8018 700

T.U.02.00.0

Sheet 3 of 3

REFERENCE PAGE

RESISTORS PLUGGING CHART

P/N	LOGIC	LINE	CONNECTED BETWEEN	
			CIRCUIT	VOLT. BUS
8020746	08.00.1	Set Read Status	J 19 A	J 19 M
"	"	Set Hi. density	J 19 C	J 18 M
"	"	Turn off T.I	J 20 A	J 17 M
"	"	Go	J 21 A	J 21 M
"	"	Rewind & Unload	J 21 C	J 22 M
"	"	Write Bus 1 bit	J 15 A	J 12 L
"	"	" " 2 "	J 15 B	J 13 L
"	"	" " 4 "	J 15 C	J 14 L
"	"	" " 8 "	J 15 D	J 15 L
"	"	" " A "	J 16 A	J 16 L
"	"	" " B "	J 16 B	J 17 L
"	"	" " C "	J 16 C	J 18 L
"	"	Write Pulses	J 16 D	J 18 L
"	"	Backward.	J 17 A	J 17 L
"	"	Write Status	J 17 B	J 16 L
"	"	Turn on T.I	J 17 C	J 15 L
"	"	Set Lo. density	J 17 D	J 14 L
"	"	Start Rewind	J 18 A	J 19 L
"	"	Wr. check charact.	J 18 B	J 19 L
8018574	"	Shield	J 19 K	H 23 K
"	"	Shield	J 20 K	J 17 K
"	"	Shield	J 21 K	H 24 K

IBM												DATE	CHANG. N°	DATE	CHANG N°	DATE	CHANG. N°	
NOM	MAGNETIC TAPE UNIT											16.4.63	JT 83 894					
SYSTEM DIAGRAM T.U 02.00.0																		
PROJET							TYPE	0729 A										
DESSIN							ECH.											
VERIF.							CALC.											
APPR.	Rdd						VERIF.											

T.U.02.00.0

2.092.963

IBM

NOM SYSTEMS DIAGRAM

TU.95.10.1

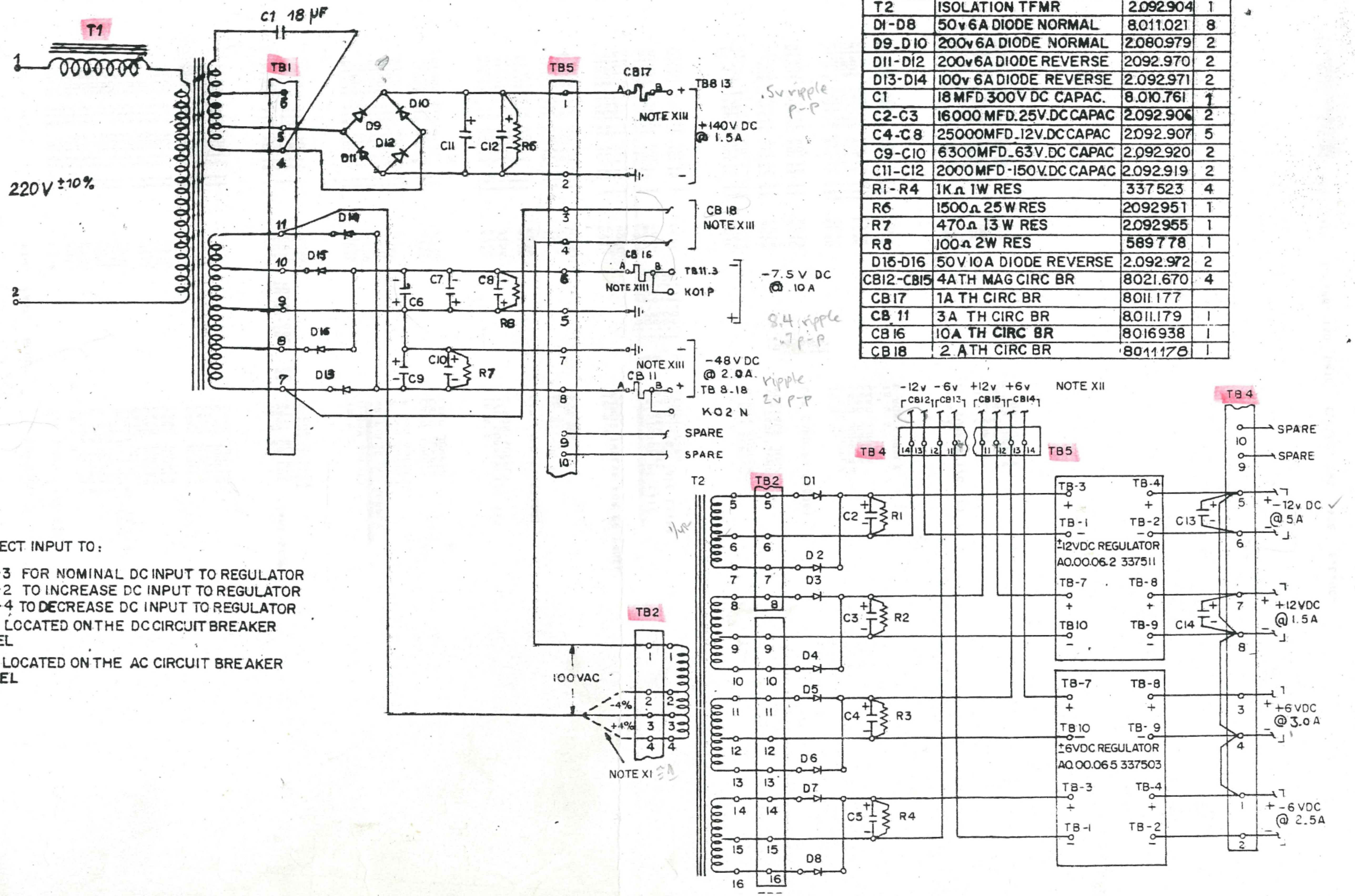
TYPE 729A II IV

CALC. RD 6.62

VERIF. 20.8.62

DATE	CHANG. N°	DATE	CHANG. N°	DATE	CHANG. N°
2.15.62	250259				
	82964				
9.4.63	83991				

TU.95.10.1



COMPONENT CHART			
SYMBOL	DESCRIPTION	PART NO	QTY
C13_14	300MFD_15 VDC CAPAC.	337506	2
T1	FERRO-REGULATOR	2.092.917	1
T2	ISOLATION TFMR	2.092.904	1
D1-D8	50v 6A DIODE NORMAL	8.011.021	8
D9_D10	200v 6A DIODE NORMAL	2.080.979	2
D11-D12	200v 6A DIODE REVERSE	2092.970	2
D13-D14	100v 6A DIODE REVERSE	2.092.971	2
C1	18 MFD 300V DC CAPAC.	8.010.761	1
C2-C3	16000 MFD.25V.DC CAPAC	2.092.906	2
C4-C8	25000MFD_12V.DC CAPAC	2.092.907	5
C9-C10	6300MFD_63V.DC CAPAC	2.092.920	2
C11-C12	2000MFD-150V.DC CAPAC	2.092.919	2
R1-R4	1KΩ 1W RES	337523	4
R6	1500Ω 25W RES	2092951	1
R7	470Ω 13W RES	2092955	1
R8	100Ω 2W RES	589778	1
D15-D16	50V 10A DIODE REVERSE	2.092.972	2
CB12-CB15	4A TH MAG CIRC BR	8021.670	4
CB17	1A TH CIRC BR	8011.177	
CB 11	3A TH CIRC BR	8.011.179	1
CB 16	10A TH CIRC BR	8016938	1
CB 18	2 A TH CIRC BR	8011178	1

NOTES

XI CONNECT INPUT TO:

TB2-3 FOR NOMINAL DC INPUT TO REGULATOR
TB2-2 TO INCREASE DC INPUT TO REGULATOR
TB2-4 TO DECREASE DC INPUT TO REGULATOR

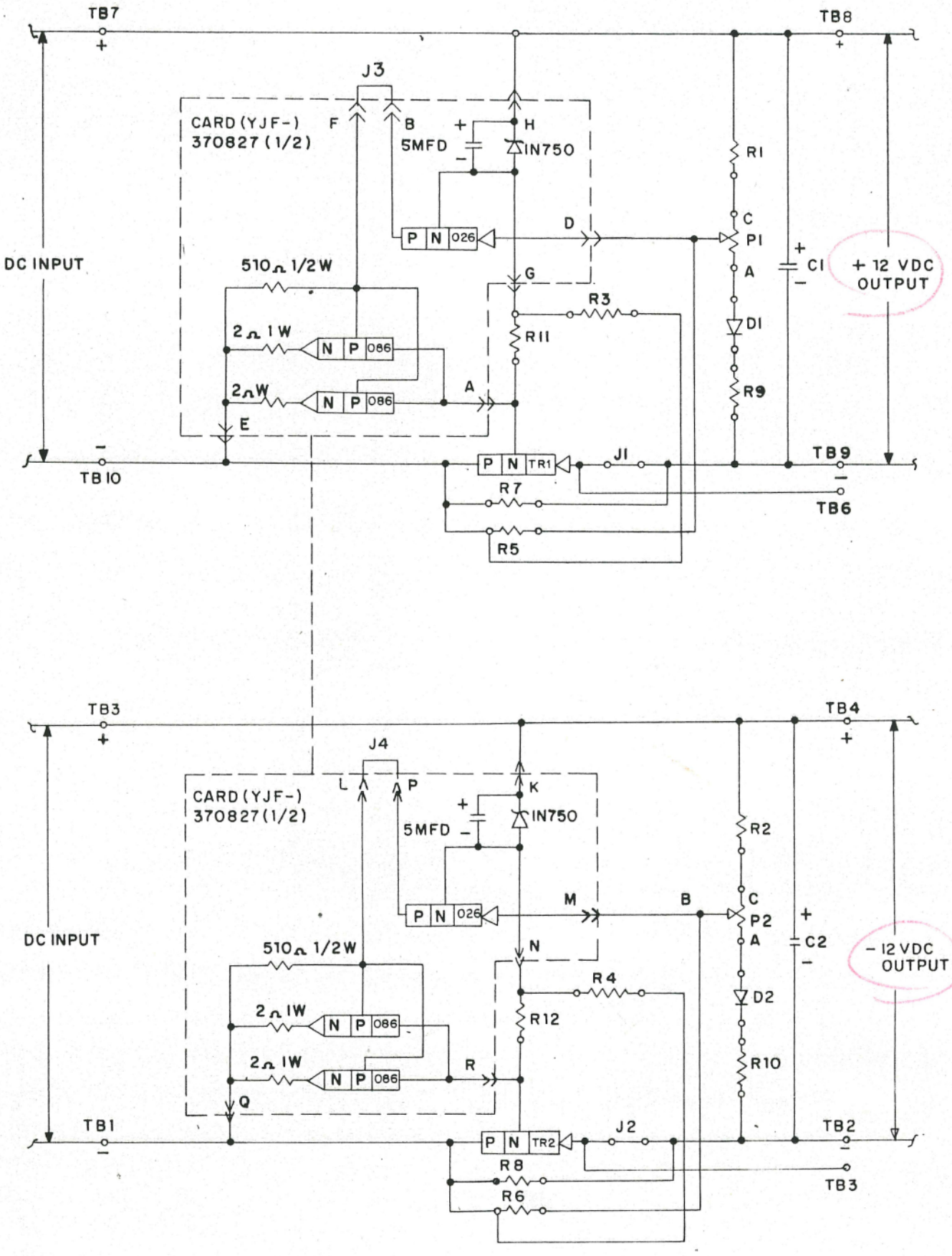
XII. ARE LOCATED ON THE DC CIRCUIT BREAKER PANEL

XIII ARE LOCATED ON THE AC CIRCUIT BREAKER PANEL

TU.95.10.1

2.092.963

± 12 VDC REGULATOR

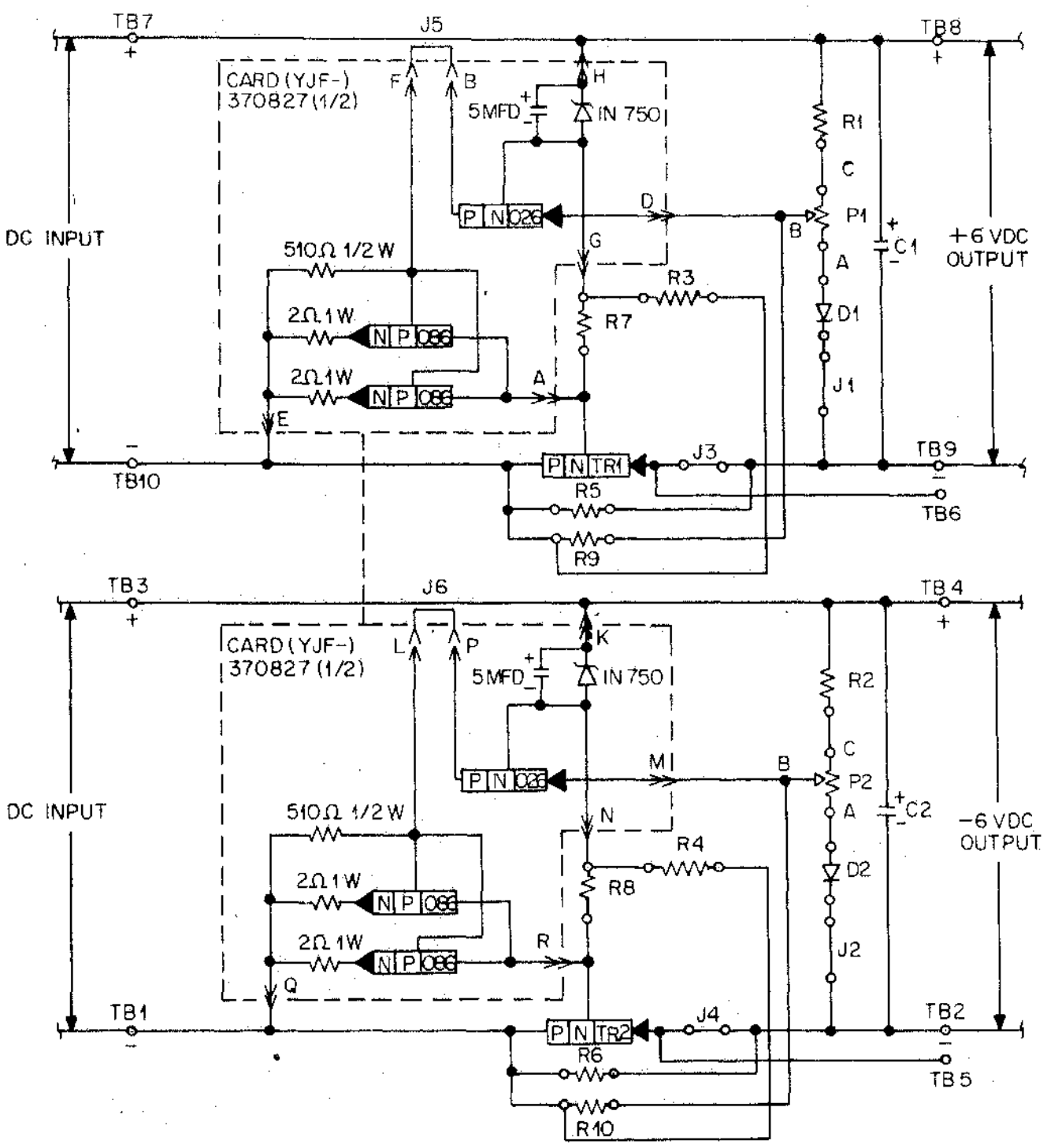


COMPONENT CHART				
SYMBOL		DESCRIPTION	PART NO	QTY
TR1	TR2	022 TRANSISTOR	526898	2
D1	D2	IN 537 DIODE	207398	2
P1	P2	25Ω 2W POT	2132014	2
C1	C2	250 MFD 50VDC CAP	2109462	2
R1	R2	30Ω IW RESISTOR	509507	2
R3	R4	3,9 K 1/2 W RESISTOR	317022	2
R5	R6	6,2 K 1/2 W RESISTOR	334914	2
R7	R8	100Ω 2W RESISTOR	322888	2
R9	R10	56Ω 2W RESISTOR	216981	2
RII	R12	510Ω IW RESISTOR	103915	2
J1	J2	JUMPER	337519	2
J3	J4	JUMPER	337530	2

IBM						DATE	CHANG. N°	DATE	CHANG. N°	DATE	CHANG. N°		
NOM	SYSTEMS DIAGRAM					15.2.62	250·259						
TU.95.10.2						10.1.63	82964						
PROJET			TYPE	729A.II.IV									
DESSIN.			ECHELLE										
VERIF.			CALQ.	RD	6/62							TU.95.10.2	
APPR.			VERIF.	Gt	20/8/62								348548

348549

±6 VDC REGULATOR



COMPONENT CHART			
SYMBOL	DESCRIPTION	PART NO	QTY
TR1 TR2	022 TRANSISTOR	526898	2
D1 D2	IN 537 DIODE	207398	2
P1 P2	25 Ω 2W POT	2132014	2
C1 C2	250 MFD 50VDC CAP	2109462	2
R1 R2	30Ω 1W RESISTOR	509507	2
R3 R4	2K 1/2W RESISTOR	317019	2
R5 R6	75Ω 2W RESISTOR	216986	2
R7 R8	220W 1/2W RESISTOR	317007	2
R9 R10	3K 1/2W RESISTOR	323920	2
J1 J2 J3 J4	JUMPER	337519	4
J5 J6	JUMPER	337530	2

IBM					DATE	CHANG. N°	DATE	CHANG. N°	DATE	CHANG. N°	
NOM	SYSTEM DIAGRAM				2-15-62	250259					
TU. 95. 10. 3					10-1-63	82964					
PROJET		TYPE	729 II IV								
DESSIN		ECHELLE									
VERIF		CALQ.	AD	6.62							TU.95.10.3
APPR		VERIF	Cct	20/8/62							

2092732

TU03000

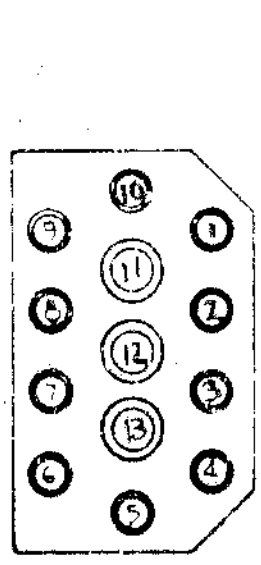
MASTER

TAPE POWER CONNECTORS

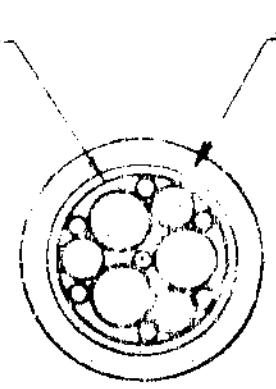
POWER PLUG PIN ASSIGNMENTS

TAPE UNIT		POWER CABLE		SYSTEMS PAGE
PIN NO	VOLTAGE OR CONTROL	WIRE SIZE	TYPE	
1	AC OUTLET 115 VOLTS	14	AC	TU16.00.0
2	AC OUTLET	14	AC	TU16.00.0
3	BOND	14		TU 16 0.00
4	NEUTRAL	18		TU 16 000
5	MODEL II IV RESET 220 VOLTS	18	AC	TU16.00.0
6	SPARE	18		
7	SPARE	18		
8	SPARE	18		
9	AC OUTLET 220 VOLTS	18	AC	TU 16.000
10	MODEL II IV RESET 220 VOLTS	18	AC	TU16.00.0
11	UNREG AC #1	10	AC	TU16.00.0
12	UNREG AC #2	10	AC	TU16.00.0
13	UNREG AC #3	10	AC	TU16.00.0

POWER PLUG PIN ASSIGNMENTS



PIN LAYOUT - POWER PLUG - MALE



POWER CABLE
CROSS SECTION VIEW

INTERNATIONAL BUSINESS MACHINES CORP.	DATE	CHANGE NO.	DATE	CHANGE NO.	NOTE	DEVELOPMENT NO.
MAINT. MS DIAGRAM 3.00.0	6-6-62	JT 82900			E POINT TO ENG. SPEC NO 895291	
DESIGN G-20-61 MODEL TAPE II					DWG. SIZE - B	
OPTNL						
CHECK LFC 7-5-61 DRAWN						TU03000
APPRD SSF 7-5-61 CHECK						

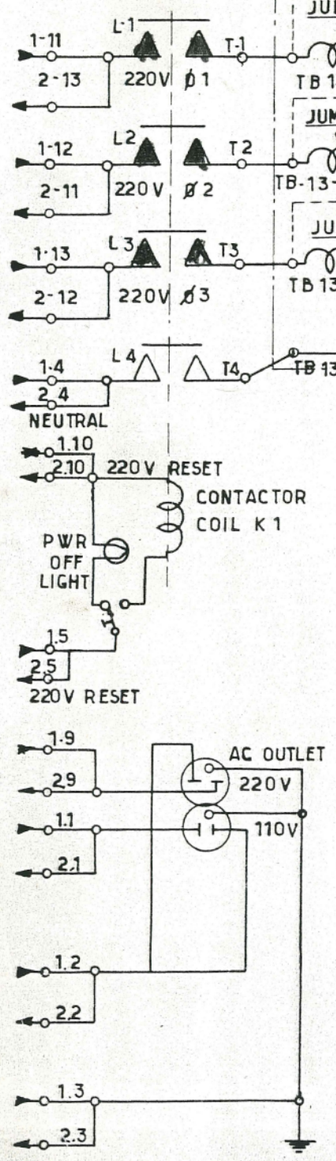
2092732

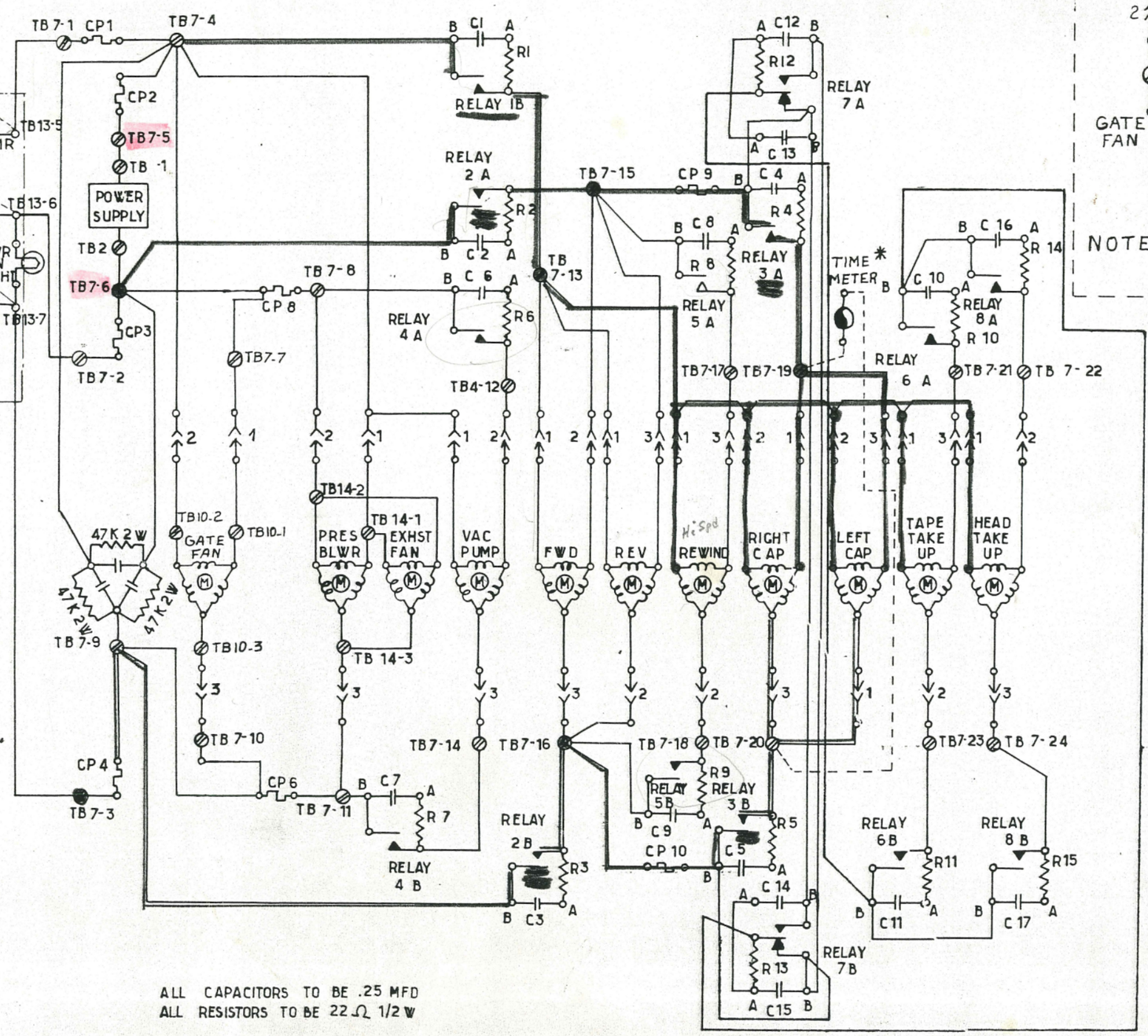
TU 16.00.0

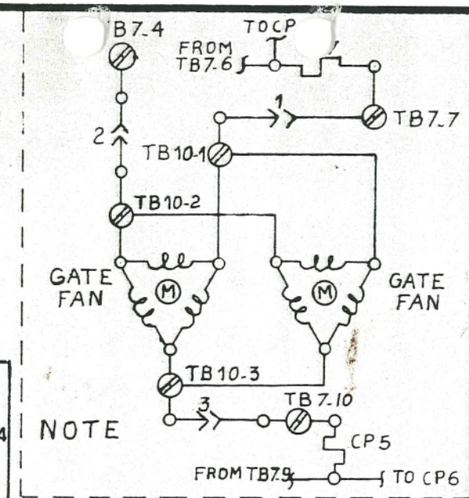
MOTOR CIRCUITS

NOTES.
I-STANDARD MACHINE (OPERATED FROM 220V POWER SUPPLY)
JUMPERS BETWEEN TB 13-1 AND TB 13-5
TB 13-2 AND TB 13-6
TB 13-3 AND TB 13-7

II MACHINE OPERATED FROM 380V POWER SUPPLY_ TRANSFORMER TO BE CONNECTED AS SHOWN







For Capstan
R1
R3
R2

ALL CAPACITORS TO BE .25 MFD
ALL RESISTORS TO BE 22Ω 1/2 W

---* MACHINE WITH METER TO ENGINEERING SPECIFICATION 8016800 _ JT 82912
MACHINE MANUFACTURED PRIOR TO JT 828/6A HAVE TWO GATE FANS AS SHOWN IN DOTTED INSERT

2092734

DEVELOPMENT NO	CHANGE NO	DATE	CHANGE NO	DATE
TU 16.00.0		6.6.62	JT 82900	
		31.7.62	JT 82900 A	
		25-10-62	JT 828/6A	
		21.12.62	JT 83896	
		22.1.63	JT 83930	

IBM

NAME	SYSTEMS DIAG. TU 16.00.0	MODEL 729 A II & IV	
DESIGN			
DETAIL	B 51	5-1-62	
CHECK	G ot	11.1.63	DRAW
APPRO			CHECK

IBM

MACHINE INDEX CARD

Type	Mach. Serial No.	Model	Volts	Cycles	Phases	Plant Order No.	Cust Order No.
0729	0729 55 34827	5	550	50	3	FA 2629	9376.03

Wiring Diagram : 8022237

Final Assembly : 348402 8022316

SELECTIVE OR OPTIONAL FEATURES AND SPECIAL DEVICES

Feat. Code	Designation and remarks	yes	Record No.	Suf.	E.C. level
	Shipping Group	X	348362		
	Idiomatic Feature				
	English	X	8021807		
	French		8021806		
	German		8021808		
	Accent Panel Color Groups				
	Blue	X	539655		
	Red		539656		
	Yellow		539657		
	Tape Reel Labels				
	Label - Gray Mylar		535943		
	Label - Gray H.D.		351530		
	Label - Blue Mylar		535944		
	Label - Blue H.D.		351529		
	Magnetic Recording Splicing Tape		322386		
	External Cable - Special (Type AA)		352464		
	Standard (Type AB)		535099		
	POWER CABLE		535098		
	Tape Signal Terminator				
	Standard (Type A)		348590		
	Special (Type B)		348591		
	Tape Switching Facility	X	348530		
	Ready Meter		8016800		

See Machine History

P/N 8018163

63

C.E.M's and F.B.M's

Inst. date	Designation and remarks	Record No.	Suf.	E.C. Level
				See Machine History

REMARKS :

updated : JT 82205 JT 83281

P/N 8018163

FORM 0-2530

Final Insp. Name	Check Date	C.E. Dept. Name	Check Date

IBM ISRAEL

MACHINE HISTORY

MACHINE TYPE: A 729 V | SERIAL Nº 35 034827

	JT Nº	DESCRIPTION	LOGIC / MECHA	ENG CHG
1	82 900	RELEASE	LOGIC	
2	82 900 A	RELEASE	LOGIC	
3	80 823	800 BPI	MECHA	
4	82 957	MOD 5		
5	82 900 B	GROUND WRITE CABLE	LOGIC	
6	82 965	DIODE R 12	LOGIC	
7	82 836	HSR CIRCUIT CH.	LOGIC	
8	81 545	GROUND REGULATOR	LOGIC	
9	82 835	CP4 8A.	LOGIC	
10	82 791	VACUUM PUMP PROTECT	LOGIC	
11	82 992	MISC. CHANGES	LOGIC	
12	83 878	MERC SW REP	MECHA	
13	82 742	MISC CHANGES	LOGIC	
14	82 964	BASIC POWER SUPPLY	LOGIC	
15	81 240	NEW FRONT DOOR	MECHA	
16	83 930	PR DAM CONT DP 7	LOGIC	
17	82 594	WR HEAD MODIF	MECHA	
18	83 555	ADJUS HEAD STOP	MECHA	
19	84 273	RC TAPE IN COLUMN SWITCH	MECHA	
20	84 880	PREPARE METER	LOGIC	
21	84 735	NOR IMPROVEMENT	LOGIC	
22	81 803 A	TAPE SWITCHING	LOGIC	B/M 802611
23	85913	TAPE SWITCHING LINE TERMINATION		
24	86086	Logic change		B/M 8034023
25				
26				
27				
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45				
46				

TABLE OF CONTENTS 0729 A5

SERIAL N° 034827

JT N°		DESCRIPTION	INDEX	PART N°
~~82900 A~~	84735	SEQUENCE CHART	T U 00 01 0	8023316
~~82900~~	84735	SEQUENCE CHART	T U 00 02 0	8023313
~~82900~~ 84727	83894	REFERENCE PAGE TAPE SWITCHING CONTROL	T U 02 00 0 T U 02 00 1	~~8016976~~ 8018701 8018701
82900		T.C. CONNECTOR RECEPTACLE	T U 02 10 0	8016965
82900		TAPE SIGNAL TERMINATOR	T U 02 20 0	8016966
82900		TAPE POWER CONNECTOR	T U 03 00 0	2092732
82900		CIRCUIT CARD LOCATION CHART	T U 04 10 0	8016967
~~83742~~	84735	CIRCUIT CARD LOCATION CHART	T U 04 11 0	8023316
83895 A		CIRCUIT PROTECTOR CHART	T U 05 00 0	8020515
82900		LOCATION CHART	T U 06 00 0	2092735
82071 C		LOCATION CHART	T U 06 10 0	8018771
82781		READ PRAMPS	T U 07 00 0	8016969
82742		ERASE HEAD, WRITE PULSE	T U 07 10 1	8016971
82900 A		WRITE CIRCUIT	T U 07 10 2	8016972
82900		DELAY MATRIX	T U 07 10 3	8016989
82900		WR STATUS + WR TRIG INDICATOR	T U 07 10 4	8016986
~~82992 V~~	81803A	INPUT CONVERSION LINES	T U 08 00 1	~~8016990~~ 8018699
82900 A		OUTPUT CONVERSION LINES	T U 08 10 1	8016973
82900		REAR C. E. PANEL I	T U 08 20 1	8016992
82900A		REAR C. E. PANEL II	T U 08 20 2	8016993
83895 A		SELECT SWITCH CCP ALARM CIRC	T U 08 30 1	8020738
~~82900~~	84735	WR STAT, REW UNLOAD	T U 09 10 1	8023319
82742		SEL + RDY, REW STAT, NO FIL PROT	T U 09 15 1	8016997
~~82742~~	84735	INITIAL RESET, LOAD	T U 09 20 1	8023324
~~82742~~	84735	UNLOAD UNLOAD STOP	T U 09 25 1	8023322
82742		MOTOR REVERSE	T U 09 30 1	8016841
~~82742~~	84735	TAPE TAKE UP, HEAD UP MOTOR	T U 09 35 1	8023323
~~82742~~	84735	HS REWIND CAPSTAN MOTOR	T U 09 40 1	8023324
~~82742~~	84735	-48 VOLT CLUTCH CONTROL	T U 09 45 1	8023325
~~82742~~	84735	FORWARD GO CONTROL	T U 09 50 1	8023326
~~82900~~		PROLAY CONTROL	T U 09 50 2	8023327
82071 C		PROLAY COILS	T U 09 50 3	8018770
~~82742~~	84735	LOAD POINT, TAPE INDICATE	T U 09 55 1	8023328
82900		SEQUENCE CHART, CHANGE DENSITY	T U 09 60 0	8016995
82742		DENSITY	T U 09 60 1	8018004
82791		RELAYS, MOTOR, CLUTCH, NOT FILE P	T U 10 00 1	8018005
~~82742~~	84735	SWITCHES	T U 11 00 1	8023329
82742		LIGHTS	T U 12 00 1	8018006
83884		C. E. TESTER CONTROL	T U 13 00 1	8018007
82900		FRONT C. E. PANEL	T U 13 10 1	8018008
83654		CLUTCH AND VACUUM CONTROL	T U 15 00 0	8016848
83930		MOTORS CIRCUITS	T U 16 00 0	2092734
~~82900 A~~	84735 A	CND SYSTEM -48 -7, 5 VOLT DISTRIB	T U 95 00 1	~~8023330~~ 8018698
~~82900 B~~	84735	+12 -12 +6 -6 VOLT DISTRIBUTION	T U 95 00 2	8023332
82964		POWER SUPPLY -140 -7, 5 -48	T U 95 10 1	2092963
82964		POWER SUPPLY +12 -12 VDC	T U 95 10 2	348548
82964		POWER SUPPLY +6 -6 VDC	T U 95 10 3	348549

SYSTEME DIAGRAMS 8022237

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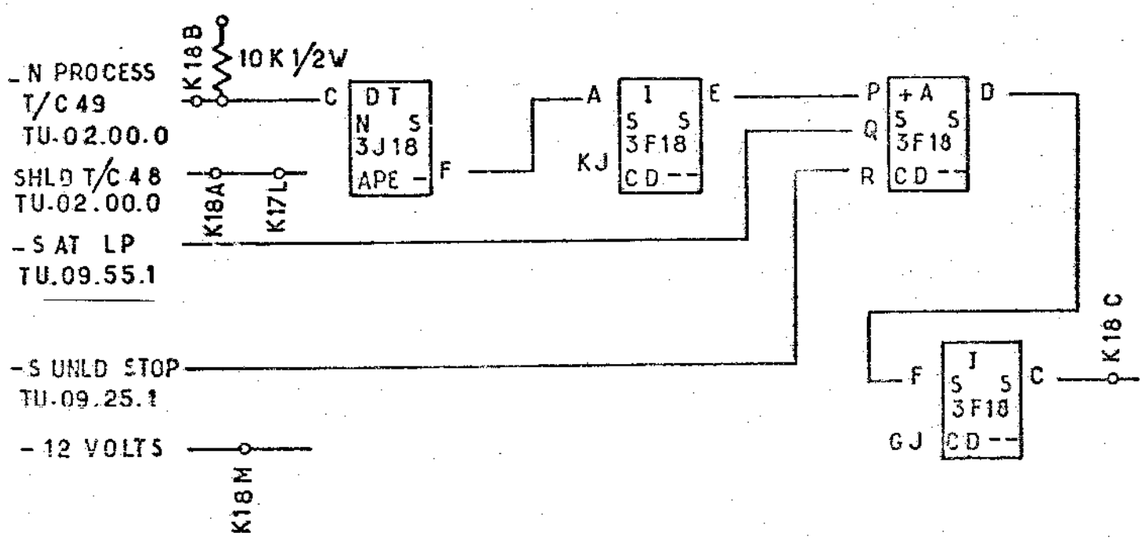
SERIAL N° **034827**

JT N°	DESCRIPTION	INDEX	PART N°
82900	COUPLING N T W K N P BLKS	AK	37I24I
82900	CONVERTER N LINE TO S LINE	APE	370639
82900	CONVERTER P LINE TO S LINE	APF	370640
82900	CONVERTER S LINE TO N LINE	APG	370641
82900	CONVERTER S LINE TO P LINE	APH	370642
82900	CONTROL TRIGGER	AR	37I034
82407	ALLOY PRE AMPLIFIER N°I	ARK	370706
82900	PRE AMPLIFIER L 2	ARL	370707
82900	GATED SAMPLE PULSE DRIVER	AYWX	37I041
82900	DELAY LINE LUMPED	BJ	37I432
82900	DRIVER 2 PROLAYS	BKVZ	37I433
82900	INVERTERS N TYPE	CD	37I029
82900	EMITTER FOLLOWER P N P	CEYB	37I032
82407	INVERTER THREE WAYS	DAC	37I951
82407	INVERTER TWO WAYS	DAX	370084
82900	ALLOY INDICATOR	HW	37I048
82900	HEAD DRIVER + ECHO PULSE AMPLIFIER	LZ	37I674
82900	DRIVE FUNCTIONAL COIL	MD	37I497
82900	INVERTERS. POWER PN P	MH	37I487
82900	INVERTERS. N TWO WAYS	MX	37I661
82900	ALLOY DELAY LINE	RP	37I749
82407	TWO WAYS INVERTER	TAU	370129
82900	INTEGRATOR	TG	801653 2
82900	DRIVER RELAY 2,5 AMPLIFIER	WB	37I880
82900	A.C.PHOTO AMPLIFIER	YAW	370452
82407	WRITE CURRENT BALANCE	YEV	370668
82407	RESISTOR AND SUPPRESSOR	YHM	370701
82900	CAPACITORS	OOO	55698I
83544	ALLOY MULTIVIBRATOR	QG	37I679
83544	ALLOY MULTIVIBRATOR	QH	37I680

SMS LOGIC FOR PROCESS METERING



RETAIN THIS PAGE UNTIL J.T. 84 894 IS APPLIED

SEQUENCE CHART

LOW SPEED LOAD REWIND

	FUNCTION	PAGE	BOX	T.P.	
1	LOAD REW. KEY	TU.11.00.1	4F	3C02B	+S
2	INITIATE REW	TU.09.10.1	1G	3C07G	-S
3	INITIAL RESET	TU.09.20.1	5B	3C15G	-S
4	UNLD. STATUS	TU.09.25.1	3C	3D06C	+S
5	LD. REW. STATUS	TU.09.20.1	2B	3C16G	+S
6	REW. STATUS	TU.09.15.1	3E	3C11D	+S
7	VAC. MTRS. -R4	TU.09.25.1	3F	3C06E	+S
8	MTR. REV. - R7	TU.09.30.1	2F	3D09L	+S
9	VAC. OFF SEL. SW	TU.11.00.1	2E	3G04H	-S
10	RUN - R1 & R2	TU.09.20.1	2E	3C19H	+S
11	HEAD UP MTR -R8	TU.09.35.1	1F	3D15L	+S
12	TAPE UP MTR -R6	TU.09.35.1	2B	3D13G	-S
13	TAPE IN ONE COL.	TU.09.35.1	5H	3D11L	+S
14	HD UP SW	TU.11.00.1	1B	3G03H	+S
15	TAPE IN BOTH COL	TU.09.35.1	5G	3D11K	-S
16	HEAD DWN. SW.	TU.11.00.1	1D	3G04E	+S
17	CAP. MTRS. -R3	TU.09.40.1	2E	3D24A	+S
18	CAP. OUT SW.	TU.11.00.1	1A	3G03E	+S
19	FORWARD	TU.09.50.1	1A	3D24C	+S
20	GO	TU.09.50.1	1F	3D23K	+S
21	L.P. PHOTOCELL	TU.09.55.1	4A	3E20D	-S
22	AT LOAD POINT	TU.09.55.1	2B	3E21G	+S

A LOAD REWIND KEY
B VACUUM UP
C TAPE IN ONE COL
D TAPE IN TO COLUMNS
E HD DWN SW
F CAPSTANS OUT
G LOAD POINT SENSED

HIGH SPEED LOAD REWIND

	FUNCTION	PAGE	BOX	T. P.	
1	RESET KEY	TU.09.15.1	4H	3C14K	-S
2	START STATUS	TU.09.15.1	5B	3C13E	-S
3	LOAD REW. KEY	TU.11.00.1	4F	3C02B	+S
4	INITIATE REW.	TU.09.10.1	1G	3C07G	-S
5	REW. STATUS	TU.09.15.1	3E	3C11D	+S
6	MTR REV R7	TU.09.30.1	2F	3D09L	+S
7	LD. REW STATUS	TU.09.20.1	2B	3C16G	+S
8	CAP. MTRS. - R3	TU.09.40.1	2E	3D24A	+S
9	CAP. IN SW.	TU.11.00.1	2D	3G04F	+S
10	TAPE UP MTR - R6	TU.09.35.1	1F	3D13G	+S
11	HEAD UP MTR-R8	TU.09.35.1	2B	3D15L	+S
12	HEAD UP SW.	TU.11.00.1	1B	3G03H	+S
13	TAPE IN ONE COL	TU.09.35.1	5H	3D11L	+S
14	TAPE IN RT. COL.	TU.11.00.1	2A	3G03F	+S
15	TAPE IN LT. COL	TU.11.00.1	2B	3G03G	+S
16	H.S. REW. MTR - R5	TU.09.40.1	1A	3C19E	-S
17	H.S. REW. P.C.	TU.09.30.1	1C	3D10C	+S
18	HEAD DWN. SW.	TU.11.00.1	1D	3E02K	+S
19	CAP. OUT SW.	TU.11.00.1	1A	3D02P	+S
20	FORWARD	TU.09.50.1	1A	3D24C	+S
21	GO	TU.09.50.1	1F	3D23K	+S
22	L.P. PHOTOCELL	TU.09.55.1	4A	3E20D	-S
23	AT LOAD POINT	TU.09.55.1	2B	3E21G	+S
24	REELS STOPPED	TU.11.00.1	4H	3D02M	+S

A RESET KEY
B LOAD REWIND KEY
C CAPSTANS IN
D TAPE OUT OF BOTH COLS
E HD UP SW
F LOW SPEED AREA
G REELS STOPPED
H HEAD DOWN SW
I START CAPSTAN MTRS
J CAPSTANS OUT
K LOAD POINT SENSED
L FORWARD STATUS

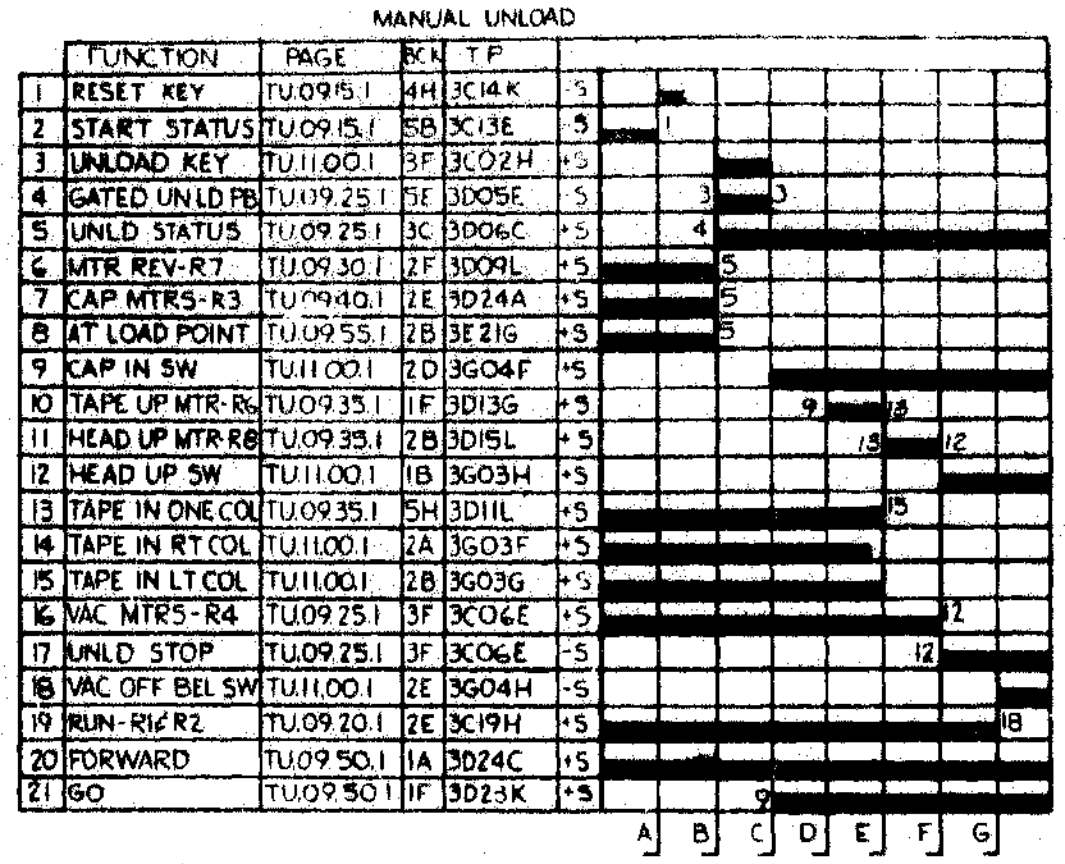
NOTE XI ALL LEVELS SHOWN ARE IN ACTIVE STATUS

TU.00.01.0

SEQUENCE CHART

MANUAL UNLOAD

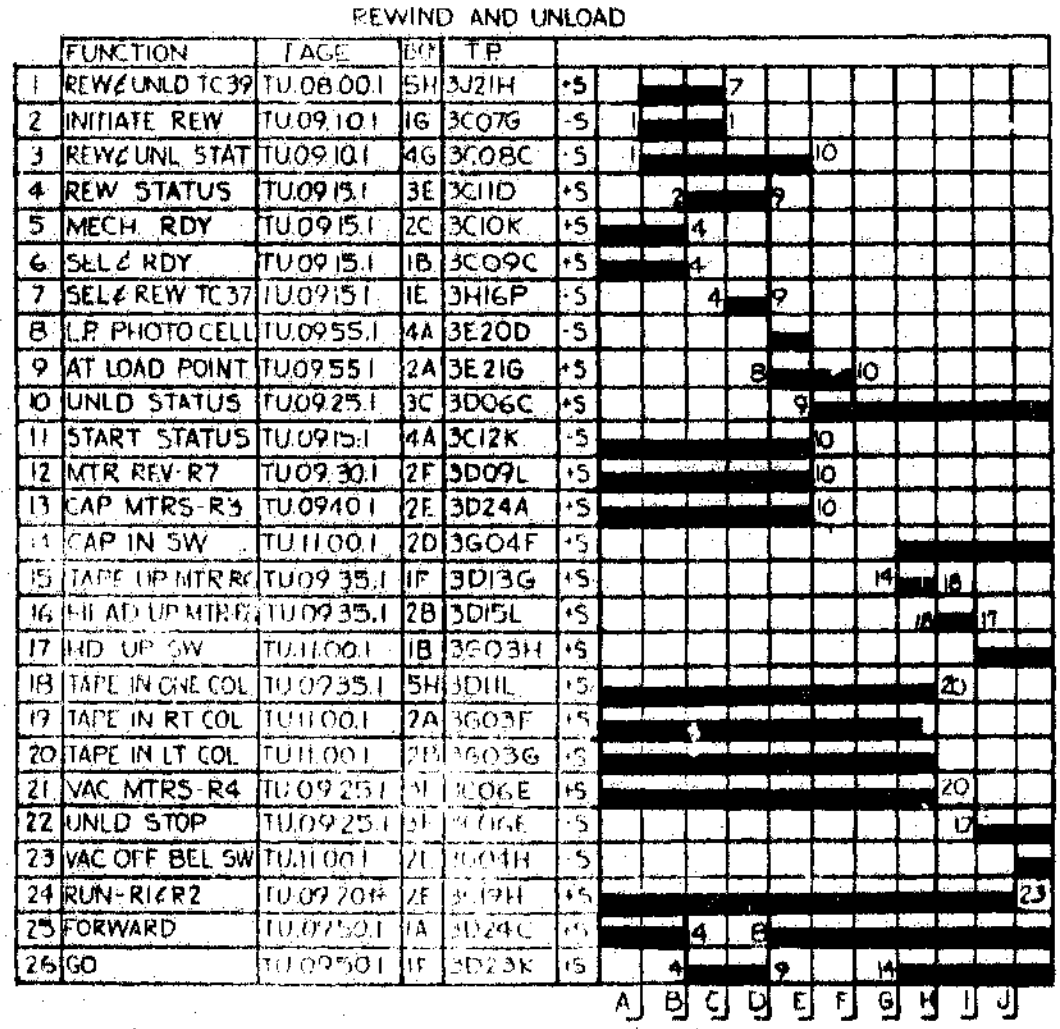
	FUNCTION	PAGE	BCK	TP	
1	RESET KEY	TU.09.15.1	4H	3C14K	-S
2	START STATUS	TU.09.15.1	5B	3C13E	-S
3	UNLOAD KEY	TU.11.00.1	3F	3C02H	+S
4	GATED UNLD PB	TU.09.25.1	5E	3D05E	-S
5	UNLD STATUS	TU.09.25.1	3C	3D06C	+S
6	MTR REV-R7	TU.09.30.1	2F	3D09L	+S
7	CAP MTRS-R3	TU.09.40.1	2E	3D24A	+S
8	AT LOAD POINT	TU.09.55.1	2B	3E21G	+S
9	CAP IN SW	TU.11.00.1	2D	3G04F	+S
10	TAPE UP MTR-R6	TU.09.35.1	1F	3D13G	+S
11	HEAD UP MTR-R8	TU.09.35.1	2B	3D15L	+S
12	HEAD UP SW	TU.11.00.1	1B	3G03H	+S
13	TAPE IN ONE COL	TU.09.35.1	5H	3D11L	+S
14	TAPE IN RT COL	TU.11.00.1	2A	3G03F	+S
15	TAPE IN LT COL	TU.11.00.1	2B	3G03G	+S
16	VAC MTRS-R4	TU.09.25.1	3F	3C06E	+S
17	UNLD STOP	TU.09.25.1	3F	3C06E	-S
18	VAC OFF BEL SW	TU.11.00.1	2E	3G04H	-S
19	RUN-R1&R2	TU.09.20.1	2E	3C19H	+S
20	FORWARD	TU.09.50.1	1A	3D24C	+S
21	GO	TU.09.50.1	1F	3D23K	+S



A RESET KEY
B UNLOAD KEY
C CAPSTANS IN
D START TAPE UP MTR
E TAPE OUT OF BOTH COLS
F UNLOAD STOP
G VACUUM OFF

REWIND AND UNLOAD

	FUNCTION	PAGE	BCK	TP	
1	REW & UNLD TC39	TU.08.00.1	5H	3J21H	+S
2	INITIATE REW	TU.09.10.1	1G	3C07G	-S
3	REW & UNL STAT	TU.09.10.1	4G	3C08C	-S
4	REW STATUS	TU.09.15.1	3E	3C11D	+S
5	MECH RDY	TU.09.15.1	2C	3C10K	+S
6	SEL & RDY	TU.09.15.1	1B	3C09C	+S
7	SEL & REW TC37	TU.09.15.1	1E	3H16P	-S
8	L.P. PHOTO CELL	TU.09.55.1	4A	3E20D	-S
9	AT LOAD POINT	TU.09.55.1	2A	3E21G	+S
10	UNLD STATUS	TU.09.25.1	3C	3D06C	+S
11	START STATUS	TU.09.15.1	4A	3C12K	-S
12	MTR REV-R7	TU.09.30.1	2F	3D09L	+S
13	CAP MTRS-R3	TU.09.40.1	2E	3D24A	+S
14	CAP IN SW	TU.11.00.1	2D	3G04F	+S
15	TAPE UP MTR R6	TU.09.35.1	1F	3D13G	+S
16	HEAD UP MTR R8	TU.09.35.1	2B	3D15L	+S
17	HD UP SW	TU.11.00.1	1B	3G03H	+S
18	TAPE IN ONE COL	TU.09.35.1	5H	3D11L	+S
19	TAPE IN RT COL	TU.11.00.1	2A	3G03F	+S
20	TAPE IN LT COL	TU.11.00.1	2B	3G03G	+S
21	VAC MTRS-R4	TU.09.25.1	3F	3C06E	+S
22	UNLD STOP	TU.09.25.1	3F	3C06E	-S
23	VAC OFF BEL SW	TU.11.00.1	2E	3G04H	-S
24	RUN-R1&R2	TU.09.20.1	2E	3C19H	+S
25	FORWARD	TU.09.50.1	1A	3D24C	+S
26	GO	TU.09.50.1	1F	3D23K	+S



A REW & UNLD TC 39
B REWIND STATUS
C SEL & REWIND TC 37
D LOAD POINT SENSED
E UNLOAD STATUS
F AT LOAD POINT
G CAPSTANS IN
H TAPE OUT OF BOTH COL
I HD UP SW
J VACUUM OFF

NOTE II. ALL LEVELS ARE SHOWN IN ACTIVE STATUS

INTERNATIONAL BUSINESS MACHINES CORP	DATE	CHANGE NO	DATE	CHANGE NO	NOTE	DEVELOPMENT CO
SYSTEM 3 DIAGRAM TU.00.02.0	20.7.65	1184735			895291	
DESIGN	MODEL					
DETAIL SC 2-12-65						
CHECK LHB	DRAW	DI 2 18 65				TU.00.02.0
APPR RAB 2 21 65	CHECK	WPT 2 19 65				

8.018.700

T.U.02.00.0

REFERENCE PAGE

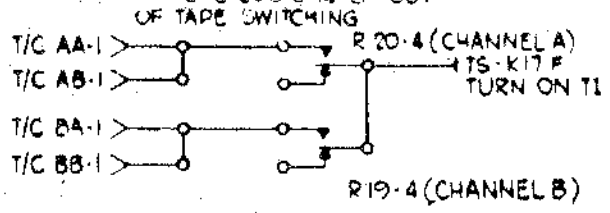
RESISTORS PLUGGING CHART

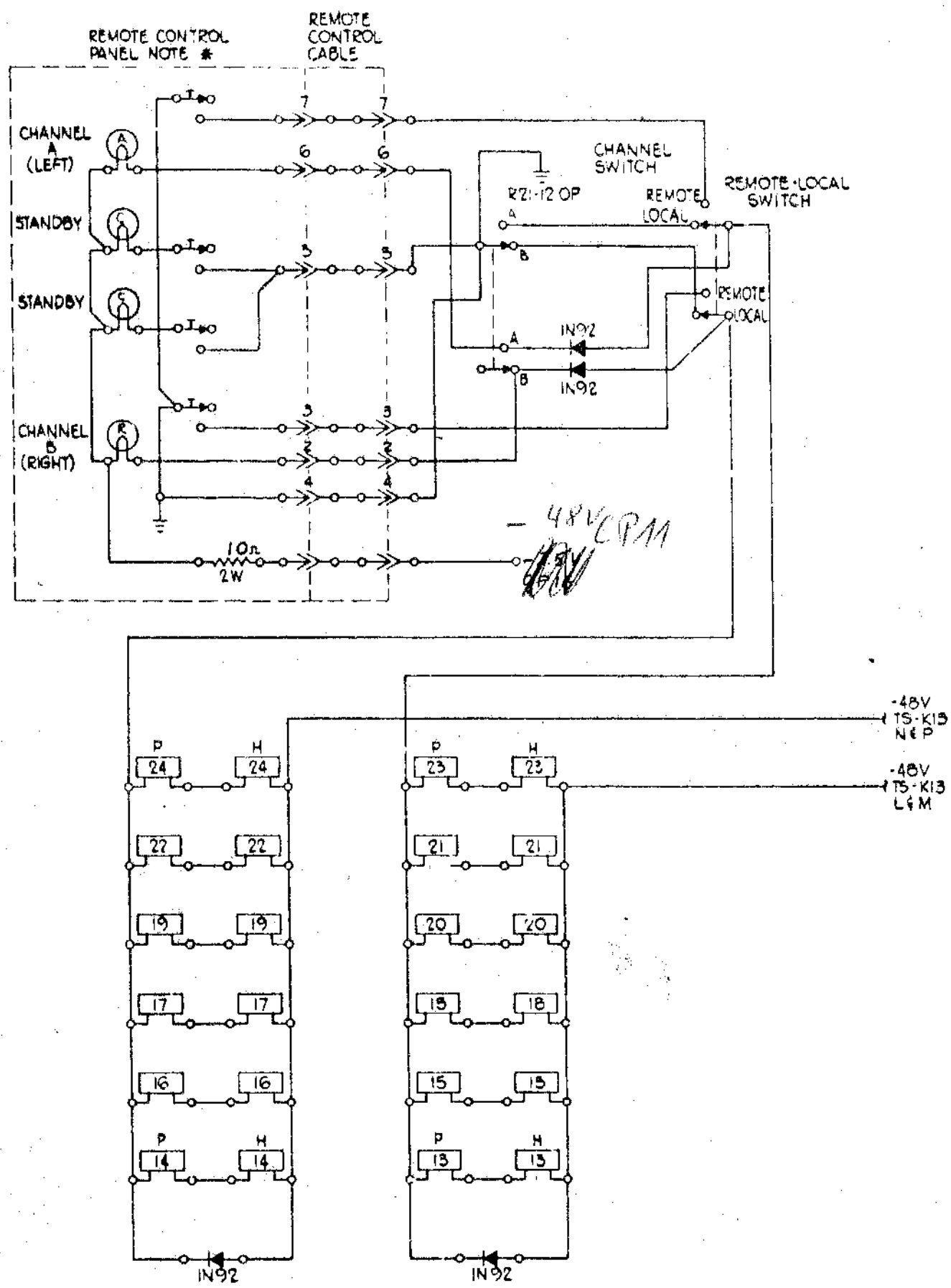
P/N	LOGIC	LINE	CONNECTED BETWEEN	
			CIRCUIT	VOLT. BUS
8020746	08.00.1	Set Read Status	J 19 A	J 19 M
"	"	Set Hi. density	J 19 C	J 18 M
"	"	Turn off T.I	J 20 A	J 17 M
"	"	Go	J 21 A	J 21 M
"	"	Rewind & Unload	J 21 C	J 22 M
"	"	Write Bus 1 bit	J 15 A	J 12 L
"	"	" " 2 "	J 15 B	J 13 L
"	"	" " 4 "	J 15 C	J 14 L
"	"	" " 8 "	J 15 D	J 15 L
"	"	" " A "	J 16 A	J 16 L
"	"	" " B "	J 16 B	J 17 L
"	"	" " C "	J 16 C	J 18 L
"	"	Write Pulses	J 16 D	J 18 L
"	"	Backward.	J 17 A	J 17 L
"	"	Write Status	J 17 B	J 16 L
"	"	Turn on T.I	J 17 C	J 15 L
"	"	Set Lo. density	J 17 D	J 14 L
"	"	Start Rewind	J 18 A	J 19 L
"	"	Wr. check charact.	J 18 B	J 19 L
8018574	"	Shield	J 19 K	H 23 K
"	"	Shield	J 20 K	J 17 K
"	"	Shield	J 21 K	H 24 K

IBM								DATE	CHANG. N°	DATE	CHANG N°	DATE	CHANG. N°	
NOM	MAGNETIC TAPE UNIT							16.1.63	JT 83 894					
	SYSTEM DIAGRAM T.U 02.00.0													
PROJET			TYPE	0729 A										
DESSIN			LIVRE											
VERIF			ALG											T.U.02.00.0
APPR	Rad		VERIF											

TAPE SWITCHING CONTROL

TYPICAL LOGICAL LAYOUT OF TAPE SWITCHING





NOTE:
* REMOTE CONTROL PANEL SWITCHES ARE INTERLOCKED. NO TWO POSITIONS CAN BE SET AT ONE TIME

INTERNATIONAL BUSINESS MACHINES CORP.					DATE	CHANGE NO.	DATE	CHANGE NO.	NOTE	DEVELOPMENT NO.
NAME	SYSTEMS DIAGRAM				11.9.62	JT 81803A			X POINT TO SYS. SPEC. NO. 8952	
	TU 02.00.1				27.6.63	JT 84727				
DESIGN	HHH	10 15 61	MODEL	729 II						
DETAIL	GT	10 15 61								TU 02.00.1
CHECK	HHH	10 15 61	DRAW							
APPRO	RSF	10 15 61	CHECK							

T/C CONNECTOR RECEPTACLE

15	SHIELD	SET READ STATUS	SHIELD	SET WRITE STATUS	SHIELD	START REWIND	8 SHIELD	BKWD	SHIELD	GO	SHIELD	TURN OFF T.I.	SHIELD	1 TURN ON T.I.
30	SEL & NOT AT LD. PT.	SHIELD	SEL & AT LD. PT.	SHIELD	SEL & T.I. OFF	SHIELD	23 SEL & T.I. ON	SHIELD	SEL & RDY MOD IV	SHIELD	SPARE	SHIELD	SPARE	16 SHIELD
45	SHIELD	SET LO-DENSITY	SHIELD	SET HI-DENSITY	SHIELD	REWIND & UNLOAD	38 SHIELD	SEL & REWIND	SHIELD	SEL RDY & WRITE	SHIELD	SEL RDY & READ	SHIELD	31 SEL & RDY MOD II
60							53						HI-DENSITY LO-DENSITY	46 SHIELD
75							68							61
85 SHIELD	READ BUS 2	SHIELD	READ BUS 1	81						80	SEL T.U. 1	SHIELD	SEL T.U. 0	76 SHIELD
95 READ BUS B	SHIELD	READ BUS 4	SHIELD	91						90	SHIELD	SEL T.U. 3	SHIELD	86 SEL T.U. 2
105 SHIELD	READ BUS B	SHIELD	READ BUS A	101						100	SEL T.U. 5	SHIELD	SEL T.U. 4	96 SHIELD
115 MOD V/VI	SHIELD	READ BUS C	SHIELD	111						110	SHIELD	SEL T.U. 7	SHIELD	106 SEL T.U. 6
125 SHIELD	SPARE	SHIELD	SPARE	121						120	SEL T.U. 9	SHIELD	SEL T.U. 8	116 SHIELD
140 -6V							133	+6V						126
155							148							141
170 -12V							163	GND						156
185	WRITE BUS C	SHIELD	WRITE BUS B	SHIELD	WRITE BUS A	SHIELD	178 WRITE BUS 8	SHIELD	WRITE BUS 4	SHIELD	WRITE BUS 2	SHIELD	WRITE BUS 1	171 SHIELD
200			SHIELD	WRITE PULSE	SHIELD	WRITE CHECK CHAR	193 SHIELD	WRITE ECHO PULSE	SHIELD	SPARE	SHIELD	SPARE	187 SHIELD	SPARE

	DATE	CHANGE NO.	DATE	CHANGE NO.	NOTE	DEVELOPMENT NO.
	6.6.62	JT 82900			X PRINT TO ENG. SPEC. NO. 855241	
					DWG. SIZE - B	
						TU02.10.0

8016965

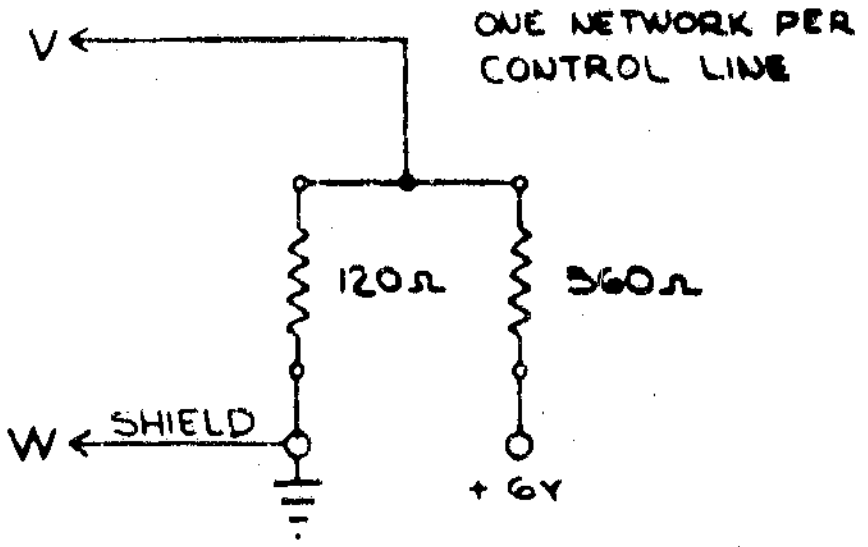
8016966

TU02.20.0

TAPE SIGNAL TERMINATOR

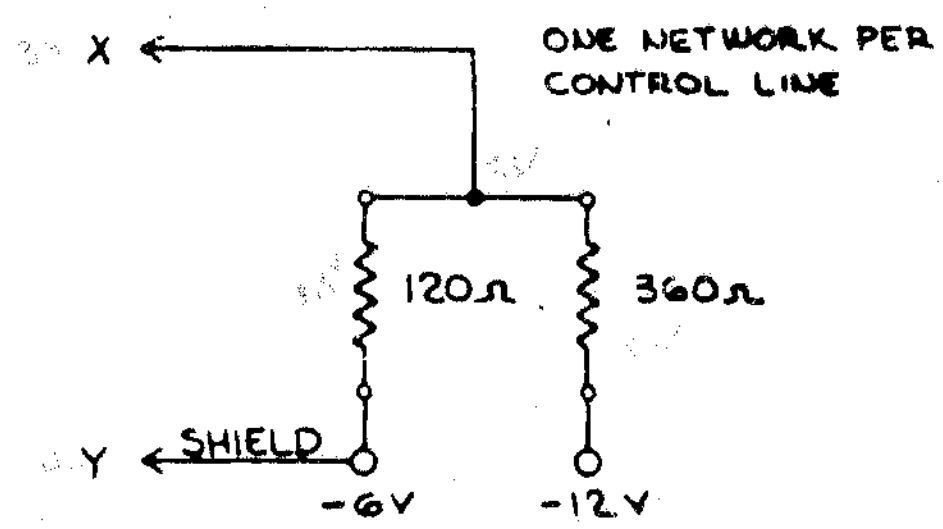
V	W
T/C 1	T/C 2
1	8
9	10
11	12
17	16
19	18
43	44
172	171
174	173
176	175
178	177
180	179
182	181
184	183
94	95
96	197

"N" LINE COUPLING NETWORK



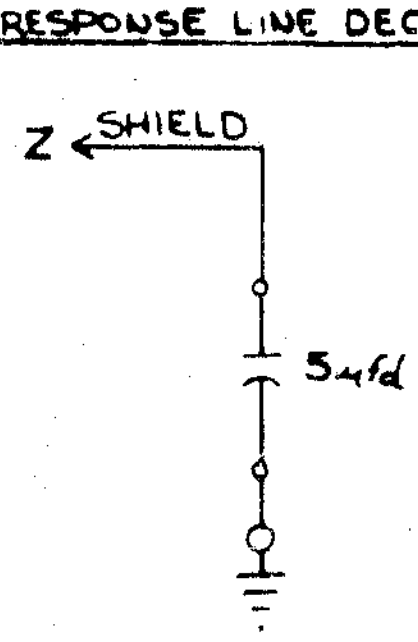
X	Y
T/C 3	T/C 4
5	6
13	14
39	40
41	42
77	76
79	78
86	87
88	89
97	96
99	98
106	107
108	109
117	116
119	118

"P" LINE COUPLING NETWORK

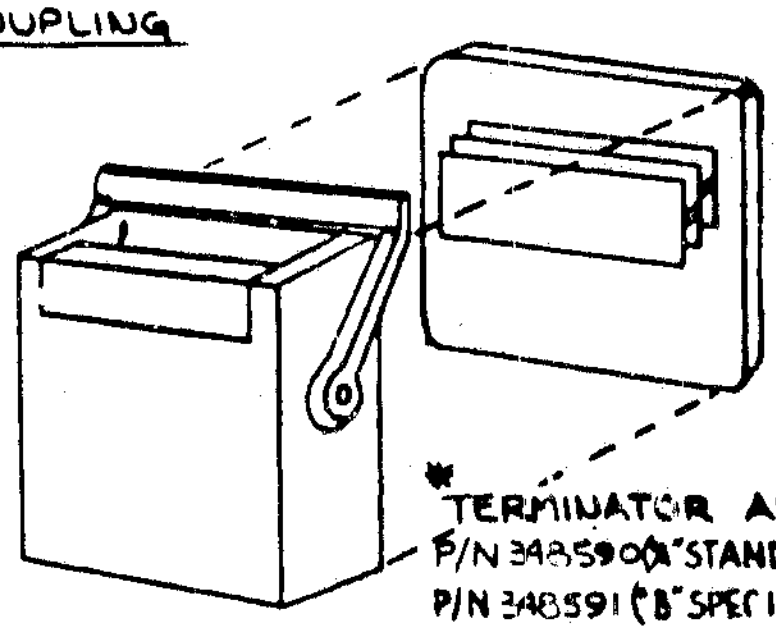


RESPONSE LINE DECOUPLING

Z
T/C 20
22
24
26
28
30
32
34
36
38
40
52
54
56
58
60
70
72
74
114
193



ONE DECOUPLING CAPACITOR PER RESPONSE LINE.



* TERMINATOR ASM.
P/N 348590 ("STANDARD")
P/N 348591 ("B" SPECIAL)

* CONNECTED TO UNUSED TAPE UNIT SIGNAL CONNECTOR

INTERNATIONAL BUSINESS MACHINES CORP.	DATE	CHANGE NO.	DATE	CHANGE NO.	NOTE	DEVELOPMENT NO.
SYSTEMS DIAGRAM	6.6.62	JT 82900			1 PRINT TO ENG. SPEC. NO. 895291	
TU02.20.0						
MODEL T29X(V)						
					DWG. SIZE B	TU 02.20.0

8016966

INPUT-OUTPUT LINES WITH TAPE SWITCHING FEATURE

T/C	LINE NAME		CONNECTOR	PAGE	CHANNEL A	CHANNEL B
7	-M BKWD		0 A3K17B	TU08001	R20-02	R19-02
8	BKWD	SHIELD	00A3K17A	TU08001	R20-01	R19-01
5	6P GO		0 A3K15F	TU08001	R18-10	R17-10
6	GO	SHIELD	00A3K15E	TU08001	R18-09	R17-09
47	6P HIGH DENSITY		00A3K13B	TU08101	R15-10	R16-10
46	HIGH DENSITY	SHIELD	00A3K13A		R15-09	R16-09
82	READ BUS 1			TU07000	R13-09	R14-09
83	READ BUS 1	SHIELD			R13-10	R14-10
84	READ BUS 2			TU07000	R13-08	R14-08
85	READ BUS 2	SHIELD				
93	READ BUS 4			TU07000	R13-07	R14-07
92	READ BUS 4	SHIELD				
95	READ BUS 8			TU07000	R13-06	R14-06
94	READ BUS 8	SHIELD				
102	READ BUS A			TU07000	R13-05	R14-05
103	READ BUS A	SHIELD				
104	READ BUS B			TU07000	R13-04	R14-04
105	READ BUS B	SHIELD				
113	READ BUS C			TU07000	R13-03	R14-03
112	READ BUS C	SHIELD				
17	RESERVED					
16	RESERVED	SHIELD				
49	RESERVED					
48	RESERVED	SHIELD				
39	6P REWIND & UNLOAD		00A3K15H	TU08001	R18-11	R17-11
40	REWIND & UNLOAD	SHIELD	00A3K15G			
31	6P SEL & RDY M2		00A3K13D	TU08101	R15-12	R16-12
32	SEL & RDY M2	SHIELD	00A3K13C		R15-11	R16-11
21	6P SEL & RDY M4		00A3K13D	TU08101	R15-12	R16-12
20	SEL & RDY M4	SHIELD	00A3K13C		R15-11	R16-11
37	-N SEL & REW		00A3K13K	TU08101	R18-06	R17-06
38	SEL & REW	SHIELD	00A3K13J		R18-05	R17-05
24	SEL & TI OFF	SHIELD	00A3K13G		R18-03	R17-03
25	-N SEL & TI OFF		00A3K13H	TU08001	R18-04	R17-04
23	-N SEL & TI ON		00A3K13F	TU08101	R18-02	R17-02
22	SEL & TI ON	SHIELD	00A3K13E		R18-01	R17-01
29	6P SEL & NOT LP		00A3K11K	TU08101	R15-08	R16-08
28	SEL & NOT LP	SHIELD	00A3K11J		R15-07	R16-07
27	6P SEL & LP		00A3K11H	TU08101	R15-06	R16-06
26	SEL & LP	SHIELD	00A3K11G		R15-05	R16-05
33	6P SEL RDY & READ		00A3K11F	TU08101	R15-04	R16-04
34	SEL RDY & READ	SHIELD	00A3K11E		R15-03	R16-03
35	6P SEL RDY & WRITE		00A3K11D	TU08101	R15-02	R16-02
36	SEL RDY & WRITE	SHIELD	00A3K11C		R15-01	R16-01
77	6P SEL TU 0			TU08301	R21-03	R22-03
76	SEL TU 0	SHIELD				
79	6P SEL TU 1			TU08301	R21-04	R22-04
78	SEL TU 1	SHIELD				
86	6P SEL TU 2			TU08301	R21-05	R22-05
87	SEL TU 2	SHIELD				
88	6P SEL TU 3			TU08301	R21-06	R22-06
89	SEL TU 3	SHIELD				
97	6P SEL TU 4			TU08301	R21-07	R22-07
96	SEL TU 4	SHIELD				
99	6P SEL TU 5			TU08301	R21-08	R22-08
98	SEL TU 5	SHIELD				

BAD is Should be

Pins on relays count right to left.

1 [redacted]
2 [redacted]
11.9.62 JT 8/803A
16.1.63 JT. 8389f

INPUT-OUTPUT LINES WITH TAPE SWITCHING FEATURE

T/C	LINE NAME		CONNECTOR	PAGE	CHANNEL A	CHANNEL B
106	&P SEL TU 6			TU08301	R21-09	R22-09
107	SEL TU 6	SHIELD				
108	&P SEL TU 7			TU08301	R21-10	R22-10
109	SEL TU 7	SHIELD				
117	&P SEL TU 8			TU08301	R13-01	R14-01
116	SEL TU 8	SHIELD				
119	&P SEL TU 9			TU08301	R13-02	R14-02
118	SEL TU 9	SHIELD				
41	&P SET HI DENSITY		00A3K17R	TU08001	R18-12	R17-12
42	SET HI DENSITY	SHIELD	00A3K17Q			
43	-N SET LO DENSITY		00A3K17H	TU08001	R20-05	R19-05
44	SET LO DENSITY	SHIELD	00A3K17J			
13	&P SET READ STATUS		00A3K17P	TU08001	R20-10	R19-10
14	SET READ STATUS	SHIELD	00A3K17N	TU08001	R20-09	R19-09
11	-N SET WR STATUS		00A3K17D	TU08001	R20-03	R19-03
12	SET WR STATUS	SHIELD	00A3K17C			
19	SPARE					
18	SPARE	SHIELD				
115	SEL & RDY MOD # 10				R20-12	R19-12
114	SEL & RDY MOD # 02	SHIELD			R20-11	R19-11
122	SPARE					
123	SPARE	SHIELD				
124	SPARE					
125	SPARE	SHIELD				
186	SPARE					
187	SPARE	SHIELD				
188	SPARE					
189	SPARE	SHIELD				
190	SPARE					
191	SPARE	SHIELD				
9	-N START REWIND		00A3K17K	TU08001	R20-07	R19-07
10	START REWIND	SHIELD	00A3K17J	TU08001	R20-06	R19-06
1	-N TURN ON TI		00A3K17F	TU08001	R20-04	R19-04
2	TURN ON TI	SHIELD	00A3K17E			
3	&P TURN OFF TI		00A3K15D	TU08001	R18-08	R17-08
4	TURN OFF TI	SHIELD	00A3K15C	TU08001	R18-07	R17-07
172	-N WR BUS 1		00A3K09B	TU08001	R23-02	R24-02
171	WR BUS 1	SHIELD	00A3K09A	TU08001	R23-01	R24-01
174	-N WR BUS 2		00A3K09D	TU08001	R23-03	R24-03
173	WR BUS 2	SHIELD	00A3K09C			
176	-N WR BUS 4		00A3K09F	TU08001	R23-04	R24-04
175	WR BUS 4	SHIELD	00A3K09E			
178	-N WR BUS 8		00A3K09H	TU08001	R23-05	R24-05
177	WR BUS 8	SHIELD	00A3K09G			
180	-N WR BUS A		00A3K09K	TU08001	R23-07	R24-07
179	WR BUS A	SHIELD	00A3K09J	TU08001	R23-06	R24-06
182	-N WR BUS B		00A3K09M	TU08001	R23-08	R24-08
181	WR BUS B	SHIELD	00A3K09L			
184	-N WR BUS C		00A3K09P	TU08001	R23-09	R24-09
183	WR BUS C	SHIELD	00A3K09N			
196	WR PULSE		00A3K09R	TU08001	R23-10	R24-10
197	WR PULSE	SHIELD	00A3K09Q			
192	WRITE ECHO		00A3K11B	TU08101	R23-12	R24-12
193	WRITE ECHO	SHIELD	00A3K11A		R23-11	R24-11
194	WRITE CHECK CHAR		00A3K17M	TU08001	R20-08	R19-08
195	WRITE CHECK CHAR	SHIELD	00A3K17L			

11.9.62 JT B1603 A
16-1-63 JT 83994

8016967

CIRCUIT CARD LOCATION CHART
Read Preamplifiers

	J	K	L	M
01		BJ-- 0371432 TU. 07. 00. 0 2A	ARL- 0370707 TU. 07. 00. 0 1A 3A	ARK- 0370706 TU. 07. 00. 0 4A
02		BJ-- 0371432 TU. 07. 00. 0 2B	ARL- 0370707 TU. 07. 00. 0 1B 3B	ARK- 0370706 TU. 07. 00. 0 4B
03		BJ-- 0371432 TU. 07. 00. 0 2C	ARL- 0370707 TU. 07. 00. 0 1C 3C	ARK- 0370706 TU. 07. 00. 0 4C
04		BJ-- 0371432 TU. 07. 00. 0 2D	ARL-- 0370707 TU. 07. 00. 0 1D 3D	ARK- 0370706 TU. 07. 00. 0 4D
05		BJ-- 0371432 TU. 07. 00. 0 2E	ARL- 0370707 TU. 07. 00. 0 1E 3E	ARK- 0370706 TU. 07. 00. 0 4E
06		BJ-- 0371432 TU. 07. 00. 0 2F	ARL- 0370707 TU. 07. 00. 0 1F 3F	ARK- 0370706 TU. 07. 00. 0 4F
07		BJ -- 0371432 TU. 07. 00. 0 2G	ARL- 0370707 TU. 07. 00. 0 1G 3G	ARK- 0370706 TU. 07. 00. 0 4G
08				

INTERNATIONAL BUSINESS MACHINES CORP.				DATE	CHANGE NO.	DATE	CHANGE NO.	NOTE	DEVELOPMENT NO.
NAME	SYSTEMS DIAGRAM TU.04.10.0			6.6.62	JT 82900			X PRINT TO ENG. SPEC. NO. 835291	
DESIGN	R.P.R	9-18-61	MODEL 729 II						
DETAIL									
CHECK	L.H.B	9-18-61	DRAW						TU.04.10.0
APPRD	R.S.R.	9-18-61	CHECK						

6 JT's

8023516 [redacted] [redacted]

MACHINE NO 729-9 20.7.65 JT 84735

CIRCUIT CARD LOCATION CHART

RUN 7101

TU.04.11.0

FRAME 00 GATE A PANEL 3

SHEET 1 OF 2

	A	B	C	D	E	F	G	H	J	K
01										
02										
03		~~TG 8023359 TU11.00.1 1A~~	MX— 0371661 TU.09.10.1 1A TU.09.10.1 3A TU.09.10.1 3C TU.09.10.1 5D	CU— 0371029 TU.09.25.1 4A TU.09.25.1 5A TU.09.55.1 5E	BKYZ 0371433 TU.08.10.1 2B		NM— 0371666 [redacted] TU.11.00.1 1B TU.11.00.1 2A TU.11.00.1 2B			556981 TU 95.00.2 CAPACITOR CARD
04	MB— 0371880 TU.09.50.2 1A		MX— 0371661 TU.09.10.1 1B TU.09.10.1 2C TU.09.15.1 2E TU.09.15.1 3F 5	MX— 0371661 TU.08.00.1 2F TU.09.45.1 2C TU.09.25.1 4B TU.09.55.1 2C 5			NM— 0371666 TU.11.00.1 1D TU.11.00.1 2E TU.11.00.1 2D TU.11.00.1 2E			
05			CD— 0371029 TU.09.10.1 3B TU.09.10.1 5A TU.09.10.1 5B TU.09.15.1 2B	CD— 0371029 TU.09.25.1 5E TU.09.25.1 5F TU.09.25.1 5G	YAW— 0370492 TU.09.55.1 4B					
06	MB— 0371880 TU.09.50.2 1B		CEYB 0371032 TU.09.10.1 2A TU.09.15.1 3D TU.09.15.1 4B TU.09.25.1 3F 2	MX— 0371661 TU.09.25.1 3C TU.09.25.1 4F TU.09.25.1 4G TU.09.60.1 1C 5	YAW— 0370492 TU.09.55.1 5D					TG 8.023.359 TU11001 1A
07			MX— 0371661 TU.09.10.1 1G TU.09.10.1 1H TU.09.10.1 2F TU.09.10.1 2G TU.09.30.1 4H							
08	MB— 0371880 TU.09.50.2 2C		MX— 0371661 TU.09.10.1 3F TU.09.10.1 4F TU.09.10.1 4G TU.09.35.1 2H	CEYB 0371032 TU.09.25.1 3A TU.09.25.1 3B TU.09.30.1 2G TU.09.30.1 3A 2	DAC— 0371951 TU.09.55.1 3E TU.09.55.1 3F TU.09.55.1 4D					
09			DAX— 0370084 TU.09.15.1 3A TU.09.15.1 1B TU.09.15.1 1D TU.09.55.1 1C 5	MH— 0371487 TU.09.25.1 1C TU.09.30.1 2F TU.09.40.1 5F TU.09.40.1 5G	MX— 0371661 TU.09.55.1 3H TU.09.55.1 3J TU.09.55.1 4F TU.09.00.1 4H					
10	MB— 0371880 TU.09.50.2 1C		MX— 0371661 TU.09.15.1 TU.09.15.1 TU.09.15.1 TU.09.15.1 TU.09.55.1	MX— 0371661 TU.09.30.1 1C TU.09.30.1 2C TU.09.30.1 4F TU.09.30.1 4G 5						
11			MH— 0371487 TU.09.15.1 1C TU.09.15.1 2A TU.09.15.1 2G TU.09.15.1 3E	MX— 0371661 TU.09.30.1 3E TU.09.30.1 4E TU.09.35.1 5G TU.09.35.1 5H						
12	MB— 0371880 TU.09.50.2 2B	MD 0371497 TU 09.45.1 1B	MX— 0371661 TU.09.15.1 4A TU.09.15.1 4F TU.09.15.1 5A TU.09.15.1 5F	MX— 0371661 TU.09.35.1 2E TU.09.35.1 3G TU.09.35.1 4G TU.09.35.1 4H 5			MX— 0371661 TU.08.00.1 1B TU.08.00.1 4G TU.08.00.1 1D TU.09.50.1 5C	APH— 0370442 TU.08.10.1 2A TU.08.10.1 5B TU.08.10.1 2C TU.08.10.1 5D		
13			CD— 0371029 TU.09.15.1 3C TU.09.15.1 4D TU.09.15.1 5B	MX— 0371661 TU.09.35.1 1F TU.09.35.1 2F TU.09.35.1 3A TU.09.50.2 4H 5			TAU— 0370129 TU.08.00.1 2H TU.08.00.1 4F TU.09.55.1 2E TU.09.55.1 4E	APH— 0370442 TU.08.10.1 3B TU.08.10.1 5E TU.08.10.1 5F TU.08.10.1 2C		
14	MB— 0371880 TU.09.50.2 1B	MB— 0371880 TU.09.55.1 5I	MX— 0371661 TU.09.15.1 4C TU.09.15.1 4E TU.09.15.1 4H TU.09.15.1 5E				MX— 0371661 TU.08.00.1 2A TU.08.00.1 4A TU.08.00.1 4B TU.09.55.1 1E 5	APH— 0370441 TU.08.10.1 2A TU.08.10.1 4G TU.08.10.1 4H TU.08.10.1 4I		

8023316 [redacted]

MACHINE NO 729-5 20-7-65 JT 84735

CIRCUIT CARD LOCATION CHART

RUN 7101

[redacted] TU.00.11.0

FRAME 00 GATE A PANEL 3

SHEET 2 OF 12

04.21.0

	A	B	C	D	E	F	G	H	J	K
15			MX— 0371661 TU.09.20.1 1E TU.09.20.1 3D TU.09.20.1 5A TU.09.20.1 5B 5	MX— 0371661 TU.09.35.1 2B TU.09.35.1 4C TU.09.35.1 5D TU.09.35.1 5F				MX— 0371661 TU.08.00.1 2B TU.08.00.1 2C TU.08.00.1 4C TU.09.55.1 1D 5	APE— 0370639 TU.08.00.1 3A TU.08.00.1 3B TU.08.00.1 5A TU.08.00.1 5B	
16	WB— 0371880 TU.09.50.2 2E	MD— 0371497 TU.07.10.1 2B TU.09.55.1 1F TU.09.60.1 1B	MX— 0371661 TU.09.20.1 2B TU.09.20.1 3B TU.09.20.1 3C TU.09.20.1 4D 5	MX— 0371661 TU.09.35.1 5E TU.09.40.1 3D TU.09.40.1 4D TU.09.55.1 5C 5				MX— 0371661 TU.08.00.1 2D TU.08.00.1 4D TU.08.00.1 4E TU.09.15.1 1E 5	APE— 0370639 TU.08.00.1 3C TU.08.00.1 3D TU.08.00.1 5C TU.08.00.1 5D	
17			MX— 0371661 TU.09.20.1 3F TU.09.20.1 4E TU.09.20.1 5C TU.09.20.1 5G 5	CD— 0371029 TU.09.40.1 2A TU.09.40.1 2B TU.09.40.1 3E 5				MX— 0371661 TU.08.00.1 2E TU.08.00.1 2G TU.09.55.1 3C TU.08.10.1 4B 5	APE— 0370639 TU.08.00.1 3E TU.08.00.1 3F TU.08.00.1 5E TU.08.00.1 5F	
18	WB— 0371880 TU.09.50.2 2F	MD— 0371497 TU.09.15.1 1A TU.09.15.1 2D TU.09.60.1 1F	CD— 0371029 TU.09.20.1 4F TU.09.20.1 5E TU.09.20.1 5F	MX 0371661 TU 09.45.1 3D TU 09.45.1 2D TU 09.45.1 4C					APE— 0370639 TU.08.00.1 1G TU.08.00.1 1H 3 4	
19			CEYB 0371032 TU.08.10.1 TU.09.20.1 TU.09.20.1 TU.09.20.1 TU.09.35.1	CD— 0371029 TU.09.35.1 3B TU.09.35.1 5C TU.09.50.1 4C 4					APF— 0370640 TU.08.00.1 1A TU.08.00.1 5G	
20	WB— 0371880 TU.09.50.2 2G 4	MD— 0371497 TU.07.10.1 4A TU.09.45.1 2E TU.09.55.1 5H	MX— 0371661 TU.09.45.1 2B TU.09.45.1 4B TU.09.45.1 5B TU.09.45.1 5E	CD— 0371029 TU.09.45.1 3B TU.09.45.1 5C TU.09.45.1 5I	CD— 0371029 TU.09.45.1 5G TU.09.55.1 3B TU.09.55.1 4A			HW— 0371048 TU.07.10.4 4A TU.07.10.4 4B TU.07.10.4 4C TU.07.10.4 4D	APF— 0370640 TU.08.00.1 1C TU.08.00.1 3H	
21			MX— 0371661 TU.09.45.1 3E TU.09.45.1 3H TU.09.45.1 4I TU.09.45.1 5H	MX— 0371661 TU.09.15.1 5C TU.09.45.1 4G TU.09.45.1 5D TU.13.00.1 1A	MX— 0371661 TU.07.10.1 TU.09.55.1 TU.09.55.1 TU.09.55.1 TU.09.45.1			HW— 0371048 TU.07.10.4 4E TU.07.10.4 4F TU.07.10.4 4G TU.07.10.4 4H	APF— 0370640 TU.08.00.1 1E TU.08.00.1 5H	
22	WB— 0371880 TU.09.50.2 1G	MD— 0371497 TU.09.45.1 1B TU.09.45.1 2H TU.09.45.1 2I	CD— 0371029 TU.09.50.1 3A TU.09.50.1 3H TU.09.50.1 5E 5	MX— 0371661 TU.09.50.1 2F TU.09.50.1 3E TU.09.50.1 4A TU.09.50.1 4D		AK— 0371241 TU.07.10.1 1B	AYWS 0371041 TU.07.10.2 5G	AR— 0371034 TU.07.10.2 4G	LZ— 0371674 TU.07.10.2 3G	
23			MX— 0371661 TU.09.50.1 4E TU.09.50.1 5D TU.09.50.1 5F TU.09.50.1 5G 5	CEYB 0371032 TU.09.20.1 TU.09.20.1 TU.09.50.1 TU.09.50.1 TU.08.10.1 2		APG— 0370641 TU.07.10.1 1A 2 3 4	AYWS 0371041 TU.07.10.2 5F	AR— 0371034 TU.07.10.2 4F	LZ— 0371674 TU.07.10.2 3F	
24	WB— 0371880 TU.09.50.2 2H	MD— 0371497 TU.09.15.1 1G TU.09.35.1 1B TU.09.45.1 2A	MX— 0371661 TU.09.50.2 3D TU.09.50.2 3E TU.09.50.2 4E TU.09.50.2 4I	MH— 0371487 TU.09.40.1 1B TU.09.40.1 2E TU.09.50.1 1A TU.09.50.1 1E		MH— 0371487 TU.07.10.1 2A TU.07.10.1 3A TU.07.10.1 3B TU.07.10.1 4C	AYWS 0371041 TU.07.10.2 5E	AR— 0371034 TU.07.10.2 4E	LZ— 0371674 TU.07.10.2 3E	YEU— 0370668 TU.07.10.2 2A TU.07.10.2 2B TU.07.10.2 2C TU.07.10.2 2D
25			MX— 0371661 TU.09.60.1 3B TU.09.60.1 3C TU.09.60.1 4B TU.09.60.1 5H 5	MX— 0371661 TU.09.50.2 4C TU.09.50.2 5E TU.09.60.1 2G TU.09.60.1 2C 5		APE— 0370639 TU.07.10.1 2I TU.07.10.1 4H TU.07.10.1 4I 4	AYWS 0371041 TU.07.10.2 5D	AR— 0371034 TU.07.10.2 4D	LZ— 0371674 TU.07.10.2 3D	
26	WB— 0371880 TU.09.50.2 2I	MD— 0371497 TU.09.30.1 1E TU.09.35.1 1G TU.09.40.1 1C	MX— 0371661 TU.09.60.1 2B TU.09.60.1 2F TU.09.60.1 3F TU.09.60.1 5A 5	MX— 0371661 TU.09.60.1 3G TU.09.60.1 4G TU.09.60.1 5D TU.09.60.1 5E 5		APE— 0370639 TU.07.10.1 2G TU.07.10.1 2H TU.07.10.1 4F TU.07.10.1 4G	AYWS 0371041 TU.07.10.2 5C	AR— 0371034 TU.07.10.2 4C	LZ— 0371674 TU.07.10.2 3C	YEU— 0370668 TU.07.10.2 2E TU.07.10.2 2F TU.07.10.2 2G
27			MX— 0371661 TU.13.00.1 2A TU.13.00.1 3B TU.13.00.1 5C TU.13.00.1 5D	CD— 0371029 TU.13.00.1 3C TU.13.00.1 4C TU.13.00.1 4D		RP— 0371749 TU.07.10.1 5D	AYWS 0371041 TU.07.10.2 4B	AR— 0371034 TU.07.10.2 4B	LZ— 0371674 TU.07.10.2 3B	
28	YHM— 0370701 TU.09.20.1 [redacted] TU.09.30.1 TU.09.55.1	MD— 0371497 TU.09.20.1 2F TU.09.25.1 2F TU.09.40.1 1E	QG— NOTE 0371679 TU.13.00.1 5B	QH— NOTE 0371680 TU.13.00.1 2E		RP— 0371749 TU.07.10.1 5E	AYWS 0371041 TU.07.10.2 5A	AR— 0371034 TU.07.10.2 4A	LZ— 0371674 TU.07.10.2 3A	

8020515

TU05.00.0

CIRCUIT PROTECTOR CHART

A.C. C.P

CP #	VOLTAGE	CURRENT	FUNCTION	PART NO.
1	208	8A	Ø1 LINE	8016931
2		8A	Ø1 POWER SUPPLY	8016931
3		8A	Ø2 LINE	8016931
4		8A	Ø3 LINE	8016931
5		0.5A	Ø3 GATE BLOWER	8015706
6		2A	Ø3 VAC PUMP & PRES BLOWER	8021667
7		0.5A	Ø2 GATE BLOWER	8015706
8		2A	Ø2 VAC PUMP & PRES BLOWER	8021667
9		3A	Ø2 CAP & TAKE UP	2092387
10	208	3A	Ø3 CAP & TAKE UP	2092387
18	133	2A	7.5V SUPPLY	8011178

Note II

D.C. C.P

CP #	VOLTAGE	CURRENT	PART NO.
11	-48	3.A	8011179
12	-12	4 A	8021670
13	- 6	4A	8021670
14	+ 6	4 A	8021670
15	+12	4 A	8021670
16	-75	10A	8016938
17	+140	1 A	8011177

NOTES I ON SOME MACHINES, THE CIRCUIT PROTECTORS LISTED HEREAFTER HAVE BEEN INSTALLED IN REPLACEMENT OF THOSE SPECIFIED IN THE TWO ABOVE CHARTS (AC CP AND DC CP)

CP	P/N	RATING
CP 13	8011179	3A
CP 15	8011178	2A
CP 16	8021216	20A

ANY REPLACEMENT OF THESE CIRCUIT PROTECTORS SHALL HOWEVER BE MADE IN ACCORDANCE WITH THE SPECIFICATIONS OF THE TWO ABOVE CHARTS. (AC CP AND DC CP)

II. Tape units WITH JT 82816A DC NOT HAVE CP'S 5 & 7

INTERNATIONAL BUSINESS MACHINES CORP.						DATE	CHANGE NO.	DATE	CHANGE NO.	NOTE	DEVELOPMENT NO.
NAME	SYSTEMS DIAGRAM TU05.00.0					20.12.62	JT838954			X PRINT TO ENG. SPEC. NO. 895291	
DESIGN	LFC	6-20-61	MODEL	729 A II IV							
DETAIL											
CHECK	LFC	7-5-61	DRAW	IDI	6-28-61						TU05.00.0
APPRD	RSR	7-5-61	CHECK								

8020515

2092735

TU06.000

LOCATION CHART

DOUBLE POLE RELAYS

RELAY NO.	TYPE	PART NO.	COIL P.U.	POINTS A	POINTS B	NAME
1	DP	8022374	TU10.00.1	TU16.00.0	TU16.00.0	PHASE 1
2	DP	↑	↑	↑	↑	PHASE 2 & 3
3	DP	↑	↑	↑	↑	CAPSTAN MOTORS
4	DP	↑	↑	↑	↑	VACUUM MOTOR
5	DP	↑	↑	↑	↑	REWIND MOTOR
6	DP	↑	↑	↑	↑	TAPE TAKE-UP START
7	DP	2067833	↓	↓	↓	TAKE-UP REVERSE
8	DP	8022374	TU10.00.1	TU16.00.0	TU16.00.0	HEAD TAKE-UP MOTOR

DUO RELAYS

RELAY NO.	TYPE	PART NO.	COIL P.U.	POINTS AU	POINTS AL	POINTS BU	POINTS BL	NAME
9	DUO	124843	TU10.00.1	TU 15.00.0	TU 15.00.0	TU 15.00.0	TU 15.00.0	140 VOLT CONTROL
10	DUO	124843	TU10.00.1	TU 15.00.0				REWIND
11	DUO	530731	TU10.00.1		TU 13.00.1		TU 11.00.1	NOT FILE PROTECT
12	DUO	111351	TU10.00.1		TU 10.00.1		TU 12.00.1	NOT FILE PROTECT 1

CONTACTOR

NO.	PART NO.	LOCATION	NAME
K1	2092519	TU16.00.0	POWER ON

INTERNATIONAL BUSINESS MACHINES CORP	DATE	CHANGE NO.	DATE	CHANGE NO.	NOTE	DEVELOPMENT NO
NAME SYSTEMS DIAGRAM TU06.00.0	6-6-62	JT 82900			1 PRINT TO ENG. SPEC. NO. 895291	
DESIGN L.F.C. 6-20-61 MODEL 729 A II						
DETAIL						
CHECK L.F.C. 7-5-61 DRAW ID 6-28-61						
APPROV R.S.R. 7-5-61 CHECK					DWG. SIZE D	TU06.000

2092735

8018771

LOCATION CHARTS

KEYS AND SWITCHES

NAME	LOCATION
CAPSTAN IN SWITCH-LEFT	TU 11.00.1
CAPSTAN IN SWITCH-RIGHT	TU 11.00.1
CAPSTAN OUT SWITCH-LEFT	TU 11.00.1
CAPSTAN OUT SWITCH-RIGHT	TU 11.00.1
DOOR CLOSED INTERLOCK	TU 11.00.1
HEAD DOWN SWITCH	TU 11.00.1
HEAD UP SWITCH	TU 11.00.1
H.S. REW THERMAL CUT OUT	TU 11.00.1
LOAD REWIND P.B.	TU 11.00.1
REEL RELEASE P.B.	TU 11.00.1
RESET P.B.	TU 11.00.1
START P.B.	TU 11.00.1
TAPE IN COL SW-LEFT	TU 11.00.1
TAPE IN COL SW-RIGHT	TU 11.00.1
TIME DELAY SW	TU 11.00.1
UNLOAD P.B	TU 11.00.1
VACUUM COL SW-LEFT	TU 15.00.0
VACUUM COL SW-RIGHT	TU 15.00.0
VACUUM OFF BELLOWS SW	TU 11.00.1
SELECTOR SW	TU 08.30.1
CHANGE DENSITY P.B	TU 11.00.1
POWER ON-OFF SW.	

RESIST. AND VARIABLE RESISTORS

NO	PART NO	LOC	NAME
14	2045325	TU 15.00.0	TAPE WRINKLING
15	8016831	TU 95.10.1	POWER SUPPLY - 48V
16	8016804	TU 15.00.0	+140 LEFT CLUTCHES
17	8016804	TU 15.00.0	+140 RIGHT CLUTCHES
18	8016805	TU 15.00.0	-48 LEFT & RIGHT CLUTCHES
19	252816	TU 09.30.1	HSR AREA LAMP
20	252816	TU 09.55.1	T.I. & L.P. LAMPS
21	252816	TU 09.55.1	TAPE BREAK LAMP

PHOTO CELLS

LOC	NAME
TU 09.30.1	H.S. AREA
TU 09.55.1	LOAD POINT AND TAPE BREAK
TU 09.55.1	TAPE IND

LIGHTS AND LAMPS

NAME	LOCATION
FILE PROTECT LIGHT	TU 12.00.1
FUSE LIGHT	TU 12.00.1
H.S. AREA LAMP	TU. 09.30.1
LOAD POINT LAMP	TU. 12.00.1
READY LIGHT	TU. 12.00.1
SELECT LIGHT	TU 12.00.1
TAPE BREAK LAMP	TU. 12.00.1
TAPE INDICATE LAMP	TU 12.00.1
TAPE INDICATE ON LIGHT	TU 12.00.1
ADDRESS LIGHT	TU 12.00.1
LINE POWER	TU 16.00.0
MACHINE POWER	TU 16.00.0
HI AND LO DENSITY LIGHT	TU 12.00.1

DIODES

NO	PART NO	LOC
1	8013898	TU 10.00.1
2	8013898	TU 10.00.1
3	8013898	TU 10.00.1
4	8013898	TU 10.00.1
5	8013898	TU 10.00.1
6	8013898	TU 10.00.1
7	8013898	TU 10.00.1
8		TU 09.50.2
9		TU 09.50.2
10		TU 09.50.2
11		TU 09.50.2
12		TU 09.50.2
13		TU. 09.50.2
15	8011020	TU. 09.50.3
16	8011050	TU. 10.00.1
17	8011050	TU 10.00.1
18	8013898	TU 10.00.1
19	8011050	TU 15.00.0
20	8011050	TU 15.00.0

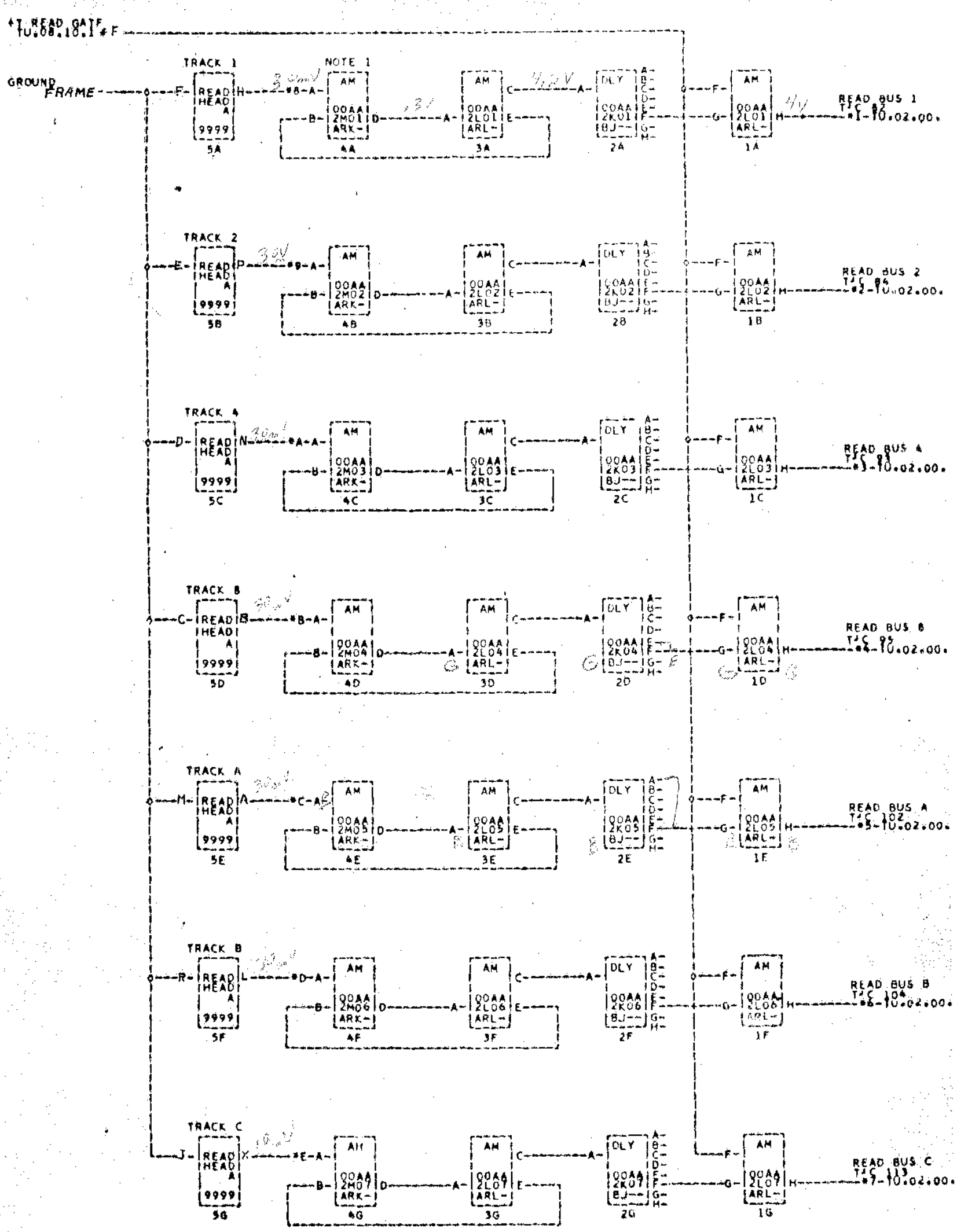
POTENTIOMETERS

NO	PART NO	LOC	NAME
1	213930	TU 15.00.0	H.S.A. COAST CONT.
2	213930	TU 15.00.0	PARTIAL LF BRAKE CONT.
3	8016679	TU 15.00.0	TAPE WRINKLING POT
4	528481	TU 09.50.3	PROLAY - NEUTRAL
5	8015377	TU 09.50.3	PROLAY - DRIVE
7	8011018	TU 09.50.3	FWD GO DELAY

TIME METER

LOC	NAME
TU 16.00.0	READY METER

IBM					DATE	CHANG. N°	DATE	CHANG. N°	DATE	CHANG. N°		
NOM	SYSTEME DIAGRAM				6.12.62	JT 8207/C						
TU 06.10.0												
PROJET			TYPE	729-II & V								
DESSIN			ECHELLE									
VERIF			CALC								TU 06.10.0	1/1 A3 Q
APPR	RDX	19.6.62	VERIF									

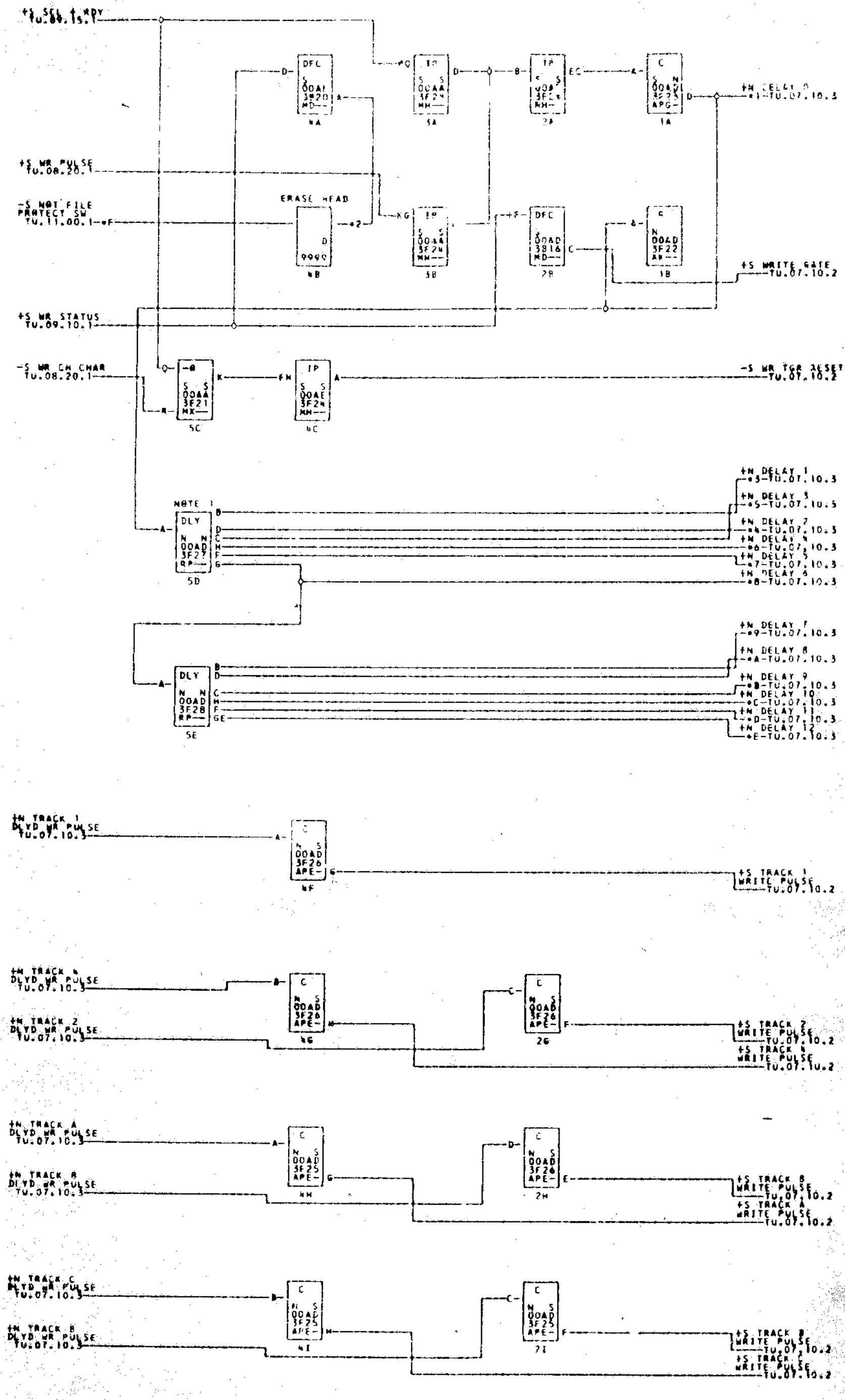


*1--00A2-55A *2--00A2-55B *3--00A2-55C *4--00A2-55D *5--00A2-55E *6--00A2-55F *7--00A2-55G *8--00A2-51A
*9--00A2-51C *A--00A2-51E *B--00A2-51G *C--00A2-52A *D--00A2-52C *E--00A2-52E
*F--00A2-54H

COMMENTS

1 THIS PAGE FOR T29-V

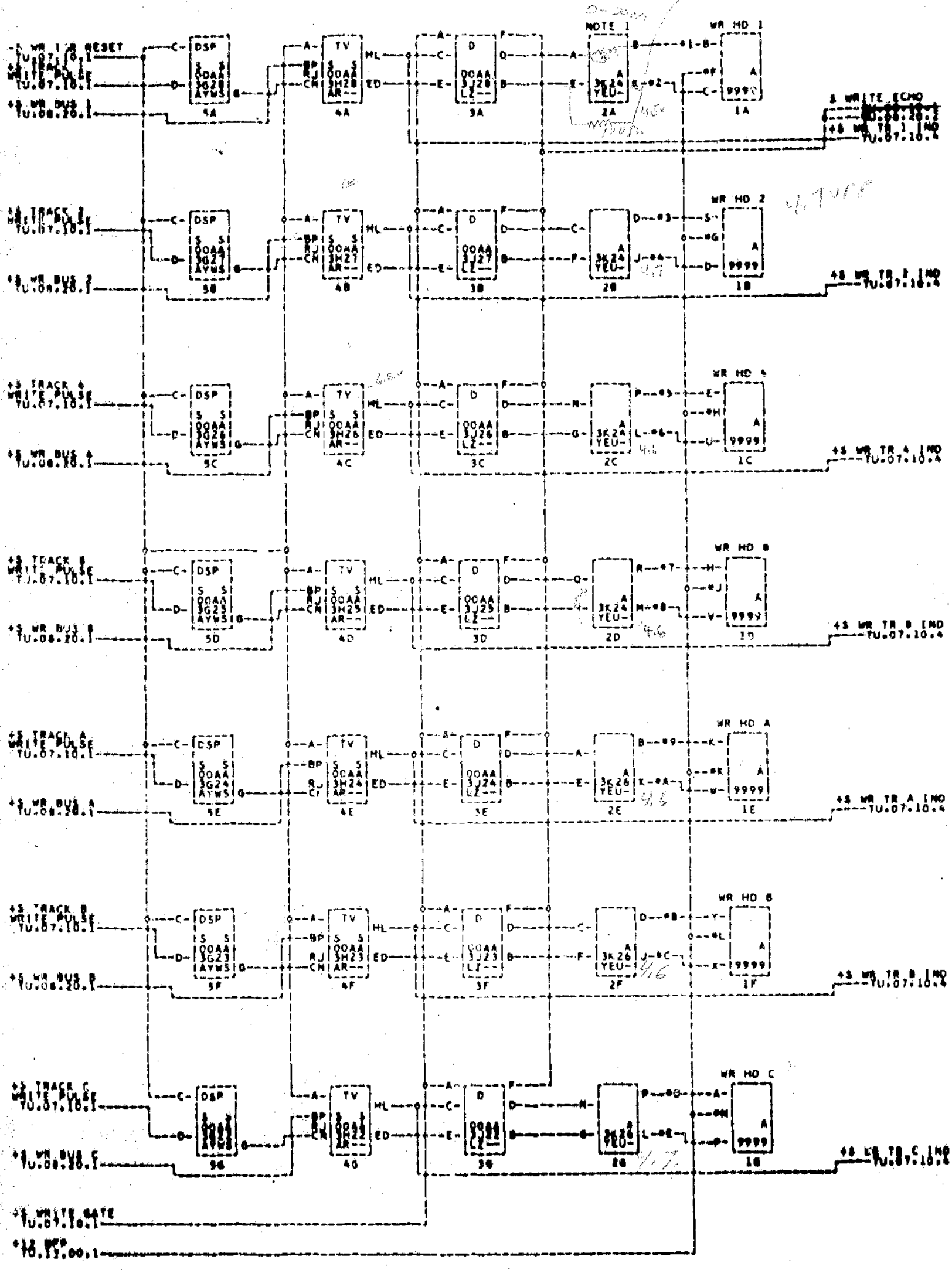
TAG	DATE	E.C.NO.	TAG	DATE	E.C.NO.	TAG	DATE	E.C.NO.	TAG	DATE	E.C.NO.
	6-6-62	JT82900									
	31-7-62	JT82900A									
	5-10-62	JT82781									



COMMENTS

NOTE 1-THIS PAGE FOR 729-2 AND 729-5

TAG	DATE	E.C.NO.	TAG	DATE	E.C.NO.	TAG	DATE	E.C.NO.	TAG	DATE	E.C.NO.
				6.6.62	JT82900		9.11.62	JT82742			



NOTE 1 YEU- CARD ON MODEL 5 AND 6

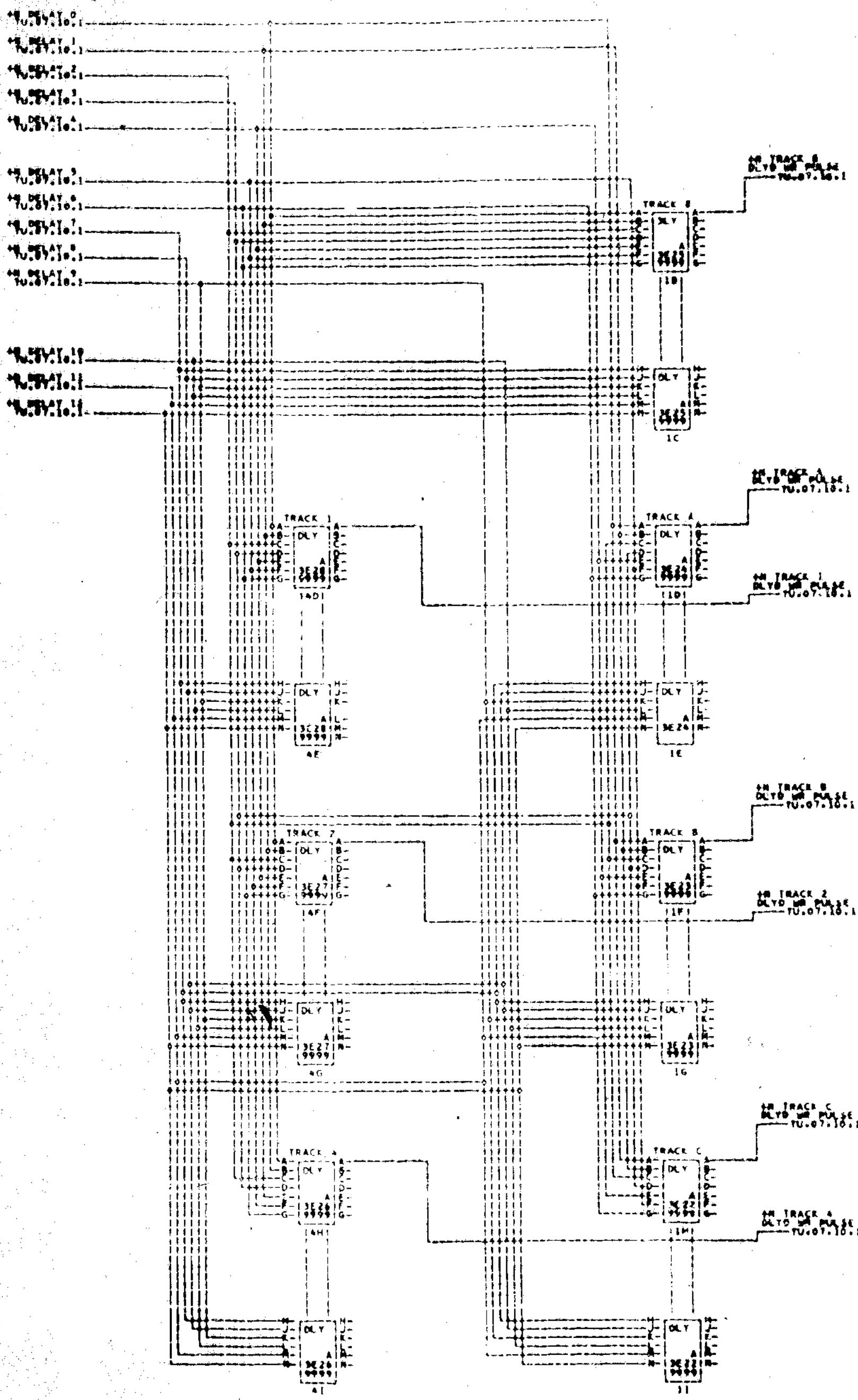
TAG A DATE 10-10-61 E.C.NO. 000001
31 X 62 SF 82900A

TAG B DATE 10-11-61 E.C.NO. 000001

TAG C DATE 11-00-61 E.C.NO. 000001

TAG D DATE 01-17-62 E.C.NO. 000001
6-6-62 SF 82900

DELAY MATRIX



COMMENTS

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A	09-09-81	240380
K	11-20-81	250456

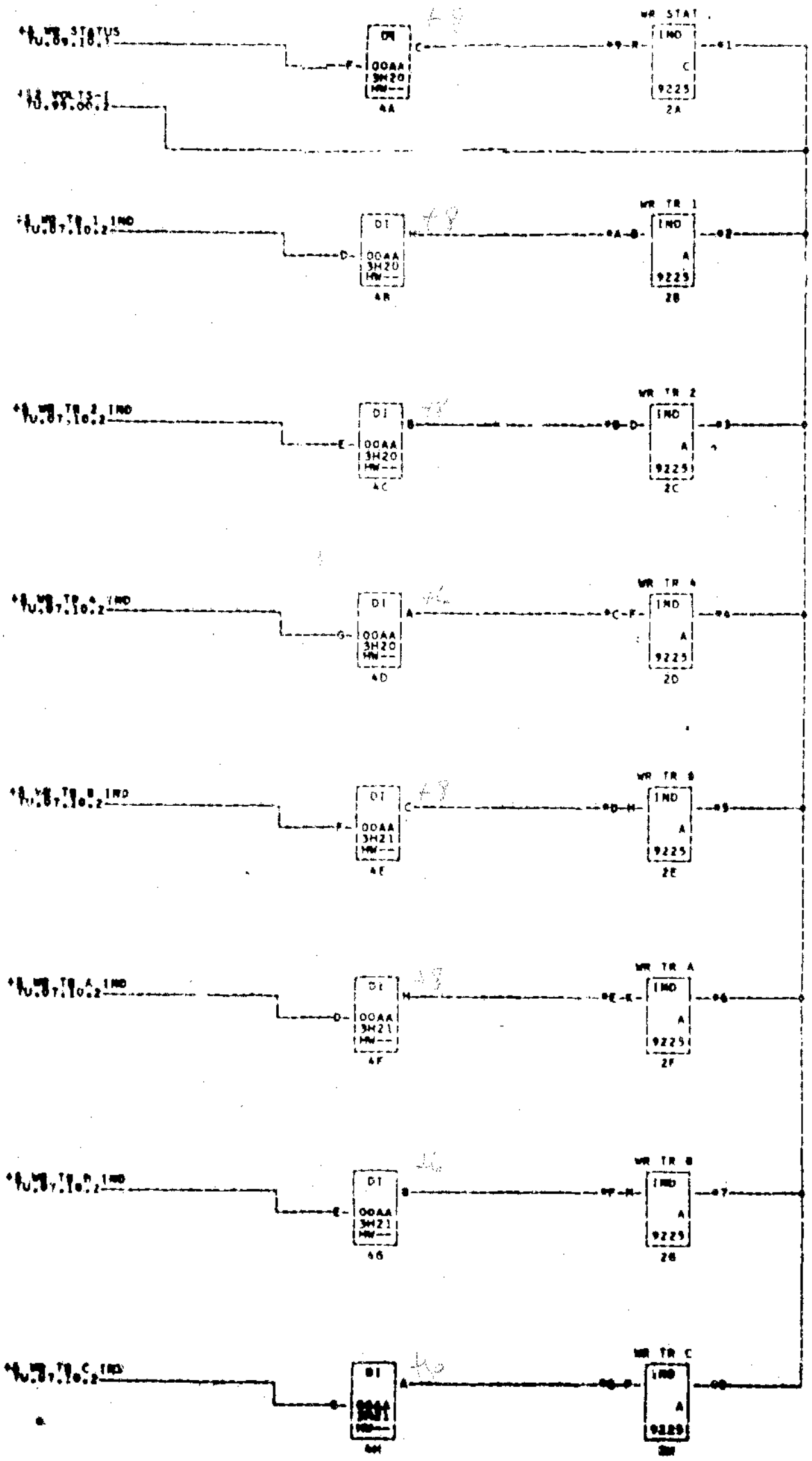
TAG	DATE	E.C.NO.
B	01-21-82	250183
F	01-19-82	250444

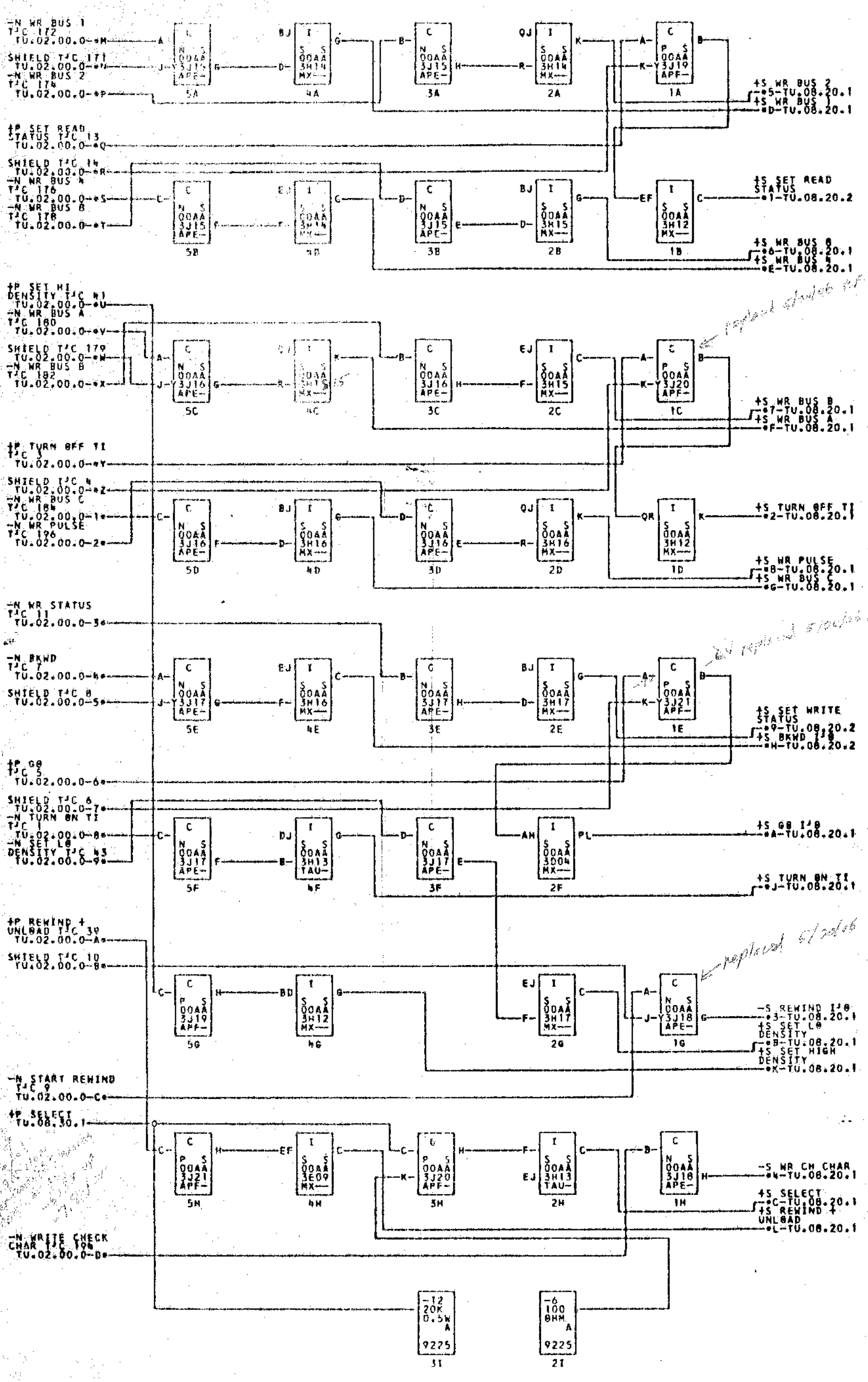
6 6 62 7782900

TAG	DATE	E.C.NO.
C	[illegible]	[illegible]

TAG	DATE	E.C.NO.
D	[illegible]	[illegible]

1

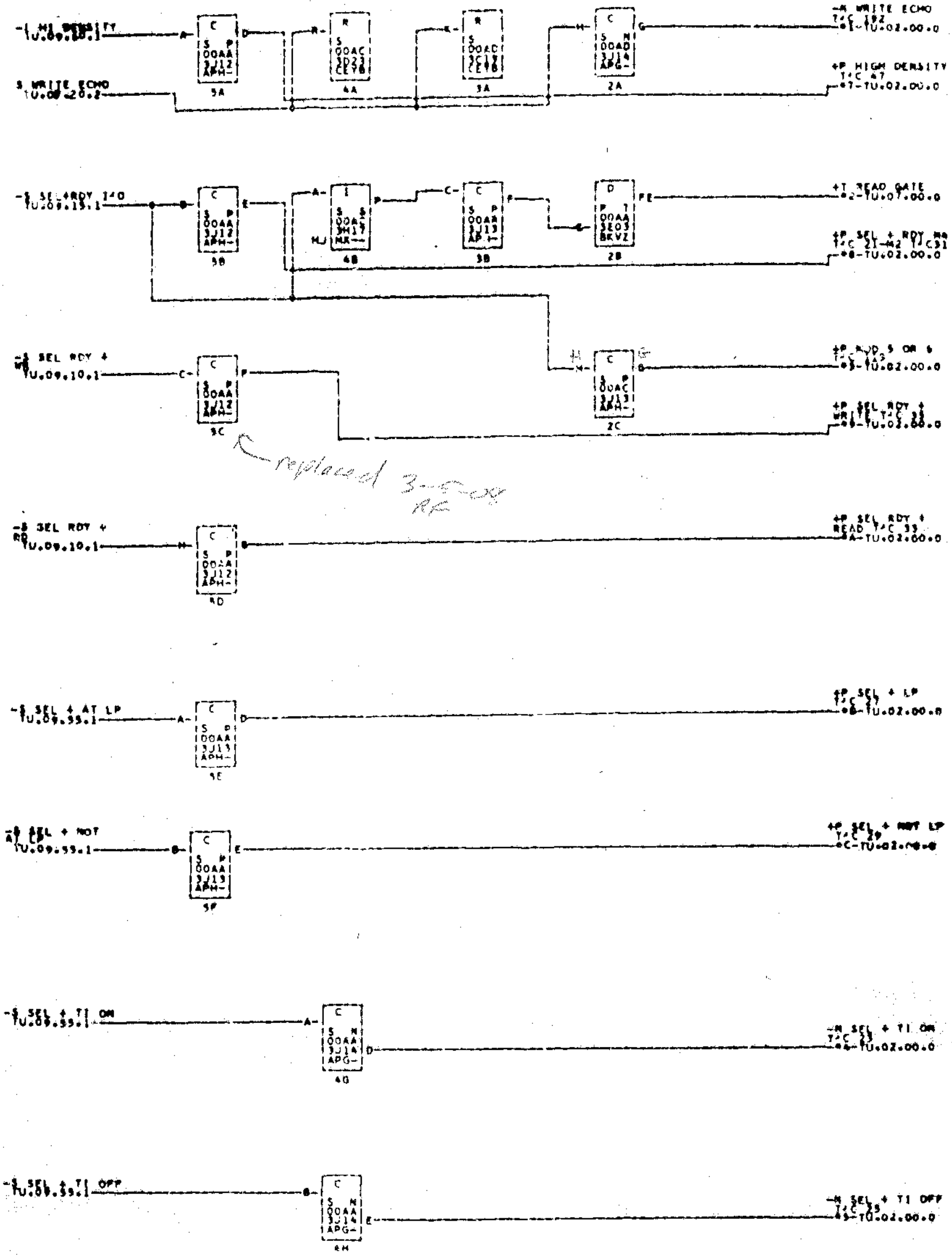

WR STAT
IND
C
9225
2A
4A
DI
00AA
3H20
WR TR 1
A
2B
4B
WR TR 2
2C
4C
3H21
WR TR A
2F
4F
WR TR B
2E
4E
WR TR C
2D
4D



*1—00A3K23N *2—00A3K21A *3—00A3K25J *4—00A3K21C *5—00A3K25C *6—00A3K25G *7—00A3K25L *8—00A3K25Q
*9—00A3K23C *A—00A3K21E *B—00A3K25G *C—00A3K21L *D—00A3K25A *E—00A3K25E *F—00A3K25J *G—00A3K25N
*H—00A3K23A *J—00A3K23G *K—00A3K25Q *L—00A3K21G *M—00A3K09B *N—00A3K09A *P—00A3K09D
*Q—00A3K17P *R—00A3K17N *S—00A3K09E *T—00A3K09H *U—00A3K17R *V—00A3K09K
*W—00A3K09J *X—00A3K09H *Y—00A3K15D *Z—00A3K15C 1*—00A3K09P 2*—00A3K09R
3*—00A3K17D 4*—00A3K17B 5*—00A3K17A 6*—00A3K15E 7*—00A3K15F 8*—00A3K17F
9*—00A3K17N A*—00A3K15H B*—00A3K17J C*—00A3K17K D*—00A3K17M

COMMENTS	TAG DATE E.C.NO.	TAG DATE E.C.NO.	TAG DATE E.C.NO.	TAG DATE E.C.NO.
THIS PAGE FOR MACHINES WITH TAPE SWITCHING FEATURE	~~8-23-62 25102~~ 11-9-62 JT 81803A			

1



*1—00A3K11B *2—00A3E01R *2—00A3K13R *4—00A3K13F *5—00A3K13 *6—00A3K13K *7—00A3K13B
*8—00A3K11G *A—00A3K11F *B—00A3K11H *C—00A3K11K

1

*THIS PAGE FOR T12_3 ONLY

COMMENTS

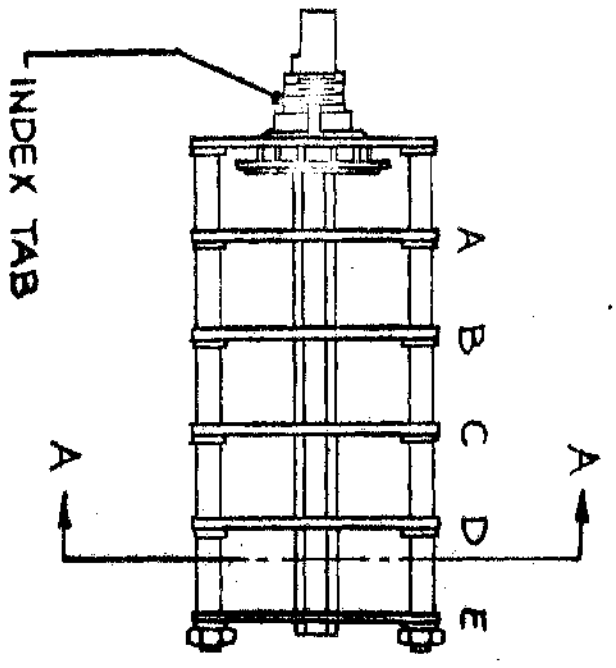
TAG	DATE	E.C.NO.	TAG	DATE	E.C.NO.	TAG	DATE	E.C.NO.	TAG	DATE	E.C.NO.
A	10-16-61	250267	B	10-16-61	250268	C	01-22-62	250949	D	01-24-62	251002
	3/2/62 ITP290041										

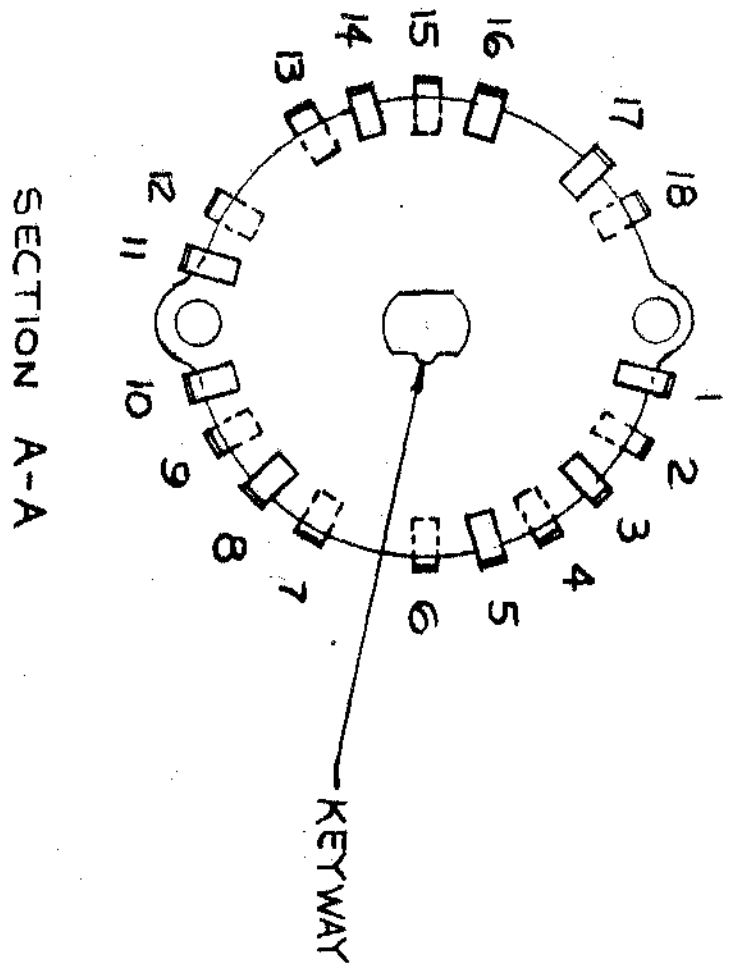
9-21-62

8023318

TU.08.20.0.

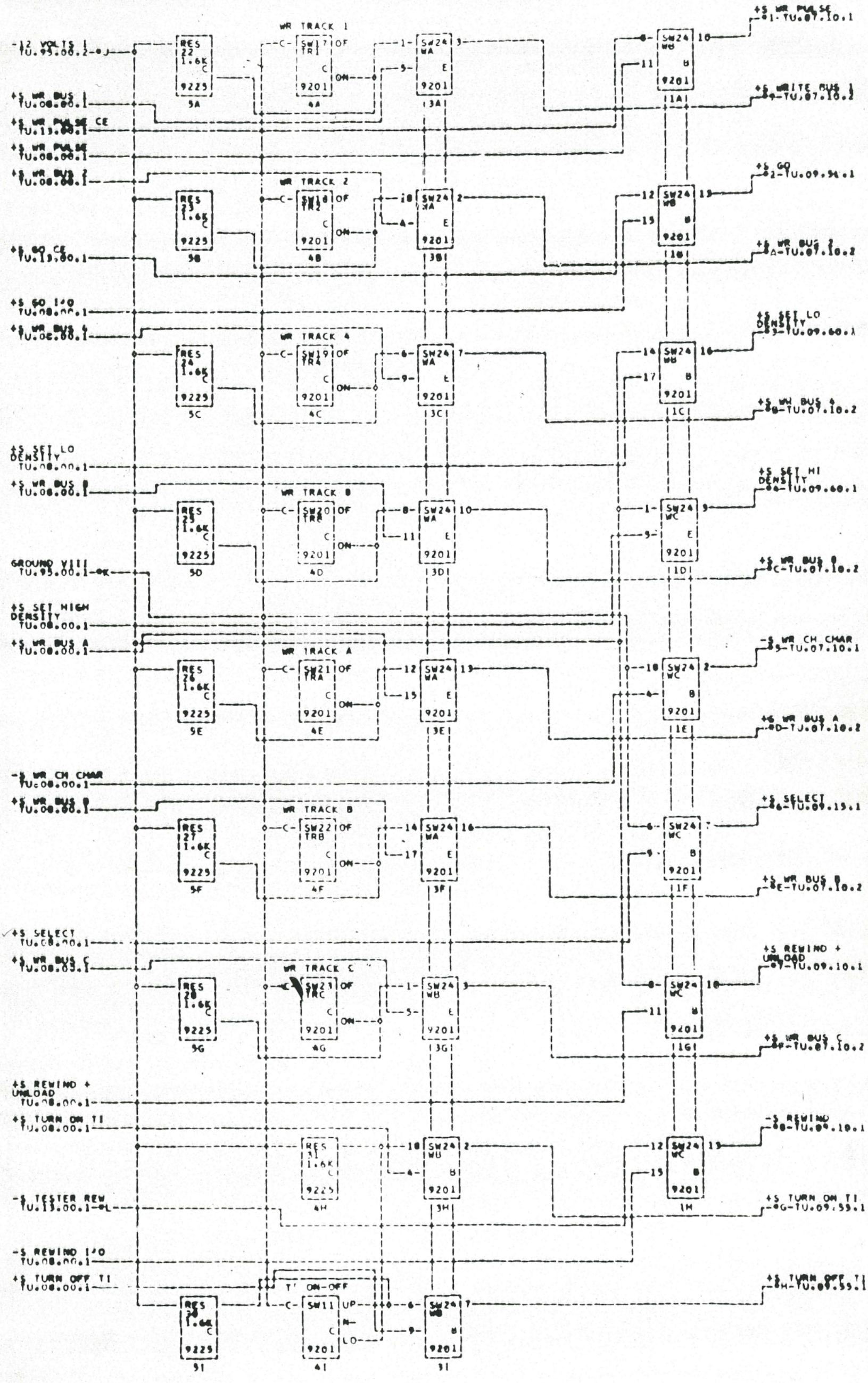
WAFER SWITCH - REAR C.E. PANEL





INTERNATIONAL BUSINESS MACHINES CORP.					DATE	CHANGE NO.	DATE	CHANGE NO.	NOTE	DEVELOPMENT NO.
NAME	SYSTEMS DIAGRAM				[redacted]				X PRINT TO ENG. SPEC. NO. 895291	
TU.0	3.0				20.7.63	JTB4735				
DESIG		11-17-1	MODEL							
DETAIL		12-21-2								
CHECK		12-21-2	DRAW							TU.08.20.0.
APPRO	RAC	12-21-2	CHECK							

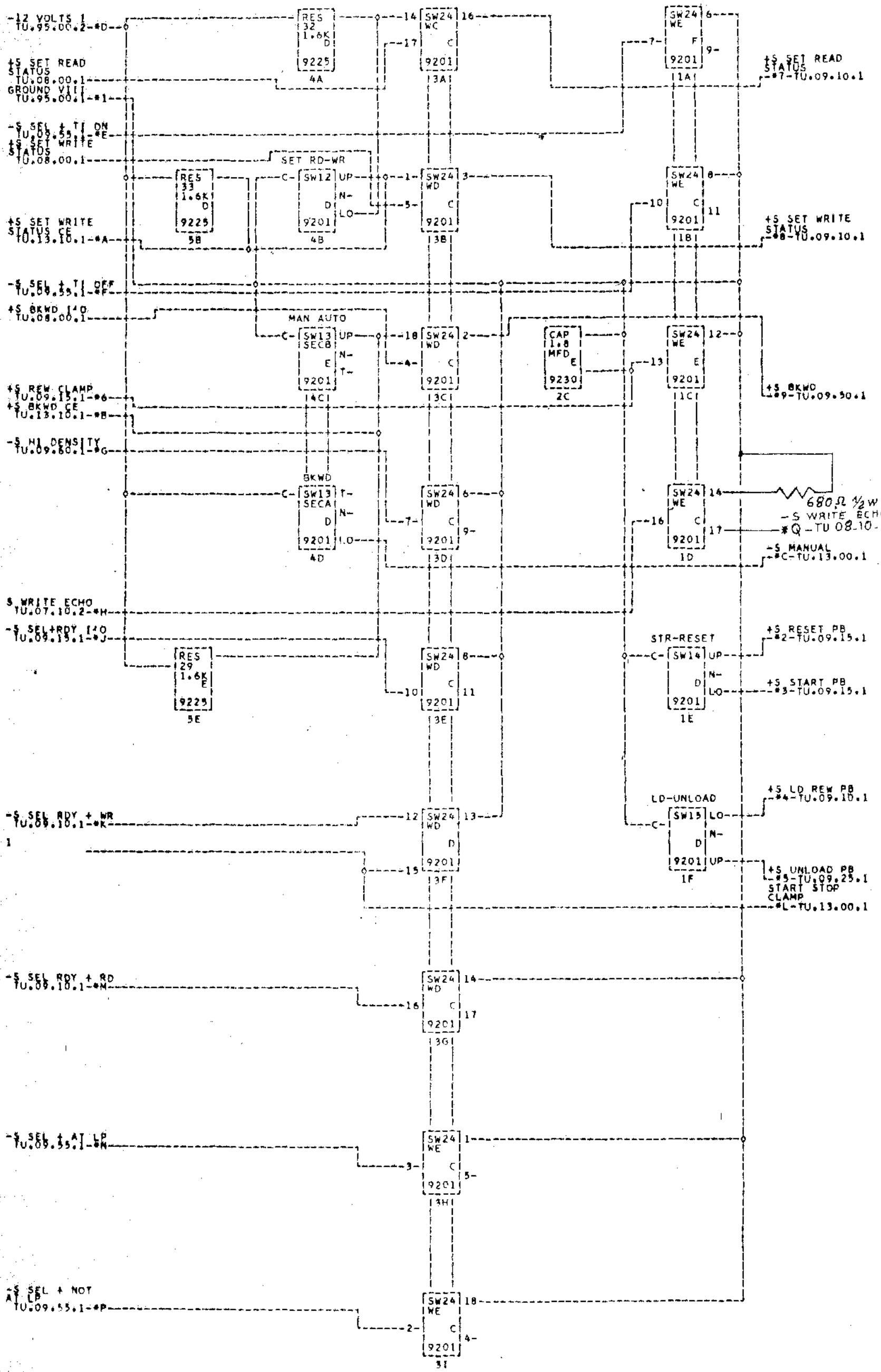
8023318



COMMENTS

TAG	DATE	E.C.NO.	TAG	DATE	E.C.NO.	TAG	DATE	E.C.NO.	TAG	DATE	E.C.NO.
A			B			C			D		
F											

6-6-62 JT82800



*1--00A3K19Q *2--00A3K19P *3--00A3K19R *4--00A3K21N *5--00A3K21P *6--00A3K19K *7--00A3K23P *8--00A3K23D
*9--00A3K23B *A--00A3K21Q *B--00A3K21M *C--00A3K19L *D--00A3K19N---- *E--00A3K19F---- *F--00A3K19H----
*G--00A3K19B---- *H--00A3K19A---- *J--00A3K19D---- *K--00A3K19C---- *L--00A3K21J *M--00A3K19E----
*N--00A3K19G---- *P--00A3K19J---- *Q--00A3K19M----

1

COMMENTS

TAG	DATE	E.C.NO.	TAG	DATE	E.C.NO.	TAG	DATE	E.C.NO.	TAG	DATE	E.C.NO.
A	~~05-24-61~~	~~240290~~	B	~~07-21-61~~	~~250103~~	C	~~09-05-61~~	~~250120~~	D	~~10-13-61~~	~~250266~~
F	~~11-20-61~~	~~250496~~	F	~~01-17-62~~	~~250769~~		31.7.62	JT82900A			
				6-6-62	JT82900						

SEL TU 0-TC 077 TU.00.02.1
SEL TU 1-TC 079 TU.00.02.1
SEL TU 2-TC 086 TU.00.02.1
SEL TU 3-TC 088 TU.00.02.1
SEL TU 4-TC 097 TU.00.02.1
SEL TU 5-TC 099 TU.00.02.1
SEL TU 6-TC 106 TU.00.02.1
SEL TU 7-TC 108 TU.00.02.1
SEL TU 8-TC 117 TU.00.02.1
SEL TU 9-TC 119 TU.00.02.1

SELECT SW1 A 9201 1A
SELECT SW1 B 9201 1B
OP → SELECT TU.08.00.1

SEL TU 0 SHIELD-TC 076 TU.00.02.1
SEL TU 1 SHIELD-TC 078 TU.00.02.1
SEL TU 2 SHIELD-TC 087 TU.00.02.1
SEL TU 3 SHIELD-TC 089 TU.00.02.1
SEL TU 4 SHIELD-TC 096 TU.00.02.1
SEL TU 5 SHIELD-TC 098 TU.00.02.1
SEL TU 6 SHIELD-TC 107 TU.00.02.1
SEL TU 7 SHIELD-TC 109 TU.00.02.1
SEL TU 8 SHIELD-TC 116 TU.00.02.1
SEL TU 9 SHIELD-TC 118 TU.00.02.1

SELECT SW1 A 9201 1C
SELECT SW1 B 9201 1D
OP

-48 VOLTS TU.95.00.1

-48 VOLTS CP11 A 9202 5E
-12 VOLTS CP12 A 9202 4E
-6 VOLTS CP13 A 9202 3E
+6 VOLTS CP14 A 9202 2E
+12 VOLTS CP15 D 9202 1E
→ CCP TRIPPED 2-TU.12.00.1

-7.5 VOLTS CP16 A 9202 5F
+140 VOLTS CP17 D 9202 4F
CP18 9202 3F

CP10 A 9202 5G
CP09 A 9202 4G
CP08 A 9202 3G
CP07 A 9202 2G NOTE I
CP06 A 9202 1G

CP05 A 9202 5H NOTE I
CP04 A 9202 4H
CP03 A 9202 3H
CP02 A 9202 2H
CP01 A 9202 1H
→ -48 R1-R2 RET TU.10.00.1

NOTE I. TAPE UNITS WITH JT 828166 DO NOT HAVE CP'S 5 & 7

*1—00A3K15B *2—00A3A01R—00TB8-11 *3—00A3A01Q—00TB8-12—00A3K01R

COMMENTS	TAG	DATE	E.C.NO.	TAG	DATE	E.C.NO.	TAG	DATE	E.C.NO.	TAG	DATE	E.C.NO.
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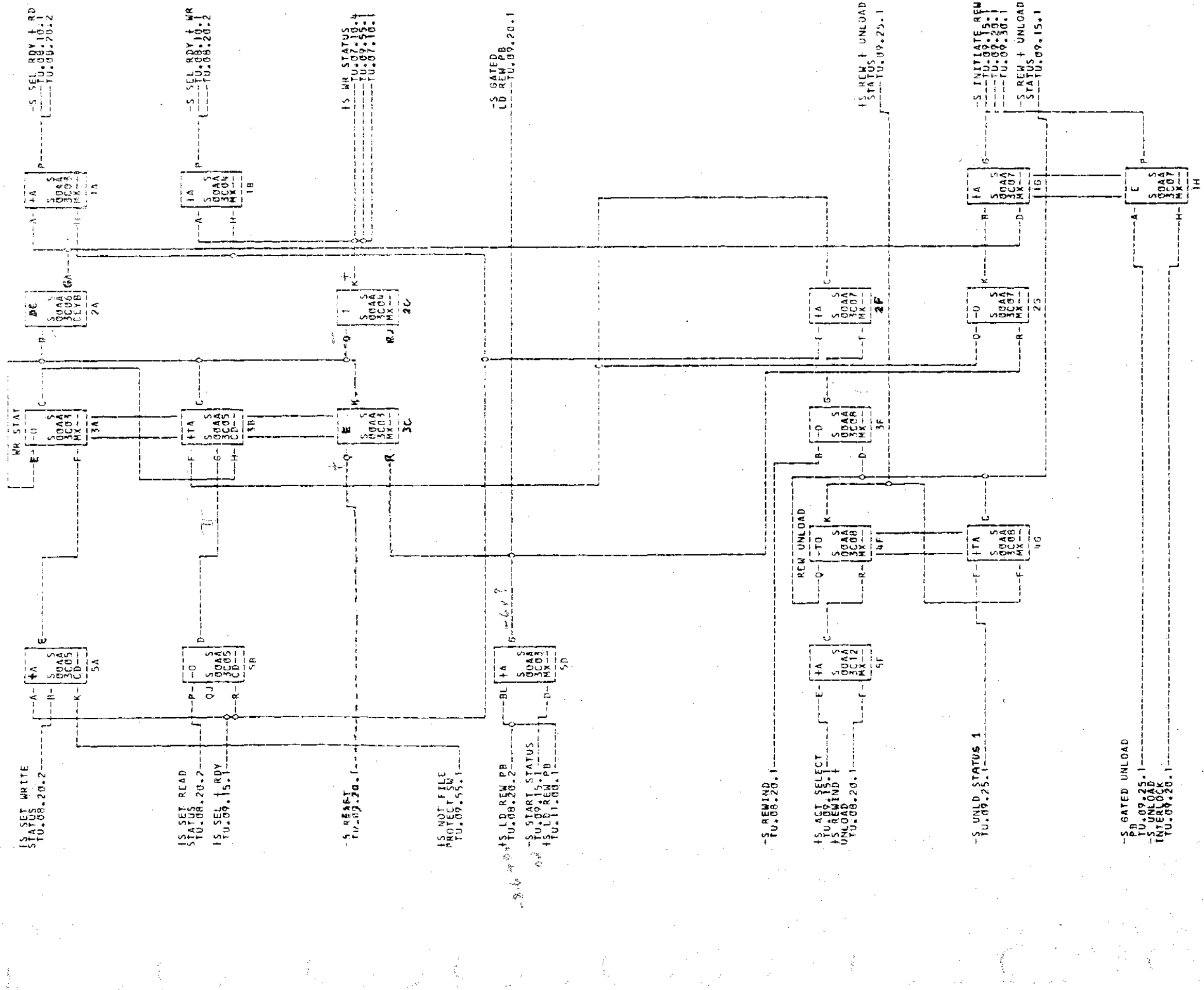
8023319

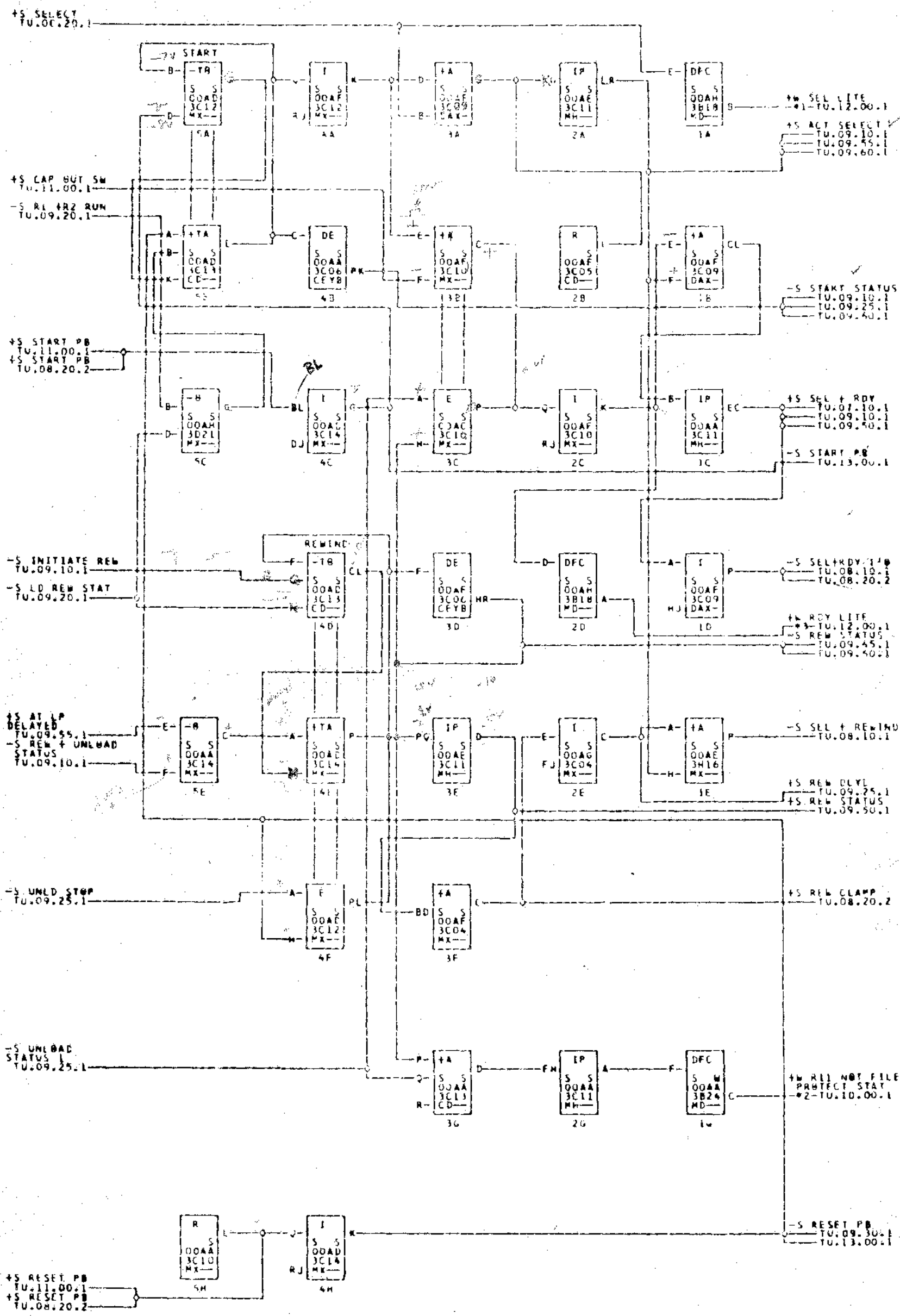


OK

COMMENTS

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

TAG DATE
A ~~69-11-03 262218~~
20.7.63 J184735



*1—00A3C01D *2—00A3D01K *3—00A3C01F

COMMENTS

TAG	DATE	E.C.NO.
	6.6.62	JT 82900
	11.9.62	JT 82902 V
	9.11.62	JT 82742

6025321

-S BREAK TAPE
TU.09.45.1

INIT RESET

-TB 5A

-DEA 4A

CS 3A

-DEA 2A

-S RESET
TU.09.10.1
TU.09.29.1

+S INITIAL RESET
TU.09.35.1

-S GATED LD REM PB
TU.09.10.1

+TA 5B

-DEA 4B

LD REM

-TB 3B

I 2B

+S LD REM STAT
TU.09.40.1

-S GATED UNLOAD PB
TU.09.25.1

-S INITIAL RESET
TU.09.60.1

-S INITIATE REW
TU.09.10.1

-S UNLOAD STATUS 2
TU.09.29.1

+S RT MTR REV
TU.09.30.1

+S CAP BUT SW
TU.11.00.1

-0 9C

+TA 3C

BE 2C

-S LD REM STAT
TU.09.29.1
TU.09.15.1

-S VAC BFR BFL SW
TU.11.00.1

E 4D

E 3D

-S R1 + R2 RUN
TU.09.15.1

-S DOOR INT SW
TU.11.00.1

+S UNLOAD STATUS
TU.09.25.1

-0 5E

+A 4E

DE 2E

+A 1E

-S UNLOAD INTERLOCK
TU.09.10.1

+S R1 + R2 RUN
TU.09.45.1

+S TAPE IN LEFT COL SW
TU.11.00.1

+S TAPE IN RIGHT COL SW
TU.11.00.1

+A 5F

-0 4F

1 3F

DFC 2F

B28

+V R1 + R2 RUN
TU.10.00.1

+S FF + LP LAMPS
TU.09.55.1

+S RR TAPE LAMP
TU.09.55.1

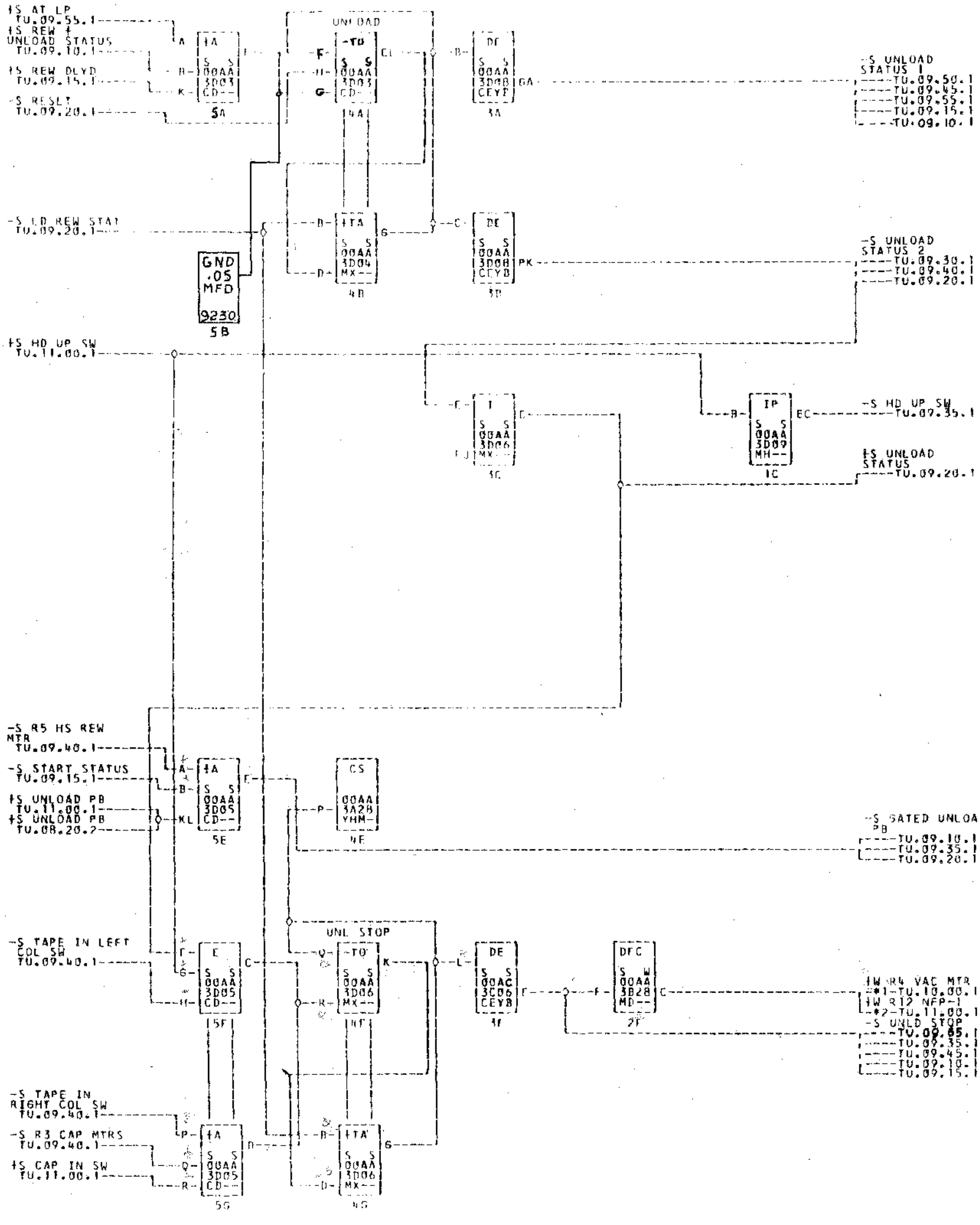
F 4G

B28

When K1, K2, K4, R6 Transistors Turn On, Test Column Switch

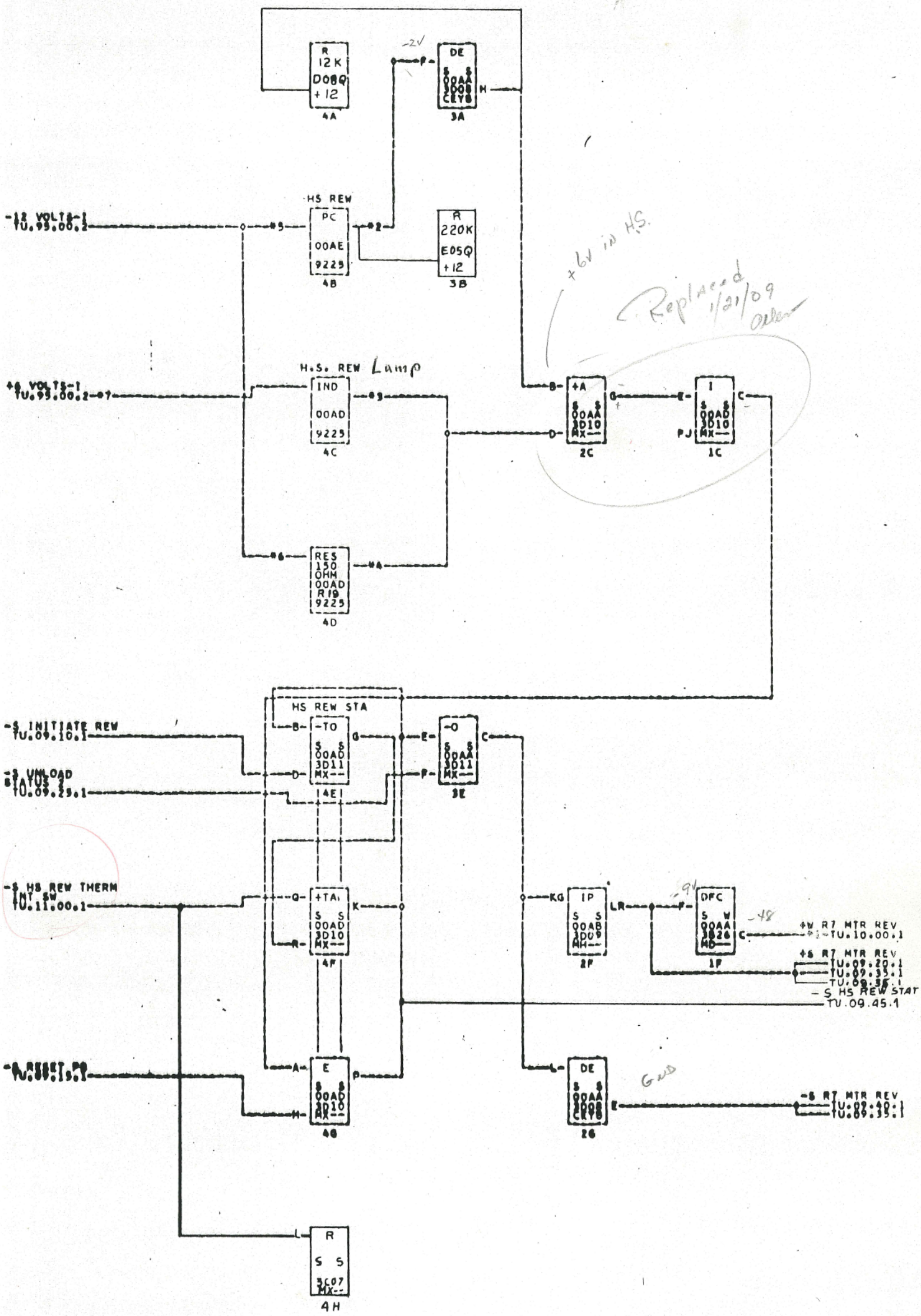
COMMENTS

AA DATE	E.C.NO.	AA DATE	E.C.NO.	AA DATE	E.C.NO.	AA DATE	E.C.NO.
20763	JT84755						



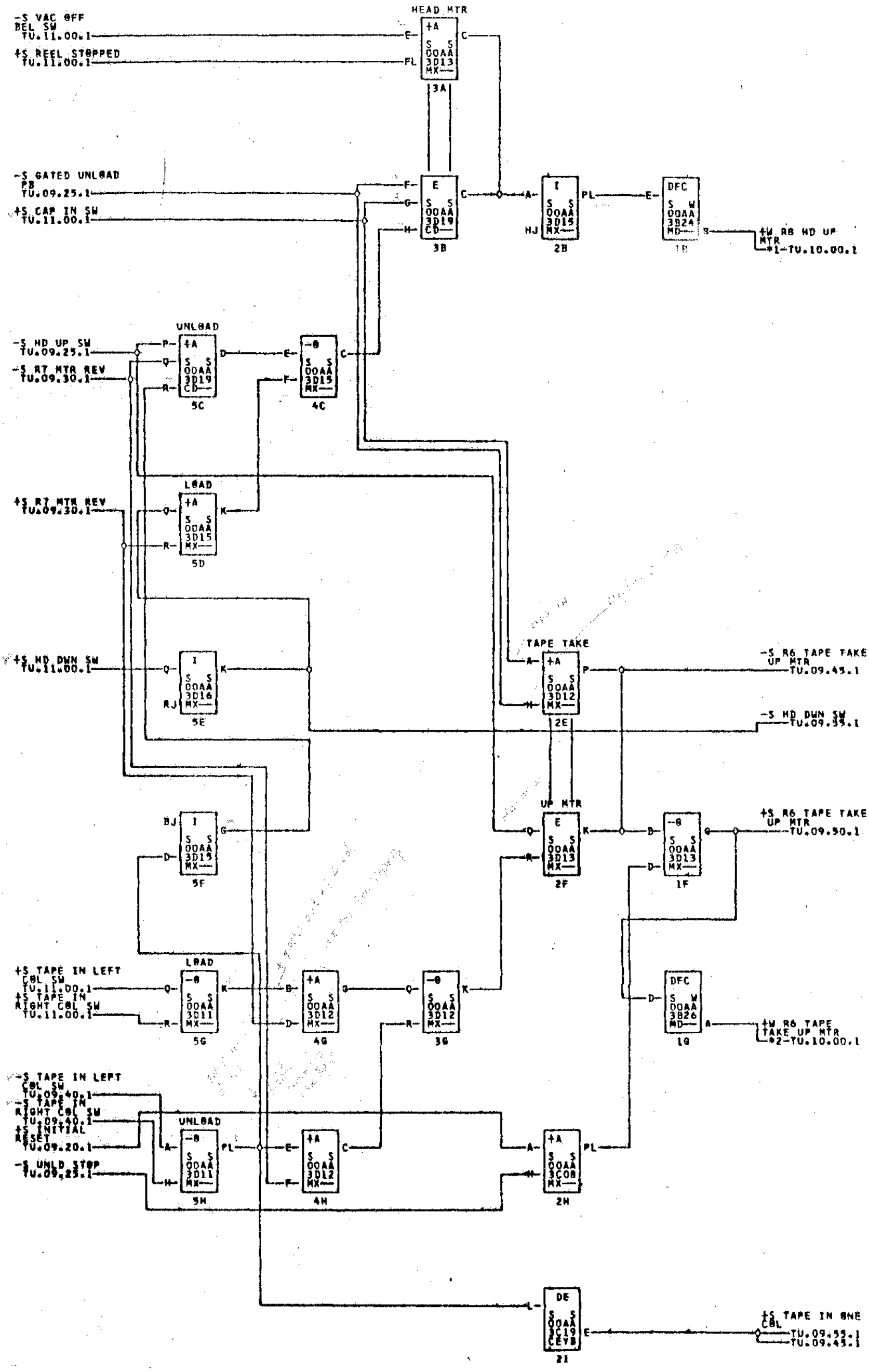
*1--00A3A02F *2--00A3C020

COMMENTS	TAG	DATE	E.C.NO.	TAG	DATE	E.C.NO.	TAG	DATE	E.C.NO.	TAG	DATE	E.C.NO.
	A	~~02-13-63~~ 20.7.63	~~252528~~ JT 84735	B	~~03-06-63~~	~~N252719~~ JT 84894	C	~~09-11-63~~ 17-8-64	~~253566~~ JT 85912			



*1—00A3A02M
*2—00A3A01J—00TB8-05—
*3—00A3E02M—
*7—00A3D01Q—
*3—00A3D01R—
*4—00A3A01K—00TB8-06—
*5—00A3E02E—

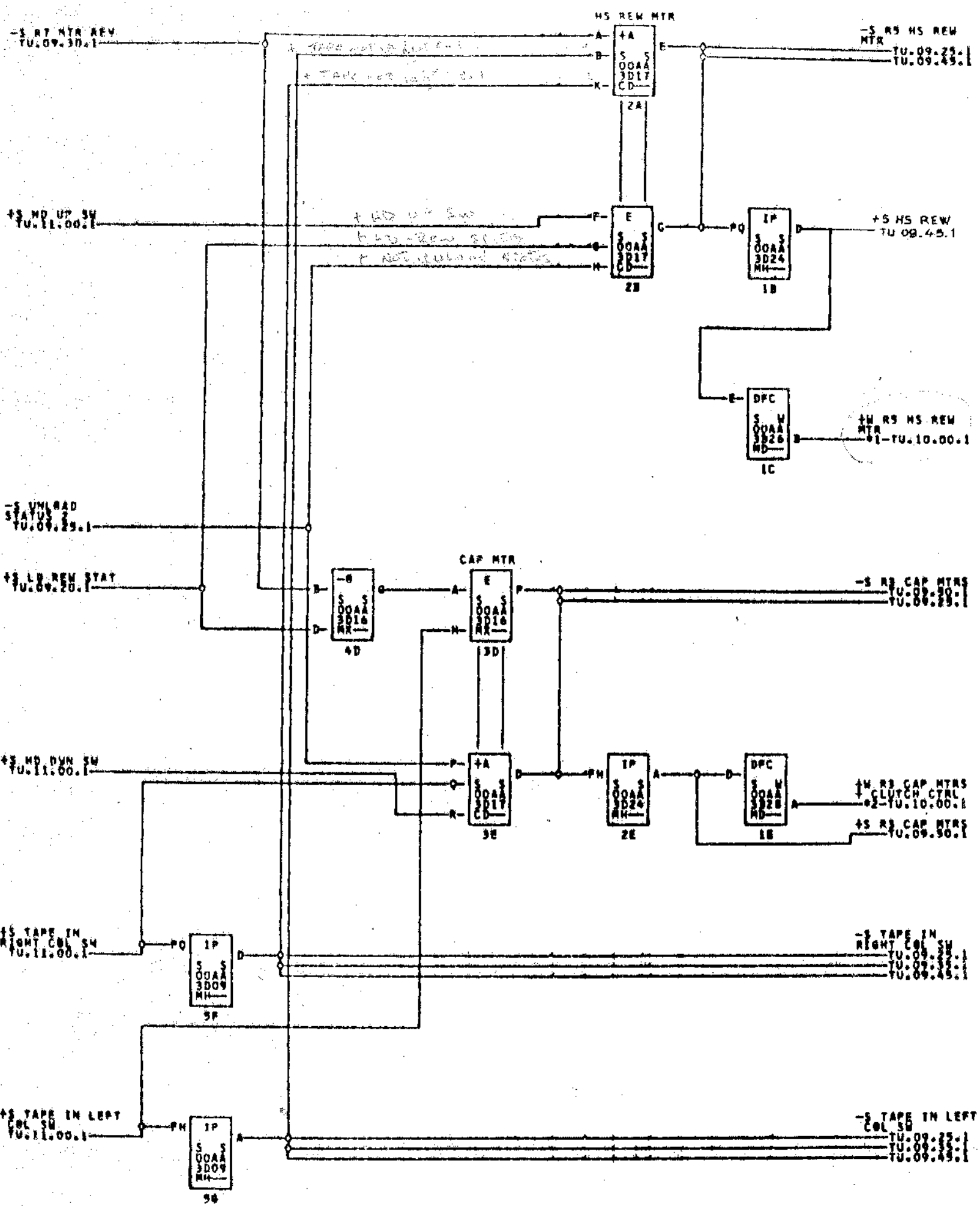
COMMENTS	AG	DATE	E.C.NO.	AG	DATE	E.C.NO.	AG	DATE	E.C.NO.	AG	DATE	E.C.NO.
	A	[illegible]		B	6.6.62	JT 82900	C	19 9 62	JT 82836V	D	8.11 6[illegible]	JT 82742



*1—00A3A02P *2—00A3A02K

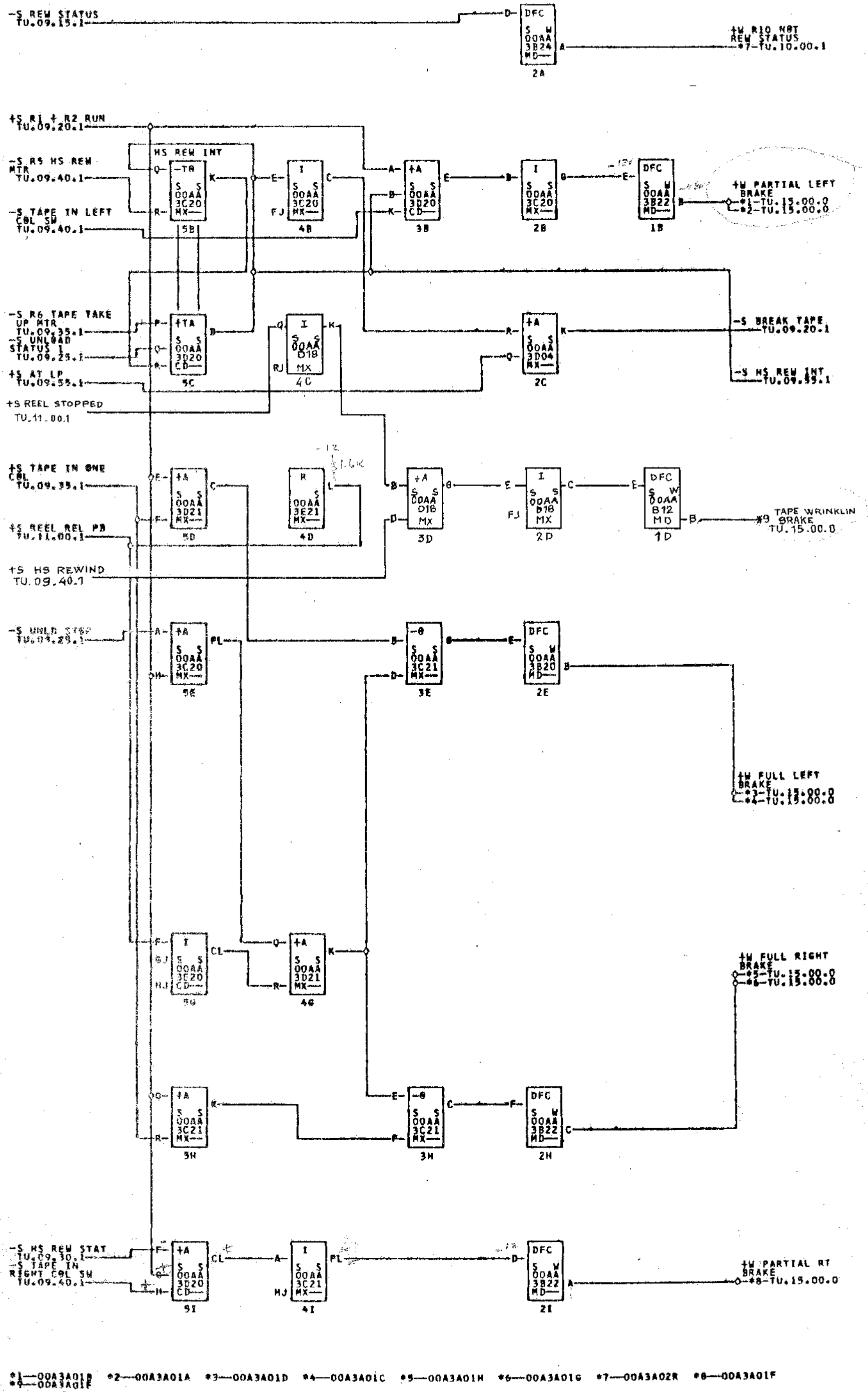
COMMENTS

AB	DATE	E.C.NO.	AB	DATE	E.C.NO.	AB	DATE	E.C.NO.	AB	DATE	E.C.NO.
[redacted]	20.7.65	J184935									



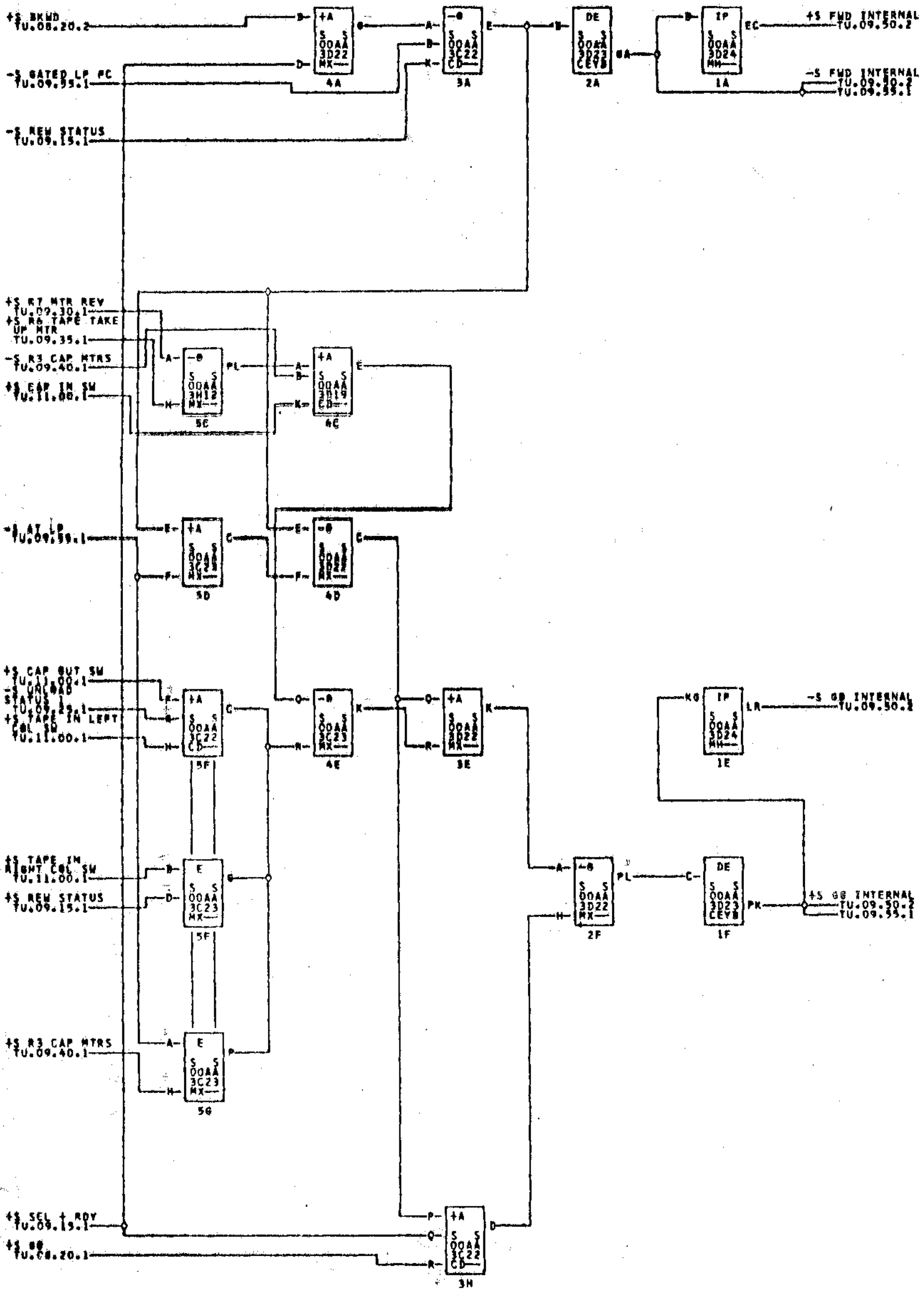
*1—*OOA3AOEN *2—OOA3AO2D

COMMENTS	AG DATE E.C.NO.	AG DATE E.C.NO.	AG DATE E.C.NO.	AG DATE E.C.NO.
	20765 J184735			



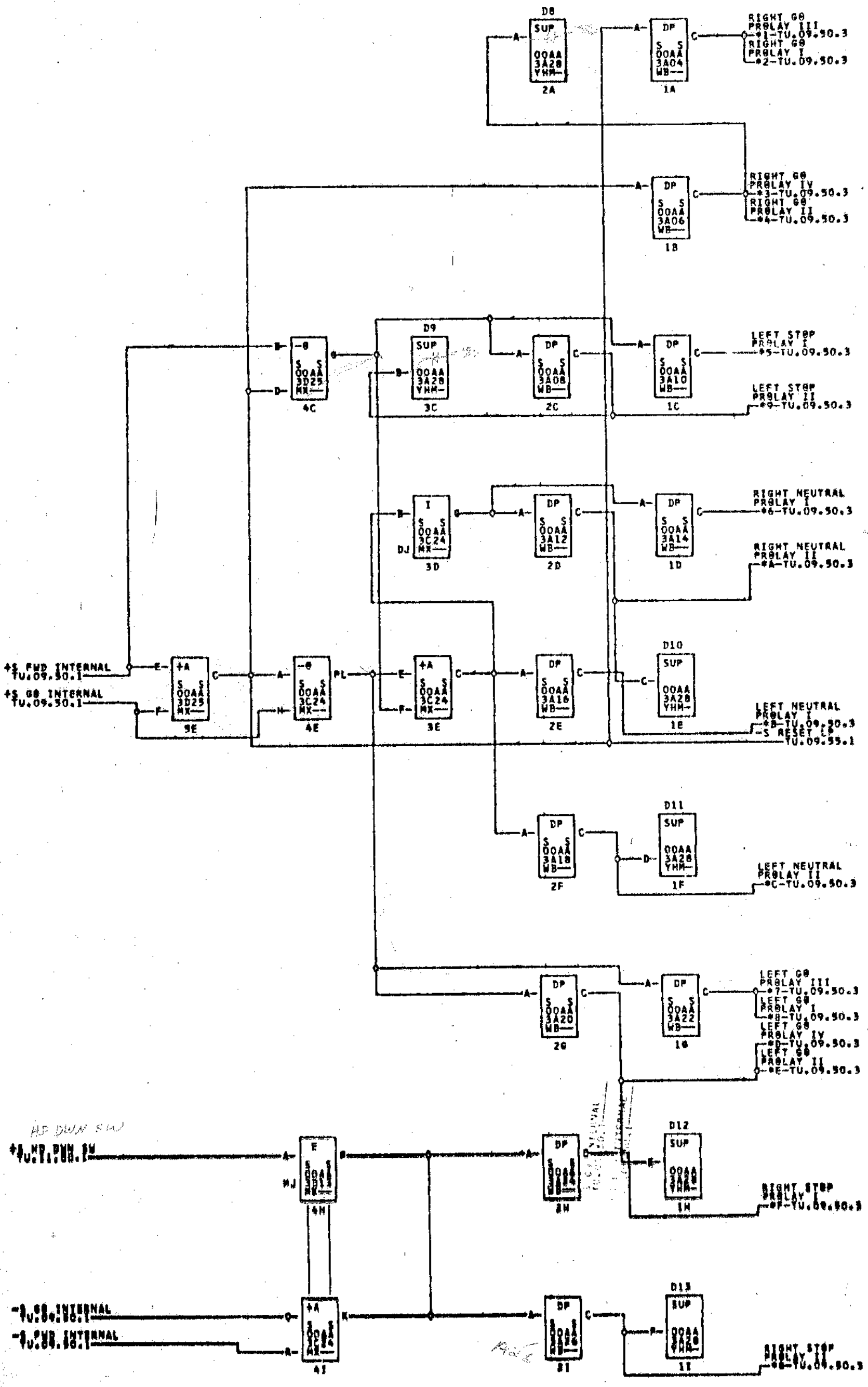
*1—00A3A01B *2—00A3A01A *3—00A3A01D *4—00A3A01C *5—00A3A01H *6—00A3A01G *7—00A3A02R *8—00A3A01F
*9—00A3A01E

COMMENTS	TAG	DATE	E.C.NO.	TAG	DATE	E.C.NO.	TAG	DATE	E.C.NO.	TAG	DATE	E.C.NO.
	20763		JT84735									

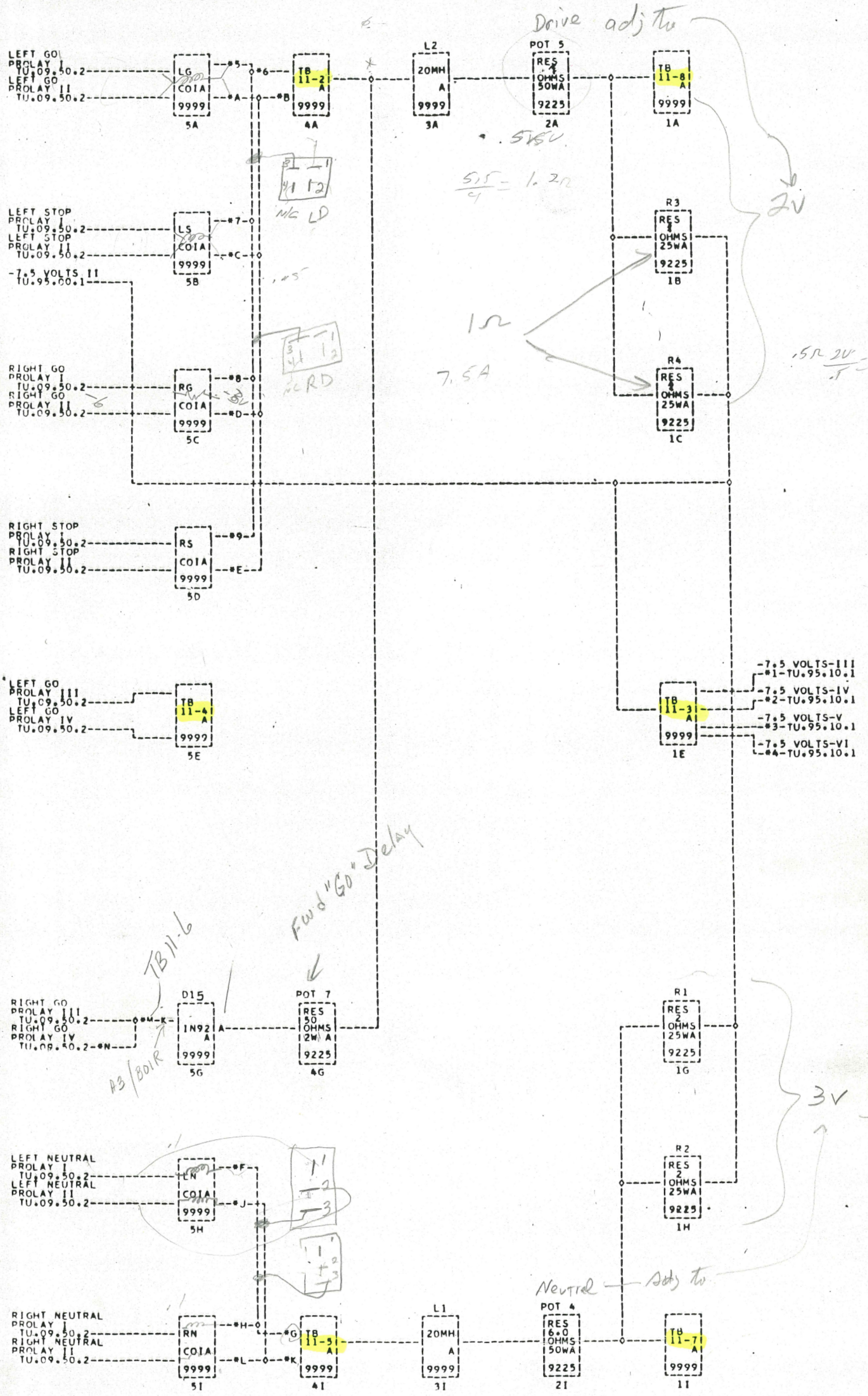


COMMENTS

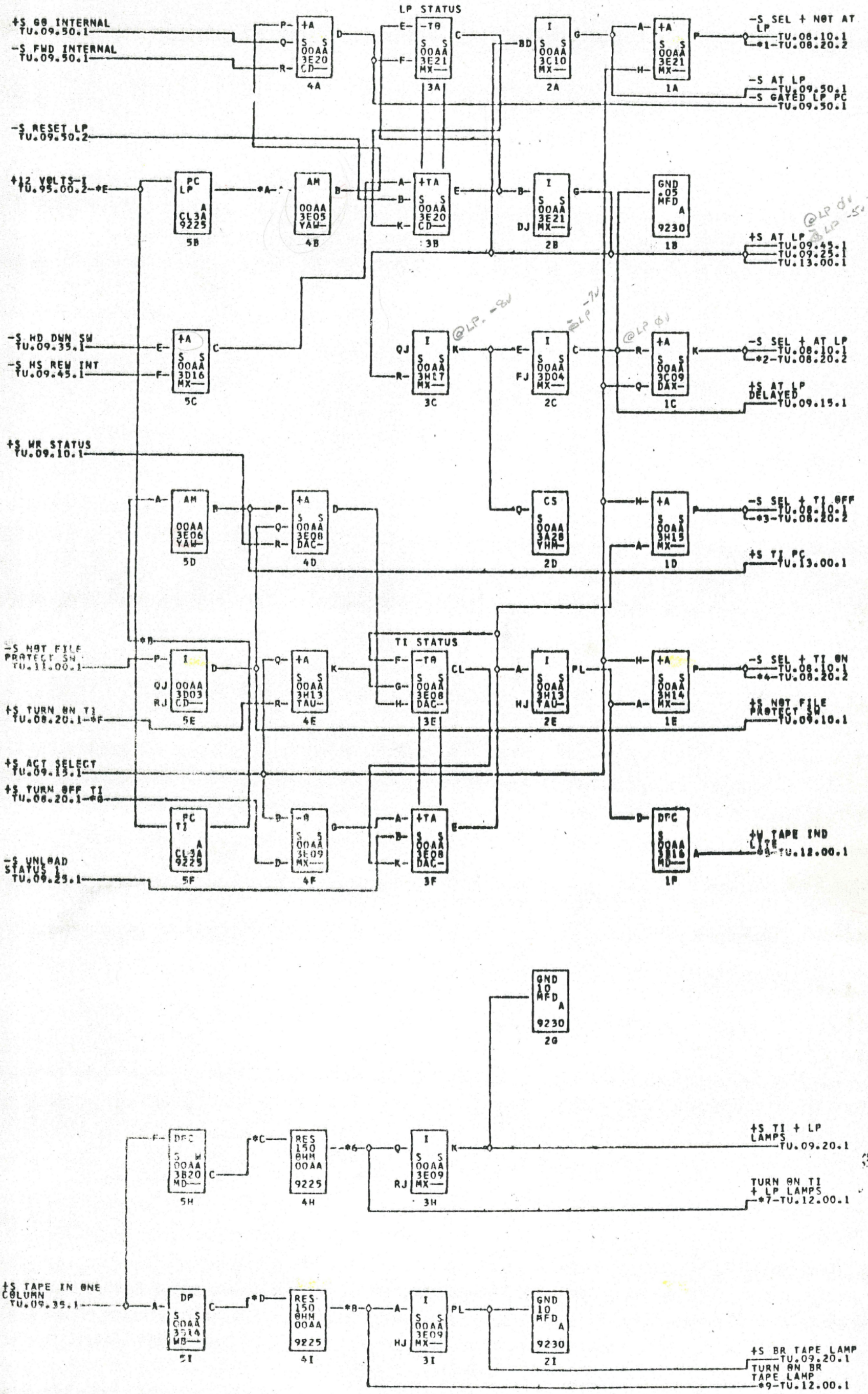
TAG	DATE	E.C.NO.	TAG	DATE	E.C.NO.	TAG	DATE	E.C.NO.	TAG	DATE	E.C.NO.
A	20.7.63	JT84735									



COMMENTS	AG	DATE	E.C.NO.	AG	DATE	E.C.NO.	AG	DATE	E.C.NO.	AG	DATE	E.C.NO.
			20763 JT 84733									



COMMENTS	TAG	DATE	E.C.NO.	TAG	DATE	E.C.NO.	TAG	DATE	E.C.NO.	TAG	DATE	E.C.NO.
	A		6-12-62 JT82071C									



*1—00A3K19J *2—00A3K19G *3—00A3K19H *4—00A3K19F *5—00A3C01P *6—00TB8-08—00A3A01M— *7—00A3E02D
*8—00TB8-10—00A3A01P— *9—00A3E02F *A—000HP-01—00A3E02C *B—000HP-03—00A3E02B
*C—00A3A01L—00TB8-07— *D—00A3A01N—00TB8-09— *E—000HP-02—00A3E02A— *F—00A3K23F— *G—00A3K21B—

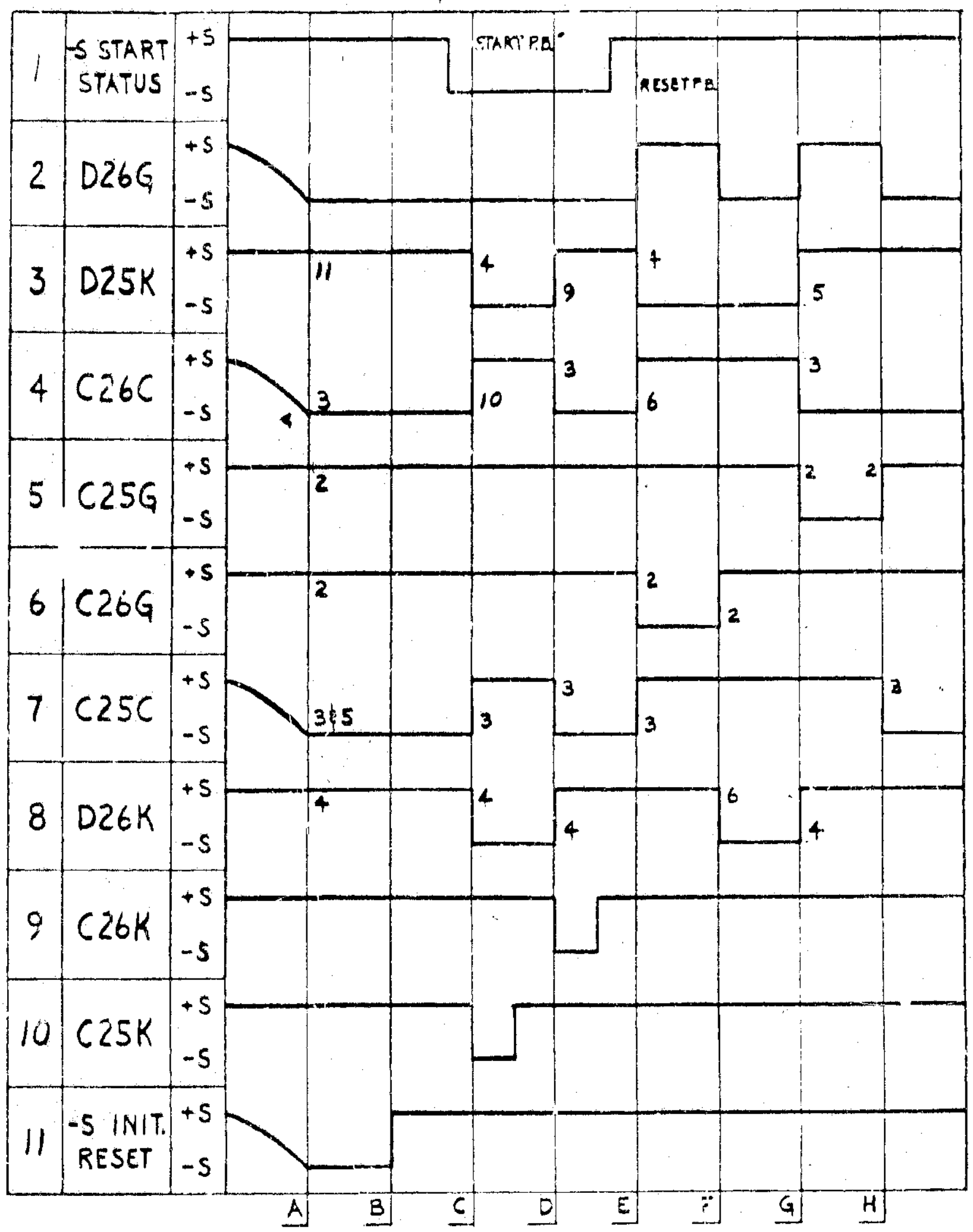
COMMENTS	TAG	DATE	E.C.NO.	TAG	DATE	E.C.NO.	TAG	DATE	E.C.NO.	TAG	DATE	E.C.NO.
		20.7.63	JT84735									

8016995

TU 09.60.0

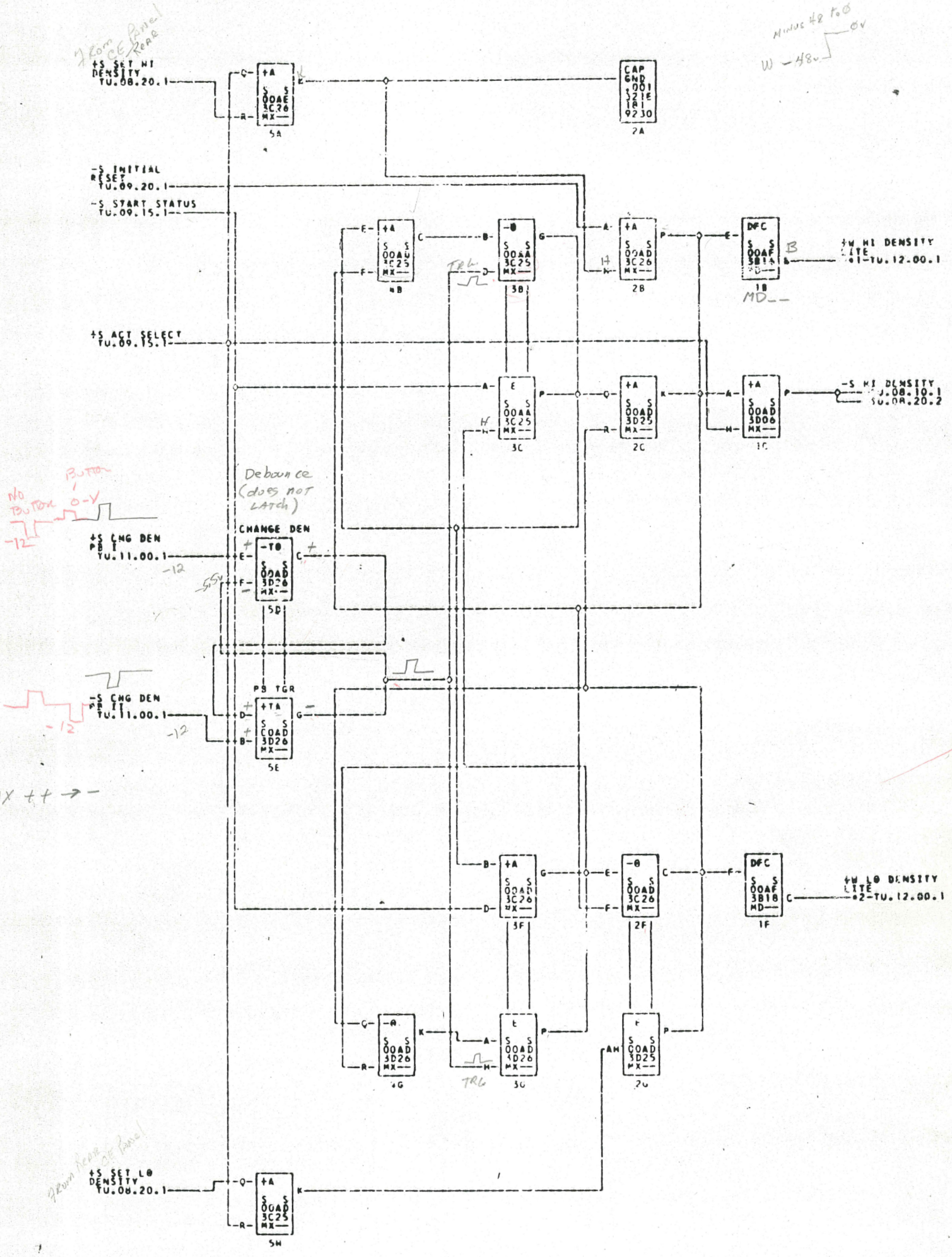
SEQUENCE CHART

CHANGE DENSITY



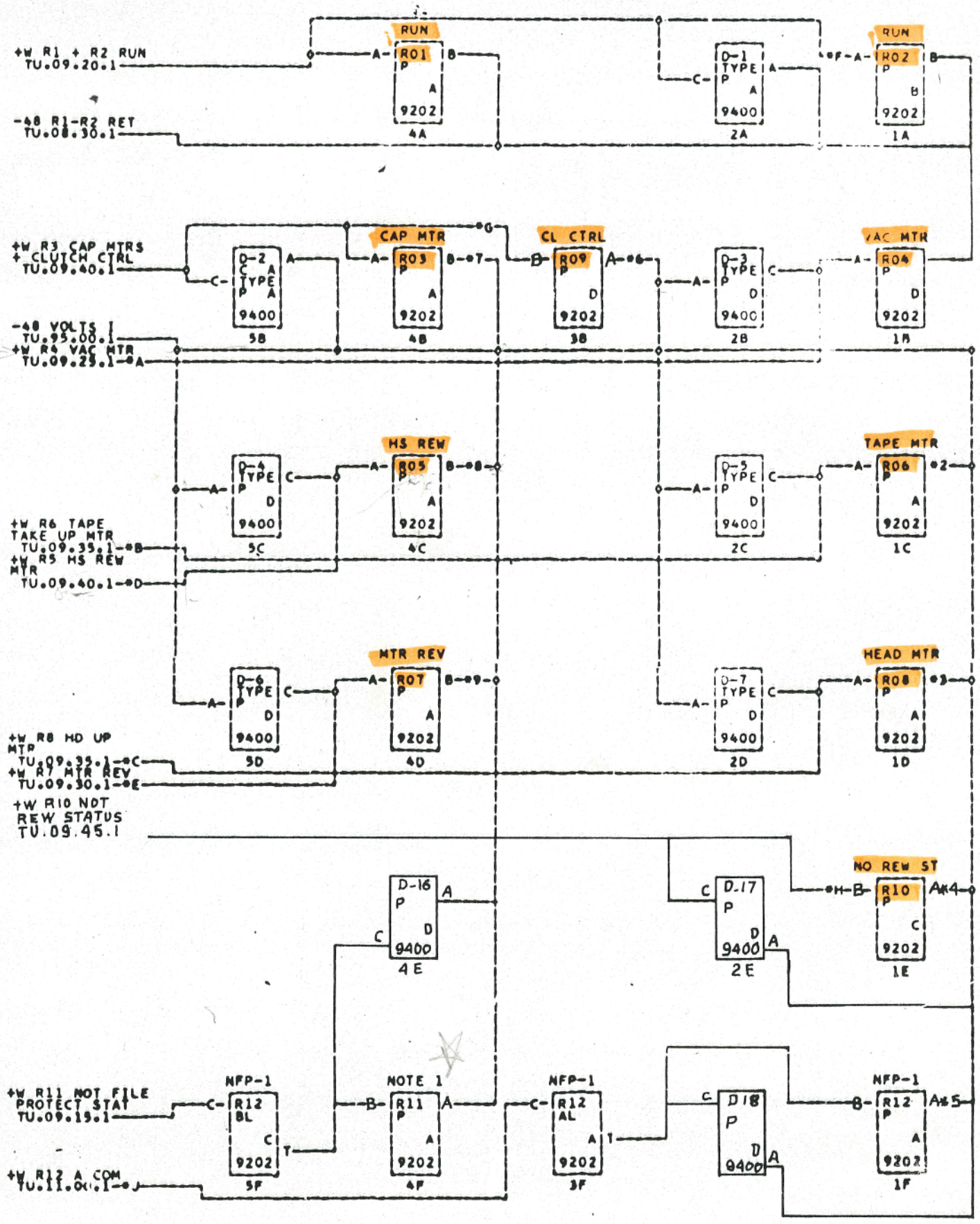
A POWER ON - INITIAL RESET
B LD. REW. - DROP INITIAL RESET
C SET LOW DENSITY
D SET HIGH DENSITY
E CHANGE DENSITY P.B. - LOW
F RELEASE P.B.
G CHANGE DENSITY P.B. - HIGH
H RELEASE P.B.

INTERNATIONAL BUSINESS MACHINES CORP.					DATE	CHANGE NO.	DATE	CHANGE NO.	NOTE	DEVELOPMENT NO	8016995
NAME	SYSTEMS DIAGRAM				6-6-62	JT 82900			X PRINT TO ENG. SPEC. NO.		
	TU 09.60.0										
DESIGN	LHB	10-15-62	MODEL	729 II							
DETAIL											
CHECK	RPR	10-24-62	DRAW							TU.09.60.0	
APPRO	ASB	10-24-62	CHECK								



COMMENTS

TAG	DATE	E.C. NO.	TAG	DATE	E.C. NO.	TAG	DATE	E.C. NO.	TAG	DATE	E.C. NO.
							6-6-62	JT82900	D	8-11-62	JT 82742



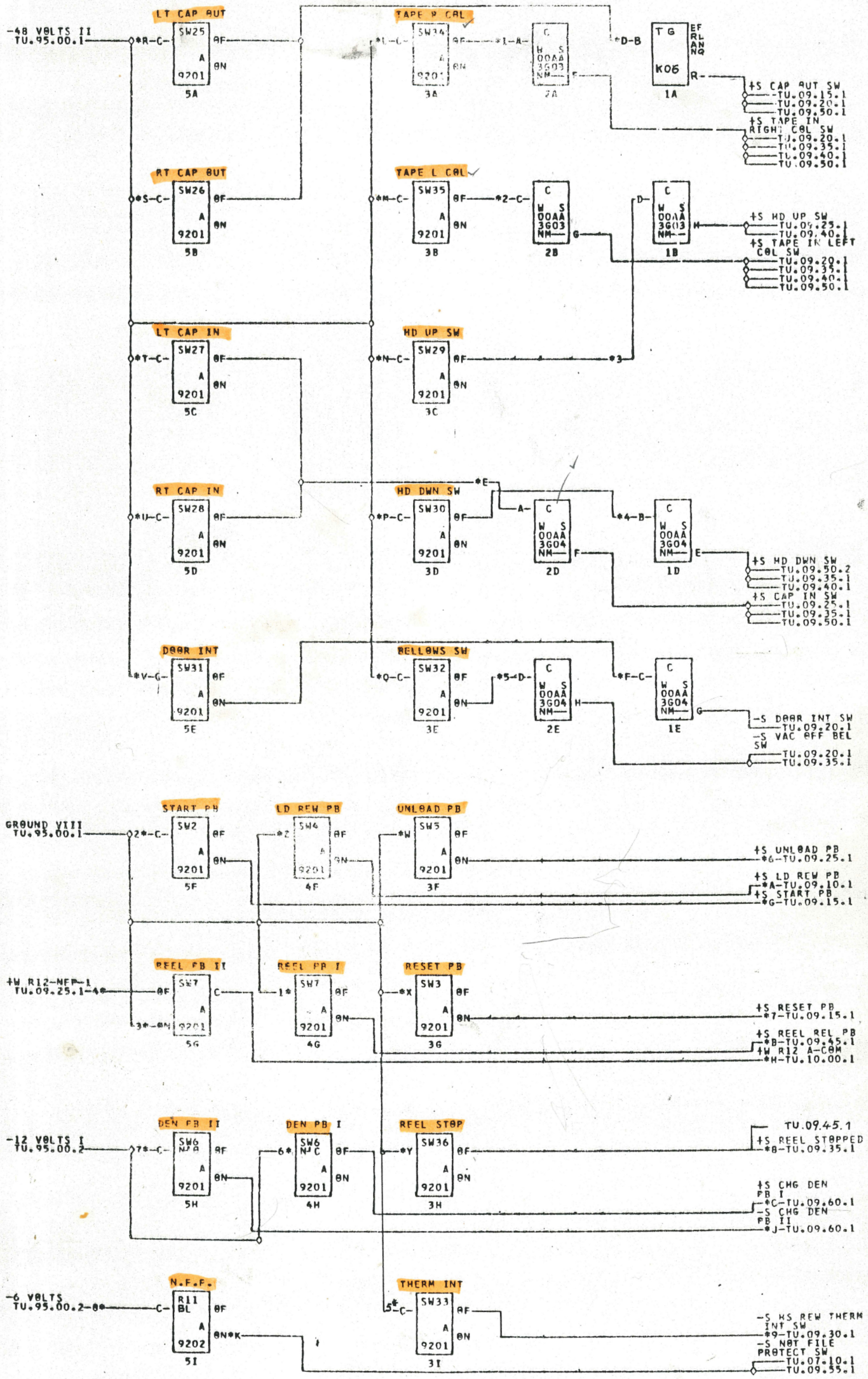
*5—00A3D01N—B- *6—00A3A02C—00TB9-02 *2—00A3A02J—00TB9-08—B- *3—00A3A02N—00TB9-11—B- *4—00A3A02Q—00TB9-11—B-
*7—00A3A02C—00TB9-02 *8—00A3A02G—00TB9-05
*9—00A3A02L—00TB9-08 *A—00TB9-04 *B—00TB9-07 *C—00TB9-10 *D—00TB9-06 *E—00TB9-09 *F—00TB9-01
*G—00TB9-03 *H—00TB9-12 *J—00A3D01P—

COMMENTS

NOTE 1 NFP R11 B COIL JUMPERED TO R12 B COIL

TAG	DATE	E.C.NO.	TAG	DATE	E.C.NO.	TAG	DATE	E.C.NO.	TAG	DATE	E.C.NO
	6-6-62	JT82900									
	31-7-62	JT82900A									
	30-8-62	JT82965									
	16-11-62	JT82791									

1

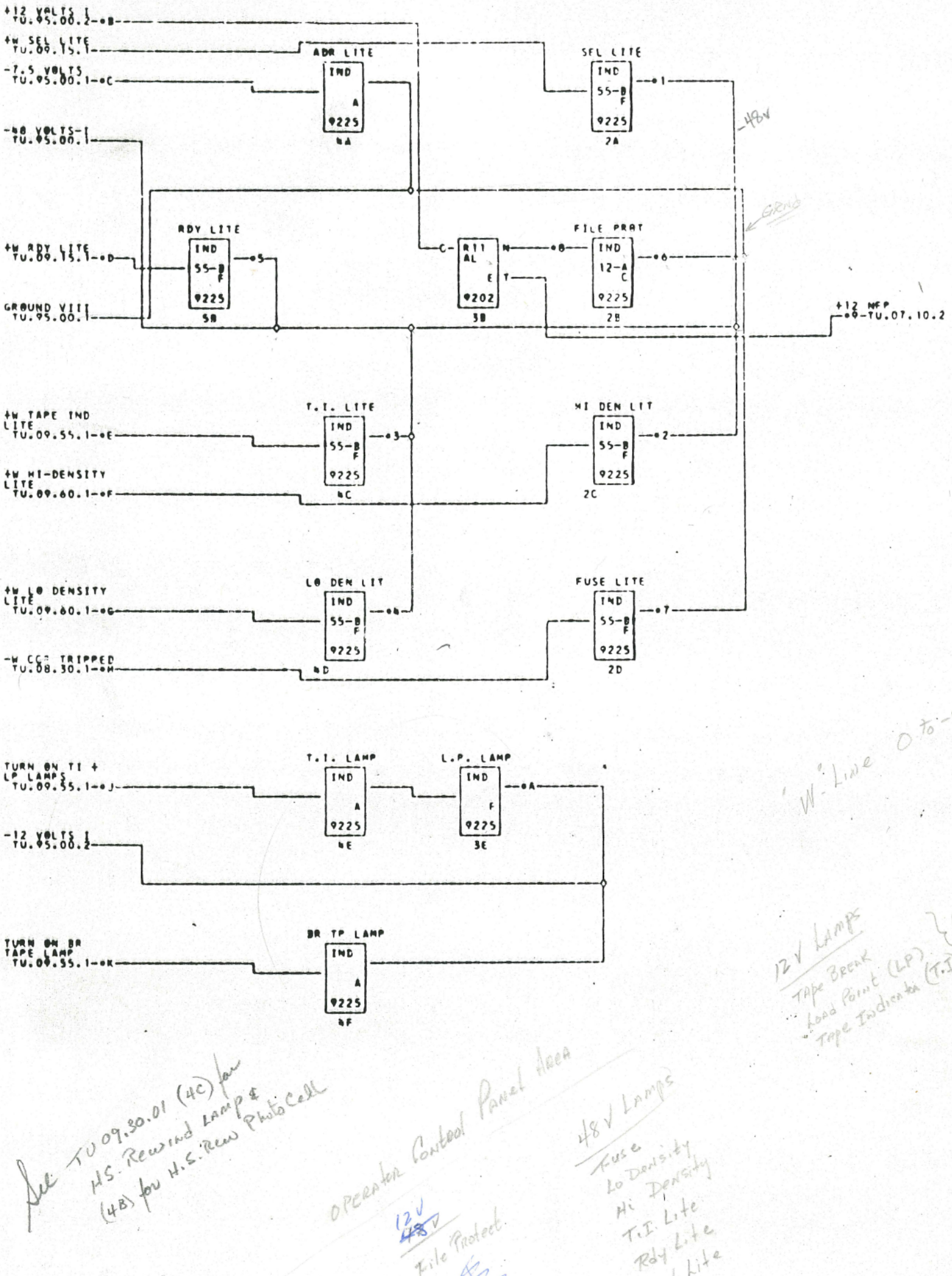


COMMENTS

TAG	DATE	E.C.NO.	TAG	DATE	E.C.NO.	TAG	DATE	E.C.NO.	TAG	DATE	E.C.NO.
[redacted] 20763. JTB4735											

2

8018006



W. Line 0 to -48

12 V Lamps
Tape Break
Load Point (LP)
Tape Indicator (T.I) } mounted on R/W Head

See TU 09.30.01 (4C) for H.S. Rewind Lamp & (4B) for H.S. Rew Photo Cell

Operator Control Panel Area

12V
48V
File Protect.
Rdy Lite
Sel Lite

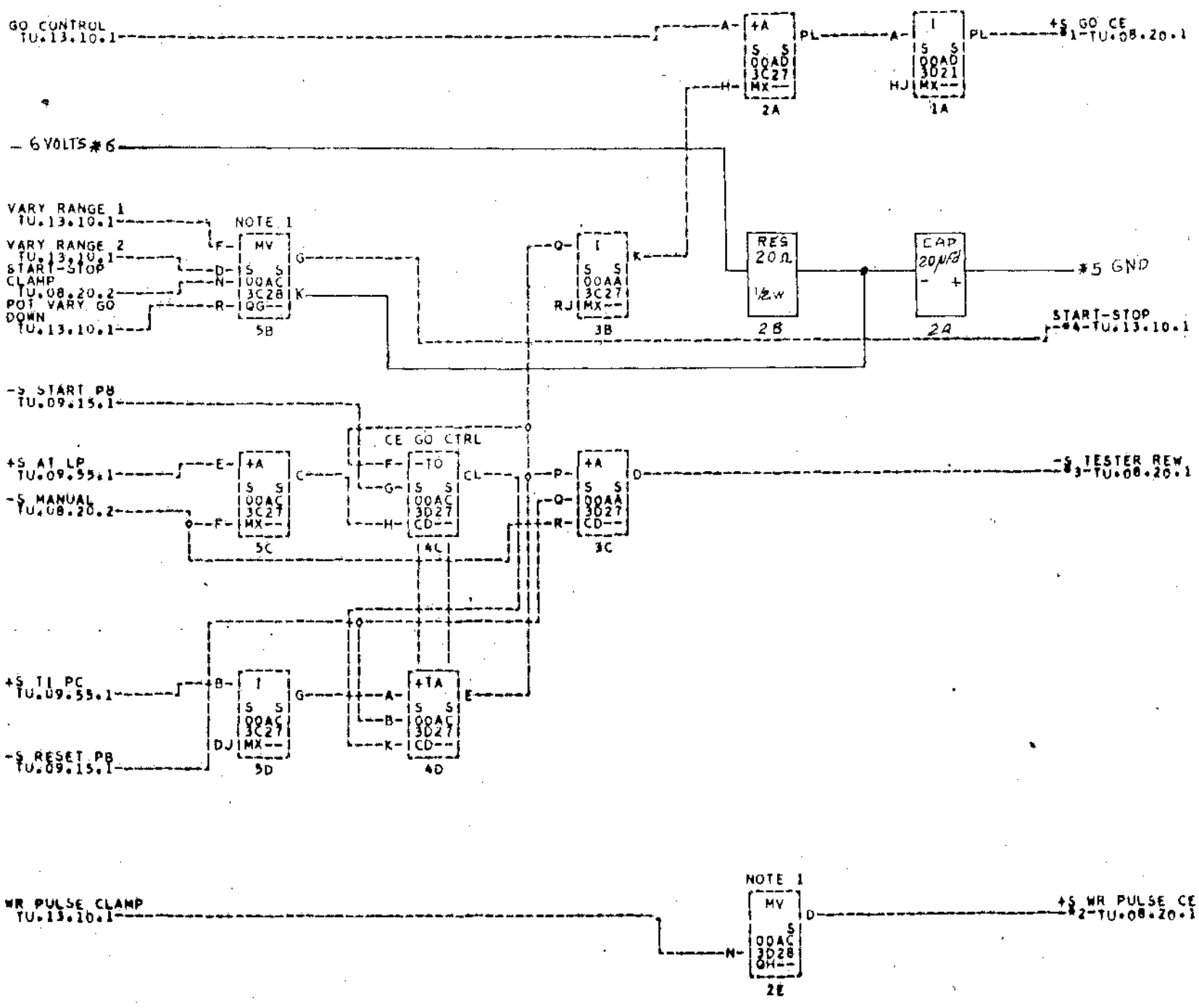
48 V Lamps
Fuse
Lo Density
Hi Density
T.I. Lite
Rdy Lite

7.5V
Address Select wheel Lite

•1—00A3C01C— •2—00A3C01J— •3—00A3C01N— •4—00A3C01G— •5—00A3C01E— •6—00A3C01L—00A3C01B—
•7—00A3C01Q— •8—00A3D01M—00A3C01M— •9—00A3D01J •A—00A3E02E—000MP-12— •R—00A3D01G——
•C—00A3C01A— •D—00A3C01F— •E—00A3C01P— •F—00A3C01K— •G—00A3C01H— •H—00A3C01R—00A3C01Q—
•J—000MP-05—00A3E02D— •K—000MP-11—00A3E02F—

COMMENTS

TAG	DATE	E.C.NO.	TAG	DATE	E.C.NO.	TAG	DATE	E.C.NO.	TAG	DATE	E.C.NO.
[illegible]			[illegible]			[illegible]			[illegible]		
							6.6.62	JT 82900		8-11 62	JT 82742

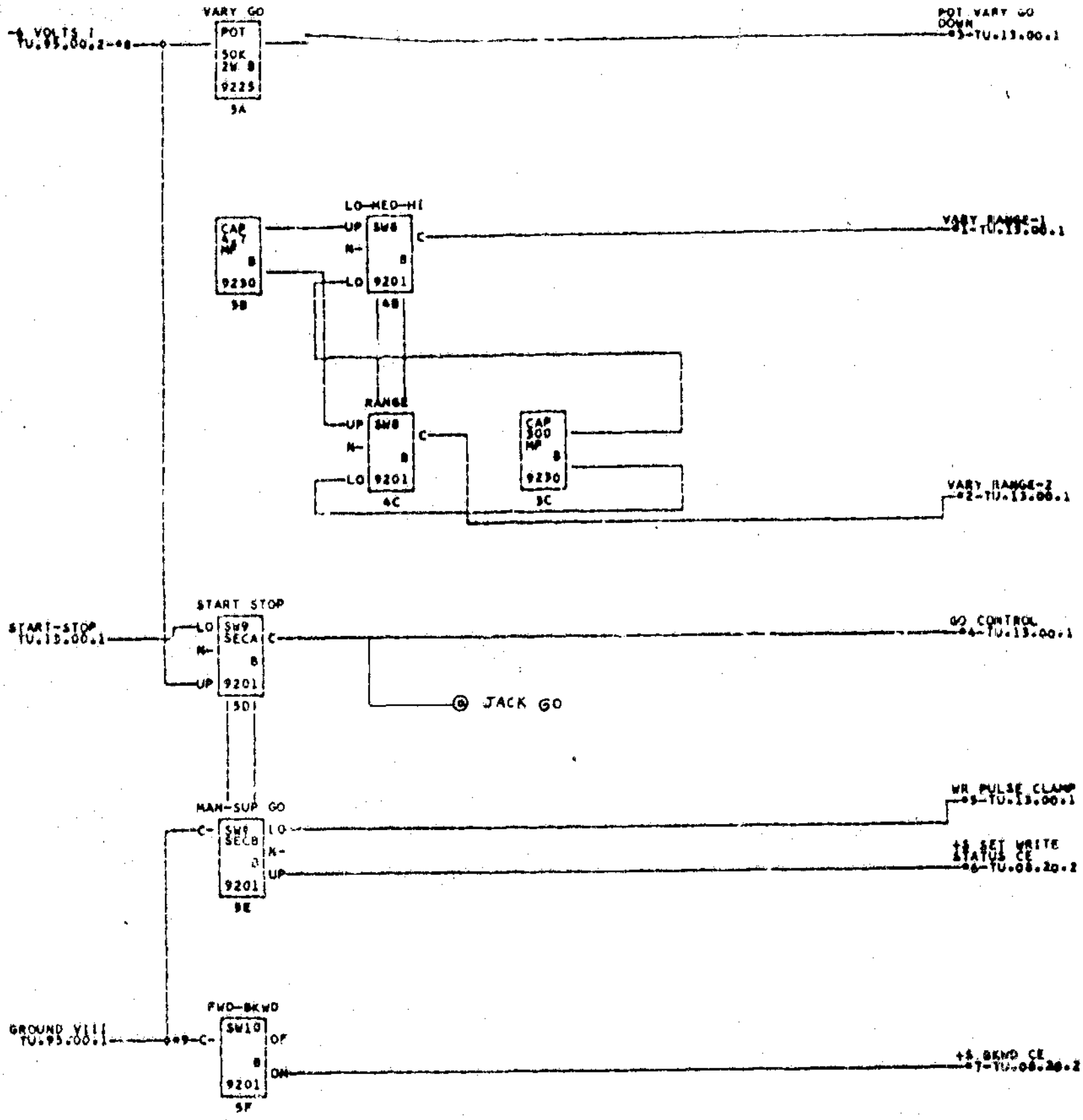


#1—00A3K21R #2—00A3K21K #3—00A3R21L #4—00A3E01P #5—00A3C28T #6—00A3C28Q

1 NOTE 1 THESE CARDS NOT SHIPPED WITH MACHINE

COMMENTS

TAG	DATE	E.C. NO.
A	05-31-61	249230
	6-6-62	JT82900
	31-7-62	JT82900A
	6-12-62	JT83884
B	09-05-61	250120
C	10-30-61	250266
D	01-11-62	250969



*1—00A3E02Q *2—00A3E02R *3—00A3E01P *4—00A3E01N *5—00A3E01L *6—00A3E01M *7—00A3E01K *8—00A3E02N——
*9—00A3E01J

NOTE JACK "GO" LOCATED ON FRONT CE PANEL

COMMENTS	TAG	DATE	E.C.NO.	TAG	DATE	E.C.NO.	TAG	DATE	E.C.NO.	TAG	DATE	E.C.NO.
	A	[illegible]	[illegible]	B	6-6-62	JT 82900						

8016848

TU15.000

CLUTCH AND VACUUM CONTROL

+140V DC 95.10.1 — TB8-13

R16 390Ω 50W — R17 390Ω 50W

AL — AU

R9 140V CONTROL — FILTERS 5 MFD 150V DC 30Ω

R10 NOT REWIND STATUS

TB8-14 — TB8-15 — TB8-16

LEFT UPPER VACUUM SWITCH

RIGHT UPPER VACUUM SWITCH

RIGHT LOWER VACUUM SWITCH

LEFT LOWER VACUUM SWITCH

TB12-12 — TB12-11 — TB12-10 — TB12-9 — TB12-8 — TB12-7

TO A01E TU.09.45.1 TW BRAKE

1KΩ 8W R14

TAPE WRINKLING BRAKE

POT. 3 10K

PARTIAL LEFT BRAKE CONTROL A01A & B TU.09.45.1

FULL LEFT BRAKE A01 C & D TU.09.45.1

TB8-1 — TB8-2

TO R9 EXC B (-48V) — D19 — POT 2 1K 25W ON C.R. PANEL (REAR)

TB8-3 — PARTIAL RIGHT BRAKE A01E & F TU.09.45.1

POT 1 1K 25W ON C.R. PANEL (REAR)

D20 — TO R10 EXC B (-48V)

TB12-4 — R9 BU — TB12-1 — R9 BL — H.S. REWIND COAST CONTROL

TB12-6 — TB12-5 — TB12-3 — TB12-2

TB8-24 — TB8-23 — TB8-4 — FULL RIGHT BRAKE A01 G & H TU.09.45.1

TB8-19 — TB8-20 — TB8-21 — TB8-22 — TB8-25

.5 MFD — 10Ω — .01 MFD — C18 LEFT DOWN — C19 LEFT UP — C20 LEFT STOP — C21 RIGHT DOWN — C22 RIGHT UP — C23 RIGHT STOP

TB8-17 — R18 39Ω 25W — TB8-18 — -48V

INTERNATIONAL BUSINESS MACHINES CORP.				DATE	CHANGE NO.	DATE	CHANGE NO	NOTE	DEVELOPMENT NO.
NAME	SYSTEMS DIAGRAM TU15.00.0			6.6.62	JT82900			X PRINT TO ENG. SPEC. NO. 895291	
DESIGN	RSC	12.6.61	MODEL 729 II	31.7.62	JT82900A				
DETAIL	RSC	12.6.61		14.5.63	JT83654				TU.15.00.0
CHECK	HCS	12.6.61	DRAW						
APPRO	RSR	12.6.61	CHECK						

8016848

Stop clutch
Full Brake
= 13 volts drop
across R18
39Ω resistor
35V drop across
Brake clutch
coil

NOTE ALL GROUNDS ARE JUMPERED AT R02 PADDLE DESIGNATIONS ARE FOR CABLE REFERENCE ONLY

LINE NAME	PIN	PAGE	BLOCK	COMMENTS
GROUND I	K02M			TB 5 5
GROUND I	A04J			A ROW SUPPLY
GROUND II	K02N			TB 5 5
GROUND II	A05J			A ROW GROUND
GROUND III	K02P			TB 5 7
GROUND III	A06J			A ROW GROUND
GROUND IV	K02Q			TB 5 7
GROUND IV	B04J			B ROW GROUND
GROUND V	K02R			TB 5 7
GROUND V	B05J			B ROW GROUND
GROUND V	K02R			TB 5 7
GROUND V	K11N			TAPE SWITCHING FEATURE
GROUND V	K11P			TAPE SWITCHING FEATURE
GROUND VI	K02S			TB 4 5
GROUND VI	C06J			C ROW GROUND
GROUND VII	K02J			TB 4 1
GROUND VII	F04J			F ROW GROUND
GROUND VII	K01J			
GROUND VII	K01T			CAP CARD PN 556981
GROUND VIII	K02L			TB 5 2
GROUND VIII	K19Q			REAR CE PANEL
GROUND VIII	X06A			CARD TG
GROUND VIII	K02L			TB 5 2
GROUND VIII	E01J	TU.13.10.1	5F	FRONT CE FWD BKWD SWITCH
GROUND VIII	D02L	TU.10.00.1	3C	REELS STOPPED SWITCH
GROUND VIII	C01Q	TU.12.00.1	2Q	FUSE LITE
GROUND VIII	K01L	TU.15.00.1	2B	FILE PROTECT LITE
GROUND VIII	C01R	TU.12.00.1	4A	ADDRESS LITE
GROUND VIII	C02N	TU.11.00.1	2E	REEL RELEASE PB
GROUND VIII	C02J	TU.11.00.1	2K	RESET PB
GROUND VIII	C02G	TU.11.00.1	2Q	UNLOAD PB
GROUND VIII	C02A	TU.11.00.1	4C	START PB + LD REW PB
GROUND VIII	A01L	TU.09.55.1	5H	LP+TI LAMPS
GROUND IX	K02D			TB4 5
GROUND IX	C07J			C ROW GROUND
GROUND X	K02E			TB 4 1
GROUND X	D07J			D ROW GROUND
GROUND XI	K02A			TB 4 8
GROUND XI	B05J			D ROW GROUND
GROUND XII	K02H			TB 4 6
GROUND XII	E06J			E ROW GROUND
GROUND XIII	K02B			TB 4 8
GROUND XIII	G04J			G ROW GROUND
GROUND XIV	K02F			TB 4 1
GROUND XIV	H05J			H ROW GROUND
GROUND XIV	H18J			
GROUND XIV	J15J	TU.08.00.1		APE- REFERENCE
GROUND XIV	K09A	TU.08.00.1		WR BUS 1 SHIELD
GROUND XIV	K09C	TU.08.00.1		WR BUS 2 SHIELD
GROUND XIV	K09E	TU.08.00.1		WR BUS 4 SHIELD
GROUND XIV	K09G	TU.08.00.1		WR BUS 8 SHIELD
GROUND XIV	H19J			
GROUND XIV	J16J	TU.08.00.1		APE- REFERENCE
GROUND XIV	K09J	TU.08.00.1		WR BUS A SHIELD
GROUND XIV	K09L	TU.08.00.1		WR BUS B SHIELD
GROUND XIV	K09N	TU.08.00.1		WR BUS C SHIELD
GROUND XIV	K09Q	TU.08.00.1		WR PULSE SHIELD
GROUND XIV	H20J			
GROUND XIV	J17J	TU.08.00.1		APE- REFERENCE
GROUND XIV	K17A	TU.08.00.1		BKWD SHIELD
GROUND XIV	K17C	TU.08.00.1		WR STATUS SHIELD
GROUND XIV	K17E	TU.08.00.1		TURN ON TI SHIELD
GROUND XIV	K17G	TU.08.00.1		SET LO DENSITY SHIELD
GROUND XIV	H21J			
GROUND XIV	J19J	TU.08.00.1		APE- REFERENCE
GROUND XIV	K17J	TU.08.00.1		START REWIND SHIELD
GROUND XIV	K17L	TU.08.00.1		WR CHECK CHAR SHIELD
GROUND XIV	D01A	TU.11.00.1		THERMAL
GROUND XV	K02G			TB 4 6
GROUND XV	J06J			J ROW GROUND
GROUND XVI	K02K			TB 4 1
GROUND XVI	K15M			I/O GROUND T/C 162
MINUS FORTY EIGHT I	K01N			TB 5 8
MINUS FORTY EIGHT I	D01N	TU.10.00.1		RELAY 12 B COIL JUMP TO R 11 B C/
MINUS FORTY EIGHT I	C01N	TU.12.00.1	4C	TAPE INDICATE LITE
MINUS FORTY EIGHT I	C01J	TU.12.00.1	2C	HIGH DENSITY LITE
MINUS FORTY EIGHT I	C01G	TU.12.00.1	4D	LOW DENSITY LITE
MINUS FORTY EIGHT I	C01E	TU.12.00.1	5B	READY LITE
MINUS FORTY EIGHT I	C01C	TU.12.00.1	2A	SELECT LITE
MINUS FORTY EIGHT I	A20R			SUPPRESSOR CARD SUPPLY
MINUS FORTY EIGHT I	A02Q	TU.10.00.1	1E	TB 9 UU NOT REW STATUS R 10
MINUS FORTY EIGHT I	A02N	TU.10.00.1	1D	TB 9 TT HEAD UP MOTOR R 8
MINUS FORTY EIGHT I	A02L	TU.10.00.1	4D	TB 9 8 MOTOR REVERSE R 7
MINUS FORTY EIGHT I	A02J	TU.10.00.1	1C	TB 9 8 TAPE TAKE UP MOTOR R 6
MINUS FORTY EIGHT I	A02G	TU.10.00.1	4C	TB 9 5 HS REW MOTOR R 5
MINUS FORTY EIGHT I	A02E	TU.10.00.1	1B	TB 9 5 VACUUM MOTOR R 5
MINUS FORTY EIGHT I	A02C	TU.10.00.1	4B	TB 9 2 CAPSTAN MOTORS R3 +R 9
MINUS FORTY EIGHT I	D21N	TU.09.45.1		SUPPRESSOR DIODES CLUTCH COIL
MINUS FORTY EIGHT I	K13N			TAPE SWITCHING FEATURE
MINUS FORTY EIGHT I	K01N			TB 5 8
MINUS FORTY EIGHT I	K11L			TAPE SWITCHING FEATURE
MINUS FORTY EIGHT I	K11M			TAPE SWITCHING FEATURE
MINUS FORTY EIGHT I	K13L			TAPE SWITCHING FEATURE
MINUS FORTY EIGHT I	K13M			TAPE SWITCHING FEATURE
MINUS FORTY EIGHT I	K13P			TAPE SWITCHING FEATURE
MINUS FORTY EIGHT II	K04A			TB5-8
MINUS FORTY EIGHT III	E01E	TU.11.00.1	5C	BELLOWS SWITCH
MINUS FORTY EIGHT III	E02J	TU.11.00.1	3D	HD DWN-HD UP SWITCH
MINUS FORTY EIGHT III	C02L	TU.11.00.1	5E	DOOR INTERLOCK SW
MINUS FORTY EIGHT III	D02N	TU.11.00.1	5B	RIGHT CAP OUT SW
MINUS FORTY EIGHT III	D02Q	TU.11.00.1	5D	RIGHT CAP IN SW
MINUS FORTY EIGHT III	D01C	TU.11.00.1	5A	LEFT CAP OUT SW
MINUS FORTY EIGHT III	D01F	TU.11.00.1	5C	LEFT CAP IN SW
MINUS FORTY EIGHT II	E01C	TU.11.00.1	3A	TAPE IN RT COL SW
MINUS FORTY EIGHT II	E01G	TU.11.00.1	3B	TAPE IN LT COL SW
MINUS 7.5 VOLTS I	K01P			TB 5 6
MINUS 7.5 VOLTS I	C01A	TU.12.00.1	4A	ADDRESS LITE
MINUS 7.5 VOLTS III	B01L	TU.09.50.3	1E	TB11 3
MINUS 7.5 VOLTS III	A04M			A ROW SUPPLY
MINUS 7.5 VOLTS IV	B01M	TU.09.50.3	1E	TB11 3
MINUS 7.5 VOLTS IV	A05M			A ROW SUPPLY
MINUS 7.5 VOLTS V	B01N	TU.09.50.3	1E	TB11 3
MINUS 7.5 VOLTS V	A07M			A ROW SUPPLY
MINUS 7.5 VOLTS VI	B01P	TU.09.50.3	1E	TB11 3
MINUS 7.5 VOLTS VI	A05M			A ROW SUPPLY

* NOTE 1 CAPACITOR CARD PN 556981 IN K03 IS WIRED TO THE FOLLOWING NETS
J PIN TO GROUND VII
G PIN TO MINUS SIX VOLTS III
L PIN TO PLUS TWELVE VOLTS I
N PIN TO MINUS TWELVE VOLTS II
Q PIN TO PLUS SIX VOLTS I

LINE NAME	PIN	PAGE	BLOCK	COMMENTS
PLUS TWELVE VOLTS I	K01A			TB 4 7
PLUS TWELVE VOLTS I	E01Q	TU.07.10.4	2A	WRITE STATUS LITE
PLUS TWELVE VOLTS I	E01N	TU.07.10.4	2H	C TRACK LITE
PLUS TWELVE VOLTS I	E01L	TU.07.10.4	2G	B TRACK LITE
PLUS TWELVE VOLTS I	E01J	TU.07.10.4	2F	A TRACK LITE
PLUS TWELVE VOLTS I	E01G	TU.07.10.4	2E	8 TRACK LITE
PLUS TWELVE VOLTS I	E01E	TU.07.10.4	2D	4 TRACK LITE
PLUS TWELVE VOLTS I	E01C	TU.07.10.4	2C	2 TRACK LITE
PLUS TWELVE VOLTS I	E01A	TU.07.10.4	2B	1 TRACK LITE
PLUS TWELVE VOLTS I	E02A	TU.09.55.1	5B	LP+TI PHOTOCELL
PLUS TWELVE VOLTS I	D08N			C ROW SUPPLY
PLUS TWELVE VOLTS I	C08N			C ROW SUPPLY
PLUS TWELVE VOLTS I	B08N			B ROW SUPPLY
PLUS TWELVE VOLTS I	A28M			A ROW SUPPLY
PLUS TWELVE VOLTS I	A27Q			A ROW SUPPLY
PLUS TWELVE VOLTS I	B27Q			B ROW SUPPLY
PLUS TWELVE VOLTS I	E07A			22 UH CHOKE
PLUS TWELVE VOLTS I	D01G			PN 554161
PLUS TWELVE VOLTS I	D01G	TU.12.00.1	3B	FILE PROTECT RELAY R11 AL
PLUS TWELVE VOLTS I	D01G			
PLUS TWELVE VOLTS I	K03L			CAP CARD PN 556981
PLUS TWELVE VOLTS I	C18N			CARD JUMPER
PLUS TWELVE VOLTS I	C19Q			CARD JUMPER
PLUS TWELVE VOLTS I	C20N			CARD JUMPER
PLUS TWELVE VOLTS I	C05N			CARD JUMPER
PLUS TWELVE VOLTS I	C06Q			CARD JUMPER
PLUS TWELVE VOLTS I	C07N			CARD JUMPER
PLUS TWELVE VOLTS I	D09N			CARD JUMPER
PLUS TWELVE VOLTS I	D09Q			CARD JUMPER
PLUS TWELVE VOLTS I	D23N			CARD JUMPER
PLUS TWELVE VOLTS I	D23Q			CARD JUMPER
PLUS TWELVE VOLTS I	K28C			CAP. ASS
PLUS TWELVE VOLTS 1	J28C			CAP. ASS
PLUS TWELVE VOLTS II	K01B			TB 4 7
PLUS TWELVE VOLTS II	J04N			J ROW SUPPLY
PLUS TWELVE VOLTS II	H04N			H ROW SUPPLY
PLUS TWELVE VOLTS II	G04N			G ROW SUPPLY
PLUS TWELVE VOLTS II	F04N			F ROW SUPPLY
PLUS TWELVE VOLTS II	E04N			E ROW SUPPLY
PLUS TWELVE VOLTS II	E05N			CARD JUMPER
PLUS TWELVE VOLTS II	E05Q			CARD JUMPER
PLUS TWELVE VOLTS II	E06N			CARD JUMPER
PLUS TWELVE VOLTS II	E06Q			CARD JUMPER
PLUS TWELVE VOLTS II	F25N			CARD JUMPER
PLUS TWELVE VOLTS II	F25Q			CARD JUMPER
PLUS TWELVE VOLTS II	F26N			CARD JUMPER
PLUS TWELVE VOLTS II	F26Q			CARD JUMPER
PLUS TWELVE VOLTS II	E10N			CARD JUMPER
PLUS TWELVE VOLTS II	E10Q			CARD JUMPER
PLUS SIX VOLTS I	K01H			TB 4 3
PLUS SIX VOLTS I	D01Q	TU.09.30.1	4C	HS REW LITE
PLUS SIX VOLTS I	B04L			B ROW SUPPLY
PLUS SIX VOLTS I	A04L			A ROW SUPPLY
PLUS SIX VOLTS I	K01H			
PLUS SIX VOLTS I	K01Q			CAP CARD PN 556981
PLUS SIX VOLTS II	K01J			TB 4 3

TAG	DATE	E.C.NO.	TAG	DATE	E.C.NO.	TAG	DATE	E.C.NO.	TAG	DATE	E.C.NO.
A	[redacted] 20.7.63 JTB4735										

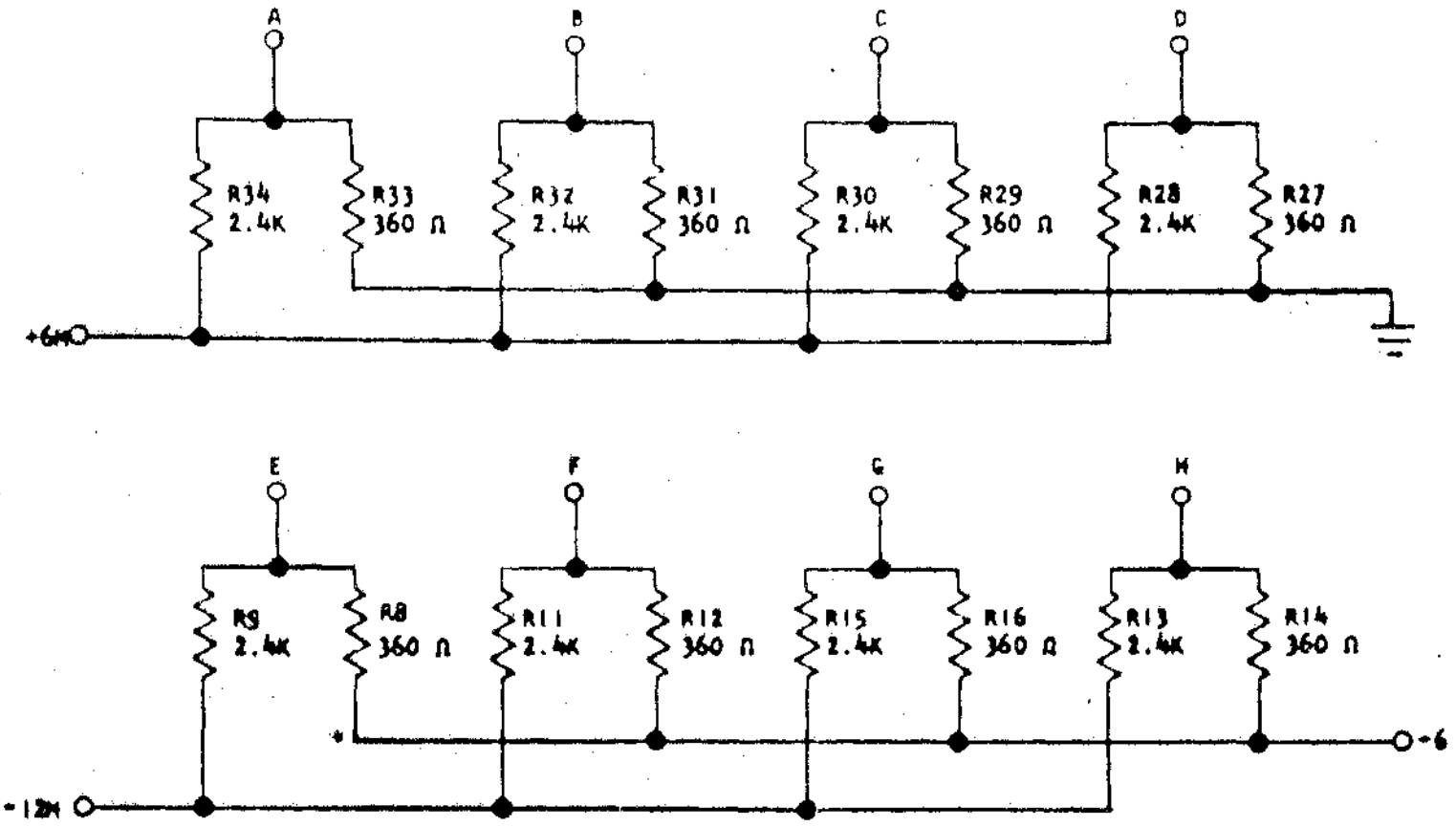
LINE NAME	PIN	PAGE	BLOCK	COMMENTS
PLUS SIX VOLTS II	K15K			I/O SUPPLY T/C 132
PLUS SIX VOLTS II				
PLUS SIX VOLTS II	K01J			TB 4 3
PLUS SIX VOLTS II	J04L			J ROW SUPPLY
PLUS SIX VOLTS II	H18Q			H ROW SUPPLY
PLUS SIX VOLTS II	G04L			G ROW SUPPLY
PLUS SIX VOLTS II	E03E			E ROW SUPPLY
PLUS SIX VOLTS II	D28L			WR PULSE MV SUPPLY
PLUS SIX VOLTS II	C28L			START STOP MV SUPPLY
PLUS SIX VOLTS II				CARD JUMPER
PLUS SIX VOLTS II	H20L			CARD JUMPER
PLUS SIX VOLTS II	H20Q			CARD JUMPER
PLUS SIX VOLTS II	H21L			CARD JUMPER
PLUS SIX VOLTS II	H21Q			CARD JUMPER
PLUS SIX VOLTS II	G26L			CARD JUMPER
PLUS SIX VOLTS II	F26L			CARD JUMPER
PLUS SIX VOLTS II	F25L			CARD JUMPER
PLUS SIX VOLTS II	F23Q			CARD JUMPER
PLUS SIX VOLTS II	F22Q			CARD JUMPER
MINUS SIX VOLTS I	K01M			TB 4 2
MINUS SIX VOLTS I	E02N	TU.13.10.1	5A	VARY GO POT START STOP SW
MINUS SIX VOLTS I	D01L	TU.11.00.1	4E	RTI BL NFP
MINUS SIX VOLTS I	B04K			B ROW SUPPLY
MINUS SIX VOLTS I	A04K			A ROW SUPPLY
MINUS SIX VOLTS II	K01L			TB 4 2
MINUS SIX VOLTS II	H18K			H ROW SUPPLY
MINUS SIX VOLTS II	C28Q			~~START STOP MV SUPPLY~~
MINUS SIX VOLTS II	D28K			WR PULSE MV SUPPLY
MINUS SIX VOLTS II	E03K			E ROW SUPPLY
MINUS SIX VOLTS II	G04K			G ROW SUPPLY
MINUS SIX VOLTS II	A18K			A ROW SUPPLY
MINUS SIX VOLTS II	G26K			CARD JUMPER
MINUS SIX VOLTS II	F26K			CARD JUMPER
MINUS SIX VOLTS II	F25K			CARD JUMPER
MINUS SIX VOLTS III	K01K			TB 4 2
MINUS SIX VOLTS III	K15P			I/O SUPPLY T/C 140
MINUS SIX VOLTS III	J15K			J ROW SUPPLY
MINUS SIX VOLTS III				
MINUS SIX VOLTS III	K19K			
MINUS SIX VOLTS III	K03G			CAP CARD PN 556981
MINUS SIX VOLTS III	J18K			22 UH CHOKE
MINUS SIX VOLTS III	J22K			PN 554161
MINUS SIX VOLTS III	J28K			CAP ASS
MINUS SIX VOLTS III	H28J			CAP ASS
MINUS TWELVE VOLTS I	K01G			TB 4 6
MINUS TWELVE VOLTS I	K19N			MINUS TWELVE FOR CE PANEL
MINUS TWELVE VOLTS I	K06M			CARD TG
MINUS TWELVE VOLTS I	K01G			
~~MINUS TWELVE VOLTS I~~	~~D01A~~	~~TU.11.00.1~~	~~2H~~	~~THERM INTERLOCK SW~~
MINUS TWELVE VOLTS I	A01J	TU.09.30.2	4D	RESISTOR HS LITE
MINUS TWELVE VOLTS I	E02E	TU.09.30.2	4B	HS REW LITE
		TU.12.00.1		LP,TI+ BR TAPE LITES
MINUS TWELVE VOLTS I	C02E	TU.11.00.1	4F	DENSITY PB
MINUS TWELVE VOLTS I				
MINUS TWELVE VOLTS II	K01C			TB 4 6
MINUS TWELVE VOLTS II	C04M			C ROW SUPPLY
MINUS TWELVE VOLTS II	B04M			B ROW SUPPLY
MINUS TWELVE VOLTS II	B05M			VOLTAGE JUMPER
MINUS TWELVE VOLTS II	B05R			VOLTAGE JUMPER
MINUS TWELVE VOLTS II	K01C			
MINUS TWELVE VOLTS II	K03N			CAP CARD PN 556981
MINUS TWELVE VOLTS III	K01D			TB 4 6
MINUS TWELVE VOLTS III	D04M			D ROW SUPPLY
MINUS TWELVE VOLTS III				CARD JUMPER
MINUS TWELVE VOLTS III	D28M			CARD JUMPER
MINUS TWELVE VOLTS III	D28R			CARD JUMPER
MINUS TWELVE VOLTS IV	K01E			TB 4 6
MINUS TWELVE VOLTS IV	E04M			E ROW SUPPLY
MINUS TWELVE VOLTS V	K01F			TB 4 6
MINUS TWELVE VOLTS V	K15R			I/O SUPPLY T/C 170
MINUS TWELVE VOLTS V				
MINUS TWELVE VOLTS V	K01F			TB 4 6
MINUS TWELVE VOLTS V	J04M			J ROW SUPPLY
MINUS TWELVE VOLTS V	H04M			H ROW SUPPLY
MINUS TWELVE VOLTS V	G04M			G ROW SUPPLY
MINUS TWELVE VOLTS V	F04M			F ROW SUPPLY

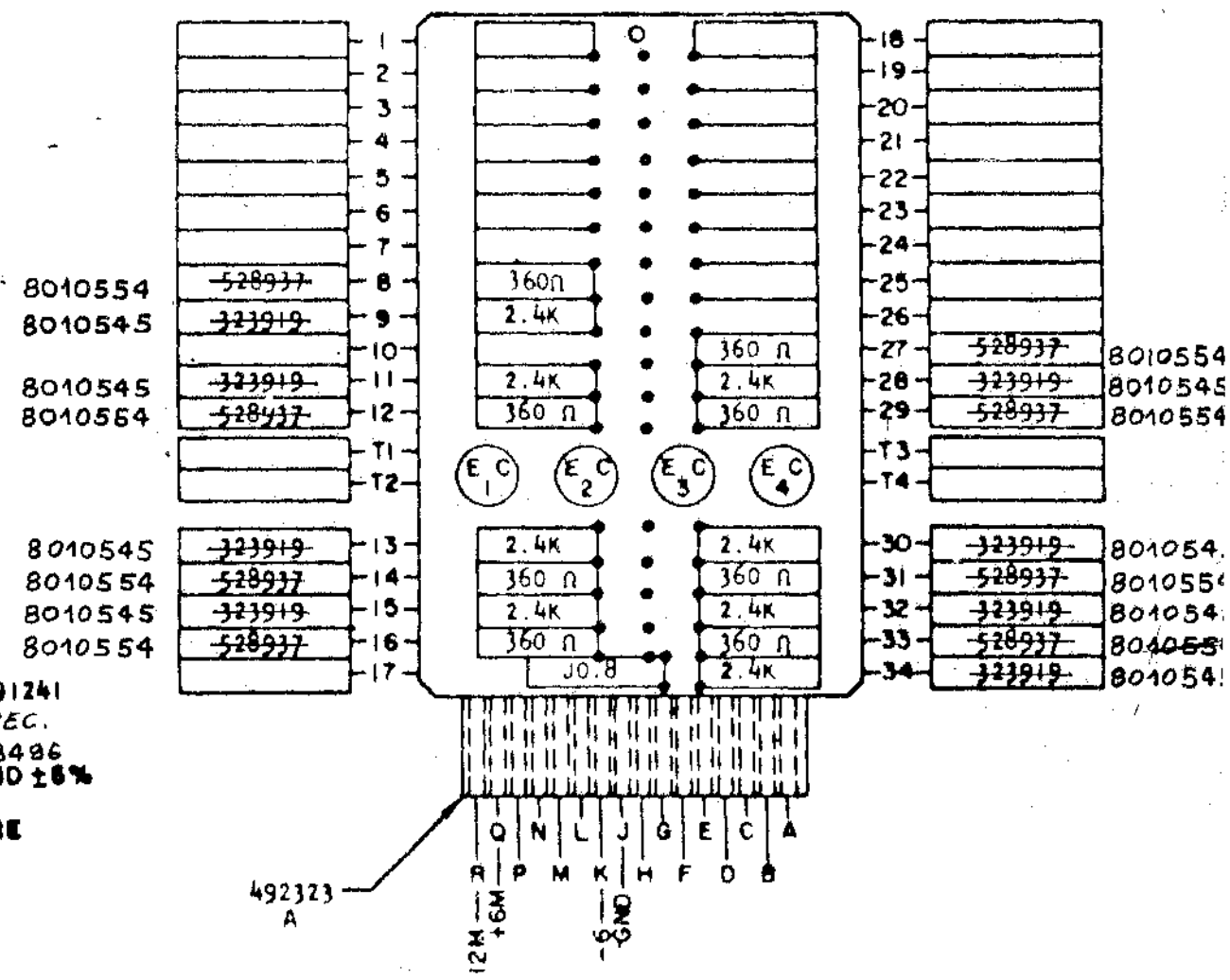
371241

371241 AK- -

CODE NATURE 2_7045

ALLOY-COUPLING NETWORKS FOR N AND P BLOCKS





NOTES

X CIRCUIT MUST CONFORM TO ENGINEERING SPECIFICATION 891241

XI ASSEMBLE TO ENGINEERING SPEC. 2084692. 2093495 AND 2093496

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

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

USE WITH SPECIFICATION 8 010 600

IBM					
NOM	CARD ASM TSTR. ALLOY COUPLING NETWORKS FOR N&P BLOCKS				
PROJET			TYPE	SMS	
DESSIN	DJa	28.10.61	ECHEL		
VERIF.			CALQ		
APPR.			VERIF	6.11.61	CLN

DATE	CHANG N°	DATE	CHANG N°	DATE	CHANG N°	DATE	CHANG N°
17.3.60	EC 108573						
15-9-60	JT 47000						
15-8-61	EC 112388						
9.11.61	JT 48792						

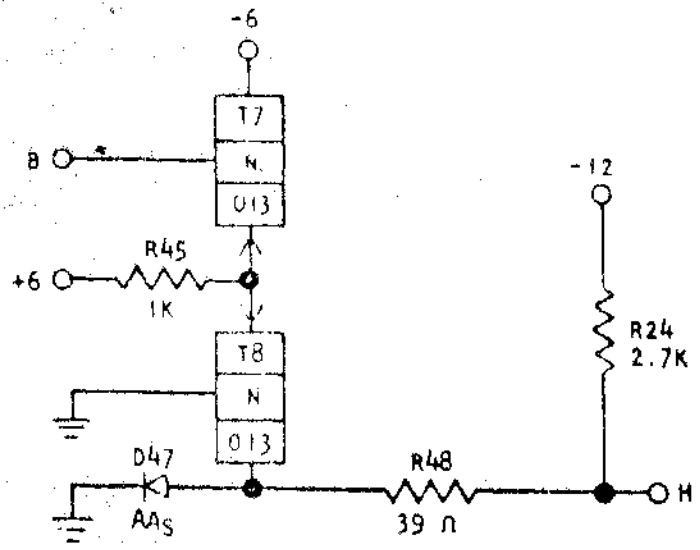
C / 1241

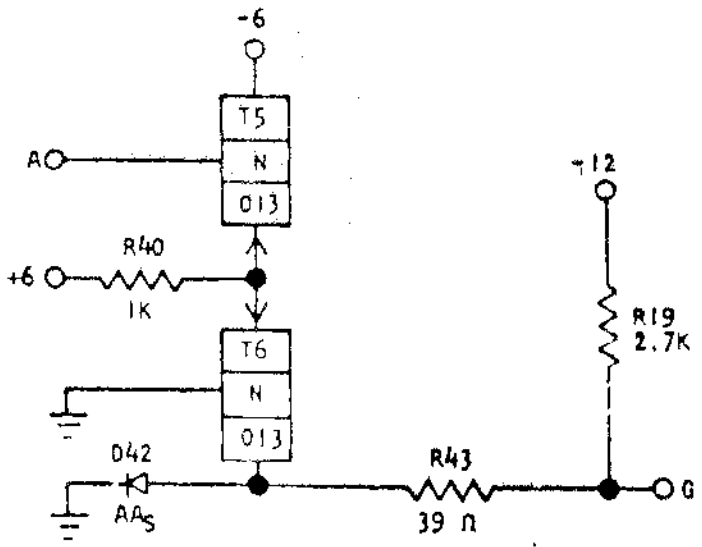
370639

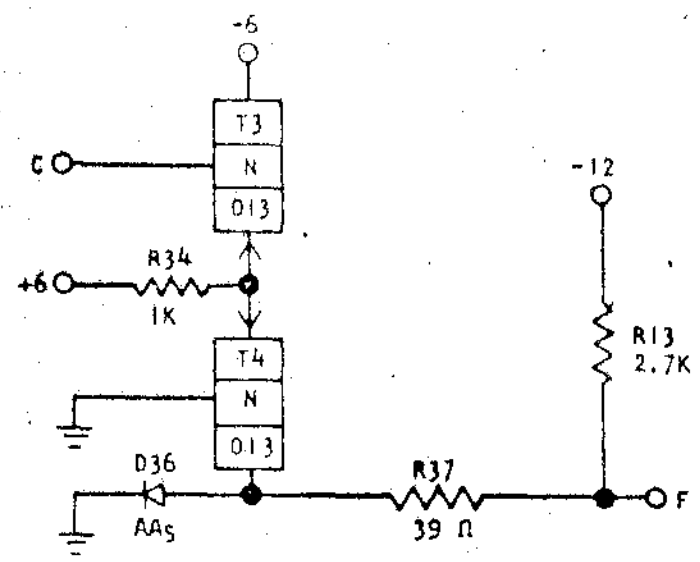
370639

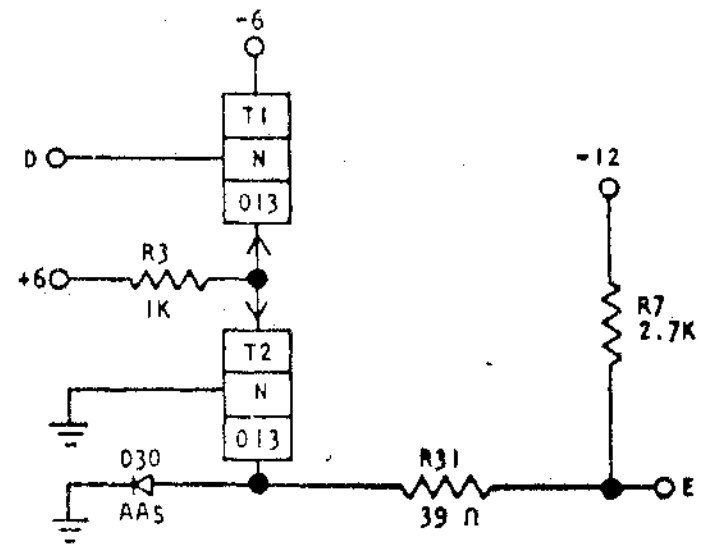
CODE 2_7045
NATURE APE

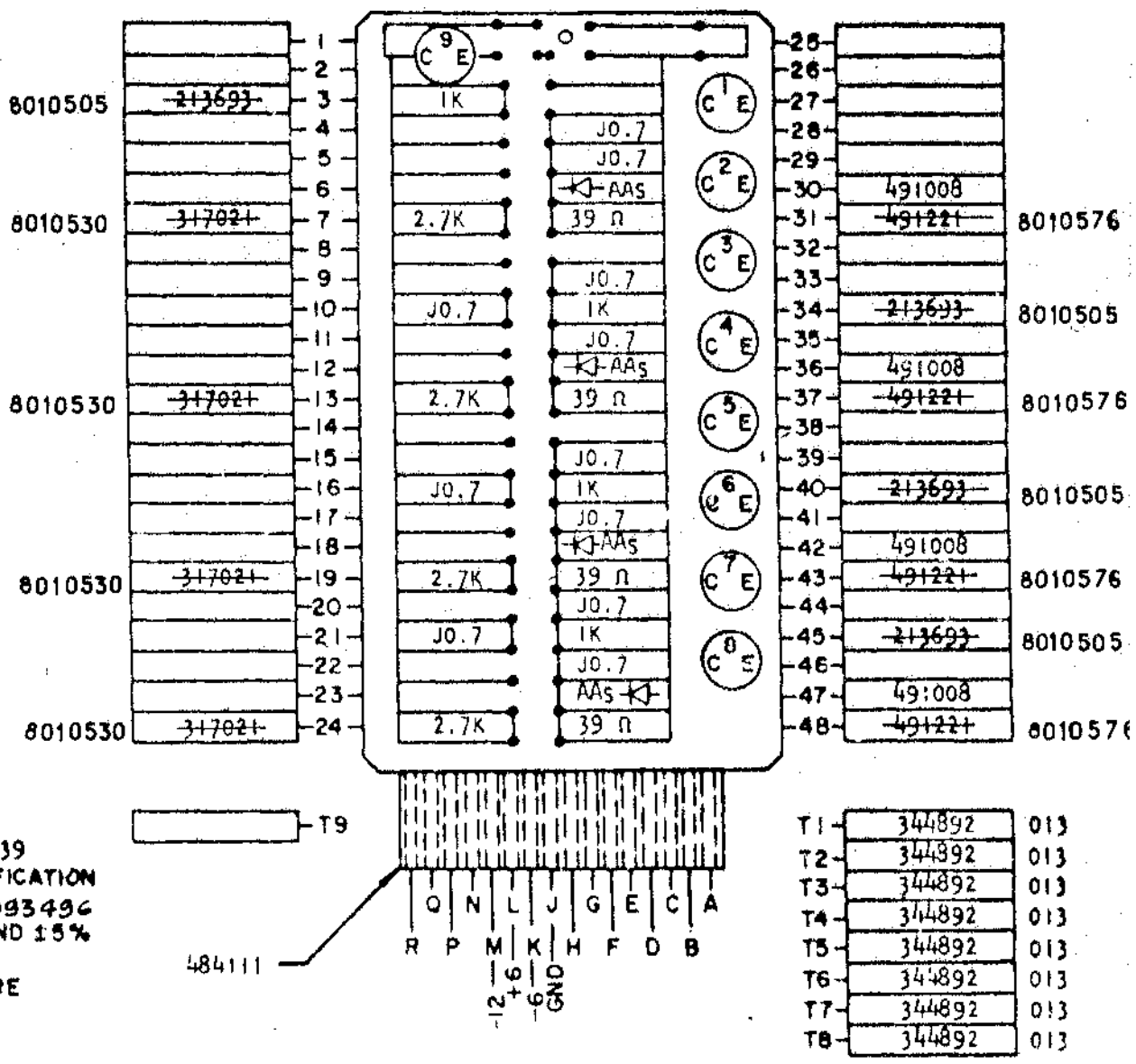
ALLOY-CONVERTER (N LINE T











NOTES

I CIRCUIT MUST CONFORM TO ENGINEERING SPECIFICATION 892639

II ASSEMBLE TO ENGINEERING SPECIFICATION 2084692, 2093495 AND 2093496

III ALL RESISTORS ARE 1/2 WATT AND 15% UNLESS OTHERWISE NOTED

IV "J" IN BLOCK DENOTES BARE WIRE JUMPER 491296

T1	344892	013
T2	344892	013
T3	344892	013
T4	344892	013
T5	344892	013
T6	344892	013
T7	344892	013
T8	344892	013

USE WITH SPECIFICATION 8010600

IBM						DATE	CHANG N°	DATE	CHANG N°	DATE	CHANG N°	DATE	CHANG N°
NOM	CARD ASM TSTR ALLOY CONVERTER (N LINE TO S LINE)					15.6.61	EC112132)						
PROJET			TYPE	SMS		21.9.61	JT47022)						
DESSIN	DJG	11-9-61	ECHEL										
VERIF.		19-9-61	CALQ	RDA 40	26.7.61								
APPR	POC		VERIF	CLM	18.9.61								

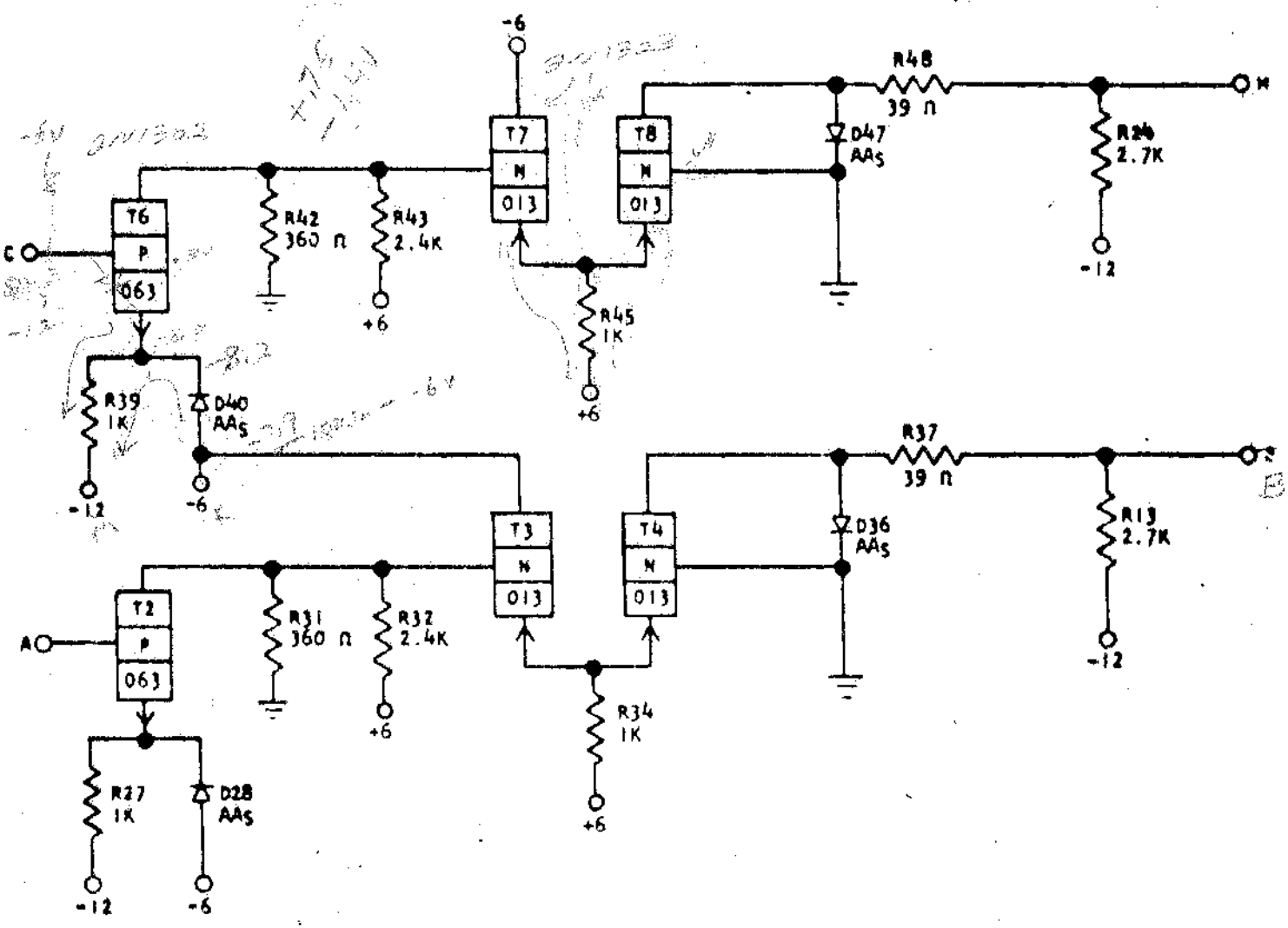
SCAN/C

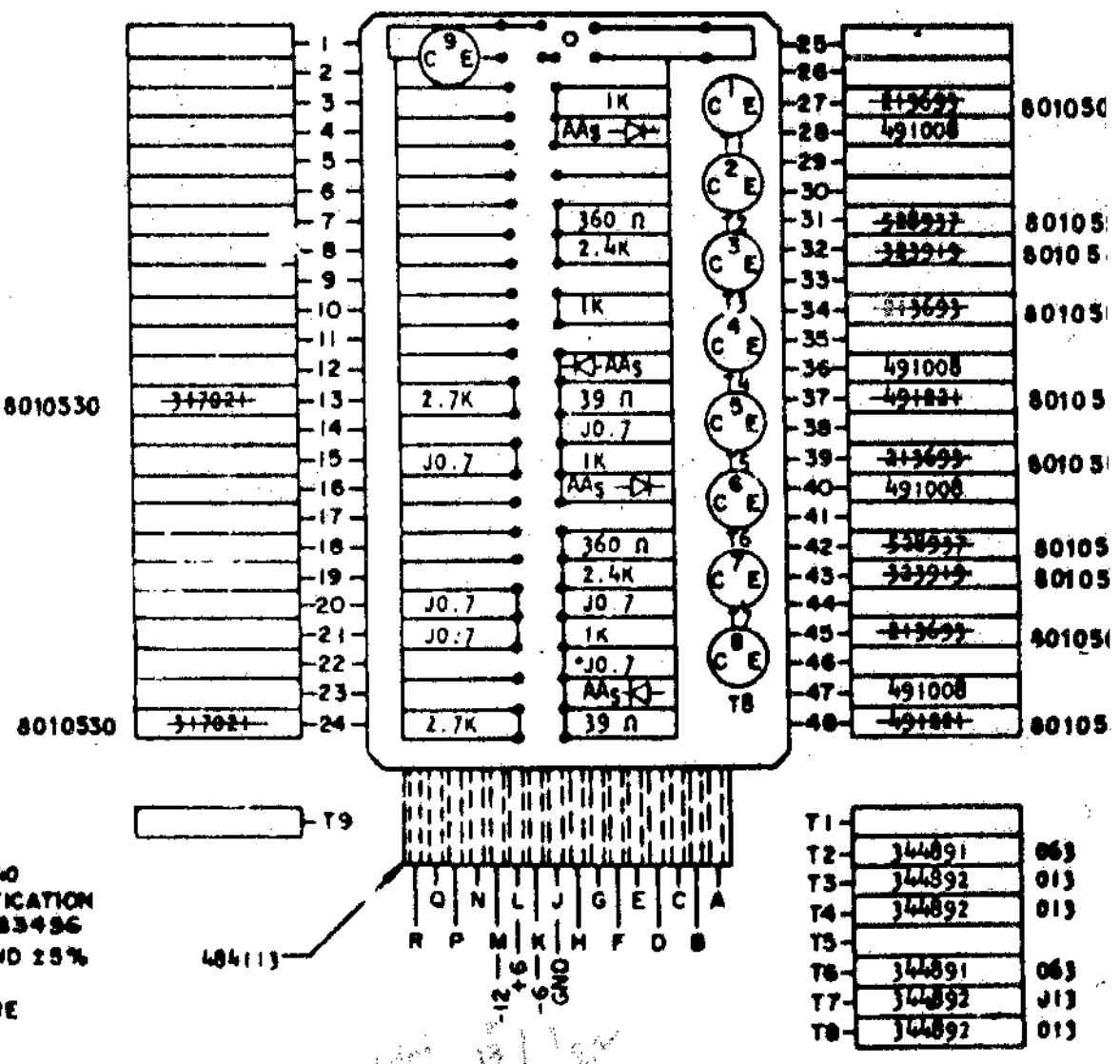
370640

370640 APF

CODE NATURE 2.7045

ALLOY-CONVERTER (P LINE TO S LINE)





NOTES

X CIRCUIT MUST CONFORM TO ENGINEERING SPECIFICATION 892640

XI ASSEMBLE TO ENGINEERING SPECIFICATION 2084682, 2083485 AND 2083496

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

XIII "J" IN BLOCK DENOTES BARE WIRE JUMPER 491296

USE WITH SPECIFICATION 8010800

IBM						DATE	CHANG N°	DATE	CHANG N°	DATE	CHANG N°	DATE	CHANG N°
NOM	CARD ASM TSTR ALLOY (CONVERTER (N LINE TO S LINE)					15.6.61	EC112132						
PROJET			TYPE	SMS		21.9.61	JT47022						
DESSIN	Dvs	11-9-61	ECHEL										
VERIF		4.9.61	CALQ		26.7.61								
APPR	FX		VERIF	CEM	18.9.61								

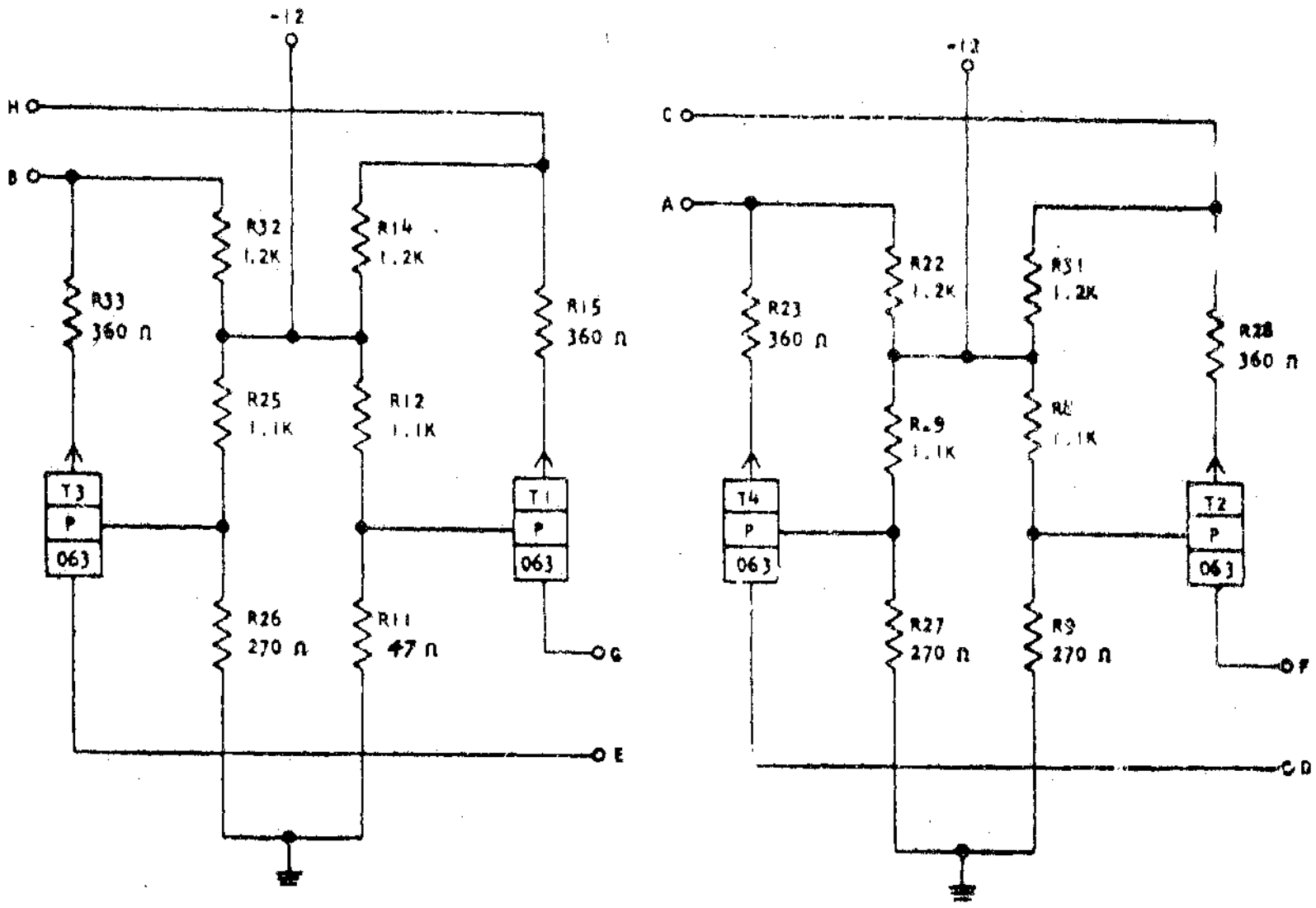
370641 A P G

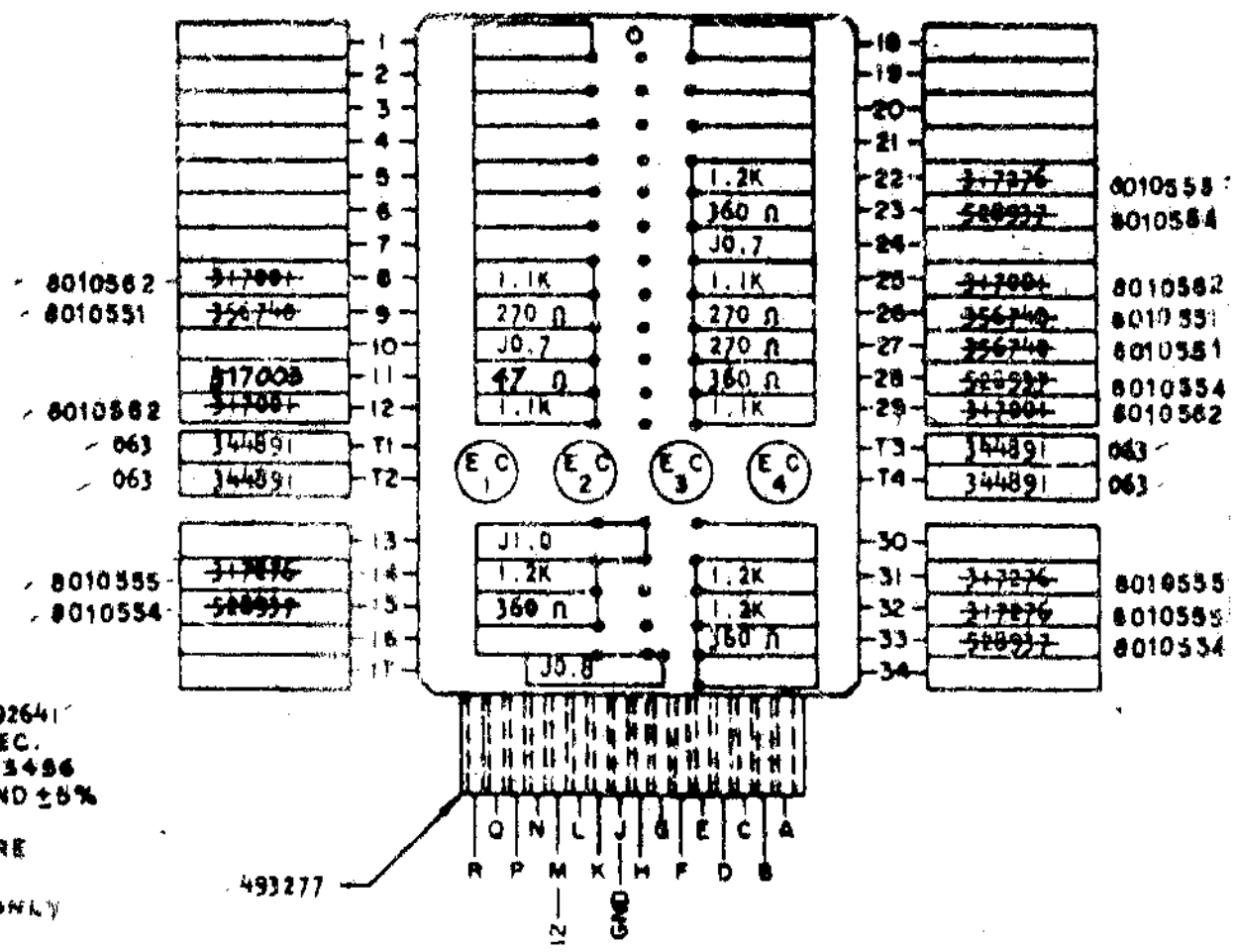
CODE NATURE 2.7045

ECHO PULSE LINE CONVERTER

370641

RESTRICTED NOTE XIV





NOTES

X CIRCUIT MUST CONFORM TO ENGINEERING SPECIFICATION 892641

XI ASSEMBLE TO ENGINEERING SPEC. 2084682, 2083488 AND 2083486

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

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

XIV RESTRICTED FOR 72# USE ONLY

HOLE PATTERN 491329

USE WITH SPECIFICATION 8010600

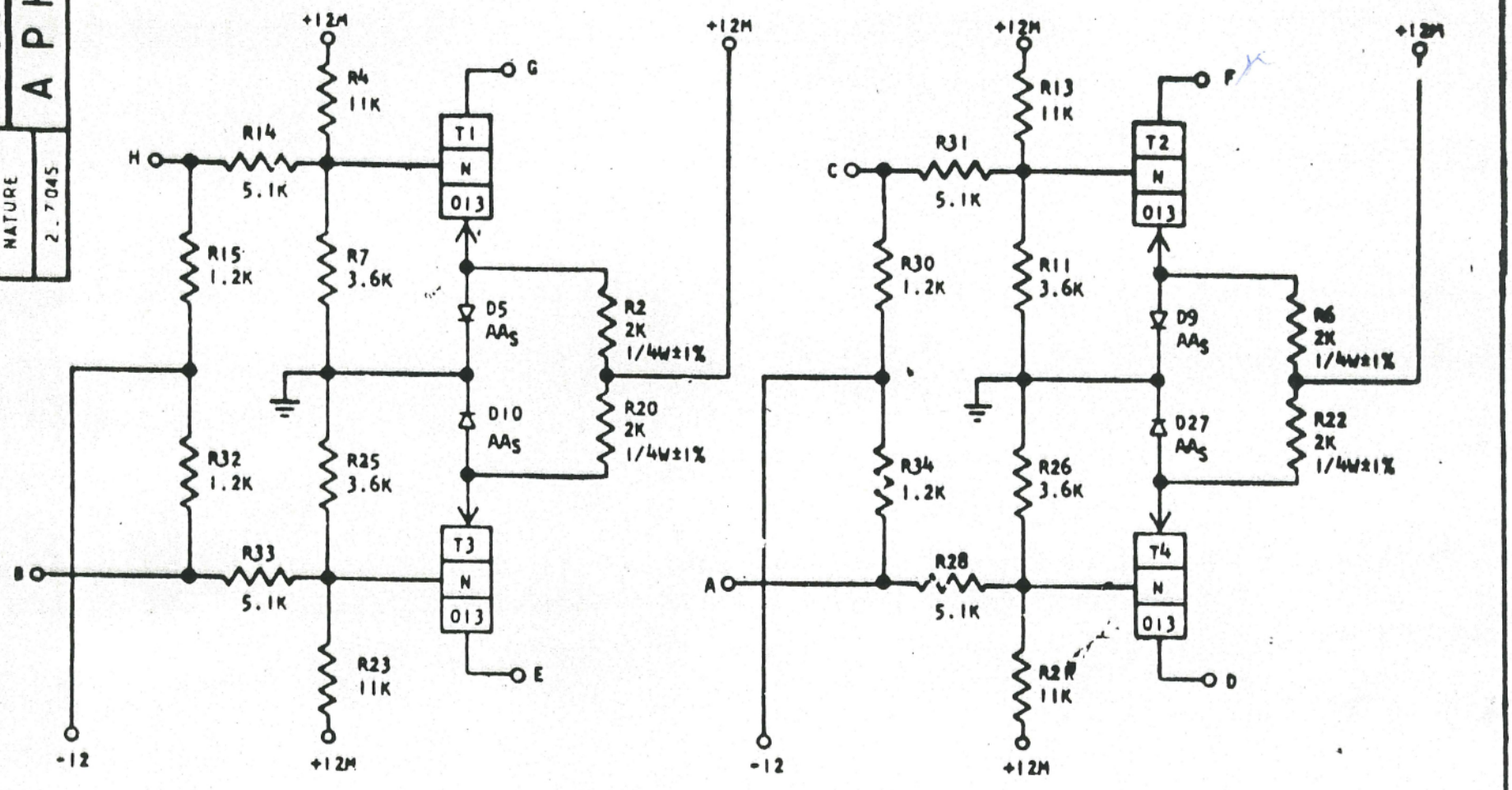
IBM						DATE	CHANG N°	DATE	CHANG N°	DATE	CHANG N°	DATE	CHANG N°
NOM	ECHO PULSE LINE CONVERTER					15.6.61	EC112142						
						21-9-61	JT47022						
PROJET			TYPE	SMS		14.6.62	EC 115865						
DESSIN	DJa	11-5-61	ECHEL			20 [illegible] 62	JT 82756						
VERIF			CALQ	RDA40	26.7.61								
APPR			VERIF										

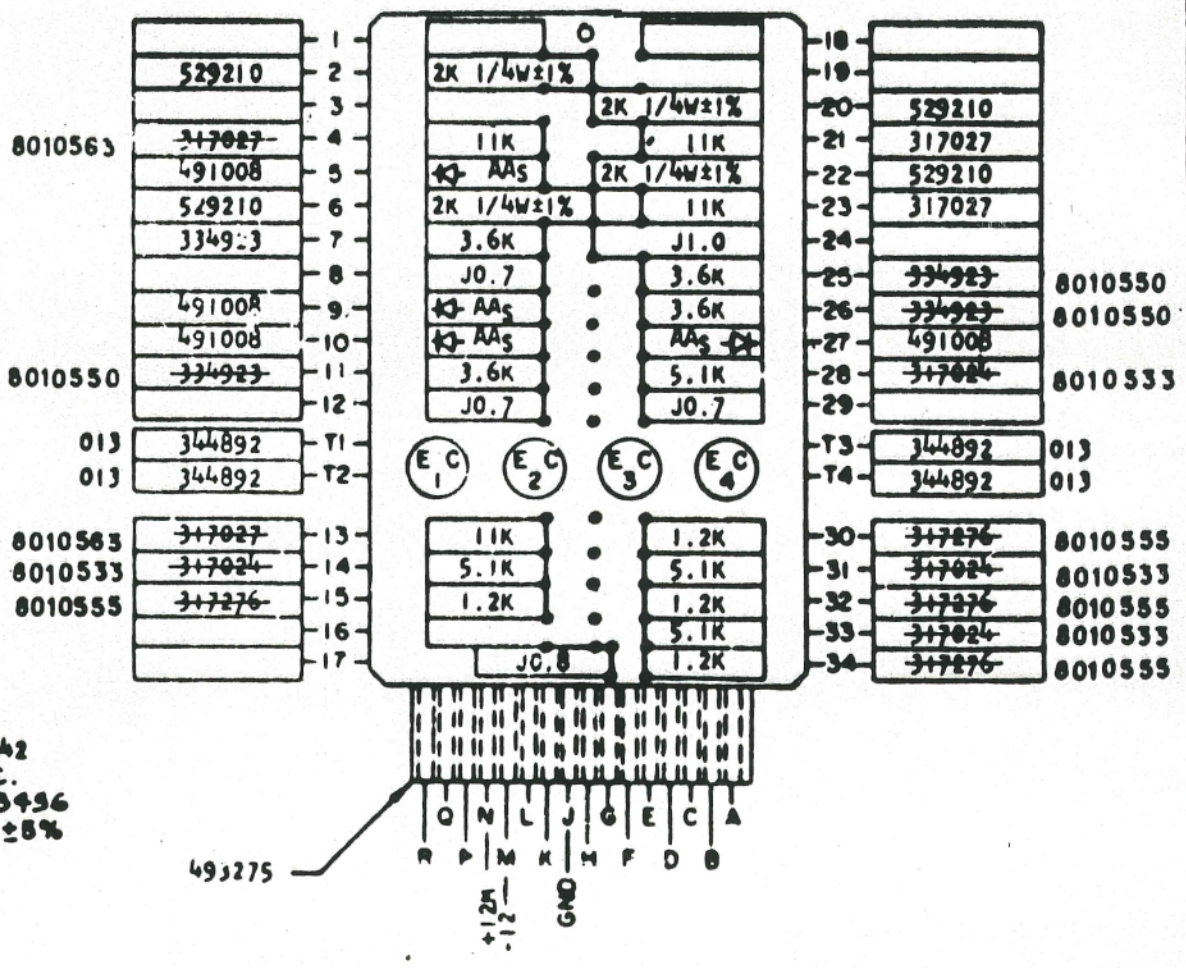
370642 APH

CODE NATURE 2.7045

ALLOY CONVERTER "S" LINE TO "P" LINE

370642





NOTES

X CIRCUIT MUST CONFORM TO ENGINEERING SPECIFICATION 892642

XI ASSEMBLE TO ENGINEERING SPEC. 2084692. 2093495 AND 2093496

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

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

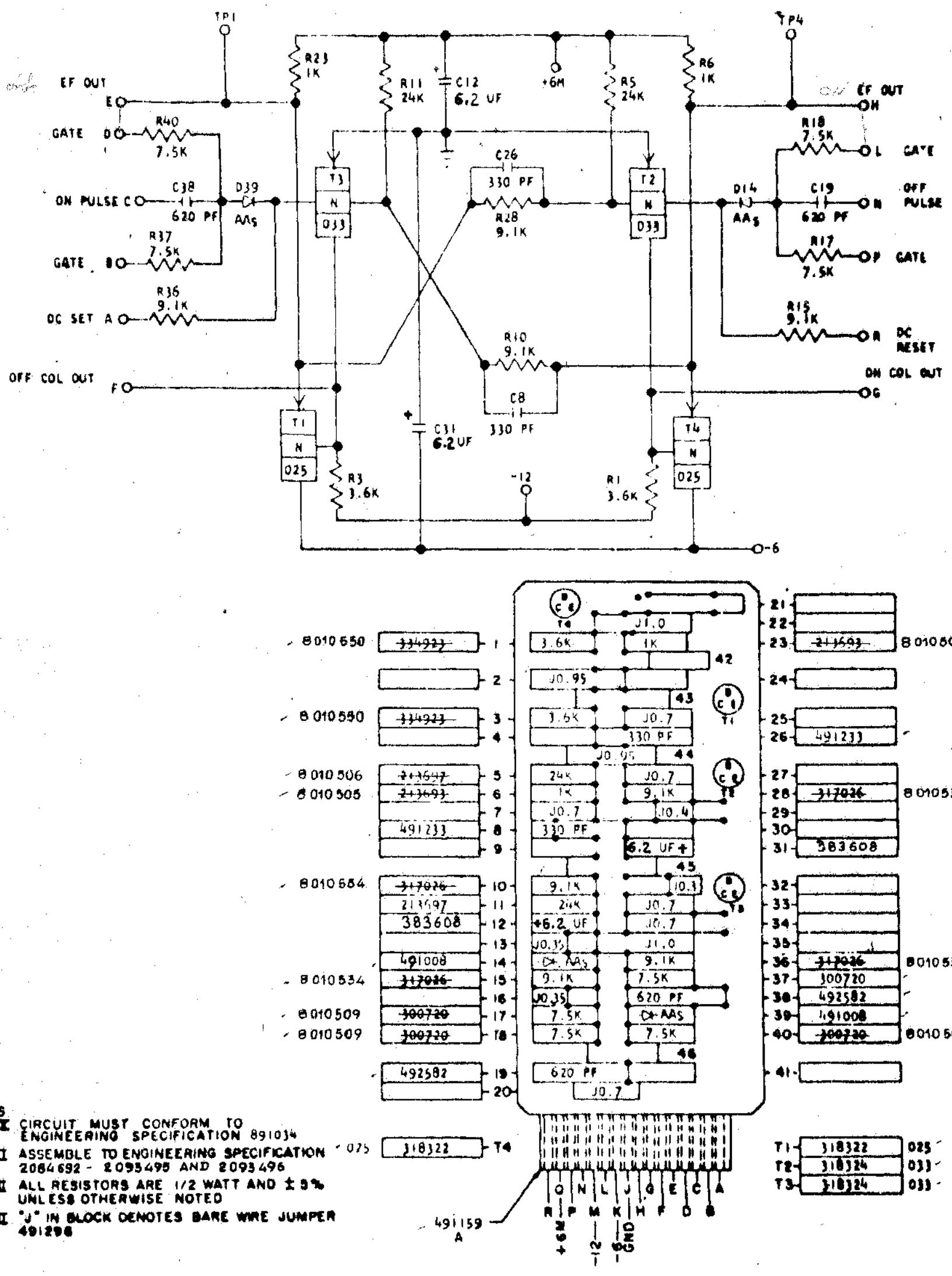
USE WITH SPECIFICATION 8010600

IBM					DATE	CHANG N°	DATE	CHANG N°	DATE	CHANG N°	DATE	CHANG N°	370642
NOM	CARD ASM TSTR ALLOY CONVERTER (N LINE TO S LINE)				15.6.61	EC112132)							
PROJET			TYPE	SMS	21.9.61	JT47022)							
DESSIN	DJG	11-9-61	ECHEL										
VERIF		19.9.61	CALQ		20.7.61								
	DK	19.9.61	VERIF	FAM	18 9.61								

371034

371034 | AR-- | CODE NATURE 2-7045

CTRL TRIGGER #1



NOTES

I CIRCUIT MUST CONFORM TO ENGINEERING SPECIFICATION 891034

II ASSEMBLE TO ENGINEERING SPECIFICATION 2084692 - 2095495 AND 2093496

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

IV "J" IN BLOCK DENOTES BARE WIRE JUMPER 491298

COMPONENT SIDE

HOLE PATTERN 493456

USE WITH SPECIFICATION 8010800

IBM		DATE	CHANG N°	DATE	CHANG N°	DATE	CHANG N°	DATE	CHANG N°
NOM	CARD ASM TSTR-CTRL TRIGGER #1	23-3-60	EC 108 583	17-1-61	EC 110 970	21.12.61	EC 113082	OCT. 1962	JT. 84689
PROJET	TYPE SMS	2-11-60	JT 47 005	11-5-61	JT 47 847	19.3.62	JT 81681		
DESSIN	TCHEL	20-5-60	EC 108 709	15-9-61	EC 112 660	24.5.62	JT 84952		
VERIF.	CALB 14-11-61	8-12-60	JT 47 996	30-11-61	JT 80 858	14.6.62	EC 114493		
APPR	VERIF					21.9.62	JT 82895		

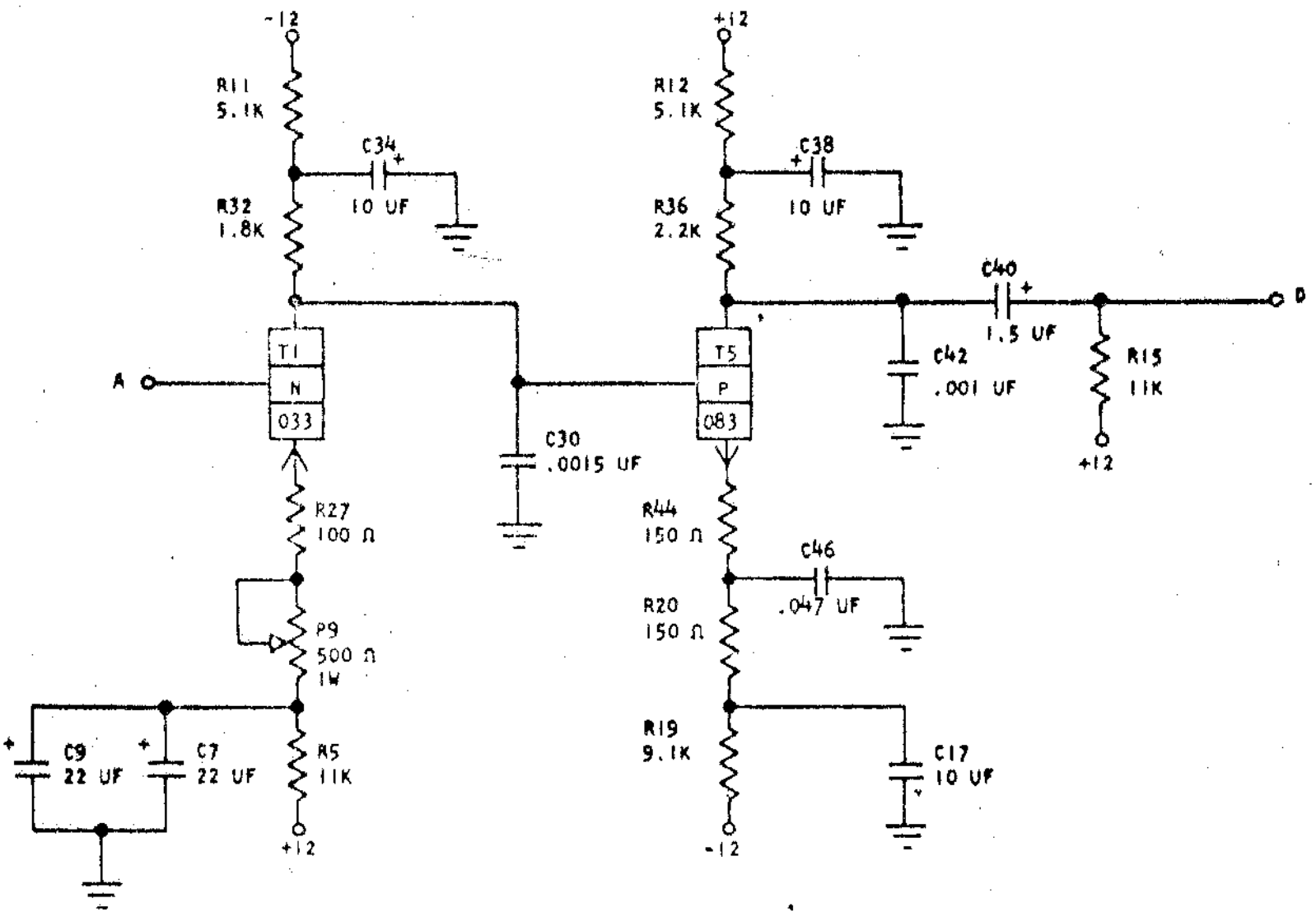
371034

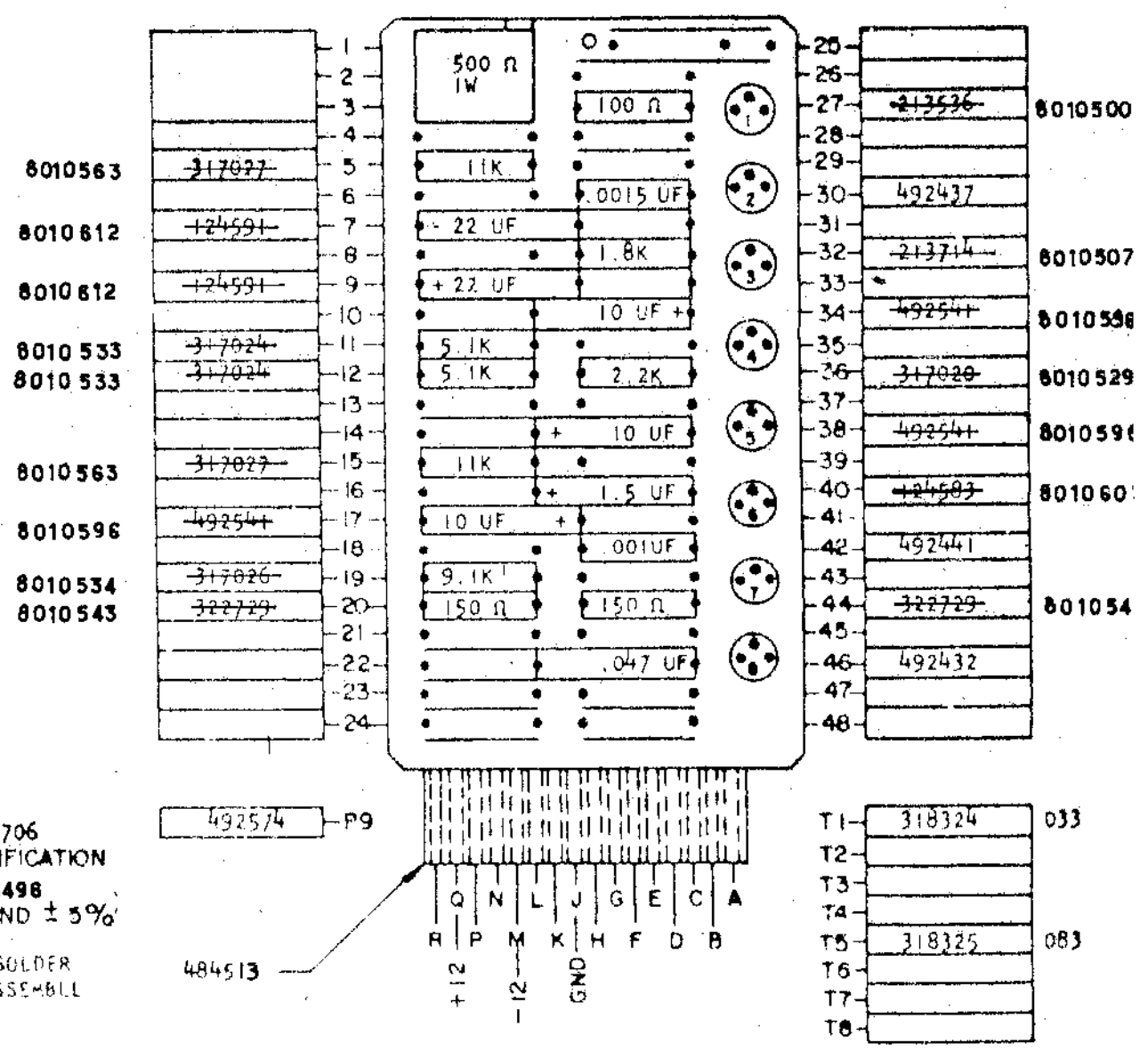
370706

370706 ARK-

CODE NATURE 2_7045

ALLOY - PRE AMP NO. 1 MAGNETIC TAPE





NOTES

X CIRCUIT MUST CONFORM TO ENGINEERING SPECIFICATION 892706

XI ASSEMBLE TO ENGINEERING SPECIFICATION 2084692 2093495 AND 2093498

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

XIII POTENTIOMETER TO BE MOUNTED AND SOLDER AFTER BOARD HAS BEEN CLEANED. ASSEMBLE WITH JEDEC PAD 491299

HOLE PATTERN 493457

USE WITH SPECIFICATION 8010600

IBM

NOM	CARD ASM TSTR ALLOY PRE AMP NO 1 MAGNETIC TAPE				
PROJECT			TYPE	SMS	
DESIGN	JJo	27-9-61	CKD		
SERIE			DATE	BOARD	27.9.61
APPR	RDC	11-10-61	VERIF	CLM	9.10.61

DATE	CHANG N°	DATE	CHANG N°	DATE	CHANG N°	DATE	CHANG N°
22-8-61	EC112444						
18.10.61	JT47023						

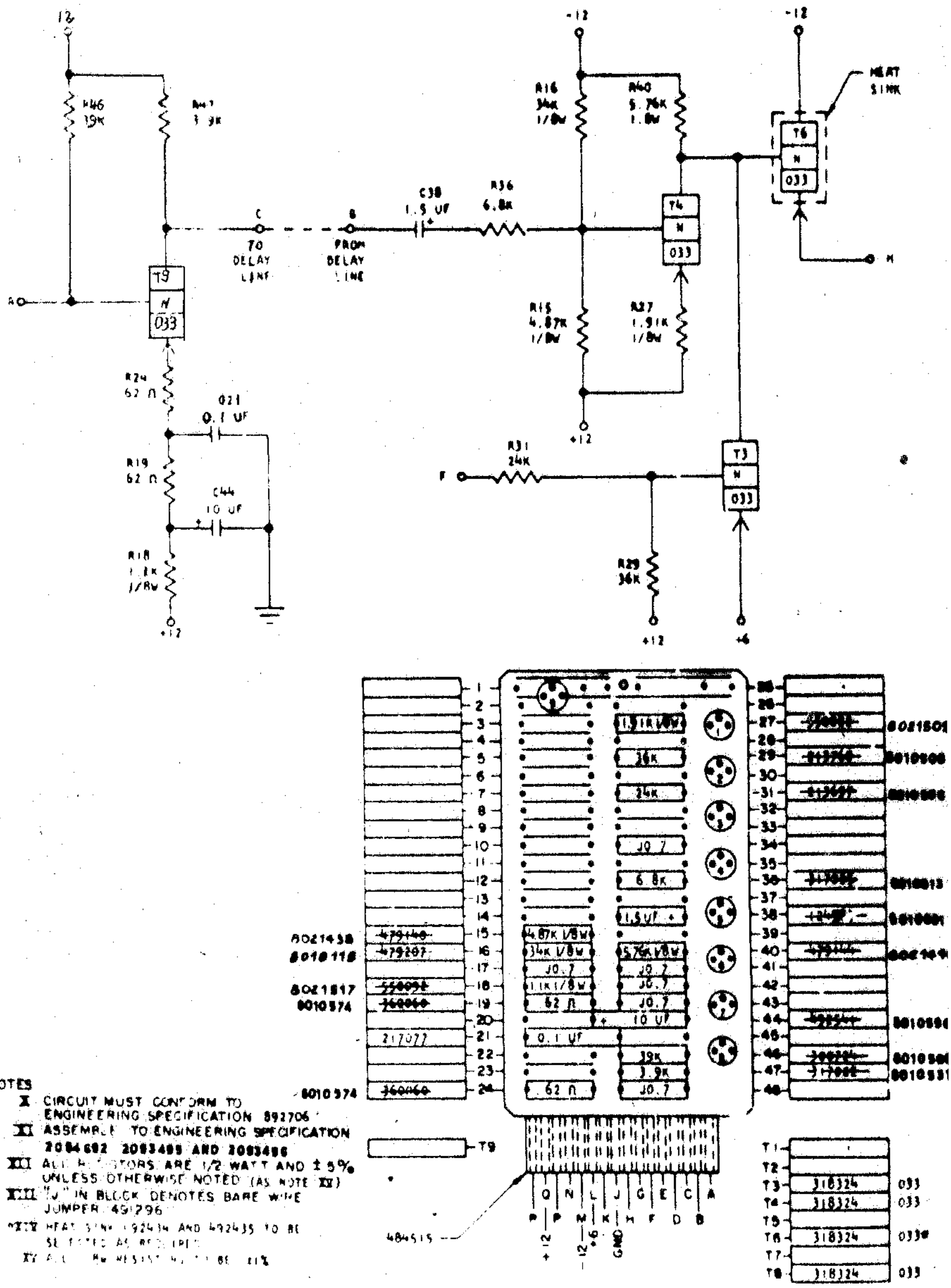
C/U/D

370707

370707 ARL

CODE MATURE 2-7045

ALLOY - PRE AMP NO. 2 MAGNETIC TAPE



NOTES

X CIRCUIT MUST CONFORM TO ENGINEERING SPECIFICATION 892706

XI ASSEMBLE TO ENGINEERING SPECIFICATION 2084602 2083489 AND 2083486

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

XIII "J" IN BLOCK DENOTES BARE WIRE JUMPER 491296

XIV HEAT SINK 492434 AND 492435 TO BE SELECTED AS REQUIRED

XV ALL RESISTANCES TO BE ±1%

8010574

NOTE PATTERN 493457

USE WITH SPECIFICATION 8010600

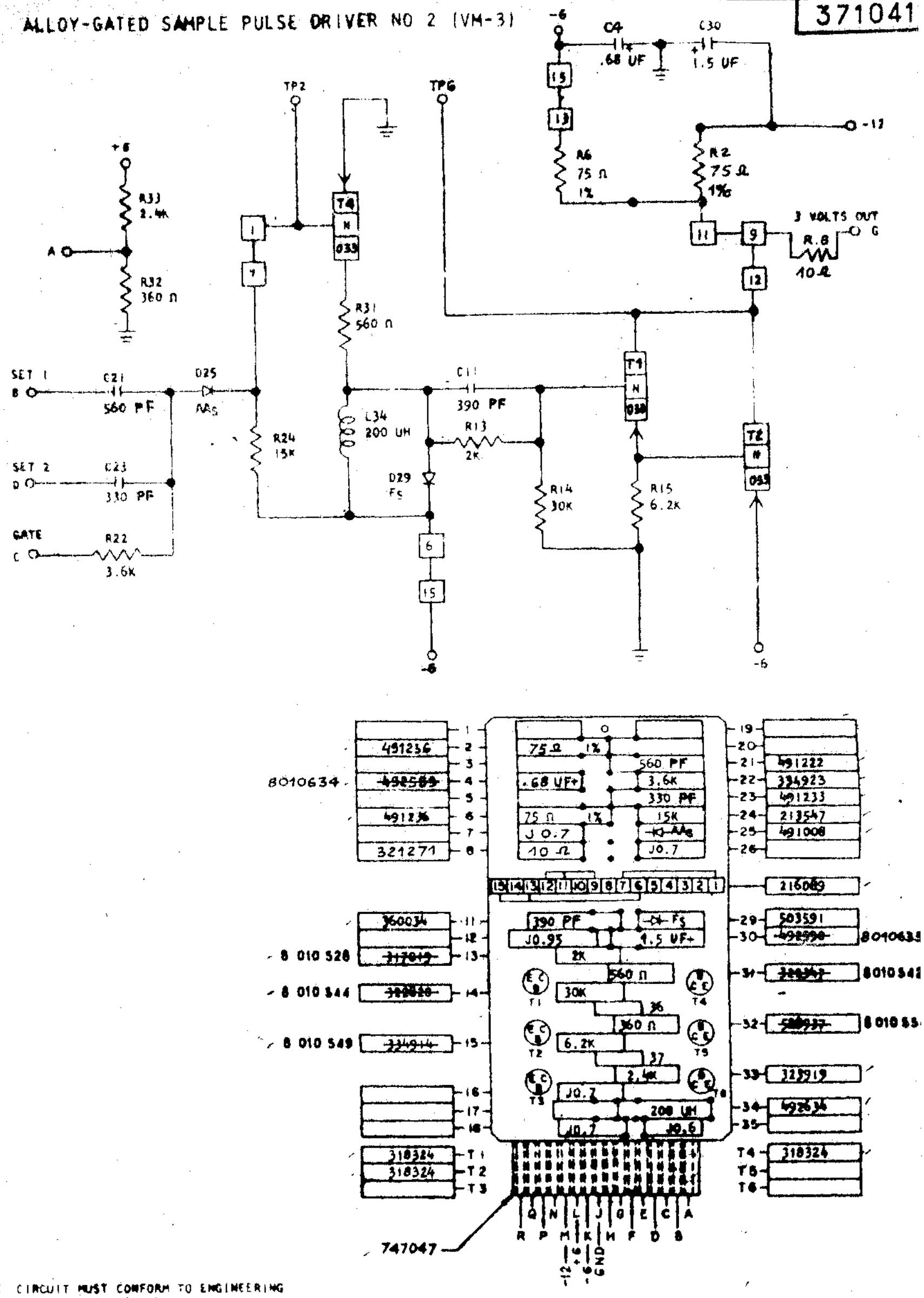
TITLE	DATE	CHANGE N°	DATE	CHANGE N°	DATE	CHANGE N°	DATE	CHANGE N°
CARD ASM TSTR ALLOY PRE AMP NO2 MAGNETIC TAPE	22 8 61	EC112444						
SMS	18-10-61	UT47023						
DRAWN 7 9 61	20-9-62	UT42993						

371041 AYWS

CODE NATURE 2.7045

ALLOY-GATED SAMPLE PULSE DRIVER NO 2 (VM-3)

371041



NOTES

I CIRCUIT MUST CONFORM TO ENGINEERING SPECIFICATION 891041

II ASSEMBLE TO ENGINEERING SPECIFICATION 2084692 - 2093495 AND 2093498

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

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

COMPONENT SIDE

HOLE PATTERN 491020

USE WITH SPECIFICATION 8010800

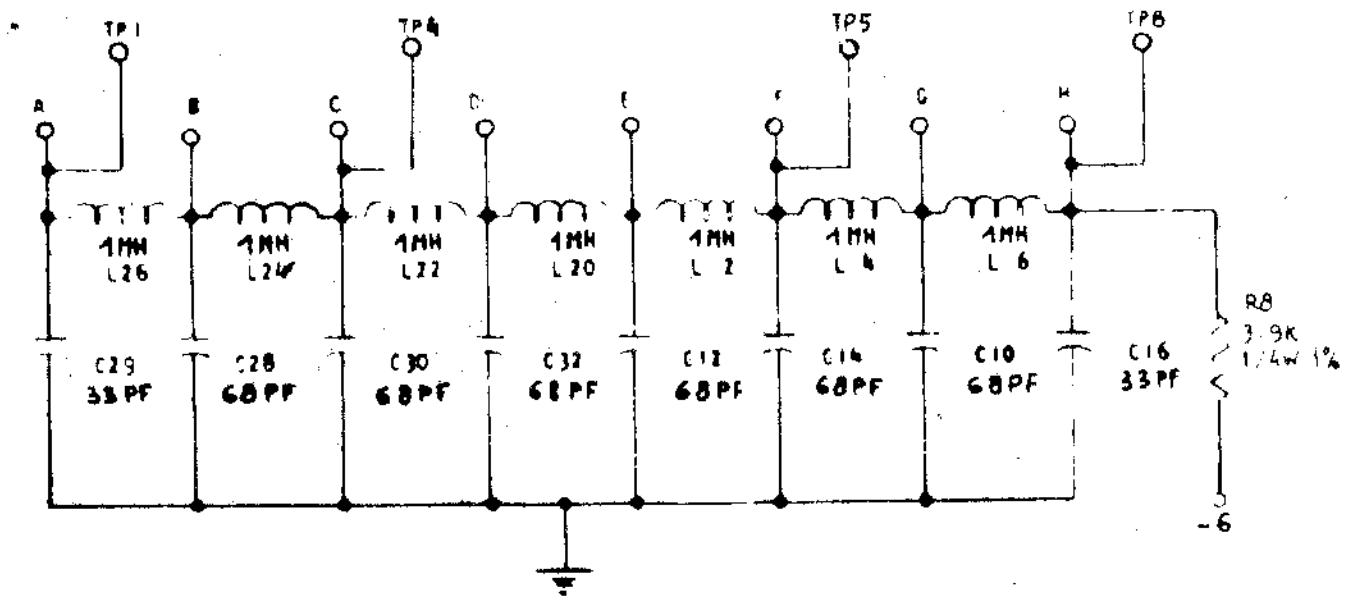
IBM					DATE	CHANG N°	DATE	CHANG N°	DATE	CHANG N°	DATE	CHANG N°
NOM	CARD ASM TSTR - ALLOY				30.11.58	EC 107 764	20-6-61	EC 112148				
	BATED S.P.D #2 (VM-3)				19.9.60	JT 47001	9-11-61	JT 48790				
PROJET		TYPE	SMS		13.12.60	EC 110 872		JT 80876				
DESSIN		ECHEL			6.3.61	JT 47622	28-11-62	EC 115866				
VERIF		CALQ	CLM	27.2.61			17 AVR 1963	JT 83721				
APPR.		VERIF										

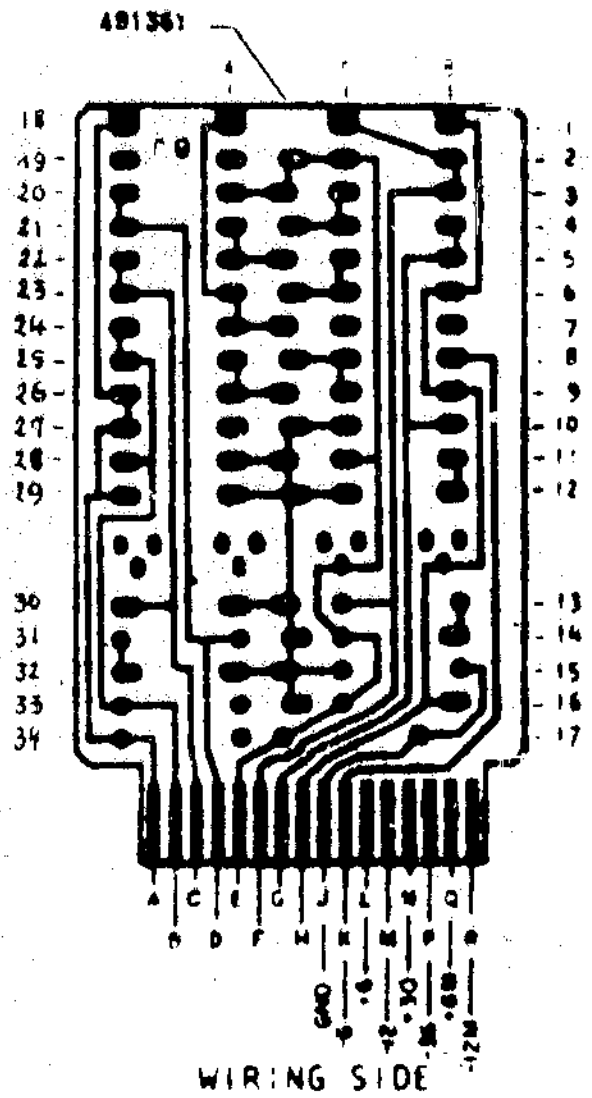
C/1 041

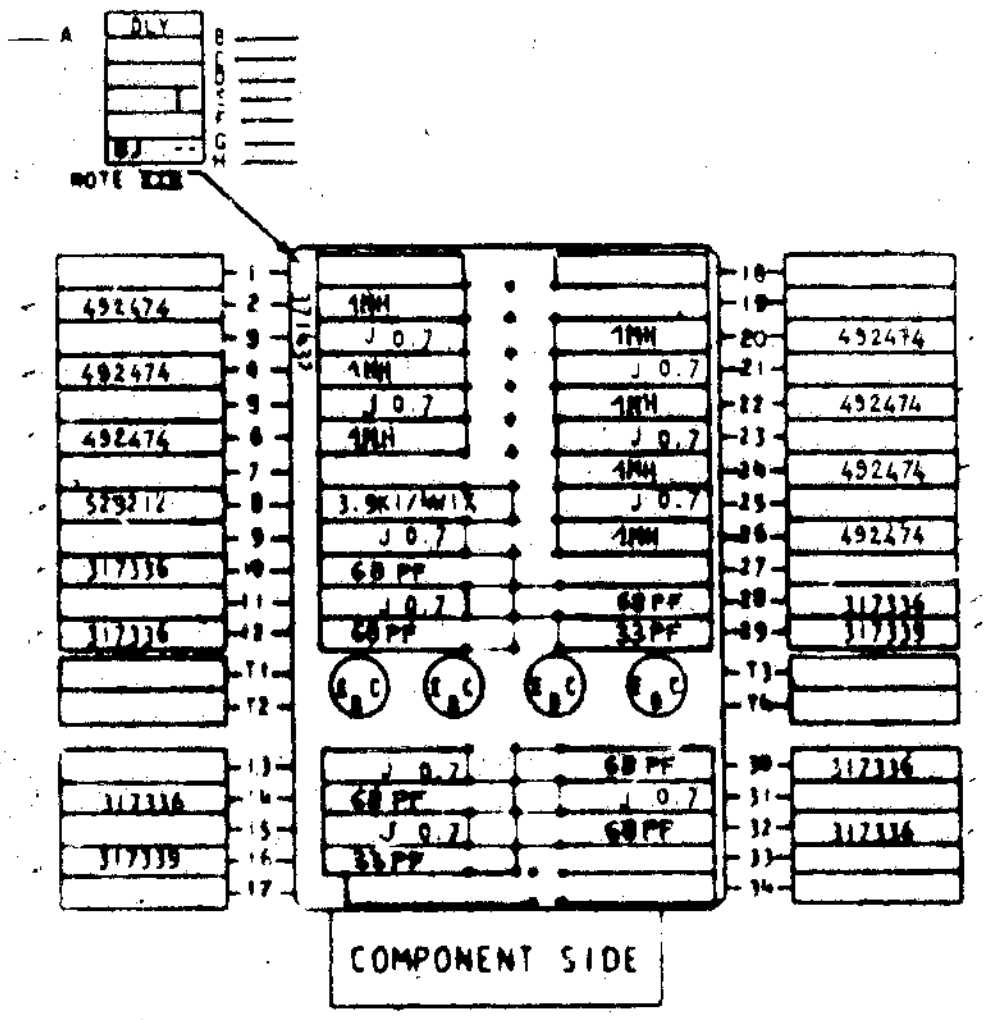
371432 B

COOK NATURE 2_20 45

ALLOY - DELAY LINE LUMPED







I ASSEMBLE TO ENGINEERING SPECIFICATION 2084692, 2093495 AND 2093496

II 491208 BARE WIRE FOR ALL JUMPERS

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

IIII "J" IN BLOCK DENOTES JUMPER

IIII PRINT REV PART NO IN BLACK 1/8 HIGH AND 1/16 FROM THE LEFT HAND EDGE ON THE COMPONENT SIDE OF THE CARD BETWEEN POSITIONS 1 AND 8

XII CIRCUIT MUST CONFORM TO ENGINEERING SPECIFICATION 891432

USE WITH SPECIFICATION 8010 000

IBM		DATE	CHANG. Nº	DATE	CHANG. Nº	DATE	CHANG Nº	DATE	CHANG Nº
NOM CARD ASM ISTR ALLOY DELAY LINE LUMPED		7.1.56	EC 105 661						
		28.8.60	JT 47802						
PROJET	TYPE		10.3.61	EC 111803					
DESSIN	ECHELLE								
	CALC		28.6.61	JT 48934					
VER	VERIF		24.6.62	JT 51460					
APP									

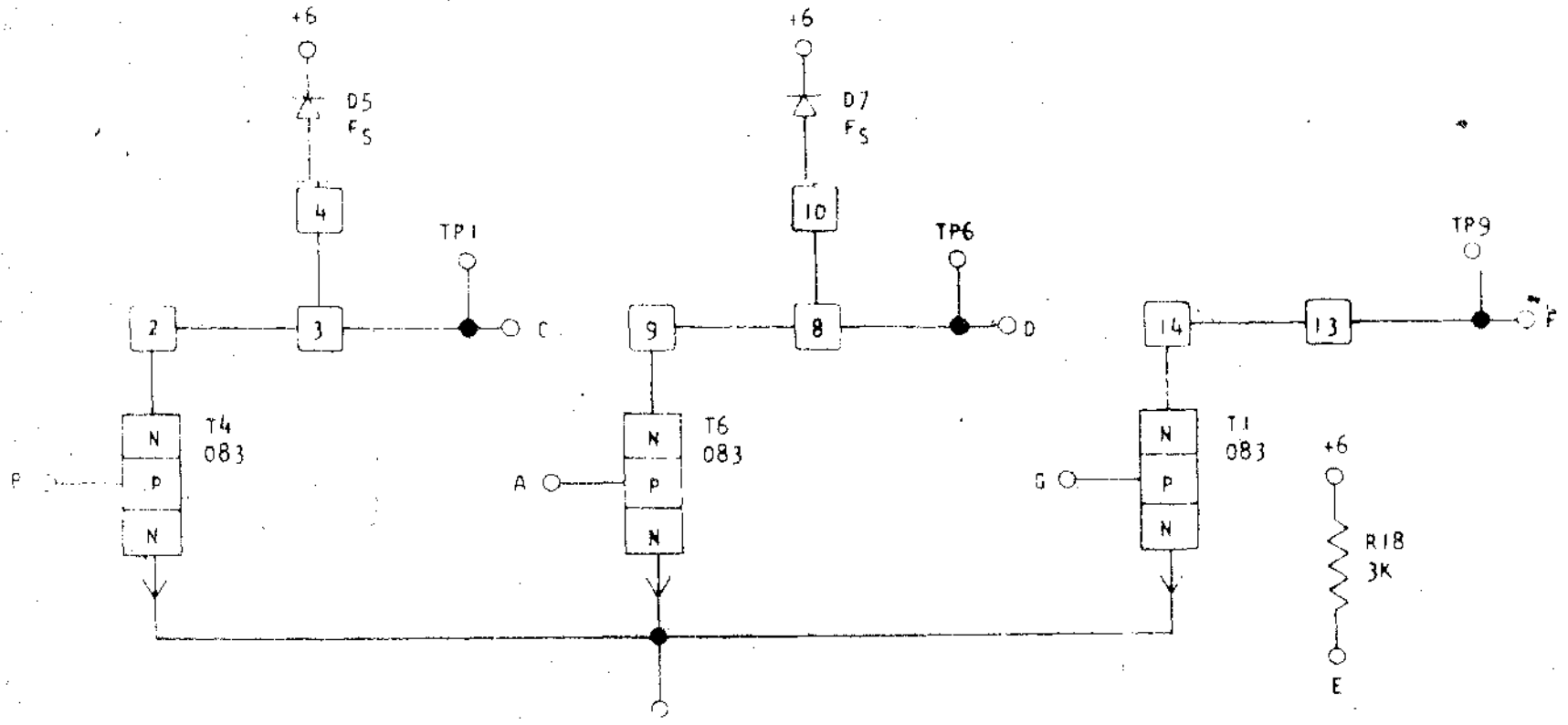
371432

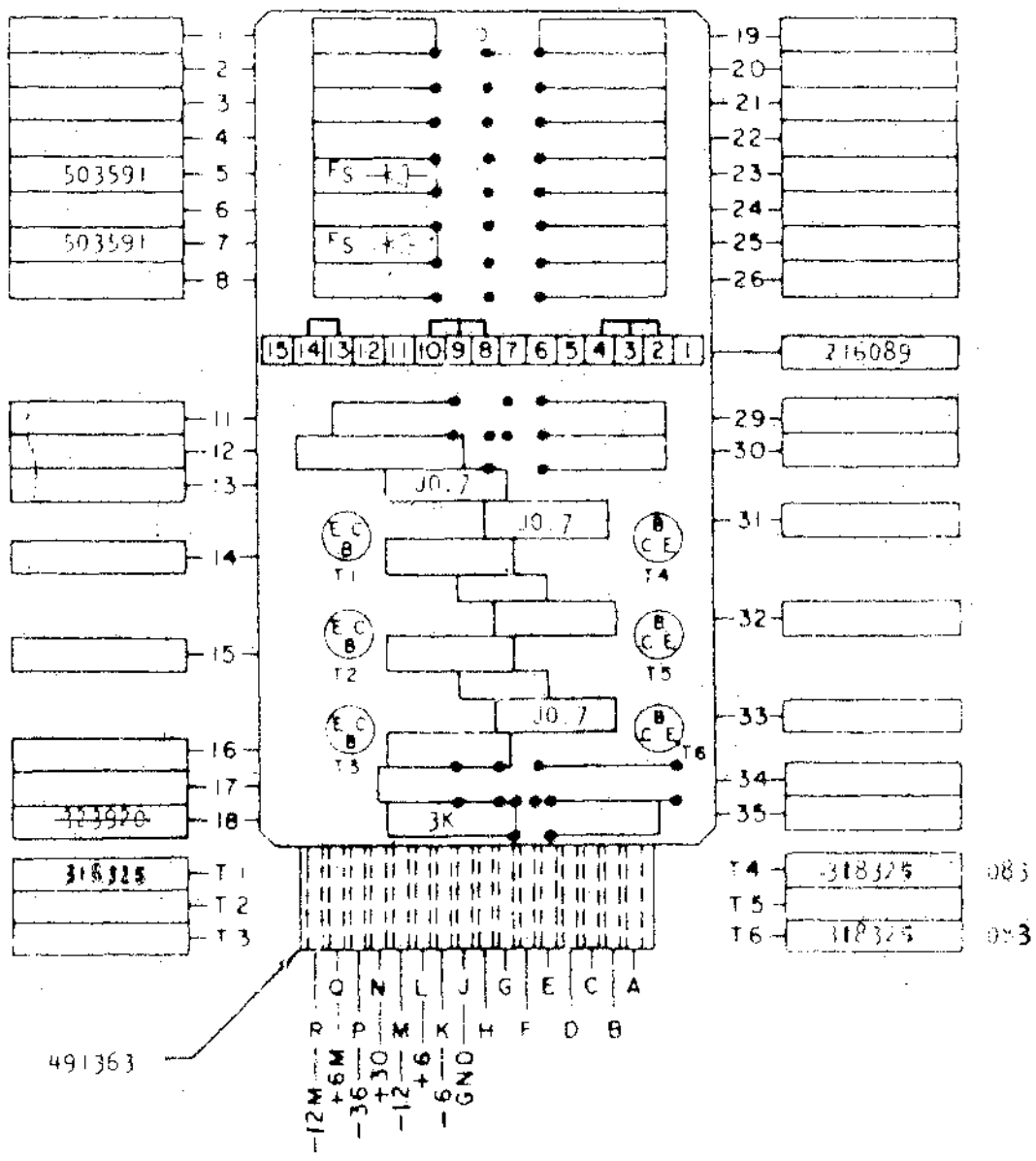
371433

371433 BKVZ

CODE NATURE 2_7045

ALLOY-DRIVER, PROLAY ONE READ GATE





NOTES

X TEST TO ENGINEERING SPECIFICATION 89433

XI ASSEMBLE TO ENGINEERING SPECIFICATION
2084692_2093495 AND 2093496

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

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

USE WITH SPECIFICATION 8010600

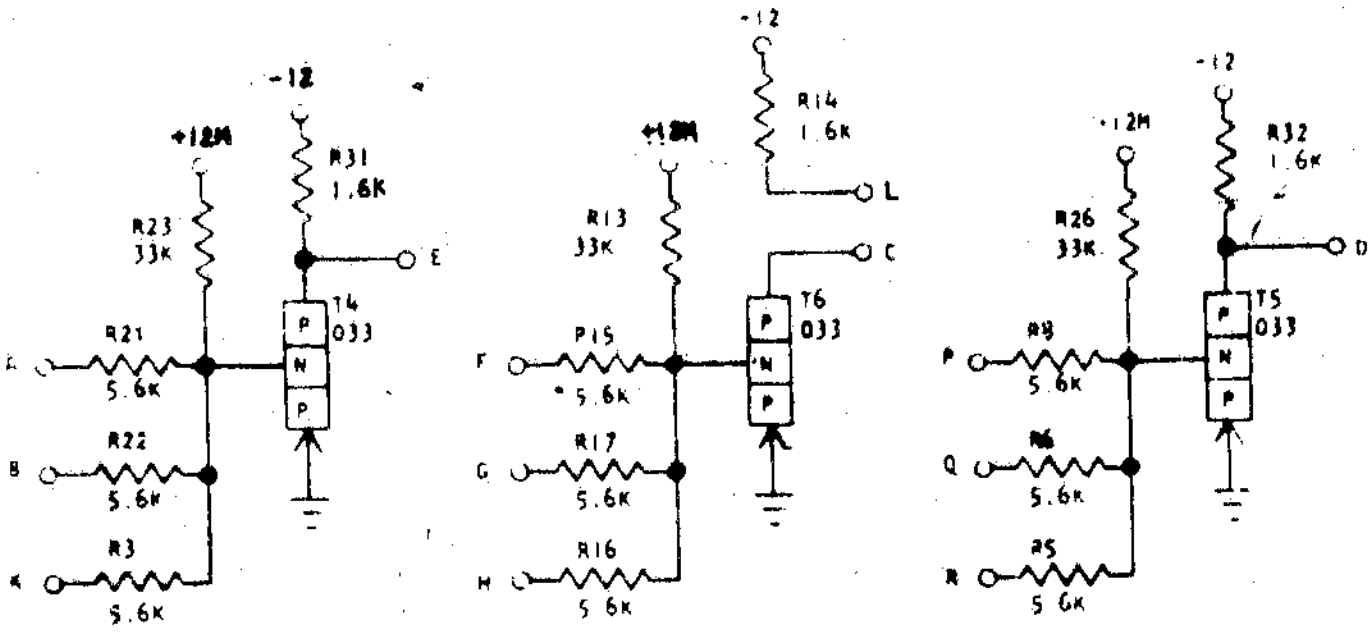
IBM					DATE	CHANG N°	DATE	CHANG N°	DATE	CHANG N°	DATE	CHANG N°
NOM	CARD ASM TSTR ALLOY DRIVER				27.4.60	EC 108823						
PROLAY ONE READ GATE					2.11.60	JT 47005						
PROJET			TYPE	SMS	16.6.60	EC 109191						
DESSIN	DJa	29-9-61	ECHEL		18-10-61	JT 48765						
VERIF.		11-10-61	CALQ	RDA 40 28.9.61								
APPR.	Poc		VERIF.	CLM 10-10-61								

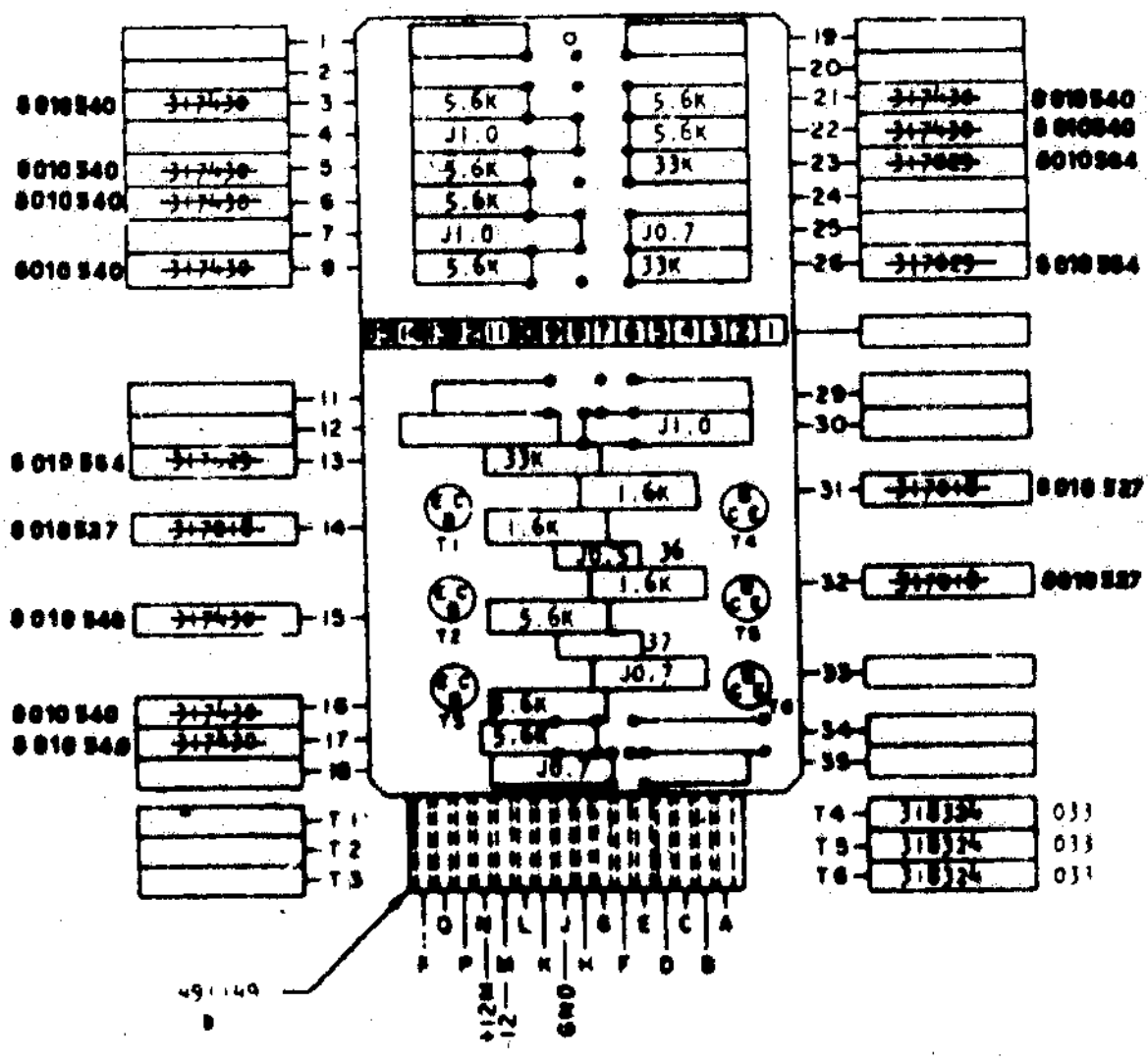
C/1400

371029	CD--
CODE MATURE	2.7045

CTRL _INVERTERS "N" TYPE

371029





COMPONENT SIDE

NOTES

I TEST TO ENGINEERING SPECIFICATION 99102J

II ASSEMBLE TO ENGINEERING SPECIFICATIONS
2004002 - 2003405 AND 2003000"

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

IIII "J" IN BLOCK DENOTES BARE WIRE JUMPER.
491295

USE WITH SPECIFICATION 8 810 600

IBM				DATE	CHANG N°	DATE	CHANG N°	DATE	CHANG N°	DATE	CHANG N°
MCH	CARD ASM TSTR. CTRL INVERTERS "N" TYPE			20.6.60	EC 109187						
		TYPE	SMS	24.2.61	JT 47013						
		ECHEL									
		CALC									
APPR.	EP 2361	VERIF	DJA 17-2-61								

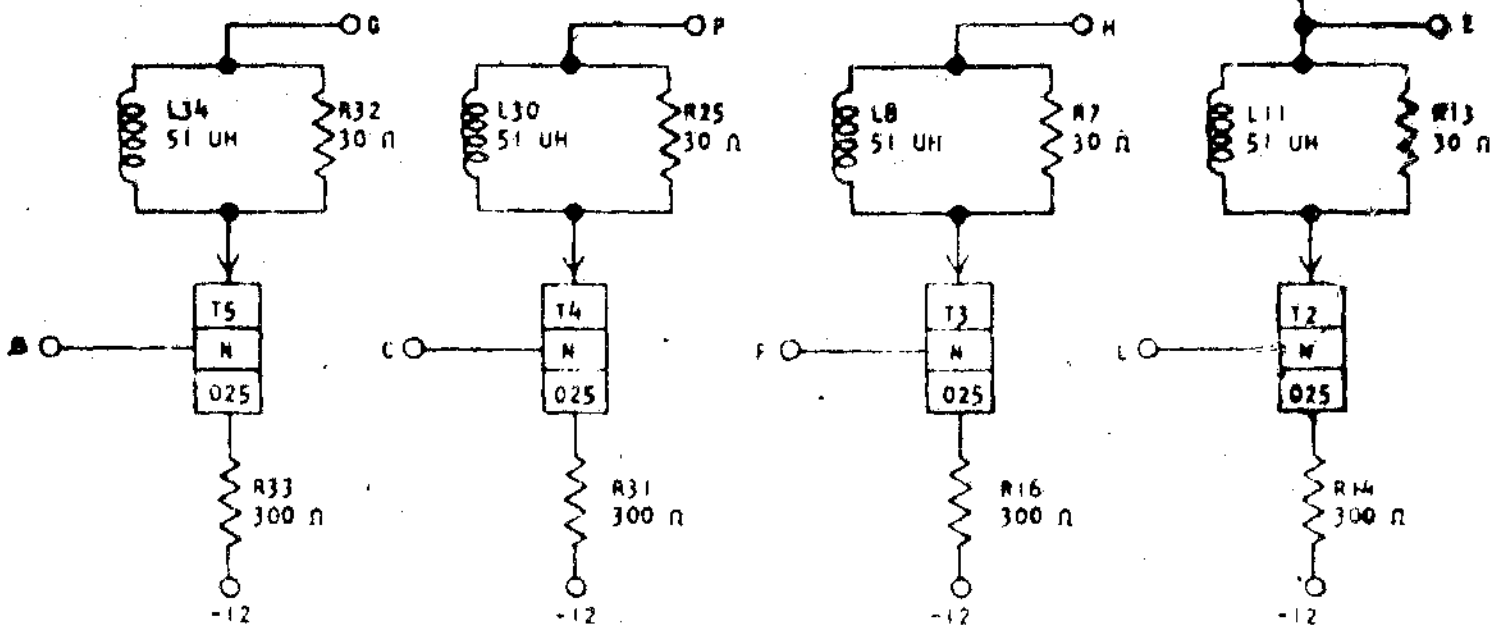
571 028

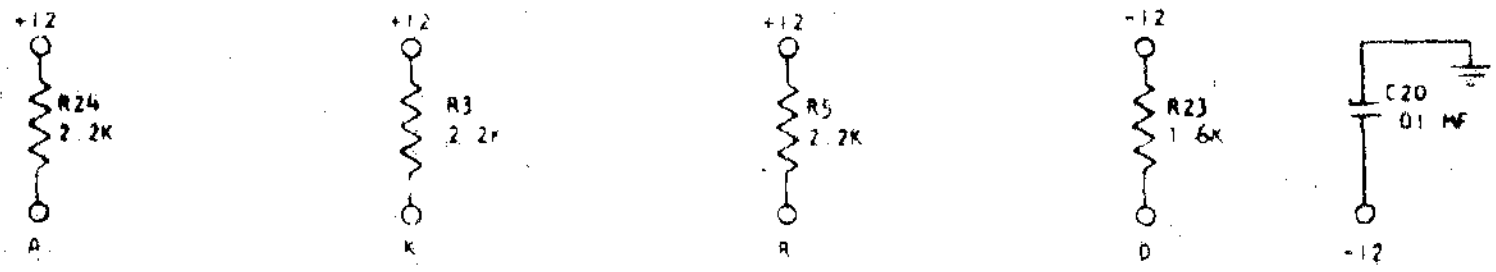
371032 CEYB

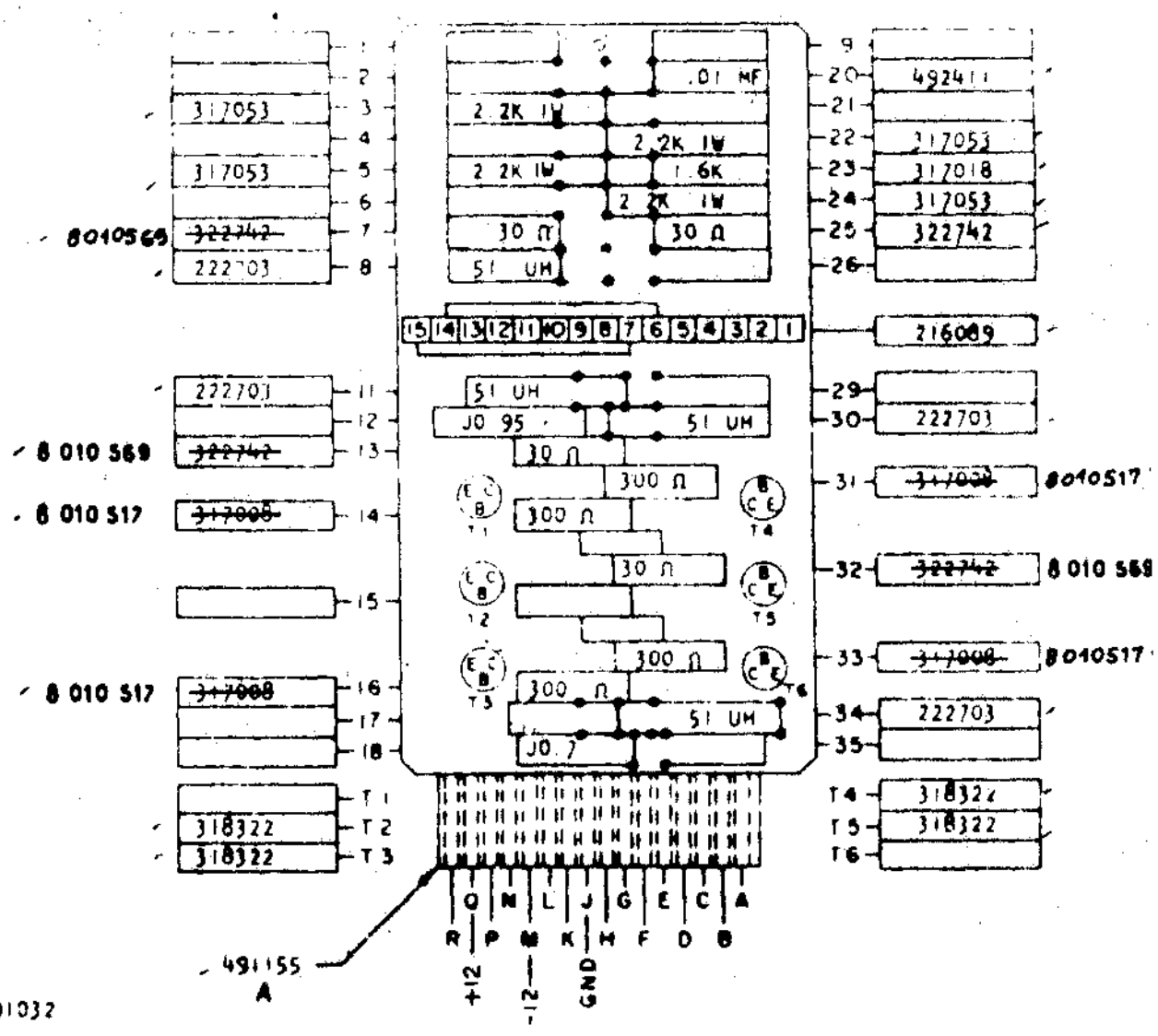
CODE NATURE 2.7045

CTRL - EMITTER FOLLOWER PNP

371032







NOTES

- X CIRCUIT MUST CONFORM TO ENGINEERING SPECIFICATION 891032
- XI ASSEMBLE TO ENGINEERING SPECIFICATION 2 084 692 , 2 093 495 AND 2 093 496
- XII ALL RESISTORS ARE 1/2 WATT AND ±5% UNLESS OTHERWISE NOTED
- XIII "J" IN BLOCK DENOTES BARE WIRE JUMPER, 491296

COMPONENT SIDE

USE WITH SPECIFICATION 8 010 800

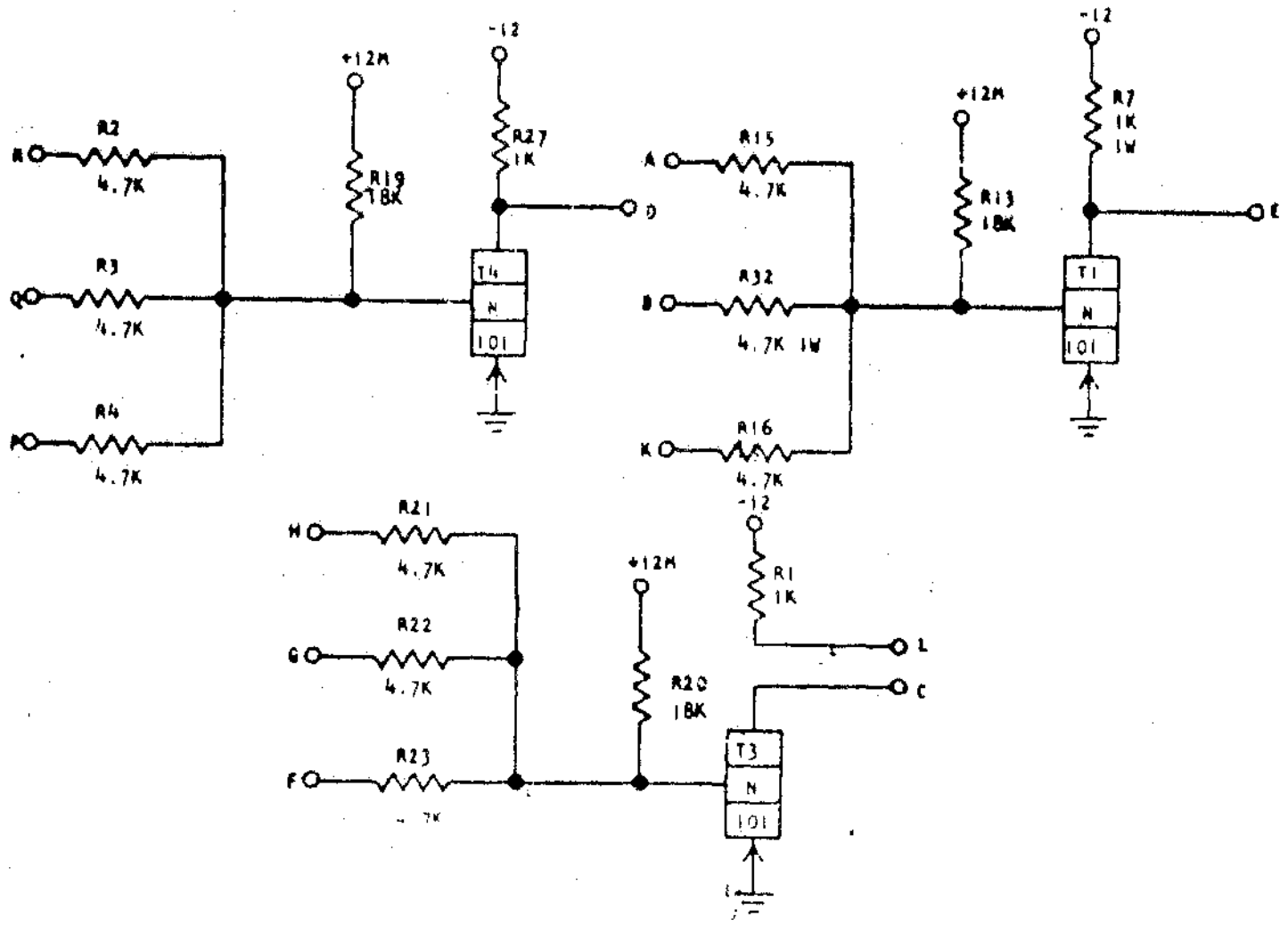
IBM					DATE	CHANG N°	DATE	CHANG N°	DATE	CHANG N°	DATE	CHANG N°	371032
NOM	CARD ASM TSTR CTRL EMITTER FOLLOWER PNP				8.11.58	EC105 502	7.6.61	JT 48 923					
PROJET			TYPE	SMS	19.9.60	JT 47001	28.1.62	JT 80876					
DESSIN			ECHEL		14.12.60	EC110 502							
VERIF.			CALQ	CLM 23.2.61	1.3.61	JT 47621							
APPR			VERIF		27.1.61	EC 111 089							

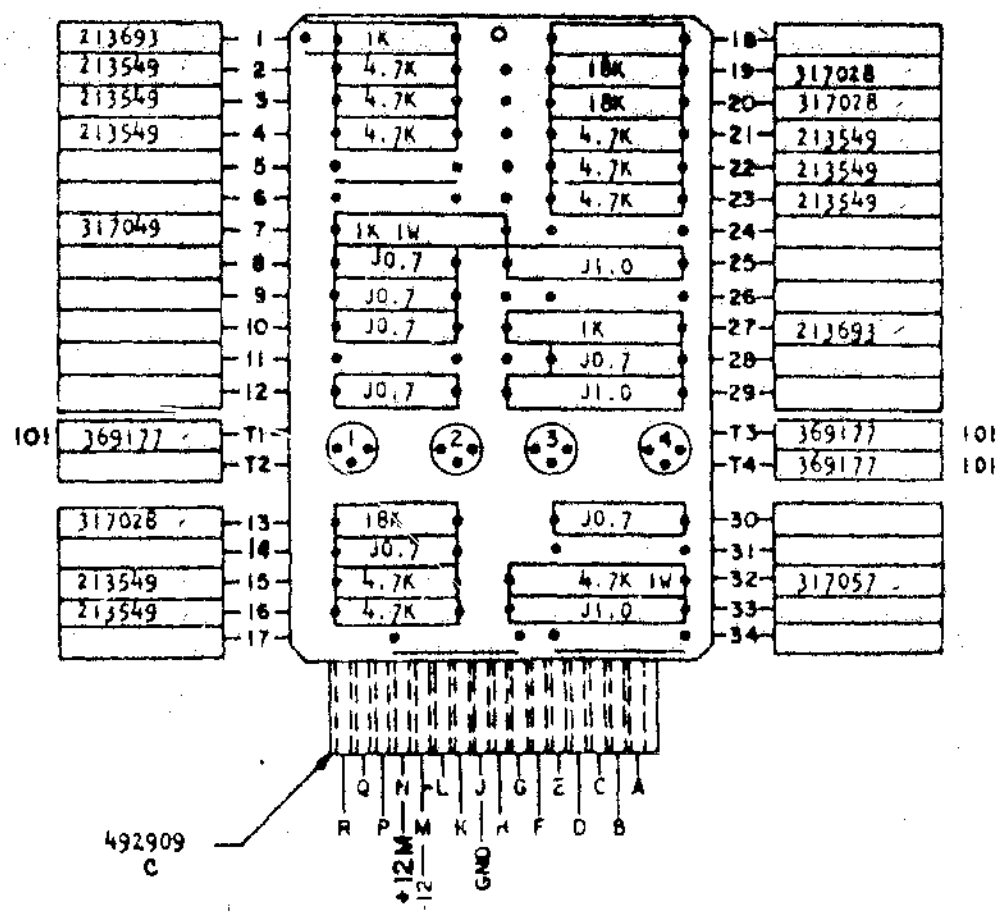
371951

371951 D A C-

CODE NATURE 2.7045

SDTRL - 3 WAY INVERTER NUMBER 2





NOTES

X CIRCUIT MUST CONFORM TO ENGINEERING SPECIFICATION 892367

XI ASSEMBLE TO ENGINEERING SPECIFICATION 2084692-2095495 AND 2095496

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

XIII "J" IN BLOCK DENOTES BARE WIRE JUMPER 491296

XIV

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

HOLE PATTERN 491529

USE WITH SPECIFICATION 8D10800

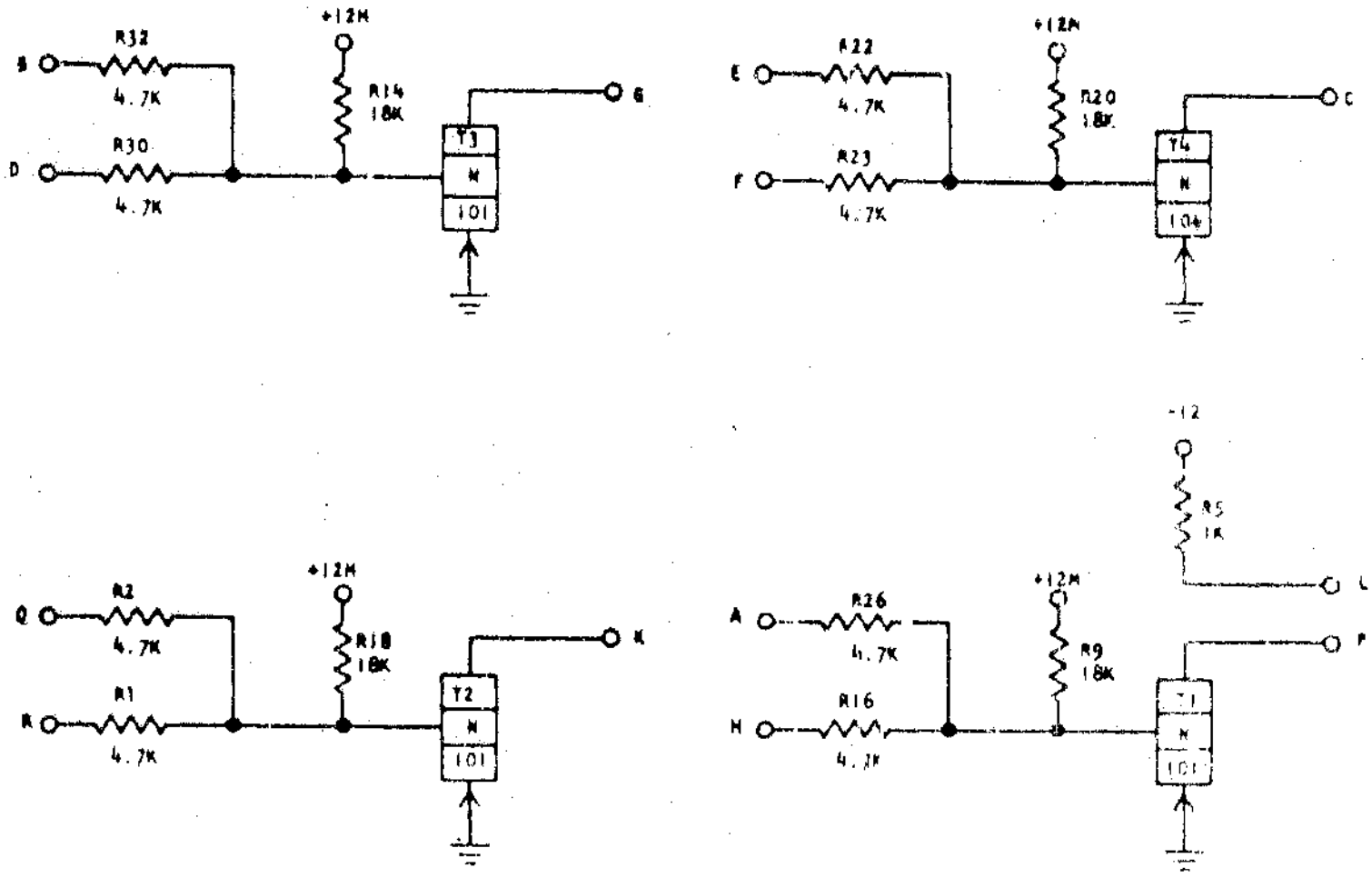
IBM						DATE	CHANG N°	DATE	CHANG N°	DATE	CHANG N°	DATE	CHANG N°
NOM	CARD ASM TSTR-SDTRL-3 WAY INVERTER NUMBER 2					21.6.60	EC 108572	23.5.62	EC 113942				
PROJET			TYPE	SMS		24.2.61	JT 47 013	20.9.62	JT 82893				
DESSIN	JF	4.9.62	CHEF			25.5.61	EC 112019	11-9-62	EC 113628				
VERIF.			CALC			21-6-61	JT 48833	27 NOV 1962	JT 82869				
APPR			VERIF										

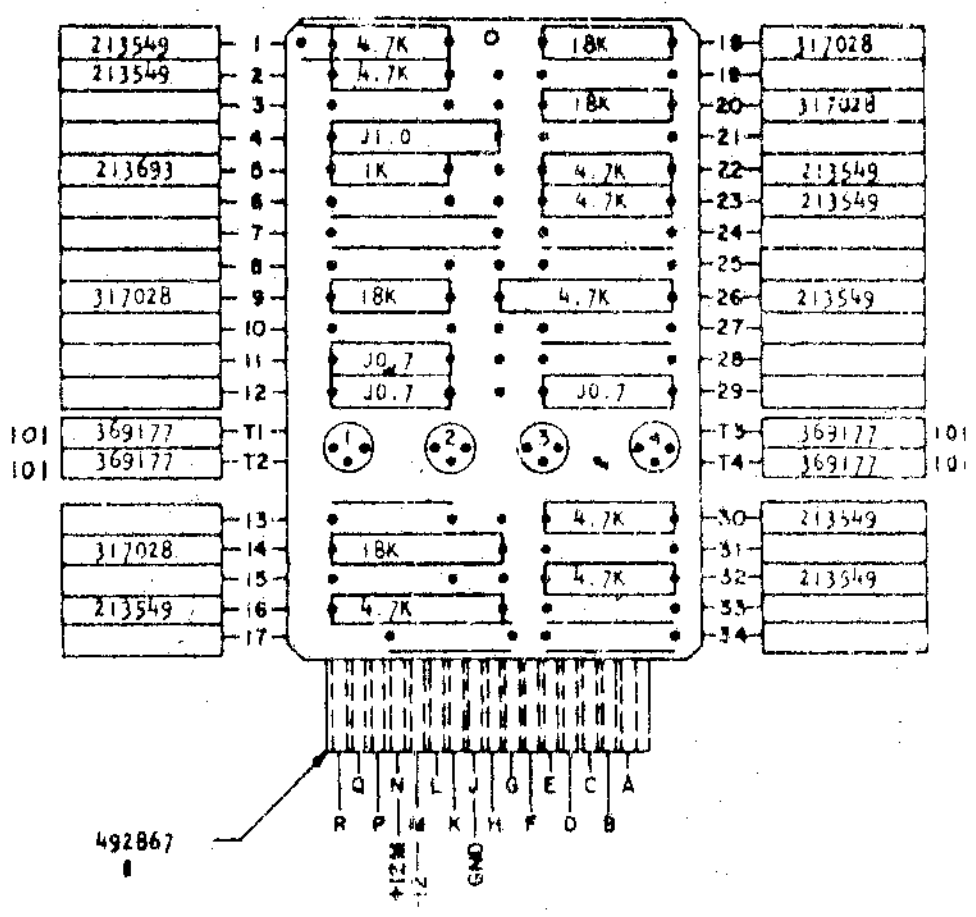
370084

370084 DAX-

CODE NATURE 2.7045

SDTRL-INVERTER, 2 WAY, UNLOADED COLLECTORS





NOTES

X CIRCUIT MUST CONFORM TO ENGINEERING SPECIFICATION 892366

XI ASSEMBLE TO ENGINEERING SPECIFICATION 2084692-2093495 AND 2093496

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

XIII "J" IN BLOCK DENOTES BARE WIRE JUMPER 491296

XIV

XV POSITIONS T1, T2, T3, T4, ARE TO-18 TRANSISTORS AND MAY BE MOUNTED IN .100 OR .200 PIN CIRCLE HOLES. USE TRANSISTOR SPACER 483070 FOR .200 PIN CIRCLE MOUNTING

HOLE PATTERN 491329

USE WITH SPECIFICATION 8010806

IBM						DATE	CHANG N°	DATE	CHANG N°	DATE	CHANG N°	DATE	CHANG N°
NOM	CARD ASM TSTR -SDTRL INVERTER, 2 WAY, UNLOADED COLLECTORS					25-8-60	EC 109878	23-5-62	EC 113 942				
PROJET			TYPE	SMS		30-1-61	JT 47010	20-9-62	JT 82893				
DESSIN	[illegible]	4-9-62	ECHEL			25-5-61	EC 112 019	28-9-62	EC 114364				
VERIF.			CALQ			28-9-61	JT 48827	9 JAN 1963	JT 82759				
APPR			VERIF										

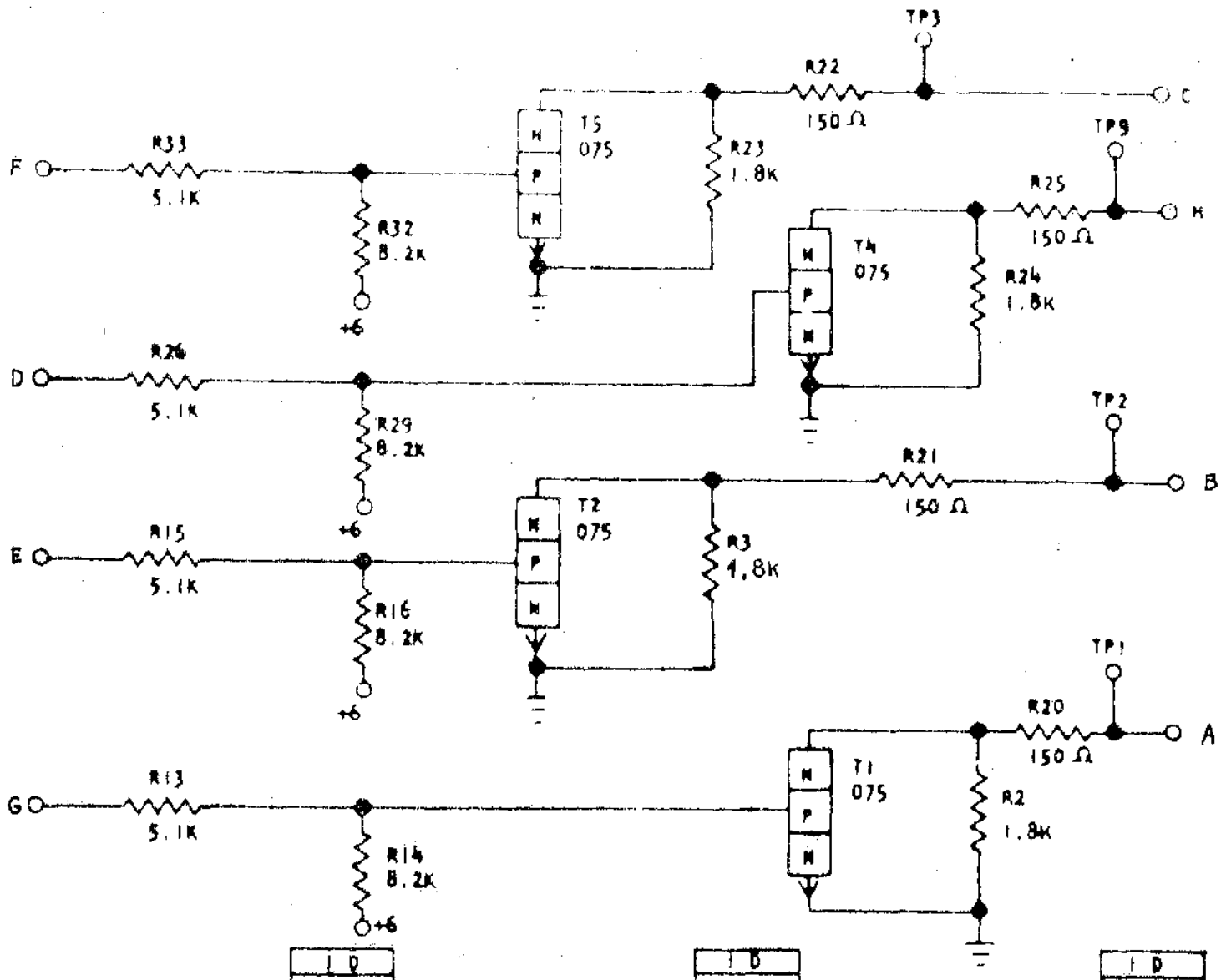
370084

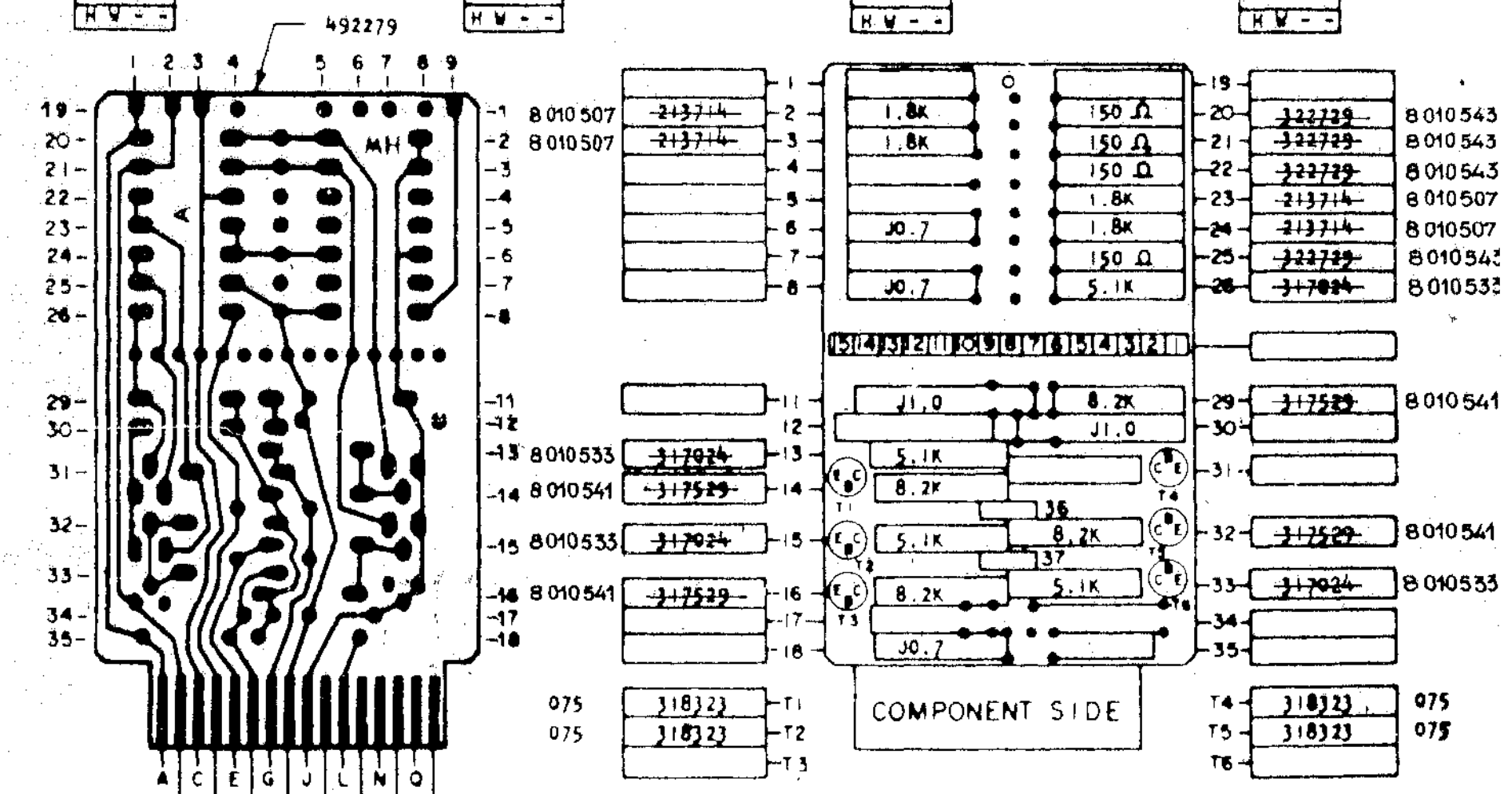
371 048

371 048 H W —

CODE NATURE 2.7045

ALLOY-INDICATORS, LAMP, VM





NOTES

I ASSEMBLE TO ENGINEERING SPECIFICATION- 2084682, 2093495 AND 2093496
II "J" IN BLOCK DENOTES BARE WIRE JUMPER, 491296
III ALL RESISTORS ARE 1/2 WATT AND ±5% UNLESS OTHERWISE NOTED
IIII ASSEMBLE WITH JEDEC TRANSISTOR
IIIV TEST TO ENGINEERING SPECIFICATION 891048

USE WITH SPECIFICATION 8 010 500

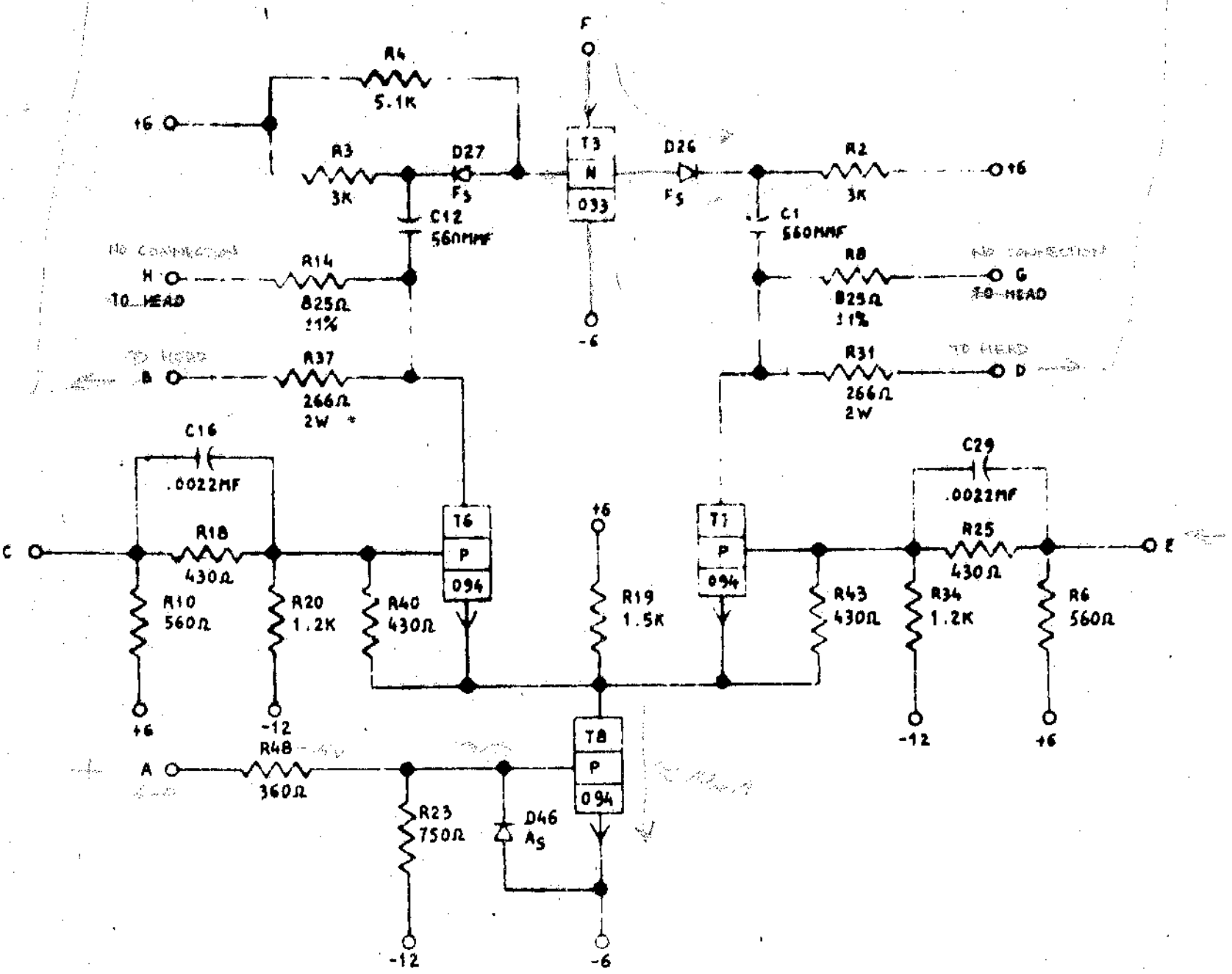
IBM					DATE	CHANG N°	DATE	CHANG N°	DATE	CHANG N°	DATE	CHANG N°
NOM	CARD ASM TSTR -ALLOY-				25-2-59	EC 105 935						
	INDICATOR, LAMP, VM				18.10.61	JT 47029						
PROJET			TYPE	SMS								
DESSIN	TJa	21-9-61	SCHEL									
VERIF.			CALQ	RD 46 20-9-61								
APPR	DDC	11-10	VERIF	C 10.10.61								

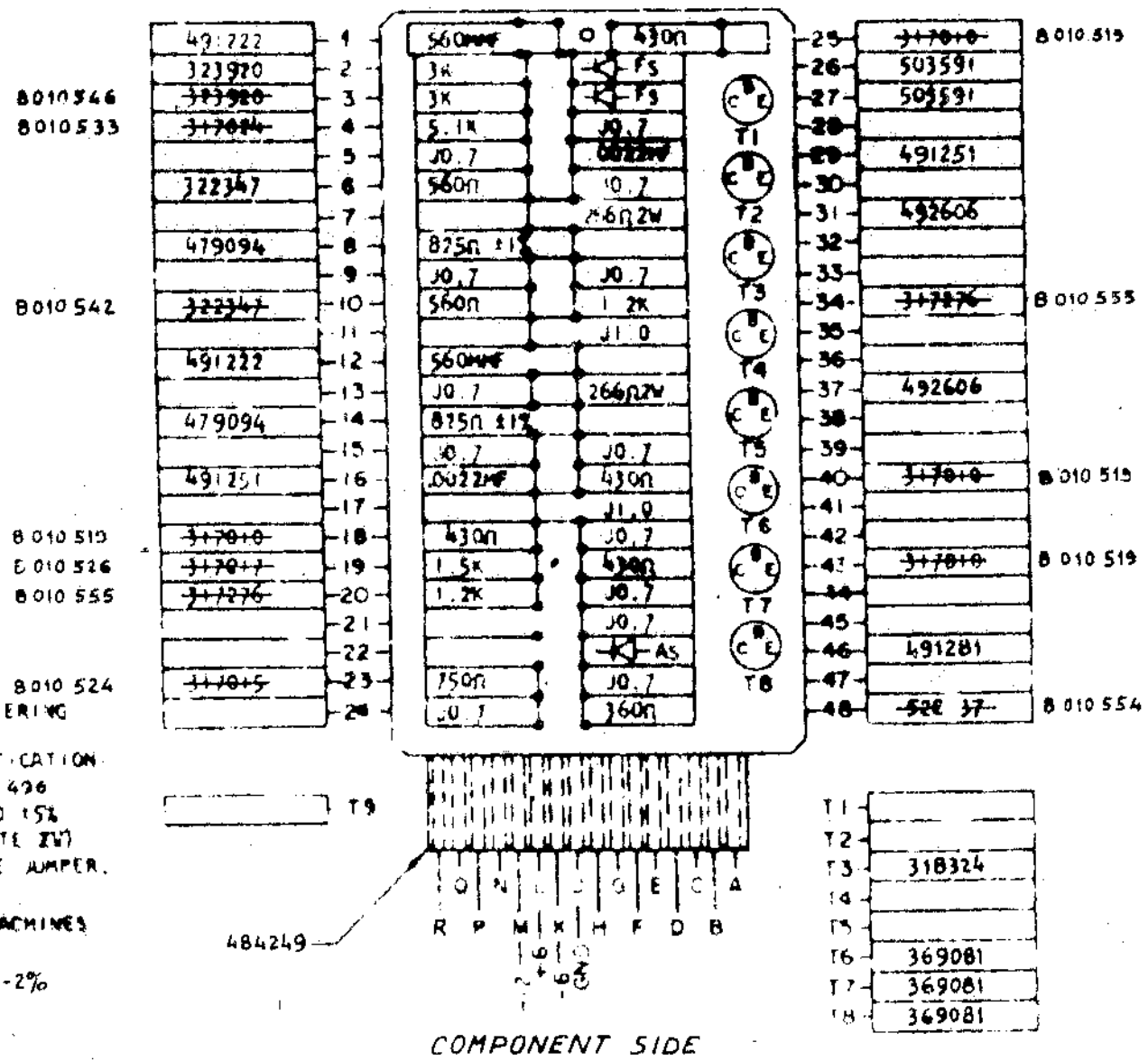
371 048

371674

CODE	371674
NATURE	LZ--
	2.7045

ALLOY-HEAD DRIVER AND ECHO PULSE AMPLIFIER





COMPONENT SIDE

NOTES

I CIRCUIT MUST CONFORM TO ENGINEERING SPECIFICATION 891674.

II ASSEMBLE TO ENGINEERING SPECIFICATION 2084692, 2093495 AND 2093496

III ALL RESISTORS ARE 1/2 WATT AND 5% UNLESS OTHERWISE NOTED (AS NOTE IV)

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

IIIII RESTRICTED TO 729 II AND III MACHINES FOR APPLICATION REASONS

IV ALL 2 WATT RESISTORS ARE +1%, -2%

USE WITH SPECIFICATION 8010600

IBM						DATE	CHANG N°	DATE	CHANG N°	DATE	CHANG N°	DATE	CHANG N°
NOM	CARD ASS TSTR-ALLOY HD DR AND ECHO PULSE AMPLIFIER					18.12.59	EC 107934						
PROJET			TYPE	SMS		19.9.60	JT 47001						
DESSIN			ECHEL			28.12.60	JT47995						
VERIF.	[illegible] 4.F.61		CALQ			9.2.61	EC 111235						
APPR	BVC	16.7.61	VERIF	CLM	21.6.61	28.6.61	JT 48532						

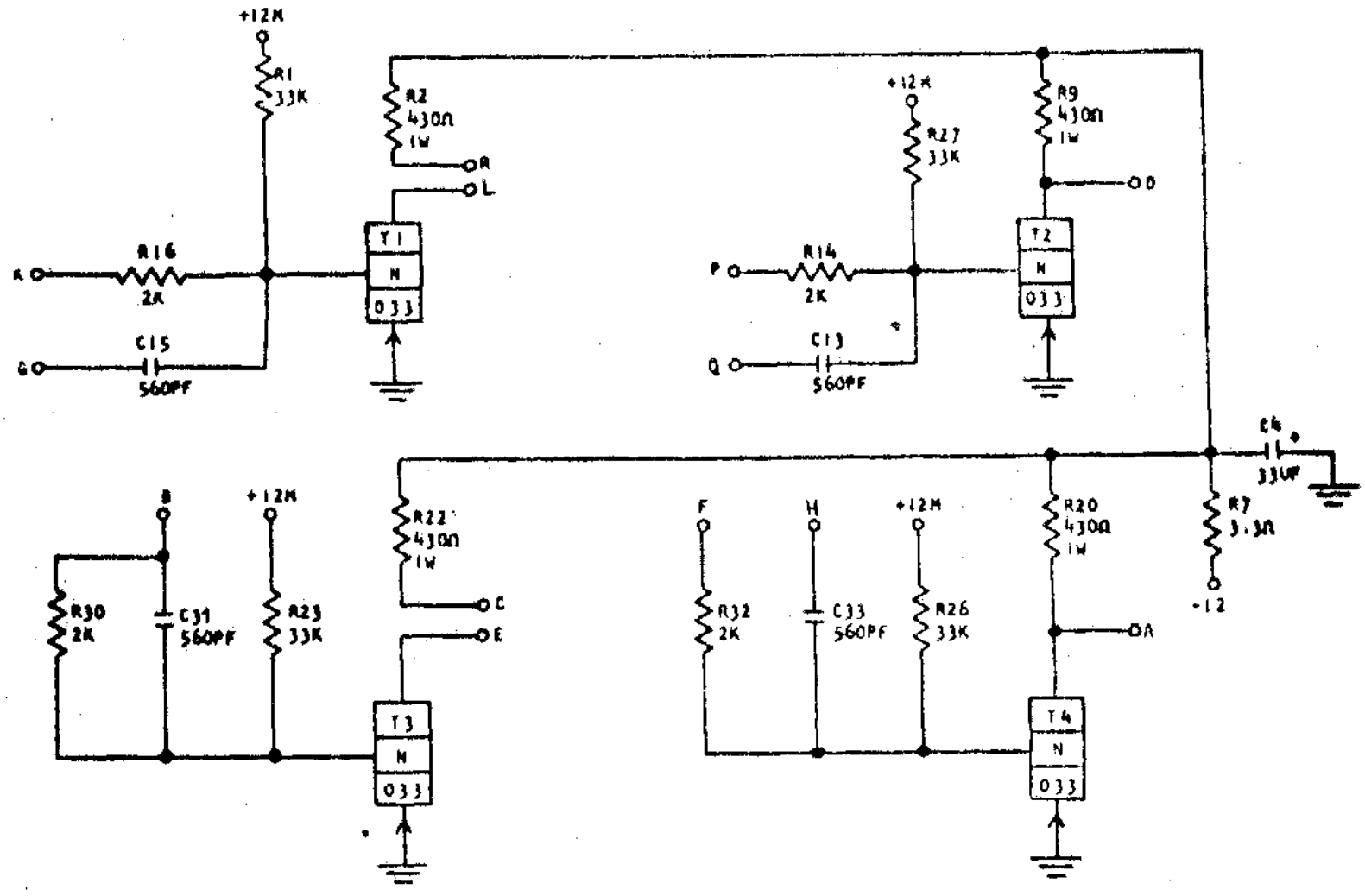
371674 C

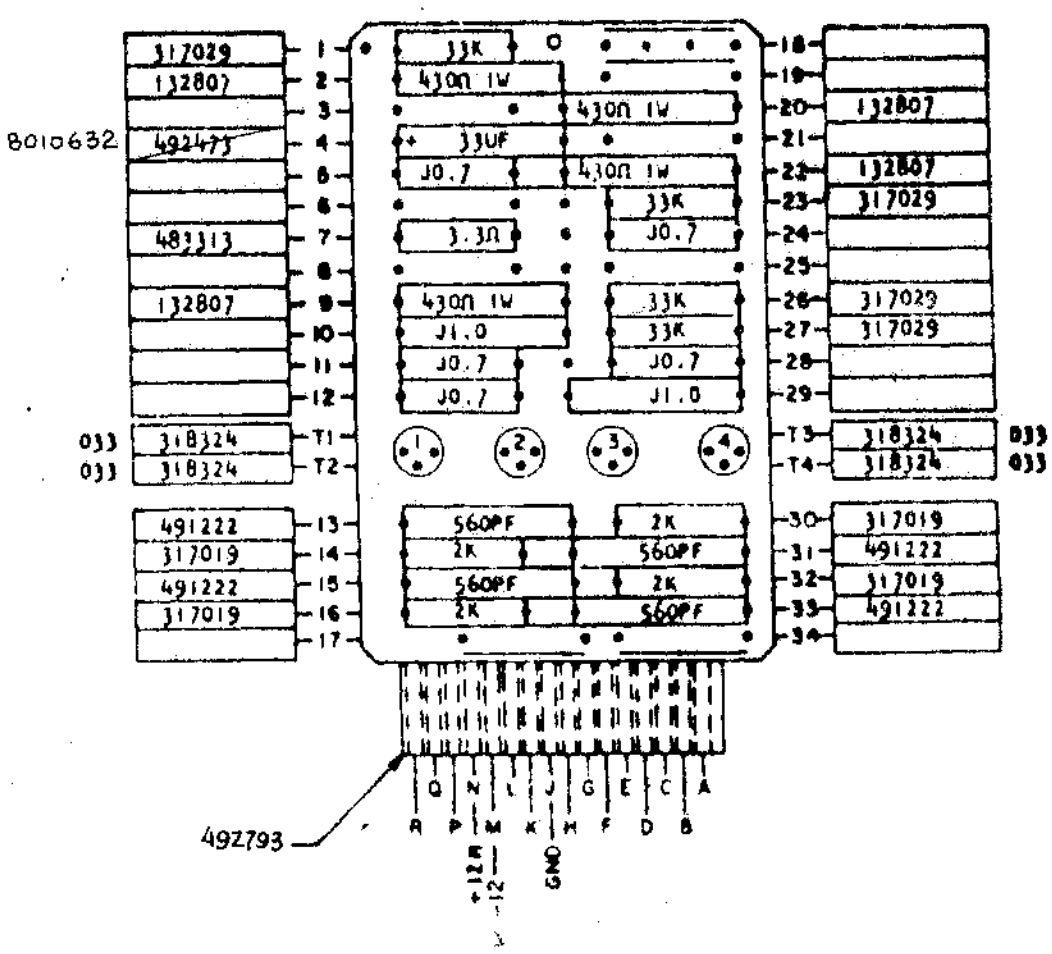
371487

371487

CODE 2.704S
NATURE MH-

INVERTER, POWER-PNP





NOTES

X CIRCUIT MUST CONFORM TO ENGINEERING SPECIFICATION 891487
XI ASSEMBLE TO ENGINEERING SPECIFICATION 2084692. 2093495 AND 2093496
XII ALL RESISTORS ARE 1/2 WATT AND ±5% UNLESS OTHERWISE NOTED
XIII "J" IN BLOCK DENOTES BARE WIRE JUMPER 491296

HOLE PATTERN
491329

USE WITH SPECIFICATION 8010600

IBM					DATE	CHANG N°	DATE	CHANG N°	DATE	CHANG N°	DATE	CHANG N°
NOM	CARD ASM TSTR INVERTER, POWER - PNP				11-12.59	EC 107842						
PROJET			TYPE	SMS	18-10-61	JT 47023						
DESSIN	[illegible]	17.6.63	ECHEL.		29.1.62	JT 80876						
VERIF.			CALQ.		29.4.63	EC 116190						
APPR			VERIF.		25-6-63	JT 83728						

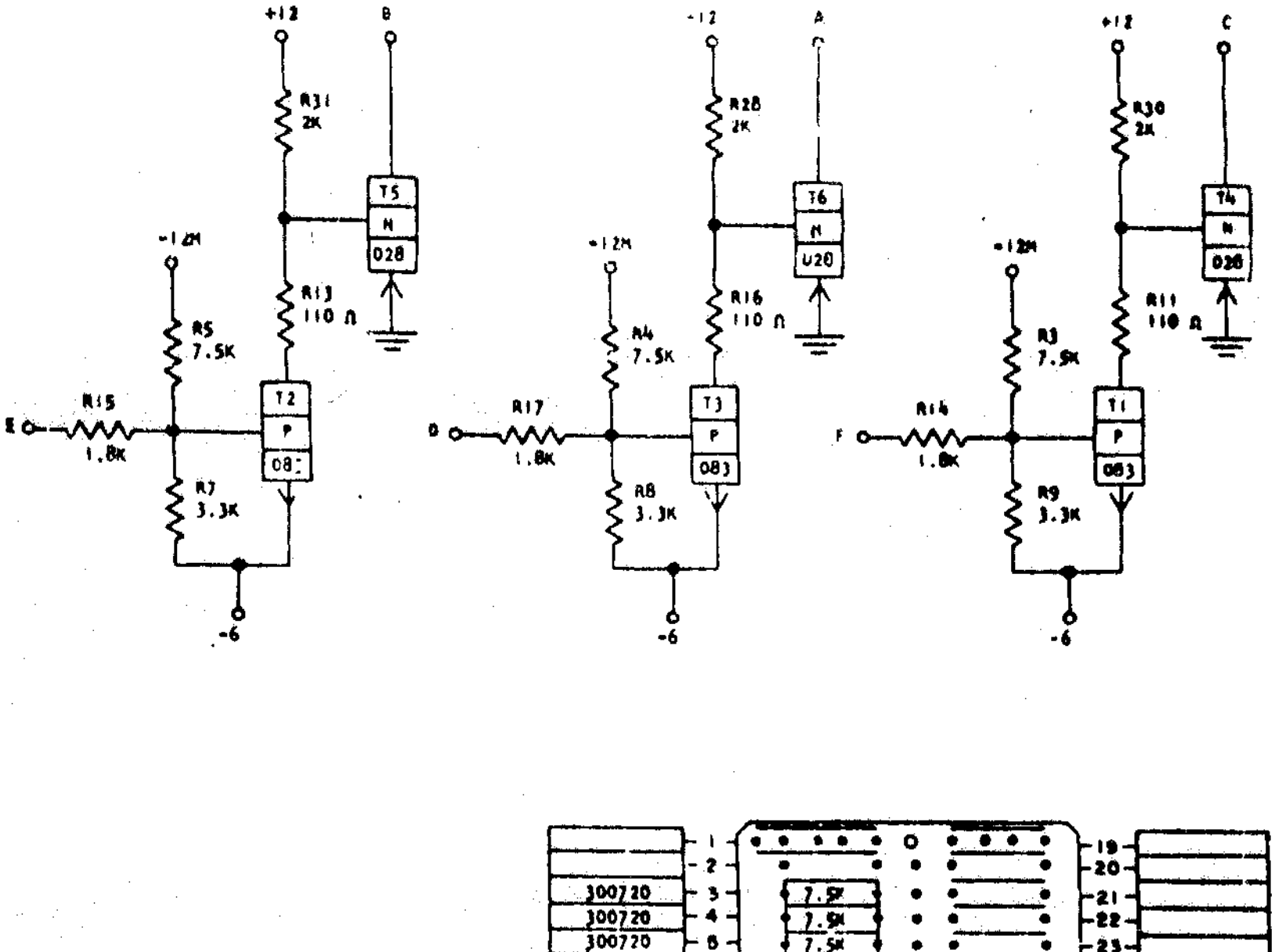
C-1-10

371497

CODE 2.7045
NATURE MD--

CTRL-DRIVERS, FUNCTIONAL COIL

MOUNT CARD ON ONE INCH CENTERS NOTE XXX



NOTES

X CIRCUIT MUST CONFORM TO ENGINEERING SPECIFICATION 891497

XX ASSEMBLE TO ENGINEERING SPECIFICATION 2084692-2093495 AND 2093496

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

XIII "J" IN BLOCK DENOTES BARE WIRE JUMPER 491296

XIX THE MAXIMUM HEIGHT THAT COMPONENTS MAY PROJECT ABOVE THE SURFACE OF A CARD WILL BE .405

HOLE PATTERN

491021

USE WITH SPECIFICATION 8010600

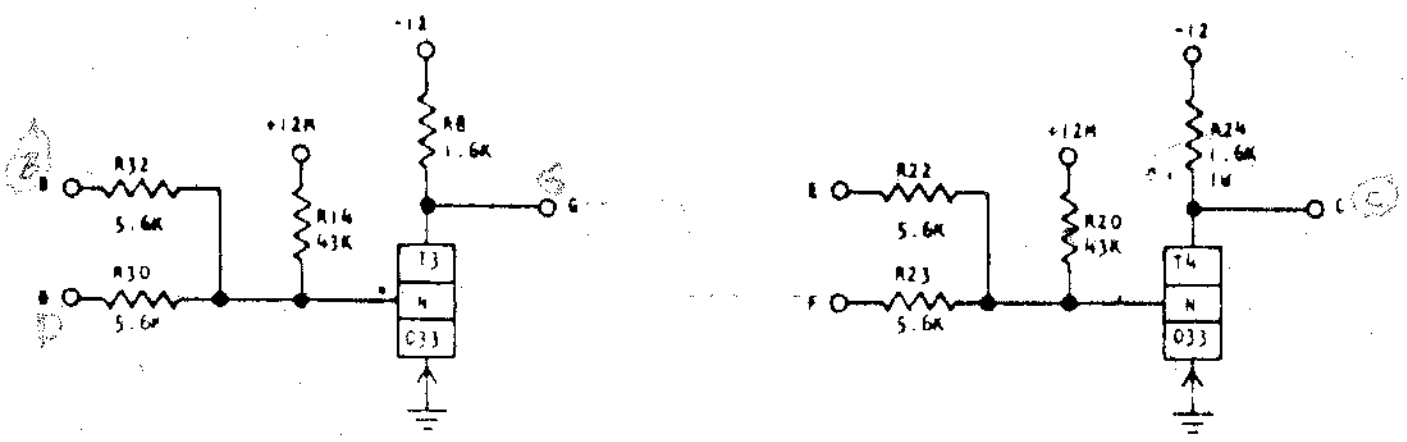
IBM					DATE	CHANG N°	DATE	CHANG N°	DATE	CHANG N°	DATE	CHANG N°
NOM	CARD ASM TSTR-CTRL				5.10.59	EC 106943						
DRIVERS FUNCTIONAL COIL					7-4-61	JT 47015						
PROJET			TYPE	SMS	29.1.62	JT 80876						
DESSIN	[illegible] 28.2.62		ECHEL		27-4-62	EC 112757						
VERIF			CALQ		13.9.62	JT 82889						
APPR			VERIF									

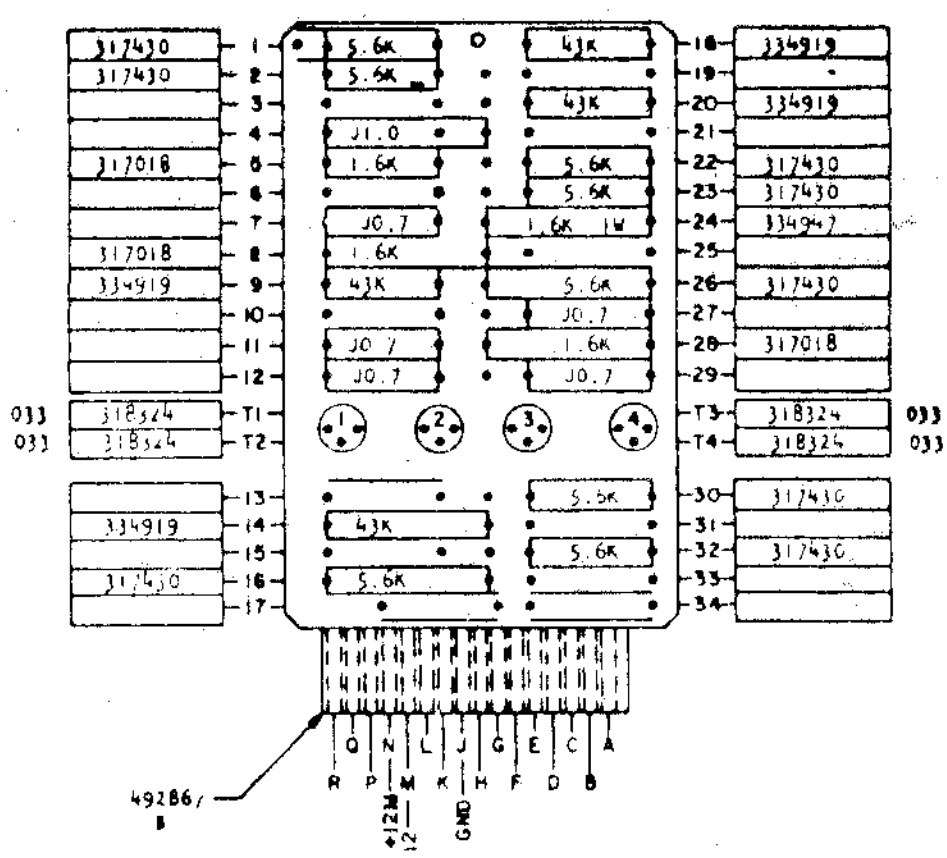
371497

371661

371661 MX--

CTRL-INVERTER "N" 2 WAY





NOTES

X CIRCUIT MUST CONFORM TO ENGINEERING SPECIFICATION 89:661

XI ASSEMBLE TO ENGINEERING SPECIFICATION 2084692-2095495 AND 2095496

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

XIII 'J' IN BLOCK DENOTES BARE WIRE JUMPER 491296

PATTERN 491329

USE WITH SPECIFICATION AC10600

ITEM	DATE	CHANG N°	DATE	CHANG N°	DATE	CHANG N°	DATE	CHANG N°
ASSM TSTR-CTRL- INVERTER "N" 2 WAY	12 10 60	EC 110150	23.5.62	EC 113942				
	24 2 61	JT 47013	20.9.62	JT 82893				
	25.1.62	JT 80876						

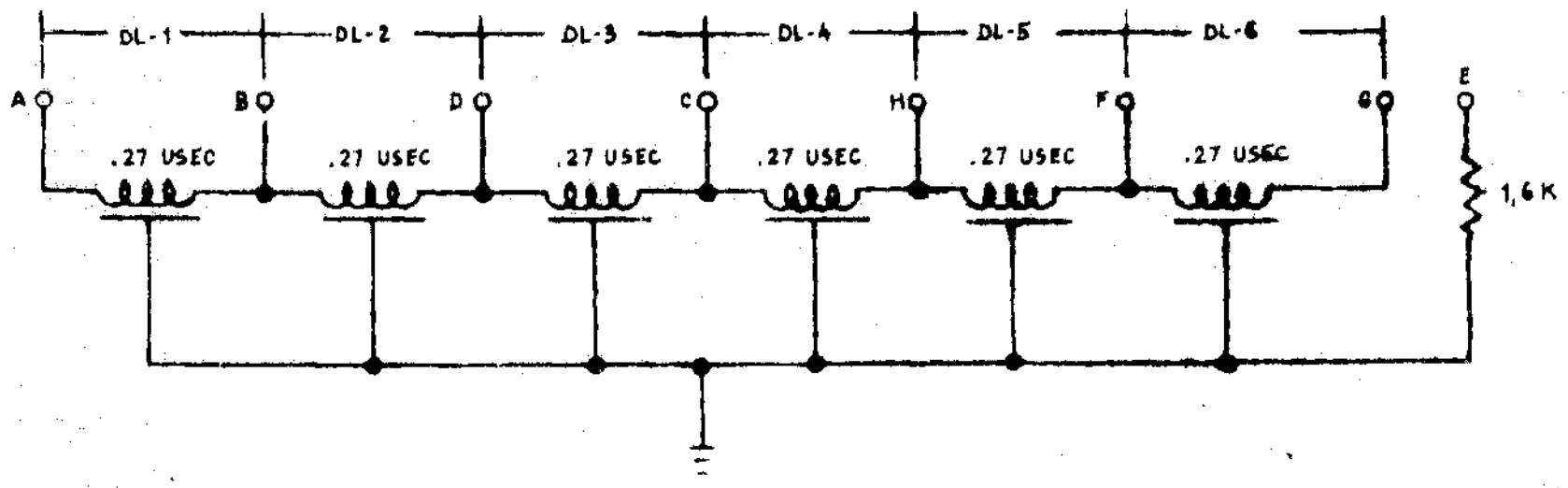
371661

371749

ALLOY-DELAY LINE DISTRIBUTED NUMBER 2

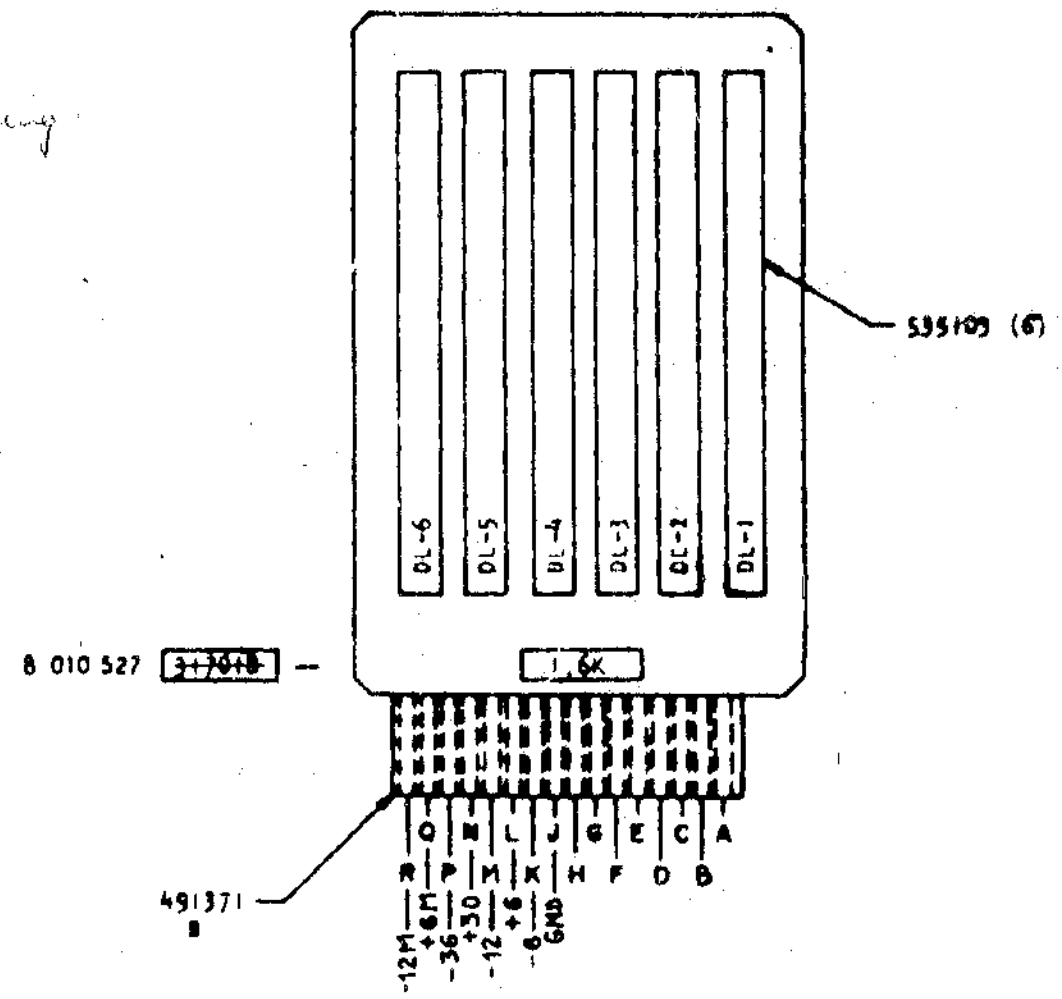
371749 RP

CODE NATURE 2_7045



P NO 371439

Delay line 180 N sec tapping for M6



NOTES

X CIRCUIT MUST CONFORM TO ENGINEERING SPECIFICATION 891749

XI ASSEMBLE TO ENGINEERING SPECIFICATIONS 2 084 692 . 2 093 495 AND 2 093 496

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

COMPONENT SIDE

USE WITH SPECIFICATION 8 010 600

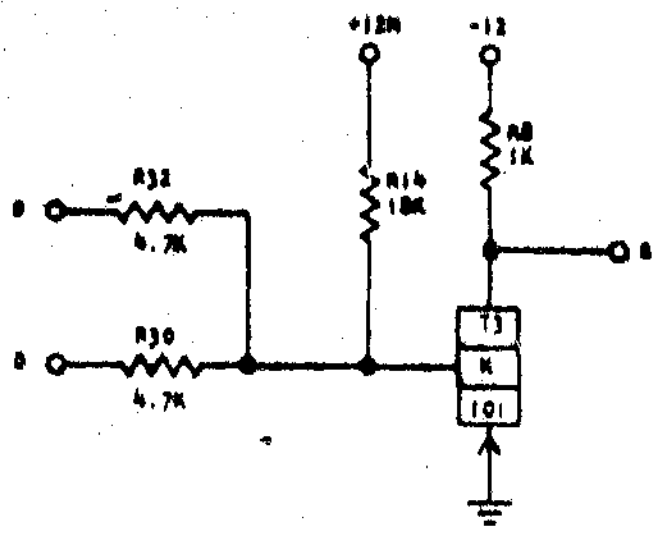
IBM						DATE	CHANG N°	DATE	CHANG N°	DATE	CHANG N°	DATE	CHANG N°
NOM	CARD ASM TSTR-ALLOY DELAY					30_11_59	EC 107826						
LINE	DISTRIBUTED NUMBER 2					10_11_60	JT 47006						
PROJET			TYPE	SMS		28_9_60	FC 109919						
DESSIN			ECHEL			22_3_61	JT 47627						
VERIF.			CALQ	CLM	15_3_61								
APPR	B PL	30_3_61	VERIF	9S	30_3_61								

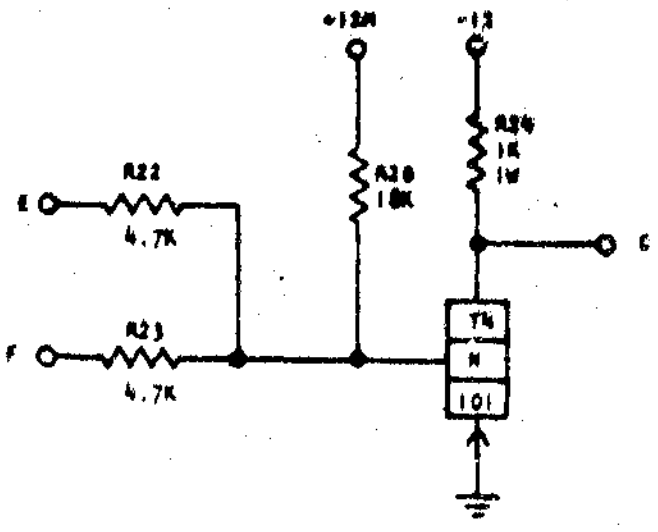
370129 TAU-

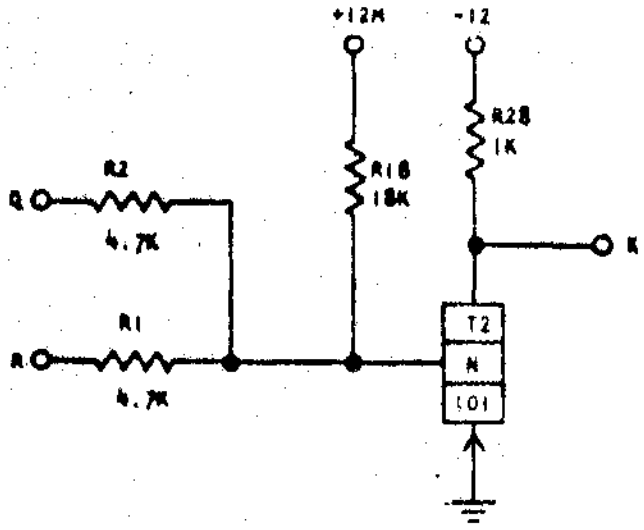
CODE NATURE 2.7045

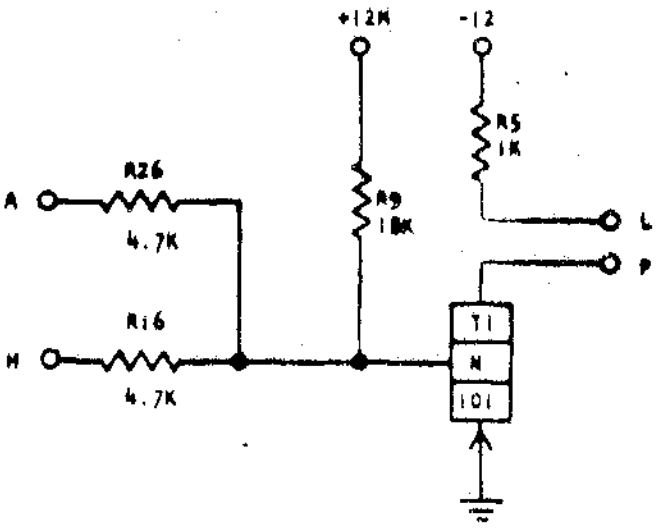
370129

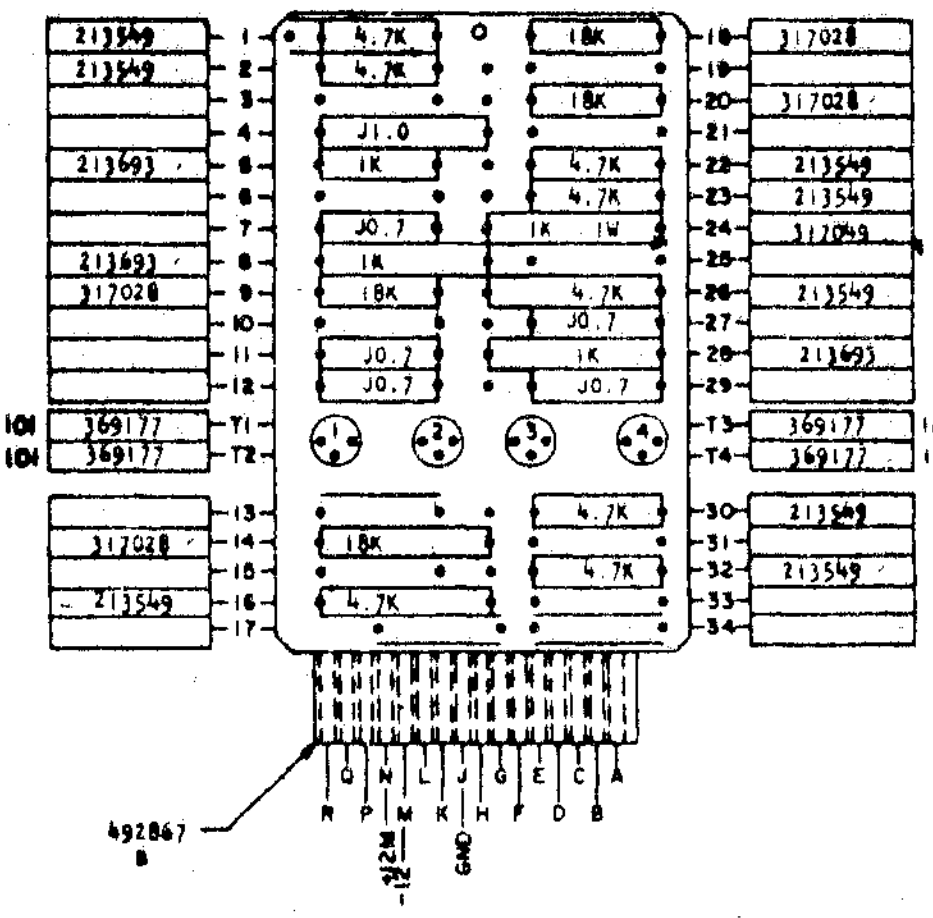
SDTRL-2 WAY INVERTER NUMBER 2











NOTES

X CIRCUIT MUST CONFORM TO ENGINEERING SPECIFICATION 892366

XI ASSEMBLE TO ENGINEERING SPECIFICATION 2084692-2093495 AND 2093496

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

XIII "J" IN BLOCK DENOTES BARE WIRE JUMPER 491296

XIV

XI POSITIONS T1, T2, T3, T4, ARE TO-18 TRANSISTORS AND MAY BE MOUNTED IN .100 OR .200 PIN CIRCLE HOLES. USE TRANSISTOR SPACER 483070 FOR .200 PIN CIRCLE MOUNTING.

HOLE PATTERN 491329

USE WITH SPECIFICATION 870800

IBM						DATE	CHANG N°	DATE	CHANG N°	DATE	CHANG N°	DATE	CHANG N°
NOM	CARD ASM TSTR-SDTRL-					25.8.60	EC 109878	23.5.62	EC 115942				
	2 WAY INVERTER NUMBER 2					6.2.61	JT47042	20-8-62	JT 82893				
PROJET			TYPE	SMS		25.5.61	EC 112019	28-8-62	EC 114364				
DESSIN	TF 4-9-62		ECHEL			9-10-61	JT 48828	9 JAN. 1963	JT 82759				
VERIF			CALQ										
APPR			VERIF										

370129

371880 V8--

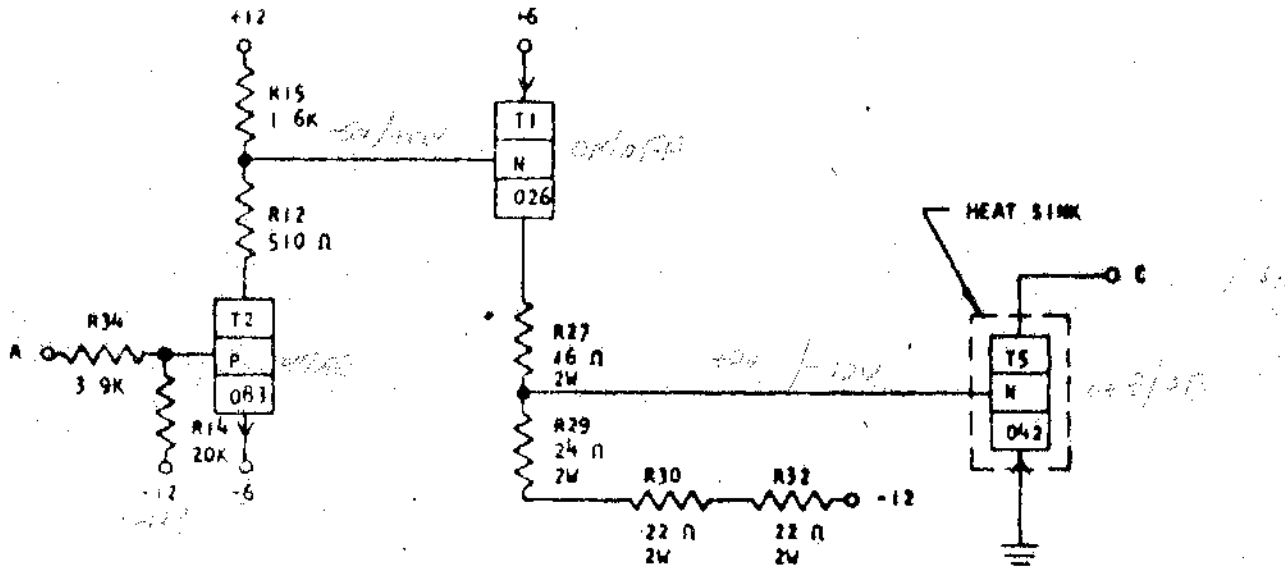
CODE NATURE 2_7045

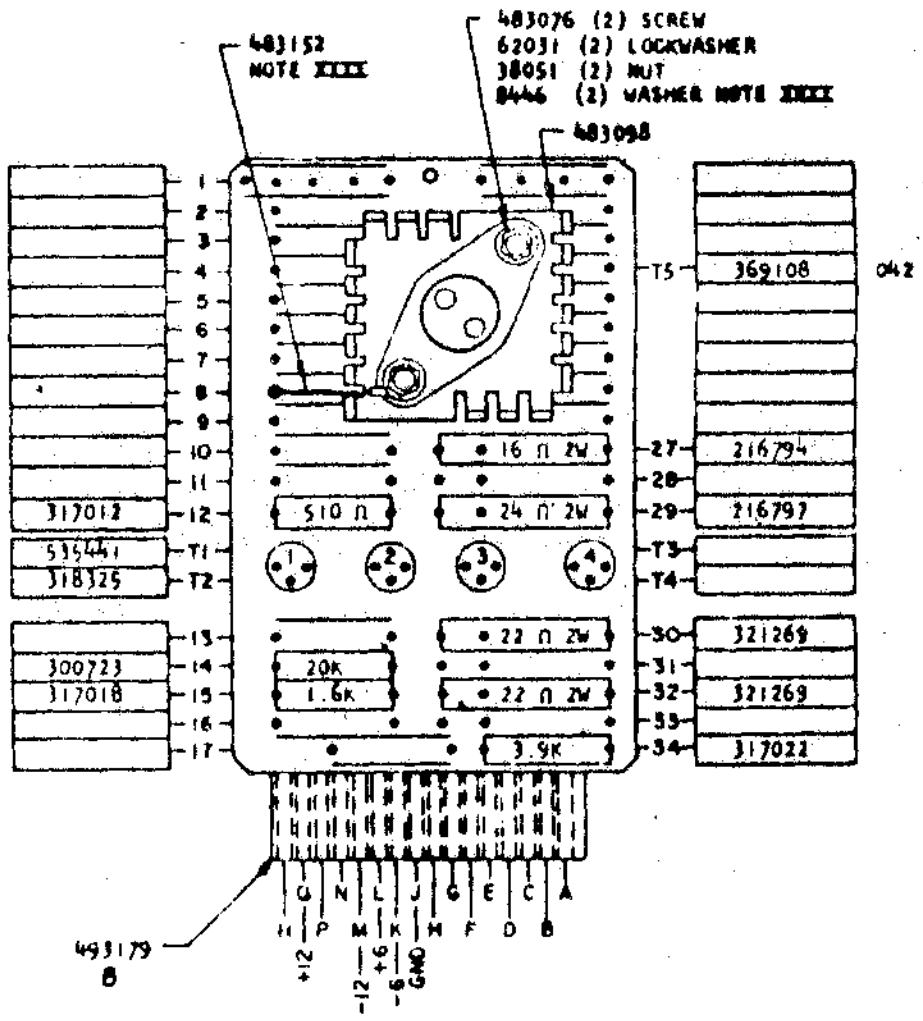
ALLOY DRIVER RELAY 2.5 AMP

MOUNT CARD ON ONE INCH CENTERS NOTE XII

371880

RESTRICTED
NOTE XIV





NOTES

- X CIRCUIT MUST CONFORM TO ENGINEERING SPECIFICATION 891880
- XI ASSEMBLE TO ENGINEERING SPECIFICATION 2084692-2095495 AND 2095496
- XII ALL RESISTORS ARE 1/2 WATT AND ±5% UNLESS OTHERWISE NOTED
- XIII CASE IS ELECTRICALLY CONNECTED TO COLLECTOR, CONNECTION COMPLETED THROUGH JUMPER
- * XXX TECHNICAL LABORATORY EVALUATION INCOMPLETE, ADDITIONAL USAGE TO BE AVOIDED. THIS PART SUBJECT TO WITHDRAWAL
- XX THE MAXIMUM HEIGHT THAT COMPONENTS MAY PROJECT ABOVE THE SURFACE OF THE CARD WILL BE .850 (026 / 083)
- *XXI DO NOT CRIMP TRANSISTOR LEADS. SOLDER TO BOARD AFTER CLEANING.
- XXII WASHER 8446 TO BE PLACED BETWEEN HEAT SINK AND CARD SURFACE.

HOLE PATTERN 491329

USE WITH SPECIFICATION 8010800

IBM						DATE	CHANG N°	DATE	CHANG N°	DATE	CHANG N°	DATE	CHANG N°
NOM	CARD ASM TSTR - ALLOY-					30.8.60	EC 108999	28.3.62	JT 81868	20-2-63	EC 116128		
	DRIVER RELAY 2,5 AMP					7.4.61	JT 47015	22-5-62	JT 81849	13 MAI 1963	JT 83748		
PROJET			TYPE	SMS		21.6.61	EC.111824	25.4.62	EC 113674				
DESSIN	[illegible] 6.9.62		ECHEL			18.10.61	JT 48842		JT 82895				
VERIF.			CALQ			29.1.62	JT 80876						
APPR			VERIF										

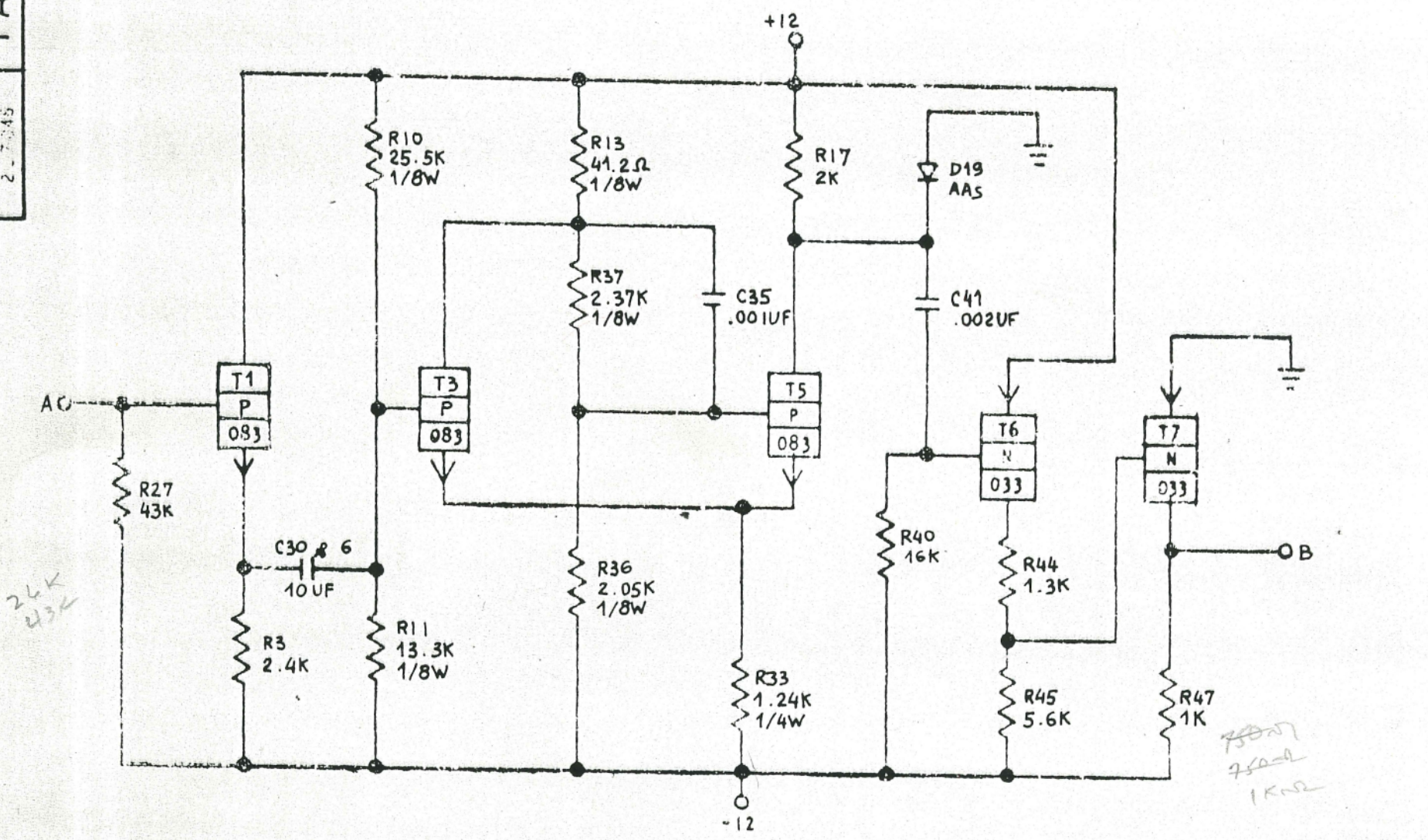
370 452

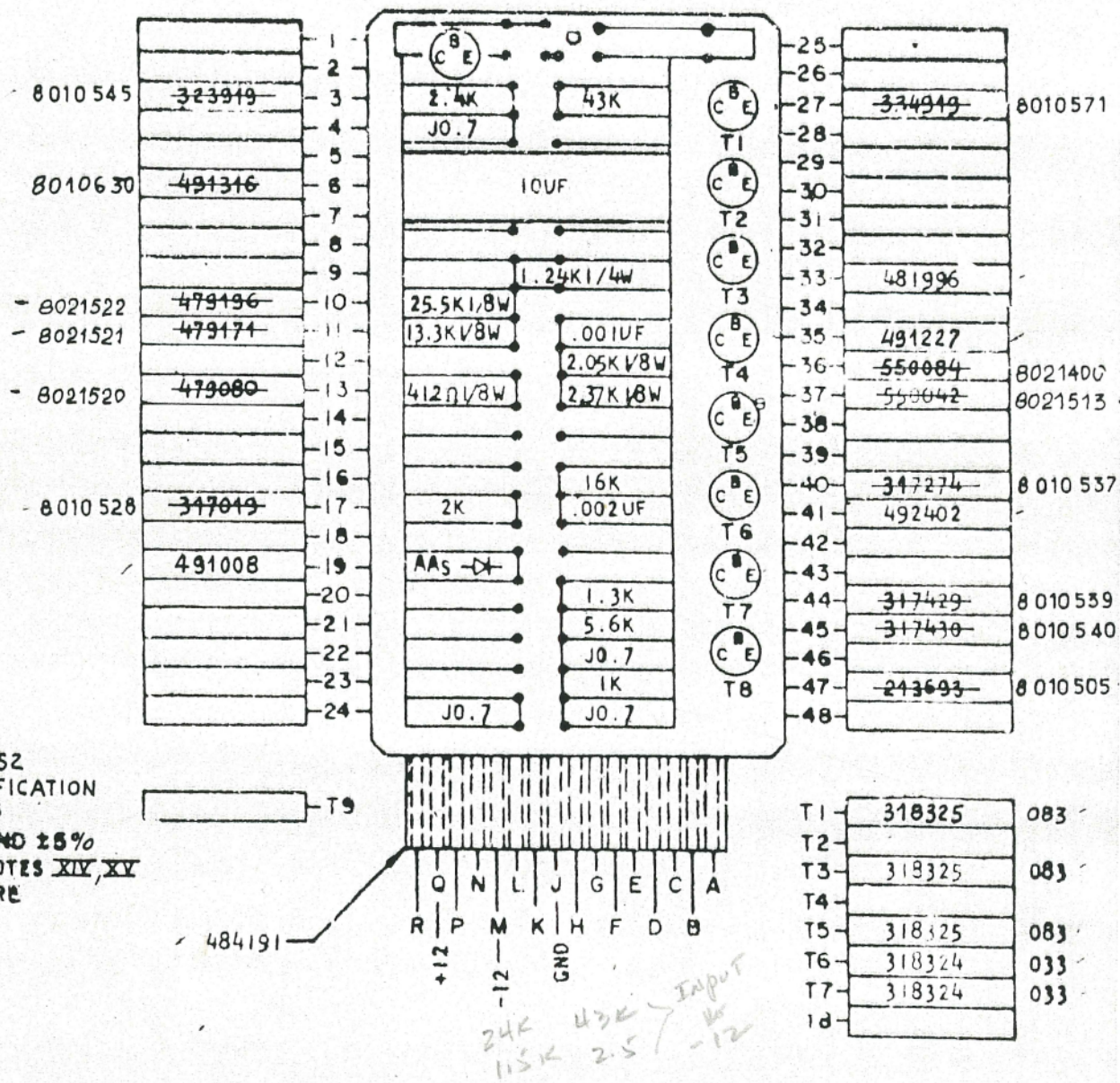
YAW—

CODE NATUREL 2-7845

A.C. PHOTO . FIER

370 452





COMPONENT SIDE

NOTES

X CIRCUIT MUST CONFORM TO ENGINEERING SPECIFICATION 892452

XI ASSEMBLE TO ENGINEERING SPECIFICATION 2084692-2093495 AND 2093496

XII ALL RESISTORS ARE 1/2 WATT AND ±5% UNLESS OTHERWISE NOTED(AS NOTES XIV, XV

XIII "J" IN BLOCK DENOTES BARE WIRE JUMPER 491296

XIV ALL 1/8 WATT RESISTORS ±1%

XV ALL 1/4 WATT RESISTORS ±1%

USE WITH SPECIFICATION 8010600

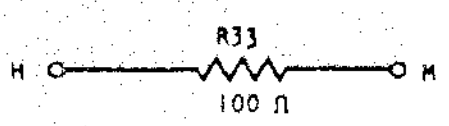
IBM													
NOM	CARD ASM TSTR.A.C.PHOTO AMPLIFIER						DATE	CHANG N°	DATE	CHANG N°	DATE	CHANG N°	DATE	CHANG N°
PROJET			TYPE	SMS			31-1-61	EC 111068						
DESSIN	DJe	6-6-61	ECHEL				9-6-61	JT47019						
VERIF.			CALQ	R.J.G	5-6-61		20-11-61	JT80851						
APPR			VERIF	CLM	1-7-61		29-1-62	JT80876						

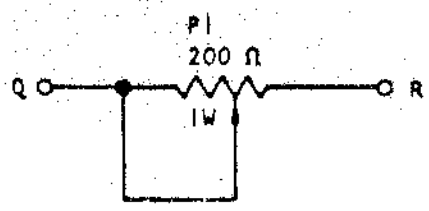
370668

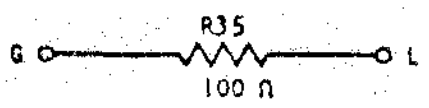
370668 YEU-

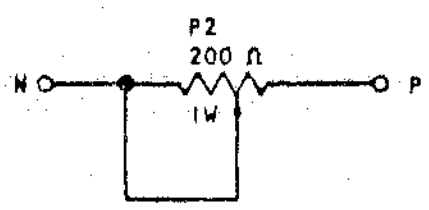
CODE NATURE 2.7045

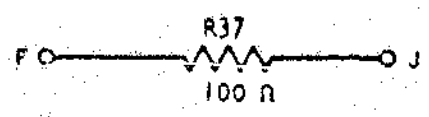
WRITE CURRENT BALANCE

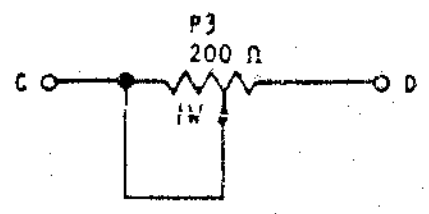


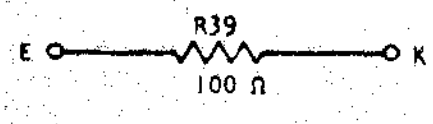


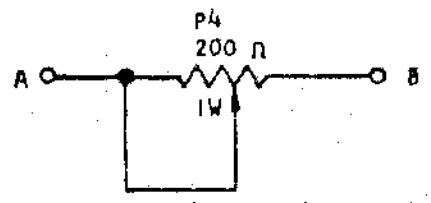


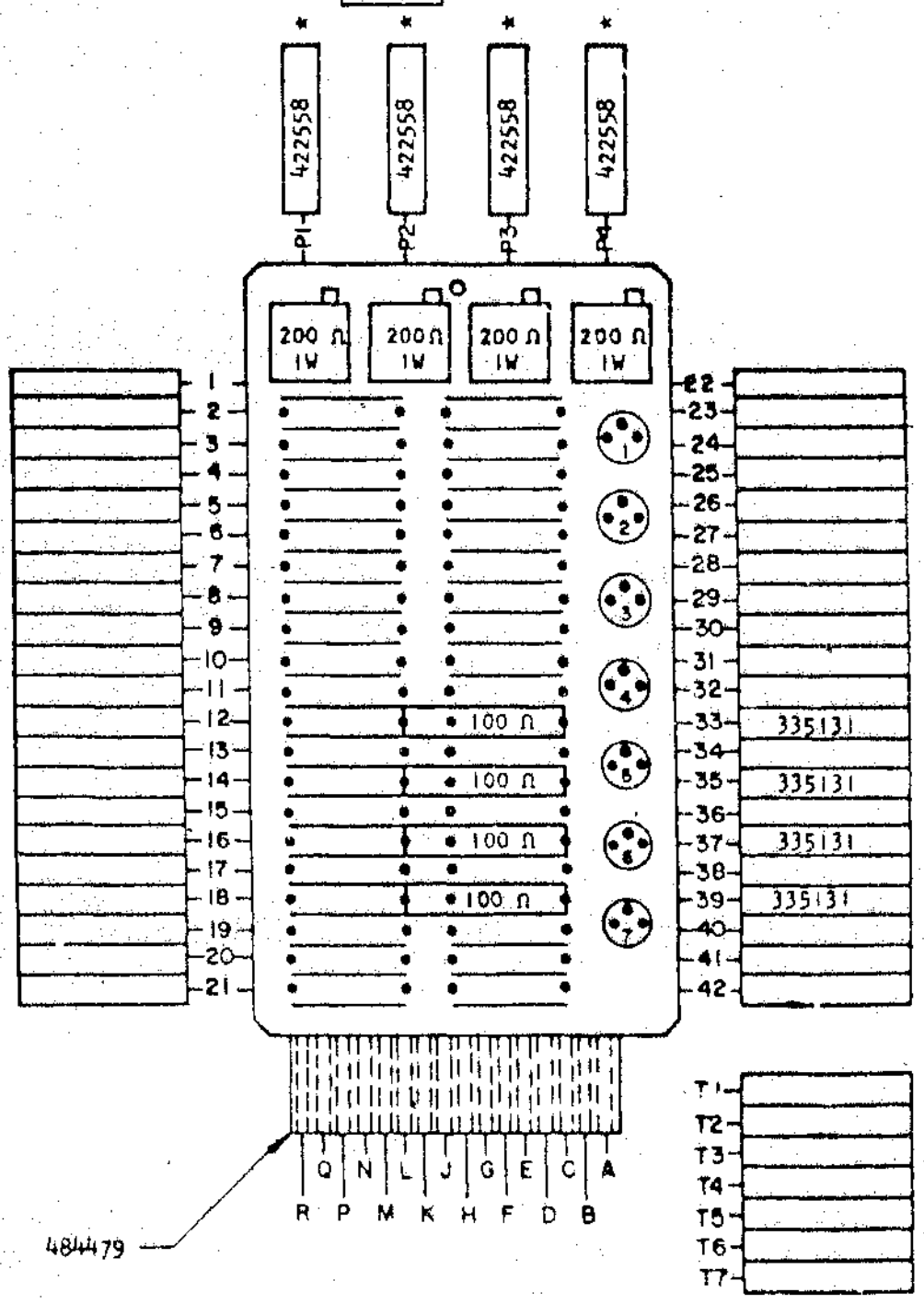












NOTES

X CIRCUIT MUST CONFORM TO ENGINEERING SPECIFICATION

XI ASSEMBLE TO ENGINEERING SPECIFICATION 2084692 2093495 AND 2093496

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

* XIII ASSEMBLE POTENTIOMETER 422558 WITH JEDEC PAD 491299

* XIV POTENTIOMETER 422558 NOT TO BE SUBJECTED TO ANY LIQUIDS

HOLE PATTERN 493474

USE WITH SPECIFICATION 8010600

IBM						DATE	CHANG N°	DATE	CHANG N°	DATE	CHANG N°	DATE	CHANG N°
NOM	CARD ASM TSTR					28.8.61	EC112416						
	WRITE CURRENT BALANCE					18.10.61	JT47023						
PROJET			TYPE	SMS									
DESSIN	DJa	27.9.61	ECHEL										
VERIF			CALQ	RDM	29.9.61								
APPR	Poc	11-10-61	VERIF	CLM	7.10.61								

370668

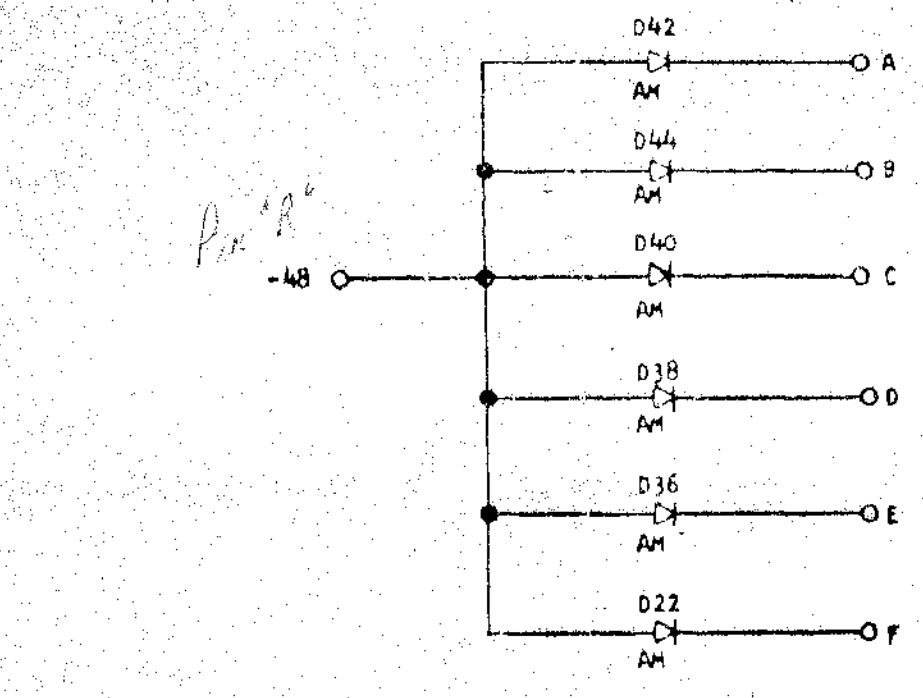
370701

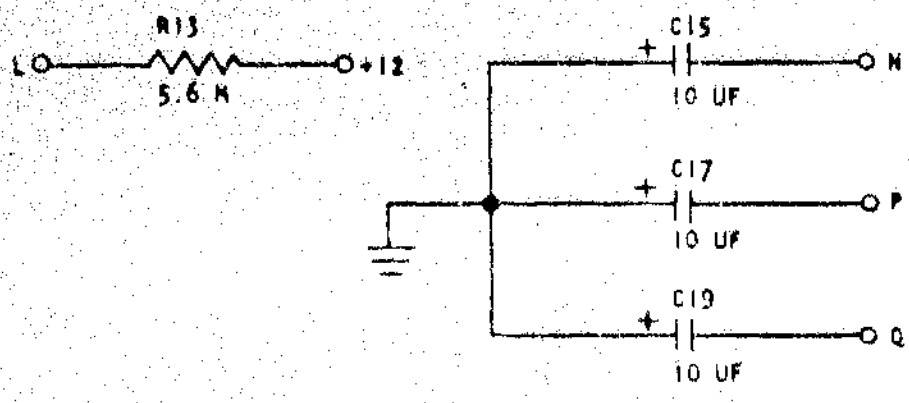
370701

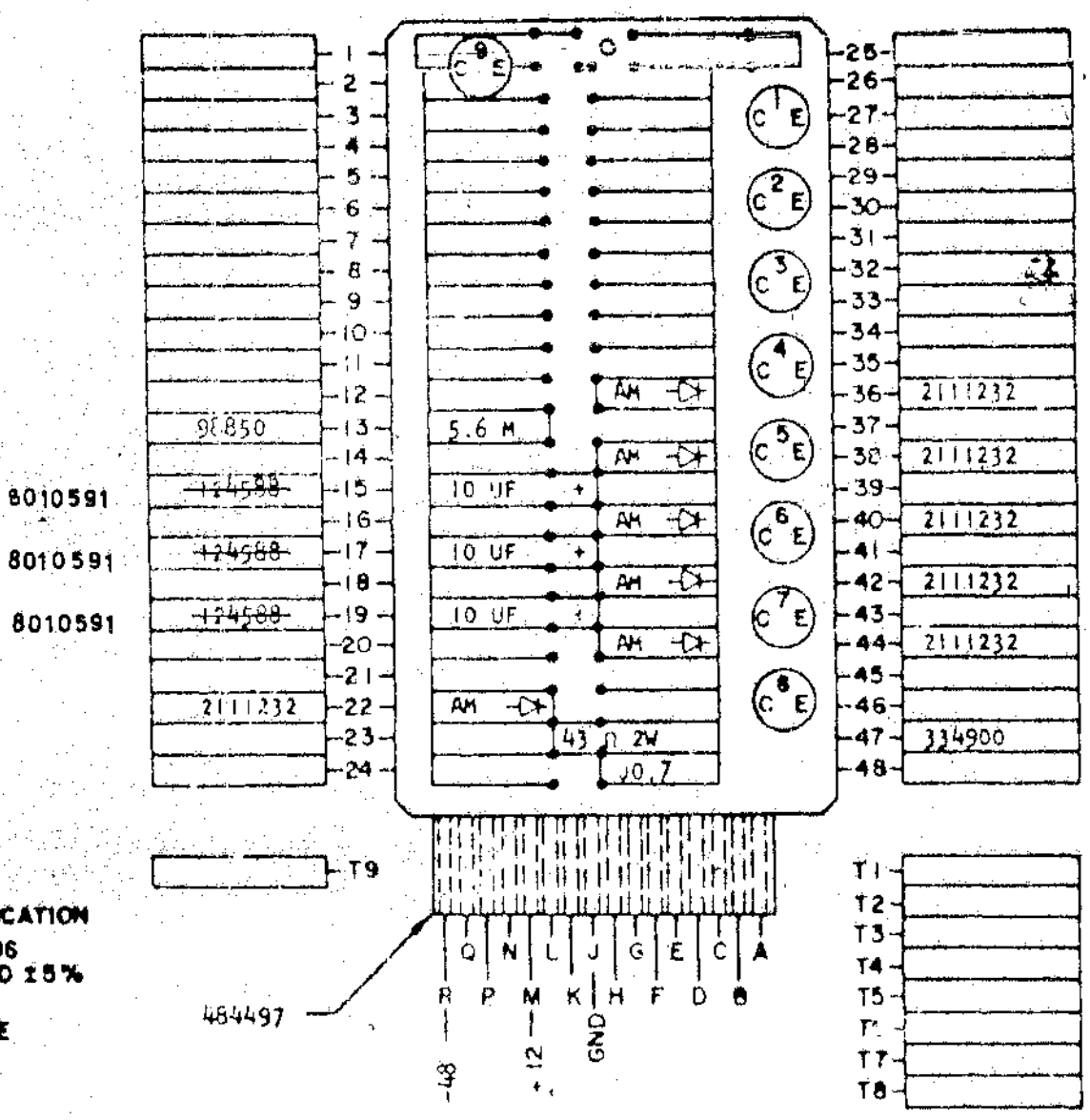
YHM-

CODE NATURE 2-7045

RESISTOR AND SUPPRESSOR







NOTES

X. CIRCUIT MUST CONFORM TO ENGINEERING SPECIFICATION

XI. ASSEMBLE TO ENGINEERING SPECIFICATION 2084692 2093495 AND 2093496

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

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

HOLE PATTERN 493457

USE WITH SPECIFICATION 8010600

IBM						DATE	CHANG N°	DATE	CHANG N°	DATE	CHANG N°	DATE	CHANG N°
NOM	CARD ASM TSTR RESISTOR AND SUPPRESSOR					10.8.61	EC 112426						
PROJET			TYPE	SMS		18.10.61	JT47023						
DESSIN	DJe	27-6-61	ECHEL										
VF			CALQ	MOA40	27-9-61								
	DDT	11-10-61	VERIF	CLM	9.10.61								

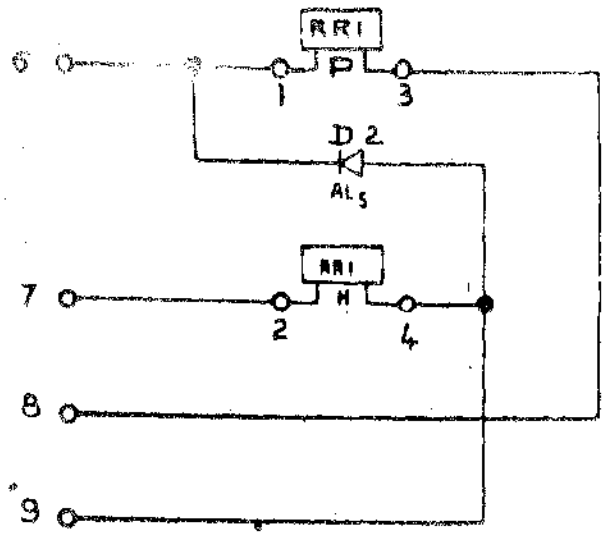
372688

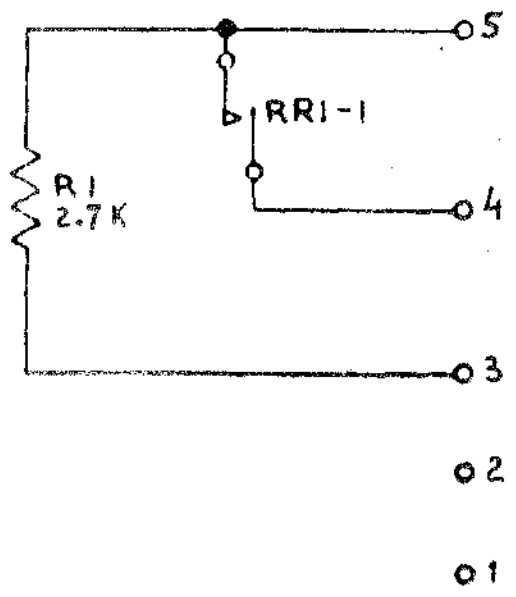
CODE MATURE 2.7045

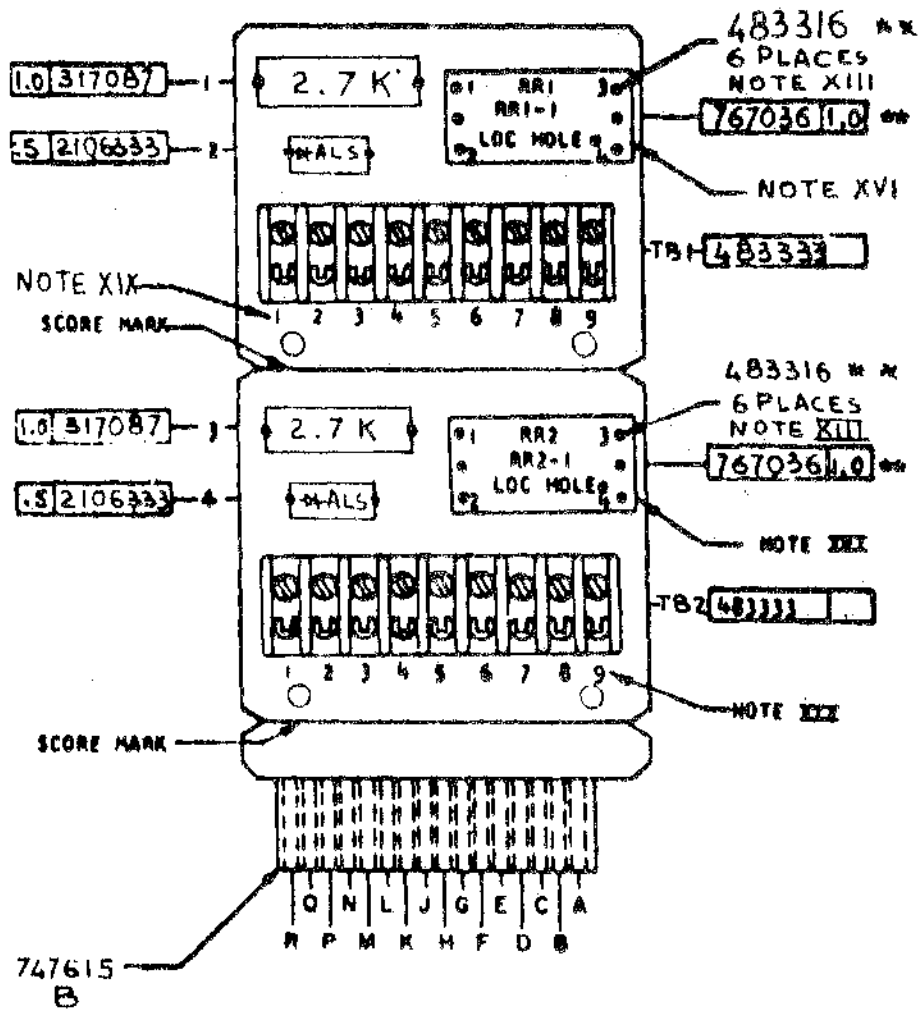
372688

METER CARD

RESTRICTED
NOTE XVII







NOTES

X CIRCUIT MUST CONFORM TO ENGINEERING SPECIFICATION 870688

XX ASSEMBLE TO ENGINEERING SPECIFICATION 892058, 2084692 - 2093495 and 2093496

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

XXII SLOT IN LUG 483316 MUST BE PARALLEL TO Y-Y AXIS

XXIII THIS CARD CONTAINS TWO ASSEMBLIES OF THE CIRCUIT SHOWN

XX TAB AREA IS REQUIRED AT ASSEMBLY, FOR MANUFACTURING PURPOSES ONLY, ASSEMBLY IS TO BE BROKEN AT SCORE-MARKS PRIOR TO STOCKING

XXV DO NOT SUBJECT REED ASSEMBLY TO LIQUIDS

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

XXVII STANDARD TRANSISTOR EMBOSS, CENTERED ON GRID CO-ORDINATES 0737, 0726, 0763, 0774, 4526, 4537, 4563, AND 4574.

XXX NUMBERS TO BE MARKED PERMANENTLY AND LEGIBLY AS SHOWN IN COMPONENT VIEW TO IDENTIFY TERMINAL POSITIONS. NUMBERS TO BE NO LESS THAN .094 HIGH.

USE WITH SPECIFICATION 8 010 600

IBM					DATE	CHANG N°	DATE	CHANG N°	DATE	CHANG N°	DATE	CHANG N°
NOM	CARD ASM TSTR				20.9.63	EC 118931						
					13.12.63	JT 846598						
PROJET			TYPE	SMS								
DESSIN	[illegible]	4.12.63	ECHEL									
VERIF.			GALG.									
APPR.			VERIF.									

372688

CODE NATURE	APPROBATION TECHNIQUE			8016532	SYMB	ATE	CHANG N°	APP TECHN	SYMB	DATE	MAN	APP TECHN	
27045	ÉLEC					13462	JT 80638						
PREMIÈRE UTILISATION / QTE	MÉTAL												8016532
	PLASTIQUE												
	FINITION												

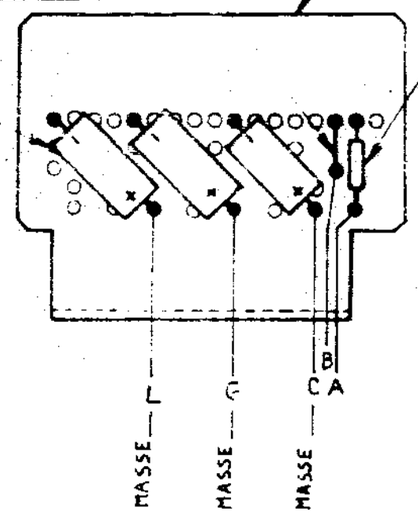
491349

491296

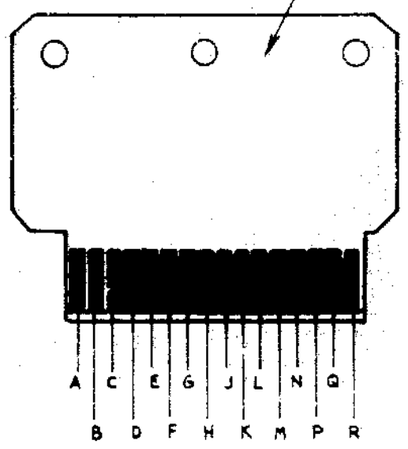
483008 (8022693) -
(3) CONDENSATEUR 100 UF 20 V

RESISTANCE 300 OHMS 0,5 W
317008 (8010517) *

NOTE X



COTE COMPOSANTS



COTE CIRCUIT IMPRIME

NOTES

X MARQUER LE N° DE LA PIECE ET LE N° DE JT

XI FABRIQUER CONFORMEMENT AUX NOTICES TECHNIQUES 2084692, 2093495 ET 2093496

SPEC MATIÈRE N°	TOLERANCES GENERALES		IBM				
PROFCÉM	DIMENSIONS ±	ALIGNÉ A NOTE I	NOM	CARTE INTEGRATEUR			
DURETÉ		NOTE II					
TRAIT. DE SURFACE	ANGLES ±	PLAN A NOTE III	PROJET			TYPE	SMS
8016532 B	ARETES ET ANGLES EXTER MAX	PARALLÈLE A NOTE IV	DESSIN	DJe	9.4.62	ECHELLE	1/1
		DROIT A NOTE V	VÉRIF		11.4.62	CA. D	

2.092.963

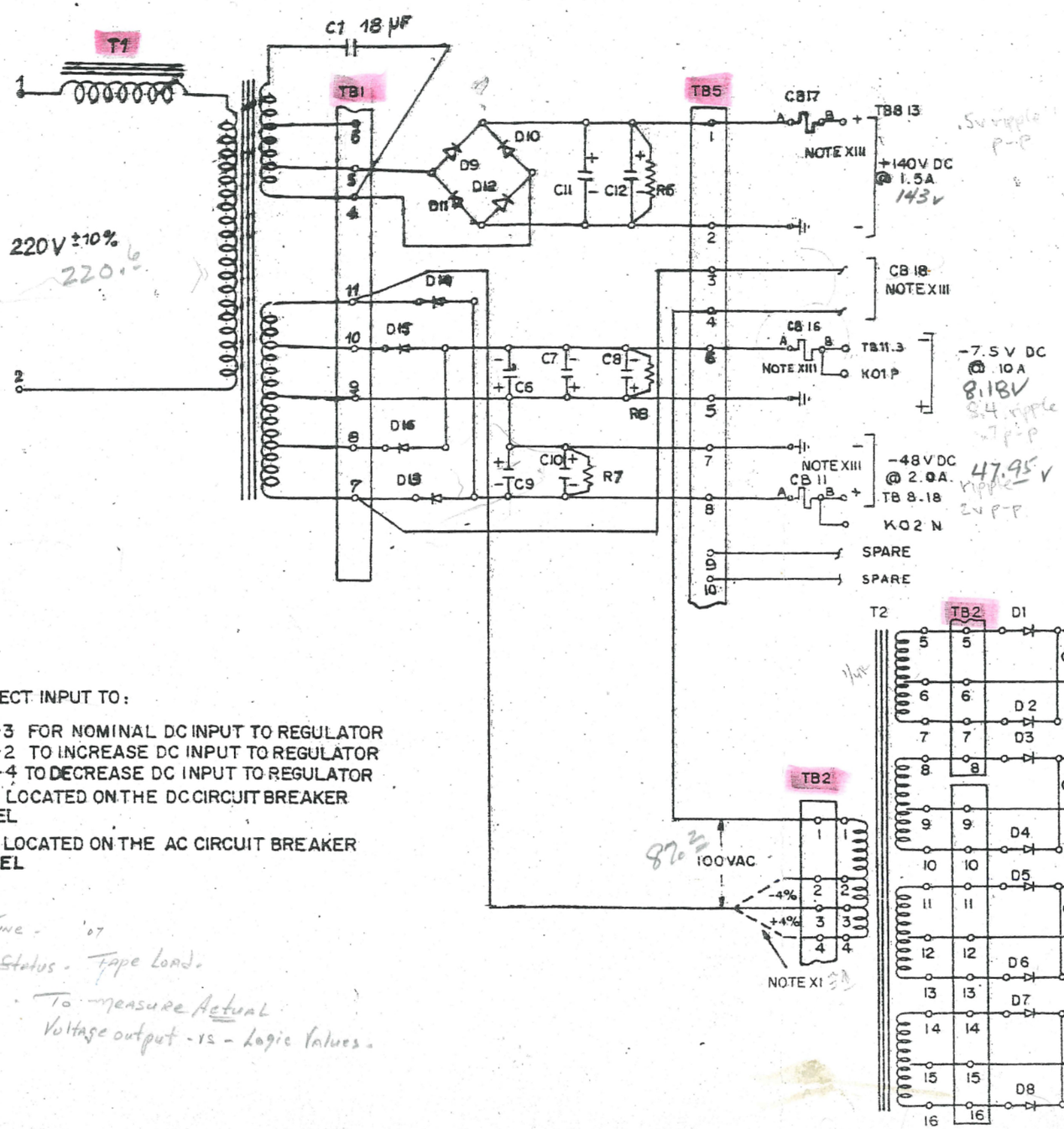
IBM

NOM	SYSTEMS DIAGRAM		DATE	CHANG. Nº	
	TU 95.10.1		2.15.62	250259	
TYPE	729A II IV		9-463	82964	
TOOLING				83991	
CALC.	C.S.E.				
VERIF.	20.1.62				

DRAFT
DESIGN
VERIF.
APPR.

DATE | CHANG. Nº | DATE | CHANG. Nº

TU.95.10.1



COMPONENT CHART			
SYMBOL	DESCRIPTION	PART NO	QTY
C13_14	300MFD_15 VDC CAPAC.	337506	2
T1	FERRO-REGULATOR	2.092.917	1
T2	ISOLATION TFMR	2.092.904	1
D1-D8	50v 6A DIODE NORMAL	8.011.021	8
D9_D10	200v 6A DIODE NORMAL	2.080.979	2
D11-D12	200v 6A DIODE REVERSE	2092.970	2
D13-D14	100v 6A DIODE REVERSE	2.092.971	2
C1	18 MFD 300V DC CAPAC.	8.010.761	1
C2-C3	16000 MFD. 25V. DC CAPAC	2.092.906	2
C4-C8	25000MFD_12V.DC CAPAC	2092.907	5
C9-C10	6300MFD_63V.DC CAPAC	2.092.920	2
C11-C12	2000 MFD-150V.DC CAPAC	2.092.919	2
R1-R4	1K Ω 1W RES	337523	4
R6	1500 Ω 25 W RES	2092951	1
R7	470 Ω 13 W RES	2.092955	1
R8	100 Ω 2W RES	589778	1
D15-D16	50V 10A DIODE REVERSE	2.092.972	2
CB12-CB15	4ATH MAG CIRC BR	8021.670	4
CB17	1A TH CIRC BR	8011.177	
CB_11	3A TH CIRC BR	8.011.179	1
CB16	10A TH CIRC BR	8016938	1
CB18	2.ATH CIRC BR	8011178	1

NOTES

XI CONNECT INPUT TO:

TB2-3 FOR NOMINAL DC INPUT TO REGULATOR
TB2-2 TO INCREASE DC INPUT TO REGULATOR
TB2-4 TO DECREASE DC INPUT TO REGULATOR

XII ARE LOCATED ON THE DC CIRCUIT BREAKER PANEL

XIII ARE LOCATED ON THE AC CIRCUIT BREAKER PANEL

Date - June - '67
Machine Status - Tape Load.
Objective - To measure Actual Voltage output - vs - Logic Values.

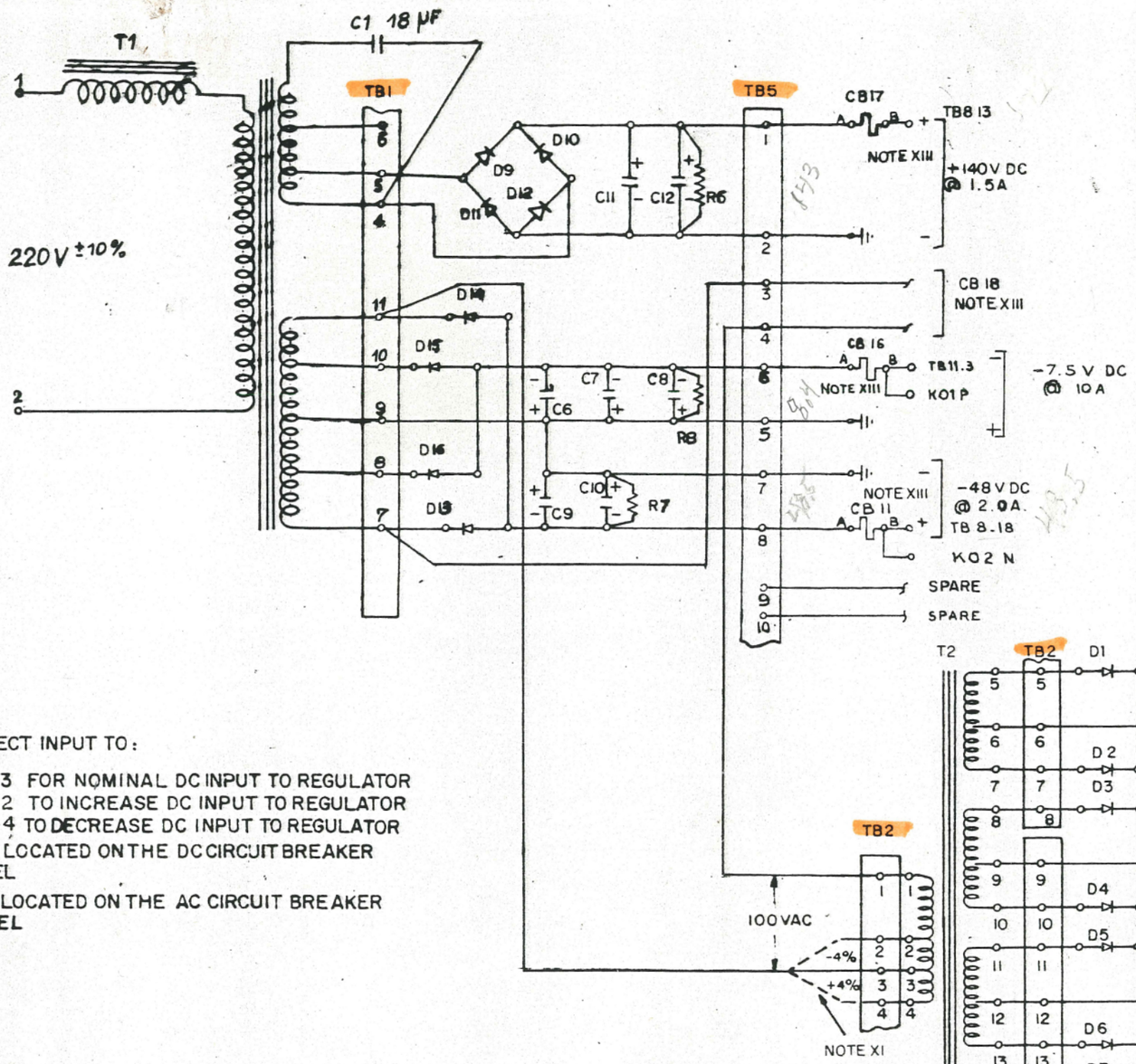
TU.95.10.

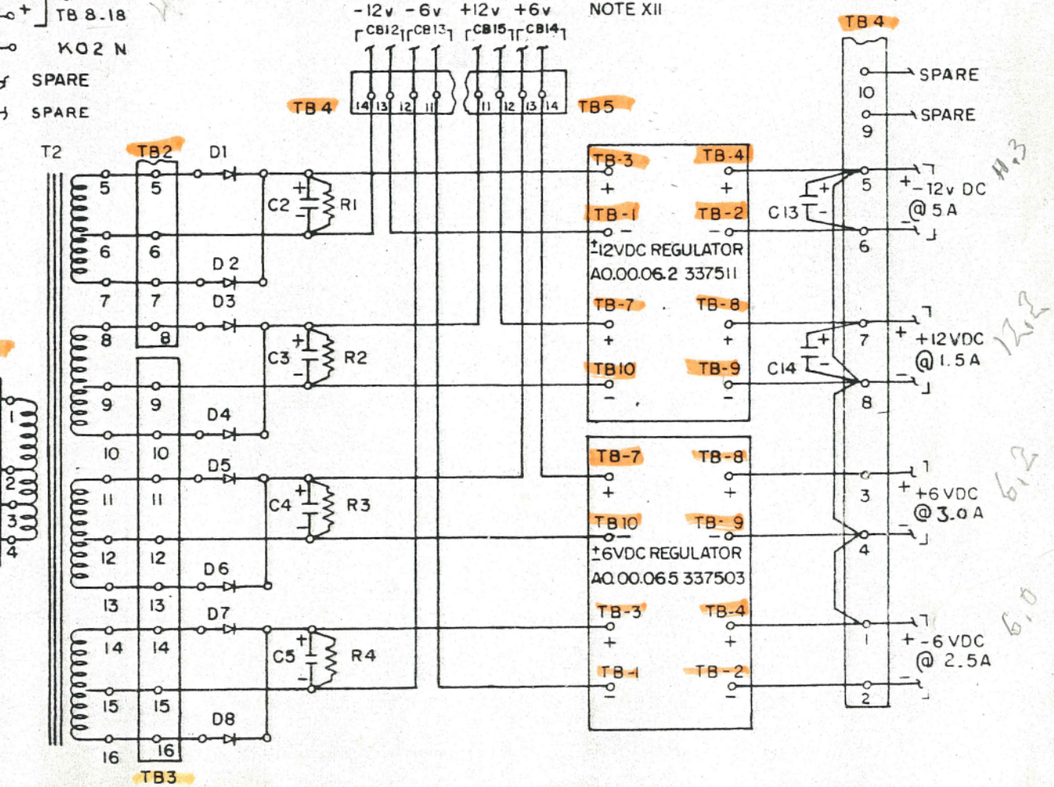
2.092.963

IBM									
NOM.	SYSTEMS DIAGRAM								
	TU 85.10.1								
DRAWN									
DESIGN VERIF.									
APPR.		TYPE	729A II N						
		ROMELLI CALC.							
		MD	6.62						
VERIF.	2.05.62								
	DATE	9.4.63							
	CHANG. N°	83991	82964	250259					
	DATE			2.15.62					
	CHANG. N°								
	DATE								
	CHANG. N°								

TU.95.10.1

2.092.963





NOTES

XI CONNECT INPUT TO:

TB2-3 FOR NOMINAL DC INPUT TO REGULATOR
TB2-2 TO INCREASE DC INPUT TO REGULATOR
TB2-4 TO DECREASE DC INPUT TO REGULATOR

XII ARE LOCATED ON THE DC CIRCUIT BREAKER PANEL

XIII ARE LOCATED ON THE AC CIRCUIT BREAKER PANEL

COMPONENT CHART			
SYMBOL	DESCRIPTION	PART NO	QTY
C13_14	300MFD_15 VDC CAPAC.	337506	2
T1	FERRO-REGULATOR	2.092.917	1
T2	ISOLATION TFMR	2.092.904	1
D1-D8	50v 6A DIODE NORMAL	8.011.021	8
D9_D10	200v 6A DIODE NORMAL	2.080.979	2
D11-D12	200v 6A DIODE REVERSE	2092.970	2
D13-D14	100v 6A DIODE REVERSE	2.092.971	2
C1	18 MFD 300V DC CAPAC.	8.010.761	1
C2-C3	16000 MFD. 25V. DC CAPAC	2.092.906	2
C4-C8	25000MFD_12V.DC CAPAC	2.092.907	5
C9-C10	6300MFD_63V.DC CAPAC	2.092.920	2
C11-C12	2000 MFD-150V.DC CAPAC	2.092.919	2
R1-R4	1KΩ 1W RES	337523	4
R6	1500Ω 25W RES	2092951	1
R7	470Ω 13 W RES	2.092955	1
R8	100Ω 2W RES	589778	1
D15-D16	50V 10A DIODE REVERSE	2.092.972	2
CB12-CB15	4ATH MAG CIRC BR	8021.670	4
CB17	1A TH CIRC BR	8011177	
CB_11	3A TH CIRC BR	8.011.179	1
CB16	10A TH CIRC BR	8016938	1
CB18	2 ATH CIRC BR	8011178	1

TU.95.10.1

CODE NATURE		APPROBATION TECHNIQUE		
2-7045		ÉLEC		
PREMIÈRE UTILISATION	QTE	MÉTAL		
		PLASTIQUE		
556893	1	FINITION		

556981

SYMB	DATE	CHANG	APP TS HR	SYMB	DATE	CHANG N°	APP TS HR
	4-10-61	EC 249780					
	22-12-61	JT 80891					
	18-12-61	EC 249585					
	22-2-62	JT 80883					

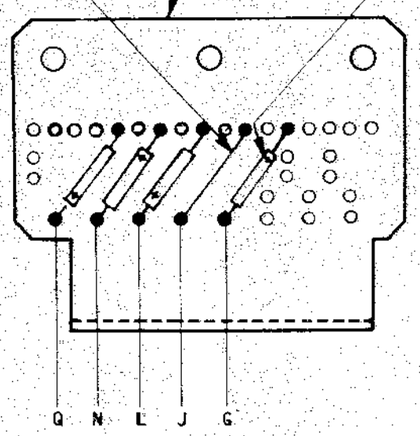
556981

491296

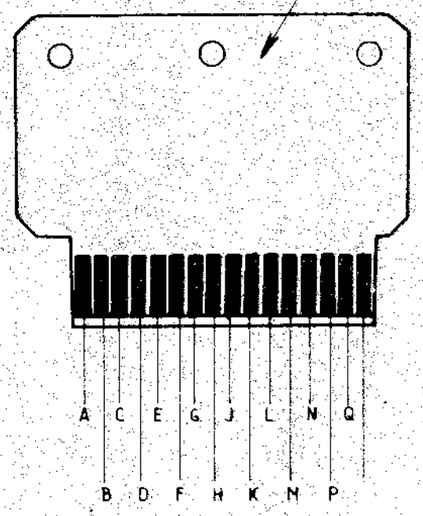
491349

8010632 (4)
33 UF 20 VOLTS

NOTE X



CONPONENT SIDE



PRINTED SIDE

NOTES

X MARQUER LE Nº DE LA PIECE ET LE Nº DE JT

XI FABRIQUER CONFORMEMENT AUX NOTICES TECHNIQUES
2084692 , 2093495 ET 2093496

SPÉC MATIÈRE N°		TOLERANCES GENERALES				IBM				
				ALIGNÉ A	NOTE I	NOM	ASSEMBLAGE CARTE			
PROFCÉM		DIMENSIONS ±			NOTE II		CONDENSATEURS			
DURETÉ				PLAN A	NOTE III	PROJET			TYPE	7330
TRAIT. DE SURFACE		ANGLES ±		PARALLÈLE A	NOTE IV	DESSIN	R.a 40	15-12-61	ECHELLE	1/1
186955	B	ARETES ET ANGLES	EXTÉR MAX	DROIT A	NOTE V	VÉRIF	A.P.C.	15-12-61	CALQ	