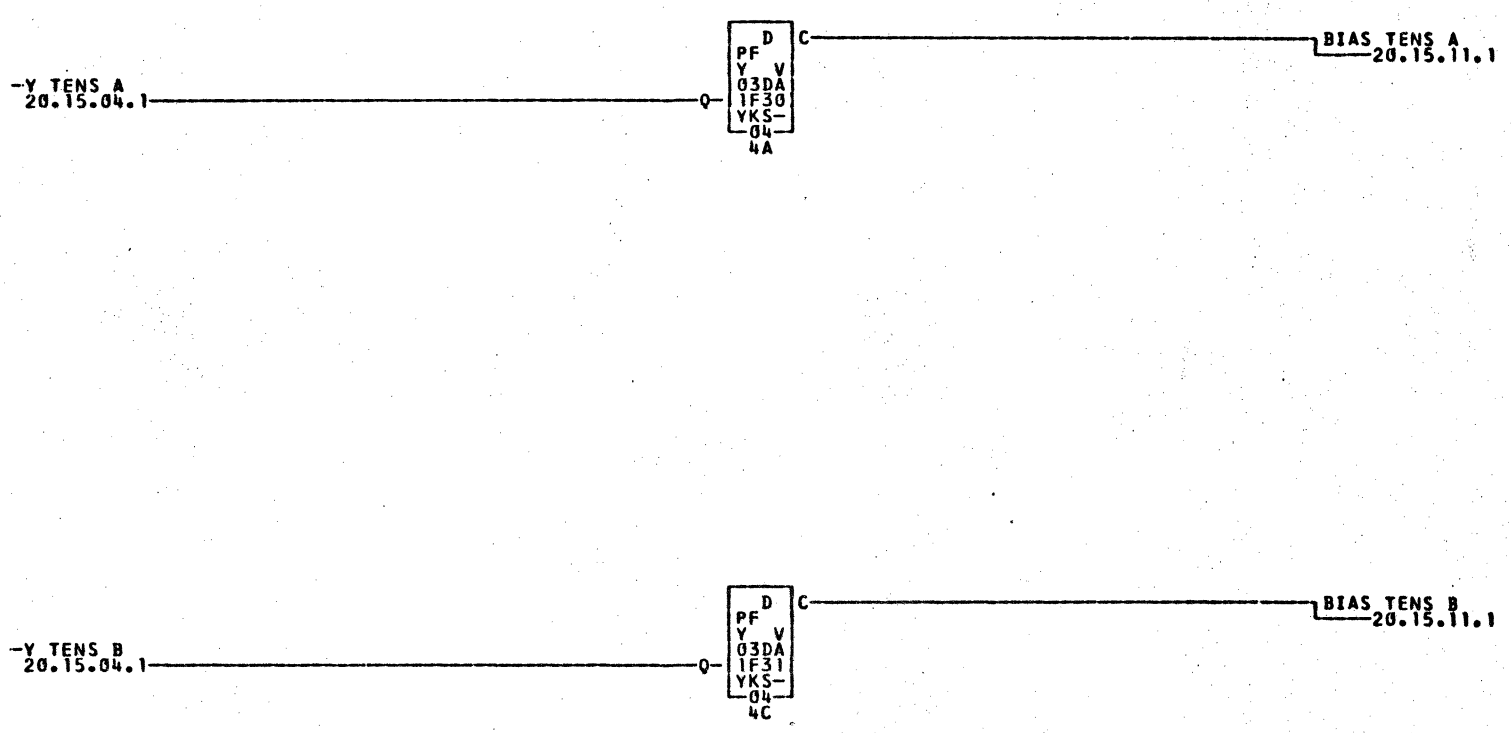


COMMENTS	TAG	DATE	E.C.NO.	TAG	DATE	E.C.NO.	TAG	DATE	E.C.NO.	TAG	DATE	E.C.NO.
	A	06-18-62	1130516	B	03-09-63	1156436						

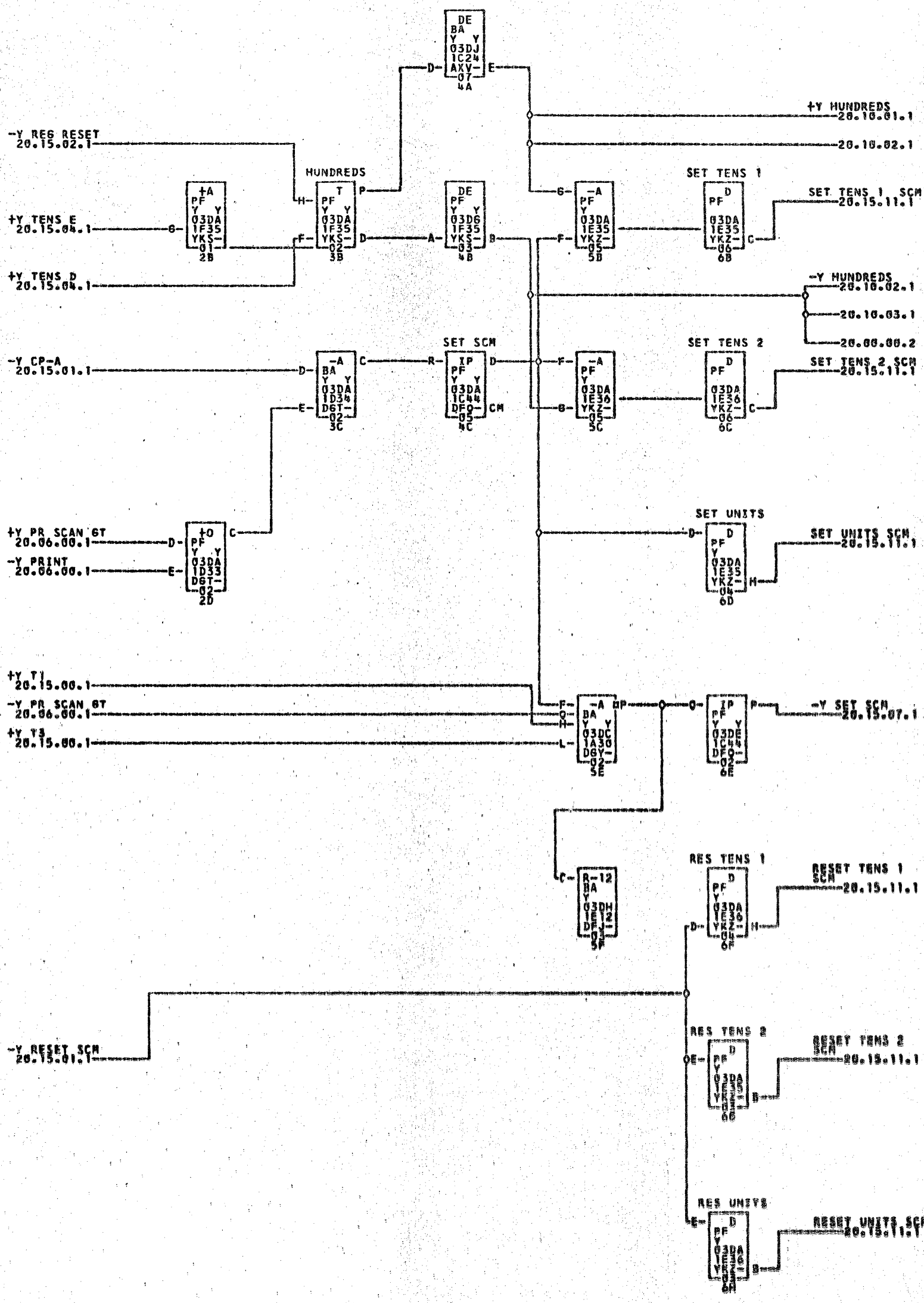


COMMENTS

TAG	DATE	E.C.NO.
A	06-18-62	1138516
B	10-09-62	115643
C	01-23-63	115643D
D	03-09-63	1156436



COMMENTS	TAG	DATE	E.C.NO.	TAG	DATE	E.C.NO.	TAG	DATE	E.C.NO.	TAG	DATE	E.C.NO.
	A	06-18-62	1138516	B	03-09-63	1156436						



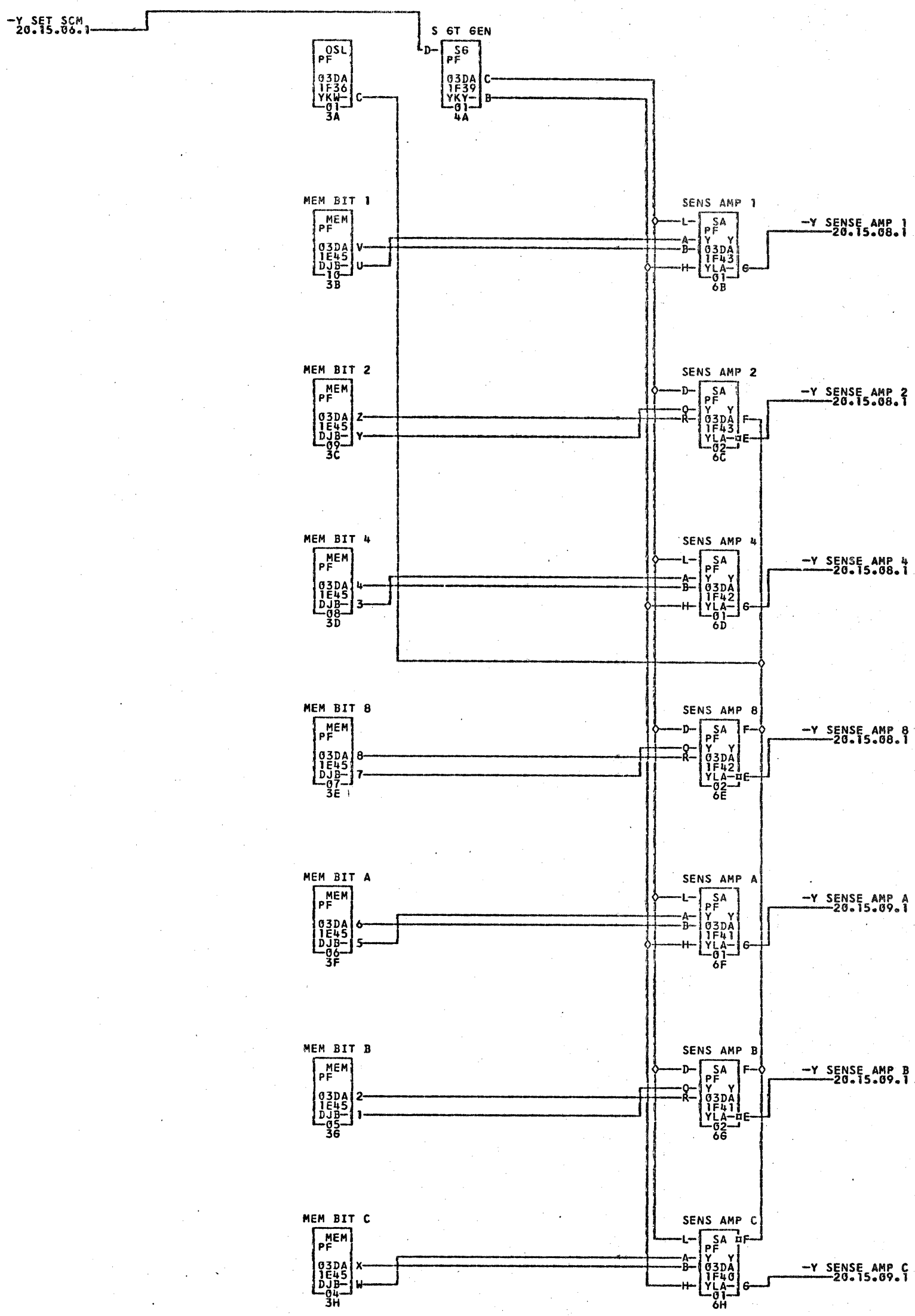
COMMENTS

TAG	DATE	ECN
A	08-14-82	115853
E	08-14-83	115853H
J	08-24-84	118294

TAG	DATE	ECN
B	10-01-83	115643K

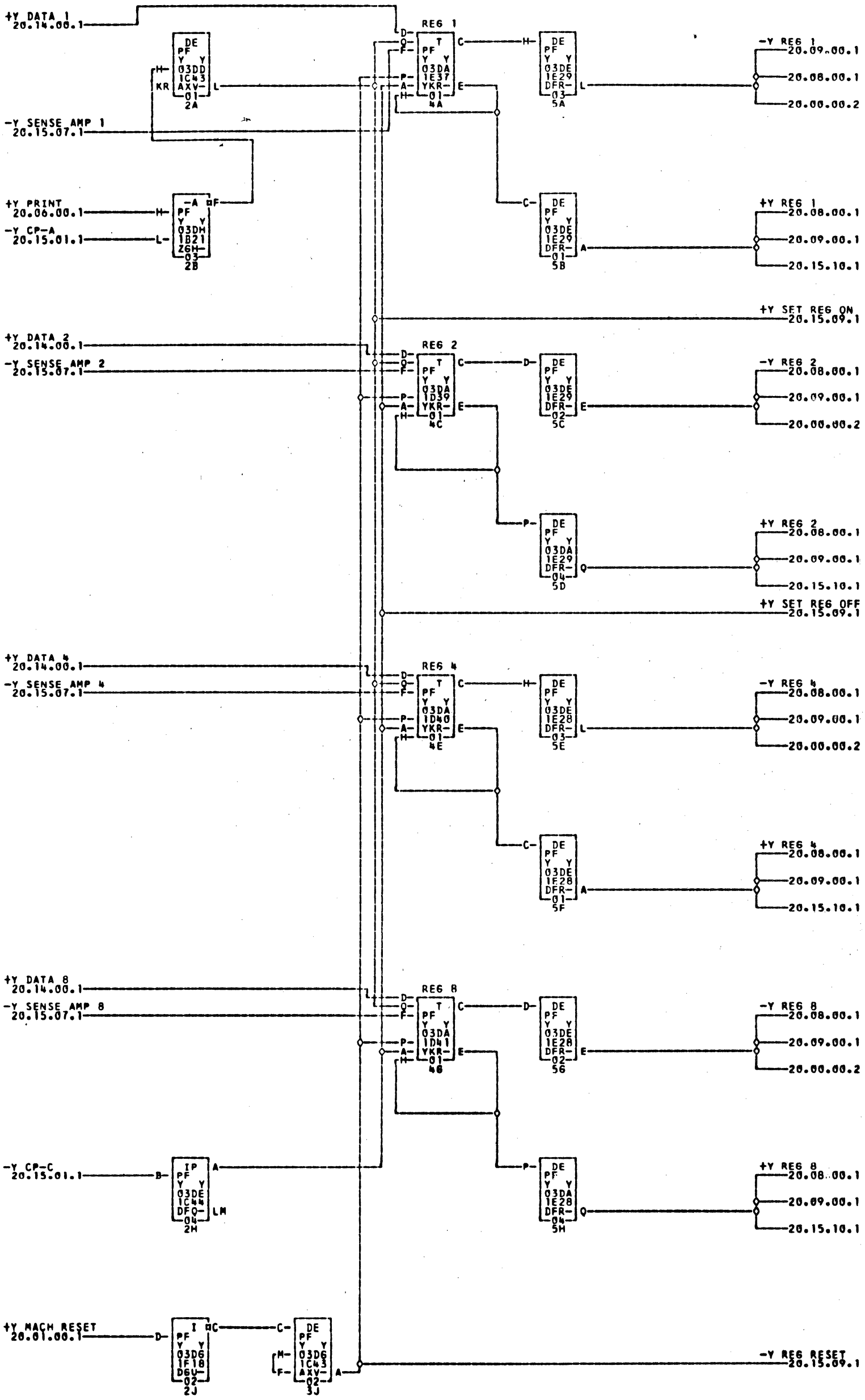
TAG	DATE	ECN
C	05-2-83	117926

TAG	DATE	ECN
N	01-01-82	115215



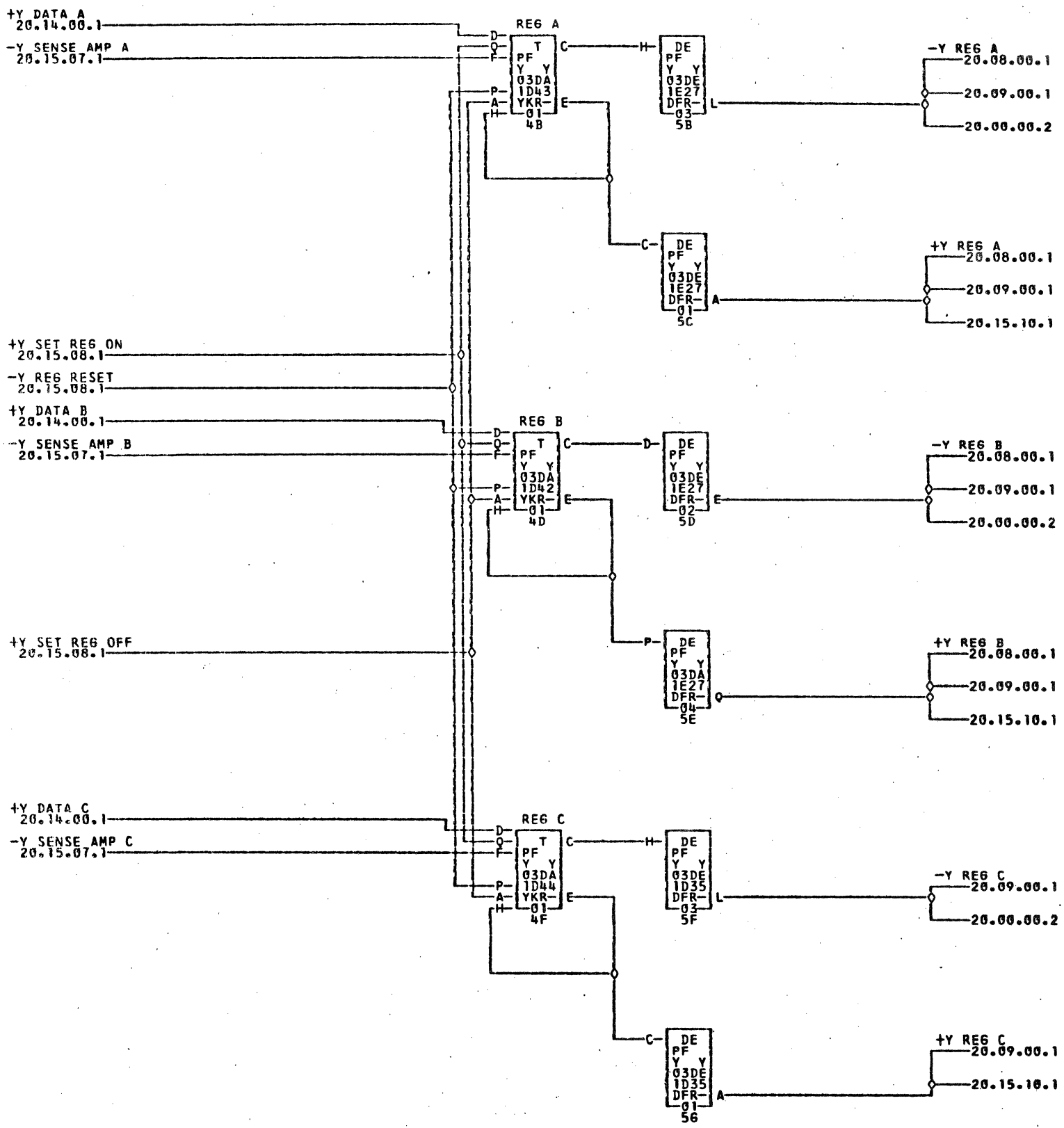
COMMENTS

TAG	DATE	E.C.NO.	TAG	DATE	E.C.NO.	TAG	DATE	E.C.NO.	TAG	DATE	E.C.NO.
A	06-18-62	1138516	B	01-31-64	118213						



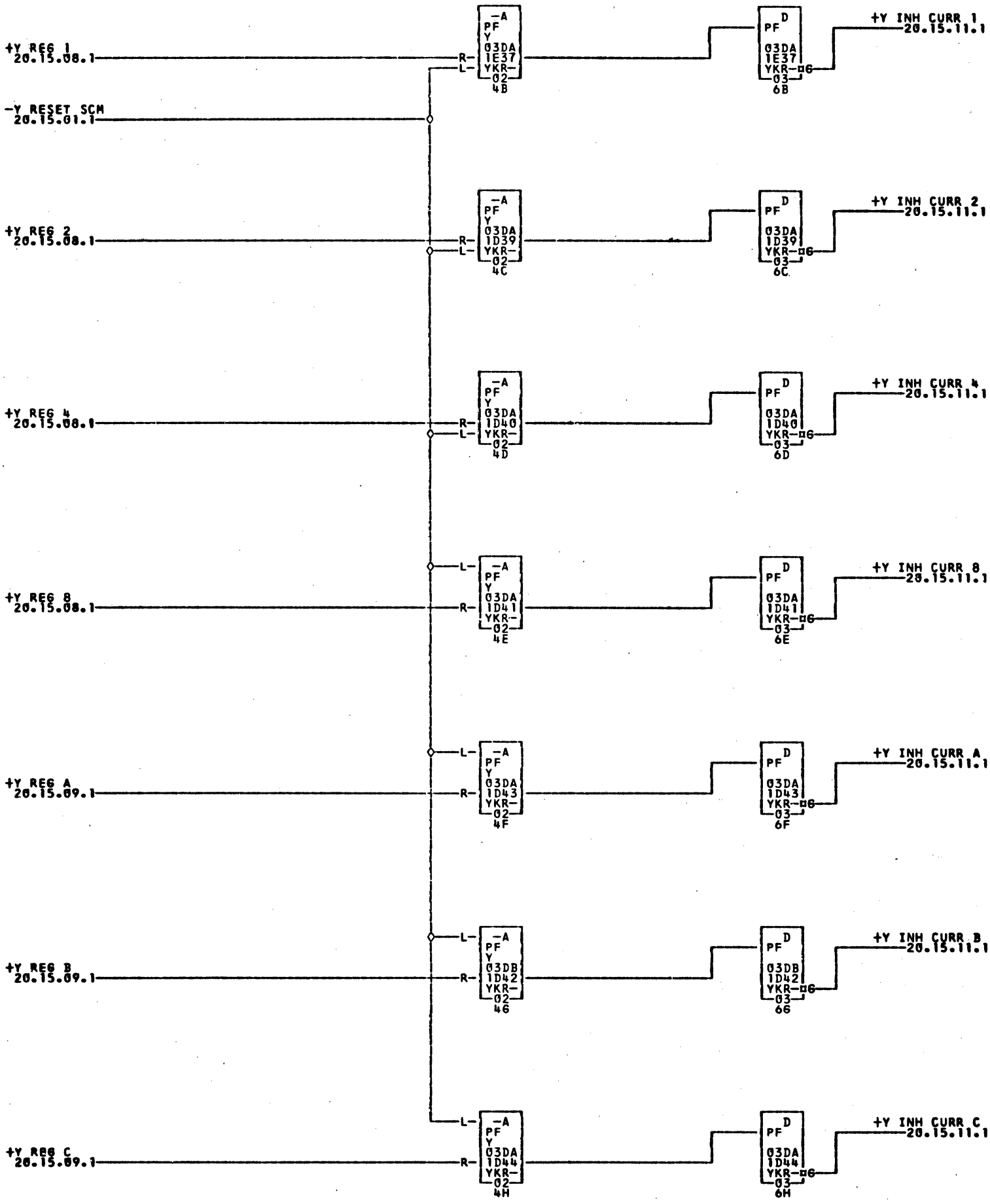
COMMENTS

TAG	DATE	E.C.NO.	TAG	DATE	E.C.NO.	TAG	DATE	E.C.NO.	TAG	DATE	E.C.NO.
A	06-18-62	1138516	B	10-09-62	115643	C	12-13-62	115643B	D	03-09-63	1156436
E	04-01-63	115643K	F	01-31-64	118213	G	08-24-64	118294	H	03-15-65	122152

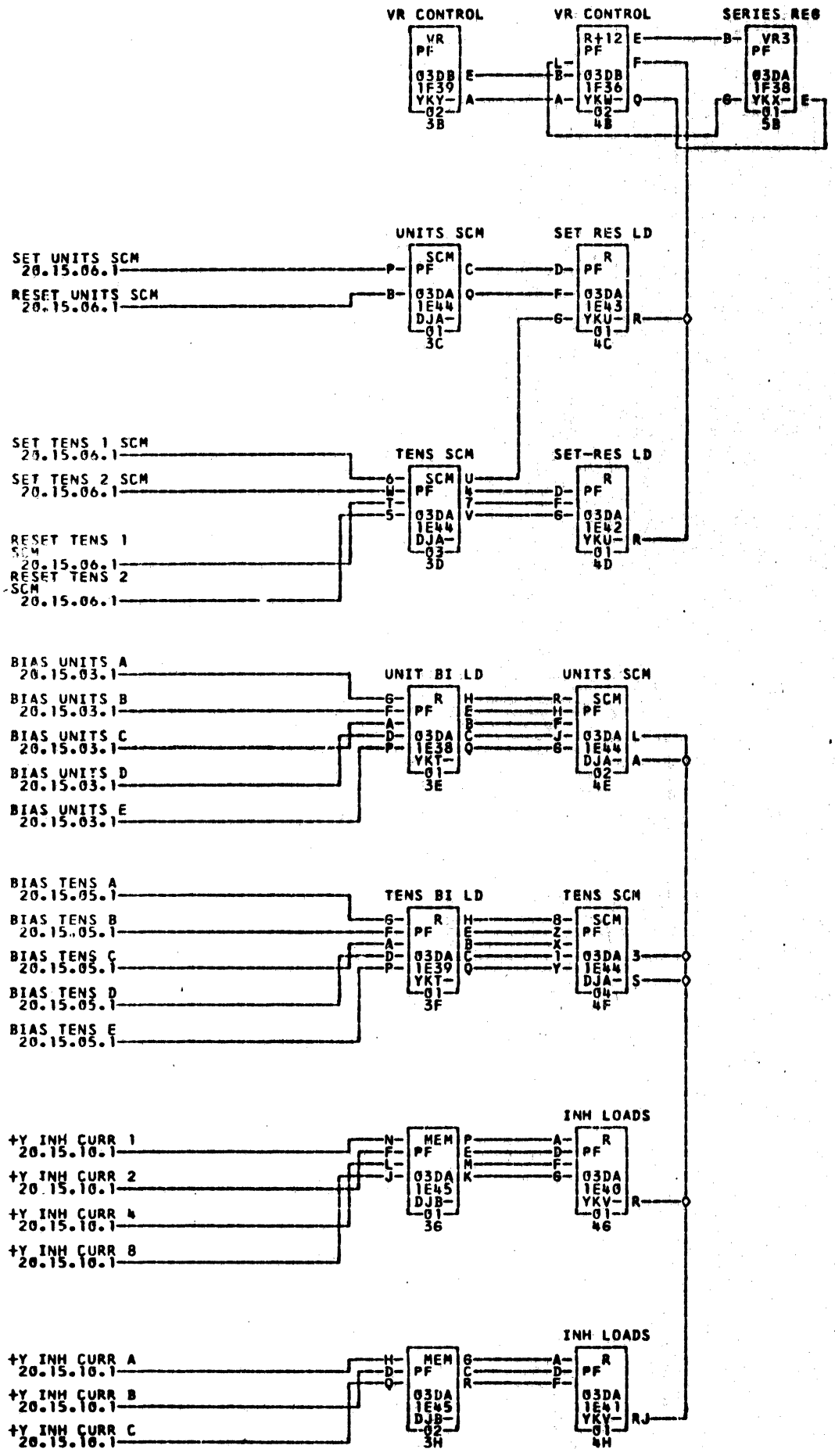


COMMENTS

TAG	DATE	E.C.NO.	TAG	DATE	E.C.NO.	TAG	DATE	E.C.NO.	TAG	DATE	E.C.NO.
A	06-18-62	1138516	B	10-09-62	115643	C	03-09-63	1156436	D	01-31-64	118213

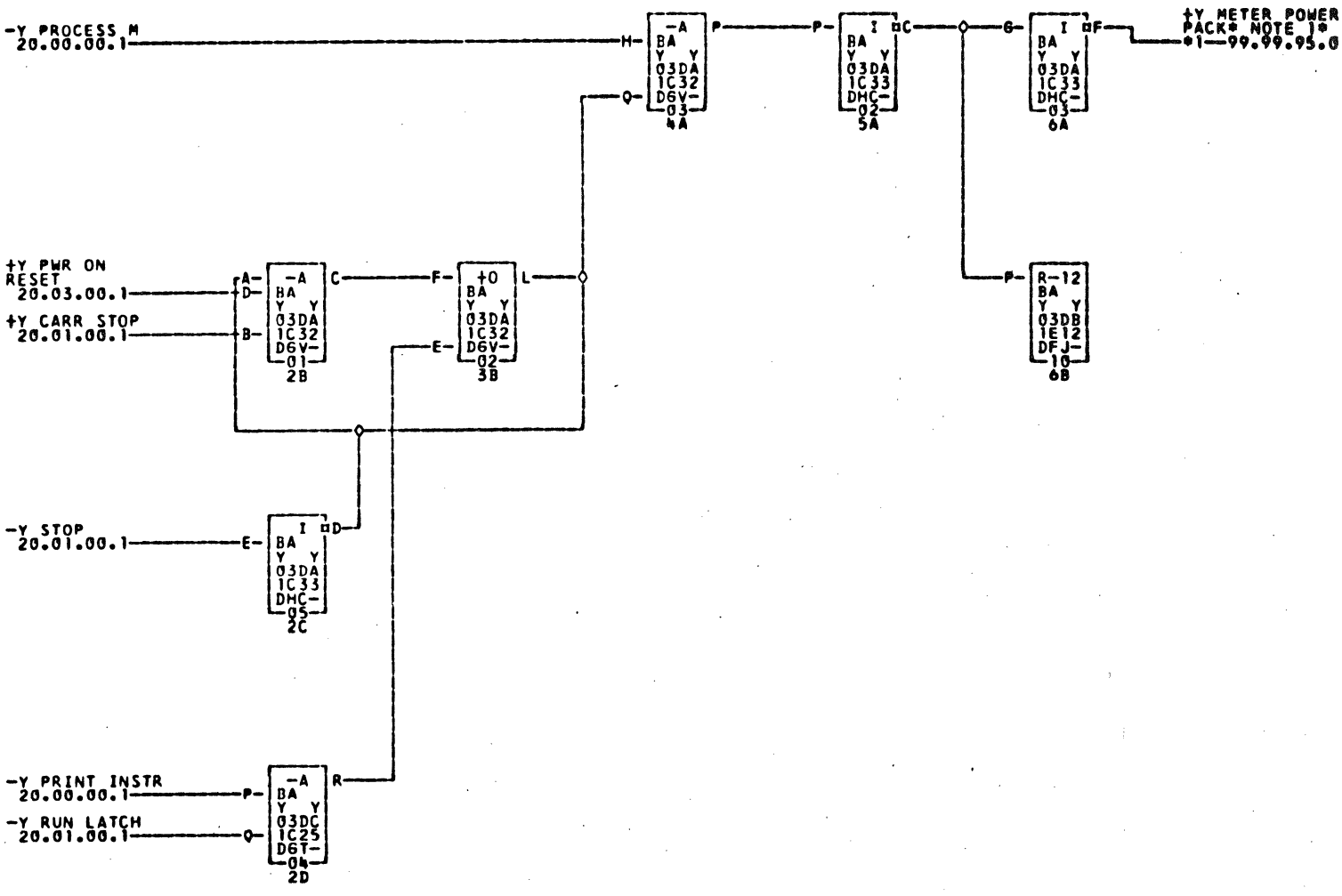


COMMENTS	TA6	DATE	E.C.NO.	TA6	DATE	E.C.NO.	TA6	DATE	E.C.NO.	TA6	DATE	E.C.NO.
	A	06-18-62	1138516	B	03-09-63	1156436	C	01-31-64	118213			



COMMENTS

TAG	DATE	E.C.NO.	TAG	DATE	E.C.NO.	TAG	DATE	E.C.NO.	TAG	DATE	E.C.NO.
A	06-18-62	1136516	B	01-31-64	118213						

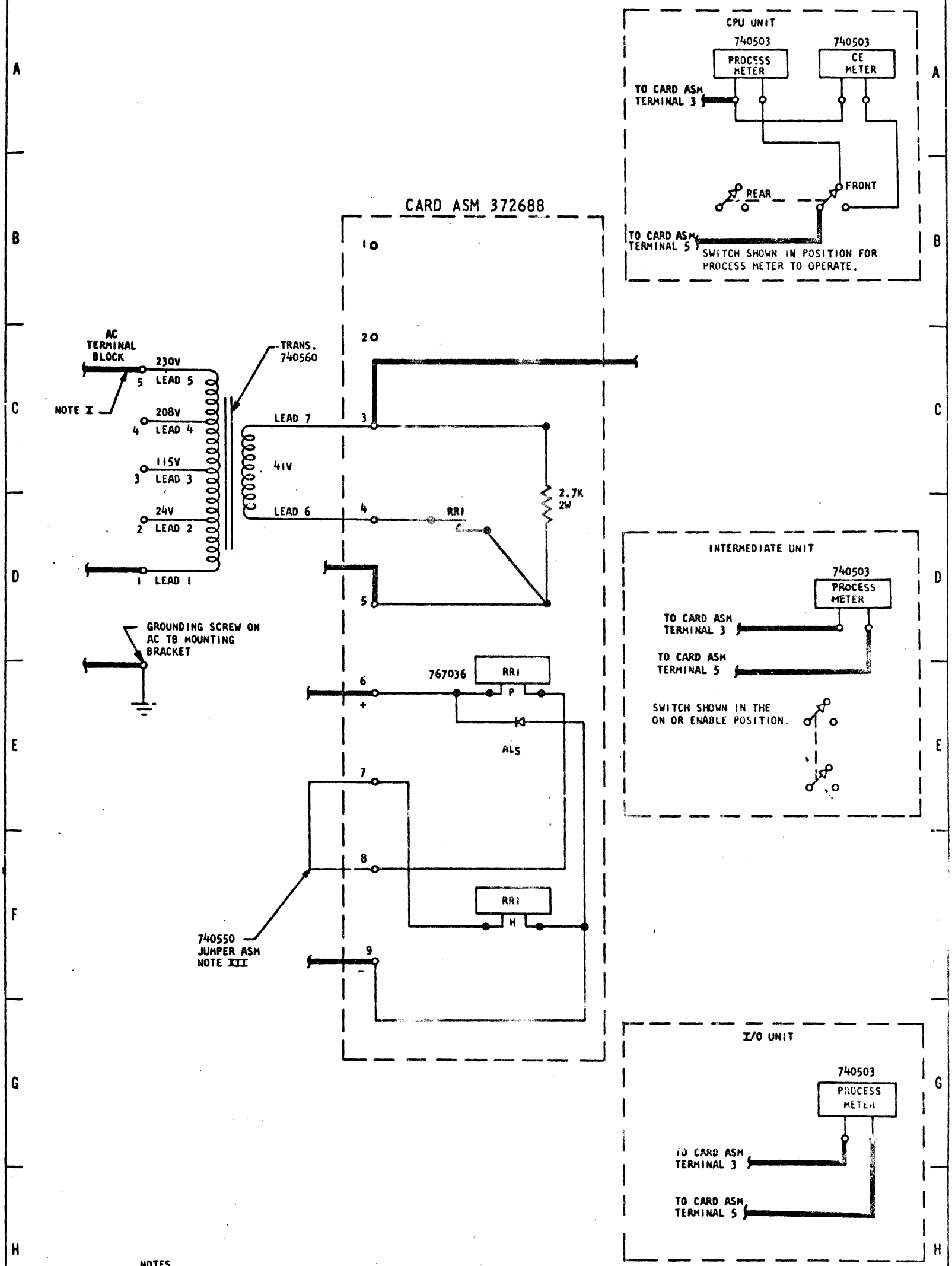


*1—03D1B03Q

COMMENTS
*NOTE 1 B030 IS CONNECTED TO POWER PACK TERMINAL 6. B09M -12V IS CONNECTED TO POWER PACK TERMINAL 9.

TAG	DATE	E.C.NO.	TAG	DATE	E.C.NO.	TAG	DATE	E.C.NO.	TAG	DATE	E.C.NO.
A	09-10-63	118192	B	10-01-63	118198	C	01-31-64	118213	D	07-09-64	118285
E	08-24-64	118294	F	01-25-65	122120B						

740581 METER POWER PACK 99.99.95.0



NOTES

X CONNECT LEAD AS REQUIRED FOR SPECIFIC MACHINE VOLTAGE.

XI HEAVY LINES INDICATE WIRES TO BE ATTACHED FROM MACHINE.

XII FOR 12 VOLT OPERATION JUMPER 7 TO 8. FOR 6 VOLT OPERATION REMOVE THE 12 VOLT CONNECTION AND JUMPER 6 TO 7 AND 8 TO 9.

DATE	EC NO	DATE	EC NO	DATE	EC NO
9-11-63	118373				

C. B. CO., INC. STOW

LOGIC NO.	MACH	SMS CARD CAP CODE INDEX	PART NO.	EC NO.
99.99.99.9	1443PF		0749899	305518

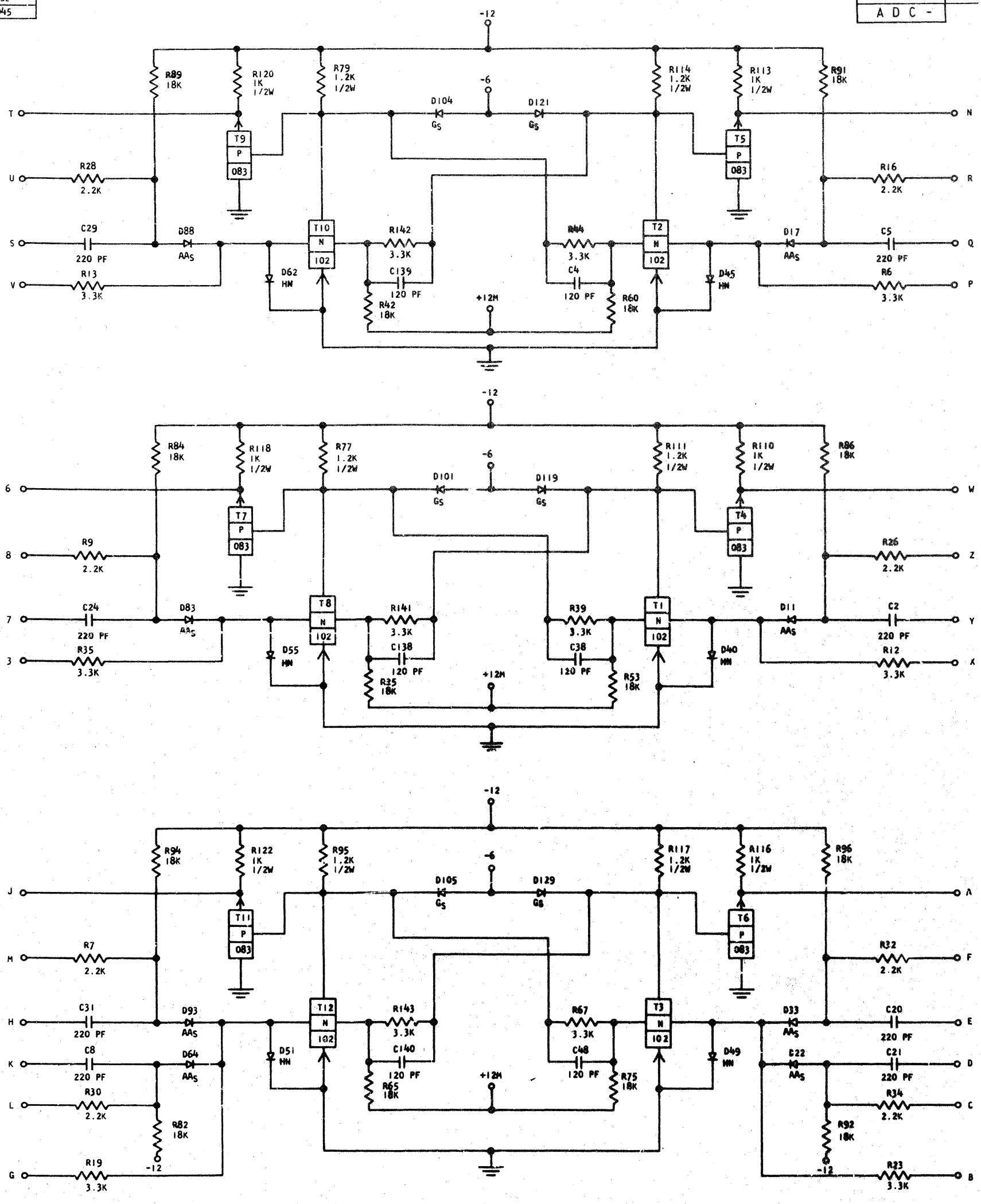
CARD CAP	NAME	PART NO.	REF NO.	C.E. REF NO.
AD C—	TRIGGER TWIN CARD	373316	373316	736615
AS Q—	CLUTCH MAGNET DRIVER	372245	372245	734342
AX B—	2—2 WAY—LOAD	372201	370952	734316
AX C—	1—3 WAY 1—2 WAY—LOAD	372202	370952	734309
AX G—	3—4 WAY—A—O LOAD	372206	370951	734310
AX K—	2—5 WAY—NO LOAD	372209	372209	734374
AX N—	3—4 WAY	372212	370951	734318
AX S—	2—2 WAY PLUS A PLUS G W/LOAD	372241	372241	734323
AX V—	COMP EMITTER FOLLOWER	372244	372244	734338
AX X—	POWER LATCH A	372237	372237	734355
AX Z—	TRIGGER LS	372239	372239	734347
DE F—	2 WAY —A HS	370216	370216	729906
DE N—	1—6 WAY 1—4 WAY—LOAD	372195	370955	734304
DF J—	1.6K RESISTOR	370232	370232	729909
DF Q—	POWER INVERTER	370225	370225	729910
DF R—	EMITTER FOLLOWER	370226	370226	729911
DG T—	4—2 WAY—LOAD	370380	370380	729913
DG U—	4—2 WAY—NO LOAD	370379	370379	729914
DG V—	3—3 WAY—LOAD	370378	370378	729915
DG W—	3—3 WAY—NO LOAD	370377	370377	729916
DG X—	2—5 WAY—LOAD	370376	370955	729917
DG Y—	2—5 WAY—NO LOAD	370375	370955	729918
DH B—	INVERTER—LOAD	370348	370950	729921
DH C—	INVERTER—NO LOAD	370372	370950	729922
DH E—	SINGLE SHOT	370262	370262	729924
DH F—	TRIGGER AND DRIVER	370350	370350	729925
DH J—	MUP L4	370352	370352	729928
DH V—	1—6 WAY 1—4 WAY—A NO LOAD	372123	370955	734301
DH Z—	1—8 WAY 1—2 WAY—LOAD	372194	370955	734303
DJ A—	SWITCH CORE MATRIX	373329	373329	734415
DJ B—	MEMORY ARRAY	373330	373330	734416
EV S—	INDICATOR DRIVER	374710	374710	
NW ——	LOAD RESISTOR	371598	371598	729890
TD K—	OSCILLATOR IMC	370551	370551	729947
TF U—	SOLOR CELL AMPLIFIER	370864	370864	736612
TM A—	PRINT MAGNET HAMMER DRIVER	373254	373254	736614
YJ K—	LOAD RESISTOR	370863	370863	734326
YK R—	INHIBIT CIRCUIT	372220	372220	734392
YK S—	ADDRESS REGISTER	372221	372221	734393
YK T—	BIAS LOAD	372222	372222	734394
YK U—	SET/RESET—LOAD	372223	372223	734395
YK V—	INHIBIT LOAD	372224	372224	734396
YK W—	VOLTAGE REGULATOR L2	372225	372225	734397
YK X—	VOLTAGE REGULATOR L3	372226	372226	734398
YK Y—	VOLTAGE REGULATOR + SENSE GATE L1	372227	372227	734399
YK Z—	SPD/CURRENT DRIVER	372228	372228	734400
YL A—	SENSE AMPLIFIER	372229	372229	734401
YM P—	DIODE	372361	372361	734329
YM Q—	INTEGRATER	372360	372360	736613
ZG M—	4—2 WAY—NO LD—M.S.	372586	372586	734341

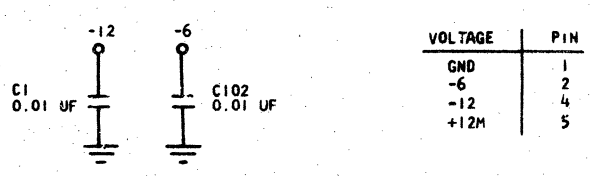
STANDARDS CODE
2-7045

373316

CARD CODE	373316
A D C -	

SHEET 1 OF 2





VOLTAGE	PIN
GND	1
-6	2
-12	4
+12M	5

CIRCUIT AND PACKAGING STANDARD	
APPROVAL	DATE
NAF	3-1-62

INTERNATIONAL BUSINESS MACHINES CORP.					
NAME	TWIN CARD ASM - L.S. POWER TRIGGER TWIN				
DESIGN			MODEL		
DETAIL	VE	3-30-62	SCALE	NONE	
CHECK	VE	3-30-62	DRAW	VE	4-3-62
APPRO	GWS	4-19-62	CHECK		4-10-62

DATE	CHANGE NO.	APPROVAL	DATE	CHANGE NO.	APPROVAL	DEVELOPMENT NO.
4.27.62	114322		130CT65	126158	NOTE XXI	
5-31-62	114447	MDL	4JAN67	D130380	GLK	
9-6-62	113568	MDL				
5-6-64	119223	GWS				
9-21-64	121644	FVL				

373316

C

C. P. CO. INC. 376W 41772

373316

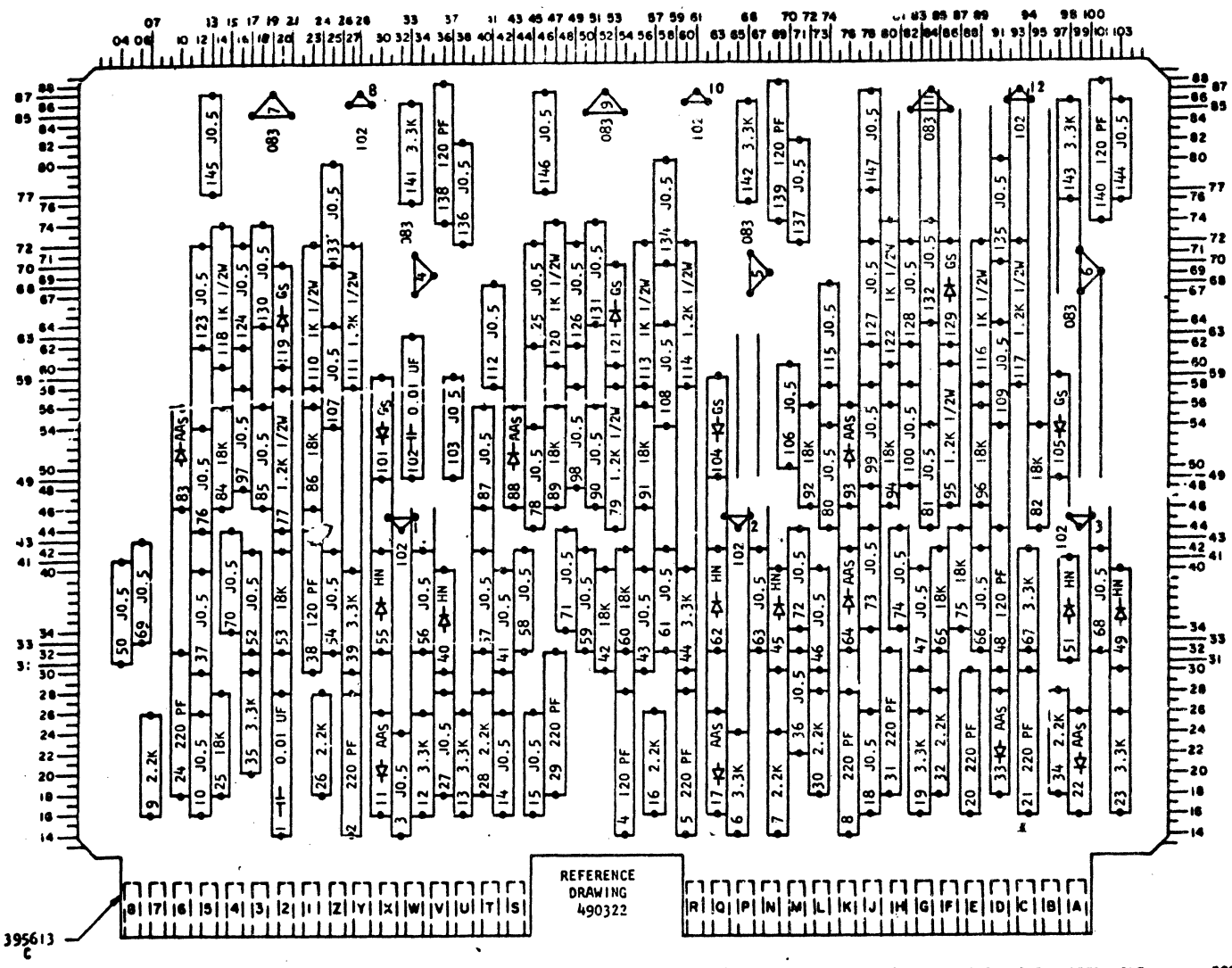
STANDARDS CODE 2-7045

RESTRICTED

NOTE XVI

CARD CODE A D C - 373316

SHEET 2 OF 2



PART NO.	VALUE	QTY.
213693	1K 1/2W	6
216453	2.2K	8
216456	3.3K	12
216474	18K	14
317276	1.2K 1/2W	6
350430	120 PF	6
350436	220 PF	8
491008	AAS	8
491228	0.01 UF	2
503592	GS	6
2391025	HN	6
318325	083	6
369179	102	6

HOLE DIAMETER
.047 +.005 -.000 (3I8)

DRILLED
.047 +.005 -.000 (12) NOTED BY A "D" PREFIX

POSITION	VALUE	LOWER HOLE	UPPER HOLE
1	0.01 UF	2014	2028
2	220 PF	2714	2728
3	J0.5	3214	3224
4	120 PF	5414	5428
5	220 PF	6014	6028
6	3.3K	6514	6524
7	2.2K	6914	6924
8	220 PF	7614	7628
9	2.2K	0716	0726
10	J0.5	1216	1226
11	AAS	3016	3026
12	3.3K	3416	3426
13	3.3K	3816	3826
14	J0.5	4216	4226
15	J0.5	4516	4526
16	2.2K	5716	5726
17	AAS	6316	6326
18	J0.5	7816	7826
19	3.3K	8316	8326
20	220 PF	8816	8830
21	220 PF	9416	9430
22	AAS	9916	9926
23	3.3K	10316	10326
24	220 PF	1018	1032
25	18K	1418	1428
26	2.2K	2418	2428
27	J0.5	3618	3628
28	2.2K	4018	4028
29	220 PF	4718	4732
30	2.2K	7318	7328
31	220 PF	8018	8032
32	2.2K	8518	8528
33	AAS	9118	9128
34	2.2K	9718	9728
35	3.3K	1720	1730
36	J0.5	7122	7132
37	J0.5	1230	1240
38	120 PF	2330	2344
39	3.3K	2730	2740
40	HN	3630	3640
41	J0.5	4230	4240
42	18K	5230	5240
43	J0.5	5630	5640
44	3.3K	6030	6040
45	HN	6930	6940
46	J0.5	7330	7340
47	J0.5	8330	8340
48	120 PF	9130	9144
49	HN	10330	10340
50	J0.5	0431	0441
51	HN	9831	9841
52	J0.5	1732	1742
53	18K	2032	2042
54	J0.5	2532	2542
55	HN	3032	3042
56	J0.5	3432	3442
57	J0.5	4032	4042
58	J0.5	4432	4442
59	J0.5	5032	5042
60	18K	5432	5442
61	J0.5	5832	5842
62	HN	6332	6342
63	J0.5	6732	6742
64	AAS	7632	7642
65	18K	8532	8542
66	J0.5	8932	8942
67	3.3K	9432	9442
68	J0.5	10132	10142
69	J0.5	0633	0643
70	J0.5	1534	1544
71	J0.5	4834	4844
72	J0.5	7134	7144
73	J0.5	7834	7844
74	J0.5	8134	8144
75	18K	8734	8744
76	J0.5	1244	1254
77	1.2K 1/2W	2044	2058
78	J0.5	4544	4554
79	1.2K 1/2W	5344	5358
80	J0.5	7444	7454
81	J0.5	8444	8454
82	18K	9544	9554
83	AAS	1046	1056
84	18K	1446	1456
85	J0.5	1846	1856
86	18K	2346	2356
87	J0.5	4046	4056
88	AAS	4346	4356
89	18K	4746	4756
90	J0.5	5146	5156
91	18K	5646	5656
92	18K	7246	7256
93	AAS	7646	7656
94	18K	8046	8056
95	1.2K 1/2W	8646	8660
96	18K	8946	8956
97	J0.5	1648	1658
98	J0.5	4948	4958
99	J0.5	7848	7858
100	J0.5	8248	8258
101	GS	3049	3059
102	0.01 UF	3349	3363
103	J0.5	3749	3759
104	GS	6349	6359
105	GS	9749	9759
106	J0.5	7050	7060
107	J0.5	2554	2564
108	J0.5	5854	5864
109	J0.5	9154	9164
110	1K 1/2W	2356	2372
111	1.2K 1/2W	2758	2772
112	J0.5	4158	4168
113	1K 1/2W	5658	5672
114	1.2K 1/2W	6058	6072
115	J0.5	7458	7468
116	1K 1/2W	8958	8972
117	1.2K 1/2W	9358	9372
118	1K 1/2W	1460	1474
119	GS	2060	2070
120	1K 1/2W	4760	4774
121	GS	5360	5370
122	1K 1/2W	8060	8074
123	J0.5	1262	1272
124	J0.5	1662	1672
125	J0.5	4562	4572
126	J0.5	4962	4972
127	J0.5	7862	7872
128	J0.5	8262	8272
129	GS	8662	8672
130	J0.5	1864	1874
131	J0.5	5164	5174
132	J0.5	8464	8474
133	J0.5	2570	2580
134	J0.5	5870	5880
135	J0.5	9170	9180
136	J0.5	3872	3882
137	J0.5	7172	7182
138	120 PF	3674	3688
139	120 PF	6974	6988
140	120 PF	10174	10188
141	3.3K	3376	3386
142	3.3K	6676	6686
143	3.3K	9876	9886
144	J0.5	10376	10386
145	J0.5	1377	1387
146	J0.5	4677	4687
147	J0.5	7877	7887

POSITION	TYPE	E	B	C
1	102	D3145	3244	D3345
2	102	D6445	6544	D6645
3	102	D9845	9944	D10045
4	083	3367	3569	3771
5	083	6667	6869	6971
6	083	9967	10169	9971
7	083	2185	1987	1785
8	102	D2986	2887	D2786
9	083	5485	5287	5085
10	102	D6286	6187	D6086
11	083	8685	8487	8285
12	102	D9486	9387	D9286

NOTES
- I CIRCUIT MUST CONFORM TO ENGINEERING SPECIFICATION 893134
- II ASSEMBLE TO ENGINEERING SPECIFICATION 893001
- III "J" IN BLOCK DENOTES BARE WIRE JUMPER 491296
- IIII ALL RESISTORS ARE 1/4 WATT AND ±5% UNLESS OTHERWISE NOTED
- IV
- V
- *XVI TECHNICAL LABORATORY EVALUATION INCOMPLETE - ADDITIONAL USAGE TO BE AVOIDED. THIS PART SUBJECT TO WITHDRAWAL.

CIRCUIT AND PACKAGING STANDARD	
APPROVAL	DATE
NAF	3-1-62

INTERNATIONAL BUSINESS MACHINES CORP.

NAME	TWIN CARD ASM- L.S POWER TRIGGER TWIN		MODEL	SMS 1440	
DESIGN					
DETAIL	VE	3-29-62	SCALE	NONE	
CHECK	VE	3-29-62	DRAW	VE	4-5-62
APPRO	[illegible]	[illegible]	CHECK	[illegible]	4-10-62

DATE	CHANGE NO.	APPROVAL	DATE	CHANGE NO.	APPROVAL	DEVELOPMENT NO.
4.27.62	114322	LHR	130CT65	126158	NOTE XVI	X-1075B
5-31-62	114447	MDL				
9-6-62	113568	MDL				
5-6-64	119223	GWS				
9-21-64	121644	FVL				

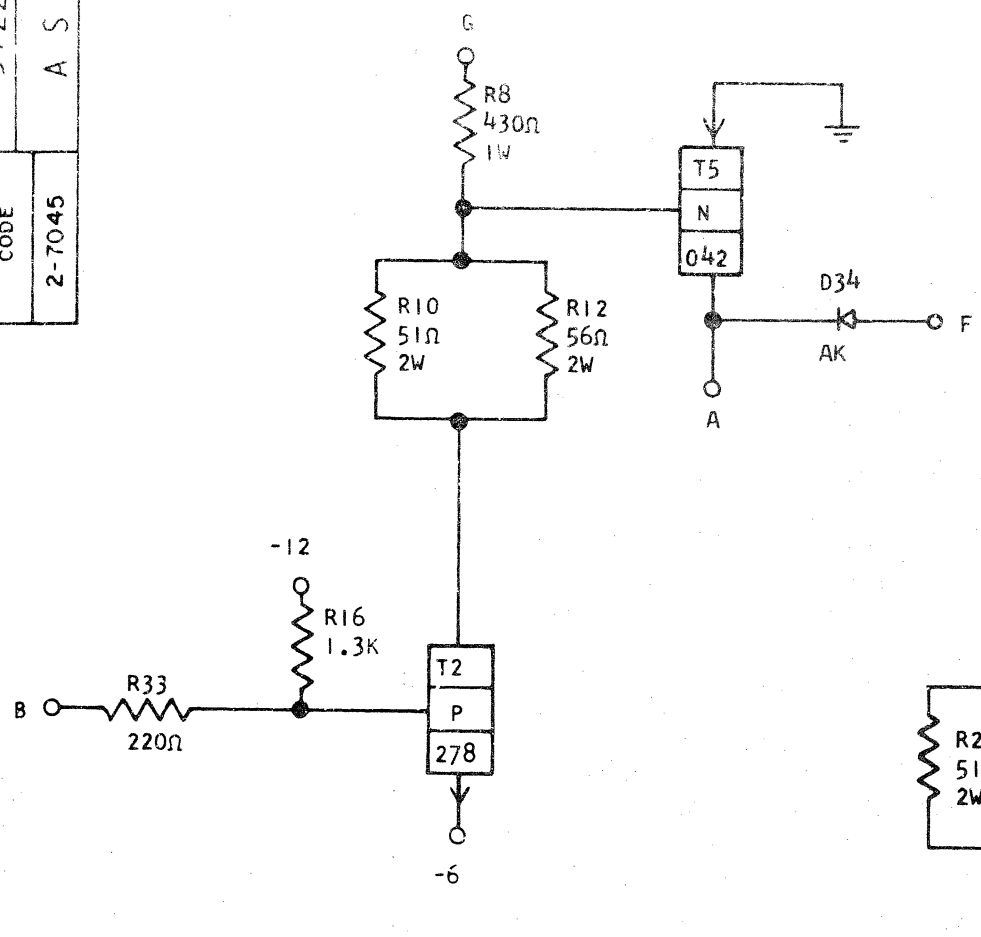
373316

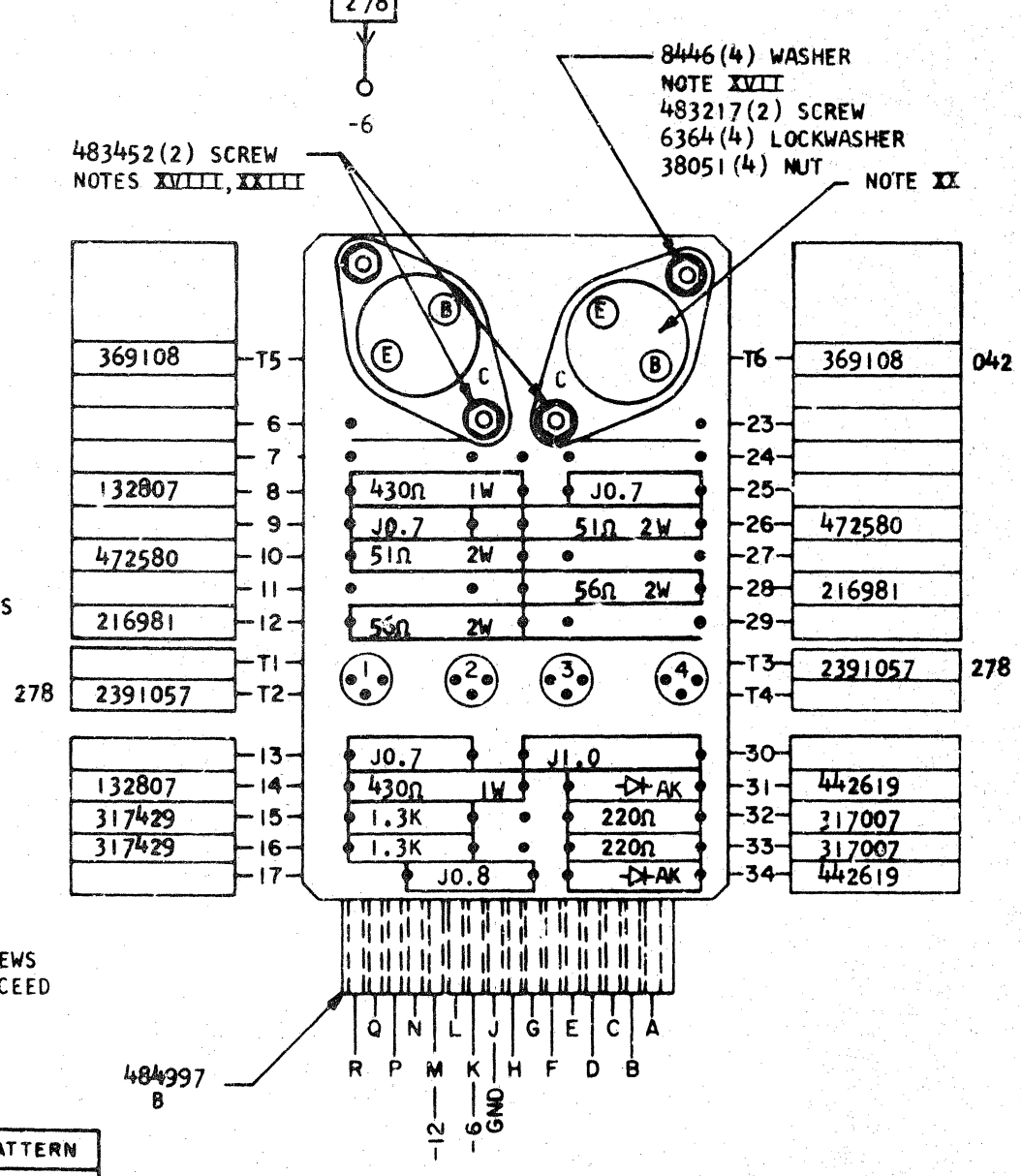
C

372245

ALLOY-CLUTCH MAGNETIC DRIVER

STANDARDS CODE	2-7045	372245	A S Q -





COMPONENT SIDE

NOTES

X CIRCUIT MUST CONFORM TO ENGINEERING SPECIFICATION 870245

XI ASSEMBLE TO ENGINEERING SPECIFICATION 895396 AND 891999

XII ALL RESISTORS ARE 1/2 WATT AND ±5% UNLESS OTHERWISE NOTED

XIII "J" IN BLOCK DENOTES BARE WIRE JUMPER 491296

XIV

XV DO NOT CRIMP TRANSISTOR LEADS. SOLDER TO BOARD AFTER CLEANING

XVI LEADS OF T5 AND T6 TO BE CUT TO .135±.005 LENGTH

XVII MOUNT WASHER (8446) ON SCREW SO THAT TRANSISTOR (369108) IS RAISED FROM SURFACE OF CARD

XVIII CASE IS ELECTRICALLY CONNECTED TO COLLECTOR, CONNECTION COMPLETED THROUGH SCREW 483452

XIX

XX CENTER DISC PART NUMBER 483102 ON TOP OF TRANSISTOR 369108. INSURE THAT THE EDGES OF THE DISC ARE IN INTIMATE CONTACT WITH 369108.

XXI REFER TO FIELD SERVICE DRAWING PART NUMBER 734342 WHEN MAKING A CHANGE TO THIS CIRCUIT

XXII TIGHTEN NUT 38051 TO A TORQUE OF 10±2 INCH POUNDS

XXIII SOLDER SCREW 483452 AFTER ASSEMBLY (WIRING SIDE ONLY).

XXIV APPLY HYSOL EPOXY TO THE TOPS OF THE SCREWS PART NUMBERS 483217 AND 483452 NOT TO EXCEED .350 FROM SURFACE OF CARD

B

CIRCUIT AND PACKAGING STANDARD		
APPROVAL	PD DATE 12DEC66	
NAF GS	1MAR62	HOLE PATTERN 491329

INTERNATIONAL BUSINESS MACHINES CORP.					
NAME	CARD ASM TSTR - ALLOY CLUTCH MAGNETIC DRIVER				
DESIGN	VE	30MAR62	MODEL	SMS	
DETAIL	VE	30MAR62	SCALE	NONE	
CHECK	EDF	1MAY62	DRAW	VE	25MAR65
APPRO	GWS	8 MAY62	CHECK		

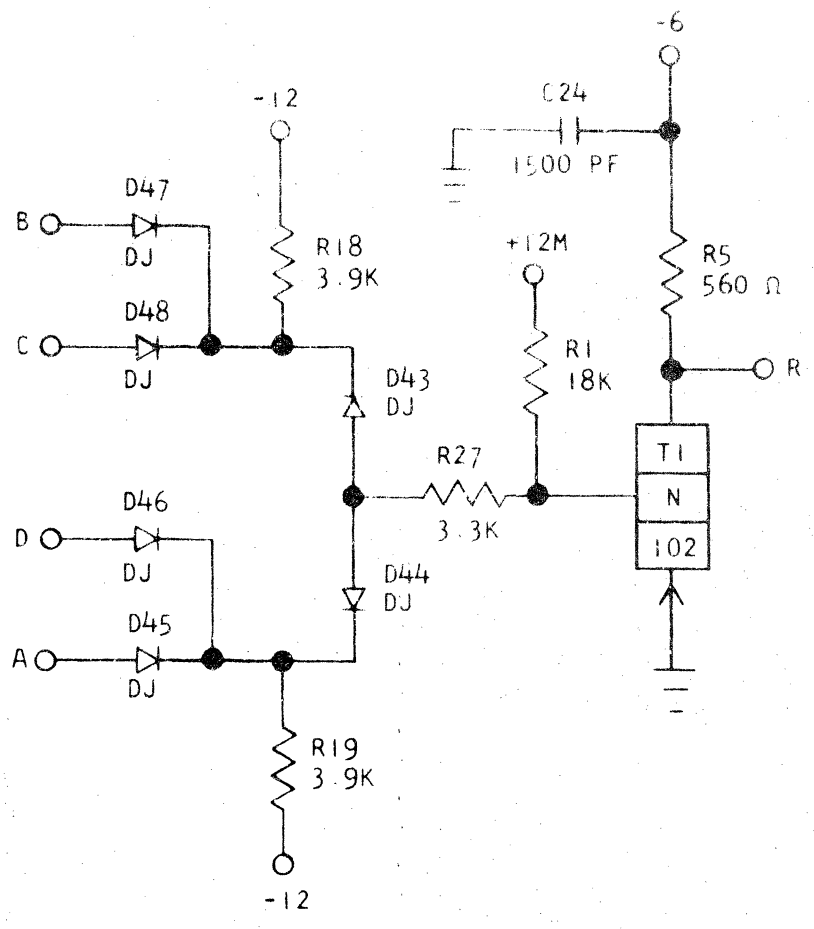
DATE	CHANGE NO.	APPROVAL
14MAY62	114321	NOTE XIV
4SEP62	113571	NOTE XIV
13FEB63	116067	NOTE XIV
17MAY65	122676	GLK
18MAR66	127184	GLK

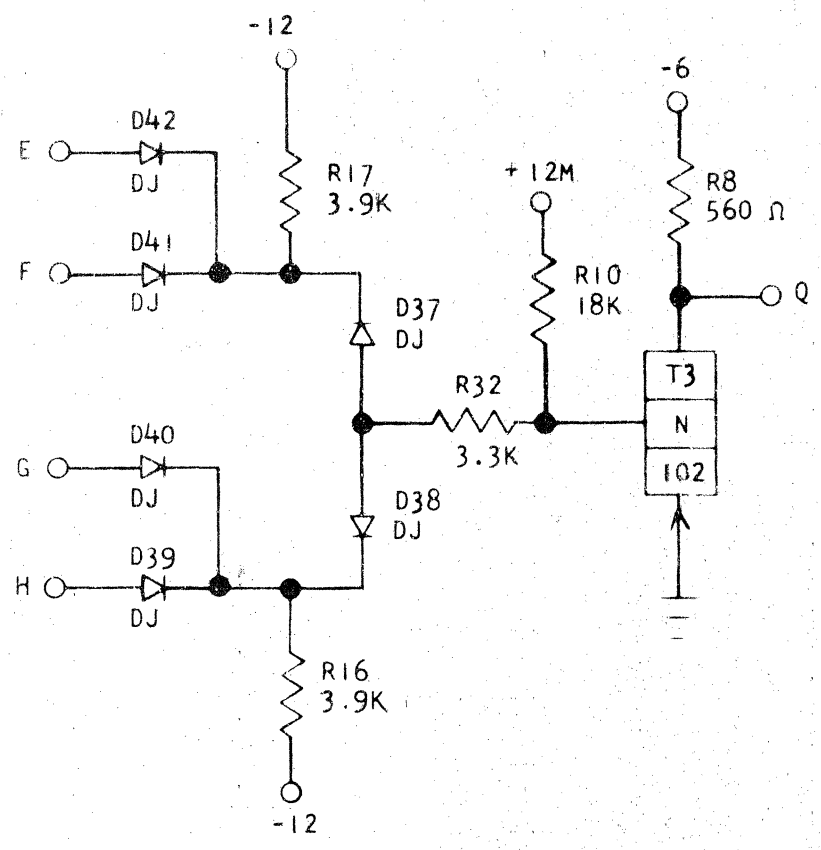
DATE	CHANGE NO.	APPROVAL
12DEC66	130347	GWS

DEVELOPMENT NO.
X1041

372245

82-3977-1 6-22-61





NOTES

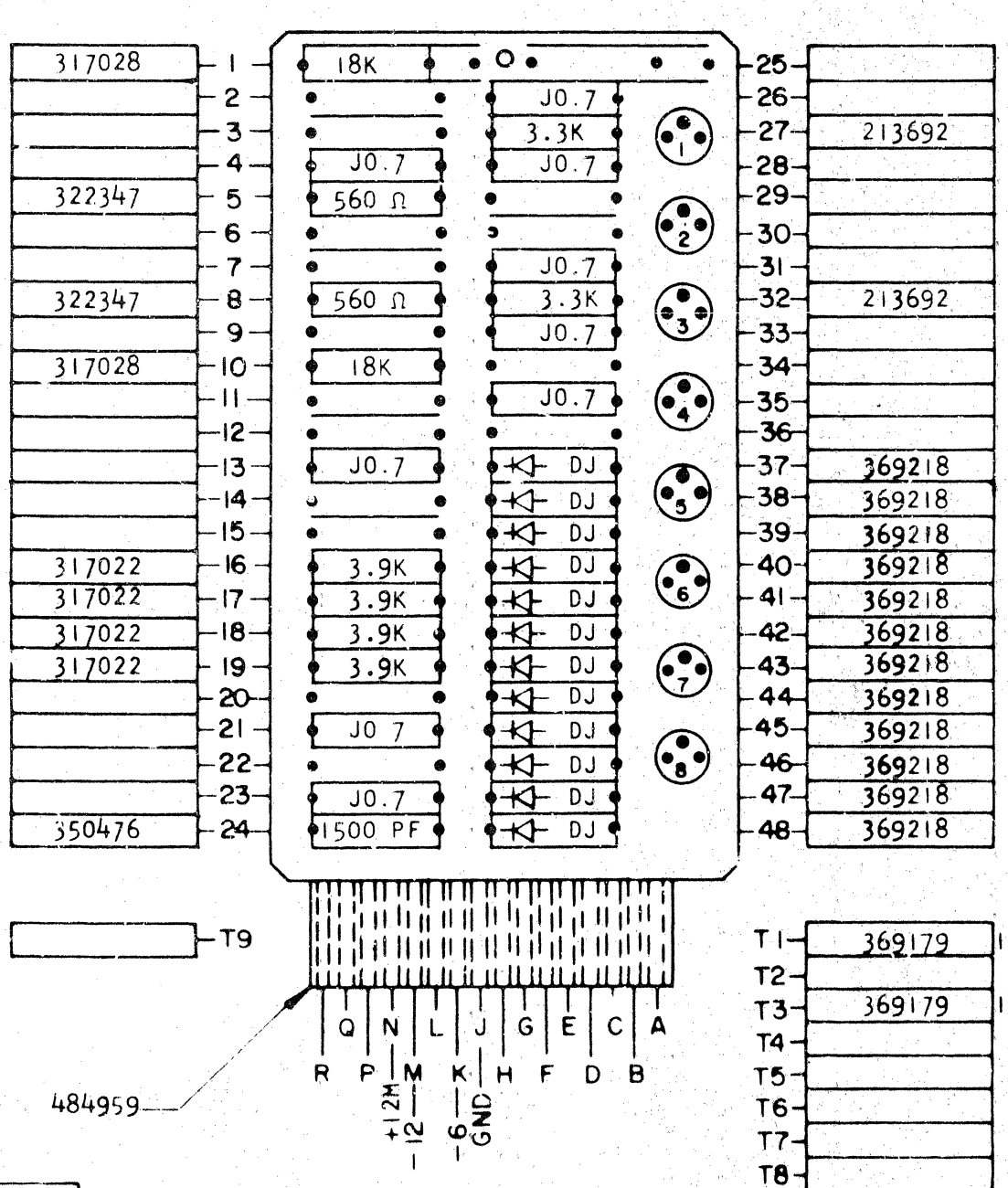
X CIRCUIT MUST CONFORM TO ENGINEERING SPECIFICATION 870201

XI ASSEMBLE TO ENGINEERING SPECIFICATION 895396 AND 891999

XII ALL RESISTORS ARE 1/2 WATT AND ± 5% UNLESS OTHERWISE NOTED

XIII "J" IN BLOCK DENOTES BARE WIRE JUMPER 491296

XIV POSITION T1 AND T3 ARE TO-18 TRANSISTORS AND MAY BE MOUNTED IN .100 OR .200 PIN CIRCLE HOLES. SEE REFERENCE DRAWING 493907. USE TRANSISTOR SPACER 483070 AS REQUIRED.



B

CIRCUIT AND PACKAGING STANDARD		
APPROVAL	DATE	HOLE PATTERN
NAF	2 22 62	493457

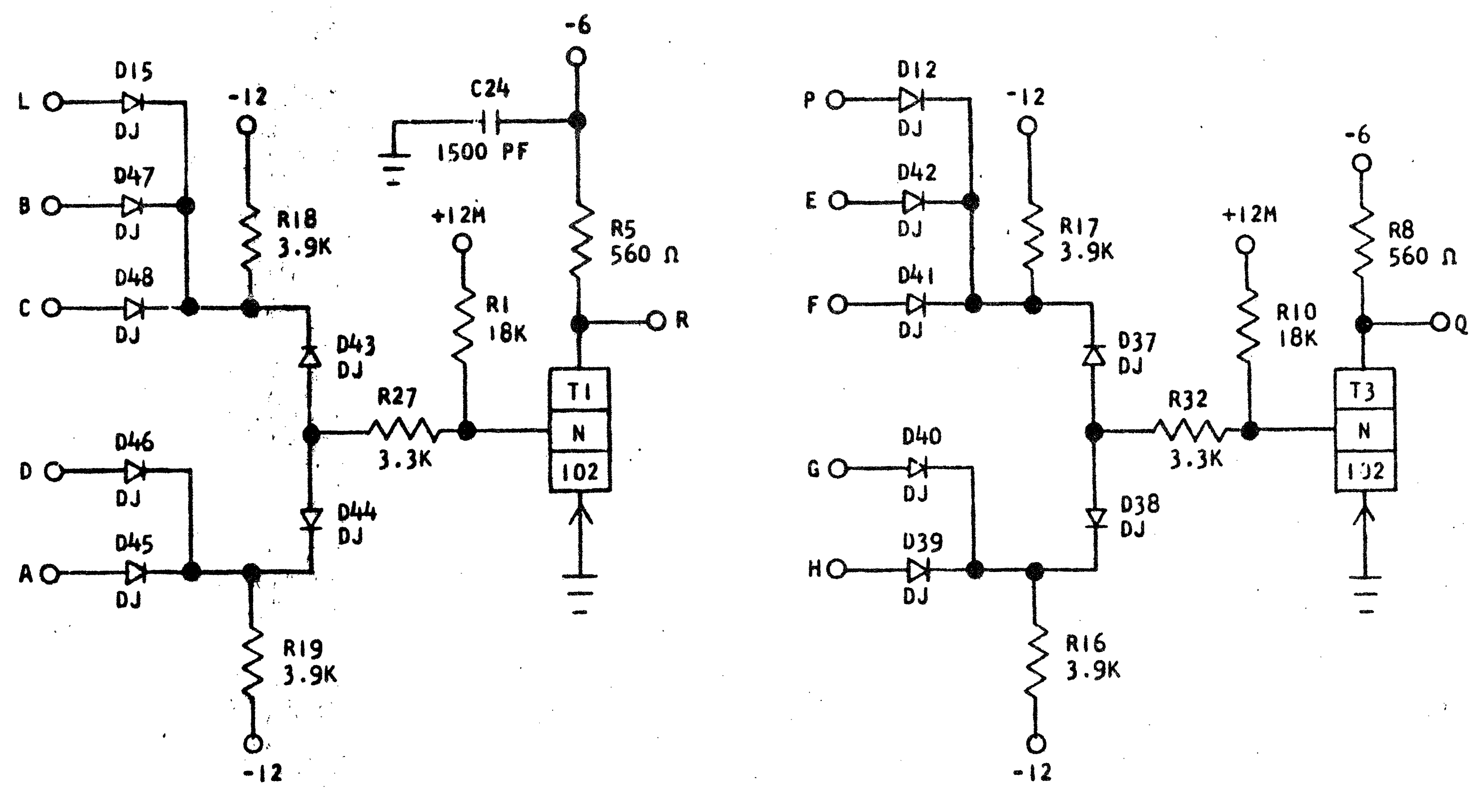
INTERNATIONAL BUSINESS MACHINES CORP.										
NAME CARD ASM TSTR – 2 WAY, 2/CARD (-A, -0)				DATE	CHANGE NO.	APPROVAL	DATE	CHANGE NO	APPROVAL	DEVELOPMENT NO.
DESIGN	MODEL	SMS 1440		4-13 62	114295	MDL				X1027B
DETAIL	SCALE	NONE								
CHECK EDP 4 5 62	DRAW	HAV	3-22-62							
APPRO GWS 4 6 62	CHECK	AP	3 23 62							

372202 A X C -

STANDARDS CODE 2-7045

I-2 WAY, I-3 WAY 2/CARD (-A,-0)

372202



NOTES

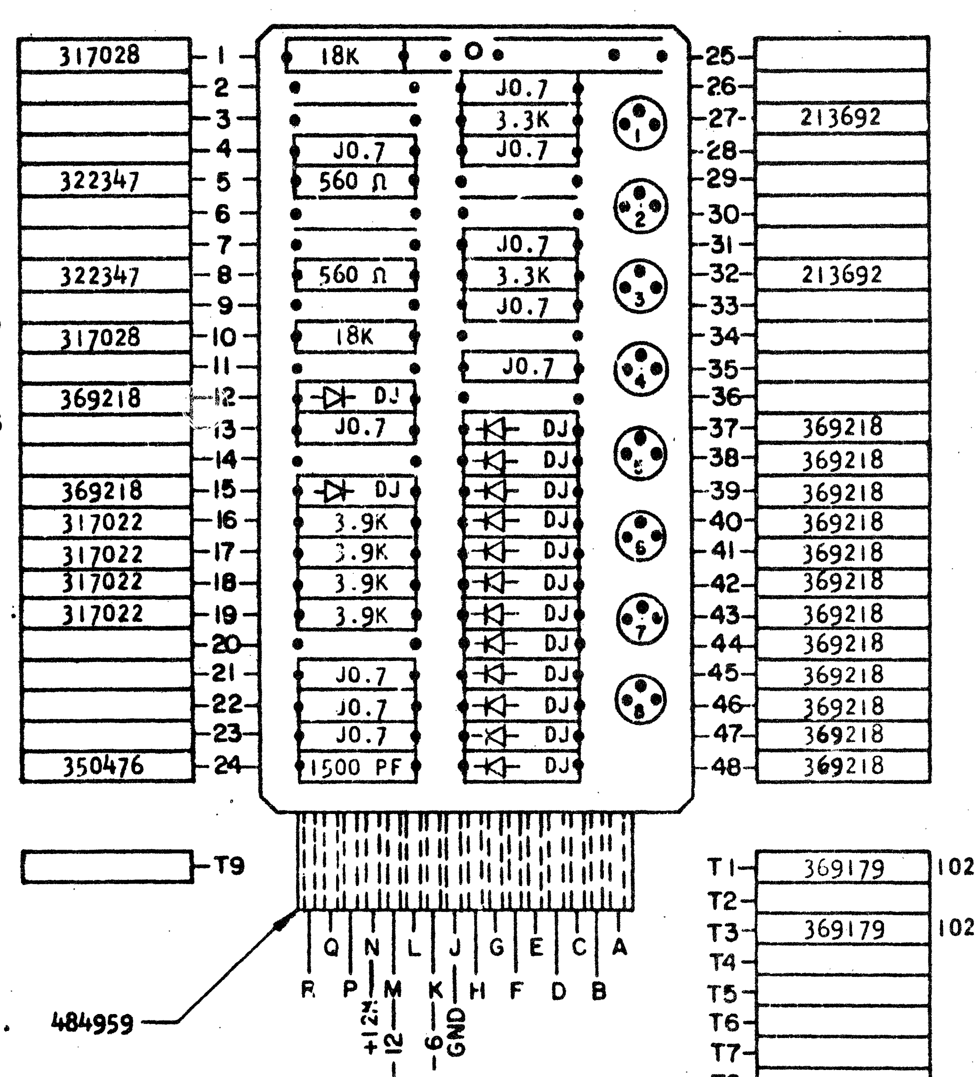
I CIRCUIT MUST CONFORM TO ENGINEERING SPECIFICATION 870201

II ASSEMBLE TO ENGINEERING SPECIFICATION 895396 AND 891999

III ALL RESISTORS ARE 1/2 WATT AND ± 5% UNLESS OTHERWISE NOTED

IIII "J" IN BLOCK DENOTES BARE WIRE JUMPER 491296

IV POSITION T1 AND T3 ARE TO-18 TRANSISTORS AND MAY BE MOUNTED IN .100 OR .200 PIN CIRCLE HOLES. SEE REFERENCE DRAWING 493907. USE TRANSISTOR SPACER 483070 AS REQUIRED.



1 317028
5 322347
8 322347
10 317028
12 369218
15 369218
16 317022
17 317022
18 317022
19 317022
24 350476
T9
18K
J0.7
3.3K
J0.7
J0.7
560 Ω
J0.7
560 Ω
3.3K
J0.7
18K
J0.7
DJ
J0.7
DJ
3.9K
3.9K
3.9K
3.9K
J0.7
J0.7
J0.7
1500 PF
DJ
27 213692
32 213692
37 369218
38 369218
39 369218
40 369218
41 369218
42 369218
43 369218
44 369218
45 369218
46 369218
47 369218
48 369218
T1 369179 102
T3 369179 102
T2
T4
T5
T6
T7
T8
Q N L J G E C A
R P M K H F D B
+12M
-12
-6
GND
484959

COMPONENT SIDE

B

CIRCUIT AND PACKAGING STANDARD	
APPROVAL	DATE
NAF	2-22-62

HOLE PATTERN 493457

INTERNATIONAL BUSINESS MACHINES CORP.

NAME	CARD ASM TSTR -				
	1-2 WAY, 1-3 WAY 2/CARD (-A-0)				
DESIGN			MODEL	SMS 1440	
DETAIL			SCALE	NONE	
CHECK	EDF	4-5-62	DRAW	HAV	3-22-62
APPRO	GWS	4-6-62	CHECK	AP	3-23-62

DATE	CHANGE NO.	APPROVAL	DATE	CHANGE NO.	APPROVAL
4-13-62	114295	MDL			

DEVELOPMENT NO. X1029B

372202

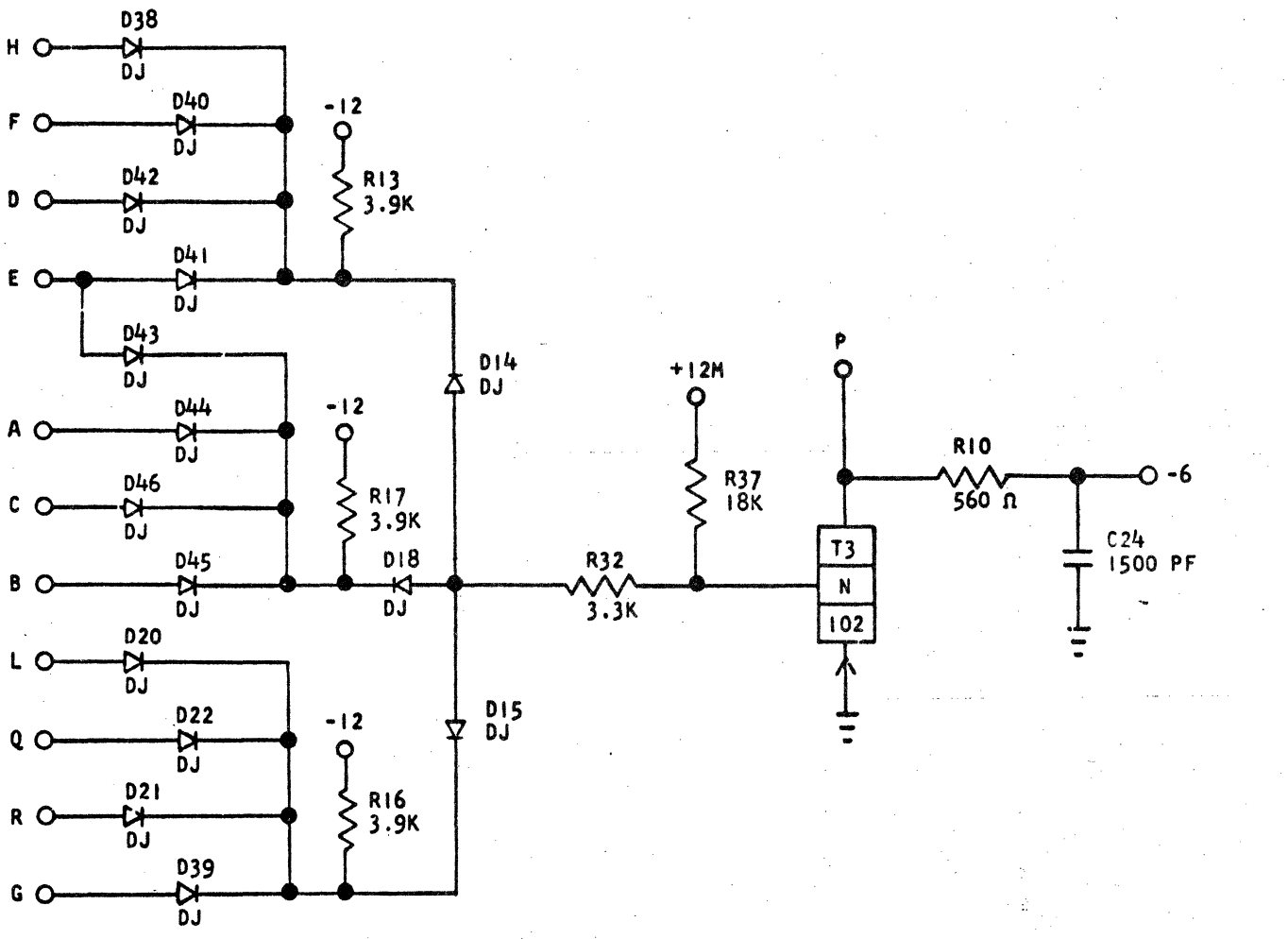
82-3987-2 6-22-61

5 2

3-4 WAY LOAD (-A-0)

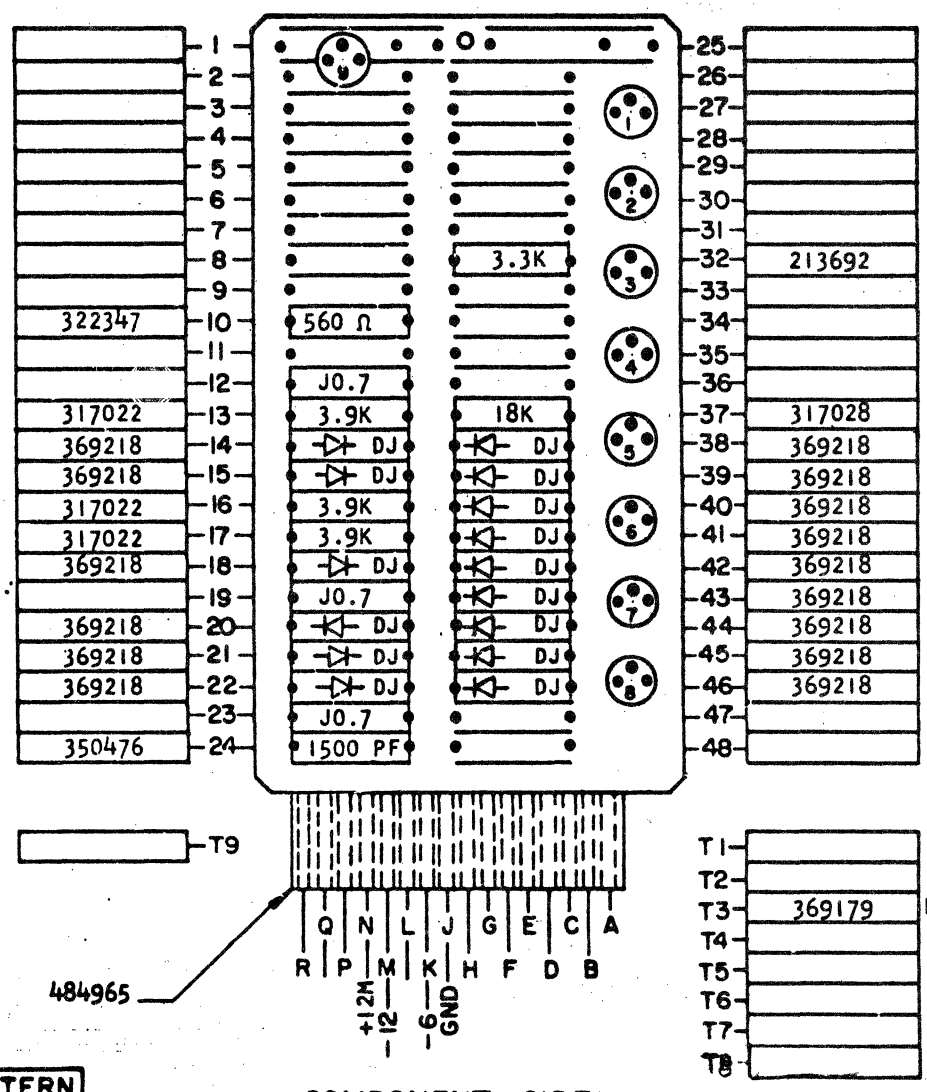
372206

STANDARDS CODE	2-7045
372206	A X G -



NOTES

- X CIRCUIT MUST CONFORM TO ENGINEERING SPECIFICATION 870201
- XI ASSEMBLE TO ENGINEERING SPECIFICATION 895396 AND 891999
- XII ALL RESISTORS ARE 1/2 WATT AND ± 5% UNLESS OTHERWISE NOTED
- XIII "J" IN BLOCK DENOTES BARE WIRE JUMPER 491296
- XIV POSITION T3 IS A TO-18 TRANSISTOR AND MAY BE MOUNTED IN .100 OR .200 PIN CIRCLE HOLES. SEE REFERENCE DRAWING 493904. USE TRANSISTOR SPACER 483070 AS REQUIRED.



COMPONENT SIDE

B

CIRCUIT AND PACKAGING STANDARD	
APPROVAL	DATE
N A F	2-22-62

HOLE PATTERN 493457

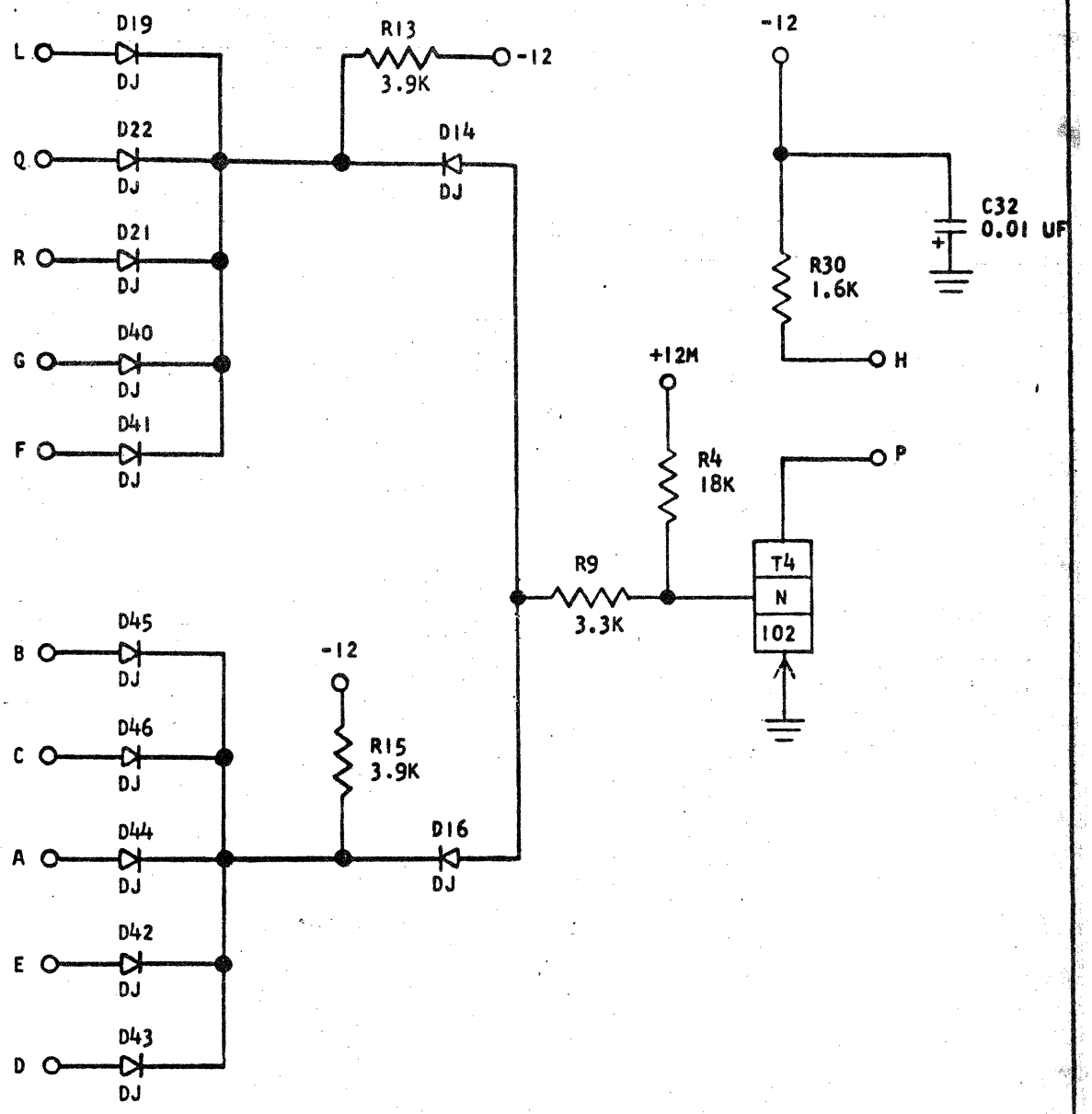
INTERNATIONAL BUSINESS MACHINES CORP.						DATE	CHANGE NO.	APPROVAL	DATE	CHANGE NO.	APPROVAL	DEVELOPMENT NO.	372206
NAME	CARD ASM TSTR – 3-4 WAY LOAD (-A-0)					4-13-62	114295	MDL				X 1033B	
DESIGN			MODEL	SMS 1440									
DETAIL			SCALE	NONE									
CHECK	EDF	4-5-62	DRAW	HAV	3-22-62								
APPRO	GWS	4-6-62	CHECK	KP	3-23-62								

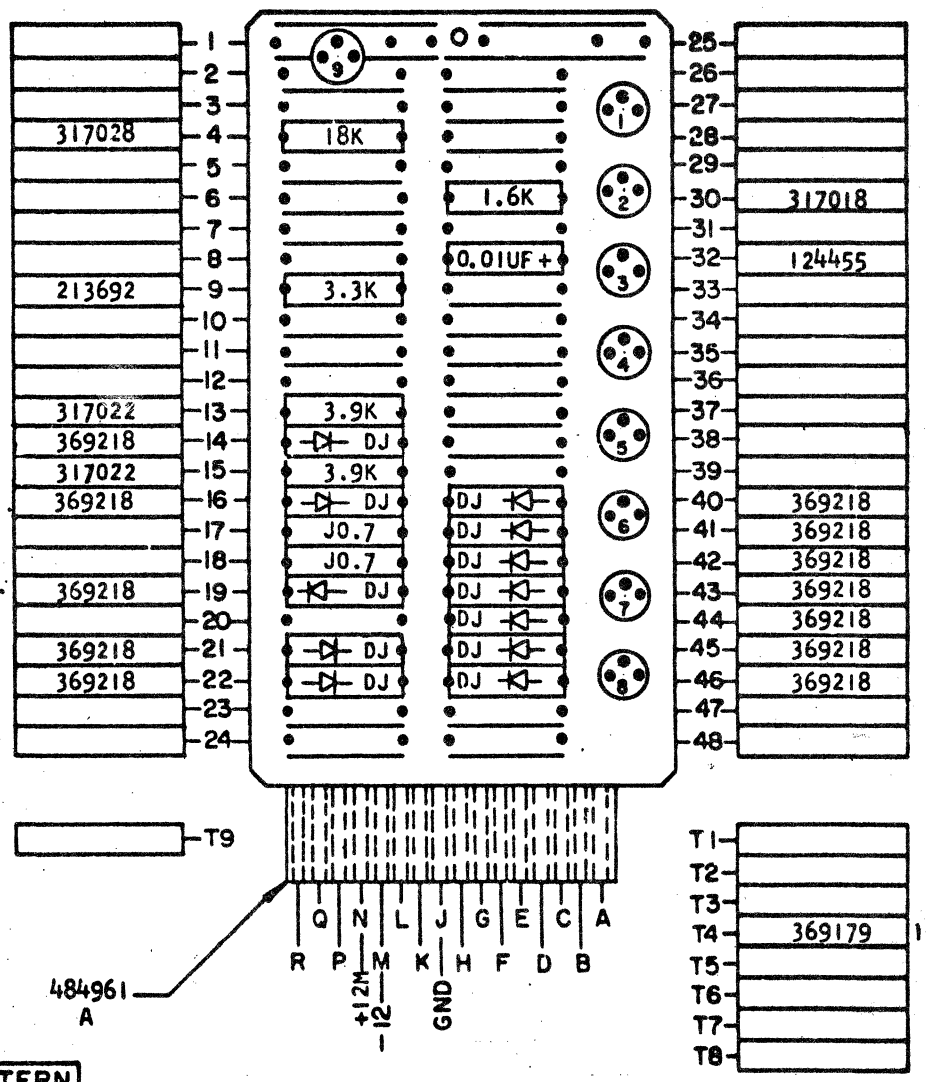
82-3987-2 6-22-61

2-5 WAY (-A-0) LOAD OR NO LOAD

372209

372209	A X K -
STANDARDS CODE	2-7045





COMPONENT SIDE

NOTES

X CIRCUIT MUST CONFORM TO ENGINEERING SPECIFICATION 870201

XI ASSEMBLE TO ENGINEERING SPECIFICATION 895396 AND 891999

XII ALL RESISTORS ARE 1/2 WATT AND ± 5% UNLESS OTHERWISE NOTED

XIII "J" IN BLOCK DENOTES BARE WIRE JUMPER 491296

XIV POSITION T4 IS A TO-18 TRANSISTOR WHICH MAY BE MOUNTED IN .100 OR .200 PIN CIRCLE HOLES. USE TRANSISTOR SPACER 483070 FOR .200 PIN CIRCLE MOUNTING

XV REFER TO FIELD SERVICE DRAWING PART NUMBER 734374 WHEN MAKING A CHANGE TO THIS CIRCUIT.

B

CIRCUIT AND PACKAGING STANDARD		
APPROVAL	DATE	HOLE PATTERN
NAF	2-22-62	493457

INTERNATIONAL BUSINESS MACHINES CORP.					
NAME	CARD ASM TSTR — 2-5 WAY (-A-0) LOAD OR NO LOAD				
DESIGN			MODEL	SMS 1440	
DETAIL			SCALE	NONE	
CHECK	EDF	4-4-62	DRAW	HAV	3-22-62
APPRO	GWS	4-6-62	CHECK	AP	3-23-62

DATE	CHANGE NO.	APPROVAL	DATE	CHANGE NO.	APPROVAL	DEVELOPMENT NO.
4-13-62	114296	MDL				X1060B
1-17-63	116081	MDL				
4-23-63	D116177	MDL				

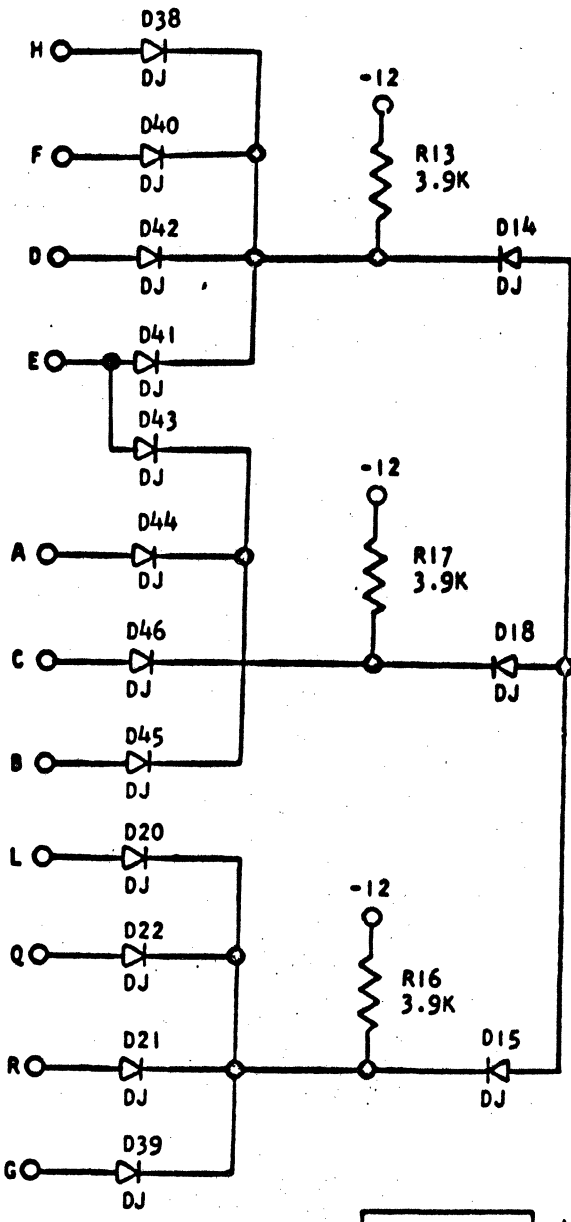
372209

82-3987-2 6-22-61

3-4 WAY W/O LOAD (-A,-O)

372212

STANDARDS CODE	372212 AXN-
2-7045	



NOTES

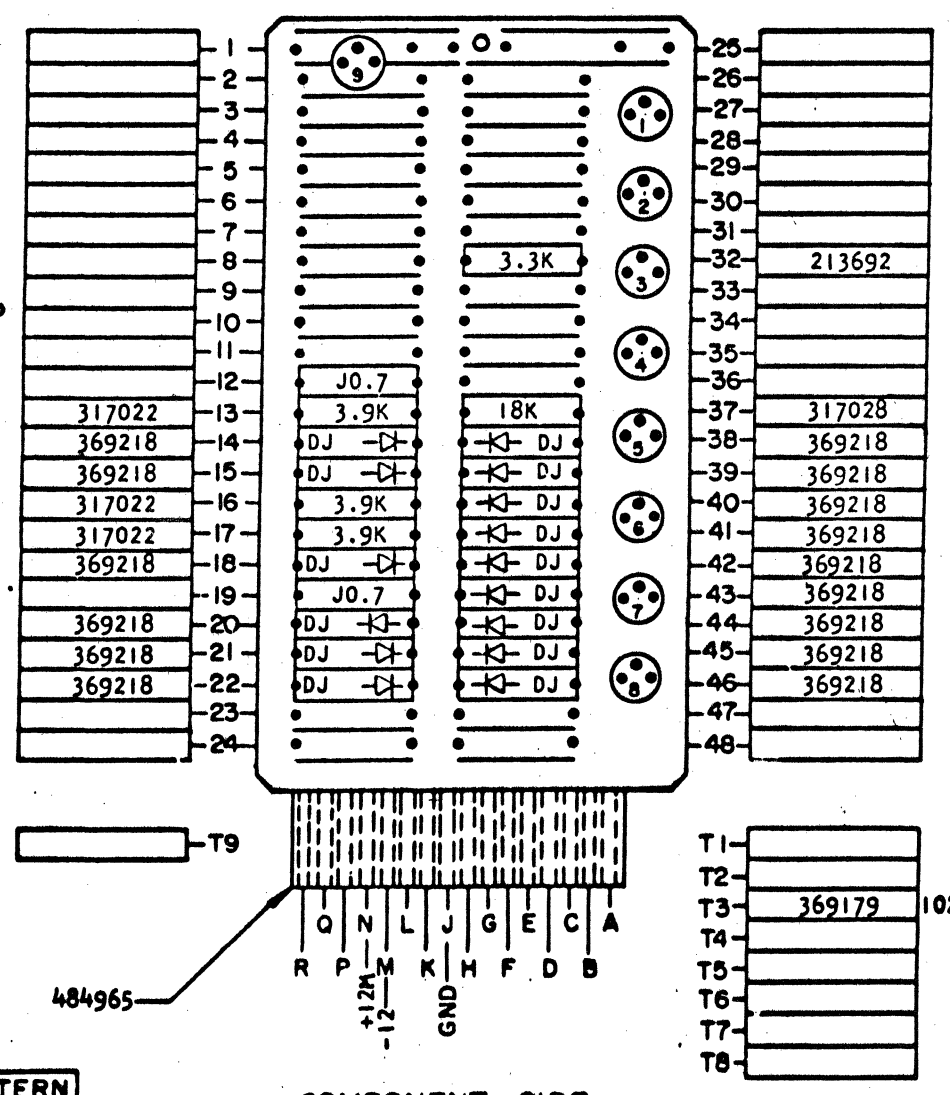
X CIRCUIT MUST CONFORM TO ENGINEERING SPECIFICATION 870201

XI ASSEMBLE TO ENGINEERING SPECIFICATION 895396 AND 891999

XII ALL RESISTORS ARE 1/2 WATT AND ± 5% UNLESS OTHERWISE NOTED

XIII "J" IN BLOCK DENOTES BARE WIRE JUMPER 491296

XIV POSITION T3 IS A TO-18 TRANSISTOR AND MAY BE MOUNTED IN .100 OR .200 PIN CIRCLE HOLES. SEE REFERENCE DRAWING 493904. USE TRANSISTOR SPACER 483070 AS REQUIRED.



COMPONENT SIDE

B

CIRCUIT AND PACKAGING STANDARD		
APPROVAL	DATE	HOLE PATTERN
NAF	2-22-62	493457

INTERNATIONAL BUSINESS MACHINES CORP.					DATE	CHANGE NO.	APPROVAL	DATE	CHANGE NO.	APPROVAL	DEVELOPMENT NO.
NAME	CARD ASM TSTR - 3-4 WAY W/O LOAD (-A,-O)				4-13-62	114296	MDL				X1063B
DESIGN			MODEL	SMS 1440							
DETAIL			SCALE	NONE							
CHECK	EDF	4-4-62	DRAW	HAV 3-22-62							
APPRO	GWS	4-6-62	CHECK	AP 3-23-62							

372212

82-3987-2 6-22-61

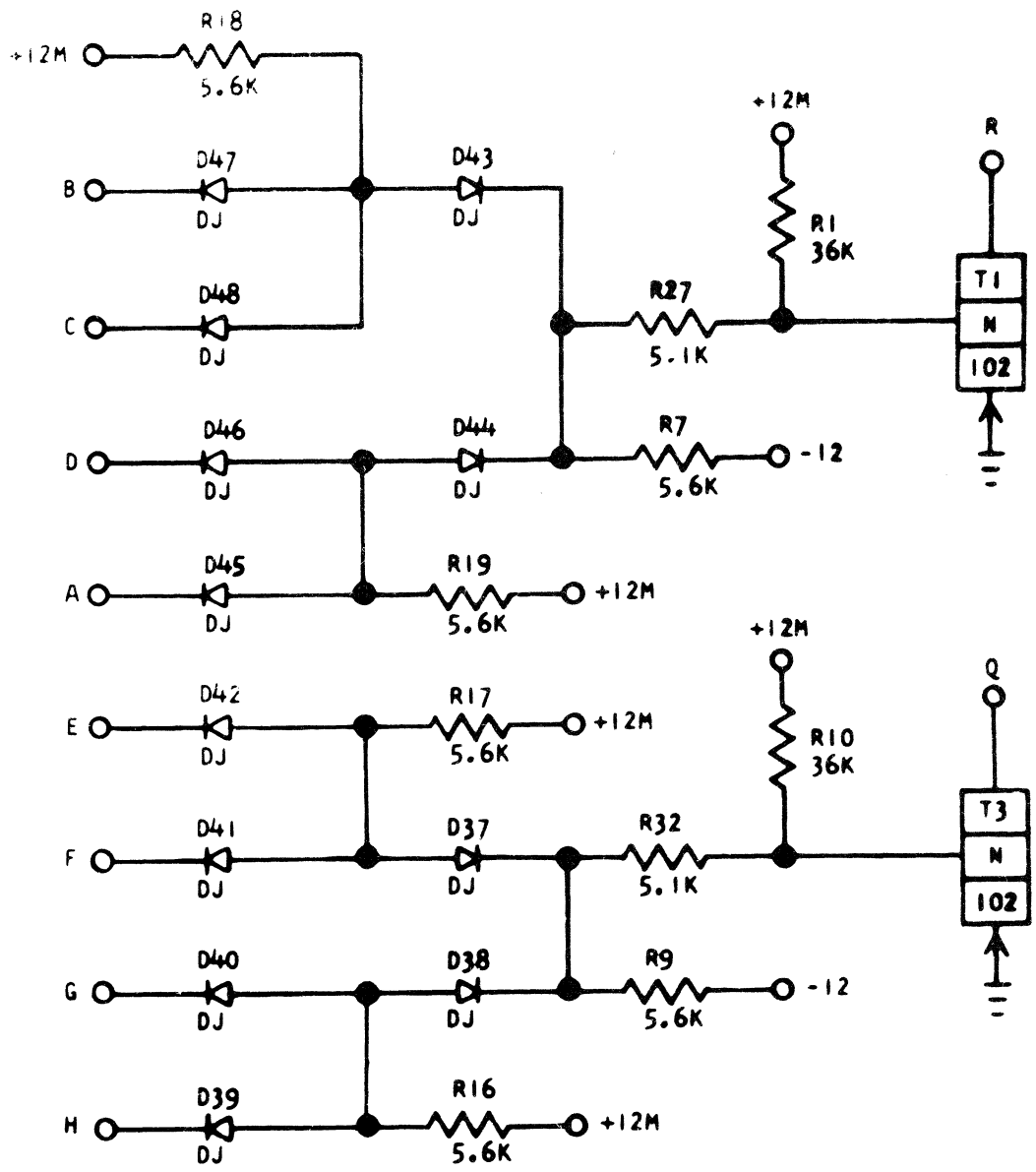
372241

STANDARDS CODE 2-7045

A X S

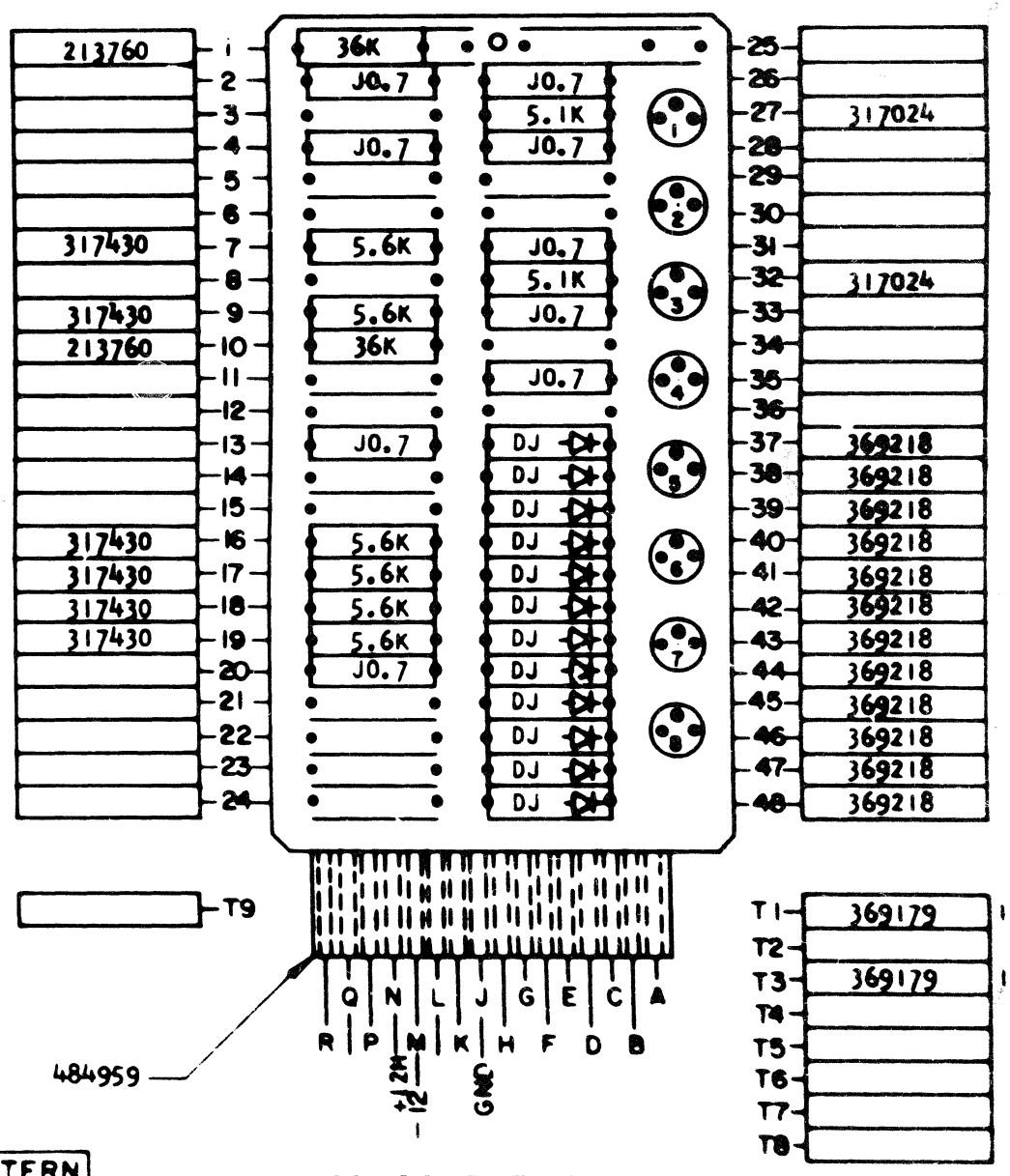
372241

2-2 (+A, +O) NO LOAD



NOTES

- X CIRCUIT MUST CONFORM TO ENGINEERING SPECIFICATION 892379
- XI ASSEMBLE TO ENGINEERING SPECIFICATION 895396 AND 891999
- XII ALL RESISTORS ARE 1/2 WATT AND ± 5% UNLESS OTHERWISE NOTED
- XIII "J" IN BLOCK DENOTES BARE WIRE JUMPER 491296
- XIV POSITIONS T1 AND T3 ARE TO-18 TRANSISTORS AND MAY BE MOUNTED IN .100 OR .200 PIN CIRCLE HOLES. SEE REFERENCE DRAWING 493907. USE TRANSISTOR SPACER 483070 AS REQUIRED.



B

CIRCUIT AND PACKAGING STANDARD	
APPROVAL	DATE
//A'	[illegible]

HOLE PATTERN 493457

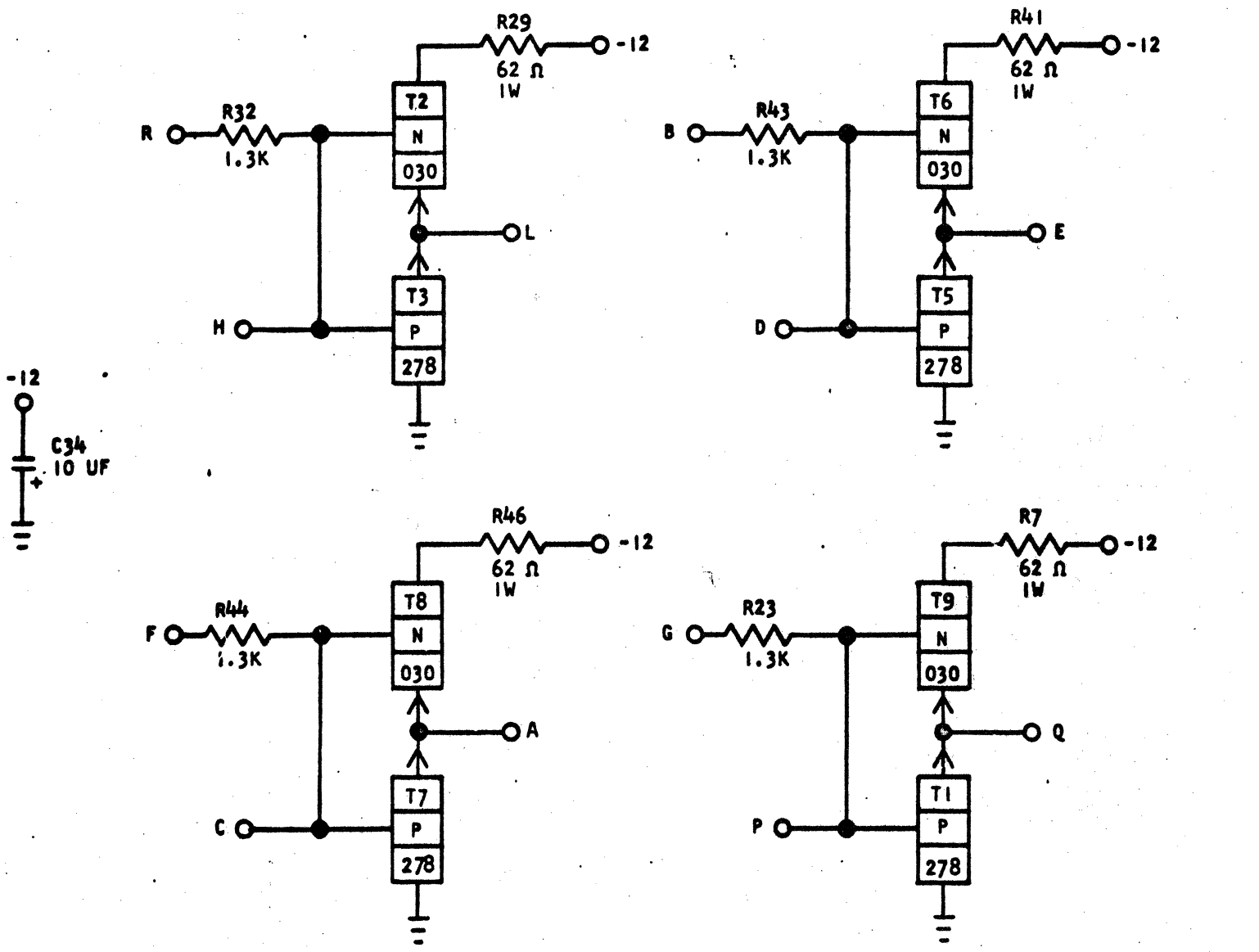
INTERNATIONAL BUSINESS MACHINES CORP.						DATE	CHANGE NO	APPROVAL	DATE	CHANGE NO	APPROVAL	DEVELOPMENT NO.
NAME	CARD ASM TSTR – 2-2 (+A, +O) NO LOAD					[illegible]	14320	[illegible]				X1067B
DESIGN	RSH	4-18-61	MODEL	SMS 1440								
DETAIL			SCALE	NONE								
CHECK	RSH	4-19-61	DRAW	HAV	3-30-62							

372241

COMPLEMENTARY EMITTER FOLLOWER

372244

STANDARDS CODE	2-7045
372244	A X V -



NOTES

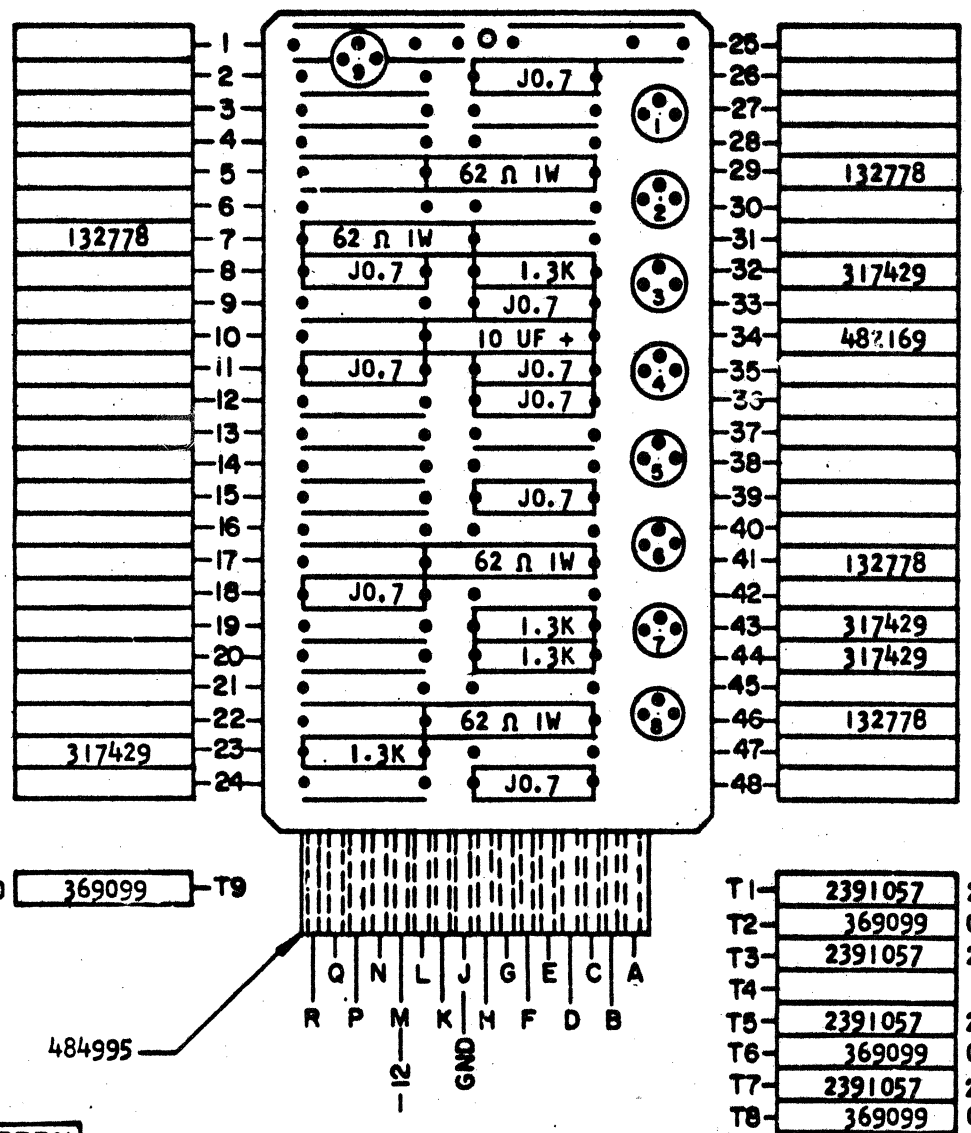
X CIRCUIT MUST CONFORM TO ENGINEERING SPECIFICATION 870244

XI ASSEMBLE TO ENGINEERING SPECIFICATION 895396 AND 891999

XII ALL RESISTORS ARE 1/2 WATT AND ± 5% UNLESS OTHERWISE NOTED

XIII "J" IN BLOCK DENOTES BARE WIRE JUMPER 491296

XIV REFER TO FIELD SERVICE DRAWING PART NUMBER 734338 WHEN MAKING A CHANGE TO THIS CIRCUIT.



COMPONENT SIDE

B

CIRCUIT AND PACKAGING STANDARD	
APPROVAL	DATE
NAF	2-23-62

HOLE PATTERN 493457

INTERNATIONAL BUSINESS MACHINES CORP.					
NAME	CARD ASM TSTR – COMPLEMENTARY EMITTER FOLLOWER				
DESIGN			MODEL	SMS 1440	
DETAIL	AP	7-11-61	SCALE	NONE	
CHECK	AP	7-11-61	DRAW	HAV	3-30-62
APPRO	GWS	11-9-62	CHECK	AP	3-30-62

DATE	CHANGE NO.	APPROVAL	DATE	CHANGE NO.	APPROVAL	DEVELOPMENT NO.
4.27.62	114320	LHR				X1080A
11-21-64	122721	GLK				

372244

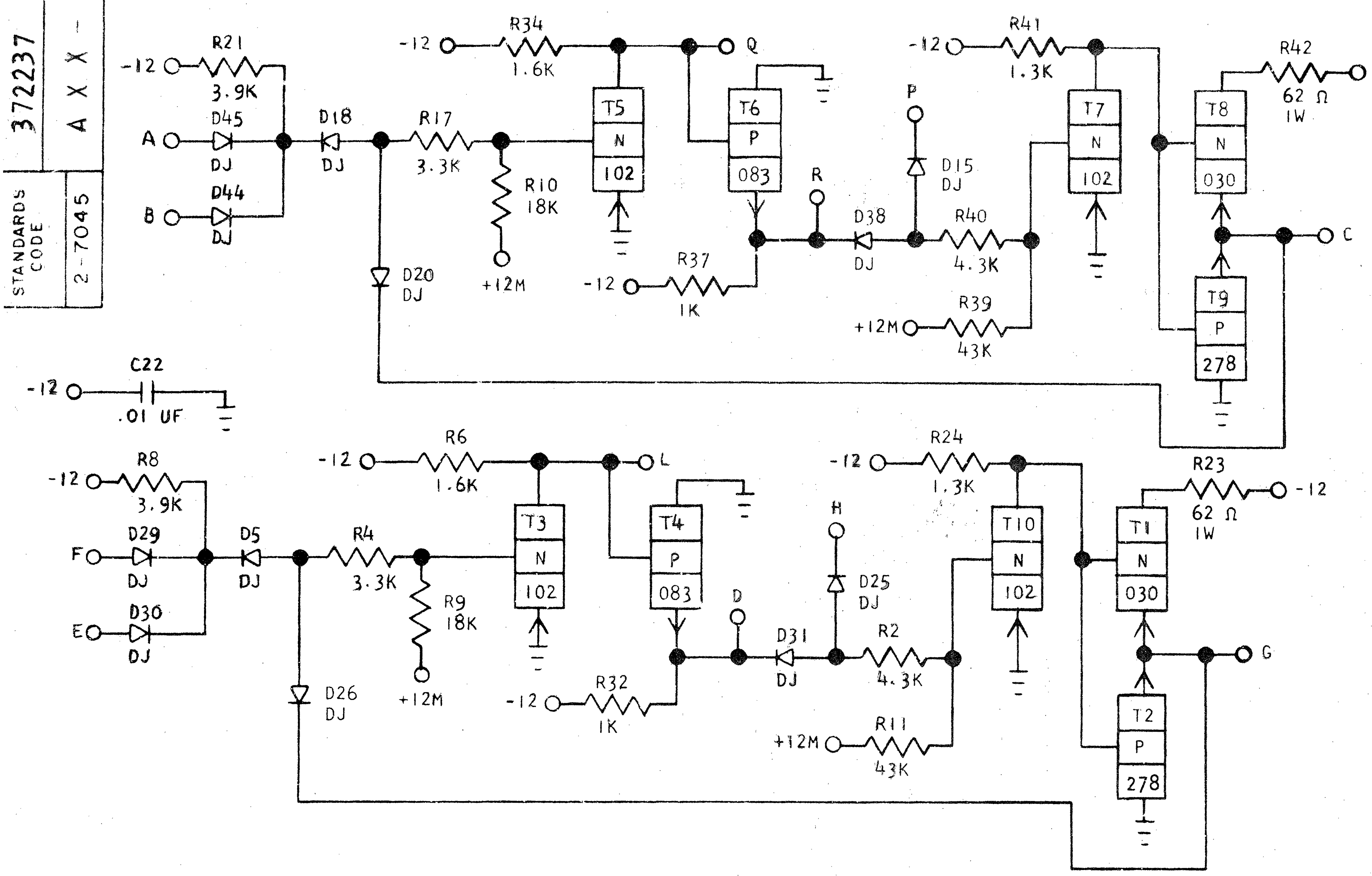
82-3987-2 6-22-61

372237 | A X X -

STANDARDS CODE 2-7045

SDTDL POWER LATCH A

372237



NOTES

X CIRCUIT MUST CONFORM TO ENGINEERING SPECIFICATION 870237

XI ASSEMBLE TO ENGINEERING SPECIFICATION 895396 AND 891999

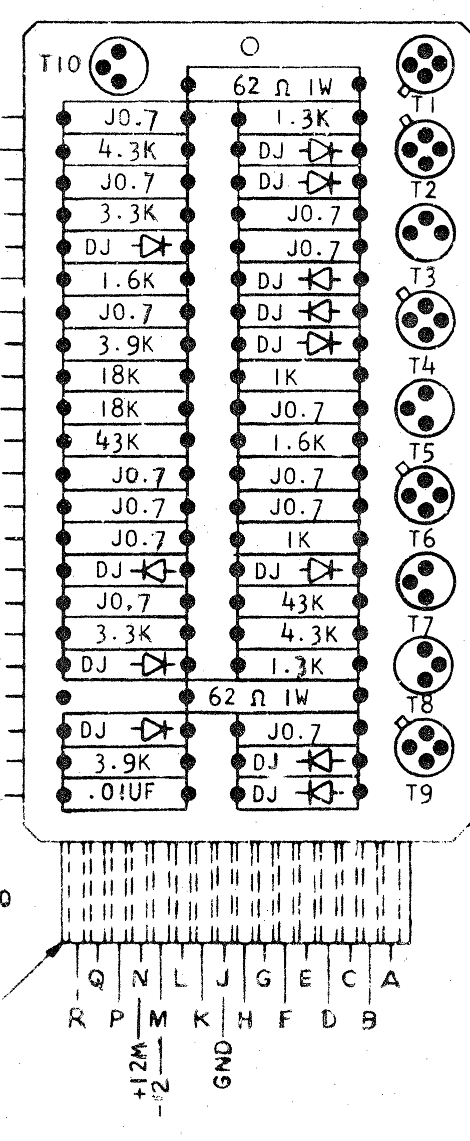
XII ALL RESISTORS ARE 1/2 WATT AND ±5% UNLESS OTHERWISE NOTED

XIII "J" IN BLOCK DENOTES BARE WIRE JUMPER 491296

XIV POSITIONS T3,T5,T7 AND T10 ARE TO-18 TRANSISTORS AND REQUIRE .100 PIN CIRCLE HOLES.

XV REFER TO FIELD SERVICE DRAWING PART NUMBER 734355 WHEN MAKING A CHANGE TO THIS CIRCUIT.

Part No.	Pos.
	1
317023	2
	3
213692	4
369218	5
317018	6
	7
317022	8
317028	9
317028	10
334919	11
	12
	13
	14
369218	15
	16
213692	17
369218	18
	19
369218	20
317022	21
491228	22



Pos.	Part No.
23	132778
24	317429
25	369218
26	369218
27	
28	
29	369218
30	369218
31	369218
32	213693
33	
34	317018
35	
36	
37	213693
38	369218
39	334919
40	317023
41	317429
42	132778
43	
44	369218
45	369218

102	369179	T10

T1	369099	030
T2	2391057	278
T3	369179	102
T4	318325	083
T5	369179	102
T6	318325	083
T7	369179	102
T8	369099	030
T9	2391057	278

484987

COMPONENT SIDE

3

SPD CIRCUIT & PACKAGING STANDARD

APPROVAL	DATE
NAF GS	2 26 62

HOLE PATTERN
493499

INTERNATIONAL BUSINESS MACHINES CORP

CARD ASM TITLE SDTDL POWER LATCH A

AP 3-29-62 MS 1440

AP 3-29-62 NONE

EDF HAV 4-4-62

GW 12-62 AP

DATE	CHANGE NO.	APPROVAL
2 17-62	114319	MDL
12-17-62	116027	MDL
11-21-64	122721	GLK

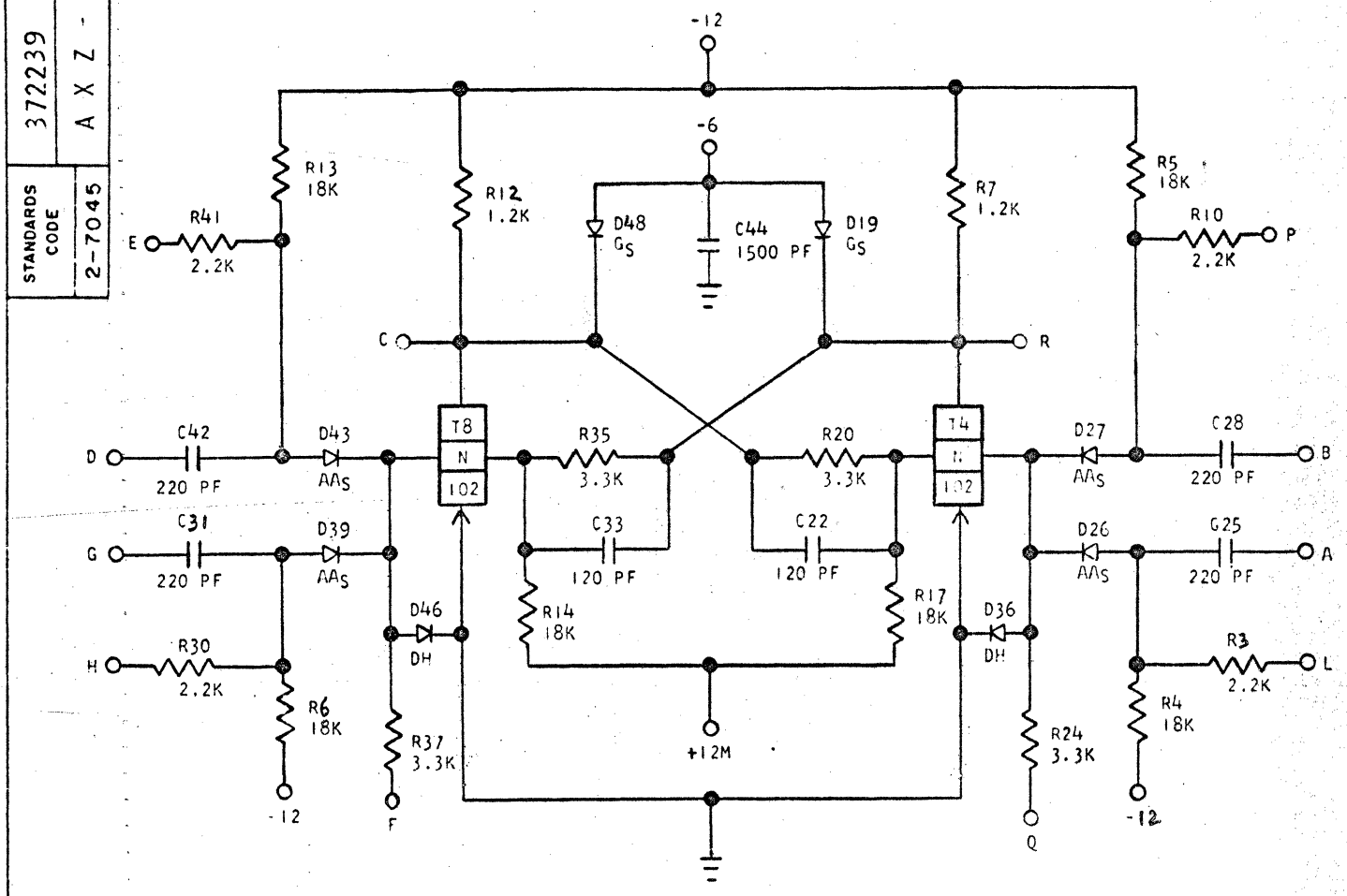
DATE	CHANGE NO.	APPROVAL	DEVELOPMENT NO.
			X1214A

372237

SDTDL LOW SPEED TRIGGER

372239

STANDARDS CODE 2-7045 | 372239 A X Z -



NOTES

X CIRCUIT MUST CONFORM TO ENGINEERING SPECIFICATION 870239

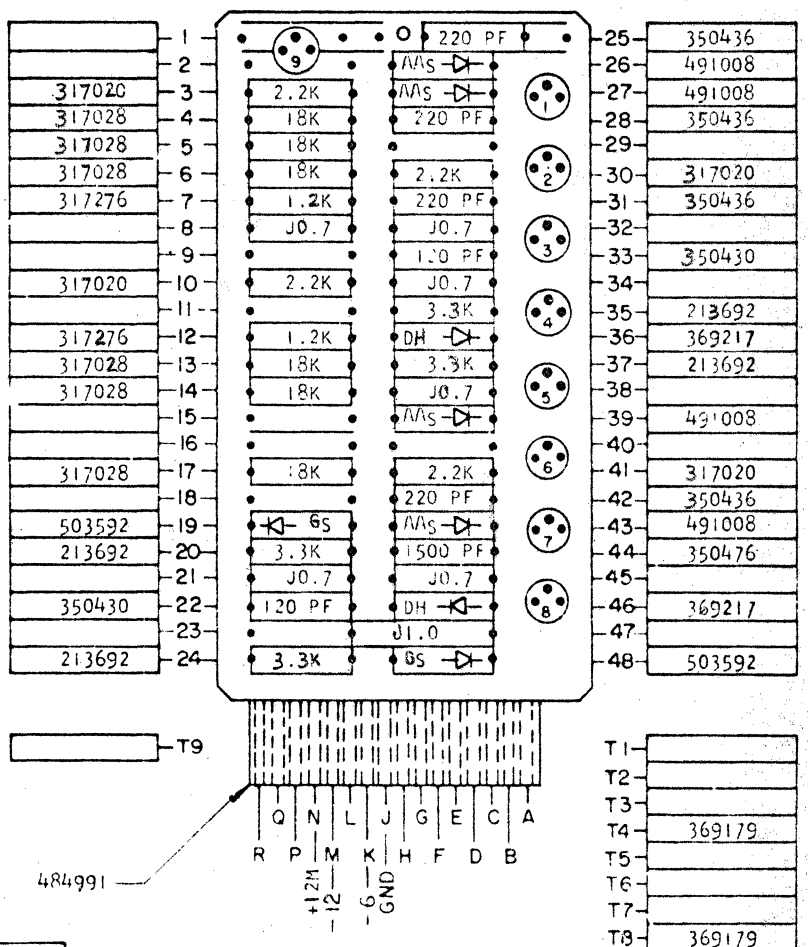
XI ASSEMBLE TO ENGINEERING SPECIFICATION 895396 AND 891999

XII ALL RESISTORS ARE 1/2 WATT AND ± 5% UNLESS OTHERWISE NOTED

XIII "J" IN BLOCK DENOTES BARE WIRE JUMPER 491296

XIV TRANSISTORS T4 AND T8 ARE TO-18 TSTRS. AND MAY BE MOUNTED IN .100 OR .200 PIN CIRCLE HOLES. SEE REFERENCE DRAWING 493909. USE TRANSISTOR SPACER 483070 AS REQUIRED.

XV REFER TO FIELD SERVICE DRAWING PART NUMBER 373437 WHEN MAKING A CHANGE TO THIS CIRCUIT.



COMPONENT SIDE

B

CIRCUIT AND PACKAGING STANDARD	
APPROVAL	DATE
NAF GS	2-26-62

HOLE PATTERN 493457

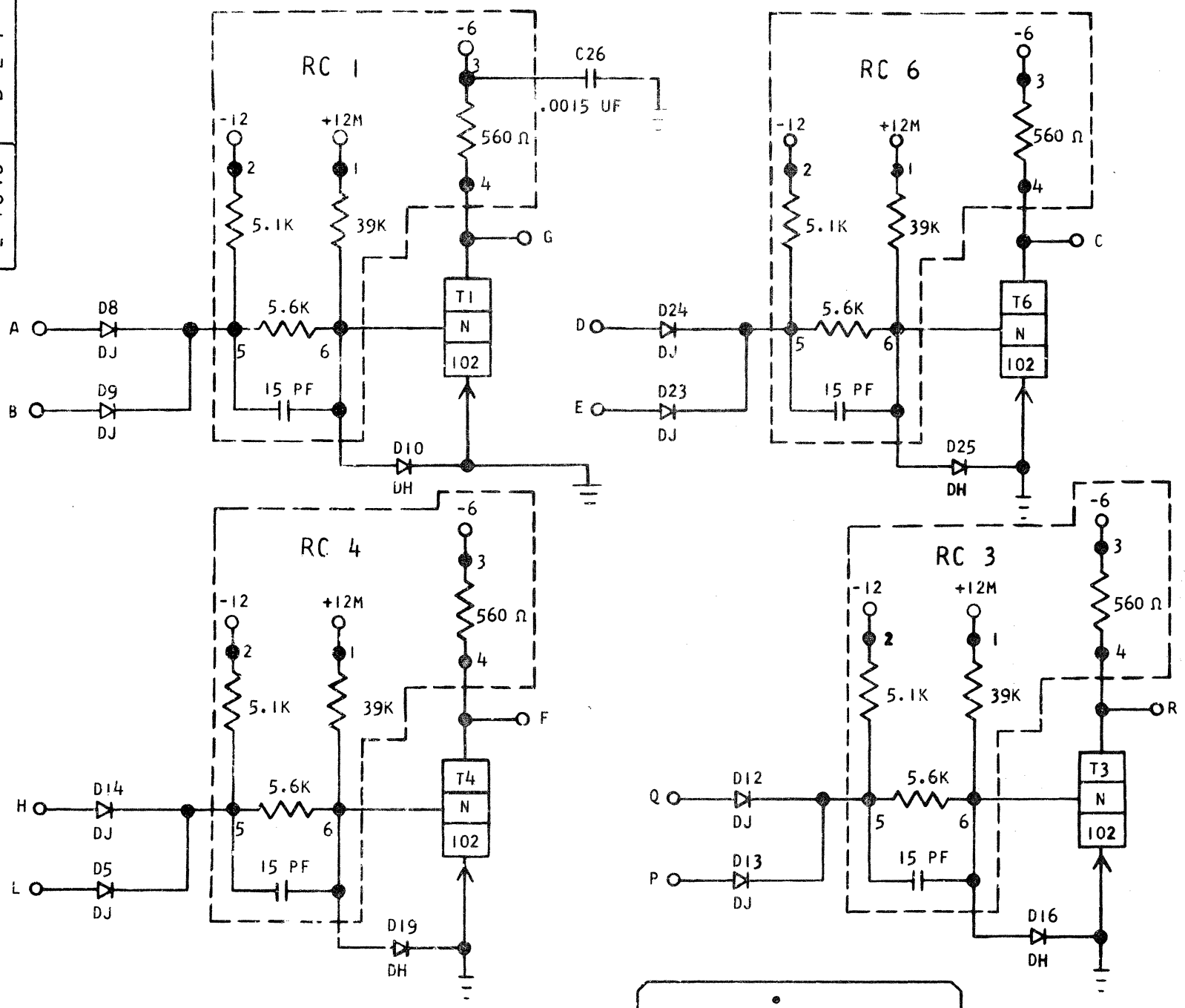
INTERNATIONAL BUSINESS MACHINES CORP.	DATE	CHANGE NO.	APPROVAL	DATE	CHANGE NO.	APPROVAL	DEVELOPMENT NO.	372239
NAME CARD ASM TSTR – SDTDL LOW SPEED TRIGGER	2-12-62	114319	MDL				X1076B	
DESIGN		MODEL SMS 1440						
DETAIL		SCALE NONE						
CHECK AP 7-10-61		DRAW HAV 4-11-62						
APPRO GWS		CHECK AP 4-11-62						

82-3987-2 6-22-61

SDTDL-FOUR 2 WAY N AND LOGIC BLOCKS WITH LOADS

370216

STANDARDS CODE 2-7045 | DEF - 370216



NOTES

X CIRCUIT MUST CONFORM TO ENGINEERING SPECIFICATION 892216

XI ASSEMBLE TO ENGINEERING SPECIFICATION 895396 AND 891999

XII ALL RESISTORS ARE 1/2 WATT AND ±5% UNLESS OTHERWISE NOTED

XIII "J" IN BLOCK DENOTES BARE WIRE JUMPER 491296

XIV POSITIONS T1, T3, T4 AND T6 ARE TO-18 TRANSISTORS WHICH MAY BE MOUNTED IN .100 OR .200 PIN CIRCLE HOLES. USE TRANSISTOR SPACER 483070 FOR .200 PIN CIRCLE MOUNTING.

T1	369179	102
T2		
T3	369179	102
T4	369179	102
T5		
T6	369179	102

COMPONENT SIDE

DPD CIRCUIT & PACKAGING STANDARD		
APPROVAL	DATE	HOLE PATTERN
H D H GS	7-1-60	399402

INTERNATIONAL BUSINESS MACHINES CORP.

NAME	CARD ASM TSTR-SDTDL-FOUR 2 WAY N AND LOGIC BLOCKS WITH LOADS				
DESIGN			MODEL	SMS	
DETAIL	AP	3-27-62	SCALE	NONE	
CHECK	AP	3-27-62	DRAW	HAV	5-9-62
APPRO	GWS	8-7-62	CHECK	AP	5-21-62

DATE	CHANGE NO.	APPROVAL
7-14-60	109647	NOTE XVI
5-15-61	111244	NOTE XVI
12-5-61	113104	NOTE XVI
8-1-62	114383	MDL
4-28-64	D121009	GWS

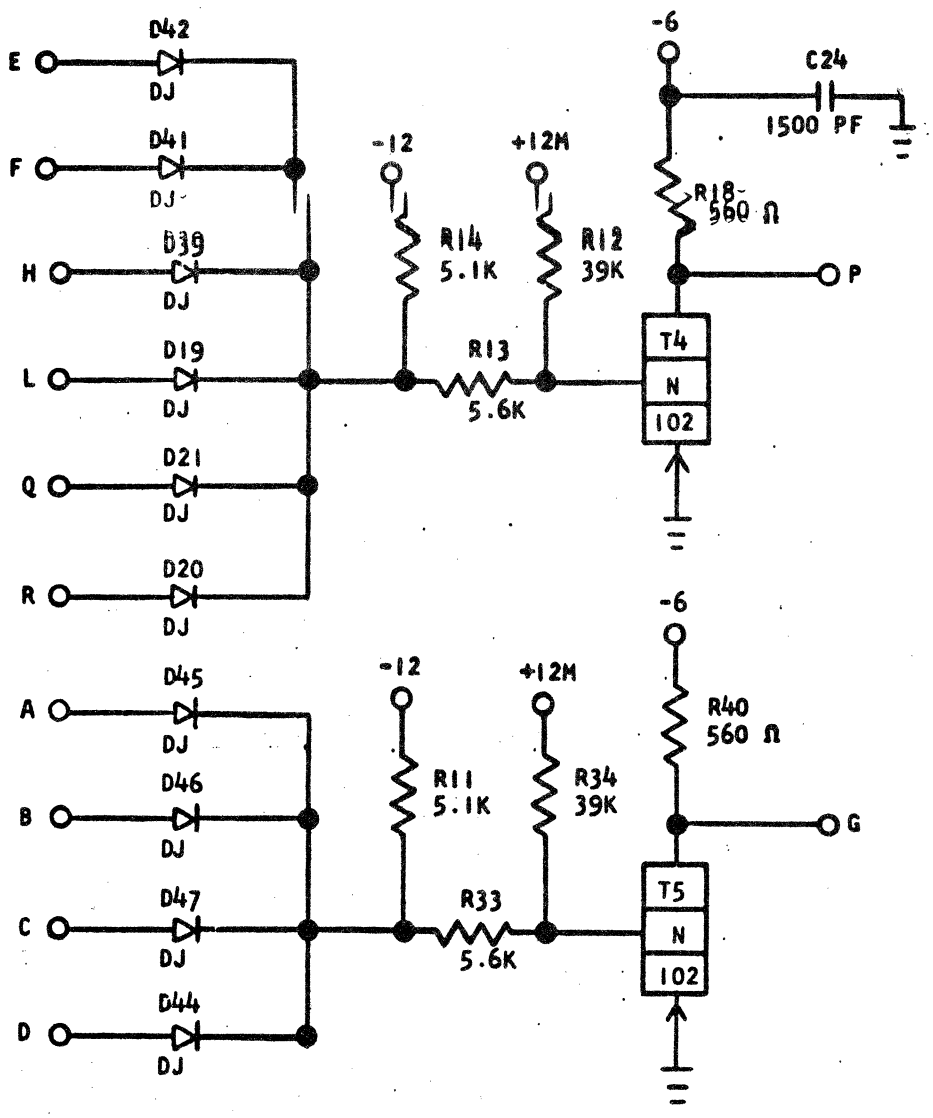
DATE	CHANGE NO.	APPROVAL	DEVELOPMENT NO.
			X0755A

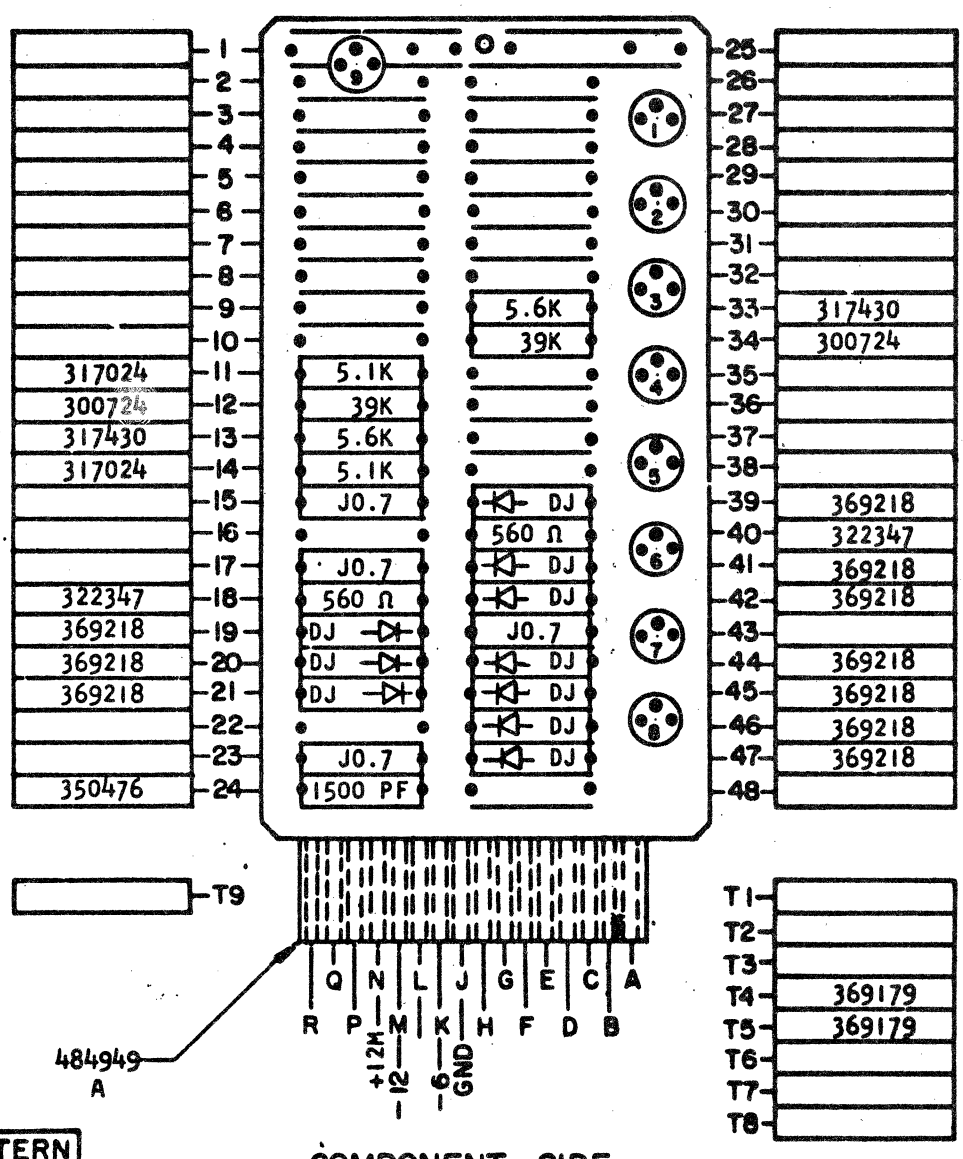
370216

1-6 WAY; 1-4 WAY W/LOAD (-A)

372195

STANDARDS CODE 2-7045 | DEN- 372195





NOTES

X CIRCUIT MUST CONFORM TO ENGINEERING SPECIFICATION 892380

XI ASSEMBLE TO ENGINEERING SPECIFICATION 895396 AND 891999.

XII ALL RESISTORS ARE 1/2 WATT AND ± 5% UNLESS OTHERWISE NOTED

XIII "J" IN BLOCK DENOTES BARE WIRE JUMPER 491296

XIV

XV REFER TO FIELD SERVICE DRAWING PART NUMBER 734304 WHEN MAKING A CHANGE TO THIS CIRCUIT.

XVI POSITIONS T4 AND T5 ARE TO-18 TRANSISTORS WHICH MAY BE MOUNTED IN .100 OR .200 PIN CIRCLE HOLES. USE TRANSISTOR SPACER 483070 FOR .200 PIN CIRCLE MOUNTING

B

CIRCUIT AND PACKAGING STANDARD		
APPROVAL	DATE	HOLE PATTERN
NAF	2-20-62	493457

INTERNATIONAL BUSINESS MACHINES CORP.						DATE	CHANGE NO.	APPROVAL	DATE	CHANGE NO.	APPROVAL	DEVELOPMENT NO.	372195
NAME	CARD ASM TSTR-					4.18.62	114280	MDL				X1037A	
1-6 WAY, 1-4 WAY W/LOAD (-A)						8-17-62	114678	MDL					
DESIGN			MODEL	SMS		12-30-63	119217	GWS					
DETAIL			SCALE	NONE								CIRCUIT FAMILY	
CHECK	EDF	4-9-62	DRAW	HAV	3-12-62							SDTDL	
APPRO	GWS	4-10-62	CHECK	~~AP~~	3-20-62								

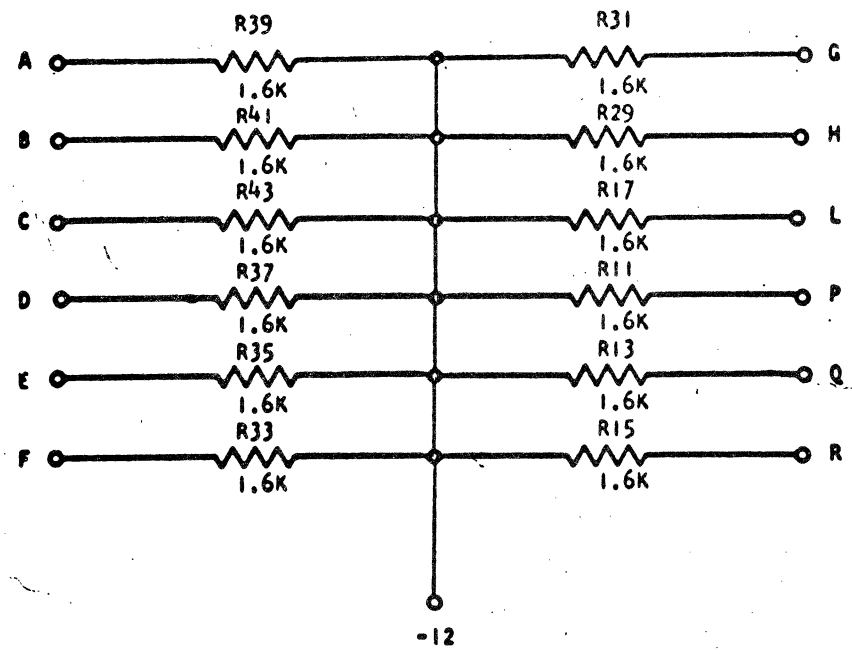
82-3987-2 6-22-61

370232

370232 DFJ-

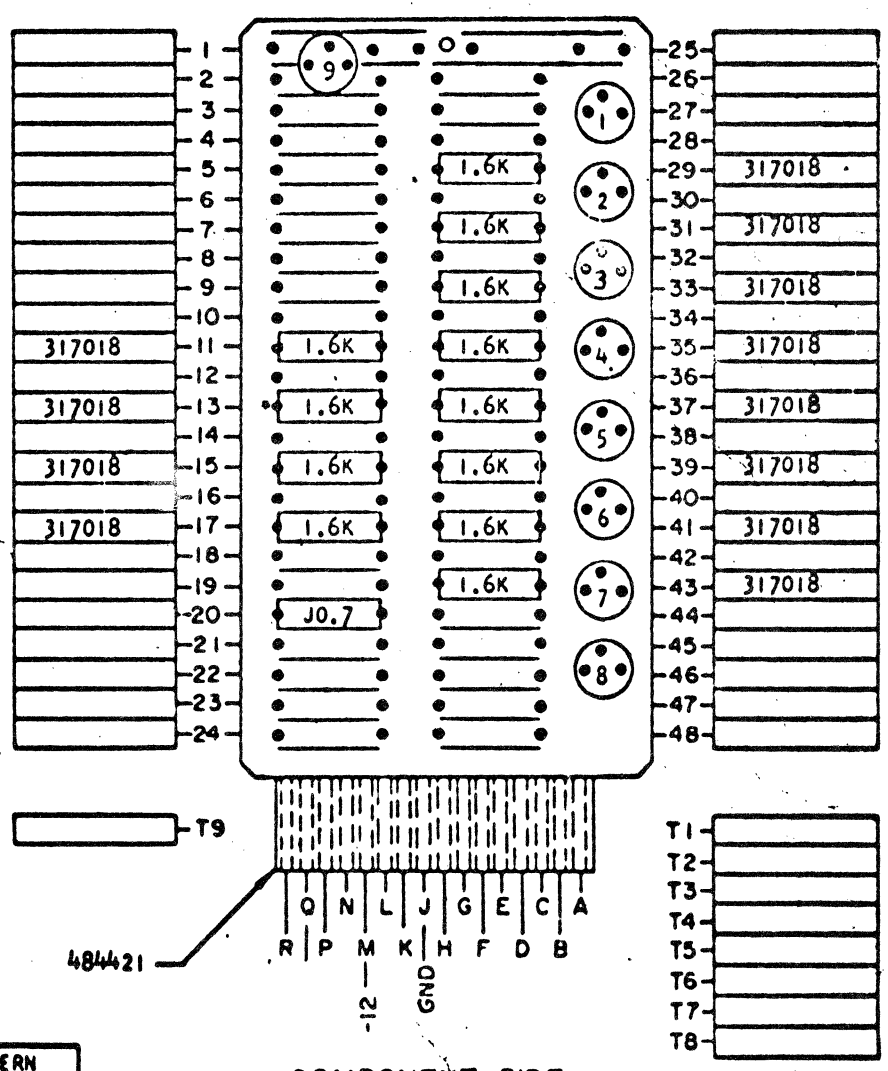
STANDARDS CODE 2-7045

TDL & TRL LOAD CARD



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 "J" IN BLOCK DENOTES BARE WIRE JUMPER 491296
- XIV REFER TO FIELD SERVICE DRAWING PART NUMBER 729909 WHEN MAKING A CHANGE TO THIS CIRCUIT



B

CIRCUIT AND PACKAGING STANDARD		
APPROVAL	DATE	HOLE PATTERN
HDH GS	7-15-60	493457

INTERNATIONAL BUSINESS MACHINES CORP.						DATE	CHANGE NO.	APPROVAL	DATE	CHANGE NO	APPROVAL	DEVELOPMENT NO.
NAME	CARD ASM TSTR - TDL & TRL LOAD CARD					8-5-60	109754	IWB				X0680A
						7-30-63	117824	MDL				
DESIGN			TYPE	SMS								
DETAIL	AP	6-13-60	SCALE	NONE								
CHECK	CJB	8-4-60	DRAW	VE	7-9-63							CIRCUIT FAMILY
APPRD	DES	8-5-60	CHECK									CSDD

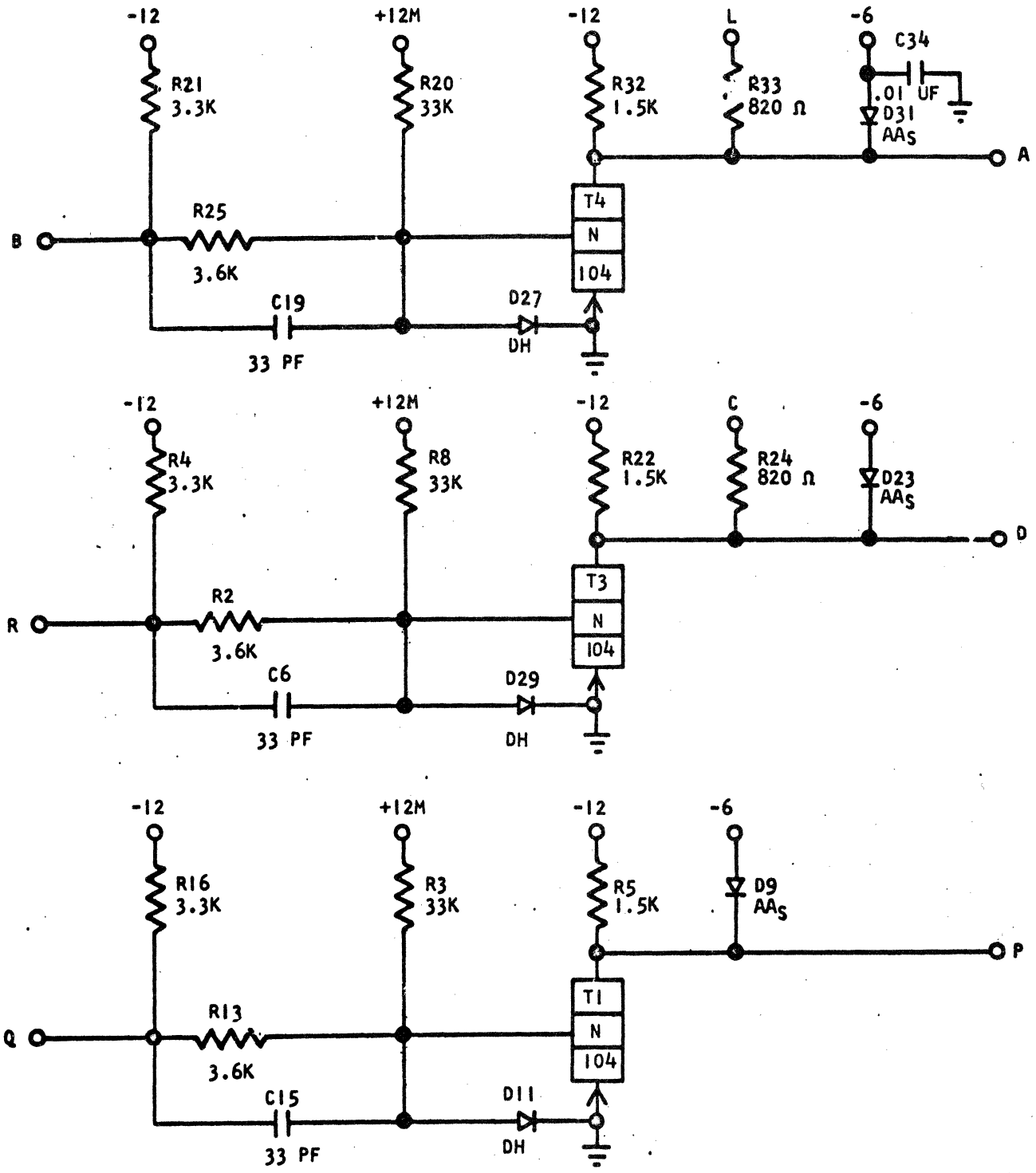
370232

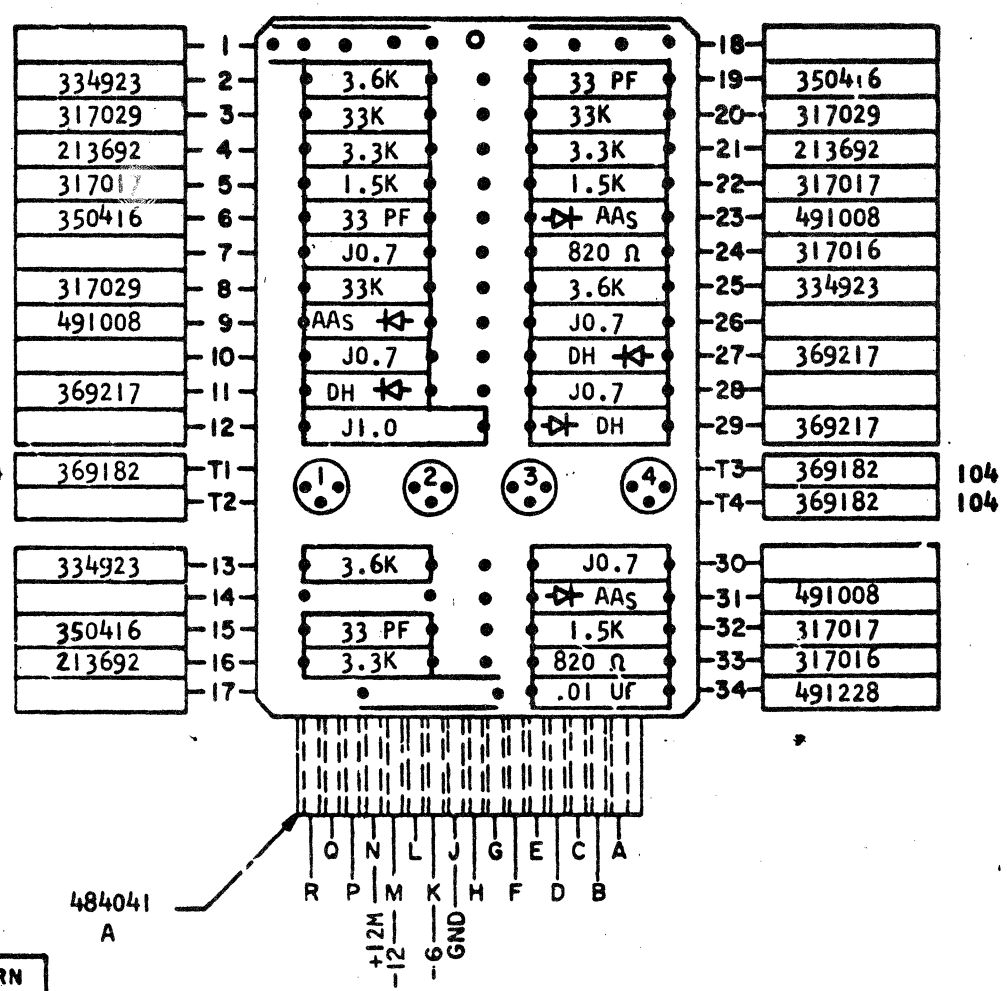
INVERTING POWER DRIVER

370225

STANDARDS CODE 2-7045

370225 DFQ-





NOTES

X CIRCUIT MUST CONFORM TO ENGINEERING SPECIFICATION 892225

XI ASSEMBLE TO ENGINEERING SPECIFICATION 895396 AND 891999

XII ALL RESISTORS ARE 1/2 WATT AND ±5% UNLESS OTHERWISE NOTED

XIII "J" IN BLOCK DENOTES BARE WIRE JUMPER 491296

XIV REFER TO FIELD SERVICE DRAWING PART NUMBER 729910 WHEN MAKING A CHANGE TO THIS CIRCUIT.

XV POSITIONS T1, T3 AND T4 ARE TO-18 TRANSISTORS WHICH MAY BE MOUNTED IN .100 OR .200 DIA. CIRCLE HOLES. USE TRANSISTOR SPACER 483070 FOR .200 PIN CIRCLE MOUNTING

B

CIRCUIT AND PACKAGING STANDARD			
APPROVAL		DATE	HOLE PATTERN
HDH (GS)		1-27-60	491329

INTERNATIONAL BUSINESS MACHINES CORP.					DATE	CHANGE NO.	APPROVAL	DATE	CHANGE NO.	APPROVAL	DEVELOPMENT NO.	370225
NAME CARD ASM TSTR- INVERTING POWER DRIVER					SEE INDEX CARD						X0731A	
DESIGN			MODEL	SMS	5-19-61	111804	NOTE XV					
DETAIL	AP	5-25-60	SCALE	NONE	12-4-61	113128	NOTE XV					
CHECK	CJB	8-4-60	DRAW	LIG 11-26-63	12.30.63	119217	GWS				CIRCUIT FAMILY	
APPRO	BES	8-5-60	CHECK	12-10-63							SDTDL	

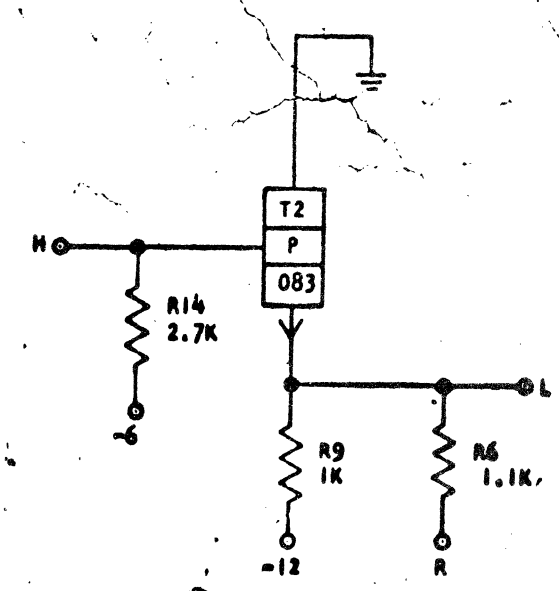
82-3977-1 6-22-61

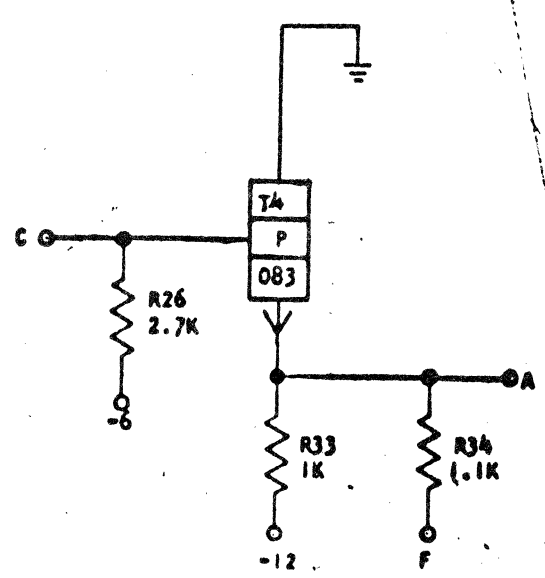
370226

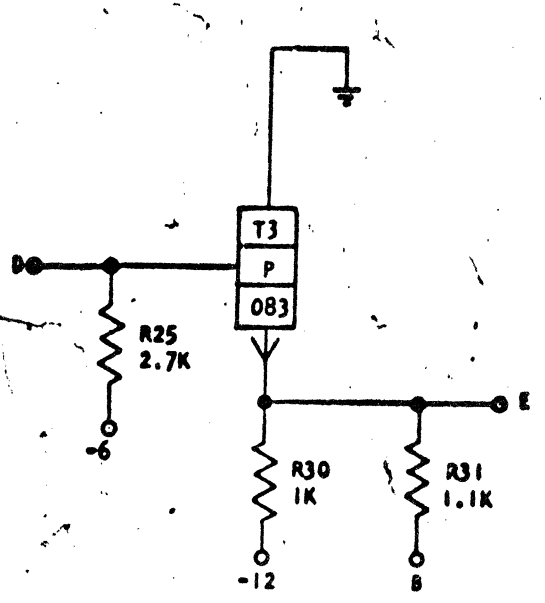
SDTDL NON-INVERTING POWER DRIVER

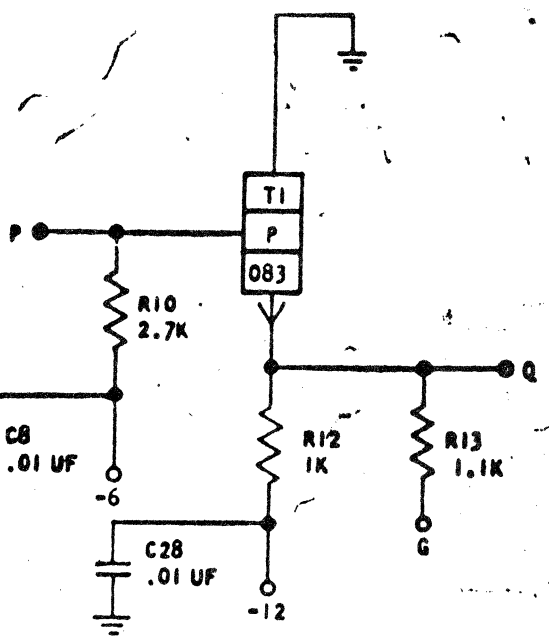
370226 DFR-

STANDARDS CODE 2-7045









NOTES

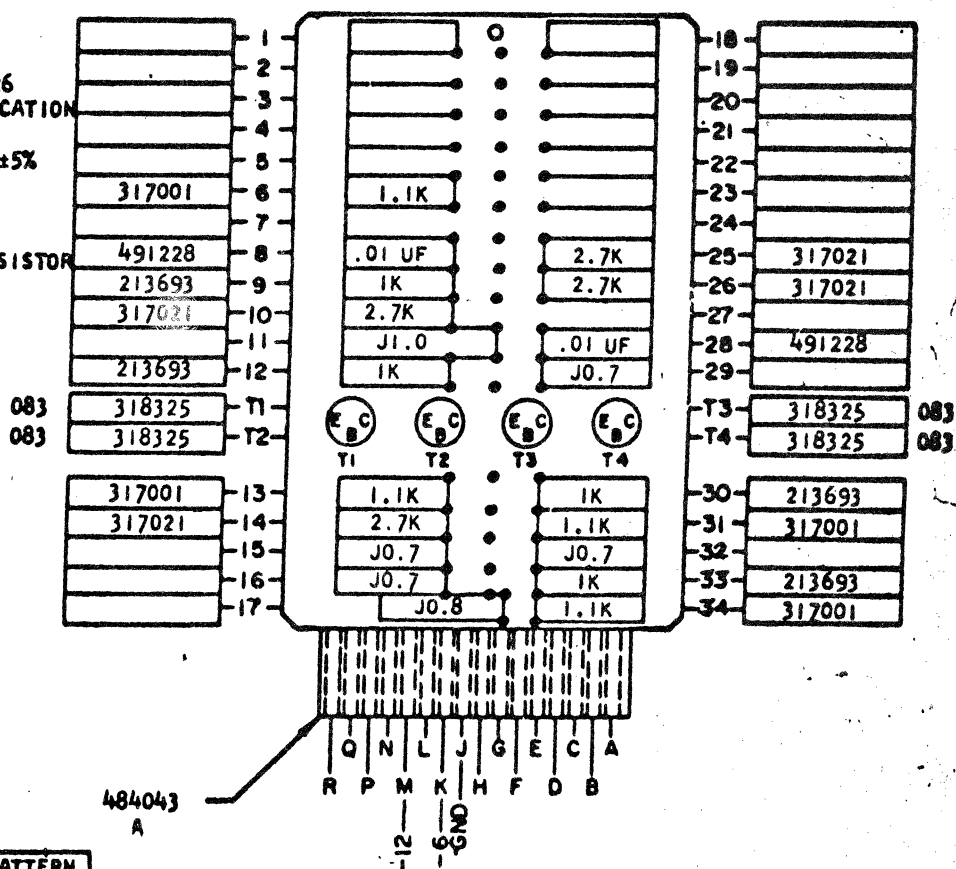
X CIRCUIT MUST CONFORM TO ENGINEERING SPECIFICATION 892226

XX ASSEMBLE TO ENGINEERING SPECIFICATION 895396 AND 891999

XXX ALL RESISTORS ARE 1/2 WATT AND ±5% UNLESS OTHERWISE NOTED

XXXX "J" IN BLOCK DENOTES BARE WIRE JUMPER, 491296

XXX -ASSEMBLE WITH JEDEC TRANSISTOR



B

CIRCUIT AND PACKAGING STANDARD		HOLE PATTERN
APPROVAL	DATE	
HDH GS	7-27-60	491329

INTERNATIONAL BUSINESS MACHINES CORP.					
NAME	CARD ASM TSTR-SDTDL NON-INVERTING POWER DRIVER				
DESIGN			TYPE	SMS	
DETAIL	RF	4-29-60	SCALE	NONE	
CHECK	CJB	8-4-60	DRAW	VE	9-14-60
APPRO	BES	8-5-60	CHECK	RCH	9-14-60

DATE	CHANGE NO.	APPROVAL	DATE	CHANGE NO.	APPROVAL
8-8-60	109759	IWB			
10-6-60	110067	IWB			
10-28-60	110184	IWB			
4-18-62	113150	LHR			

DEVELOPMENT NO. X0751A

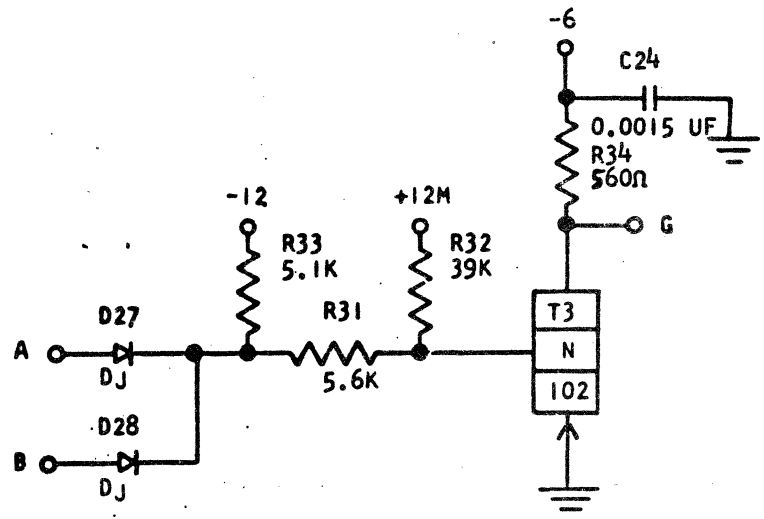
370226

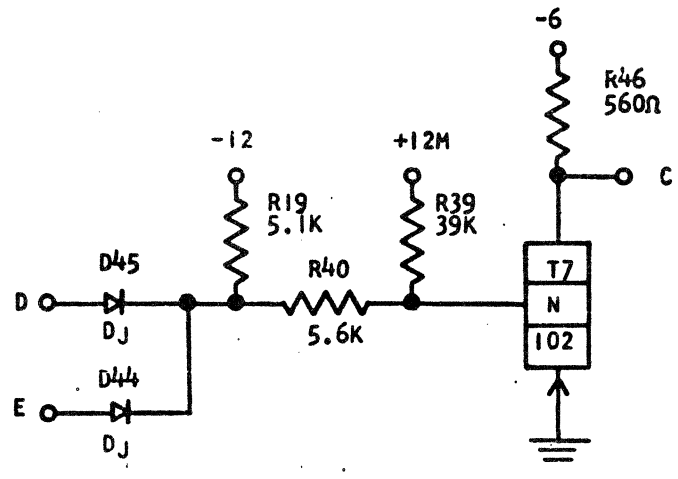
82-3977 8-24-60

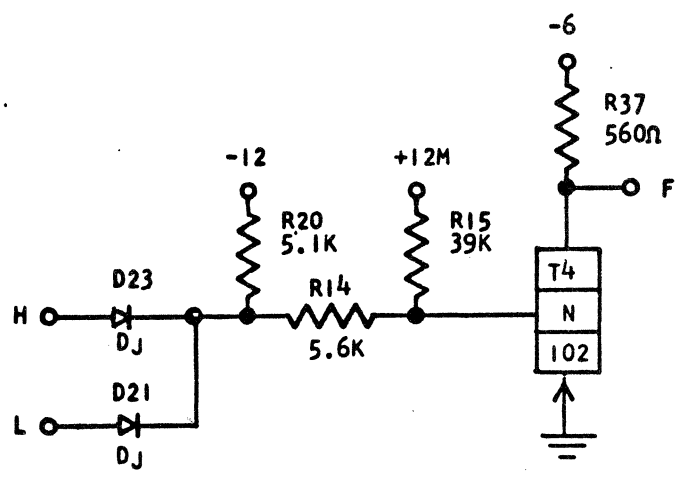
SDTDL-2 WAY LOGIC BLOCK LOW SPEED WITH LOADS

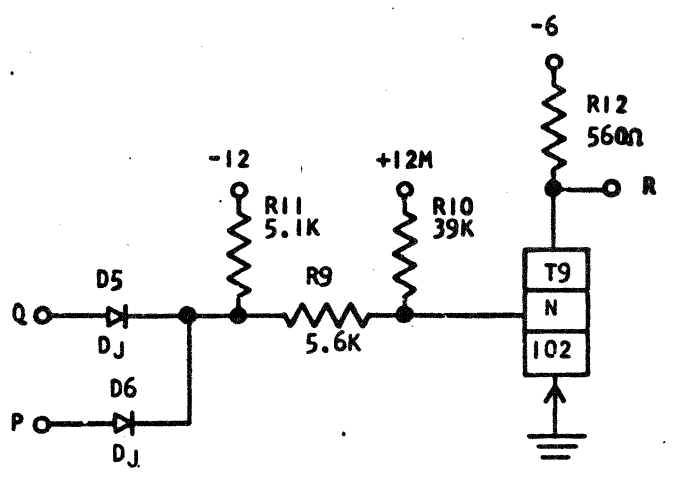
370380

STANDARDS CODE 2-7045 | DGT- 370380









NOTES

X CIRCUIT MUST CONFORM TO ENGINEERING SPECIFICATION 892380

XI ASSEMBLE TO ENGINEERING SPECIFICATION 893396 AND 891999

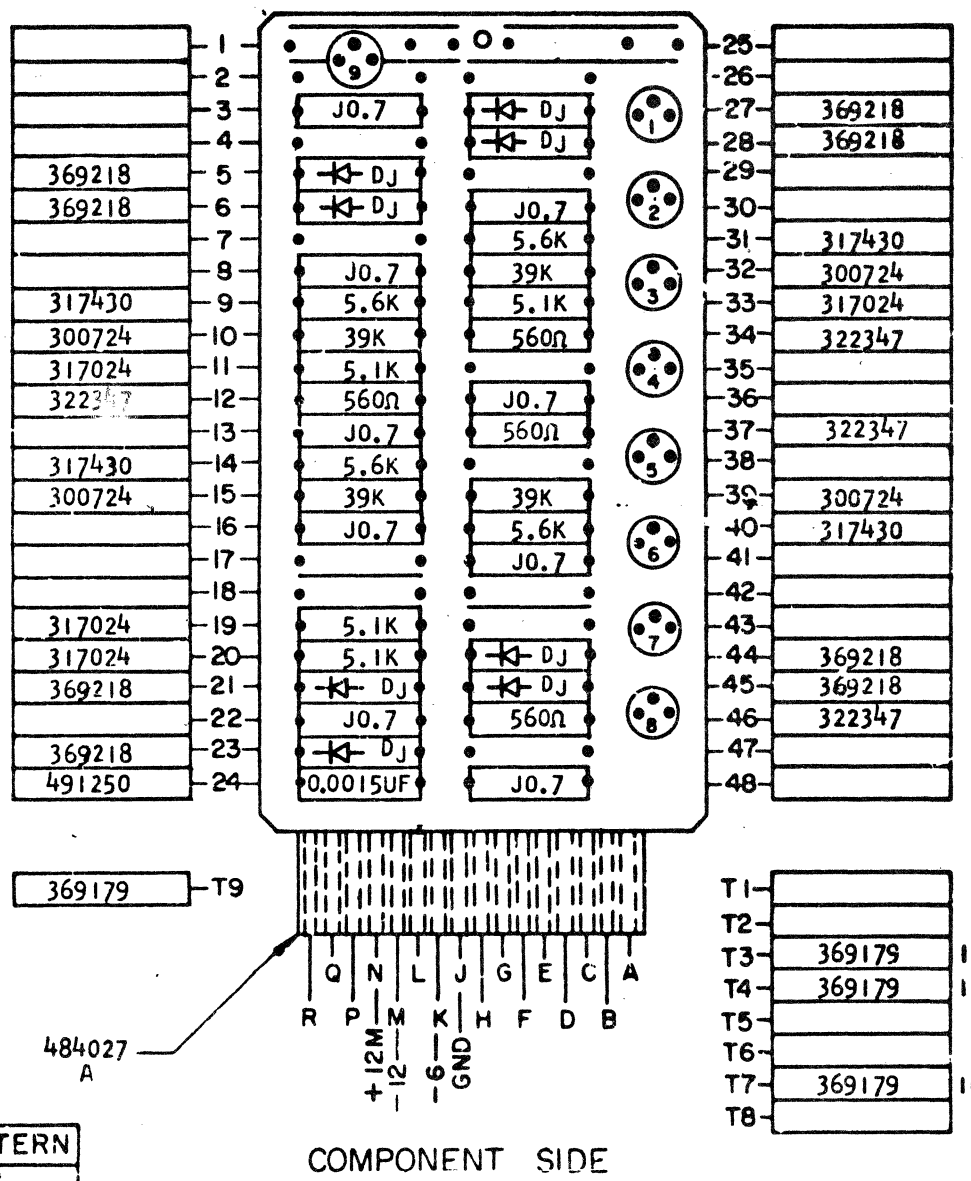
XII ALL RESISTORS ARE 1/2 WATT AND ± 5% UNLESS OTHERWISE NOTED

XIII "J" IN BLOCK DENOTES BARE WIRE JUMPER 491296

XIV

XV TSTRS T3, T4, T7, AND T9 ARE TO-18 TSTRS WHICH MAY BE MOUNTED ON .100 OR .200 PIN CIRCLE HOLES. USE TSTR SPACER 483070 FOR .200 PIN CIRCLE MOUNTING

XVI REFER TO FIELD SERVICE DRAWING PART NUMBER 729913 WHEN MAKING A CHANGE TO THIS CIRCUIT



B

CIRCUIT AND PACKAGING STANDARD	
APPROVAL	DATE
H.D.H. (GS)	11-23-60

HOLE PATTERN 493457

INTERNATIONAL BUSINESS MACHINES CORP.					
NAME	CARD ASM TSTR-SDTDL-2-WAY LOGIC BLOCK LOW SPEED WITH LOADS				
DESIGN			MODEL	SMS	
DETAIL			SCALE	NONE	
CHECK	LRH	12-1-60	DRAW	VE	6-12-62
APPRO	BES	12-2-60	CHECK		6-15-62

DATE	CHANGE NO.	APPROVAL
12-2-60	110832	NOTE XIV
5-16-61	111246	NOTE XIV
6-21-62	REDRAWN	
6-4-62	113089	MDL
10-21-63	118933	GWS

DATE	CHANGE NO.	APPROVAL

DEVELOPMENT NO. X0560

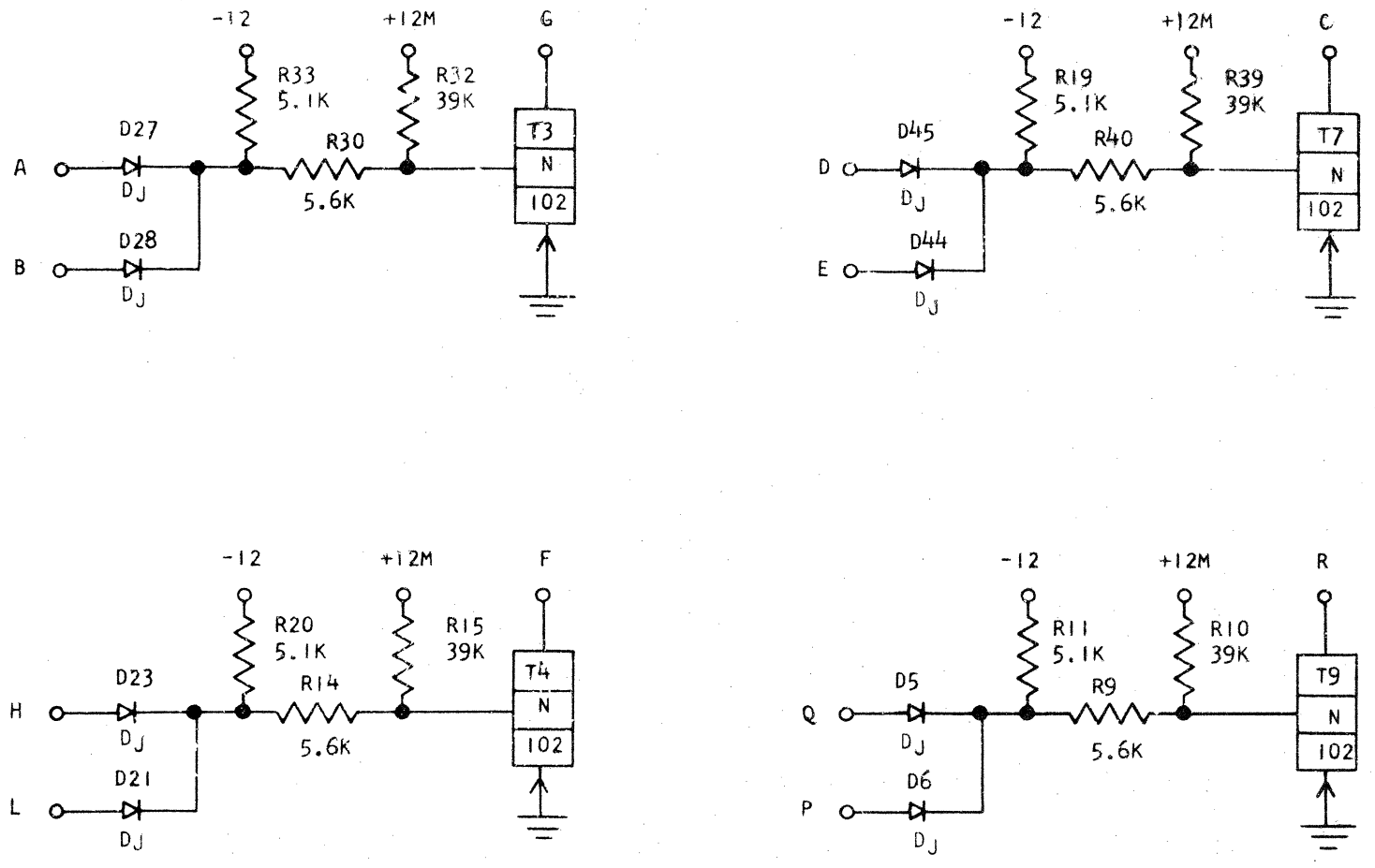
370380

82-3987-2 6-22-61

STANDARDS CODE 2-7045 | D G U - 370379

SDTDL 2-WAY LOGIC BLOCK LOW SPEED WITHOUT LOADS

370379



NOTES

X CIRCUIT MUST CONFORM TO ENGINEERING SPECIFICATION 892380

XI ASSEMBLE TO ENGINEERING SPECIFICATION 895396 AND 891999

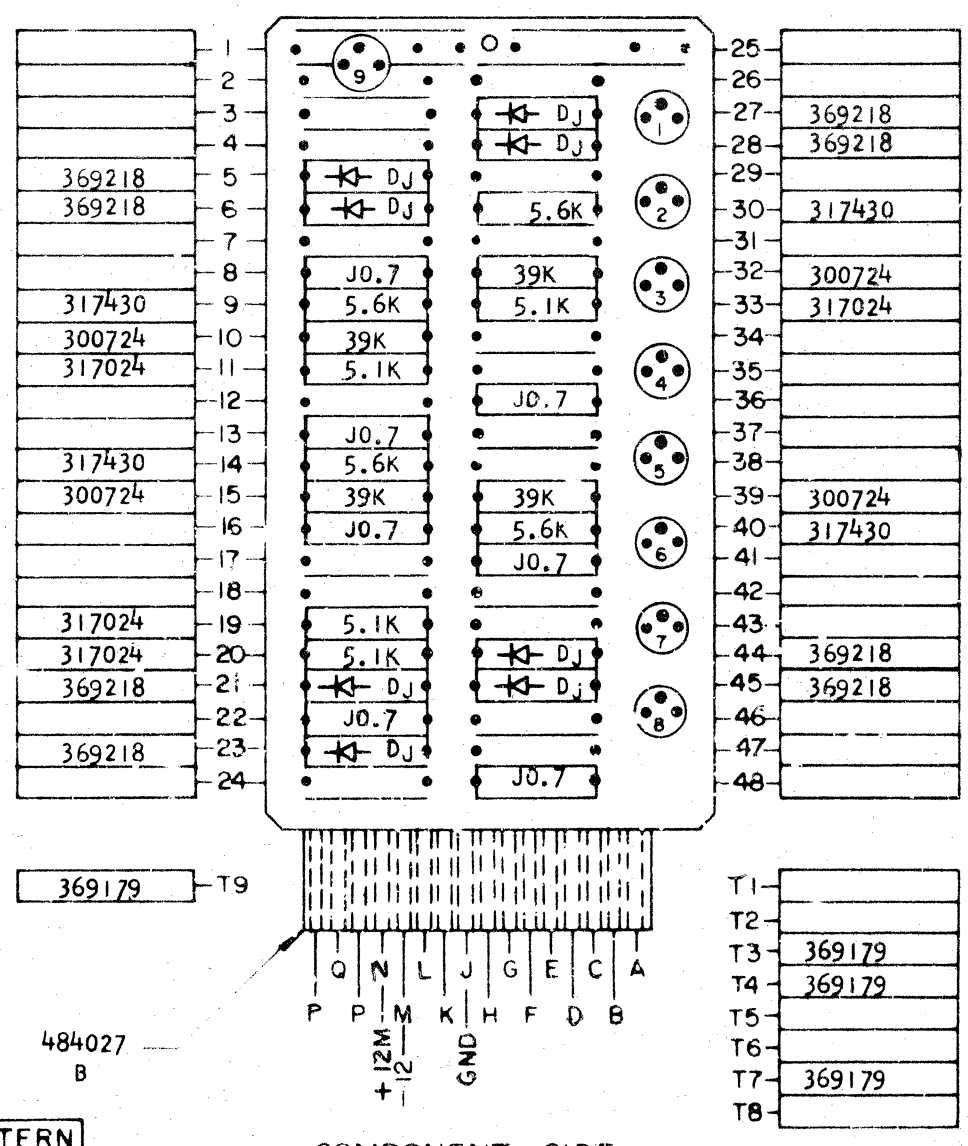
XII ALL RESISTORS ARE 1/2 WATT AND ± 5% UNLESS OTHERWISE NOTED

XIII "J" IN BLOCK DENOTES BARE WIRE JUMPER 491296

XIV

XV POSITIONS T3, T4, T7 AND T9 ARE TO-18 TRANSISTORS AND REQUIRE A 9 PIN CIRCLE HOLES.

XVI REFER TO FIELD SERVICE DRAWING PART NUMBER 729914 WHEN MAKING A CHANGE TO THIS CIRCUIT



B

CIRCUIT AND PACKAGING STANDARD		
APPROVAL	DATE	HOLE PATTERN
H.D.H. (GS)	11-23-60	493457

INTERNATIONAL BUSINESS MACHINES CORP.			DATE	CHANGE NO.	APPROVAL	DATE	CHANGE NO	APPROVAL	DEVELOPMENT NO.	370379
NAME	CARD ASM TSTR-SDTDL 2-WAY LOGIC BCK LOW SPEED WITHOUT LOADS		12-2-60	110832	NOTE XIV	10DEC65	126162	GLK	X0559	
			5-16-61	111246	NOTE XIV					
DESIGN		MODEL SMS	6-21-62	REDRAWN						
DETAIL		SCALE NONE								
CHECK	LRH 12-1-60	DRAW VE 6-13-62	6-4-62	113089	MDL					
APPRO	BES 12-2-60	CHECK	10-21-63	118933	GWS					

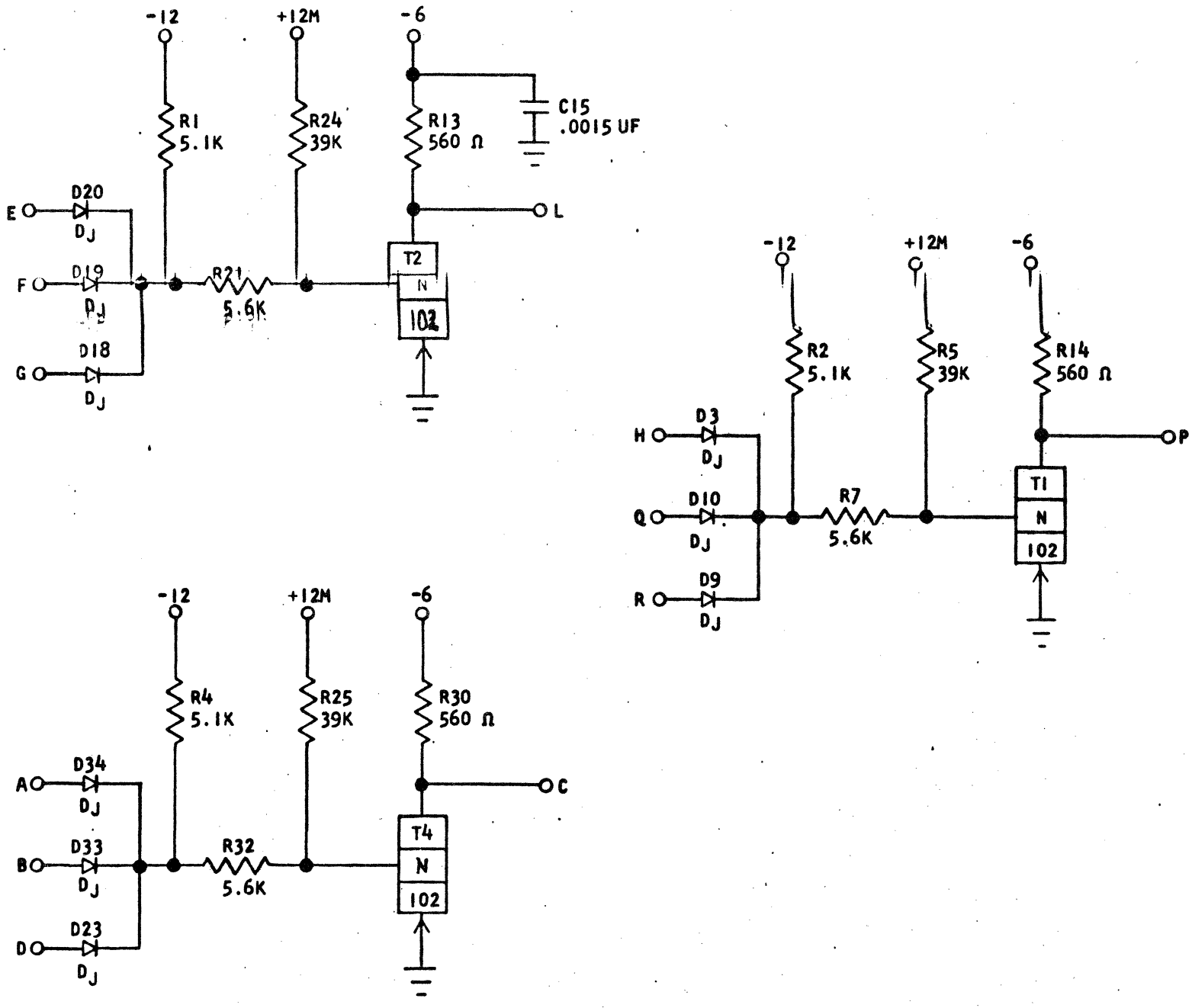
B2-3987-2 6 22 61

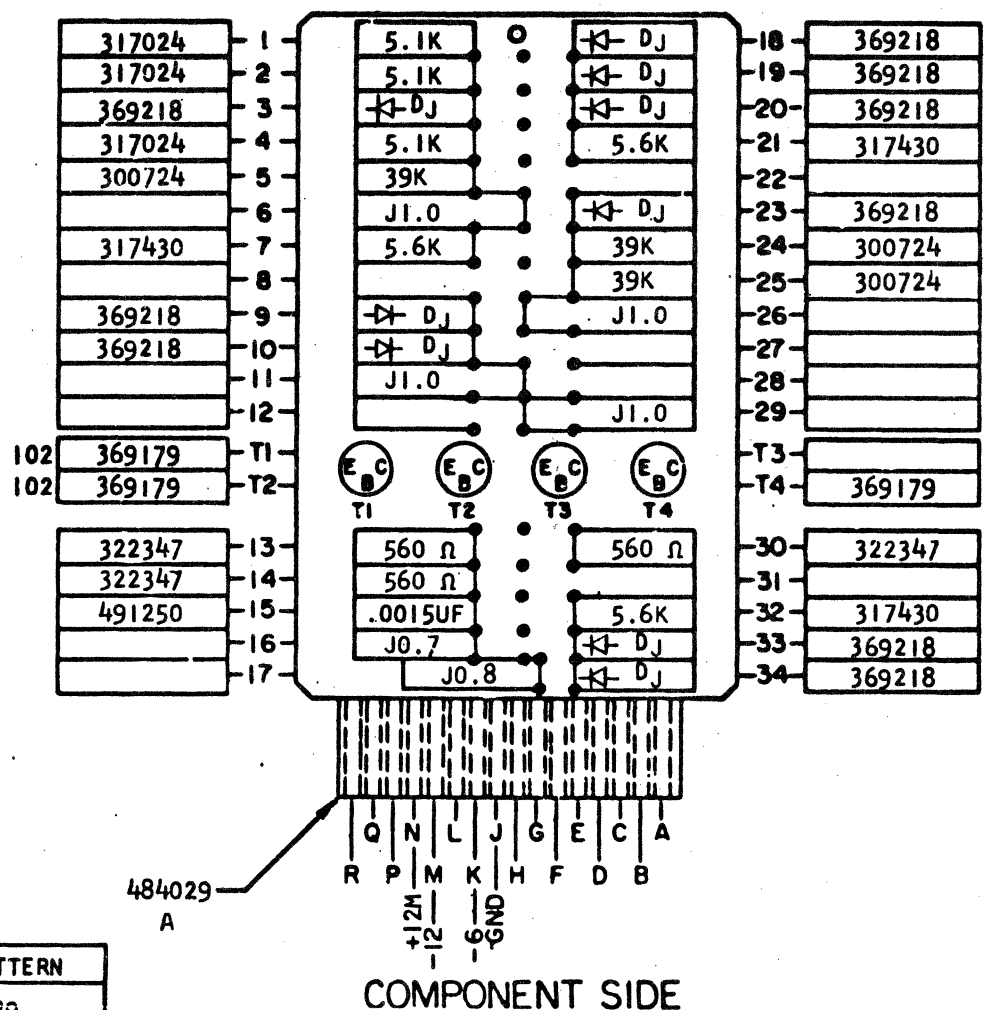
370378

SDTDL - 3-WAY LOGIC BLOCK LOW SPEED WITH LOADS

370378 DGV-

STANDARDS CODE 2-7045





NOTES

X CIRCUIT MUST CONFORM TO ENGINEERING SPECIFICATION 892380

XI ASSEMBLE TO ENGINEERING SPECIFICATION 895396 AND 891999

XII ALL RESISTORS ARE 1/2 WATT AND ±5% UNLESS OTHERWISE NOTED

XIII "J" IN BLOCK DENOTES BARE WIRE JUMPER, 491296

XIV

XV TSTRS T1, T2, AND T4 ARE TO-18 TSTRS WHICH MAY BE MOUNTED ON .100 OR .200 PIN CIRCLE HOLES. USE TSTR SPACER 483070 FOR .200 PIN CIRCLE MOUNTING

XVI REFER TO FIELD SERVICE DRAWING PART NUMBER 729915 WHEN MAKING A CHANGE TO THIS CIRCUIT

B

CIRCUIT AND PACKAGING STANDARD	
APPROVAL	DATE
N. D. Hanford	11-23-60

HOLE PATTERN 491329

INTERNATIONAL BUSINESS MACHINES CORP.			
NAME	CARD ASM TSTR-SDTDL-3-WAY LOGIC BLOCK LOW SPEED WITH LOADS		
DESIGN		TYPE	SMS
DETAIL		SCALE	NONE
CHECK	L.H.	DRAW	MDE 11-29-60
APPRO	S.	CHECK	11-30-60

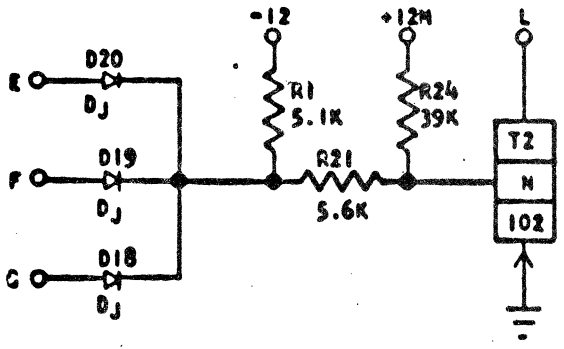
DATE	CHANGE NO.	APPROVAL	DATE	CHANGE NO.	APPROVAL	DEVELOPMENT NO.
12-2-60	110832	NOTE XIV				X0558
5-12-61	111245	NOTE XIV				
6-4-62	113089	MDL				
10-21-63	118933	GWS				

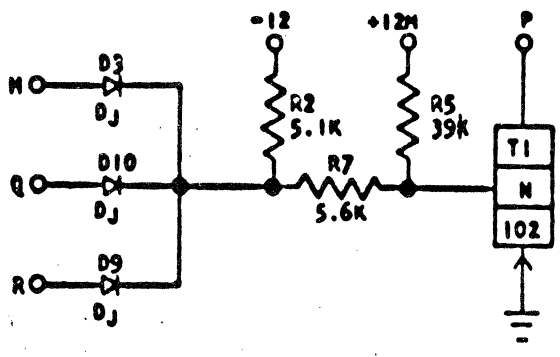
370378

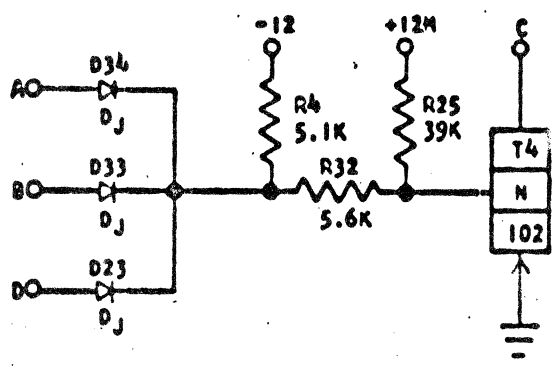
82-3977 8-24-60

370377

SDTDL 3-WAY LOGIC BLOCK LOW SPEED WITHOUT LOADS







NOTES

X CIRCUIT MUST CONFORM TO ENGINEERING SPECIFICATION 892380

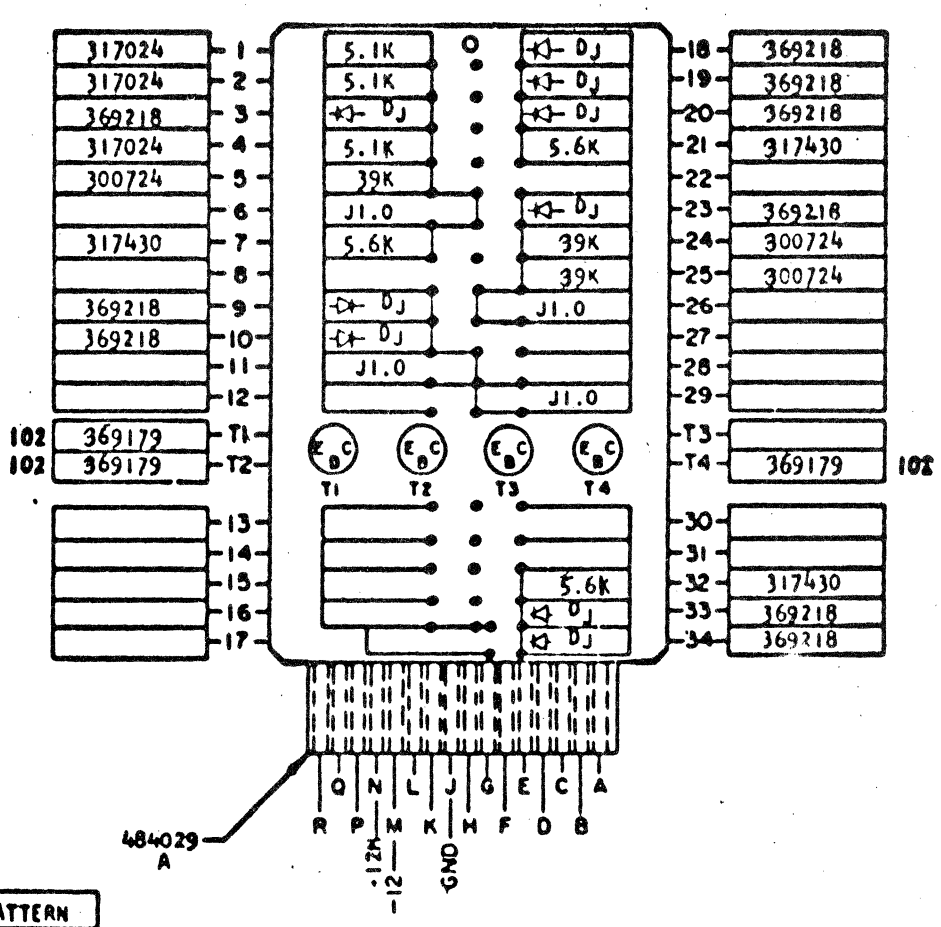
XI ASSEMBLE TO ENGINEERING SPECIFICATION 895396 AND 891999

XIII ALL RESISTORS ARE 1/2 WATT AND ±5% UNLESS OTHERWISE NOTED

XIIII "J" IN BLOCK DENOTES BARE WIRE JUMPER, 491296

XIV TSTRS T1, T2, AND T4 ARE TO-18 TSTRS WHICH MAY BE MOUNTED ON .100 OR .200 PIN CIRCLE HOLES. USE TSTR SPACER 483070 FOR .200 PIN CIRCLE MOUNTING

XVI REFER TO FIELD SERVICE DRAWING PART NUMBER 729916 WHEN MAKING A CHANGE TO THIS CIRCUIT



B

CIRCUIT AND PACKAGING STANDARD	
APPROVAL	DATE
H & Hafford	11-23-60

HOLE PATTERN
491329

INTERNATIONAL BUSINESS MACHINES CORP.					
NAME	CARD ASM TSTR-SDTDL 3-WAY LOGIC BCK LOW SPEED WITHOUT LOADS				
DESIGN		TYPE	SMS		
DETAIL		SCALE	NONE		
CHECK		DRAW	MDE	11-29-60	
APPRO		CHECK		11-30-60	

DATE	CHANGE NO.	APPROVAL	DATE	CHANGE NO.	APPROVAL	DEVELOPMENT NO.
12-2-60	110832	NOTE XIV				X0557
5-12-61	111245	NOTE XIV				
6-4-62	113089	MDL				
10-21-63	118933	GWS				

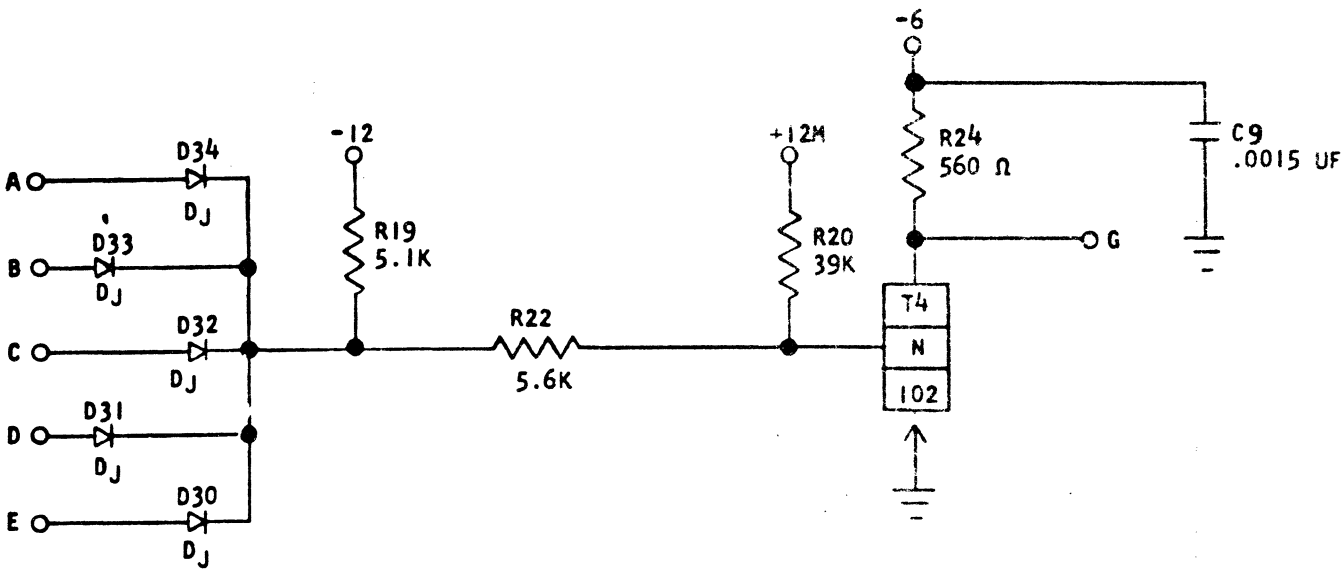
370377

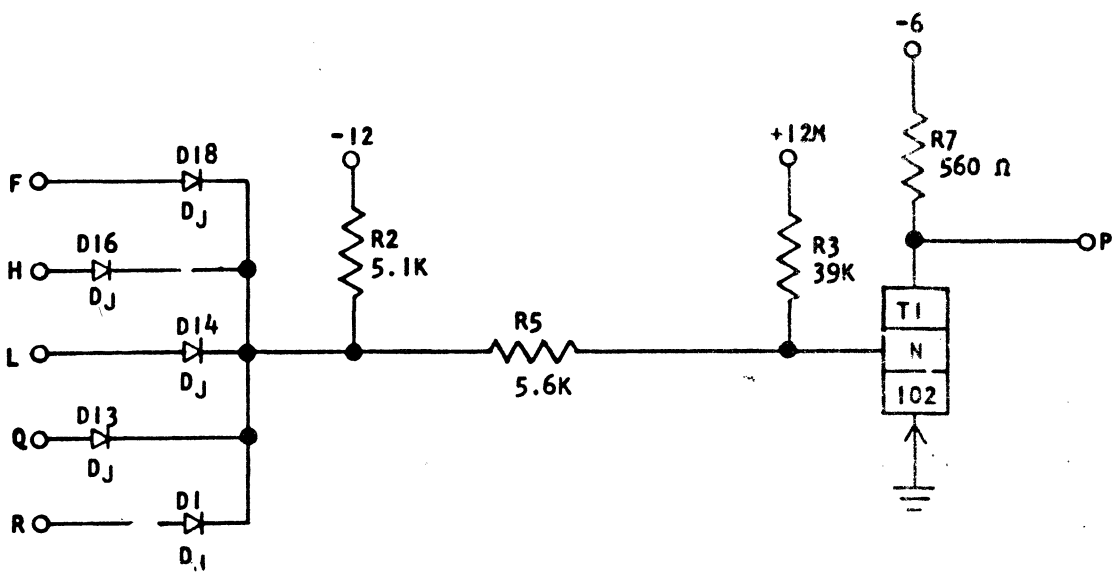
370376

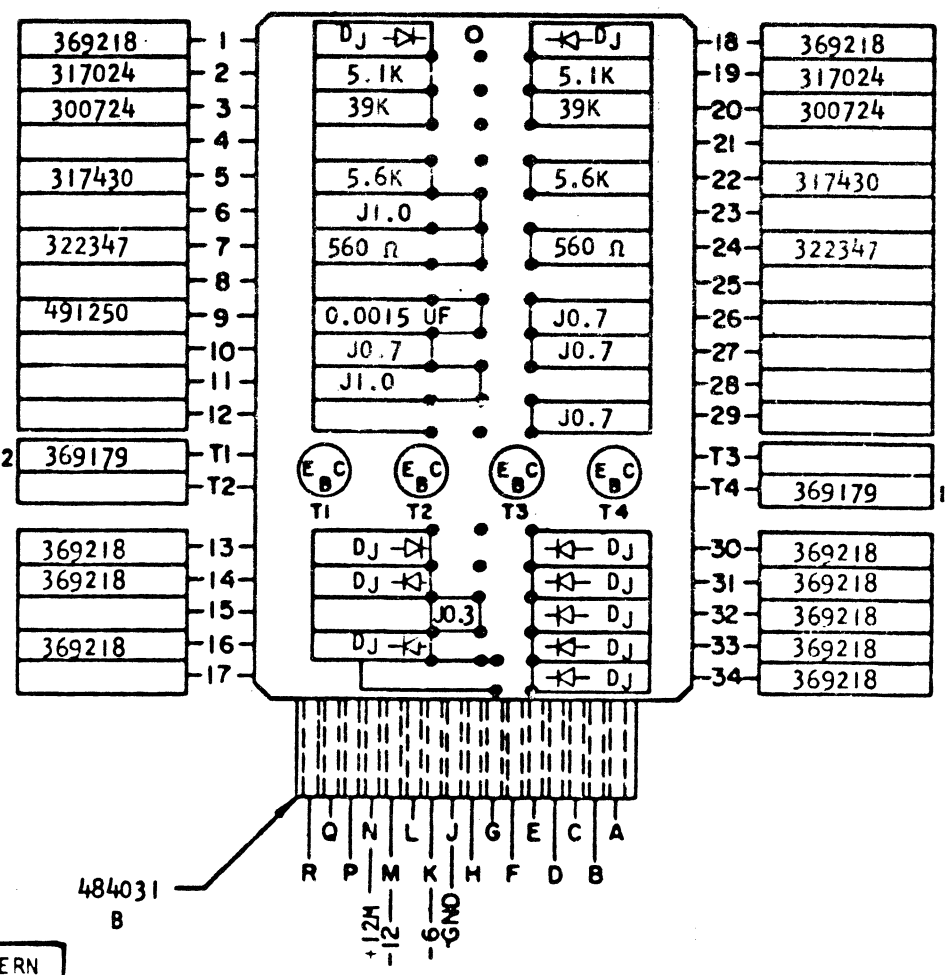
SDTDL-5-WAY LOGIC BLOCK LOW SPEED WITH LOADS

STANDARDS CODE 2-7045

D G X - 370376 R







NOTES

X CIRCUIT MUST CONFORM TO ENGINEERING SPECIFICATION 892380

XI ASSEMBLE TO ENGINEERING SPECIFICATION 895396 AND 891999

XII ALL RESISTORS ARE 1/2 WATT AND ±5% UNLESS OTHERWISE NOTED

XIII "J" IN BLOCK DENOTES BARE WIRE JUMPER. 491296

XIV

XV POSITIONS T1 AND T4 ARE TO 18 TRANSISTORS AND REQUIRE .100 PIN CIRCLE HOLES.

B XVI REFER TO FIELD SERVICE DRAWING PART NUMBER 729917 WHEN MAKING A CHANGE TO THIS CIRCUIT.

CIRCUIT AND PACKAGING STANDARD	
APPROVAL	DATE
H G Hartford	11-23-60

HOLE PATTERN 491329

INTERNATIONAL BUSINESS MACHINES CORP.													
NAME	CARD ASM TSTR-SDTDL 5-WAY					DATE	CHANGE NO.	APPROVAL	DATE	CHANGE NO.	APPROVAL	DEVELOPMENT NO.	370376
LOGIC BLOCK LOW SPEED WITH LOADS						12-2-60	110832	NOTE XIV	9-15-64	121632	FVL	X0556	
DESIGN			TYPE	SMS		5-12-61	111245	NOTE XIV					
DETAIL			SCALE	NONE		6-4-62	113089	MDL					
CHECK		DRAW	MDE	11-29-60		6-25-63	D117800	MDL					
APPRO		CHECK		11-30-60		7-3-63	117803	MDL					

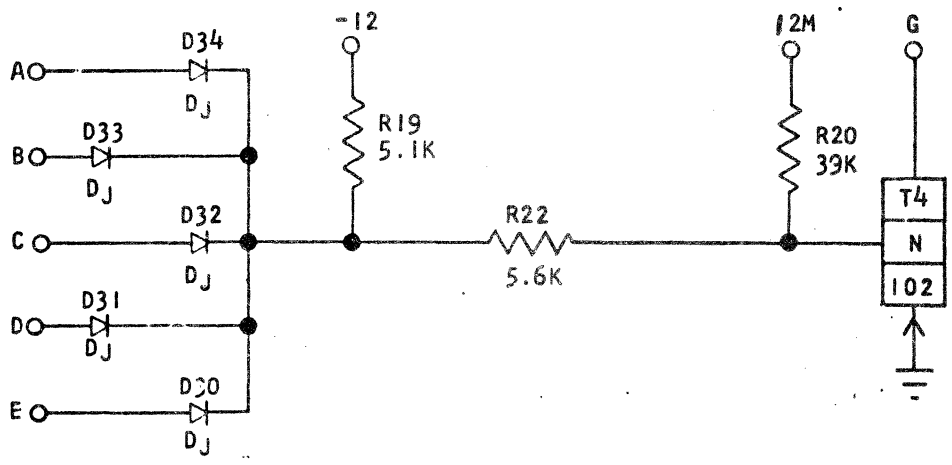
82-3977 8-24-60

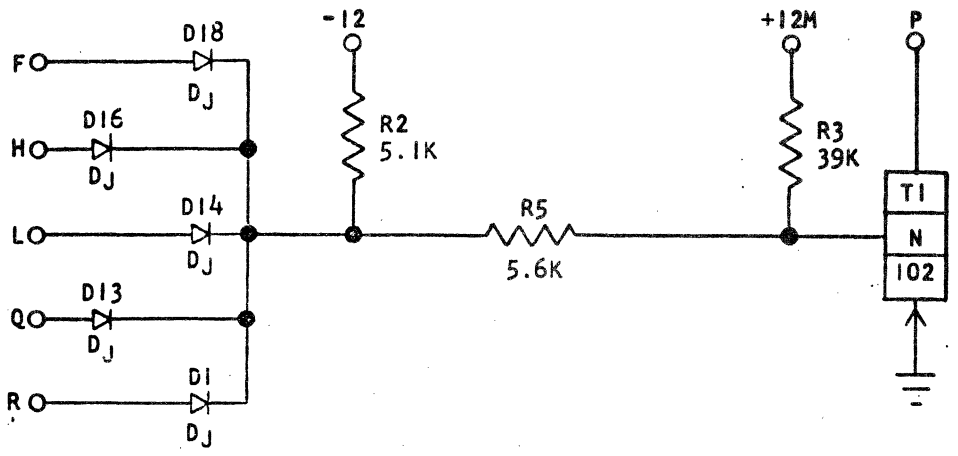
370375

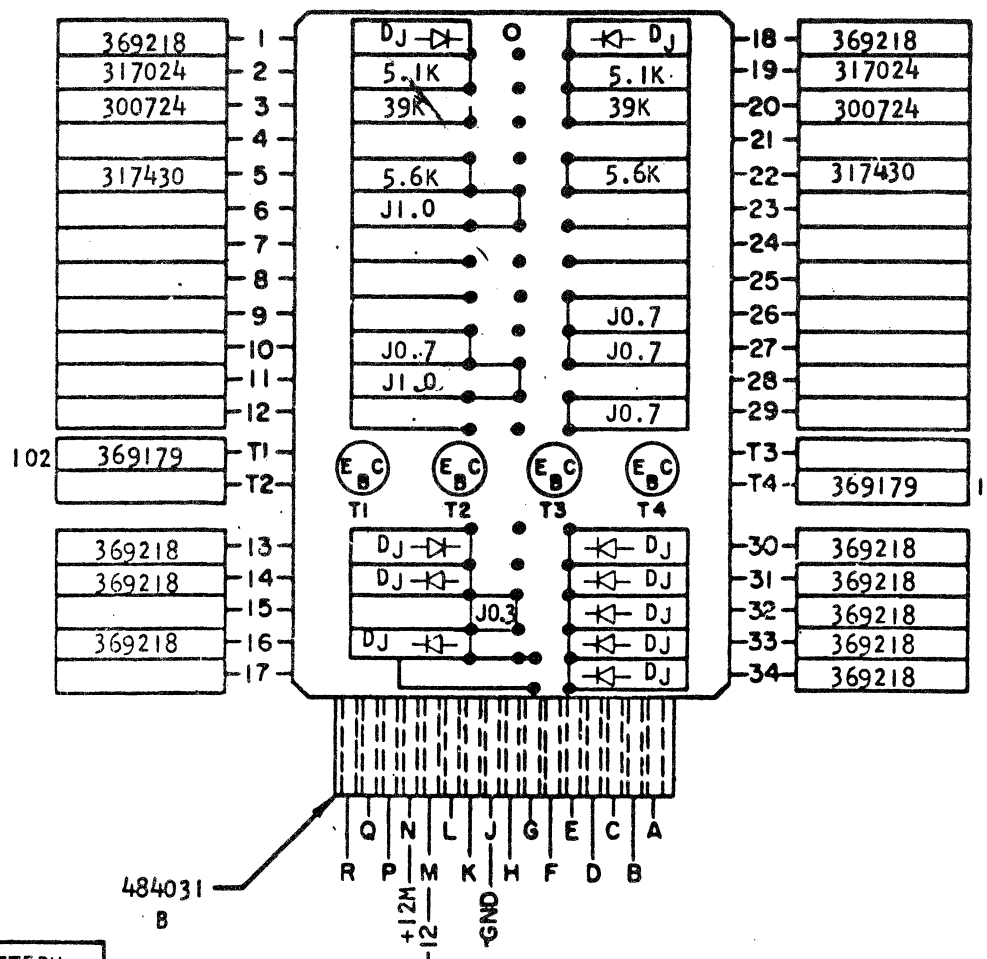
STANDARDS CODE 2-7045

D G Y - 370375

SDTDL 5 WAY LOGIC BLOCK LOW SPEED WITHOUT LOAD







NOTES

- X CIRCUIT MUST CONFORM TO ENGINEERING SPECIFICATION 892380
- XI ASSEMBLE TO ENGINEERING SPECIFICATION 895396 AND 891999
- XII ALL RESISTORS ARE 1/2 WATT AND ±5% UNLESS OTHERWISE NOTED
- XIII "J" IN BLOCK DENOTES BARE WIRE JUMPER, 491296
- XV POSITIONS T1 AND T4 ARE TO 18 TRANSISTORS AND REQUIRE .100 PIN CIRCLE HOLES
- XVI REFER TO FIELD SERVICE DRAWING PART NUMBER 729918 WHEN MAKING A CHANGE TO THIS CIRCUIT.

B

CIRCUIT AND PACKAGING STANDARD	
APPROVAL	DATE
N. O. Hoyt	11-23-60

HOLE PATTERN 491329

INTERNATIONAL BUSINESS MACHINES CORP.				
NAME	CARD ASM TSTR-SDTDL 5-WAY LOGIC BLOCK LOW SPEED WO/LOAD			
DESIGN			TYPE	SMS
DETAIL	CB	7-13-60	SCALE	NONE
CHECK	CB	7-13-60	DRAW	MDE 11-30-60
APPRO	BES 12-2-60		CHECK	JWK 12-1-60

DATE	CHANGE NO.	APPROVAL	DATE	CHANGE NO.	APPROVAL	DEVELOPMENT NO.
12-2-60	110844	NOTE XIV				X0555
5-15-61	111244	NOTE XIV				
6-4-62	113089	MDL				
7-30-63	117803	MDL				
9-15-64	121632	FVL				

370375

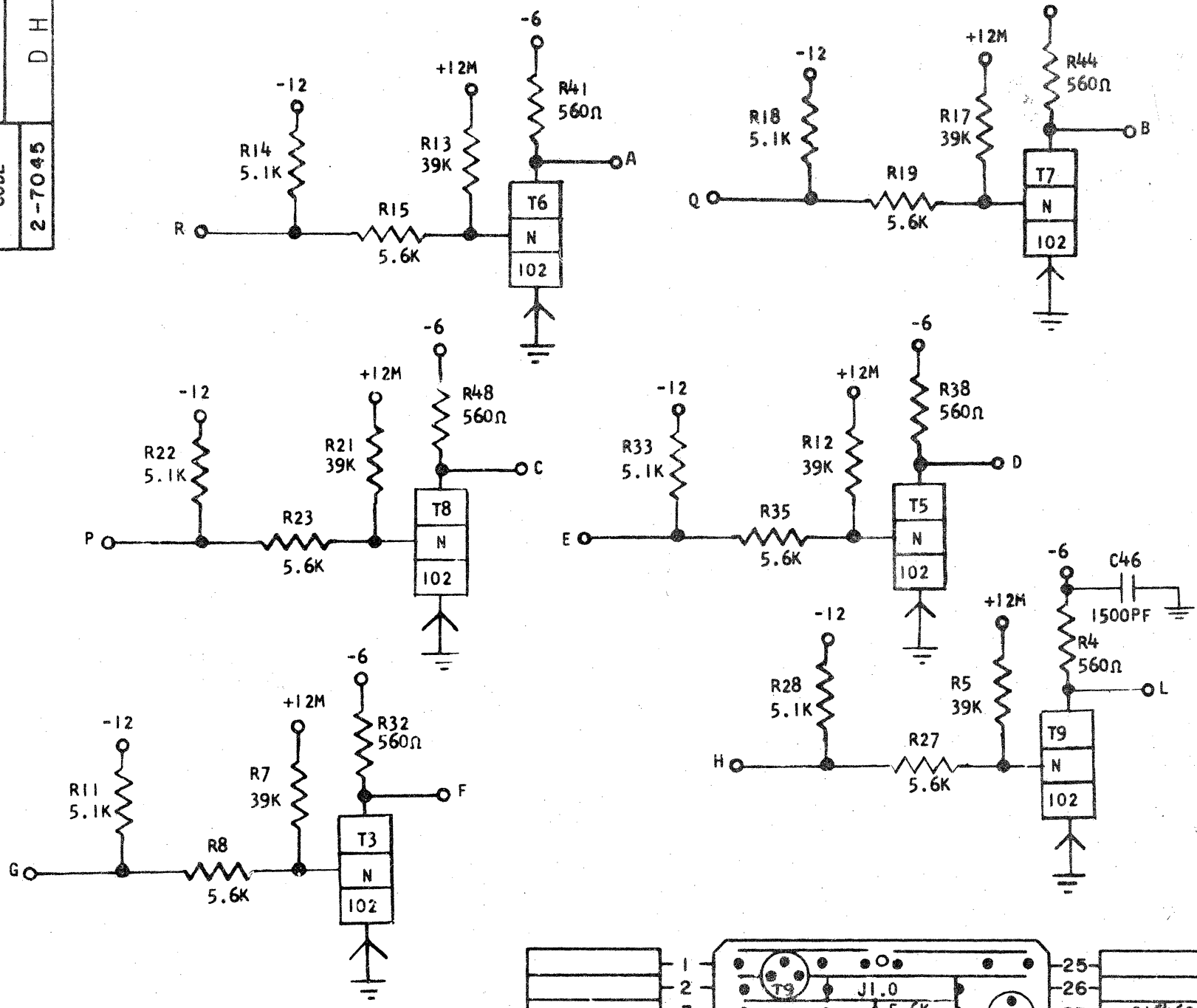
82-3977 3-24-60

SDTDL INVERTER LOW SPEED WITH LOAD

370348

S/U540 | DHB-

STANDARDS CODE 2-7045



NOTES

X CIRCUIT MUST CONFORM TO ENGINEERING SPECIFICATION 892380

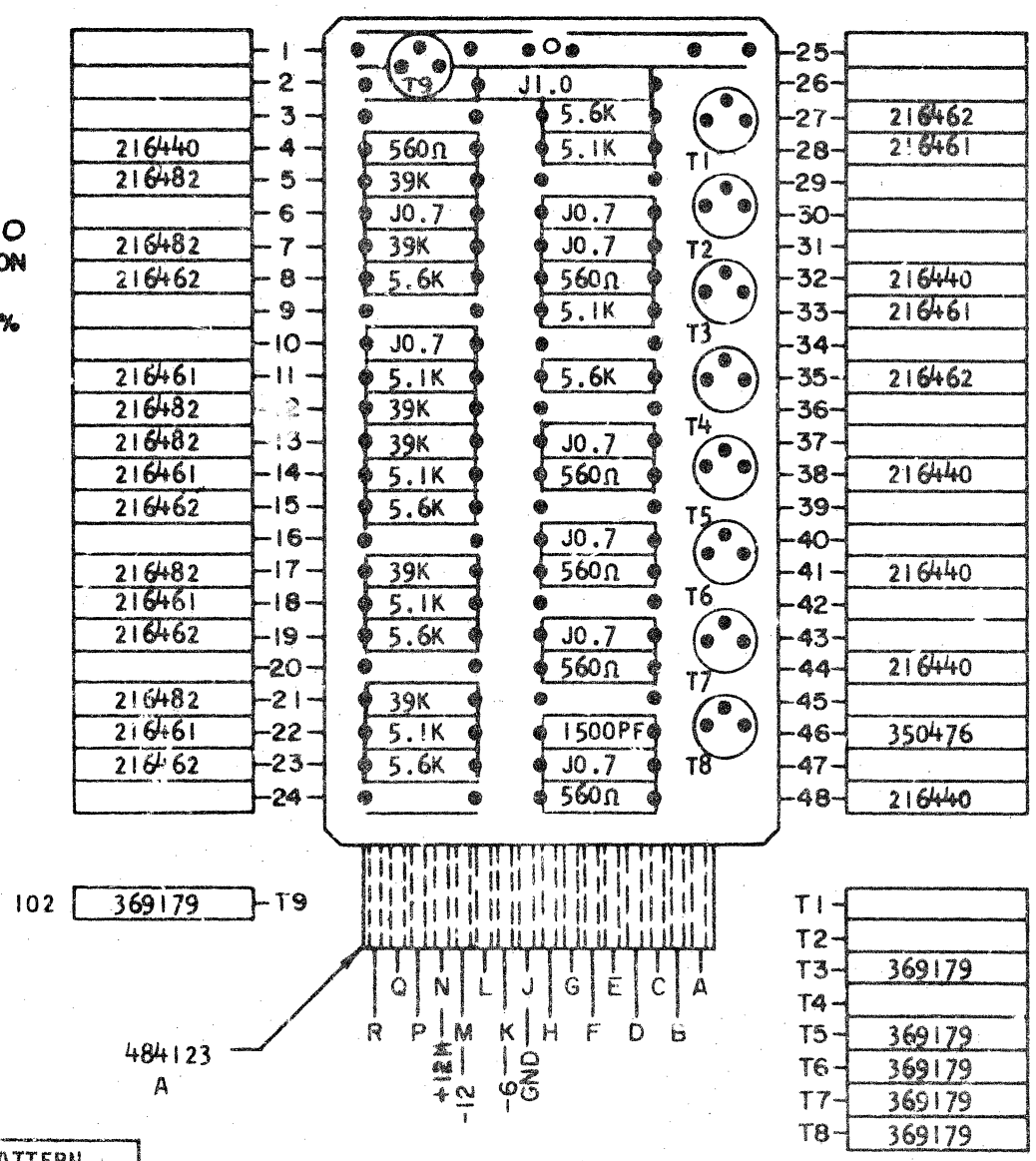
XI ASSEMBLE TO ENGINEERING SPECIFICATION 895396 AND 891999

XII ALL RESISTORS ARE 1/4 WATT AND ±5% UNLESS OTHERWISE NOTED

XIII "J" IN BLOCK DENOTES BARE WIRE JUMPER 491296

XIV POSITIONS T3, T5, T6, T7, T8 AND T9 ARE TO-18 TRANSISTORS WHICH WILL BE MOUNTED IN .100 PIN CIRCLE HOLES

XV REFER TO FIELD SERVICE DRAWING, PART NUMBER 729921, WHEN MAKING A CHANGE TO THIS CIRCUIT



B

CIRCUIT AND PACKAGING STANDARD		
APPROVAL	DATE	HOLE PATTERN
HDH	11-23-60	493457

INTERNATIONAL BUSINESS MACHINES CORP.											
NAME	CARD ASM TSTR - SDTDL INVERTER LOW SPEED WITH LOAD										
DESIGN			TYPE	SMS	DATE	CHANGE NO.	APPROVAL	DATE	CHANGE NO.	APPROVAL	DEVELOPMENT NO.
DETAIL			SCALE	NONE	12-2-60	110844	NOTE XIV	3DEC65	126401	Gus	X0526
CHECK			DRAW		5-12-61	111245	NOTE XIV				
APPRO			CHECK		6-7-62	113941	MDL				
					7-12-63	116192	MDL				
					31AUG65	121906	FVL				

370348

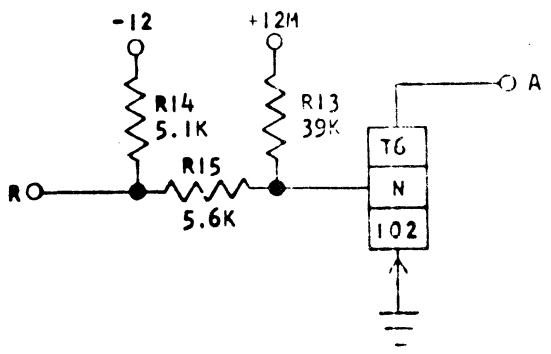
82-3987 11-60

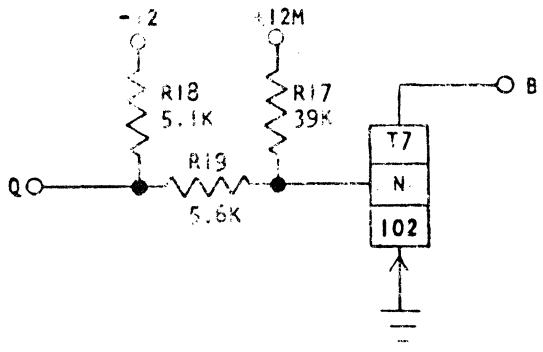
SDTDL INVERTER LOW SPEED W/O LOAD

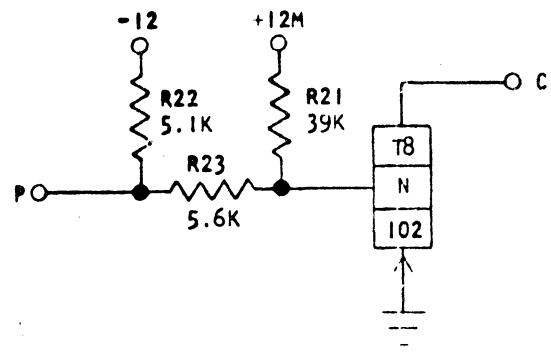
370372

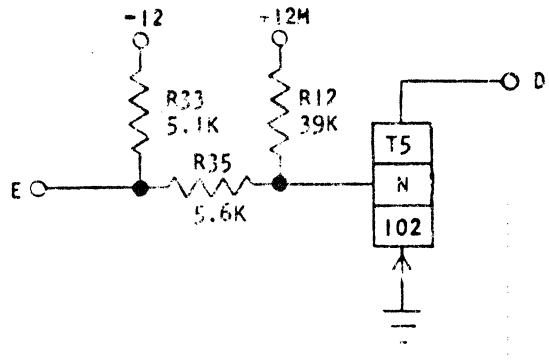
370372 DHC-

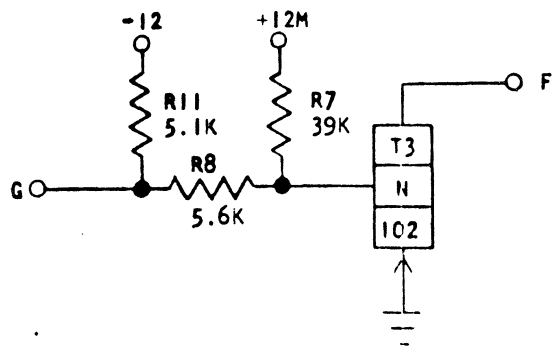
STANDARDS CODE 2-7045

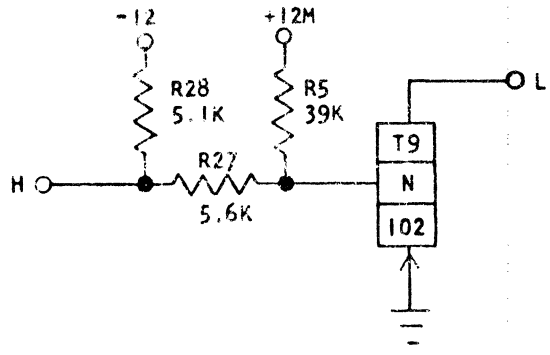












NOTES

X CIRCUIT MUST CONFORM TO ENGINEERING SPECIFICATION 892380

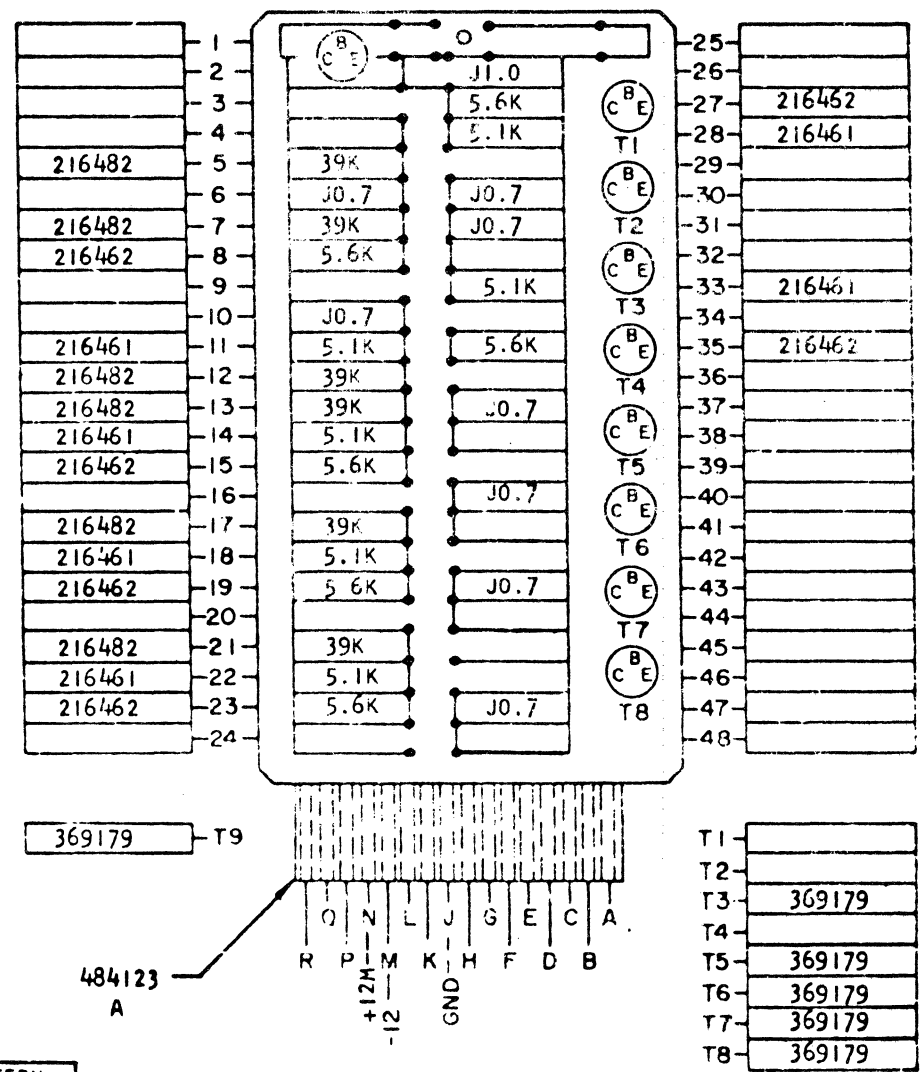
XI ASSEMBLE TO ENGINEERING SPECIFICATION 895396 AND 891999

XII ALL RESISTORS ARE 1/4 WATT AND ±5% UNLESS OTHERWISE NOTED

XIII "J" IN BLOCK DENOTES BARE WIRE JUMPER 491296

XIV

XVI POSITIONS T3, T5, T6, T7, T8, T9 ARE TO-18 TRANSISTORS WHICH MAY BE MOUNTED IN .100 OR .200 PIN CIRCLE HOLES. SEE REFERENCE DRAWING 493827, USE TRANSISTOR SPACER 483070 AS REQUIRED.



COMPONENT SIDE

B

CIRCUIT AND PACKAGING STANDARD	
APPROVAL	DATE
A. D. Hafer	11-23-60

HOLE PATTERN 493457

INTERNATIONAL BUSINESS MACHINES CORP.

NAME CARD ASM TSTR - SDTDL INVERTER LOW SPEED W/O LOAD

DESIGN	JGJ	TYPE	SMS
DETAIL	RCM 12-28-60	SCALE	NONE
CHECK	MHC 12-1-60	DRAW	MDE 11-30-60
APPRO	JESAD 12-1-60	CHECK	APP 12-1-60

DATE	CHANGE NO.	APPROVAL
12-2-60	110844	NOTE XIV
12-15-60	110869	NOTE XIV
5-16-61	111246	NOTE XIV
6-7-62	113941	MDL

DATE	CHANGE NO.	APPROVAL

DEVELOPMENT NO. X0525

370372

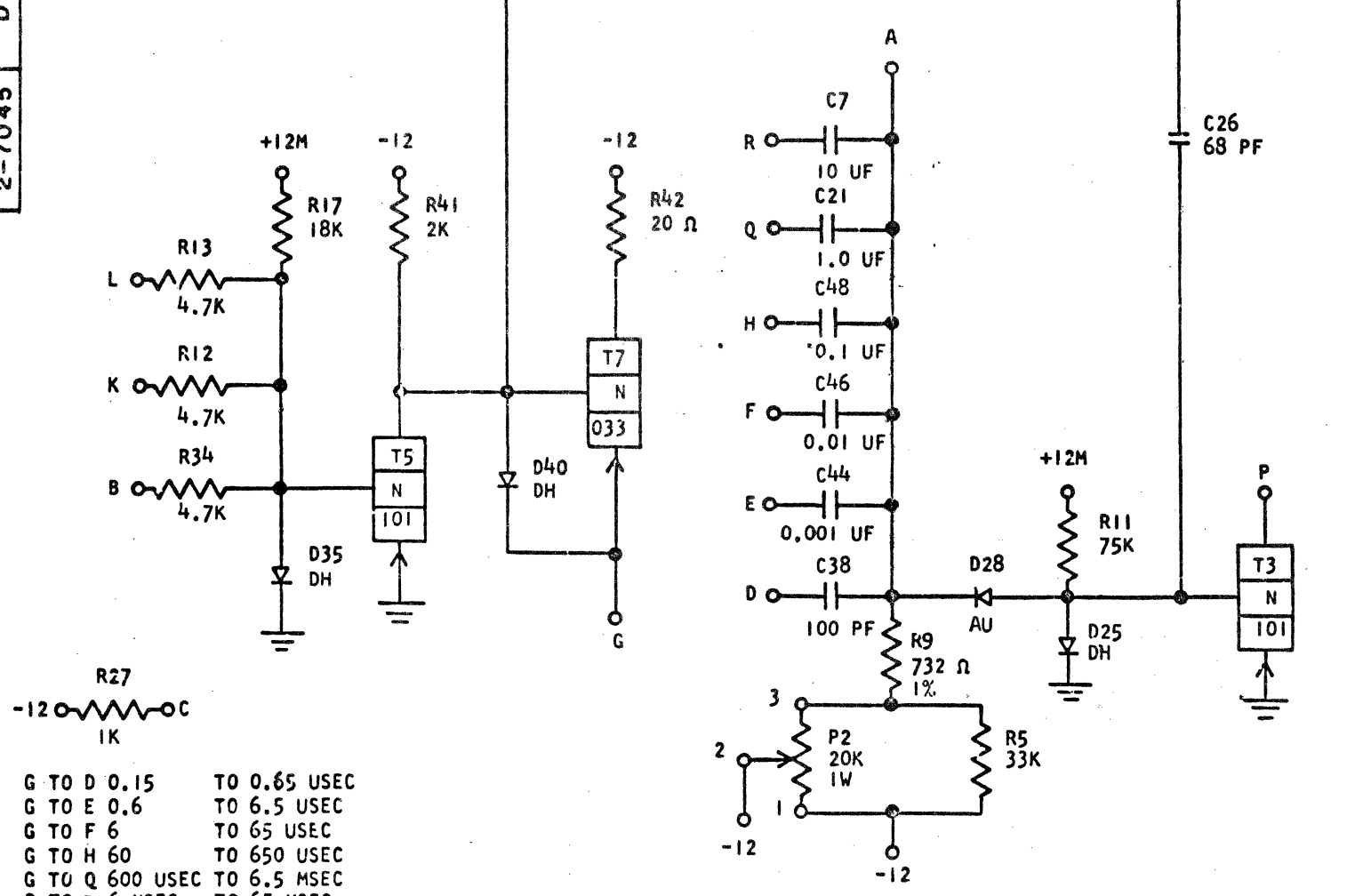
82-3987 8-24-62

370262

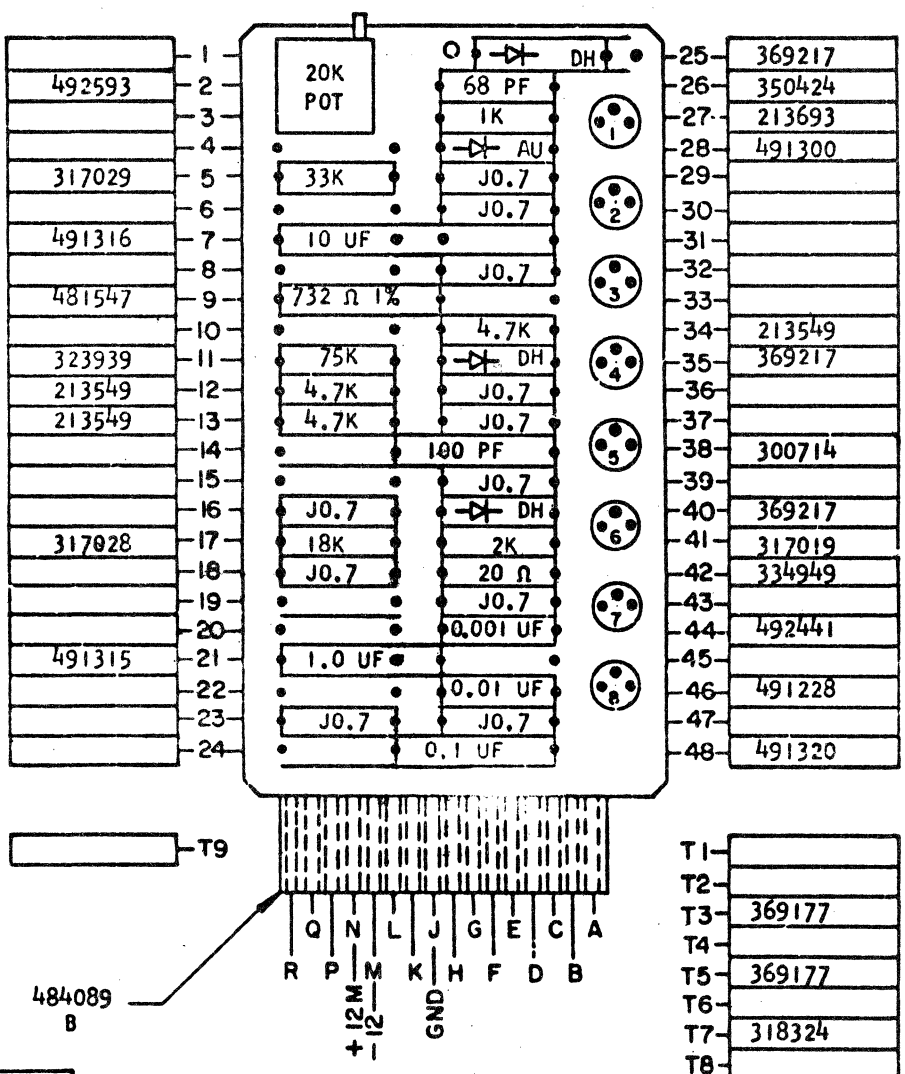
SDTRL - SINGLE SHOT

0.15 USEC TO 65 MSEC

STANDARDS CODE 2-7045 | DHE - 370262



	TO 0.65 USEC
G TO D 0.15	
G TO E 0.6	TO 6.5 USEC
G TO F 6	TO 65 USEC
G TO H 60	TO 650 USEC
G TO Q 600 USEC	TO 6.5 MSEC
G TO R 6 MSEC	TO 65 MSEC



NOTES

- X CIRCUIT MUST CONFORM TO ENGINEERING SPECIFICATION 892262
- XI ASSEMBLE TO ENGINEERING SPECIFICATION 895396 AND 891999
- XII ALL RESISTORS ARE 1/2 WATT AND ± 5% UNLESS OTHERWISE NOTED
- XIII "J" IN BLOCK DENOTES BARE WIRE JUMPER 491296
- XIV
- XV POSITIONS T3,T5 ARE TO-18 TRANSISTORS AND MAY BE MOUNTED IN .100 OR .200 PIN CIRCLE HOLES. SEE REFERENCE DRAWING 493830. USE TRANSISTOR SPACER 483070 AS REQUIRED.
- ** XVI POTENTIOMETER 492593 NOT TO BE SUBJECTED TO ANY LIQUIDS.
- XVII REFER TO FIELD SERVICE DRAWING PART NUMBER 729924 WHEN MAKING A CHANGE TO THIS CIRCUIT

B

CIRCUIT AND PACKAGING STANDARD		
APPROVAL	DATE	HOLE PATTERN
HDH GS	12-1-60	493457

INTERNATIONAL BUSINESS MACHINES CORP.					
NAME	CARD ASM TSTR – SDTRL - SINGLE SHOT				
DESIGN			MODEL	SMS	
DETAIL	AP	12-3-60	SCALE	NONE	
CHECK	AP	12-3-60	DRAW	VE	6-13-62
APPRO	BES	12-7-60	CHECK		

DATE	CHANGE NO.	APPROVAL
SEE	INDEX CARD	
8-9-61	112425	NOTE XIV
12-4-61	113128	NOTE XIV
6-21-62	REDRAWN	
6-22-62	113948	NOTE XIV

DATE	CHANGE NO.	APPROVAL
8-21-62	D114375	MDL

DEVELOPMENT NO.	
X0491	370262

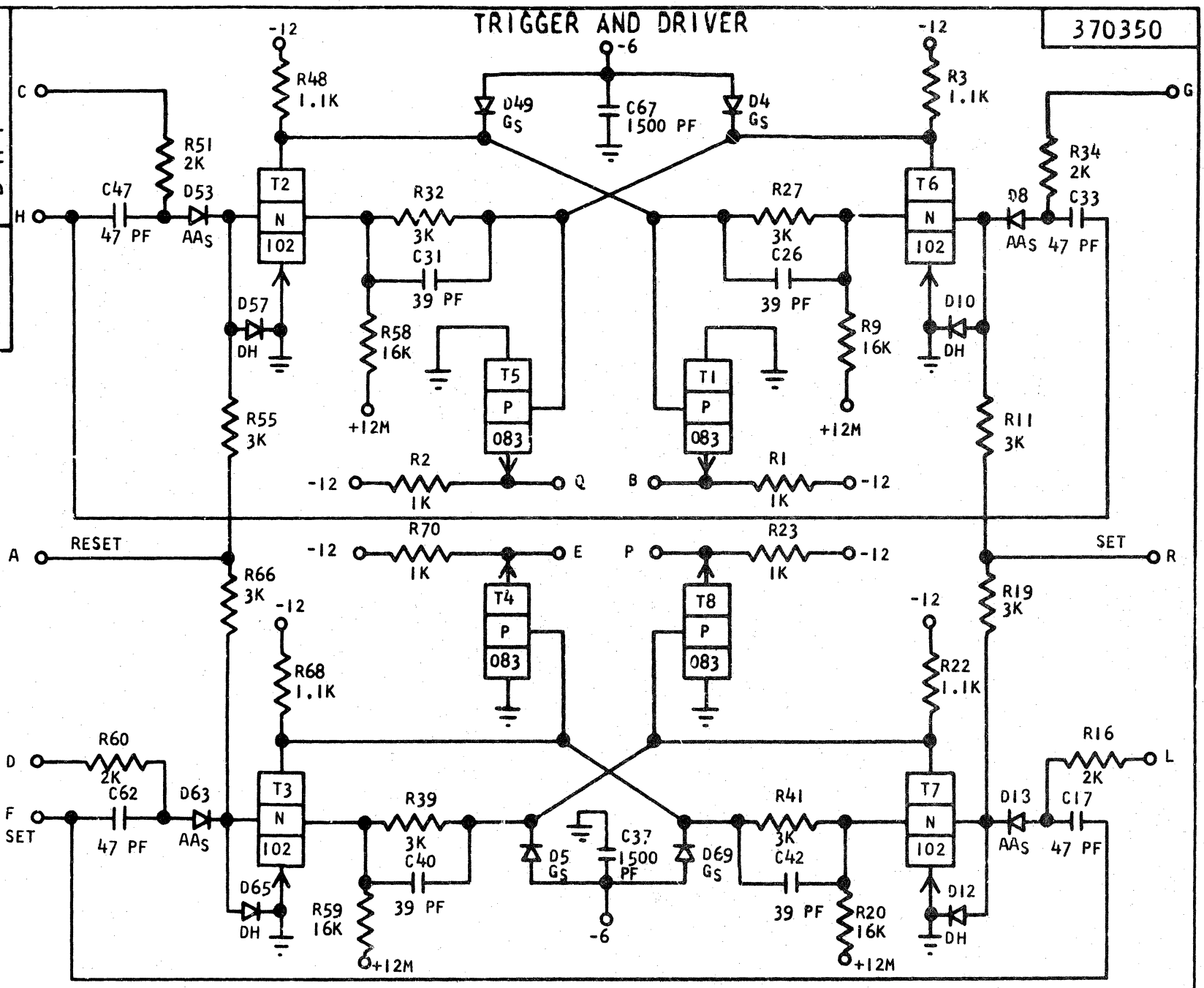
82-3987-2 6-22-61

TRIGGER AND DRIVER

370350

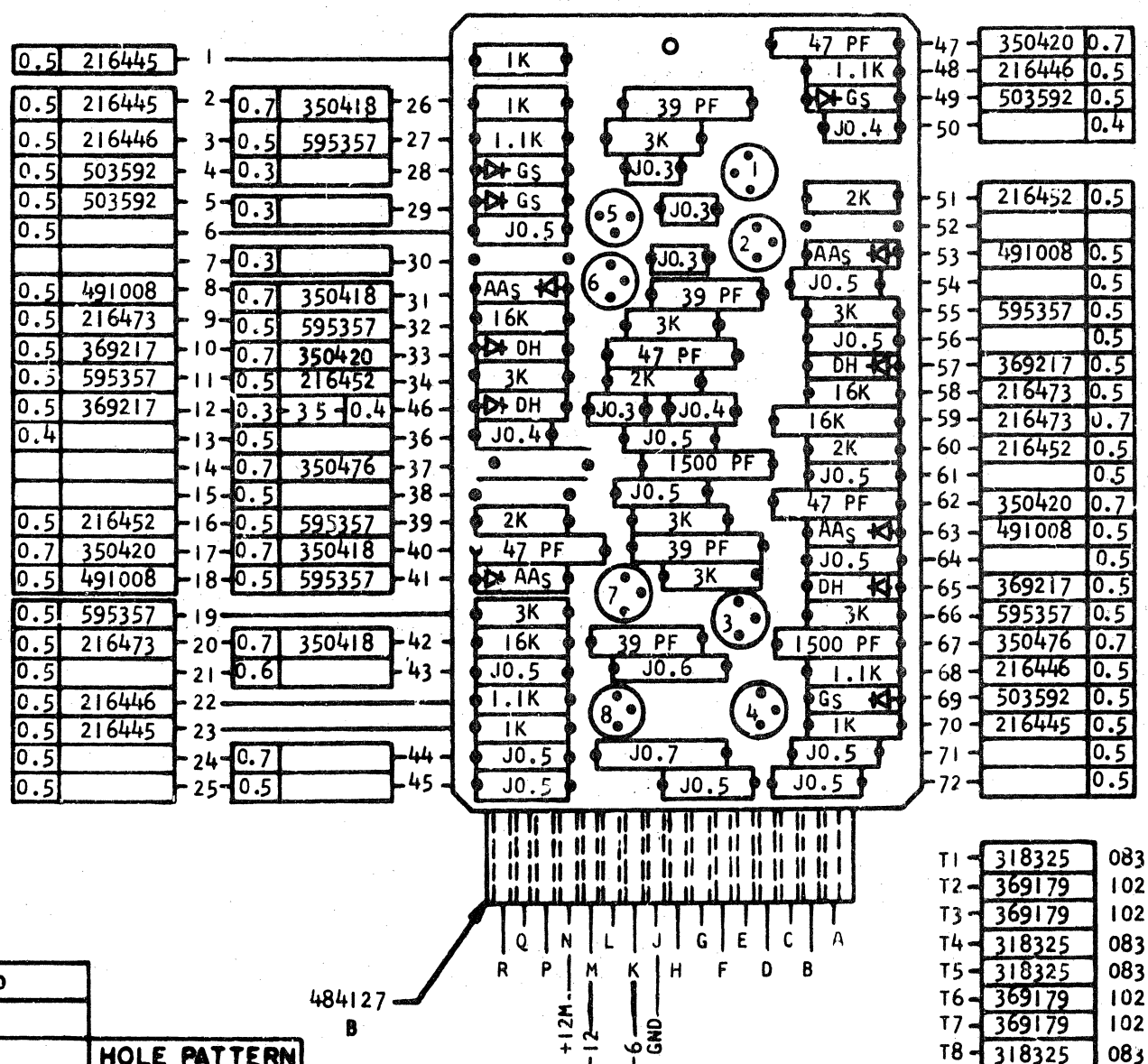
370350 DHF-

STANDARDS CODE 2-7045



NOTES

- X CIRCUIT MUST CONFORM TO ENGINEERING SPECIFICATION 892350
- XI ASSEMBLE TO ENGINEERING SPECIFICATION 895396 AND 891999
- XII ALL RESISTORS ARE 1/4 WATT AND ± 5% UNLESS OTHERWISE NOTED
- XIII "J" IN BLOCK DENOTES BARE WIRE JUMPER 491296
- XIV REFER TO FIELD SERVICE DRAWING PART NUMBER 729925 WHEN MAKING A CHANGE TO THIS CIRCUIT
- XVI POSITIONS T2,T3,T6 AND T7 ARE TO-18 TRANSISTORS **AND REQUIRE .100 PIN CIRCLE HOLES**



B

DPD CIRCUIT & PACKAGING STANDARD	
APPROVAL	DATE
HDH (GS)	12-1-60

HOLE PATTERN 493492

INTERNATIONAL BUSINESS MACHINES CORP.					
NAME	CARD ASM TSTR- TRIGGER AND DRIVER				
DESIGN			MODEL	SMS 1410	
DETAIL			SCALE	NONE	
CHECK	RFS	12-3-60	DRAW	LIG	11-26-63
APPRO	BES	12-5-60	CHECK	ENS	12-10-63

DATE	CHANGE NO.	APPROVAL
SEE INDEX CARD		
12-13-61	D113142	XIV
8-17-62	D114422	MDL
12.30.63	119217	BWS
9-15-64	121632	FVL

DATE	CHANGE NO.	APPROVAL

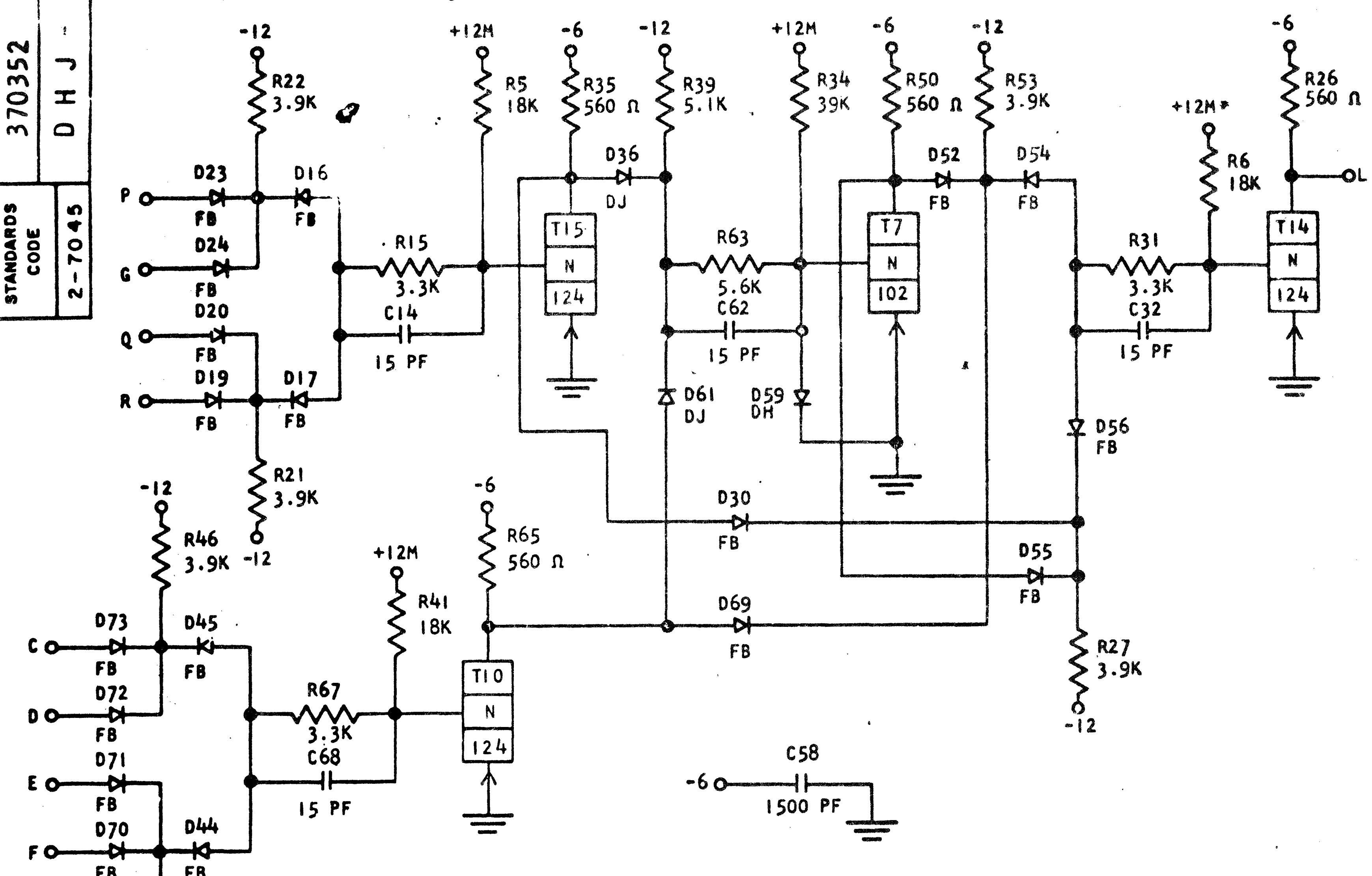
DEVELOPMENT NO. X0569B

CIRCUIT FAMILY SDTDL

370350

370352

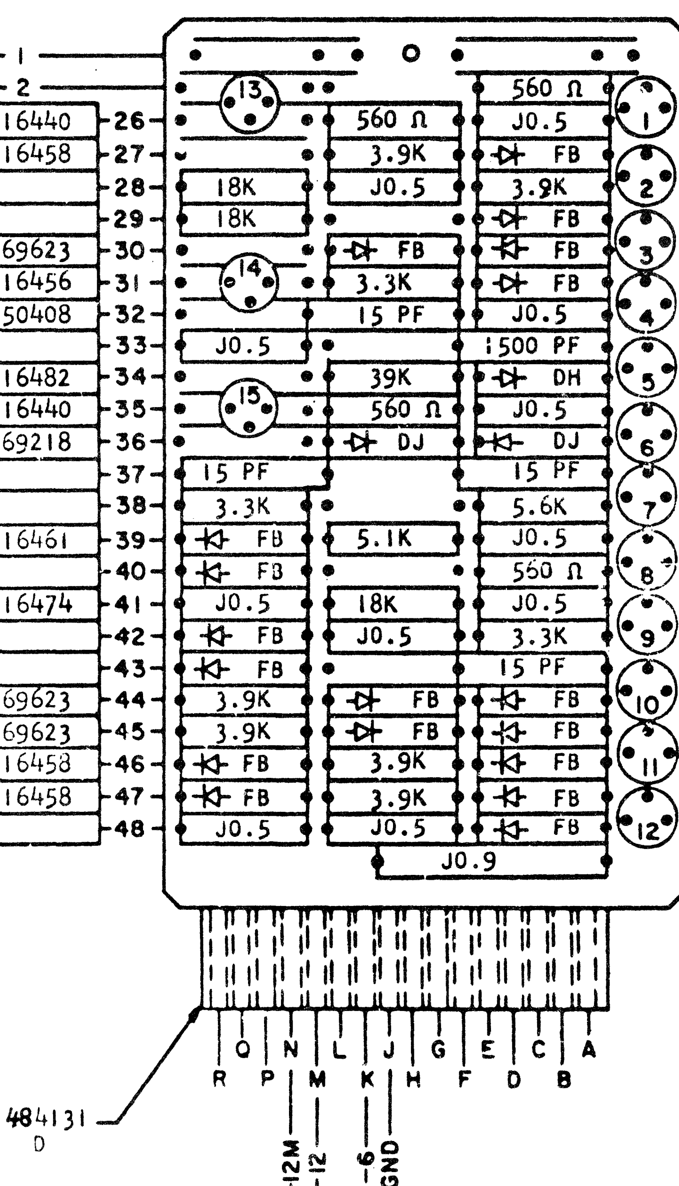
SDTDL MUP NUMBER 4



NOTES

- X CIRCUIT MUST CONFORM TO ENGINEERING SPECIFICATION 892352
- XI ASSEMBLE TO ENGINEERING SPECIFICATION 895396 AND 891999
- XII ALL RESISTORS ARE 1/4 WATT AND ±5% UNLESS OTHERWISE NOTED
- XIII "J" IN BLOCK DENOTES BARE WIRE JUMPER 491296
- XIV REFER TO FIELD SERVICE DRAWING, PART NUMBER 729928, WHEN MAKING A CHANGE TO THIS CIRCUIT
- XV T7,T10,T14 AND T15 ARE TO-18 TRANSISTORS AND REQUIRE .100 PIN CIRCLE HOLES

		Pin			Pin
		1			
		2			
		3	0.5	216440	26
		4	0.5	216458	27
0.5	216474	5	0.5		28
0.5	216474	6			29
		7	0.5	369623	30
		8	0.5	216456	31
		9	0.7	350408	32
0.5		10			33
		11	0.5	216482	34
		12	0.5	216440	35
		13	0.5	369218	36
0.7	350408	14			37
0.5	216456	15			38
0.5	369623	16	0.5	216461	39
0.5	369623	17			40
0.5		18	0.5	216474	41
0.5	369623	19	0.5		42
0.5	369623	20			43
0.5	216458	21	0.5	369623	44
0.5	216458	22	0.5	369623	45
0.5	369623	23	0.5	216458	46
0.5	369623	24	0.5	216458	47
0.5		25	0.5		48



Pin		
49		
50	216440	0.5
51		0.5
52	369623	0.5
53	216458	0.5
54	369623	0.5
55	369623	0.5
56	369623	0.5
57		0.5
58	350476	0.7
59	369217	0.5
60		0.5
61	369218	0.5
62	350408	0.7
63	216462	0.5
64		0.5
65	216440	0.5
66		0.5
67	216456	0.5
68	350408	0.7
69	369623	0.5
70	369623	0.5
71	369623	0.5
72	369623	0.5
73	369623	0.5
74		0.9

T1		
T2		
T3		
T4		
T5		
T6		
T7	369179	102
T8		
T9		
T10	369656	124
T11		
T12		

		T13
124	369656	T14
124	369656	T15
		T16

COMPONENT SIDE

B

CIRCUIT AND PACKAGING STANDARD		
APPROVAL	DATE	HOLE PATTERN
H.D.H.	12-1-60	493460

INTERNATIONAL BUSINESS MACHINES CORP.

NAME	CARD ASM TSTR SDTDL				
	MUP NUMBER 4				
DESIGN			MODEL	SMS 1401	
DETAIL			SCALE	NONE	
CHECK	RFR	10-19-63	DRAW	LIG	5-19-64
APPRO	GWS	11-5-63	CHECK	SJ	5-21-64

DATE	CHANGE NO.	APPROVAL	DATE	CHANGE NO.	APPROVAL
SEE INDEX CARD					
11-5-63	0118934	GWS			
7-14-64	119024	[illegible]			

DEVELOPMENT NO.
X0571
CIRCUIT FAMILY

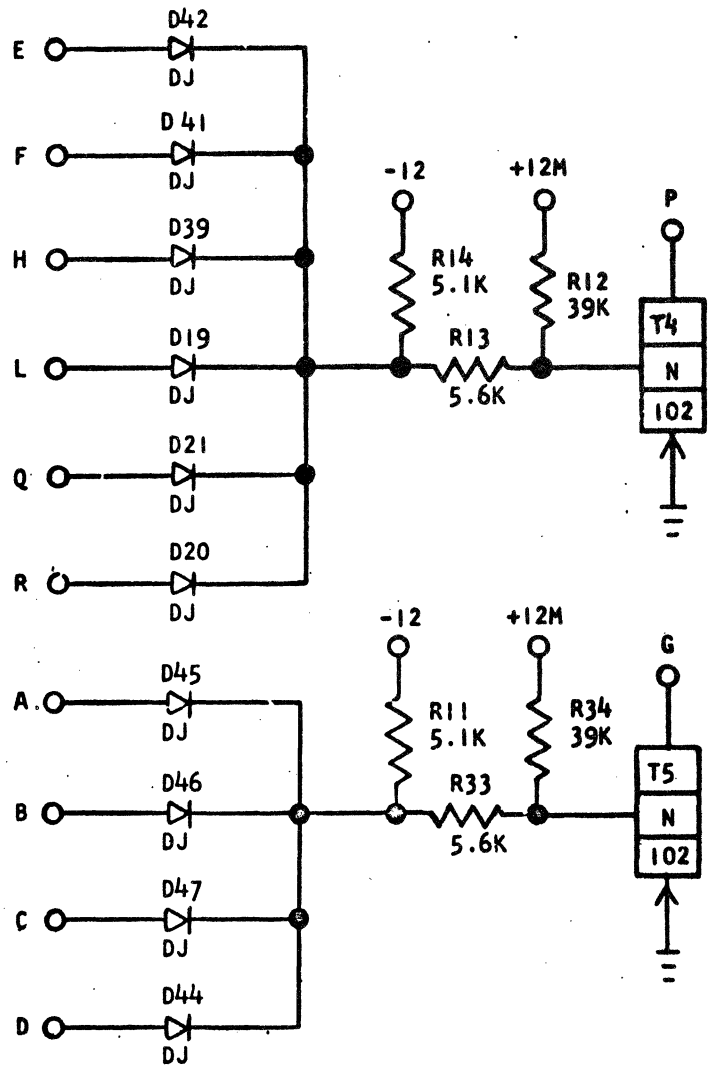
370352

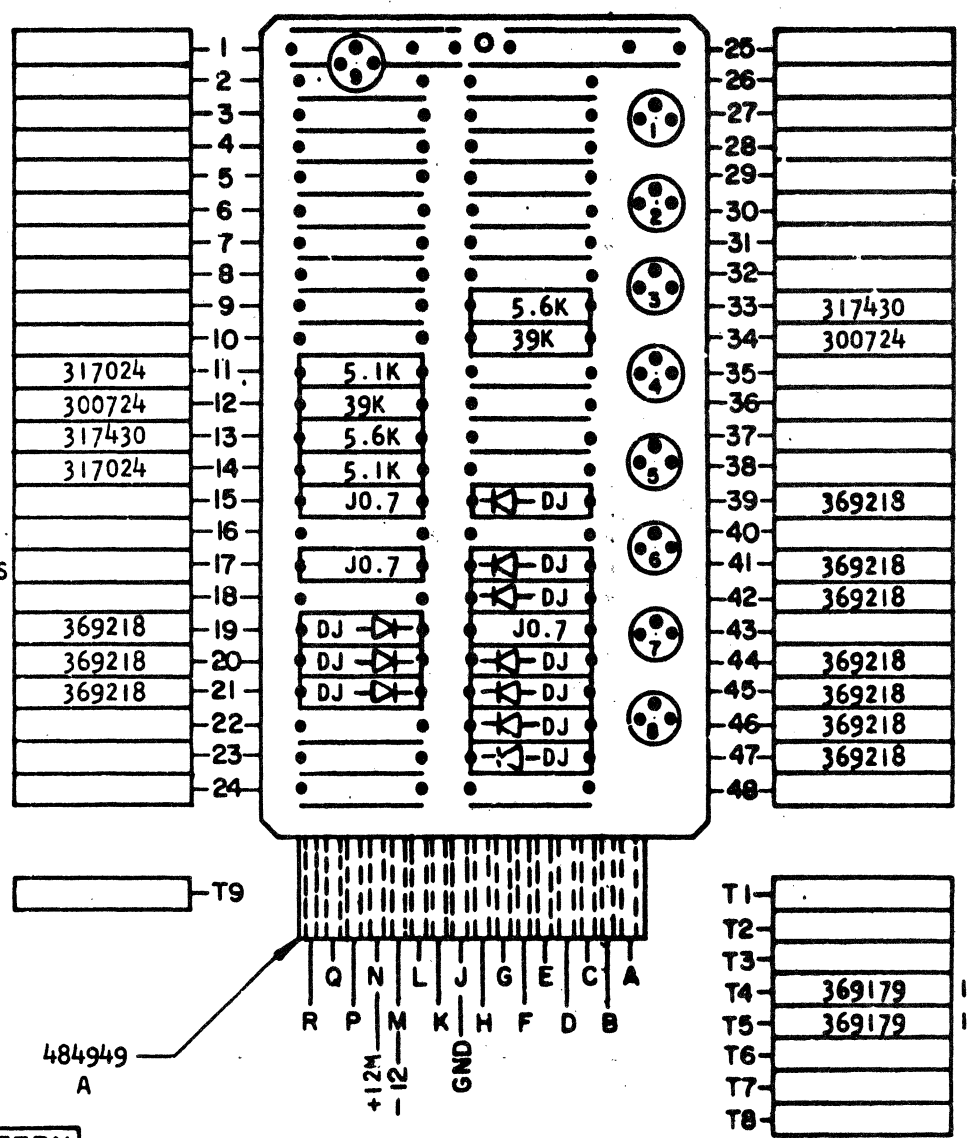
82-4003-1 6-22-61

1-6 WAY, 1-4 WAY W/O LOAD (-A)

372123

STANDARDS CODE	2-7045
372123	DHV -





NOTES

X CIRCUIT MUST CONFORM TO ENGINEERING SPECIFICATION 892380

XI ASSEMBLE TO ENGINEERING SPECIFICATION 895396 AND 891999

XII ALL RESISTORS ARE 1/2 WATT AND ± 5% UNLESS OTHERWISE NOTED

XIII "J" IN BLOCK DENOTES BARE WIRE JUMPER 491296

XIV

XV REFER TO FIELD SERVICE DRAWING PART NUMBER 734301 WHEN MAKING A CHANGE TO THIS CIRCUIT.

XVI POSITIONS T4 AND T5 ARE TO-18 TRANSISTORS WHICH MAY BE MOUNTED IN .100 OR .200 PIN CIRCLE HOLES. USE TRANSISTOR SPACER 483070 FOR .200 PIN CIRCLE MOUNTING.

B

CIRCUIT AND PACKAGING STANDARD		
APPROVAL	DATE	HOLE PATTERN
NAF GS	2-20-62	493457

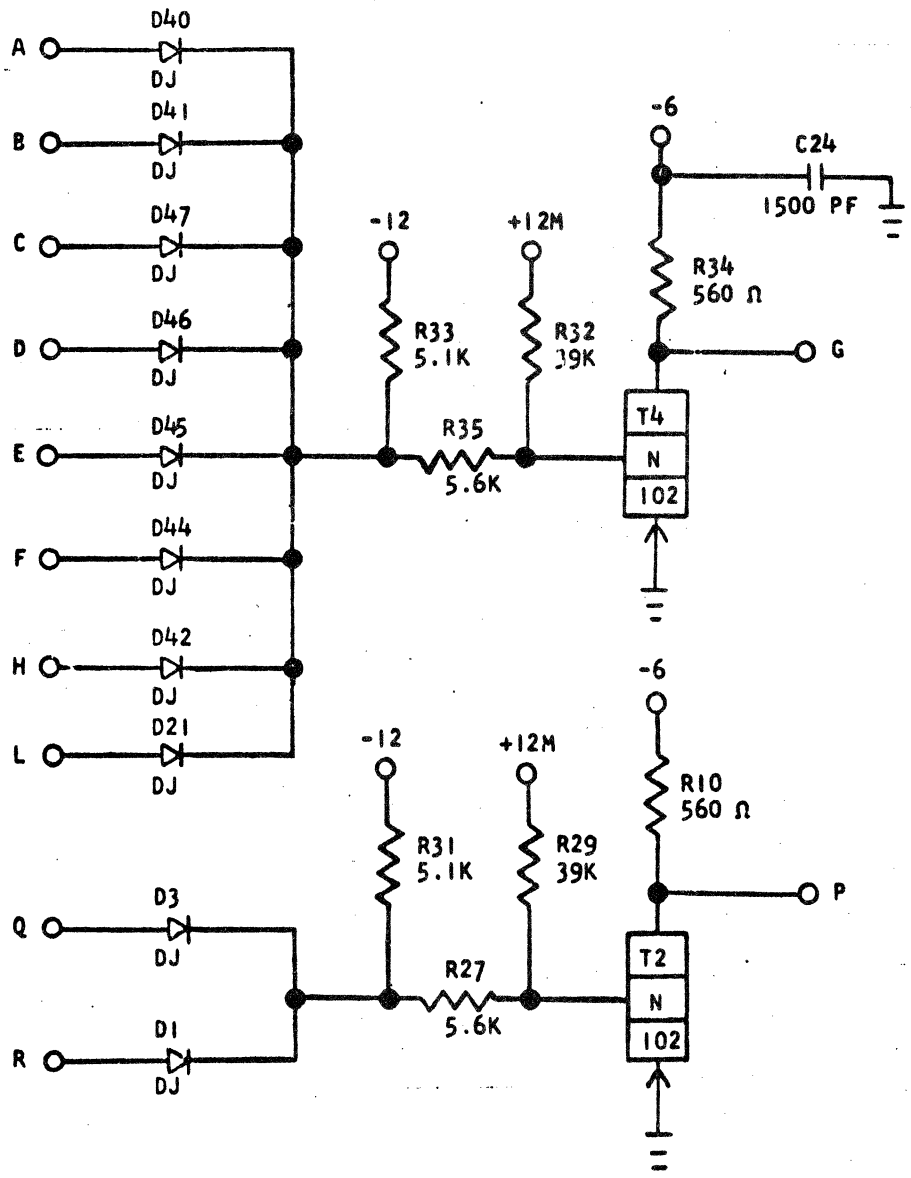
INTERNATIONAL BUSINESS MACHINES CORP.						DATE	CHANGE NO.	APPROVAL	DATE	CHANGE NO.	APPROVAL	DEVELOPMENT NO.	372123
NAME	CARD ASM TSTR - 1-6 WAY, 1-4 WAY W/O LOAD (-A)					4-9-62	114282	MDL				X1057B	
DESIGN			MODEL	SMS		6-5-62	114413	MDL					
DETAIL			SCALE	NONE		12-30-63	119217	GWS					
CHECK	EDF	3-21-62	DRAW	HAV	3-1-62							CIRCUIT FAMILY	
APPRO	GWS	3-22-62	CHECK	RP	3-6-62							SDTDL	

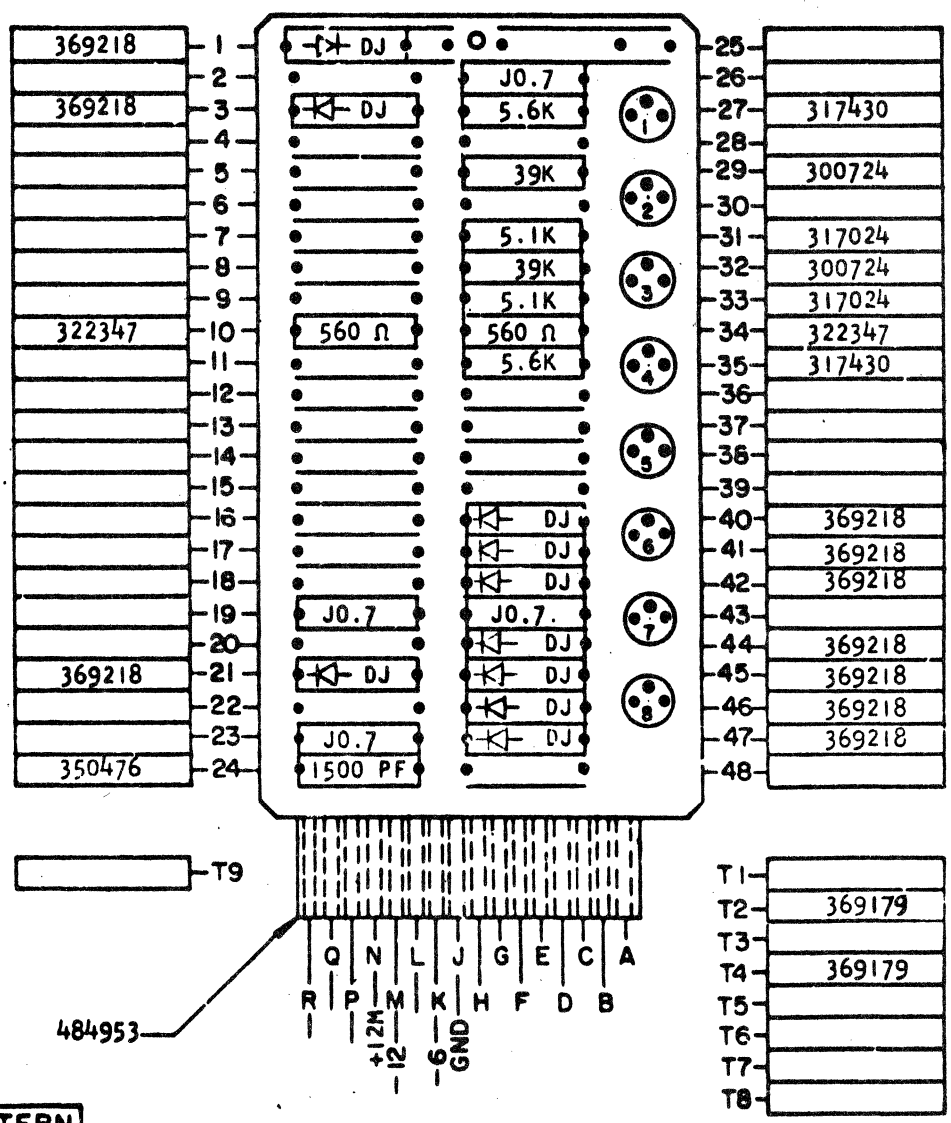
82-3987-2 6-22-61

1-8 WAY AND 1-2 WAY W/LOAD

372194

STANDARDS CODE	2-7045	DHZ-	372194





NOTES

X CIRCUIT MUST CONFORM TO ENGINEERING SPECIFICATION 892380

XI ASSEMBLE TO ENGINEERING SPECIFICATION 895396 AND 891999

XII ALL RESISTORS ARE 1/2 WATT AND ± 5% UNLESS OTHERWISE NOTED

XIII "J" IN BLOCK DENOTES BARE WIRE JUMPER 491296

XIV

XV POSITIONS T2 AND T4 ARE TO-18 TRANSISTORS AND MAY BE MOUNTED IN .100 OR .200 PIN CIRCLE HOLES. SEE REFERENCE DRAWING 493901. USE TRANSISTOR SPACER 483070 AS REQUIRED.

B

CIRCUIT AND PACKAGING STANDARD		
APPROVAL	DATE	HOLE PATTERN
NAF	2-20-62	493457

COMPONENT SIDE

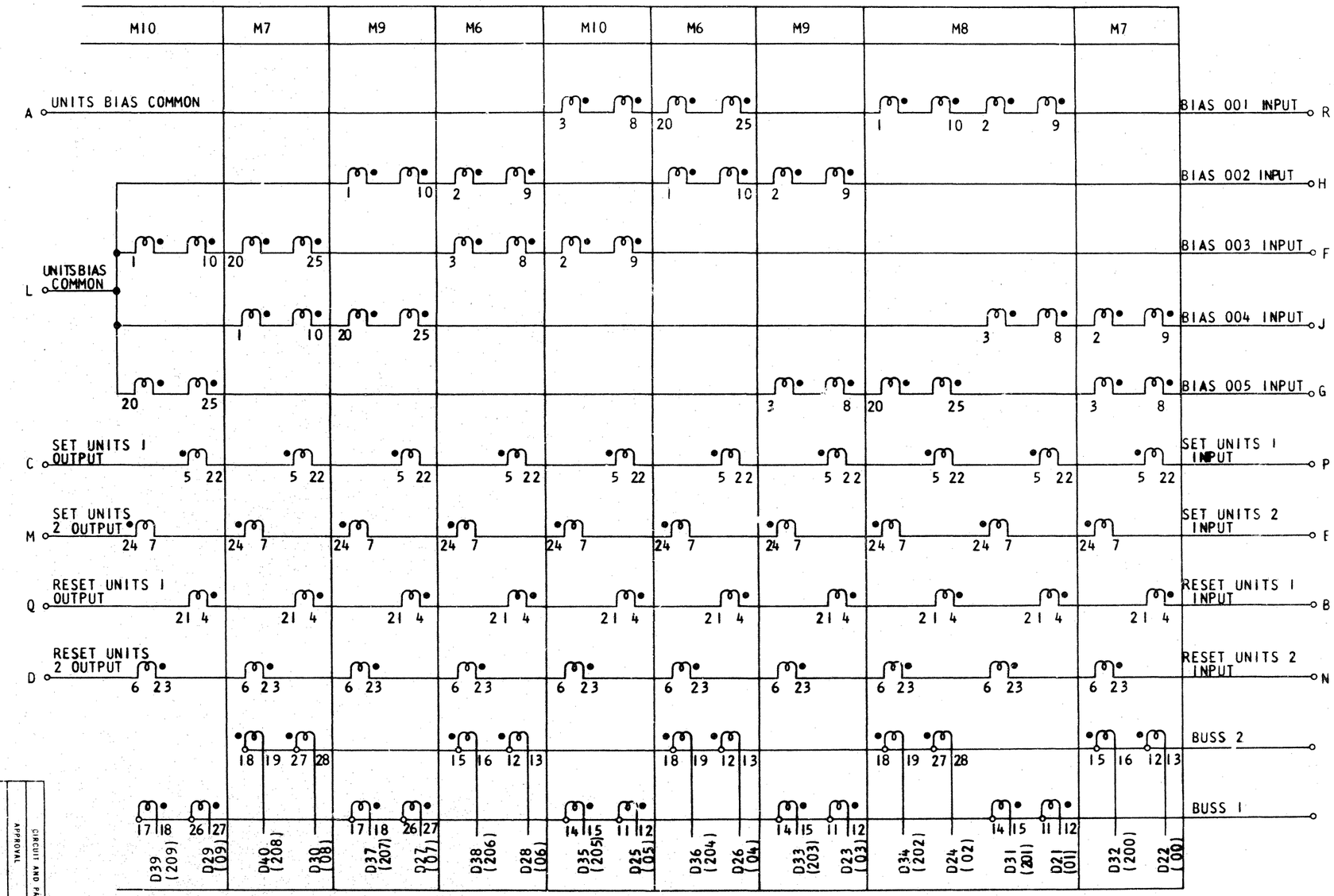
INTERNATIONAL BUSINESS MACHINES CORP.					
NAME	CARD ASM TSTR — 1-8 WAY AND 1-2 WAY W/LOAD				
DESIGN			MODEL	SMS	
DETAIL			SCALE	NONE	
CHECK	EDF	4-9-62	DRAW	HAV	3-16-62
APPRO	GWS	4-10-62	CHECK	AP	3-20-62

DATE	CHANGE NO.	APPROVAL	DATE	CHANGE NO.	APPROVAL	DEVELOPMENT NO.
4.18.62	114280					X1026C
8-17-62	114678	MDL				

372194

82-3987-2 6-22-61

SWITCH CORE MATRIX UNITS



NOTES

NUMBERS NEXT TO COIL INDICATE THE PINS ON THE MODULE INDICATED.

THIS IS NOT A POINT TO POINT WIRING DIAGRAM.

INTERNATIONAL BUSINESS MACHINES CORP.			
NAME	TWIN CARD ASM- BUFFER MATRIX SWITCH CARD		
DESIGN	RK 12-11-62	MODEL	SMS
DETAIL	JWS 12-26-62	SCALE	NONE
CHECK		DRAW	LIG 1-24-64
APPRO	GWS 1-3-62	CHECK	
7FE866	31AU665	10-28-63	SEE INDEX CARD
D125848	125289	D119673 D119688	GWS
GLK	GLK		

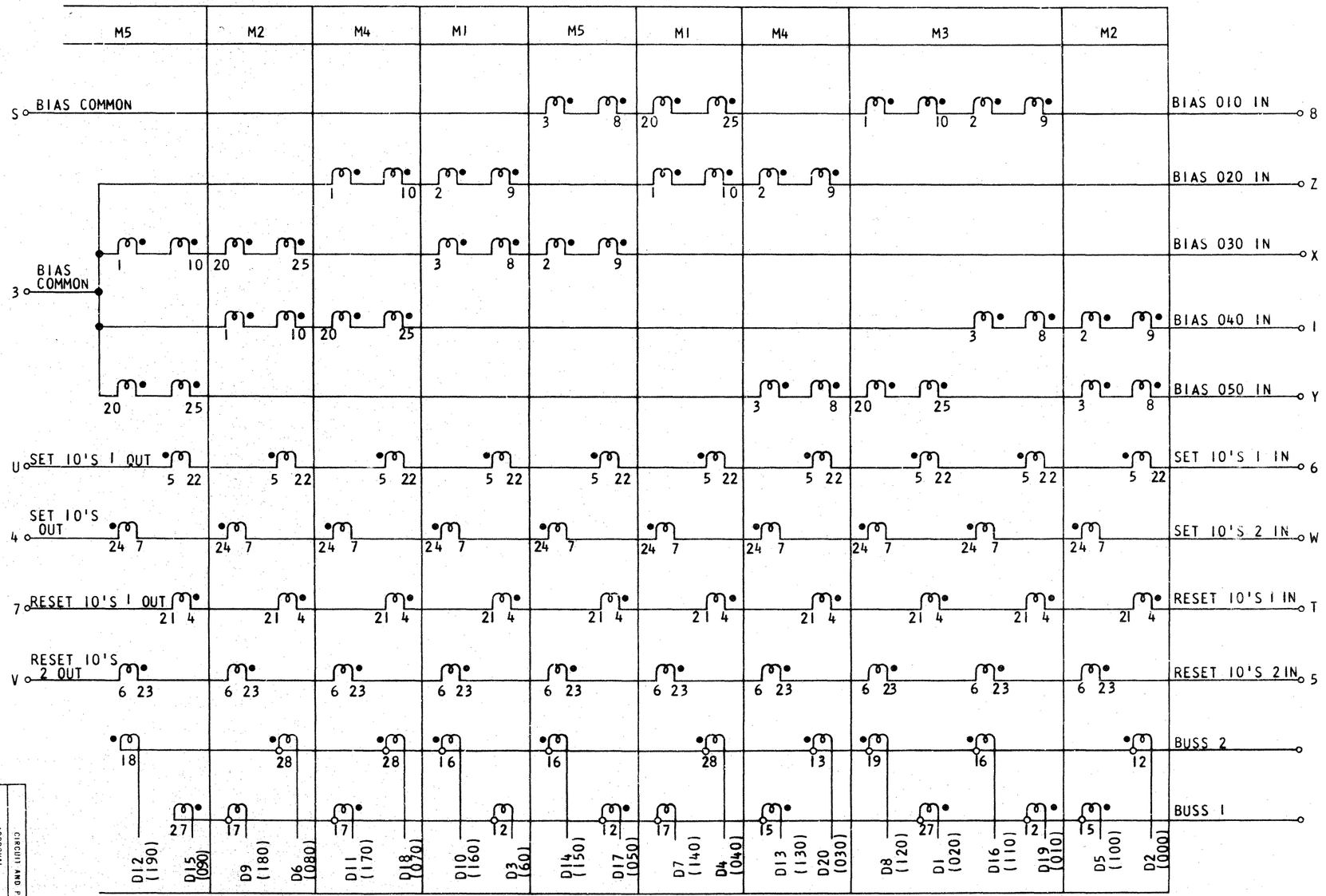
CIRCUIT AND PACKAGING STANDARD		
APPROVAL		
DATE		
WAC (GS)	4-17-62	13-450-0020

373329

CARD CODE DJA-

373329

SWITCH CORE MATRIX TENS



NOTES

NUMBERS NEXT TO COIL INDICATE THE PINS ON THE MODULE INDICATED

THIS IS NOT A POINT TO POINT WIRING DIAGRAM

INTERNATIONAL BUSINESS MACHINES CORP.

NAME TWIN CARD ASM-BUFFER MATRIX SWITCH CARD

DESIGN R K 12-21-61 MODEL SMS

DETAIL JWS 12-26-61 SCALE NONE

DRAW L I G 1-24-64

CHECK

APPRO G W S 7-3-62 CHECK

	DATE	CHANGE NO.	APPROVAL
	31AUG65	7FE866	GLK
	10-28-63	D125289	GLK
SEE INDEX CARD		D118973	GWS
		D119688	

	DATE	CHANGE NO.	APPROVAL

WAC (GS) 4-17-62

CIRCUIT AND PACKAGING STANDARD

APPROVAL DATE

DEVELOPMENT NO. 13-450-0020

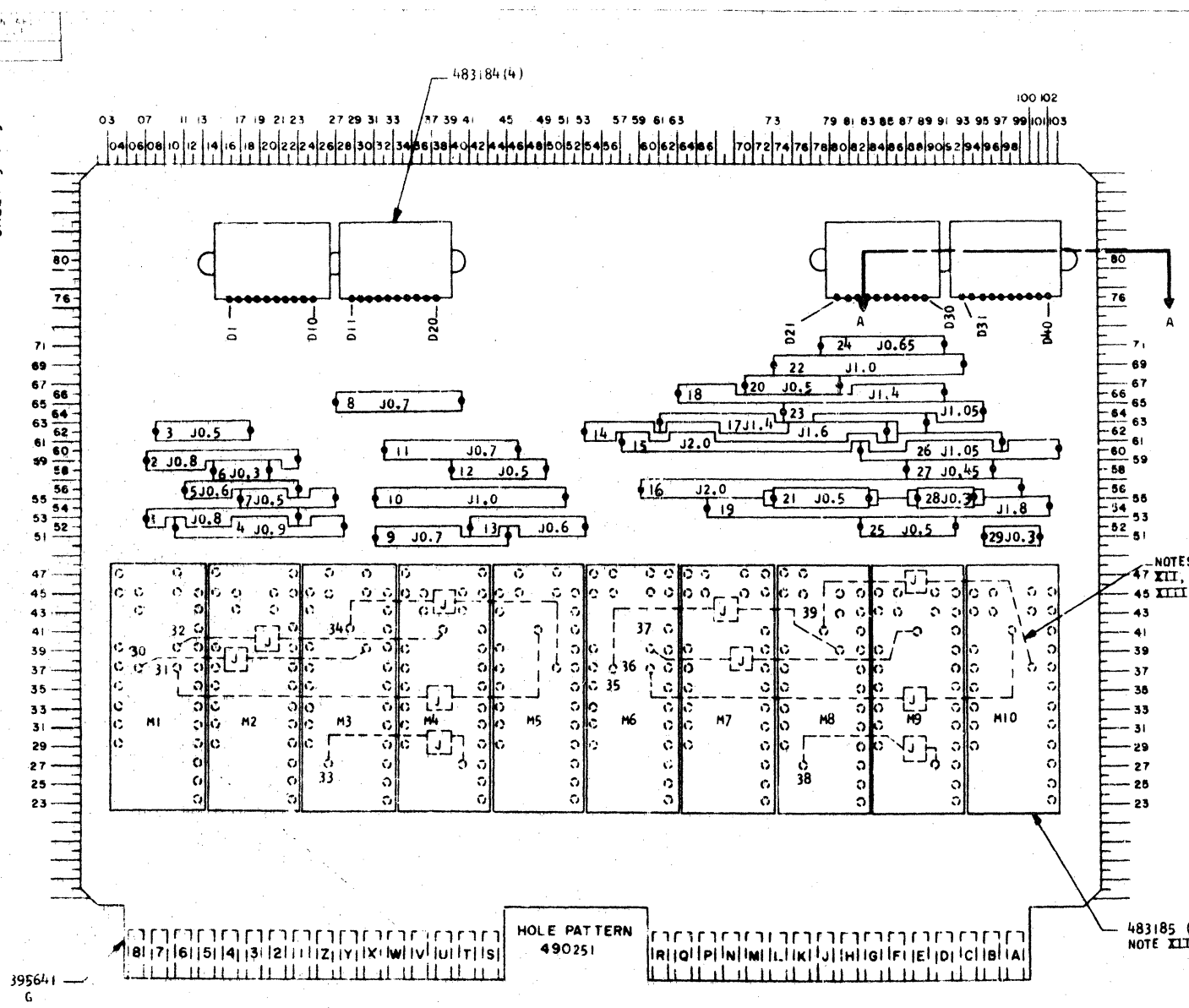
373329

CARD CODE D J A- 373329

373329

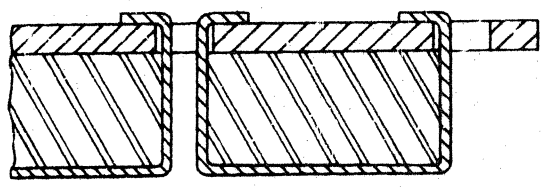
SHEET 3 OF 3

CARD CODE	373329
D J A -	

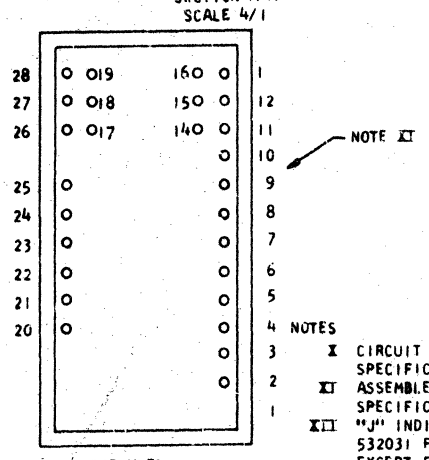


PART NO	VALUE	QTY

POSITION	VALUE	LEFT HOLE	RIGHT HOLE
1	J0.8	0753	2353
2	J0.8	0759	2359
3	J0.5	0862	1862
4	J0.9	1052	2852
5	J0.6	1156	2356
6	J0.3	1458	2058
7	J0.5	1755	2755
8	J0.7	2765	4165
9	J0.7	3151	4551
10	J1.0	3155	5155
11	J0.7	3260	4660
12	J0.5	3958	4958
13	J0.6	4152	5352
14	J1.6	5362	8562
15	J2.0	5761	9761
16	J2.0	5956	9956
17	J1.4	6163	8963
18	J1.4	6366	9166
19	J1.8	6654	10254
20	J0.5	7067	8067
21	J0.5	7355	8355
22	J1.0	7369	9369
23	J1.05	7464	9564
24	J0.65	7871	9171
25	J0.5	8252	9252
26	J1.05	8260	10360
27	J0.45	8758	9658
28	J0.3	8855	9455
29	J0.3	9551	10151
30	J	0637	3039
31	J	1037	4841
32	J	1039	3841
33	J	2627	4027
34	J	2841	5037
35	J	5637	8039
36	J	6037	9841
37	J	6039	8841
38	J	7627	9027
39	J	7841	10037



SECTION A-A
SCALE 4/1



NOTES

X CIRCUIT MUST CONFORM TO ENGINEERING SPECIFICATION 893151, 893153

XI ASSEMBLE TO ENGINEERING SPECIFICATION 893149 AND 893001

XII "J" INDICATES JUMPERS, PART NUMBER 532031 FOR POSITION 1 THROUGH 39 EXCEPT FOR POSITIONS 3,6,8,10,11, 12,20,21,22,24,25,27,28, AND 29 WHICH WILL USE PART NUMBER 491296. CUT LENGTHS AS REQUIRED FOR POSITIONS 1 THROUGH 39.

XIII ASSEMBLE JUMPERS PART NUMBER 491296 AND 532031, BEFORE MODULE. PART NUMBER 483185, JUMPERS MUST NOT INTERFERE WITH MODULE LEADS IN POSITIONS 30 THROUGH 39.

CIRCUIT AND PACKAGING STANDARD	
APPROVAL	DATE
WAC GS	4-17-62

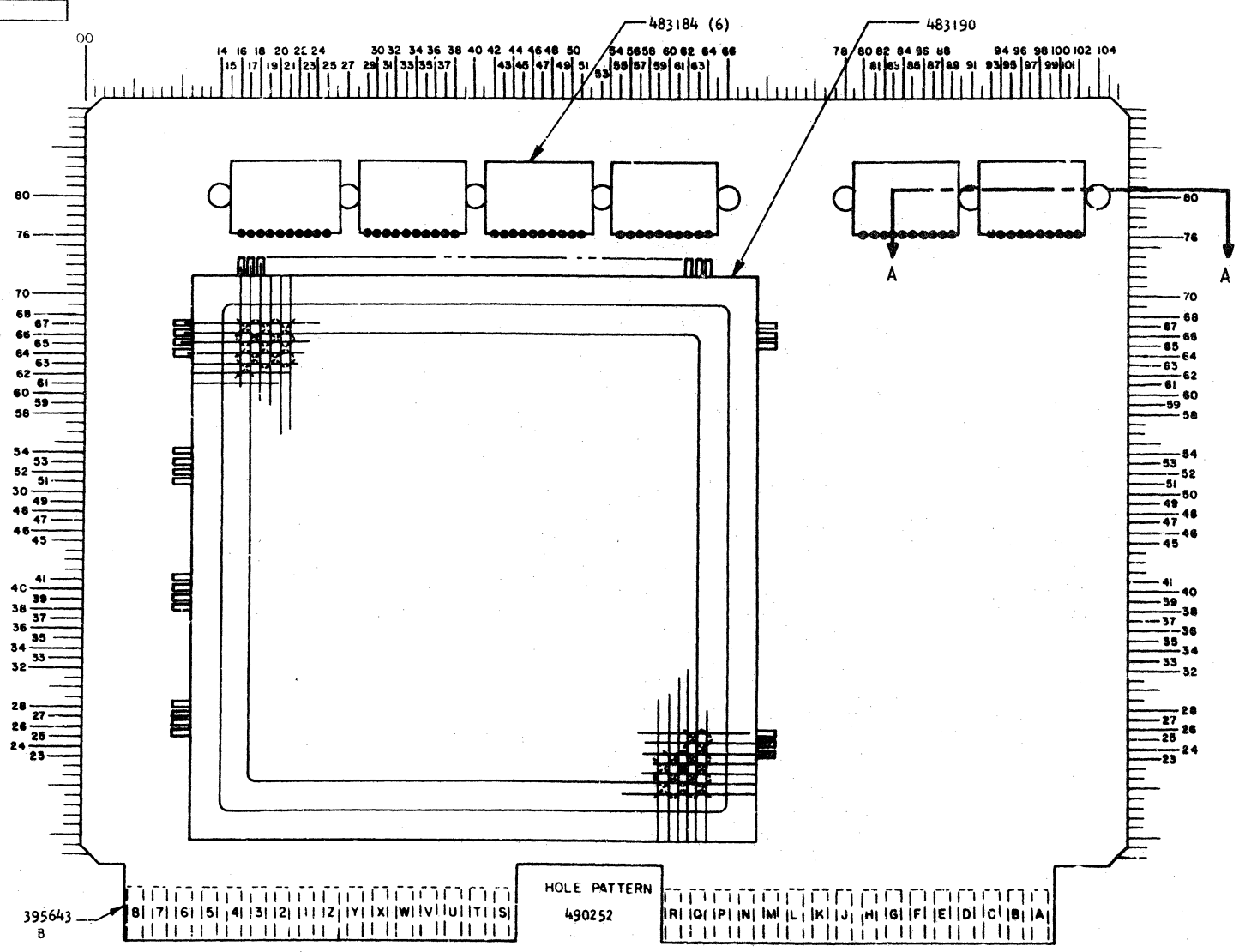
INTERNATIONAL BUSINESS MACHINES CORP.															
NAME TWIN CARD ASM- BUFFER MATRIX SWITCH CARD						DATE	CHANGE NO.	APPROVAL	DATE	CHANGE NO.	APPROVAL	DEVELOPMENT NO.	373329
DESIGN	PPH	12-26-61	MODEL	SMS		7-9-62	114424	MDL	10-28-63	D118973	GWS	13-450-0020	
DETAIL	PPH	12-29-61	SCALE	NONE		10-8-62	113616	MDL	2-21-64	D119688	GWS		
CHECK	KCB	6-15-62	DRAW	VE	3-19-64	12-10-62	116049	MDL	31AUG65	125289	GLK		
APPRO	GWS	6-26-62	CHECK			4-18-63	D116186		7FEB66	D125848	GLK		
						7-30-63	117819	MDL					

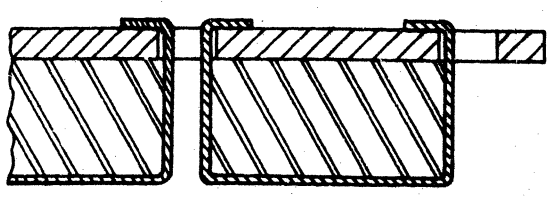
STANDARDS CODE

CARD CODE 373330

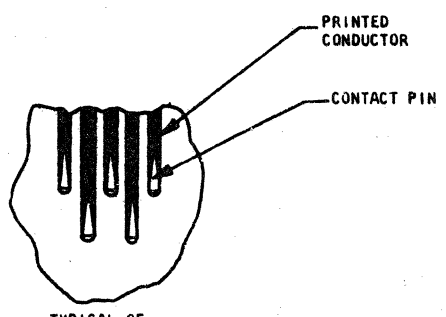
D J B -

PART NO.	VALUE	QTY





SECTION A-A
SCALE 4/1



TYPICAL OF PRINTED SIDE NOTE XII

NOTES
- I CIRCUIT MUST CONFORM TO ENGINEERING SPECIFICATIONS 893152, 893153
- II ASSEMBLE TO ENGINEERING SPECIFICATION 893001
- III CONTACT PIN AND PRINTED CONDUCTOR MUST BE ALIGNED WITHIN .015 PRIOR TO SOLDERING

CIRCUIT AND PACKAGING STANDARD	
APPROVAL	DATE
NAC GS	4-17-62

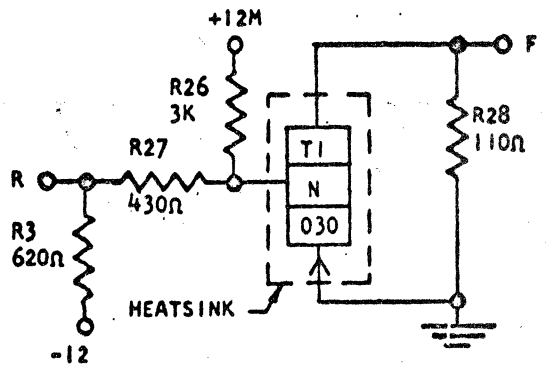
INTERNATIONAL BUSINESS MACHINES CORP.						DATE	CHANGE NO.	APPROVAL	DATE	CHANGE NO.	APPROVAL	DEVELOPMENT NO.	
NAME	TWIN CARD ASM- BUFFER MEMORY CARD					7.9.62	114424	MDL				13-450-0013	373330
DESIGN	JWS	11-17-61	MODEL	SMS 1401G		12-21-62	114424A	MDL					
DETAIL	JWS	12-11-61	SCALE	NONE		31AUG65	D125289	GLK					
CHECK	RLV	12-21-61	DRAW	LIG	5-8-62								
APPRO	JPM	12-22-61	CHECK										

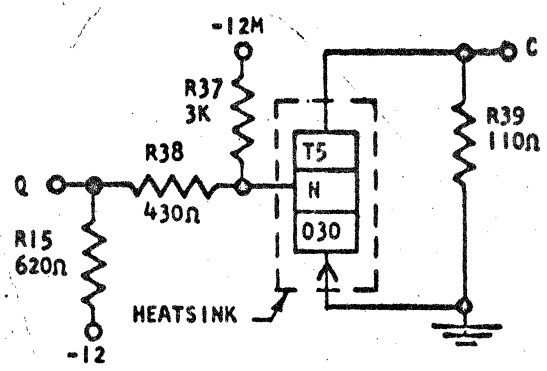
C

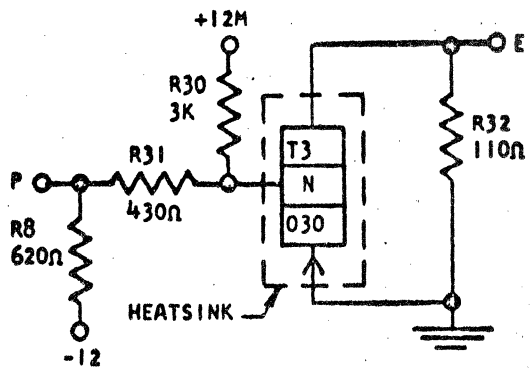
INDICATOR DRIVER - 180 MA

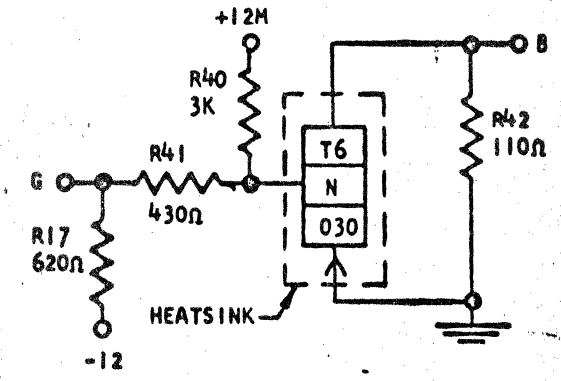
374710

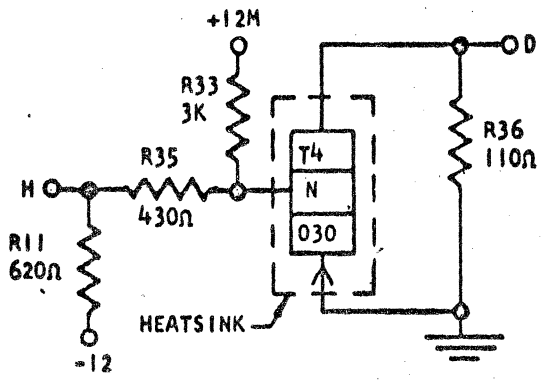
STANDARD CODE	374710 EVS -
2-7045	

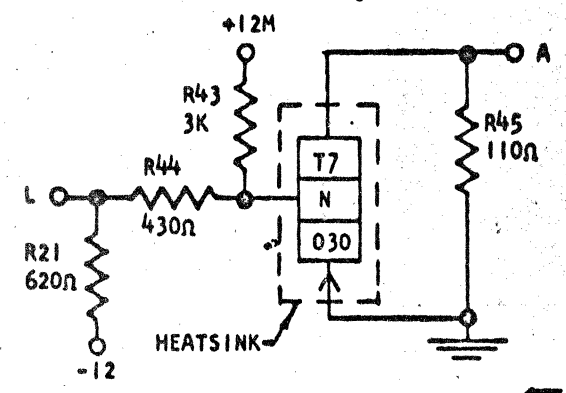












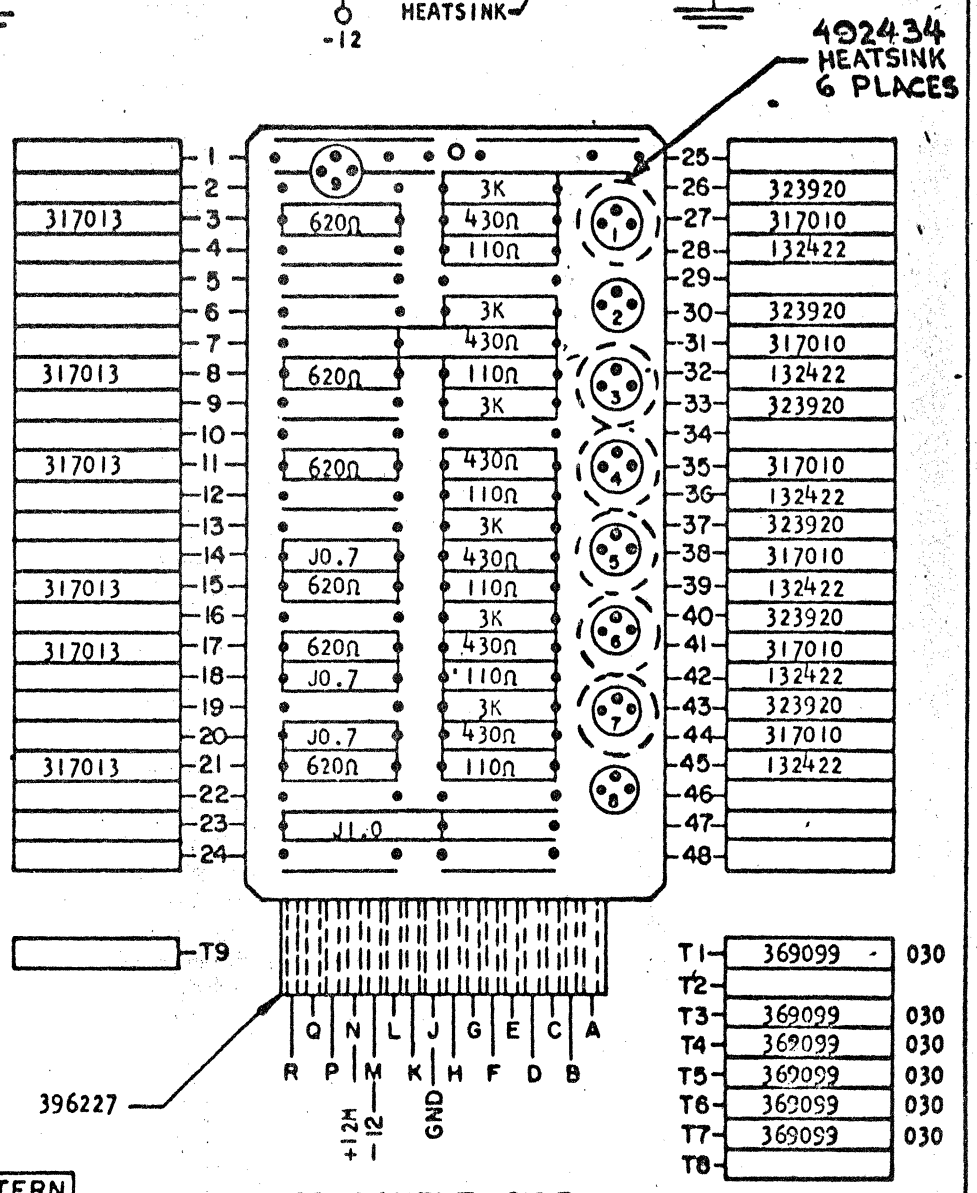
NOTES

X CIRCUIT MUST CONFORM TO ENGINEERING SPECIFICATION 893550

XI ASSEMBLE TO ENGINEERING SPECIFICATION 893396 AND 891999

XII ALL RESISTORS ARE 1/2 WATT AND ± 5% UNLESS OTHERWISE NOTED

XIII "J" IN BLOCK DENOTES BARE WIRE JUMPER 491296



B

COMPONENT SIDE

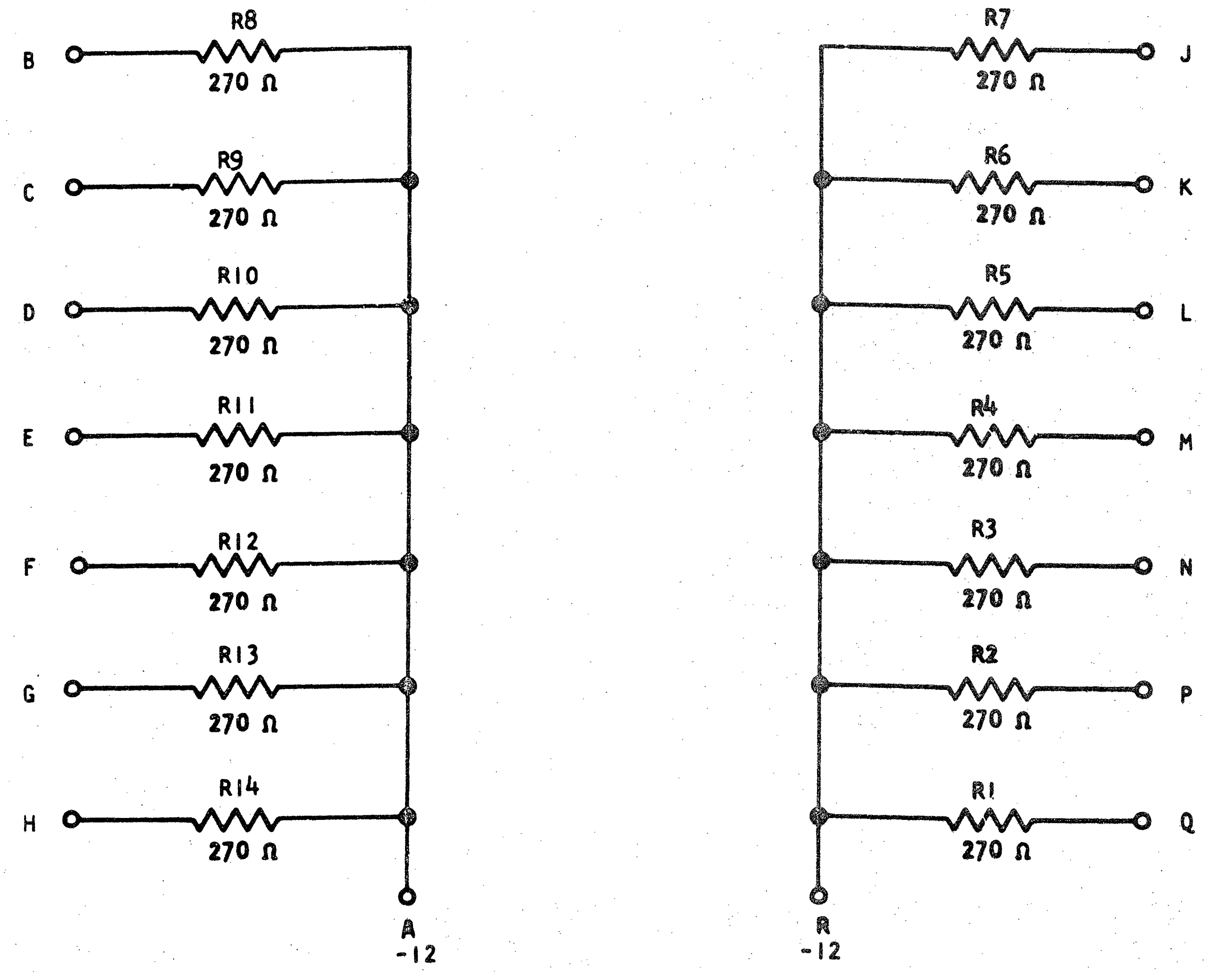
CIRCUIT AND PACKAGING STANDARD		
APPROVAL	DATE	HOLE PATTERN
ABC JVL	6-18-64	747800

INTERNATIONAL BUSINESS MACHINES CORP.					DATE	CHANGE NO.	APPROVAL	DATE	CHANGE NO.	APPROVAL	DEVELOPMENT NO.	374710
NAME	CARD ASM TSTR - INDICATOR DRIVER - 180 MA				6-18-64	121661	JVL				PE-0094	
DESIGN			MODEL	SMS 1443								
DETAIL			SCALE	NONE								
CHECK	GLK	6-18-64	DRAW	JVL	6-15-64						CIRCUIT FAMILY	
APPRO	JVL	6-18-64	CHECK	[illegible]	6-[illegible]-64						SDTDL	

371598 | NW --

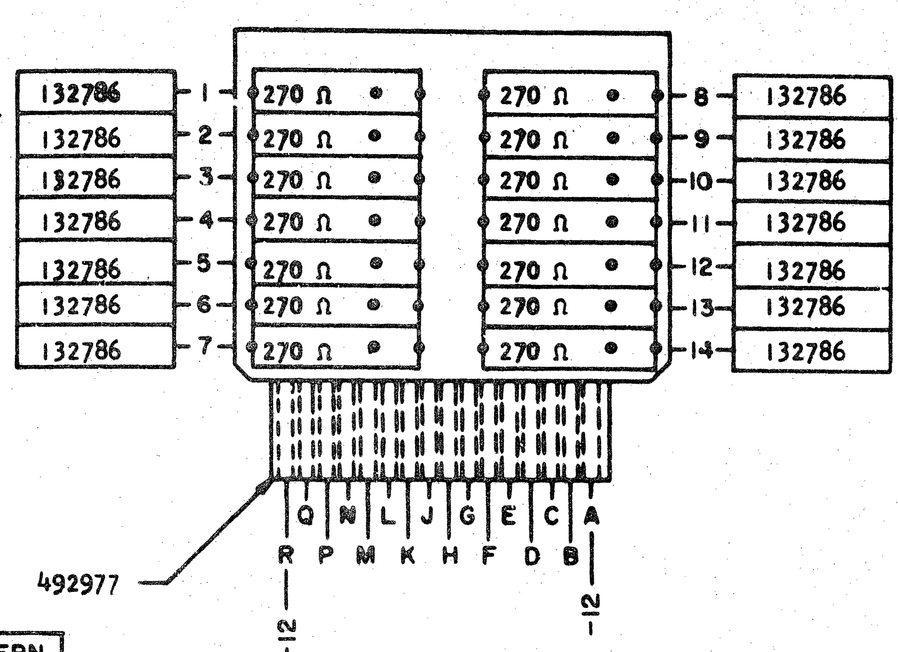
STANDARDS CODE 2-7045

270 Ω RESISTOR CARD



NOTES

- X CIRCUIT MUST CONFORM TO ENGINEERING SPECIFICATION 891071
- XI ASSEMBLE TO ENGINEERING SPECIFICATION 895396 AND 891999
- XII ALL RESISTORS ARE 1 WATT AND ±5% UNLESS OTHERWISE NOTED
- XIII REFER TO FIELD SERVICE DRAWING PART NUMBER 729890 WHEN MAKING A CHANGE TO THIS CIRCUIT



COMPONENT SIDE

B

DPD CIRCUIT & PACKAGING STANDARD	
APPROVAL	DATE
HDH REC	10-13-59

HOLE PATTERN
492651

INTERNATIONAL BUSINESS MACHINES CORP.

NAME	CARD ASM RESISTOR - 270 Ω			
DESIGN			MODEL	SMS 7070
DETAIL	CJB	11-12-59	SCALE	NONE
CHECK	GWS	11-20-59	DRAW	VE 10-18-61
APPRO	REC	11-16-59	CHECK	HOD 10-23-61

DATE	CHANGE NO.	APPROVAL	DATE	CHANGE NO.	APPROVAL
11-20-59	107677	RJH			
9-30-60	110081	IWB			
4-27-62	112757	MDL			
10-21-63	D119211	GWS			

DEVELOPMENT NO.
X0392

371598

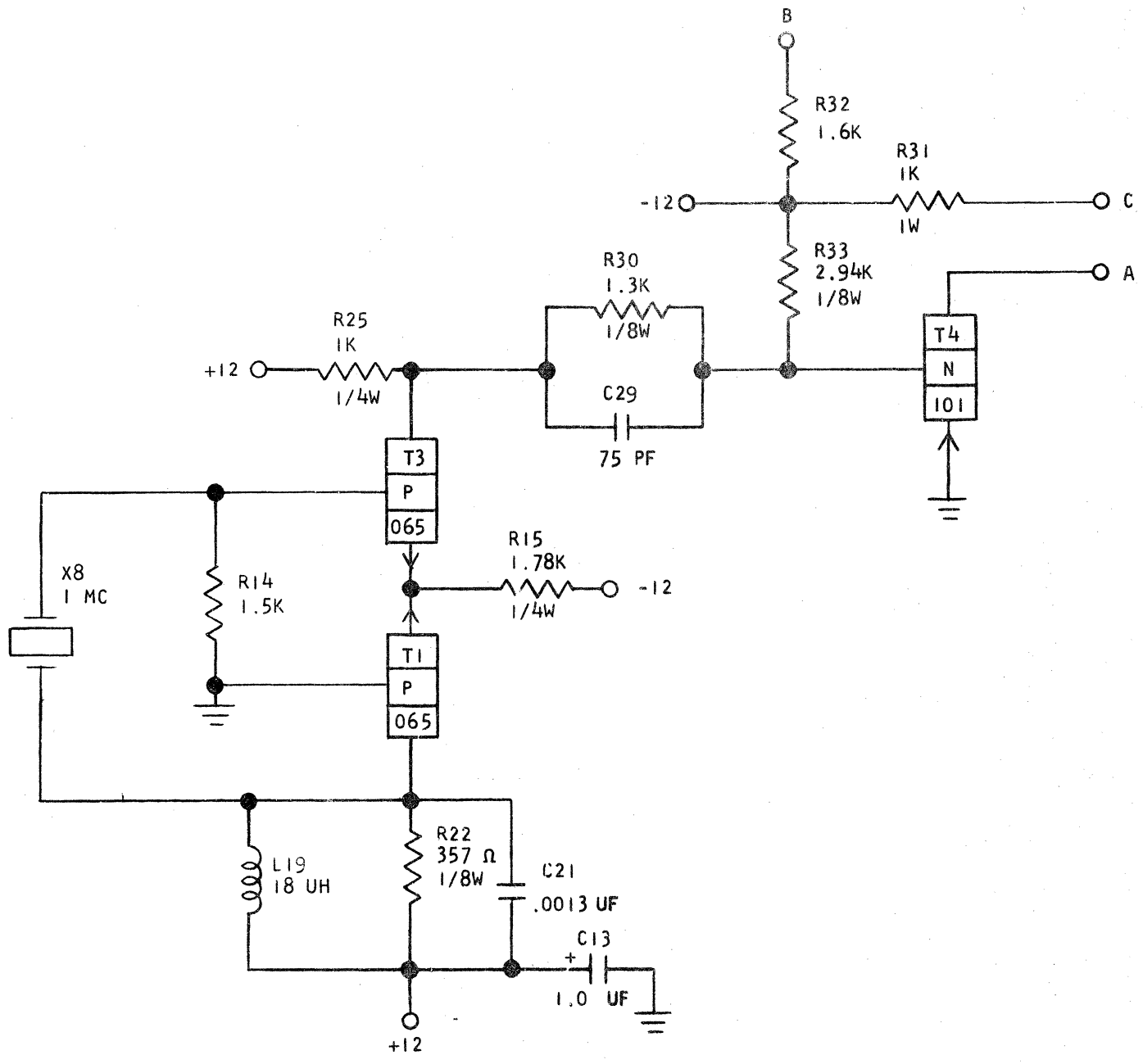
FORM 08 6393-2

C. B. CO., NO. 5700W 41808

370551

STANDARDS CODE 2-7045 | TDK- 370551

1 MC OSCILLATOR



NOTES

X CIRCUIT MUST CONFORM TO ENGINEERING SPECIFICATION 892551

XI ASSEMBLE TO ENGINEERING SPECIFICATION 895396 AND 891999

XII ALL RESISTORS ARE 1/2 WATT AND ±5% UNLESS OTHERWISE NOTED (AS NOTE XVI)

XIII "J" IN BLOCK DENOTES BARE WIRE JUMPER. 491296

XIV

XV

XVI ALL 1/8 WATT AND 1/4 WATT RESISTORS ARE ±1%.

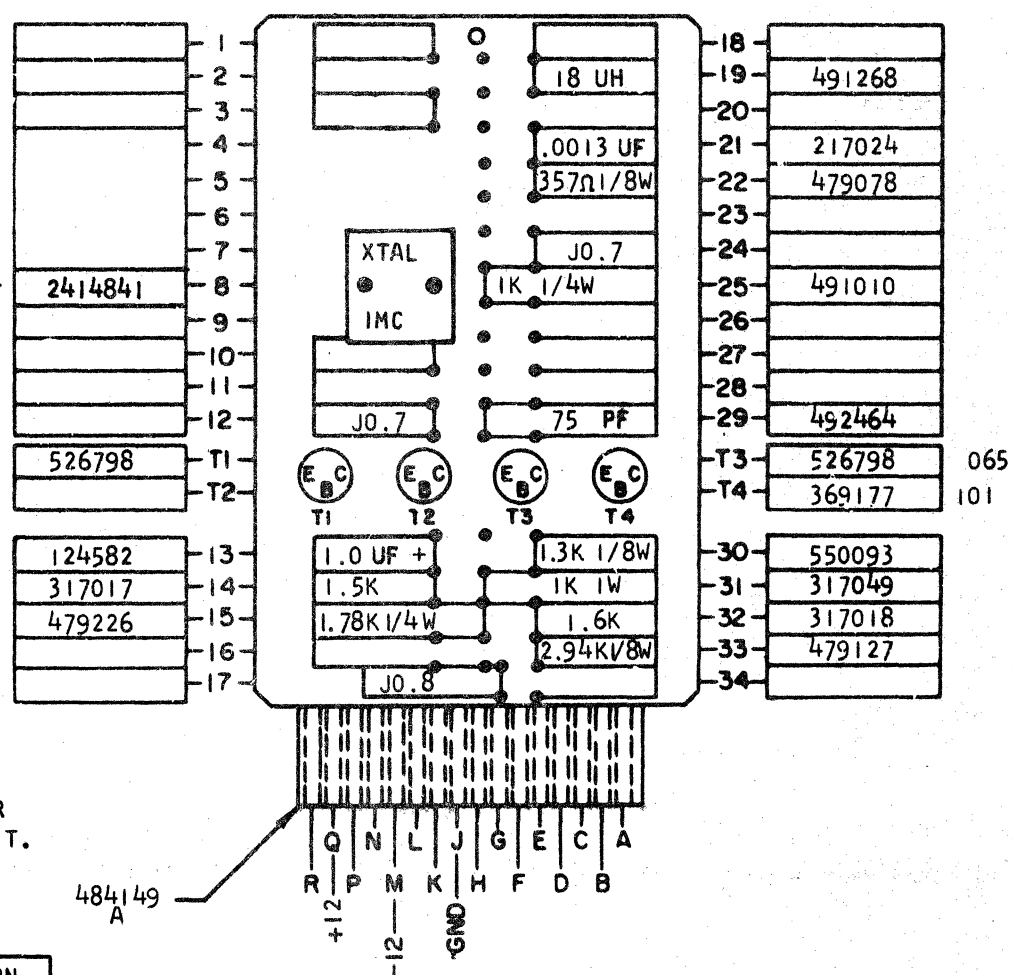
XVII POSITION T4 IS A TO-18 TRANSISTOR AND REQUIRES .100 PIN CIRCLE HOLES.

XVIII

**XIX CRYSTAL 2414841 MUST NOT BE SUBJECTED TO SOLDER MILLING OPERATIONS.

XX REFER TO FIELD SERVICE DRAWING PART NUMBER 729947 WHEN MAKING A CHANGE TO THIS CIRCUIT.

B



COMPONENT SIDE

CIRCUIT AND PACKAGING STANDARD		
APPROVAL	DATE	HOLE PATTERN
KMT	3-10-61	491329

INTERNATIONAL BUSINESS MACHINES CORP.					
NAME	CARD ASM TSTR- 1 MC OSCILLATOR				
DESIGN	TPA	3-10-61	TYPE	SMS 1414	
DETAIL	TPA	3-10-61	SCALE	NONE	
CHECK	A.P.	3-15-61	DRAW	WWP	3-15-61
APPRO	CHS	3-15-61	CHECK	HDA	3-15-61

DATE	CHANGE NO.	APPROVAL	DATE	CHANGE NO.	APPROVAL
3-20-61	111415	NOTE XV			
2-1-62	113075	NOTE XV			
11-27-62	115873	MDL			
8-28-63	117802	MDL			
12-21-64	120699	GLK			

DEVELOPMENT NO. 2547-1558

CIRCUIT FAMILY SDTDL-SDTRL

370551

82-3977 8-24-60

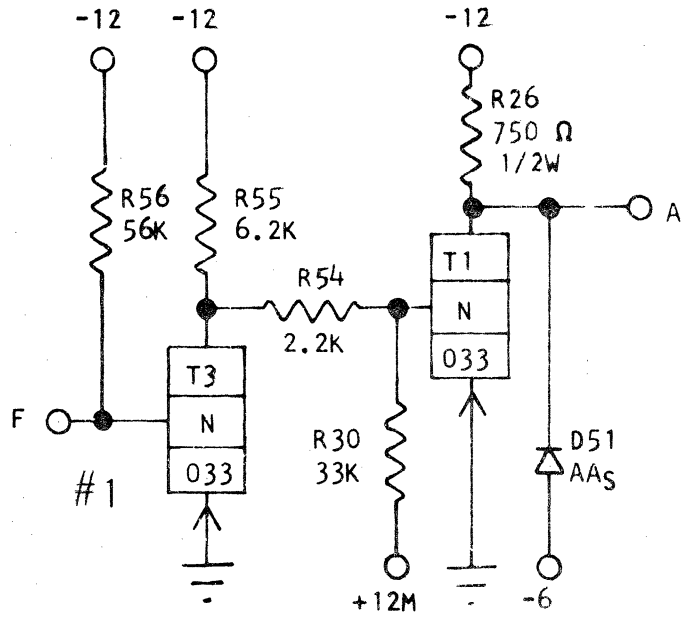
FORM 88-6393-2

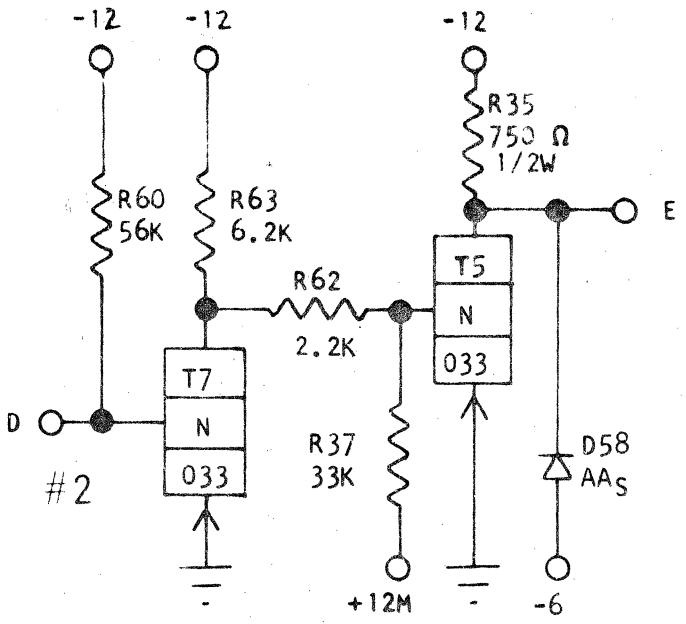
C.B. CO. NO. 8788 60857

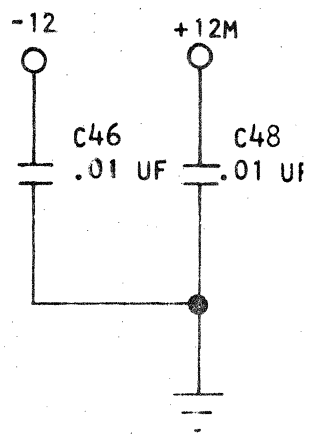
STANDARDS CODE	370864 TFU-
2-7045	

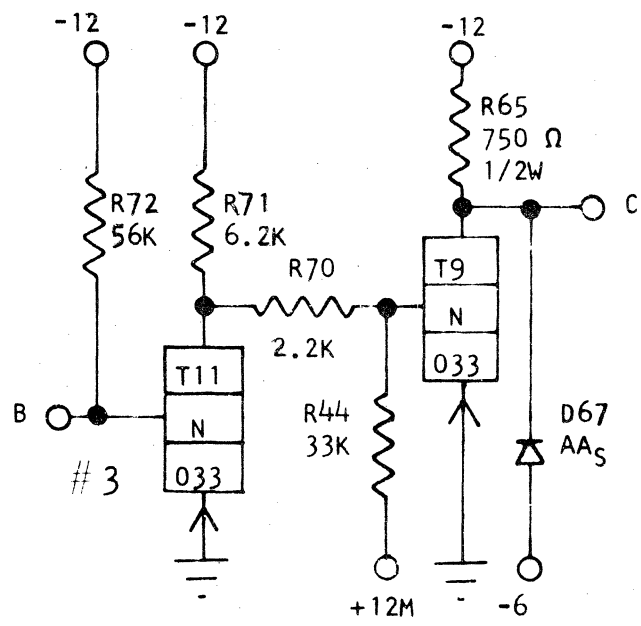
SDTDL SOLAR CELL AMPLIFIER

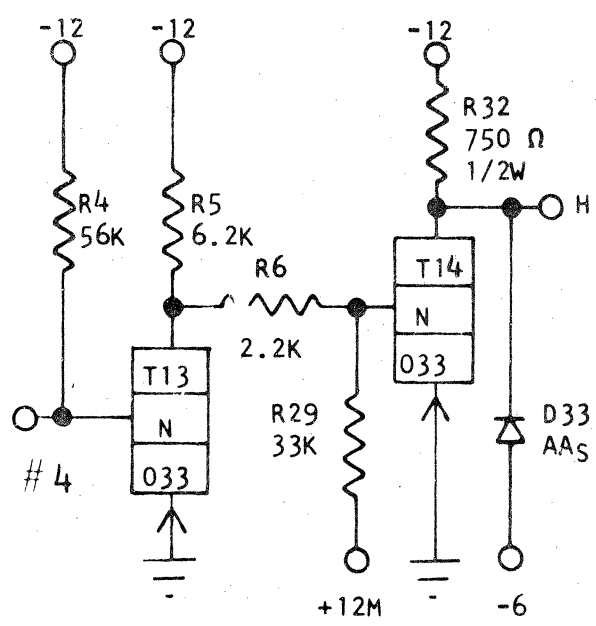
370864

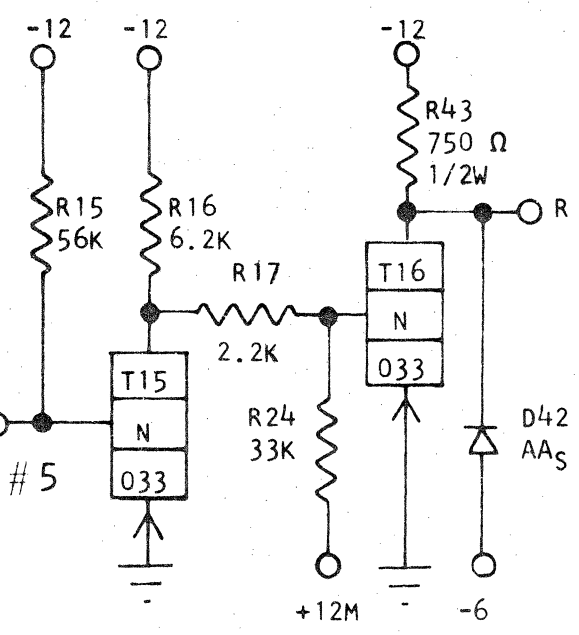












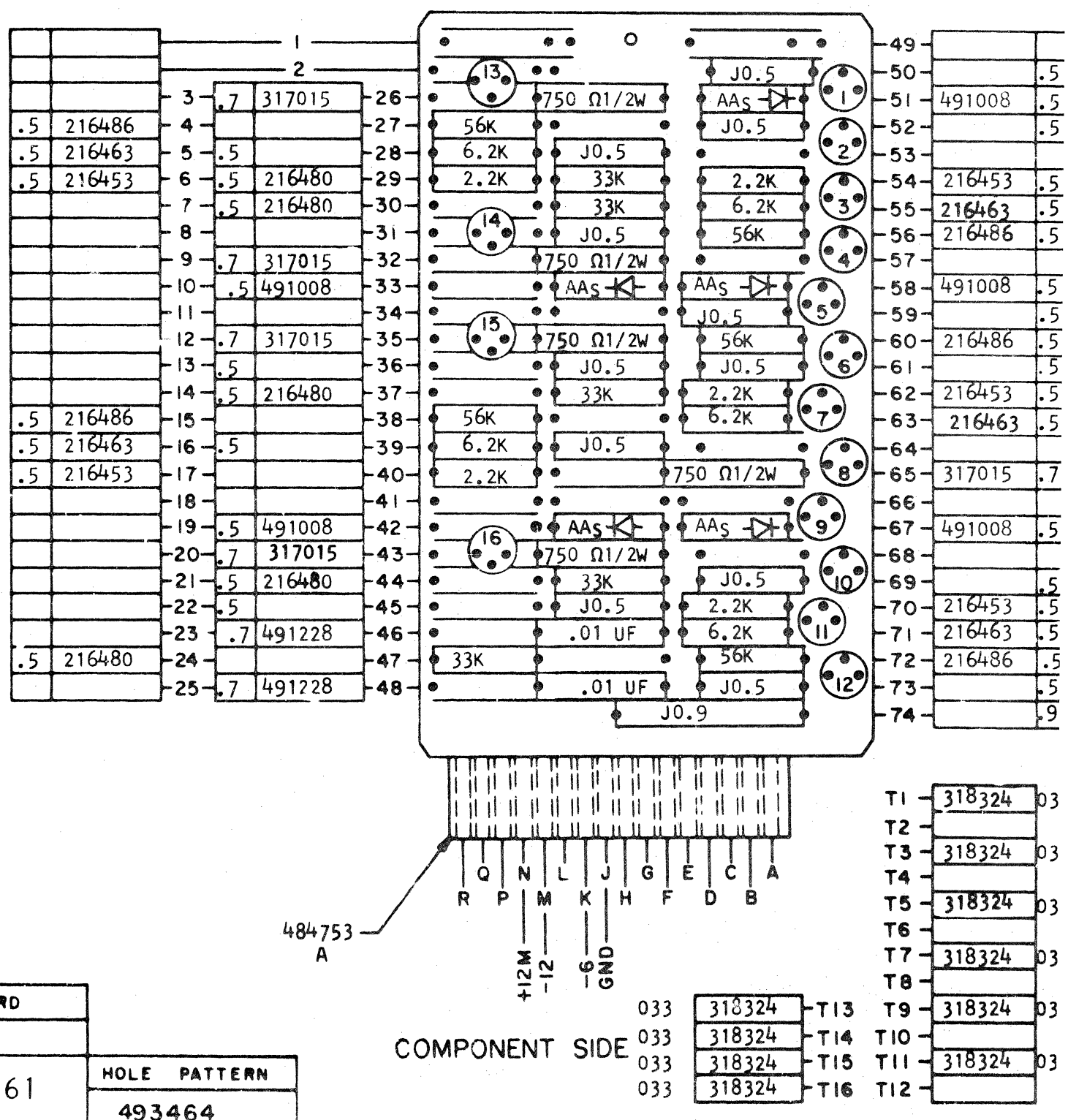
NOTES

X CIRCUIT MUST CONFORM TO ENGINEERING SPECIFICATION 892864

XI ASSEMBLE TO ENGINEERING SPECIFICATION 895396 AND 891999

XII ALL RESISTORS ARE 1/4 WATT AND ±5% UNLESS OTHERWISE NOTED

XIII "J" IN BLOCK DENOTES BARE WIRE JUMPER 491296



COMPONENT SIDE

B

CIRCUIT AND PACKAGING STANDARD	
APPROVAL	DATE
N.D.W.	10-27-61

HOLE PATTERN 493464

INTERNATIONAL BUSINESS MACHINES CORP.				DATE	CHANGE NO	APPROVAL	DATE	CHANGE NO.	APPROVAL	DEVELOPMENT NO.
NAME	CARD ASM TSTR SDTDL			11-27-61	113134	JWB				~~0558B 0210A~~
	SOLAR CELL AMPLIFIER			1-28-62	D113652	MDL				13-547-0016
DESIGN	RH	3-22-61	MODEL SMS 14EF							
DETAIL	CW	1-6-61	SCALE NONE							
CHECK	AP	11-21-61	DRAW							
APPRO	GW/S	11-27-61	CHECK							

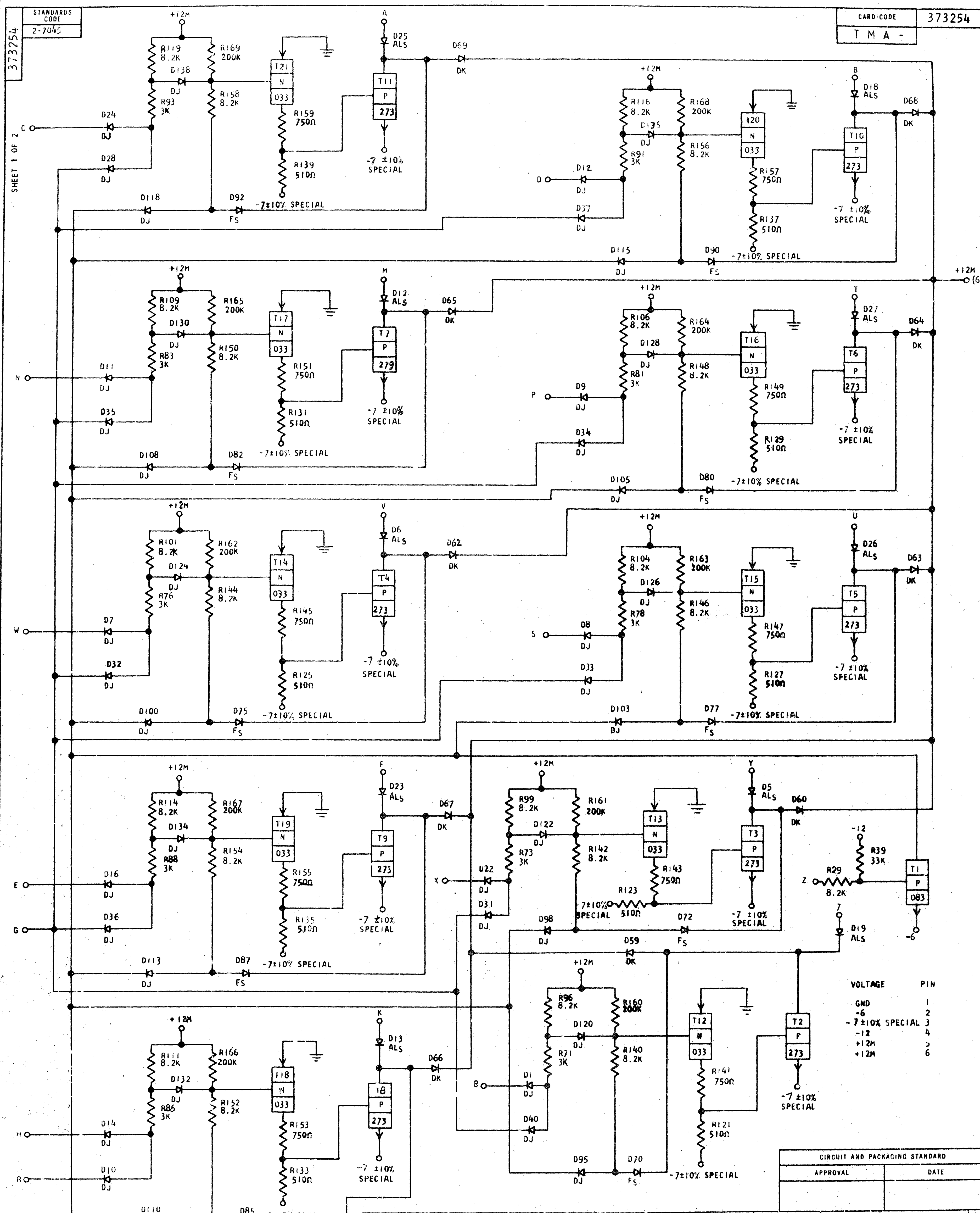
370864

373254

SHEET 1 OF 2

STANDARDS CODE
2-7045

CARD CODE	373254
T M A -	



VOLTAGE	PIN
GND	1
-6	2
-7 ±10% SPECIAL	3
-12	4
+12M	5
+12M	6

CIRCUIT AND PACKAGING STANDARD	
APPROVAL	DATE

INTERNATIONAL BUSINESS MACHINES CORP.

NAME	TWIN CARD ASM - PRINT				
	MAGNET DRIVERS 1443				
DESIGN	VE	10-5-62	MODEL	SMS 1443	
DETAIL	VE	10-5-62	SCALE	NONE	
CHECK	VE	10-5-62	DRAW	VE	10-5-62
APPRO	[illegible]	[illegible]	CHECK		

DATE	CHANGE NO.	APPROVAL	DATE	CHANGE NO.	APPROVAL
12-28-61	113103	IWB	1-29-63	116108	NOTE XIV
3-27-62	D114324	MDL	4-23-63	116191	NOTE XIV
7-11-62	114403	MDL	6-10-64	121320	NOTE XIV
10 11 62	113647	MDL	10-27-64	122265	
12-22-62	D115041	MDL			

DEVELOPMENT NO.
13-547-0017

373254

C

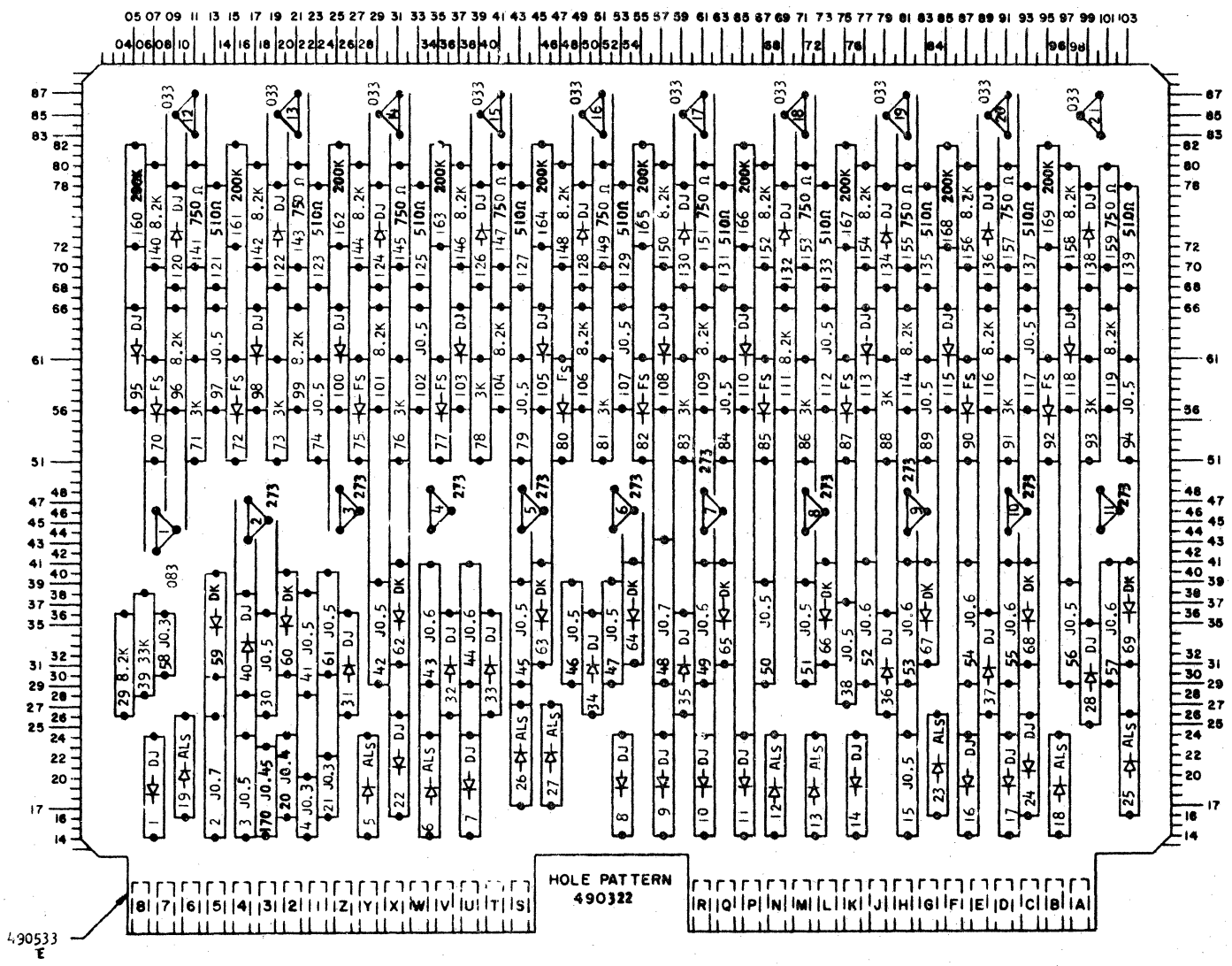
373254

STANDARDS CODE 2-7045

CARD CODE 373254

TMA -

SHEET 2 OF 2



PART NO.	VALUE	QTY.
216466	8.2K	21
216480	33K	1
369218	DJ	40
503591	FS	10
595357	3K	10
2106333	ALS	10
369216	DK	10
216443	750Ω	10
216439	510Ω	10
216498	200K	10
318324	033	10
318325	083	1
* 2149977	273	10

POSITION	VALUE	LOWER HOLE	UPPER HOLE	POSITION	VALUE	LOWER HOLE	UPPER HOLE	POSITION	VALUE	LOWER HOLE	UPPER HOLE
1	DJ	0714	0724	61	J0.5	2430	2440	116	8.2K	8956	8966
2	J0.7	1214	1228	62	DK	3131	3141	117	J0.5	9356	9366
3	J0.5	1414	1424	63	DK	4531	4541	118	DJ	9756	9766
4	J0.3	2214	2220	64	DK	5431	5441	119	8.2K	10156	10166
5	ALS	2814	2824	65	DK	6331	6341	120	DJ	0968	0978
6	ALS	3414	3424	66	DK	7331	7341	121	510Ω	1368	1378
7	DJ	3814	3824	67	DK	8331	8341	122	DJ	1968	1978
8	DJ	5314	5324	68	DK	9331	9341	123	510Ω	2368	2378
9	DJ	5714	5724	69	DK	10331	10341	124	DJ	2968	2978
10	DJ	6114	6124	70	FS	0751	0761	125	510Ω	3368	3378
11	DJ	6514	6524	71	3K	1151	1161	126	DJ	3968	3978
12	ALS	6814	6824	72	FS	1551	1561	127	510Ω	4368	4378
13	ALS	7214	7224	73	3K	1951	1961	128	DJ	4968	4978
14	DJ	7614	7624	74	J0.5	2351	2361	129	510Ω	5368	5378
15	J0.5	8114	8124	75	FS	2751	2761	130	DJ	5968	5978
16	DJ	8714	8724	76	3K	3151	3161	131	510Ω	6368	6378
17	DJ	9114	9124	77	FS	3551	3561	132	DJ	6968	6978
18	ALS	9614	9624	78	3K	3951	3961	133	510Ω	7368	7378
19	ALS	1016	1026	79	J0.5	4351	4361	134	DJ	7968	7978
20	J0.4	2016	2024	80	FS	4751	4761	135	510Ω	8368	8378
21	J0.3	2416	2422	81	3K	5151	5161	136	DJ	8968	8978
22	DJ	3116	3126	82	FS	5551	5551	137	510Ω	9368	9378
23	ALS	8416	8426	83	3K	5951	5961	138	DJ	9968	9978
24	DJ	9316	9326	84	J0.5	6351	6361	139	510Ω	10368	10378
25	ALS	10316	10326	85	FS	6751	6761	140	8.2K	0770	0780
26	ALS	4317	4327	86	3K	7151	7161	141	750 Ω	1170	1180
27	ALS	4617	4627	87	FS	7551	7561	142	8.2K	1770	1780
28	DJ	9925	9935	88	3K	7951	7961	143	750 Ω	2170	2180
29	8.2K	0426	0456	89	J0.5	8351	8361	144	8.2K	2770	2780
30	J0.5	1826	1836	90	FS	8751	8761	145	750 Ω	3170	3180
31	DJ	2626	2636	91	3K	9151	9161	146	8.2K	3770	3780
32	DJ	3626	3636	92	FS	9551	9561	147	750 Ω	4170	4180
33	DJ	4026	4036	93	3K	9951	9961	148	8.2K	4770	4780
34	DJ	5026	5036	94	J0.5	10351	10361	149	750 Ω	5170	5180
35	DJ	5926	5936	95	DJ	0556	0566	150	8.2K	5770	5780
36	DJ	7926	7936	96	8.2K	0956	0966	151	750 Ω	6170	6180
37	DJ	8926	8936	97	J0.5	1356	1366	152	8.2K	6770	6780
38	J0.5	7527	7537	98	DJ	1756	1766	153	750 Ω	7170	7180
39	33K	0628	0638	99	8.2K	2156	2166	154	8.2K	7770	7780
40	DJ	1628	1638	100	DJ	2556	2566	155	750 Ω	8170	8180
41	J0.5	2228	2238	101	8.2K	2956	2966	156	8.2K	8770	8780
42	J0.5	2929	2939	102	J0.5	3356	3366	157	750 Ω	9170	9180
43	J0.6	3429	3441	103	DJ	3756	3766	158	8.2K	9770	9780
44	J0.6	3829	3841	104	8.2K	4156	4166	159	750 Ω	10170	10180
45	J0.5	4329	4339	105	DJ	4556	4566	160	200K	0572	0582
46	J0.5	4829	4839	106	8.2K	4956	4966	161	200K	1572	1582
47	J0.5	5229	5239	107	J0.5	5356	5366	162	200K	2572	2582
48	J0.7	5729	5743	108	DJ	5756	5766	163	200K	3572	3582
49	J0.6	6129	6141	109	8.2K	6156	6166	164	200K	4572	4582
50	J0.5	6729	6739	110	DJ	6556	6566	165	200K	5572	5582
51	J0.5	7129	7139	111	8.2K	6956	6966	166	200K	6572	6582
52	J0.6	7729	7741	112	J0.5	7356	7366	167	200K	7572	7582
53	J0.6	8129	8141	113	DJ	7756	7766	168	200K	8572	8582
54	J0.6	8729	8741	114	8.2K	8156	8166	169	200K	9572	9582
55	J0.6	9129	9141	115	DJ	8556	8566	170	J0.45	1714	1723
56	J0.5	9729	9739								
57	J0.6	10129	10141								
58	J0.3	0830	0836								
59	DK	1330	1340								
60	DK	2030	2040								

POSITION	TYPE	E	B	C
1	083	0742	0944	0746
2	273	1643	1845	1647
3	273	2544	2746	2548
4	273	3444	3646	3448
5	273	4344	4546	4348
6	273	5244	5446	5248
7	273	6144	6346	6148
8	273	7144	7346	7148
9	273	8144	8346	8148
10	273	9144	9346	9148
11	273	10044	10246	10048
12	033	1187	0985	1183
13	033	2187	1985	2183
14	033	3187	2985	3183
15	033	4187	3985	4183
16	033	5187	4985	5183
17	033	6187	5985	6183
18	033	7187	6985	7183
19	033	8187	7985	8183
20	033	9187	8985	9183
21	033	10087	9885	10083

NOTES

X CIRCUIT MUST CONFORM TO ENGINEERING SPECIFICATION 893002.

XI ASSEMBLE TO ENGINEERING SPECIFICATION 893001.

XII "J" IN BLOCK DENOTES BARE WIRE JUMPER 491296

XIII ALL RESISTORS ARE 1/4 WATT AND ±5% UNLESS OTHERWISE NOTED.

CIRCUIT AND PACKAGING STANDARD	
APPROVAL	DATE
NDW (G.S.)	11-3-61

INTERNATIONAL BUSINESS MACHINES CORP.						
NAME	TWIN CARD ASM- PRINT MAGNET DRIVERS 1443					
DESIGN	VE	10-9-62	MODEL	SMS 1443		
DETAIL	VE	10-9-62	SCALE	NONE		
CHECK	VE	10-9-62	DRAW	VE	10-9-62	
APPRO	GWS	10/18/62	CHECK			

DATE	CHANGE NO.	APPROVAL
12-28-61	113103	IWB
3-27-62	D114324	MDL
7-11-62	114403	MDL
10-11-62	113647	MDL
12-22-62	D116041	MDL

DATE	CHANGE NO.	APPROVAL
1-29-63	116108	NOTE XIV
4-23-63	116191	NOTE XIV
6-10-64	121320	NOTE XIV
10-27-64	122265	

DEVELOPMENT NO. 13-547-0017

373254

C

C.B.CO. NO 8760 60000

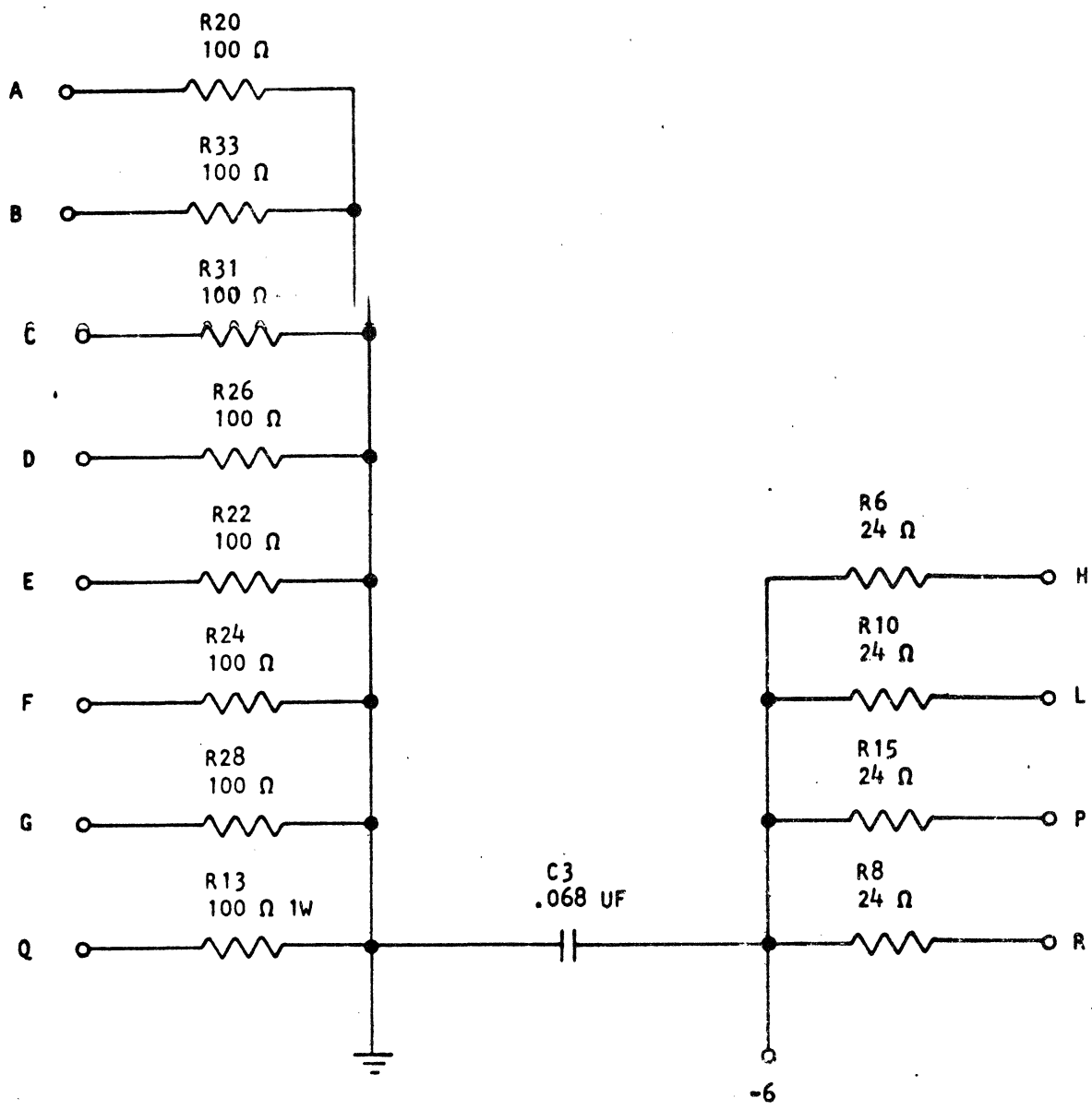
FORM 88-001

370863

RESISTOR LOAD - 100 AND 24 OHMS

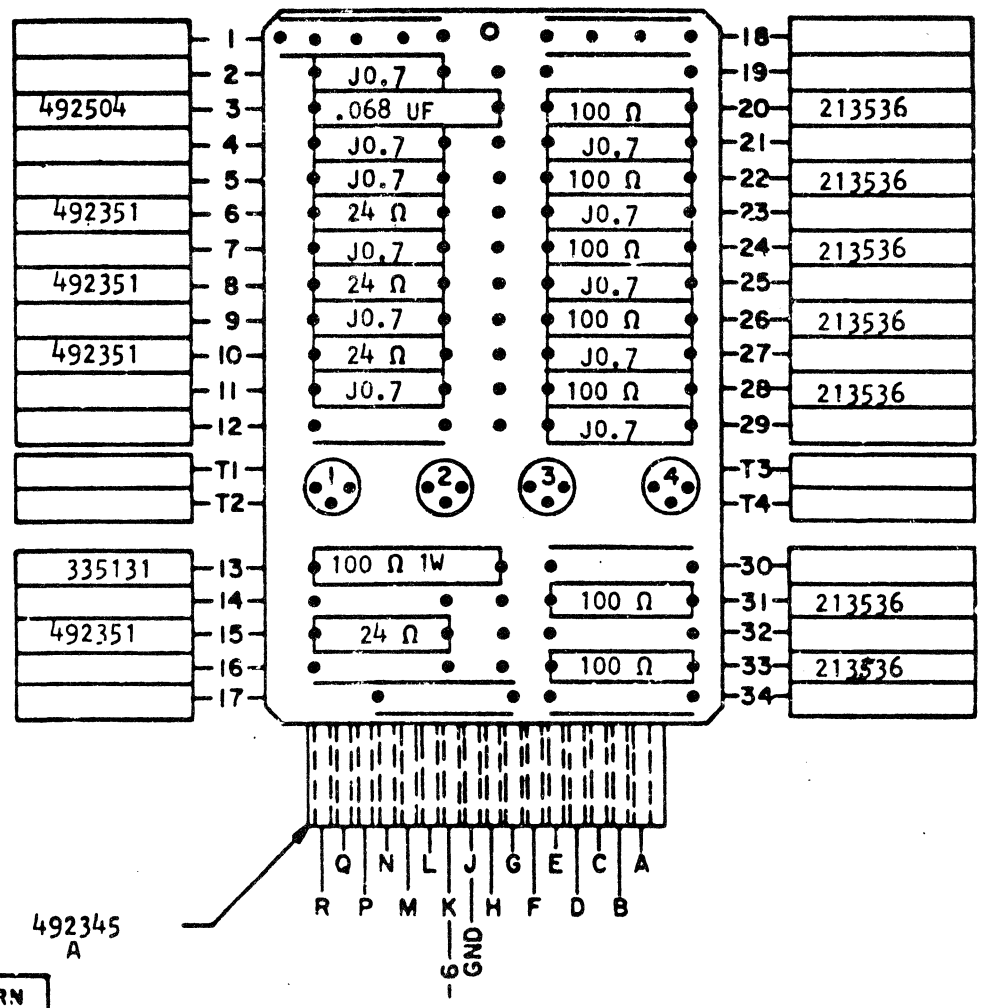
370863 YJK-R

STANDARDS CODE 2-7045



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 "J" IN BLOCK DENOTES BARE WIRE JUMPER 491296
- XIV REFER TO FIELD SERVICE DRAWING PART NUMBER
- XV REFER TO FIELD SERVICE DRAWING PART NUMBER 734326 WHEN MAKING A CHANGE TO THIS CIRCUIT.



492345 A

COMPONENT SIDE

B

CIRCUIT AND PACKAGING STANDARD		
APPROVAL	DATE	HOLE PATTERN
N.D.W.	10-27-61	491329

INTERNATIONAL BUSINESS MACHINES CORP.					DATE	CHANGE NO.	APPROVAL	DATE	CHANGE NO.	APPROVAL	DEVELOPMENT NO.
NAME CARD ASM TSTR-RESISTOR LOAD 100 AND 24 OHMS					11-27-61	113134	DWB				13-547-0025
DESIGN	RB	10-26-61	MODEL	SMS 14EF	12OCT65	D125834	GLK				
DETAIL	CJ	11-6-61	SCALE	NONE							
CHECK	AP	11-21-61	DRAW								
APPRO	GWS	11-27-61	CHECK								

370863

82-3977-1 6-22-61

DATA REGISTER AND INHIBIT DRIVER

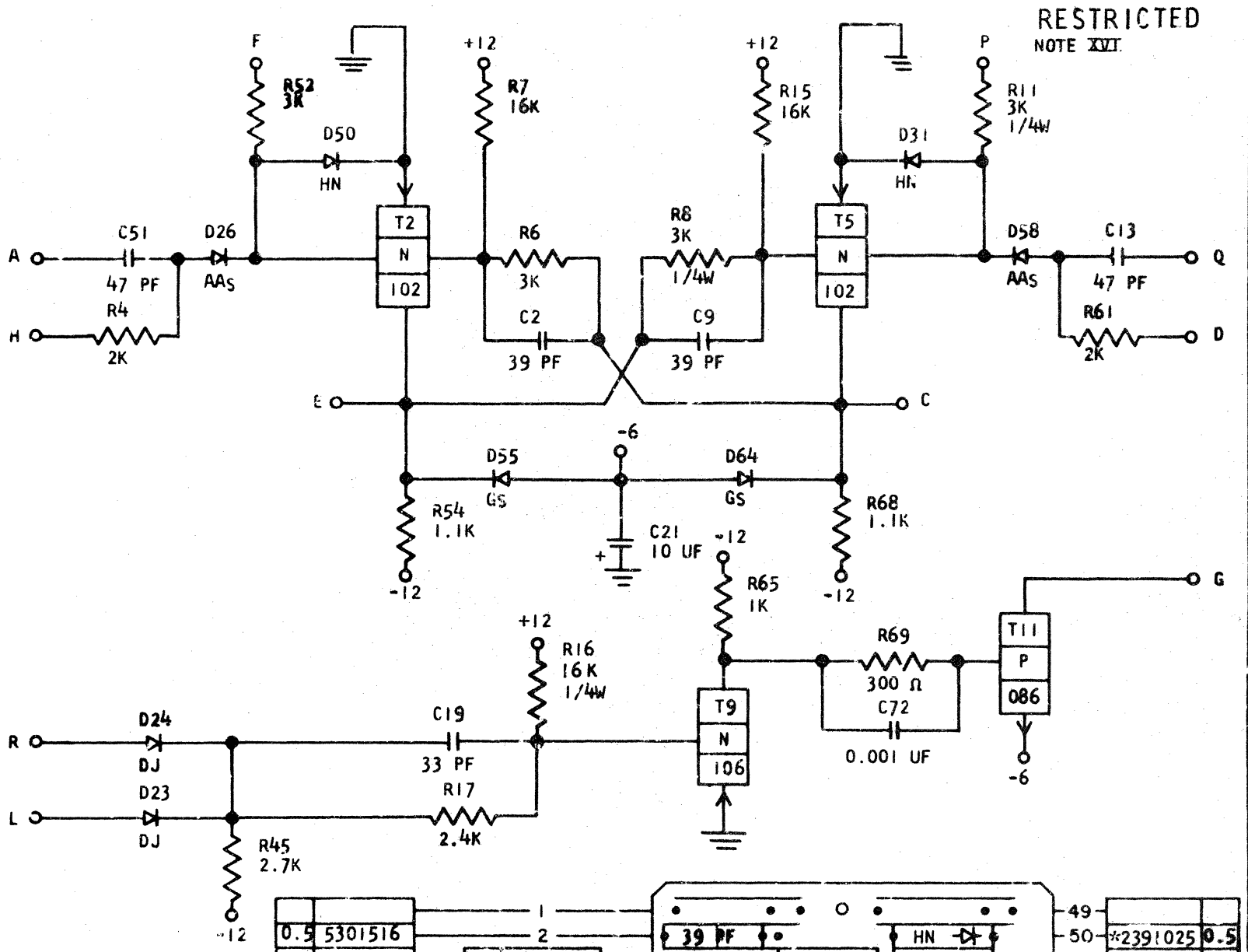
372220

RESTRICTED

NOTE XVI

372220 Y K R -

STANDARDS CODE 2-7045



NOTES

I CIRCUIT MUST CONFORM TO ENGINEERING SPECIFICATION 870220 AND 892222

II ASSEMBLE TO ENGINEERING SPECIFICATION 895396 AND 891999

III ALL RESISTORS ARE 1/2 WATT AND ±5% UNLESS OTHERWISE NOTED

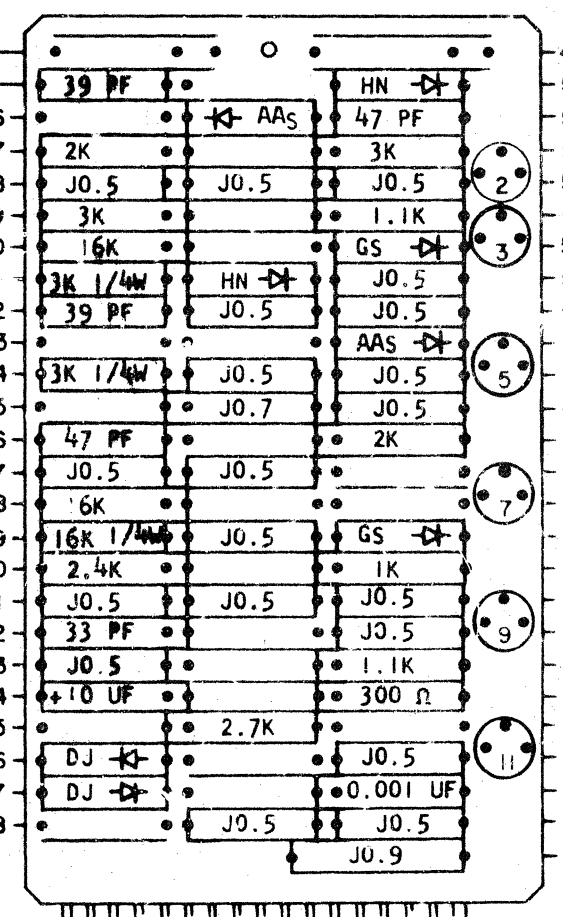
IV "J" IN BLOCK DENOTES BARE WIRE JUMPER 491296

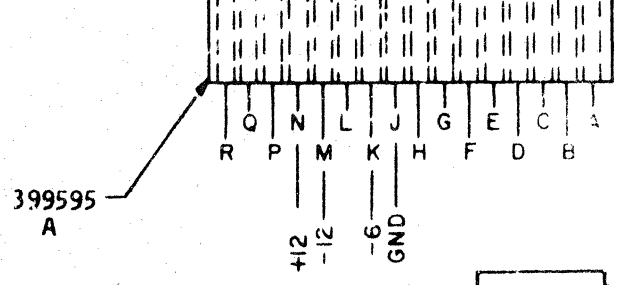
V POSITIONS T2, T5, T9 ARE TO-18 TRANSISTORS AND REQUIRE .100 PIN CIRCLE HOLES

XV REFER TO FIELD SERVICE DRAWING PART NUMBER 734392 WHEN MAKING A CHANGE TO THIS CIRCUIT.

*XVI TECHNICAL LABORATORY EVALUATION INCOMPLETE ADDITIONAL USAGE TO BE AVOIDED. THIS PART SUBJECT TO WITHDRAWAL

1				49		
2	0.5	5301516		50	*2391025	0.5
3	0.5	491008	26	51	5301512	0.5
4	0.7	317019	27	52	323920	0.7
5			28	53		
6	0.7	323920	29	54	317001	0.7
7	0.7	317274	30	55	503592	0.5
8	0.5	*2391025	31	56		
9	0.5	5301516	32	57		
10			33	58	491008	0.5
11	0.5	595357	34	59		
12			35	60		
13	0.5	5301512	36	61	317019	0.7
14			37	62		
15	0.7	317274	38	63		
16	0.5	216473	39	64	503592	0.5
17	0.7	323919	40	65	213693	0.7
18			41	66		
19	0.7	5301511	42	67		
20			43	68	317001	0.7
21	0.7	351152	44	69	317008	0.7
22	0.7	317021	45	70		
23	0.5	369218	46	71		
24	0.5	369218	47	72	492441	0.7
25			48	73		
				74		





T1		
T2	369179	102
T3		
T4		
T5	369179	102
T6		
T7		
T8		
T9	369194	106
T10		
T11	369087	086
T12		
T13		
T14		
T15		
T16		

B

COMPONENT SIDE

CIRCUIT AND PACKAGING STANDARD		
APPROVAL	DATE	HOLE PATTERN
KMT (PDB)	4-30-62	493464

INTERNATIONAL BUSINESS MACHINES CORP.				DATE	CHANGE NO.	APPROVAL
NAME	CARD ASM TSTR -DATA REGISTER AND INHIBIT DRIVER			6-5-62	114425	MDL
DESIGN	HVH 3-16-62	MODEL	SMS 1443	3-8-63	115917	MDL
DETAIL	HKW 3-16-62	SCALE	NONE	9-15-64	121632	FVL
CHECK	GRD 3-20-62	DRAW	VE 5-15-62	3-12-65	123723	NOTE XVI
APPRO	WJR 3-27-62	CHECK	MH 5-21-62			

DATE	CHANGE NO.	APPROVAL

DEVELOPMENT NO PA-2150

CIRCUIT FAMILY SDTDL

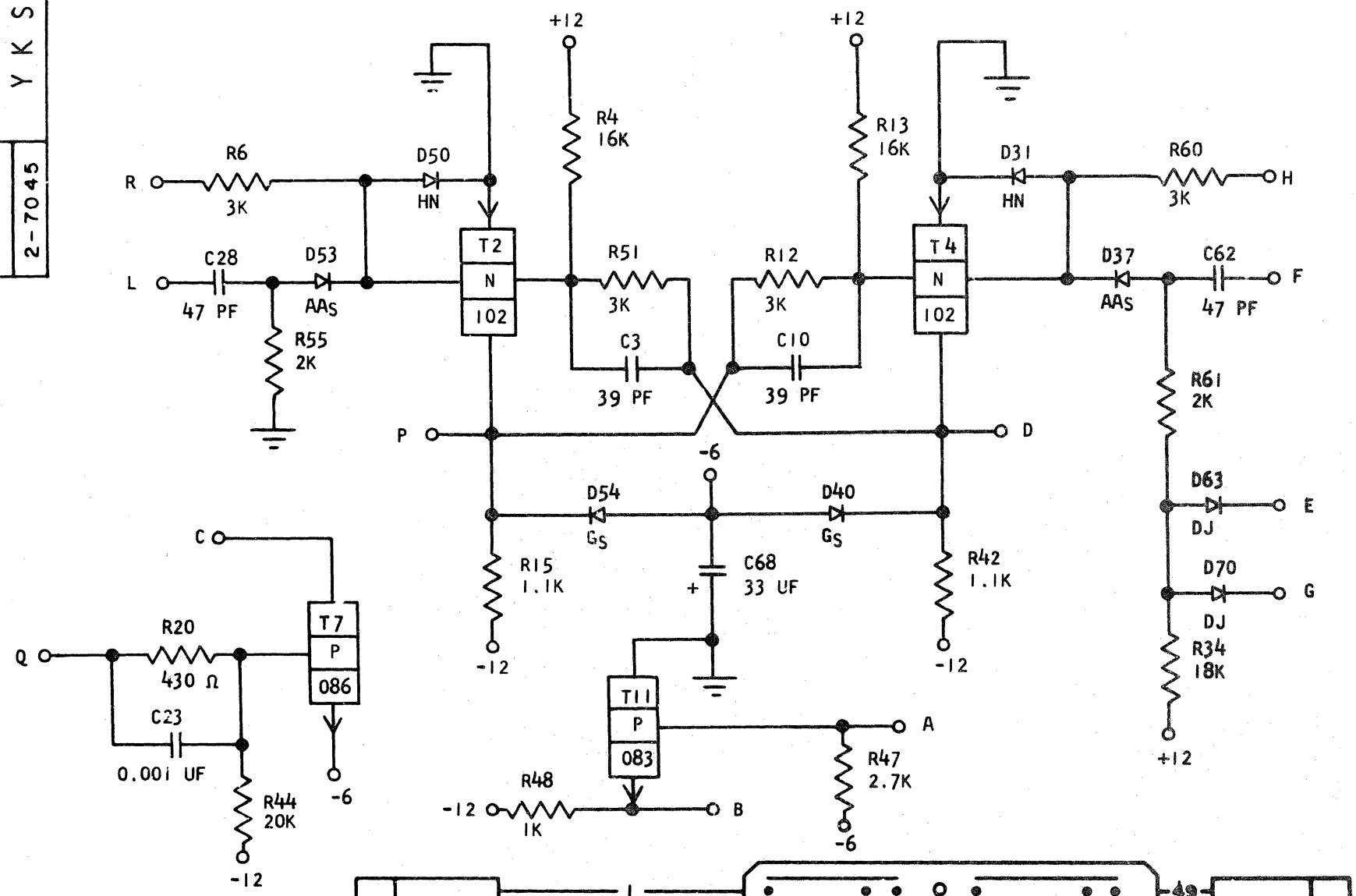
372220

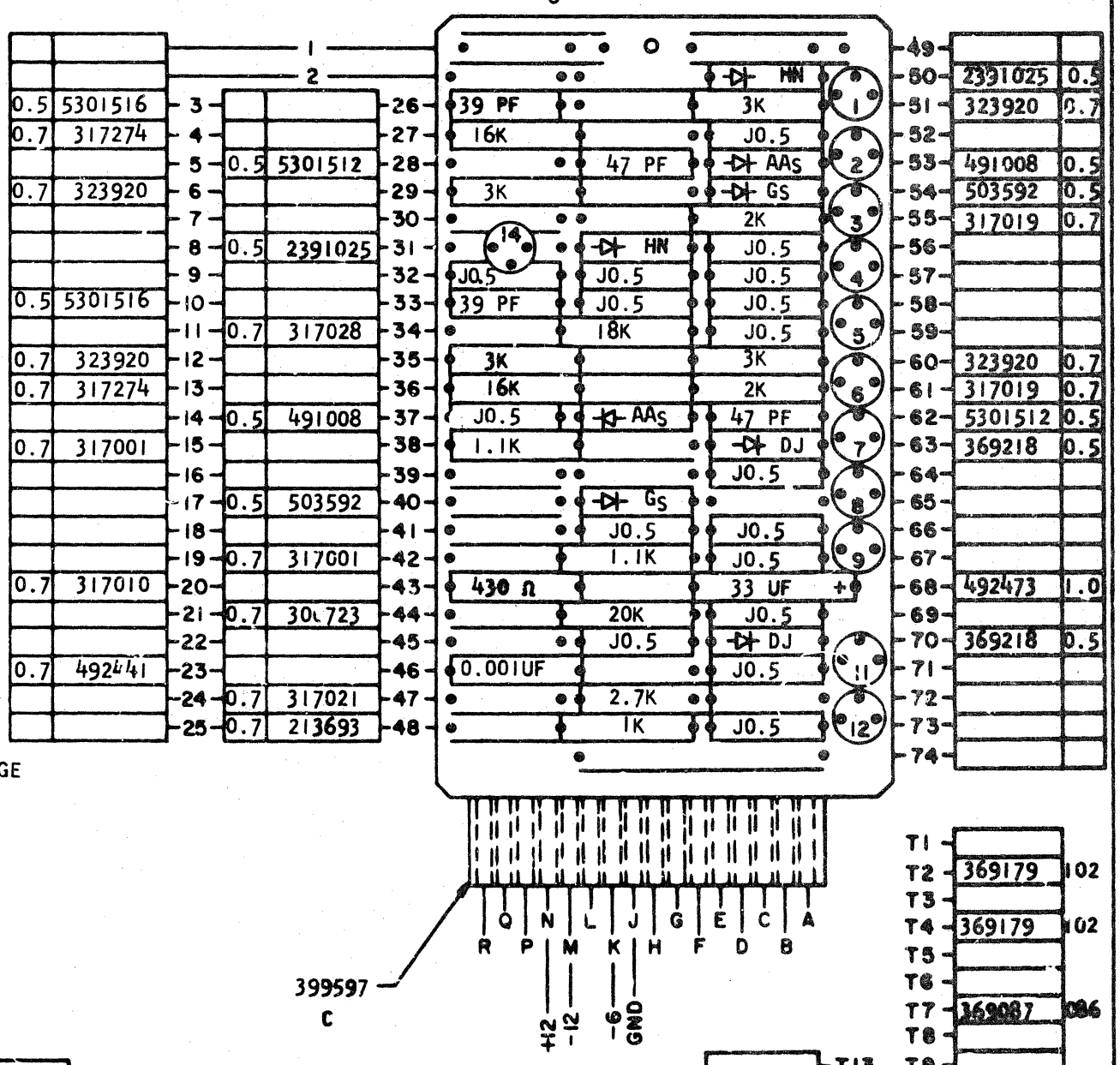
82-4003-1 6-22-61

372221

SDTDL-ADDRESS REGISTER

STANDARDS CODE 2-7045 | 372221 YKS-





COMPONENT SIDE

NOTES

X CIRCUIT MUST CONFORM TO ENGINEERING SPECIFICATION 870221, 892222 AND 892226

XI ASSEMBLE TO ENGINEERING SPECIFICATION 895396 AND 891999

XII ALL RESISTORS ARE 1/2 WATT AND ±5% UNLESS OTHERWISE NOTED

XIII "J" IN BLOCK DENOTES BARE WIRE JUMPER 491296

XIV POSITIONS T2 AND T4 ARE TO 18 TRANSISTORS AND REQUIRE .100 PIN CIRCLE HOLES

XV REFER TO FIELD SERVICE DRAWING PART NUMBER 734393 WHEN MAKING A CHANGE TO THIS CIRCUIT.

B

CIRCUIT AND PACKAGING STANDARD		
APPROVAL	DATE	HOLE PATTERN
KMT (PDB)	4-30-62	493464

INTERNATIONAL BUSINESS MACHINES CORP.					
NAME	CARD ASM TSTR SDTDL- ADDRESS REGISTER				
DESIGN	HKW	3-21-62	MODEL	SMS 1443	
DETAIL	HKW	3-21-62	SCALE	NONE	
CHECK	GRD	3-21-62	DRAW	VE	5-15-62
APPRO	WJR	3-27-62	CHECK	alw	5-21-62

DATE	CHANGE NO.	APPROVAL
6.5.62	114425	MDI
9-14-62	113584	LHR
4-23-64	D120390	GWS
9-15-64	121632	FVL
9AUG66	127574	GLK

DATE	CHANGE NO.	APPROVAL

DEVELOPMENT NO. PA-2151

372221

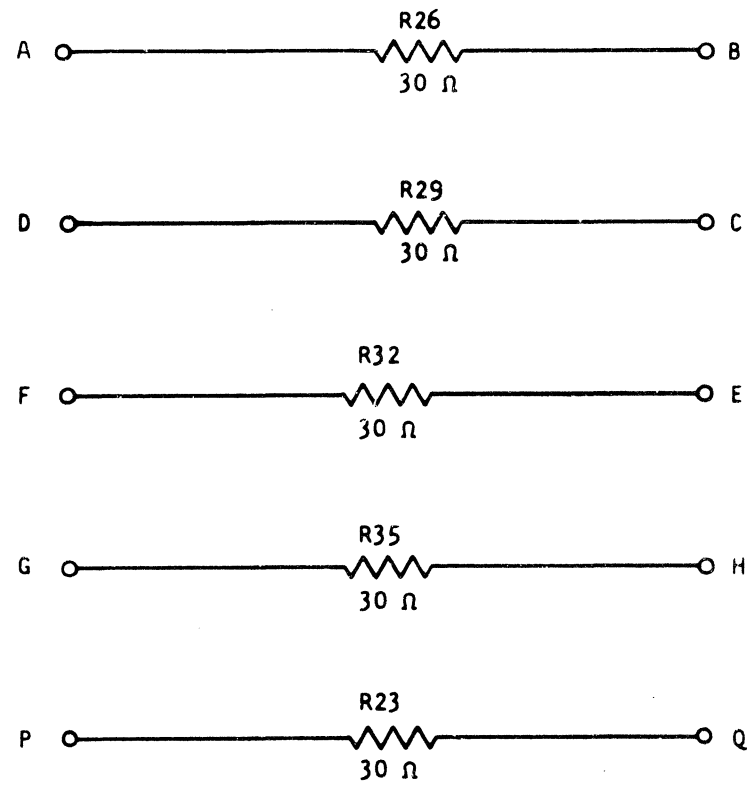
82-4003-1 6-22-61

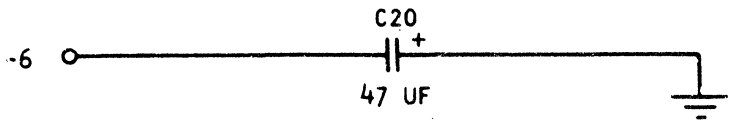
372222

STANDARDS CODE 2-7045

372222 YKT-

BIAS LOAD



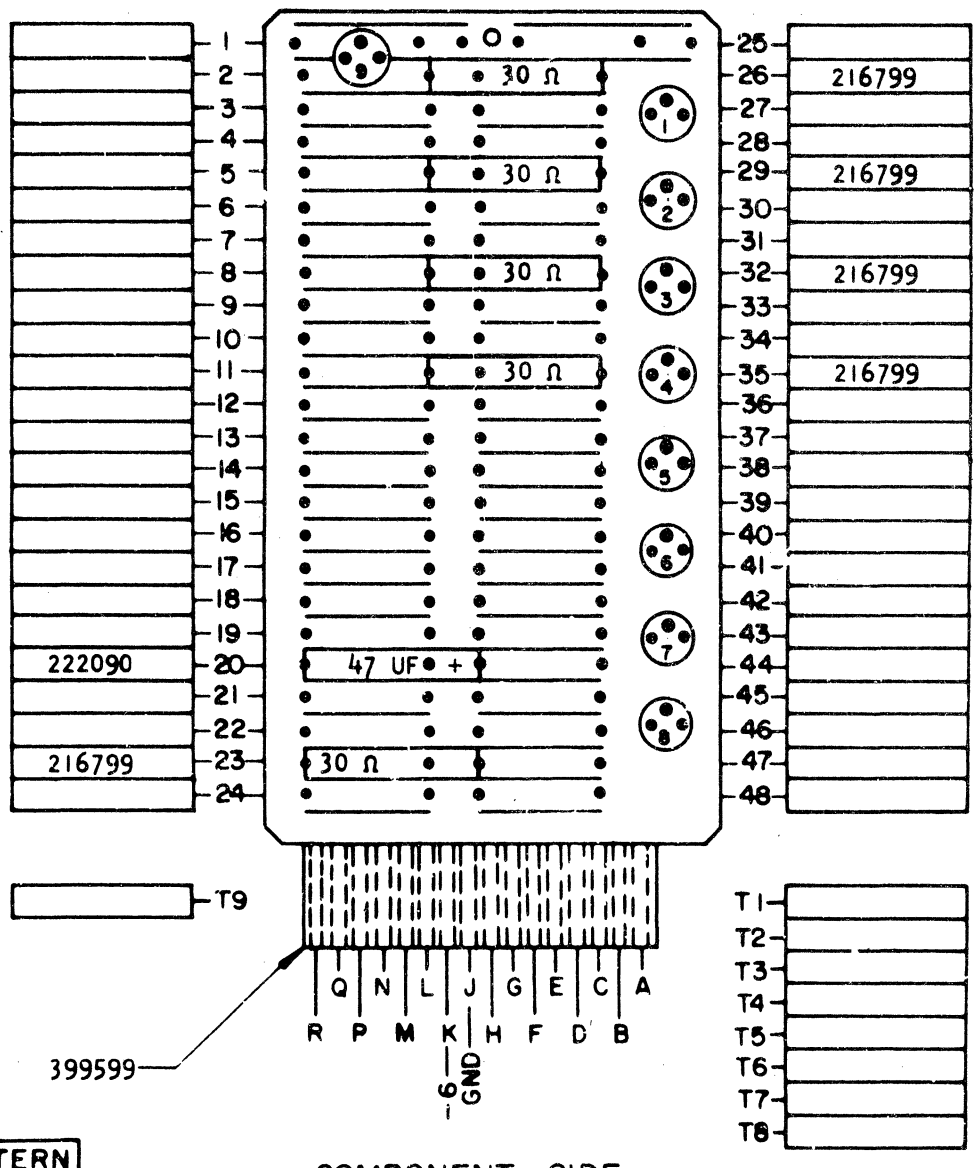


NOTES

I CIRCUIT MUST CONFORM TO ENGINEERING SPECIFICATION 870222

II ASSEMBLE TO ENGINEERING SPECIFICATION 895396 AND 891999

III ALL RESISTORS ARE 2 WATT AND ± 5% UNLESS OTHERWISE NOTED



COMPONENT SIDE

B

CIRCUIT AND PACKAGING STANDARD		
APPROVAL	DATE	HOLE PATTERN
KMT (PDB)	4-30-62	493457

INTERNATIONAL BUSINESS MACHINES CORP.					
NAME	CARD ASM TSTR – BIAS LOAD				
DESIGN	RAB	3-23-62	MODEL	SMS 14EF	
DETAIL	RAB	3-23-62	SCALE	NONE	
CHECK	JWL	3-24-62	DRAW	VE	5-15-62
APPRO	WJR	3-27-62	CHECK	MJ	5-21-62

DATE	CHANGE NO.	APPROVAL	DATE	CHANGE NO.	APPROVAL	DEVELOPMENT NO.
6.5.62	114425	MDL				PA-2152

372222

82-3987-2 6-22-61

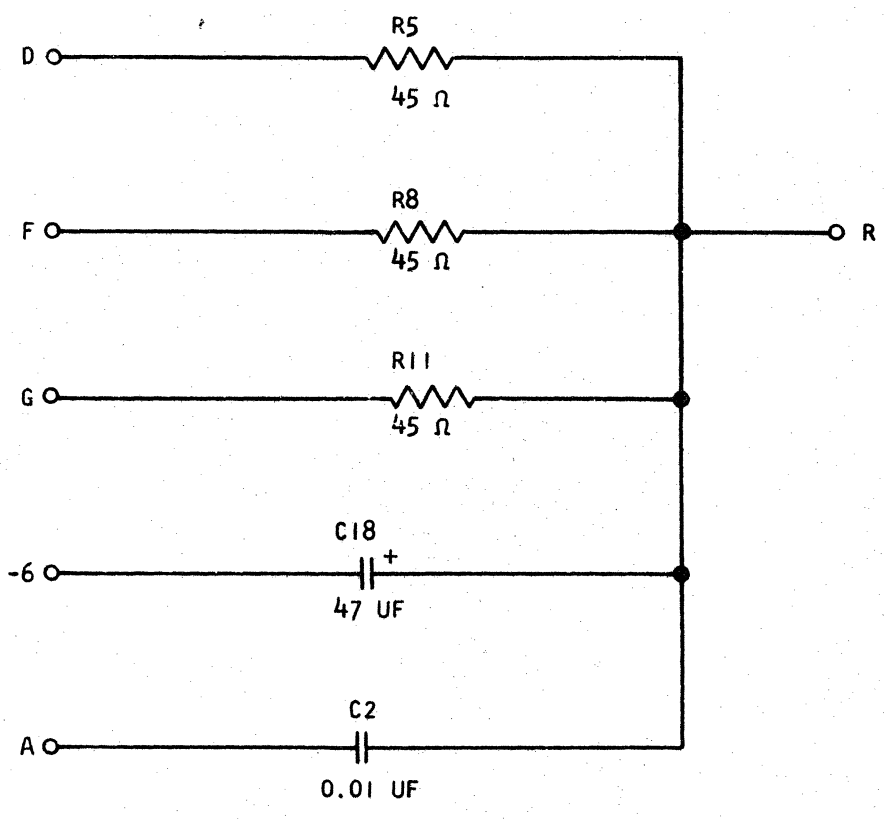
C. B. CO. INC. 41000

372223

STANDARDS CODE 2-7045

372223 Y K U -

SET/RESET LOAD



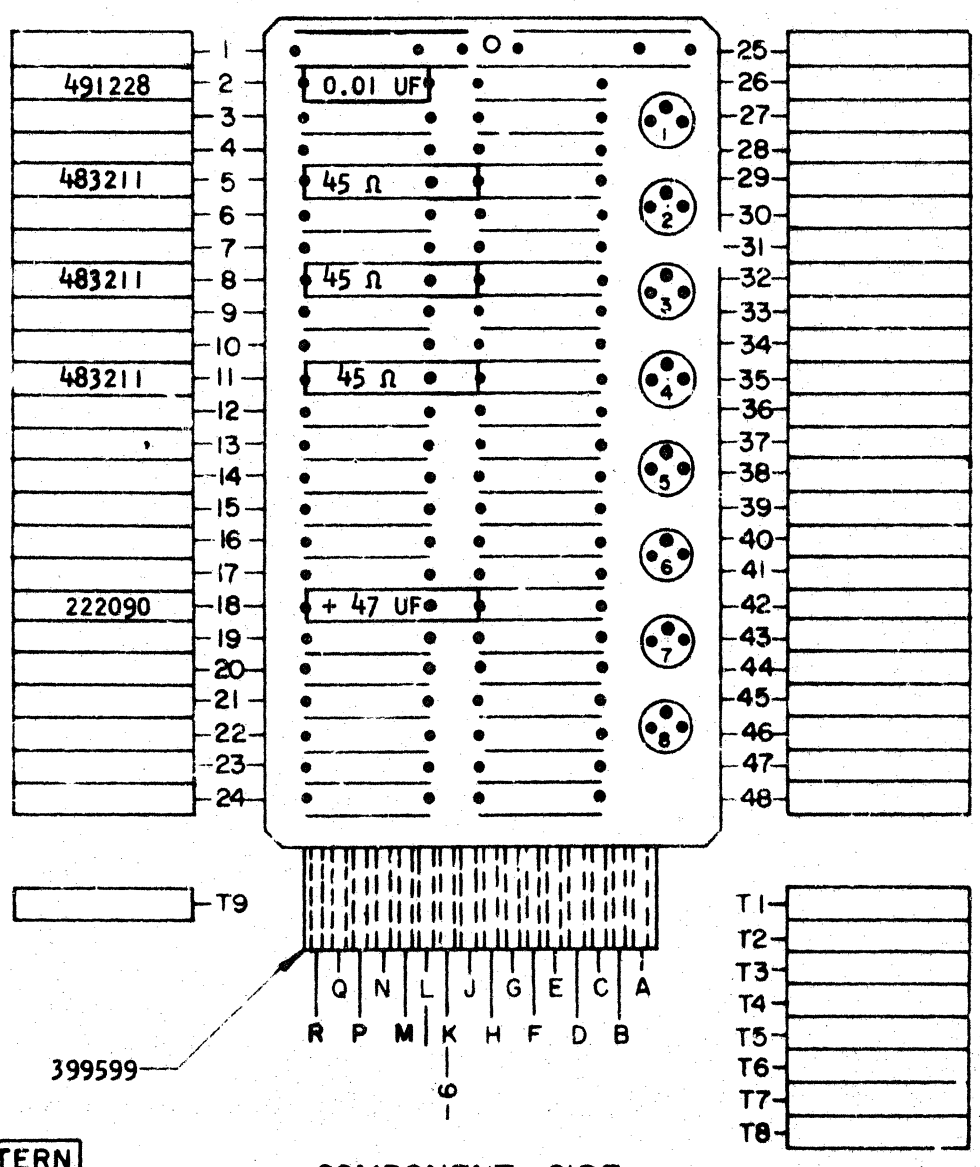
NOTES

X CIRCUIT MUST CONFORM TO ENGINEERING SPECIFICATION 870223

XI ASSEMBLE TO ENGINEERING SPECIFICATION 895396 AND 891999

XII ALL RESISTORS ARE 3 WATT AND ± 1% UNLESS OTHERWISE NOTED

XIII REFER TO FIELD SERVICE DRAWING PART NUMBER 734395 WHEN MAKING A CHANGE TO THIS CIRCUIT.



COMPONENT SIDE

B

CIRCUIT AND PACKAGING STANDARD	
APPROVAL	DATE
KMT (PDB)	4-30-62

HOLE PATTERN 493457

INTERNATIONAL BUSINESS MACHINES CORP.					
NAME	CARD ASM TSTR – SET/RESET LOAD				
DESIGN	RAB	3-23-62	MODEL	SMS 14EF	
DETAIL	RAB	23-62	SCALE	NONE	
CHECK	JW	3 24-62	DRAW	VE	5-14-62
APPRO	WJR	3-27-62	CHECK	[illegible]	5-19-62

DATE	CHANG. NO.	APPROVAL	DATE	CHANGE NO.	APPROVAL
6.12.62	114426	MDL			

DEVELOPMENT NO. PA-2153

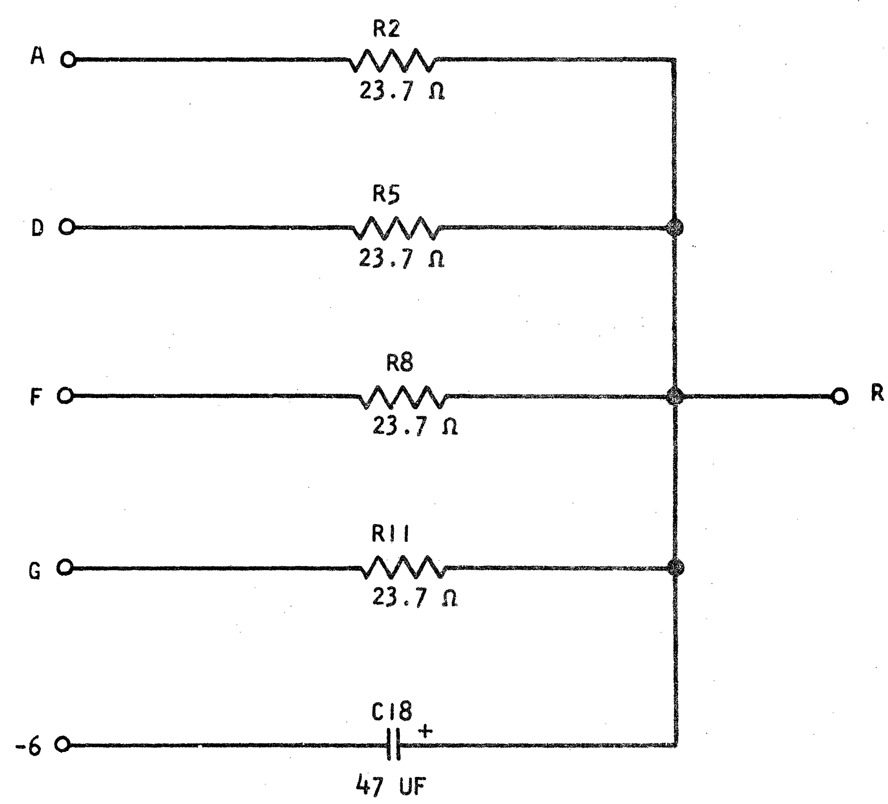
372223

82-3987-2 6-22-61

C. S. CO., NO. NEGEN 6881

372224	Y K V -
STANDARDS CODE	2-7045

INHIBIT LOAD



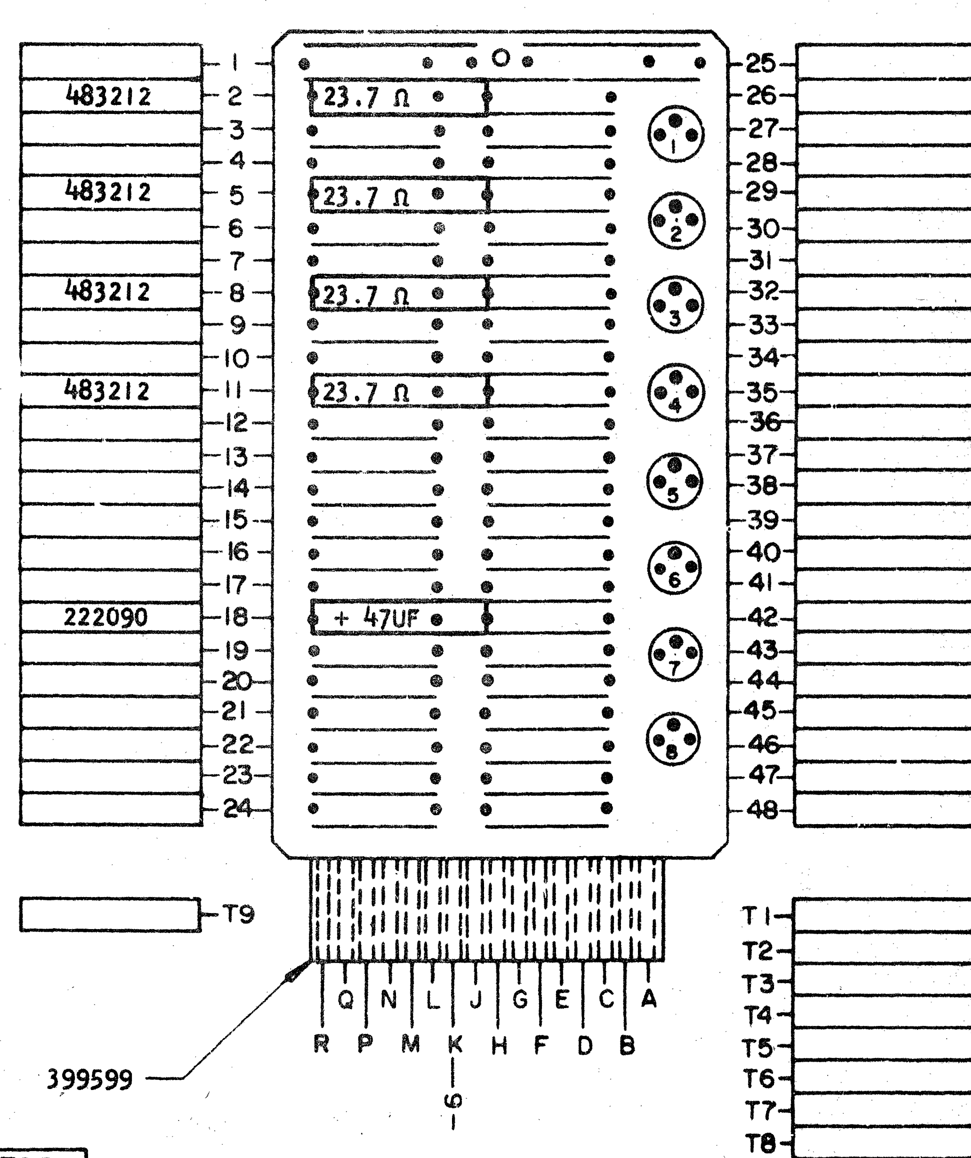
NOTES

X CIRCUIT MUST CONFORM TO ENGINEERING SPECIFICATION 870224

XI ASSEMBLE TO ENGINEERING SPECIFICATION 895396 AND 891999

XII ALL RESISTORS ARE 3 WATT AND ± 1% UNLESS OTHERWISE NOTED

XIII REFER TO FIELD SERVICE DRAWING PART NUMBER 734396 WHEN MAKING A CHANGE TO THIS CIRCUIT.



COMPONENT SIDE

B

CIRCUIT AND PACKAGING STANDARD	
APPROVAL	DATE
KMT (PDB)	4-30-62

HOLE PATTERN
493457

INTERNATIONAL BUSINESS MACHINES CORP.

NAME	CARD ASM TSTR — INHIBIT LOAD				
DESIGN	RAB	3-23-62	MODEL	SMS 14EF	
DETAIL	RAB	3-23-62	SCALE	NONE	
CHECK	JWL	3-24-62	DRAW	VE	5-14-62
APPRO	WJR	3-27-62	CHECK	DWS	5-19-62

DATE	CHANGE NO.	APPROVAL	DATE	CHANGE NO.	APPROVAL	DEVELOPMENT NO.
6.12.62	114426	MDL				PA-2154

372224

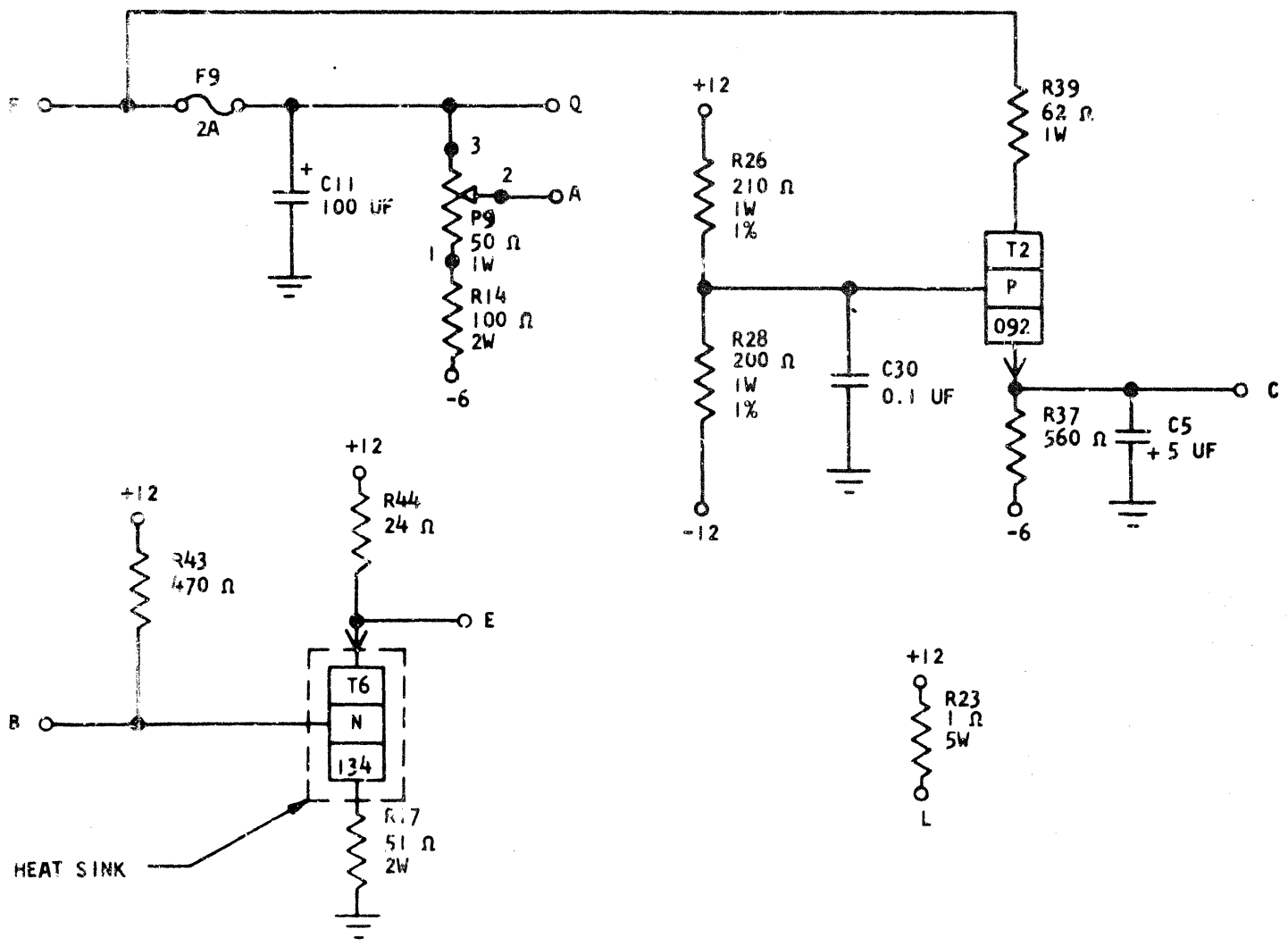
82-3987-2 6-22-61

372225

VOLTAGE REGULATOR #2

372225 Y K W -

STANDARDS CODE 2-7045



NOTES

X CIRCUIT MUST CONFORM TO ENGINEERING SPECIFICATION 870225 AND 870226

XI ASSEMBLE TO ENGINEERING SPECIFICATION 895396 AND 891999

XII ALL RESISTORS ARE 1/2 WATT AND ± 5% UNLESS OTHERWISE NOTED

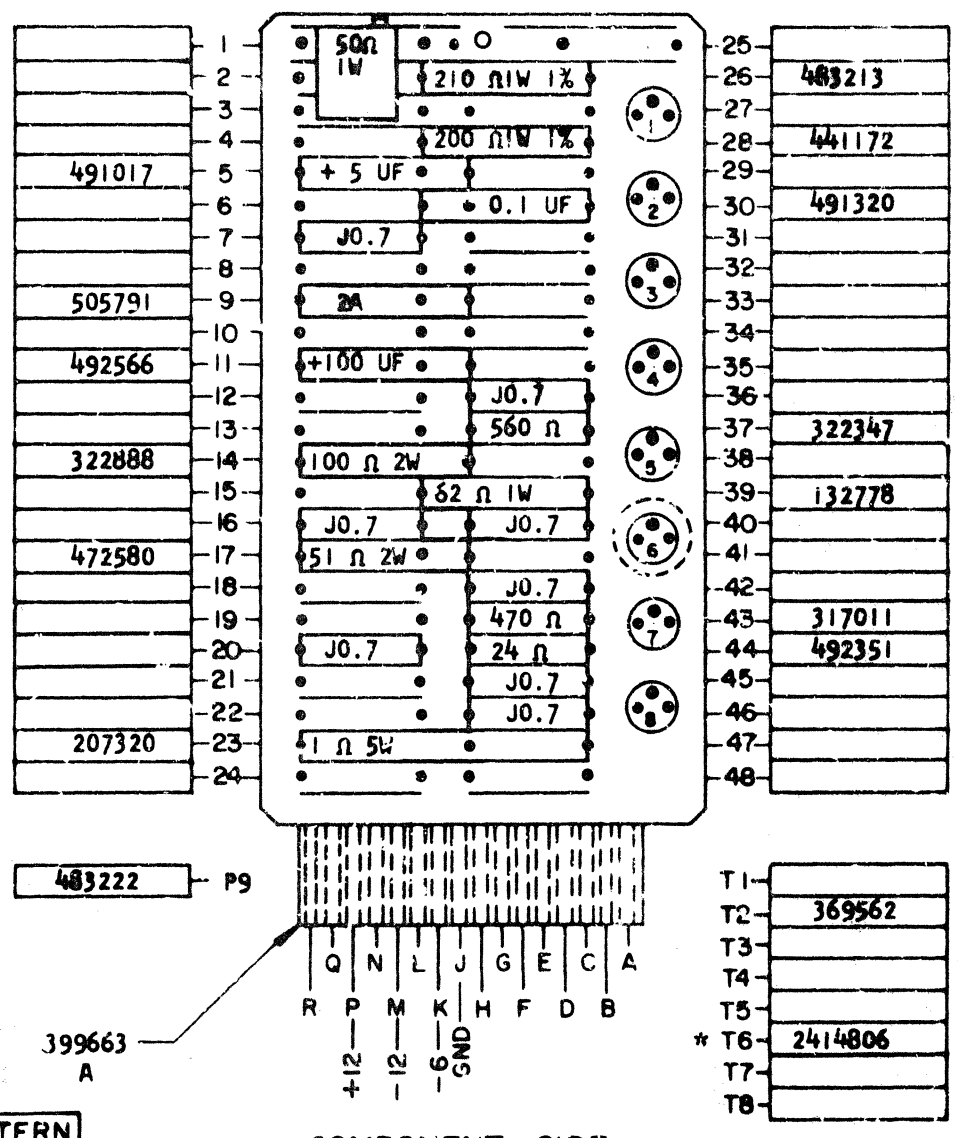
XIII "J" IN BLOCK DENOTES BARE WIRE JUMPER 491296

XIV

XV REFER TO FIELD SERVICE DRAWING PART NUMBER 734397 WHEN MAKING A CHANGE TO THIS CIRCUIT.

*XVI HEAT SINKS 492434 OR 492435 TO BE SELECTED AS REQUIRED

XVII POTENTIOMETER 483222 NOT TO BE SUBJECTED TO LIQUIDS



B

CIRCUIT AND PACKAGING STANDARD	
APPROVAL	DATE
KMT (PDB)	4-30-62

HOLE PATTERN 747800

INTERNATIONAL BUSINESS MACHINES CORP.					
NAME	CARD ASM TSTR — VOLTAGE REGULATOR #2				
DESIGN	JWL	3-21-62	MODEL	SMS 14EF	
DETAIL	SVS	3-22-62	SCALE	NONE	
CHECK	RAB	3-29-62	DRAW	VE 5-14-62	
APPRO	WJR	3-27-62	CHECK	DWB 5-19-62	

DATE	CHANGE NO.	APPROVAL	DATE	CHANGE NO.	APPROVAL
6.13.62	114426	MDL			
12-19-63	117838	GWS			

DEVELOPMENT NO. PA-2155

372225

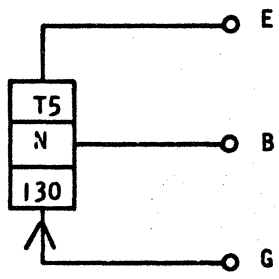
82-3987-2 6-22-61

372226

VOLTAGE REGULATOR NO. 3

STANDARDS CODE 2-7045

372226 Y K X -



NOTES

X CIRCUIT MUST CONFORM TO ENGINEERING SPECIFICATION 870226

XI ASSEMBLE TO ENGINEERING SPECIFICATION 895396 AND 891999

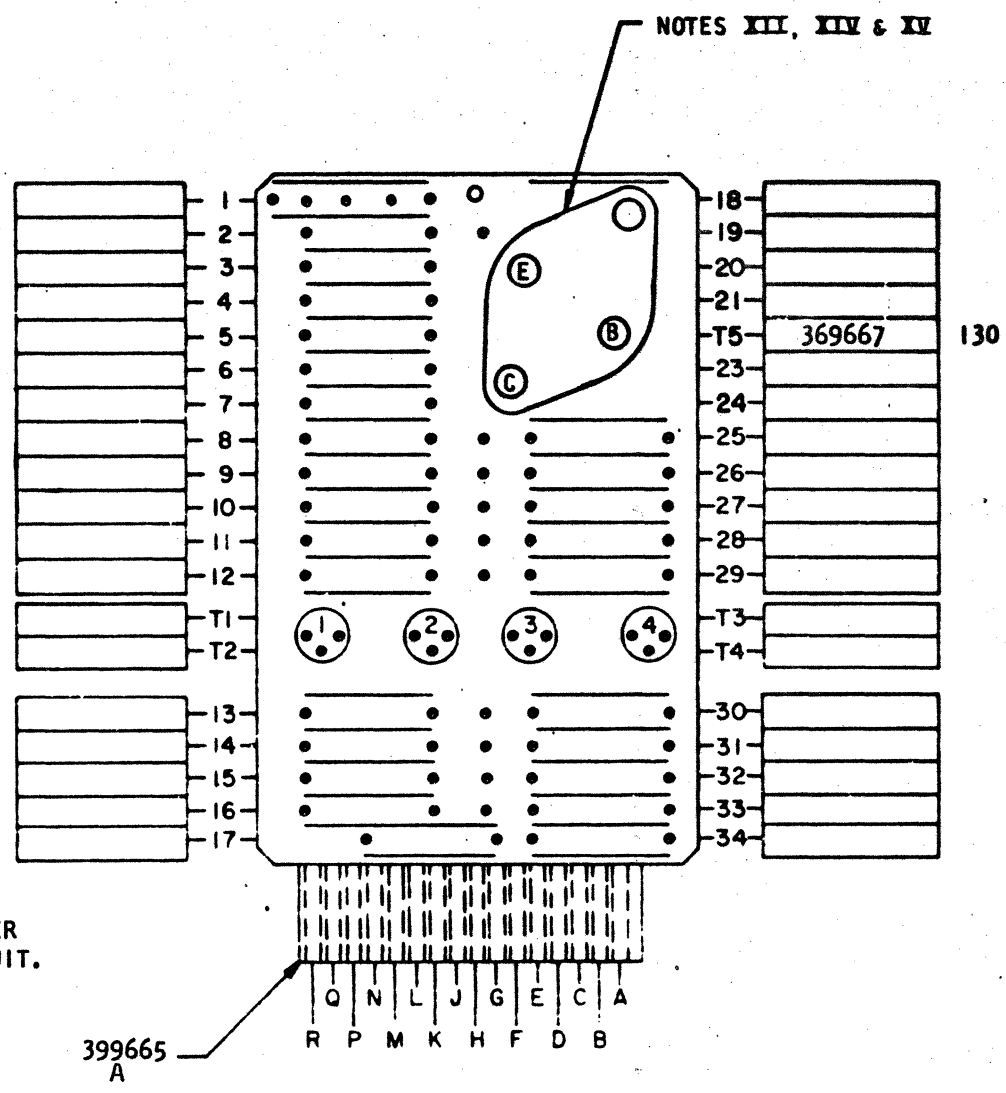
XII

XIII

XIV DO NOT CRIMP EMITTER AND BASE LEADS.

XV CENTER DISC PART NUMBER 483102 ON TOP OF TRANSISTOR 369667. INSURE THAT THE EDGES OF THE DISC ARE IN INTIMATE CONTACT WITH TRANSISTOR.

XVI REFER TO FIELD SERVICE DRAWING PART NUMBER 734398 WHEN MAKING A CHANGE TO THIS CIRCUIT.



COMPONENT SIDE

B

CIRCUIT AND PACKAGING STANDARD		
APPROVAL	DATE	HOLE PATTERN
KMT (PDB)	4-30-62	491329

INTERNATIONAL BUSINESS MACHINES CORP.				DATE	CHANGE NO.	APPROVAL	DATE	CHANGE NO.	APPROVAL	DEVELOPMENT NO.
NAME CARD ASM TSTR - VOLTAGE REGULATOR NO. 3				6.12.62	114426	NOTE XII				PA-2156
DESIGN WOD 3-22-62	MODEL	SMS 14EF		2-6-63	116063	MDL				
DETAIL WOD 3-22-62	SCALE	NONE		5-11-65	123738	GLK				
CHECK RAB 3-23-62	DRAW	VE 5-18-62								
APPRO WJR 3-27-62	CHECK	DLB 5-11-61								

372226

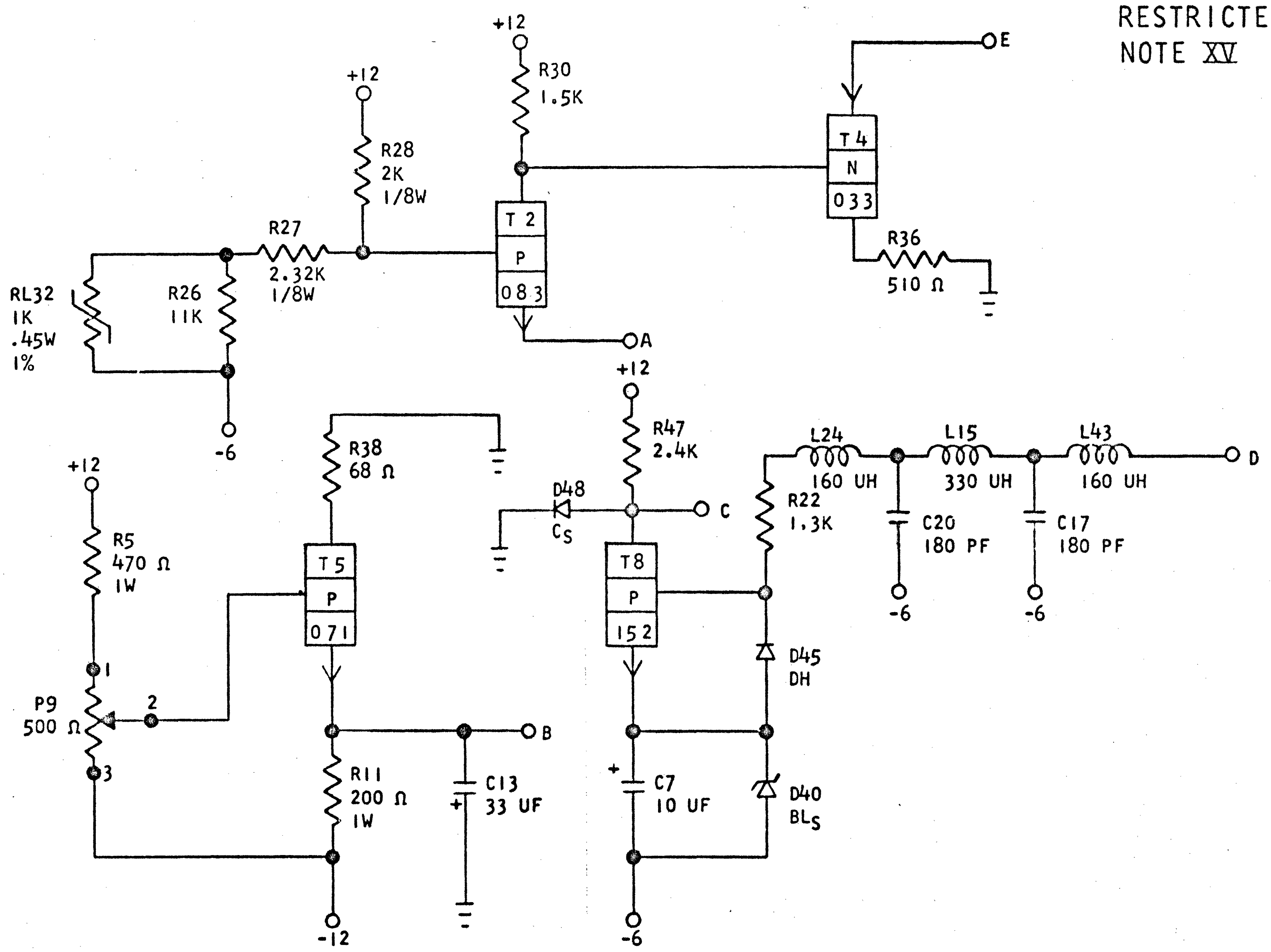
82-3977-1 6-22-61

372227	Y K Y -
STANDARDS CODE	2-7045

PARTIAL VOLTAGE REGULATOR AND SENSE GATE GEN.

372227

RESTRICTED NOTE XV



+12
R30 1.5K
+12
R28 2K 1/8W
R27 2.32K 1/8W
T2 P 083
E
T4 N 033
R36 510 Ω
RL32 1K .45W 1%
R26 11K
A
-6
+12
R47 2.4K
R38 68 Ω
D48 Cs
C
L24 160 UH
L15 330 UH
L43 160 UH
D
R22 1.3K
C20 180 PF
C17 180 PF
-6
-6
+12
R5 470 Ω 1W
T5 P 071
T8 P 152
D45 DH
P9 500 Ω
1
2
3
B
R11 200 Ω 1W
C13 33 UF
C7 10 UF
D40 BLs
-12
-6

NOTES

X CIRCUIT MUST CONFORM TO ENGINEERING SPECIFICATION 870226 AND 870227

XI ASSEMBLE TO ENGINEERING SPECIFICATION 895396 AND 891999

XII ALL RESISTORS ARE 1/2 WATT AND ± 5% UNLESS OTHERWISE NOTED (AS NOTE XVI)

XIII "J" IN BLOCK DENOTES BARE WIRE JUMPER 491296

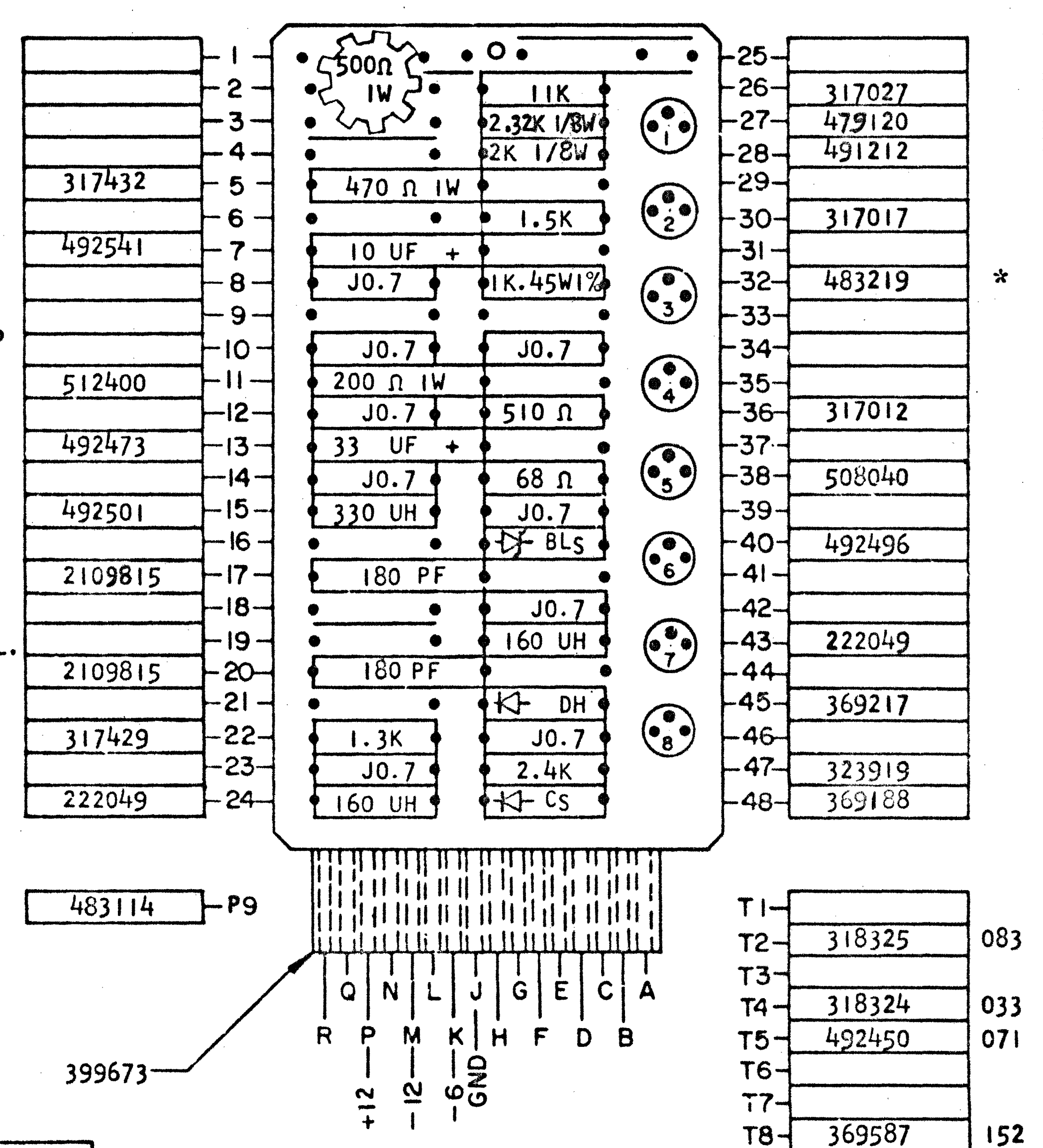
XIV POSITION T8, IS A TO-18 TRANSISTOR AND REQUIRES .100 PIN CIRCLE HOLES.

* XV TECHNICAL LABORATORY EVALUATION INCOMPLETE. ADDITIONAL USAGE TO BE AVOIDED. THIS PART SUBJECT TO WITHDRAWAL.

XVI ALL 1/8W RESISTORS ARE ± 1%

XVII POTENTIOMETER 483114 MUST NOT BE SUBJECTED TO LIQUIDS.

XVIII REFER TO FIELD SERVICE DRAWING PART NUMBER 734399 WHEN MAKING A CHANGE TO THIS CIRCUIT.



1
2
3
4
317432 5
6
492541 7
8
9
10
512400 11
12
492473 13
14
492501 15
16
2109815 17
18
19
2109815 20
21
317429 22
23
222049 24
500Ω 1W
11K
2.32K 1/8W
2K 1/8W
470 Ω 1W
1.5K
10 UF +
J0.7
1K.45W1%
J0.7
J0.7
200 Ω 1W
J0.7
510 Ω
33 UF +
J0.7
68 Ω
330 UH
J0.7
BLs
180 PF
J0.7
160 UH
180 PF
DH
1.3K
J0.7
J0.7
2.4K
160 UH
Cs
1 2 3 4 5 6 7 8
25
26 317027
27 479120
28 491212
29
30 317017
31
32 483219 *
33
34
35
36 317012
37
38 508040
39
40 492496
41
42
43 222049
44
45 369217
46
47 323919
48 369188
483114 P9
Q N L J G E C A
R P M K H F D B
+12 -12 -6 GND
399673
T1
T2 318325 083
T3
T4 318324 033
T5 492450 071
T6
T7
T8 369587 152

COMPONENT SIDE

B

CIRCUIT AND PACKAGING STANDARD	
APPROVAL	DATE
K M T (PDB)	5-3-62

HOLE PATTERN
493457

INTERNATIONAL BUSINESS MACHINES CORP.			
NAME	CARD ASM TSTR-PARTIAL VOLTAGE REGULATOR AND SENSE GATE GEN.		
DESIGN	WOD 4-27-62	MODEL	SMS 14EF
DETAIL	WOD 4-27-62	SCALE	NONE
CHECK	VJK 5-2-62	DRAW	HAV 5-23-62
APPRO	GWS 6-26-62	CHECK	[illegible] 5-23-62

DATE	CHANGE NO.	APPROVAL	DATE	CHANGE NO.	APPROVAL
6.29.62	114427	NOTE XV			
7-1-64	119012-B	NOTE XV			

DEVELOPMENT NO.	
PA-2157	372227

FORM 820-0081-0

82-3987-2 6-22-61

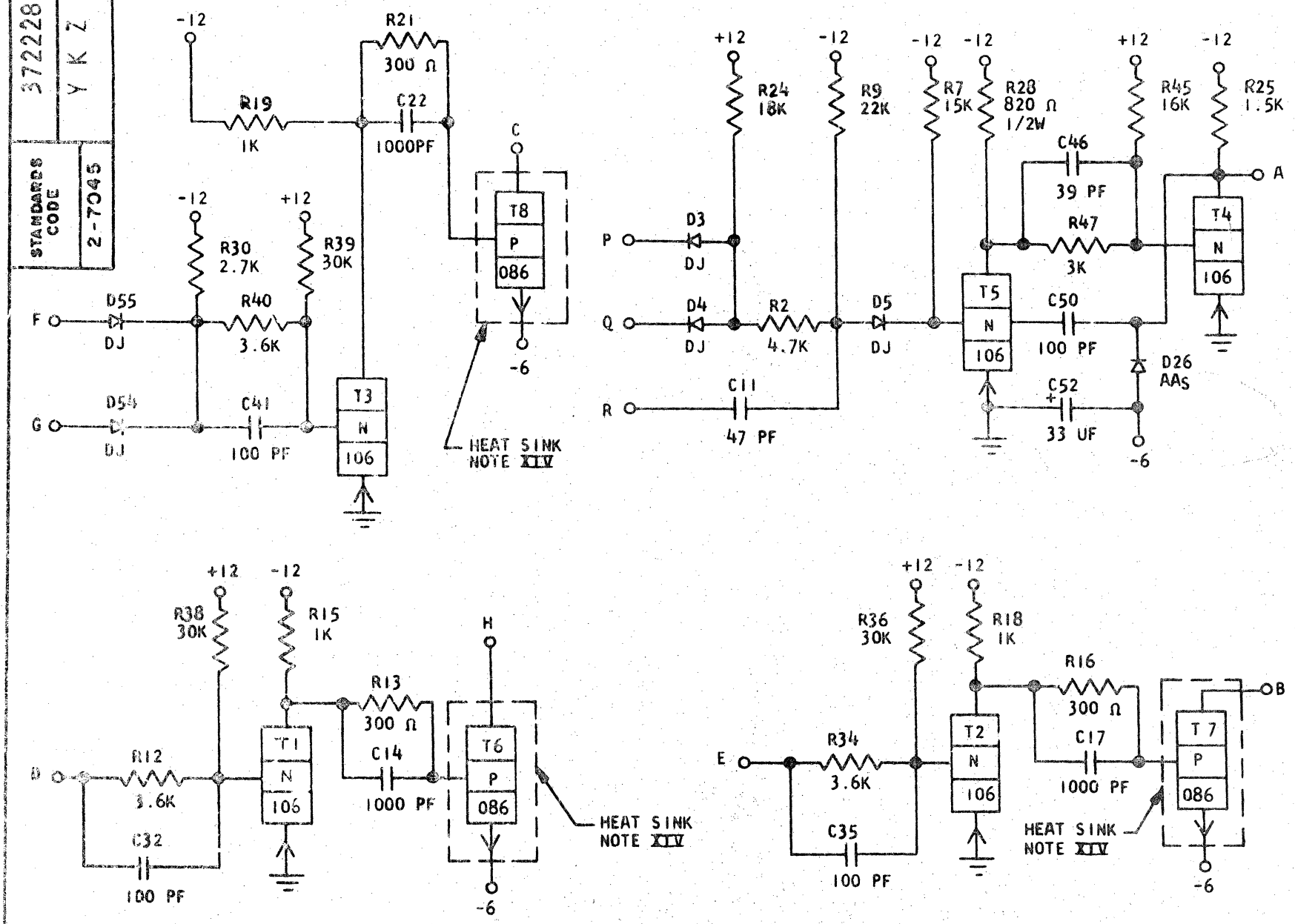
C. P. CO., NO. N378W 41000

SPD-CURRENT DRIVE

372228

372228 YKZ-

STANDARDS CODE 2-7045



NOTES

X CIRCUIT MUST CONFORM TO ENGINEERING SPECIFICATION 870228

XI ASSEMBLE TO ENGINEERING SPECIFICATION 895396 AND 891999

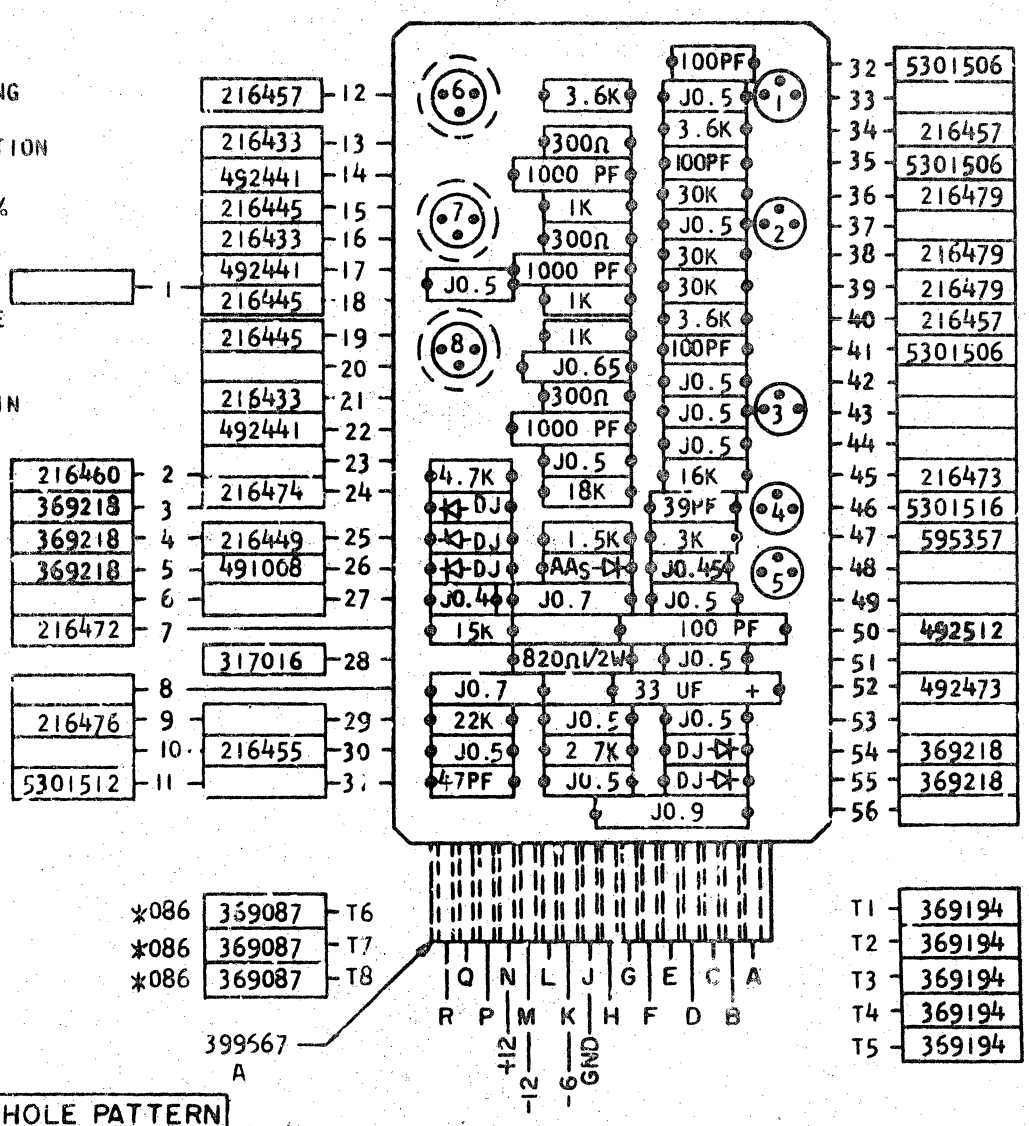
XII ALL REGISTORS ARE 1/4 WATT AND ±5% UNLESS OTHERWISE NOTED.

XIII "J" IN BLOCK DENOTES BARE WIRE JUMPER 491296.

XIV HEAT SINKS 492434 AND 492435 TO BE SELECTED AS REQUIRED

XV POSITIONS T1 THROUGH T5 ARE TO-18 TRANSISTORS WHICH MAY BE MOUNTED IN .100 OR .200 PIN CIRCLE HOLES. USE TRANSISTOR SPACER 483070 FOR .200 PIN CIRCLE MOUNTING

XVI REFER TO FIELD SERVICE DRAWING PART NUMBER 734400 WHEN MAKING A CHANGE TO THIS CIRCUIT.



B

DPD CIRCUIT & PACKAGING STANDARD	
APPROVAL	DATE
KMT (EAC)	5-2-62

HOLE PATTERN 747834

COMPONENT SIDE

INTERNATIONAL BUSINESS MACHINES CORP.

NAME CARD ASM TSTR- SPD-CURRENT DRIVE

DESIGN	VE	11-11-63	MODEL	SMS	
DETAIL	VE	11-11-63	SCALE	NONE	
CHECK	GLK	11-18-63	DRAW	VE	11-11-63
APPRO			CHECK		

DATE	CHANGE NO	APPROVAL
6-8-62	114428	MDL
11-21-63	118947	GWS

DATE	CHANGE NO.	APPROVAL

DEVELOPMENT NO. PA-2158

372228

FORM 85 6569-2

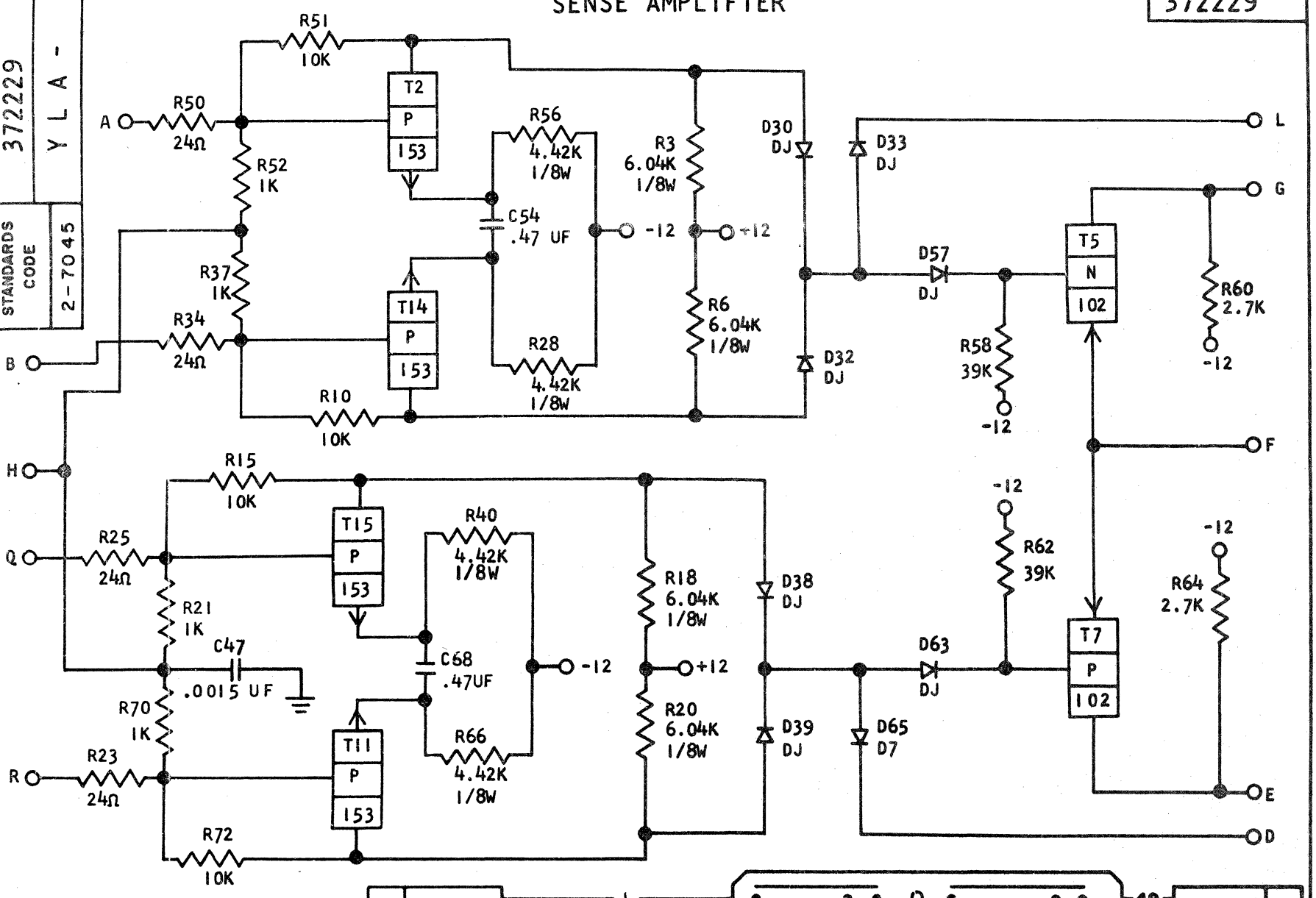
80619 MADE IN U.S.A.

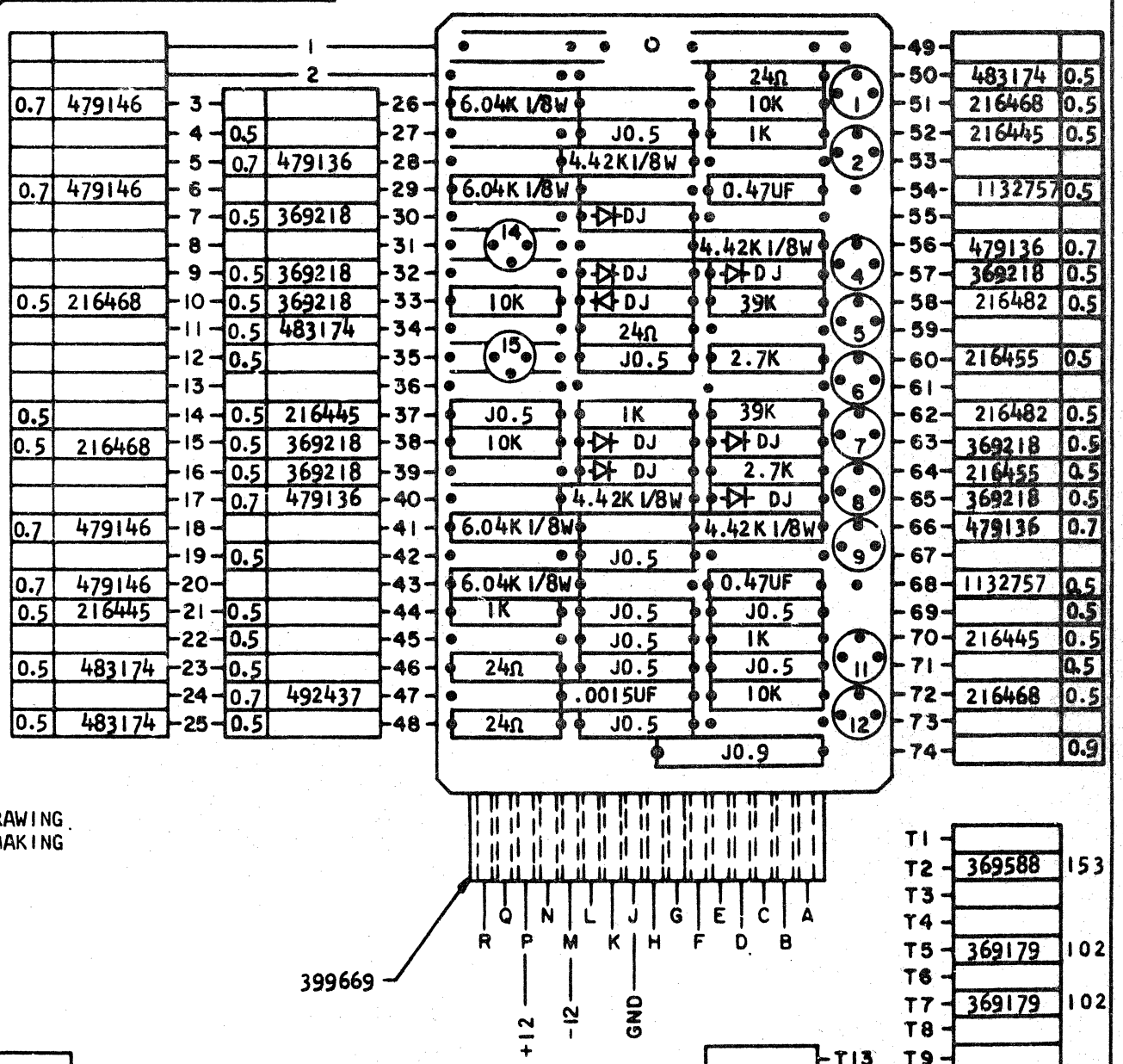
SENSE AMPLIFIER

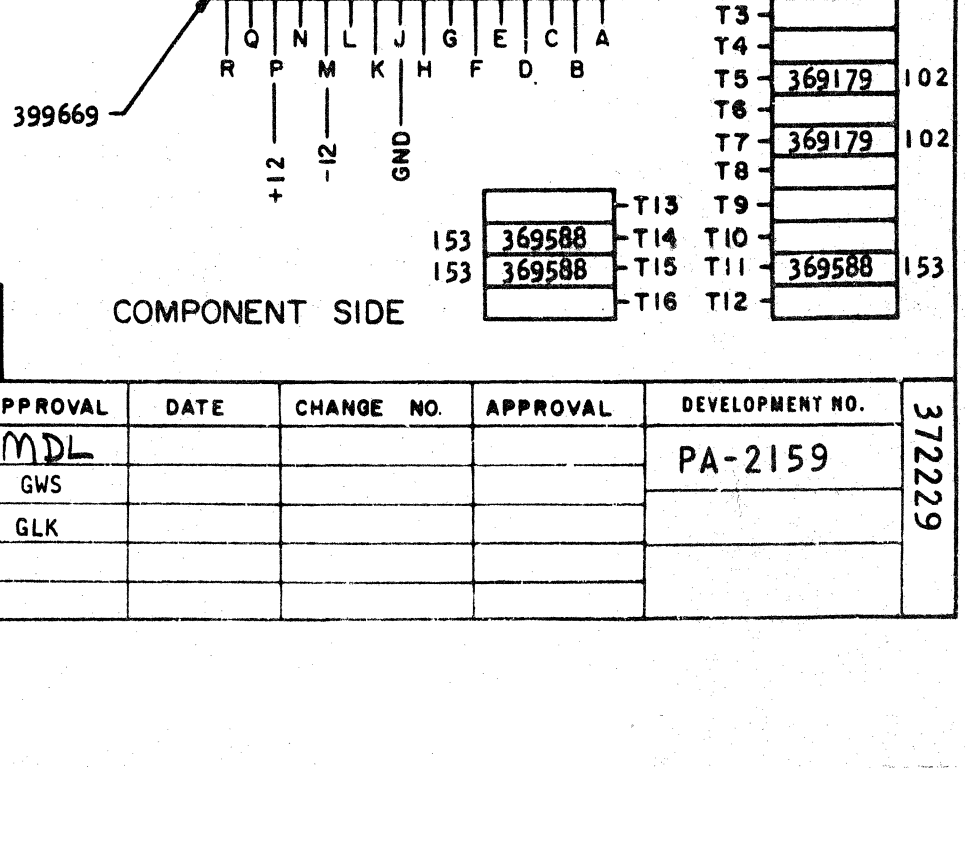
372229

372229 - YLA -

STANDARDS CODE 2-7045







COMPONENT SIDE

NOTES

X CIRCUIT MUST CONFORM TO ENGINEERING SPECIFICATION 870229

XI ASSEMBLE TO ENGINEERING SPECIFICATION 895396 AND 891999

XII ALL RESISTORS ARE 1/4 WATT AND ±5% UNLESS OTHERWISE NOTED (AS NOTE XV)

XIII "J" IN BLOCK DENOTES BARE WIRE JUMPER 491296

XIV POSITIONS T2, T5, T7, T11, T14, T15 ARE TO-18 TRANSISTORS AND REQUIRE .100 PIN CIRCLE HOLES.

XV ALL 1/8 WATT RESISTORS ARE ±1%

XVI REFER TO FIELD SERVICE DRAWING PART NUMBER 734401 WHEN MAKING A CHANGE TO THIS CIRCUIT.

B

CIRCUIT AND PACKAGING STANDARD		
APPROVAL	DATE	HOLE PATTERN
KMT (EAO)	5-2-62	493460

INTERNATIONAL BUSINESS MACHINES CORP.					
NAME	CARD ASM TSTR - SENSE AMPLIFIER				
DESIGN	GRD	3-30-62	MODEL	SMS	
DETAIL	GRD	3-30-62	SCALE	NONE	
CHECK	ED	4-30-62	DRAW	LIG	5-11-62
APPRO	WJR	5-1-62	CHECK		

DATE	CHANGE NO.	APPROVAL	DATE	CHANGE NO.	APPROVAL
6.12.62	114435	MDL			
3-2-64	120095	GWS			
10-23-64	121908	GLK			

DEVELOPMENT NO. PA-2159

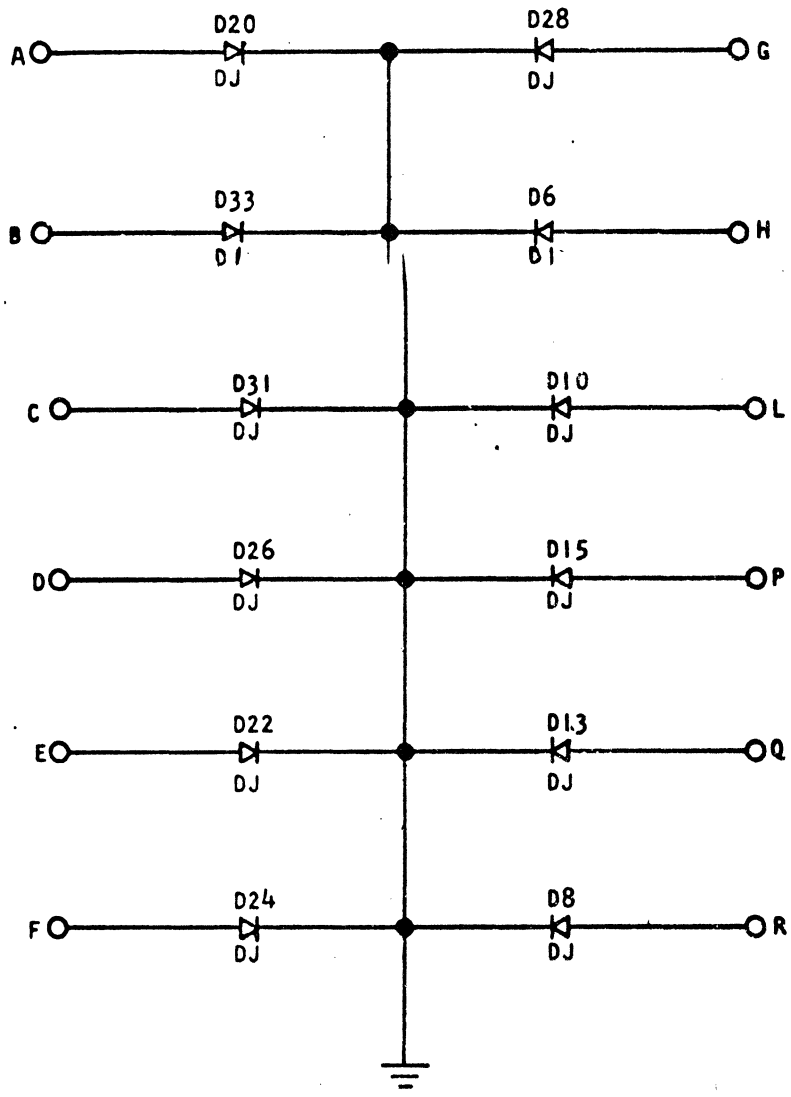
372229

82-4003-1 6-22-61

372361

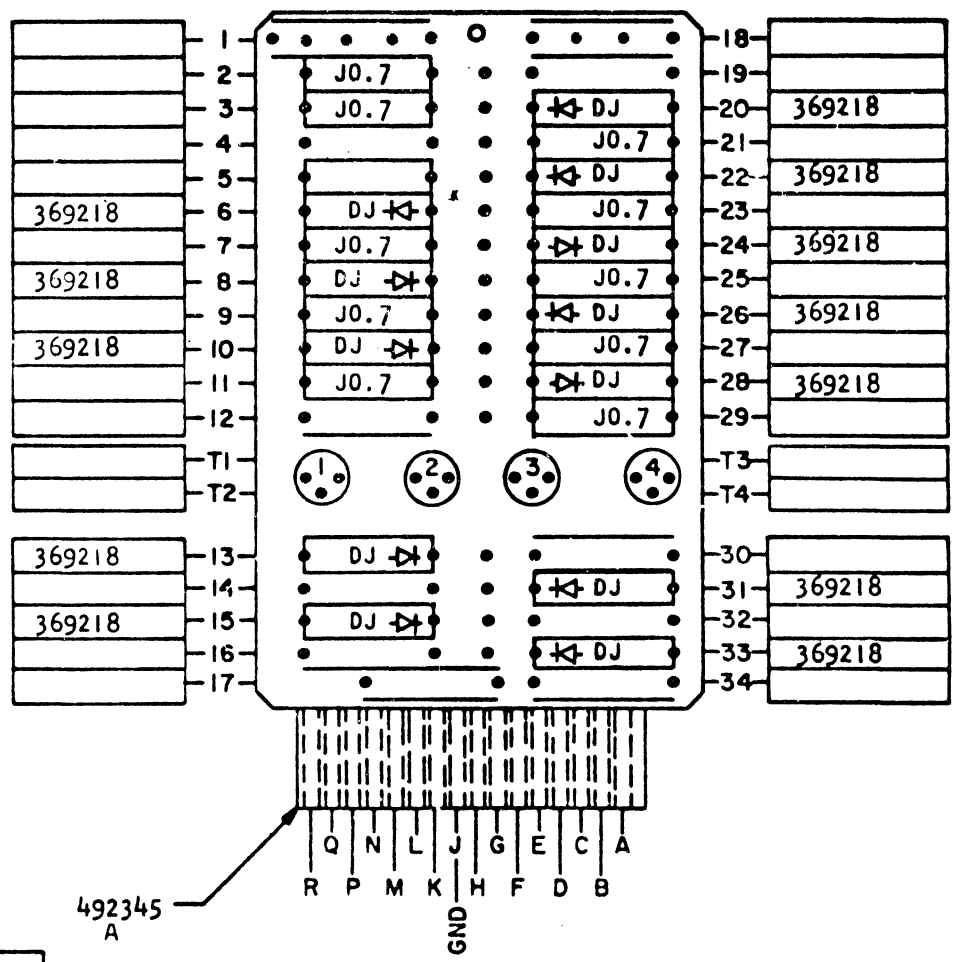
DJ DIODE CARD GROUND CLAMP

STANDARDS CODE	2-7045
YMP-	372361



NOTES

- I CIRCUIT MUST CONFORM TO ENGINEERING SPECIFICATION
- II ASSEMBLE TO ENGINEERING SPECIFICATION 895396 AND 891999
- III "J" IN BLOCK DENOTES BARE WIRE JUMPER 491296
- IIII REFER TO FIELD SERVICE DRAWING PART NUMBER 734329 WHEN MAKING A CHANGE TO THIS CIRCUIT.



COMPONENT SIDE

B

CIRCUIT AND PACKAGING STANDARD		
APPROVAL	DATE	HOLE PATTERN
NAF GS	5-28-62	491329

INTERNATIONAL BUSINESS MACHINES CORP.					DATE	CHANGE NO.	APPROVAL	DATE	CHANGE NO.	APPROVAL	DEVELOPMENT NO.	372361
NAME	CARD ASM TSTR-DJ DIODE				6.28.62	114265	MDL				X1277A	
	CARD GROUND CLAMP				8-28-62	D114680	MDL					
DESIGN	LIG 6-14-62	MODEL	SMS		12OCT65	D125834	GLK					
DETAIL	LIG	SCALE	NONE									
CHECK	FAG	DRAW	LIG	6-6-62								
APPRO	GW 6-21-62	CHECK										

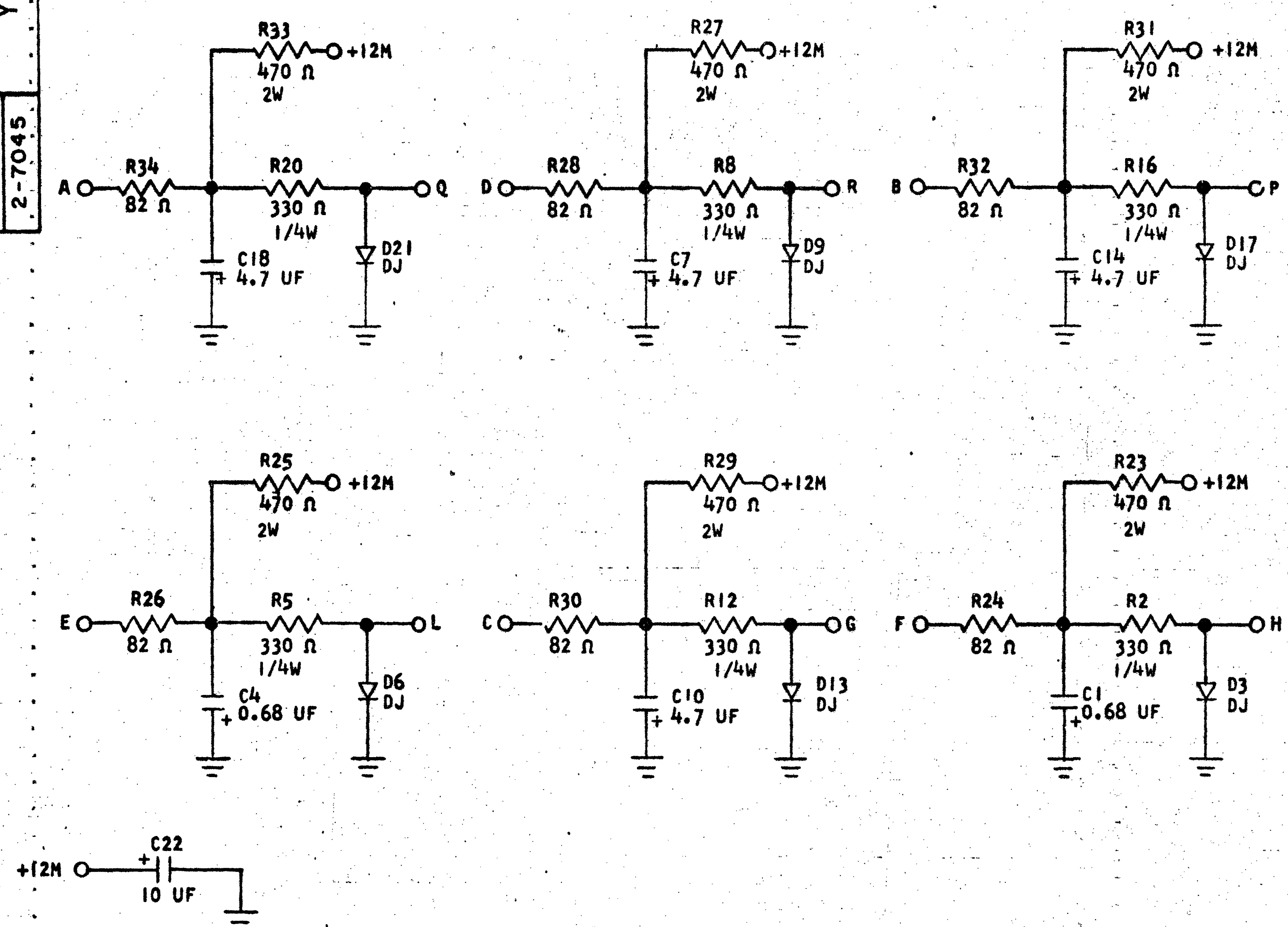
C. B. CO., NO. 81288

372360 | Y M Q -

STANDARDS CODE 2-7045

372360

SDTDL CAM INTEGRATOR



R33 470 Ω 2W +12M
R34 82 Ω
R20 330 Ω 1/4W
C18 4.7 UF
D21 DJ
A Q
R27 470 Ω 2W +12M
R28 82 Ω
R8 330 Ω 1/4W
C7 4.7 UF
D9 DJ
D R
R31 470 Ω 2W +12M
R32 82 Ω
R16 330 Ω 1/4W
C14 4.7 UF
D17 DJ
B P
R25 470 Ω 2W +12M
R26 82 Ω
R5 330 Ω 1/4W
C4 0.68 UF
D6 DJ
E L
R29 470 Ω 2W +12M
R30 82 Ω
R12 330 Ω 1/4W
C10 4.7 UF
D13 DJ
C G
R23 470 Ω 2W +12M
R24 82 Ω
R2 330 Ω 1/4W
C1 0.68 UF
D3 DJ
F H
C22 10 UF +12M

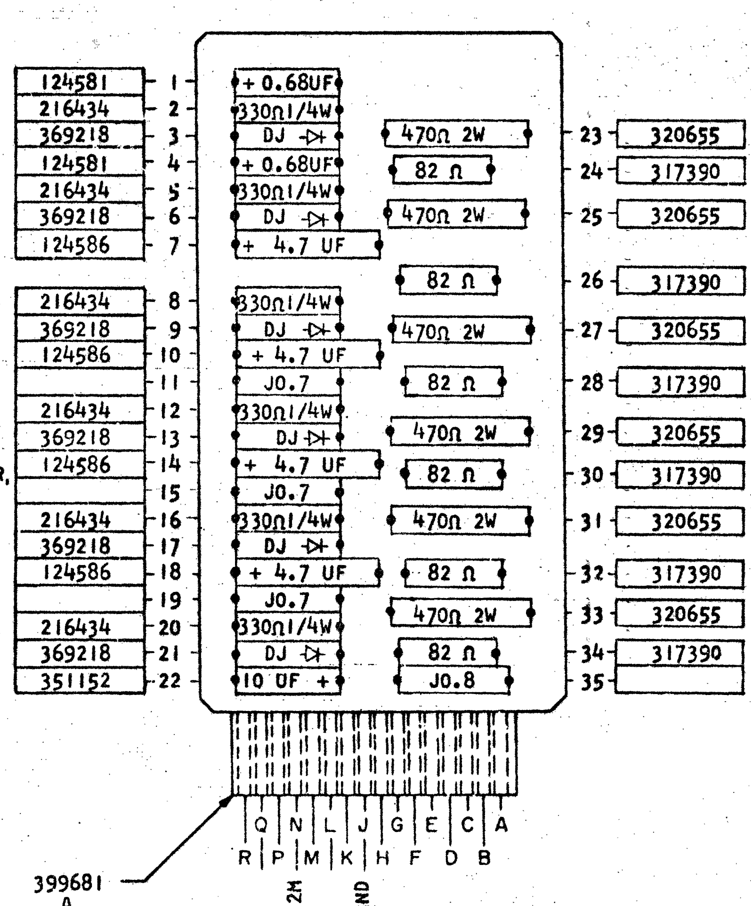
NOTES

X CIRCUIT MUST CONFORM TO ENGINEERING SPECIFICATION 870360

XI ASSEMBLE TO ENGINEERING SPECIFICATION 895396 AND 891999

XII ALL RESISTORS ARE 1/2 WATT AND ±5% UNLESS OTHERWISE NOTED

XIII "J" IN BLOCK DENOTES BARE WIRE JUMPER, 491296



1 124581 + 0.68UF
2 216434 330Ω 1/4W
3 369218 DJ
4 124581 + 0.68UF
5 216434 330Ω 1/4W
6 369218 DJ
7 124586 + 4.7 UF
8 216434 330Ω 1/4W
9 369218 DJ
10 124586 + 4.7 UF
11 J0.7
12 216434 330Ω 1/4W
13 369218 DJ
14 124586 + 4.7 UF
15 J0.7
16 216434 330Ω 1/4W
17 369218 DJ
18 124586 + 4.7 UF
19 J0.7
20 216434 330Ω 1/4W
21 369218 DJ
22 351152 10 UF +
23 320655 470Ω 2W
24 317390 82 Ω
25 320655 470Ω 2W
26 317390 82 Ω
27 320655 470Ω 2W
28 317390 82 Ω
29 320655 470Ω 2W
30 317390 82 Ω
31 320655 470Ω 2W
32 317390 82 Ω
33 320655 470Ω 2W
34 317390 82 Ω
35 J0.8
Q N L J G E C A
R P M K H F D B
+12M GND
399681 A

COMPONENT SIDE

B

DPD CIRCUIT & PACKAGING STANDARD	
APPROVAL	DATE
NAF GS	5-28-62

HOLE PATTERN
399360

INTERNATIONAL BUSINESS MACHINES CORP.

NAME	CARD ASM TSTR - SDTDL CAM INTEGRATOR				
DESIGN	LIG	6-62	MODEL	SMS 1440	
DETAIL	LIG	6-62	SCALE	NONE	
CHECK	FAG	6-62	DRAW	HTD	1-17-64
APPRO	GWS	6-62	CHECK	SM	1-20-64

DATE	CHANGE NO.	APPROVAL	DATE	CHANGE NO.	APPROVAL
6-28-62	114265	MDL			
8-28-62	D114680	MDL			
3-5-64	119694	BWS			

DEVELOPMENT NO.
X1197C

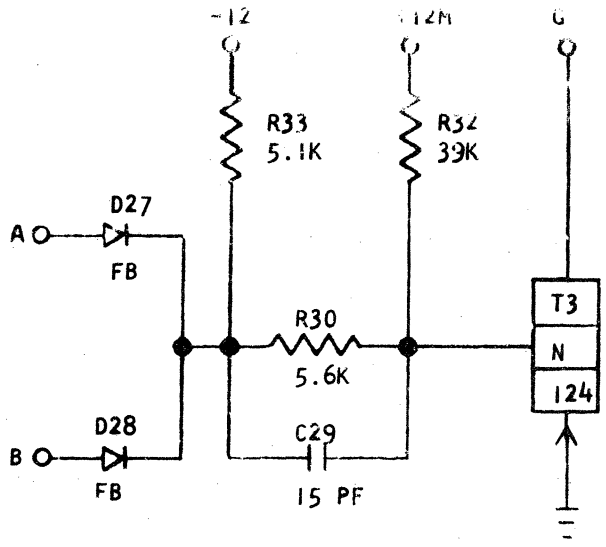
372360

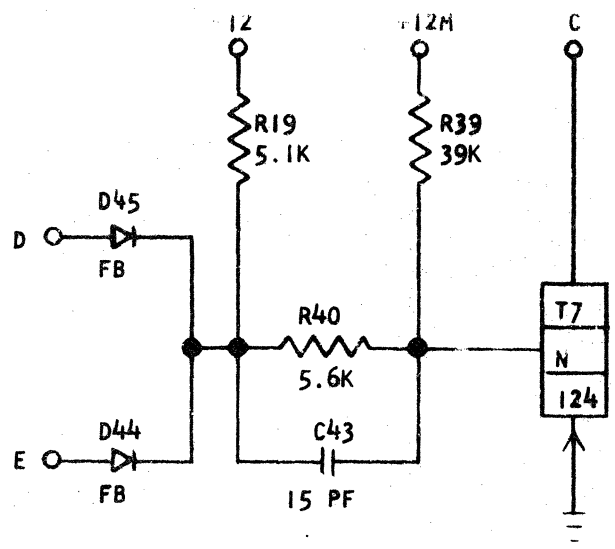
372586

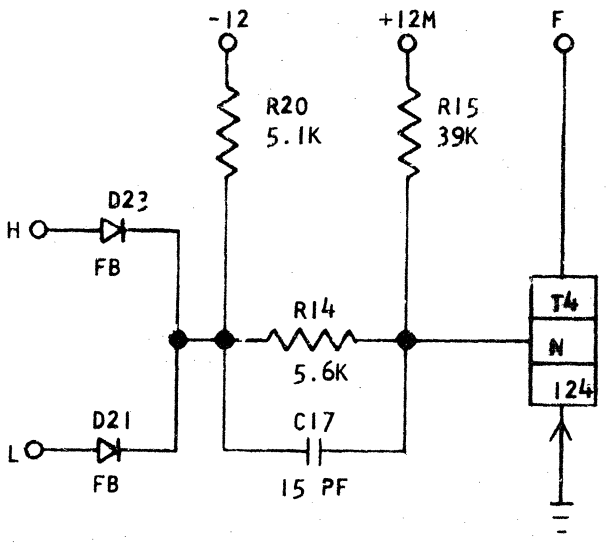
STANDARDS CODE 2-7045

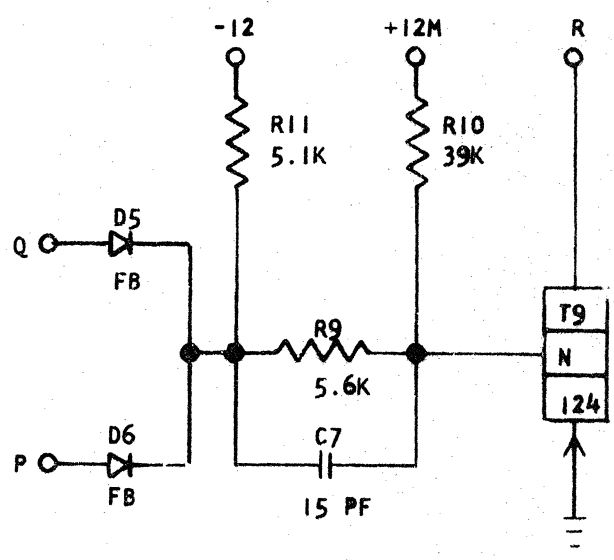
Z G H - 372586

4-2 WAY (-A) WITHOUT LOADS









NOTES

X CIRCUIT MUST CONFORM TO ENGINEERING SPECIFICATION 870585

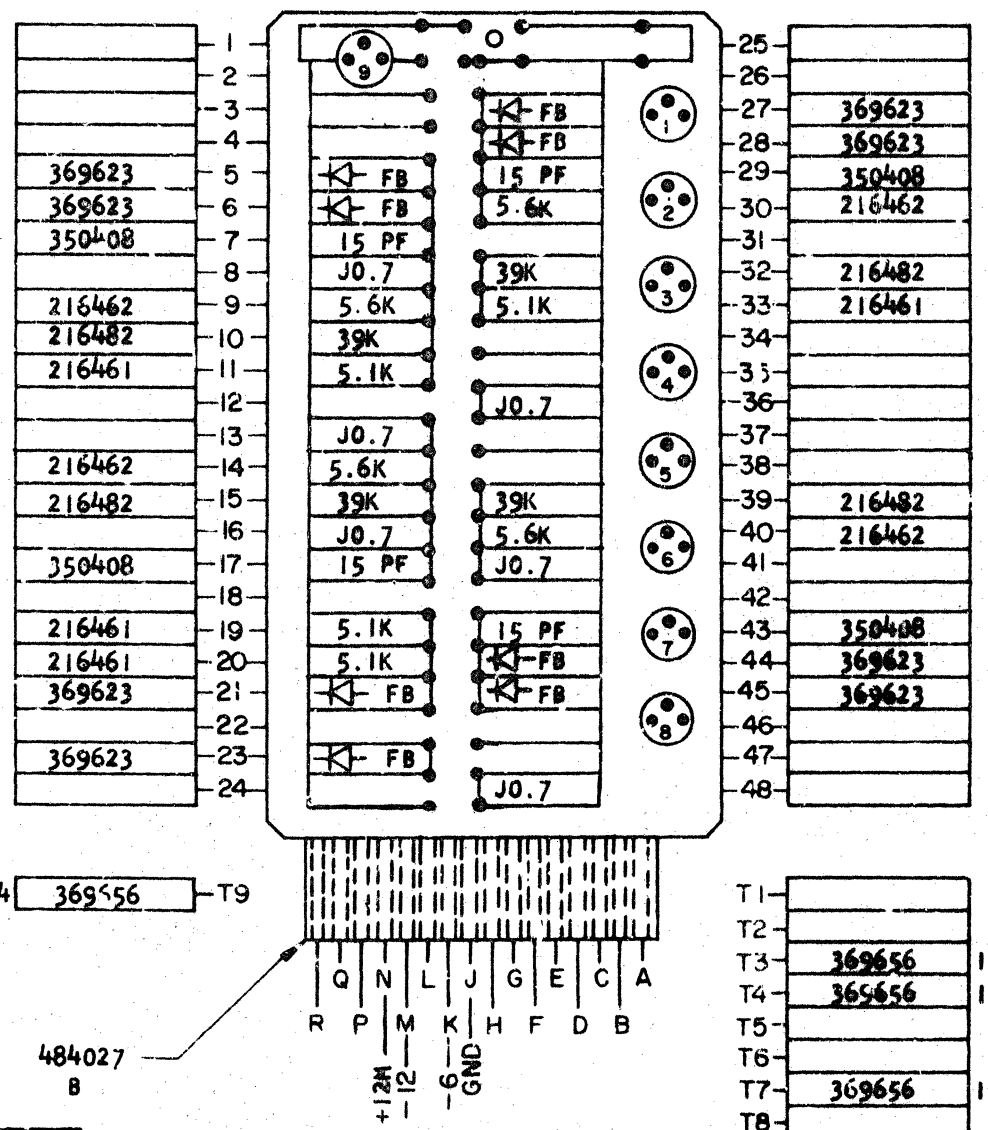
XI ASSEMBLE TO ENGINEERING SPECIFICATION 895396 AND 891999

XII ALL RESISTORS ARE 1/4 WATT AND ± 5% UNLESS OTHERWISE NOTED

XIII "J" IN BLOCK DENOTES BARE WIRE JUMPER 491296

XIV POSITIONS T3, T4, T7 AND T9 ARE TO-18 TRANSISTORS WHICH WILL BE MOUNTED IN .100 PIN CIRCLE HOLES

XV REFER TO FIELD SERVICE DRAWING, PART NUMBER 731341, WHEN MAKING A CHANGE TO THIS CIRCUIT



COMPONENT SIDE

B

CIRCUIT AND PACKAGING STANDARD		
APPROVAL	DATE	HOLE PATTERN
ABC (GS)	6FEB63	493457

INTERNATIONAL BUSINESS MACHINES CORP.				
NAME	CARD ASM TSTR – 4-2 WAY (-A) WITHOUT LOAD			
DESIGN		MODEL	SMS	
DETAIL		SCALE	NONE	
CHECK		DPAW	VMD	10FEB66
APPRO		CHECK		

DATE	CHANGE NO.	APPROVAL	DATE	CHANGE NO.	APPROVAL
28MAR63	116154	MDL	1APR66	D126401J	GLK
28APR64	D121009	GWS			
10MAY65	124279	GLK			
10DEC65	126401B	GLK			
15FEB66	D126401H				

DEVELOPMENT NO. PC-0217

CIRCUIT FAMILY SDTDL

372586

FORM 820-0021-0

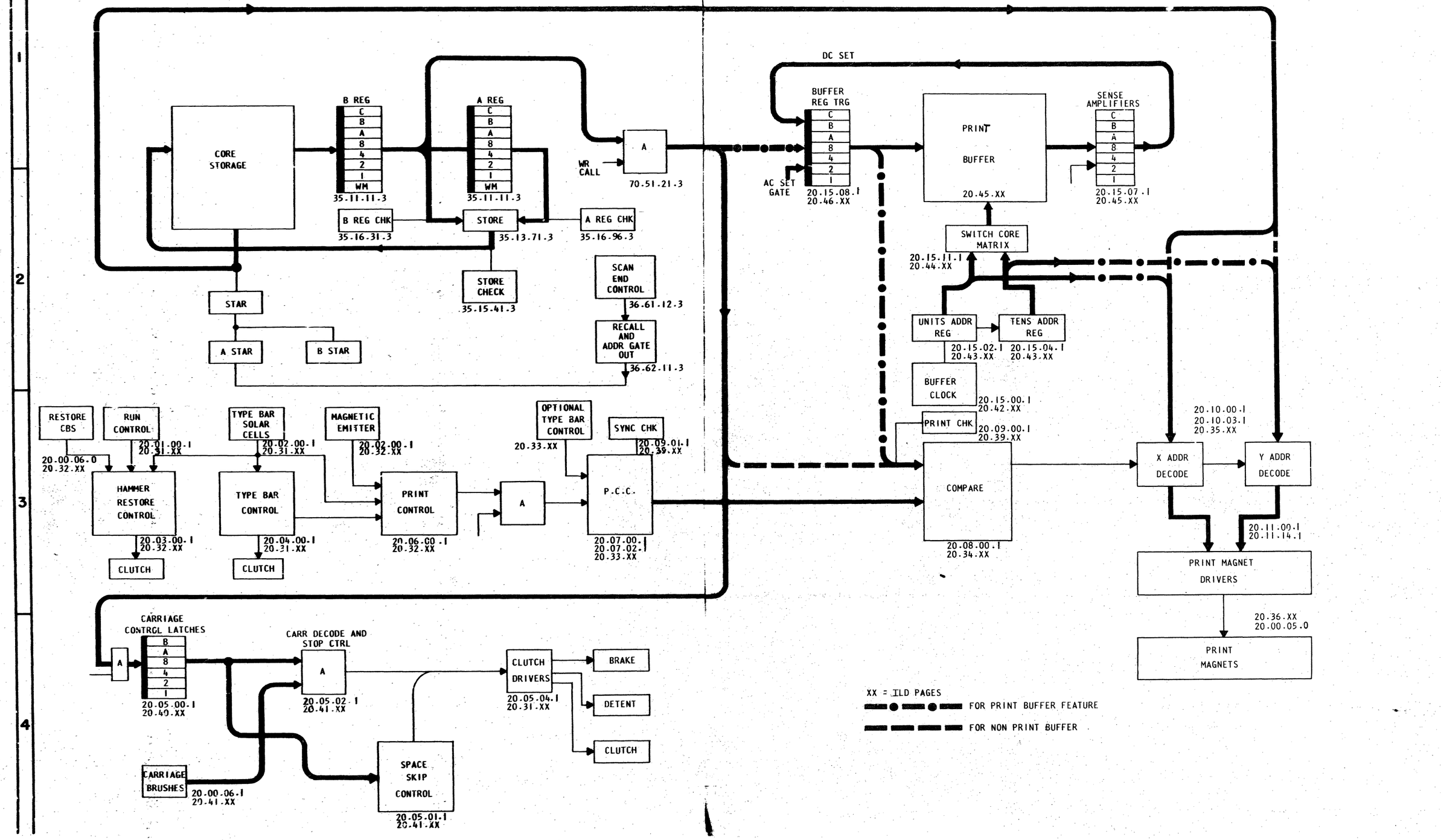
82-3987-2 6-22-61

LOGIC NO.	MACH		PART NO.	EC NO.
00.00.00.0	1443BA	ILD INDEX	0736704	307327

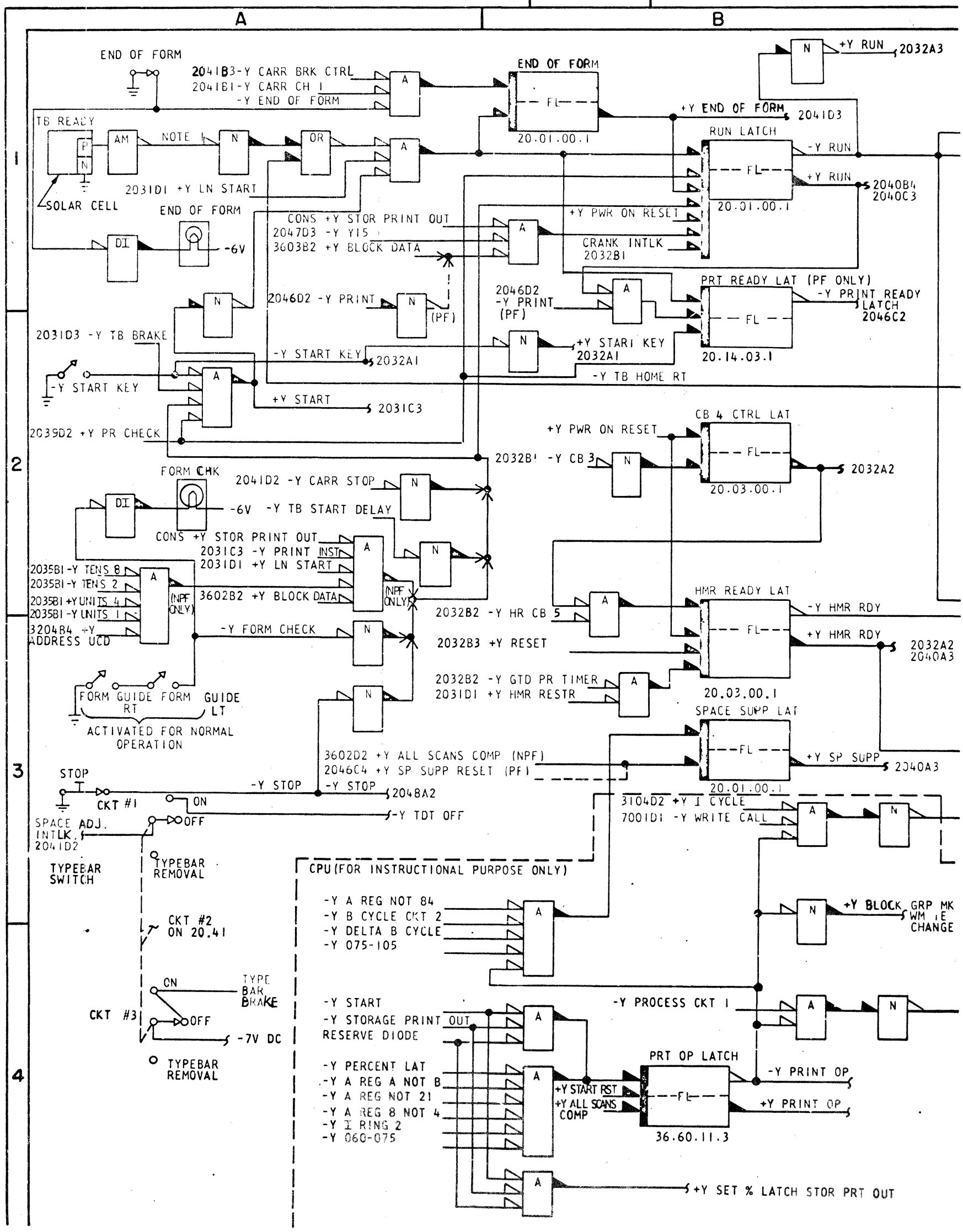
LOGIC NO.	NAME	PART NO.	EC NO.
20.30.00.0	1443 DATA FLOW	736662	122152
20.31.00.0	RUN CONTROL	736663	307322
20.32.00.0	PRINT CONTROL	736664	307322
20.33.00.0	PRINT CHARACTER COUNTER AND CONTROLS	736665	122157
20.34.00.0	PRINT COMPARE	736666	122120
20.35.00.0	PRINT MAGNET DRIVER DECODE 1	736667	118285
20.36.00.0	PRINT MAGNET DRIVER DECODE 2	736668	122120
20.37.00.0	PRINT POSITION DECODE CHART 1	736669	118198
20.38.00.0	PRINT POSITION DECODE CHART 2	736670	307322
20.39.00.0	PRINT CHECKS	736671	122157
20.40.00.0	CARRIAGE CONTROLS	736672	307322
20.41.00.0	CARRIAGE STOP CONTROLS	736673	307322
20.42.00.0	BUFFER CLOCK	736674	122158
20.43.00.0	BUFFER ADDRESSING	736675	122120
20.44.00.0	BUFFER SWITCH CORE MATRIX	736676	118285
20.45.00.0	BUFFER SENSE AMPS	736677	122157
20.46.00.0	BUFFER DATA REGISTER	736678	118285
20.47.00.0	PRINT MAGNET DECODE	736679	118202
20.48.00.0	1443 METER CIRCUIT	736738	118285
20.50.00.0	TIMING CHARTS CTLS MOD I/III NPF	749872	307322
20.50.00.0	TIMING CHART CTLS MOD I PF	749851	307322
20.51.00.0	TIMING CHART CTLS MOD II/IV PF	749858	307322
20.51.00.0	TIMING CHART CTLS MOD II NPF	749855	307322
20.52.00.0	TIMING CHART PRINT CYCLE PF	749857	122152
20.52.00.0	TIMING CHART PRINT CYCLE NPF	749854	122121
20.53.00.0	TIMING CHART HMR RSTR-STR CYC	749850	307322
20.54.00.0	TIMING CHART FRICTION CL PAPER CARR	749852	122152
20.55.00.0	TIMING CHART CARRIAGE LOAD CYCLE	749853	122152
20.56.00.0	TIMING CHART CLOCK PF	749859	117778
20.57.00.0	TIMING CHART MEMORY LOAD CYCLE PF	749860	122152
20.60.00.0	1443 INSTALLATION INSTRUCTIONS	740823	307327

TYPE 1443	PART NUMBER	LOGIC NO.
SHEET 1 OF 2	736662	20.30
	TITLE: 1443 DATA FLOW	

TYPE 1443	DATE	CHANGE NO.	DATE	CHANGE NO.	PART NUMBER	LOGIC NO.
SHEET 2 OF 2	7-2-63	117777	1-25-65	122121	736662	20.30
	9-10-63	117778	4-8-65	122152	TITLE: 1443 DATA FLOW	
	1-20-64	118202				

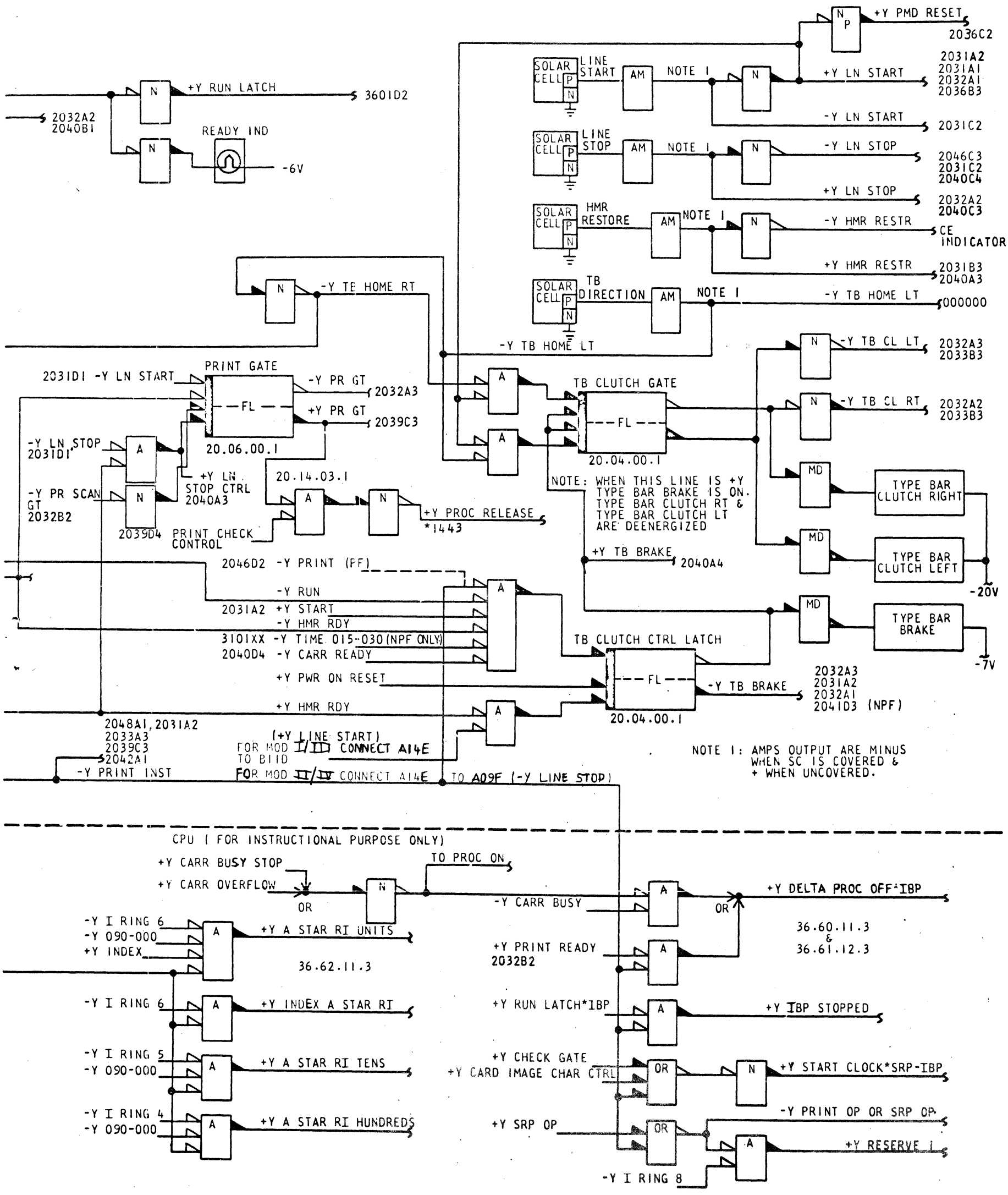


TYPE 1443 | PART NUMBER 736663 | LOGIC NO. 20.31
SHEET 1 OF 2 | TITLE RUN CTRL



TYPE 1443	DATE	CHANGE NO.	DATE	CHANGE NO.	PART NUMBER	LOGIC NO.
	SEE INDEX	CARD	1-25-65	122121	736663	20.31
SHEET 2 OF 2	1-20-64	118202	4-8-65	122152	TITLE	
	6-30-64	118285	5-18-65	122157	RUN CTRL	
			MAR68	307322		

C D

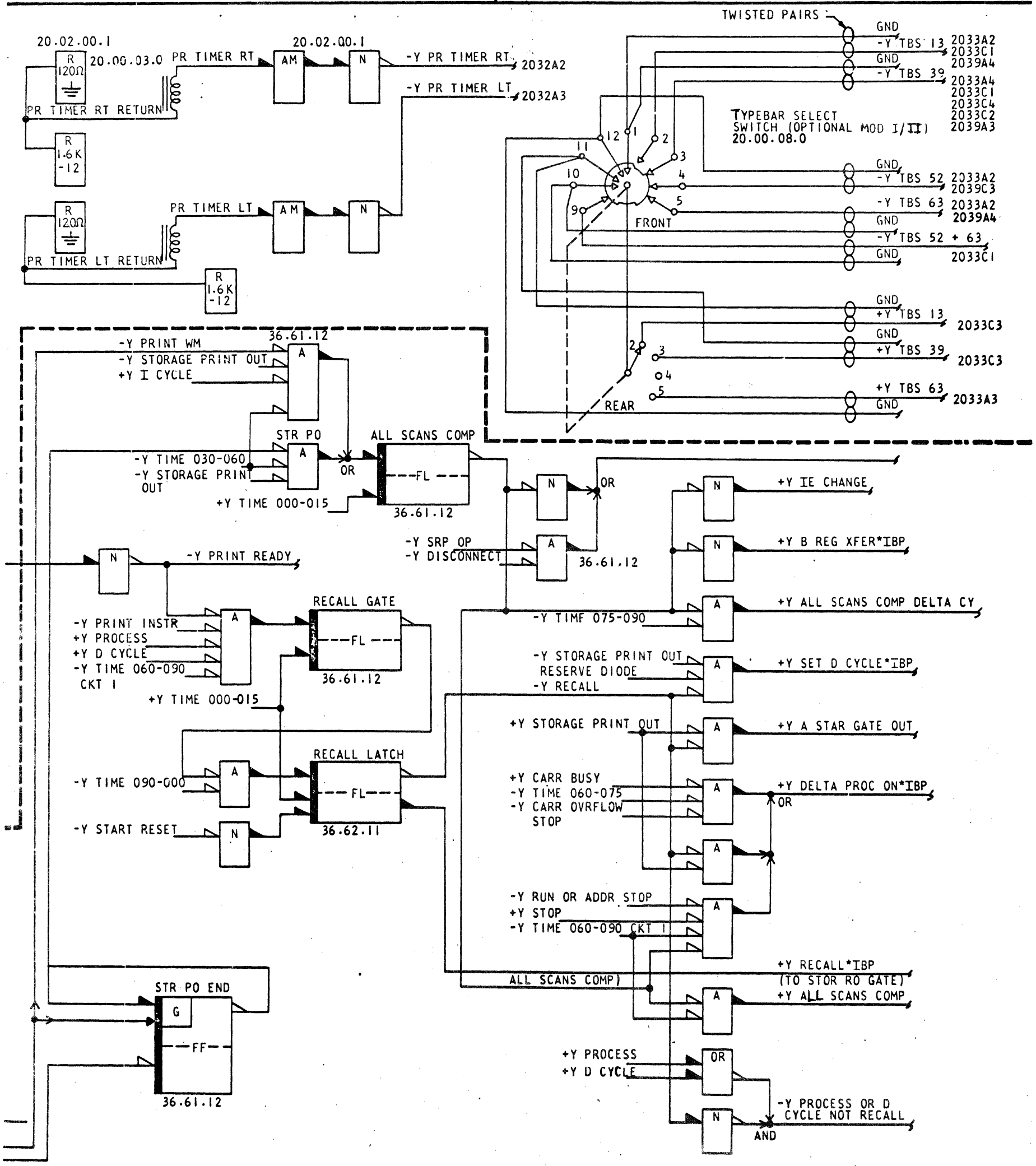


TYPE 1443 | PART NUMBER 736664 | LOGIC NO. 20.32

SHEET 1 OF 2 | TITLE PRINT CTRLS

TYPE 1443	DATE	CHANGE NO.	DATE	CHANGE NO.	PART NUMBER	LOGIC NO.
	SEE INDEX CARD		12-15-64	122120	736664	20.32
SHEET 2 OF 2	1-20-64	118202	4-8-65	122152	TITLE	
	6-30-64	118285	5-18-65	122157	PRINT CTRLS	
			MAR68	307322		

C D



TYPE 1443	PART NUMBER 736665	LOGIC NO. 20.33
SHEET 1 OF 2	TITLE PRT CHAR CNTR & CTRLS	

TYPE 1443	DATE	CHANGE NO.	DATE	CHANGE NO.	PART NUMBER 736665	LOGIC NO. 20.33
SHEET 2 OF 2	SEE INDEX CARD				TITLE PRT CHAR CNTR & CTRLS	
	4-8-65	122152				
	5-18-65	122157				

A B C D

1 2 3 4

-Y PCC 8
-Y PCC 2
+Y PCC B
+Y PCC A
+Y PCC 4
+Y PCC 8
+Y PCC 2
20.07.02.1
-Y TBS 39
2002D1 -Y TBS 13
+Y PCC B
+Y PCC A
-Y PULSE D (NPF ONLY)
-Y CP C (PF)
OPT TB ADV LAT
FL
-Y OPT TB ADV
20.07.02.1
+Y PCC RESET
100.00.00.0
-Y PCC D
-Y PCC A A
-Y TBS 63
2032D1 -Y TBS 13
-Y PCC 8
-Y PCC 4
2033B4 +Y PULSE B (NPF ONLY)
+Y RESET SCM (PF)
2042D2
20.07.02.1
OR
PCC RESET LAT
FL
-Y PCC RESET
00.00.00.0
2032B3 +Y MACH RESET
2033B4 +Y PULSE B(NPF ONLY)
2042D2 +Y RESET SCM (PF ONLY)
2033B4 +Y PULSE A(NPF ONLY)
2042D1 -Y CPA (PF)
2032D1 -Y TBS 52
-Y PCC 8
-Y PCC 4
-Y PCC 1
20.07.01.1
2039D3
+Y PRINT END RESET
PCC ADV LAT
FL
20.07.01.1
+Y GTD PR TIMER
2032D1 +Y TBS 63
2033B4 -Y PULSE B (NPF ONLY)
2036B2 -Y X7 PCC 1
2047D4 (PF)
-Y RESET SCM(PF)
2042D2
2031C3 -Y PRINT INSTR (NPF)
2046D2 -Y PRINT (PF)
-Y Y15 (NPF)
2039A3
+Y 151 (NPF)
2039B3
2031D2 -Y TB CL LT
20.07.00.1
-Y ADV PULSE
2036B2 +Y Y15 (NPF)
UNITS BUSS
2035BX (NPF)
-Y UNITS 1
+Y UNITS 2
+Y UNITS 4
+Y UNITS 8
2047D3 +Y 151 (PF)
2047D3 +Y 001 (PF)
2031D2 -Y TB CL RT
2035D1 +Y Y00 (NPF)
-Y 045-090
(NPF ONLY) -Y PULSE E
2034D2
36.00.06.1
2032B2 -Y PR SCAN GT
20.14.03.1
3101XX -Y 015-030
(NPF ONLY) -Y PULSE A
2033A2
36.00.00.6 -Y PROC + D CYCLE
12036A2
20.07.00.1
TBS 39 RST LAT
FL
2032D1 -Y TBS 39
-Y PCC 2
-Y PCC 8
+Y PCC A
-Y PCC B
2033B4 -Y PULSE D (NPF ONLY)
2042D3 -Y CP-C (PF)
2042D2 +Y RESET SCM (PF)
3101XX 4060-090 CKT 1
3101XX -Y 105-000
(NPF ONLY)
-Y PULSE D
2033A2
2033A4
(NPF ONLY)
-Y PULSE B
2033A3
2034D2
2039B1
2039C3
+Y PULSE B
2033A2
2033B2
PCC BUSS
+Y OPT TB ADV 1
20.07.02.1
2032D1 -Y TBS 52 + 63
-Y ADV PULSE
20.07.01.1
PRINT CHARACTER COUNTERS
-Y PCC RESET 1
2032D1 -Y TBS 13
2032D1 -Y TBS 39
E GATE OFF
+Y A GT ON
-Y A RST OFF
+Y B GT ON
PCC A
PCC B
FF
G
-Y PCC A
+Y PCC A
-Y PCC B
+Y PCC B
+Y OPT TB ADV 2
+Y B GT OFF
20.07.01.1
+Y A OR B RST
2032D2 -Y TBS 39
20.07.00.1 & 20.07.01.1
-Y PCC RESET 1
-Y ADV PULSE
+Y B GT OFF
20.07.00.1
2032D2 +Y TBS 13
PCC 1
PCC 2
PCC 4
PCC 8
PCC D
-Y PCC 1
+Y PCC 1
-Y PCC 2
+Y PCC 2
-Y PCC 4
+Y PCC 4
-Y PCC 8
+Y PCC 8
-Y PCC D
+Y PCC D
20.07.01.1
-Y PCC RST 2
2032D2 +Y TBS 39
20.07.00.1
-Y PCC RESET 1
2032D2 -Y TBS 39
PCC BUSS

TYPE 1443 | SHEET 1 OF 2 | PART NUMBER 736666 | LOGIC NO. 20.34 | TITLE PRINT COMPARE

TYPE 1443 | SHEET 2 OF 2

DATE	CHANGE NO.	DATE	CHANGE NO.
7-2-63	117777	12-15-64	122120
9-10-63	117778		
1-20-64	118202		

PART NUMBER 736666 | LOGIC NO. 20.34 | TITLE PRINT COMPARE

A | B | C | D

1 | 2 | 3 | 4

PCC BUSS

2046C4 BUFF REG BUSS

2039A4

CPU FOR EDUCATION USE ONLY

B REG BITS
C -Y B REG C
B -Y B REG B
A -Y B REG A
8 -Y B REG 1
4 -Y B REG 2
2 -Y B REG 4
1 -Y B REG 8
WM -Y B REG WM
35.02.XX

WRITE GATING
70.51.11
70.51.21
70.01.XX

+Y DATA B | +Y PROC BIT B | B N -Y DATA B | +Y DATA B
+Y DATA A | +Y PROC BIT A | A N -Y DATA A | +Y DATA A
+Y DATA 1 | +Y PROC BIT 1 | 1 N -Y DATA 1 | +Y DATA 1
+Y DATA 2 | +Y PROC BIT 2 | 2 N -Y DATA 2 | +Y DATA 2
+Y DATA 4 | +Y PROC BIT 4 | 4 N -Y DATA 4 | +Y DATA 4
+Y DATA 8 | +Y PROC BIT 8 | 8 N -Y DATA 8 | +Y DATA 8
+Y DATA C | +Y PROC BIT C | C N -Y DATA C | +Y DATA C

DATA BUSS NPF

+Y PCC B
(NPF) +Y DATA B
(PF) +Y REG B
-Y PCC B
(NPF) -Y DATA B
(PF) -Y REG B
A A B OR

+Y PCC A
(NPF) +Y DATA A
(PF) +Y REG A
-Y PCC A
(NPF) -Y DATA A
(PF) -Y REG A
A A A OR

+Y PCC 1
(NPF) +Y DATA 1
(PF) +Y REG 1
-Y PCC 1
(NPF) -Y DATA 1
(PF) -Y REG 1
A A 1 OR

2042B2 (PF) -Y T3
2033B4 (NPF) -Y PULSE E
+Y PCC D
2032B2 -Y PR SCAN GT
AND
A N -Y COMPARE → 2035B1 2047A4

+Y PCC 2
(NPF) +Y DATA 2
(PF) +Y REG 2
-Y PCC 2
(NPF) -Y DATA 2
(PF) -Y REG 2
A A 2 OR

+Y PCC 4
(NPF) +Y DATA 4
(PF) +Y REG 4
-Y PCC 4
(NPF) -Y DATA 4
(PF) -Y REG 4
A A 4 OR

+Y PCC 8
(NPF) +Y DATA 8
(PF) +Y REG 8
-Y PCC 8
(PF) -Y REG 8
(NPF) -Y DATA 8
A A 8 OR

COMPARE
20.08.00.1

TYPE 1443	PART NUMBER 736667	LOGIC NO. 20.35
SHEET 1 OF 2	TITLE PRT MAG DRIVER DECODE 1	

TYPE 1443	DATE	CHANGE NO.	DATE	CHANGE NO.	PART NUMBER	LOGIC NO.
	7-2-63	117777	6-30-64	118285	736667	20.35
SHEET 2 OF 2	9-10-63	117778			TITLE PRT MAG DRIVER DECODE 1	
	1-20-64	118202				

A B C D

1 2 3 4

CPU FOR EDUCATION USE ONLY

MAIN STAR LATCHES

-Y ADDRESS U1
-Y ADDRESS U2
-Y ADDRESS U4
-Y ADDRESS U8
-Y ADDRESS T1
-Y ADDRESS T2
-Y ADDRESS T4
-Y ADDRESS T8

32.XX.XX

NPF ONLY 20.14.05.1

-Y ADDR U1 → N → +Y UNITS 1, -Y UNITS 1
-Y ADDR U2 → N → +Y UNITS 2, -Y UNITS 2
-Y ADDR U4 → N → +Y UNITS 4, -Y UNITS 4
-Y ADDR U8 → N → +Y UNITS 8, -Y UNITS 8
-Y ADDR T1 → N → +Y TENS 1, -Y TENS 1
-Y ADDR T2 → N → +Y TENS 2, -Y TENS 2
-Y ADDR T4 → N → +Y TENS 4, -Y TENS 4
-Y ADDR T8 → N → +Y TENS 8, -Y TENS 8

+Y UNITS 1
-Y UNITS 2
+Y UNITS 4
+Y UNITS 8
-Y TENS 8 2031A2
-Y TENS 2 2031A2
+Y UNITS 4 2031A3
-Y UNITS 1 2031A3

NPF ONLY 20.10.00.1

A → -Y X2 → 2039A4

2034D3 -Y COMPARE

X1 A: -Y UNITS 1, +Y UNITS 2, +Y UNITS 4, +Y UNITS 8 → +Y X1
X2 A: +Y UNITS 1, -Y UNITS 2, +Y UNITS 4, +Y UNITS 8 → +Y X2
X3 A: -Y UNITS 1, -Y UNITS 2, +Y UNITS 4, +Y UNITS 8 → +Y X3
X4 A: +Y UNITS 1, +Y UNITS 2, -Y UNITS 4 → +Y X4
X5 A: -Y UNITS 1, +Y UNITS 2, -Y UNITS 4 → +Y X5
X6 A: +Y UNITS 1, -Y UNITS 2, -Y UNITS 4 → +Y X6
X7 A: -Y UNITS 1, -Y UNITS 2, -Y UNITS 4 → +Y X7
X8 A: +Y UNITS 1, +Y UNITS 2, -Y UNITS 8 → +Y X8
X9 A: -Y UNITS 1, -Y UNITS 8 → +Y X9
X0 A: -Y UNITS 2, -Y UNITS 8 → +Y X0

STAR DECODE BUSS (NPF ONLY)

MAGNET SELECT BUSS NPF ONLY

NPF ONLY 20.10.01.1

2036B1 +Y A

Y00 A: -Y TENS 2, -Y TENS 8 → +Y Y00 2033A3
Y01 A: -Y TENS 1, +Y TENS 2, +Y TENS 4, +Y TENS 8 → +Y Y01
Y02 A: +Y TENS 1, -Y TENS 2, +Y TENS 4, +Y TENS 8 → +Y Y02
Y03 A: -Y TENS 1, -Y TENS 2, +Y TENS 4 → +Y Y03
Y04 A: -Y TENS 1, +Y TENS 2, -Y TENS 4 → +Y Y04
Y05 A: -Y TENS 1, +Y TENS 2, -Y TENS 4 → +Y Y05
Y06 A: +Y TENS 1, -Y TENS 2, -Y TENS 4 → +Y Y06
Y07 A: -Y TENS 1, -Y TENS 2, -Y TENS 4 → +Y Y07
Y08 A: +Y TENS 1, +Y TENS 2, -Y TENS 8 → +Y Y08
Y09 A: -Y TENS 1, -Y TENS 8 → +Y Y09

20.10.02.1

TYPE 1443 | SHEET 1 OF 2 | PART NUMBER 736668 | LOGIC NO. 20.36 | TITLE PRT MAG DRIVER DECODE 2

TYPE 1443 | SHEET 2 OF 2

DATE	CHANGE NO.	DATE	CHANGE NO.
7-2-63	117777	1-20-64	118202
9-10-63	117778	12-15-64	122120
9-23-63	118198		

PART NUMBER 736668 | LOGIC NO. 20.36 | TITLE PRT MAG DRIVER DECODE 2

A B C D

1 2 3 4

MAGNET SELECT BUSS NPF ONLY

-Y UNITS 2
-Y UNITS 8
-Y TENS 2
-Y PULSE A
-A
NPF ONLY
+Y A LAT SET
A LATCH
FL
2032B3 +Y MACH RESET
20.10.02.1
+Y A
2035C1
-Y A
20.10.03.1
2033A4 -Y PROC +D CYCLE

-Y TENS 8
-Y TENS 1
2033B4 -Y PULSE D
-A
+Y 197
2032A3

-Y UNITS 1
-Y UNITS 2
-Y UNITS 4
-A
+N
+Y X7 PCC (NPF)
2033A3

STAR DECODE BUSS (NPF ONLY)

2047D1 MAGNET SELECT BUSS PF ONLY

NPF ONLY
20.10.02.1

Y10 -A (NPF ONLY) +Y Y10
-Y TENS 2
-Y TENS 8

Y11 -A (NPF ONLY) +Y Y11
-Y TENS 1
+Y TENS 2
+Y TENS 4
+Y TENS 8

Y12 -A (NPF ONLY) +Y Y12
+Y TENS 1
-Y TENS 2
+Y TENS 4
+Y TENS 8

Y13 -A (NPF ONLY) +Y Y13
-Y TENS 1
-Y TENS 2
+Y TENS 4
+Y TENS 8

Y14 -A (NPF ONLY) +Y Y14
+Y TENS 1
+Y TENS 2
-Y TENS 4

Y15 -A (NPF ONLY) +Y Y15 2033A3
-Y TENS 1
+Y TENS 2
-Y TENS 4

Y16 -A (NPF ONLY)
-Y TENS 2
+Y TENS 1
-Y TENS 4

N -Y Y16
2039B4

RESET
2031D1 +Y LN START
N (NPF ONLY) +Y PMD RESET

20.02.00.1

PRINT POS. 1-10 DOUBLE CARD AT 03D1C06

PRINT MAGNET BUSS

+Y X1
DP (+A) +Y PM 001
20.11.00

+Y X2
+Y Y00
DP (+A) +Y PM 002

+Y X3
+Y PMD RESET Z
-N
DP (+A) +Y PM 003

+Y X4
DP (+A) +Y PM 004

+Y X5
DP (+A) +Y PM 005

+Y X6
DP (+A) +Y PM 006

+Y X7
DP (+A) +Y PM 007

+Y X8
DP (+A) +Y PM 008

+Y X9
DP (+A) +Y PM 009

+Y X0
+Y Y01
DP (+A) +Y PM 010

MAGNET SELECT BUSS (NPF OR PF)

TYPE 1443 | PART NUMBER 736669 | LOGIC NO. 20.37

SHEET 1 OF 2 | TITLE PRT POS DECODE CHART 1

A B

PRINT MAGNET BUSS

PRINT POS 11-20 DOUBLE CARD AT 03D1C07

PR POS	INPUTS NAME	PIN	NAME	PIN	NAME	PIN	OUTPUT NAME	PIN
011	+Y X1	8	+Y Y01	G	+Y PMD RES	Z	+Y PM011	7
012	+Y X2	C	+Y Y01	G	+Y PMD RES	Z	+Y PM012	A
013	+Y X3	D	+Y Y01	G	+Y PMD RES	Z	+Y PM013	B
014	+Y X4	N	+Y Y01	G	+Y PMD RES	Z	+Y PM014	M
015	+Y X5	P	+Y Y01	G	+Y PMD RES	Z	+Y PM015	T
016	+Y X6	W	+Y Y01	G	+Y PMD RES	Z	+Y PM016	V
017	+Y X7	E	+Y Y01	G	+Y PMD RES	Z	+Y PM017	F
018	+Y X8	S	+Y Y01	G	+Y PMD RES	Z	+Y PM018	U
019	+Y X9	X	+Y Y01	G	+Y PMD RES	Z	+Y PM019	Y
020	+Y X0	H	+Y Y02	R	+Y PMD RES	Z	+Y PM020	K

+Y X1-X0
+Y Y01
+Y Y02
+Y PMD RESET

PRINT POS 21-30 DOUBLE CARD AT 03D1C08

PR POS	INPUTS NAME	PIN	NAME	PIN	NAME	PIN	OUTPUT NAME	PIN
021	+Y X1	8	+Y Y02	G	+Y PMD RES	Z	+Y PM021	7
022	+Y X2	C	+Y Y02	G	+Y PMD RES	Z	+Y PM022	A
023	+Y X3	D	+Y Y02	G	+Y PMD RES	Z	+Y PM023	B
024	+Y X4	N	+Y Y02	G	+Y PMD RES	Z	+Y PM024	M
025	+Y X5	P	+Y Y02	G	+Y PMD RES	Z	+Y PM025	T
026	+Y X6	W	+Y Y02	G	+Y PMD RES	Z	+Y PM026	V
027	+Y X7	E	+Y Y02	G	+Y PMD RES	Z	+Y PM027	F
028	+Y X8	S	+Y Y02	G	+Y PMD RES	Z	+Y PM028	U
029	+Y X9	X	+Y Y02	G	+Y PMD RES	Z	+Y PM029	Y
030	+Y X0	H	+Y Y03	R	+Y PMD RES	Z	+Y PM030	K

+Y X1-X0
+Y Y02
+Y Y03
+Y PMD RESET

PRINT POS 31-40 DOUBLE CARD AT 03D1C09

PR POS	INPUTS NAME	PIN	NAME	PIN	NAME	PIN	OUTPUT NAME	PIN
031	+Y X1	8	+Y Y03	G	+Y PMD RES	Z	+Y PM031	7
032	+Y X2	C	+Y Y03	G	+Y PMD RES	Z	+Y PM032	A
033	+Y X3	D	+Y Y03	G	+Y PMD RES	Z	+Y PM033	B
034	+Y X4	N	+Y Y03	G	+Y PMD RES	Z	+Y PM034	M
035	+Y X5	P	+Y Y03	G	+Y PMD RES	Z	+Y PM035	T
036	+Y X6	W	+Y Y03	G	+Y PMD RES	Z	+Y PM036	V
037	+Y X7	E	+Y Y03	G	+Y PMD RES	Z	+Y PM037	F
038	+Y X8	S	+Y Y03	G	+Y PMD RES	Z	+Y PM038	U
039	+Y X9	X	+Y Y03	G	+Y PMD RES	Z	+Y PM039	Y
040	+Y X0	H	+Y Y04	R	+Y PMD RES	Z	+Y PM040	K

+Y X1-X0
+Y Y03
+Y Y04
+Y PMD RESET

PRINT POS 41-50 DOUBLE CARD AT 03D1C10

PR POS	INPUTS NAME	PIN	NAME	PIN	NAME	PIN	OUTPUT NAME	PIN
041	+Y X1	8	+Y Y04	G	+Y PMD RES	Z	+Y PM041	7
042	+Y X2	C	+Y Y04	G	+Y PMD RES	Z	+Y PM042	A
043	+Y X3	D	+Y Y04	G	+Y PMD RES	Z	+Y PM043	B
044	+Y X4	N	+Y Y04	G	+Y PMD RES	Z	+Y PM044	M
045	+Y X5	P	+Y Y04	G	+Y PMD RES	Z	+Y PM045	T
046	+Y X6	W	+Y Y04	G	+Y PMD RES	Z	+Y PM046	V
047	+Y X7	E	+Y Y04	G	+Y PMD RES	Z	+Y PM047	F
048	+Y X8	S	+Y Y04	G	+Y PMD RES	Z	+Y PM048	U
049	+Y X9	X	+Y Y04	G	+Y PMD RES	Z	+Y PM049	Y
050	+Y X0	H	+Y Y05	R	+Y PMD RES	Z	+Y PM050	K

+Y X1-X0
+Y Y04
+Y Y05
+Y PMD RESET

PRINT POS 51-60 DOUBLE CARD AT 03D1C11

PR POS	INPUTS NAME	PIN	NAME	PIN	NAME	PIN	OUTPUT NAME	PIN
051	+Y X1	8	+Y Y05	G	+Y PMD RES	Z	+Y PM051	7
052	+Y X2	C	+Y Y05	G	+Y PMD RES	Z	+Y PM052	A
053	+Y X3	D	+Y Y05	G	+Y PMD RES	Z	+Y PM053	B
054	+Y X4	N	+Y Y05	G	+Y PMD RES	Z	+Y PM054	M
055	+Y X5	P	+Y Y05	G	+Y PMD RES	Z	+Y PM055	T
056	+Y X6	W	+Y Y05	G	+Y PMD RES	Z	+Y PM056	V
057	+Y X7	E	+Y Y05	G	+Y PMD RES	Z	+Y PM057	F
058	+Y X8	S	+Y Y05	G	+Y PMD RES	Z	+Y PM058	U
059	+Y X9	X	+Y Y05	G	+Y PMD RES	Z	+Y PM059	Y
060	+Y X0	H	+Y Y06	R	+Y PMD RES	Z	+Y PM060	K

+Y X1-X0
+Y Y05
+Y Y06
+Y PMD RESET

1 2 3 4

DATE	CHANGE NO.	DATE	CHANGE NO.	PART NUMBER	LOGIC NO.
7-2-63	117777			736669	20.37
9-10-63	117778			TITLE	
9-23-63	118198			PRT POS DECODE CHART 1	

TYPE 1443

SHEET 2 OF 2

C D

PRINT MAGNET BUSS

PRINT POS 61-70 DOUBLE CARD AT 03D1C12

PR POS	INPUTS NAME	PIN	NAME	PIN	NAME	PIN	OUTPUT NAME	PIN
061	+Y X1	B	+Y Y06	G	+Y PMD RES	Z	+Y PM061	7
062	+Y X2	C	+Y Y06	G	+Y PMD RES	Z	+Y PM062	A
063	+Y X3	D	+Y Y06	G	+Y PMD RES	Z	+Y PM063	B
064	+Y X4	N	+Y Y06	G	+Y PMD RES	Z	+Y PM064	M
065	+Y X5	P	+Y Y06	G	+Y PMD RES	Z	+Y PM065	T
066	+Y X6	W	+Y Y06	G	+Y PMD RES	Z	+Y PM066	V
067	+Y X7	E	+Y Y06	G	+Y PMD RES	Z	+Y PM067	F
068	+Y X8	S	+Y Y06	G	+Y PMD RES	Z	+Y PM068	U
069	+Y X9	X	+Y Y06	G	+Y PMD RES	Z	+Y PM069	Y
070	+Y X0	H	+Y Y07	R	+Y PMD RES	Z	+Y PM070	K

+Y X1-X0
+Y Y06
+Y Y07
+Y PMD RESET

PRINT POS 71-80 DOUBLE CARD AT 03D1C13

PR POS	INPUTS NAME	PIN	NAME	PIN	NAME	PIN	OUTPUT NAME	PIN
071	+Y X1	B	+Y Y07	G	+Y PMD RES	Z	+Y PM071	7
072	+Y X2	C	+Y Y07	G	+Y PMD RES	Z	+Y PM072	A
073	+Y X3	D	+Y Y07	G	+Y PMD RES	Z	+Y PM073	B
074	+Y X4	N	+Y Y07	G	+Y PMD RES	Z	+Y PM074	M
075	+Y X5	P	+Y Y07	G	+Y PMD RES	Z	+Y PM075	T
076	+Y X6	W	+Y Y07	G	+Y PMD RES	Z	+Y PM076	V
077	+Y X7	E	+Y Y07	G	+Y PMD RES	Z	+Y PM077	F
078	+Y X8	S	+Y Y07	G	+Y PMD RES	Z	+Y PM078	U
079	+Y X9	X	+Y Y07	G	+Y PMD RES	Z	+Y PM079	Y
080	+Y X0	H	+Y Y08	R	+Y PMD RES	Z	+Y PM080	K

+Y X1-X0
+Y Y07
+Y Y08
+Y PMD RESET

PRINT POS 81-90 DOUBLE CARD AT 03D1C14

PR POS	INPUTS NAME	PIN	NAME	PIN	NAME	PIN	OUTPUT NAME	PIN
081	+Y X1	B	+Y Y08	G	+Y PMD RES	Z	+Y PM081	7
082	+Y X2	C	+Y Y08	G	+Y PMD RES	Z	+Y PM082	A
083	+Y X3	D	+Y Y08	G	+Y PMD RES	Z	+Y PM083	B
084	+Y X4	N	+Y Y08	G	+Y PMD RES	Z	+Y PM084	M
085	+Y X5	P	+Y Y08	G	+Y PMD RES	Z	+Y PM085	T
086	+Y X6	W	+Y Y08	G	+Y PMD RES	Z	+Y PM086	V
087	+Y X7	E	+Y Y08	G	+Y PMD RES	Z	+Y PM087	F
088	+Y X8	S	+Y Y08	G	+Y PMD RES	Z	+Y PM088	U
089	+Y X9	X	+Y Y08	G	+Y PMD RES	Z	+Y PM089	Y
090	+Y X0	H	+Y Y09	R	+Y PMD RES	Z	+Y PM090	K

+Y X1-X0
+Y Y08
+Y Y09
+Y PMD RESET

PRINT POS 91-100 DOUBLE CARD AT 03D1C15

PR POS	INPUTS NAME	PIN	NAME	PIN	NAME	PIN	OUTPUT NAME	PIN
091	+Y X1	B	+Y Y09	G	+Y PMD RES	Z	+Y PM091	7
092	+Y X2	C	+Y Y09	G	+Y PMD RES	Z	+Y PM092	A
093	+Y X3	D	+Y Y09	G	+Y PMD RES	Z	+Y PM093	B
094	+Y X4	N	+Y Y09	G	+Y PMD RES	Z	+Y PM094	M
095	+Y X5	P	+Y Y09	G	+Y PMD RES	Z	+Y PM095	T
096	+Y X6	W	+Y Y09	G	+Y PMD RES	Z	+Y PM096	V
097	+Y X7	E	+Y Y09	G	+Y PMD RES	Z	+Y PM097	F
098	+Y X8	S	+Y Y09	G	+Y PMD RES	Z	+Y PM098	U
099	+Y X9	X	+Y Y09	G	+Y PMD RES	Z	+Y PM099	Y
100	+Y X0	H	+Y Y10	R	+Y PMD RES	Z	+Y PM100	K

+Y X1-X0
+Y Y09
+Y Y10
+Y PMD RESET

PRINT POS 101-110 DOUBLE CARD AT 03D1C16

PR POS	INPUTS NAME	PIN	NAME	PIN	NAME	PIN	OUTPUT NAME	PIN
101	+Y X1	B	+Y Y10	G	+Y PMD RES	Z	+Y PM101	7
102	+Y X2	C	+Y Y10	G	+Y PMD RES	Z	+Y PM102	A
103	+Y X3	D	+Y Y10	G	+Y PMD RES	Z	+Y PM103	B
104	+Y X4	N	+Y Y10	G	+Y PMD RES	Z	+Y PM104	M
105	+Y X5	P	+Y Y10	G	+Y PMD RES	Z	+Y PM105	T
106	+Y X6	W	+Y Y10	G	+Y PMD RES	Z	+Y PM106	V
107	+Y X7	E	+Y Y10	G	+Y PMD RES	Z	+Y PM107	F
108	+Y X8	S	+Y Y10	G	+Y PMD RES	Z	+Y PM108	U
109	+Y X9	X	+Y Y10	G	+Y PMD RES	Z	+Y PM109	Y
110	+Y X0	H	+Y Y11	R	+Y PMD RES	Z	+Y PM110	K

+Y X1-X0
+Y Y10
+Y Y11
+Y PMD RESET

MAGNET SELECT BUSS NPF OR PF

TYPE 1443

PART NUMBER	LOGIC NO.
736670	20.38

SHEET 1 OF 2

TITLE: PRT POS DECODE CHART 2

A B

HAMMER BUSS (PM)

1

PRINT POS 111-120 DOUBLE CARD AT 03D1C17

PR POS	INPUTS NAME	PIN	NAME	PIN	NAME	PIN	OUTPUT NAME	PIN
111	+Y X1	8	+Y Y11	G	+Y PMD RES	Z	+Y PM111	7
112	+Y X2	C	+Y Y11	G	+Y PMD RES	Z	+Y PM112	A
113	+Y X3	D	+Y Y11	G	+Y PMD RES	Z	+Y PM113	B
114	+Y X4	N	+Y Y11	G	+Y PMD RES	Z	+Y PM114	M
115	+Y X5	P	+Y Y11	G	+Y PMD RES	Z	+Y PM115	T
116	+Y X6	W	+Y Y11	G	+Y PMD RES	Z	+Y PM116	V
117	+Y X7	E	+Y Y11	G	+Y PMD RES	Z	+Y PM117	F
118	+Y X8	S	+Y Y11	G	+Y PMD RES	Z	+Y PM118	U
119	+Y X9	X	+Y Y11	G	+Y PMD RES	Z	+Y PM119	Y
120	+Y X0	H	+Y Y12	R	+Y PMD RES	Z	+Y PM120	K

+Y X1-X0
+Y Y11
+Y Y12
+Y PMD RESET

2

PRINT POS 121-130 DOUBLE CARD AT 03D1C18

PR POS	INPUTS NAME	PIN	NAME	PIN	NAME	PIN	OUTPUT NAME	PIN
121	+Y X1	8	+Y Y12	G	+Y PMD RES	Z	+Y PM121	7
122	+Y X2	C	+Y Y12	G	+Y PMD RES	Z	+Y PM122	A
123	+Y X3	D	+Y Y12	G	+Y PMD RES	Z	+Y PM123	B
124	+Y X4	N	+Y Y12	G	+Y PMD RES	Z	+Y PM124	M
125	+Y X5	P	+Y Y12	G	+Y PMD RES	Z	+Y PM125	T
126	+Y X6	W	+Y Y12	G	+Y PMD RES	Z	+Y PM126	V
127	+Y X7	E	+Y Y12	G	+Y PMD RES	Z	+Y PM127	F
128	+Y X8	S	+Y Y12	G	+Y PMD RES	Z	+Y PM128	U
129	+Y X9	X	+Y Y12	G	+Y PMD RES	Z	+Y PM129	Y
130	+Y X0	H	+Y Y13	R	+Y PMD RES	Z	+Y PM130	K

+Y X1-X0
+Y Y12
+Y Y13
+Y PMD RESET

PRINT POS 131-140 DOUBLE CARD AT 03D1C19

PR POS	INPUTS NAME	PIN	NAME	PIN	NAME	PIN	OUTPUT NAME	PIN
131	+Y X1	8	+Y Y13	G	+Y PMD RES	Z	+Y PM131	7
132	+Y X2	C	+Y Y13	G	+Y PMD RES	Z	+Y PM132	A
133	+Y X3	D	+Y Y13	G	+Y PMD RES	Z	+Y PM133	B
134	+Y X4	N	+Y Y13	G	+Y PMD RES	Z	+Y PM134	M
135	+Y X5	P	+Y Y13	G	+Y PMD RES	Z	+Y PM135	T
136	+Y X6	W	+Y Y13	G	+Y PMD RES	Z	+Y PM136	V
137	+Y X7	E	+Y Y13	G	+Y PMD RES	Z	+Y PM137	F
138	+Y X8	S	+Y Y13	G	+Y PMD RES	Z	+Y PM138	U
139	+Y X9	X	+Y Y13	G	+Y PMD RES	Z	+Y PM139	Y
140	+Y X0	H	+Y Y14	R	+Y PMD RES	Z	+Y PM140	K

+Y X1-X0
+Y Y13
+Y Y14
+Y PMD RESET

3

PRINT POS 141-144 DOUBLE CARD AT 03D1C20

PR POS	INPUTS NAME	PIN	NAME	PIN	NAME	PIN	OUTPUT NAME	PIN
141	+Y X1	8	+Y Y14	G	+Y PMD RES	Z	+Y PM141	7
142	+Y X2	C	+Y Y14	G	+Y PMD RES	Z	+Y PM142	A
143	+Y X3	D	+Y Y14	G	+Y PMD RES	Z	+Y PM143	B
144	+Y X4	N	+Y Y14	G	+Y PMD RES	Z	+Y PM144	M

+Y X1-X0
+Y Y14
+Y PMD RESET

+Y PM144

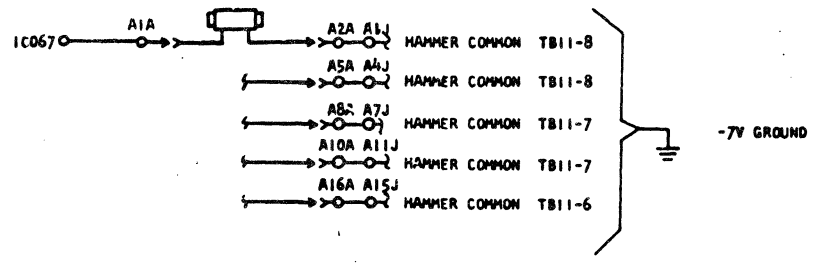
4

MAGNET
SELECT BUSS NPF OR PF

TYPE 1443	DATE	CHANGE NO.	DATE	CHANGE NO.	PART NUMBER	LOGIC NO.
	7-2-63	117777	1-20-64	118202	736670	20.38
SHEET 2 OF 2	9-10-63	117778	1-25-65	122121	TITLE	
	9-23-63	118198	MAR68	307322	PRT POS DECODE CHART 2	

C D

TYPICAL HAMMER CIRCUIT



DRIVER POS	CABLE CARD INPUT	CABLE CARD RETURN	HAMMER COIL
IC067	A1A	A2A	001
IC06A	A1B	A2B	002
IC06B	A1C	A2C	003
IC06M	A1D	A2D	004
IC06T	A1E	A2E	005
IC06V	A1F	A2F	006
IC06F	A1G	A2G	007
IC06U	A1H	A2H	008
IC06Y	A1K	A2K	009
IC06K	A1L	A2L	010
IC077	A1M	A2M	011
IC07A	A1N	A2N	012
IC07B	A1P	A2P	013
IC07M	A1Q	A2Q	014
IC07T	A1R	A2R	015
IC07V	A3A	A2A	016
IC07F	A3B	A2B	017
IC07U	A3C	A2C	018
IC07Y	A3D	A2D	019
IC07K	A3E	A2E	020
IC087	A3F	A2F	021
IC08A	A3G	A2G	022
IC08B	A3H	A2H	023
IC08M	A3K	A2K	024
IC08T	A3L	A2L	025
IC08V	A3M	A2M	026
IC08F	A3N	A2N	027
IC08U	A3P	A2P	028
IC08Y	A3Q	A2Q	029
IC08K	A3R	A2R	030
IC097	A4A	A5A	031
IC09A	A4B	A5B	032
IC09B	A4C	A5C	033
IC09M	A4D	A5D	034
IC09T	A4E	A5E	035
IC09V	A4F	A5F	036
IC09F	A4G	A5G	037
IC09U	A4H	A5H	038
IC09Y	A4K	A5K	039
IC19K	A4L	A5L	040
IC107	A4M	A5M	041
IC10A	A4N	A5N	042
IC10B	A4P	A5P	043
IC10M	A4Q	A5Q	044
IC10T	A4R	A5R	045
IC10V	A6A	A5A	046
IC10F	A6B	A5B	047
IC10U	A6C	A5C	048
IC10Y	A6D	A5D	049
IC10K	A6E	A5E	050
IC117	A6F	A5F	051
IC11A	A6G	A5G	052
IC11B	A6H	A5H	053
IC11M	A6K	A5K	054
IC11T	A6L	A5L	055
IC11V	A6M	A5M	056
IC11F	A6N	A5N	057
IC11U	A6P	A5P	058
IC11Y	A6Q	A5Q	059
IC11K	A6R	A5R	060
IC127	A7A	A8A	061
IC12A	A7B	A8B	062
IC12B	A7C	A8C	063
IC12M	A7D	A8D	064
IC12T	A7E	A8E	065
IC12V	A7F	A8F	066
IC12F	A7G	A8G	067
IC12U	A7H	A8H	068
IC12Y	A7K	A8K	069
IC12K	A7L	A8L	070
IC137	A7M	A8M	071
IC13A	A7N	A8N	072

DRIVER POS	CABLE CARD INPUT	CABLE CARD RETURN	HAMMER COIL
IC13B	A7P	A8P	073
IC13M	A7Q	A8Q	074
IC13T	A7R	A8R	075
IC13V	A9A	A10A	076
IC13F	A9B	A10B	077
IC13U	A9C	A10C	078
IC13Y	A9D	A10D	079
IC13K	A9E	A10E	080
IC147	A9F	A10F	081
IC14A	A9G	A10G	082
IC14B	A9H	A10H	083
IC14M	A9K	A10K	084
IC14T	A9L	A10L	085
IC14V	A9M	A10M	086
IC14F	A9N	A10N	087
IC14U	A9P	A10P	088
IC14Y	A9Q	A10Q	089
IC14K	A9R	A10R	090
IC157	A11A	A10A	091
IC15A	A11B	A10B	092
IC15B	A11C	A10C	093
IC15M	A11D	A10D	094
IC15T	A11E	A10E	095
IC15V	A11F	A10F	096
IC15F	A11G	A10G	097
IC15U	A11H	A10H	098
IC15Y	A11K	A10K	099
IC15K	A11L	A10L	100
IC167	A11M	A10M	101
IC16A	A11N	A10N	102
IC16B	A11P	A10P	103
IC16M	A11Q	A10Q	104
IC16T	A11R	A10R	105
IC16V	A12A	A13A	106
IC16F	A12B	A13B	107
IC16U	A12C	A13C	108
IC16Y	A12D	A13D	109
IC16K	A12E	A13E	110
IC177	A12F	A13F	111
IC17A	A12G	A13G	112
IC17B	A12H	A13H	113
IC17M	A12K	A13K	114
IC17T	A12L	A13L	115
IC17V	A12M	A13M	116
IC17F	A12N	A13N	117
IC17U	A12P	A13P	118
IC17Y	A12Q	A13Q	119
IC17K	A12R	A13R	120
IC187	A14A	A13A	121
IC18A	A14B	A13B	122
IC18B	A14C	A13C	123
IC18M	A14D	A13D	124
IC18T	A14E	A13E	125
IC18V	A14F	A13F	126
IC18F	A14G	A13G	127
IC18U	A14H	A13H	128
IC18Y	A14K	A13K	129
IC18K	A14L	A13L	130
IC197	A14M	A13M	131
IC19A	A14N	A13N	132
IC19B	A14P	A13P	133
IC19M	A14Q	A13Q	134
IC19T	A14R	A13R	135
IC19V	A15A	A16A	136
IC19F	A15B	A16B	137
IC19U	A15C	A16C	138
IC19Y	A15D	A16D	139
IC19K	A15E	A16E	140
IC207	A15F	A16F	141
IC20A	A15G	A16G	142
IC20B	A15H	A16H	143
IC20M	A15K	A16K	144

NOTES:

I PIN "J" HAMMER COMMON
II POS 1-120 BASIC MACHINE (MOD I/II)
121-144 OPTIONAL
III BLACK COIL LEAD TO HAMMER COMMON
IV POS 1-144 STANDARD (MOD III/IV)

TYPE 1443	PART NUMBER 736671	LOGIC NO. 20.39
SHEET 1 OF 2	TITLE PRT CHECKS	

TYPE 1443	DATE	CHANGE NO.	DATE	CHANGE NO.	PART NUMBER 736671	LOGIC NO. 20.39
SHEET 2 OF 2	SEE INDEX CARD				TITLE PRT CHECKS	
	12-15-64	122120				
	5-18-65	122157				

A B C D

1 2 3 4

DATA BUSS (NPF)
2034C4
2046C4
BUFF REG BUSS (PF)

-Y REG A (PF)
-Y DATA A (NPF)
-Y DATA B (NPF)
-Y REG B (PF)
+Y REG A (PF)
+Y DATA A (NPF)
+Y DATA B (NPF)
+Y REG B (PF)
+Y REG C (PF)
+Y DATA C (NPF)
20.09.00.4
A OR A
+Y EVEN AB
N
OR A OR
-Y ERROR
-Y REG C (PF)
-Y DATA C (NPF)
A OR A
+Y EVEN 1248C
N
CONS +Y STOR PR OUT
2033B4 -Y PULSE B (NPF)
2042D2 -Y CP-B (PF)
N
A

-Y REG 8 (PF)
-Y DATA 8 (NPF)
-Y DATA 4 (NPF)
-Y REG 4 (PF)
-Y REG NOT 8 (PF)
-Y DATA NOT 8 (NPF)
-Y DATA NOT 4 (NPF)
-Y REG NOT 4 (PF)
-Y REG 2 (PF)
-Y DATA 2 (NPF)
-Y DATA 1 (NPF)
-Y REG 1 (PF)
+Y REG 1 (PF)
+Y DATA 1 (NPF)
+Y DATA 2 (NPF)
+Y REG 2 (PF)
A OR A
+Y EVEN 48
N
+Y ODD 1248
A OR A
A OR A
+Y EVEN 12
N

+Y PAR CHECK SET

PARITY CHECK
DI
20.09.01.1
-6V
20.00.01.0

PARITY CHK LATCH
FL
20.09.01.1
-Y PARITY CHECK
N
20.09.01.1

2032B3 +Y MACH RESET
36.02.B4 +Y PR CHK RESET
OR

34.21.51
CHAN 12
-Y CHANNEL 12*IBP
-Y A REG NOT AB
-Y A REG 84
-Y A REG NOT 21
A
0
-Y CHANNEL 9*IBP
9 CHAN 9
A
-Y A REG 8 NOT 4
-Y A REG 1 NOT 2
-Y PARITY CHECK*IBP
-Y A REG A NOT B
-Y A REG 2 NOT 1
A
34.07.B3 (SRP)
-Y CARR BUSY
-Y A REG B NOT A
-Y A REG 4 NOT 8
-Y A REG 21
PTR BSY
A
OR
+Y PROG SKIP
*SRP-IBP
(CPU FOR EDUCATION USE ONLY)

-Y PARITY CHECK
CONS -Y I-O CHK STP SW ON
A
OR
20.09.01.1
N
+Y PR CHECK
2031A2
2032A1
2032B2
2042A2
2046C2

+Y SYNC CHK
3603A2

2046D2 -Y PRINT (PF)
2042D2 -Y CP-B (PF)
2031C3 -Y PRINT INSTR (NPF)
2033B4 -Y PULSE B NPF ONLY
-Y 151
2032D1 -Y TBS52
A
A
20.09.01.1

SYN CHECK LATCH
FL
20.09.01.1
A
N
SYN CHECK IND
DI
SYN LIGHT
-6V
20.00.01.0

(NPF ONLY)
0
N
PRINT CHECK CONTROL
2031C2

2031C2 +Y PR GT
A
+Y PRINT END RESET
2033B3

2033A3 +Y 151
N
N

PCC BUS
2034C1
2033A3 -Y Y 15
2032D1 -Y TBS 39
-Y PCC B
-Y PCC 8
+Y PCC A
+Y PCC 4
+Y PCC 2
+Y PCC 1
PCC 8
A
N
8.B
A
8.$\overline{B}$
A
A OR A A
2047D3 -Y Y16 (PF)
2036B3 -Y Y16 (NPF)
+Y PCC B
2032D1 -Y TBS 13
2032D1 -Y TBS 63
2035C2 -Y X 2 (NPF)
2047A1 -Y X2 (PF)

+Y PCC A
-Y PCC B
-Y PCC 1
-Y PCC 2
+Y PCC 4
-Y PCC 8
PCC 8
A
20.09.01.1

2032B3 +Y MACH RESET
2032B2 +Y GTD PR TIMER

TYPE 1443 | PART NUMBER 736672 | LOGIC NO. 20.40

SHEET 1 OF 2 | TITLE CARRIAGE CTRL

A B

1 2 3 4

(CPU) - FOR EDUCATION USE ONLY

DATA BUSS 2034C4

-Y I RING OP
-Y TIME 060-090 CKT 1
A → -Y CARR BUSY STOP (PF ONLY)

+Y FORM CTRL OPR → N

-Y I RING 1
-Y PROCESS OR D CYC NOT RECALL
+Y 000-015
A

N
2031C1 -Y RUN
3101XX -Y 060-090 CKT 1

+Y CARR CTRL
(PF ONLY) A
(NPF ONLY) A → N → 20.14.03.1

20.14.03.1 +Y CARR CTRL → (NPF ONLY) N

2059C2 (1445 S10)

20.14.03.1
3101XX -Y 015-030
A → +Y CARR RESET, +Y CARR SUP RESET → 0 → 20.05.00.1

-Y CARR CTRL

20.05.03.1
2041A3 -Y SKIP
2041D1 -Y SKIP STOP
A → +Y SKIP SUP → N → 20.05.03.1 A

2041D1 +Y FORM RESET

2040D1 +Y CAR A

-Y PULSE C

2034B3 +Y DATA 8, +Y DATA 4, +Y DATA 2
2034B2 +Y DATA 1
0 → 20.05.00.1

3101XX -Y 090-000
A → N

IMMED START
A
2034B2 +Y DATA A
3101XX -Y 105-000
2059C2 -Y (1445 S10)

+Y HMR RESTR 2031D2
SEE NOTE 1
+Y TBS 13
20.02.00.1 A → -Y OPT HMR RESTR 2032A2

START AFTR PRT
A
2031B3 +Y HMR RDY
2031C2 +Y LN STOP CTRL
2031B3 +Y SP SUPP
2031D2 +Y TB BRAKE
20.02.00.1
+Y DLYD CARR STR

CARRIAGE RESTORE
CARRIAGE SPACE

-Y CARR RESTORE

+Y SPACE RESTR → 390K, 0.1 MFD → N

20.00.08.0

DETENT SW
560Ω
-6V
-Y DETENT SW
680Ω
+12M

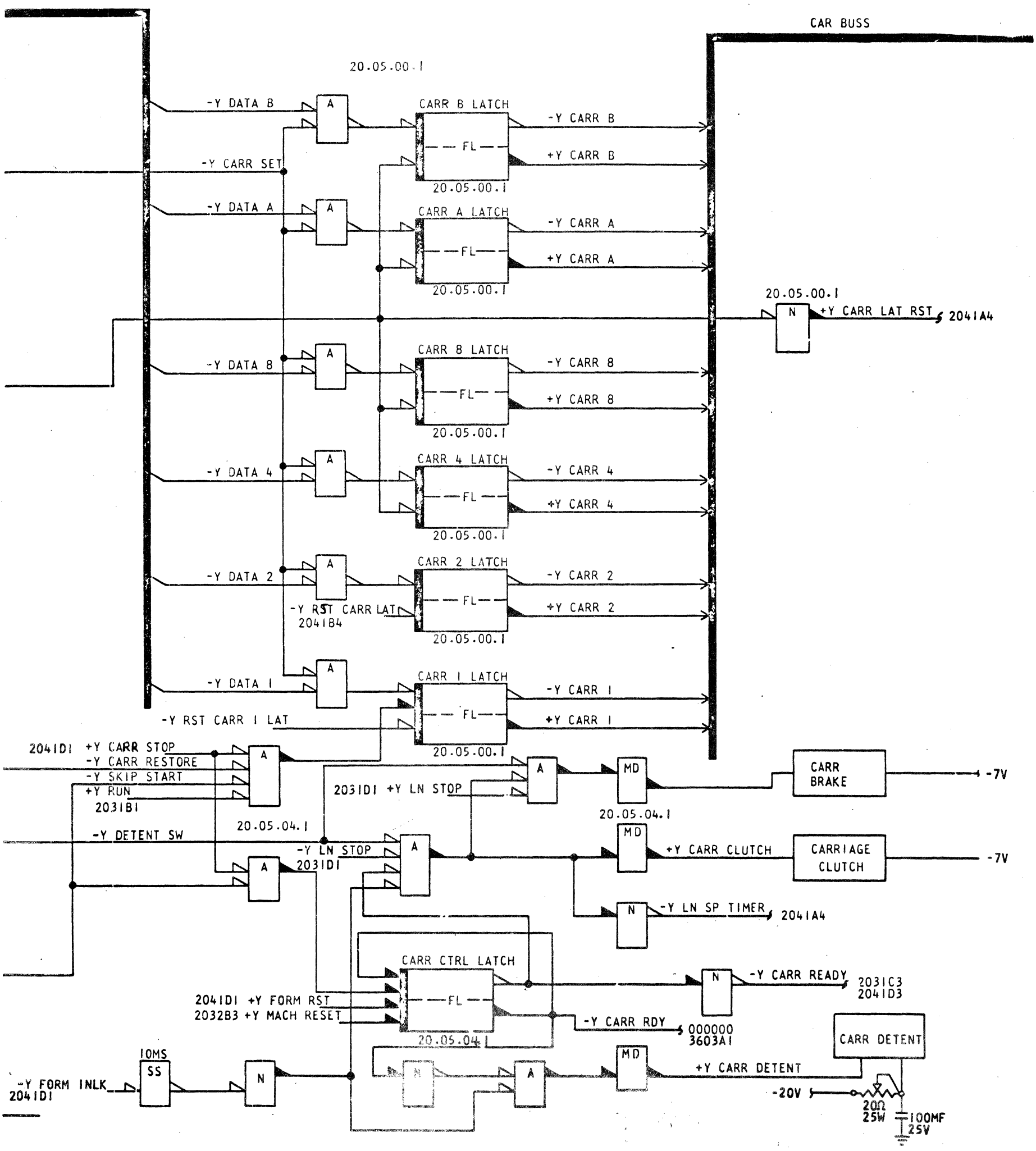
0

2031B1 +Y RUN
A → 20.05.00.1

NOTE 1: FOR MOD I OR MOD III THERE IS NO CONNECTION.
FOR MOD II OR MOD IV CONNECT C25H TO A26Q.

TYPE 1443	DATE	CHANGE NO.	DATE	CHANGE NO.	PART NUMBER	LOGIC NO.
	SEE INDEX CARD		MAR68	307322	736672	20.40
SHEET 2 OF 2	4-8-65	122152			TITLE	
	5-18-65	122157			CARRIAGE CTRL	

C D



TYPE 1443 | PART NUMBER 736673 | LOGIC NO. 20.41

SHEET 1 OF 2 | TITLE CARR STOP CTRLS

A B

CARR BUSS

CARRIAGE BRUSHES
20.00.06.0

-12

2041D3

-Y CARR BRUSH 1
-Y CARR BRUSH 2
-Y CARR BRUSH 3
-Y CARR BRUSH 4
-Y CARR BRUSH 5
-Y CARR BRUSH 6
-Y CARR BRUSH 7
-Y CARR BRUSH 8
-Y CARR BRUSH 9
-Y CARR BRUSH 10
-Y CARR BRUSH 11
-Y CARR BRUSH 12

-Y CARR BRUSH 1 INT
-Y CARR BRUSH 2 INT
-Y CARR BRUSH 3 INT
-Y CARR BRUSH 4 INT
-Y CARR BRUSH 8 INT

20.05.03.1

-Y CARR CH 1
2031A1
2041D3
3603A1
2059C3 (1445 S10)

+Y CARR 2
-Y CARR 1
-Y CARR 2
+Y CARR 1
+Y CARR 8
-Y CARR 4
-Y CARR 8
+Y CARR 4

1 A
2 A
3 A
4 A
8 A
OR
OR
OR

20.05.03.1
20.05.02.1

+Y CARR 8
+Y CARR 4
A
20.05.03.1
N

20.05.01.1

2040D1
-Y CARR B
-Y CARR A
+Y CARR B
+Y CARR A
A
OR
N
-Y SKIP 2040A2

2040D2 +Y CARR LAT RST

A
OR
-Y RST CARR 1 LAT 2040C3
-Y CARR BRK CTRL 2031A1 2041D1 2041C4
A
OR
-Y RST CARR 2 LAT 2040C3

N
20.02.00.1

CARR BRK CTRL
AM
R 1.6K -12
R 120Ω

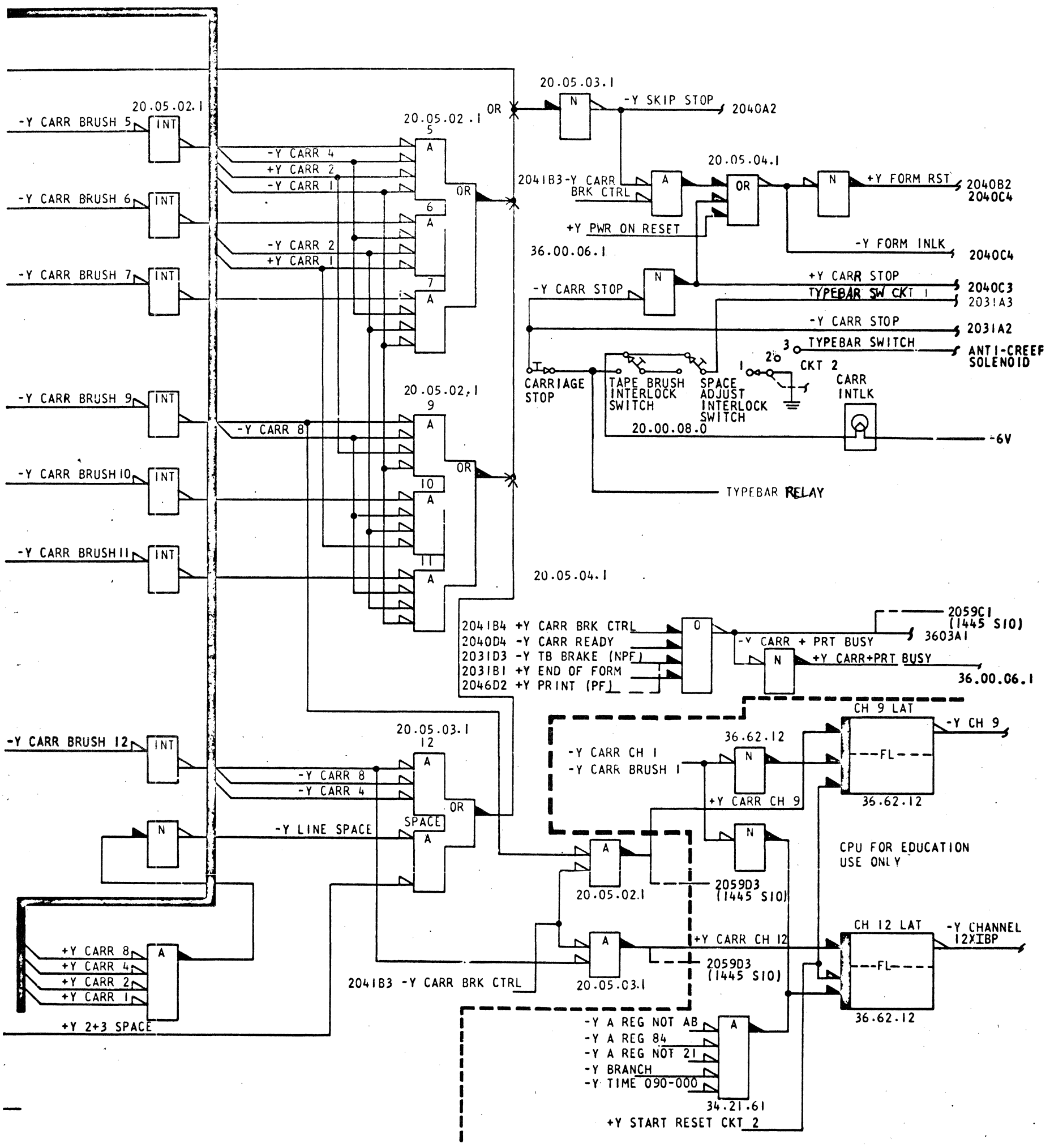
2040D4 -Y LN SP TIMER
2040D3 -Y CARR 2
2040D3 +Y CARR 1
2040D3 +Y CARR 2
+Y CARR BRK CTRL
A

2 + 3 SPACE LATCH
FL
20.05.01.1

2041D3

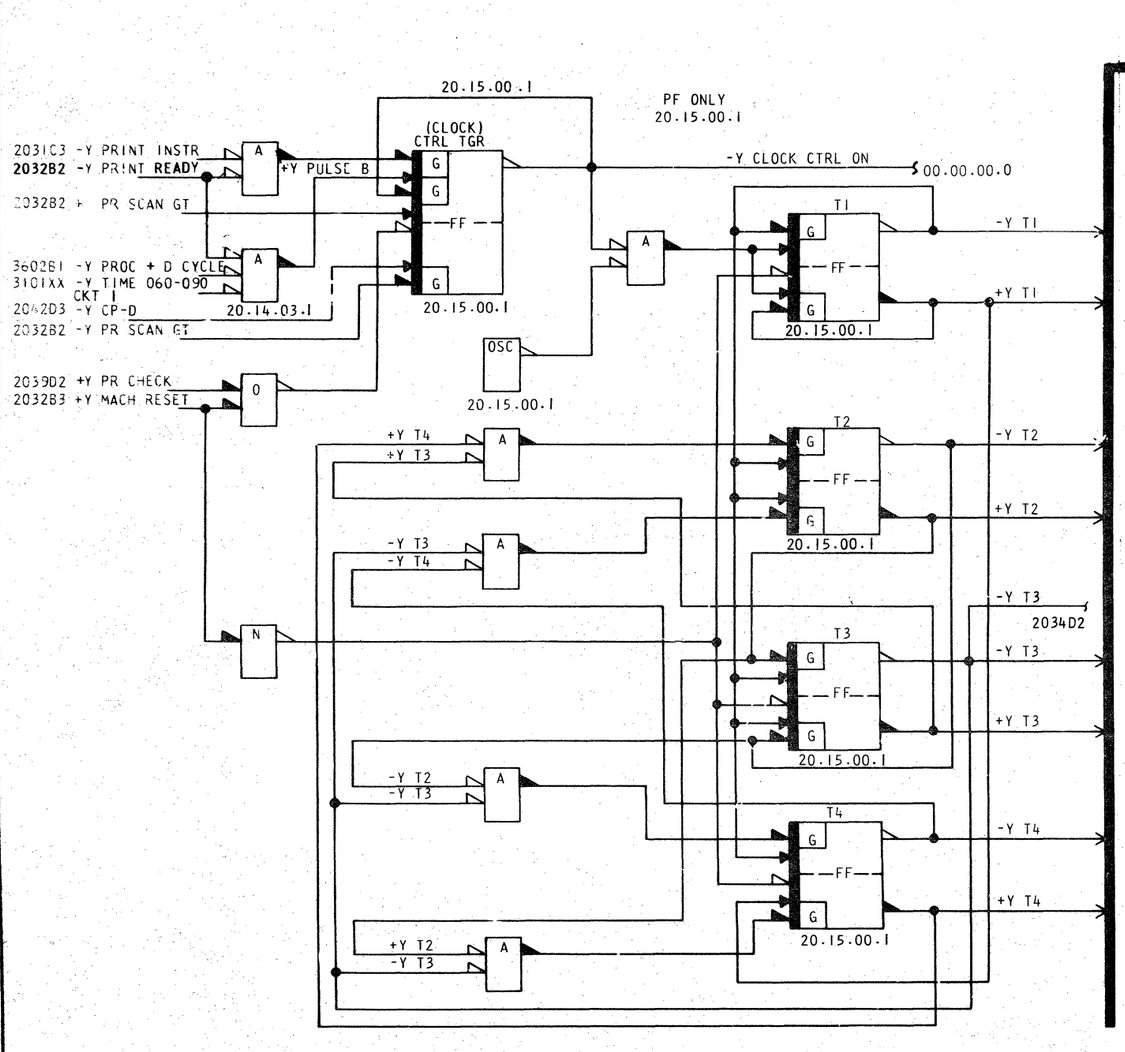
TYPE 1443	DATE	CHANGE NO.	DATE	CHANGE NO.	PART NUMBER	LOGIC NO.
	SEE INDEX CARD		4-8-65	122152	736673	20.41
SHEET 2 OF 2	12-15-64	122120	5-18-65	122157	TITLE	
	1-25-65	122121	MARCH	30/322	CARR STOP CTRLS	

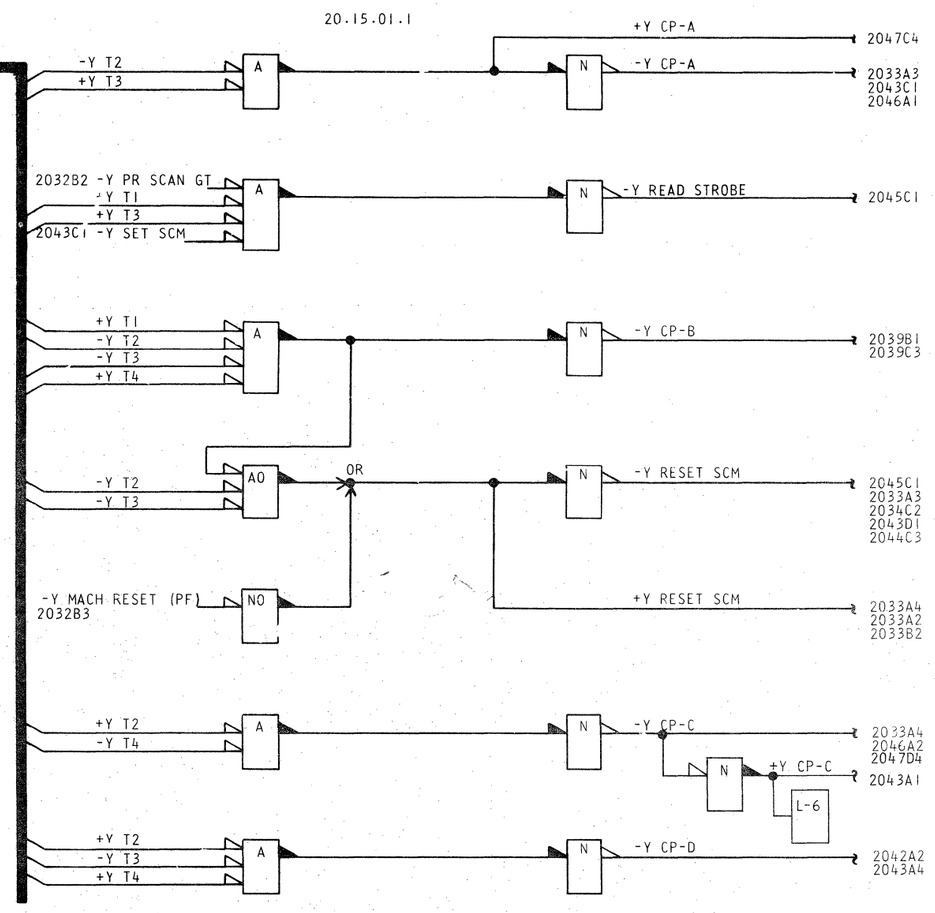
C D

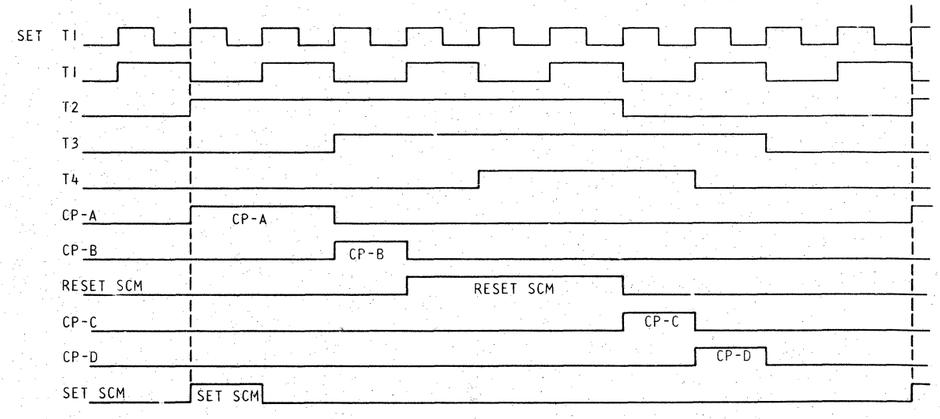


TYPE 1443	PART NUMBER 736674	LOGIC NO. 20.42
SHEET 1 OF 2	TITLE BUFF CLOCK	

TYPE 1443	DATE	CHANGE NO.	DATE	CHANGE NO.	PART NUMBER 736674	LOGIC NO. 20.42
SHEET 2 OF 2	SEE INDEX CARD				TITLE BUFF CLOCK	
	8APR65	122152				
	15SEP65	122158				







TYPE 1443 | SHEET 1 OF 2 | PART NUMBER 736675 | LOGIC NO. 20.43 | TITLE BUFFER ADDRESSING

TYPE 1443 | SHEET 2 OF 2

DATE	CHANGE NO.	DATE	CHANGE NO.
7-2-63	117777	12-15-64	122120
9-10-63	117778		
9-23-63	118198		

PART NUMBER 736675 | LOGIC NO. 20.43 | TITLE BUFFER ADDRESSING

A B C D

1 2 3 4

NOTE 2

2042D3 +Y CP-C

20.15.02.1
NOTE 1

-Y UNITS E
-Y UNITS B
-Y UNITS D
-Y UNITS A
-Y UNITS C
-Y UNITS E
-Y UNITS B
-Y UNITS A
-Y UNITS D
-Y UNITS C
-Y UNITS B
-Y UNITS D
-Y UNITS A
-Y UNITS C

UNITS A
UNITS B
UNITS C
UNITS D
UNITS E

-Y UNITS A
-Y UNITS B
-Y UNITS C
-Y UNITS D
-Y UNITS E

20.15.05.1
BIAS UNITS A
BIAS UNITS B
BIAS UNITS C
BIAS UNITS D
BIAS UNITS E

UNITS ADDR BUSS → 2047C4 2047A1

NOTE 2
+Y STEP TENS

2047D4 -Y 197 LATCH
2042D3 -Y CP-D
2032B3 +Y MACH RESET
-Y REG RESET

NOTE 1: THESE TRIGGERS ARE GATED ON WHEN THE TRIGGER IS OFF. THE GATES ARE APPLIED INTERNALLY.

NOTE 2: SPD (+A) REQUIRES +A GATE INPUT AND A PLUS SHIFT TO GIVE A PLUS PULSE OUT.

(PF)

BIAS UNITS BUSS

2032B2 +Y PR SCAN GT
2046D2 -Y PRINT
2042D1 -Y CP-A

20.15.06.1

SET SCM
SET UNITS
SET UNITS SCM

BIAS UNITS A
BIAS UNITS B
BIAS UNITS C
BIAS UNITS D
BIAS UNITS E

20.15.11.1
UNITS BI LD
(UNITS A)
(UNITS B)
(UNITS C)
(UNITS D)
(UNITS E)

-Y SET SCM → 2042C1

RST UNITS
2042D2 -Y RESET SCM
RESET UNITS SCM

SET TENS 2
SET TENS 2 SCM

RST TENS 2
RESET TENS 2 SCM

+Y TENS E
+Y TENS D
-Y REG RESET

HUNDREDS

-Y HUNDREDS → 2047C3
+Y HUNDREDS
+Y HUNDREDS → 2047B4

SET TENS 1

20.15.11.1
TENS BI LD
BIAS TENS A
BIAS TENS B
BIAS TENS C
BIAS TENS D
BIAS TENS E
(TENS A)
(TENS B)
(TENS C)
(TENS D)
(TENS E)

RST TENS 1
SET TENS 1 SCM
RESET TENS 1 SCM

BIAS TENS BUSS

NOTE 1

TENS A
TENS B
TENS C
TENS D
TENS E

-Y TENS E
-Y TENS B
-Y TENS D
-Y TENS A
-Y TENS C
-Y TENS E
-Y TENS B
-Y TENS A
-Y TENS D
+Y STEP TENS
-Y TENS C
-Y TENS B
-Y TENS E
-Y REG RESET
-Y TENS D
-Y TENS A
-Y TENS C

-Y TENS A
-Y TENS B
-Y TENS C
-Y TENS D
-Y TENS E
-Y TENS D
+Y TENS D
-Y TENS E
+Y TENS E

20.15.05.1
BIAS TENS A
BIAS TENS B
BIAS TENS C
BIAS TENS D
BIAS TENS E

TENS ADDR BUSS → 2047A4

TYPE 1443	PART NUMBER 736676	LOGIC NO. 20.44.
SHEET 1 OF 2	TITLE BUFFER SW CORE MATRIX	

TYPE 1443	DATE	CHANGE NO.	DATE	CHANGE NO.	PART NUMBER 736676	LOGIC NO. 20.44
SHEET 2 OF 2	7-2-63	117777			TITLE BUFFER SW CORE MATRIX	
	9-10-63	117778				
	6-30-64	118285				

A B C D

1 2 3 4

(UNITS A)
(UNITS B)
(UNITS C)
(UNITS D)
(UNITS E)

SET UNITS SCM
RESET UNITS SCM

NOTE 1

DJA - (SCM)
20.15.11.1

A
C
O

0 0 0 1 0 2 0 3 0 4 0 5 0 6 0 7 0 8 0 9

RETURN

X DRIVE LINES

(TENS A)
(TENS B)
(TENS C)
(TENS D)
(TENS E)

SET TENS 2 SCM
RESET TENS 2 SCM

3
U
7

SET TENS 1 SCM
RESET TENS 1 SCM

S
4
V

1 0 0 1 1 0 1 2 0 1 3 0 1 4 0 1 5 0 1 6 0 1 7 0 1 8 0 1 9 0

RETURN

Y DRIVE LINES

2046C4 BUFF REG BUSS

NOTE 1: SCM (SWITCH CORE MATRIX) IS LOCATED ON ONE DOUBLE CARD AT 03DIE44, AND CONNECTED TO (MEM) BY CABLES ON THE CARD SIDE OF GATE.

(SENSE GATE) VR CONTROL
VR
20.15.11.1

(OUTPUT SENS LEV) VR CONTROL
R+12
20.15.11.1

SERIES REG
VR3
20.15.11.1

SET-RES LD
R
20.15.11.1

SET-RES LD
R
20.15.11.1

X DRIVE LINES

Y DRIVE LINES

BUFF REG BUSS

20.15.10.1

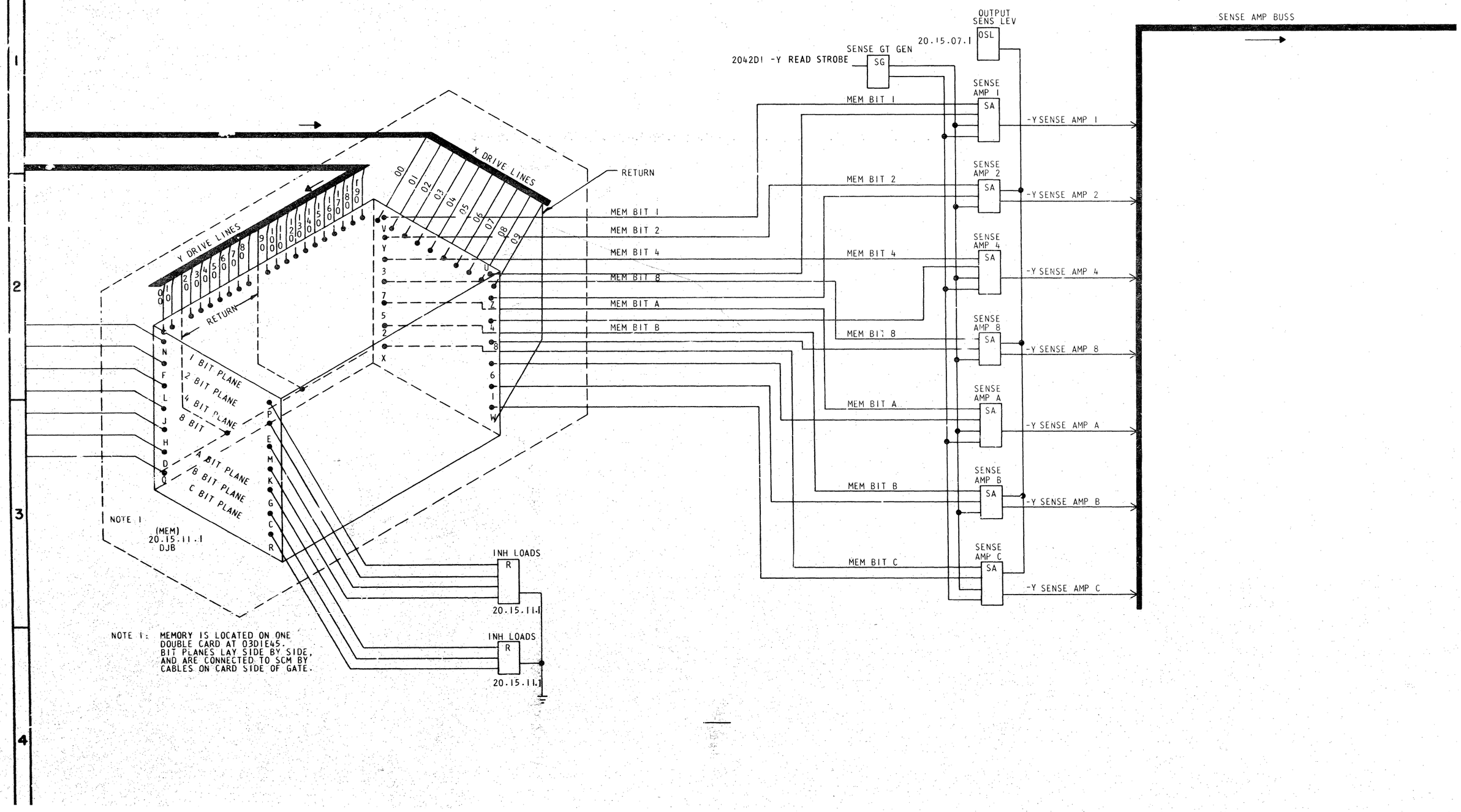
2042D2 -Y RESET SCM

+Y REG 1
+Y REG 2
+Y REG 4
+Y REG 8
+Y REG A
+Y REG B
+Y REG C

+Y INH CURR 1
+Y INH CURR 2
+Y INH CURR 4
+Y INH CURR 8
+Y INH CURR A
+Y INH CURR B
+YINH CURR C

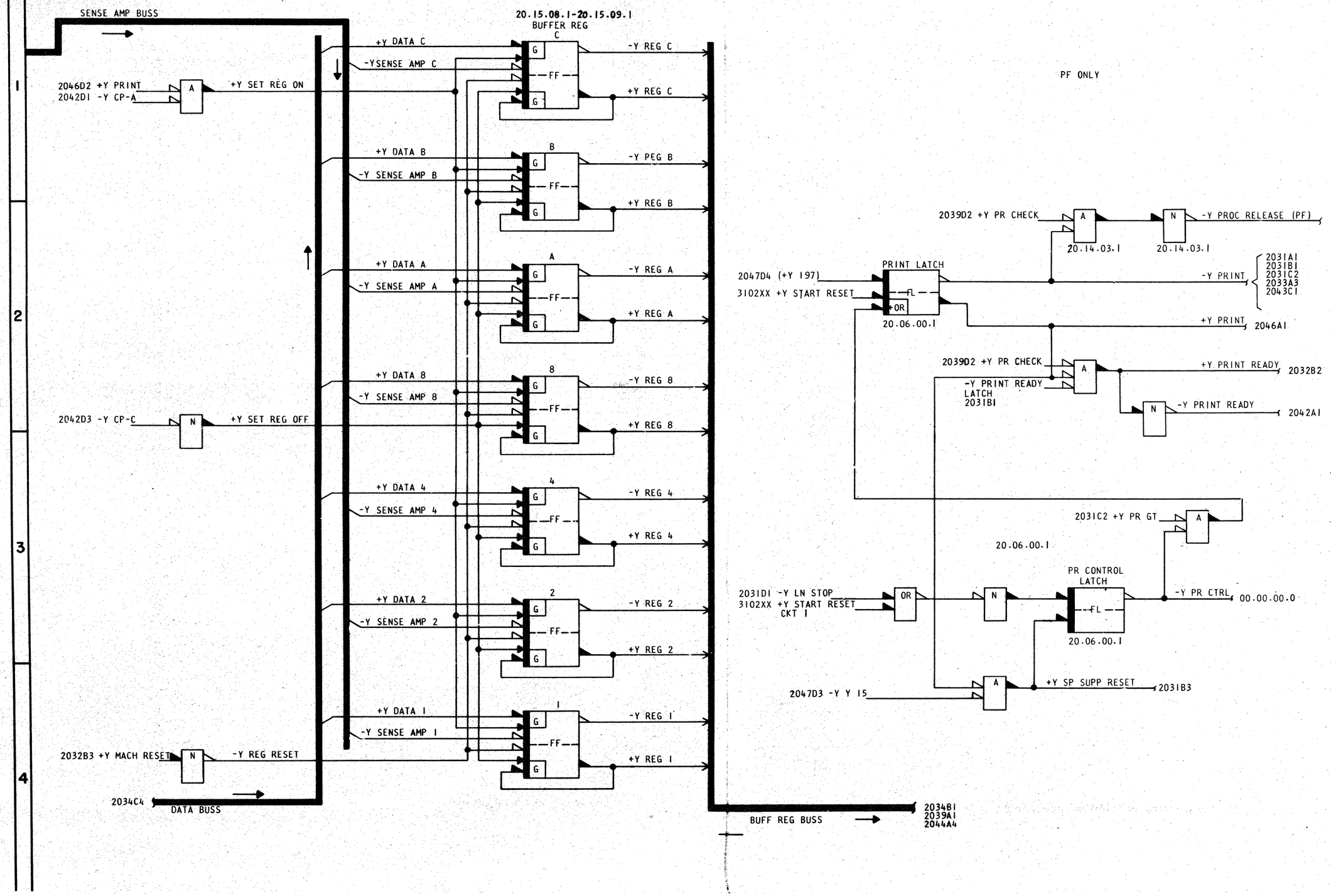
TYPE 1443	PART NUMBER 736677	LOGIC NO. 20.45
SHEET 1 OF 2	TITLE BUFF SENSE AMPS	

TYPE 1443	DATE	CHANGE NO.	DATE	CHANGE NO.	PART NUMBER	LOGIC NO.
	7-2-63	117777	12-15-64	122120	736677	20.45
SHEET 2 OF 2	9-10-63	117778	5-18-65	122157	TITLE BUFF SENSE AMPS	
	6-30-64	118285				



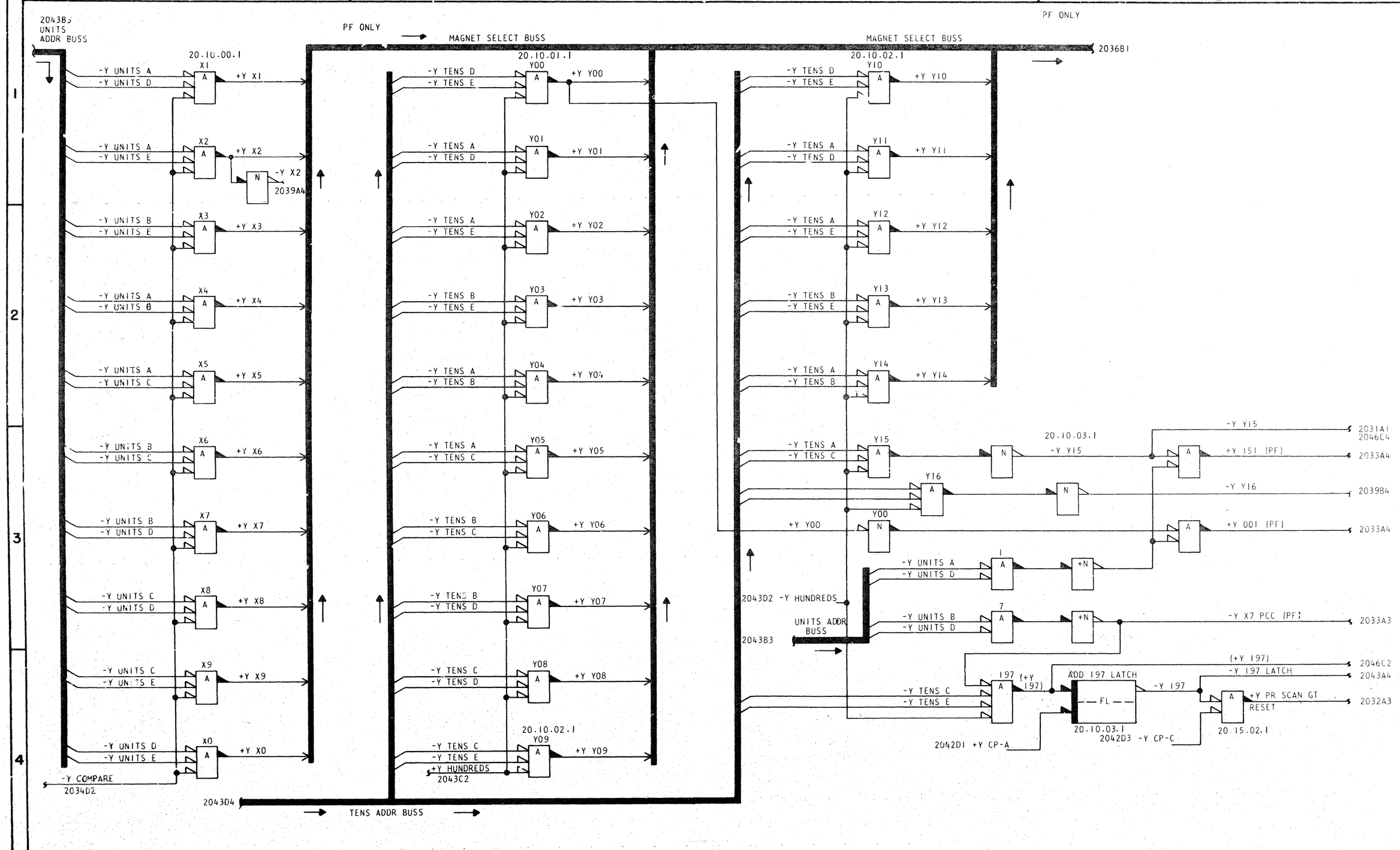
TYPE 1443	PART NUMBER 736678	LOGIC NO. 20.46
SHEET 1 OF 2	TITLE BUFFER DATA REG	

TYPE 1443	DATE	CHANGE NO.	DATE	CHANGE NO.	PART NUMBER 736678	LOGIC NO. 20.46
SHEET 2 OF 2	7-2-63	117777	6-30-64	118285	TITLE BUFFER DATA REG	
	9-10-63	117778				
	1-20-64	118202				



TYPE 1443	PART NUMBER 736679	LOGIC NO. 20.47
SHEET 1 OF 2	TITLE PRT MAGNET DECODE (PF)	

TYPE 1443	DATE	CHANGE NO.	DATE	CHANGE NO.	PART NUMBER 736679	LOGIC NO. 20.47
SHEET 2 OF 2	7-2-63	117777	1-20-64	118202	TITLE PRT MAGNET DECODE (PF)	
	9-10-63	117778				
	9-23-63	118198				



TYPE 1443 | SHEET 1 OF 2 | PART NUMBER 736738 | LOGIC NO. 20.48 | TITLE METER CIRCUITS

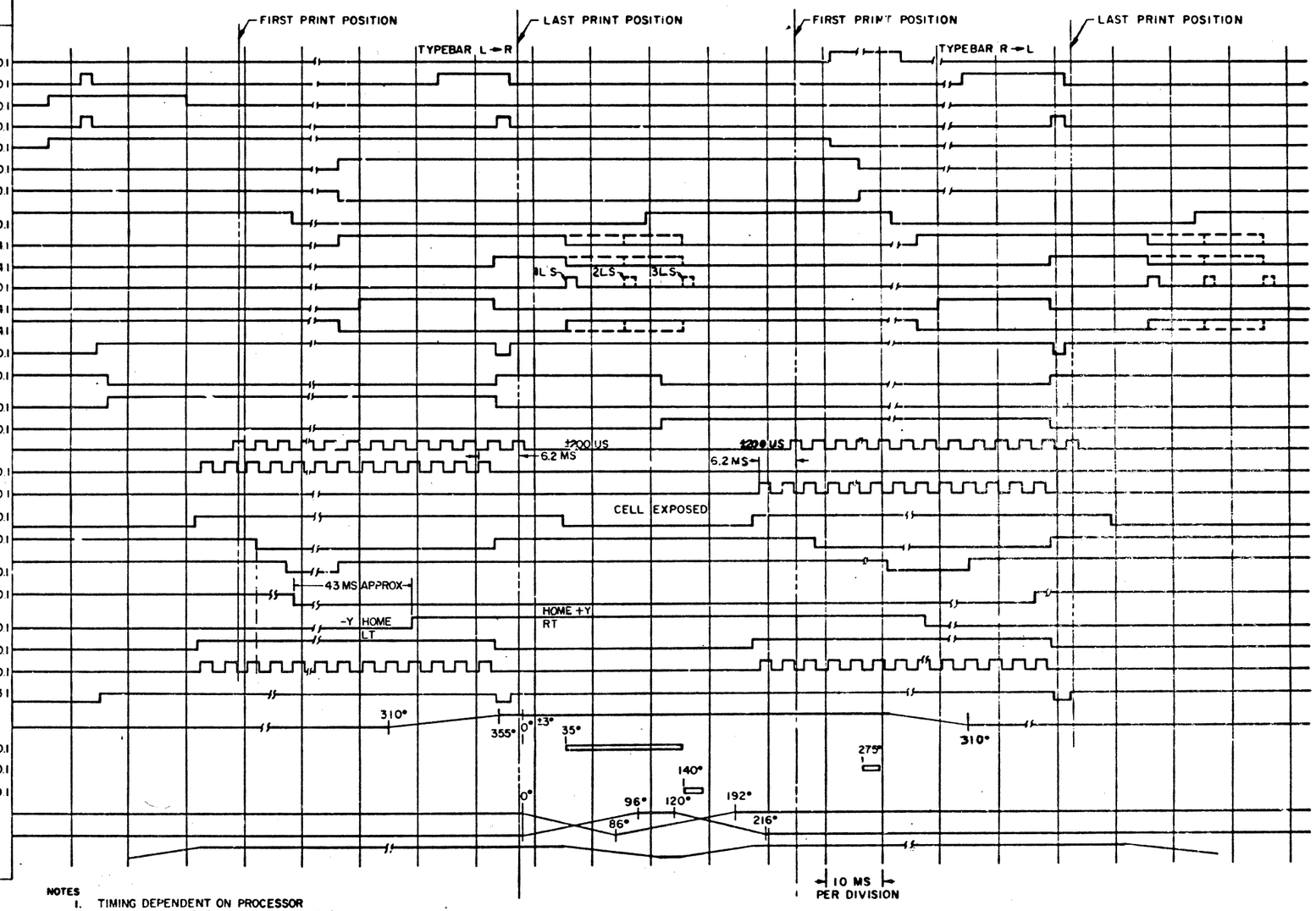
TYPE 1443 | SHEET 2 OF 2

DATE	CHANGE NO.	DATE	CHANGE NO.
9-17-63	118192		
7-23-64	118285		

PART NUMBER 736738 | LOGIC NO. 20.48 | TITLE METER CIRCUITS

1443 PRINTER
TIMING CHART-CONTROLS — BUFFERED

SIGNAL NAME		FRAME GATE	TEST POINT	LOGIC PAGE
STOP	-Y	03DI	A03B	20.01.001
PRINT INSTR.[1]	-Y	03DI	F06K	20.00.001
START	-Y	03DI	A03A	20.01.001
MEMORY LOAD	-Y	03DI	D35E	20.06.001
RUN LATCH	-Y	03DI	A13A	20.01.001
HMR RESTORE CL.	+Y	03DI	A45C	20.03.001
HMR RESTORE BRK	+Y	03DI	A45B	20.03.001
HMR READY	-Y	03DI	A13E	20.03.001
CAR DETENT MAG	+Y	03DI	D45C	20.05.041
CAR. CLUTCH MAG.	+Y	03DI	D45B	20.05.041
CAR. BRK CTRL.	-Y	03DI	B08Q	20.02.001
CAR. BRAKE MAG	+Y	03DI	C45B	20.05.041
CARRIAGE READY	-Y	03DI	C31R	20.05.041
PRINT	-Y	03DI	D35E	20.06.001
TYPEBAR BRK	+Y	03DI	C45C	20.04.001
TYPEBAR CL. RT.	+Y	03DI	B45B	20.04.001
TYPEBAR CL. LT.	+Y	03DI	B45C	20.04.001
TYPEBAR(TYPE POSITIONS)[7]				
PR. TIMER RT[2,6]	+Y	03DI	B17L	20.06.001
PR. TIMER LT[2,6]	+Y	03DI	B17P	20.06.001
LINE START S.C.	-Y	03DI	B06A	20.02.001
LINE STOP S.C.[8]	-Y	03DI	B06E	20.02.001
HMR RESTORE S.C.[3]	-Y	03DI	A09C	20.02.001
TYPEBAR READY S.C.	-Y	03DI	B23L	20.02.001
TYPEBAR DIRECTION S.C.		03DI	B06H	20.02.001
PRINT GATE	+Y	03DI	B16Q	20.06.001
PRINT SCAN GATE	-Y	03DI	B18G	20.06.001
PROC. RELEASE	-Y	03DI	F28D	20.14.031
HMR RESTORE HR CB 3[10]	-Y	03DI	A04E	20.03.001
HR CB 4[4,10]	-Y	03DI	A04G	20.03.001
HR CB 5[5,10]	-Y	03DI	A04R	20.01.001
HMR SPRING BAIL[9]				
HMR RESTORE BAIL[9]				
TYPEBAR MOTION				



NOTES
1. TIMING DEPENDENT ON PROCESSOR
2. TIME FOR CORRECT STRIKE OF HAMMERS
3. S.C WILL BE UNCOVERED LATER FOR NUMERIC TYPEBAR
4. TIME TO STOP HAMMER SHAFT AT 310° ±5 WITH 52 CHARACTER BAR
5. WITH A 52 CHARACTER BAR, ADJUST HRCB5 FROM 112° MIN TO 250° MAX TO GIVE 240 LINES PER MINUTE MOD II OR 230 LINES PER MINUTE MOD IV
6. PULSE "ON" DURATION WILL VARY DEPENDENT ON TIMER ADJUSTMENT. IT IS NOT TO EXCEED 1.0 MS.
7. TYPE BAR POSITIONS CAN BE DISPLAYED FROM REFERENCE TIMER AT B04E
8. LINE STOP SOLAR CELL MUST SWITCH BEFORE END OF THIRD PRINT SCAN PULSE AND SWITCH BACK AFTER LAST PRINT SCAN PULSE
9. TIMINGS FOR REFERENCE ONLY
10. HRCB TIMINGS ARE APPROXIMATE VALUES. THEY ARE SET FOR A FUNCTION RATHER THAN A DEFINITE TIMING
11. CONTROLLED BY DETENT SWITCH.

DATE	CHANGE NO.
6-7-63	117776
4-30-63	115643M
3-12-63	115643E
1-24-63	115643B
12-7-62	115643
9-29-62	113851M

DATE	CHANGE NO.
4-8-65	122152
MAR 66	307322
9-4-64	118294
5-14-64	118272
1-20-64	118202
9-11-63	117778
7-9-63	117777

	NAME	DATE
APPRO		
CHECK	BLC	6-29-62
DRAW	VE	10-31-62
CHECK		

DESIGN DETAIL

SCALE NONE — TYPE 1443

INTERNATIONAL BUSINESS MACHINES CORP

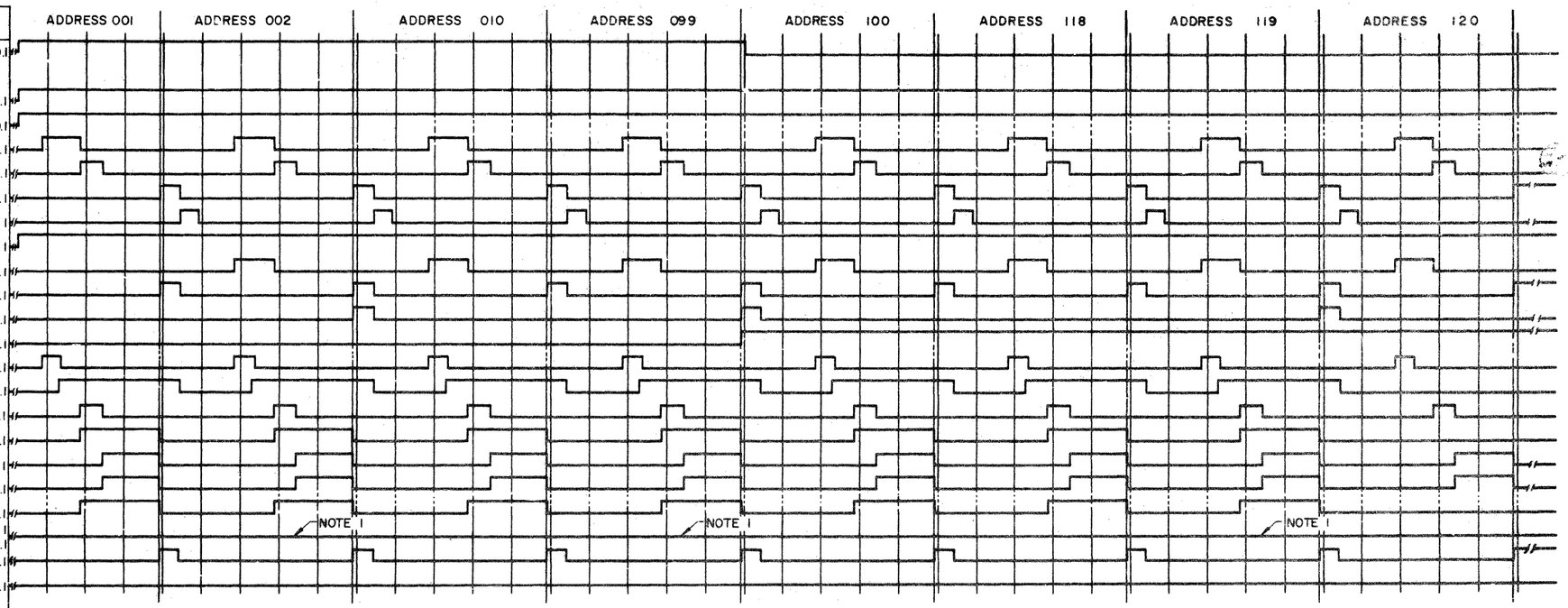
TIMING CHART CONTROLS MOD II/IV

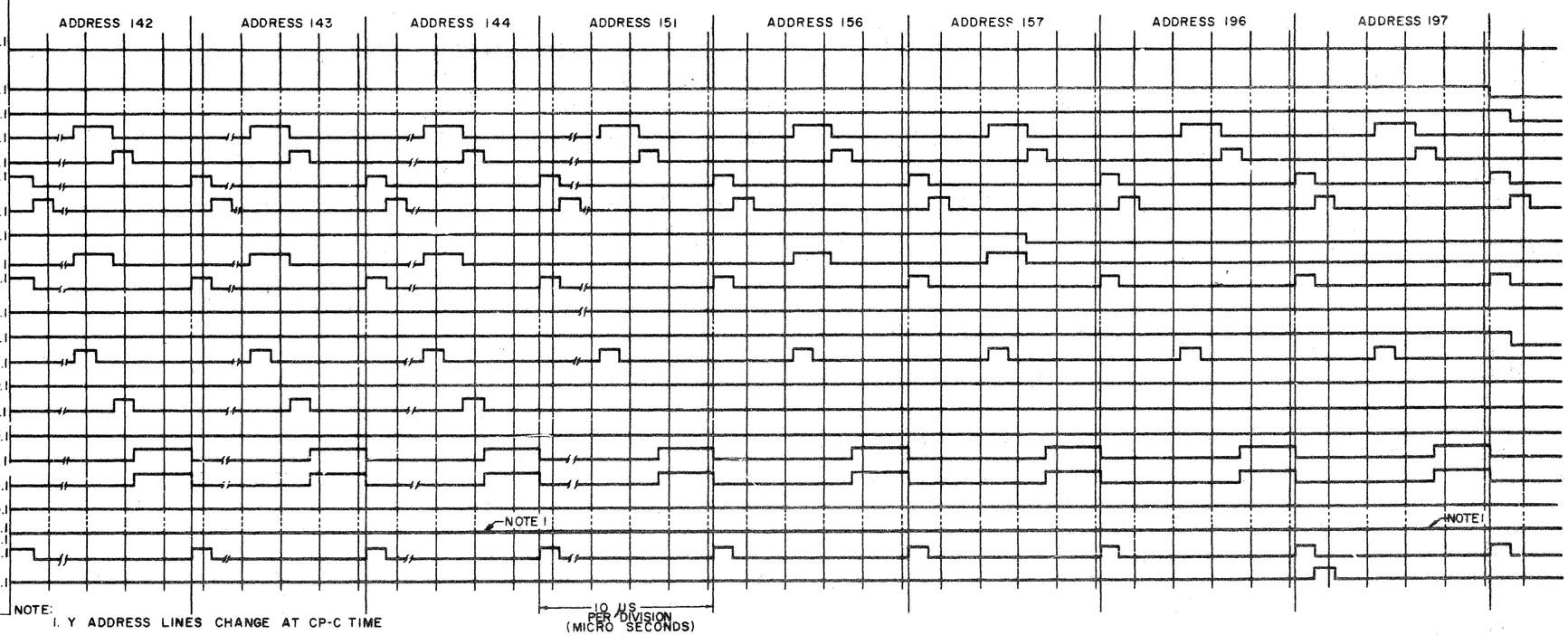
20.51

749656

1443 PRINTER
PRINT CYCLE- BUFFERED

SIGNAL NAME		FRAME GATE	TEST POINT	LOGIC PAGE
PR. TIMER RT.	-Y	03D1	B17F	20.06.00.1
PRINT SCAN GATE	+Y	03D1	D24Q	20.06.00.1
CLOCK CTRL TRIG	-Y	03D1	C38J	20.15.00.1
CP-A	+Y	03D1	C34H	20.15.01.1
CP-B	+Y	03D1	C34E	20.15.01.1
CP-C	+Y	03D1	C35Q	20.15.01.1
CP-D	+Y	03D1	D31H	20.15.01.1
P.C.C. ADV. LATCH	-Y	03D1	B26C	20.07.01.1
P.C.C. ADVANCE	-Y	03D1	A29C	20.07.01.1
ADDRESS REG. UNITS ADV	+Y	03D1	E36R	20.15.02.1
ADDRESS REG. TENS ADV	+Y	03D1	E35A	20.15.02.1
HUNDREDS TRIGGER	-Y	03D1	F35B	20.15.06.1
SET SCM	-Y	03D1	C44D	20.15.06.1
DATA LINES (FROM BUFF. REG.)		03D1	SEE LOGIC DWG	20.15.09.1
PARITY CHECK	-Y	03D1	F17L	20.09.01.1
COMPARE	-Y	03D1	E14L	20.08.00.1
RESET SCM	+Y	03D1	F28H	20.15.01.1
INHIBIT DRIVERS		03D1	SEE LOGIC DWG	20.15.10.1
X ADDRESS LINES (PMD)		03D1	SEE LOGIC DWG	20.10.00.1
Y ADDRESS LINES (PMD)		03D1	SEE LOGIC DWG	20.10.01.1 20.10.02.1
RESET BUFFER REG	-Y	03D1	D41P	20.15.08.1
ADDRESS REG. RESET	-Y	03D1	C43Q	20.15.02.1





NOTE:
1. Y ADDRESS LINES CHANGE AT CP-C TIME

DATE	CHANGE NO.
6-29-62	113851M
9-20-62	REDRAWN
12-10-62	115643
1-24-63	115643B
2-11-63	115643D
4-30-63	115643M
7-9-63	117777
9-11-63	117778
4-8-65	122152

APPRO		DESIGN	
CHECK	BLC 6-29-62	DETAIL	
CHECK		DRAW	TYPE
		VE 9-12-62	SCALE NONE

INTERNATIONAL BUSINESS MACHINES CORP

NAME TIMING CHART

1443

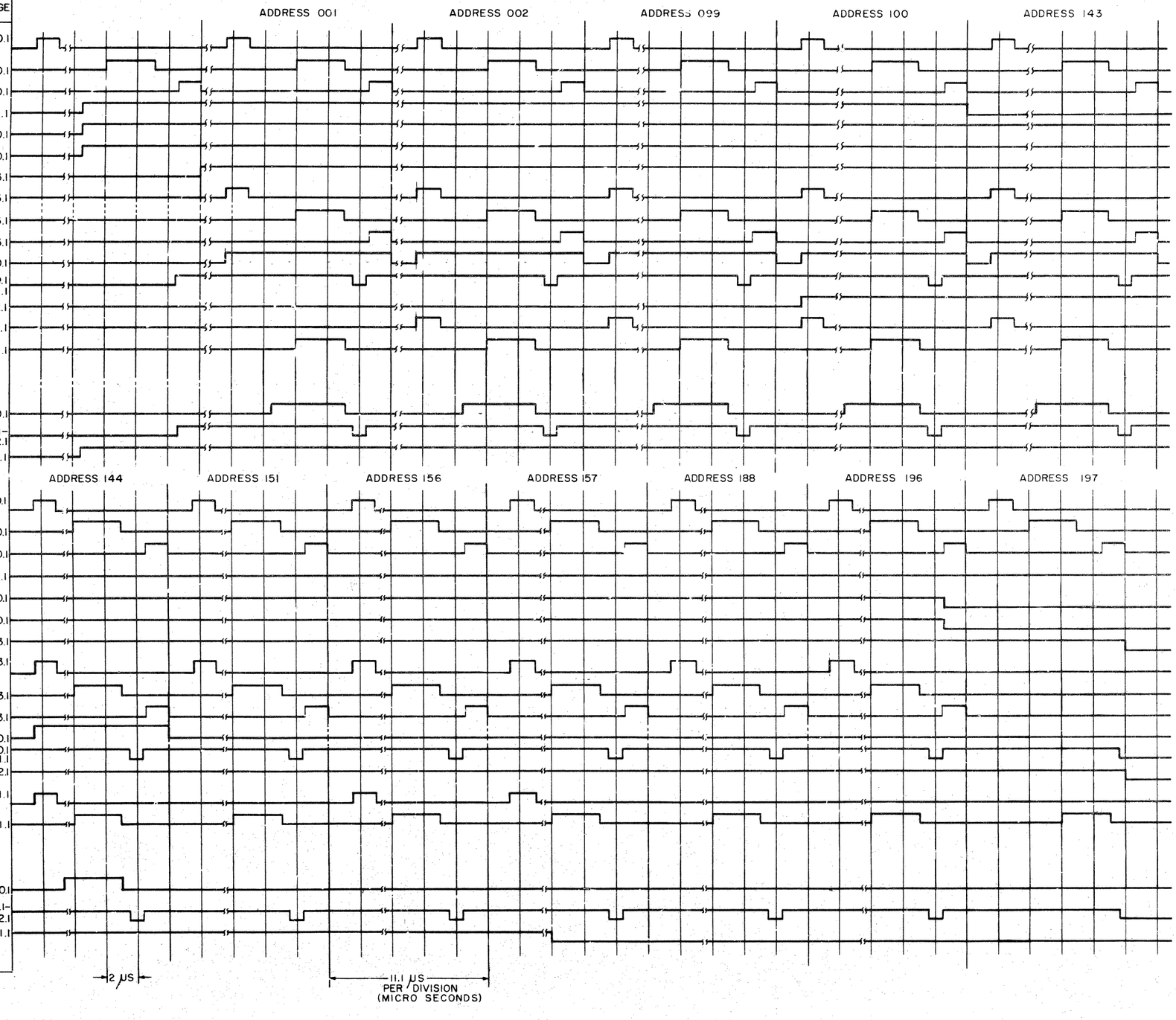
20.52

749857

1443 PRINTER
PRINT CYCLE-UNBUFFERED

SIGNAL NAME		FRAME GATE	TEST POINT	LOGIC PAGE
TIME 015-030	-Y	03D1	F06G	20.00.00.1
TIME 060-090	-Y	03D1	F06H	20.00.00.1
TIME 105-000	-Y	03D1	F07K	20.00.00.1
PR. TIMER LT.	+Y	03D1	B07A	20.02.01.1
PRINT SCAN GATE	-Y	03D1	E08A	20.06.00.1
PRINT READY	+Y	03D1	F06E	20.00.00.1
PROC +D CYCLE	-Y	03D1	E07L	20.14.03.1
PULSE A	-Y	03D1	F29C	20.14.03.1
PULSE B	-Y	03D1	F29F	20.14.03.1
PULSE D	-Y	03D1	F29R	20.14.03.1
DATA LINES		03D1	SEE LOGIC DWGS	20.14.00.1
ADDRESS LINES		03D1	SEE LOGIC DWGC	20.00.00.1 20.10.01.1
ADDRESS A LATCH	-Y	03D1	E28C	20.10.02.1
P.C.C. ADVANCE	+Y	03D1	A26C	20.07.01.1
PARITY CHECK	-Y	03D1	B09C	20.09.01.1
X-ADDRESS LINES		03D1	SEE LOGIC DWGS	20.10.00.1
Y-ADDRESS LINES		03D1	SEE LOGIC DWGS	20.10.01.1- 20.10.02.1
PCC ADV. LATCH	-Y	03D1	B26C	20.07.01.1

52 CHAR. TYPEBAR
TBL → R



DATE	CHANGE NO.
6-29-62	
9-20-62	113851-M
12-10-62	REDRAWN
1-24-63	115643
2-11-63	115643B
4-30-63	115643D
7-9-63	117777
9-11-63	117778
1-20-64	118202
9-4-64	**118294**
1-25-65	122121

INTERNATIONAL BUSINESS MACHINES CORP

NAME: TIMING CHART

DESIGN: BLC 6-29-62
DRAWN:
CHECK:
APPROV:

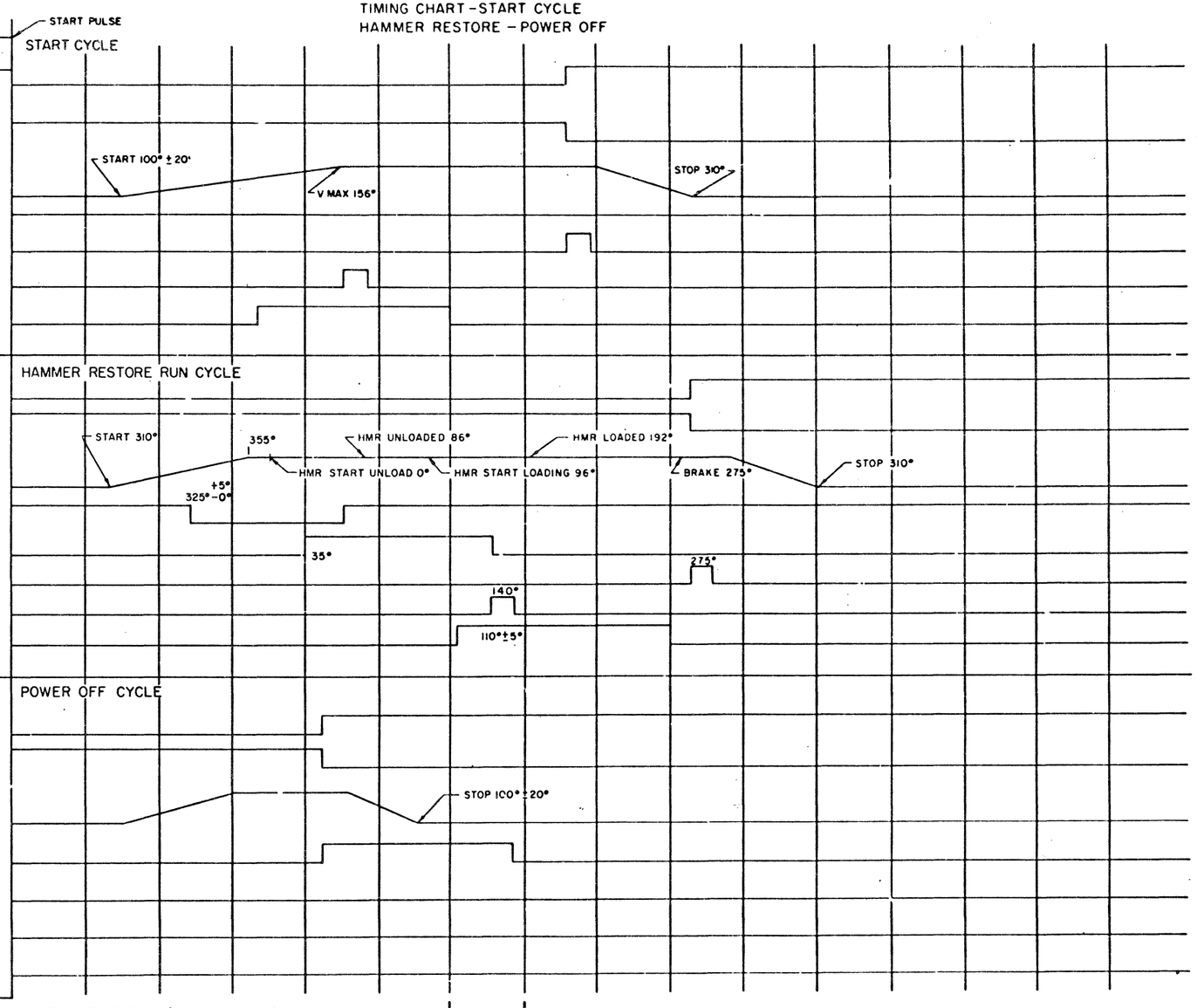
TYPE: 1443
SCALE: NONE
DATE: 9-11-62

20.52

749854

TIMING CHART – START CYCLE
HAMMER RESTORE – POWER OFF

SIGNAL NAME	FRAME GATE	TEST POINT	LOGIC PAGE
HAMMER RESTORE BRAKE MAGNET +Y	03I I	A45B	20.03.00.1
HAMMER RESTORE CLUTCH MAGNET +Y	03D1	A45C	20.03.00.1
HAMMER RESTORE CAM			
H.R.C.B.3 -Y	03D1	A04E	20.01.00.1
H.R.C.B.4 -Y	03D1	A04G	20.03.00.1
H.R.C.B.5 -Y	03D1	A04R	20.03.00.1
H.R.C.B.6 -Y	03D1	A01N	20.00.06.0
HAMMER RESTORE BRAKE MAGNET +Y	03D1	A45B	20.03.00.1
HAMMER RESTORE CLUTCH MAGNET +Y	03D1	A45C	20.03.00.1
HAMMER RESTORE CAM			
H.R.C.B.2 -Y	03D1	B02D	20.00.04.0
H.R.C.B.3 -Y	03D1	A04E	20.01.00.1
H.R.C.B.4[2] -Y	03D1	A04G	20.03.00.1
H.R.C.B.5[3] -Y	03D1	A04R	20.03.00.1
H.R.C.B.6 -Y	03D1	A01N	20.00.06.0
HAMMER RESTORE BRAKE MAGNET +Y	03D1	A45B	20.03.00.1
HAMMER RESTORE CLUTCH MAGNET +Y	03D1	A45C	20.03.00.1
HAMMER RESTORE CAM			
H.R.C.B.3[1] -Y	03D1	A04E	20.01.00.1
H.R.C.B.4 -Y	03D1	A04G	20.03.00.1
H.R.C.B.5 -Y	03D1	A04R	20.03.00.1
H.R.C.B.6 -Y	03D1	A01N	20.00.06.0



H.R.C.B. CAM DURATIONS
H.R.C.B.3 – 105°
H.R.C.B.4 – 7.5°
H.R.C.B.5 – 7.5°
H.R.C.B.6 – 105°

1. TIME TO STOP H.R. UNIT AT 100°±20°
2. TIME TO STOP UNIT AT 310° WITH 52 CHARACTER BAR
3. FOR A 1443 WITH A 52 CHARACTER BAR, ADJUST HRCB5 FROM 112° MIN TO 250° MAX TO GIVE 150 LINES PER MINUTE MOD I, 240 LINES PER MINUTE MOD II, 140 LINES PER MINUTE MOD III, OR 230 LINES PER MINUTE MOD IV
4. FOR A 1445 WITH A 56 CHARACTER BAR, ADJUST HRCB5 FROM 112° MIN TO 250° MAX TO GIVE 190 LINES PER MIN

DATE	CHANGE NO.	DATE	CHANGE NO.
<SEE INDEX CARD	118294		
9-4-64	122121		
1-25-65	122157		
5-18-65	307322		
MAR68			

INTERNATIONAL BUSINESS MACHINES CORP

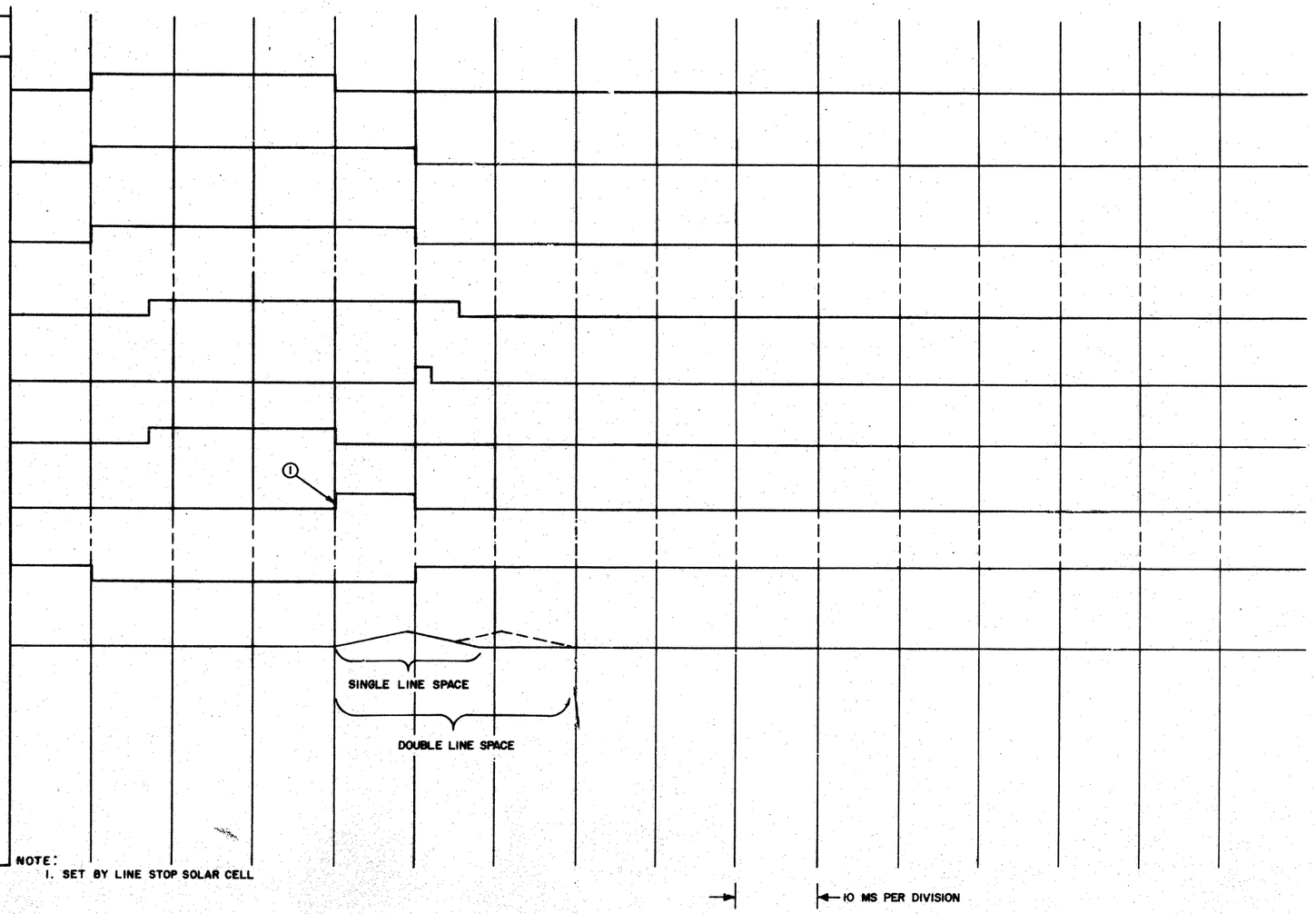
	NAME	HAMMER RESTORE START CYCLE-POWER OFF	
DESIGN		TYPE	1443
DETAIL		SCALE	
CHECK		DRAW	5-24-65
APPRO		VE	
CHECK			

20.53

749850

TIMING CHART - FRICTION CLUTCH PAPER CARRIAGE

SIGNAL NAME	FRAME GATE	TEST POINT	LOGIC PAGE
SKIP START PULSE -Y	03D1	D33Q	20.05.04.1
CARR. CTL. LAT. -Y	03D1	B20R	20.05.04.1
DETENT MAGNET +Y	03D1	D45C	20.05.04.1
DETENT SWITCH -Y	03D1	B40D	20.05.04.1
CAR. BRAK CTRL -Y	03D1	B18Q	20.05.04.1
CARRIAGE BRK.MAG +Y	03D1	C45B	20.65.04.1
CARRIAGE CLUTCH MAG +Y	03D1	D45B	20.05.00.1
CARRIAGE READY -Y	03D1	C31R	20.05.04.1
PAPER MOVEMENT			



NOTE:
1. SET BY LINE STOP SOLAR CELL

DATE	CHANGE NO.
7-3-62	113851L
12-10-62	115643
1-24-63	115643B
4-30-63	115643M
7-9-63	117777
9-11-63	117778

DATE	CHANGE NO.
12-15-64	122120
4-8-65	122152

INTERNATIONAL BUSINESS MACHINES CORP

NAME: FRICTION CLUTCH PAPER CARRIAGE

DESIGN | DETAIL | CHECK | APPRO

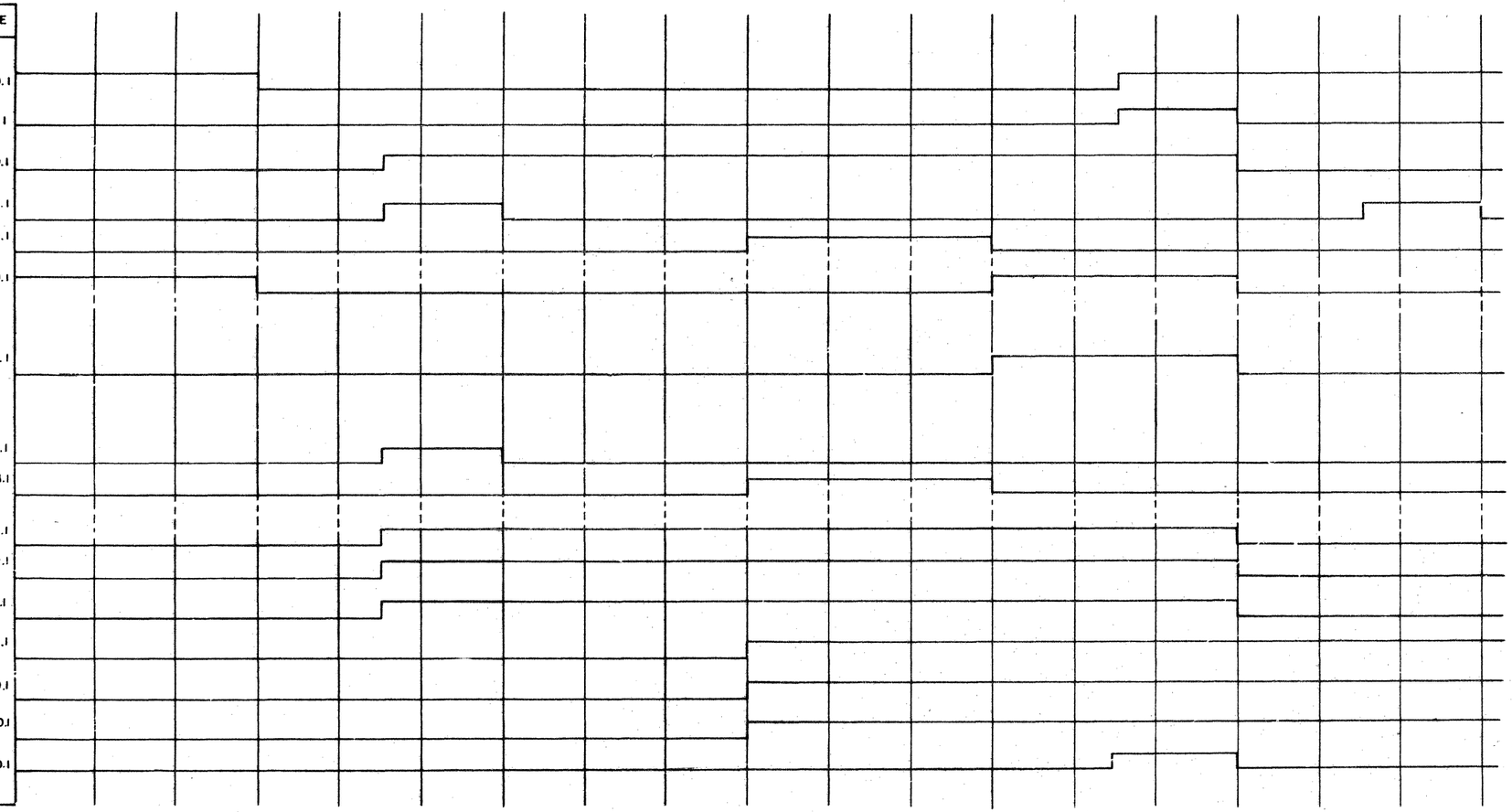
TYPE 1443 | SCALE | DRAW | CHECK

20.54

74 9852

1443 PRINTER
CARRIAGE LOAD CYCLE

SIGNAL NAME	FRAME GATE	TEST POINT	LOGIC PAGE
CARRIAGE BUSY -Y	03D1	F08P	20.00.00.1
TIME 105-000-Y	03D1	F07K	20.00.00.1
CARRIAGE CTRL +Y	03D1	F08H	20.00.00.1
TIME 015 030-Y	03D1	F06G	20.00.00.1
TIME 060 090 -Y	03D1	F06H	20.00.00.1
TIME 090 000 -Y	03D1	F07L	20.00.00.1
PULSE C -Y	03D1	A29E	20.14.03.1
CAR RESET +Y	03D1	D34F	20.14.03.1
CAR SET -Y	03D1	C35D	20.14.03.1
DATA B -Y	03D1	A18B	20.05.00.1
DATA A -Y	03D1	A18E	20.05.00.1
DATA 1 -Y	03D1	A20E	20.05.00.1
CAR B -Y	03D1	A18C	20.05.00.1
CAR A -Y	03D1	A18G	20.05.00.1
CAR 1 -Y	03D1	A20G	20.05.00.1
SKIP START[1] -Y	03D1	B12L	20.05.00.1



1. SKIP BEFORE PRINT

DATE	CHANGE NO.
7-3-62	113851L
12-10-62	115643
1-24-63	115643B
4-30-63	115643M
7-9-63	117777
9-11-63	117778

DATE	CHANGE NO.
1-20-64	118202
4-8-65	122152

INTERNATIONAL BUSINESS MACHINES CORP

UNBUFFERED CARRIAGE LOAD CYCLE

	NAME
DESIGN	
DETAIL	
CHECK	
APPRO	

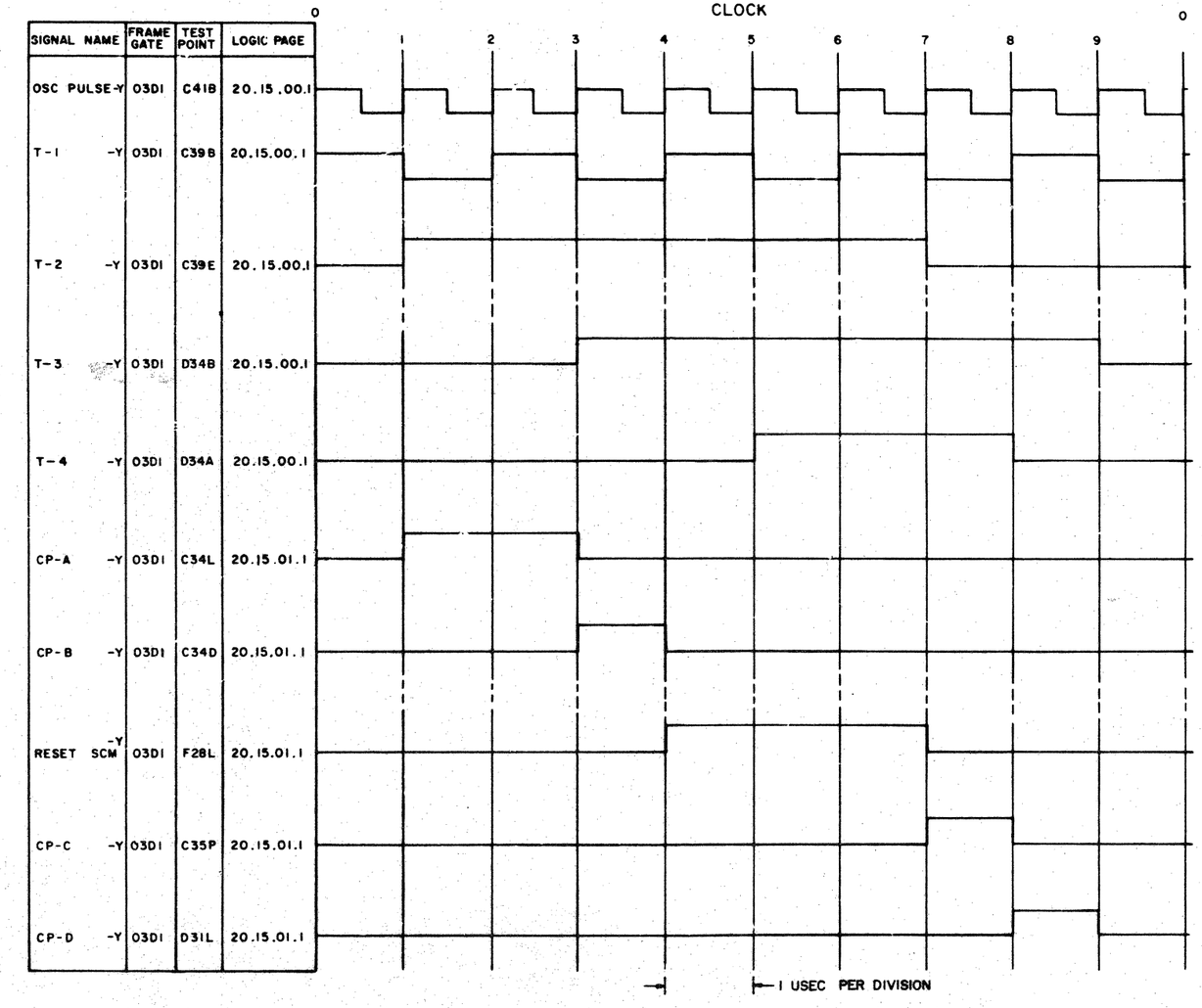
TYPE	1443
SCALE	
DRAW	
CHECK	

20.55

749853

TIMING CHART
1443 PRINTER-BUFFERED
CLOCK

SIGNAL NAME	FRAME GATE	TEST POINT	LOGIC PAGE
OSC PULSE -Y	03D1	C41B	20.15.00.1
T-1 -Y	03D1	C39B	20.15.00.1
T-2 -Y	03D1	C39E	20.15.00.1
T-3 -Y	03D1	D34B	20.15.00.1
T-4 -Y	03D1	D34A	20.15.00.1
CP-A -Y	03D1	C34L	20.15.01.1
CP-B -Y	03D1	C34D	20.15.01.1
RESET -Y SCM	03D1	F28L	20.15.01.1
CP-C -Y	03D1	C35P	20.15.01.1
CP-D -Y	03D1	D31L	20.15.01.1



DATE	CHANGE NO.	DATE	CHANGE NO.
7-3-62	113851L		
12-10-62	115643		
1-24-63	115643B		
4-30-63	115643M		
7-9-63	117777		
9-11-63	117778		

	NAME	DATE
DESIGN		
DET. L		
CHECK		
APPRO		

INTERNATIONAL BUSINESS MACHINES CORP

TIMING CHART-BUFFERED CLOCK

TYPE 1443

SCALE

DRAW

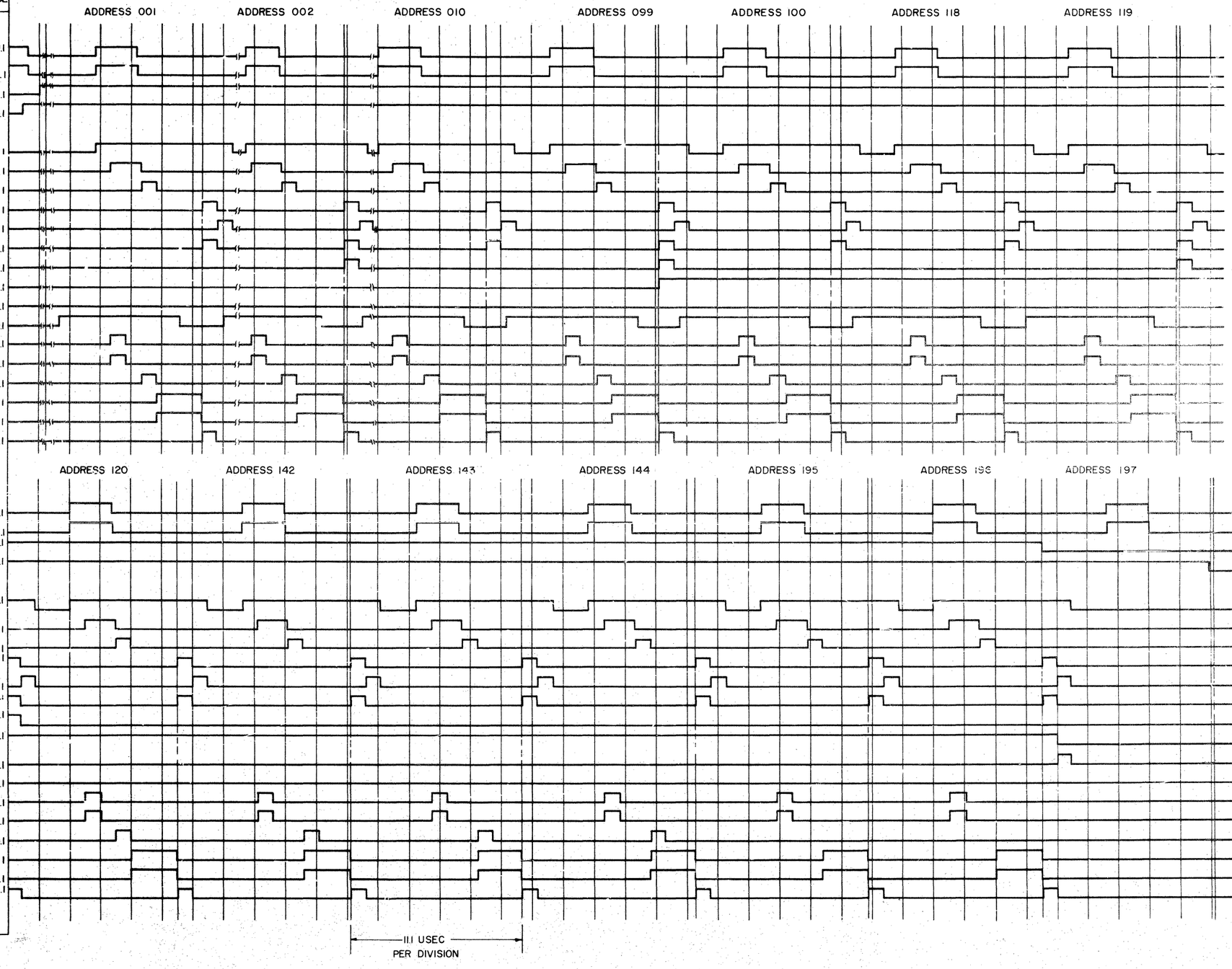
CHECK

20.56

74 9859

1443 PRINTER
MEMORY LOAD CYCLE - BUFFERED

SIGNAL NAME		FRAME GATE	TEST POINT	LOGIC PAGE
TIME 060-090	-Y	03D1	F06H	20.00.00.1
PULSE B	+Y	03D1	D32P	20.14.03.1
PRINT READY	+Y	03D1	F06E	20.00.00.1
PRINT INSTR.	-Y	03D1	F06K	20.00.00.1
CLOCK CTRL TRIG	-Y	03D1	C38J	20.15.00.1
CP-A	+Y	03D1	C34H	20.15.01.1
CP-B	+Y	03D1	C34E	20.15.01.1
CP-C	+Y	03D1	C35Q	20.15.01.1
CP-D	+Y	03D1	D31H	20.15.01.1
ADDRESS REG UNITS ADV	+Y	03D1	E36R	20.15.02.1
ADDRESS REG TENS ADV	+Y	03D1	E35A	20.15.02.1
HUNDREDS TRIGGER	-Y	03D1	F35B	20.15.06.1
ADDRESS REG RESET	-Y	03D1	C43Q	20.15.02.1
DATA(FROM PROCESSOR)		03D1	SEE LOGIC DWGS	20.14.00.1
SET SCM (READ)	-Y	03D1	C44D	20.15.06.1
SET BUFFER REGISTER	+Y	03D1	B21F	20.15.08.1
PARITY CHECK	-Y	03D1	F17L	20.09.01.1
RESET SCM (WRITE)	+Y	03D1	F28H	20.15.01.1
INHIBIT DRIVERS		03D1	SEE LOGIC DWGS	20.15.10.1
RESET BUFFER REGISTER	-Y	03D1	D41P	20.15.08.1



DATE	CHANGE NO.
6-29-62	
9-20-62	113851-M
12-10-62	REDRAWN
1-24-63	115643
4-30-63	115643B
7-9-63	115443M
9-11-63	117778
1-20-64	118202
4-8-64	122143

DESIGN		
DRAWN		
CHECK	RJC	6-29-62
APPROV		

INTERNATIONAL BUSINESS MACHINES CORP.

NAME: TIMING CHART

TYPE	SCALE	DRAW
1443	NONE	VE 9-12-62

20.57

749860

A. UNPACKING AND MACHINE LOCATION

1. REMOVE PACKAGING AND INSPECT FOR PHYSICAL DAMAGE RESULTING FROM SHIPMENT.

1.1 CAUTION: IF MACHINE IS UPENDED, RIBBON DRIVE MOTOR OIL WILL SPILL. CUSTOMER ENGINEER SHOULD CHECK, REFILL AND CLEAN UP IF NECESSARY.

2. PERFORM UNPACKING INSTRUCTIONS.

3. WITH THE COMPLETION OF THE 1443 OR 1445 UNPACKING INSTRUCTION, ROLL THE PRINTER MODULE TO ITS PERMANENT LOCATION. THE FOLLOWING CARTONS DETAILED ON THE PACKING - UNPACKING INSTRUCTION DRAWING ACCOMPANY THE PRINTER. PER MACHINE TYPE

NUMBER 854637 - PRINTER LEG (PREVIOUSLY REMOVED IN THE UNPACKING INSTRUCTIONS)
OR 749830 - (OLD STYLE PRINTER LEG)
1443-B/M NUMBER 749500 - MISCELLANEOUS ACCESSORIES PACKAGE GROUP (PACKED IN
1445-B/M NUMBER 398866 CARTON WITH BILL OF MATERIAL IDENTIFIED)
443/1445 B/M NUMBER 740700 - FORMS FEED AND STACKER GROUP (PACKED IN CARTON WITH BILL OF MATERIAL IDENTIFIED)
1443-B/M NUMBER 749510 - MAINTENANCE PACKAGE GROUP (PACKED IN ENVELOPE WITH
1445-B/M NUMBER 398867 BILL OF MATERIAL IDENTIFIED - NOT SHOWN ON UNPACKING INSTRUCTION)
1445-B/M NUMBER 398895 - MICR RIBBON FEED MECHANISM (PACKED IN CARTON WITH BILL OF MATERIAL IDENTIFIED)
1443-B/M NUMBER 5153006 - ACOUSTICS GROUP (PACKED IN CARTON WITH BILL OF MATERIAL IDENTIFIED) NOTE: THIS B/M IS ONLY SHIPPED WITH MACHINES SPECIFYING A 13 CHARACTER BAR AS PART OF INITIAL ORDER.

4. CHECK THE MISCELLANEOUS ACCESSORIES PACKAGE GROUP, NUMBER 749500, (1443) OR 398866 (1445) AGAINST ITS BILL OF MATERIAL TO INSURE THAT ALL PARTS ARE RECEIVED.

5. DO NOT REMOVE THE SHIPPING CASTERS UNTIL ALL SYSTEM INTERCONNECTING CABLING IS COMPLETED.

6. DO NOT OPEN THE 1443 OR 1445 TO PRINT POSITION UNTIL INSTRUCTED TO IN THIS INSTRUCTION.

7. FOR RAISED FLOOR INSTALLATION, ROUTE THE CABLES THROUGH THE BASE HOLE TO THE INTER-CONNECTING UNIT IN THE MOST CONVENIENT MANNER.

8. FOR NON RAISED FLOOR INSTALLATION, ROUTE THE CABLES THROUGH THE BASE HOLE ALONG THE CHANNEL OF THE ELECTRONIC CABINET IN THE DIRECTION OF THE INTER-CONNECTING UNIT.

9. MOUNT CABLE CONNECTOR STRAIN RELIEFS AT THE CABINET BASE HOLE AS SHOWN IN FIGURE 1. EXTRA CABLE LENGTH CAN BE ROLLED UP IN BASE.

10. REFER TO INTERCONNECTING SYSTEM INSTALLATION INSTRUCTIONS AND PERFORM INTERMACHINE CABLING. SEE STEP 11 FOR 1800 SYSTEM.

11. ONE SIGNAL CABLE P/N 839770, ONE POWER SEQUENCE CABLE P/N 839767, AND AN AC POWER CORD P/N 5152583 IS REQUIRED FOR ATTACHMENT TO THE 1800. FOR ADDITIONAL CONNECTOR INFORMATION, REFER TO 1801 OR 1802 INSTALLATION INSTRUCTIONS.
   A. SIGNAL CABLE P/N 839770: ROUTE THE END LABELED 1800 TO THE TAILGATE AND ATTACH IT TO THE APPROPRIATE SERPENT RECEPTACLE ROUTE CABLE THRU EXISTING CABLE CLAMP ON GATE POST OF 1443 MACHINE, TOGETHER WITH EXISTING RIBBON CABLES. SPREAD CABLE TO FIT EVENLY WITHIN CLAMP. ATTACH THE PADDLE CARDS ON THE 1443 END TO THE E GATE PADDLE LOCATIONS 03E1F09 AND 03E1F10 USING THE NUMBERS MARKED ON THE CABLE PADDLES AS A GUIDE.
   B. DC POWER CABLE P/N 839767. ROUTE THE END LABELED 1800 TO THE TAILGATE AND ATTACH IT TO THE APPROPRIATE CANNON CONNECTOR. ROUTE THE OTHER END OF THE CABLE TO THE 1443 AND ATTACH IT TO THE 1443 P5 CONNECTOR LOCATED BEHIND THE 1443 FUSE PANEL.
   C. AC POWER CORD P/N 5152583 ATTACH CONNECTOR END TO APPROPRIATE CONNECTOR IN 1801 OR 1802. ROUTE OTHER END OF CABLE TO THE 1443 AND ATTACH IT TO THE CABLE EXTENDING FROM THE FILTER BOX. (5152584)
   D. MOUNT CABLE CONNECTOR STRAIN RELIEF AS SHOWN IN FIG. 1.

B. PRE-POWER

1. CHECK THE PRIMARY POWER CONNECTION AT THE 7 VOLT POWER SUPPLY TO INSURE TERMINATIONS AGREE WITH SYSTEM VOLTAGE AVAILABLE.

FOR 208 VOLTS AC TERMINATE AT TB3-1 AND TB3-4.
FOR 230 VOLTS AC TERMINATE AT TB3-1 AND TB3-5.

1.1 IN THE 1800 THERE ARE THREE TRANSFORMERS IN E GATE WHICH MAY REQUIRE VOLTAGE TAP CHANGES. THESE ARE LOCATED IN A, B, AND C ROW BETWEEN POSITIONS 8 AND 15. FOR 208V AC, A JUMPER IS REQUIRED BETWEEN TERMINALS 1 AND 4 ON THE TRANSFORMER WINDING. FOR 230V AC, THE JUMPER SHOULD BE BETWEEN TERMINALS 1 AND 5. IT IS NECESSARY TO REMOVE THE TRANSFORMERS FROM THE GATE IN ORDER TO REWIRE THEM. CHECK THAT THE LABEL OR MARKING ON THE TRANSFORMERS DISPLAYS THE CORRECT VOLTAGE THE TRANSFORMERS ARE WIRED FOR. ALSO MAKE TRANSFORMER T3 VOLTAGE TAP CHANGES AS REQUIRED. FOR 208V AC, THE TRANSFORMER TAPS ARE T3-1 AND 2. FOR THE 230V AC, THE TAPS ARE T3-1 AND 3. SEE LOGIC PAGE 19.00.10.0 FOR REFERENCE. T3 IS FASTENED TO THE MACHINE BASE BEHIND THE POWER SEQUENCE BOX.

2. ASSEMBLE GLIDES TO PRINTER LEG AS SHOWN IN FIGURE 2. ASSEMBLE PRINTER LEG TO SUB-BASE AS SHOWN IN FIGURE 2.

3. SCREW DOWN THE FOUR GLIDES LOCATED IN THE CORNERS OF THE ELECTRONIC CABINET UNTIL CASTERS ARE JUST LIFTED OFF THE FLOOR. REMOVE THE CASTERS AND STORE IN CASTER CARTONS IN THE BASE OF THE ELECTRONIC CABINET.

4. LOOSEN THE CASTER MOUNTING SUPPORT BOLTS AND PIVOT THE SUPPORTS UNDER THE CABINET. TIGHTEN THE BOLTS.

5. WITH THE MACHINE ELEVATED ON ITS GLIDES, LOWER ONE END AT A TIME BY ALTERNATELY SCREWING THE FRONT AND REAR GLIDES UP INTO THE MACHINE UNTIL THE GLIDES ARE TIGHT. LOWER THE OTHER END, USING THE SAME PROCEDURE.

OPENING PRINTER TO PRINT POSITION:

6. FACING THE BACK OF THE PRINT MECHANISM, LOOSEN THE PRINTER PIVOT SCREW AND REMOVE THE POSITIONING - LOCKING SCREW LOCATED INSIDE THE CABINET ON THE TOP PANEL. SEE FIGURE 3.

DATE	EC NO	DATE	EC NO	DATE	EC NO
7-23-64	118285	15SEP65	122158		
11-5-64	122102A	NOV67	305582		
1-25-65	122121	MAR68	307322		
5-18-65	122157	MAY68	307327		

B. PRE-POWER (CONTINUED)

7. SLIDE THE PRINTER IN A CLOCKWISE DIRECTION (90° FROM THE ELECTRONIC CABINET) TO PRINT POSITION.

CAUTION: IF THE CUSTOMER FLOOR IS SUCH THAT DAMAGE MAY RESULT BY SLIDING THE PRINT MECHANISM, ASSISTANCE SHOULD BE ATTAINED BEFORE THE MECHANISM IS LIFTED. PRINTER OVERHANG WEIGHT APPROXIMATELY 172 POUNDS.

8. REPLACE AND TIGHTEN LOCKING SCREW IN PRINT POSITION LOCKING SCREW HOLE. SEE FIGURE 3.

TIGHTEN PIVOT SCREW.

9. REMOVE MASONITE SPACER ON TOP OF ELECTRONIC CABINET AND DISCARD.

NOTE: DUE TO AN UNEVEN CUSTOMER FLOOR, IT MAY BE NECESSARY TO RE-LEVEL THE 1443 OR 1445 AFTER THE PRINT MECHANISM IS IN PRINT POSITION AND THE FORM STACKER IS INSTALLED.

10. ASSEMBLE TIE BAR TO THE PRINTER LEG AND ELECTRONIC CABINET AS SHOWN IN FIGURE 4.

ACCESSORIES INSTALLATION:

11. ACOUSTICS GROUP - FOR MACHINES UTILIZING 13 CHARACTERS BAR CHECK THE 13 CHARACTER BAR ACOUSTICS GROUP NUMBER 5153006 AGAINST IT'S BILL OF MATERIAL TO INSURE THAT ALL PARTS ARE RECEIVED. ASSEMBLE INLET DUCTS PART NUMBERS 736716 AND 736717 WITH SCREWS PART NUMBER 83606. AS SHOWN IN FIGURE 5 (1443 ONLY)

12. SECURE INLET DUCTS PREVIOUSLY ASSEMBLED IN STEP 11 TO MACHINE SUB-BASE WITH MOUNTING SCREWS, PART NUMBER 28413, AS SHOWN IN FIGURE 5.

13. FOR THE 1445: ASSEMBLE THE MICR RIBBON FEED MECHANISM B/M NUMBER 398895 PER SUPPLEMENTAL INSTALLATION INSTRUCTION PART NUMBER 398546 ACCOMPANYING THIS INSTRUCTION.

FORMS FEED AND STACKER GROUP:

14. CHECK THE FORMS FEED - STACKER PACKAGE GROUP, NUMBER 740700, 1443/1445 AGAINST ITS BILL OF MATERIAL TO INSURE THAT ALL PARTS ARE RECEIVED.

15. ASSEMBLE GLIDE, PART NUMBER 749077, TO FORMS FEED SUPPORTS AS SHOWN IN FIGURE 5.

16. ATTACH FORMS FEED SUPPORTS, PART NUMBERS 749432 AND 749433, TO THE STACKER ASSEMBLY, PART NUMBER 740686, USING SCREWS, PART NUMBER 257622, AS SHOWN IN FIGURE 5. DO NOT TIGHTEN SCREWS.

17. USING SCREWS, PART NUMBER 32042, SECURE THE STACKER ASSEMBLY TO THE 1443 OR 1445 SUB-FRAME. SEE FIGURE 5.

NOTE: ROTATE THE SUPPORTS (DOTTED POSITION IN FIGURE 5) TO FACILITATE ASSEMBLY OF THE STACKER TO THE MACHINE FRAME.

18. RE-POSITION SUPPORTS TO INSTALLED POSITION, SECURE SUPPORTS TO THE MACHINE TIE BAR USING SCREWS, PART NUMBER 90261, AS SHOWN IN FIGURE 5. TIGHTEN SCREWS, PART NUMBER 257622, PREVIOUSLY INSTALLED IN STEP 16.

19. SECURE FORMS FEED TRAY, PART NUMBER 749434, USING SCREWS, PART NUMBER 32042, AS SHOWN IN FIGURE 5.

20. WITH THE FORM STACKER COMPLETELY INSTALLED, LEVEL THE 1443 OR 1445 BY ADJUSTING THE ELECTRONIC CABINET AND PRINTER LEG GLIDES IN CONJUNCTION WITH THE FORM STACKER GLIDES TO PERMIT FORM STACKER GLIDE CONTACT WITH THE FLOOR.

FORM GUIDES:

21. ATTACH LOWER FORMS GUIDE, PART NUMBER 749782, BY LOOSENING 4 SCREWS ON MOUNTING STUDS PROJECTING THROUGH REAR COVER MOUNTED ON THE CARRIAGE. SEE FIGURE 5.

NOTE: POSITION FELT EXTENDED ON THE REAR CARRIAGE COVER AS SHOWN BY EXPLODED VIEW IN FIGURE 5.

22. FOR THE 1443: INSTALL RIBBON AND BLANK SPOOL, PART NUMBERS 413195 AND 436374, (SHIPPED ON BILL OF MATERIAL NUMBER 749500).
FOR THE 1445: INSTALL ONE OF THE FOLLOWING AS REQUIRED. SHIPPED ON BILL OF MATERIAL PART NUMBER 398866)
1. RIBBON AND BLANK SPOOL, PART NUMBERS 413195 AND 436374
2. MICR RIBBON PART NUMBER 424821

23. CHECK THAT ALL SMS CARDS ARE FULLY SEATED IN THEIR RECEPTACLES.

24. USING HAMMER UNIT CRANK, NUMBER 749205. (SHIPPED ON BILL OF MATERIAL 749500 OR 398866) MANUALLY ROTATE THE HAMMER UNIT RESTORE SHAFT FOR ONE CYCLE. DURING THE RESTORE CYCLE, ALL HAMMERS MUST LEAVE THEIR MAGNET POLE FACES.

C. POWER ON CHECK

1. CHECK FOR GROUND LOOPS TO THE INTERCONNECTING UNITS
CHECK THE -7 VOLT POWER SUPPLY FOR -7 VOLT ±0.5 VOLT BETWEEN TERMINALS TBII-3 AND TBII-8. TBII IS LOCATED ON THE LOWER RIGHT CORNER OF THE WIRING SIDE OF THE SMS GATE. IF THE SUPPLY IS NOT WITHIN SPECIFICATION, SELECT THE PROPER TAPS ON TB-2 ON THE POWER SUPPLY.

CHECK THE DUCT AND GATE BLOWERS FOR PROPER OPERATION.

2. CHECK OPERATION OF THE FOLLOWING INTERLOCK SWITCHES:

1443 AND 1445	1445 ONLY
END OF FORMS	RIBBON MOTOR
FORMS GUIDE-RIGHT	MICR PLATEN
FORMS GUIDE-LEFT	MICR END OF RIBBON
6-8 LINE DRIVE COVER	MICR RIBBON RACK
CARRIAGE TAPE BRUSH BLOCK	MICR LOWER FRONT FORM GUIDE
HAMMER RESTORE SHAFT CRANK	

DATE	EC NO	DATE	EC NO	DATE	EC NO
7-23-64	118285	15SEP65	122158		
11-5-64	122102A	NOV67	305582		
1-25-65	122121	MAR68	307322		
5-18-65	122157	MAY68	307327		

C. POWER ON CHECK (CONTINUED)

3. CHECK THAT ALL HAMMERS STAY AGAINST THEIR MAGNETS BY HOLDING THE START KEY DOWN AND DEPRESS THE RESET KEY. NOW, WITH "C" BITS IN THE PRINT AREA OF STORAGE, INSERT THE TYPE BAR AND START THE PRINTER.

NOTE: NO HAMMERS SHOULD FIRE.

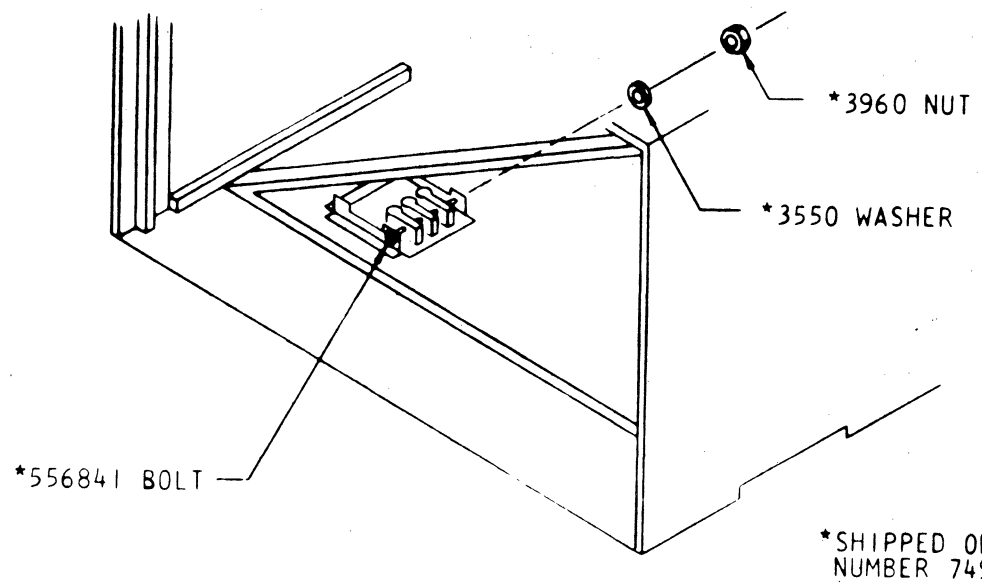
4. PLACE THE HAMMER UNIT CRANK IN ITS MOUNTING BRACKET ON RIGHT SIDE OF HAMMER UNIT.

5. INSERT CUSTOMER ENGINEERING MANUAL PARTS CATALOG (RECEIVED IN MAINTENANCE PACKAGE GROUP, NUMBER 749510 OR 398867), IN THE POCKET OF THE RIGHT COVER ON THE ELECTRONIC CABINET.

6. INSTALL ELECTRONIC CABINET COVERS TO THE PRINTER.

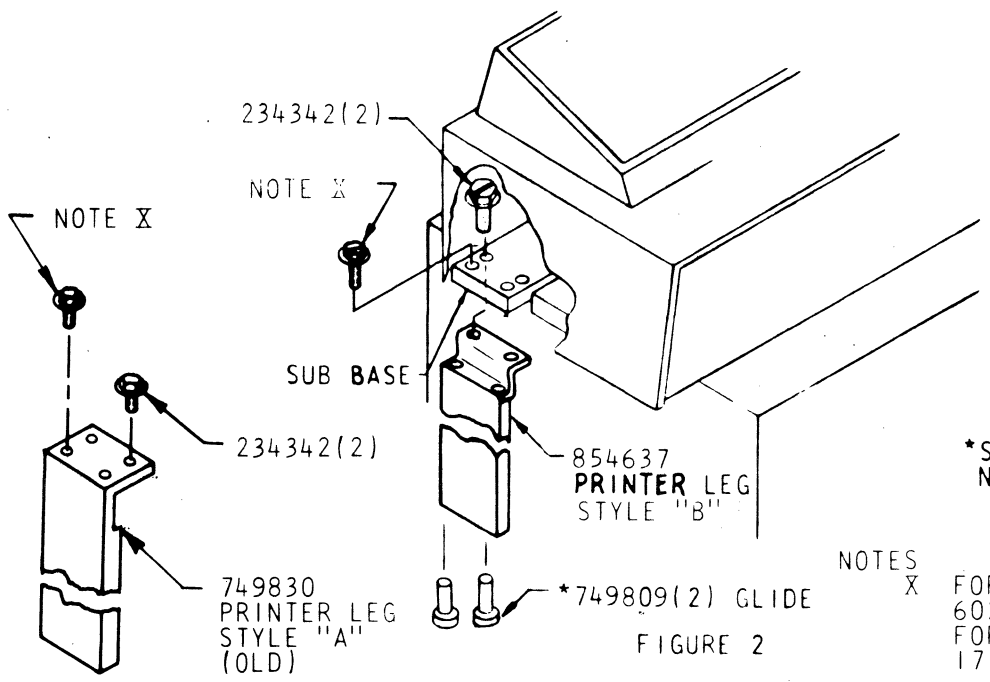
DATE	EC NO	DATE	EC NO	DATE	EC NO
7-23-64	118285	15SEP65	122158		
11-5-64	122102A	NOV67	305582		
1-25-65	122121	MAR68	307322		
5-18-65	122157	MAY68	307327		

NOTE: STRAIN RELIEF MOUNTING BRACKETS ARE PROVIDED AT EACH END OF THE CABLE BASE HOLE TO MOUNT CLAMPS IN THE DIRECTION THE CABLES ARE ROUTED.



*SHIPPED ON BM NUMBER 749500 (1443) 398866 (1445)

FIGURE 1



*SHIPPED ON BM NUMBER 749500 (1443) 398866 (1445)

NOTES
X FOR STYLE "A" LEG USE SCREWS 602607 (2). FOR STYLE "B" LEG USE SCREWS 171030 (2).

FIGURE 2

WARNING: WHEN SLIDING THE PRINTER, USE CARE THAT NO CABLES ARE PINCHED NEAR THE PIVOT POINT OF THE PRINTER MECHANISM ON THE ELECTRONIC CABINET

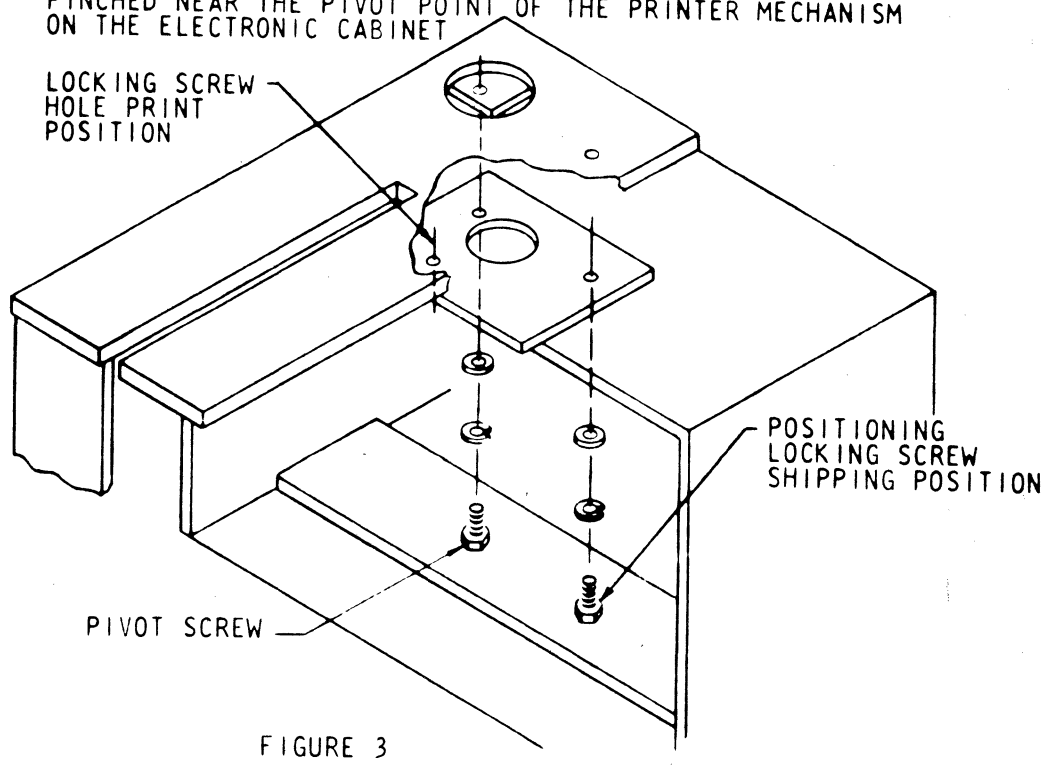


FIGURE 3

DATE	EC NO	DATE	EC NO	DATE	EC NO
7-23-64	118285	5-18-65	122157	MAY68	307327
11-5-64	122102A	15SEP65	122158		
1-25-65	122121	NOV67	305582		
		MAR68	307322		

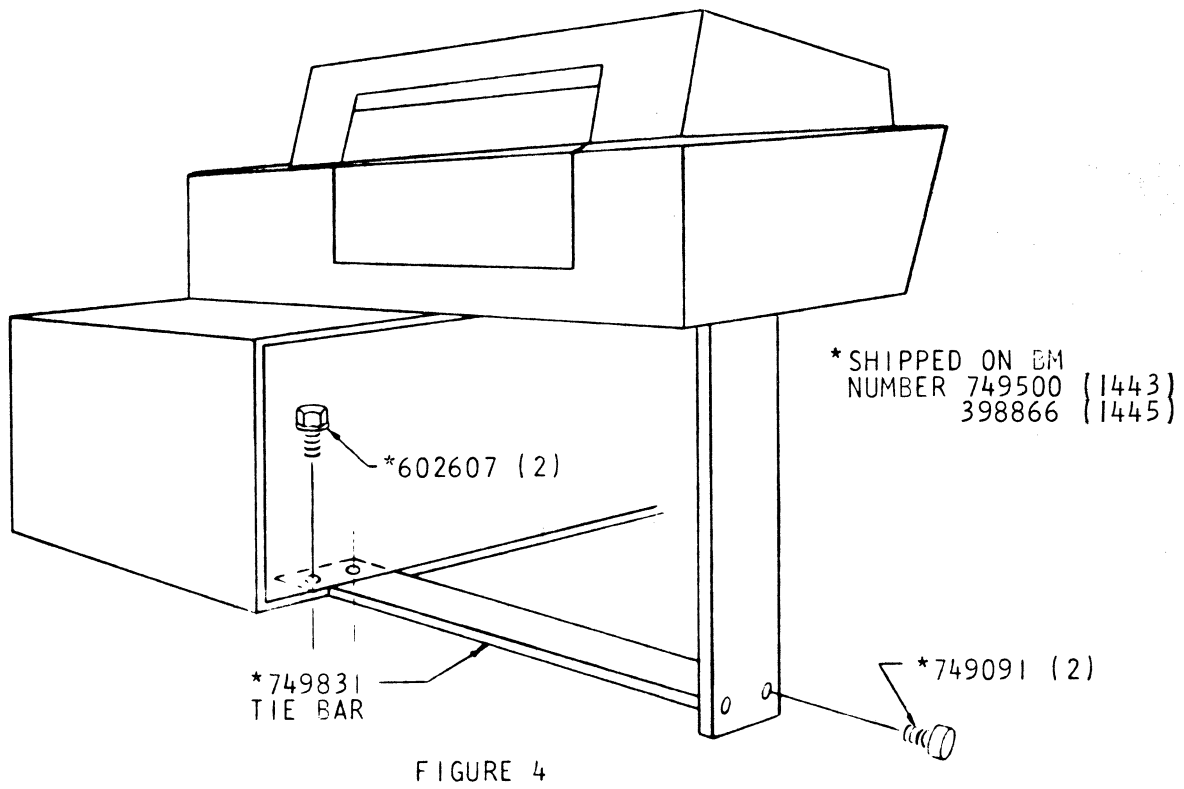


FIGURE 4

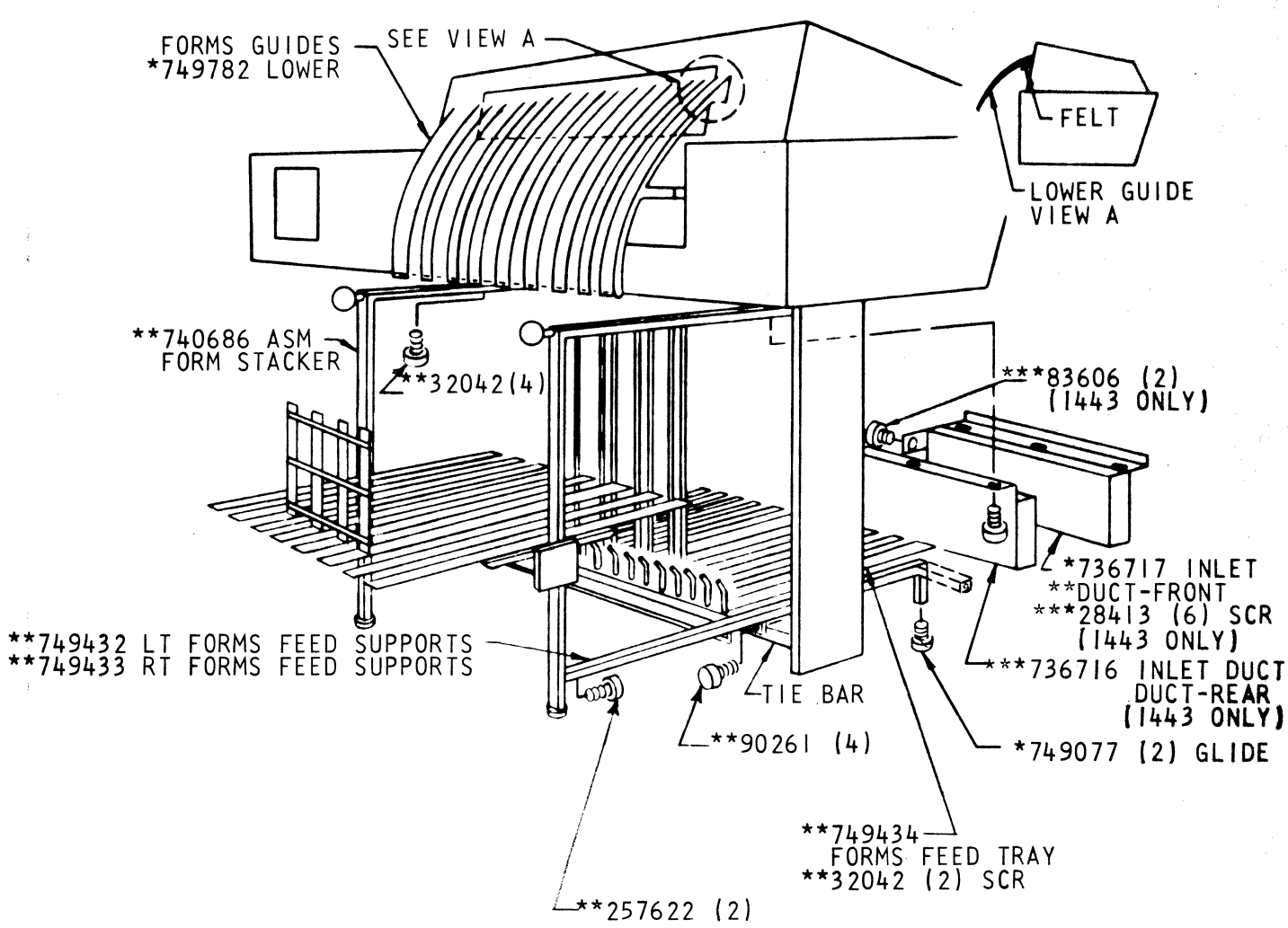
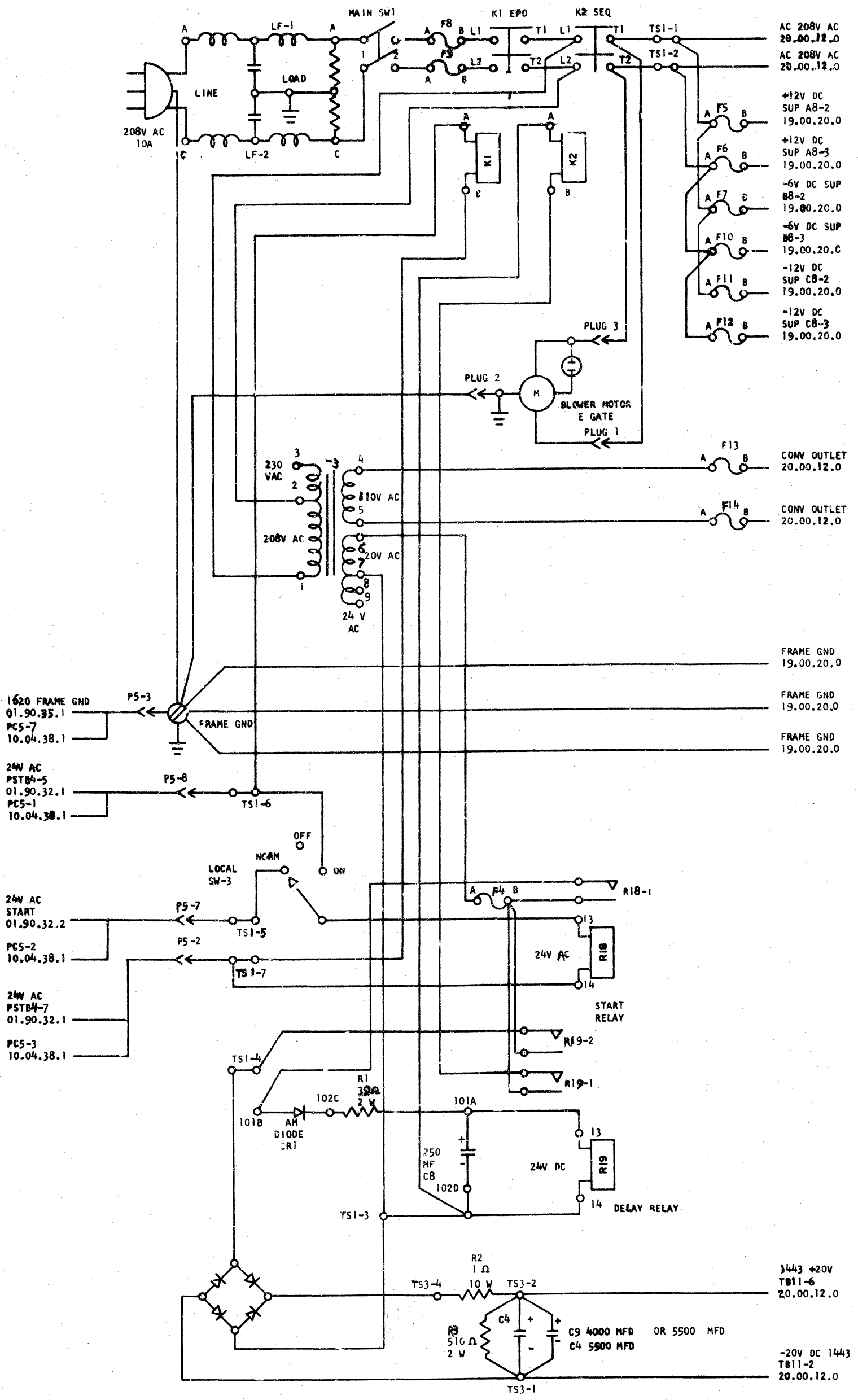


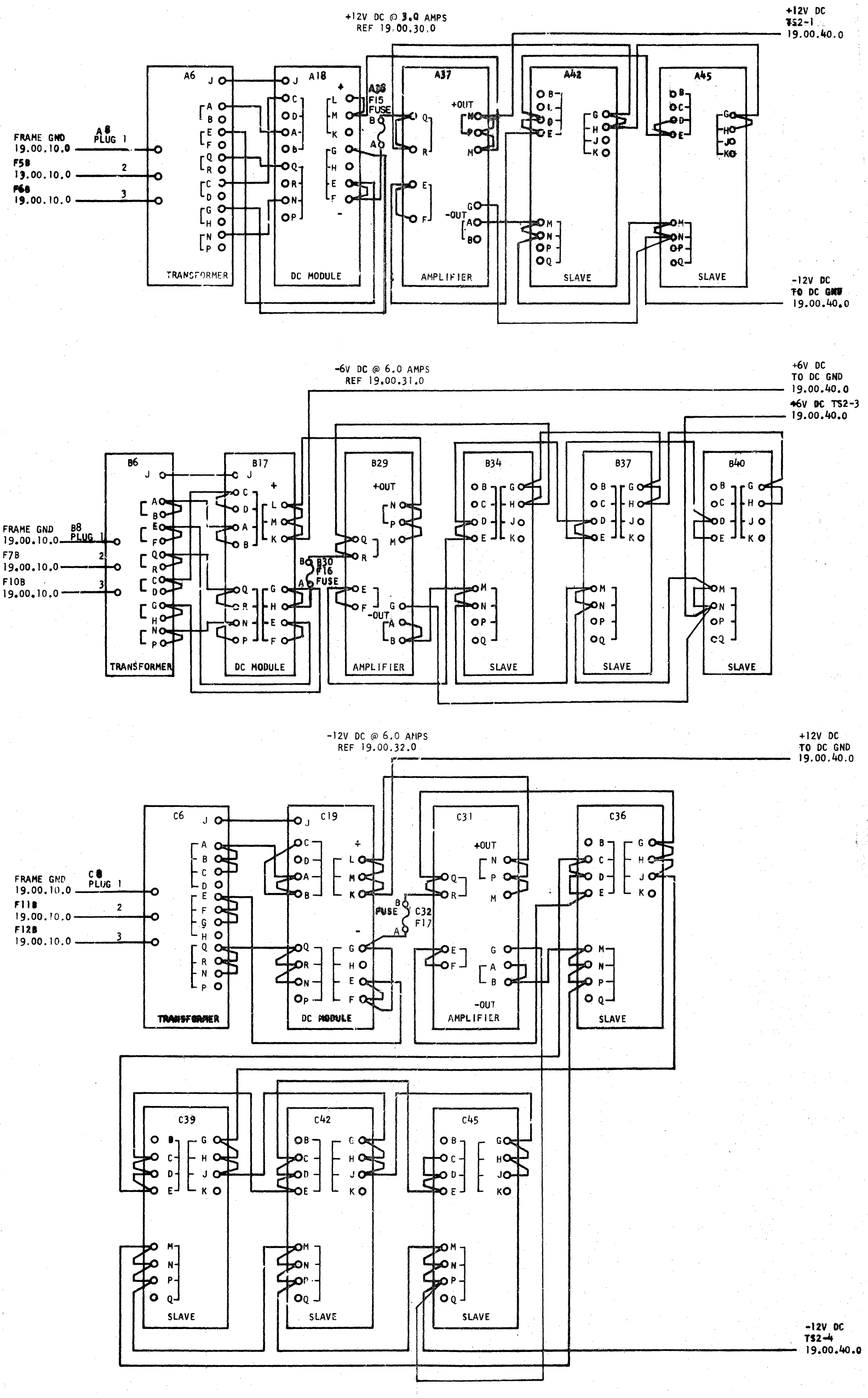
FIGURE 5

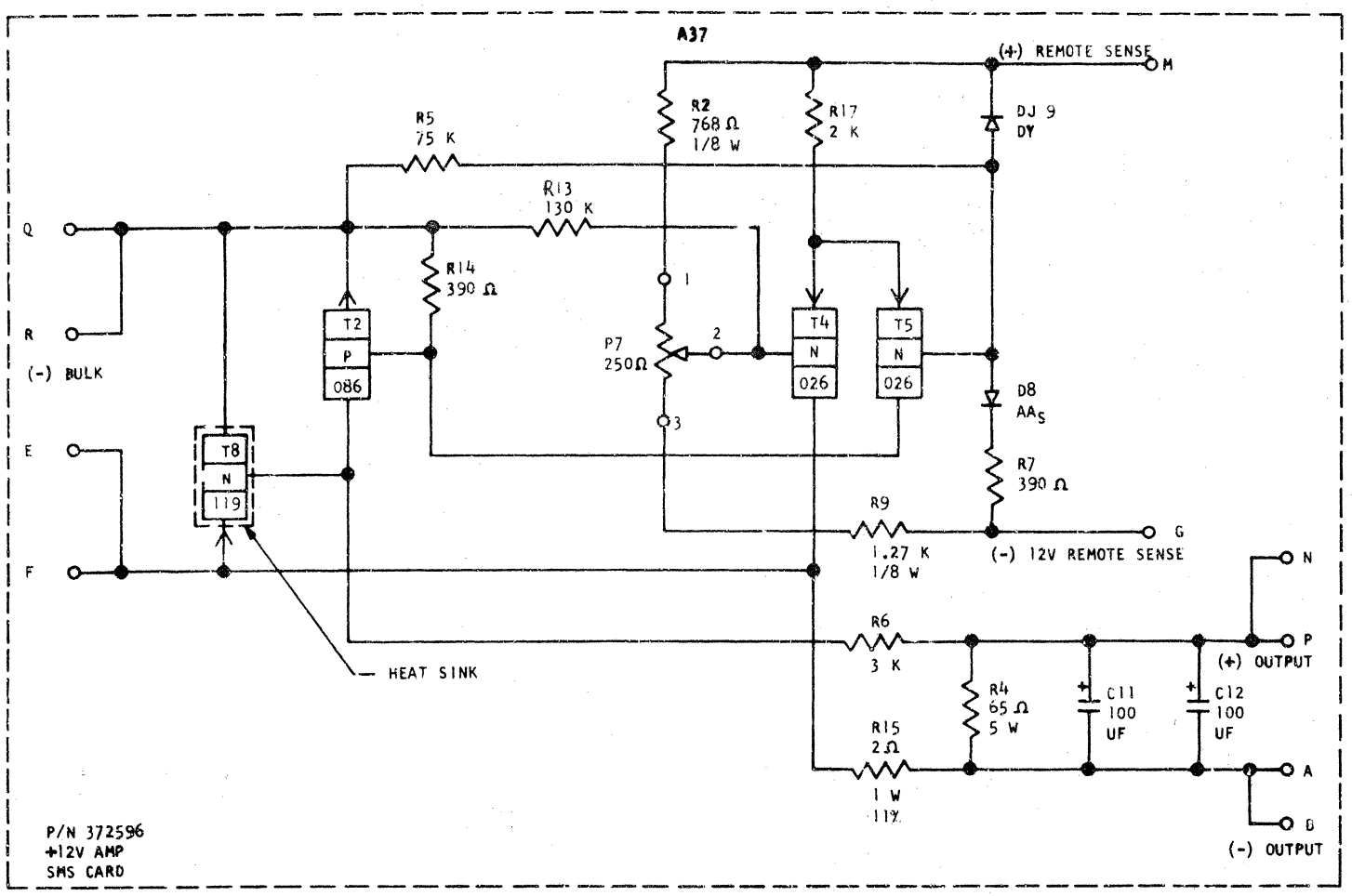
* SHIPPED ON B/M 398866 (1445)
* SHIPPED ON B/M 749500 (1443)
** SHIPPED ON B/M 740700 (1443-1445)
*** SHIPPED ON B/M 5153006 (1443 ONLY)

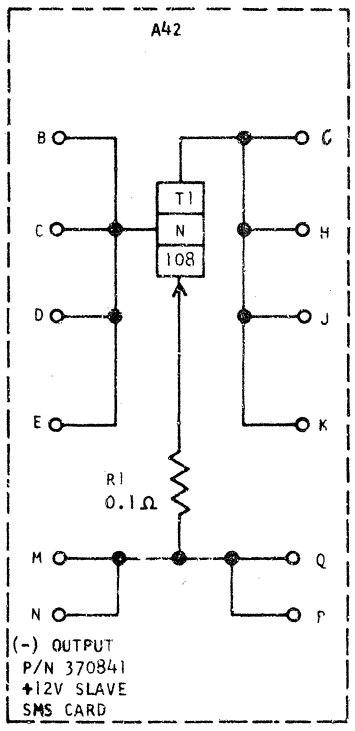
DATE	EC NO	DATE	EC NO	DATE	EC NO
7-23-64	[illegible]	15SEP65	122158		
11-5-64	122102A	NOV67	305582		
1-25-65	122121	MAR68	307322		
5-18-65	122157	MAY68	307327		

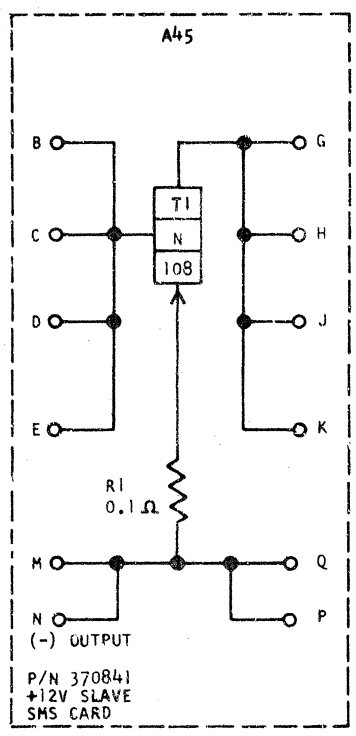

MAIN SW1
K1 EPO
K2 SEQ
LF-1
LF-2
LINE
LOAD
208V AC 19A
F8
F9
L1
L2
T1
T2
TS1-1
TS1-2
AC 208V AC 20.00.12.0
AC 208V AC 20.00.12.0
F5
F6
F7
F10
F11
F12
+12V DC SUP A8-2 19.00.20.0
+12V DC SUP A8-3 19.00.20.0
-6V DC SUP B8-2 19.00.20.0
-6V DC SUP B8-3 19.00.20.0
-12V DC SUP C8-2 19.00.20.0
-12V DC SUP C8-3 19.00.20.0
K1
K2
PLUG 3
PLUG 2
PLUG 1
M
BLOWER MOTOR E GATE
F13
F14
CONV OUTLET 20.00.12.0
CONV OUTLET 20.00.12.0
230 VAC
110V AC
208V AC
120V AC
24 V AC
FRAME GND 19.00.20.0
FRAME GND 19.00.20.0
FRAME GND 19.00.20.0
1620 FRAME GND 01.90.35.1
PC5-7 10.04.38.1
P5-3
FRAME GND
24V AC PSTB4-5 01.90.32.1
PC5-1 10.04.38.1
P5-8
TS1-6
OFF
NORM
ON
LOCAL SW-3
24V AC START 01.90.32.2
P5-7
TS1-5
PC5-2 10.04.38.1
P5-2
TS1-7
24V AC PSTB4-7 01.90.32.1
PC5-3 10.04.38.1
F4
R18-1
24V AC
R18
START RELAY
R19-2
R19-1
TS1-4
101B
AM DIODE CR1
102C
R1 390 2 W
101A
250 MF C8
102D
24V DC
R19
DELAY RELAY
TS1-3
R2 1 Ω 10 W
TS3-4
TS3-2
TS3-1
R3 510 Ω 2 W
C4
C9 4000 MFD OR 5500 MFD
C4 5500 MFD
1443 +20V TB11-6 20.00.12.0
-20V DC 1443 TB11-2 20.00.12.0

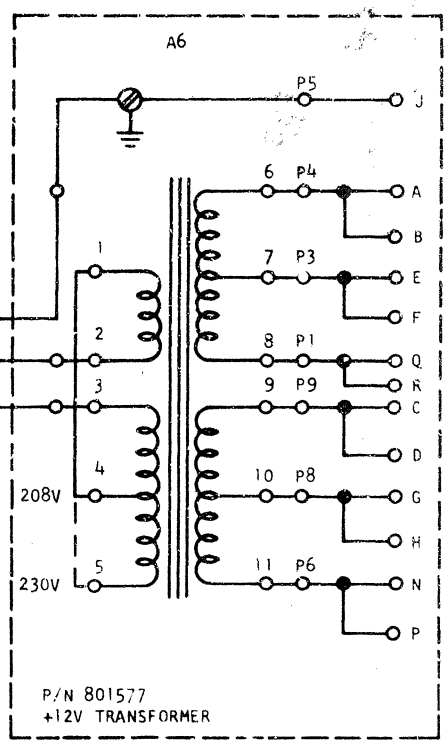
E GATE

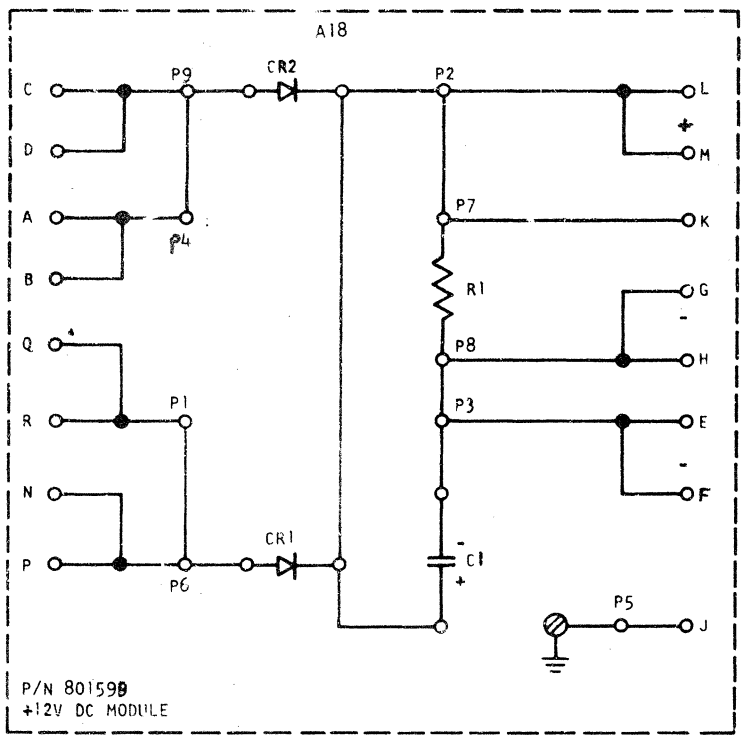

+12V DC @ 3.0 AMPS
REF 19.00.30.0
+12V DC
TS2-1
19.00.40.0
A6
A18
A36
F15
FUSE
A37
A42
A45
FRAME GND
19.00.10.0
A8
PLUG 1
F5B
19.00.10.0
2
F6B
19.00.10.0
3
TRANSFORMER
DC MODULE
AMPLIFIER
SLAVE
SLAVE
+OUT
-OUT
-12V DC
TO DC GND
19.00.40.0
-6V DC @ 6.0 AMPS
REF 19.00.31.0
+6V DC
TO DC GND
19.00.40.0
-6V DC TS2-3
19.00.40.0
B6
B17
B29
B34
B37
B40
FRAME GND
19.00.10.0
B8
PLUG 1
F7B
19.00.10.0
2
F10B
19.00.10.0
3
B30
F16
FUSE
TRANSFORMER
DC MODULE
AMPLIFIER
SLAVE
SLAVE
SLAVE
-12V DC @ 6.0 AMPS
REF 19.00.32.0
+12V DC
TO DC GND
19.00.40.0
C6
C19
C31
C36
FRAME GND
19.00.10.0
C8
PLUG 1
F11B
19.00.10.0
2
F12B
19.00.10.0
3
C32
F17
FUSE
TRANSFORMER
DC MODULE
-OUT
AMPLIFIER
SLAVE
C39
C42
C45
SLAVE
SLAVE
SLAVE
-12V DC
TS2-4
19.00.40.0

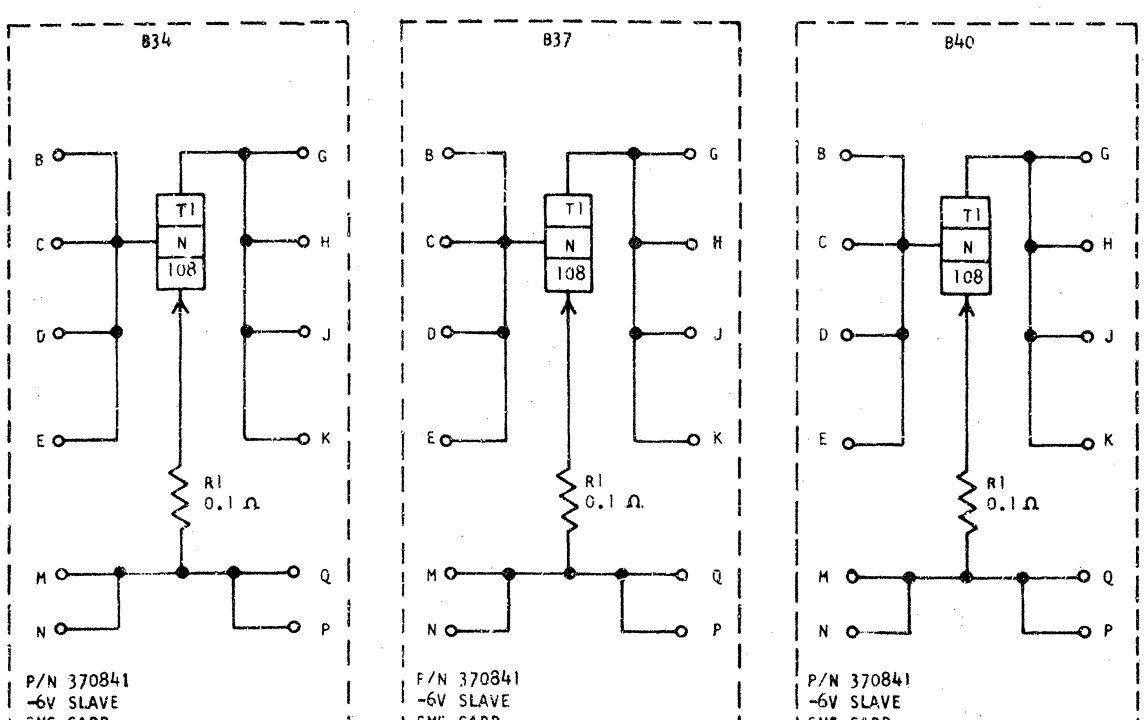

A37
(+) REMOTE SENSE
M
R5
75 K
R2
768 Ω
1/8 W
R17
2 K
DJ 9
DY
R13
130 K
Q
R14
390 Ω
R
(-) BULK
T2
P
086
P7
250Ω
1
2
3
T4
N
026
T5
N
026
D8
AAS
R7
390 Ω
E
T8
N
119
R9
1.27 K
1/8 W
G
(-) 12V REMOTE SENSE
F
N
R6
3 K
P
(+) OUTPUT
HEAT SINK
R4
65 Ω
5 W
C11
100
UF
C12
100
UF
R15
2Ω
1 W
1%
A
B
(-) OUTPUT
P/N 372596
+12V AMP
SMS CARD

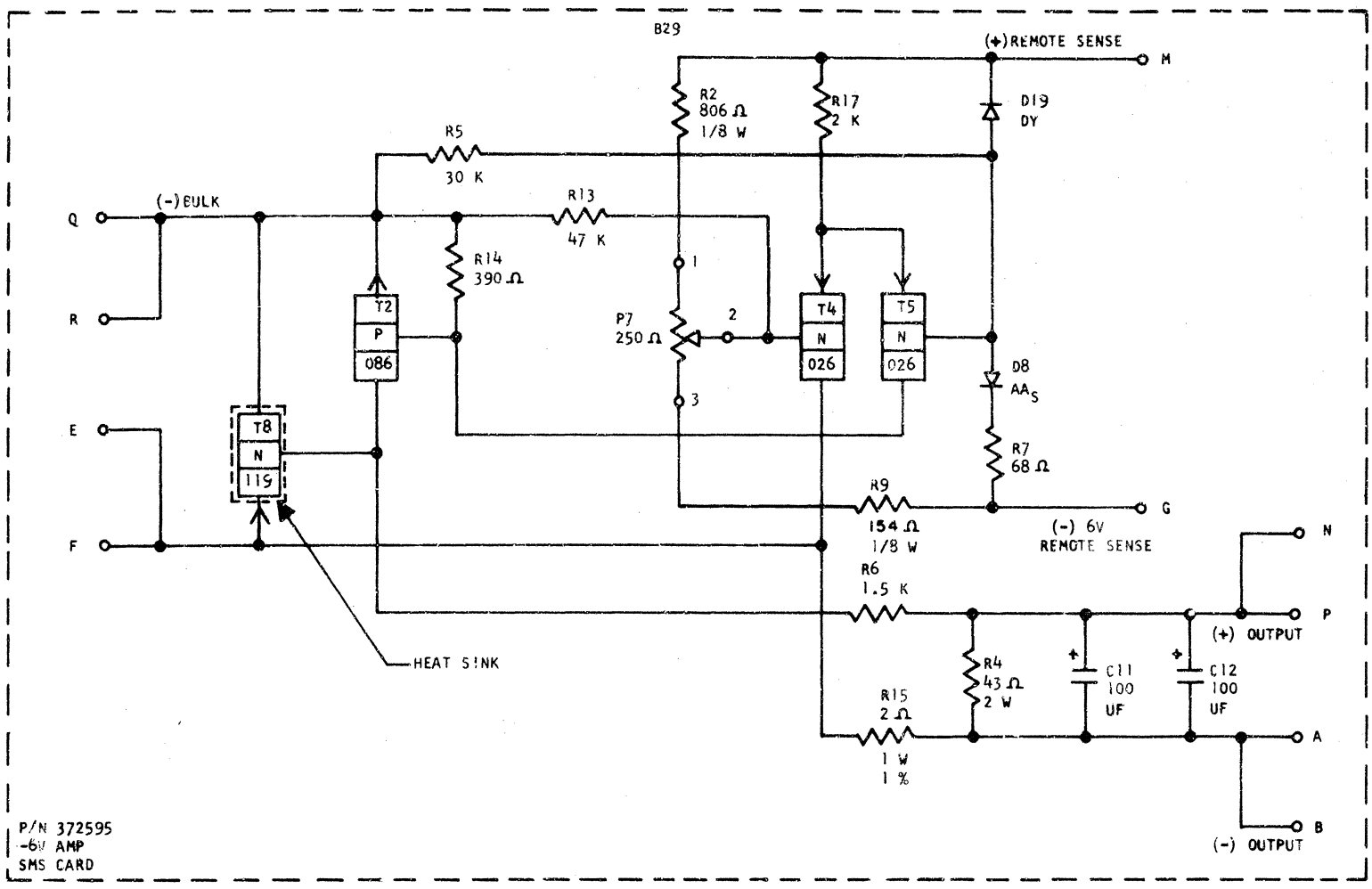

A42
B
C
D
E
T1
N
108
G
H
J
K
R1
0.1Ω
M
N
Q
P
(-) OUTPUT
P/N 370841
+12V SLAVE
SMS CARD

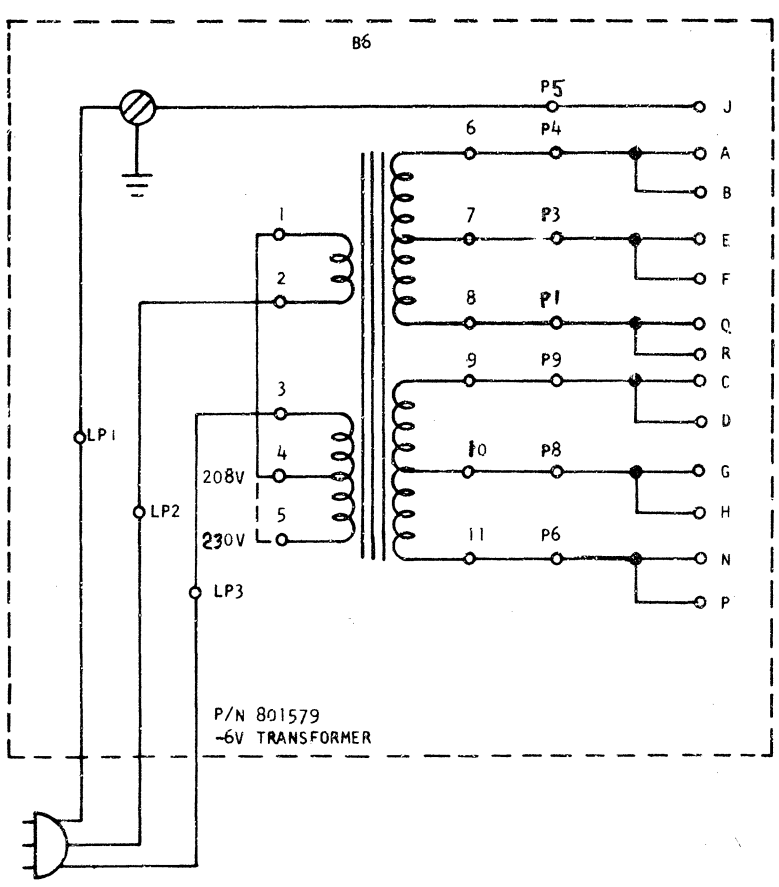

A45
B
C
D
E
T1
N
108
G
H
J
K
R1
0.1Ω
M
N
Q
P
(-) OUTPUT
P/N 370841
+12V SLAVE
SMS CARD

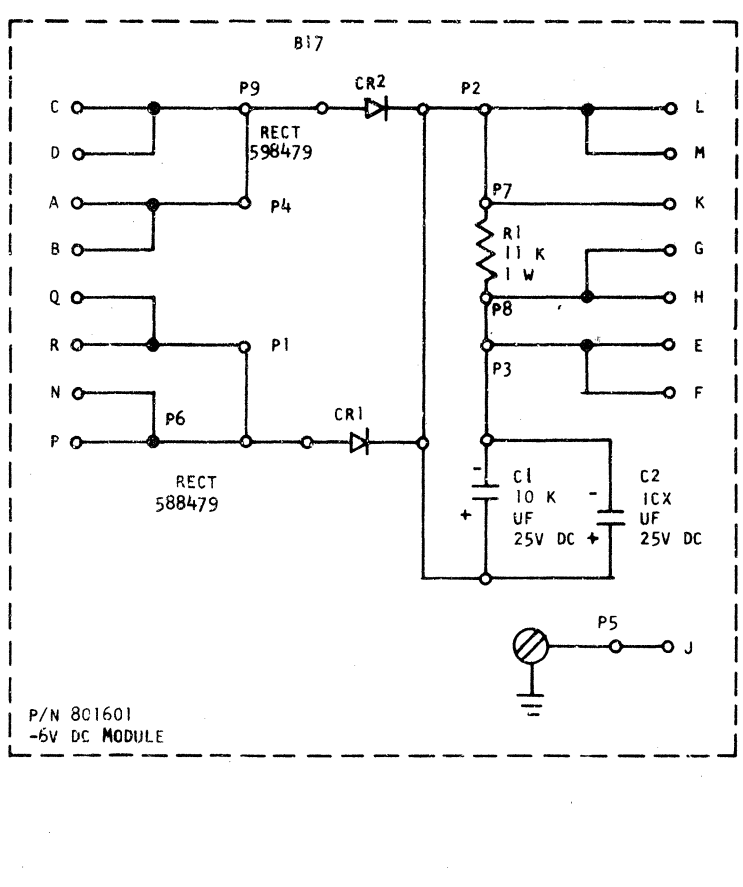

A6
P5
J
6
P4
A
B
7
P3
E
F
8
P1
Q
R
9
P9
C
D
10
P8
G
H
11
P6
N
P
1
2
3
4
5
208V
230V
P/N 801577
+12V TRANSFORMER


A18
C
D
A
B
Q
R
N
P
P9
P4
P1
P6
CR2
CR1
P2
P7
R1
P8
P3
C1
L
+
M
K
G
-
H
E
-
F
P5
J
P/N 801598
+12V DC MODULE

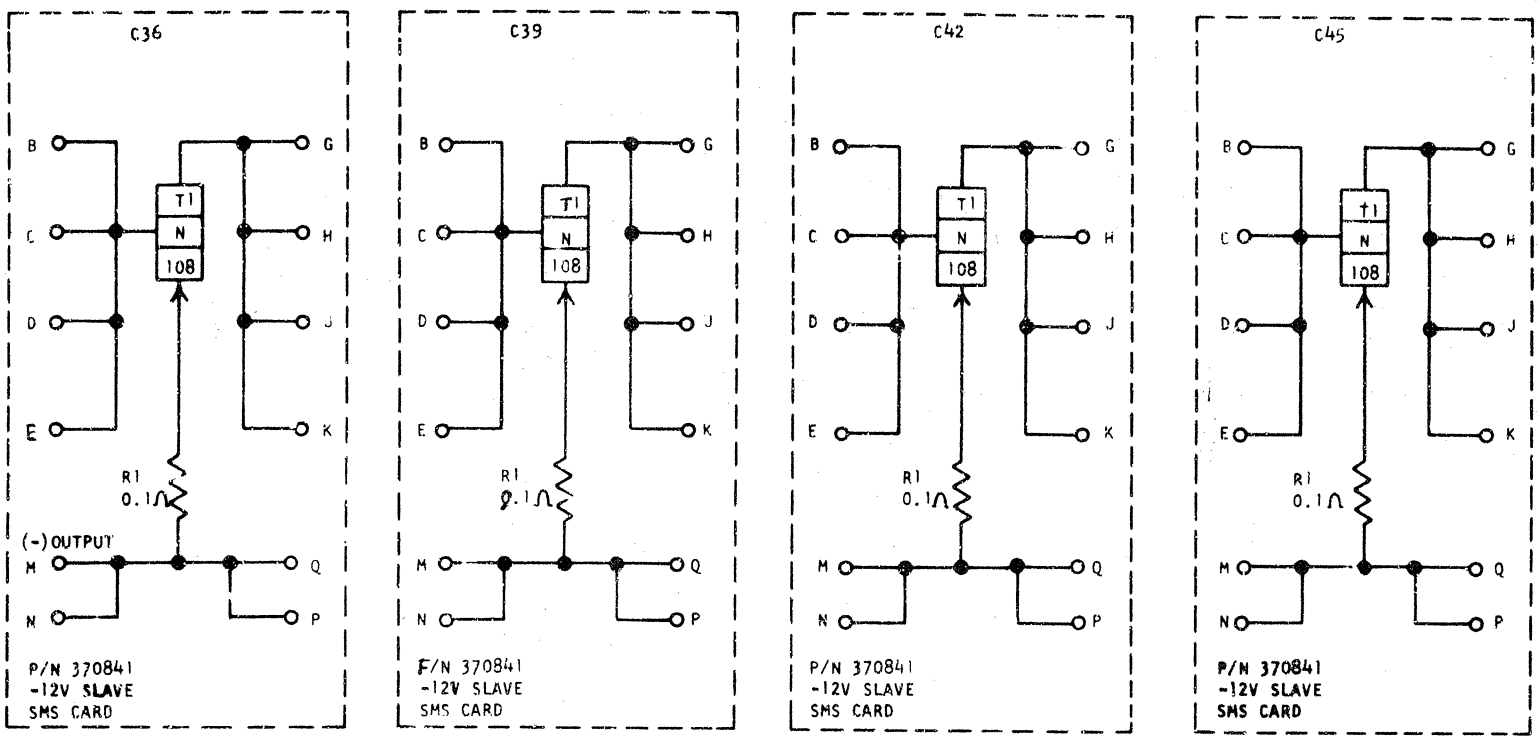

B34
B37
B40
B
C
D
E
G
H
J
K
T1
N
108
R1
0.1 Ω
M
N
Q
P
P/N 370841
-6V SLAVE
SMS CARD

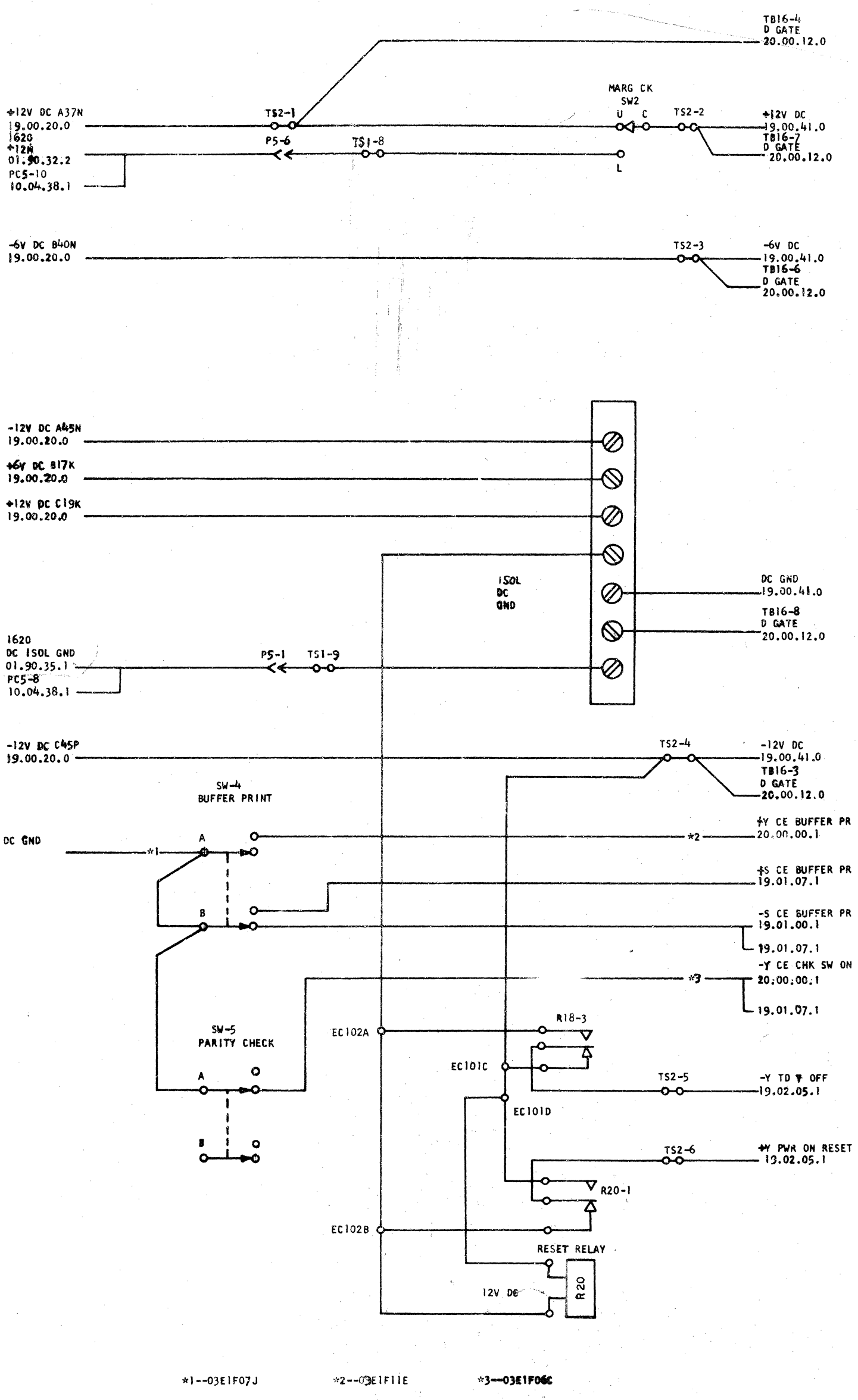

B29
(+)REMOTE SENSE
M
R2
806 Ω
1/8 W
R17
2 K
D19
DY
R5
30 K
R13
47 K
(-)BULK
Q
R
R14
390 Ω
T2
P
086
P7
250 Ω
1
2
3
T4
N
026
T5
N
026
D8
AA
S
E
F
T8
N
115
R7
68 Ω
R9
154 Ω
1/8 W
G
(-) 6V
REMOTE SENSE
N
R6
1.5 K
P
(+) OUTPUT
HEAT SINK
R4
43 Ω
2 W
C11
100
UF
C12
100
UF
R15
2 Ω
1 W
1 %
A
B
(-) OUTPUT
P/N 372595
-6V AMP
SMS CARD


B6
P5
J
6
P4
A
B
7
P3
E
F
8
P1
Q
R
9
P9
C
D
10
P8
G
H
11
P6
N
P
1
2
3
4
5
LP1
LP2
LP3
208V
230V
P/N 801579
-6V TRANSFORMER


B17
C
D
A
B
Q
R
N
P
P9
CR2
P2
RECT
598479
P4
P1
P6
CR1
RECT
588479
P7
R1
11 K
1 W
P8
P3
L
M
K
G
H
E
F
C1
10 K
UF
25V DC
C2
1CX
UF
25V DC
P5
J
P/N 801601
-6V DC MODULE

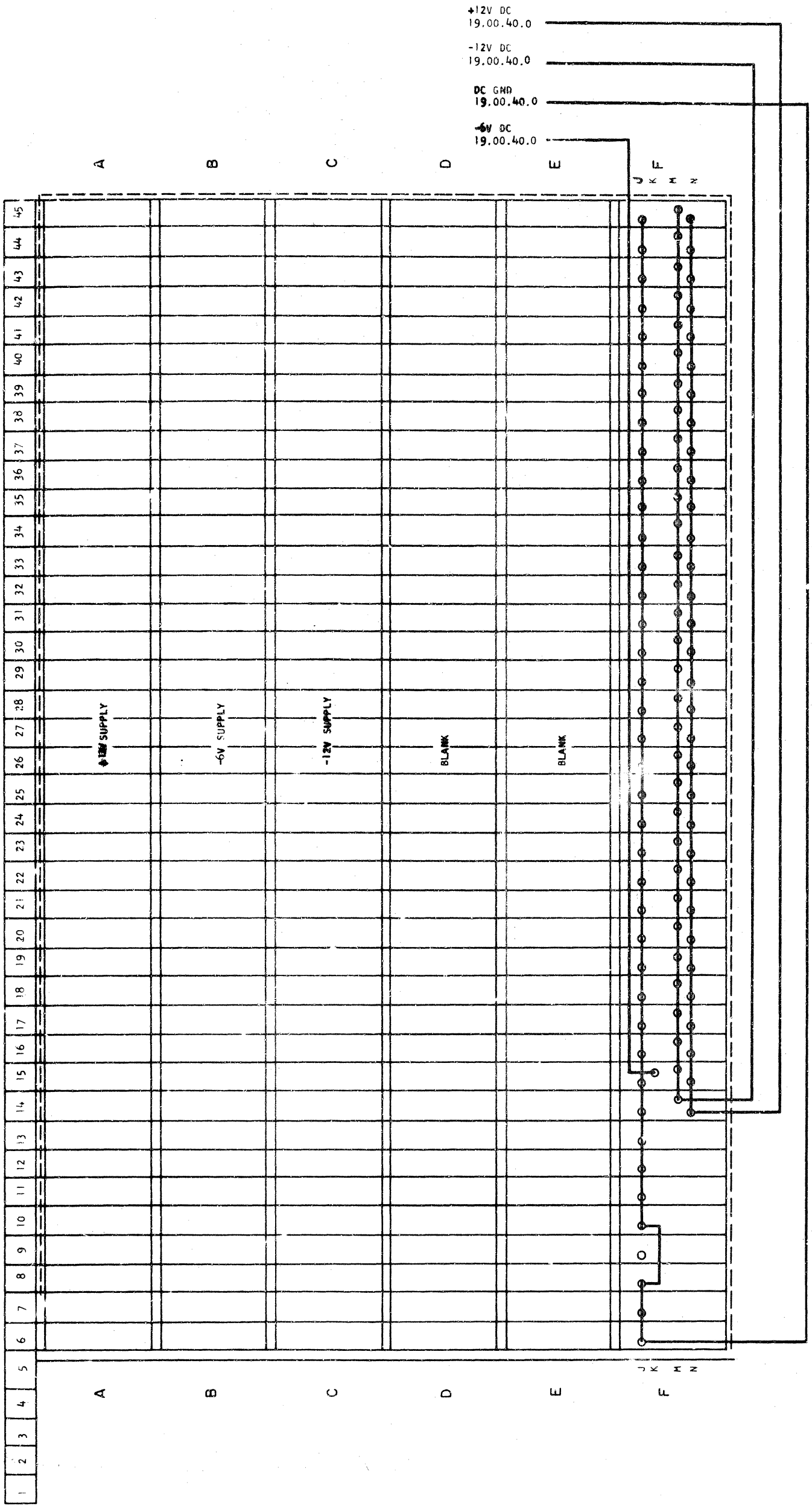
-12V DC SUPPLY @ 6.0 AMP 1443-
MODULE SCHEMATIC





*1--03E1F07J *2--03E1F11E *3--03E1F06C

2162176 VOLTAGE DISTRIBUTION GATE E 1443 19.00.41.0



EC 124325 0A11000

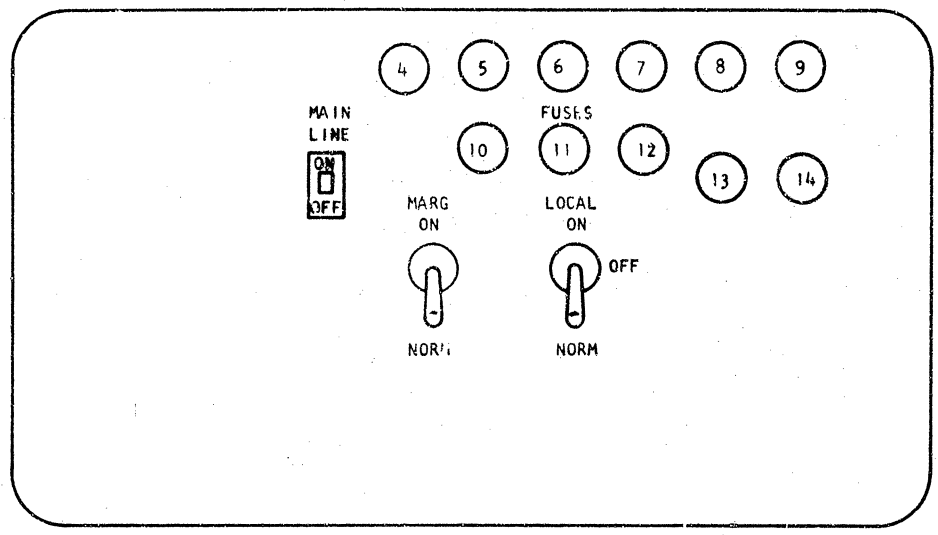
NAME	RELAY	CONTACTS				
		COIL	1	2	3	4
EPO CONTACTOR	K1	19.00.10.0	19.00.10.0	19.00.10.0	SPARE	———
SEQUENCE CONTACTOR	K2	19.00.10.0	19.00.10.0	19.00.10.0	SPARE	———
START	R18	19.00.10.0	19.00.10.0	19.00.10.0	19.00.40.0	SPARE
DELAY	R19	19.00.10.0	19.00.10.0	19.00.10.0	SPARE	SPARE
RESET	R20	19.00.40.0	19.00.40.0	SPARE	SPARE	SPARE

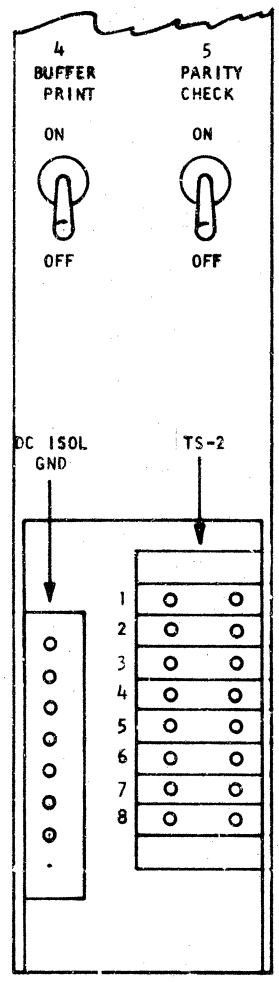
POINT	TERM STRIP		
	1	2	3
1	19.00.10.0	19.00.40.0	19.00.10.0
2	19.00.10.0	19.00.40.0	19.00.10.0
3	19.00.10.0	19.00.40.0	———
4	19.00.10.0	19.00.40.0	19.00.10.0
5	19.00.10.0	19.00.40.0	
6	19.00.10.0	19.00.40.0	
7	19.00.10.0		
8	19.00.40.0		
9	19.00.40.0		
10			

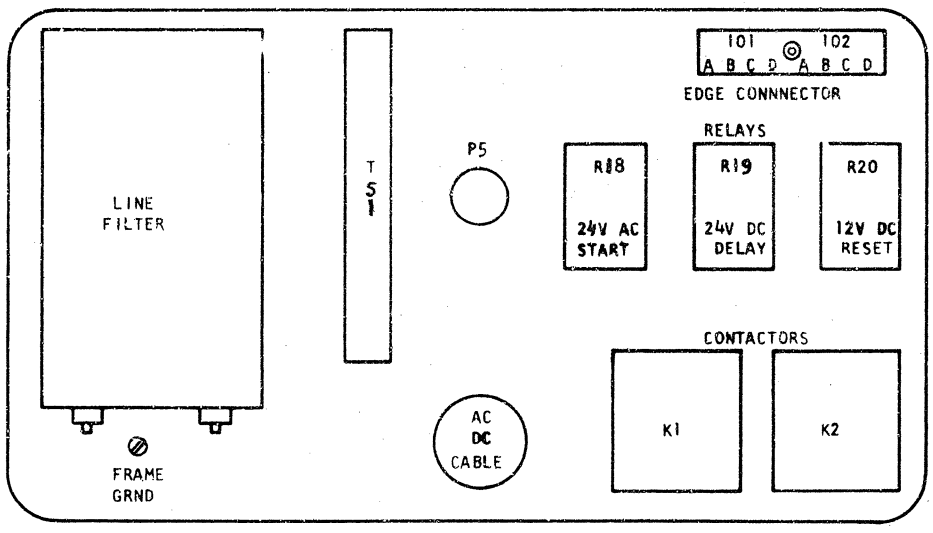
SWITCH	
MAIN SW 1	19.00.10.0
MARG CK SW 2	19.00.40.0
LOCAL SEQ SW 3	19.00.10.0
BUFFER PRINT SW 4	19.00.40.0
PARITY CHECK SW 5	19.00.40.0

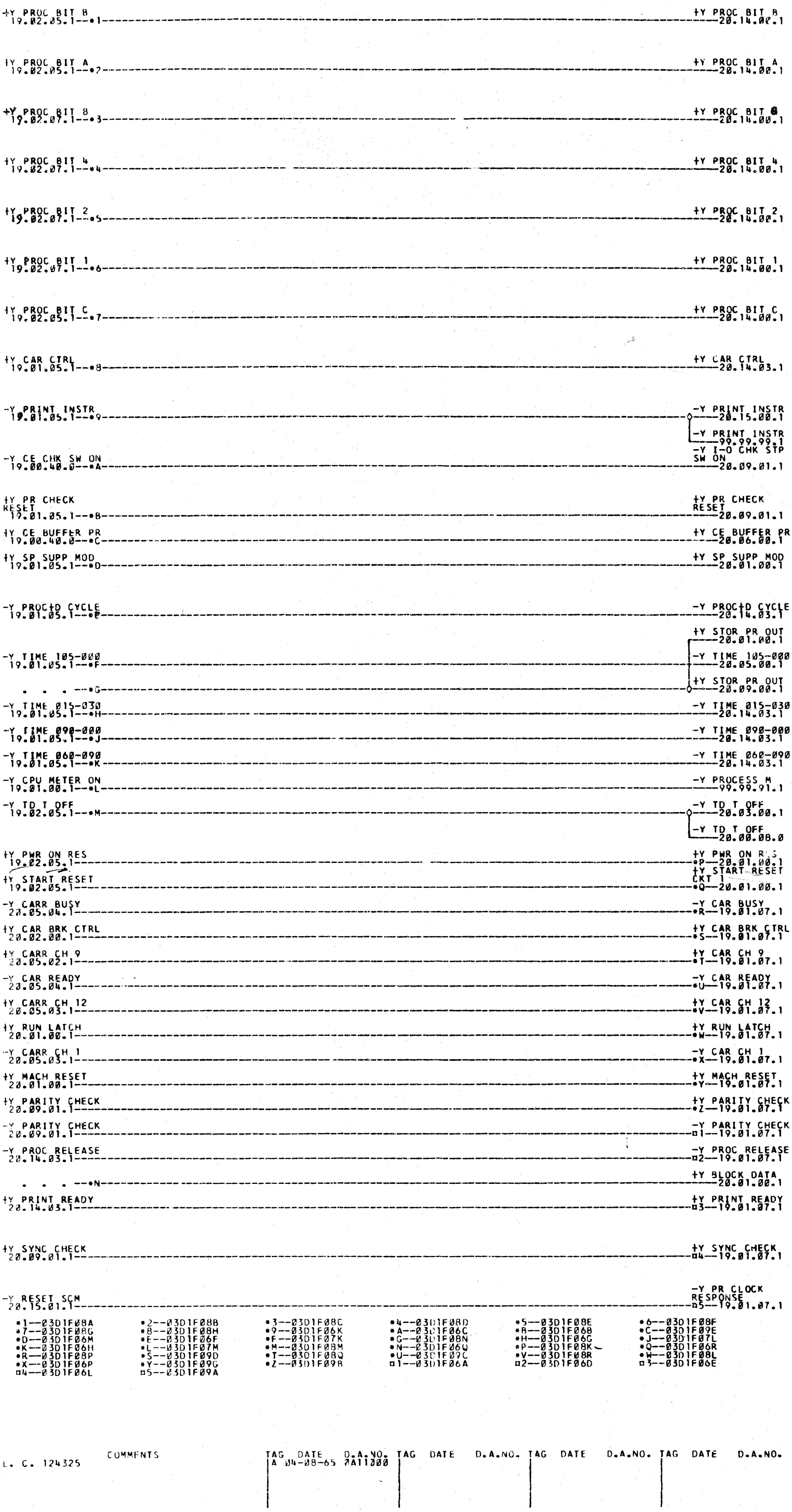
	EDGE CONNECTOR SEQ PANEL			
	POINTS			
	A	B	C	D
101	19.00.10.0	19.00.10.0	19.00.40.0	19.00.40.0
102	19.00.40.0	19.00.40.0	19.00.10.0	19.00.10.0

FUSE	RATING	CIRCUIT	PAGE
F4	3.0 MDX	24V AC	19.00.10.0
F5	1.0 MDL	208V AC TO +12V DC	19.00.10.0
F6	1.0 MDL		19.00.10.0
F7	0.8 MDL	208V AC TO -6V DC	19.00.10.0
F8	10.0 AMP	208V AC LINE	19.00.10.0
F9	10.0 AMP		19.00.10.0
F10	0.8 MDL	208V AC TO -6V DC	19.00.10.0
F11	1.0 MDL	208V AC TO -12V DC	19.00.10.0
F12	1.0 MDL		19.00.10.0
F13	10.0 AMP	110V AC CONV OUT	19.00.10.0
F14	10.0 AMP		
F15	3.0 AG	+12V DC	19.00.20.0
F16	6.0 AG	-6V DC	19.00.20.0
F17	6.0 AG	-12V DC	19.00.20.0









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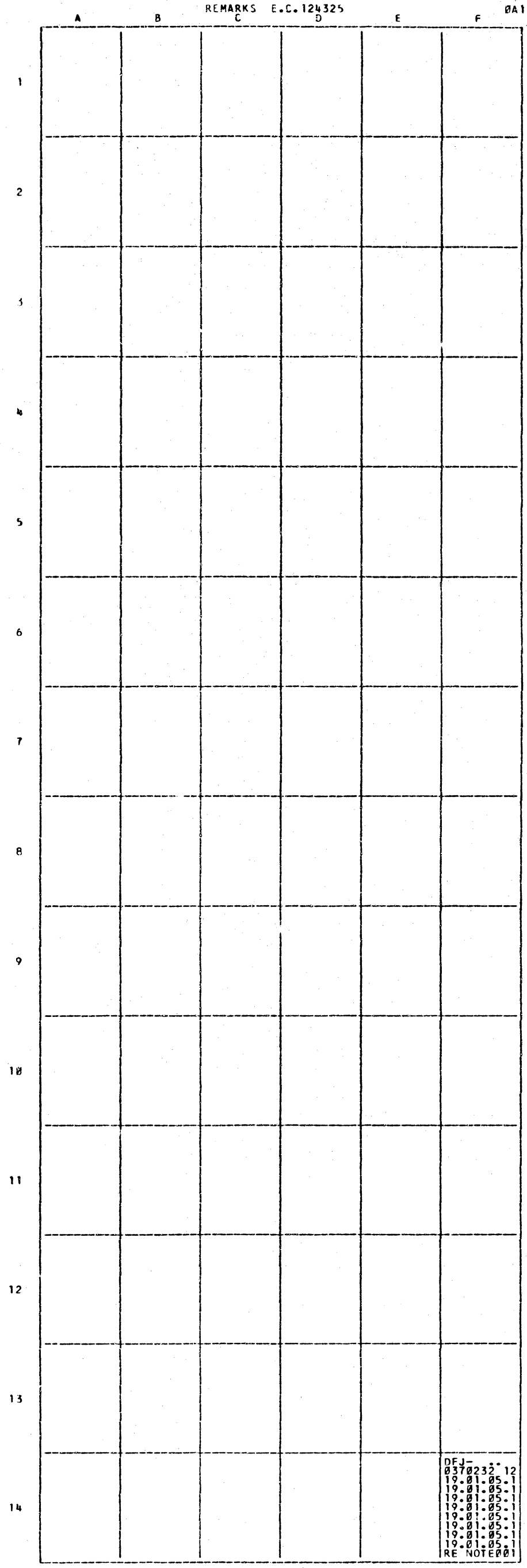
*7--03D1F08G *8--03D1F08H *9--03D1F06K *A--03D1F06C *B--03D1F06B *C--03D1F09E
*D--03D1F06M *E--03D1F06F *F--03D1F07K *G--03D1F08N *H--03D1F06G *J--03D1F07L
*K--03D1F06H *L--03D1F07M *M--03D1F08M *N--03D1F06Q *P--03D1F08K *Q--03D1F06R
*R--03D1F08P *S--03D1F09D *T--03D1F08Q *U--03D1F09C *V--03D1F08R *W--03D1F08L
*X--03D1F06P *Y--03D1F09G *Z--03D1F09B □1--03D1F06A □2--03D1F06D □3--03D1F06E
□4--03D1F06L □5--03D1F09A

L. C. 124325

COMMENTS

TAG	DATE	D.A.NO.	TAG	DATE	D.A.NO.	TAG	DATE	D.A.NO.	TAG	DATE	D.A.NO.
A	04-08-65	0A11000									

2162423 CIRCUIT CARD LOCATION CHART 03 E 1 11443 119.00.80.1
REMARKS E.C.124325 0A11000 SHEET 1
DATE APR 08, 1965



	A	B	C	D	E	F
15						AQN- 0370690 12 19.01.05.1 19.01.05.1 19.01.05.1 19.01.05.1 19.01.05.1 19.01.05.1 19.01.05.1 RE NOTE002
16						DFJ- 0370232 12 19.01.05.1 19.01.07.1 19.01.07.1 19.01.07.1 19.01.07.1 19.01.07.1 19.01.07.1 19.01.07.1 RE NOTE003
17						DAX- 0370084 04 19.02.00.1 19.02.00.1 19.02.00.1 19.02.00.1 E
18						DHC- 0370372 06 19.01.07.1 19.01.07.1 19.01.07.1 19.01.07.1 19.01.07.1 19.01.07.1
19						DGU- 0370379 04 19.01.07.1 19.01.07.1 19.01.07.1 19.01.05.1
20						TAG- 0370366 04 19.01.00.1 19.01.07.1 19.01.00.1 19.01.00.1 E
21						TAG- 0370366 04 19.01.00.1 19.02.00.1 19.01.00.1 19.02.07.1 E
22						TFC- 0370646 04 19.01.00.1 19.02.00.1 19.02.00.1 19.01.00.1
23						DAR- 0370082 04 19.02.00.1 19.02.00.1 19.02.00.1 19.01.00.1
24						TAH- 0370367 03 19.02.00.1 19.02.00.1 19.02.00.1 D
25						DAW- 0370083 03 19.02.00.1 19.02.00.1 19.02.00.1
26						TAH- 0370367 03 19.02.00.1 19.02.00.1 19.02.00.1 D
27						DAX- 0370084 04 19.02.00.1 19.02.07.1 19.02.07.1 19.01.05.1 E
28						DAW- 0370083 03 19.02.00.1 19.02.05.1 19.02.05.1

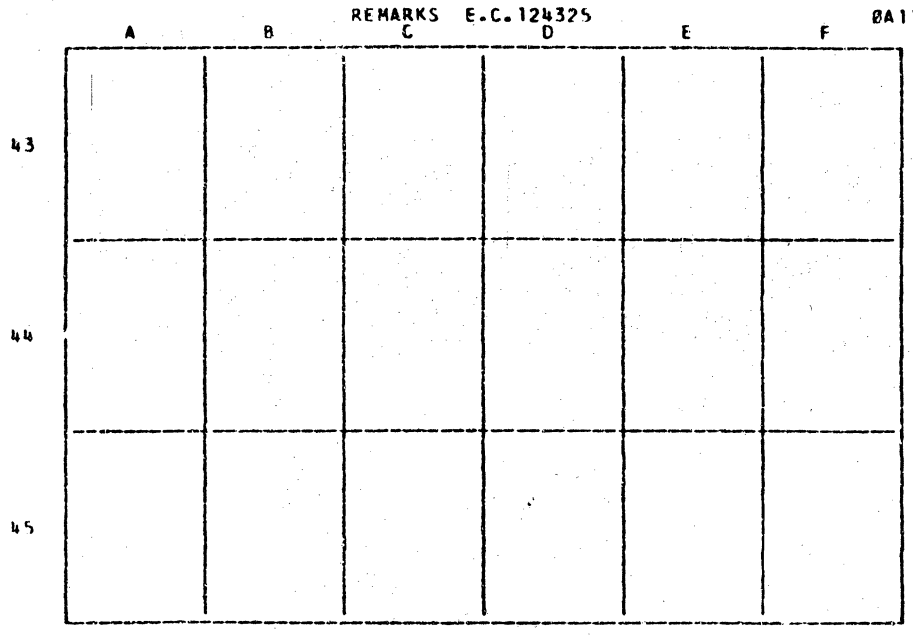
2162423

CIRCUIT CARD LOCATION CHART 03 E 1 11443 119.00.80.1
SHEET 3
REMARKS E.C.124325 0A11000 DATE APR 08, 1965

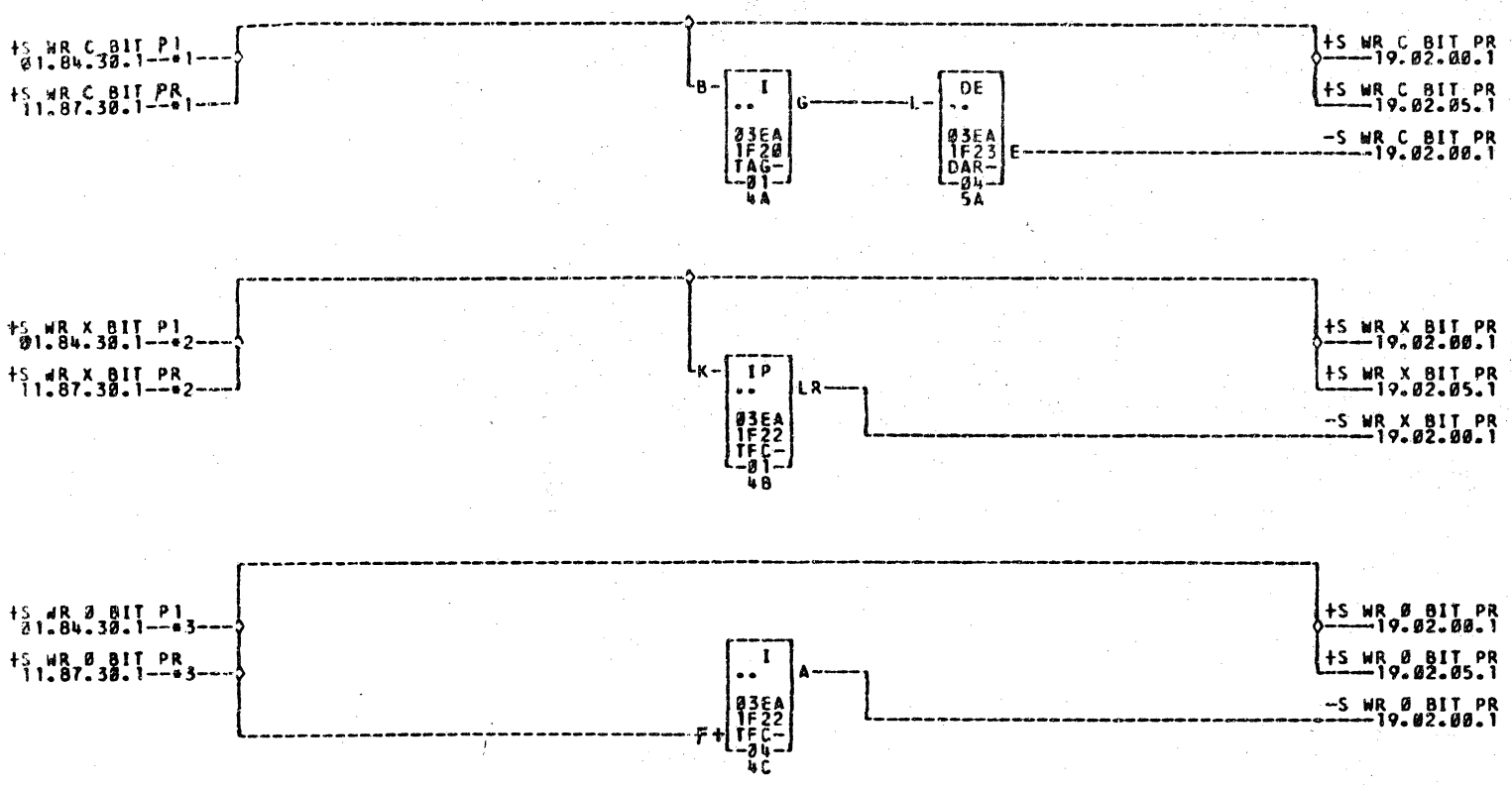
	A	B	C	D	E	F
29						TAG- 0370366 04 19.02.05.1 19.02.05.1 19.02.05.1 19.02.07.1 E
30						DFJ- 0370232 12 19.02.05.1 19.02.05.1 19.02.05.1 19.02.07.1 19.02.07.1 19.02.07.1 19.02.07.1 19.01.07.1 RE NOTE004
31						DAX- 0370084 04 19.02.07.1 19.02.07.1 19.02.05.1 19.02.00.1 E
32						DAW- 0370083 03 19.01.05.1 19.02.07.1 19.02.05.1
33						DAW- 0370083 03 19.02.07.1 19.02.07.1 19.02.07.1
34						TAH- 0370367 03 19.02.00.1 19.02.05.1 19.02.00.1 D
35						TAG- 0370366 04 19.02.00.1 E
36						DGW- 0370377 03 19.01.07.1 19.01.07.1 C
37						
38						
39						
40						
41						
42						

2162423 CIRCUIT CARD LOCATION CHART Ø3 E 1 11443 119.00.80.1

REMARKS E.C.124325 ØA11000 SHEET 4 DATE APR Ø8, 1965



NOTE 1	19.01.07.1	19.01.07.1	19.01.07.1	19.01.07.1
NOTE 2	19.01.05.1	19.01.05.1	19.01.07.1	19.01.07.1
NOTE 3	19.01.07.1	19.01.00.1	19.01.07.1	19.01.07.1
NOTE 4	19.01.07.1	19.01.05.1	19.01.07.1	19.01.07.1

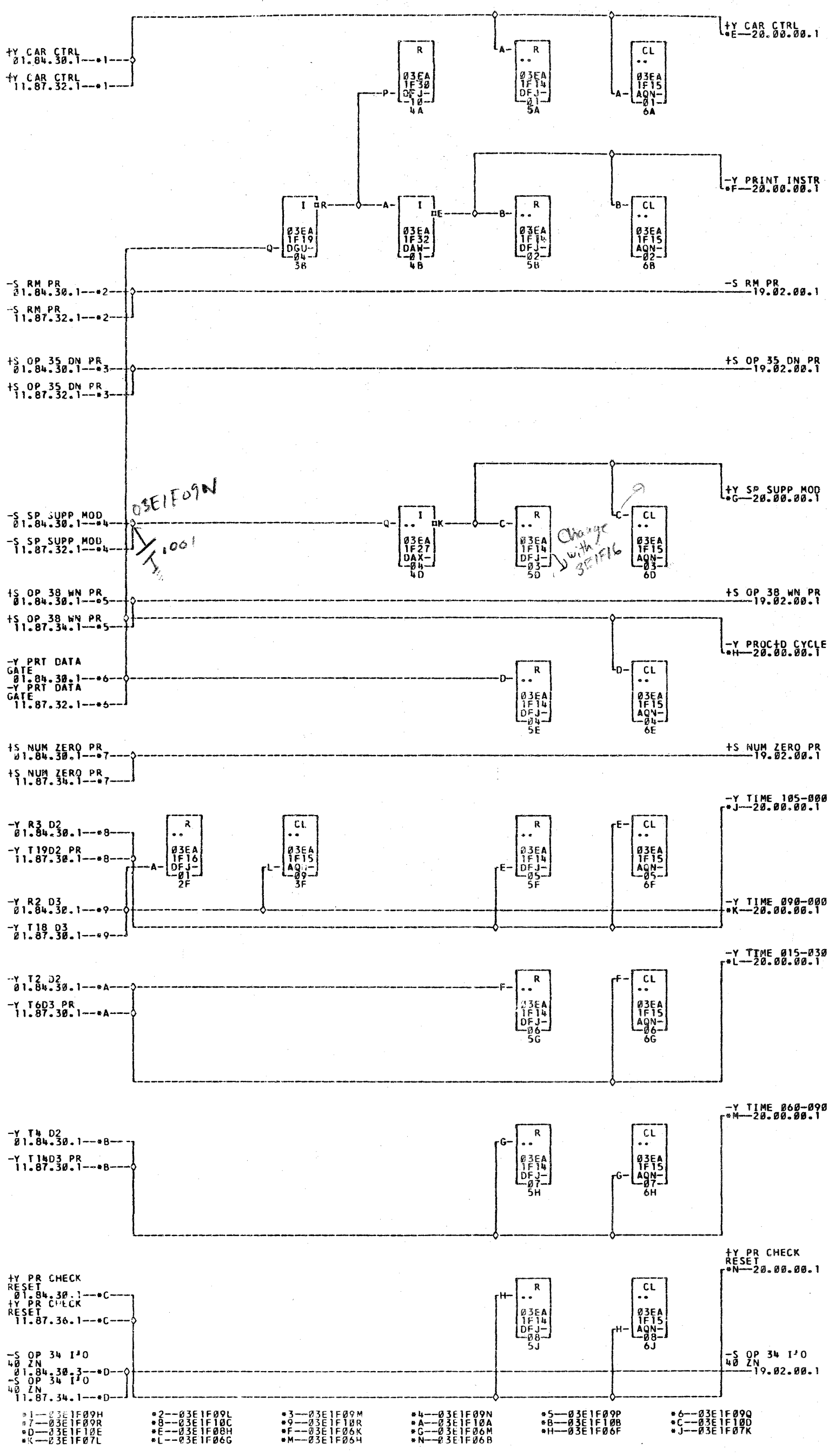


*1--03E1F09A *2--03E1F09B *3--03E1F09C *4--03E1F09D *5--03E1F09E *6--03E1F09F
*7--03E1F09G *8--03E1F09J *9--03E1F07M

COMMENTS

E. C. 124325

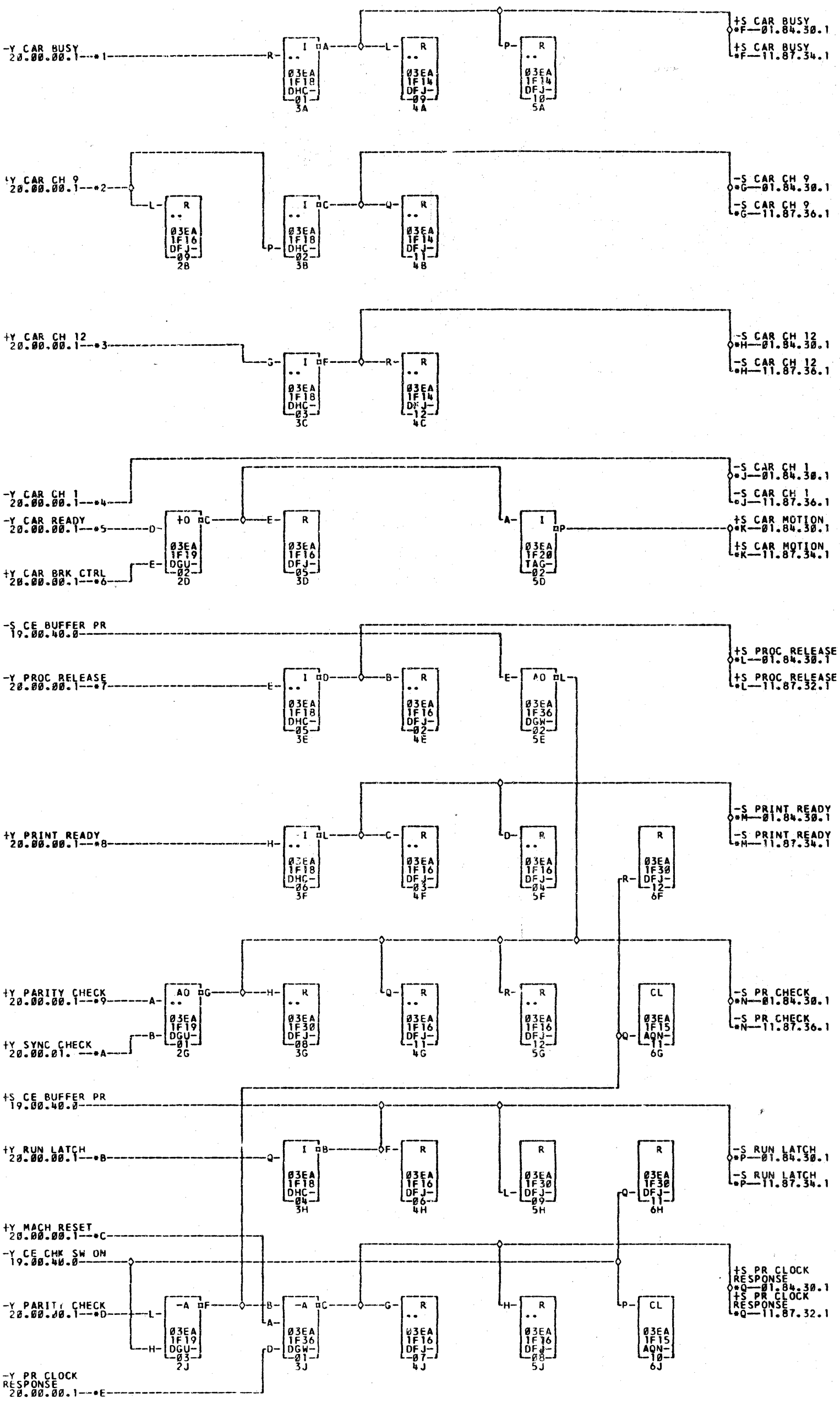
TAG	DATE	D.A.NO.	TAG	DATE	D.A.NO.	TAG	DATE	D.A.NO.	TAG	DATE	D.A.NO.
A	04-08-65	0A11000									



C. C. 124325

COMMENTS

TAG	DATE	D.A.NO.	TAG	DATE	D.A.NO.	TAG	DATE	D.A.NO.	TAG	DATE	D.A.NO.
A	04-08-65	0A11000									



*1--03E1F08P *2--03E1F08Q *3--03E1F08R *4--03E1F06P *5--03E1F11C *6--03E1F11D
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*D--03E1F06A *E--03E1F11A *F--03E1F10F *G--03E1F10G *H--03E1F10H *J--03E1F10K
*K--03E1F10Q *L--03E1F10L *M--03E1F10M *N--03E1F10N *P--03E1F09K *Q--03E1F10P

E. C. 1243'5 COMMENTS

TAG	DATE	D.A.NO.	TAG	DATE	D.A.NO.	TAG	DATE	D.A.NO.	TAG	DATE	D.A.NO.
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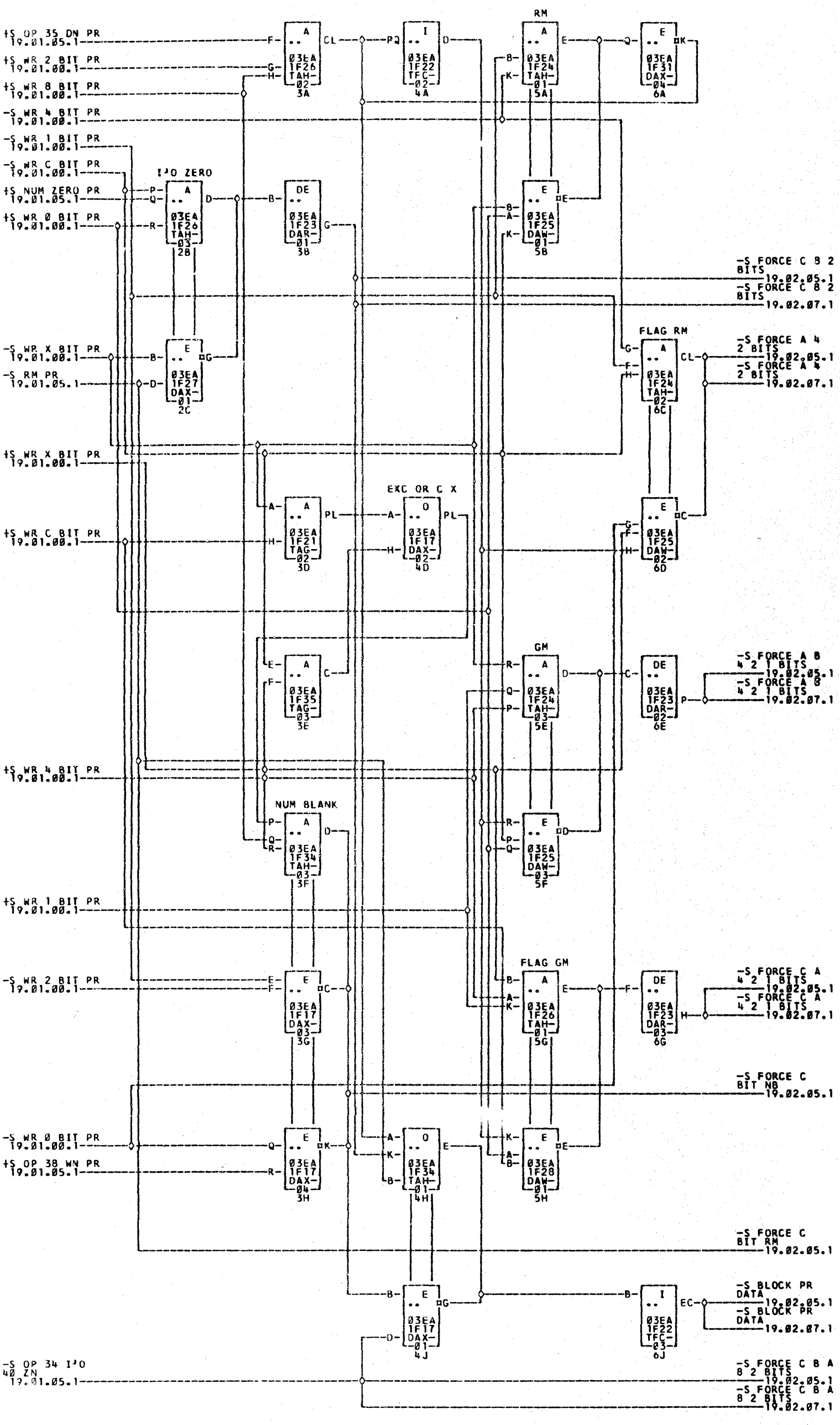

COMMENTS

E. C. 124325

TAG	DATE	D.A.NO.	TAG	DATE	D.A.NO.	TAG	DATE	D.A.NO.	TAG	DATE	D.A.NO.
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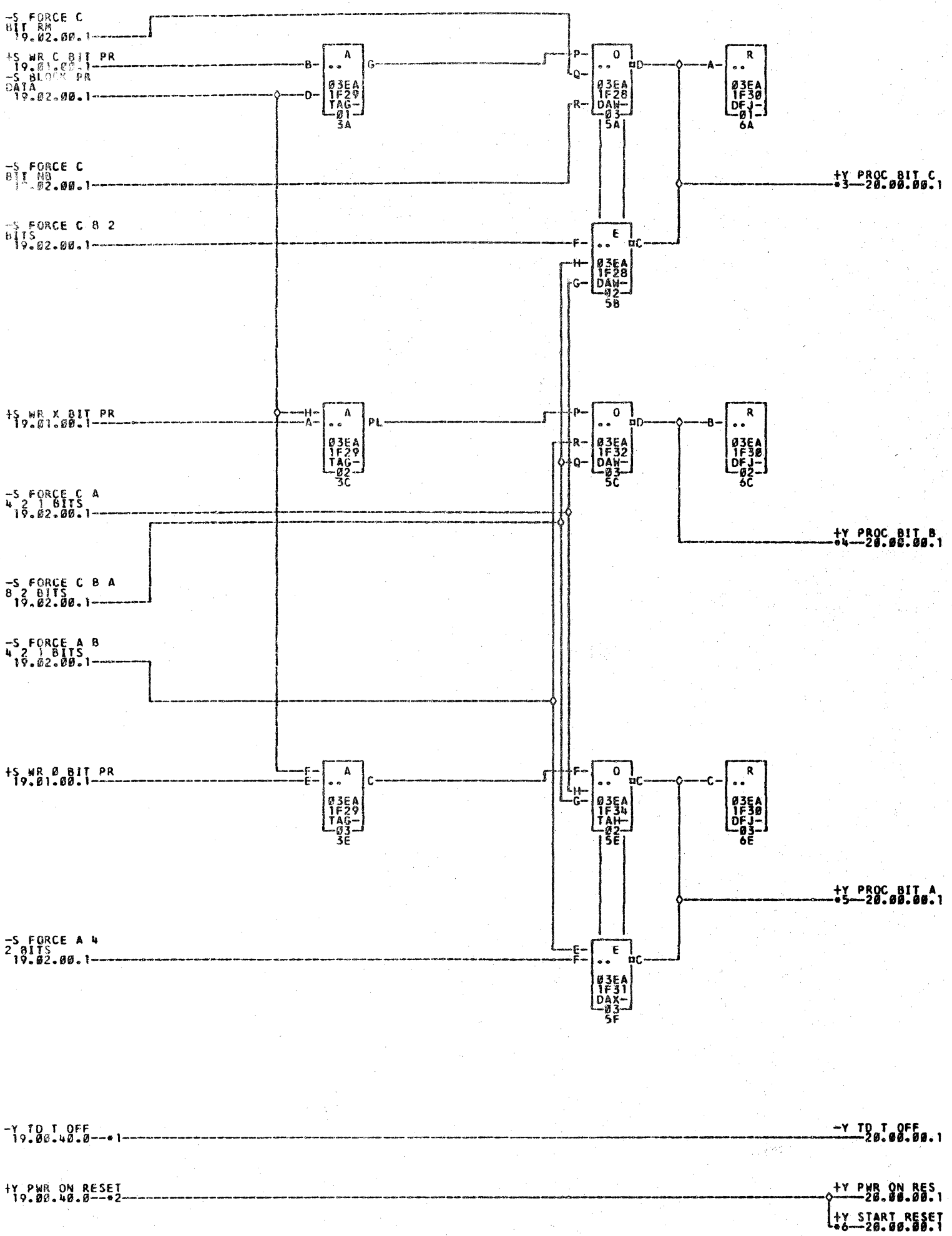
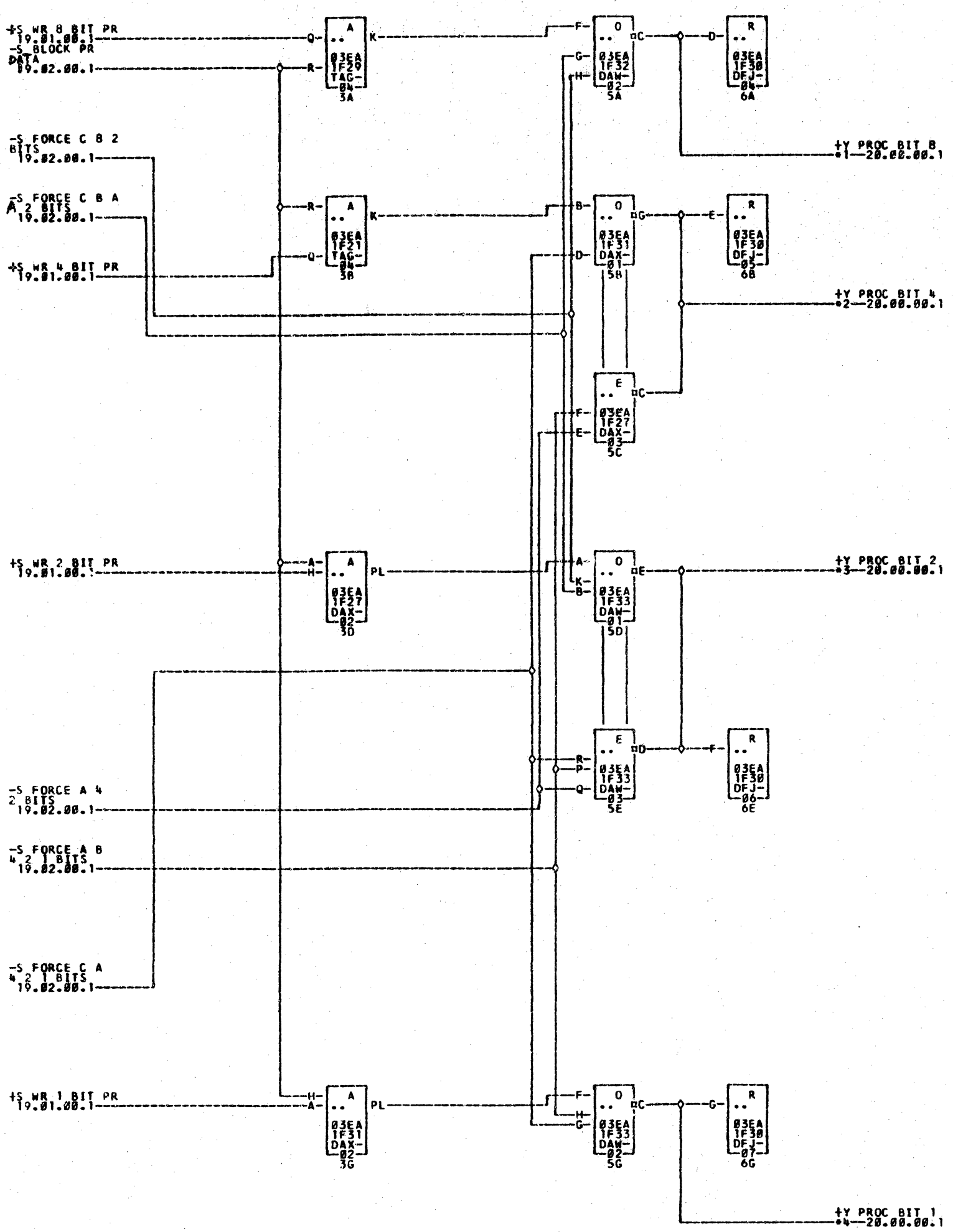


*1--03E1F08M *2--03E1F08K *3--03E1F08G *4--03E1F08A *5--03E1F08B *6--03E1F06R

E. C. 124325

COMMENTS

TAG	DATE	D.A.NO.	TAG	DATE	D.A.NO.	TAG	DATE	D.A.NO.	TAG	DATE	D.A.NO.
A	04-08-65	0A11000									



•1—03E1F08C •2—03E1F08D •3—03E1F08E •4—03E1F08F

E. C. 124325 COMMENTS

TAG	DATE	D.A.NO.	TAG	DATE	D.A.NO.	TAG	DATE	D.A.NO.	TAG	DATE	D.A.NO.
A	04-08-65	9A11000									

IBM 1443 PRINTER INSTALLATION

NOTE: This installation procedure is for the 1620 I 1443 Attachment. For the 1620 II 1443 Attachment installation instructions refer to the 1620 II System Logics. (10.02.00.1, Sheets 11 and 12)

1. NOTE: Service clearance information is available in the 1620 physical planning manual form #C26-5501-2.

2. Insure that the correct voltage is present at the customer's power outlet.

3. Unpack and set up the machine as outlined by the pack-unpack instructions taped to the top of the machine. Bring out all interconnecting cables through the bottom of the cabinet before lowering the glides. Clamp cables in machine by assembling clamping rod (P/N 556841) thru tabs in cabinet base and thru clamp on cables. Secure rod by using washer (P/N 3550) and nut (P/N 3960). To remove shipping casters and lower unit into position screw down all four jacks until casters are just lifted from the floor. Remove casters. Lower one end of machine by alternately screwing the front and rear jacks up into machine a little at a time until machine is at the desired level. Lower other end of machine using the same procedure. Use Page 3 as a guide for mounting the inlet ducts and setting up the form feed stacker.

   NOTE: On previously installed systems, the 1443 should be assembled off line before taking processor control away from customer.

4. Make a visual check for parts broken or damaged in transit.

5. Check the manual knobs, levers, and covers for correct receptacles.

6. Check that all SMS cards are fully seated in their receptacles.

7. Make 1443 regulator transformer voltage tap changes as required. For 208V AC the transformer taps are **TB3-1 and 4**. For 230V AC the transformer taps are TB3-1 and 5. See logic page 20.00.09.0 for reference. TB3 is physically located against the rear wall of the 1443 SMS gate.

   NOTE: There are terminals on this transformer that supply power for the sola-cell lamps.

8. There are three transformers in E gate which may require voltage tap changes. These are located in A, B, and C row between positions 8 and 15. For 208V AC a jumper is required between terminals 1 and 4 on the transformer winding. For 230V AC the jumper should be between terminals 1 and 5. It is necessary to remove the transformers from the gate in order to rewire them. Check that the label or marking on the transformers displays the correct voltage the transformers are wired for.

9. Make transformer T3 voltage tap changes as required. For 208V AC the transformer taps are T3-1 and 2. For the 230 V the taps are T3-1 and 3. See logic page 19.00.10.0 for reference. T3 is fastened to the machine base behind the power sequence box. Do not insert the type bar at this time.

10. Make 1443 Process Meter transformer voltage tap changes as required. See logic page 99.99.95.0 for reference.

11. One signal cable P/N 2162479, and one power sequence cable P/N 2159004, is required for attachment of the 1443 feature. An AC power cord P/N 2162477 is already attached to the 1443.

    a. Signal cable P/N 2162479: Route the end labeled 1620 up through the opening in the rat guard under C and D gates and fasten cable clamp. Install the paddle locks. Insert the two paddle cards into the connectors in back of D gate. (DWT/A 01 is closest to D gate wiring. Use the numbers DWT/A 01 and DWT/A 02 stamped on the paddles as a guide. Route cable thru existing cable clamp on gate post of 1443 machine, together with existing ribbon cables. Spread cable to fit evenly within clamp. Attach the paddle cards on the 1443 end to the E gate paddle locations 03E1F09 and 03E1F10 using the numbers marked on the cable paddles as a guide.

    b. DC power cable P/N 2159004: Route the end labeled 1620 up the opening in the rat guard under the capacitor rack (rack is on back of power supply tubs). Attach it to the cannon connector located between the two rows of capacitors. Route the other end of the cable to the 1443 and attach it to the 1443 P5 connector located behind the 1443 fuse panel.

    c. AC power cable 2162477: Plug into the customers power outlet.

    d. If the CPU does not have a time meter, install jumper E1F21E to E1F21J.

12. Turn on system power.

13. When the system is ready, turn on the 1443 power (with the type bar out of the printer) and perform the following checks.

a. Check the -7V power supply for -7+1/2V between terminals TB11-3 and 8. If it is not within specifications, select the proper taps on TB2. Use 1443 logic pages 20.00.09.0, 20.00.10.0 & 20.00.07.0 as reference. TB2 is physically located against the rear wall of the 1443 SMS card gate. Use 1443 logic pages 20.00.09.0 & 20.00.03.0 as reference.

b. Check the voltage across the solar cell lamps at TB8-4 and 8. It should be between 1.9V and 2.2V R.M.S. (4.3 to 4.9V peak to peak.) TB8 is physically located on the solar cell unit.

c. Check the SMS gate and cover blowers for proper operation.

d. Check that all interlock switches operate properly.

a. End of forms
b. Forms check (2)
c. 6-8 line cover
d. Carriage brush block
e. Hammer restore crank shaft.

14. Before inserting the type bar, hold the start key down and press the reset key repeatedly to cause the printer to take several hammer restore cycles. Check that all hammers stay against their magnets. This procedure is taken to minimize the possibility of damaging the typebar on installation.

15. Insert typebar and ready the printer.

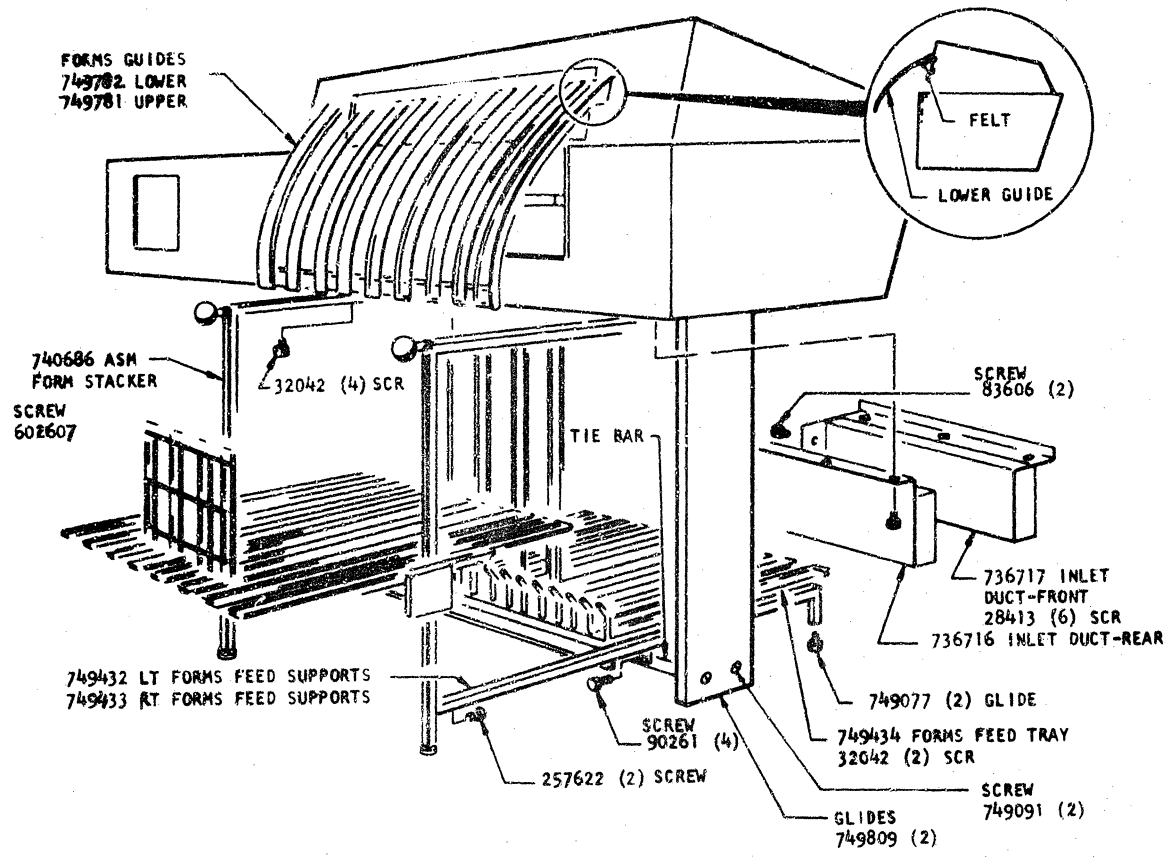
16. Clear 1620 I memory to C bits. Insert: 39 00101 00000 09 00000
Start printer. No hammer should fire.

17. Run 1443 diagnostic test 0043 to give the machine a complete operational check.

PREPARATION FOR SHIPMENT

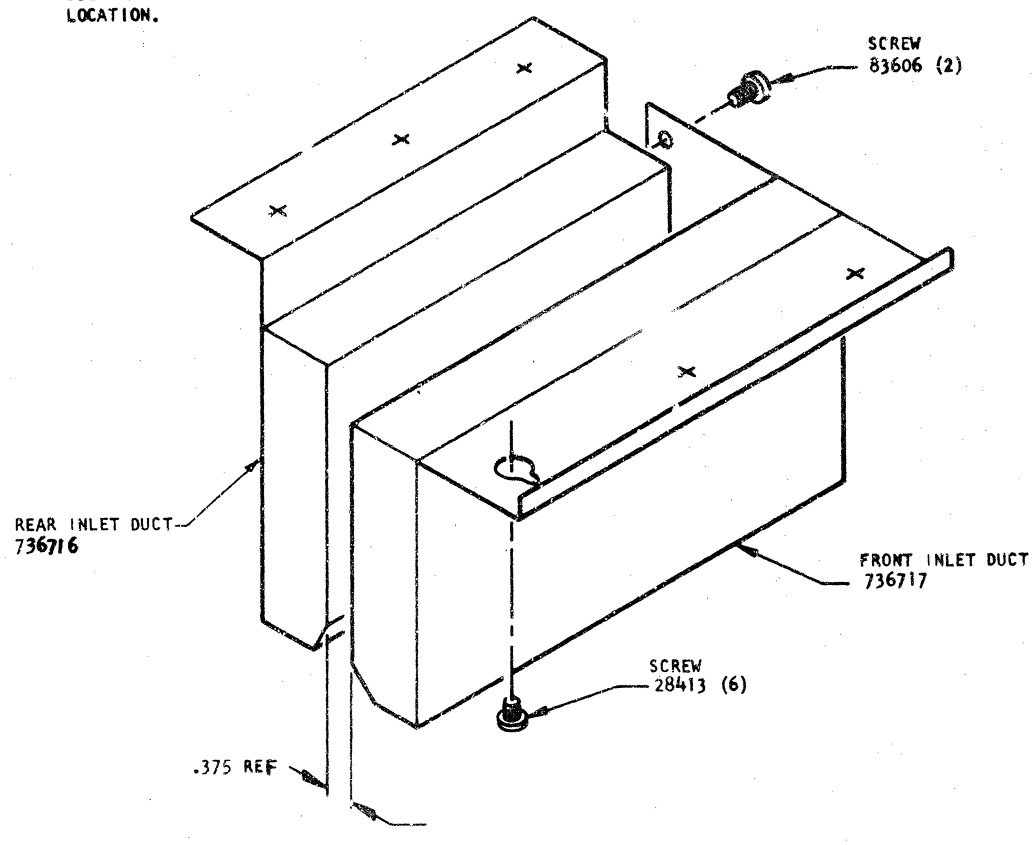
1. Order B/M 7321848 from Endicott, N. Y. to prepare the unit for shipment by air, rail, truck, use B/M 7321849 to prepare the unit for shipment by van.

STACKER AND TRAY

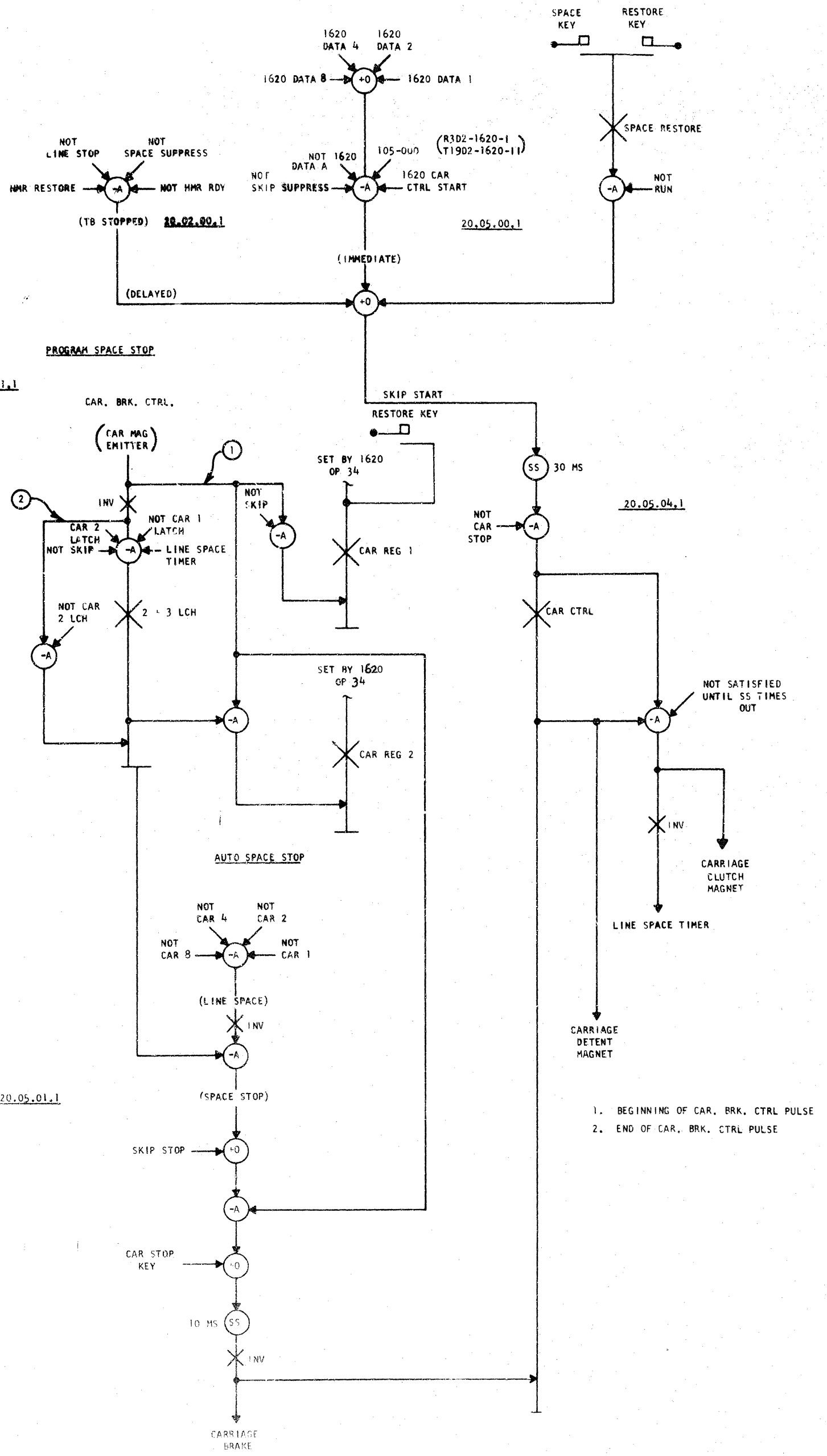


INLET DUCTS

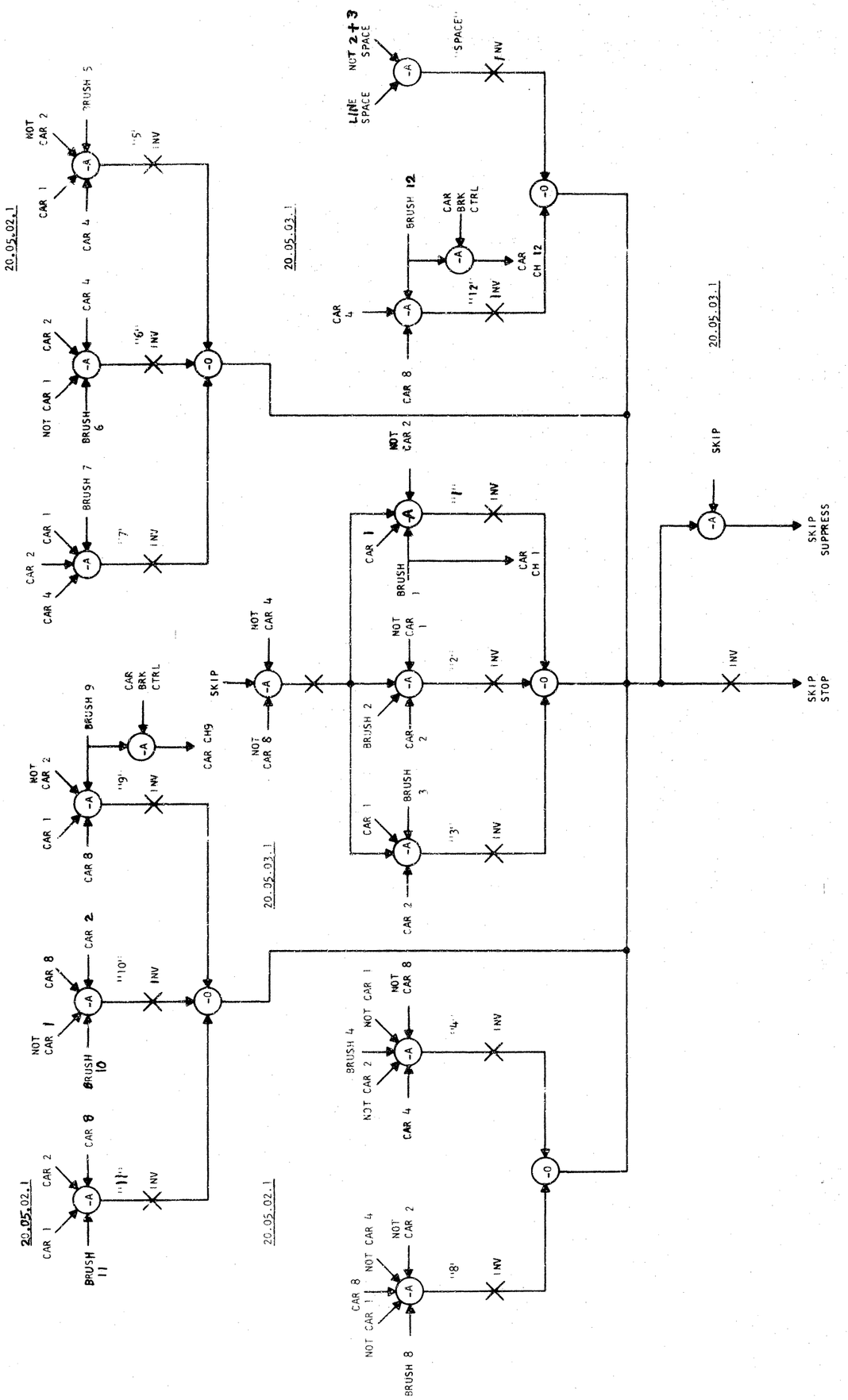
1. ASSEMBLE INLET DUCTS AS SHOWN TO THE BOTTOM OF THE PRINTER SUB-FRAME AT THE FORMS ENTRY LOCATION.

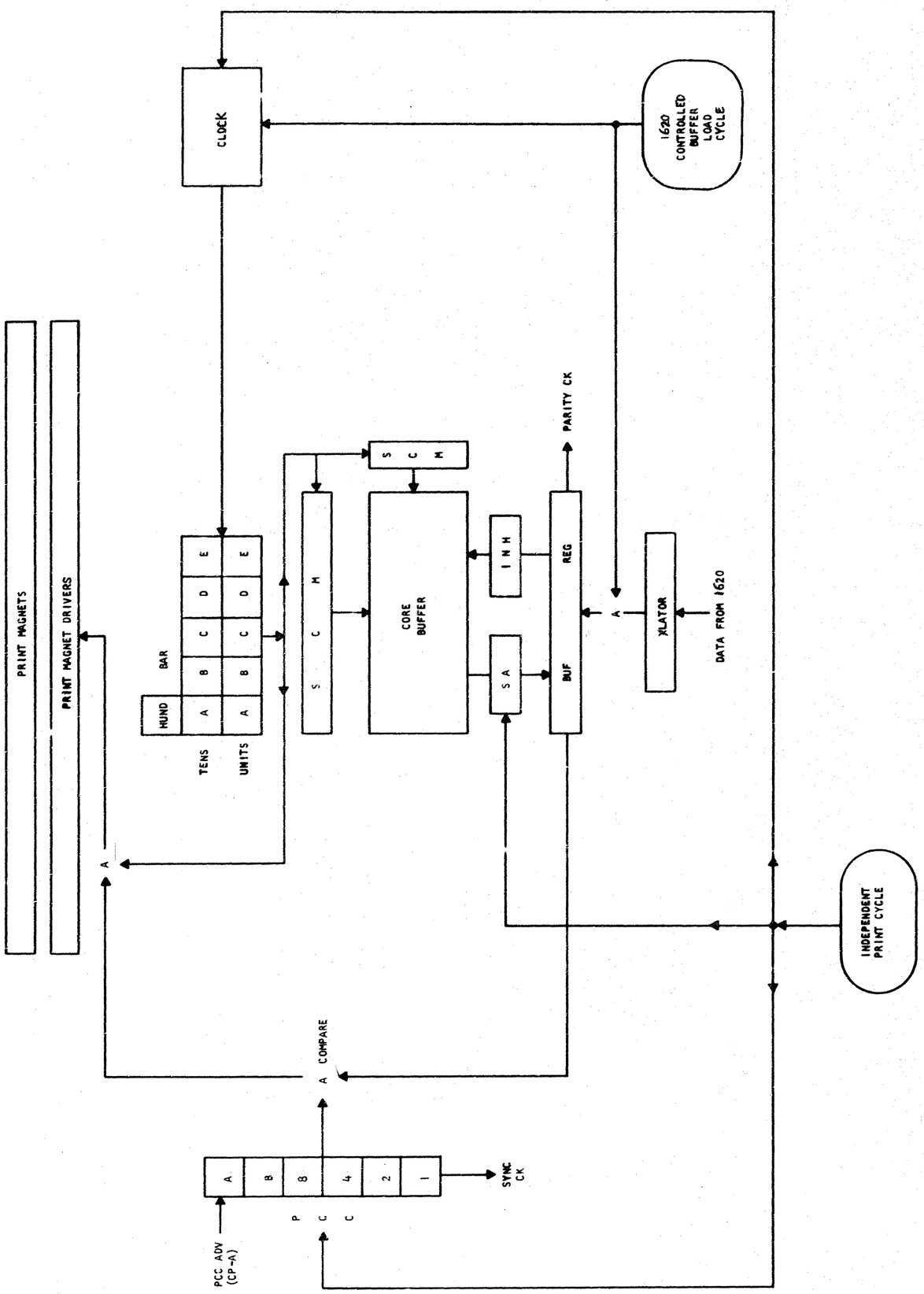


1443			1620 ADAPTER	
REF PAGE	TERMINAL	FUNCTION	REF PAGE	TERMINAL
20.00.07.0	CB1-P1-L	208V AC	19.00.10.0	TS1-1
20.00.07.0	CB1-P2-L	208V AC	19.00.10.0	TS1-2
20.00.07.0	FRAME SCR	FRAME GND	19.00.10.0	P5-3
20.00.07.0	CONV. OUTLET	115V AC	19.00.10.0	F 13 B
20.00.07.0	CONV. OUTLET	115V AC	19.00.10.0	F 14 B
	TB 16-3	-12V DC	19.00.40.0	TS2-4
	TB 16-6	-6V DC	19.00.40.0	TS2-3
20.00.07.0	TB 16-7	+12M DC	19.00.40.0	TS2-2
	TB 16-8	GND (+12M)	19.00.40.0	DC ISOL GND
	TB 16-4	+12V DC	19.00.40.0	TS2-1
20.00.04.0	TB 11-2	-20V DC	19.00.10.0	TS3-1
20.00.07.0	TB 11-6	GND (-20V)	19.00.10.0	TS3-2



1. BEGINNING OF CAR. BRK. CTRL PULSE
2. END OF CAR. BRK. CTRL PULSE

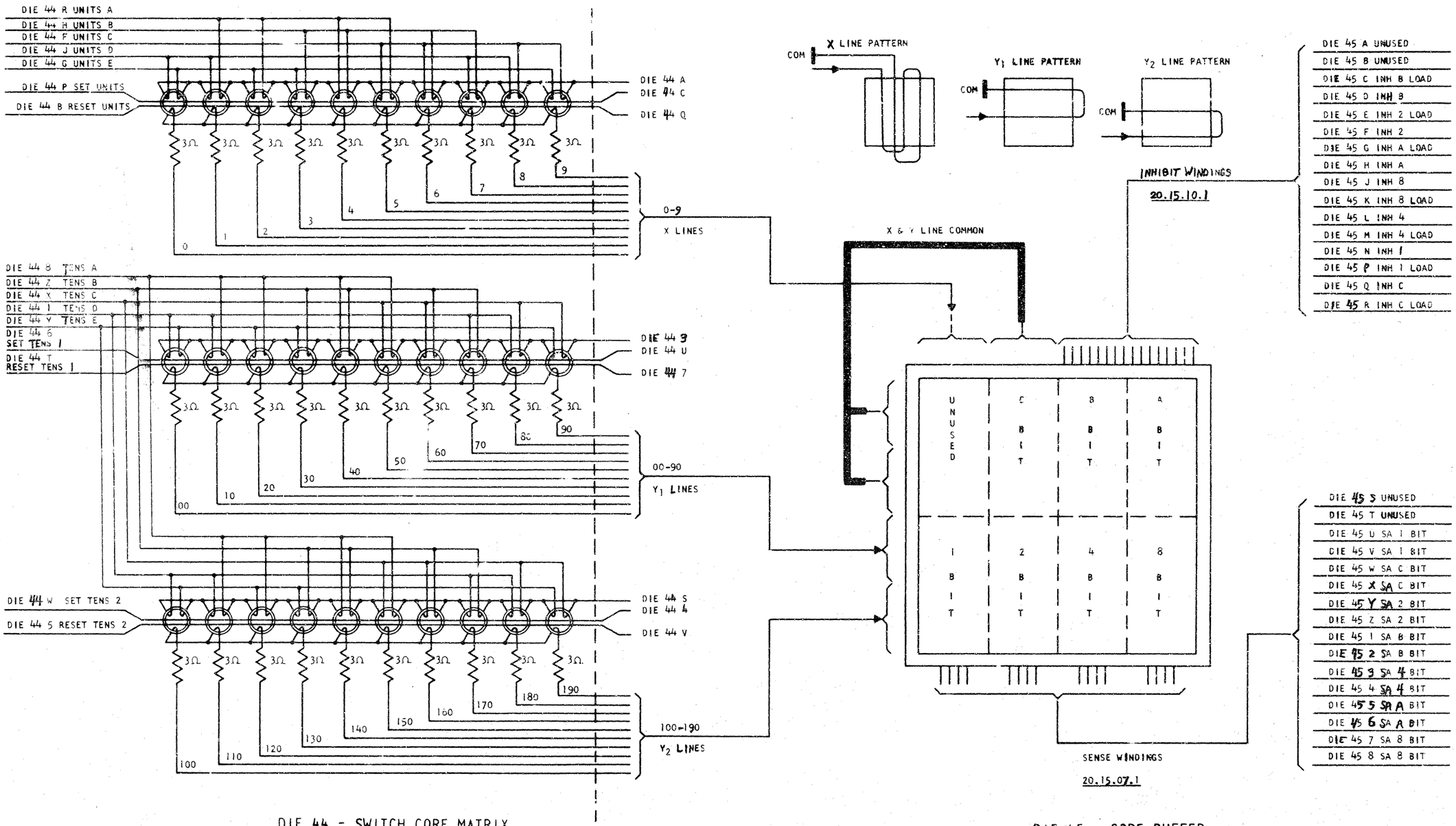

20.05.02.1
20.05.03.1
20.05.03.1
20.05.03.1
20.05.02.1
20.05.02.1
SKIP
SKIP SUPPRESS
SKIP STOP
CAR CH 1
CAR CH 12
CAR CH9
CAR BRK CTRL
LINE SPACE
NOT 2+3 SPACE
SPACE
BRUSH 1
BRUSH 2
BRUSH 3
BRUSH 4
BRUSH 5
BRUSH 6
BRUSH 7
BRUSH 8
BRUSH 9
BRUSH 10
BRUSH 11
BRUSH 12
CAR 1
CAR 2
CAR 4
CAR 8
NOT CAR 1
NOT CAR 2
NOT CAR 4
NOT CAR 8
INV
-A
-O


CLOCK
1620 CONTROLLED BUFFER LOAD CYCLE
PRINT MAGNETS
PRINT MAGNET DRIVERS
PARITY CK
S C M
I N H
REG
BUF
S A
CORE BUFFER
S C M
A
XLATOR
DATA FROM 1620
BAR
HUND
TENS
UNITS
A
A COMPARE
INDEPENDENT PRINT CYCLE
SYNC CK
PCC ADV (CP-A)
P C C

EC 124325 0A11000

2172264 ILD 4 CORE BUFFER

1443-20 19.03.04.0



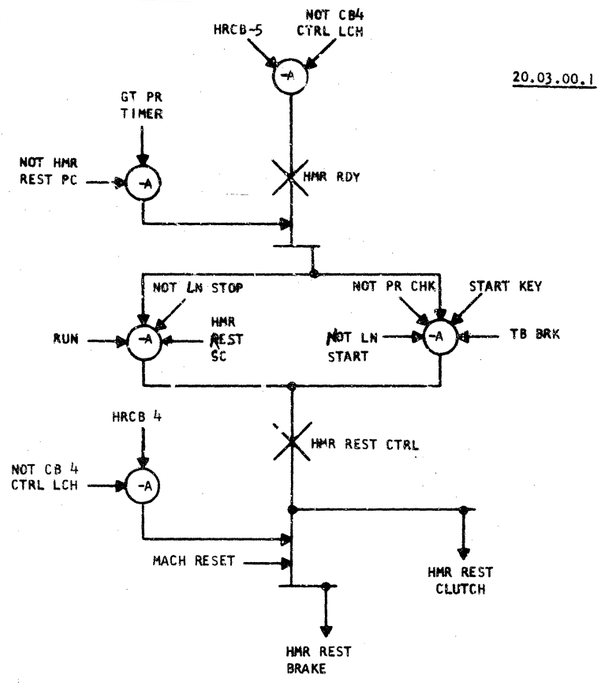
DIE 44 - SWITCH CORE MATRIX

20.15.11.1

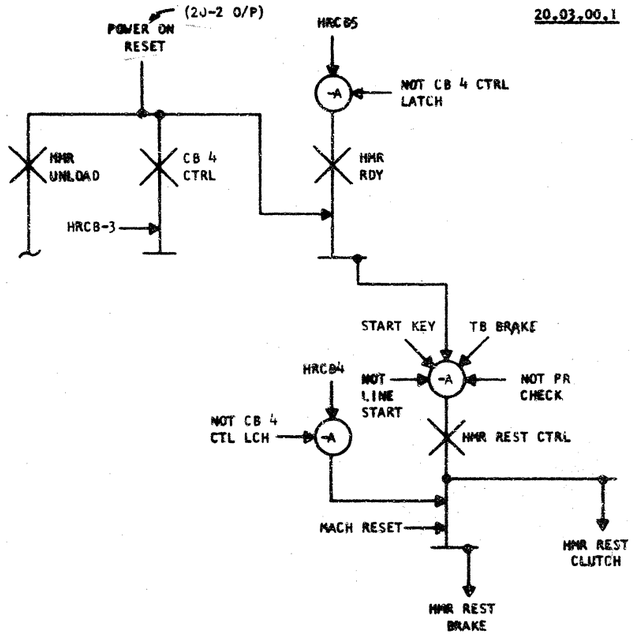
DIE 45 - CORE BUFFER

20.15.11.1

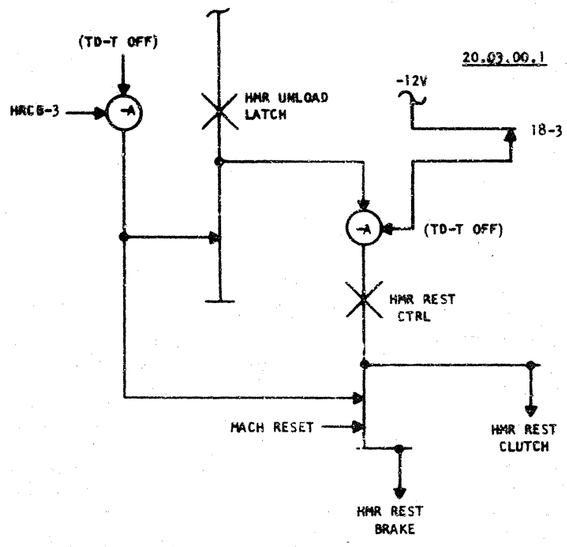
LINE PRINT RESTORE

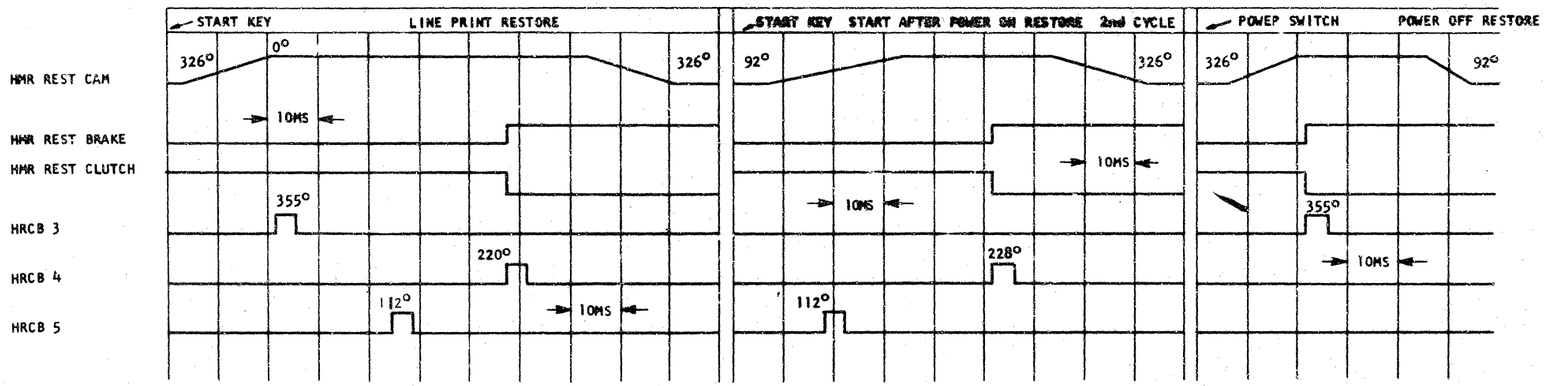


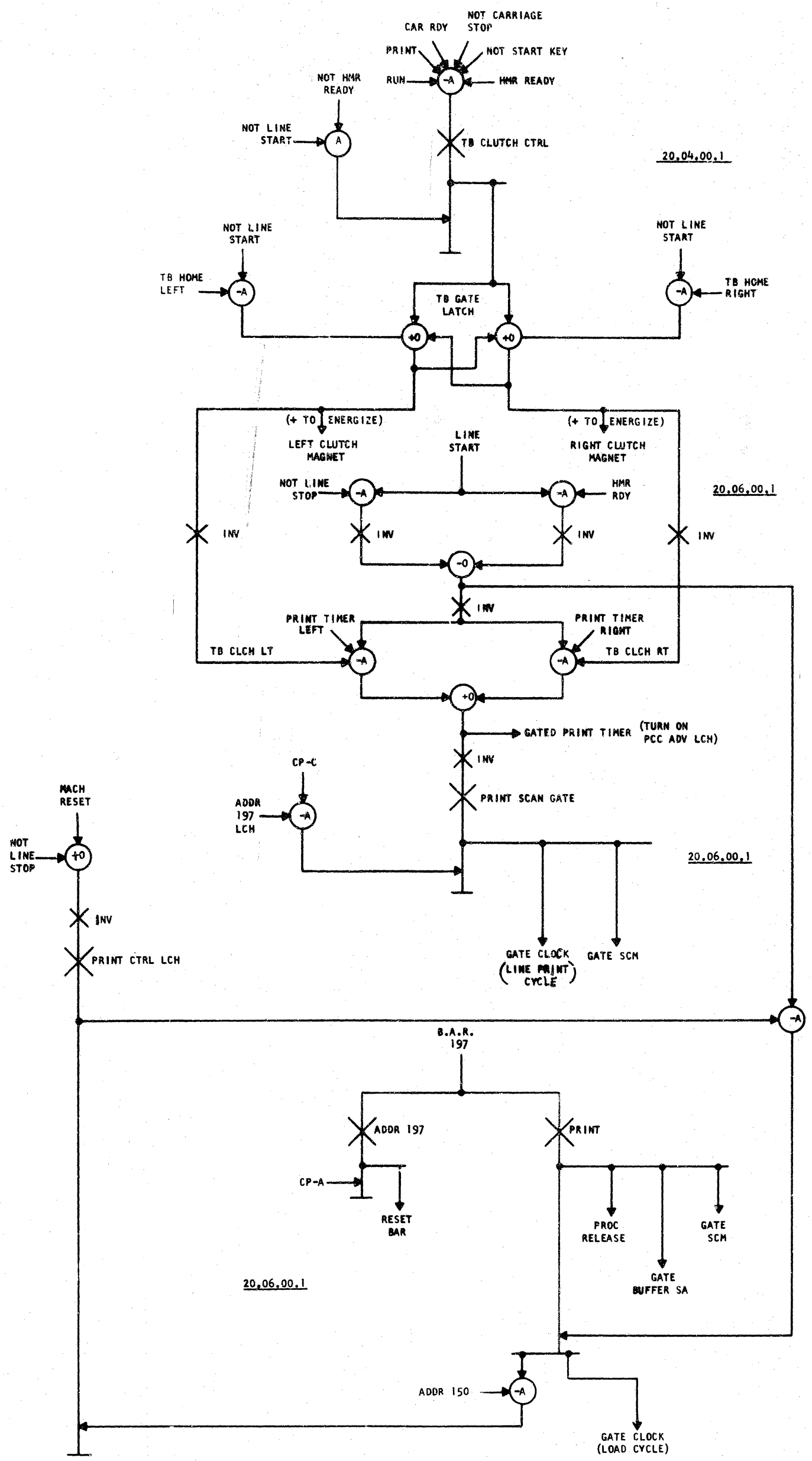
START AFTER POWER ON RESTORE

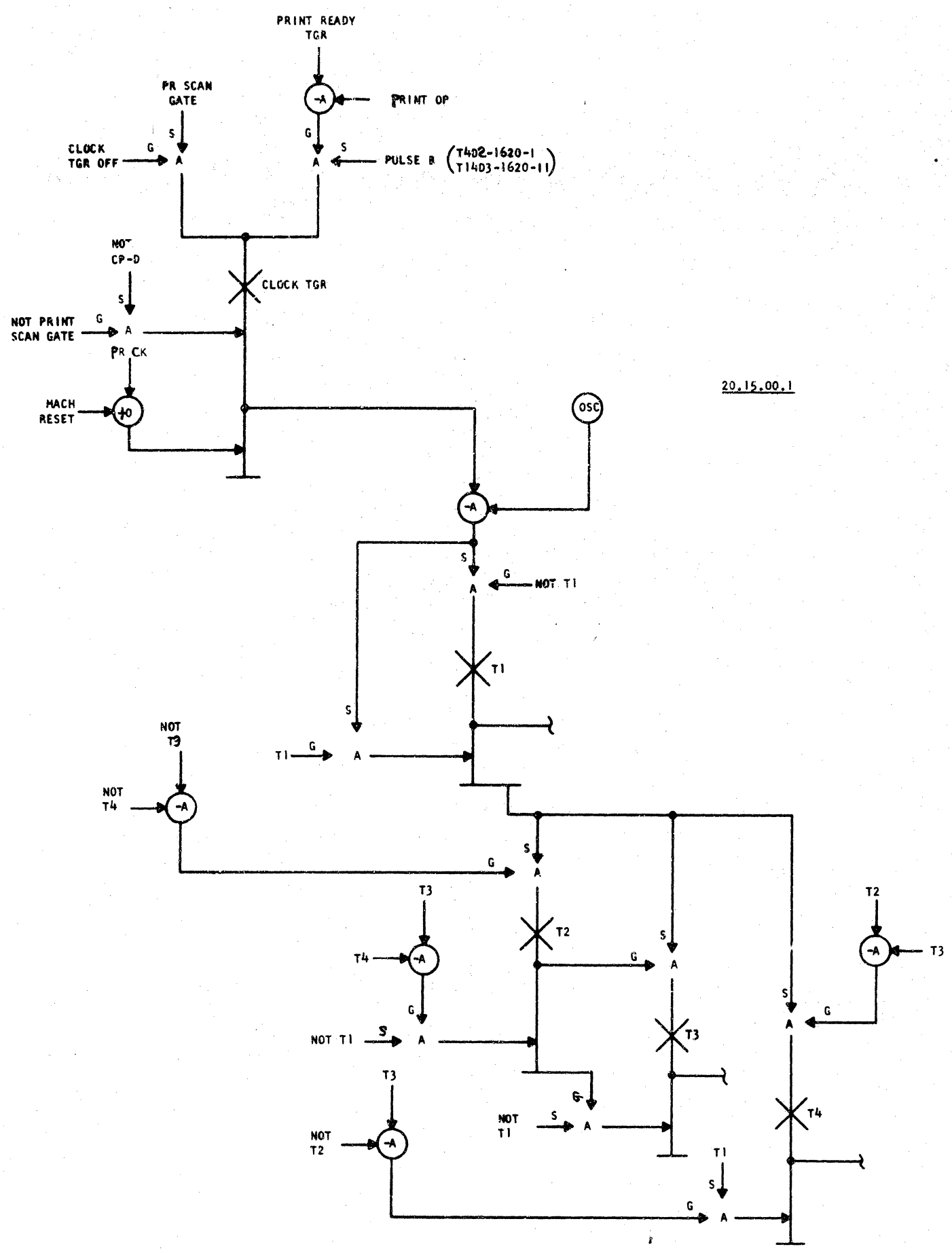


POWER OFF RESTORE



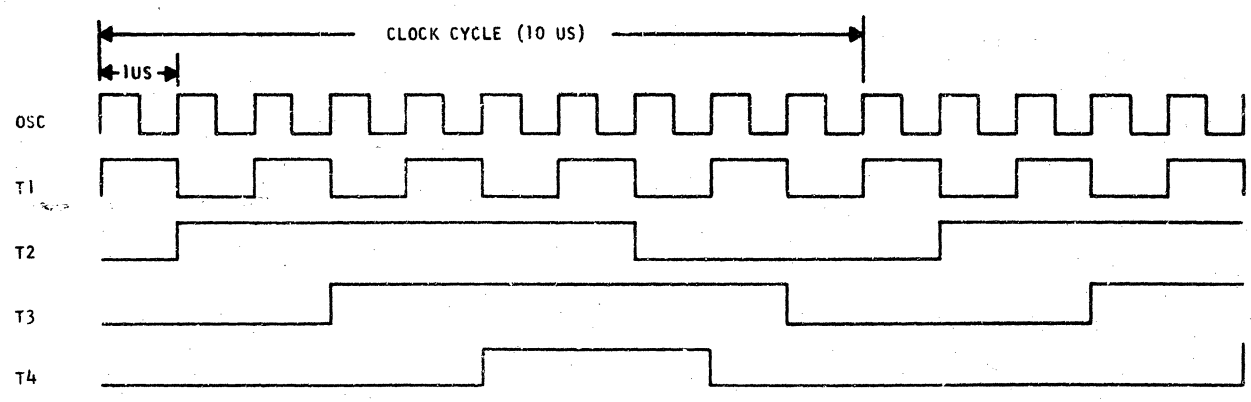



NOT CARRIAGE STOP
CAR RDY
PRINT
NOT START KEY
RUN
HMR READY
NOT HMR READY
NOT LINE START
TB CLUTCH CTRL
20,04,00,1
NOT LINE START
TB HOME LEFT
TB GATE LATCH
NOT LINE START
TB HOME RIGHT
(+ TO ENERGIZE)
LEFT CLUTCH MAGNET
LINE START
(+ TO ENERGIZE)
RIGHT CLUTCH MAGNET
NOT LINE STOP
HMR RDY
20,06,00,1
INV
PRINT TIMER LEFT
PRINT TIMER RIGHT
TB CLCH LT
TB CLCH RT
GATED PRINT TIMER (TURN ON PCC ADV LCH)
CP-C
ADDR 197 LCH
PRINT SCAN GATE
MACH RESET
NOT LINE STOP
20,06,00,1
PRINT CTRL LCH
GATE CLOCK (LINE PRINT CYCLE)
GATE SCM
B.A.R. 197
ADDR 197
PRINT
CP-A
RESET BAR
PROC RELEASE
GATE SCM
GATE BUFFER SA
20,06,00,1
ADDR 150
GATE CLOCK (LOAD CYCLE)

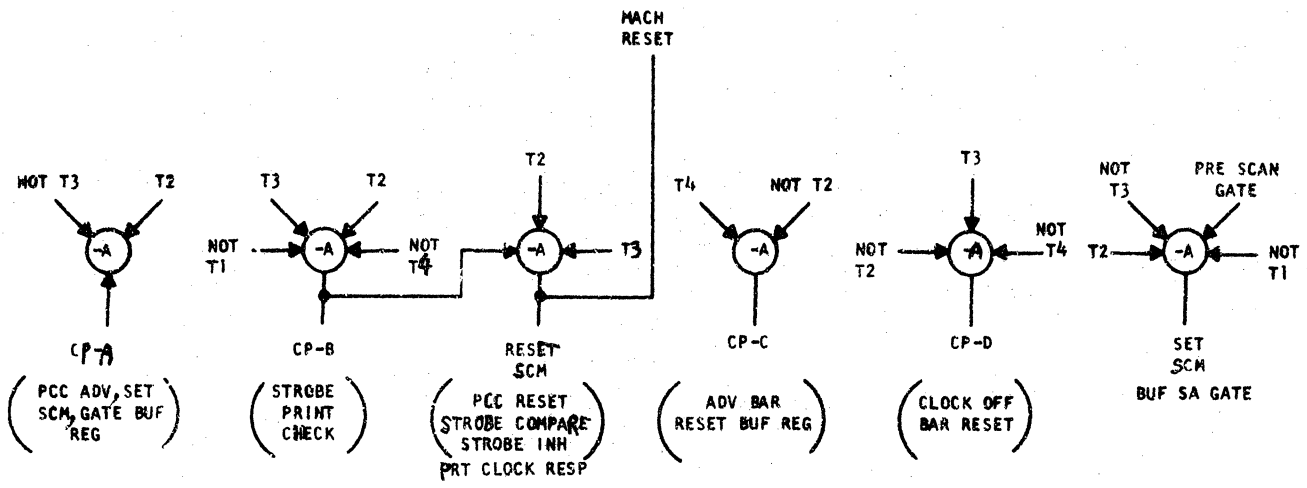


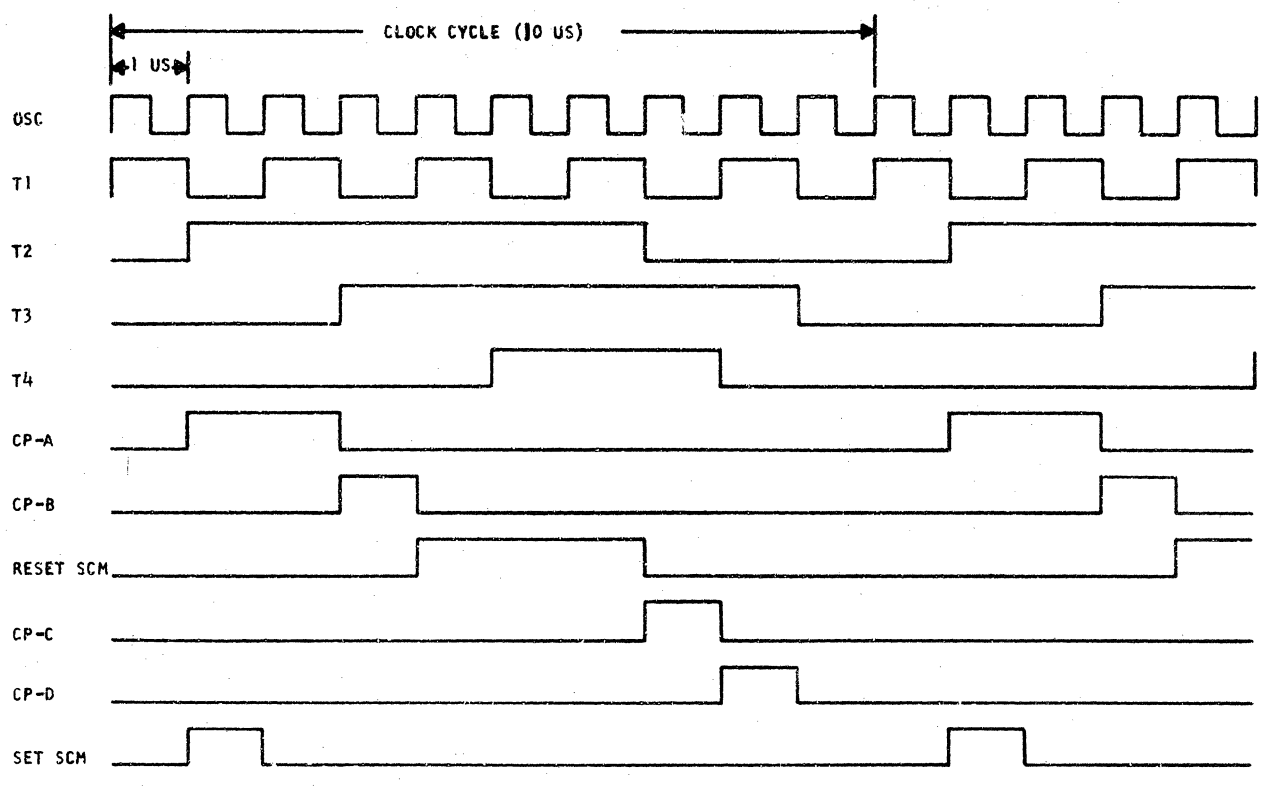
20.15.00.1

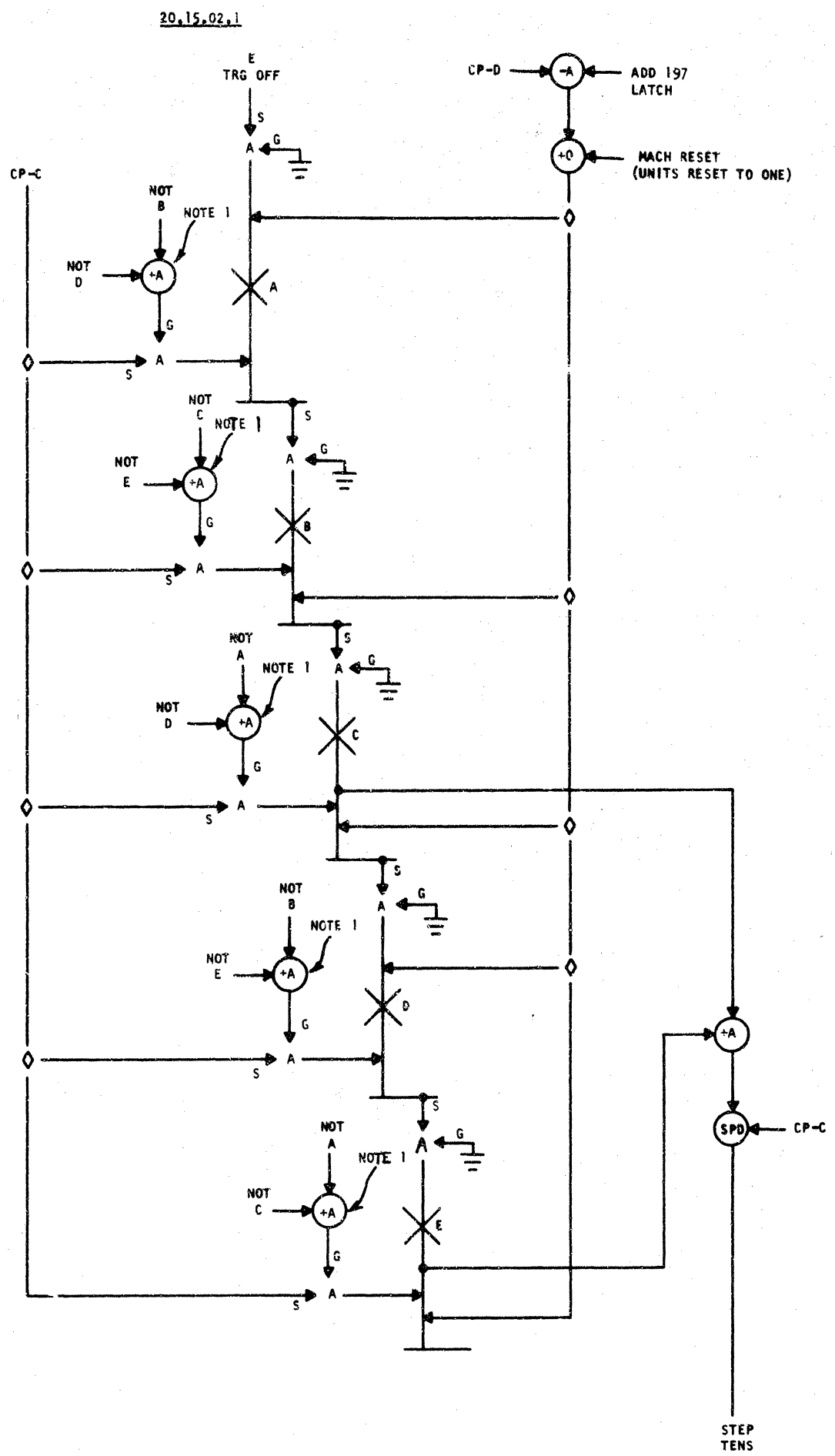
G = GATE CONTROL FOR TRIGGER SET/RESET
S = SET PULSE
G MUST BE PLUS FOR S TO BE EFFECTIVE



20.15.01.1


MACH RESET
NOT T3
T2
T3
T2
NOT T1
NOT T4
T2
T3
T4
NOT T2
T3
NOT T2
NOT T4
NOT T3
PRE SCAN GATE
T2
NOT T1
-A
CP-A
CP-B
RESET SCM
CP-C
CP-D
SET SCM
(PCC ADV, SET SCM, GATE BUF REG)
(STROBE PRINT CHECK)
(PCC RESET STROBE COMPARE STROBE INH PRT CLOCK RESP)
(ADV BAR RESET BUF REG)
(CLOCK OFF BAR RESET)
BUF SA GATE


CLOCK CYCLE (10 US)
1 US
OSC
T1
T2
T3
T4
CP-A
CP-B
RESET SCM
CP-C
CP-D
SET SCM

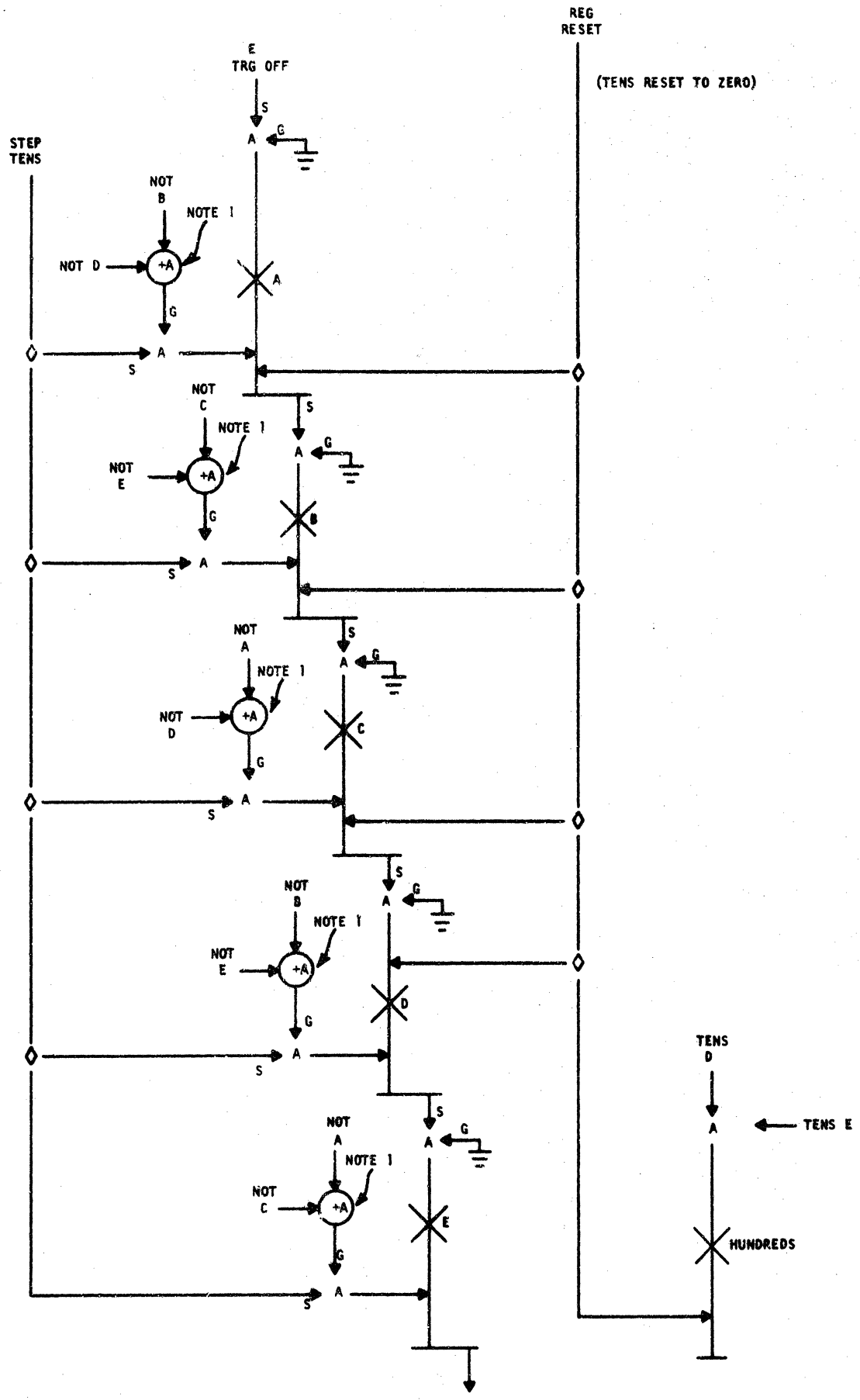


DIGIT VALUE	TRIGGERS OFF	TRIGGERS ON
0	A B C	D E
1	B C E	A D
2	B C D	A E
3	A C D	B E
4	C D E	A B
5	B D E	A C
6	A D E	B C
7	A C E	B D
8	A B E	C D
9	A B D	C E

SEE ILD 7 FOR NOTES ON S & G

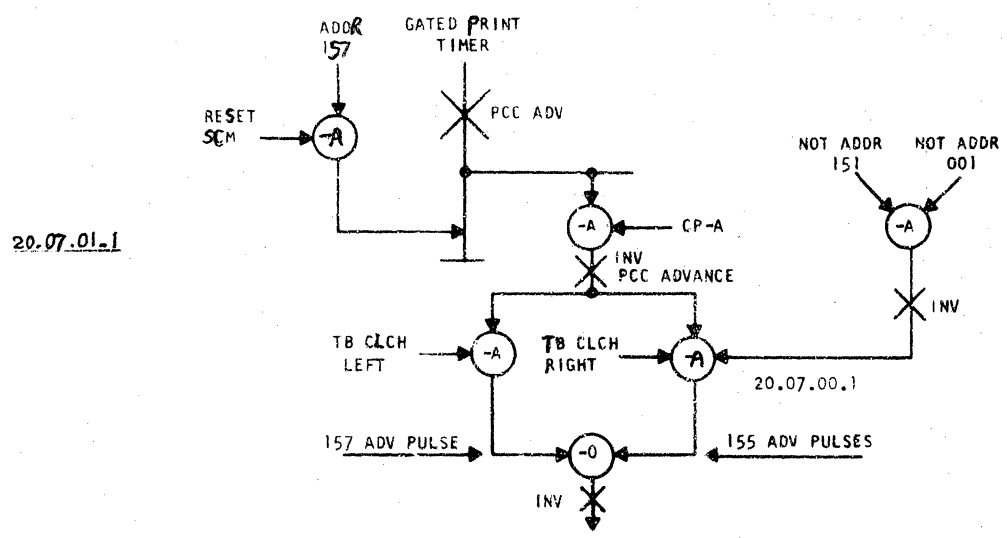
NOTE 1 - NON INVERTING AND CIRCUIT
(PLUS IN = PLUS OUT)

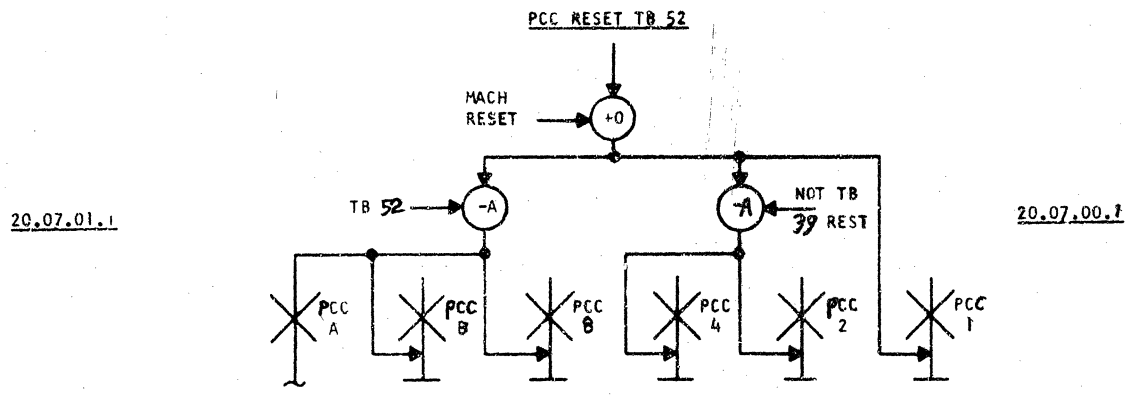
20.15.03.1

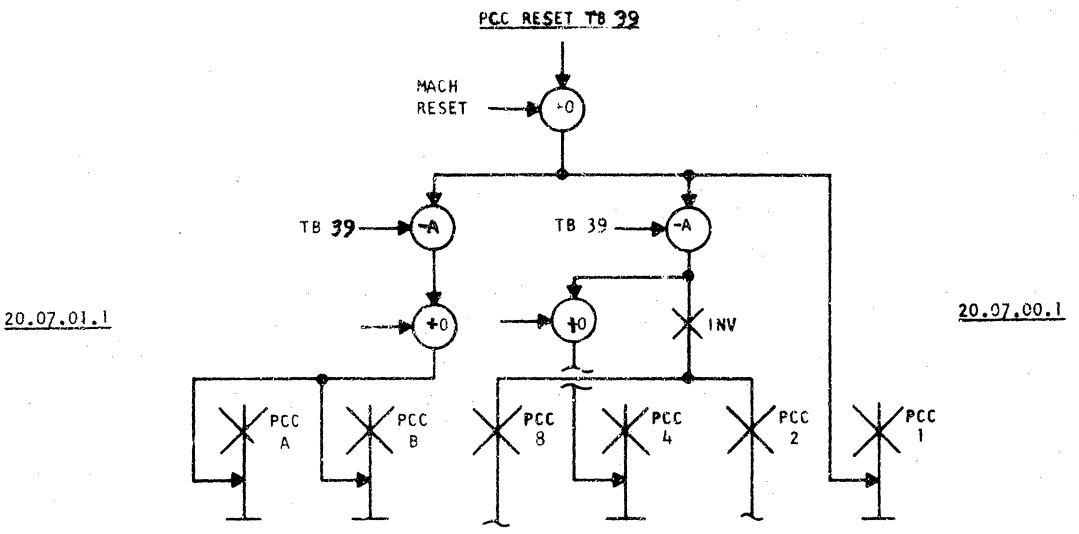


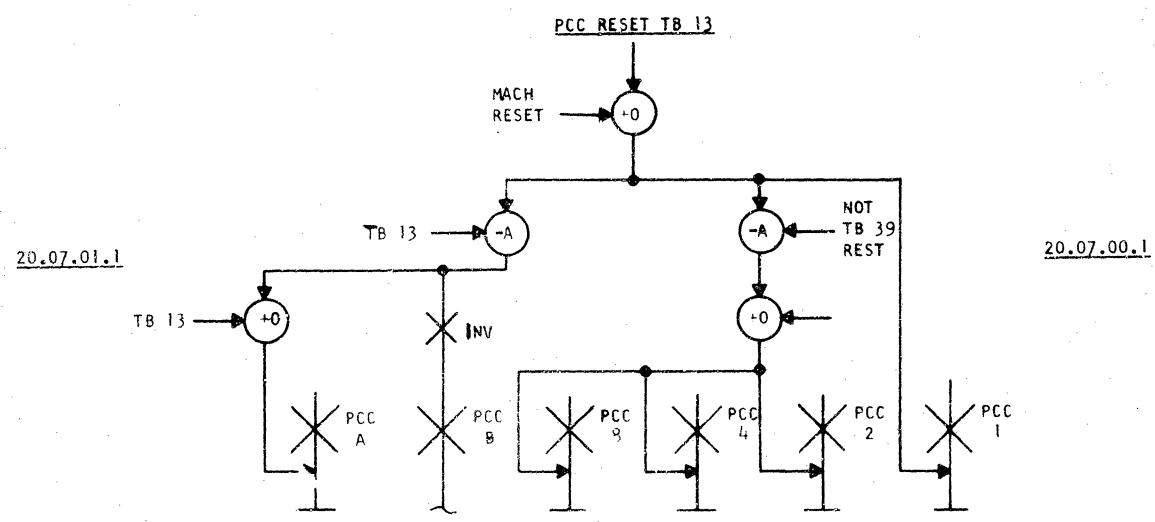
DIGIT VALUE	TRIGGERS OFF	TRIGGERS ON
0	A B C	D E
1	B C E	A D
2	B C D	A E
3	A C D	B E
4	C D E	A B
5	B D E	A C
6	A D E	B C
7	A C E	B D
8	A B E	C D
9	A B D	C E

SEE ILD 7 FOR S & G NOTES
SEE ILD 9 FOR NOTE 1


ADDR 157
GATED PRINT TIMER
RESET SCM
-A
PCC ADV
NOT ADDR 151
NOT ADDR 001
-A
CP-A
INV PCC ADVANCE
INV
TB CLCH LEFT
TB CLCH RIGHT
-A
-A
20.07.00.1
157 ADV PULSE
155 ADV PULSES
-0
INV
ADVANCE PULSE
(19.03.13.1)

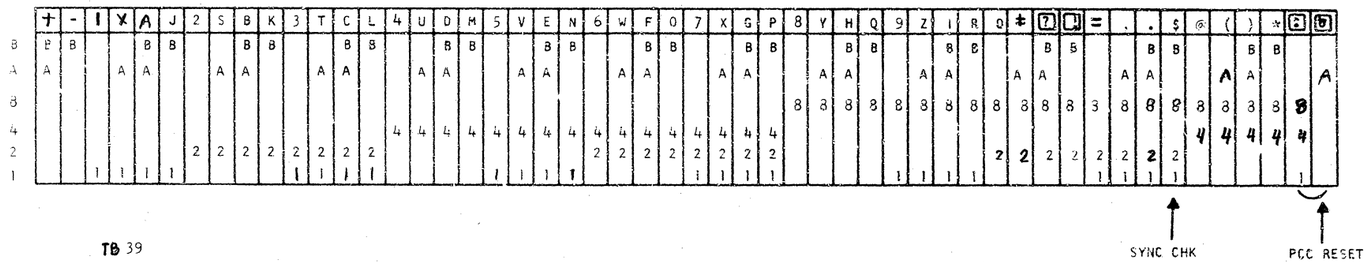

PCC RESET TB 52
MACH RESET
+0
20.07.01.1
TB 52
-A
-A
NOT TB 39 REST
20.07.00.1
PCC A
PCC B
PCC B
PCC 4
PCC 2
PCC 1


PCC RESET TB 39
MACH RESET
+0
20.07.01.1
TB 39
TB 39
-A
-A
+0
+0
INV
20.07.00.1
PCC A
PCC B
PCC 8
PCC 4
PCC 2
PCC 1

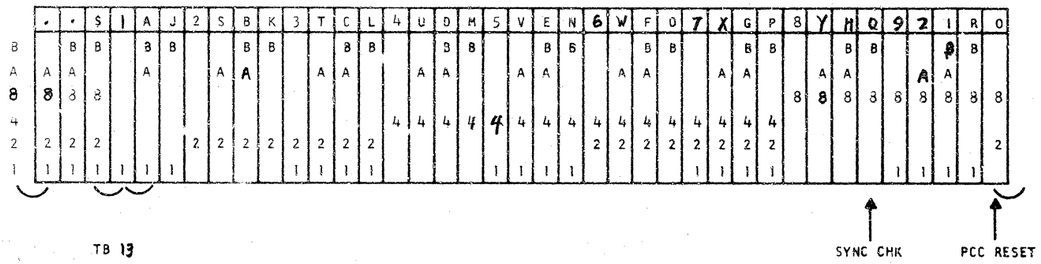

PCC RESET TB 13
MACH RESET
+0
20.07.01.1
TB 13
-A
-A
NOT TB 39 REST
20.07.00.1
TB 13
+0
INV
+0
PCC A
PCC B
PCC 8
PCC 4
PCC 2
PCC 1

1443 "K" SET TYPE BARS & ASSOCIATED BIT CONFIGURATIONS

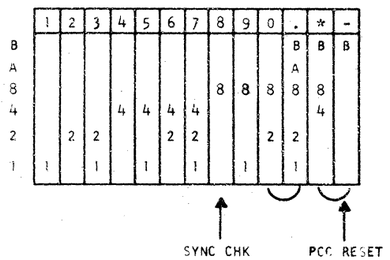
TB 52



TB 39

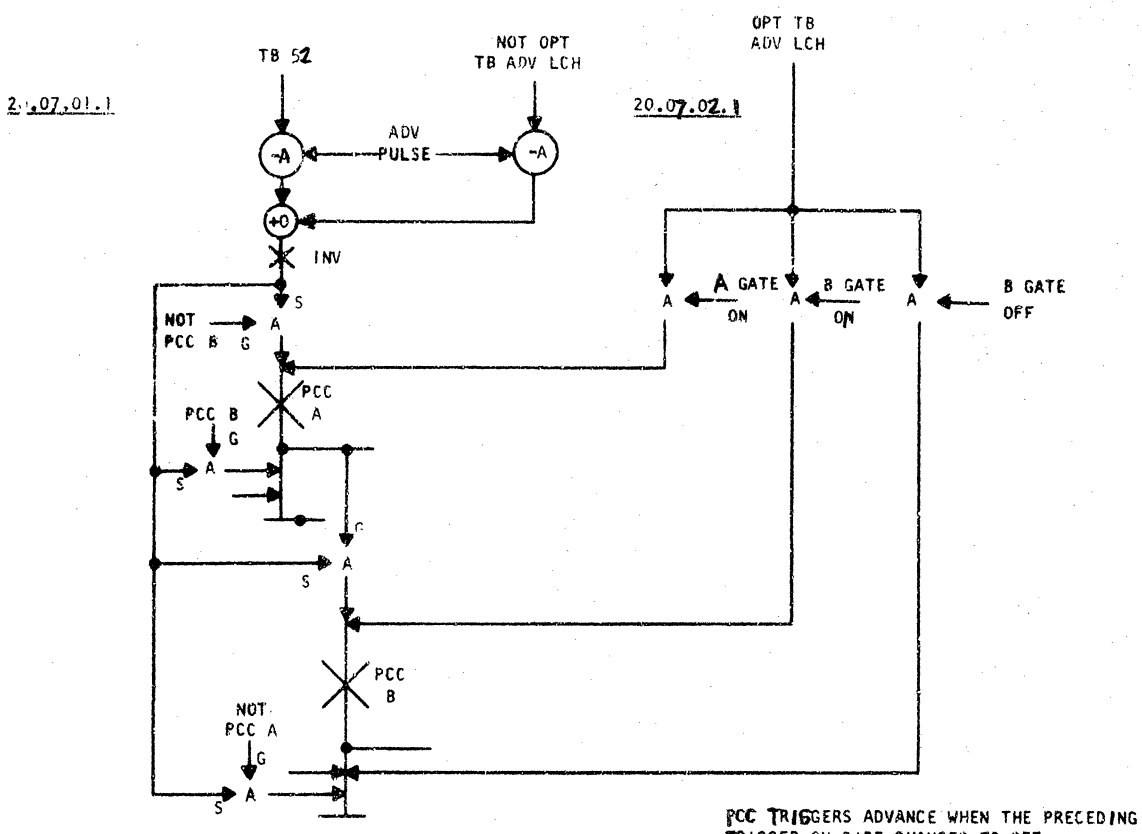


TB 13



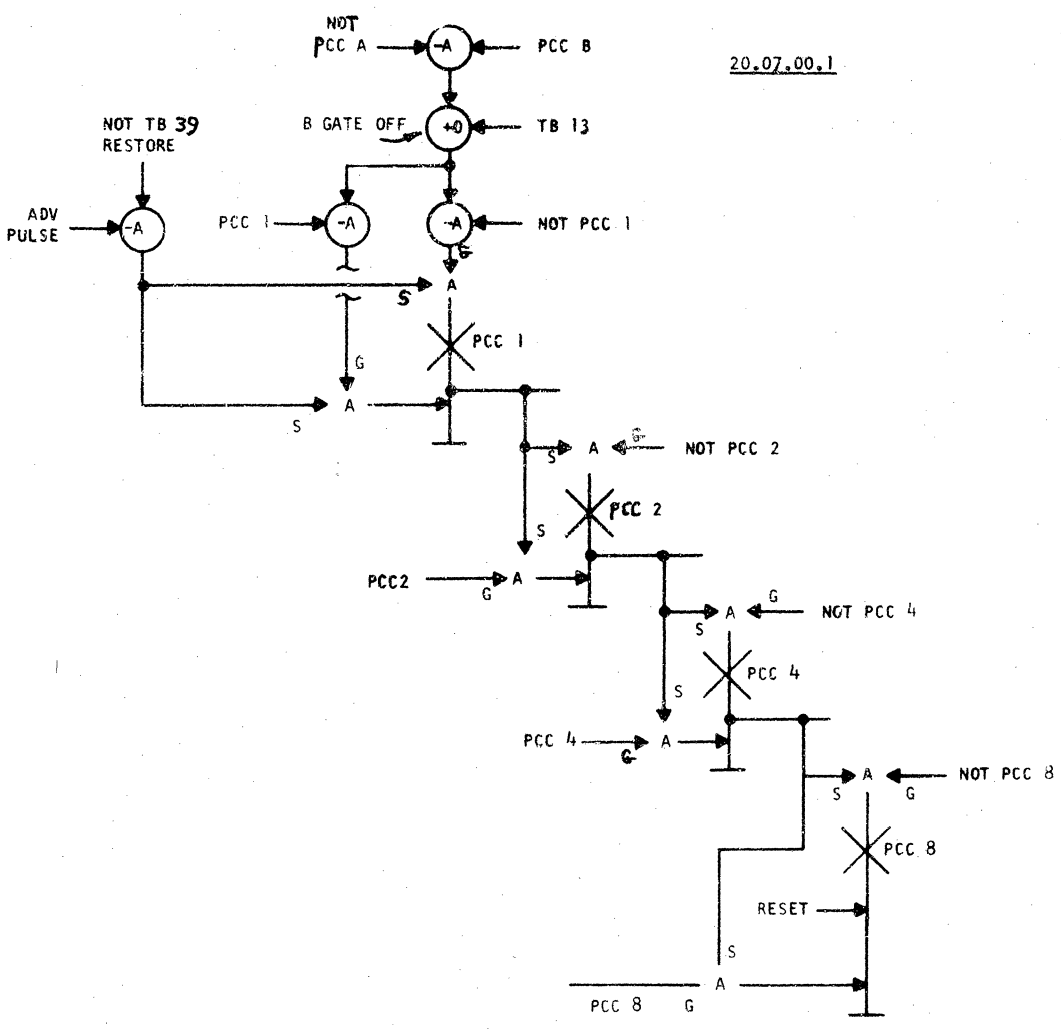
[?] ENCLOSED CHARACTERS DO NOT PRINT ON 1620

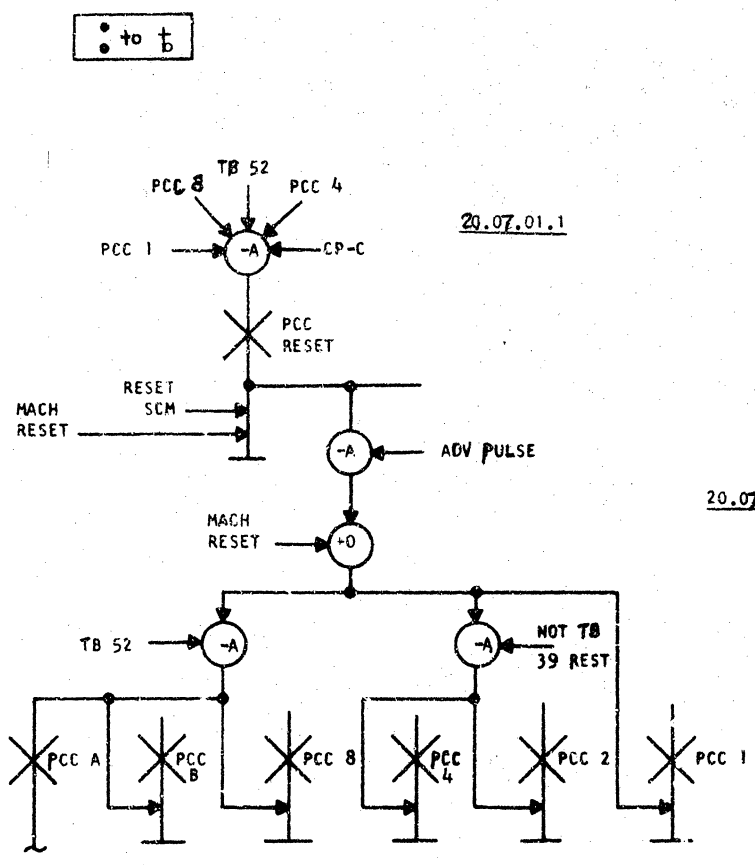
THIS MARK SIGNALS A CHANGE IN PCC DRIVE PATTERN
SEE ASSOCIATED FUNCTION CHART

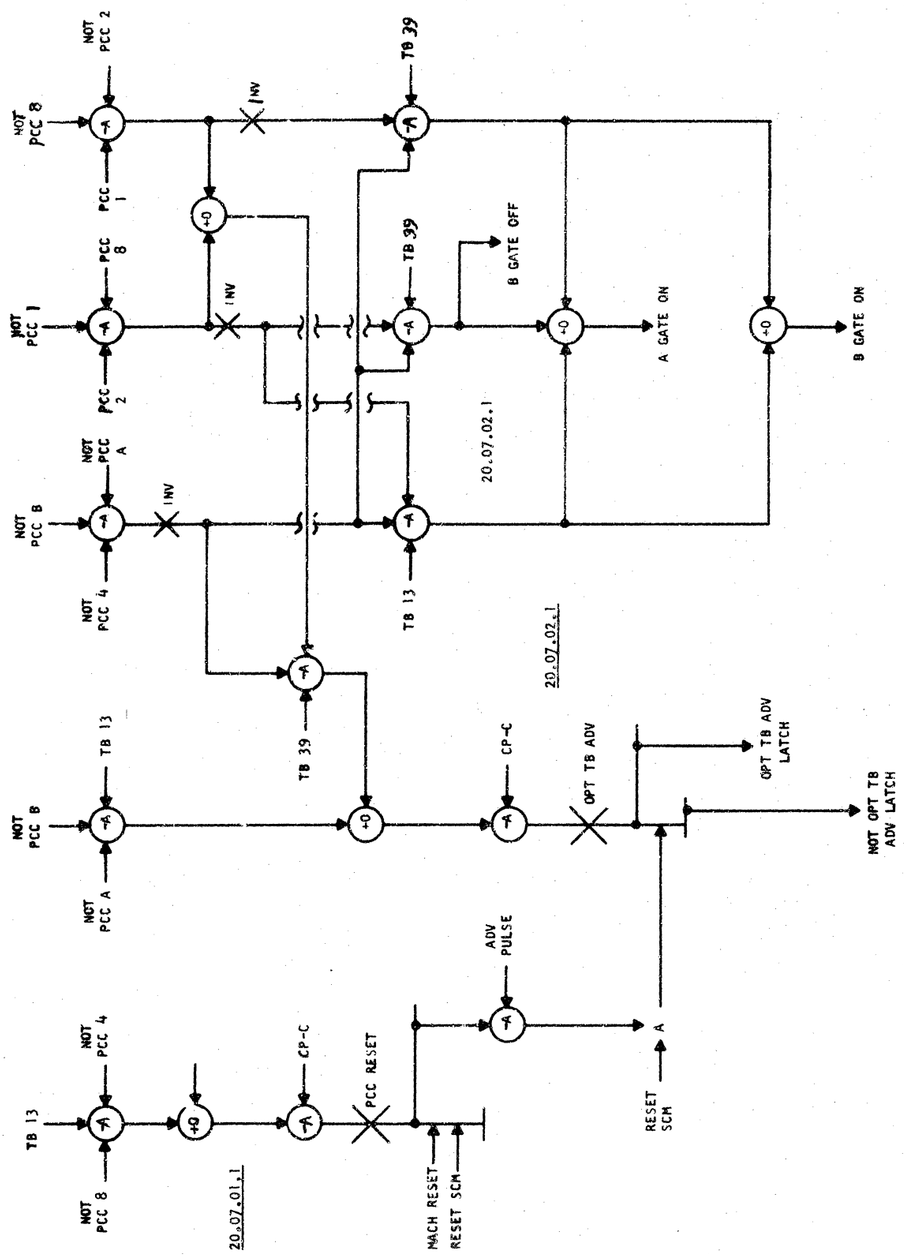


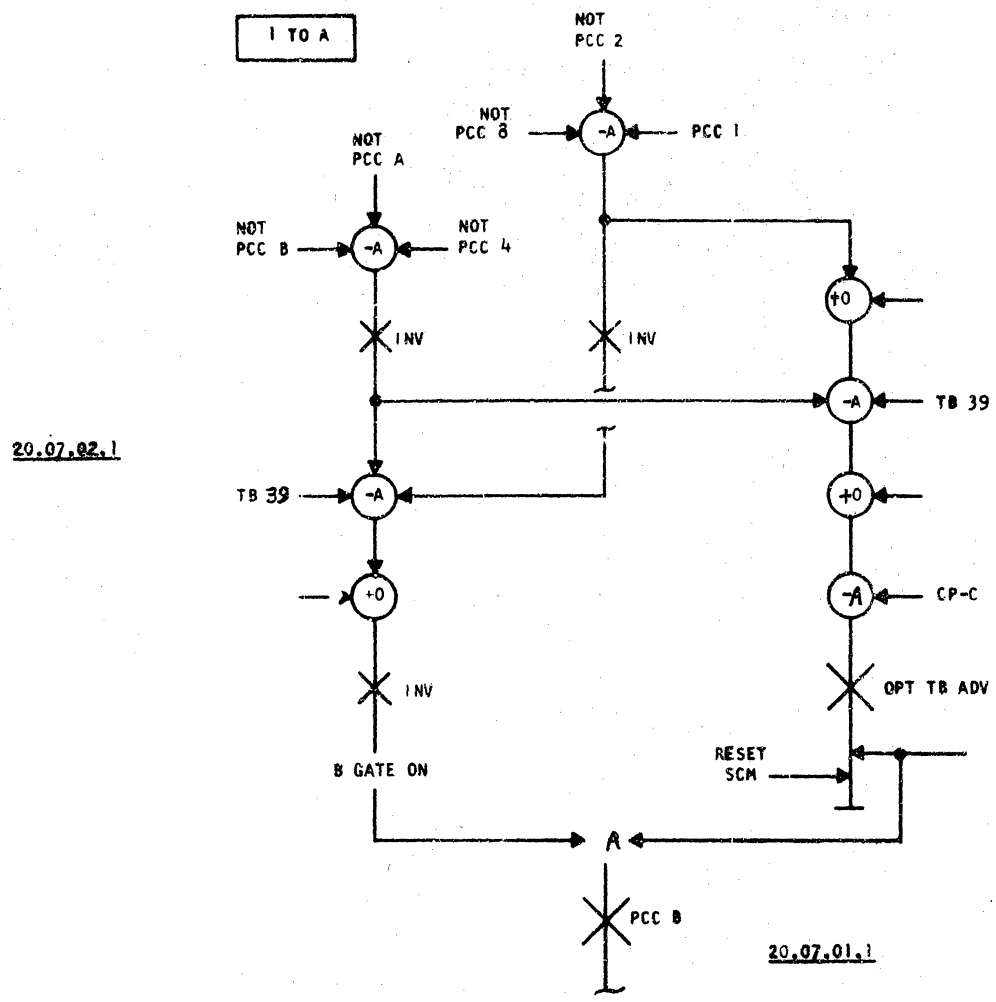
PCC TRIGGERS ADVANCE WHEN THE PRECEDING TRIGGER ON SIDE CHANGES TO OFF.

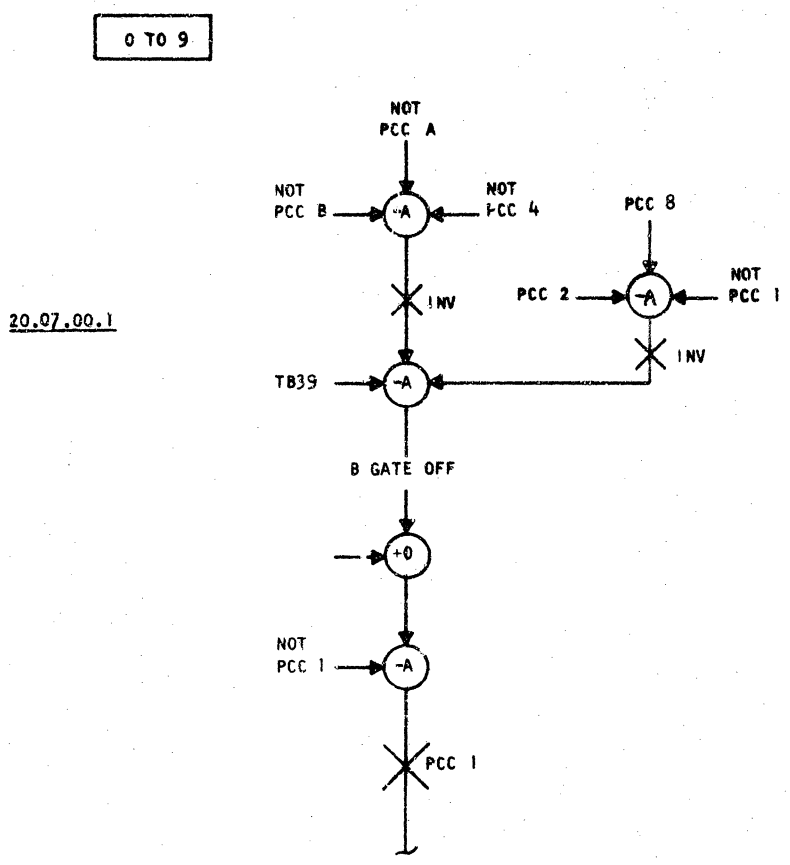
SEE ILD FOR S & G NOTES

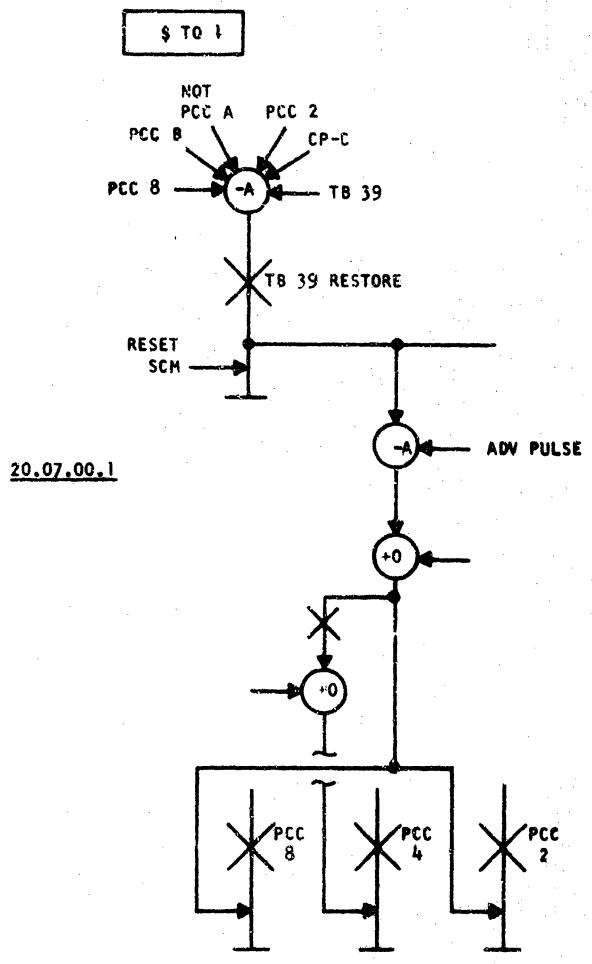



to b
TB 52
PCC 8
PCC 4
PCC 1
CP-C
-A
20.07.01.1
PCC RESET
RESET SCM
MACH RESET
ADV PULSE
20.07.01.1
20.07.00.1
MACH RESET
+0
TB 52
NOT TB 39 REST
PCC A
PCC B
PCC 8
PCC 4
PCC 2
PCC 1


NOT PCC 2
NOT PCC 8
INV
TB 39
PCC 1
PCC 8
TB 39
B GATE OFF
NOT PCC 1
INV
A GATE ON
B GATE ON
PCC 2
20.07.02.1
NOT PCC A
NOT PCC B
INV
NOT PCC 4
TB 13
20.07.02.1
TB 39
TB 13
CP-C
OPT TB ADV
OPT TB ADV LATCH
NOT PCC B
NOT OPT TB ADV LATCH
NOT PCC A
ADV PULSE
NOT PCC 4
CP-C
TB 13
PCC RESET
RESET SCM
NOT PCC 8
20.07.01.1
MACH RESET
RESET SCM

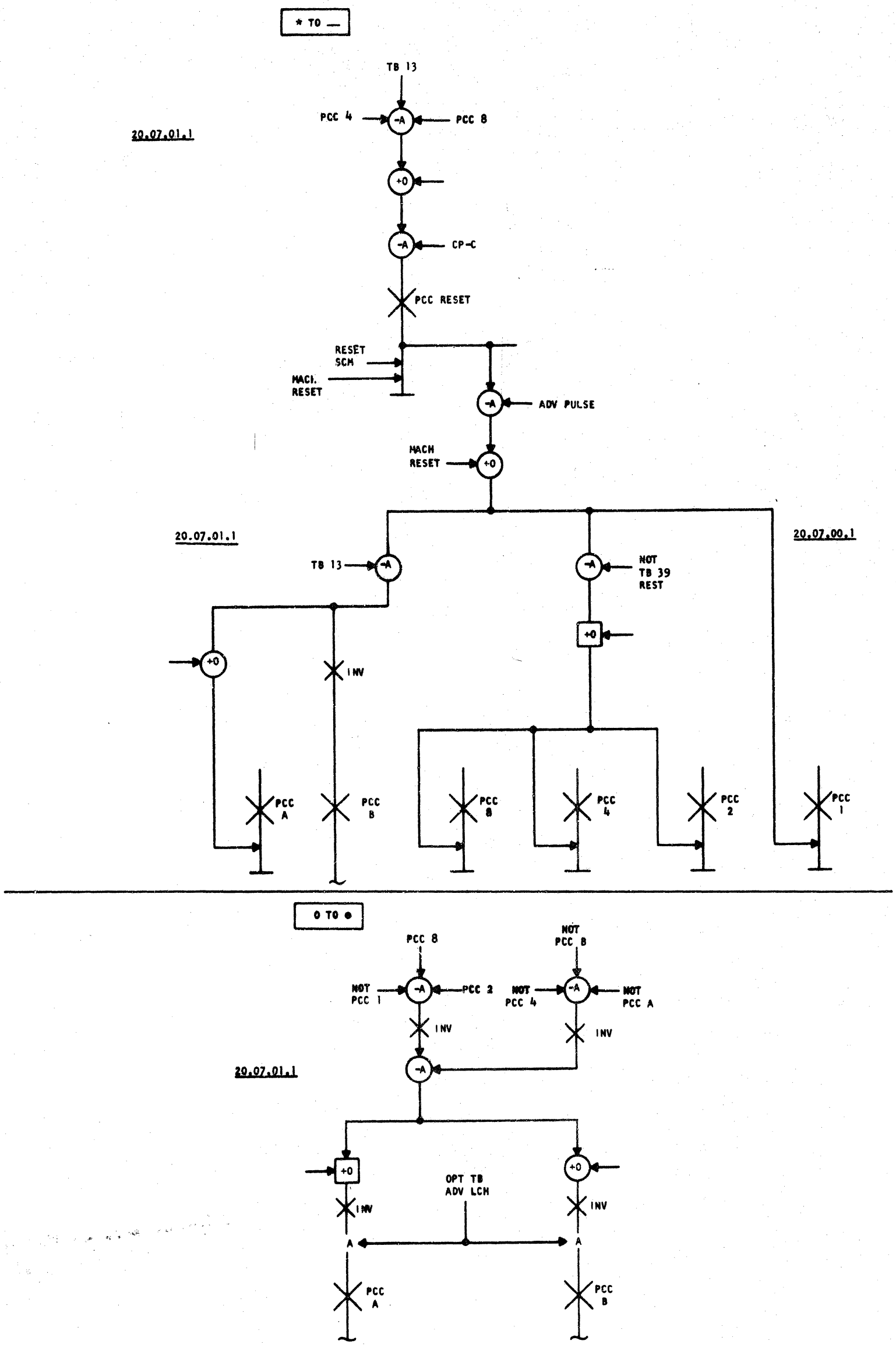

1 TO A
NOT PCC 2
NOT PCC 8
-A
PCC 1
NOT PCC A
NOT PCC B
NOT PCC 4
INV
INV
+0
-A
TB 39
20.07.02.1
20.07.02.1
TB 39
+0
-A
CP-C
INV
OPT TB ADV
B GATE ON
RESET SCM
A
PCC B
20.07.01.1

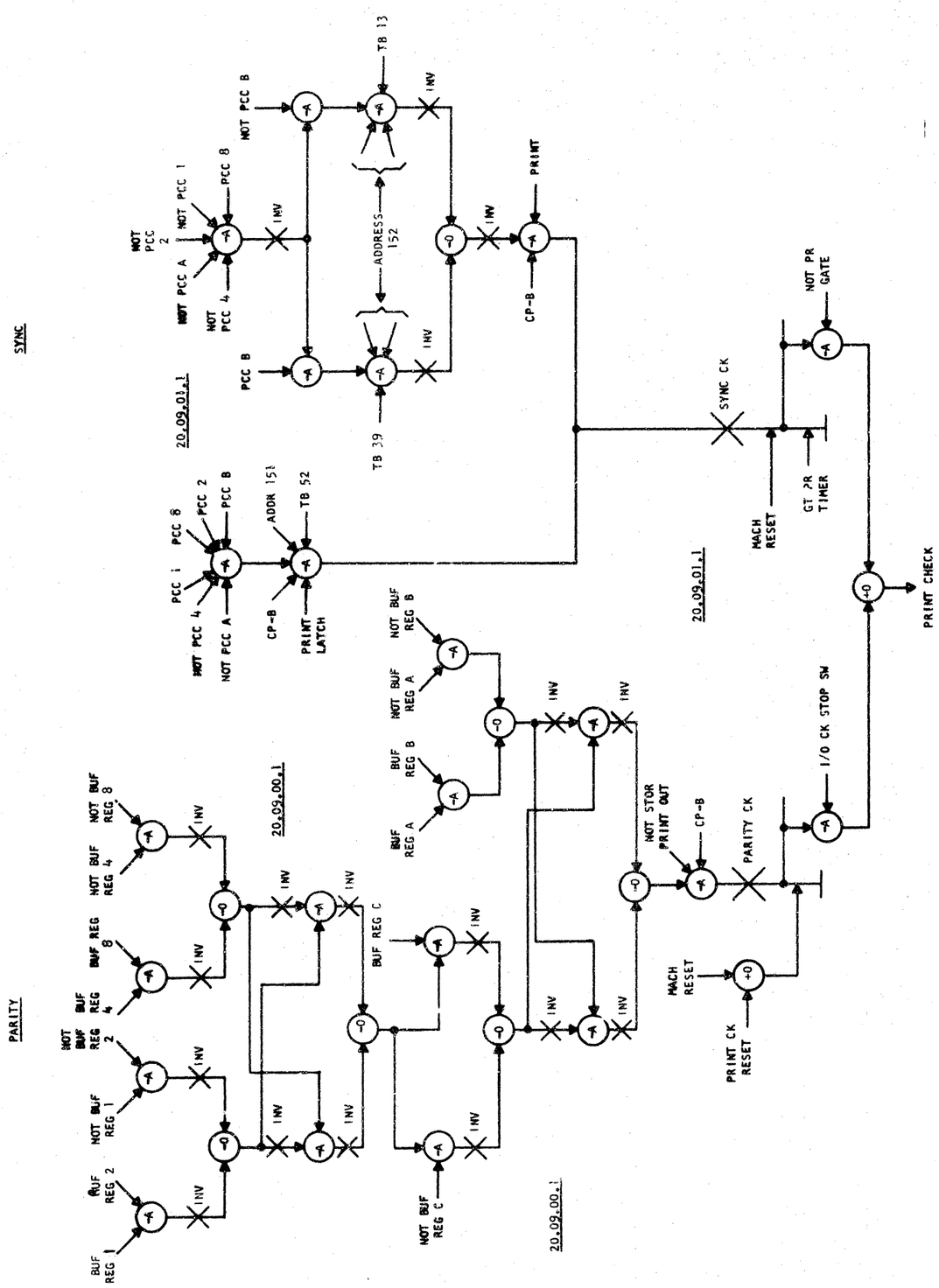

0 TO 9
NOT PCC A
NOT PCC B
NOT PCC 4
-A
INV
PCC 8
PCC 2
NOT PCC 1
INV
20.07.00.1
TB39
B GATE OFF
+0
NOT PCC 1
PCC 1


$ TO 1
NOT PCC A
PCC 2
PCC B
CP-C
PCC 8
-A
TB 39
TB 39 RESTORE
RESET SCM
-A
ADV PULSE
+0
+0
PCC 8
PCC 4
PCC 2

20.07.00.1

PCC DRIVE EXCEPTIONS TB 13




SYNC
PARITY
NOT PCC 1
PCC 8
NOT PCC 2
NOT PCC A
NOT PCC 4
PCC B
NOT PCC B
TB 13
ADDRESS 152
TB 39
INV
PRINT
CP-B
20.09.01.1
PCC 1
PCC 8
PCC 2
PCC B
NOT PCC 4
NOT PCC A
ADDR 151
TB 52
CP-B
PRINT LATCH
SYNC CK
NOT PR GATE
MACH RESET
GT PR TIMER
PRINT CHECK
NOT BUF REG 8
NOT BUF REG 4
NOT BUF REG 2
NOT BUF REG 1
BUF REG 8
BUF REG 4
BUF REG 2
BUF REG 1
20.09.00.1
BUF REG C
NOT BUF REG C
NOT BUF REG B
NOT BUF REG A
BUF REG B
BUF REG A
NOT STOR PRINT OUT
PARITY CK
I/O CK STOP SW
PRINT CK RESET