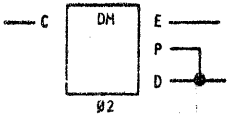
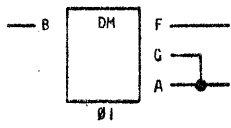


ADF-

P/N: 372375

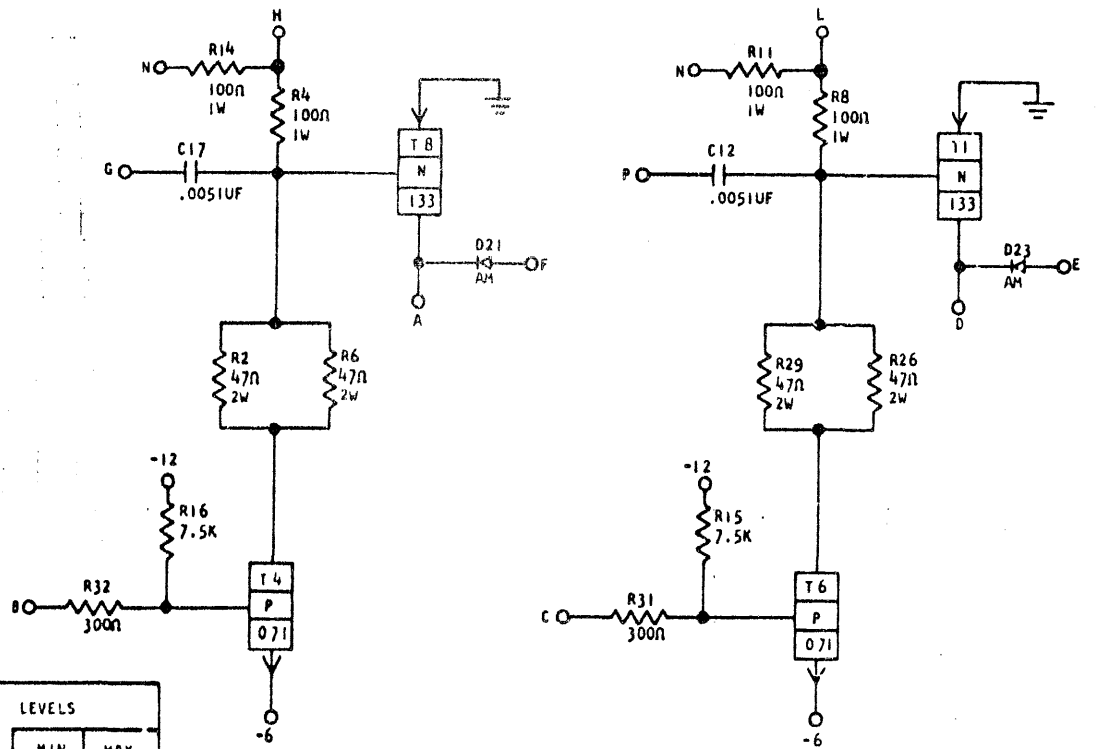
REFERENCE DRAWING  
PRODUCTION DRAWING 372375

DAP - SOLENOID DRIVER



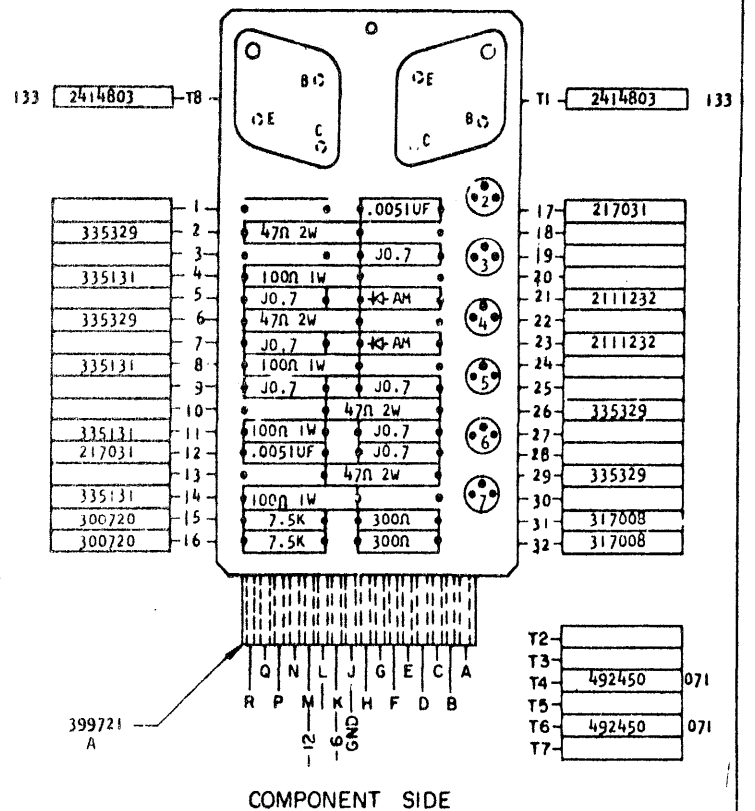
SEQUENCE OF OPERATION

1. INPUT UP: TRANSISTORS ON, OUTPUT UP.
2. INPUT DOWN: TRANSISTORS OFF, OUTPUT DOWN.



PINS	SIGNAL NAME	WAVESHAPE	LEVELS		
			MIN	MAX	
B, C	Y	INPUT	UP	-0.65V	-0.05V
			DOWN	-5.81V	-12V
A, D	V	OUTPUT	UP	-0.9V	±.24V
			DOWN	---	---
F, E	CLAMP		UP	-12V	-12V
			DOWN	-12V	-12V

\* THE DOWN LEVEL DEPENDS ON THE LOAD RETURN VOLTAGE



INTERNATIONAL BUSINESS MACHINES CORP.				DATE	CHANGE NO.	APPROVAL	DATE	CHANGE NO.	APPROVAL	DEVELOPMENT NO.
NAME	DAP - SOLENOID DRIVER			1-17-63	116800A					
DESIGN		MUJEL	SMS 1440	6-17-63	117811					
DETAIL		SCALE	NONE	5-11-65	123738					
CHECK		DRAW	MDE 2-8-63							
APPROV		CHECK								

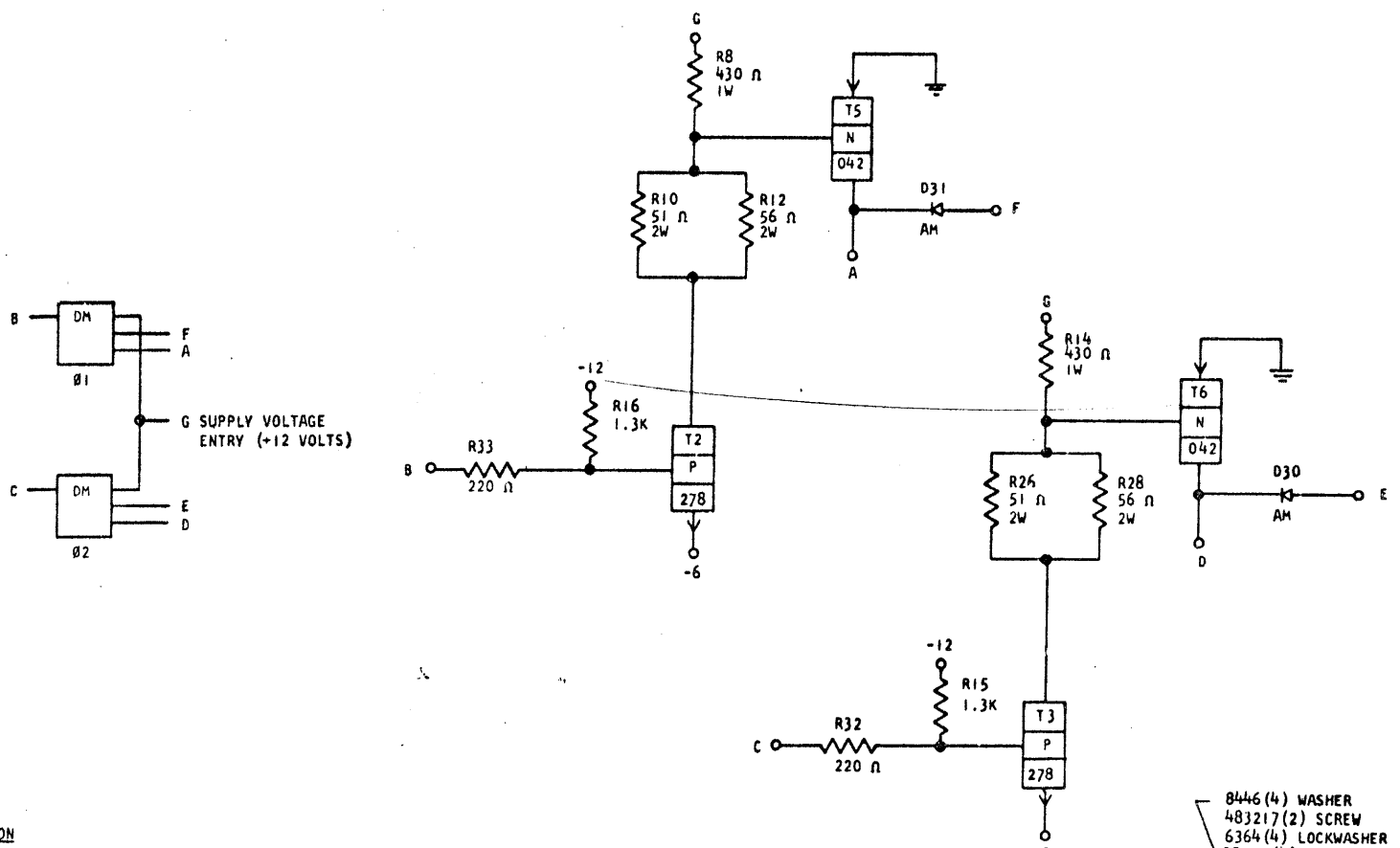
734342

734342

REFERENCE DRAWING  
PRODUCTION DRAWING 372245

**ASQ-**  
P/N: 372245

ALLOY CLUTCH MAGNET DRIVER



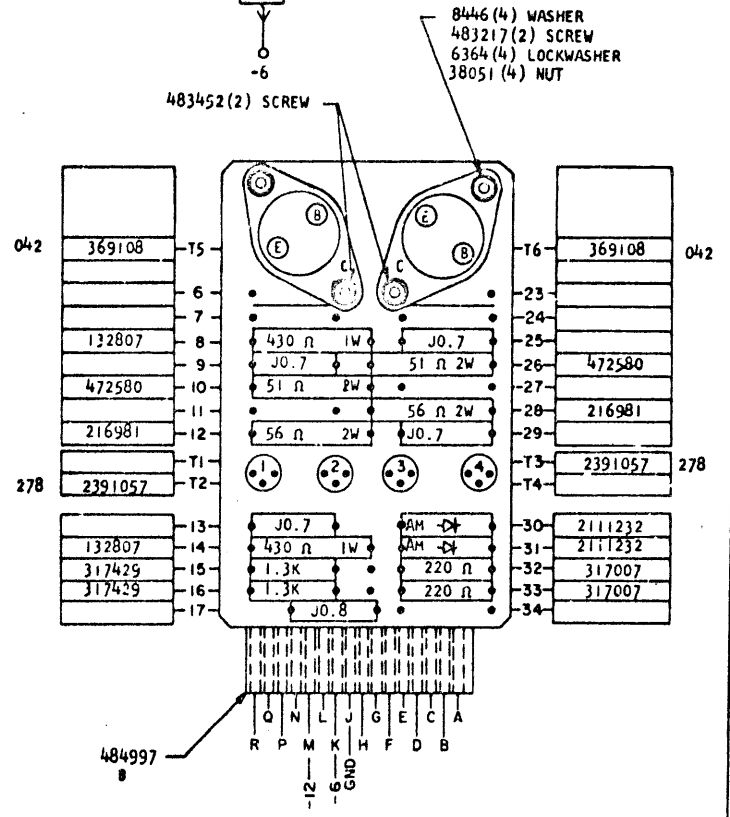
SEQUENCE OF OPERATION

1. INPUT UP: TRANSISTORS ON, OUTPUT UP.
2. INPUT DOWN: TRANSISTORS OFF, OUTPUT DOWN.

PINS	SIGNAL NAME	WAVESHAPE	LEVELS	
			MIN	MAX
B, C	Y	INPUT	UP	-0.65V -0.05V
			DOWN	-5.81V -12V
A, D	V	OUTPUT	UP	-0.8V +0.24V
			DOWN	-18V -22V
F, E		CLAMP	UP	-12V -12V
			DOWN	-12V -12V

DELAY

TURN ON (USEC) 1  
TURN OFF (USEC) 30



CIRCUIT AND PACKAGING STANDARD	
APPROVAL	DATE

INTERNATIONAL BUSINESS MACHINES CORP.		DATE	CHANGE NO.	APPROVAL	DATE	CHANGE NO.	APPROVAL	DEVELOPMENT NO.
NAME		3-25-63	116800					734342
DESIGN		17MAY65	122676	GLK				
DETAIL		15JAN68	132410	GWS				
CHECK								
APPRO	3-25-63	CHECK						

C

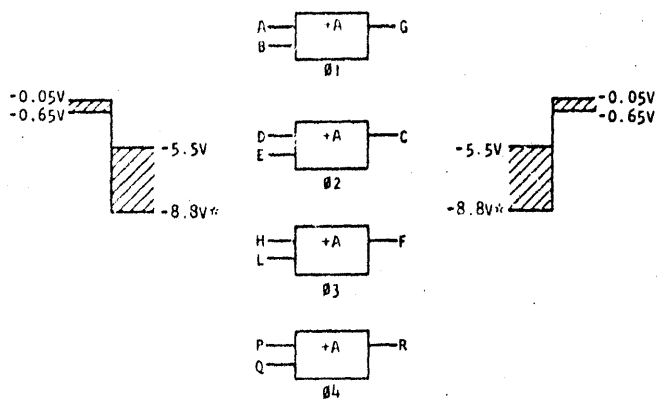
734306

734306

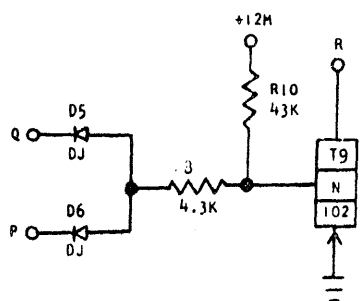
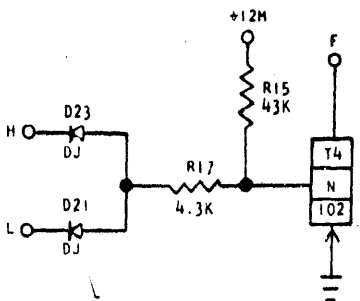
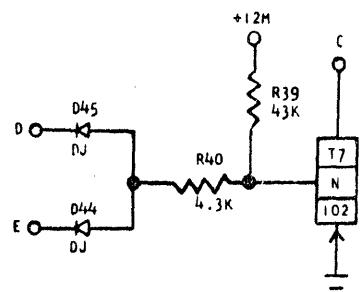
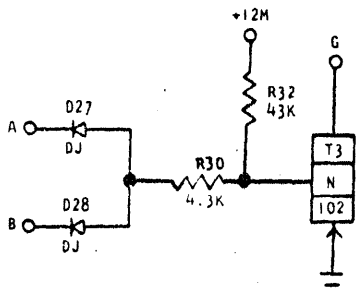
AXA-

REFERENCE DRAWING  
PRODUCTION DRAWING 372197

SDTDL LS 4 2-WAY POSITIVE AND LOGIC BLOCKS WITHOUT LOADS



\* FUNCTION OF LOAD



OTHER DESIGNATIONS:

-0, +A0, -0A, +AA, -00

SEQUENCE OF OPERATION

1. ALL INPUTS UP: TRANSISTOR OFF, OUTPUT DOWN.
2. ANY INPUT DOWN: TRANSISTOR ON, OUTPUT UP.

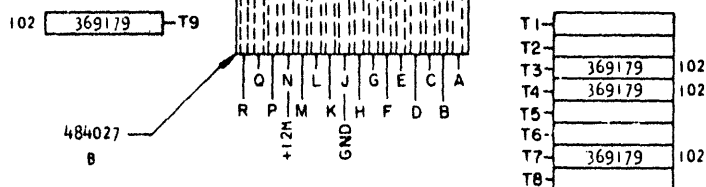
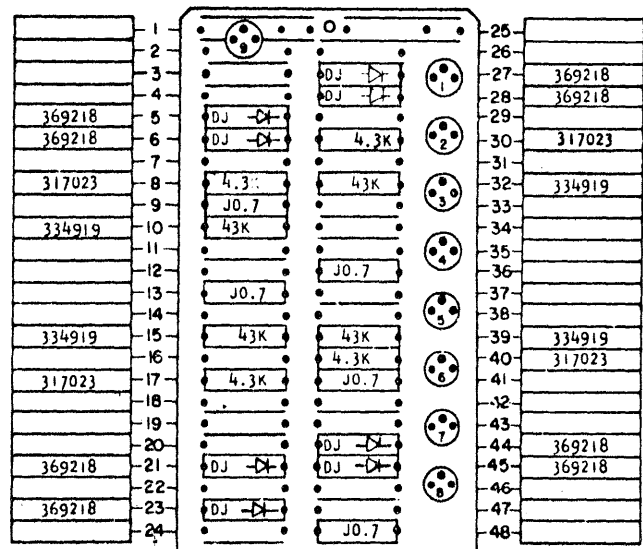
DELAY

WITH 560 Ω, 1.6K OR 6.2K COLLECTOR RESISTOR

	MIN	MAX
TURN ON (NSEC)	75	100**
TURN OFF (NSEC)	40	200**

\*\*THIS DELAY CAN INCREASE TO 200 NSEC WHEN THE DRIVING BLOCK HAS 6.2K COLLECTOR RESISTOR RETURNED TO -12V.

\*\*\*THIS DELAY CAN INCREASE TO 350 NSEC WHEN THE DRIVING BLOCK OR THE BLOCK THAT DRIVES THE DRIVING BLOCK HAS 6.2K COLLECTOR RESISTOR RETURNED TO -12V.



COMPONENT SIDE

CIRCUIT AND PACKAGING STANDARD	
APPROVAL	DATE
N. A. F.	20FEB62

INTERNATIONAL BUSINESS MACHINES CORP.				DATE	CHANGE NO.	APPROVAL	DATE	CHANGE NO.	APPROVAL	DEVELOPMENT NO.
NAME				3-25-63	116800					
LOGIC BLOCKS WITHOUT LOADS				10-21-63	118933					
DESIGN	MODEL	SMS		10DEC65	126162	GLK				
DETAIL	SCALE	NONE		23FER66	127160	GLK				
CHECK	DRAW	MJE 12-10-62								
APPRO	CHECK									

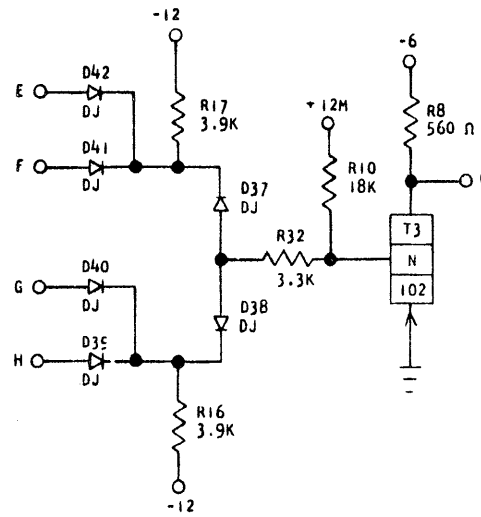
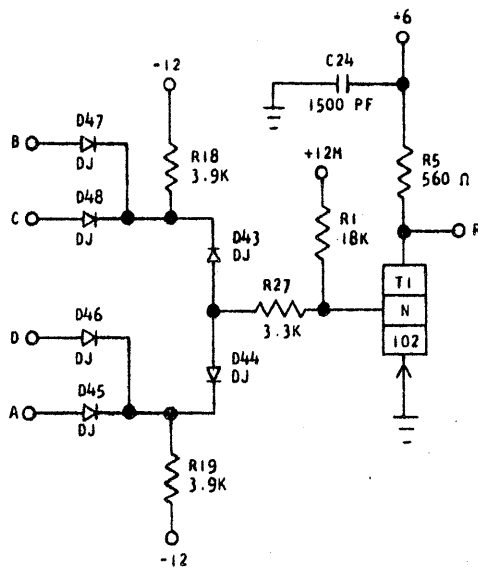
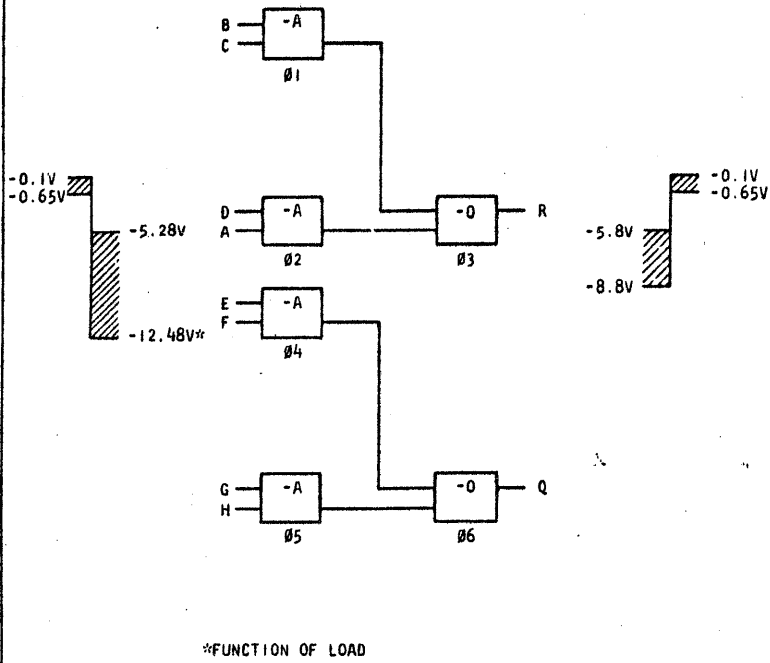
734306

C

REFERENCE DRAWING  
PRODUCTION DRAWING 372201

**AXB-**  
P/N: 372201 EC: 0114295

SDTDLS TWO 2-WAY NEGATIVE AND-NEGATIVE OR LOGIC BLOCKS WITH LOADS



OTHER DESIGNATIONS:

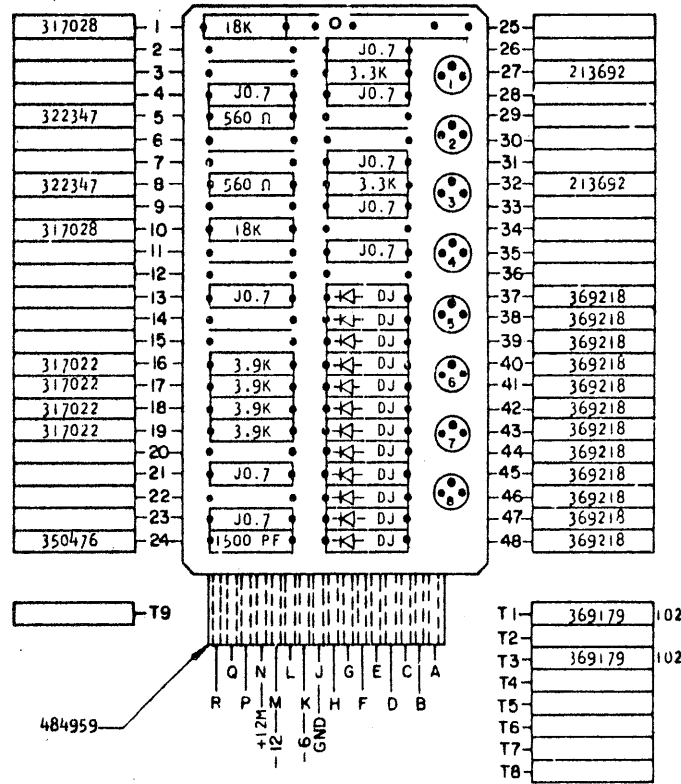
CONF. 1,2,4,5 +0  
CONF. 3,6 +A,-00,+AA

SEQUENCE OF OPERATION

- PINS B AND C MUST BE DOWN TO HAVE A DOWN LEVEL AT D43.
- PINS A AND D MUST BE DOWN TO HAVE A DOWN LEVEL AT D44.
- EITHER LEVEL DOWN AT D43 OR D44 WILL CAUSE THE TRANSISTOR TO TURN ON, THE OUTPUT WILL BE UP.
- EITHER B OR C UP WILL CAUSE AN UP LEVEL AT D43.
- EITHER D OR A UP WILL CAUSE AN UP LEVEL AT D44.
- BOTH LEVELS AT D43 AND D44 MUST BE UP TO TURN THE TRANSISTOR OFF, THE OUTPUT WILL BE DOWN.

DELAY

	MIN	MAX
TURN ON (NSEC)	70	240
TURN OFF (NSEC)	110	515



COMPONENT SIDE

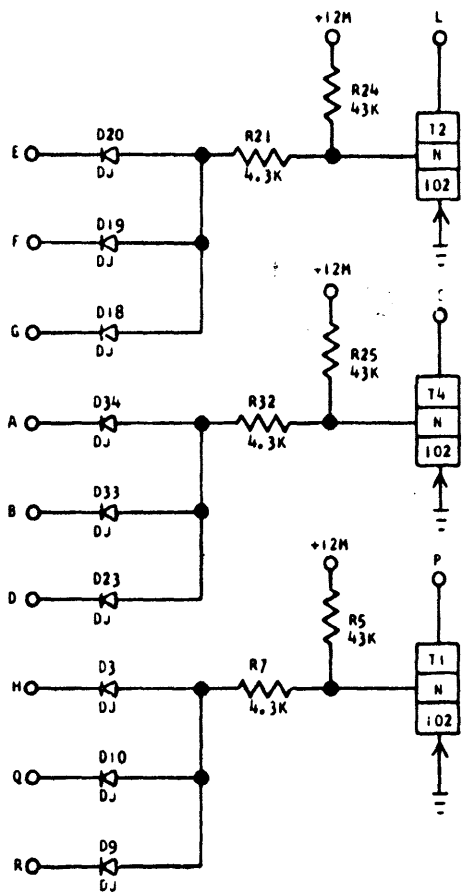
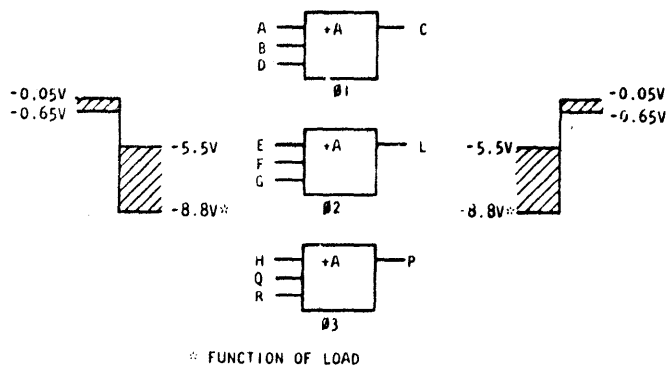
CIRCUIT AND PACKAGING STANDARD	
APPROVAL	DATE

INTERNATIONAL BUSINESS MACHINES CORP.		DATE	CHANGE NO.	APPROVAL	DATE	CHANGE NO.	APPROVAL	DEVELOPMENT NO.
NAME		3-25-63	116800					734316
MODEL								
SCALE								
DRAW								
CHECK								
APPROV								

REFERENCE DRAWING  
PRODUCTION DRAWING 372243

**AXU-**  
P/N: 372243 EC: 0114320

SDTDLS 3 3-WAY POSITIVE AND LOGIC BLOCKS WITHOUT LOADS



OTHER DESIGNATIONS:

-0, +AO, -0A, +AA, -00

SEQUENCE OF OPERATION

1. ALL INPUTS UP: TRANSISTOR OFF, OUTPUT DOWN.
2. ANY INPUT DOWN: TRANSISTOR ON, OUTPUT UP.

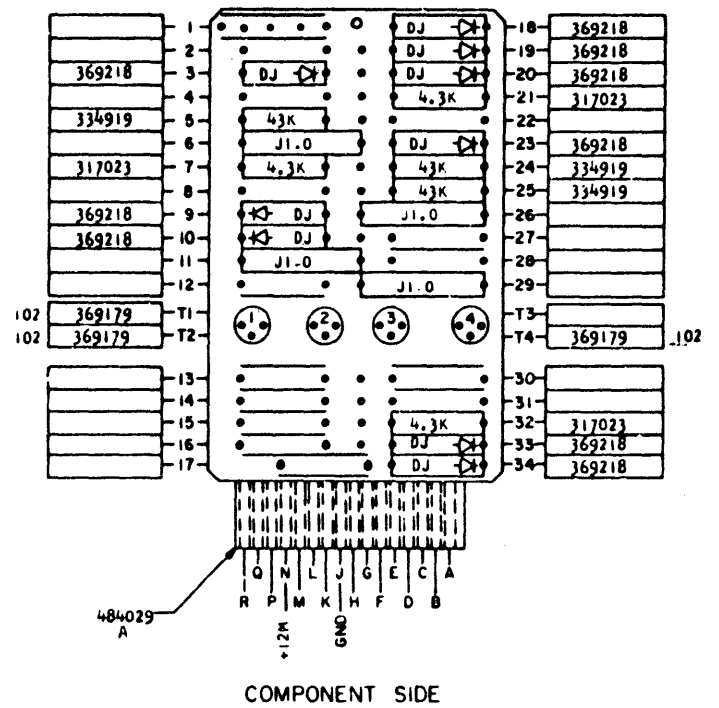
DELAY

WITH 560 Ω, 1.6K OR 6.2K COLLECTOR RESISTOR

	MIN	MAX
TURN ON (NSEC)	75	100*
TURN OFF (NSEC)	40	200**

\*THIS DELAY CAN INCREASE TO 200 NSEC WHEN THE DRIVING BLOCK HAS 6.2K COLLECTOR RESISTOR RETURNED TO -12V.

\*\*THIS DELAY CAN INCREASE TO 350 NSEC WHEN THE DRIVING BLOCK OR THE BLOCK THAT DRIVES THE DRIVING BLOCK HAS 6.2K COLLECTOR RESISTOR RETURNED TO -12V.



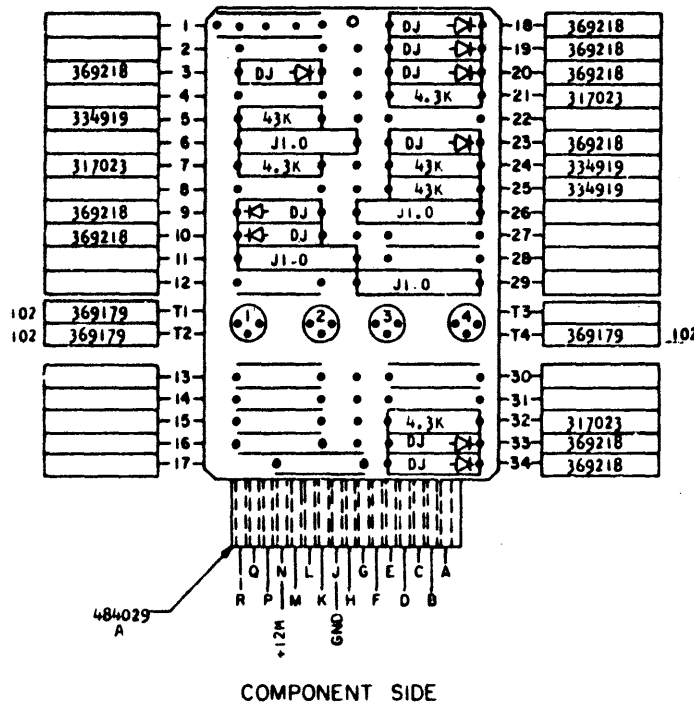
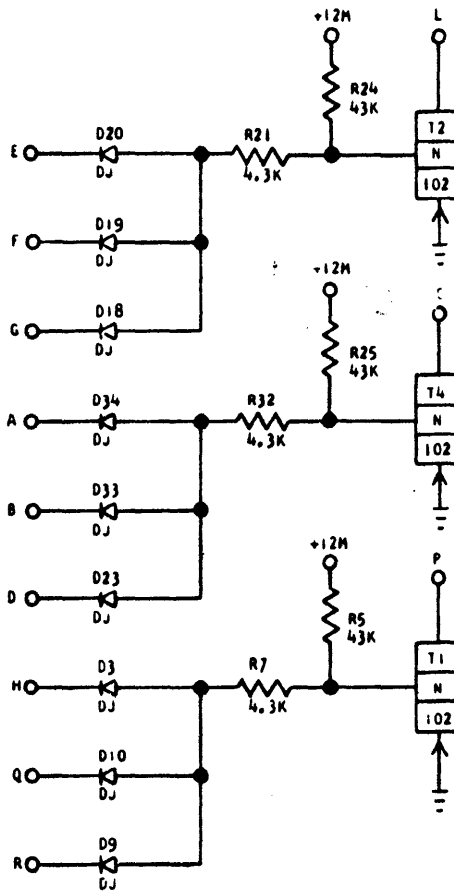
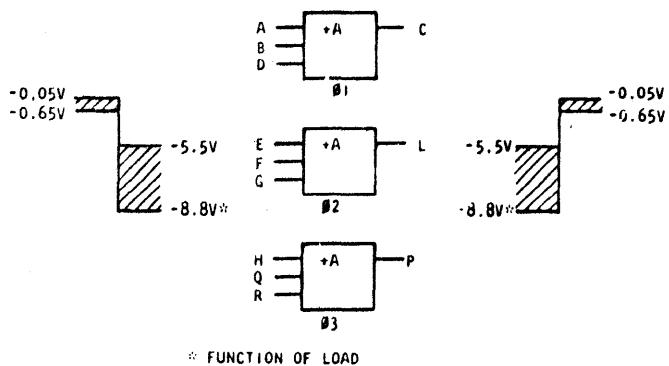
CIRCUIT AND PACKAGING STANDARD	
APPROVAL	DATE

INTERNATIONAL BUSINESS MACHINES CORP.								734308
NAME	DATE	CHANGE NO.	APPROVAL	DATE	CHANGE NO.	APPROVAL	DEVELOPMENT NO.	
SDTDLS 3 3-WAY POS. AND LOGIC BLOCKS WITHOUT LOADS	5-25-63	116800						
DESIGN		10-21-63	118933					
DETAIL								
CHECK								
APPRO								

REFERENCE DRAWING  
PRODUCTION DRAWING 372243

**AXU-**  
P/N: 372243 EC: 0114320

SDTDL LS 3 3-WAY POSITIVE AND LOGIC BLOCKS WITHOUT LOADS



OTHER DESIGNATIONS:

-0, +A0, -0A, +AA, -00

SEQUENCE OF OPERATION

1. ALL INPUTS UP: TRANSISTOR OFF, OUTPUT DOWN.
2. ANY INPUT DOWN: TRANSISTOR ON, OUTPUT UP.

DELAY

WITH 560 Ω, 1.6K OR 6.2K COLLECTOR RESISTOR

	MIN	MAX
TURN ON (NSEC)	75	100*
TURN OFF (NSEC)	40	200**

\*THIS DELAY CAN INCREASE TO 200 NSEC WHEN THE DRIVING BLOCK HAS 6.2K COLLECTOR RESISTOR RETURNED TO -12V.

\*\*THIS DELAY CAN INCREASE TO 350 NSEC WHEN THE DRIVING BLOCK OR THE BLOCK THAT DRIVES THE DRIVING BLOCK HAS 6.2K COLLECTOR RESISTOR RETURNED TO -12V.

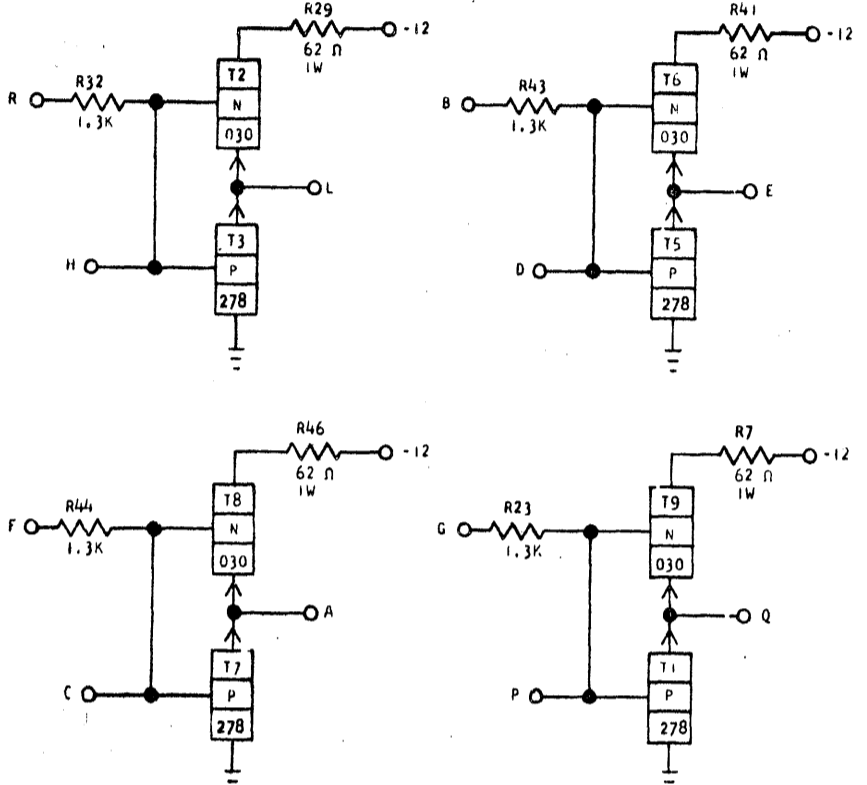
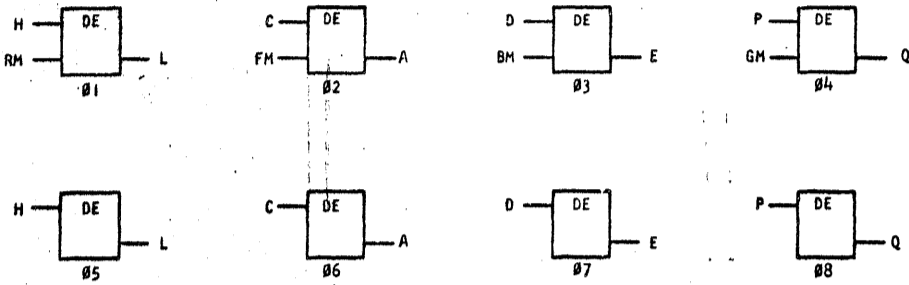
CIRCUIT AND PACKAGING STANDARD	
APPROVAL	DATE

INTERNATIONAL BUSINESS MACHINES CORP.								734308
NAME	DATE	CHANGE NO.	APPROVAL	DATE	CHANGE NO.	APPROVAL	DEVELOPMENT NO.	
SDTDL LS 3 3-WAY POS. AND LOGIC BLOCKS WITHOUT LOADS	3-25-63	116800						
DESIGN								
DETAIL								
CHECK								
APPRO								

REFERENCE DRAWING  
PRODUCTION DRAWING 372244

**AXV-**  
P/N: 372244

COMPLEMENTARY EMITTER FOLLOWER



SEQUENCE OF OPERATION

- INPUT UP: TRANSISTOR (T3) ON, OUTPUT UP.
  - INPUT DOWN: TRANSISTOR (T2) ON, OUTPUT DOWN.
- NOTES: 1. CONF. Ø1-Ø4 MAY ONLY BE DRIVEN BY UNLOADED BLOCKS DUE TO THE 1.3K RESISTOR TIED TO -12V.  
2. CONF. Ø5-Ø8 ARE USED WHEN DRIVEN BY A CLAMPED LOGIC BLOCK, IP, OR TRIGGER.

PINS	SIGNAL NAME	WAVESHAPE	LEVELS		
			MIN	MAX	
H	Y	INPUT	UP	-0.65V	-0.05V
			DOWN	-6V	*
L	Y	OUTPUT	UP	-1.25V	-0.05V
			DOWN	-6.71V	-6.71V
H	Y	INPUT	UP	-0.65V	-0.05V
			DOWN	-6V	*
L	Y	OUTPUT	UP	-1.25V	-0.05V
			DOWN	-5.51V	-6.69V

- \* FUNCTION OF CURRENT SWITCHED.
- DRIVEN BY LOGIC BLOCK.
  - DRIVEN BY IP, TRIGGER OR CLAMPED LOGIC BLOCK.

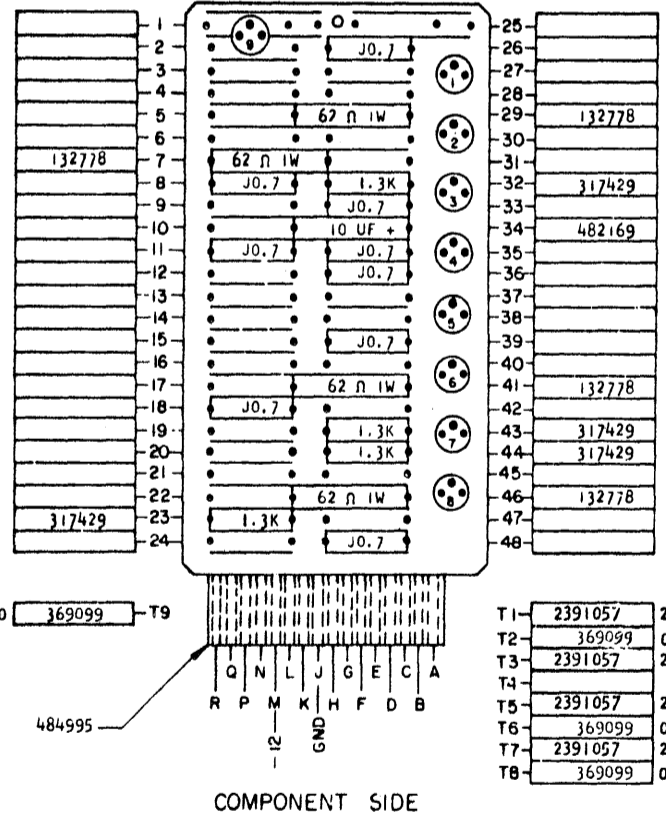
DELAY-MAXIMUM

LOW SPEED DRIVERS:

	TURN ON (NSEC)	TURN OFF (NSEC)
LOGIC BLOCK	70	50
CLAMPED LOGIC BLOCK	24	28
I.P.	36	20

HIGH SPEED DRIVERS:

	TURN ON (NSEC)	TURN OFF (NSEC)
LOGIC BLOCK	46	52
CLAMPED LOGIC BLOCK	39	32
I.P.	56	41



CIRCUIT AND PACKAGING STANDARD	
APPROVAL	DATE

INTERNATIONAL BUSINESS MACHINES CORP.							
NAME	DATE	CHANGE NO.	APPROVAL	DATE	CHANGE NO.	APPROVAL	DEVELOPMENT NO.
COMPLEMENTARY EMITTER FOLLOWER	3-25-63	116800					
	11-21-64	122721	GLK				
DESIGN	MODEL	SMS 1440					
DETAIL	SCALE	NONE					
CHECK	DRAW	HDE 1-3-63					
APPRO	DATE	CHECK					



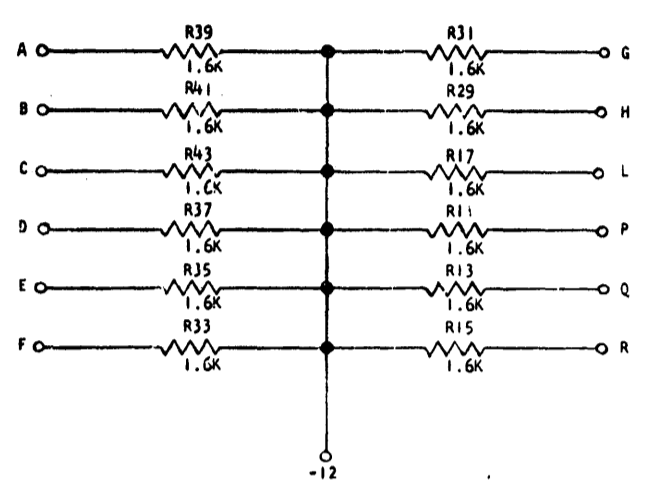


STANDARDS CODE  
729909

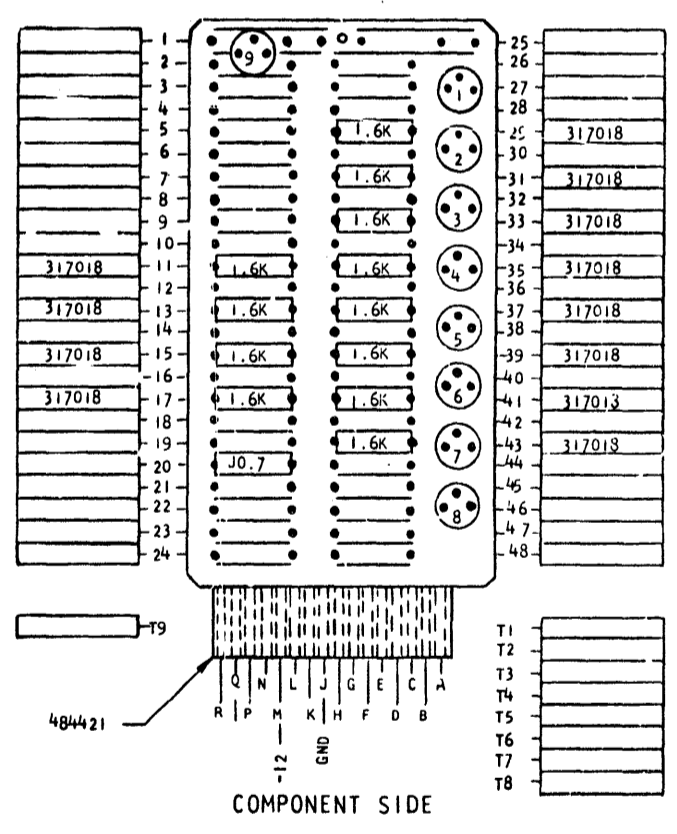
CARD CODE 729909  
D F J -

REFERENCE DRAWING  
SEE PRODUCTION DRAWING 370232

TDL & TRL LOAD CARD



APPLICATION  
1. USED FOR TDL AND TRL COLLECTOR LOADING  
2. MAY BE USED IN PARALLEL IN CERTAIN APPLICATIONS



CIRCUIT AND PACKAGING STANDARD	
APPROVAL	DATE
ABC	4-2-62

INTERNATIONAL BUSINESS MACHINES CORP.				DATE	CHANGE NO.	APPROVAL	DATE	CHANGE NO.	APPROVAL	DEVELOPMENT NO.
NAME	CARD ASM TSTR-TDL AND TRL LOAD CARD			6-29-62	115599					729909
DESIGN		MODEL	SMS 8018	7-30-63	117824					
DETAIL	RQ	3-1-62	SCALE	NONE						
CHECK	WH	3-1-62	DRAW	JRP	7-11-63					
APPRO			CHECK	PKD	7-2-63					

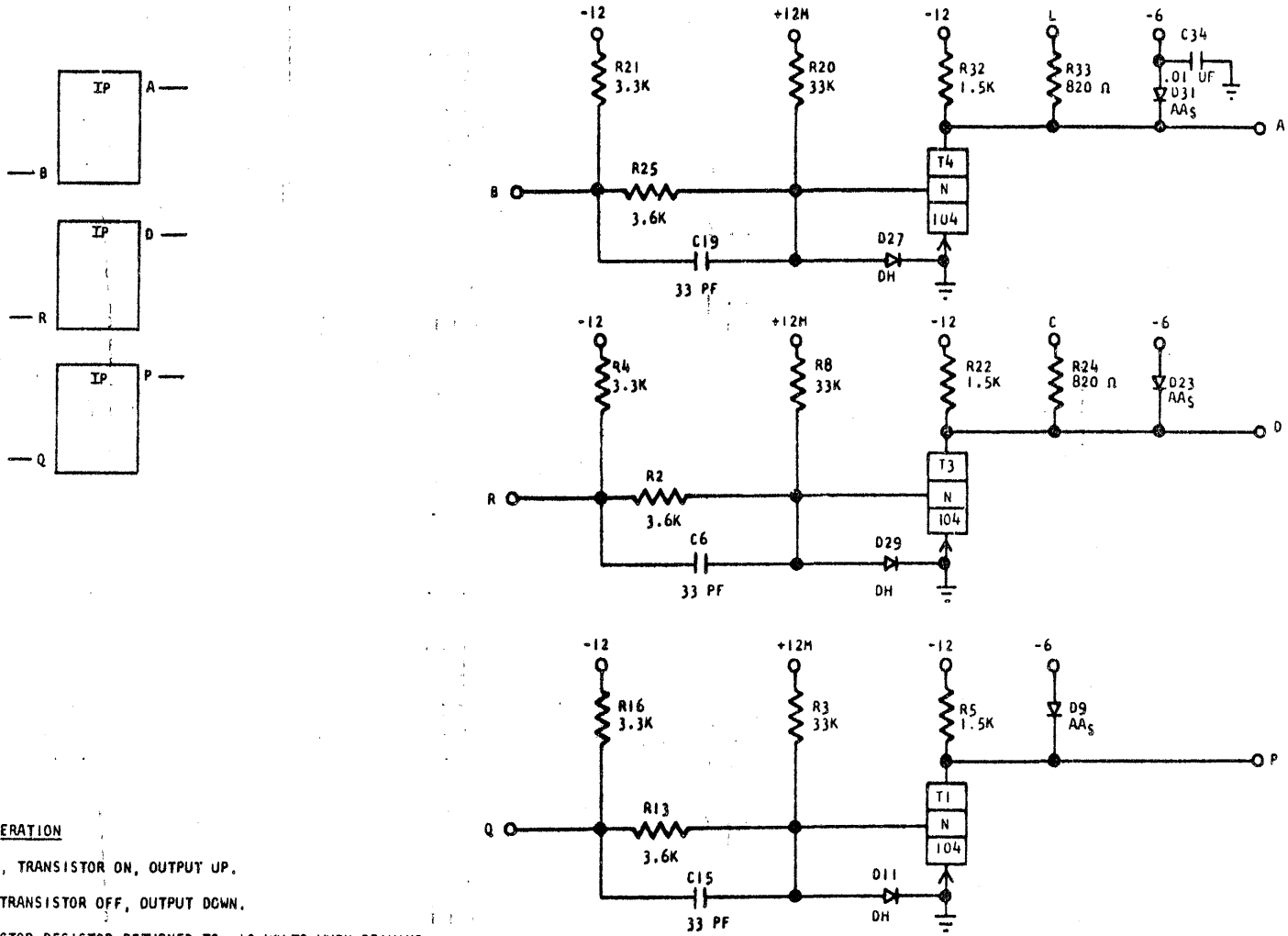
C

729910  
STANDARDS CODE  
2-7645

CARD CODE  
729910  
D F Q -

REFERENCE DRAWING  
SEE PRODUCTION DRAWING 370225

INVERTING POWER DRIVER



SEQUENCE OF OPERATION

1. INPUT DOWN, TRANSISTOR ON, OUTPUT UP.
2. INPUT UP, TRANSISTOR OFF, OUTPUT DOWN.
3. 820Ω COLLECTOR RESISTOR RETURNED TO -12 VOLTS WHEN DRIVING NEGATIVE "OR" INPUTS OF DOUBLE LEVEL LOGIC BLOCKS AND WHEN DRIVING TRIGGER AC INPUTS.

PINS	SIGNAL NAME	WAVE SHAPE	LEVELS	
			MIN	MAX
B, R, Q	Y INPUT		UP -0.65	-0.10
A, D, P	Y OUTPUT		UP -0.10	-0.65
			DOWN -7.14	-5.84
			DOWN -6.06	-6.8

DELAY - NSEC

	MINIMUM	MAXIMUM
TURN ON	10.0#	50.0#
TURN OFF	14.0#	35.0#

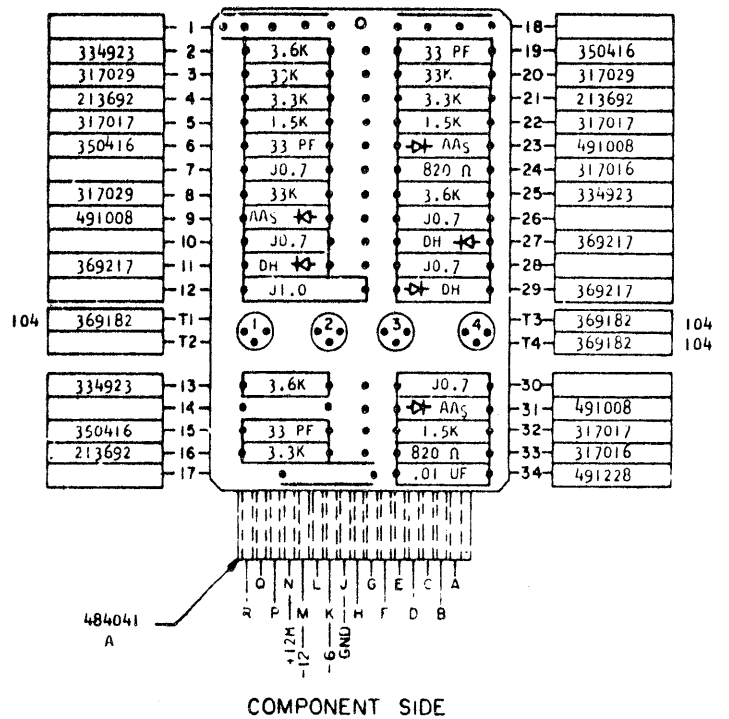
\*ASSUMES LOAD OF 10 LOGIC BLOCKS AND TR INPUT OF 70 NSEC AND INPUT TF OF 135 NSEC.

\*\*ASSUMES LOAD OF 4 LOGIC BLOCKS AND INPUT TR OF 35 NSEC AND INPUT TF OF 70 NSEC.

RISE TIME	16.0	70.0# TO 110.0##
FALL TIME	75.0	125.0## TO 190.0##

#OCCURS WHEN DRIVING TRIGGERS.

##OCCURS WHEN DRIVING LOGIC BLOCKS.



COMPONENT SIDE

CIRCUIT AND PACKAGING STANDARD	
APPROVAL	DATE
ABC	4-2-62

INTERNATIONAL BUSINESS MACHINES CORP.				DATE	CHANGE NO.	APPROVAL	DATE	CHANGE NO.	APPROVAL	DEVELOPMENT NO.
NAME CARD ASSEMBLY TRANSISTOR -				6-29-62	115599					
INVERTING POWER DRIVER				12-30-62	119217					
DESIGN	RQ	3-1-62	SCALE	NONE						
CHECK	WH	3-1-62	DRAW	LIG	3-17-62					
APPRO			CHECK							

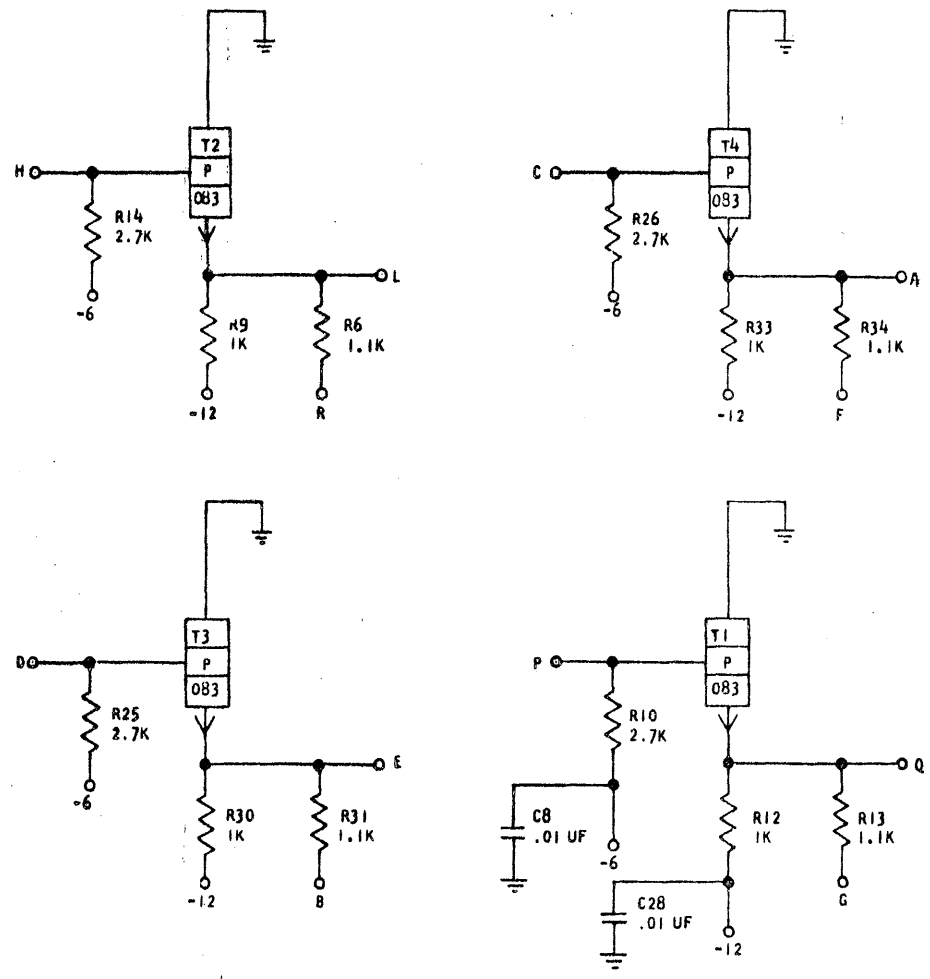
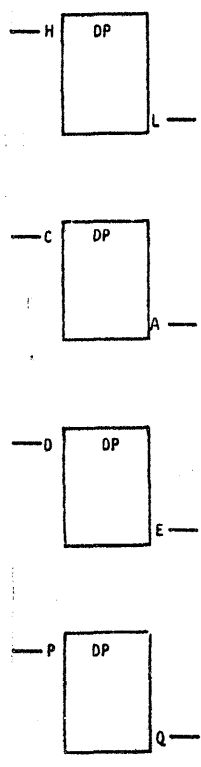
729910

729911  
STANDARDS CODE

CARD CODE 729911  
D F R -

REFERENCE DRAWING  
SEE PRODUCTION DRAWING 370226

SDTDL NON-INVERTING POWER DRIVER



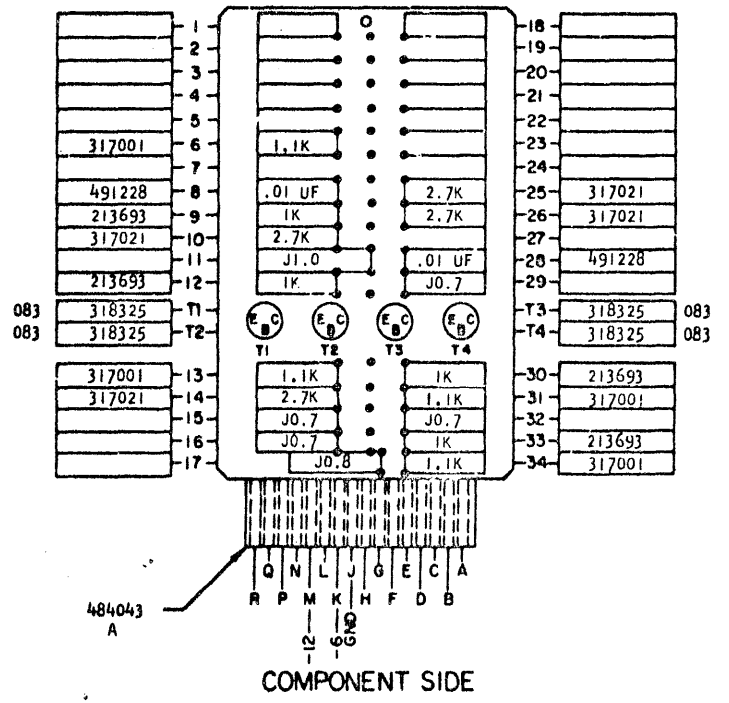
- SEQUENCE OF OPERATION
1. OUTPUT WILL FOLLOW INPUT
  2. PINS R, F, B, AND G MAY BE CONNECTED TO PIN M (-12) FOR CERTAIN APPLICATIONS.

PINS	SIGNAL NAME	WAVE SHAPE	LEVELS		
			MIN	MAX	
H, C, D, P	Y	INPUT	UP DOWN	-0.65 -5.81	-0.10 -8.8
L, A, E, Q	Y	OUTPUT	UP DOWN	-1.10 -7.30	-0.22 -5.83

DELAY - NSEC

	MINIMUM	MAXIMUM
TURN ON	6.0	20.0
TURN OFF	6.0	28.0

OUTPUT RISE AND FALL TIMES ARE WITHIN ±10 NSEC'S OF THE INPUT RISE AND FALL TIMES, RESPECTIVELY.



CIRCUIT AND PACKAGING STANDARD

APPROVAL	DATE
ABC	4-2-62

INTERNATIONAL BUSINESS MACHINES CORP.	DATE	CHANGE NO.	APPROVAL	DATE	CHANGE NO.	APPROVAL	DEVELOPMENT NO.
NAME CARD ASM TSTR-SDTDL	5-29-62	115599					
NON-INVERTING POWER DRIVER	1-3-63	116034					
DESIGN RQ	3-1-62	SCALE NONE					
CHECK WH	3-1-62	DRAW LIG	3-17-62				
APPRO		CHECK					

C

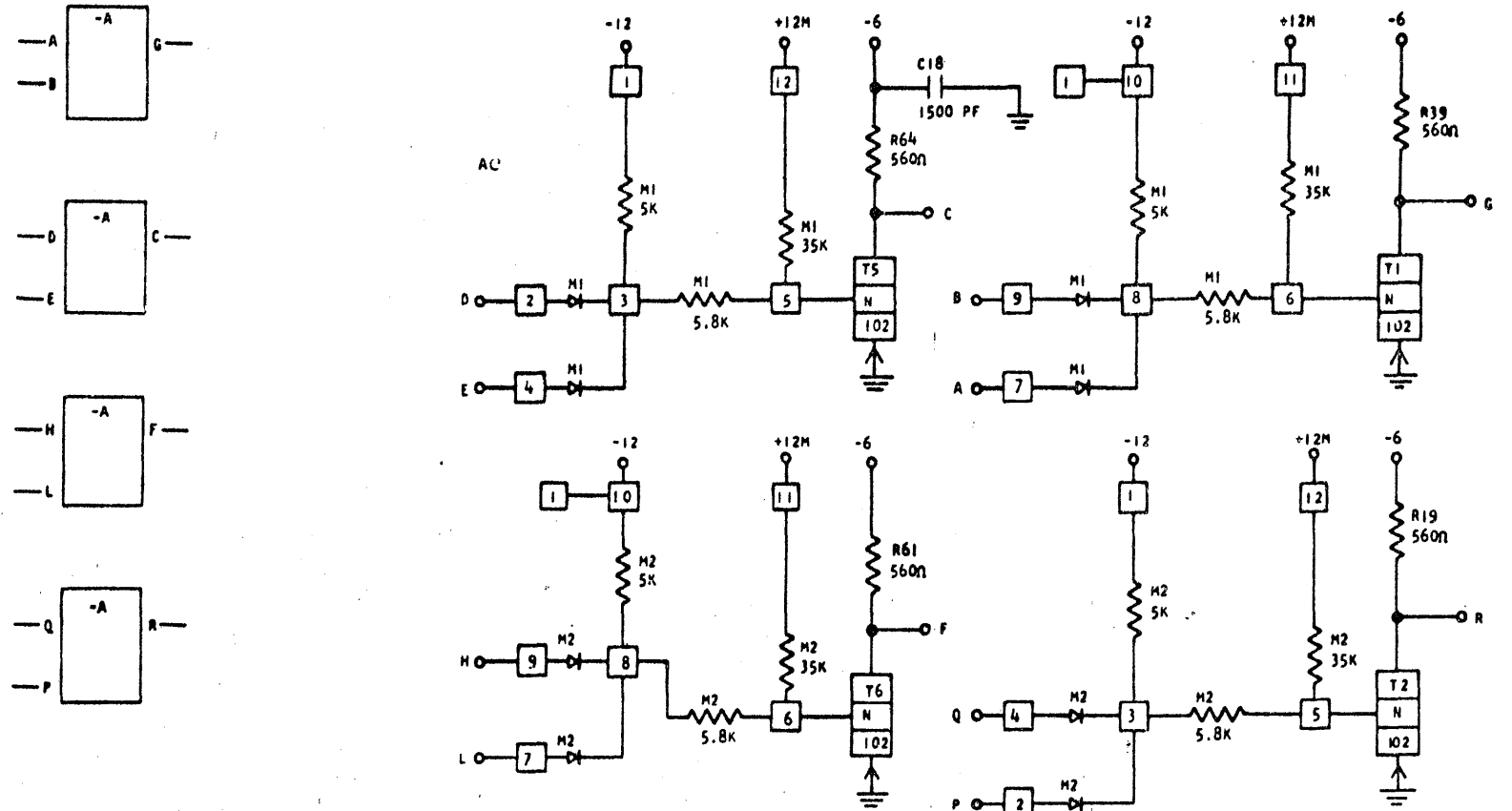
729911

729913  
STANDARD CODE

CARD CODE 729913  
D G T -

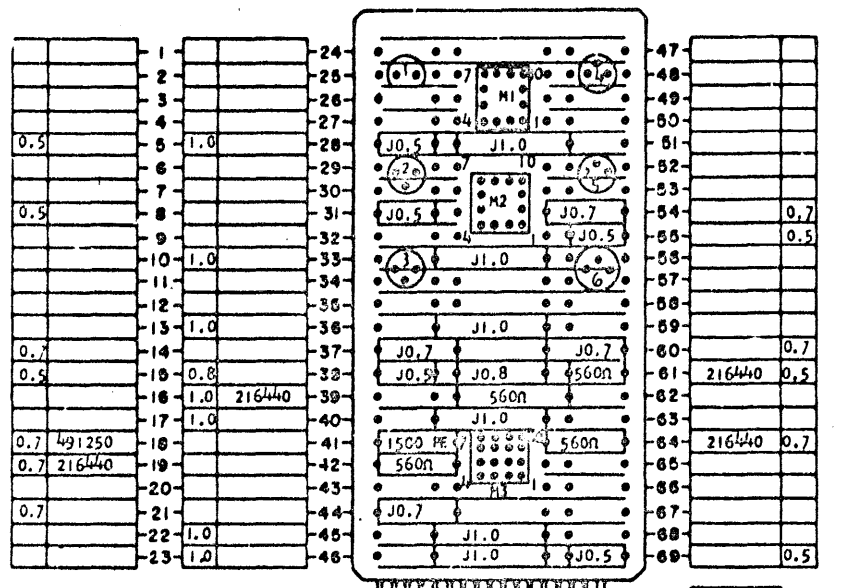
REFERENCE DRAWING  
SEE PRODUCTION DRAWING 370380

2-WAY LOGIC BLOCK LOW SPEED WITH LOADS



- SEQUENCE OF OPERATION
1. ALL INPUTS DOWN TRANSISTOR ON OUTPUT UP
  2. ANY INPUT UP TRANSISTOR OFF OUTPUT DOWN
  3. LOGIC BLOCKS MAY HAVE SYMBOLS OTHER THAN SHOWN.

PINS	SIGNAL NAME	WAVE SHAPE	LEVELS	
			MIN	MAX
A, D, H, Q	Y INPUT	[Waveform]	UP -0.65	DOWN -5.81
B, E, L, P	Y INPUT	[Waveform]	UP -0.65	DOWN -5.81
C, G, F, R	Y OUTPUT	[Waveform]	UP -0.65	DOWN -5.81



DELAY: SDTDL - LOW SPEED  
LOGIC BLOCK WITH 560 OHM COLLECTOR RESISTOR

	MIN.	MAX.
TURN ON (NSEC)	75	100
TURN OFF (NSEC)	40	200

THIS DELAY CAN INCREASE TO 200 NSEC WHEN THE DRIVING BLOCK HAS 6.2K COLLECTOR RESISTOR RETURNED TO -12V.

THIS DELAY CAN INCREASE TO 350 NSEC WHEN THE DRIVING BLOCK OR THE BLOCK THAT DRIVES THE DRIVING BLOCK HAS 6.2K COLLECTOR RESISTOR RETURNED TO -12V.

NOTE: THIS LEVEL ASSEMBLY IS DIRECTLY INTERCHANGEABLE WITH SIMILAR DISCRETE COMPONENT ASSEMBLY LEVELS.

CIRCUIT AND PACKAGING STANDARD	
APPROVAL	DATE
ABC	4-2-62

INTERNATIONAL BUSINESS MACHINES CORP.				DATE	CHANGE NO.	APPROVAL	DATE	CHANGE NO.	APPROVAL	DEVELOPMENT NO.
NAME	CARD ASB TSTR-SDTDL-2-WAY	DATE	4-27-62	CHANGE NO.	115599	APPROVAL		DATE		
LOGIC BLOCK	LOW SPEED WITH LOADS	DATE	3-19-63	CHANGE NO.	116153	APPROVAL		DATE		
DESIGN		MODEL	512	DATE	10-21-63	CHANGE NO.	118933	APPROVAL		
DETAIL	RQ 3-1-62	SCALE	NONE	DATE	10DEC65	CHANGE NO.	126162	APPROVAL	GLK	
CHECK	WH 3-1-62	DRAW	L13 3-17-62	DATE		CHANGE NO.	122164	APPROVAL		
APPRO		CHECK		DATE		CHANGE NO.		APPROVAL		

C

729913

729914

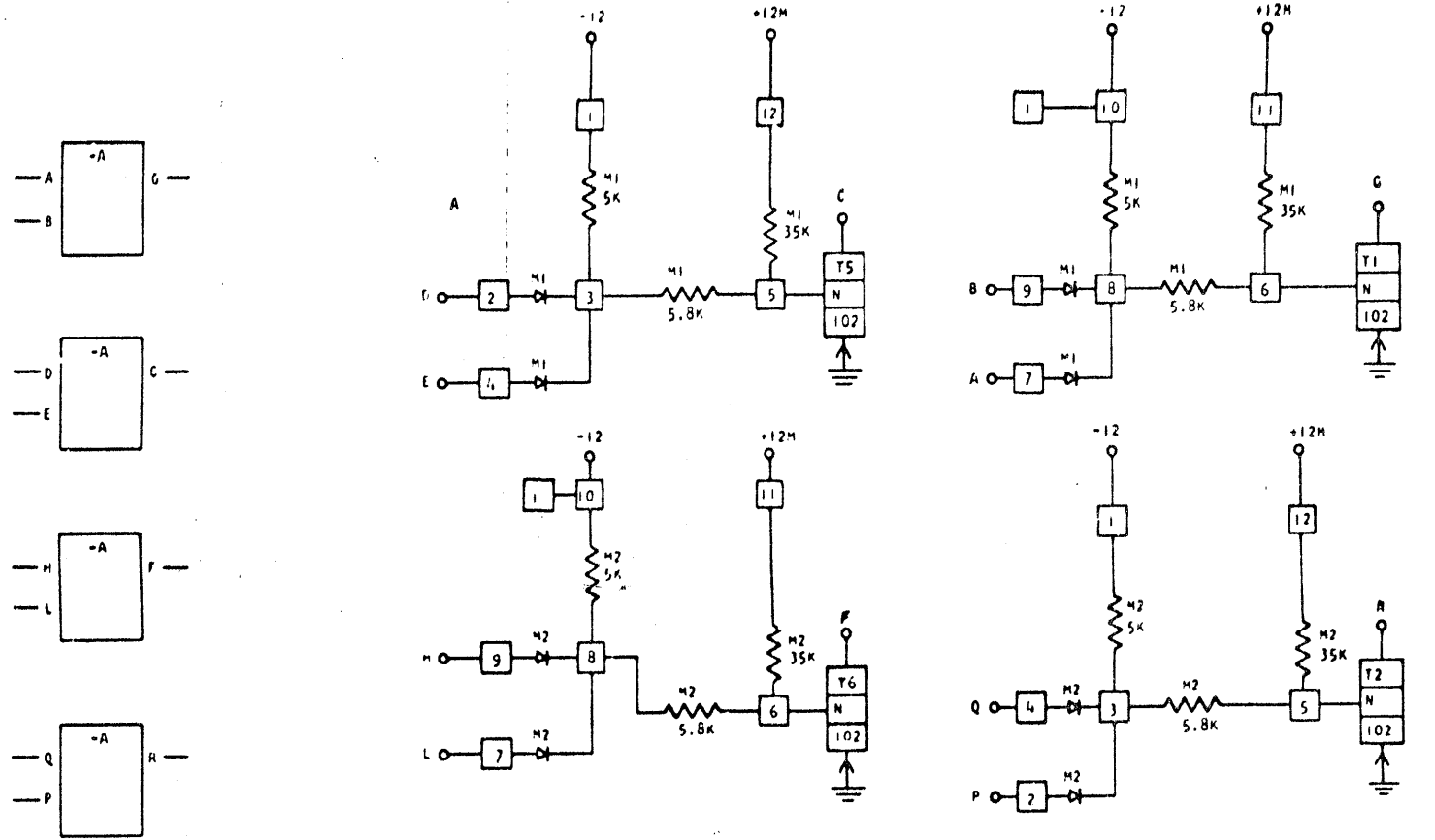
STANDARDS  
CODE

CARD CODE 729914  
D G U -

REFERENCE DRAWING

SEE PRODUCTION DRAWING 370379

SDTDL 2-WAY LOGIC BLOCK LOW SPEED WITHOUT LOADS



SEQUENCE OF OPERATION

1. ALL INPUTS DOWN TRANSISTOR ON OUTPUT UP
2. ANY INPUT DOWN TRANSISTOR OFF OUTPUT DOWN
3. COLLECTORS MUST BE LOADED
4. LOGIC BLOCKS MAY HAVE SYMBOLS OTHER THAN SHOWN.

NOTE: THIS LEVEL ASSEMBLY IS DIRECTLY INTERCHANGEABLE WITH EARLIER DISCRETE COMPONENT ASSEMBLY LEVELS.

PINS	SIGNAL NAME	WAVE SHAPE	LEVELS		
			MIN	MAX	
A, D, H, Q	Y	INPUT	UP	-0.65	-0.1
			DOWN	-5.81	-8.8
B, E, L, P	Y	INPUT	UP	-0.65	-0.1
			DOWN	-5.81	-8.8
G, C, F, R	Y	OUTPUT	UP	-0.65	-0.1
			DOWN	-5.81	-8.8

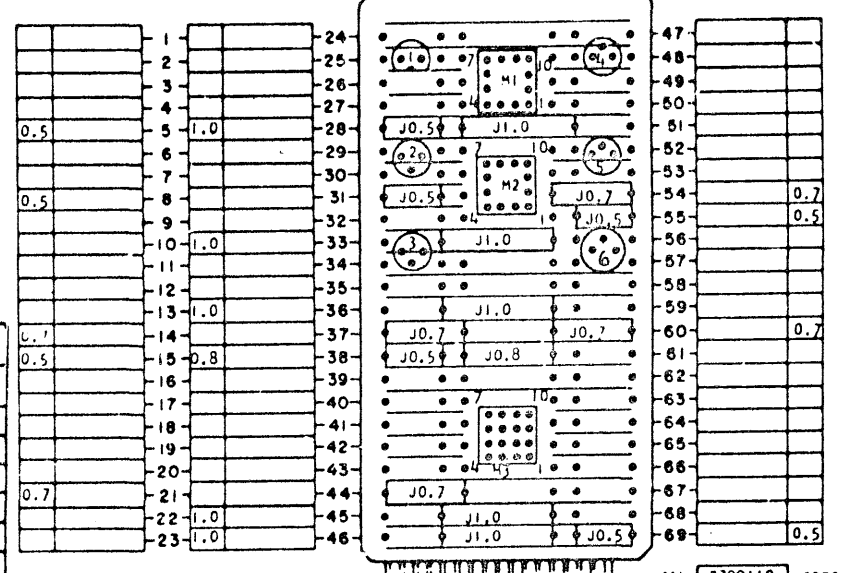
DELAY: SDTDL - LOW SPEED

LOGIC BLOCK WITH 560 OHM COLLECTOR RESISTOR

	MIN.	MAX.
TURN ON (NSEC)	75	100
TURN OFF (NSEC)	40	200

- THIS DELAY CAN INCREASE TO 200 NSEC WHEN THE DRIVING BLOCK HAS 6.2K COLLECTOR RESISTOR RETURNED TO -12V.

- THIS DELAY CAN INCREASE TO 350 NSEC WHEN THE DRIVING BLOCK OR THE BLOCK THAT DRIVES THE DRIVING BLOCK HAS 6.2K COLLECTOR RESISTOR RETURNED TO -12V.



M1	2399110	SDTDL
M2	2399110	SDTDL
M3		
T1	369179	102
T2	369179	102
T3		
T4		
T5	369179	102
T6	369179	102

COMPONENT SIDE

CIRCUIT AND PACKAGING STANDARD	
APPROVAL	DATE
ABC	4-2-62

INTERNATIONAL BUSINESS MACHINES CORP.				DATE	CHANGE NO.	APPROVAL	DATE	CHANGE NO.	APPROVAL	DEVELOPMENT NO.
NAME	CARD ASM T5TH-SDTDL 2-WAY	DATE	4-28-62	CHANGE NO.	115539	APPROVAL		DATE		DEVELOPMENT NO.
LOGIC BCK	LOGIC BCK LOW SPEED WITHOUT LOADS	DATE	1-3-63	CHANGE NO.	116034	APPROVAL		DATE		DEVELOPMENT NO.
DESIGN	RQ 3-1-62	MODEL	SHS	DATE	10-21-63	CHANGE NO.	118933	APPROVAL		DEVELOPMENT NO.
DETAIL	WH 3-1-62	SCALE	NONE	DATE	10DEC65	CHANGE NO.	126162	APPROVAL	GLK	DEVELOPMENT NO.
CHECK	WH 3-1-62	DRAW	LIG 3-17-62	DATE	12 FEB 68	CHANGE NO.	132163	APPROVAL		DEVELOPMENT NO.
APPRO		CHECK		DATE		CHANGE NO.		APPROVAL		DEVELOPMENT NO.

729914

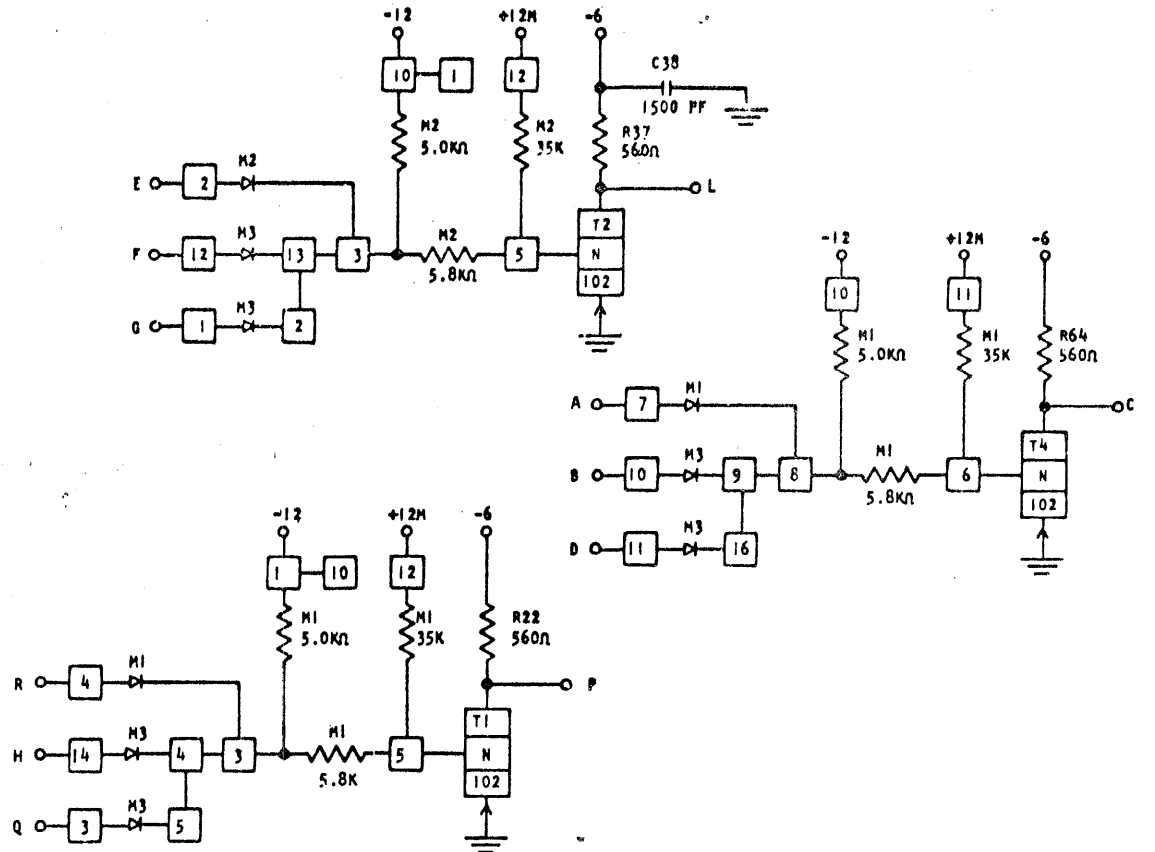
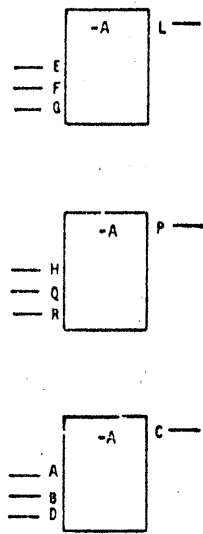
729915

STANDARDS CODE  
2-6111

CARD CODE 729915  
D G V -

REFERENCE DRAWING  
SEE PRODUCTION DRAWING 370378

SDTDL 3-WAY LOGIC BLOCK LOW SPEED WITH LOADS



SEQUENCE OF OPERATION

1. ALL INPUTS DOWN TRANSISTOR ON OUTPUT UP
2. ANY INPUT UP TRANSISTOR OFF OUTPUT DOWN
3. LOGIC BLOCKS MAY HAVE SYMBOLS OTHER THAN SHOWN.

PINS	SIGNAL NAME	WAVE SHAPE	LEVELS		
			MIN	MAX	
E, H, A	Y	INPUT	UP	-0.65	-0.1
			DOWN	-5.81	-8.8
F, Q, B	Y	INPUT	UP	-0.65	-0.1
			DOWN	-5.81	-8.8
G, R, D	Y	INPUT	UP	-0.65	-0.1
			DOWN	-5.81	-8.8
L, P, C	Y	OUTPUT	UP	-0.65	-0.1
			DOWN	-5.81	-8.8

DELAY: SDTDL - LOW SPEED

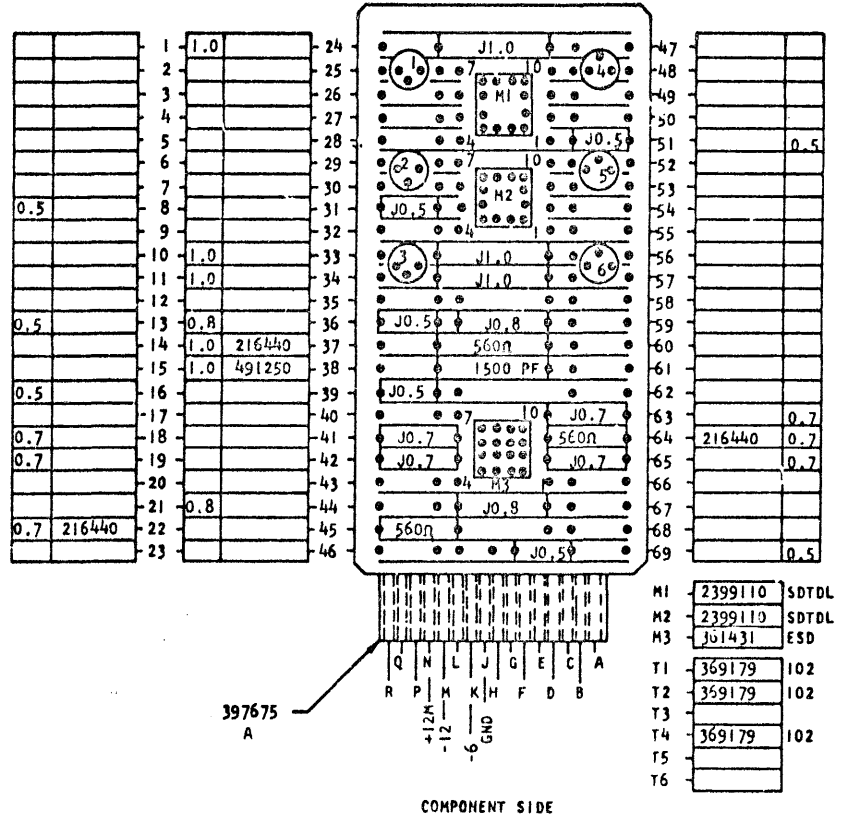
LOGIC BLOCK WITH 560 OHM COLLECTOR RESISTOR

	I. N.	MAX.
TURN ON (NSEC)	75	100*
TURN OFF (NSEC)	40	200**

\*THIS DELAY CAN INCREASE TO 200 NSEC WHEN THE DRIVING BLOCK HAS 6.2K COLLECTOR RESISTOR RETURNED TO -12V.

\*\*THIS DELAY CAN INCREASE TO 350 NSEC WHEN THE DRIVING BLOCK OR THE BLOCK THAT DRIVES THE DRIVING BLOCK HAS 6.2K COLLECTOR RESISTOR RETURNED TO -12V.

NOTE: THIS LEVEL ASSEMBLY IS DIRECTLY INTERCHANGEABLE WITH EARLIER DISCRETE COMPONENT ASSEMBLY LEVELS.



CIRCUIT AND PACKAGING STANDARD	
APPROVAL	DATE
ABC	2APR62

INTERNATIONAL BUSINESS MACHINES CORP.				DATE	CHANGE NO.	APPROVAL	DATE	CHANGE NO.	APPROVAL	DEVELOPMENT NO.
NAME				29JUN62	115599					729915
LOGIC BLOCK LOW SPEED WITH LOADS				3JAN63	116034					
DESIGN	RQ	MAN62	SCALE	21OCT63	118933					
DETAIL	WH	1MAY62	DRAW	20FEB68	132162					
CHECK	WH	1MAY62	DRAW	12JUN68	132888	GWS				
APPRO	GS	10JUN68	CHECK							

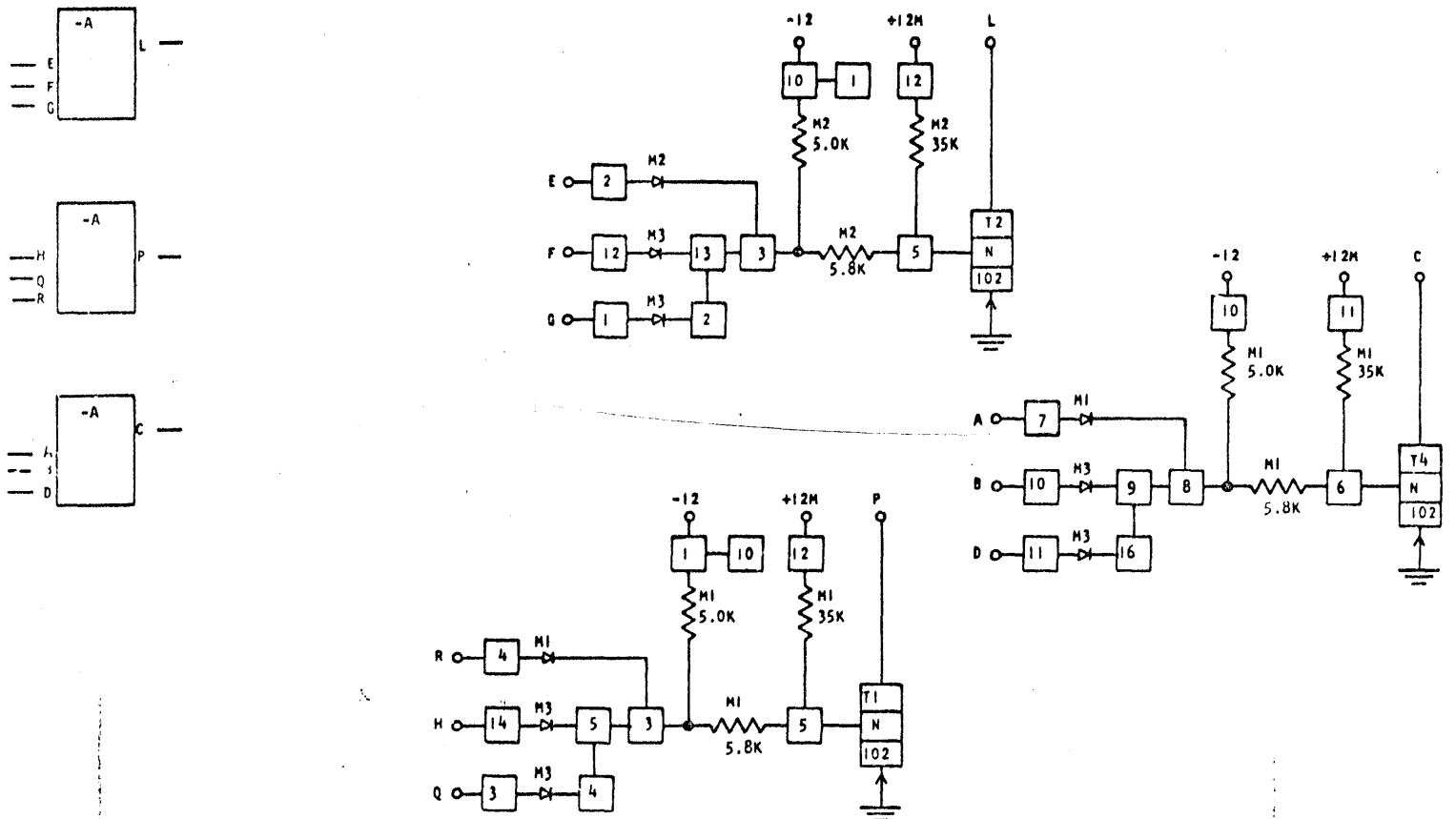
C

STANDARDS CODE  
2-6111  
729916

CARD CODE 729916  
D G W -

REFERENCE DRAWING  
SEE PRODUCTION DRAWING 370377

SDTDL 3-WAY LOGIC BLOCK LOW SPEED WITHOUT LOADS



SEQUENCE OF OPERATION

1. ALL INPUTS DOWN TRANSISTOR ON OUTPUT UP
2. ANY INPUT UP TRANSISTOR OFF OUTPUT DOWN
3. COLLECTORS MUST BE LOADED
4. LOGIC BLOCKS MAY HAVE SYMBOLS OTHER THAN SHOWN

PINS	SIGNAL NAME	WAVE SHAPE	LEVELS	
			MIN	MAX
E, H, A	Y INPUT	[Waveform]	UP -0.65	-0.1
F, Q, B	Y INPUT	[Waveform]	UP -0.65	-0.1
G, R, D	Y INPUT	[Waveform]	UP -0.65	-0.1
L, P, C	Y OUTPUT	[Waveform]	UP -0.65	-0.1
			DOWN -5.81	-8.8

DELAY: SDTDL - LOW SPEED

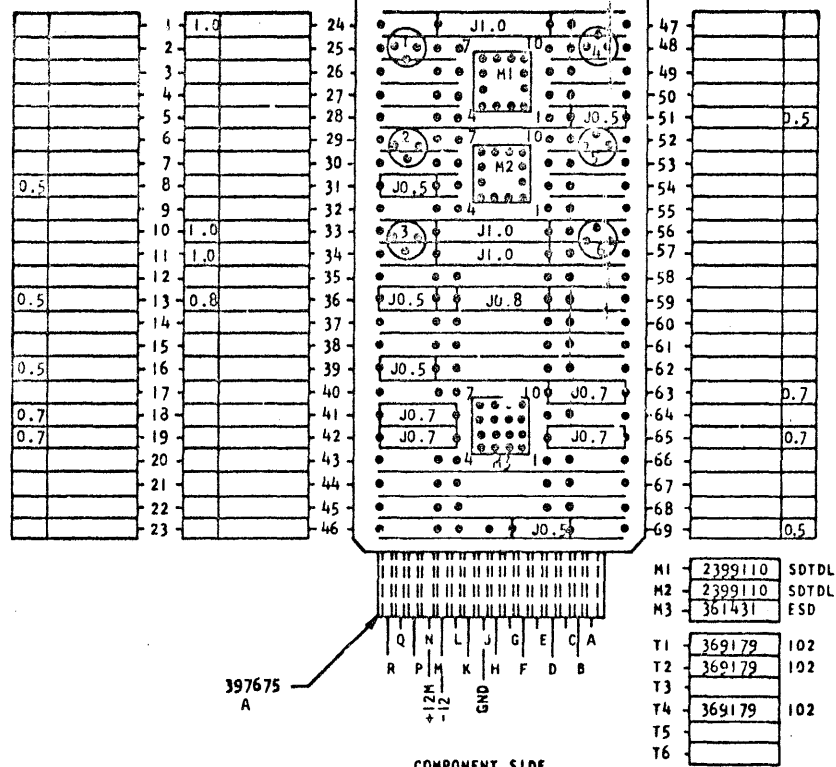
LOGIC BLOCK WITH 560 OHM COLLECTOR RESISTOR

	MIN.	MAX.
TURN ON (NSEC)	75	100*
TURN OFF (NSEC)	40	200**

\*THIS DELAY CAN INCREASE TO 200 NSEC WHEN THE DRIVING BLOCK HAS 6.2K COLLECTOR RESISTOR RETURNED TO -12V.

\*\*THIS DELAY CAN INCREASE TO 350 NSEC WHEN THE DRIVING BLOCK OR THE BLOCK THAT DRIVES THE DRIVING BLOCK HAS 6.2K COLLECTOR RESISTOR RETURNED TO -12V.

NOTE: THIS LEVEL ASSEMBLY IS DIRECTLY INTERCHANGEABLE WITH EARLIER DISCRETE COMPONENT ASSEMBLY LEVELS.



CIRCUIT AND PACKAGING STANDARD	
APPROVAL	DATE
ABC	2APR62

INTERNATIONAL BUSINESS MACHINES CORP.				DATE	CHANGE NO.	APPROVAL	DATE	CHANGE NO.	APPROVAL	DEVELOPMENT NO.
NAME	CARD ASM TSTR-SDTDL 3-WAY	DATE	29 JUN 62	CHANGE NO.	115599	APPROVAL		DATE		DEVELOPMENT NO.
LOGIC BCK	LOW SPEED WITHOUT LOADS	DATE	3 JAN 63	CHANGE NO.	116034	APPROVAL		DATE		DEVELOPMENT NO.
DESIGN		DATE	21 OCT 63	CHANGE NO.	118933	APPROVAL		DATE		DEVELOPMENT NO.
DETAIL	RQ 1 MAR 62 SCALE NONE	DATE	20 FEB 68	CHANGE NO.	132161	APPROVAL		DATE		DEVELOPMENT NO.
CHECK	WH 1 MAR 62 DRAW LIG 5 MAR 69	DATE	12 JUN 68	CHANGE NO.	132888	APPROVAL	GWS	DATE		DEVELOPMENT NO.
APPRO	GS 10 JUN 68 CHECK	DATE		CHANGE NO.		APPROVAL		DATE		DEVELOPMENT NO.

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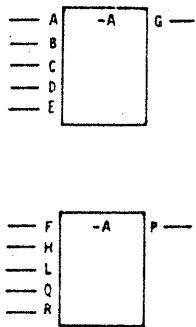
729917

2-7045

729917  
D G X -

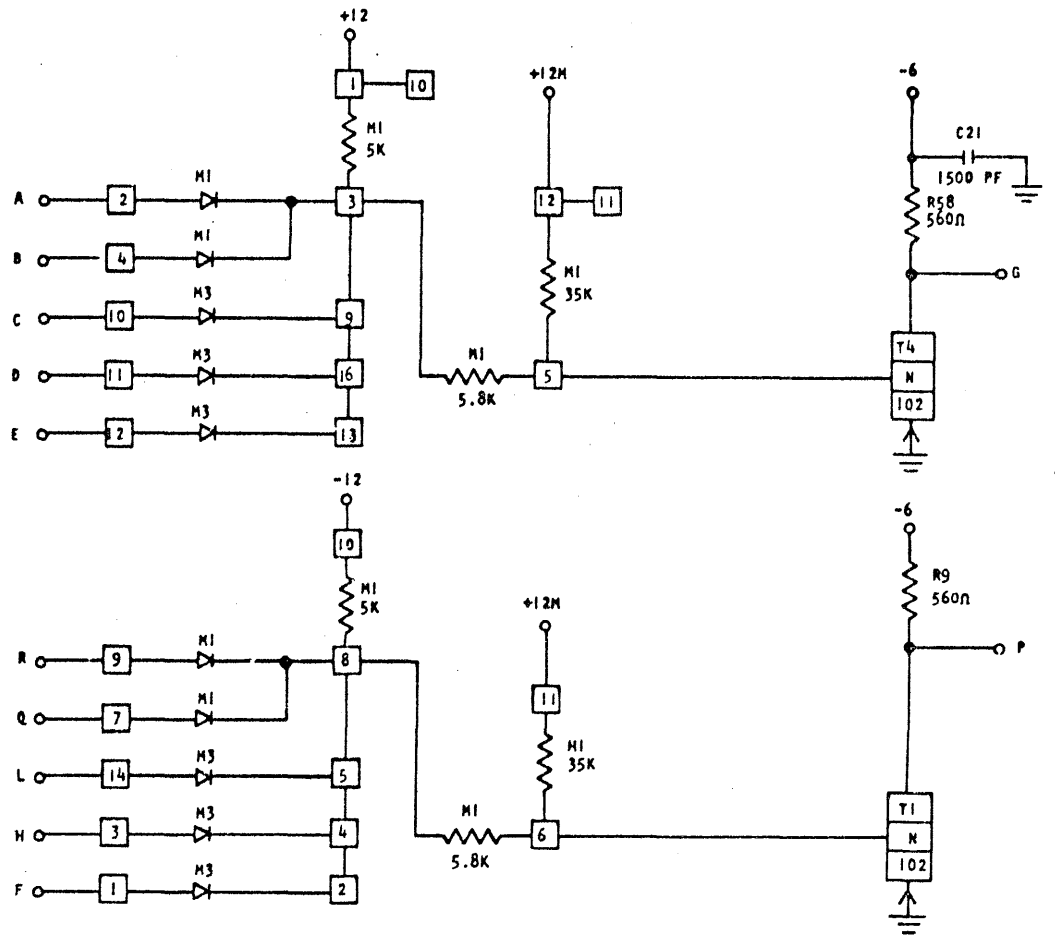
REFERENCE DRAWING  
SEE PRODUCTION DRAWING 370376

SDTDL-5-WAY LOGIC BLOCK LOW SPEED WITH LOADS



SEQUENCE OF OPERATION

1. ALL INPUTS DOWN TRANSISTOR ON OUTPUT UP
2. ANY INPUT UP TRANSISTOR OFF OUTPUT DOWN
3. LOGIC BLOCKS MAY HAVE SYMBOLS OTHER THAN SHOWN.



PINS	SIGNAL NAME	WAVE SHAPE	LEVELS	
			MIN	MAX
A, F	Y INPUT	[Waveform]	UP	-0.65 -0.1
			DOWN	-5.81 -8.8
B, H	Y INPUT	[Waveform]	UP	-0.65 -0.1
			DOWN	-5.81 -8.8
C, L	Y INPUT	[Waveform]	UP	-0.65 -0.1
			DOWN	-5.81 -8.8
D, Q	Y INPUT	[Waveform]	UP	-0.65 -0.1
			DOWN	-5.81 -8.8
E, R	Y INPUT	[Waveform]	UP	-0.65 -0.1
			DOWN	-5.81 -8.8
G, P	Y INPUT	[Waveform]	UP	-0.65 -0.1
			DOWN	-5.81 -8.8

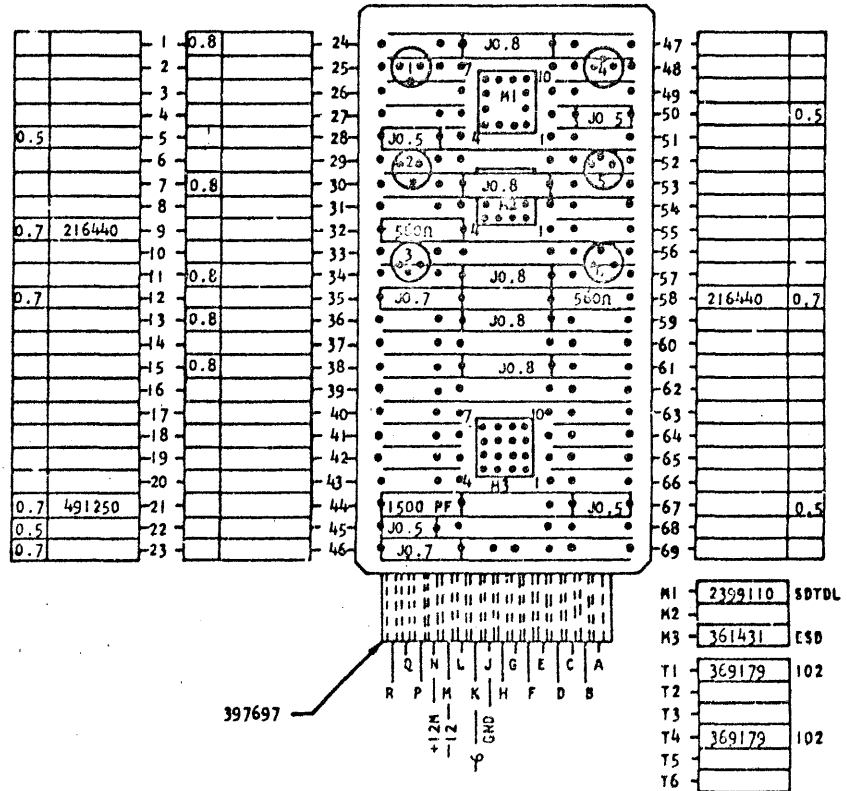
DELAY: SDTDL - LOW SPEED

LOGIC BLOCK WITH 560 OHM COLLECTOR RESISTOR

	MIN	MAX
TURN ON (NSEC)	75	100%
TURN OFF (NSEC)	40	200%

\*THIS DELAY CAN INCREASE TO 200 NSEC WHEN THE DRIVING BLOCK HAS 6.2K COLLECTOR RESISTOR RETURNED TO -12V.

\*THIS DELAY CAN INCREASE TO 350 NSEC WHEN THE DRIVING BLOCK OR THE BLOCK THAT DRIVES THE DRIVING BLOCK HAS 6.2K COLLECTOR RESISTOR RETURNED TO -12V.



COMPONENT SIDE

CIRCUIT AND PACKAGING STANDARD	
APPROVAL	DATE
ABC	2APR62

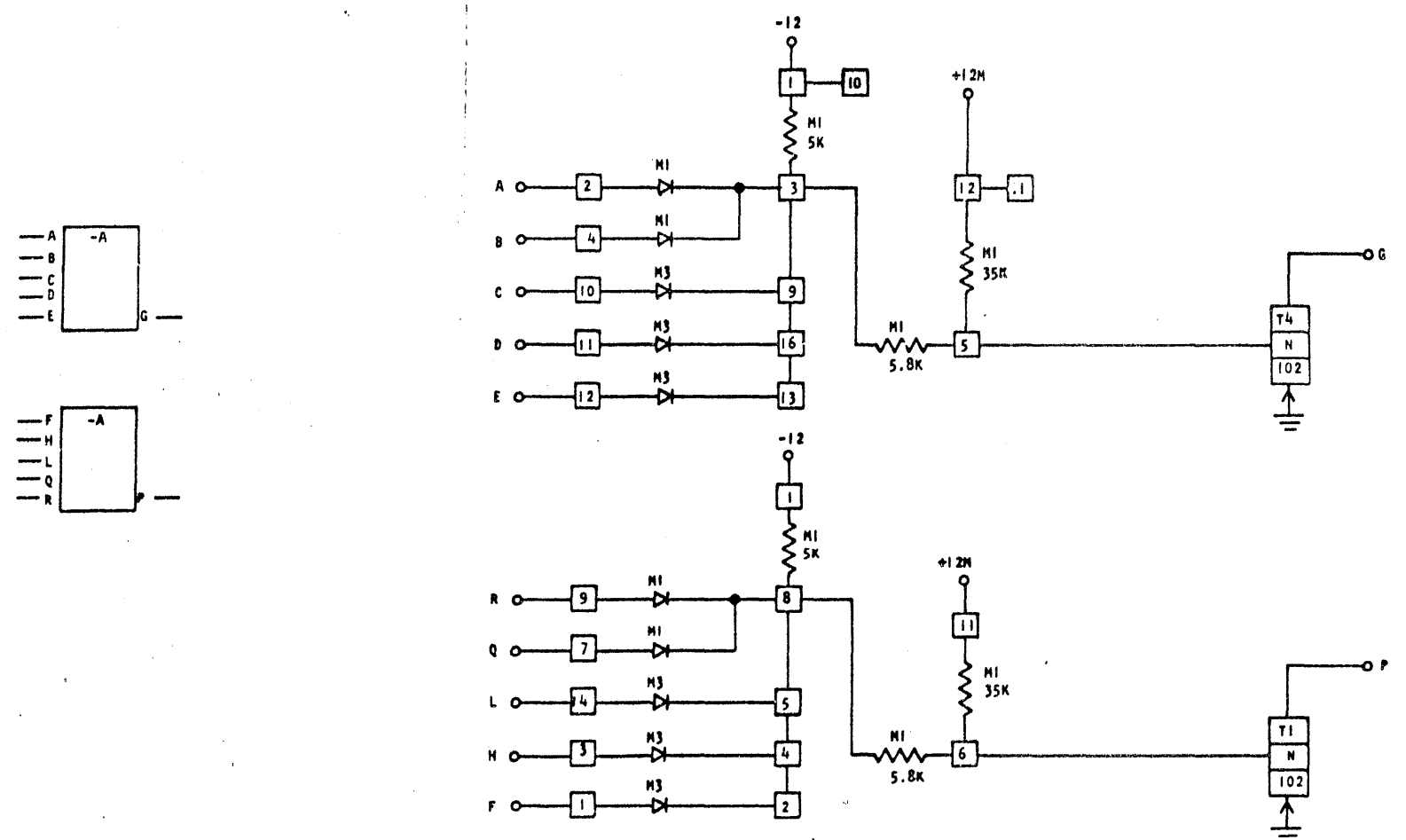
INTERNATIONAL BUSINESS MACHINES CORP.	DATE	CHANGE NO.	APPROVAL	DATE	CHANGE NO.	APPROVAL	DEVELOPMENT NO.
NAME CARD ASH TSTR-SDTDL 5-WAY	29 JUN 62	115599					729917
LOGIC BLOCK LOW SPEED WITH LOADS	30 JUL 63	117803					
DESIGN RQ	1 MAR 62	SCALE	SMS	15 SEP 64	121632		
DETAIL CHICK	WIN	1 MAR 62	URAN	1 APR 66	126401J	GLK	
APPROV			CHICK	12 FEB 68	132160		

C



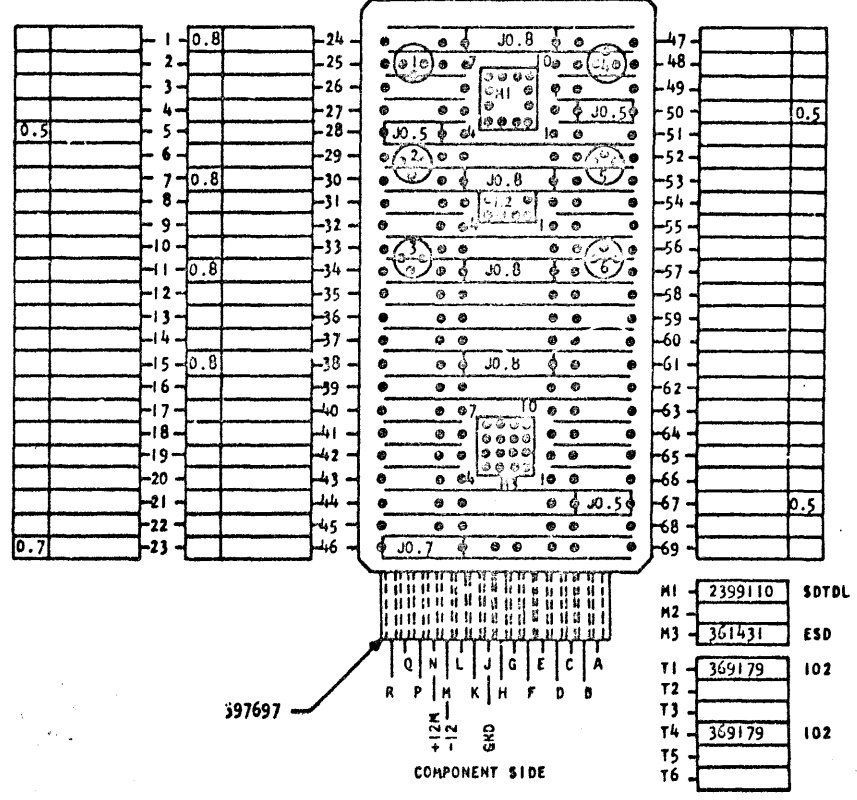
REFERENCE DRAWING  
SEE PRODUCTION DRAWING 370375

SDTDL 5 WAY LOGIC BLOCK LOW SPEED WITHOUT LOAD



- SEQUENCE OF OPERATION
1. ALL INPUTS DOWN TRANSISTOR ON OUTPUT UP
  2. ANY INPUT UP TRANSISTOR OFF OUTPUT DOWN
  3. COLLECTORS MUST BE LOADED
  4. LOGIC BLOCKS MAY HAVE SYMBOLS OTHER THAN SHOWN.

PINS	SIGNAL NAME	WAVE SHAPE	LEVELS	
			MIN	MAX
A, F	Y INPUT	[Waveform]	UP -0.65	-0.1
B, H	Y INPUT	[Waveform]	UP -0.65	-0.1
C, L	Y INPUT	[Waveform]	UP -0.65	-0.1
D, Q	Y INPUT	[Waveform]	UP -0.65	-0.1
E, R	Y INPUT	[Waveform]	UP -0.65	-0.1
G, P	Y OUTPUT	[Waveform]	UP -0.65	-0.1
			DOWN -5.8	-8.8



DELAY: SDTDL - LOW SPEED  
LOGIC BLOCK WITH 560 OHM COLLECTOR RESISTOR

TURN ON (NSEC)	MIN 75	MAX 100
TURN OFF (NSEC)	40	200

\*THIS DELAY CAN INCREASE TO 200 NSEC WHEN THE DRIVING BLOCK HAS 6.2K COLLECTOR RESISTOR RETURNED TO -12V.  
\*THIS DELAY CAN INCREASE TO 350 NSEC WHEN THE DRIVING BLOCK OR THE BLOCK THAT DRIVES THE DRIVING BLOCK HAS 6.2K COLLECTOR RESISTOR RETURNED TO -12V.

INTERNATIONAL BUSINESS MACHINES CORP.				DATE	CHANGE NO.	APPROVAL	DATE	CHANGE NO.	APPROVAL	DEVELOPMENT NO.
NAME	CARD ASM 154R-SDTDL 5-WAY			29 JUN 62	115599					729918
LOGIC BLOCK	LOW SPEED W/O LOAD			30 JUL 63	117803					
DESIGN	RQ	1 MAR 62	SCALE	NONE	15 SEP 64	121632				
CHECK	WH	MAR 62	DRAW	LTC 23 OCT 67	1 APR 66	126401 J	GLK			
APPRO			CHECK			132159				

CIRCUIT AND PACKAGING STANDARD	
APPROVAL	DATE
ABC	2 APR 62

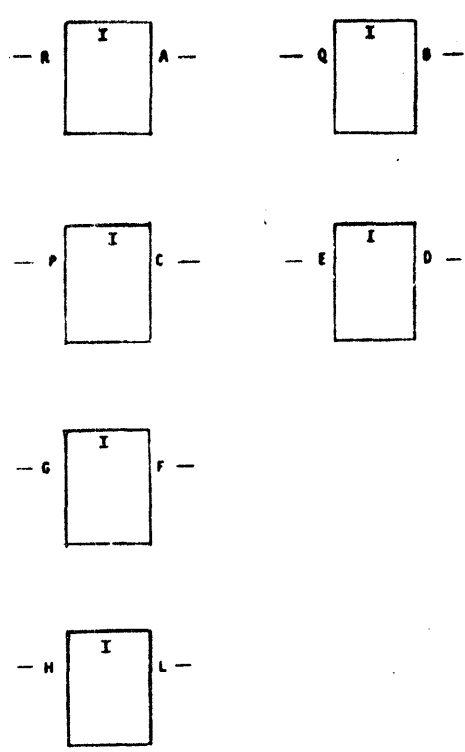
72921

STANDARD CODE

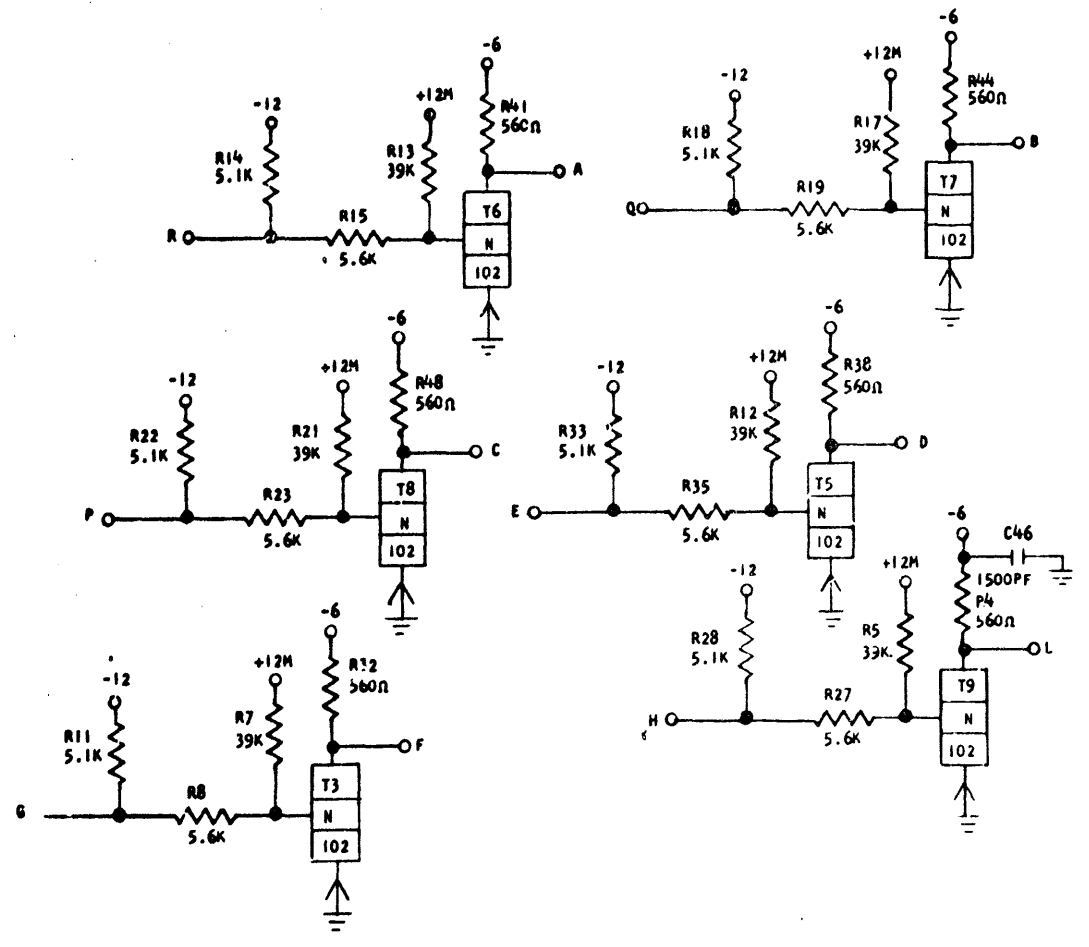
CARD CODE 729921  
D H B -

INVERTER LOW SPEED WITH LOAD

REFERENCE DRAWING  
SEE PRODUCTION DRAWING 370348



- SEQUENCE OF OPERATION
1. INPUT DOWN TRANSISTOR ON OUTPUT UP
  2. INPUT UP TRANSISTOR OFF OUTPUT DOWN
  3. LOGIC BLOCKS MAY HAVE SYMBOLS OTHER THAN SHOWN

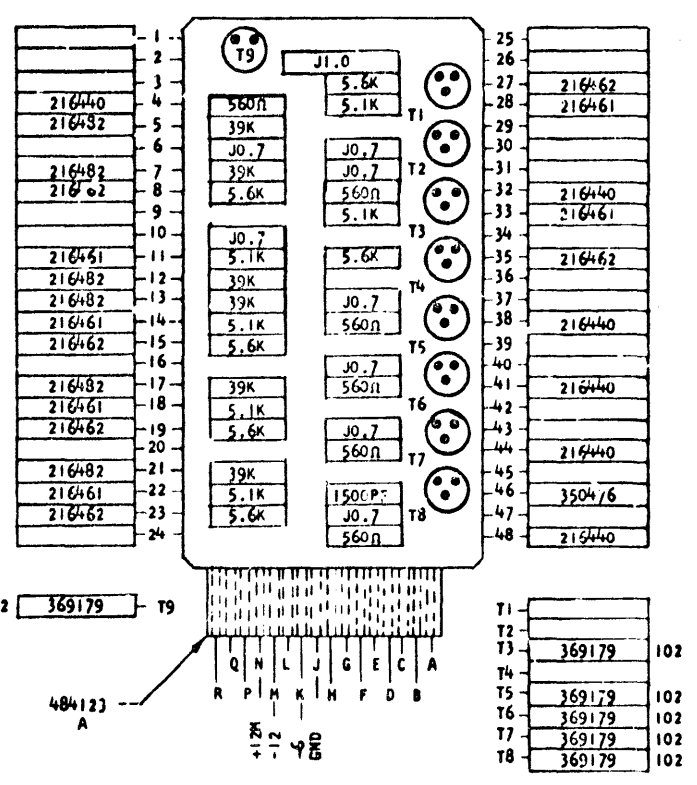


PINS	SIGNAL NAME	WAVE SHAPE	LEVELS		
			MIN	MAX	
R, Q, P, E, C, H	Y INPUT		UP	-0.65	-0.1
A, B, C, D, F, H	Y OUTPUT		UP	-0.65	-0.1
			DOWN	-5.81	-8.8

DELAY: SDIDL - LOW SPEED  
LOGIC BLOCK WITH 560 OHM COLLECTOR RESISTOR

	MIN.	MAX.
TURN ON (NSEC)	75	100
TURN OFF (NSEC)	40	200

- THIS DELAY CAN INCREASE TO 200 NSEC WHEN THE DRIVING BLOCK HAS 6.2K COLLECTOR RESISTOR RETURNED TO -12V.  
- THIS DELAY CAN INCREASE TO 350 NSEC WHEN THE DRIVING BLOCK OR THE BLOCK THAT DRIVES THE DRIVING BLOCK HAS 6.2K COLLECTOR RESISTOR RETURNED TO -12V.



COMPONENT SIDE

CIRCUIT AND PACKAGING STANDARD	
APPROVAL	DATE
ABC	4-2-62

INTERNATIONAL BUSINESS MACHINES CORP.				DATE	CHANGE NO.	APPROVAL	DATE	CHANGE NO.	APPROVAL	DEVELOPMENT NO.
NAME	CARD ASM TSTR -			6-29-62	115599					
INVERTER	LOW SPEED WITH LOAD			1-3-63	116034					
DESIGN		MODEL	EPS							
DETAIL	RQ 3-1-62	SCALE	NONE	7-12-63	116192					
CHECK	WH 3-1-62	DRAW	JAB 3DEC65	8-31-64	121906					
APPRO		CHECK	HDG 3DEC65	3DEC65	126401					

C

72921

729922

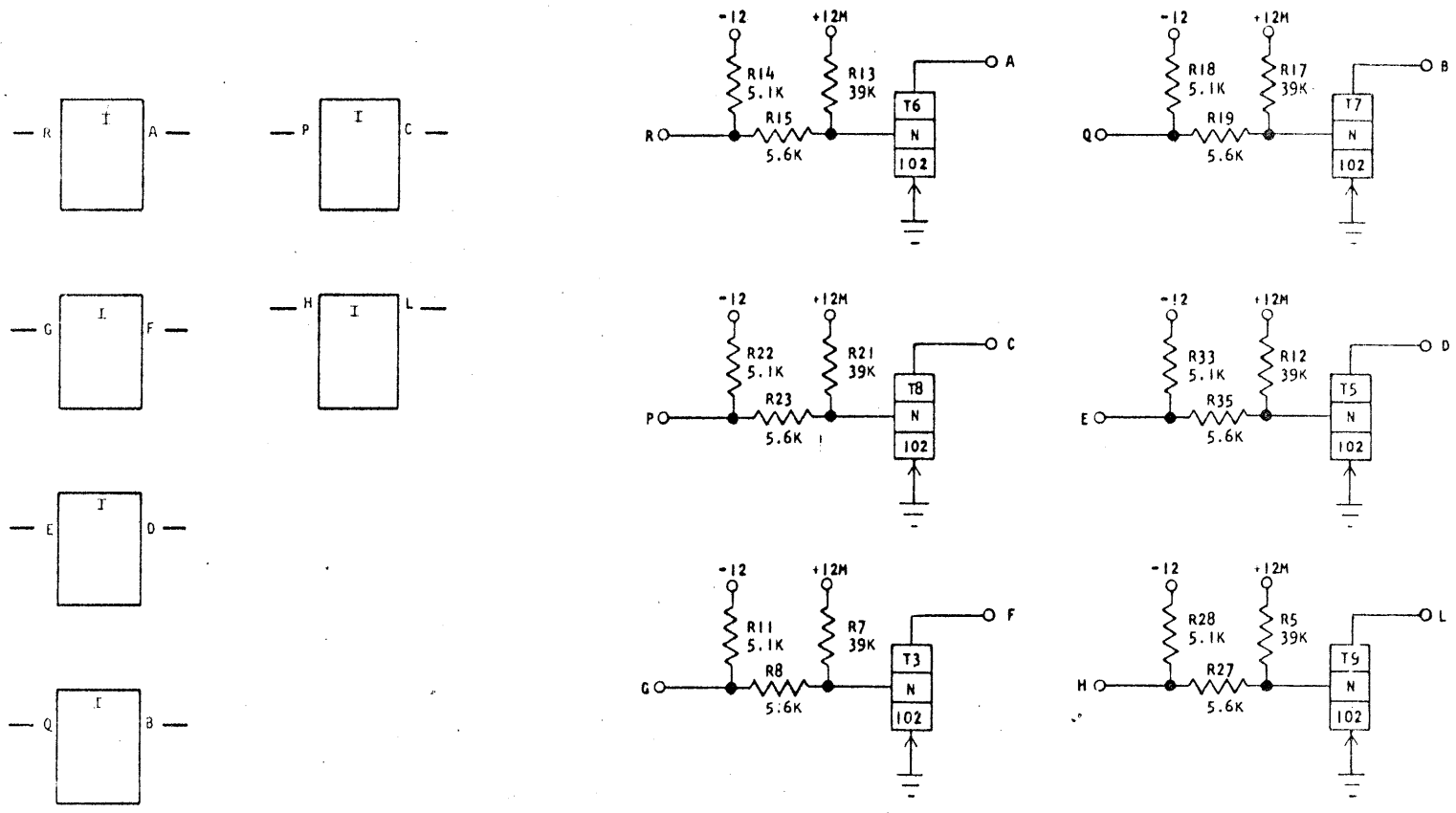
STANDARDS CODE

CARD CODE 729922  
D H C -

REFERENCE DRAWING

SEE PRODUCTION DRAWING 370372

SOTDL INVERTER LOW SPEED W/O LOAD



SEQUENCE OF OPERATION

1. INPUT DOWN TRANSISTOR ON OUTPUT UP
2. INPUT UP TRANSISTOR OFF OUTPUT DOWN
3. ALL COLLECTORS MUST BE LOADED
4. LOGIC BLOCKS MAY HAVE SYMBOLS OTHER THAN SHOWN.

PINS	SIGNAL NAME	WAVE SHAPE	LEVELS	
			MIN	MAX
R, Q, P, E, G, H	Y	INPUT	UP	-0.65 -0.1
A, B, C, D, F, L	Y	OUTPUT	DOWN	-5.81 -8.8
			UP	-0.65 -0.1
			DOWN	-5.81 -8.8

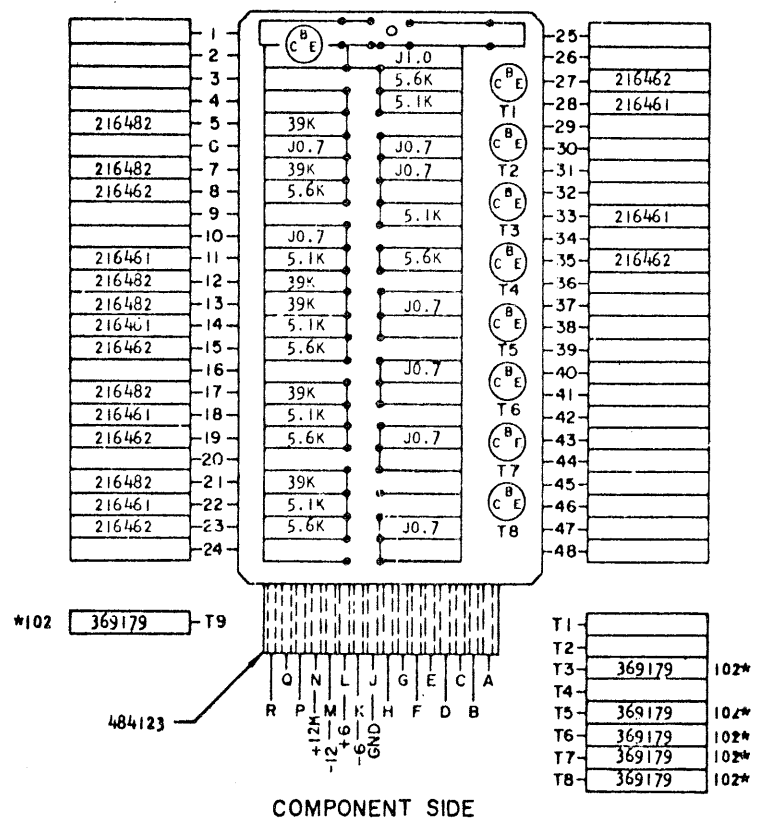
DELAY: SOTDL - LOW SPEED

LOGIC BLOCK WITH 560 OHM COLLECTOR RESISTOR

	MIN.	MAX.
TURN ON (NSEC)	75	100
TURN OFF (NSEC)	40	200

THIS DELAY CAN INCREASE TO 200 NSEC WHEN THE DRIVING BLOCK HAS 6.2K COLLECTOR RESISTOR RETURNED TO -12V.

THIS DELAY CAN INCREASE TO 350 NSEC WHEN THE DRIVING BLOCK OR THE BLOCK THAT DRIVES THE DRIVING BLOCK HAS 6.2K COLLECTOR RESISTOR RETURNED TO -12V.



COMPONENT SIDE

CIRCUIT AND PACKAGING STANDARD	
APPROVAL	DATE
ABC	4-2-62

INTERNATIONAL BUSINESS MACHINES CORP.				DATE	CHANGE NO.	APPROVAL	DATE	CHANGE NO.	APPROVAL	DEVELOPMENT NO.
NAME	CARD ASM TSTR- SOTDL			4-2-62	115599					729922
DESIGN		MODEL	SMS							
DETAIL	HQ 3-1-62	SCALE	NONE							
CHECK	WH 3-1-62	DRAW	LIG 3-17-62							
APPRO		CHECK								

C

734354

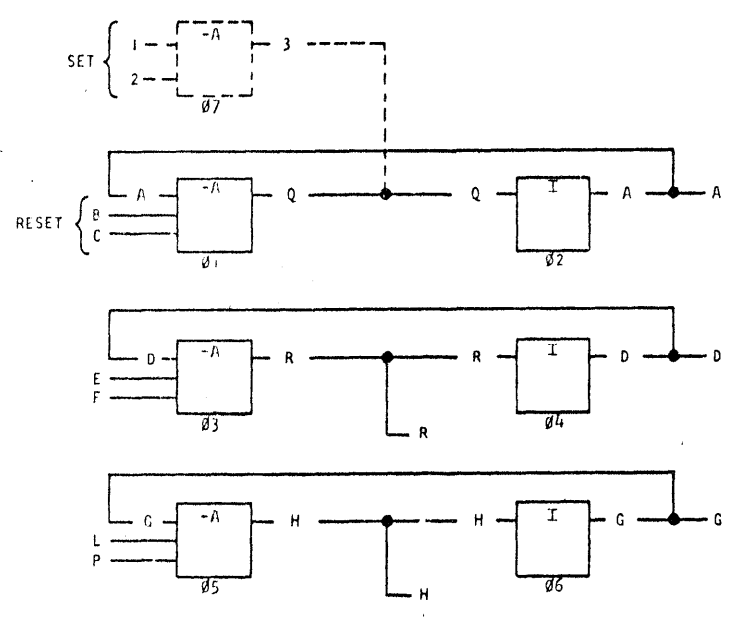
734354

DHW-  
P/N: 372191 EC: D114410A

REFERENCE DRAWING  
PRODUCTION DRAWING 372191

SDTDL LATCH

TYPICAL APPLICATION\*



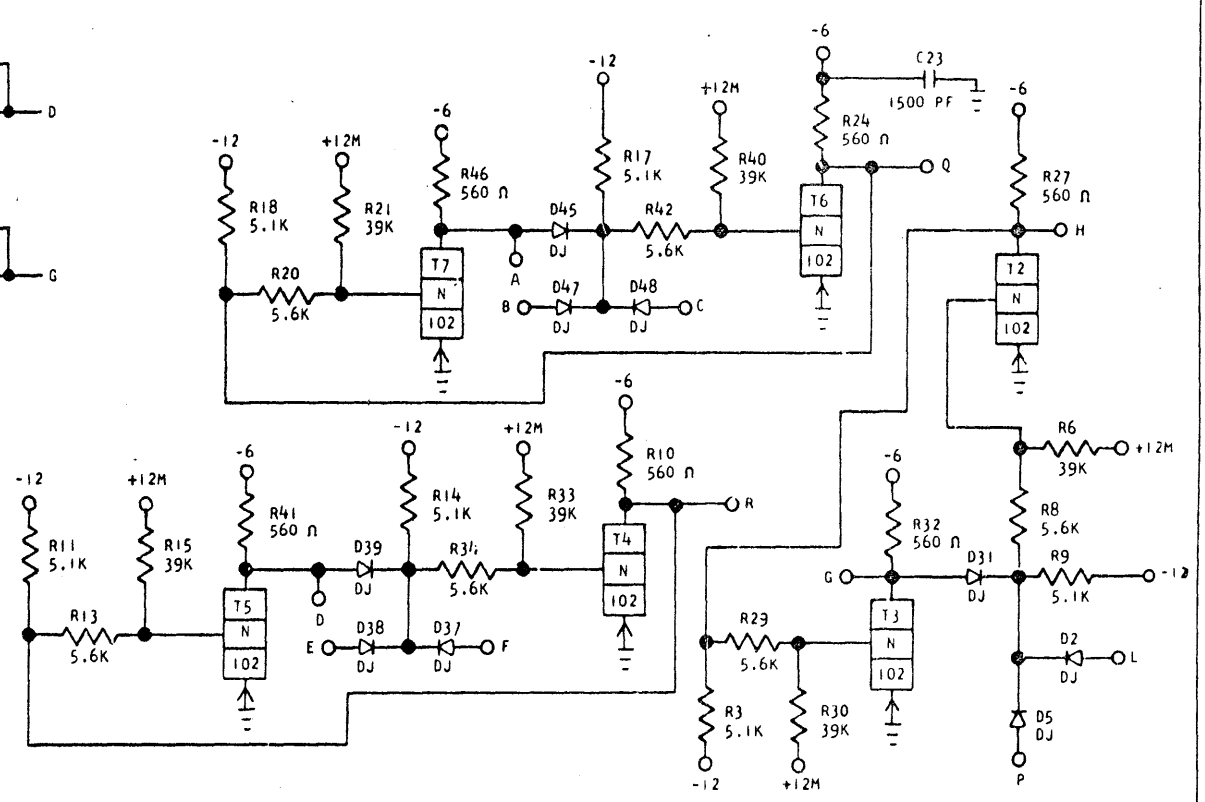
\* CONFIGURATION Ø7 IS NOT A PART OF THE CARD AND IT MUST BE AN UNLOADED LOGIC BLOCK.

OTHER DESIGNATIONS

CONF. 1, 3, 5, 7 +0, -A0, +0A  
CONF. 2, 4, 6 I, IO, IA

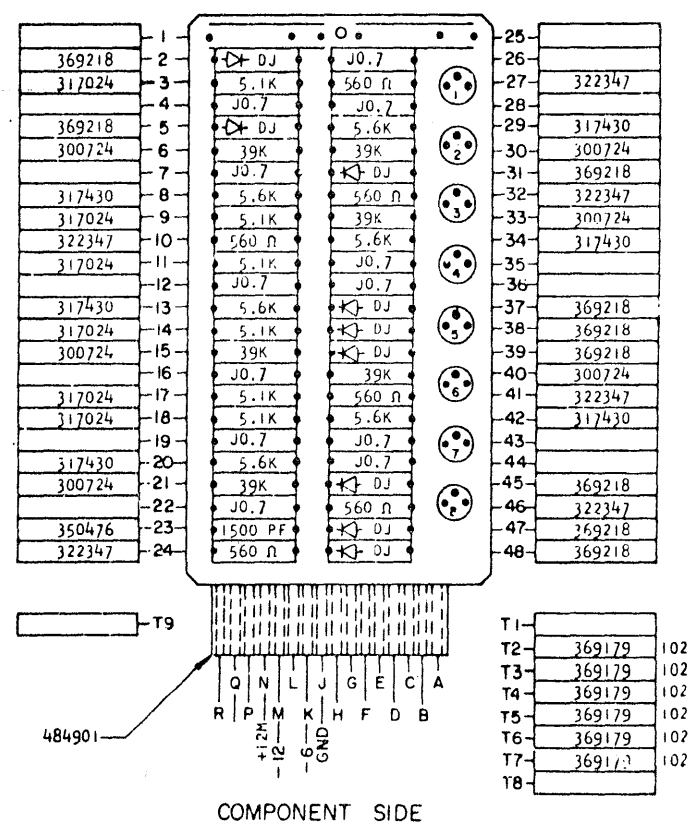
SEQUENCE OF OPERATION (TYPICAL APPLICATION)

1. DOWN LEVEL ON PINS 1 AND 2 CAUSES TRANSISTOR IN SET BLOCK TO TURN ON, OUTPUT (TIED TO PIN Q OF LATCH) TO BE UP.
2. AN UP LEVEL AT INVERTER INPUT RESULTS IN DOWN LEVEL AT THE OUTPUT.
3. ALL INPUTS TO -A BLOCK OF LATCH DOWN, TRANSISTOR TURNS ON. LATCH IS NOW SET.
4. ALL LEVELS ON LATCH REMAIN STABLE, EVEN WHEN SET INPUT LEVELS CHANGE.
5. AN UP LEVEL ON PINS B OR C CAUSES TRANSISTOR IN -A BLOCK OF LATCH TO TURN OFF, OUTPUT (PIN Q) GOES DOWN. LATCH IS NOW RESET.



PINS	SIGNAL NAME	WAVESHAPES	LEVELS		
			MIN	MAX	
1	Y SET INPUT		UP	-0.65V	-0.1V
			DOWN	-5.81V	-8.8V
2	Y SET INPUT		UP	-0.65V	-0.1V
			DOWN	-5.81V	-8.8V
A	Y OUTPUT		UP	-0.65V	-0.1V
			DOWN	-5.81V	-8.8V
B	Y RESET INPUT		UP	-0.65V	-0.1V
			DOWN	-5.81V	-8.8V
C	Y RESET INPUT		UP	-0.65V	-0.1V
			DOWN	-5.81V	-8.8V
Q	Y OUTPUT		UP	-0.65V	-0.1V
			DOWN	-5.81V	-8.8V

DELAY - NSEC		MIN	MAX
PINS A, B OR C TO PIN Q	TURN ON	75	100
	TURN OFF	40	200
PIN Q TO PIN A	TURN ON	75	100
	TURN OFF	40	200



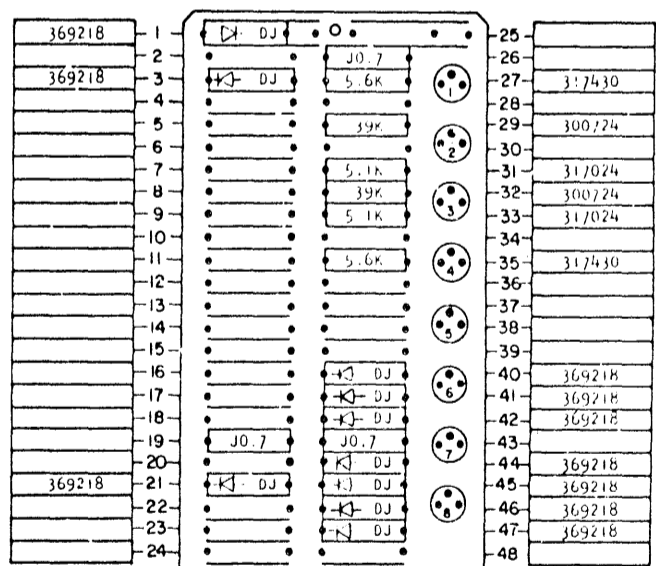
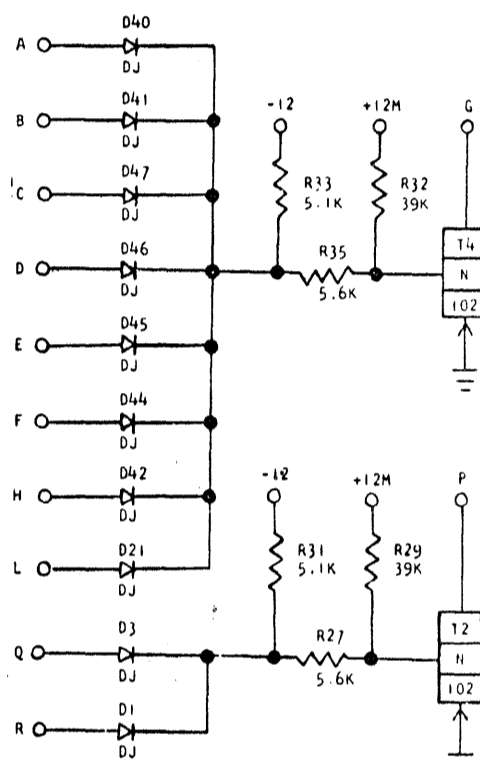
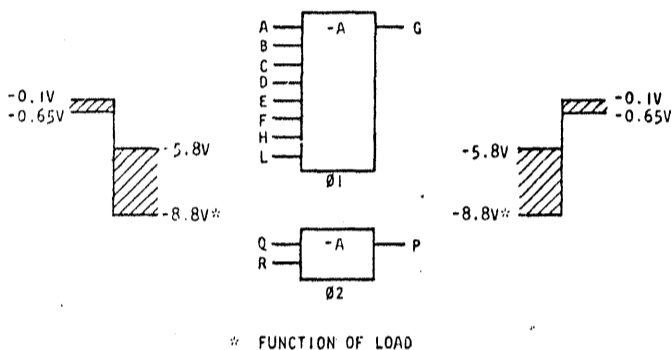
INTERNATIONAL BUSINESS MACHINES CORP.				DATE	CHANGE NO.	APPROVAL	DATE	CHANGE NO.	APPROVAL	DEVELOPMENT NO.
NAME SDTDL LATCH				4-17-63	116800A					734354
DESIGN				5-2-63	116801					
MODEL SMS 1440										
SCALE NONE										
DRAW MDE 2-7-63										
CHECK										
APPROVAL										

C

REFERENCE DRAWING  
PRODUCTION DRAWING 372193

DHY-  
P/N:372193 EC:0114678

SDTDL LS 1 8-WAY, 1 2-WAY NEGATIVE AND LOGIC BLOCKS WITHOUT LOADS



OTHER DESIGNATIONS:

+0, -A0, +0A, +00, I, IO, IA

SEQUENCE OF OPERATION

1. ALL INPUTS DOWN: TRANSISTOR ON, OUTPUT UP.
2. ANY INPUT UP: TRANSISTOR OFF, OUTPUT DOWN

DELAY

WITH 560 Ω, 1.6K OR 6.2K COLLECTOR RESISTOR

	MIN	MAX
TURN ON (NSEC)	75	100**
TURN OFF (NSEC)	40	200***

\*\*THIS DELAY CAN INCREASE TO 200 NSEC WHEN THE DRIVING BLOCK HAS 6.2K COLLECTOR RESISTOR RETURNED TO -12V.

\*\*\*THIS DELAY CAN INCREASE TO 350 NSEC WHEN THE DRIVING BLOCK OR THE BLOCK THAT DRIVES THE DRIVING BLOCK HAS 6.2K COLLECTOR RESISTOR RETURNED TO -12V.

COMPONENT SIDE

CIRCUIT AND PACKAGING STANDARD	
APPROVAL	DATE

INTERNATIONAL BUSINESS MACHINES CORP.				DATE	CHANGE NO.	APPROVAL	DATE	CHANGE NO.	APPROVAL	DEVELOPMENT NO.
NAME   SDTDL LS 1 8-WAY, 1 2-WAY NEG AND LOGIC BLOCKS WITHOUT LOADS				3-25-63	116800					734302
DESIGN		MODEL	SMS 1440							
DETAIL		SCALE	NONE							
CHECK		DRAW	MDE 12-10-62							
APPRO		CHECK								

180Ω CABLE CARD

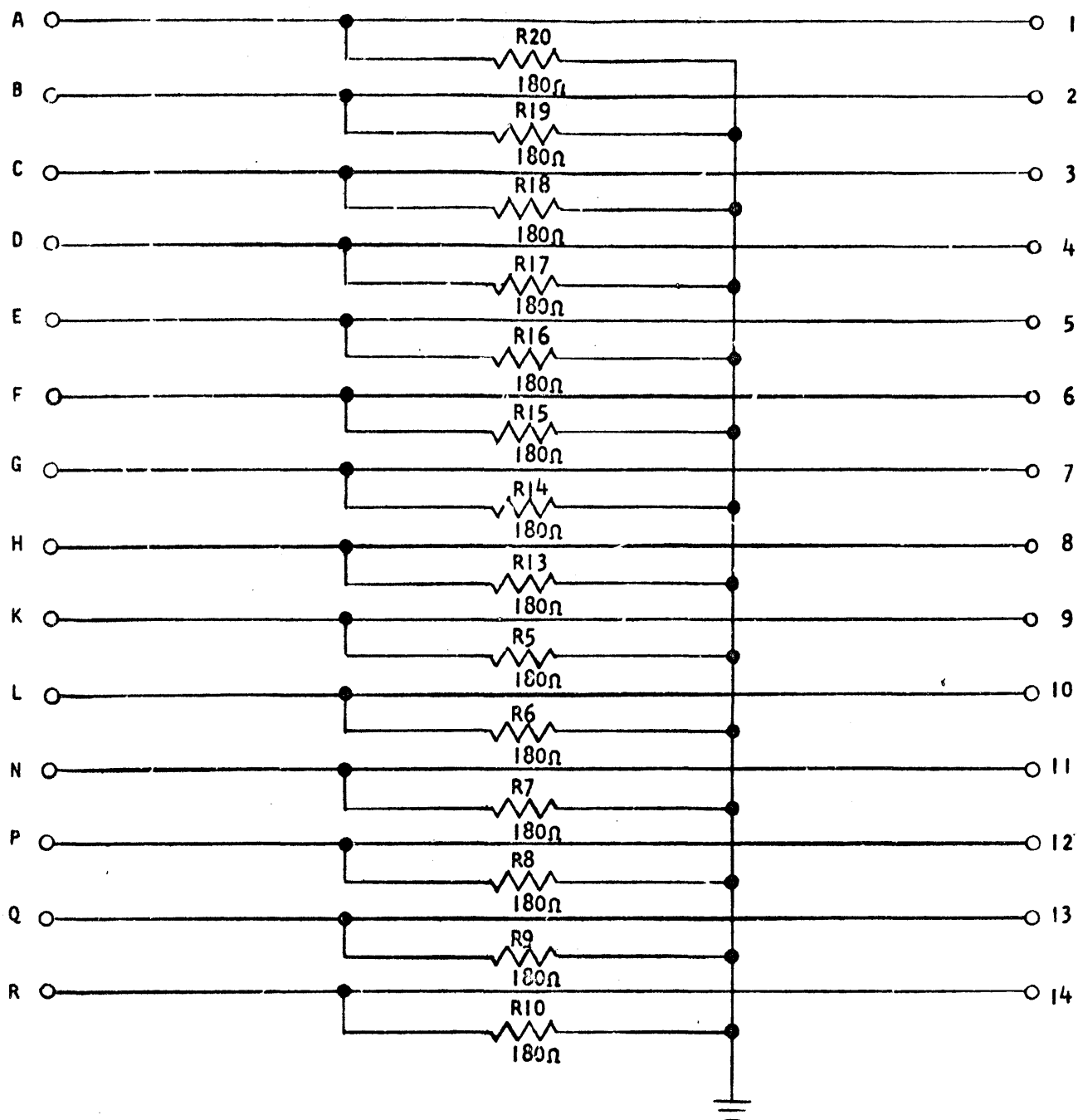
375080

375080

F J Z -

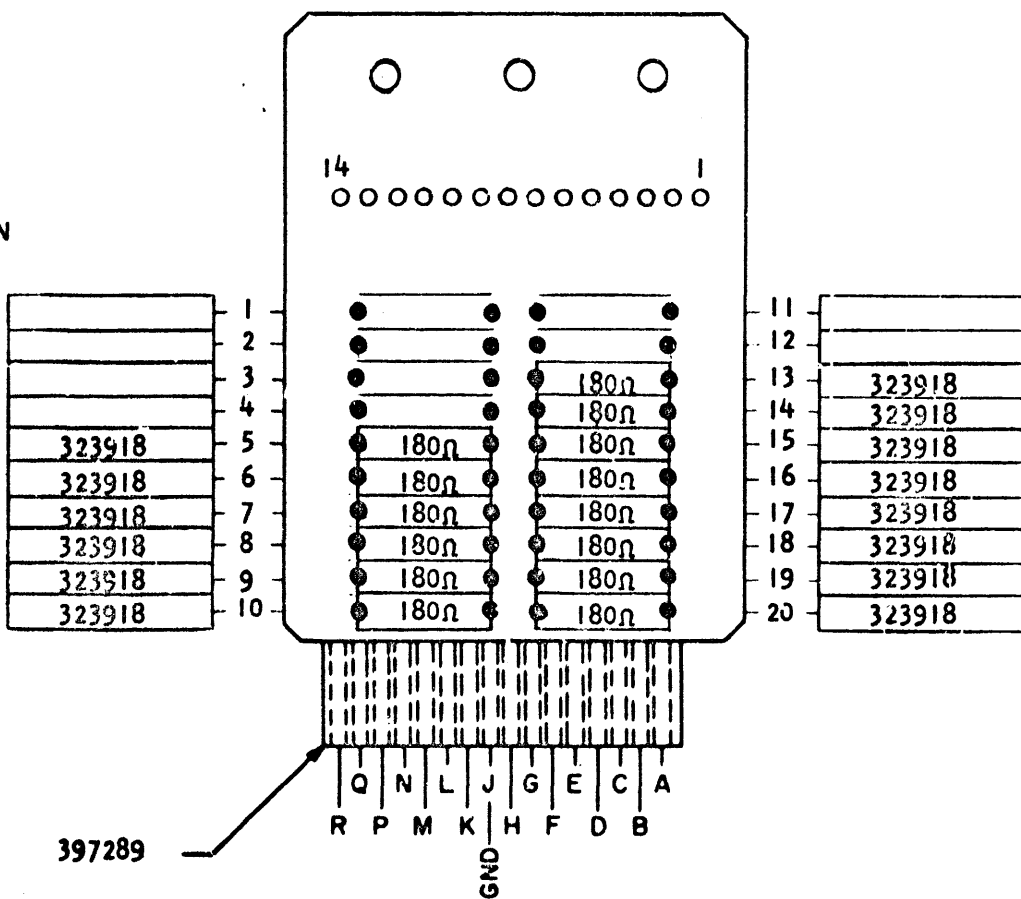
STANDARDS  
CODE

2-7045



NOTES

- X I 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 DO NOT APPLY PROTECTIVE COATING TO WIRING SIDE OF CARD
- XIV REFER TO FIELD SERVICE DRAWING 649834 WHEN MAKING A CHANGE TO THIS ASSEMBLY.



B

MFG. ENG. PW 4.11.66

DPD CIRCUIT & PACKAGING STANDARD

APPROVAL DATE

R.J.B. GK 5 APR 66

HOLE PATTERN

399424

COMPONENT SIDE

397289

INTERNATIONAL BUSINESS MACHINE CORP.				DATE	CHANGE NO.	APPROVAL	DATE	CHANGE NO.	APPROVAL	DEVELOPMENT NO.
NAME	CARD ASM TSTR- 180Ω CABLE CARD			13 APR 66	127194	GLK				
DESIGN		MODEL	SWS	17 JUN 66	D127194A	GLK				
DETAIL		SCALE	NOTE							
CHECK		DRAW	LRP 1 APR 66							
APPRO		CHECK								

375080

STANDARD DRAWING NO. 375080

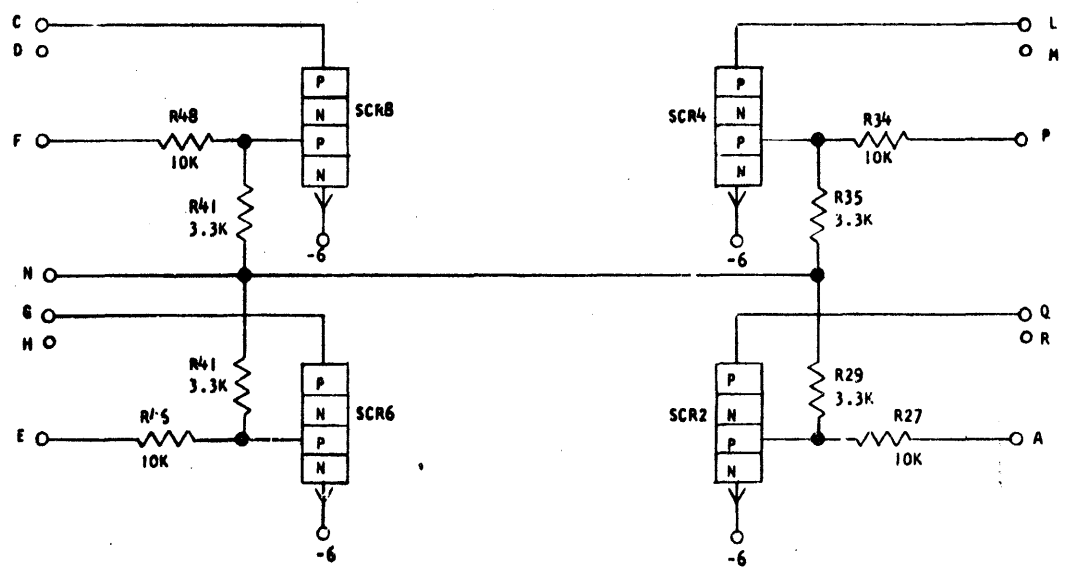
STANDARDS CODE  
649816

CARD CODE 649816

**FNP-**  
PART NUMBER 375091

**REFERENCE DRAWING**  
PRODUCTION DRAWING 375091

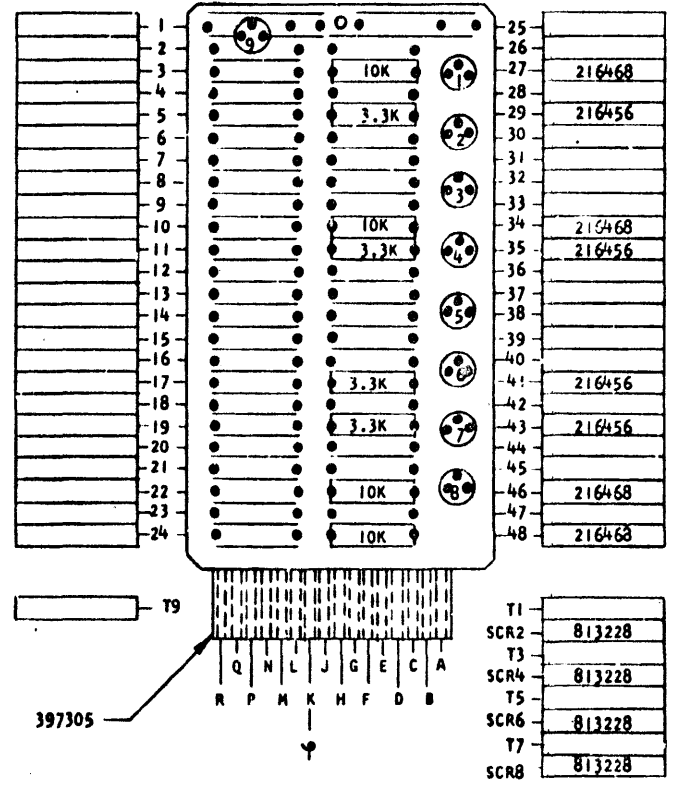
**CE AID LITE DRIVER**



**CIRCUIT OPERATION**

1. WITH COLLECTOR UP, SCR WILL TURN ON WITH INPUT UP AND WILL REMAIN ON AFTER INPUT GOES DOWN.
2. SCR TURNED OFF BY REVERSE BRASING COLLECTOR-EMITTER.
3. COLLECTOR LOAD IS APPLIED BETWEEN PINS C AND D.

PINS	SIGNAL NAME	WAVE SHAPE	LEVELS		
			UP	MIN	
D, H, M, R	INPUT		UP	0.0	-0.65
			DOWN	-6	-12
A, E, F, P	INPUT		UP	-0.65	-1
			DOWN	-6.20	-8.8
C, G, L, Q	OUTPUT		UP	0.0	-0.65
			DOWN	-5.2	-6



INTERNATIONAL BUSINESS MACHINES CORP.				DATE	CHANGE NO.	APPROVAL	DATE	CHANGE NO.	APPROVAL	DEVELOPMENT NO.
NAME	CE AID LITE DRIVER			17 MAY 66	127509					
DESIGN		MODEL								
DETAIL		SCALE								
CHECK		DRAW	LRF	4 MAY 66						
APPROV		CHECK								

649816

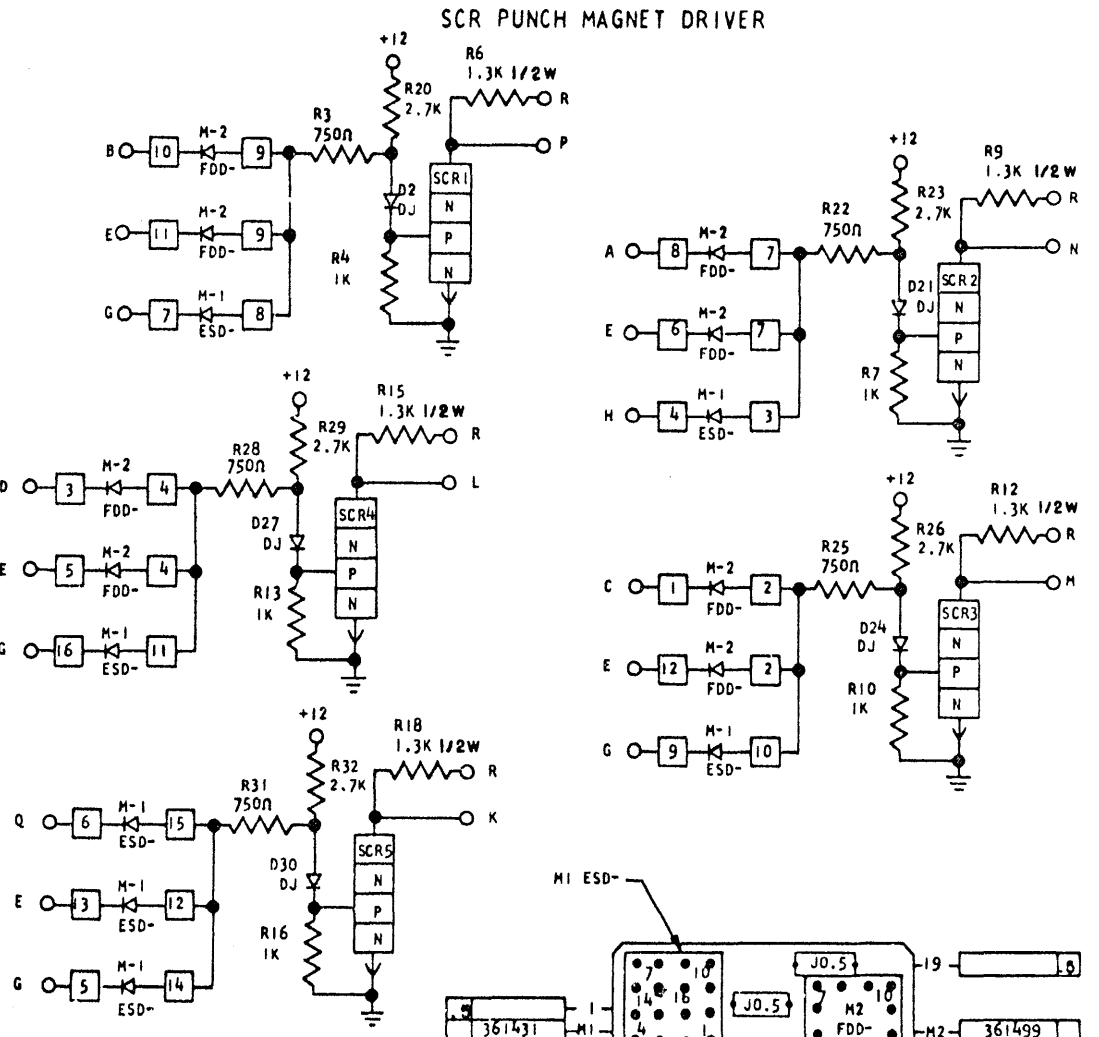
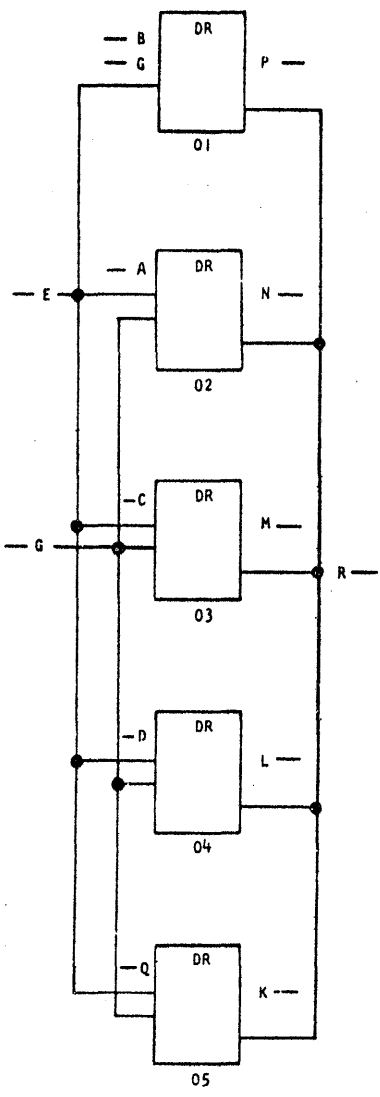




649825  
STANDARDS CODE  
2-7045

CARD CODE  
649825  
FPD -

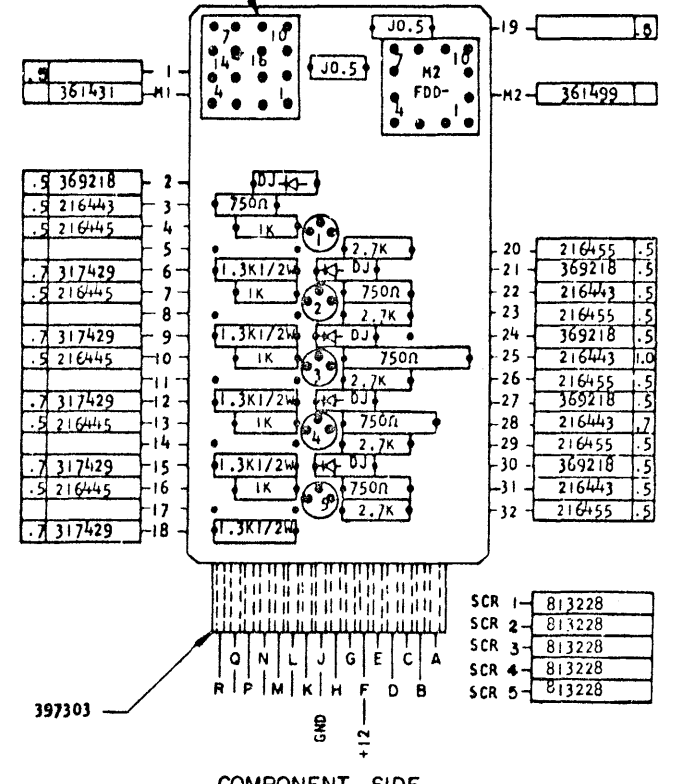
REFERENCE DRAWING  
SEE PRODUCTION DRAWING 315090



- SEQUENCE OF OPERATION
1. ALL INPUTS UP, SCR FIRES AND CONTINUES CONDUCTING UNTIL ANODE CURRENT IS REMOVED.
  2. ANY INPUT DOWN, SCR REMAINS OFF.

PINS	SIGNAL NAME	WAVE SHAPE	LEVELS	
			MIN	MAX
H, G	Y INPUT	[Waveform]	UP	0V +2V
A, B, C, D, Q	Y INPUT	[Waveform]	DOWN	-5.3V -6.26V
E	Y INPUT	[Waveform]	UP	0V +2V
N, P, M, L, K	V OUTPUT	[Waveform]	DOWN	-5.3V -6.26V
			UP	+25V MAX
			DOWN	0V 1.1V

NOTE: PIN R IS USED AS SHUNT AROUND INDUCTIVE LOADS.  
DELAY: TURN ON: 2.5 USEC MAX  
TURN OFF: NOT APPLICABLE



CIRCUIT AND PACKAGING STANDARD	
APPROVAL	DATE
RJB	13MAY66

INTERNATIONAL BUSINESS MACHINES CORP.		DATE	CHANGE NO.	APPROVAL	DATE	CHANGE NO.	APPROVAL	DEVELOPMENT NO.
NAME CARD ASM TSTR - SCR PUNCH		27 JUL 66	127508					
MAGNET DRIVER		10 FEB 67	130326					
DESIGN	MODEL	31 OCT 67	131799					
DETAIL	SCALE NONE							
CHECK	DRAW JD 24 JUN 66							
APPRO	CHECK JD 30 JUN 66							

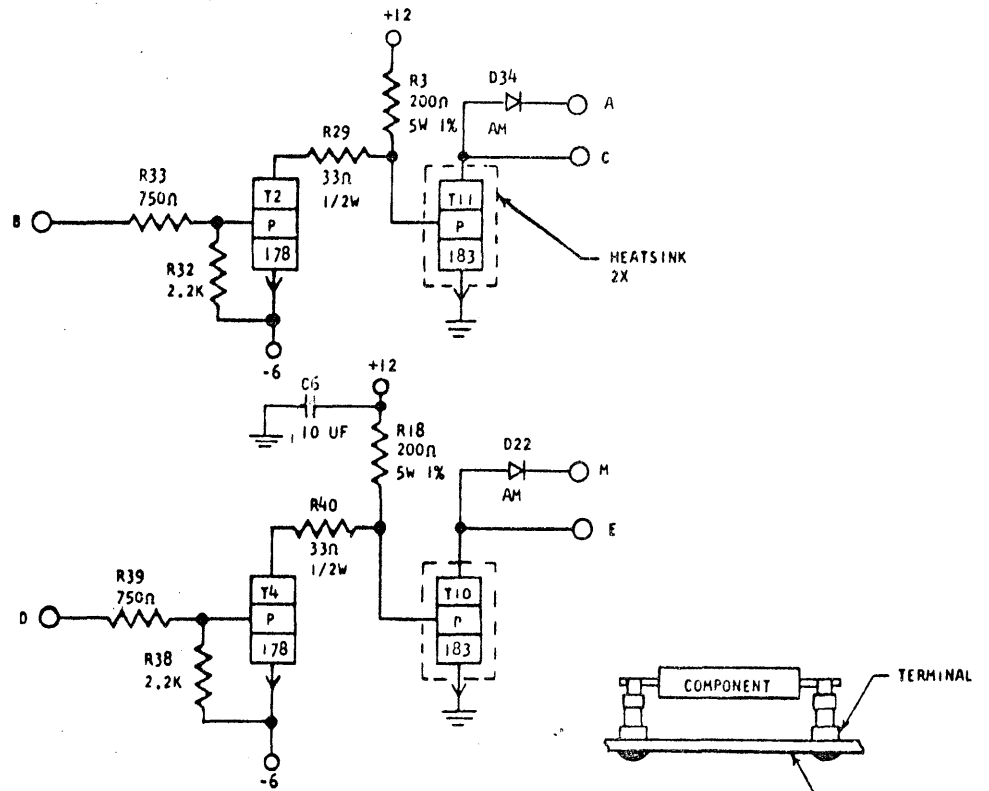
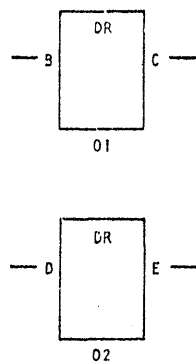
649826

STANDARDS CODE  
2-7045

CARD CODE 649826  
FPE-

REFERENCE DRAWING  
SEE PRODUCTION DRAWING 375094

NAND TO POS VOLTAGE POWER DRIVER



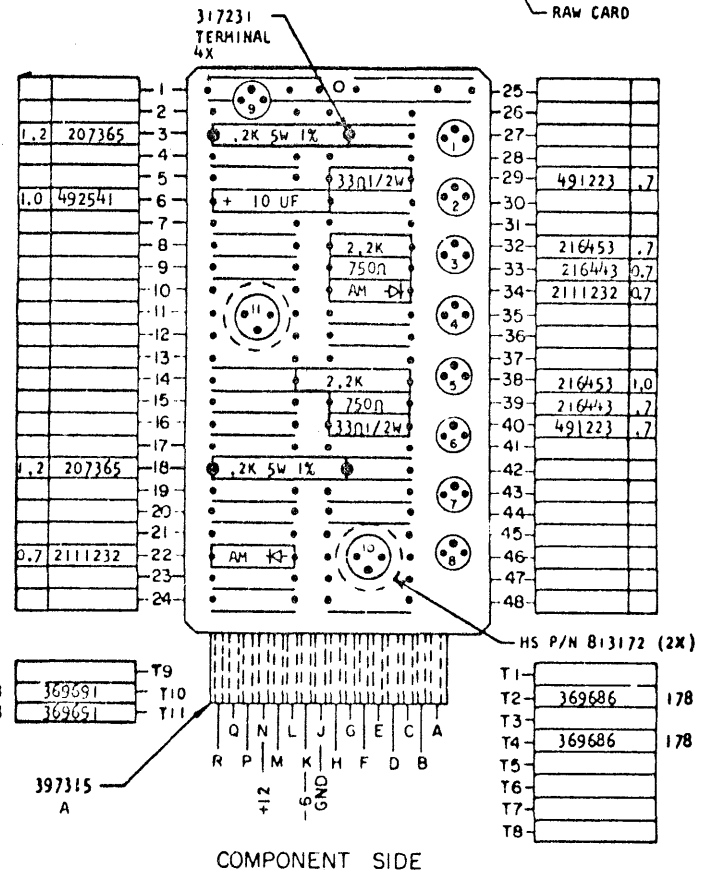
- SEQUENCE OF OPERATION
1. INPUT UP, OUTPUT UP
  2. INPUT DOWN, OUTPUT DOWN

PINS	SIGNAL NAME	WAVE SHAPE	LEVELS		
			MIN	MAX	
B, D	Y	INPUT	UP	-6.5V	-11V
			DOWN	-12.0V	-6.0V
C, E	V	OUTPUT	UP	W	W
			DOWN	0V	1V

\* DEPENDS ON RETURN VOLTAGE

NOTE: INPUT DRIVING BLOCK MUST HAVE LOAD RETURNED TO -12V

DELAY: TURN ON: 600 NSEC MAX  
TURN OFF: 600 NSEC MAX



COMPONENT SIDE

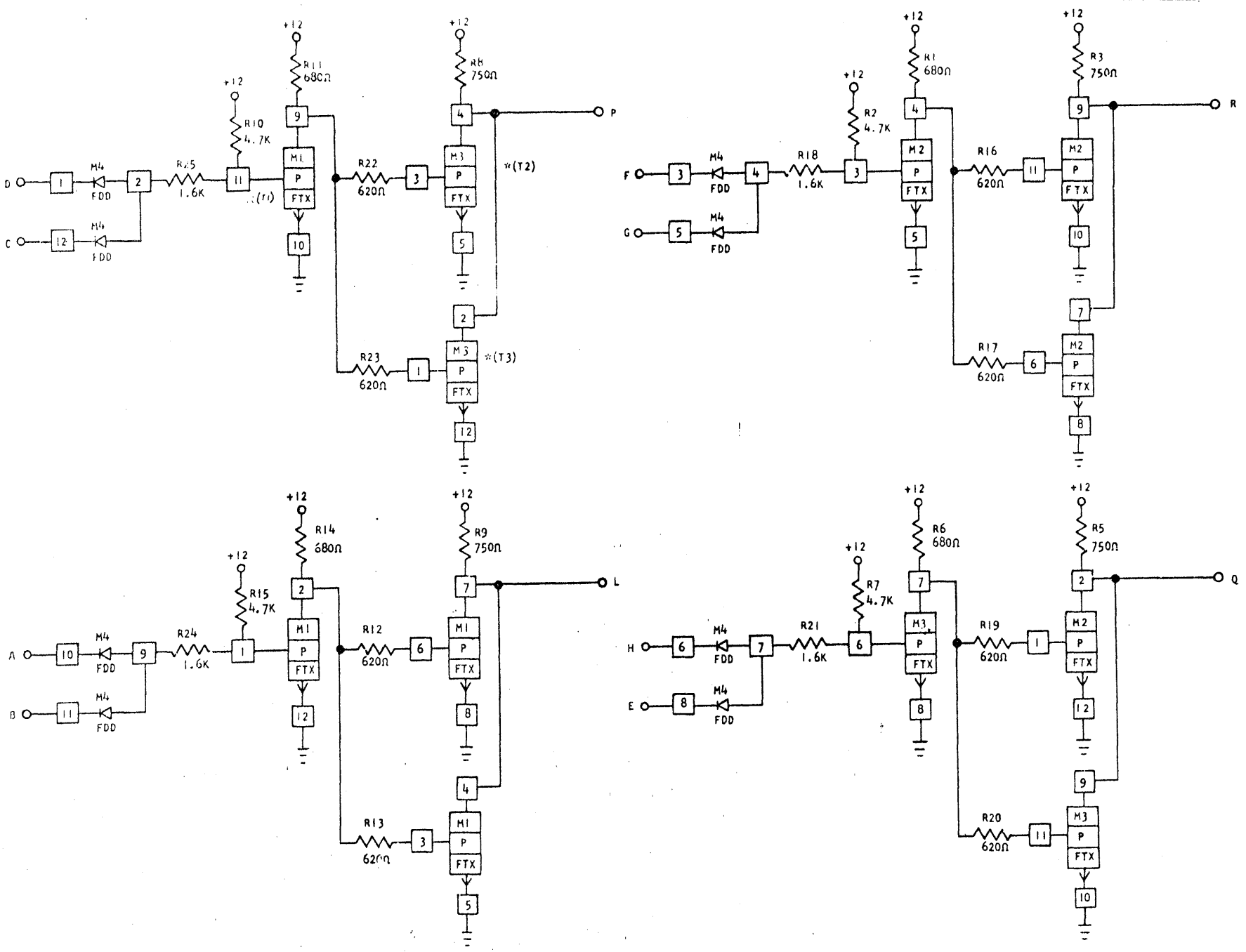
CIRCUIT AND PACKAGING STANDARD	
APPROVAL	DATE
RJB	13MAY66

INTERNATIONAL BUSINESS MACHINES CORP.				DATE	CHANGE NO.	APPROVAL	DATE	CHANGE NO.	APPROVAL	DEVELOPMENT NO.
NAME: CARD ASM TSTR - NAND TO				27 JUL 66	127508					649826
POS. VOLTAGE POWER DRIVER				26 SEP 66	130323	GLK				
DESIGN	MODEL									
DETAIL	SCALE	NONE								
CHECK	DRAW	JD 24 JUN 66								
APPRO	CHECK	JD 27 JUN 66								

C

STANDARD COST  
2-7045  
649832

REFERENCE DRAWING  
SEE PRODUCTION DRAWING 375088  
CARD CODE 649832  
F P F -

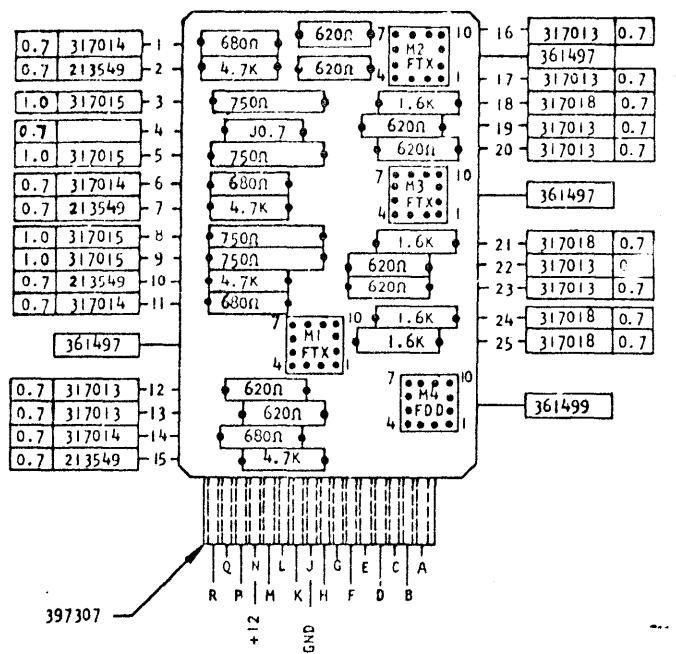


CIRCUIT OPERATION

- 1-BOTH INPUTS UP, T1 ON, T2 AND T3 OFF, OUTPUT UP.
- 2-ANY INPUT DOWN, T1 OFF, T2 AND T3 ON, OUTPUT DOWN.

PINS	SIGNAL NAME	WAVE SHAPE	LEVELS	MIN	MAX
D, F A, C	INPUT	[Square Wave]	UP DOWN	-0.6V -5.2V	0V -8.0V
C, G B, E	INPUT	[Square Wave]	UP DOWN	-0.6V -5.2V	0V -8.0V
P, R L, Q	OUTPUT	[Square Wave]	UP DOWN	+11.5V 0V	+12.5V 0.5V

TURN ON TIME 350NS MAX



CIRCUIT AND PACKAGING STANDARD	
APPROVAL	DATE
R. J. B.	13MAY66

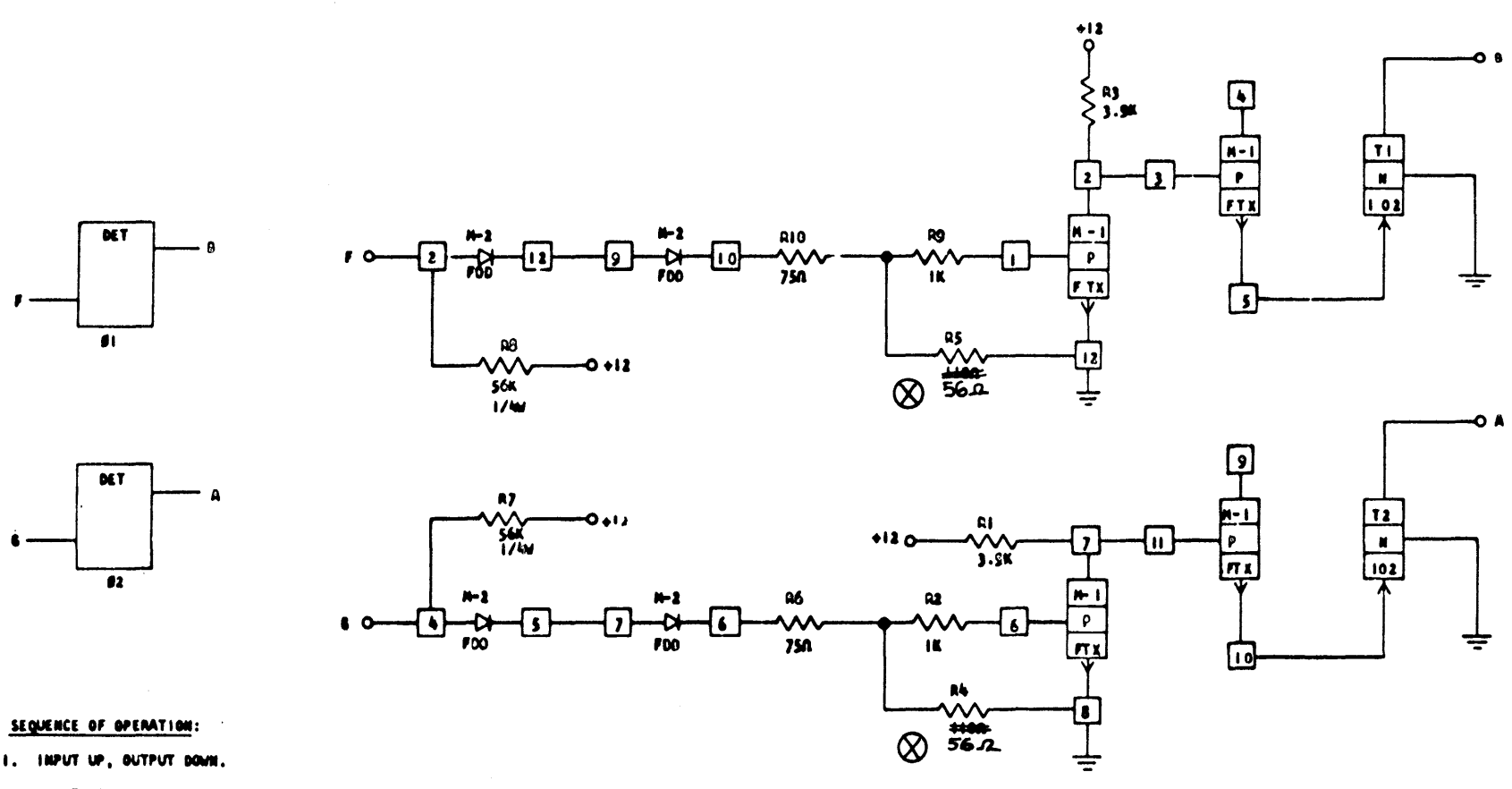
INTERNATIONAL BUSINESS MACHINES CORP.				DATE	CHANGE NO.	APPROVAL	DATE	CHANGE NO.	APPROVAL	DEVELOPMENT NO.
NAME	CARD ASM TSTR-			22NOV66	127537					649832
	READ OUT DRIVER			26SEP66	130324	GK				
DESIGN		MODEL	SMS	23NOV66	130324A	GLK				
DETAIL		SCALE	NONE							
CHECK		DRAW	HTD	23JUN66						
APPRO		CHECK	R. S.	23JUN66						READ OUT DRIVER 254D

C

**FPG-**  
P/N: 375089

REFERENCE DRAWING  
PRODUCTION DRAWING 375089

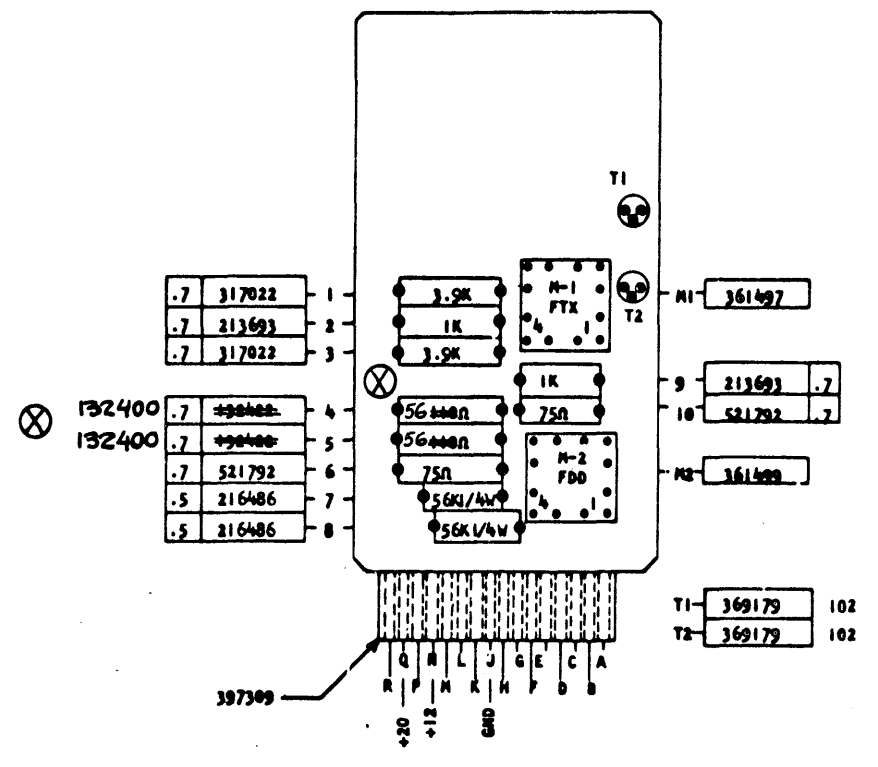
**DETECTOR**



- SEQUENCE OF OPERATION:**
1. INPUT UP, OUTPUT DOWN.
  2. INPUT DOWN, OUTPUT UP.

PINS	SIGNAL NAME	WAVE SHAPE	LEVELS		
			MIN	MAX	
F, B	INPUT	[Waveform: 3 μs pulse]	UP	5.0V	10.5V
			DOWN	1.2V	1.6V
F, B	INPUT	[Waveform: 500 ns min pulse]	UP	1.8V	2.0V
			DOWN	1.2V	1.6V
B, A	OUTPUT	[Waveform: 500 ns min pulse]	UP	-0.65V	0.0V
			DOWN	-5.8V	-12.0V

TURN ON TIME: 150 NS MAX



⊗ HAND MARK CARD TO SHOW EC 133080.  
EC 133080 "PICKS UP" THIS REA.

COMPONENT SIDE

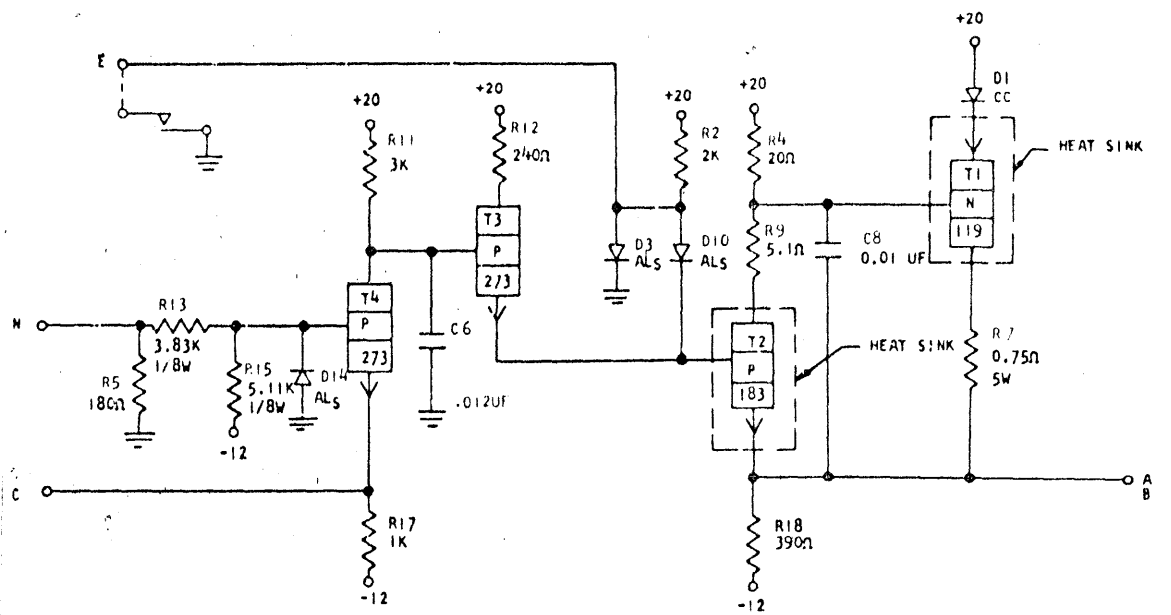
INTERNATIONAL BUSINESS MACHINES CORP.				DATE	CHANGE NO.	APPROVAL	DATE	CHANGE NO.	APPROVAL	DEVELOPMENT NO.
NAME	CARD ASM TSTR- DETECTOR			12 AUG 66	127537					649830
DESIGN	MODEL	SMS		11 OCT 68	REA 10-03730	⊗				
DETAIL	SCALE	NONE								
CHECK	DRAW	LIG 3JUN66								
APPRO	CHECK									

FPH-

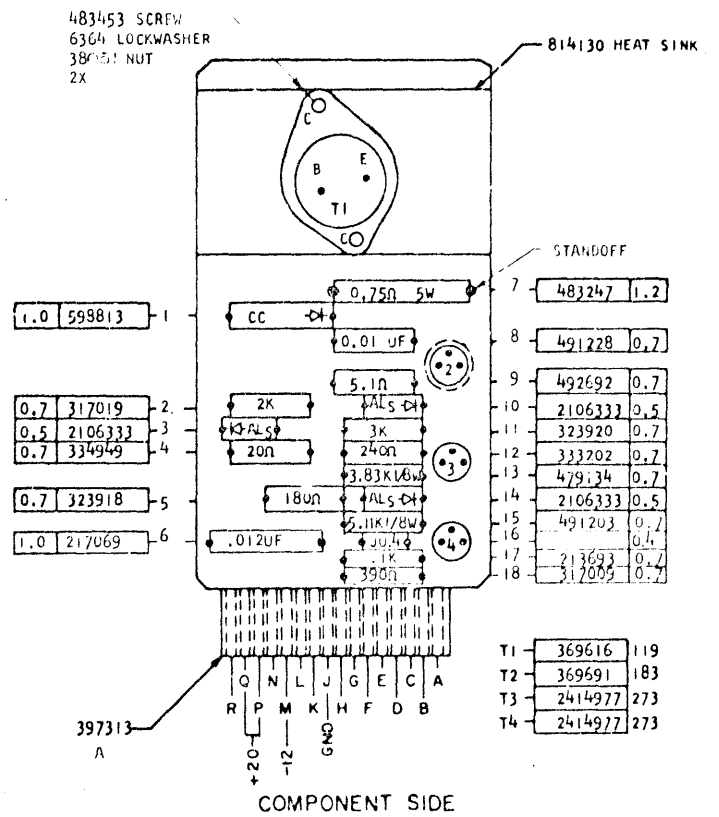
PART NUMBER: 375093

REFERENCE DRAWING  
PRODUCTION DRAWING 375093

BRUSH DRIVER AMPLIFIER



PINS	SIGNAL NAME	WAVE SHAPE	LEVELS		
			MIN.	MAX.	
C	INPUT GATE		UP	-0.65	0.0
			DOWN	-1.0	-1.8
N	SENSE BRUSH		UP	8.5	11.5
			DOWN	0	-0.5
E	BRUSH CHECK		UP	0.6	0.95
			DOWN	GND	GND
A B	OUTPUT		UP	8.5	15.0
			DOWN	0.0	-1.6

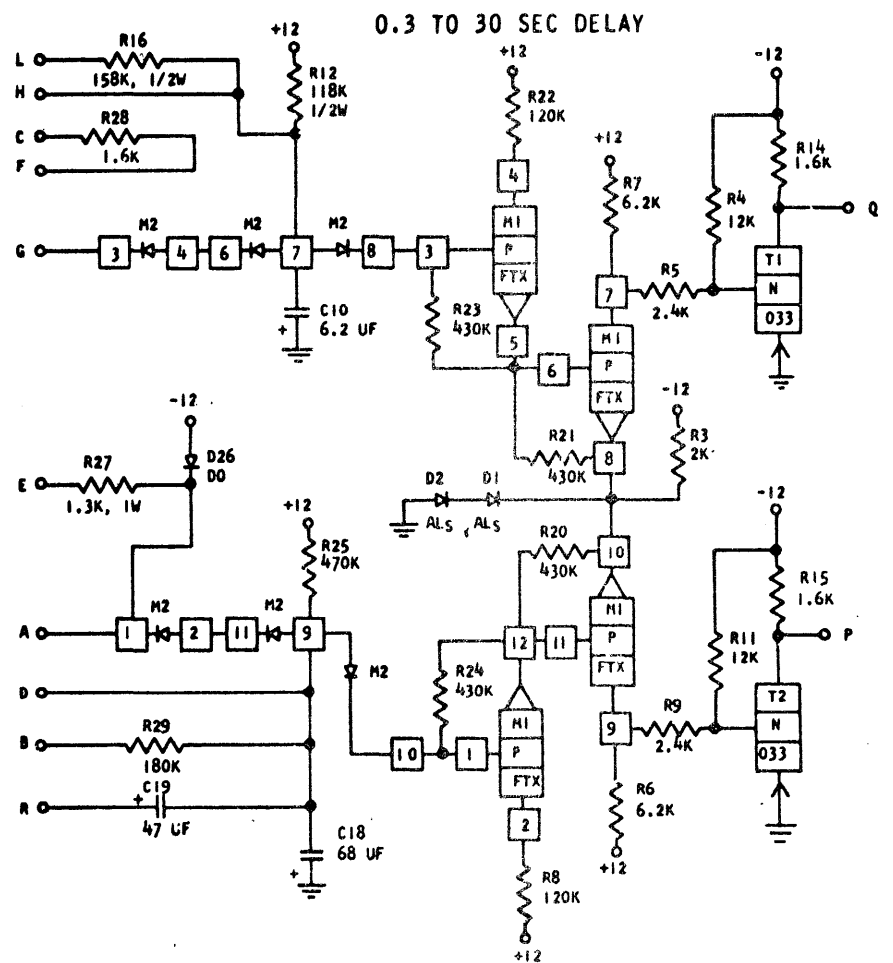
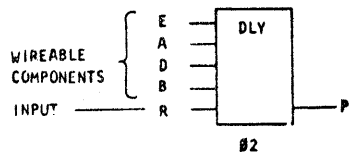
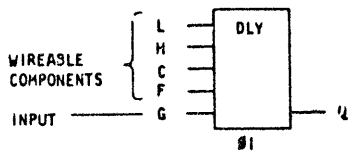


INTERNATIONAL BUSINESS MACHINES CORP.				DATE	CHANGE NO.	APPROVAL	DATE	CHANGE NO.	APPROVAL	DEVELOPMENT NO.
NAME	CARD ASM TSTR-BRUSH DRIVER AMPLIFIER			16 SEP 68	130195					649829
DESIGN	VE	15AUG66	MODEL	SMS	27 JUN 68	132970				
DETAIL	VE	15AUG66	SCALE	NONE						
CHECK	JD	21 JUN 68	DRAW	VE 15AUG66						
APPRO	CS	21 JUN 68	CHECK							

# FPT -

PART NUMBER 375133

REFERENCE DRAWING  
SEE PRODUCTION DRAWING 375133



PIN	SIGNAL NAME	WAVESHAPE	LEVELS	
			MIN	MAX
G A	INPUT		UP -6.5	+24
			DOWN -11.4	-12.6
Q P	OUTPUT		UP -5.4	+24
			DOWN -11.4	-12.6

**DELAYS, OUTPUT PIN Q**

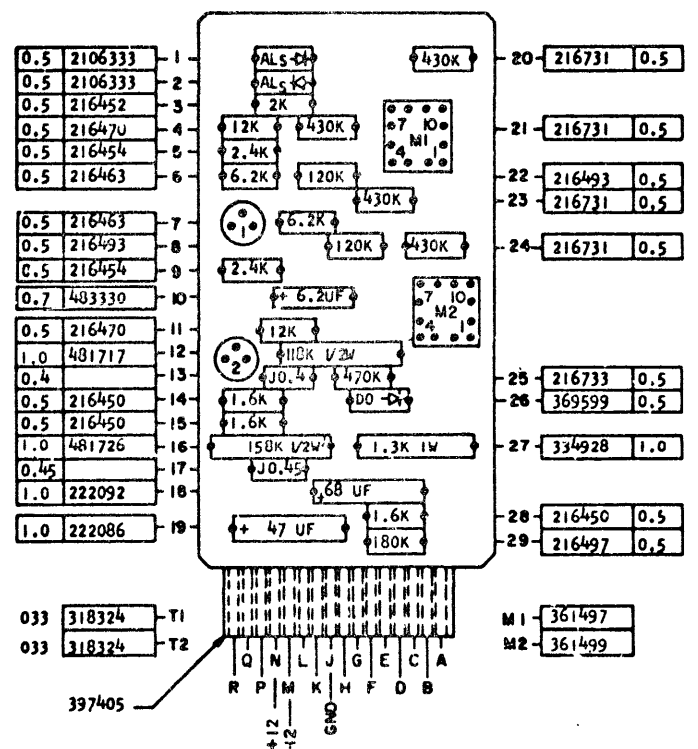
L AND H OPEN	.42 TO .57 SEC
L @ +12, H OPEN	.24 TO .33 SEC

**DELAYS, OUTPUT PIN P**

QDR OPEN	18 TO 29 SEC
DB OPEN, R GROUNDED	30 TO 49 SEC
DR OPEN, B @ +12	5 TO 8 SEC
D OPEN, R GND, B @ +12	8.5 TO 13.5 SEC

**DELAY RESET TIME**

.3 DELAY	1R < 15 MS
.5 DELAY	1R < 30 MS
5 DELAY	1R < 56 MS
30 DELAY	1R < 140 MS



INTERNATIONAL BUSINESS MACHINES CORP.				DATE	CHANGE NO.	APPROVAL	DATE	CHANGE NO.	APPROVAL	DEVELOPMENT NO.
NAME	0.3 TO 30 SEC DELAY			1300766	130194	SKK				
DESIGN		MODEL	SMS	1DEC66	130385					
DETAIL		SCALE	NONE							
CHECK		DRAW	VE	22SEP66						
APPRO		CHECK								

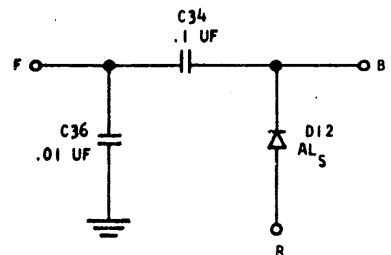
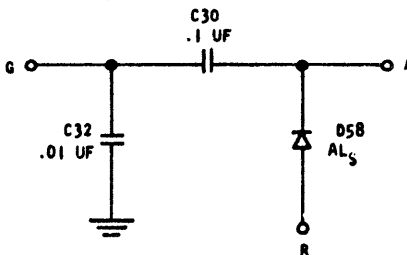
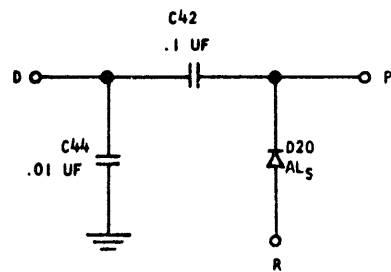
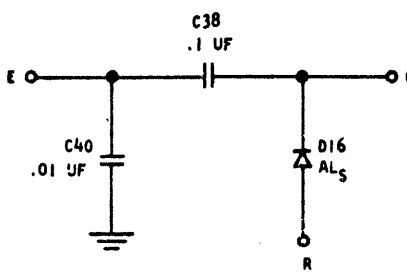
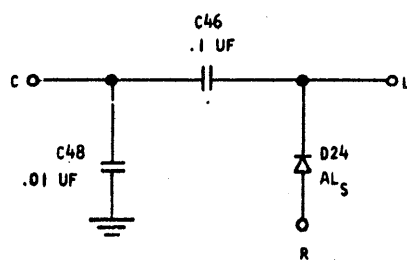
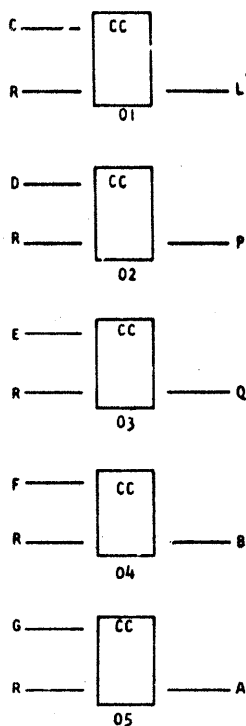
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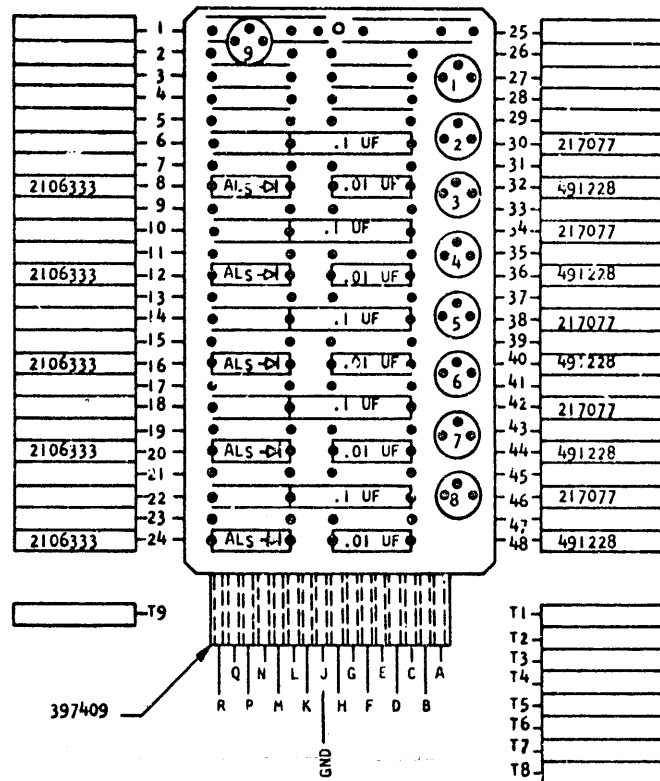
COUPLING CAPACITOR

FPU -  
P/N 375136

REFERENCE DRAWING  
SEE PRODUCTION DRAWING 375136



PINS	SIGNAL NAME	WAVE SHAPES	VOLTAGE LEVELS	
			MIN	MAX
C, D, E, F, G	INPUT		3V P-P	20V P-P
L, P, Q, B, A	OUTPUT		UP: 0.0V DOWN: -0.2V	+0.5V -1.0V



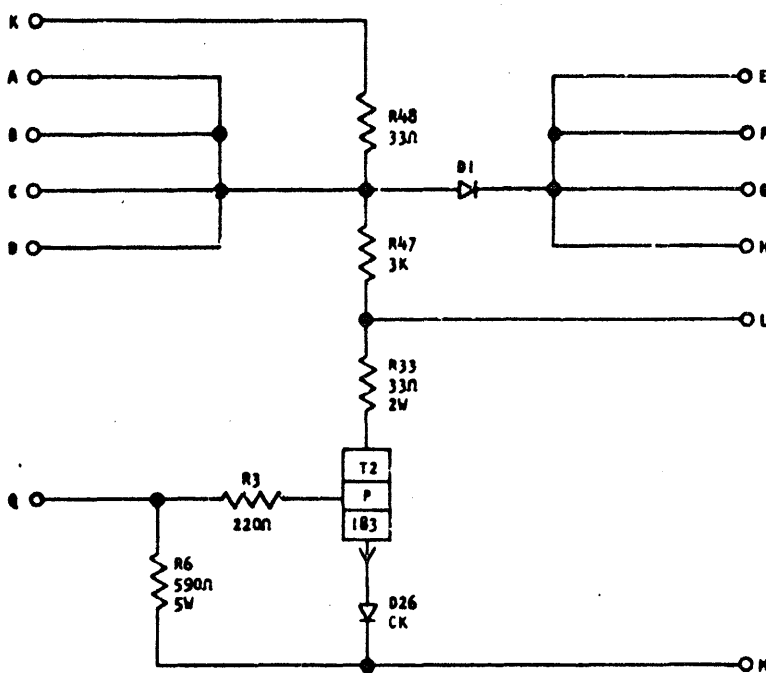
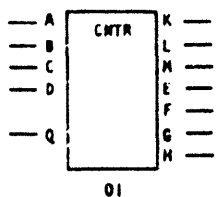
INTERNATIONAL BUSINESS MACHINES CORP.				DATE	CHANGE NO.	APPROVAL	DATE	CHANGE NO.	APPROVAL	DEVELOPMENT NO.
NAME: COUPLING CAPACITOR				26 SEP 66	130197	AZR				649772
DESIGN		MODEL	SHS							
RETAIL	JD	19SEP66	SCALE	NONE						
CHECK			DRAW	LIG	19SEP66					
APPRO			CHECK	JE						

STANDARDS CODE  
2-7045

REFERENCE DRAWING  
SEE PRODUCTION DRAWING 375139

CARD CODE 649880  
F P V -

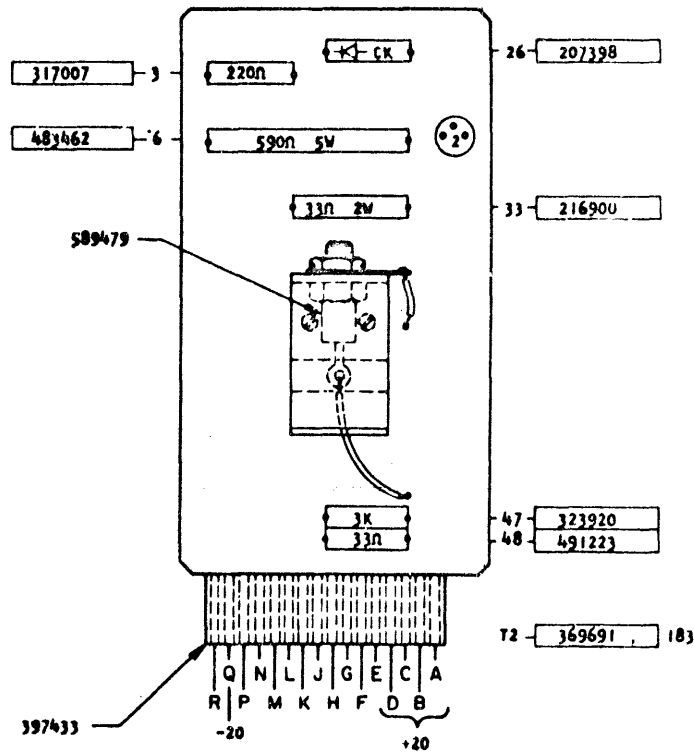
POWER DRIVER CONTROL CIRCUIT



CIRCUIT OPERATION

1-THIS CARD IS A PACKAGE ONLY AND HAS NO INDEPENDENT FUNCTION.  
2-PIN Q TIED TO -20 VOLTS

PINS	SIGNAL NAME	WAVE SHAPE	LEVELS	MIN	MAX
A, B C, D	INPUT	"+20 V FUSED"	UP	18.0	22.0
E, F G, H	OUTPUT		UP	17.2	22.0
K	INPUT		UP	18V	22V
			DOWN	16V	20V
L	OUTPUT		UP	18V	22V
			DOWN	-1.5V	-0.8V
M	INPUT		UP	18V	22V
			DOWN	-23V	-18V



CIRCUIT AND PACKAGING STANDARD	
APPROVAL	DATE
KJ [Signature]	13 Aug 66

INTERNATIONAL BUSINESS MACHINES CORP.		DATE	CHANGE NO.	APPROVAL	DATE	CHANGE NO.	APPROVAL	DEVELOPMENT NO.
NAME	CARD ASM TSTR - POWER DRIVER CONTROL CIRCUIT	26 SEP 66	130315	[Signature]				
DESIGN		4 JAN 67	130392	HOG				
DETAIL	MODEL SMS							
CHECK	SCALE NONE							
APPRO	DRAW HYD 12SEP66							
	CHECK JR 12SEP66							

088649



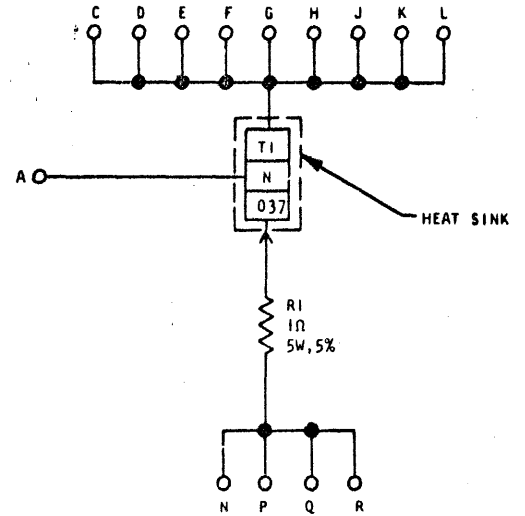
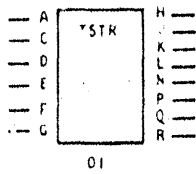
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649881

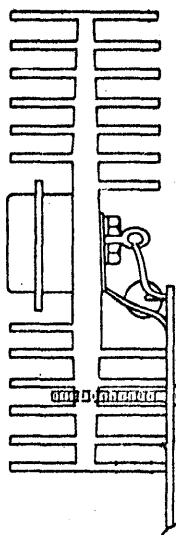
**FPW-**  
P/N: 375140

REFERENCE DRAWING  
PRODUCTION DRAWING 375140

TRANSISTOR AND HEAT SINK PACKAGE



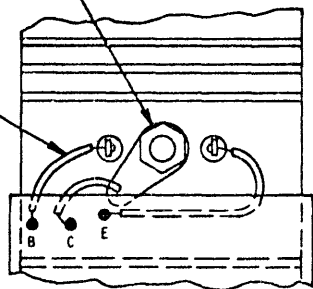
NOTE  
1. HEAT SINK IS AT TRANSISTOR COLLECTOR POTENTIAL.



221 NUT  
316996 TERMINAL  
56121 LOCKWASHER

518644  
3 PLACES

438567 (2)

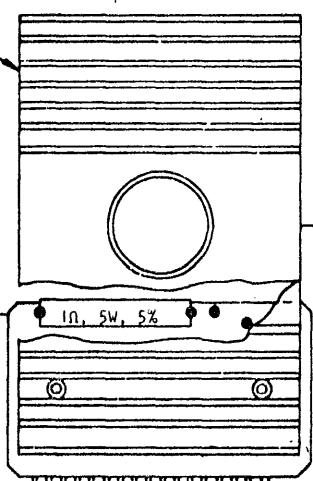


WIRING SIDE VIEW

483116

TI 208196 037

1.3 207320 -1



397437

COMPONENT SIDE

PIN		WAVE SHAPE	LEVEL	
			MIN	MAX
A	INPUT		UP	18V 22V
			DOWN	-1.5V -.8V
C D E F G H J K L	OUTPUT		UP	18V 22V
			DOWN	-23V -19V

INTERNATIONAL BUSINESS MACHINES CORP.					DATE	CHANGE NO.	APPROVAL	DATE	CHANGE NO.	APPROVAL	DEVELOPMENT NO.
NAME	CARD ASM TSTR-TRANSISTOR AND HEAT SINK PACKAGE				27SEP66	130316	XX				
DESIGN		MODEL									
DETAIL		SCALE	NONE								
CHECK		DRAW	LIG	14SEP66							
APPRO		CHECK									

649881

C

649882  
STANDARDS  
CODE

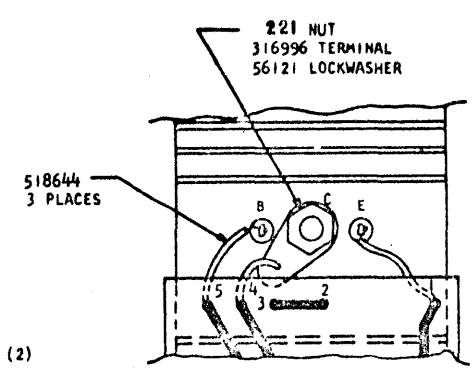
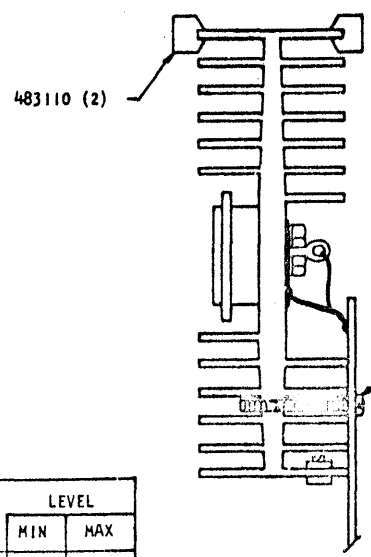
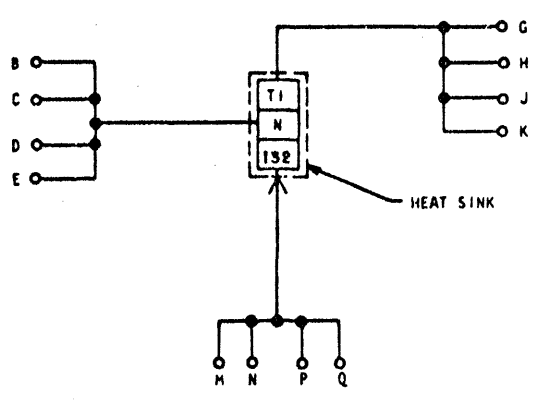
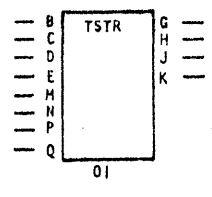
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REFERENCE DRAWING  
SEE PRODUCTION DRAWING 375141

**FPX-**  
P/N 375141

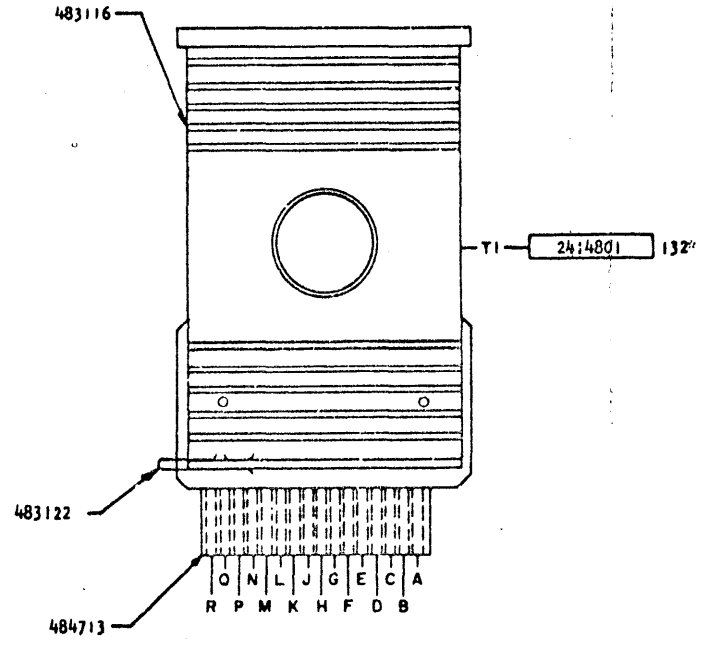
TRANSISTOR AND HEATSINK PACKAGE  
MOUNT CARD ON 1.5 INCH CENTERS

RESTRICTED



PIN	SIGNAL LINE	WAVE SHAPE	LEVEL	
			MIN	MAX
M, N, P, Q	INPUT	[Square Wave]	UP 17.2V	22V
B, C, D, E	INPUT	[Square Wave]	UP 18V	22V
			DOWN 16V	20V
G, H, J, K	OUTPUT	[Square Wave]	UP 19V	22V
			DOWN -23V	-18V

NOTE: HEAT-SINK IS AT TRANSISTOR COLLECTOR POTENTIAL.



CIRCUIT AND PACKAGING STANDARD	
APPROVAL	DATE
RJB	23AUG66

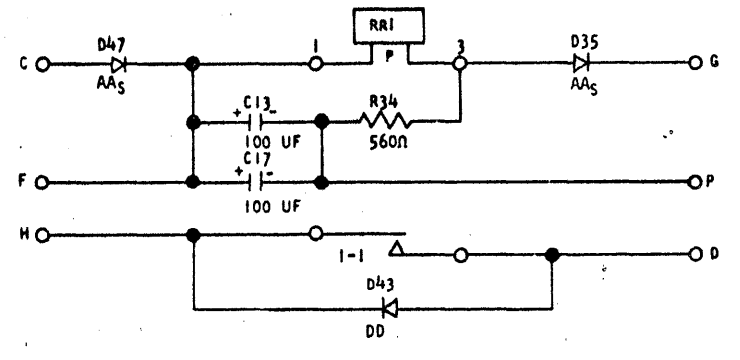
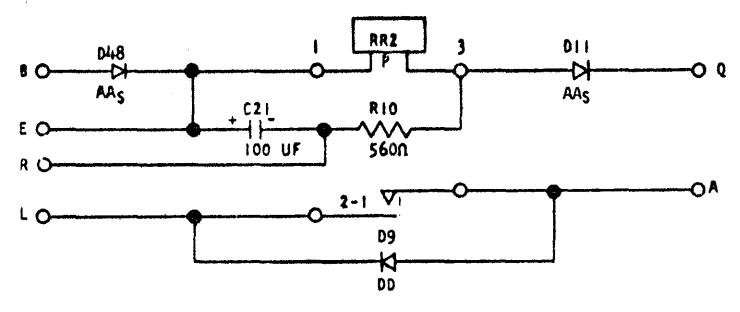
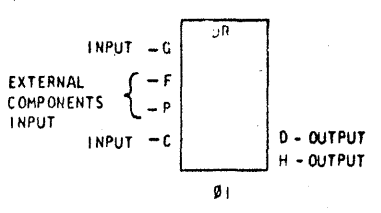
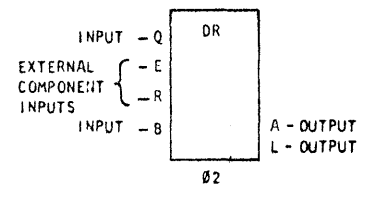
INTERNATIONAL BUSINESS MACHINES CORP.		DATE	CHANGE NO.	APPROVAL	DATE	CHANGE NO.	APPROVAL	DEVELOPMENT NO.
NAME CARD ASM TSTR - TRANSISTOR AND HEATSINK PACKAGE		26SEP66	130317	RJR				
		29DEC67	132412	GWS				
DESIGN	JD	SCALE	NONE					
CHECK	JD	DATE	15SEP66					
APPRO	JD	DATE	21SEP66					

649882

STANDARDS CODE  
649667  
2-7043

CARD CODE 649667  
F V R -

REFERENCE DRAWING  
SEE PRODUCTION DRAWING 375063



SEQUENCE OF OPERATION:

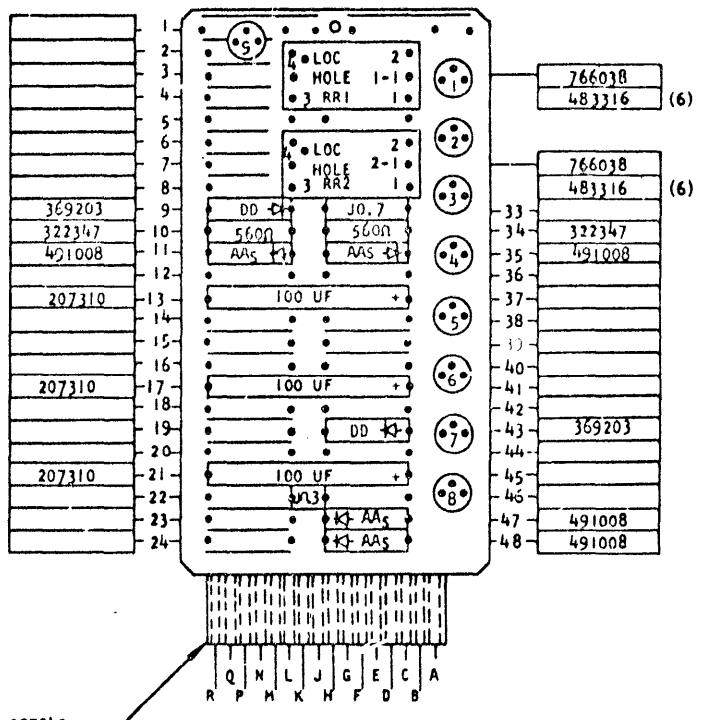
- 1- BOTH INPUTS ACTIVE, RELAY CLOSED
- 2- ANY INPUT INACTIVE, RELAYS OPEN AFTER DELAY
- 3- DIODES SHOULD BE CONNECTED AROUND INDUCTIVE LOADS FOR RELAY POINT ARC SUPPRESSION

PINS	SIGNAL NAME	WAVE SHAPE	LEVELS		
			MIN	MAX	
P, G	INPUT		UP	-0.65V	0.0
			DOWN	-11.00	-12.48V
B, C	INPUT		UP	-0.65V	0.0
			DOWN	-11.52V	-12.48V
A, D	OUTPUT		CLOSED	-0.5V	+ .5V
			OPEN	SUPPLY	

DELAY:

TURN ON MAX 10 MSEC  
TURN OFF (INPUTS MUST BE PRESENT MIN. 500 MSEC)  
TO ACHIEVE ACCURATE DELAY

C = 100 MFD MIN 100 MSEC MAX 1000 MSEC  
C = 200 MFD MIN 200 MSEC MAX 2000 MSEC



397243  
A

PW 3-2-66  
CIRCUIT AND PACKAGING STANDARD  
APPROVAL RJB DATE 2FEB66

INTERNATIONAL BUSINESS MACHINES CORP.		DATE	CHANGE NO.	APPROVAL	DATE	CHANGE NO.	APPROVAL	DEVELOPMENT NO.
NAME	CARD ASM TSTR = 250 MA	31MAR66	127184	AJK				
DESIGN	RELAY DRIVER WITH DELAY	26SEP66	130327	GLK				
DETAIL	MODEL SMS							
CHECK	SCALE NONE							
APPRO	DRAW HTD 22FEB66							
	CHECK JR 22FEB66							

C

649667

CIRCUIT FAMILY  
SDTOL

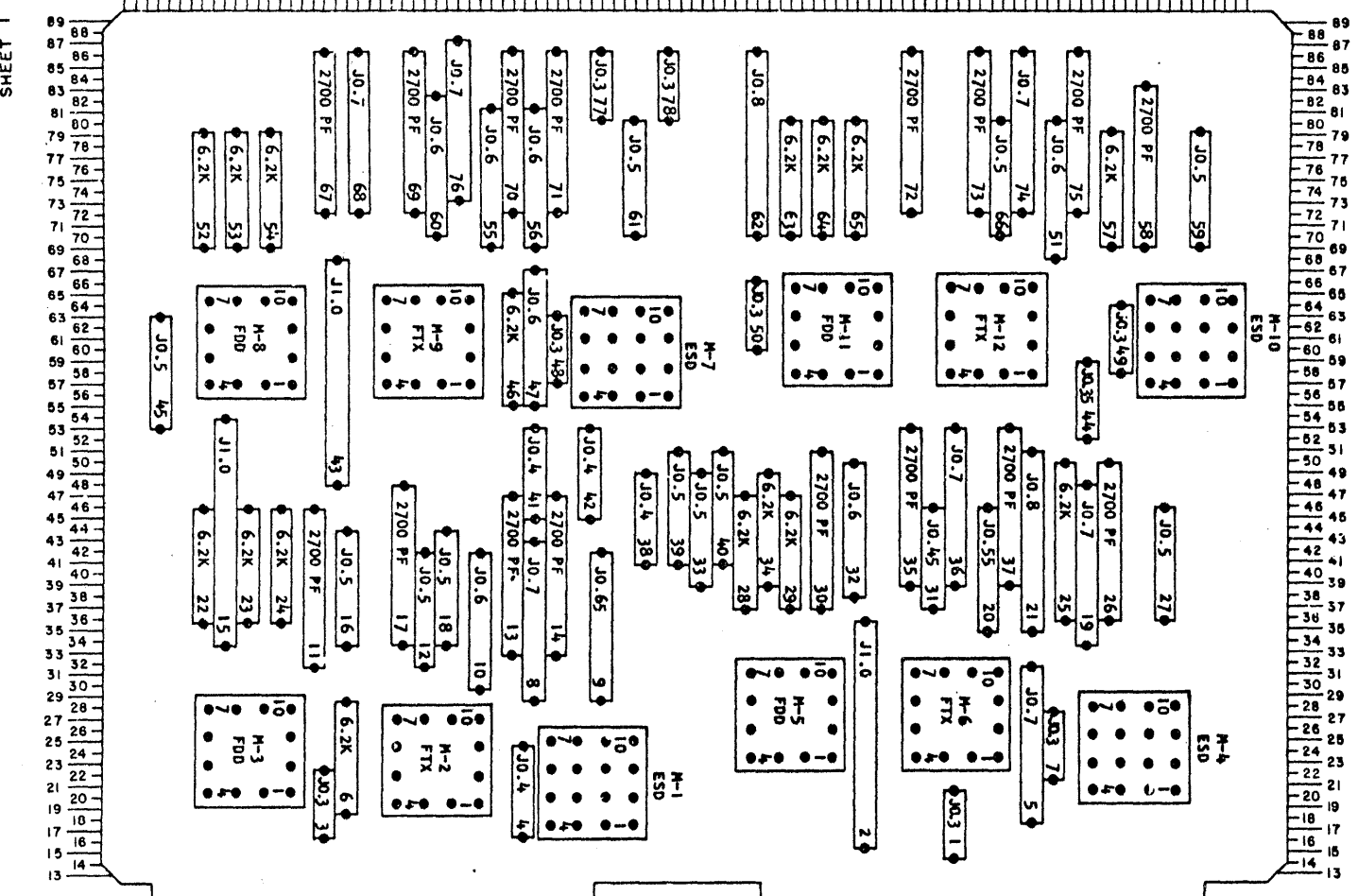
649831

# HGF-

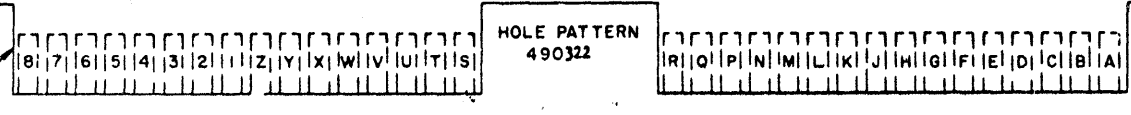
P/N: 374255

SHEET 1 OF 3

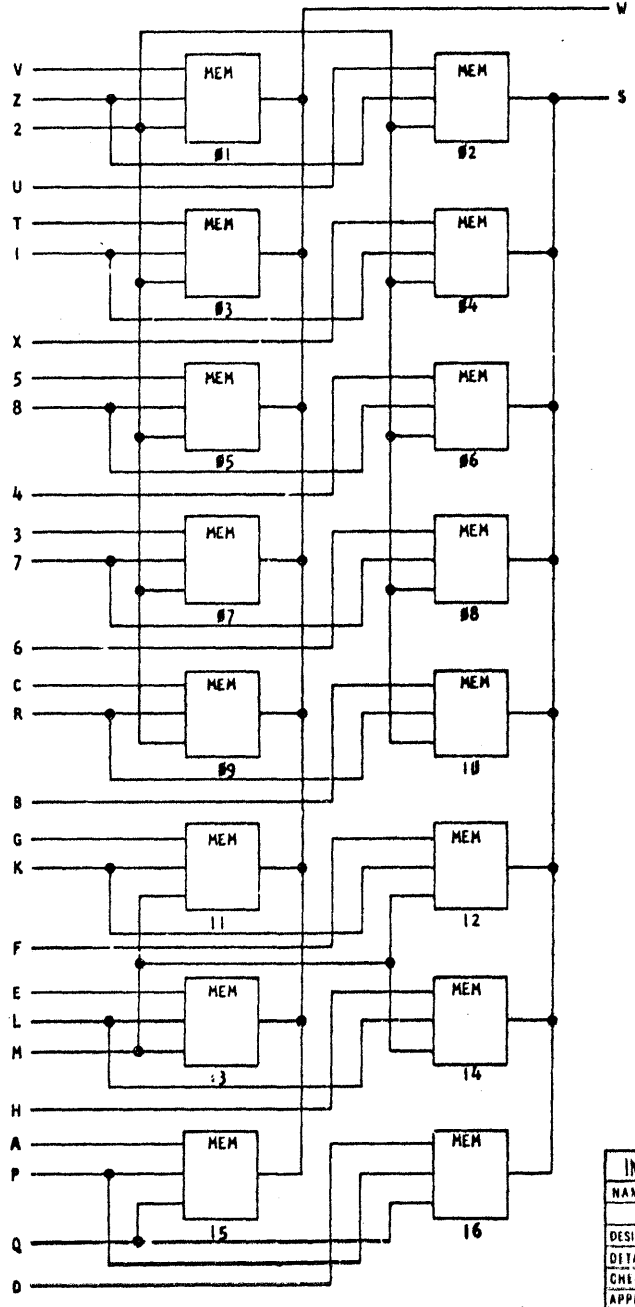
03 05 07 09 11 13 15 17 19 21 23 25 27 29 31 33 35 37 39 41 43 45 47 49 51 53 55 57 59 61 63 65 67 69 71 73 75 77 79 81 83 85 87 89 91 93 95 97 99 101 103  
 02 04 06 08 10 12 14 16 18 20 22 24 26 28 30 32 34 36 38 40 42 44 46 48 50 52 54 56 58 60 62 64 66 68 70 72 74 76 78 80 82 84 86 88 90 92 94 96 98



PART NO.	VALUE	QTY
216463	6.2K	16
350479	2700 PF	16
361431	ESD	4
361497	FTX	4
361499	FDD	4



399041



**SEQUENCE OF OPERATION**

- CAPACITORS ARE CHARGED IN A PARALLEL MODE WITH A POSITIVE VOLTAGE ON A 'WRITE' INPUT
- CAPACITOR IS DISCHARGED THRU TRANSISTOR GATE WHEN BOTH 'READ' INPUTS ARE AT A POSITIVE VOLTAGE

PINS	SIGNAL NAME	WAVE SHAPE	LEVELS		
			MIN	MAX	
V, U, T, X, S, 6, 3, 4, C, B, 6, F, E, H, A, D	WRITE INPUT "1"		UP	+8.0V	+13.0V
			DOWN	-3.0V	+4.0V
2, M, Q	TENS READ INPUT		UP	11.52V	15.0V
			DOWN	0V	0.45V
Z, I, 8, 7, R, K, L, P	UNITS READ INPUT		UP	11.52V	15.0V
			DOWN	0V	0.45V
W	SENSE OUTPUT FOR "1"		UP	5.0V	10.5V
			DOWN	1.2V	1.6V
S	SENSE OUTPUT FOR "0"		UP	1.8V	2.0V
			DOWN	1.2V	1.6V

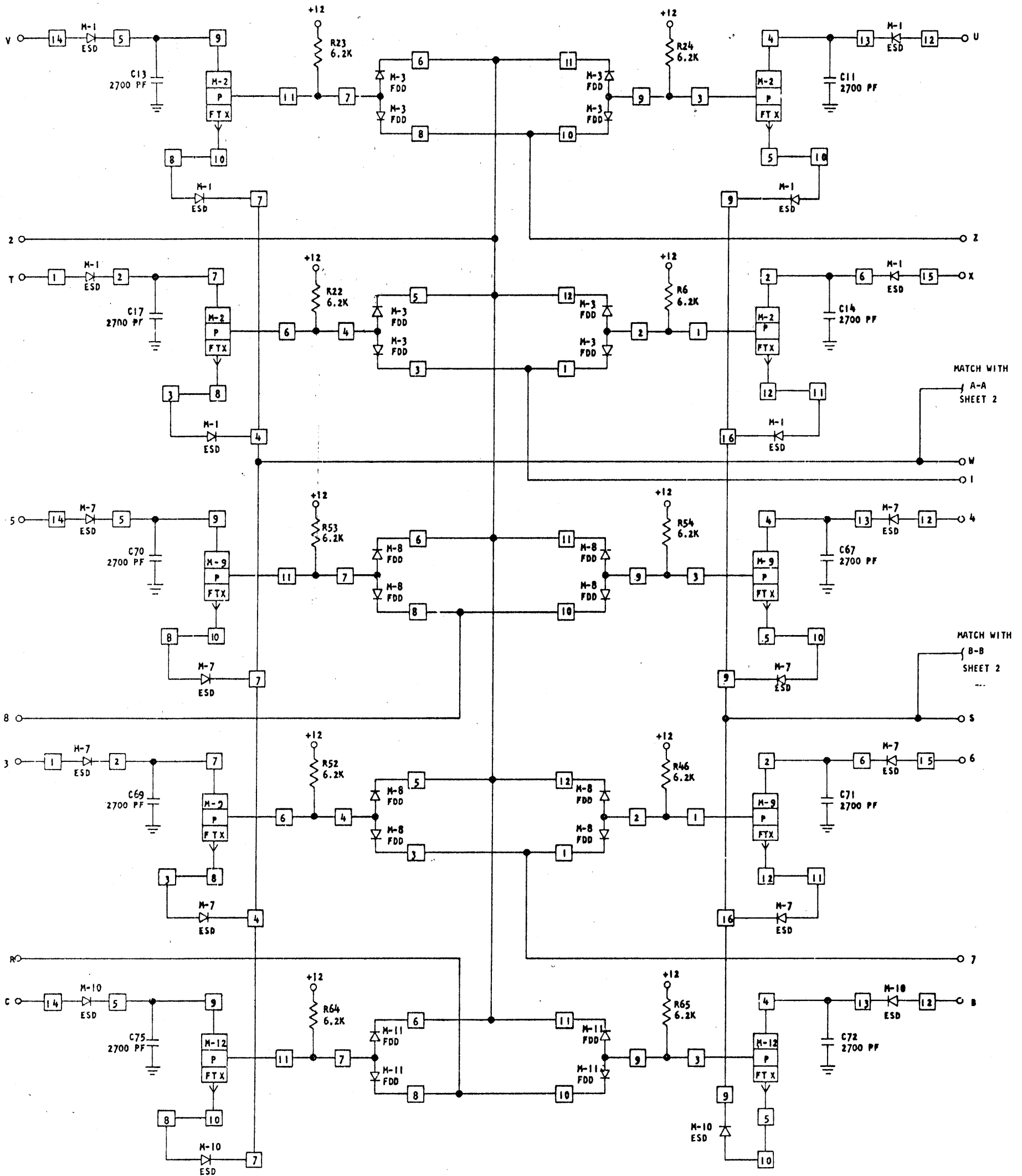
INTERNATIONAL BUSINESS MACHINES CORP.		DATE	CHANGE NO.	APPROVAL	DATE	CHANGE NO.	APPROVAL	DEVELOPMENT NO.
NAME TWIN CARD ASM- STORAGE CARD		12 AUG 66	127537	<i>J.P.</i>				
DESIGN	MODEL SMS							
DETAIL	SCALE NONE							
CHECK	DRAW LIG 6 JUN 66							
APPRO	CHECK							

649831

# HGF-

P/N: 374255

SHEET 2 OF 3



VOLTAGE.    PIN  
 GND        J  
 +12        N

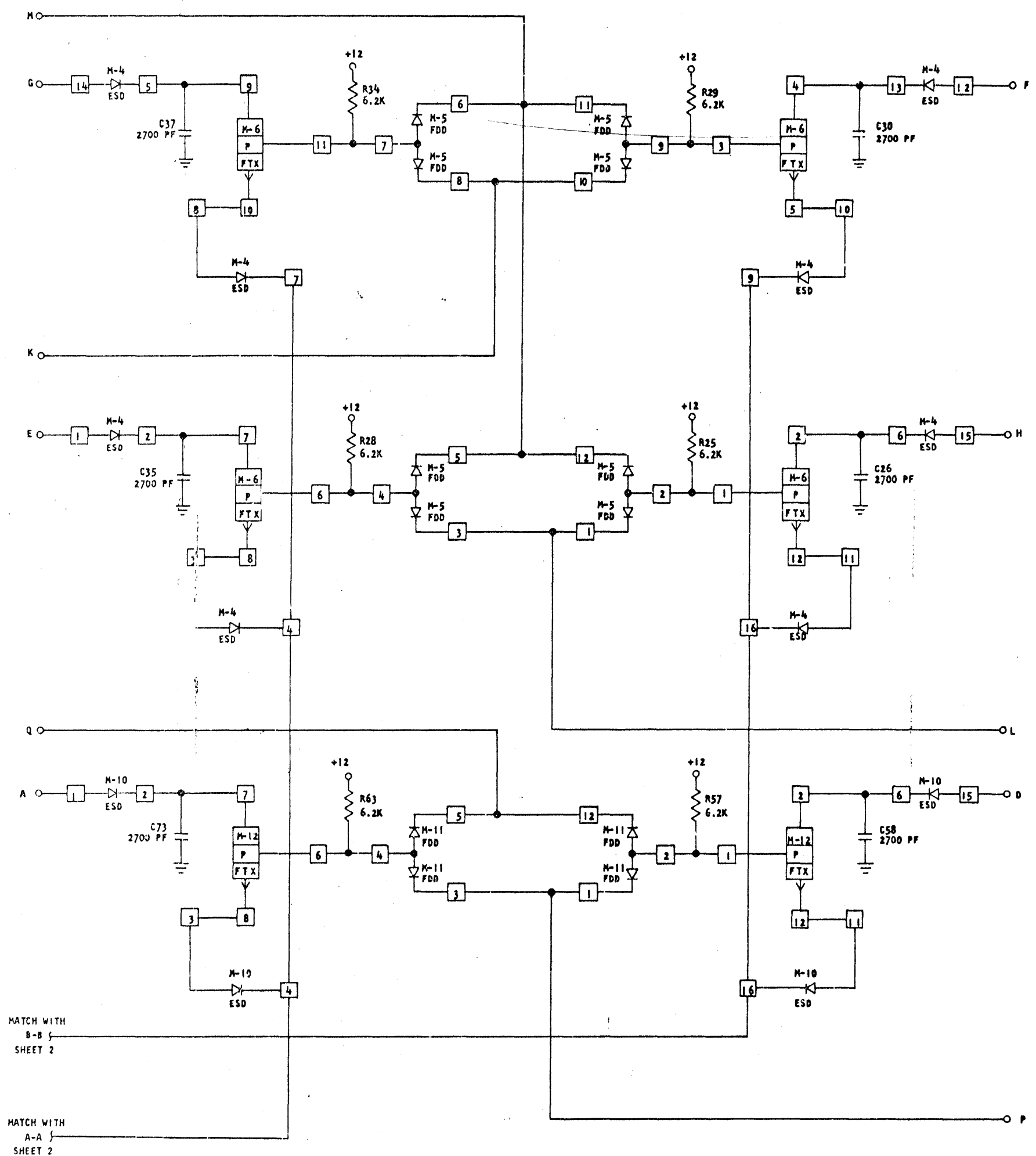
INTERNATIONAL BUSINESS MACHINES CORP.				DATE	CHANGE NO.	APPROVAL	DATE	CHANGE NO.	APPROVAL	DEVELOPMENT NO.
NAME TWIN CARD ASM				12 AUG 66	127537	JV				649831
STORAGE CARD										
DESIGN		MODEL	SMS							
DETAIL		SCALE	NONE							
CHECK		DRAW	LIG	6 JUN 66						
APPRO		CHECK								

649831

SHEET 3 OF 3

SHEET 3 OF 3 649831

HGF-  
P/N: 374255



MATCH WITH  
B-B  
SHEET 2

MATCH WITH  
A-A  
SHEET 2

INTERNATIONAL BUSINESS MACHINES CORP.				DATE	CHANGE NO.	APPROVAL	DATE	CHANGE NO.	APPROVAL	DEVELOPMENT NO.
NAME TWIN CARD ASM STORAGE CARD				12 AUG 66	127537	YD				649831
DESIGN		MODEL	SMS							
DETAIL		SCALE	NONE							
CHECK		DRAW	LIG 6JUN66							
APPRO		CHECK								

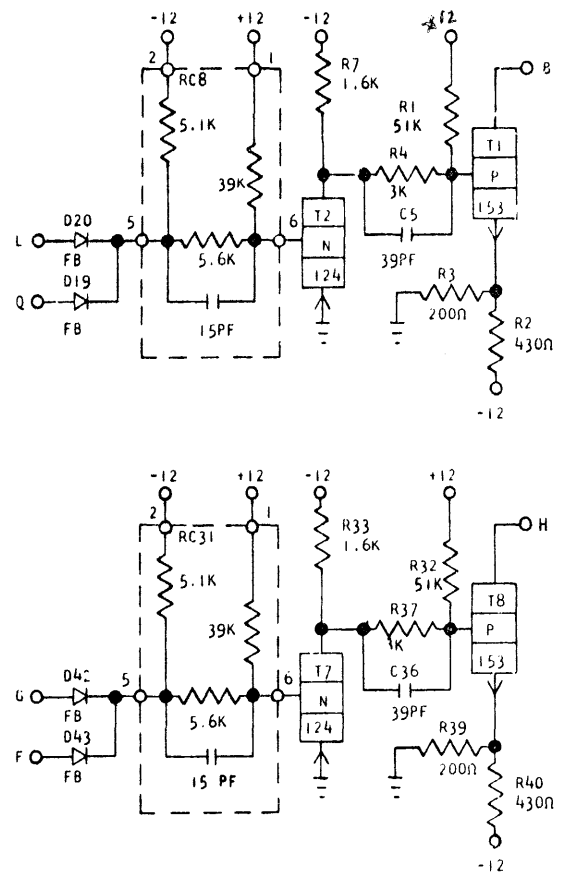
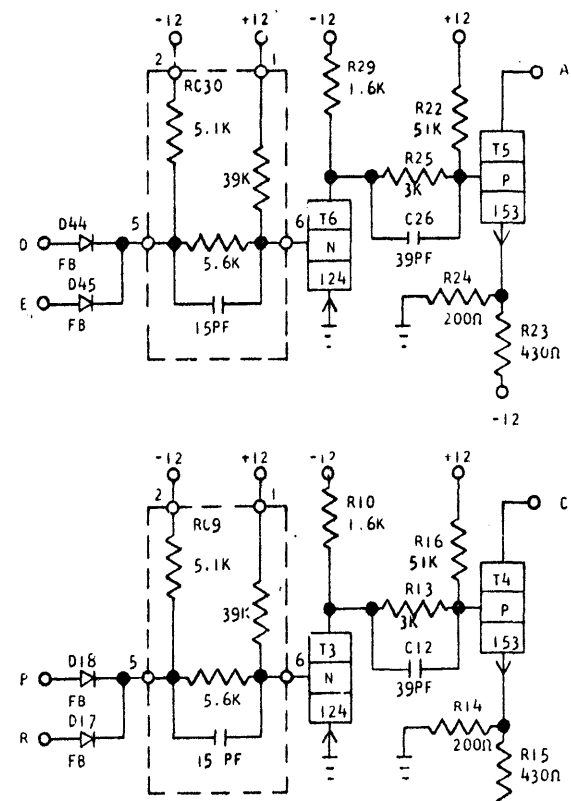
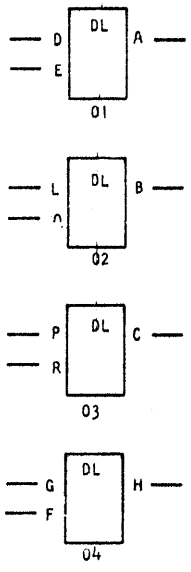
C

822929  
STANDARDS CODE  
2-7045

CARD CODE  
822929  
UGT -

REFERENCE DRAWING  
SEE PRODUCTION DRAWING 372976  
AT EC LEVEL 119680

NON INVERTING SIMPLEX  
INTERFACE LINE DRIVER



- CIRCUIT OPERATION
1. EITHER INPUT UP, OUTPUT TRANSISTOR OFF, OUTPUT UP.
  2. BOTH INPUTS DOWN, OUTPUT TRANSISTOR ON, OUTPUT DOWN.

PINS	SIGNAL NAME	WAVE SHAPE	LEVELS		
			MIN.	MAX.	
D, L P, G	Y	INPUT	UP	-0.65V	-0.05V
			DOWN	-5.81V	-12.48V
E, Q R, F	Y	INPUT	UP	-0.65V	-0.05V
			DOWN	-5.81V	-12.48V
A, B C, H		OUTPUT	UP	OUTPUT OPEN CIRCUIT LEVEL DEPENDS ON TERM.	
			DOWN	-1.25V	-1.76V

DELAY - NS

TURN ON DELAY

WITH SDTDL OR SDTRL RECEIVER

120 + C

WITH CTDL RECEIVER

380 + C

TURN OFF DELAY

SDTDL OR SDTRL RECEIVER

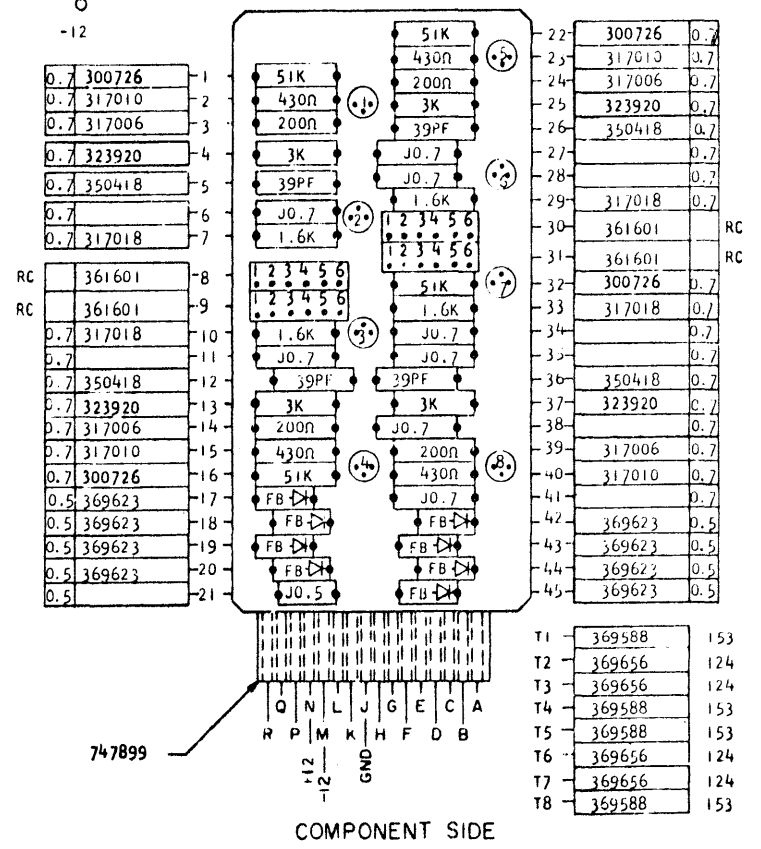
110 + C

CTDL RECEIVER

200 + C

WHERE C = DELAY INTRODUCED BY CABLE, ADD 2 NS PER FOOT OF CABLE.

NOTE: DELAYS MEASURED FROM INPUT OF DRIVER TO OUTPUT OF TERMINATING CIRCUIT



CIRCUIT AND PACKAGING STANDARD	
APPROVAL	DATE
ABC	4-23-64

INTERNATIONAL BUSINESS MACHINES CORP.				DATE	CHANGE NO.	APPROVAL	DATE	CHANGE NO.	APPROVAL	DEVELOPMENT NO.
NAME CARD ASM TSTR-NON INVERTING SIMPLEX INTERFACE LINE DRIVER				4-23-64	121287					822929
DESIGN	MODEL	SMS-1444								
DETAIL	SCALE	NONE								
CHECK	DRAW	LIG 4-16-64								CIRCUIT FAMILY
APPROD	CHECK	CWS 5-18-64								SDTDL

C

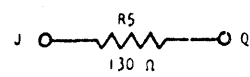
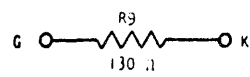
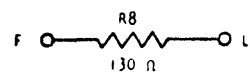
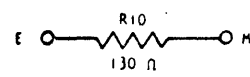
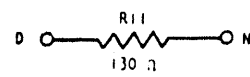
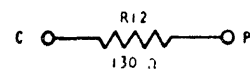
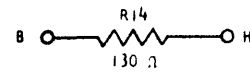
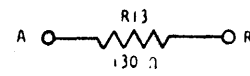
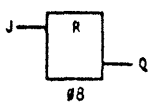
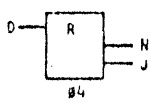
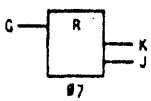
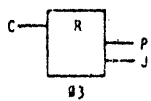
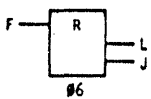
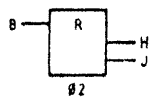
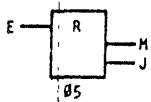
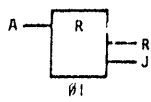
734331

734331

REFERENCE DRAWING  
 PRODUCTION DRAWING 370548

**YDT-**  
 P/N: 370548 EC: 0111568

DRIVER NETWORK - 130 Ω

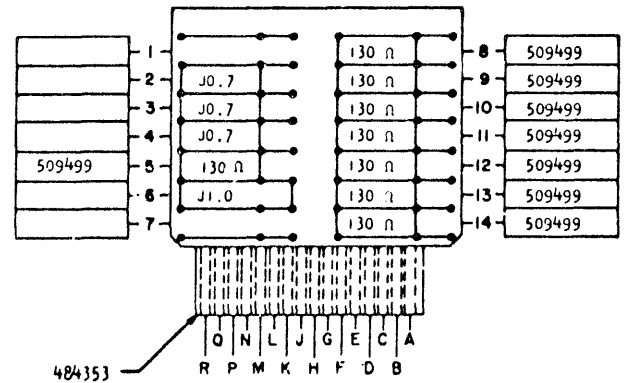


OTHER DESIGNATIONS:

DN

NOTE:

WHEN PIN J IS USED FOR TWISTED PAIR COMMON GROUND,  
 CONFIGURATION #8 MAY NOT BE USABLE



COMPONENT SIDE

CIRCUIT AND PACKAGING STANDARD	
APPROVAL	DATE

INTERNATIONAL BUSINESS MACHINES CORP.				DATE	CHANGE NO.	APPROVAL	DATE	CHANGE NO.	APPROVAL	DEVELOPMENT NO.
NAME: DRIVER NETWORK-130 Ω				4-25-63	116800B					
DESIGN		MODEL	SMS 1460							
DETAIL		SCALE	NONE							
CHECK		DRAW	MDE 12-21-62							
APPROV		CHECK								

C

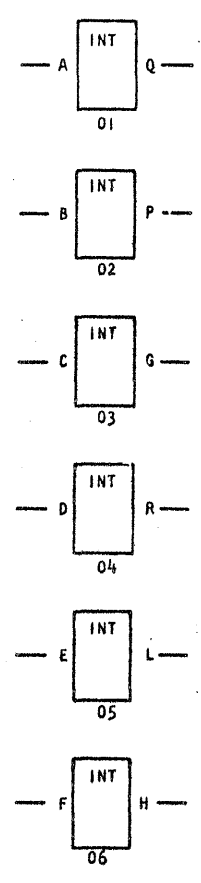
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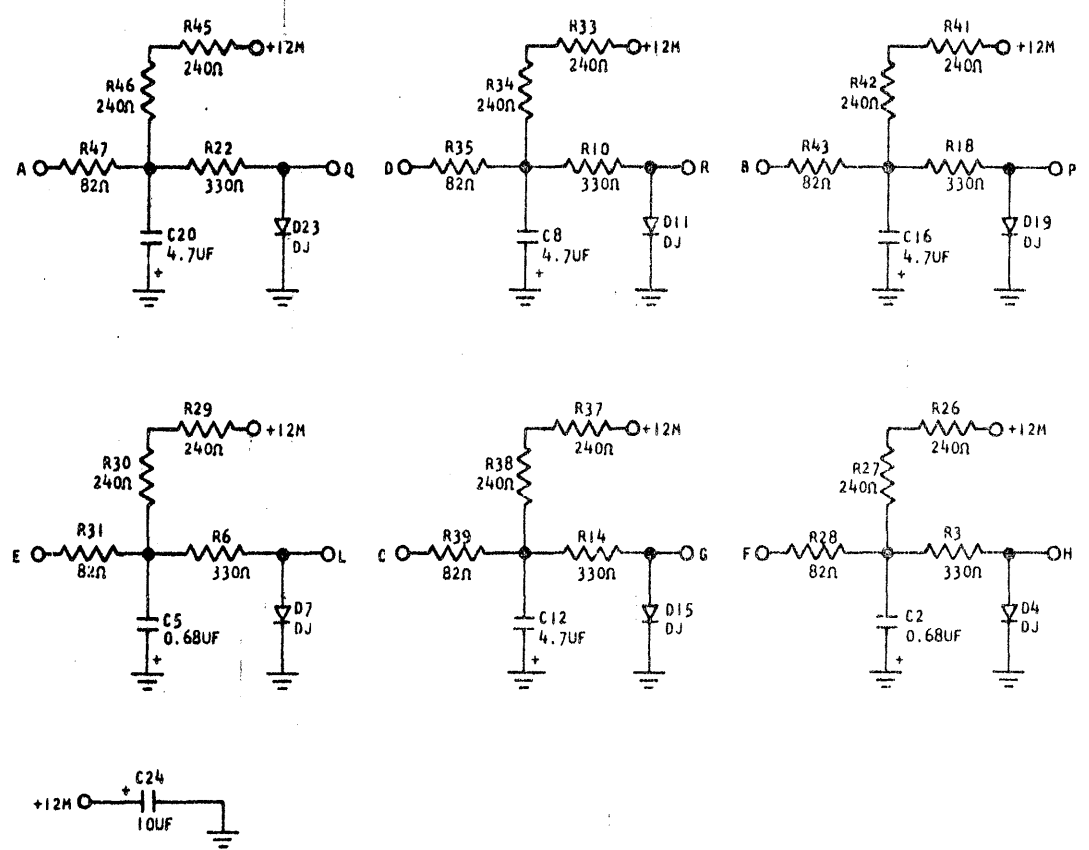
822937  
STANDARDS CODE  
2-7045

CARD CODE  
822937  
Y M Q -

**REFERENCE DRAWING**  
SEE PRODUCTION DRAWING 372360  
AT EC LEVEL 114680



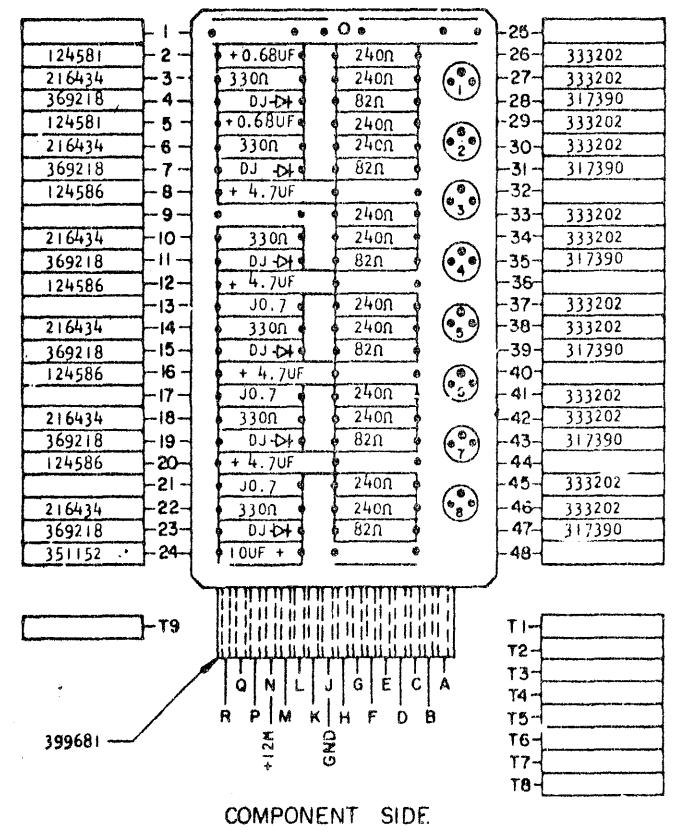
**SDTDL CAM INTEGRATOR**



PINS	SIGNAL NAME	WAVE SHAPE	LEVELS	
			MIN	MAX
A, D, B, E, C, F	Y INPUT		UP	OPEN
			DOWN	-11.52    -12.48
Q, R, P L, G, H	Y OUTPUT		UP	-0.05    0.30
			DOWN	-5.81    -9.23

**APPLICATION**  
THIS CIRCUIT IS TO PROVIDE POSITIVE CURRENT AT THE OUTPUT WHEN THE RELAY IS OPENED BY A CAM AND NEGATIVE CURRENT WHEN THE RELAY IS CLOSED.

**TRANSIENT RESPONSE**  
OUTPUT RISE TIME (W.C.) - 4.94 M SEC.  
OUTPUT FALL TIME (W.C.) - 0.86 M SEC.



CIRCUIT AND PACKAGING STANDARD	
APPROVAL	DATE
ABC	4-23-64

INTERNATIONAL BUSINESS MACHINES CORP.				DATE	CHANGE NO.	APPROVAL	DATE	CHANGE NO.	APPROVAL	DEVELOPMENT NO.
NAME	CARD ASM TSTR -			4-23-64	121287					822937
DESIGN	SDTDL CAM INTEGRATOR									
DETAIL	MODEL SMS-1444									
CHECK	SCALE NONE									
APPRO	DRAW LIG 4-16-64									
	CHECK E/S 5-18-64									
										CIRCUIT FAMILY SDTDL

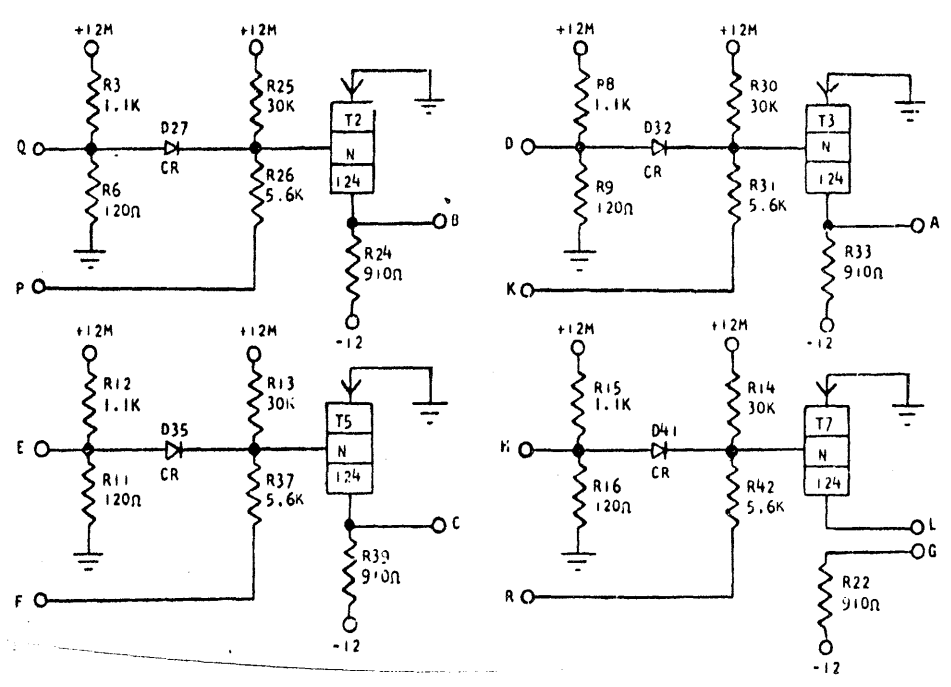
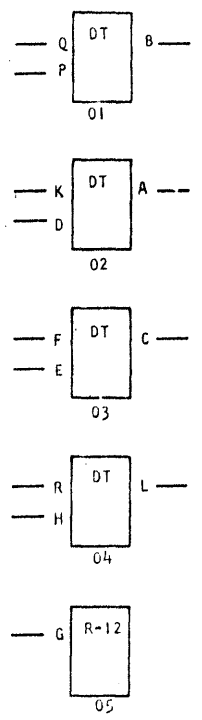
C

STANDARDS CODE  
2-7045

CARD CODE 822935  
Y Y N -

**REFERENCE DRAWING**  
SEE PRODUCTION DRAWING 372723  
AT EC LEVEL 119662

**SOTDL/SDTRL - STANDARD INTERFACE TERMINATOR, GATED**



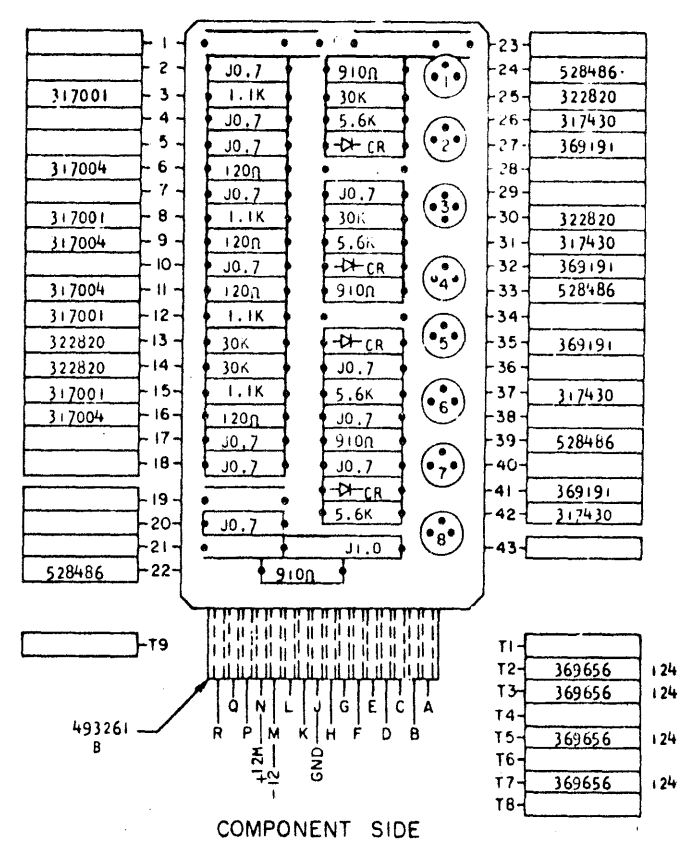
**CIRCUIT OPERATION**

1. LINE INPUT (PINS Q,D,E,H) HAS NO CONTROL UNLESS GATE (PINS P,K,F,R) IS AT DOWN LEVEL
2. WHEN GATE IS AT DOWN LEVEL, A DOWN LEVEL ON THE LINE INPUT CAUSES THE TRANSISTOR TO TURN ON GIVING A POSITIVE OUTPUT
3. PIN G IS A 910 Ω 1/2 WATT RESISTOR RETURNED TO -12 VOLTS AVAILABLE AS A LOAD FOR CONF. 04, OR ANY APPLICATION REQUIRING A 910 Ω RESISTOR TO -12 VOLTS.

PINS	SIGNAL NAME	WAVE SHAPE	LEVEL	
			MIN	MAX
Q, D, E, H	LINE INPUT		UP: +0.55V DOWN: -0.5V	+3.26V -5.3V
P, K, F, R	GATE INPUT		UP: -0.80V DOWN: -5.3V	+1.68V -10.8V
B, A, C, L	OUTPUT		UP: -0.05V DOWN: -5.81V	-0.45V -12.48V

DELAY

TURN ON (NSEC)	MAX 65
TURN OFF (NSEC)	95



**CIRCUIT AND PACKAGING STANDARD**

APPROVAL	DATE
ABC	4-23-64

INTERNATIONAL BUSINESS MACHINES CORP.	DATE	CHANGE NO.	APPROVAL	DATE	CHANGE NO.	APPROVAL	DEVELOPMENT NO.
NAME CARD ASM YSTR -SOTDL/SDTRL-STD INTERFACE TERMINATOR GATED	6-2-64	121287					822935
DESIGN		MODEL SMS-1444					
DETAIL		SCALE NONE					
CHECK		DRAW LIG 4-16-64					CIRCUIT FAMILY
APPRO		CHECK EN'S 5-18-64					SOTDL

372057

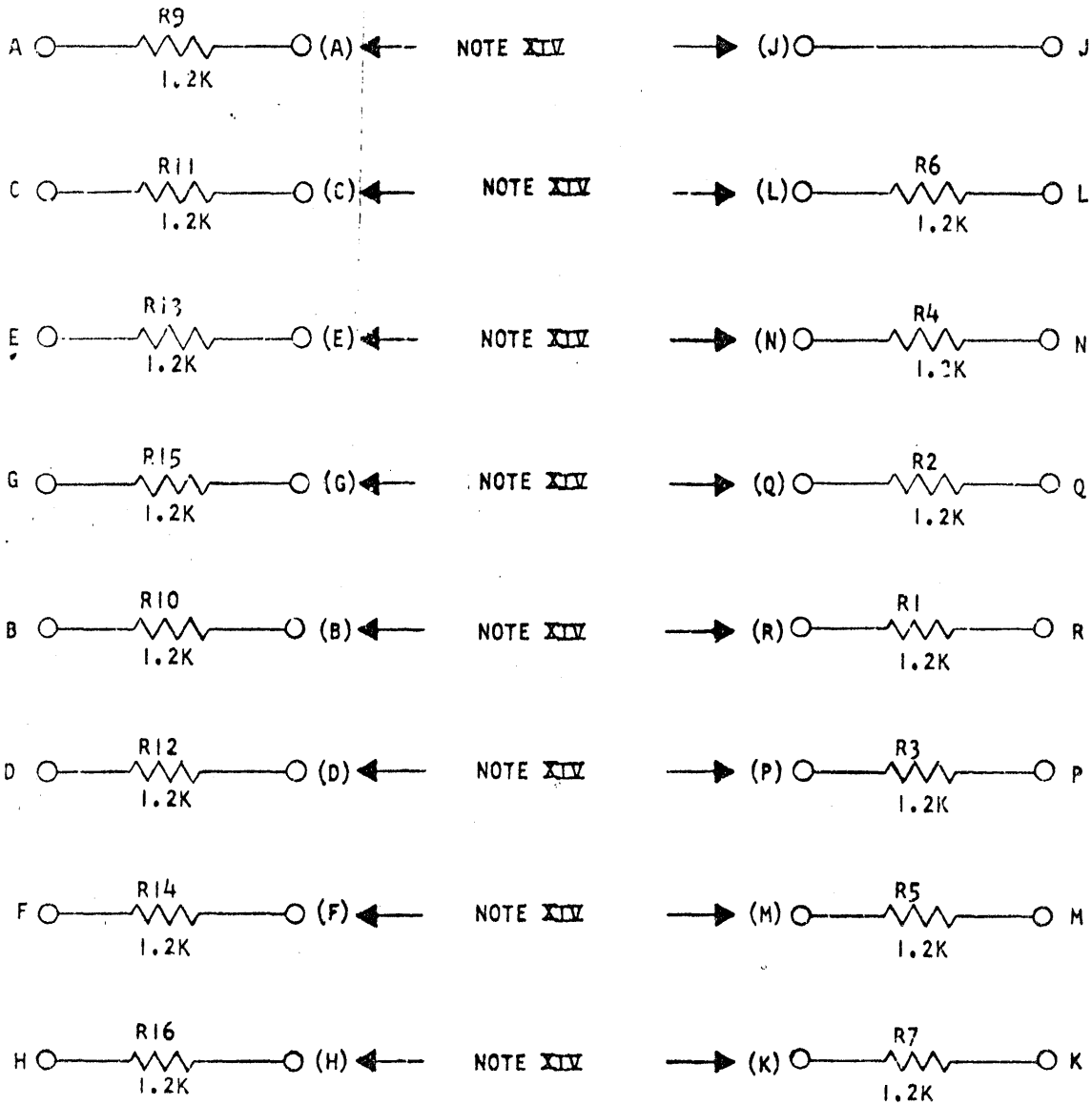
CABLE RESISTOR CARD  
1.2K 1/4 WATT

372057

Z S M -

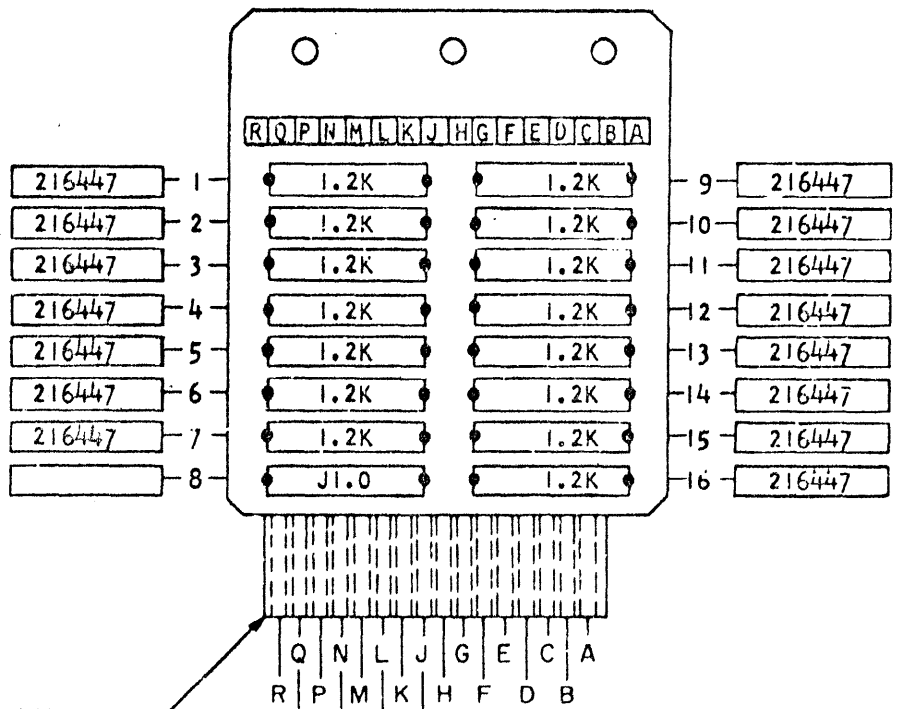
STANDARDS  
CODE

2-7045



NOTES

- X CIRCUIT MUST CONFORM TO ENGINEERING SPECIFICATION
- XI ASSEMBLE TO ENGINEERING SPECIFICATION 895396 AND 891999
- XII ALL RESISTORS ARE 1/4 WATT AND ±5% UNLESS OTHERWISE NOTED
- XIII "J" IN BLOCK DENOTES BARE WIRE JUMPER, 491296
- XIV CABLE ENTRY
- XV DO NOT APPLY PROTECTIVE COATING TO WIRING SIDE



B

DPD CIRCUIT & PACKAGING STANDARD		APPROVAL		DATE		HOLE PATTERN		COMPONENT SIDE	
NAF GS		1-9-64		493472					
INTERNATIONAL BUSINESS MACHINES CORP.			DATE	CHANGE NO.	APPROVAL	DATE	CHANGE NO.	APPROVAL	DEVELOPMENT NO.
NAME CARD ASM TSTR-CABLE			3-5-64	120079	W.S.				X-1610
RESISTOR CARD 1.2K 1/4 WATT									
DESIGN MODEL SMS 1444									
DETAIL SCALE NONE									
CHECK DRAW HTD 1-23-64									
APPROV									

372057

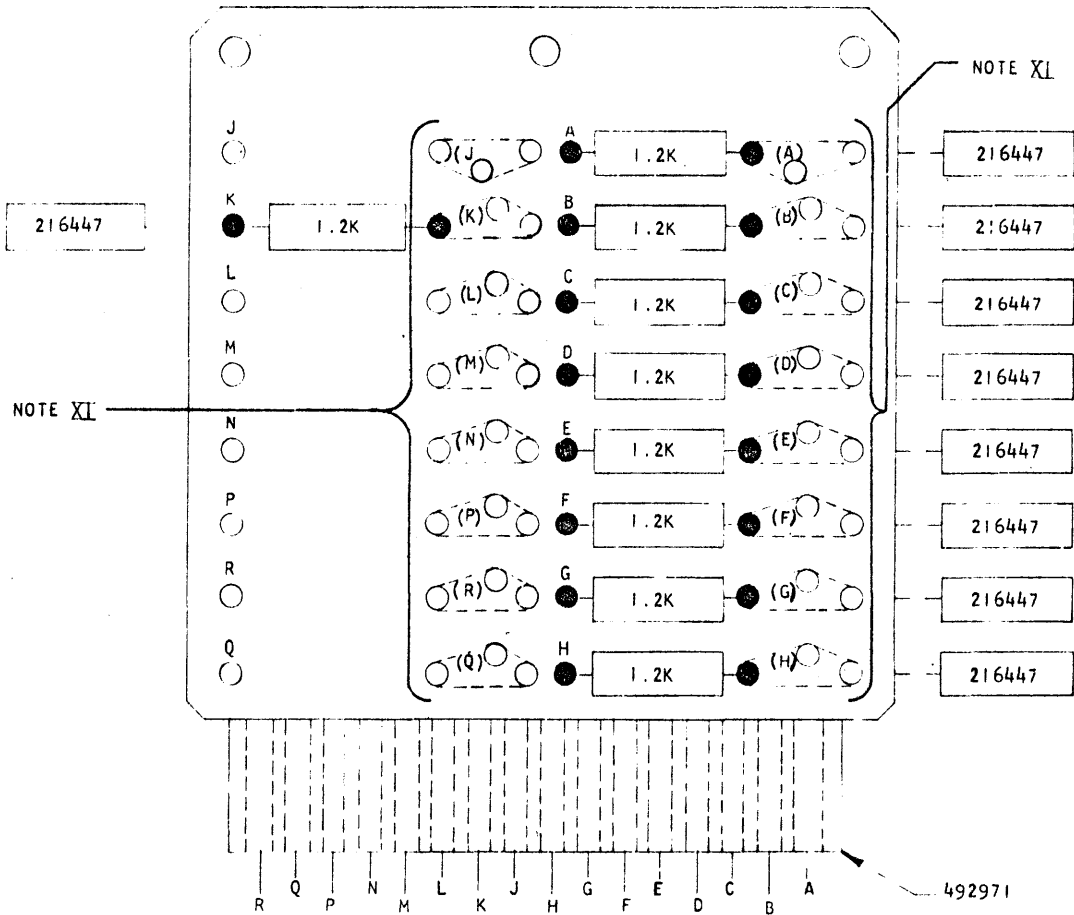
665544

STANDARD CODE  
665544  
9CEC

CABLE RESISTOR CARD  
1.2K 1/4 WATT

NOTES

- X ALL RESISTORS ARE 1/4 WATT ± 5% UNLESS OTHERWISE NOTED
- XI CABLE ENTRY CONNECTIONS ( ) DO NOT ENTER LOGIC PINS UNLESS PHYSICALLY CONNECTED BY A COMPONENT



B

CIRCUIT AND PACKAGING STANDARD		DATE		COMPONENT SIDE				DEVELOPMENT NO.
APPROVAL	DATE							
GS								665544
INTERNATIONAL BUSINESS MACHINES CORP.		DATE	CHANGE NO.	APPROVAL	DATE	CHANGE NO.	APPROVAL	
NAME CARD ASM TSTR - CABLE		11-9-66	811885A					
RESISTOR CARD 1.2K 1/4 WATT								
DESIGN	MODEL							
DETAIL	SCALE	NONE						
CHECK	DRAW	JJC 9-29-66						
APPRO	CHECK	DKE 9-30-66						

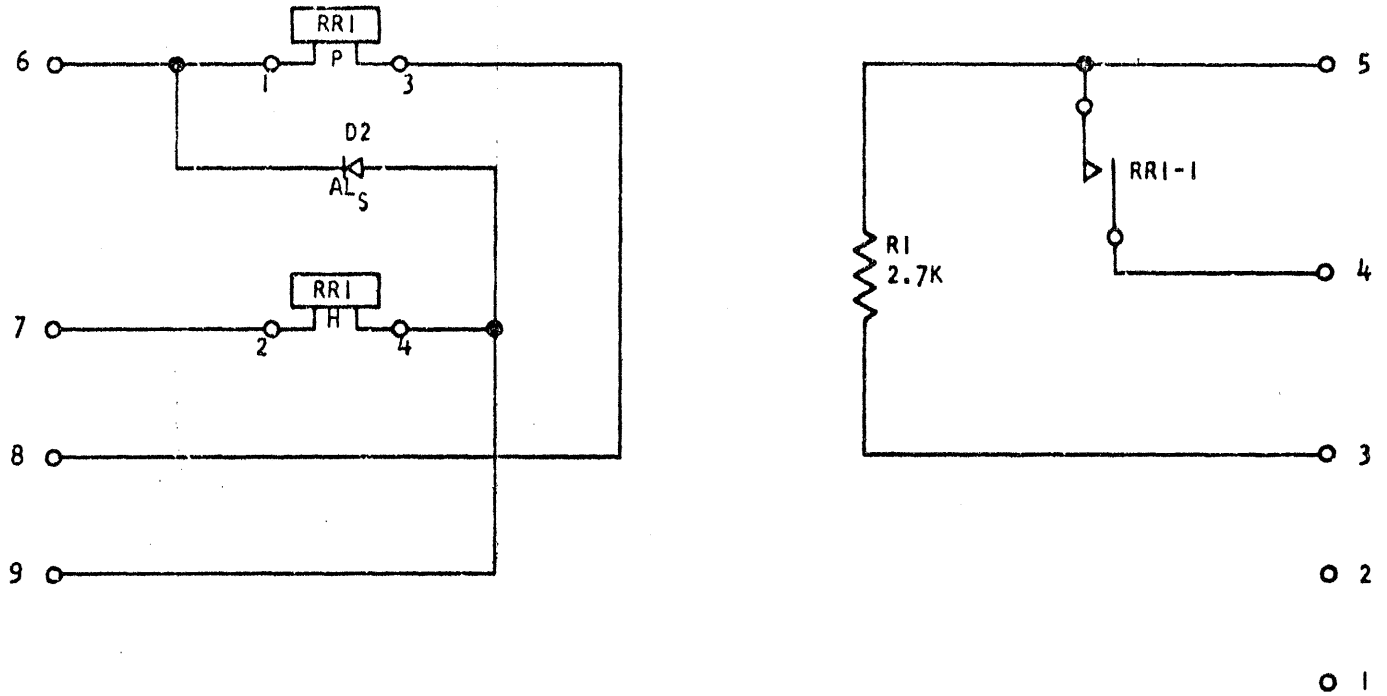
372688

METER CARD

372688

STANDARDS CODE

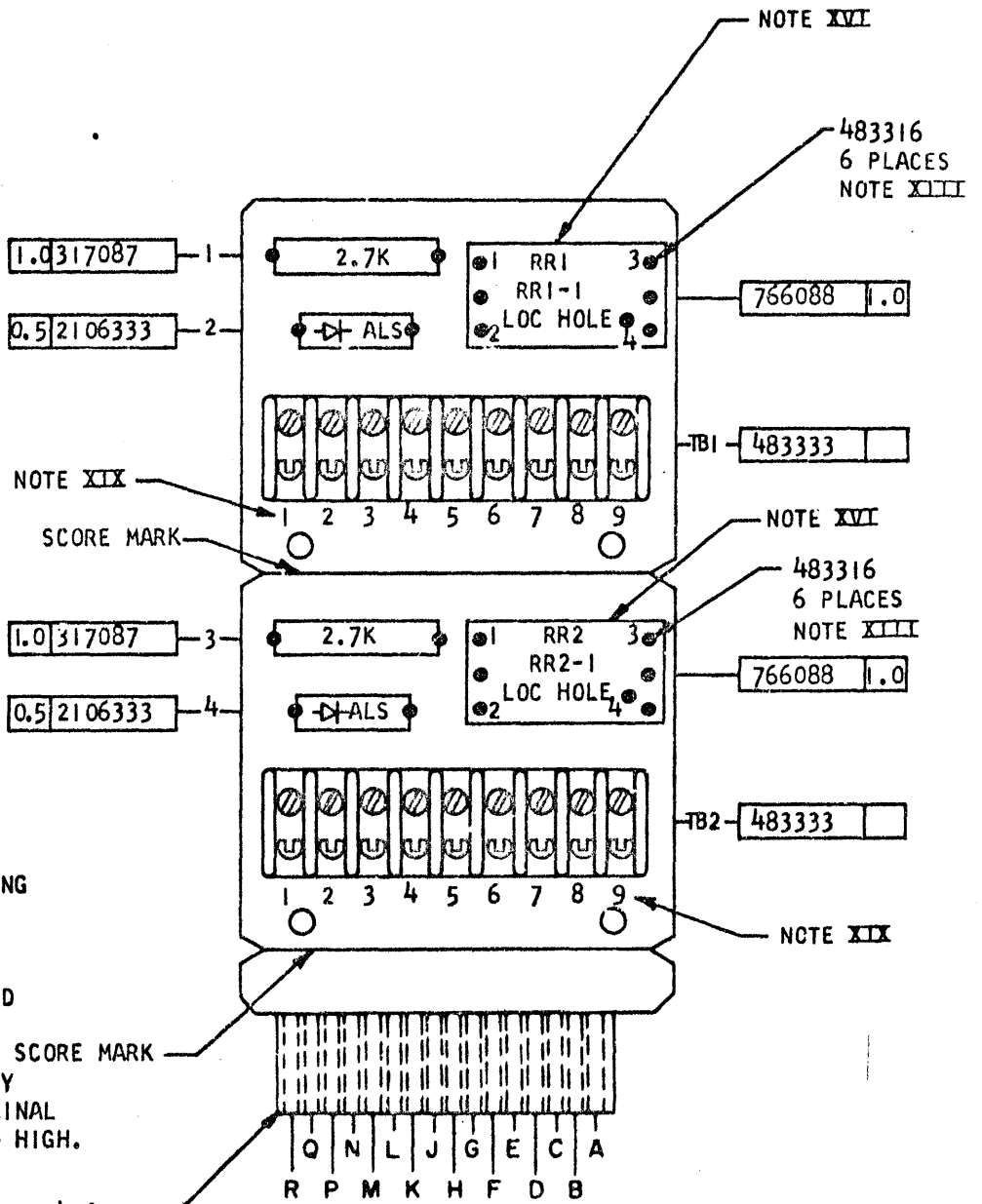
2-6111



NOTES

- X CIRCUIT MUST CONFORM TO ENGINEERING SPECIFICATION 870688
- XI ASSEMBLE TO ENGINEERING SPECIFICATION 895396, 891999, AND 892058
- XII ALL RESISTORS ARE 2 WATT AND  $\pm 5\%$  UNLESS OTHERWISE NOTED
- XIII SLOT IN LUG 483316 MUST BE PARALLEL TO Y-Y AXIS
- XIV THIS CARD CONTAINS TWO ASSEMBLIES OF THE CIRCUIT SHOWN
- XV TAB AREA IS REQUIRED AT ASSEMBLY, FOR MANUFACTURING PURPOSES ONLY. ASSEMBLY IS TO BE BROKEN AT SCORE MARKS PRIOR TO STOCKING
- XVI DO NOT SUBJECT REED ASSEMBLY TO LIQUIDS
- XVII
- XVIII STANDARD TRANSISTOR EMBOSS, CENTERED ON GRID CO-ORDINATES 0826, 0837, 0863, 0874, 4526, 4537, 4563, AND 4574.
- XIX NUMBERS TO BE MARKED PERMANENTLY AND LEGIBLY AS SHOWN IN COMPONENT VIEW TO IDENTIFY TERMINAL POSITIONS. NUMBERS TO BE NO LESS THAN .094 HIGH.  
PW 11JUL68

B



DPD CIRCUIT & PACKAGING STANDARD	
APPROVAL	DATE

ABC	3SEP68	HOLE PATTERN
		490389

COMPONENT SIDE

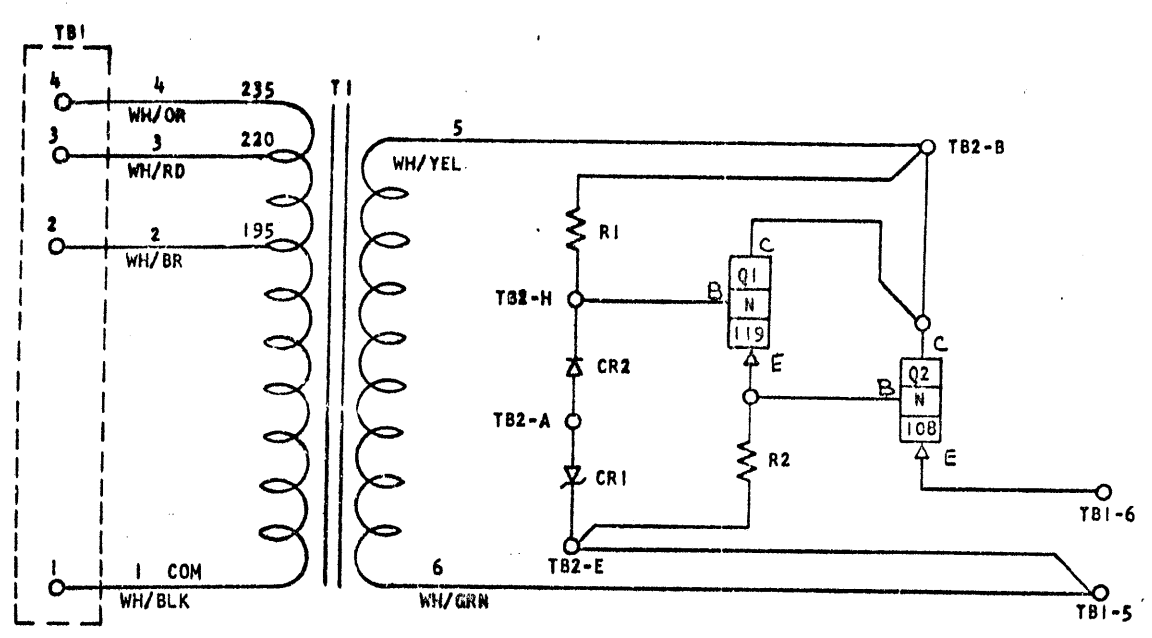
INTERNATIONAL BUSINESS MACHINES CORP.				DATE	CHANGE NO.	APPROVAL	DATE	CHANGE NO.	APPROVAL	DEVELOPMENT NO.	
NAME CARD ASM TSTR-METER CARD				SEE EC HIST							372688
DESIGN	RFR	3SEP63	MODEL	4DEC67	132195	GWS					
DETAIL			SCALE NONE	7JUN63	132884	GWS					
CHECK	BWS	3SEP63	DRAW VE	29AUG68	132922	GWS					
APPRO	CWS	4SEP63	CHECK								

372688



5232791

YF194  
ML-A



COMPONENT CHART		
DES	DESCRIPTION	P/N
Q1	TRANSISTOR TYPE 119	369616
Q2	TRANSISTOR TYPE 108	369214
R1	RESISTOR 620Ω 1/2W ± 5%	317013
R2	RESISTOR 2K 1/2W ± 5%	317019
CR1	DIODE	369127
CR2	DIODE	503591
T1	TRANSFORMER	5232793

INTERNATIONAL BUSINESS MACHINES CORP.				DATE	CHANGE NO	APPROVAL	DATE	CHANGE NO	APPROVAL	DEVELOPMENT NO.
NAME	WIRING DIAGRAM			7NOV66	708643					5232791 YF194
DESIGN	6.1V RMS 1.2 AMP									
DETAIL	RGT 8-8-66 MODEL									
CHECK	WAM 9-30-66 DRAW									
APPRO	WJL 10-3-66 CHECK									

C









649916

CIRCUIT CARD LOCATION CHART  
REMARKS

40A1

2540 11.13.16.1  
816299 SHEET 4  
DATE DEC 34, 1968

NOTE 1 12.11.61.1	12.11.61.1	12.11.61.1	12.11.61.1	12.11.61.1	12.11.61.1
NOTE 2 12.11.66.1	12.11.66.1	12.11.66.1	12.11.66.1	12.11.66.1	12.11.66.1
NOTE 3 12.11.62.1	12.11.62.1	12.11.62.1	12.11.62.1	12.11.62.1	12.11.62.1
NOTE 4 12.11.67.1	12.11.67.1	12.11.67.1	12.11.67.1	12.11.67.1	12.11.67.1
NOTE 5 12.11.63.1	12.11.63.1	12.11.63.1	12.11.63.1	12.11.63.1	12.11.63.1
NOTE 6 12.11.68.1	12.11.68.1	12.11.68.1	12.11.68.1	12.11.68.1	12.11.68.1
NOTE 7 12.11.63.1	12.11.64.1	12.11.64.1	12.11.64.1	12.11.64.1	12.11.64.1
NOTE 8 12.11.68.1	12.11.69.1	12.11.69.1	12.11.69.1	12.11.69.1	12.11.69.1
NOTE 9 12.11.64.1	12.11.64.1	12.11.64.1	12.11.64.1	12.11.65.1	12.11.65.1
NOTE 10 12.11.69.1	12.11.69.1	12.11.69.1	12.11.69.1	12.11.70.1	12.11.70.1
NOTE 11 12.11.65.1	12.11.65.1	12.11.65.1	12.11.65.1	12.11.65.1	12.11.65.1
NOTE 12 12.11.70.1	12.11.70.1	12.11.70.1	12.11.70.1	12.11.70.1	12.11.70.1
NOTE 13 12.11.51.1	12.11.51.1	12.11.52.1			
NOTE 14 12.11.54.1	12.11.54.1	12.11.57.1	12.11.58.1		
NOTE 15 12.11.55.1	12.11.59.1	12.11.59.1	12.11.59.1		
NOTE 16 12.11.75.1	12.11.75.1	12.11.75.1	12.11.75.1	12.11.75.1	12.11.75.1
NOTE 17 12.11.80.1	12.11.80.1	12.11.80.1	12.11.80.1	12.11.80.1	12.11.80.1
NOTE 18 12.11.74.1	12.11.74.1	12.11.74.1	12.11.74.1	12.11.75.1	12.11.75.1
NOTE 19 12.11.79.1	12.11.79.1	12.11.79.1	12.11.79.1	12.11.80.1	12.11.80.1
NOTE 20 12.11.73.1	12.11.74.1	12.11.74.1	12.11.74.1	12.11.74.1	12.11.74.1
NOTE 21 12.11.78.1	12.11.79.1	12.11.79.1	12.11.79.1	12.11.79.1	12.11.79.1
NOTE 22 12.11.73.1	12.11.73.1	12.11.73.1	12.11.73.1	12.11.73.1	12.11.73.1
NOTE 23 12.11.78.1	12.11.78.1	12.11.78.1	12.11.78.1	12.11.78.1	12.11.78.1
NOTE 24 12.11.72.1	12.11.72.1	12.11.72.1	12.11.72.1	12.11.72.1	12.11.72.1
NOTE 25 12.11.77.1	12.11.77.1	12.11.77.1	12.11.77.1	12.11.77.1	12.11.77.1
NOTE 26 12.11.71.1	12.11.71.1	12.11.71.1	12.11.71.1	12.11.71.1	12.11.71.1
NOTE 27 12.11.76.1	12.11.76.1	12.11.76.1	12.11.76.1	12.11.76.1	12.11.76.1

0649917 EDGE CONNECTOR LIST  
 PANEL 40A1 ENG. CHANGE NO. 816299

EDGE	CONN.	SIGNAL NAME	DRAWINGS		
B01A	+Y POWER ON	RESET	11.40.26.1	11.50.30.1	11.50.31.1
			11.50.33.1	11.50.37.1	11.60.40.1
			11.60.41.1	11.60.43.1	11.60.44.1
			11.50.45.1	11.60.49.1	12.11.53.1
B01B	+Y RDR FEED	COMMAND	11.50.30.1	12.11.52.1	
B01C	+Y UNIT	EXCEPTION RDR	11.50.40.1	11.50.37.1	12.11.52.1
B01D	+Y 2821 RDR	READY TURN OFF	11.50.30.1	12.11.52.1	
B01E		-Y READER READY	11.50.30.1	12.11.86.1	
B01F		-Y READ FEED	11.50.32.1	11.50.33.1	12.11.53.1
B01G		+Y READ FEED	11.50.32.1	12.11.53.1	
B01H		+Y XFER CY REQ	11.50.36.1	12.11.53.1	
B01J					
B01K		+Y TCU METER	11.50.36.1	12.11.87.1	
B01L			11.50.39.1		
B01M	+C 1400 UNIT	EXCEPTION GATE	12.11.86.1		
B01N	+Y CE 2540 OFF	LINE SWITCH	11.60.40.1		
B01P		+Y PCH WRITE	11.60.41.1	12.11.52.1	
B01Q	+Y MACH RESET	PCH	11.60.41.1	11.60.42.1	11.60.45.1
			11.60.47.1	12.11.53.1	
B01R	+Y MACH RESET	RDR	11.50.32.1	11.50.35.1	11.50.37.1
			12.11.53.1		
B02A	+Y 2821 PCH	READY TURN OFF	11.60.41.1	12.11.52.1	
B02B		+Y PUNCH FEED	11.60.42.1	12.11.53.1	
B02C	+Y 4 BIT MODIFY	PULL ON	11.60.42.1	12.11.86.1	
B02D		-Y DIE STA DLY	11.60.43.1	12.11.86.1	
B02E		-Y PCH CHK DLY	11.60.43.1	12.11.86.1	
B02F	-Y PCH RESTART	GATE	11.60.45.1	12.11.52.1	
B02G		+Y PL 257	11.60.46.1	12.11.57.1	
B02H		-Y PCH SCAN	11.60.47.1	12.11.85.1	
B02J					
B02K	+Y RDR BRUSH	IMPULSES	11.50.36.1	12.11.59.1	12.11.86.1
			11.50.39.1		
B02L			11.50.39.1	12.11.87.1	
B02M		+Y STACKER P2	11.50.39.1	12.11.87.1	
B02N		+Y STACKER P3	11.60.42.1	12.11.53.1	
B02P		-Y PUNCH FEED	11.60.41.1	12.11.86.1	
B02Q		-Y PUNCH READY	11.60.41.1	12.11.86.1	
B02R	-Y PCH CLUTCH	SET	11.60.46.1	12.11.85.1	
B03A		-Y READER CHECK	12.11.87.1		
B03B		-Y PUNCH CHECK	12.11.87.1		
B03C			12.11.87.1		
B03D			12.11.86.1		
B03E	-C PFR UNIT	EXCEPTION GATE	12.11.86.1		
B03F	-C RDR CL LAT	NOT NPRO	12.11.86.1		
B03G	+C PCH CL LAT	NOT NPRO	12.11.86.1		
B03H	+C GATE RD	COMPLETE 2540	12.11.86.1		
B03J					
B03K	-C AFTER 9	EMITTER	12.11.85.1		
B03L	-C UNIT EXCEP	TION	12.11.85.1		
B03M	-C PCH BRUSH	IMPULSE	12.11.85.1		
B03N			12.11.59.1		
B03P	+Y PCH BRUSH	IMPULSE	11.60.47.1	12.11.59.1	
B03Q	-Y RL 138-156-174		11.50.34.1	11.50.39.1	
B03R	+Y CLUTCH	GATE SET	11.50.35.1	11.50.39.1	
B04A	+Y RD CLUTCH	GATE	11.50.32.1	12.11.59.1	
B04B			16.28.92.1		
B04C			16.28.93.1		
B04D		+V RP T0	12.11.55.1	16.28.92.1	
B04E		+V RP T1	12.11.55.1	16.28.93.1	
B04F		+V RP T2	12.11.55.1	16.28.94.1	
B04G		+V RP T3	12.11.55.1	16.28.95.1	
B04H		+V RP T4	12.11.55.1	16.28.96.1	
B04J					
B04K		+V RP T5	12.11.55.1	16.28.97.1	
B04L		+V RP T6	12.11.55.1	16.28.98.1	
B04M		+V RP T7	12.11.55.1	16.28.99.1	
B04N		+V RP T8	12.11.55.1	16.28.92.1	
B04P		-Y PUNCH DATA	12.11.52.1	16.28.94.1	16.28.95.1
			16.28.96.1	16.28.97.1	16.28.98.1
			16.28.99.1		
B04Q					
B04R					
B05A	+Y PCH CLUTCH	GATE	11.60.42.1	12.11.59.1	
B05B		+V RP U1	12.11.54.1		
B05C		+V RP U2	12.11.54.1	16.28.90.1	
B05D		+V RP U3	12.11.54.1		
B05E		+V RP U4	12.11.54.1	16.28.90.1	
B05F		+V RP U5	12.11.54.1	16.28.91.1	
B05G		+V RP U6	12.11.54.1	16.28.91.1	
B05H		+V RP U7	12.11.54.1	16.28.91.1	
B05J					
B05K		+V RP U8	12.11.54.1		
B05L		+V RP U9	12.11.54.1	16.28.91.1	
B05M		+V RP U0	12.11.54.1	16.28.90.1	
B05N					
B05P					
B05Q					
B05R					
B40A	+Y RD CLUTCH	GATE	11.50.32.1	12.11.59.1	
B40B					
B40C					
B40D					
B40E					
B40F					
B40G					
B40H					
B40J					
B40K					
B40L					
B40M					
B40N					
B40P					
B40Q					
B40R					
C01A		-C RD1 ROW-BIT	12.11.85.1		
C01B		-C RD2 ROW-BIT	12.11.85.1		
C01C	-C PCH CHK ROW-BIT		12.11.85.1		
C01D	-C PFR RD ROW-BIT		12.11.85.1		
C01E		-C PUNCH SCAN	12.11.85.1		
C01F	-C AFTER 9	EMITTER	12.11.85.1		
C01G	-C PCH CLUTCH	SET	12.11.85.1		
C01H	-C UNIT EXCEP	TION	12.11.85.1		
C01J					

PANEL 40A1 ENG. CHANGE NO. 816299

EDGE CONN.	SIGNAL	NAME	DRAWINGS
C01K	-C	PCH BRUSH IMPULSE	12.11.85.1
C01L	-C	READ FEED 2025 CPU	12.11.53.1
C01M	-C	READ FEED 2821 ICU	12.11.53.1
C01N	-C	PUNCH FEED 2821 ICU	12.11.53.1
C01O	-C	PCH FEED 2025 CPU	12.11.53.1
C01P	-C	POWER ON RESET 2025 CPU	12.11.53.1
C01Q	-C	POWER ON RESET 2821 ICU	12.11.53.1
C01R	-C	MACH RESET RDR 2821 ICU	12.11.53.1
C01S	-C	MACH RESET RDR PCH 2025CPU	12.11.53.1
C01T	-C	TIME 025-150	12.11.52.1
C01U	-C	TIME 150-375	12.11.52.1
C02A	-C	RDR CL LAT NOT NPRO	12.11.86.1
C02B	-C	PCH CL LAT NOT NPRO	12.11.86.1
C02C	+C	GATE RD COMPLETE 2540	12.11.86.1
C02D	-C	PCH BRUSH CL DELAYD INT	12.11.86.1
C02E	-C	DIE CL DELAY	12.11.86.1
C02F	-C	PCH READY	12.11.86.1
C02G	-C	READER READY	12.11.86.1
C02H	+C	RDR BRUSH IMPULSE	12.11.86.1
C02I	-C	1400 UNIT EXCEPTION GATE	12.11.86.1
C02J	+C	XFER CY RQ 2025 CPU	12.11.53.1
C02K	-C	XFER CY RQ 2821 ICU	12.11.53.1
C02L	-C	4 BIT MOD PULL ON	12.11.86.1
C02M	-C	UNIT EXCEPTION RDR	12.11.52.1
C02N	-C	PFR UNIT EXCEPTION GATE	12.11.86.1
C02O	-C	PUNCH WRITE	12.11.52.1
C02P	-C	RDR FEED COMMAND	12.11.52.1
C03A	-C	RP BAR UNITS A	12.11.51.1
C03B	-C	RP BAR UNITS B	12.11.51.1
C03C	-C	RP BAR UNITS C	12.11.51.1
C03D	-C	RP BAR UNITS D	12.11.51.1
C03E	-C	RP BAR UNITS E	12.11.51.1
C03F	-C	RP BAR TEN A	12.11.51.1
C03G	-C	RP BAR TEN B	12.11.51.1
C03H	-C	RP BAR TEN C	12.11.51.1
C03I	-C	RP BAR TEN D	12.11.51.1
C03J	-C	RP BAR TEN E	12.11.52.1
C03K	-C	PUNCH CYCLE	12.11.52.1
C03L	-C	READ CYCLE	12.11.52.1
C03M	-C	TIME 150-450	12.11.52.1
C03N	-C	TIME 225-525	12.11.52.1
C03O	+C	PUNCH DECODE	12.11.52.1
C03P	-C	PUNCH DECODE	12.11.52.1
C03Q	-C	PUNCH DECODE	12.11.52.1
C03R	-C	PUNCH DECODE	12.11.52.1
C04A	-Y	READER CHECK	12.11.87.1
C04B	-Y	VALIDITY	12.11.87.1
C04C	-Y	PUNCH CHECK	12.11.87.1
C04D	+Y	STACKER P2	12.11.87.1
C04E	+Y	STACKER P3	12.11.87.1
C04F	+Y	STACKER P2	12.11.87.1
C04G	+Y	STACKER P3	12.11.87.1
C04H	+Y	2540 METER RUN	12.11.87.1
C04I	-C	2821 PDP READY TURN OFF	12.11.52.1
C04J	-C	2821 PCH READY TURN OFF	12.11.52.1
C04K	+Y	MACH RESET PCH	12.11.53.1
C04L	-Y	PCH PFR VALIDITY	12.11.87.1
C04M	+C	PUNCH RESTART GATE	12.11.52.1
C04N	+Y	CE 2540 OFF LINE SWITCH	11.60.40.1
C05A	+V	RP U1	16.28.90.1
C05B	+V	RP U3	16.28.90.1
C05C	+V	RP U6	16.28.91.1
C05D	+V	RP U8	16.28.91.1
C05E	+V	RP U8	16.28.91.1
C05F	+V	RP U8	16.28.91.1
C05G	+V	RP U8	16.28.91.1
C05H	+V	RP U8	16.28.91.1
C05I	+V	RP U8	16.28.91.1
C05J	+V	RP U8	16.28.91.1
C05K	+V	RP U8	16.28.91.1
C05L	+V	RP U8	16.28.91.1
C05M	+V	RP U8	16.28.91.1
C05N	+V	RP U8	16.28.91.1
C05O	+V	RP U8	16.28.91.1
C05P	+V	RP U8	16.28.91.1
C05Q	+V	RP U8	16.28.91.1
C05R	+V	RP U8	16.28.91.1
C40A	+Y	PCH CLUTCH GATE	11.60.42.1 12.11.59.1
C40B			
C40C			
C40D			
C40E			
C40F			
C40G			
C40H			
C40I			
C40J			
C40K			
C40L			
C40M			
C40N			
C40O			
C40P			
C40Q			
C40R			
D01A	+V	READ STA 1 BRUSH 01	12.11.61.1
D01B	+V	READ STA 1 BRUSH 02	12.11.61.1
D01C	+V	READ STA 1 BRUSH 03	12.11.61.1
D01D	+V	READ STA 1 BRUSH 04	12.11.61.1
D01E	+V	READ STA 1 BRUSH 05	12.11.61.1
D01F	+V	READ STA 1 BRUSH 06	12.11.61.1
D01G	+V	READ STA 1 BRUSH 07	12.11.61.1
D01H	+V	READ STA 1 BRUSH 08	12.11.61.1
D01I	+V	READ STA 1 BRUSH 09	12.11.61.1
D01J	+V	READ STA 1 BRUSH 10	12.11.61.1
D01K	+V	READ STA 1 BRUSH 10	12.11.61.1
D01L	+V	READ STA 1 BRUSH 10	12.11.61.1
D01M	+V	READ STA 1 BRUSH 11	12.11.61.1
D01N	+V	READ STA 1 BRUSH 12	12.11.61.1
D01O	+V	READ STA 1 BRUSH 13	12.11.61.1
D01P	+V	READ STA 1 BRUSH 13	12.11.61.1
D01Q	+V	READ STA 1 BRUSH 14	12.11.61.1
D01R	+V	READ STA 1 BRUSH 14	12.11.61.1

PANEL 40A1 ENG. CHANGE NO. 816299

EDGE CONN.	SIGNAL	NAME	DRAWINGS
D32A	1V READ STA 1	BRUSH 15	12.11.61.1
D32B	1V READ STA 1	BRUSH 16	12.11.61.1
D32C	1V READ STA 1	BRUSH 17	12.11.62.1
D32D	1V READ STA 1	BRUSH 18	12.11.62.1
D32E	1V READ STA 1	BRUSH 19	12.11.62.1
D32F	1V READ STA 1	BRUSH 20	12.11.62.1
D32G	1V READ STA 1	BRUSH 21	12.11.62.1
D32H	1V READ STA 1	BRUSH 22	12.11.62.1
D32J	1V READ STA 1	BRUSH 23	12.11.62.1
D32K	1V READ STA 1	BRUSH 24	12.11.62.1
D32L	1V READ STA 1	BRUSH 24	12.11.62.1
D32M			
D32N	1V READ STA 1	BRUSH 25	12.11.62.1
D32P	1V READ STA 1	BRUSH 26	12.11.62.1
D32Q	1V READ STA 1	BRUSH 27	12.11.62.1
D32R			
D33A	1V READ STA 1	BRUSH 28	12.11.62.1
D33B	1V READ STA 1	BRUSH 29	12.11.62.1
D33C	1V READ STA 1	BRUSH 30	12.11.62.1
D33D	1V READ STA 1	BRUSH 31	12.11.62.1
D33E	1V READ STA 1	BRUSH 32	12.11.62.1
D33F	1V READ STA 1	BRUSH 33	12.11.63.1
D33G	1V READ STA 1	BRUSH 34	12.11.63.1
D33H	1V READ STA 1	BRUSH 35	12.11.63.1
D33J			
D33K	1V READ STA 1	BRUSH 36	12.11.63.1
D33L	1V READ STA 1	BRUSH 37	12.11.63.1
D33M			
D33N	1V READ STA 1	BRUSH 38	12.11.63.1
D33P	1V READ STA 1	BRUSH 39	12.11.63.1
D33Q	1V READ STA 1	BRUSH 40	12.11.63.1
D33R			
D34A	1V READ STA 1	BRUSH 41	12.11.63.1
D34B	1V READ STA 1	BRUSH 42	12.11.63.1
D34C	1V READ STA 1	BRUSH 43	12.11.63.1
D34D	1V READ STA 1	BRUSH 44	12.11.63.1
D34E	1V READ STA 1	BRUSH 45	12.11.63.1
D34F	1V READ STA 1	BRUSH 46	12.11.63.1
D34G	1V READ STA 1	BRUSH 47	12.11.63.1
D34H	1V READ STA 1	BRUSH 48	12.11.63.1
D34J			
D34K	1V READ STA 1	BRUSH 49	12.11.64.1
D34L	1V READ STA 1	BRUSH 50	12.11.64.1
D34M			
D34N	1V READ STA 1	BRUSH 51	12.11.64.1
D34P	1V READ STA 1	BRUSH 52	12.11.64.1
D34Q	1V READ STA 1	BRUSH 53	12.11.64.1
D34R			
D35A	1V READ STA 1	BRUSH 54	12.11.64.1
D35B	1V READ STA 1	BRUSH 55	12.11.64.1
D35C	1V READ STA 1	BRUSH 56	12.11.64.1
D35D	1V READ STA 1	BRUSH 57	12.11.64.1
D35E	1V READ STA 1	BRUSH 58	12.11.64.1
D35F	1V READ STA 1	BRUSH 59	12.11.64.1
D35G	1V READ STA 1	BRUSH 60	12.11.64.1
D35H	1V READ STA 1	BRUSH 61	12.11.64.1
D35J			
D35K	1V READ STA 1	BRUSH 62	12.11.64.1
D35L	1V READ STA 1	BRUSH 63	12.11.64.1
D35M			
D35N	1V READ STA 1	BRUSH 64	12.11.64.1
D35P	1V READ STA 1	BRUSH 65	12.11.65.1
D35Q	1V READ STA 1	BRUSH 66	12.11.65.1
D35R			
D36A	1V READ STA 1	BRUSH 67	12.11.65.1
D36B	1V READ STA 1	BRUSH 68	12.11.65.1
D36C	1V READ STA 1	BRUSH 69	12.11.65.1
D36D	1V READ STA 1	BRUSH 70	12.11.65.1
D36E	1V READ STA 1	BRUSH 71	12.11.65.1
D36F	1V READ STA 1	BRUSH 72	12.11.65.1
D36G	1V READ STA 1	BRUSH 73	12.11.65.1
D36H	1V READ STA 1	BRUSH 74	12.11.65.1
D36J			
D36K	1V READ STA 1	BRUSH 75	12.11.65.1
D36L	1V READ STA 1	BRUSH 76	12.11.65.1
D36M			
D36N	1V READ STA 1	BRUSH 77	12.11.65.1
D36P	1V READ STA 1	BRUSH 78	12.11.65.1
D36Q	1V READ STA 1	BRUSH 79	12.11.65.1
D36R	1V READ STA 1	BRUSH 80	12.11.65.1
D35A	1V PCH CHK STA	BRUSH 67	12.11.75.1
D35B	1V PCH CHK STA	BRUSH 68	12.11.75.1
D35C	1V PCH CHK STA	BRUSH 69	12.11.75.1
D35D	1V PCH CHK STA	BRUSH 70	12.11.75.1
D35E	1V PCH CHK STA	BRUSH 71	12.11.75.1
D35F	1V PCH CHK STA	BRUSH 72	12.11.75.1
D35G	1V PCH CHK STA	BRUSH 73	12.11.75.1
D35H	1V PCH CHK STA	BRUSH 74	12.11.75.1
D35J			
D35K	1V PCH CHK STA	BRUSH 75	12.11.75.1
D35L	1V PCH CHK STA	BRUSH 76	12.11.75.1
D35M			
D35N	1V PCH CHK STA	BRUSH 77	12.11.75.1
D35P	1V PCH CHK STA	BRUSH 78	12.11.75.1
D35Q	1V PCH CHK STA	BRUSH 79	12.11.75.1
D35R	1V PCH CHK STA	BRUSH 80	12.11.75.1
D36A	1V PCH CHK STA	BRUSH 54	12.11.74.1
D36B	1V PCH CHK STA	BRUSH 55	12.11.74.1
D36C	1V PCH CHK STA	BRUSH 56	12.11.74.1
D36D	1V PCH CHK STA	BRUSH 57	12.11.74.1
D36E	1V PCH CHK STA	BRUSH 58	12.11.74.1
D36F	1V PCH CHK STA	BRUSH 59	12.11.74.1
D36G	1V PCH CHK STA	BRUSH 60	12.11.74.1
D36H	1V PCH CHK STA	BRUSH 61	12.11.74.1
D36J			
D36K	1V PCH CHK STA	BRUSH 62	12.11.74.1
D36L	1V PCH CHK STA	BRUSH 63	12.11.74.1
D36M			

PANEL 47A1 ENG. CHANGE NO. 816299

EDGE CONN.	SIGNAL NAME	DRAWINGS
D36M	1V PCH CHK STA BRUSH 64	12.11.74.1
D36P	1V PCH CHK STA BRUSH 65	12.11.75.1
D36Q	1V PCH CHK STA BRUSH 66	12.11.75.1
D36R		
D37A	1V PCH CHK STA BRUSH 41	12.11.73.1
D37B	1V PCH CHK STA BRUSH 42	12.11.73.1
D37C	1V PCH CHK STA BRUSH 43	12.11.73.1
D37D	1V PCH CHK STA BRUSH 44	12.11.73.1
D37E	1V PCH CHK STA BRUSH 45	12.11.73.1
D37F	1V PCH CHK STA BRUSH 46	12.11.73.1
D37G	1V PCH CHK STA BRUSH 47	12.11.73.1
D37H	1V PCH CHK STA BRUSH 48	12.11.73.1
D37J		
D37K	1V PCH CHK STA BRUSH 49	12.11.74.1
D37L	1V PCH CHK STA BRUSH 50	12.11.74.1
D37M		
D37N	1V PCH CHK STA BRUSH 51	12.11.74.1
D37P	1V PCH CHK STA BRUSH 52	12.11.74.1
D37Q	1V PCH CHK STA BRUSH 53	12.11.74.1
D37R		
D38A	1V PCH CHK STA BRUSH 28	12.11.72.1
D38B	1V PCH CHK STA BRUSH 29	12.11.72.1
D38C	1V PCH CHK STA BRUSH 30	12.11.72.1
D38D	1V PCH CHK STA BRUSH 31	12.11.72.1
D38E	1V PCH CHK STA BRUSH 32	12.11.72.1
D38F	1V PCH CHK STA BRUSH 33	12.11.73.1
D38G	1V PCH CHK STA BRUSH 34	12.11.73.1
D38H	1V PCH CHK STA BRUSH 35	12.11.73.1
D38J		
D38K	1V PCH CHK STA BRUSH 36	12.11.73.1
D38L	1V PCH CHK STA BRUSH 37	12.11.73.1
D38M		
D38N	1V PCH CHK STA BRUSH 38	12.11.73.1
D38P	1V PCH CHK STA BRUSH 39	12.11.73.1
D38Q	1V PCH CHK STA BRUSH 40	12.11.73.1
D38R		
D39A	1V PCH CHK STA BRUSH 15	12.11.71.1
D39B	1V PCH CHK STA BRUSH 16	12.11.71.1
D39C	1V PCH CHK STA BRUSH 17	12.11.72.1
D39D	1V PCH CHK STA BRUSH 18	12.11.72.1
D39E	1V PCH CHK STA BRUSH 19	12.11.72.1
D39F	1V PCH CHK STA BRUSH 20	12.11.72.1
D39G	1V PCH CHK STA BRUSH 21	12.11.72.1
D39H	1V PCH CHK STA BRUSH 22	12.11.72.1
D39J		
D39K	1V PCH CHK STA BRUSH 23	12.11.72.1
D39L	1V PCH CHK STA BRUSH 24	12.11.72.1
D39M		
D39N	1V PCH CHK STA BRUSH 25	12.11.72.1
D39P	1V PCH CHK STA BRUSH 26	12.11.72.1
D39Q	1V PCH CHK STA BRUSH 27	12.11.72.1
D39R		
D43A	1V PCH CHK STA BRUSH 01	12.11.71.1
D43B	1V PCH CHK STA BRUSH 02	12.11.71.1
D43C	1V PCH CHK STA BRUSH 03	12.11.71.1
D43D	1V PCH CHK STA BRUSH 04	12.11.71.1
D43E	1V PCH CHK STA BRUSH 05	12.11.71.1
D43F	1V PCH CHK STA BRUSH 06	12.11.71.1
D43G	1V PCH CHK STA BRUSH 07	12.11.71.1
D43H	1V PCH CHK STA BRUSH 08	12.11.71.1
D43J		
D43K	1V PCH CHK STA BRUSH 09	12.11.71.1
D43L	1V PCH CHK STA BRUSH 10	12.11.71.1
D43M		
D43N	1V PCH CHK STA BRUSH 11	12.11.71.1
D43P	1V PCH CHK STA BRUSH 12	12.11.71.1
D43Q	1V PCH CHK STA BRUSH 13	12.11.71.1
D43R	1V PCH CHK STA BRUSH 14	12.11.71.1
E01A	1V READ STA 2 BRUSH 01	12.11.66.1
E01B	1V READ STA 2 BRUSH 02	12.11.66.1
E01C	1V READ STA 2 BRUSH 03	12.11.66.1
E01D	1V READ STA 2 BRUSH 04	12.11.66.1
E01E	1V READ STA 2 BRUSH 05	12.11.66.1
E01F	1V READ STA 2 BRUSH 06	12.11.66.1
E01G	1V READ STA 2 BRUSH 07	12.11.66.1
E01H	1V READ STA 2 BRUSH 08	12.11.66.1
E01J		
E01K	1V READ STA 2 BRUSH 09	12.11.66.1
E01L	1V READ STA 2 BRUSH 10	12.11.66.1
E01M		
E01N	1V READ STA 2 BRUSH 11	12.11.66.1
E01P	1V READ STA 2 BRUSH 12	12.11.66.1
E01Q	1V READ STA 2 BRUSH 13	12.11.66.1
E01R	1V READ STA 2 BRUSH 14	12.11.66.1
E02A	1V READ STA 2 BRUSH 15	12.11.66.1
E02B	1V READ STA 2 BRUSH 16	12.11.66.1
E02C	1V READ STA 2 BRUSH 17	12.11.67.1
E02D	1V READ STA 2 BRUSH 18	12.11.67.1
E02E	1V READ STA 2 BRUSH 19	12.11.67.1
E02F	1V READ STA 2 BRUSH 20	12.11.67.1
E02G	1V READ STA 2 BRUSH 21	12.11.67.1
E02H	1V READ STA 2 BRUSH 22	12.11.67.1
E02J		
E02K	1V READ STA 2 BRUSH 23	12.11.67.1
E02L	1V READ STA 2 BRUSH 24	12.11.67.1
E02M		
E02N	1V READ STA 2 BRUSH 25	12.11.67.1
E02P	1V READ STA 2 BRUSH 26	12.11.67.1
E02Q	1V READ STA 2 BRUSH 27	12.11.67.1
E02R		
E03A	1V READ STA 2 BRUSH 28	12.11.67.1
E03B	1V READ STA 2 BRUSH 29	12.11.67.1
E03C	1V READ STA 2 BRUSH 30	12.11.67.1
E03D	1V READ STA 2 BRUSH 31	12.11.67.1

PANFL 43A1 ENG. CHANGE NO. 416299

EDGE CONN.		SIGNAL NAME		DRAWINGS
E03E	IV READ STA 2	BRUSH 32		12.11.67.1
E03F	IV READ STA 2	BRUSH 33		12.11.68.1
E03G	IV READ STA 2	BRUSH 34		12.11.68.1
E03H	IV READ STA 2	BRUSH 35		12.11.68.1
E03J				
E03K	IV READ STA 2	BRUSH 36		12.11.68.1
E03L	IV READ STA 2	BRUSH 37		12.11.68.1
E03M				
E03N	IV READ STA 2	BRUSH 38		12.11.68.1
E03P	IV READ STA 2	BRUSH 39		12.11.68.1
E03Q	IV READ STA 2	BRUSH 40		12.11.68.1
E03R				
E04A	IV READ STA 2	BRUSH 41		12.11.68.1
E04B	IV READ STA 2	BRUSH 42		12.11.68.1
E04C	IV READ STA 2	BRUSH 43		12.11.68.1
E04D	IV READ STA 2	BRUSH 44		12.11.68.1
E04E	IV READ STA 2	BRUSH 45		12.11.68.1
E04F	IV READ STA 2	BRUSH 46		12.11.68.1
E04G	IV READ STA 2	BRUSH 47		12.11.68.1
E04H	IV READ STA 2	BRUSH 48		12.11.68.1
E04J				
E04K	IV READ STA 2	BRUSH 49		12.11.69.1
E04L	IV READ STA 2	BRUSH 50		12.11.69.1
E04M				
E04N	IV READ STA 2	BRUSH 51		12.11.69.1
E04P	IV READ STA 2	BRUSH 52		12.11.69.1
E04Q	IV READ STA 2	BRUSH 53		12.11.69.1
E04R				
E05A	IV READ STA 2	BRUSH 54		12.11.69.1
E05B	IV READ STA 2	BRUSH 55		12.11.69.1
E05C	IV READ STA 2	BRUSH 56		12.11.69.1
E05D	IV READ STA 2	BRUSH 57		12.11.69.1
E05E	IV READ STA 2	BRUSH 58		12.11.69.1
E05F	IV READ STA 2	BRUSH 59		12.11.69.1
E05G	IV READ STA 2	BRUSH 60		12.11.69.1
E05H	IV READ STA 2	BRUSH 61		12.11.69.1
E05J				
E05K	IV READ STA 2	BRUSH 62		12.11.69.1
E05L	IV READ STA 2	BRUSH 63		12.11.69.1
E05M				
E05N	IV READ STA 2	BRUSH 64		12.11.69.1
E05P	IV READ STA 2	BRUSH 65		12.11.70.1
E05Q	IV READ STA 2	BRUSH 66		12.11.70.1
E05R				
E06A	IV READ STA 2	BRUSH 67		12.11.70.1
E06B	IV READ STA 2	BRUSH 68		12.11.70.1
E06C	IV READ STA 2	BRUSH 69		12.11.70.1
E06D	IV READ STA 2	BRUSH 70		12.11.70.1
E06E	IV READ STA 2	BRUSH 71		12.11.70.1
E06F	IV READ STA 2	BRUSH 72		12.11.70.1
E06G	IV READ STA 2	BRUSH 73		12.11.70.1
E06H	IV READ STA 2	BRUSH 74		12.11.70.1
E06J				
E06K	IV READ STA 2	BRUSH 75		12.11.70.1
E06L	IV READ STA 2	BRUSH 76		12.11.70.1
E06M				
E06N	IV READ STA 2	BRUSH 77		12.11.70.1
E06P	IV READ STA 2	BRUSH 78		12.11.70.1
E06Q	IV READ STA 2	BRUSH 79		12.11.70.1
E06R	IV READ STA 2	BRUSH 80		12.11.70.1
E07A	IV PFR STA	BRUSH 67		12.11.80.1
E07B	IV PFR STA	BRUSH 68		12.11.80.1
E07C	IV PFR STA	BRUSH 69		12.11.80.1
E07D	IV PFR STA	BRUSH 70		12.11.80.1
E07E	IV PFR STA	BRUSH 71		12.11.80.1
E07F	IV PFR STA	BRUSH 72		12.11.80.1
E07G	IV PFR STA	BRUSH 73		12.11.80.1
E07H	IV PFR STA	BRUSH 74		12.11.80.1
E07J				
E07K	IV PFR STA	BRUSH 75		12.11.80.1
E07L	IV PFR STA	BRUSH 76		12.11.80.1
E07M				
E07N	IV PFR STA	BRUSH 77		12.11.80.1
E07P	IV PFR STA	BRUSH 78		12.11.80.1
E07Q	IV PFR STA	BRUSH 79		12.11.80.1
E07R	IV PFR STA	BRUSH 80		12.11.80.1
E08A	IV PFR STA	BRUSH 54		12.11.79.1
E08B	IV PFR STA	BRUSH 55		12.11.79.1
E08C	IV PFR STA	BRUSH 56		12.11.79.1
E08D	IV PFR STA	BRUSH 57		12.11.79.1
E08E	IV PFR STA	BRUSH 58		12.11.79.1
E08F	IV PFR STA	BRUSH 59		12.11.79.1
E08G	IV PFR STA	BRUSH 60		12.11.79.1
E08H	IV PFR STA	BRUSH 61		12.11.79.1
E08J				
E08K	IV PFR STA	BRUSH 62		12.11.79.1
E08L	IV PFR STA	BRUSH 63		12.11.79.1
E08M				
E08N	IV PFR STA	BRUSH 64		12.11.79.1
E08P	IV PFR STA	BRUSH 65		12.11.80.1
E08Q	IV PFR STA	BRUSH 66		12.11.80.1
E08R				
E09A	IV PFR STA	BRUSH 41		12.11.78.1
E09B	IV PFR STA	BRUSH 42		12.11.78.1
E09C	IV PFR STA	BRUSH 43		12.11.78.1
E09D	IV PFR STA	BRUSH 44		12.11.78.1
E09E	IV PFR STA	BRUSH 45		12.11.78.1
E09F	IV PFR STA	BRUSH 46		12.11.78.1
E09G	IV PFR STA	BRUSH 47		12.11.78.1
E09H	IV PFR STA	BRUSH 48		12.11.78.1
E09J				
E09K	IV PFR STA	BRUSH 49		12.11.79.1
E09L	IV PFR STA	BRUSH 50		12.11.79.1
E09M				
E09N	IV PFR STA	BRUSH 51		12.11.79.1
E09P	IV PFR STA	BRUSH 52		12.11.79.1
E09Q	IV PFR STA	BRUSH 53		12.11.79.1
E09R				



PANEL 4341 ENG. CHANGE NO. 816299

EDGE CONN.		SIGNAL NAME	DRAWINGS
F33A	LV PFR STA	BRUSH 28	12.11.77.1
F33B	LV PFR STA	BRUSH 29	12.11.77.1
F33C	LV PFR STA	BRUSH 30	12.11.77.1
F33D	LV PFR STA	BRUSH 31	12.11.77.1
F33E	LV PFR STA	BRUSH 32	12.11.77.1
F33F	LV PFR STA	BRUSH 33	12.11.78.1
F33G	LV PFR STA	BRUSH 34	12.11.78.1
F33H	LV PFR STA	BRUSH 35	12.11.78.1
F33J			
F33K	LV PFR STA	BRUSH 36	12.11.78.1
F33L	LV PFR STA	BRUSH 37	12.11.78.1
F33M			
F33N	LV PFR STA	BRUSH 38	12.11.78.1
F33P	LV PFR STA	BRUSH 39	12.11.78.1
F33Q	LV PFR STA	BRUSH 40	12.11.78.1
F33R			
F39A	LV PFR STA	BRUSH 15	12.11.76.1
F39B	LV PFR STA	BRUSH 16	12.11.76.1
F39C	LV PFR STA	BRUSH 17	12.11.77.1
F39D	LV PFR STA	BRUSH 18	12.11.77.1
F39E	LV PFR STA	BRUSH 19	12.11.77.1
F39F	LV PFR STA	BRUSH 20	12.11.77.1
F39G	LV PFR STA	BRUSH 21	12.11.77.1
F39H	LV PFR STA	BRUSH 22	12.11.77.1
F39J			
F39K	LV PFR STA	BRUSH 23	12.11.77.1
F39L	LV PFR STA	BRUSH 24	12.11.77.1
F39M			
F39N	LV PFR STA	BRUSH 25	12.11.77.1
F39P	LV PFR STA	BRUSH 26	12.11.77.1
F39Q	LV PFR STA	BRUSH 27	12.11.77.1
F39R			
F43A	LV PFR STA	BRUSH 31	12.11.76.1
F43B	LV PFR STA	BRUSH 32	12.11.76.1
F43C	LV PFR STA	BRUSH 33	12.11.76.1
F43D	LV PFR STA	BRUSH 34	12.11.76.1
F43E	LV PFR STA	BRUSH 35	12.11.76.1
F43F	LV PFR STA	BRUSH 36	12.11.76.1
F43G	LV PFR STA	BRUSH 37	12.11.76.1
F43H	LV PFR STA	BRUSH 38	12.11.76.1
F43J			
F43K	LV PFR STA	BRUSH 09	12.11.76.1
F43L	LV PFR STA	BRUSH 10	12.11.76.1
F43M			
F43N	LV PFR STA	BRUSH 11	12.11.76.1
F43P	LV PFR STA	BRUSH 12	12.11.76.1
F43Q	LV PFR STA	BRUSH 13	12.11.76.1
F43R	LV PFR STA	BRUSH 14	12.11.76.1

END OF EDGE CONNECTOR LIST.

	A	B	REMARKS C	D	E	F
1	FNP- 0375091 04 11.60.43.1 11.60.43.1 11.60.43.1 11.60.40.1					
2	FNP- 0375091 04 11.60.40.1 11.60.40.1 11.60.43.1 11.60.43.1				ZSM- 0372057 16 11.60.46.1 11.60.46.1 11.60.46.1 11.60.46.1 11.60.46.1 11.60.46.1 P O R RE NOTE 031	
3	FNP- 0375091 04 11.60.43.1 11.60.40.1				FPU- 0375136 05 11.50.34.1 11.50.34.1 11.50.34.1 11.50.34.1 11.50.35.1	
4	C D				FPU- 0375136 05 11.50.35.1 11.50.35.1 11.50.35.1 11.50.35.1 11.50.31.1	
5	YDT- 0374549 09 11.40.25.1 11.50.31.1 11.40.25.1 11.40.25.1 11.40.25.1 11.40.25.1 11.40.25.1				BCO- 0372460 05 11.50.34.1 11.50.34.1 11.50.34.1 11.50.34.1 11.50.35.1	
6	FPE- 0375094 02 11.50.39.1 11.50.39.1			UGT- 0372976 04 12.11.86.1 12.11.86.1 12.11.86.1 12.11.86.1	BCO- 0372460 05 11.50.35.1 11.50.35.1 11.50.35.1 11.50.35.1 11.50.31.1	
7	H		FNP- 0375091 04 11.50.30.1 11.50.33.1 11.50.37.1 11.60.41.1	UGT- 0372976 04 12.11.85.1 12.11.85.1 12.11.86.1 12.11.85.1	FPU- 0375136 05 11.60.48.1 11.60.48.1 11.60.48.1 11.60.48.1 11.60.46.1	
8	FPE- 0375094 02 11.50.39.1 11.50.39.1	FNP- 0375091 04 11.60.44.1 11.40.26.1 11.40.26.1 11.60.49.1		FPT- 0375133 02 11.50.32.1 11.50.32.1	FPU- 0375136 05 11.60.46.1 11.60.46.1 11.60.46.1 11.60.46.1 11.60.46.1	
9	ADF- 0372375 02 11.50.32.1 11.60.42.1	FNP- 0375091 04 12.11.87.1 12.11.87.1 12.11.87.1		FPT- 0375133 02 11.50.39.1 11.50.32.1	BCO- 0372460 05 11.60.46.1 11.60.46.1 11.60.46.1 11.60.46.1 11.60.46.1	
10	ASQ- 0372245 02 11.50.39.1 11.50.33.1	FVR- 0375063 02 11.60.42.1 11.50.32.1		FPT- 0375133 02 11.60.42.1 11.60.42.1	BCO- 0372460 05 11.60.46.1 11.60.46.1 11.60.46.1 11.60.46.1 11.60.46.1	
11	AXA- 0372197 04 11.50.39.1 11.50.39.1 12.11.87.1 12.11.87.1	AXV- 0372244 04 11.50.32.1 11.50.31.1 11.60.46.1 11.60.42.1		DFJ- 0370232 12 11.60.43.1 11.50.31.1 11.40.26.1 11.60.44.1 11.60.44.1 11.60.43.1 11.60.43.1 11.40.25.1 RE NOTE 002	AXU- 0372243 03 11.50.36.1 11.60.46.1 11.50.36.1	
12	YMQ- 0372360 06 11.50.31.1 11.40.25.1 11.40.25.1 11.40.25.1 11.40.25.1 11.40.25.1	DFJ- 0370232 12 11.60.46.1 11.50.31.1 11.60.43.1 11.50.32.1 11.50.33.1 11.50.33.1 11.50.33.1 11.60.42.1 RE NOTE 003		DHC- 0370372 06 11.40.26.1 11.60.43.1 11.60.43.1 11.40.25.1 11.60.43.1 11.60.46.1	DHB- 0370348 06 11.50.34.1 11.50.35.1 11.50.35.1 11.50.35.1 11.60.40.1 11.60.46.1	
13	YMQ- 0372360 06 11.50.33.1 11.50.33.1 11.60.44.1 11.40.26.1 11.40.26.1 11.40.25.1	DGU- 0370379 04 11.50.32.1 11.60.41.1 11.60.42.1 11.60.40.1		DGT- 0370380 04 11.60.43.1 11.60.40.1 11.40.26.1 11.60.45.1	DGT- 0370380 04 11.60.43.1 11.60.43.1 11.60.43.1 11.60.43.1	
14	YMQ- FOC 0372360 06 11.50.33.1 12.11.59.1	DHB- 0370348 06 11.50.32.1 11.60.40.1 11.40.25.1 11.40.25.1 11.50.37.1 11.40.25.1			DGV- 0370378 03 11.60.43.1 11.60.43.1 11.50.37.1	

CIRCUIT CARD LOCATION CHART

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SHEET 2  
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	A	B	C	D	E	F
15		DGV- 0370377 03 11.60.44.1 11.50.33.1 11.50.33.1	DGV- 0370377 03 11.60.42.1 11.50.31.1 11.50.32.1	DGV- 0370378 03 11.50.35.1 11.50.37.1 11.60.44.1	DGT- 0370380 04 11.60.43.1 11.60.43.1 11.50.43.1	
16		DGT- 0370384 04 11.50.33.1 11.60.47.1 11.50.36.1 11.50.32.1	DGT- 0370380 04 11.50.31.1 11.50.31.1 11.50.31.1	DFR- 0370226 04 11.60.41.1 11.60.47.1 11.50.37.1 11.60.43.1	DGT- 0370387 04 11.60.43.1 11.60.43.1 11.60.43.1 11.60.43.1	
17		DGV- PFR 0370378 03 11.60.49.1	DGV- 0370277 03 11.50.31.1 11.60.43.1 11.50.31.1	DGV- 0370377 03 11.60.44.1 11.60.47.1 11.60.43.1	DGV- 0370378 03 11.60.42.1 11.60.43.1 11.60.44.1	
18		B C DGV- 0370376 02 11.50.30.1 11.60.42.1	DGT- 0370380 04 11.50.31.1 11.50.31.1 11.50.31.1	DHB- 0370348 06 11.60.45.1 11.60.41.1 11.60.41.1 11.60.41.1 11.60.41.1 11.60.43.1	DHY- 0372193 02 11.60.43.1 11.50.31.1	
19		DFJ- 0370232 12 11.50.39.1 11.50.39.1 11.60.41.1 11.50.33.1 11.60.44.1 11.60.44.1 11.60.44.1 11.60.44.1 RE NOTE004	DFR- 0370226 04 11.60.46.1 11.60.46.1 11.50.31.1 11.60.48.1	DGV- 0370379 04 11.50.32.1 11.50.33.1 11.60.42.1 11.60.45.1	DGV- 0370377 03 11.60.44.1 11.60.44.1 11.60.44.1	
20		DGV- 0370376 02 11.50.33.1 11.40.26.1	DGV- 0370378 03 11.50.33.1 11.60.47.1 11.50.42.1	DGT- 0370380 04 11.60.45.1 11.60.45.1 11.60.45.1	DHY- 0372193 02 11.60.44.1 11.60.41.1	
21		DGV- 0370378 03 11.50.32.1 11.60.41.1 11.40.26.1	DGV- 0370379 04 11.50.33.1 11.50.37.1 11.60.42.1 11.50.31.1	DGT- 0370380 04 11.50.36.1 11.60.41.1 11.60.41.1 11.60.41.1	DGT- 0370380 04 11.60.44.1 11.50.33.1 11.60.44.1 11.60.44.1	
22		AXA- 0372197 04 11.40.26.1 11.40.26.1 11.40.26.1 11.60.47.1	DHB- 0370348 06 11.50.33.1 11.60.40.1 11.50.31.1 11.40.25.1 11.50.30.1 11.50.31.1	DGT- 0370380 04 11.60.42.1 11.60.42.1 11.50.31.1 11.60.42.1	DGX- 0370376 02 11.60.44.1 11.60.45.1	
23		AXA- 0372197 04 11.60.48.1 11.50.30.1 11.60.47.1 11.50.36.1	DFJ- 0370232 12 11.60.48.1 11.60.47.1 11.60.47.1 11.60.45.1 11.60.43.1 11.50.31.1 11.50.33.1 11.50.33.1 RE NOTE005	DGV- 0370378 03 11.60.42.1 11.60.42.1 11.60.41.1	DGT- 0370380 04 11.60.45.1 11.50.32.1 11.60.42.1 11.60.45.1	
24		DGT- 0370380 04 11.50.30.1 11.50.30.1 11.50.30.1 11.50.30.1	DGV- 0370377 03 11.50.32.1 11.50.32.1 11.50.32.1	DGT- 0370380 04 11.60.42.1 11.60.42.1 11.60.42.1 11.60.42.1	DGV- 0370377 03 11.60.41.1 11.60.41.1 11.60.41.1	
25		DGV- 0370379 04 11.50.33.1 11.50.33.1 11.50.35.1 11.60.45.1	DGV- 0370378 03 11.50.32.1 11.50.33.1 11.50.33.1	DGV- 0370378 03 11.60.42.1 11.60.47.1 11.50.36.1	DGV- 0370375 02 11.60.42.1 11.50.32.1	
26	FPV- 0375139 01 11.60.48.1	DGX- 0370376 02 11.50.37.1 11.60.41.1	DGV- 0370375 02 11.60.45.1 11.50.30.1	DFR- 0370226 04 11.50.32.1 11.50.33.1 11.60.42.1 11.50.39.1	DGV- 0370379 04 11.50.36.1 11.50.42.1 11.50.36.1	
27		DGV- 0370379 03 11.50.32.1 11.50.39.1 11.50.32.1	DHB- 0370348 06 11.60.41.1 11.60.45.1 11.60.41.1 11.60.47.1 11.60.46.1 11.50.36.1	DGV- 0370375 02 11.50.37.1 11.50.31.1	DGX- 0370376 02 11.60.41.1 11.60.42.1	
28		DGT- 0370380 04 11.50.32.1 11.50.33.1 11.50.32.1 11.50.32.1	DGV- 0370377 03 11.50.30.1 11.50.32.1 11.50.31.1	DFJ- 0370232 12 11.50.30.1 11.50.31.1 11.60.49.1 11.50.37.1 11.50.37.1 11.50.36.1 11.50.36.1 11.60.48.1 RE NOTE006	DGV- 0370379 04 11.50.36.1 11.60.47.1 11.40.26.1 11.60.47.1	

	A	B	C	D	E	F
29	FPX- 0375141 01 11.60.48.1	DGT- 0370380 04 11.50.32.1 11.50.32.1 11.50.32.1 11.50.31.1	DHB- 0370348 06 11.50.32.1 11.50.32.1 11.50.35.1 11.50.33.1 11.60.46.1 11.50.32.1	DHB- 0370348 06 11.60.42.1 11.60.42.1 11.60.47.1 11.50.31.1	DEF- 0370232 12 11.50.33.1 11.60.45.1 11.60.49.1 11.50.36.1 11.47.26.1 11.50.30.1 11.50.31.1 11.50.32.1 RF NOTE 007	
30		DGU- 0370370 04 11.50.33.1 11.50.44.1 11.50.32.1 11.50.33.1	DGY- 0370375 02 11.50.37.1 11.50.33.1	DGV- PFR 0370378 03 11.60.49.1 11.60.49.1 11.60.49.1	DEF- 0370232 12 11.50.32.1 11.50.32.1 11.60.45.1 11.50.33.1 11.50.33.1 11.50.37.1	K L M G H J
31		DGT- 0370390 04 11.60.47.1 11.50.31.1 11.50.39.1 11.50.37.1	DGX- 0370376 02 11.50.32.1 11.50.33.1	DGY- PFR 0370375 02 11.60.49.1	DGT- 0370380 04 11.50.32.1 11.50.37.1 11.60.43.1 11.50.31.1	
32		DGU- 0370370 04 11.50.32.1				
33	FPW- 0375140 01 11.60.49.1				FPH- PFR 0375093 01 11.60.47.1	
34		FPE- 0375094 02 11.60.48.1	FPC- 0375108 06 16.28.94.1 16.28.95.1 16.28.96.1 16.28.97.1 16.28.98.1 16.28.99.1			
35		FPD- 0375090 05 16.28.92.1 16.28.92.1 16.28.92.1 16.28.92.1 16.28.92.1	FPD- 0375090 05 16.28.94.1 16.28.94.1 16.28.94.1 16.28.94.1 16.28.94.1	FPD- 0375090 05 16.28.97.1 16.28.97.1 16.28.97.1 16.28.97.1 16.28.97.1	FPH- 0375093 01 11.60.47.1	
36		FPD- 0375090 05 16.28.92.1 16.28.92.1 16.28.92.1 16.28.92.1 16.28.92.1	FPD- 0375090 05 16.28.95.1 16.28.95.1 16.28.95.1 16.28.95.1 16.28.95.1	FPD- 0375090 05 16.28.97.1 16.28.97.1 16.28.97.1 16.28.97.1 16.28.97.1		
37		FPD- 0375090 05 16.28.93.1 16.28.93.1 16.28.93.1 16.28.93.1 16.28.93.1	FPD- 0375090 05 16.28.95.1 16.28.95.1 16.28.95.1 16.28.95.1 16.28.95.1	FPD- 0375090 05 16.28.98.1 16.28.98.1 16.28.98.1 16.28.98.1 16.28.98.1	FPH- 0375093 01 11.50.36.1	
38		FPD- 0375090 05 16.28.93.1 16.28.93.1 16.28.93.1 16.28.93.1 16.28.93.1	FPD- 0375090 05 16.28.96.1 16.28.96.1 16.28.96.1 16.28.96.1 16.28.96.1	FPD- 0375090 05 16.28.98.1 16.28.98.1 16.28.98.1 16.28.98.1 16.28.98.1		
39		FPD- 0375090 05 16.28.94.1 16.28.94.1 16.28.94.1 16.28.94.1 16.28.94.1	FPD- 0375090 05 16.28.96.1 16.28.96.1 16.28.96.1 16.28.96.1 16.28.96.1	FPD- 0375090 05 16.28.99.1 16.28.99.1 16.28.99.1 16.28.99.1 16.28.99.1	FPH- 0375093 01 11.50.36.1	
40				FPD- 0375090 05 16.28.99.1 16.28.99.1 16.28.99.1 16.28.99.1 16.28.99.1		

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CIRCUIT CARD LOCATION CHART  
REMARKS

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2540 11.10.18.1  
816299 SHEET 4  
DATE DEC 31, 1968

NOTE 1  
11.60.48.1 11.60.48.1 11.60.48.1 11.60.46.1

NOTE 2  
11.60.43.1 11.60.43.1 11.60.44.1 11.60.41.1

NOTE 3  
11.50.31.1 11.60.42.1 11.50.37.1 11.50.35.1

NOTE 4  
11.60.44.1 11.60.42.1 11.50.32.1 11.60.47.1

NOTE 5  
11.50.33.1 11.50.33.1 12.11.87.1 12.11.87.1

NOTE 6  
11.40.26.1 11.60.44.1 11.40.26.1 11.40.26.1

NOTE 7  
11.60.41.1 11.60.41.1 11.60.41.1 11.60.49.1

PANEL 49B1 ENG. CHANGE NO. 816299

EDGE CONN.	SIGNAL NAME	DRAWINGS
A34A	A34A +20V	11.60.48.1
A34B	A34B +20V	11.60.48.1
A34C	A34C +20V	11.60.48.1
A34D	A34D +20V	11.60.48.1
A34E	A34E +20V	11.60.48.1
A34F	A34F +20V	11.60.48.1
A34G	A34G +20V	11.60.48.1
A34H	A34H +20V	11.60.48.1
A34I		
A34J		
A34K		
A34L		
A34M	IV +20V FUSE BLOWN	11.40.26.1
A34N	+20V PCH CHK ROLL DRIVE	11.60.47.1
A34P	+20V PER ROLL DRIVE	11.60.47.1
A34Q	+20V 2ND ROLL DRIVE	11.50.36.1
A34R	+20V 1ST ROLL DRIVE	11.50.36.1
A35A	IV PCH MAGNET CURRENT SW 2	11.60.48.1
A35B	IV PCH MAGNET CURRENT SW 1	11.60.48.1
A35C	IV PCH MAGNET CURRENT SW 4	11.60.48.1
A35D	IV PCH MAGNET CURRENT SW 3	11.60.48.1
A35E	IV PCH MAGNET CURRENT SW 2	11.60.48.1
A35F	IV PCH MAGNET CURRENT SW 1	11.60.48.1
A35G	IV PCH MAGNET CURRENT SW 4	11.60.48.1
A35H	IV PCH MAGNET CURRENT SW 3	11.60.48.1
A35J		
A35K		
A35L		
A35M		
A35N		
A35P		
A35Q		
A35R		
A36A	-V PCH MAG 65	15.28.98.1
A36B	-V PCH MAG 65	16.28.98.1
A36C	-V PCH MAG 67	16.28.98.1
A36D	-V PCH MAG 68	16.28.98.1
A36E	-V PCH MAG 69	16.28.98.1
A36F	-V PCH MAG 70	16.28.99.1
A36G	-V PCH MAG 71	16.28.99.1
A36H	-V PCH MAG 72	16.28.99.1
A36J	-V PCH MAG 73	16.28.99.1
A36K	-V PCH MAG 74	16.28.99.1
A36L	-V PCH MAG 75	16.28.99.1
A36M	-V PCH MAG 76	16.28.99.1
A36N	-V PCH MAG 77	16.28.99.1
A36P	-V PCH MAG 78	16.28.99.1
A36Q	-V PCH MAG 79	16.28.99.1
A36R	-V PCH MAG 80	16.28.92.1
A37A	-V PCH MAG 49	15.28.96.1
A37B	-V PCH MAG 50	15.28.97.1
A37C	-V PCH MAG 51	15.28.97.1
A37D	-V PCH MAG 52	15.28.97.1
A37E	-V PCH MAG 53	16.28.97.1
A37F	-V PCH MAG 54	16.28.97.1
A37G	-V PCH MAG 55	16.28.97.1
A37H	-V PCH MAG 56	16.28.97.1
A37J	-V PCH MAG 57	16.28.97.1
A37K	-V PCH MAG 58	16.28.97.1
A37L	-V PCH MAG 59	16.28.97.1
A37M	-V PCH MAG 60	15.28.98.1
A37N	-V PCH MAG 61	16.28.98.1
A37P	-V PCH MAG 62	15.28.98.1
A37Q	-V PCH MAG 63	16.28.98.1
A37R	-V PCH MAG 64	16.28.98.1
A38A	-V PCH MAG 33	16.28.95.1
A38B	-V PCH MAG 34	16.28.95.1
A38C	-V PCH MAG 35	16.28.95.1
A38D	-V PCH MAG 36	15.28.95.1
A38E	-V PCH MAG 37	16.28.95.1
A38F	-V PCH MAG 38	15.28.95.1
A38G	-V PCH MAG 39	16.28.95.1
A38H	-V PCH MAG 40	15.28.96.1
A38J	-V PCH MAG 41	16.28.96.1
A38K	-V PCH MAG 42	16.28.96.1
A38L	-V PCH MAG 43	16.28.96.1
A38M	-V PCH MAG 44	15.28.96.1
A38N	-V PCH MAG 45	16.28.96.1
A38P	-V PCH MAG 46	16.28.96.1
A38Q	-V PCH MAG 47	16.28.96.1
A38R	-V PCH MAG 48	16.28.96.1
A39A	-V PCH MAG 17	16.28.93.1
A39B	-V PCH MAG 18	15.28.93.1
A39C	-V PCH MAG 19	16.28.93.1
A39D	-V PCH MAG 20	15.28.94.1
A39E	-V PCH MAG 21	16.28.94.1
A39F	-V PCH MAG 22	15.28.94.1
A39G	-V PCH MAG 23	15.28.94.1
A39H	-V PCH MAG 24	16.28.94.1
A39J	-V PCH MAG 25	16.28.94.1
A39K	-V PCH MAG 26	16.28.94.1
A39L	-V PCH MAG 27	16.28.94.1
A39M	-V PCH MAG 28	15.28.94.1
A39N	-V PCH MAG 29	16.28.94.1
A39P	-V PCH MAG 30	15.28.95.1
A39Q	-V PCH MAG 31	16.28.95.1
A39R	-V PCH MAG 32	15.28.95.1
A40A	-V PCH MAG 01	15.28.92.1
A40B	-V PCH MAG 02	16.28.92.1
A40C	-V PCH MAG 03	15.28.92.1
A40D	-V PCH MAG 04	16.28.92.1
A40E	-V PCH MAG 05	16.28.92.1
A40F	-V PCH MAG 06	16.28.92.1
A40G	-V PCH MAG 07	16.28.92.1
A40H	-V PCH MAG 08	16.28.92.1
A40J	-V PCH MAG 09	15.28.92.1
A40K	-V PCH MAG 10	15.28.93.1
A40L	-V PCH MAG 11	16.28.93.1
A40M	-V PCH MAG 12	15.28.93.1
A40N	-V PCH MAG 13	16.28.93.1

PANEL 40B1 ENG. CHANGE NO. 816299

EDGE CONN.	SIGNAL NAME	DRAWINGS
A40P	-V PCH MAG 14	15.28.93.1
A410	-V PCH MAG 15	16.28.93.1
A40P	-V PCH MAG 16	15.28.93.1
B01A	+Y PROC METER	11.50.36.1
B01B		
B01C		
B01D	+Y COVER INTLK SWITCH OPEN	11.50.33.1
B01E	+Y COVERS OPEN OR STOP ON OVRD	11.50.33.1
B01F		
B01G	+Y 80 COL STACKER	11.40.26.1
B01H		
B01J		
B01K		
B01L		
B01M	-V RD MOTOR RELAY DRIVE	11.50.32.1
B01N	+Y TRANSPORT JAM	11.40.26.1
B01P	-Y 51 COL MODE SW	12.11.59.1
B01Q	+Y 51 COL STACKER	11.50.33.1
B01R	+Y CE BRUSH CHECK SWITCH	11.50.36.1 11.60.47.1
B02A		
B02B	+Y OFF LINE SW	11.60.40.1
B02C		
B02D		
B02E	+Y ALTERNATE CLUTCH SW	11.50.35.1
B02F		
B02G	+Y CHIP BOX	11.60.44.1
B02H	-V PCH MOTOR RELAY DRIVE	11.60.42.1
B02J		
B02K		
B02L	-V STK R2	11.50.39.1
B02M		
B02N	-V STK R3	11.50.39.1
B02P	-V STK P2	11.50.39.1
B02Q	-V STK P3	11.50.39.1
B02R		
B03A		
B03B	-V RD HOPPER CL SW	11.50.31.1
B03C		
B03D	-V FILE FEED SWITCH	11.50.39.1
B03E	+V 2ND BR STA CELL COVERED	11.50.31.1
B03F	-V JOGGLE GATE SWITCH OPEN	11.40.25.1
B03G	+Y FILE FEED MAGNET DRIVE	11.50.39.1
B03H		
B03J		
B03K		
B03L	+Y BLOCK THROAT	11.50.33.1
B03M		
B03N	+Y RD CLUTCH MAG DRIVE	11.50.32.1
B03P		
B03Q		
B03R		
B04A		
B04B	-V PCH HOPPER CL SW	11.40.25.1
B04C		
B04D	-V THROAT CL SW	11.40.25.1
B04E		
B04F	-V DIE CL SW	11.40.25.1
B04G		
B04H	-V PCH CHECK CLSW	11.40.25.1
B04J		
B04K		
B04L	+Y PCH CLUTCH MAG DRIVE	11.60.42.1
B04M		
B04N		
B04P	-V STACK CL SW	11.40.25.1
B04Q		
B04R		
B40A	+Y RD CLUTCH GATE	11.50.32.1 12.11.59.1
B40B		15.28.92.1
B40C		16.28.93.1
B40D	+V RP T0	12.11.55.1 16.28.92.1
B40E	+V RP T1	12.11.55.1 16.28.93.1
B40F	+V RP T2	12.11.55.1 16.28.94.1
B40G	+V RP T3	12.11.55.1 16.28.95.1
B40H	+V RP T4	12.11.55.1 16.28.96.1
B40J		
B40K	+V RP T5	12.11.55.1 16.28.97.1
B40L	+V RP T6	12.11.55.1 16.28.98.1
B40M	+V RP T7	12.11.55.1 16.28.99.1
B40N	+V RP T8	12.11.55.1 16.28.92.1
B40P	-Y PUNCH DATA	12.11.52.1 16.28.94.1 16.28.95.1 16.28.96.1 16.28.97.1
B40Q		16.28.98.1 16.28.99.1
B40R		
C01A		
C01B	-Y PCH DLY RESET	11.60.42.1
C01C		
C01D	+Y STOP PCH MOTOR	11.60.42.1
C01E		
C01F		
C01G		
C01H		
C01J		
C01K		
C01L		
C01M		
C01N		
C01P		
C01Q		
C01R		
C02A	-V PUNCH FEED STOP LITE	11.60.44.1
C02B	-V PUNCH CHECK LITE	12.11.87.1
C02C		
C02D	-V PCH PFR VALIDITY LITE	12.11.87.1

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EDGE CONN.	SIGNAL NAME	DRAWINGS			
C02E	-V PFR END OF FILE LITE	11.60.49.1			
C02F	-V PUNCH READY	11.60.41.1			
C02G		11.60.41.1	11.60.42.1	11.60.44.1	
C02H	+Y PCH START	11.60.45.1			
C02J					
C02K					
C02L	+Y SET PFR END OF FILE LATCH	11.60.49.1			
C02M					
C02N					
C02P	+Y PCH STOP	11.60.44.1	11.60.49.1		
C02R					
C04A					
C04B	+Y STOP RD MOTOR	11.50.32.1			
C04C					
C04D					
C04E	-Y RD DLY RESET	11.50.32.1			
C04F	+Y RD STOP	11.50.32.1	11.50.33.1	11.50.37.1	
C04G					
C04H					
C04J					
C04K					
C04L					
C04M					
C04N					
C04P					
C04Q					
C04R					
C05A	-V TRANSPORT JAM	11.40.26.1			
C05B	+V FUSE LITE	11.40.26.1			
C05C	-V RD FEED STOP LITE	11.50.33.1			
C05D	-V READER CHECK LITE	12.11.87.1			
C05E	+Y RD START	11.50.32.1	11.50.33.1	11.50.37.1	
C05F	-V RD VALIDITY LITE	12.11.87.1			
C05G	-V RD END OF FILE LITE	11.50.37.1			
C05H	-V REAM READY	11.50.30.1			
C05J					
C05K					
C05L					
C05M					
C05N					
C05P	+Y SET END OF FILE LATCH	11.50.37.1			
C05Q					
C05R					
C40A	+Y PCH CLUTCH GATE	11.60.42.1	12.11.59.1		
C40B	+V RP U1	12.11.54.1	16.28.90.1		
C40C	+V RP U2	12.11.54.1	16.28.90.1		
C40D	+V RP U3	12.11.54.1	16.28.90.1		
C40E	+V RP U4	12.11.54.1	16.28.90.1		
C40F	+V RP U5	12.11.54.1	16.28.91.1		
C40G	+V RP U6	12.11.54.1	16.28.91.1		
C40H	+V RP U7	12.11.54.1	16.28.91.1		
C40J					
C40K	+V RP U8	12.11.54.1	16.28.91.1		
C40L	+V RP U9	12.11.54.1	16.28.91.1		
C40M	+V RP U0	12.11.54.1	16.28.90.1		
C40N					
C40P					
C40Q					
C40R					
D01A	+Y POWER ON RESET	11.40.26.1	11.50.30.1	11.50.31.1	
		11.50.33.1	11.50.37.1	11.60.40.1	
		11.60.41.1	11.60.42.1	11.60.44.1	
		11.60.45.1	11.60.49.1	12.11.53.1	
D01B	+Y RDR FEED COMMAND	11.50.30.1	12.11.52.1		
D01C	+Y UNIT EXCEPTION RDR	11.50.30.1	11.50.37.1	12.11.52.1	
D01D	+Y 2R21 RDR READY TURN OFF	11.50.30.1	12.11.52.1		
D01E	-Y READER READY	11.50.30.1	12.11.86.1		
D01F	-Y READ FEED	11.50.32.1	11.50.33.1	12.11.53.1	
D01G	+Y READ FEED	11.50.32.1	12.11.53.1		
D01H	+Y XFER CY PEO	11.50.36.1	12.11.53.1		
D01J					
D01K	+Y ICU METER	11.50.36.1	12.11.87.1		
D01L		11.50.39.1			
D01M		12.11.86.1			
D01N		11.60.40.1			
D01P	+Y PCH WRITE	11.60.41.1	12.11.52.1		
D01Q	+Y MACH RESET PCH	11.60.41.1	11.60.42.1	11.60.45.1	
		11.60.47.1	12.11.53.1		
D01R	+Y MACH RESET RDR	11.50.32.1	11.50.35.1	11.50.37.1	
		12.11.53.1			
D02A	+Y 2R21 PCH READY TURN OFF	11.60.41.1	12.11.52.1		
D02B	+Y PUNCH FEED	11.60.42.1	12.11.53.1		
D02C	+Y 4 BIT MODIFY PULL ON	11.60.42.1	12.11.86.1		
D02D	-Y DIE STA DLY	11.60.43.1	12.11.86.1		
D02E	-Y PCH CHK DLY	11.60.43.1	12.11.86.1		
D02F	-Y PCH RESTART GATE	11.60.45.1	12.11.52.1		
D02G	+Y PL 257	11.60.46.1	12.11.52.1		
D02H	-Y PCH SCAN	11.60.47.1	12.11.85.1		
D02J	+Y RDR BRUSH IMPULSES	11.50.36.1	12.11.59.1	12.11.86.1	
D02K		11.50.39.1			
D02L	+Y STACKER P2	11.50.39.1	12.11.87.1		
D02M	+Y STACKER P3	11.50.39.1	12.11.87.1		
D02N	-Y PUNCH FEED	11.60.42.1	12.11.53.1		
D02P	-Y PUNCH READY	11.60.41.1	12.11.86.1		
D02Q	-Y PCH CLUTCH SET	11.60.46.1	12.11.85.1		
D02R					
D03A		12.11.87.1			
D03B	-Y READER CHECK	12.11.87.1			
D03C	-Y PUNCH CHECK	12.11.87.1			
D03D		12.11.87.1			
D03E	-C PFR UNIT EXCEPTION GATE	12.11.86.1			
D03F	-C RDR CL LAT NOT NPRO	12.11.86.1			
D03G	-C PCH CL LAT NOT NPRO	12.11.86.1			
D03H	+C GATE RD COMPLETE 2540	12.11.86.1			
D03J					
D03K	-C AFTER 9 EMITTER	12.11.85.1			
D03L	-C UNIT EXCEP TION	12.11.85.1			
D03M	-C PCH BRUSH IMPULSE	12.11.85.1			
D03N		12.11.59.1			



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EDGE CONN.	SIGNAL NAME	DRAWINGS
D03P	+Y PCH BRUSH IMPULSE	11.60.47.1 12.11.50.1
D03Q	-Y RL 138-150-174	11.50.34.1 11.50.30.1
D03R	+Y CLUTCH GATE SET	11.50.35.1 11.50.30.1
E01A		11.50.34.1
E01B		11.50.34.1
E01C		11.50.34.1
E01D		11.50.34.1
E01E		11.50.35.1
E01F		11.50.35.1
E01G		11.50.35.1
E01H		11.50.35.1
E01I		11.50.34.1
E01J	GND TO COILS	11.50.34.1 11.50.35.1
E01K		11.50.35.1
E01L		11.50.34.1
E01M		11.50.34.1
E01N		11.50.34.1
E01P		11.50.34.1
E01Q		11.50.34.1
E01R		11.50.35.1
E02A		11.60.46.1
E02B		11.60.46.1
E02C		11.60.48.1
E02D		11.60.46.1
E02E		11.60.46.1
E02F		11.60.46.1
E02G		11.60.48.1
E02H		11.60.48.1
E02I		11.60.48.1
E02J	GND TO PCH COILS	11.60.46.1 11.60.48.1
E02K		11.60.48.1
E02L		11.60.46.1
E02M		11.60.46.1
E02N		11.60.46.1
E02P		11.60.46.1
E02Q		11.60.46.1
E02R		11.60.46.1
E40A	+V 1ST ROLL DRIVE	11.50.36.1
E40B	+V 1ST ROLL DRIVE	11.50.36.1
E40C		11.50.36.1
E40D	+V 1ST READ SENSE BRUSH	11.50.36.1
E40E	+V 2ND ROLL DRIVE	11.50.36.1
E40F	+V 2ND ROLL DRIVE	11.50.36.1
E40G		11.50.36.1
E40H	+V 2ND READ SENSE BRUSH	11.50.36.1
E40I		11.50.36.1
E40J		11.50.36.1
E40K	+V PCH CHK SENSE BRUSH	11.60.47.1
E40L	+V PCH CHK ROLL DRIVE	11.60.47.1
E40M	+V PCH CHK ROLL DRIVE	11.60.47.1
E40N		11.60.47.1
E40P	+V PFR SENSE BRUSH	11.60.47.1
E40Q	+V PFR ROLL DRIVE	11.60.47.1
E40R	+V PFR ROLL DRIVE	11.60.47.1

END OF EDGE CONNECTOR LIST.