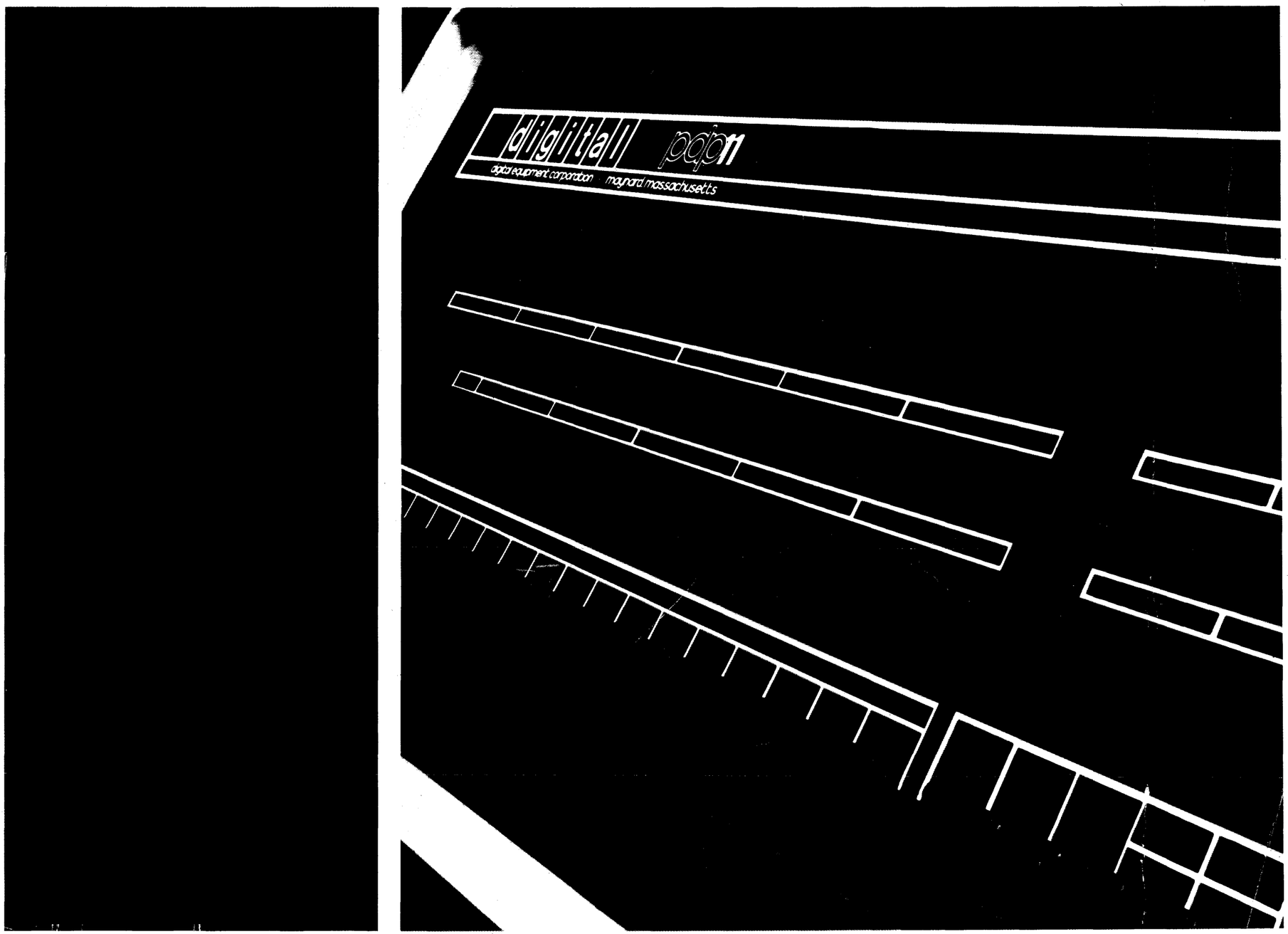


pdp11

H720
power supply and mounting box engineering drawings

digital

ENGINEERING DRAWINGS

Drawing No.	Title
D-CS-H720-0-1	Power Supply H720
D-CS-5408475-0-1	H720 Power Req. Board 5408475
D-UA-H720-E-0-0	Power Supply H720-E, Assembly Drawing
D-UA-H720-F-0-0	Power Supply H720-F, Assembly Drawing
D-CS-H720-E-0-1	Power Supply H720-E, Circuit Schematic
D-CS-H720-F-0-1	Power Supply H720-F, Circuit Schematic
A-PL-H720-E-0-0	Power Supply H720-E, Parts List
A-PL-H720-F-0-0	Power Supply H720-F, Parts List
D-CS-5409267-0-1	H720 Power Regulator Board 5409267, Schematic
E-IA-5409267-0-	H720 Power Regulator Board 5409267, Assembly
D-UA-11/20-0-0	Basic Assembly/Configuration (PDP-11) (2 sheets)
D-UA-H960-C -0	Cabinet Assembly (PDP-11)
D-UA-KY11-A-0	Console Assembly KY11-A
E-UA-H952-HA-0	Table Assembly
E-UA-BA11-0-0	Chassis Assembly (BA11)

INPUT VOLTAGE		JUMPERS	CONNECTIONS
200	10%	3-6 1-4	3-4
218	10%	2-5	3-4
225	10%	2-6	3-4
233	10%	1-5	3-4
240	10%	1-6	3-4

T1 MMC-2940

H720 PWR REGULATOR BD 5408475

AC LINE CORD

F1 15ASB (120V) 10ASB (240V)

F2 5ASB (120V) 4ASB (240V)

J4

J3

J1 J2 P1

C1 C2 C3 C4 C5 C6 C7

D1 D2 (1/2) DM15 D2 (1/2) DM15 D3 D4

Q1 Q2

R1 R2 R3 R4

L1

HEAT SINK 5408525

UNLESS OTHERWISE SPECIFIED WIRE IS #14 GAUGE (STRANDED)

CIRCUIT SHOWN WIRED FOR 120V.
FOR DIFFERENT VOLTAGE REFER TO JUMPER TABLE.

REF DESIGNATION	DESCRIPTION	PART NO
C7	CAP .01MFD 100V DISC	1001510
*H3R4	RES 10Ω ½ W 5%	1300168
H720 PWR REG BD	H720 PWR REG BD	5408475-0-0
HEAT SINK	HEAT SINK	1209685
J4 (240V)	AC DUPLEX OUTLET	9008856
J4 (120V)	AC DUPLEX OUTLET	1205351
F2 (240V)	FUSE AGC 4A SLO-BLO	9007220
F1 (240V)	FUSE AGC 10A SLO-BLO	9007225
F2 (120V)	FUSE AGC 5A SLO-BLO	9007222
F1 (120V)	FUSE AGC 15A SLO-BLO	9007227
FUSEHOLDER	FUSEHOLDER 15A 250V	9007242
D3,D4	DIODE IN3899	1109781
D1,D2	DIODE BRIDGE DM15	1105799
Q1,Q2	TRANSISTOR 2N5301	1509737
R1,R2	RES 27Ω 1W 5% CC	1302558
C5,C6	CAP 1MFD 150V	1000063
C3,C4	CAP. 22000 MFD 50V	1009189
C1,C2	CAP 2X.1MFD 1000V	1002153
P1	CONNECTOR 1 480460 0	1209340-01
J1,J2,J3	RECEPTACLE 1-480459-0	1209340-00
L1	TRANSFORMER COIL	1609762
T1	TRANSFORMER MMC 2940	1609810

PARTS LIST

TRANSISTOR & DIODE CONVERSION CHART			
DEC	EIA	DEC	EIA
2N5301	SAME		
IN3899	SAME		

digital EQUIPMENT CORPORATION MAYNARD MASSACHUSETTS

TITLE POWER SUPPLY H720

SIZE D CODE CS NUMBER H720-0-1 REV 5

PRINTED CIRCUIT REV

DRAWN CHKD ENGR DATE 2/26/70

REVISIONS: ECO 1 CHG NO 1 REV C; ECO 2 CHG NO 2 REV D

DEC FORM NO 222 118

J1 CONNECTOR
AMP. PIN HOUSING
12-09340

1
2
3
4
+5V
GND
GND
-15V

J2 CONNECTOR
AMP. PIN HOUSING
12-09340

1 +5V
2 GND
3 -25V
4 LTCL
5 +8V
6 -15V
7 DC LO (L)
8 AC LOL

UNLESS OTHERWISE INDICATED:
RESISTORS ARE 1/4W, 10%
CAPACITORS ARE .01MFD, 100V, 20%
DIODES ARE D664
TRANSISTORS ARE DEC6534D
● INDICATES 11/64 DIA HOLES FOR MOUNTING CAPACITORS
□ INDICATES FAST ON TABS

NOTE: "A" BOARDS HAVE BEEN RETRO-FITTED TO "B" BOARD EXCEPT FUSE (F3-5AMP)

NOTE: GROUND JUMPER WILL NOT SHOW ON CKT. SCHEM.

TRANSISTOR & DIODE CONVERSION CHART

DEC	EIA	DEC	EIA
2N1305	SAME		
MPS6531	SAME		
2N4441	SAME		
D672	IN3653		
DEC3715	2N3715		
2N2904	SAME		
D662	IN645		
D664	IN3406		
IN4001	SAME		
IN746A	SAME		
IN751A2	SAME		
D003	IN 994		
IN752A	SAME		
DEC3040	MP26834		
DEC3790-S	2N3790		
DEC3009B-S	2N3009B		
DEC1008-S	MM8008		

REVISIONS	LTR	A	B	C	D	E	F	H
DASH NUMBER		00002	00003	00004	00005	00006	00007	00008

DWN Whitney DATE 12-16-69
CHKD Leslie L DATE 12-16-70
ENGR [illegible] DATE [illegible]
PROD DATE

digital EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS

TITLE H720 PWR REG
BOARD 5408475

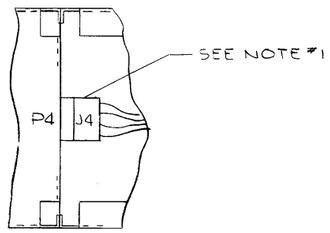
SIZE	CODE	NUMBER	REV
D	CS	5408475-0-1	M

PRINTED CIRCUIT REV C

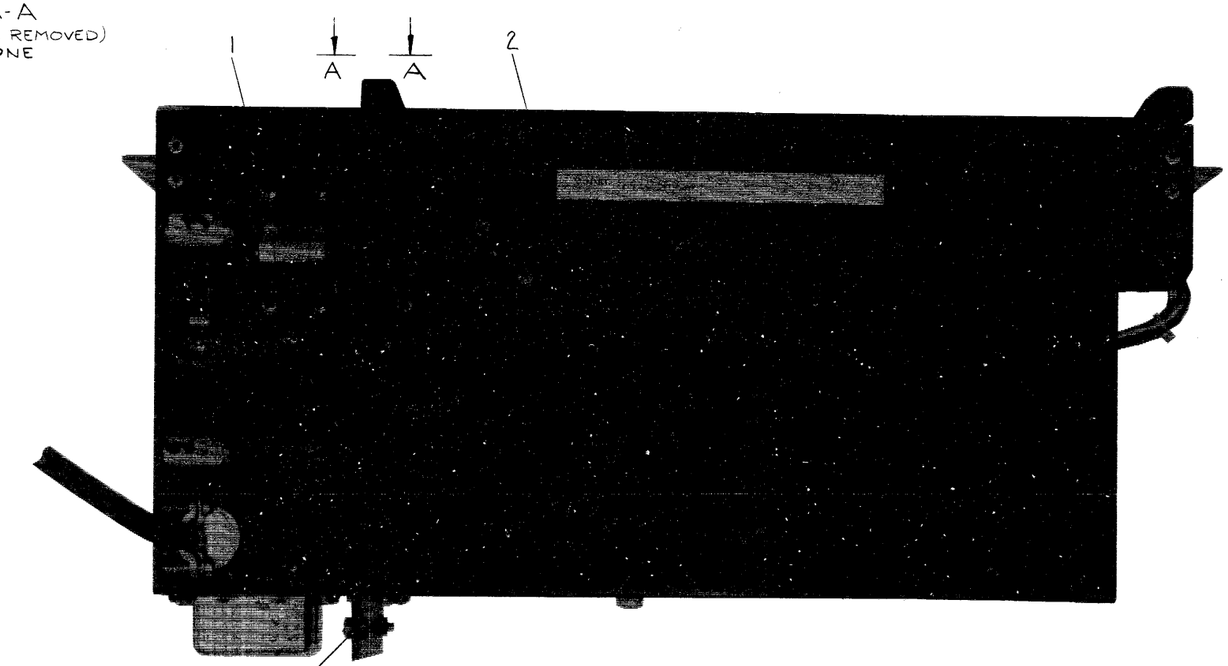
DEC FORM NO. 9AB 116

NOTES:

1. CONNECTORS MARKED J4 & P4 ARE TO BE CONNECTED BEFORE ASSEMBLING ITEM #1 TO ITEM #2.
2. FOR DWG INDEX LIST REFER TO DWG D-DI-H72Ø-E-2.



VIEW A-A
(WITH COVER REMOVED)
SCALE: NONE



QTY.	DESCRIPTION	PART NO.	ITEM NO.

PARTS LIST

FIRST USED ON OPTION/MODEL: PDP 11

DO NOT SCALE DRAWING

UNLESS OTHERWISE SPECIFIED
DIMENSION IN INCHES
TOLERANCES
DECIMALS ± .005 | FRACTIONS ± 1/64 | ANGLES ± 0°30'
FINAL SURFACE QUALITY /
REMOVE BURRS AND BREAK SHARP CORNERS

MATERIAL —

FINISH —

DRN.	J. Hawkins	DATE 4/11/71
CHKD.	J. Ferris	DATE 5/20/71
ENG.	C. R. Bois	DATE 5/21/71
PROJ. ENG.	C. R. Bois	DATE 5/25/71
PROD.	W. Cull	DATE 5/26/71

NEXT HIGHER ASSY: A-ML-H72Ø-E

SCALE —

SHEET 1 OF 1

digital EQUIPMENT CORPORATION
MAYNARD, MASSACHUSETTS

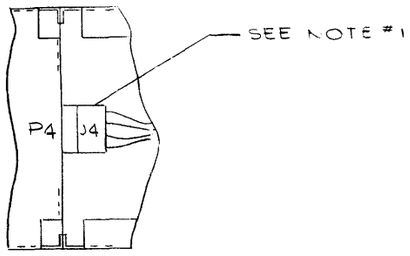
TITLE: POWER SUPPLY H72Ø-E

SIZE	CODE	NUMBER	REV.
D	UA	H72Ø-E-Ø	

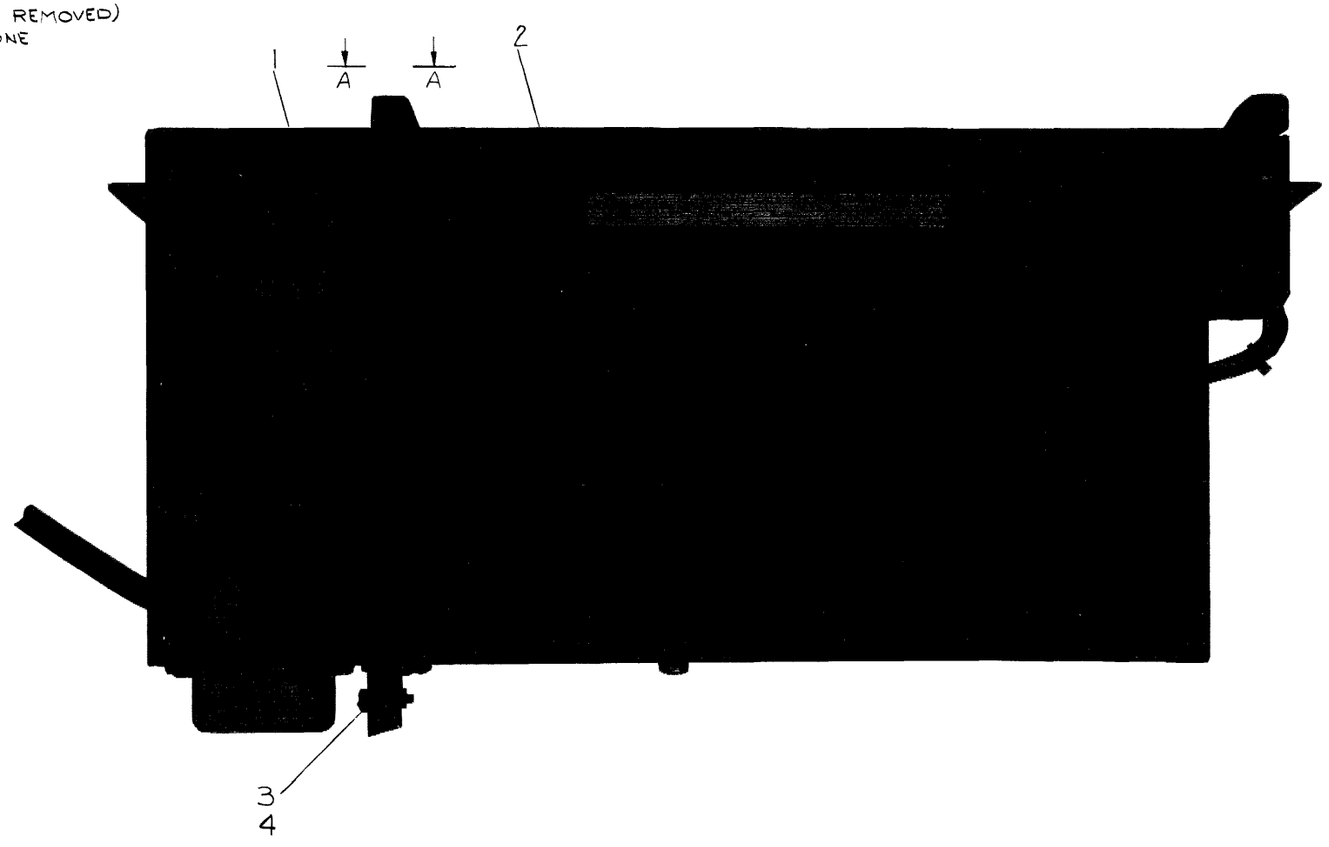
DIST. C

REVISIONS | REV. | CHANGE NO. | CHK

DEC FORM NO. F 100



VIEW A-A
(WITH COVER REMOVED)
SCALE: NONE



NOTES:

1. CONNECTORS MARKED J4 & P4 ARE TO BE CONNECTED BEFORE ASSEMBLING ITEM #1 TO ITEM #2.
2. FOR DWG INDEX LIST REFER TO DWG # D-DI-H72Ø-F-2.

QTY.	DESCRIPTION	PART NO.	ITEM NO.

PARTS LIST

FIRST USED ON OPTION/MODEL: PDP 11

DO NOT SCALE DRAWING

UNLESS OTHERWISE SPECIFIED
DIMENSION IN INCHES
TOLERANCES
DECIMALS ± .005 FRACTIONS ± 1/64 ANGLES ± 0°30'
FINAL SURFACE QUALITY √
REMOVE BURRS AND BREAK SHARP CORNERS

MATERIAL —"—

FINISH —"—

DRN.	DATE	11/24/71
CHK'D.	DATE	12/1/71
ENG.	DATE	12/5/71
PROJ. ENG.	DATE	12/5/71
PROD.	DATE	12/6/71

NEXT HIGHER ASSY: A-ML-H72Ø-F

SCALE —"—

SHEET 1 OF 1

digital EQUIPMENT CORPORATION
MAYNARD, MASSACHUSETTS

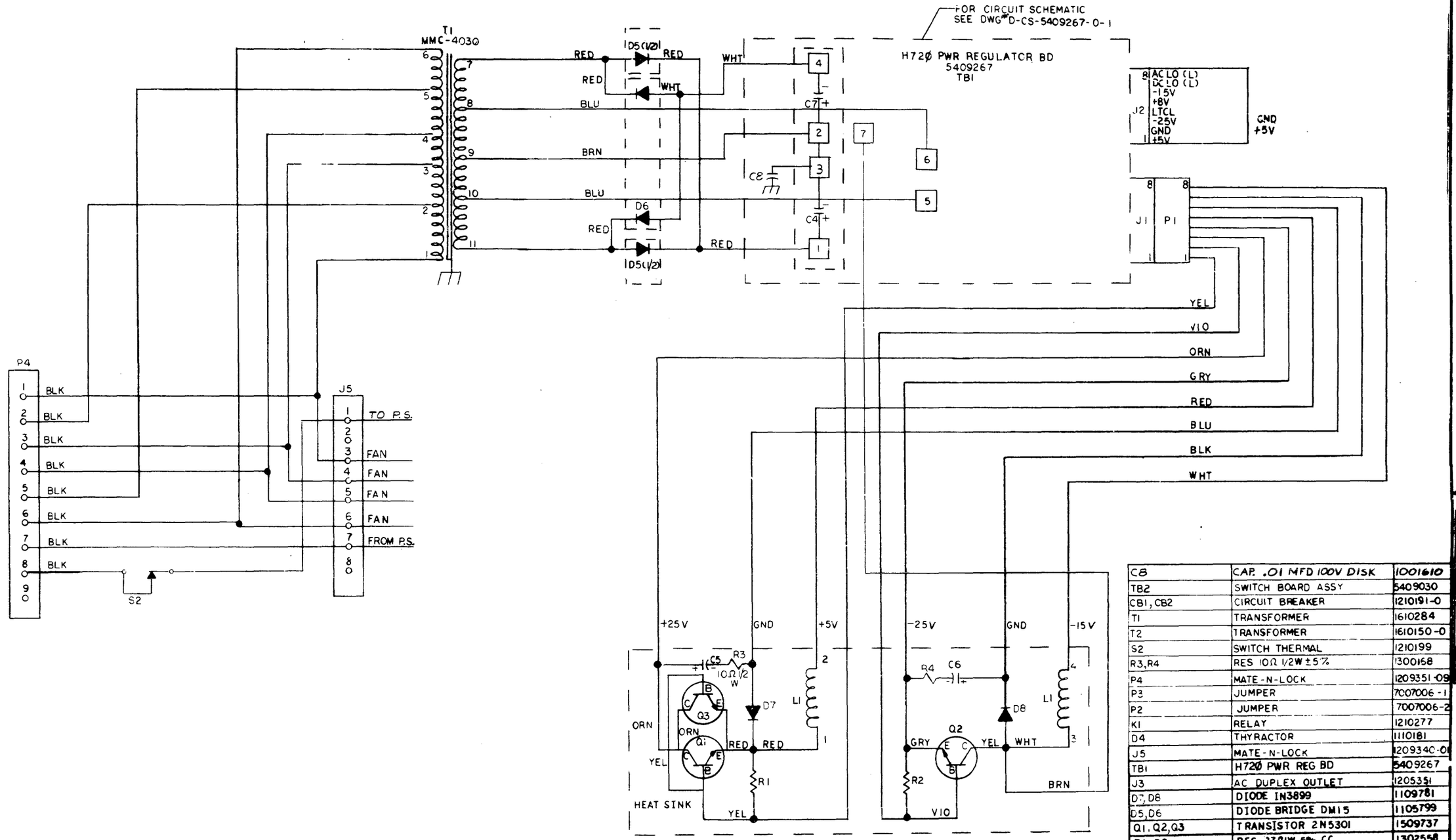
TITLE: POWER SUPPLY H720-F

SIZE	CODE	NUMBER	REV.
D	UA	H72Ø-F-Ø	

DIST. E

REVISIONS: REV. | CHANGE NO. | CHK

DEC FORM NO. 6 100

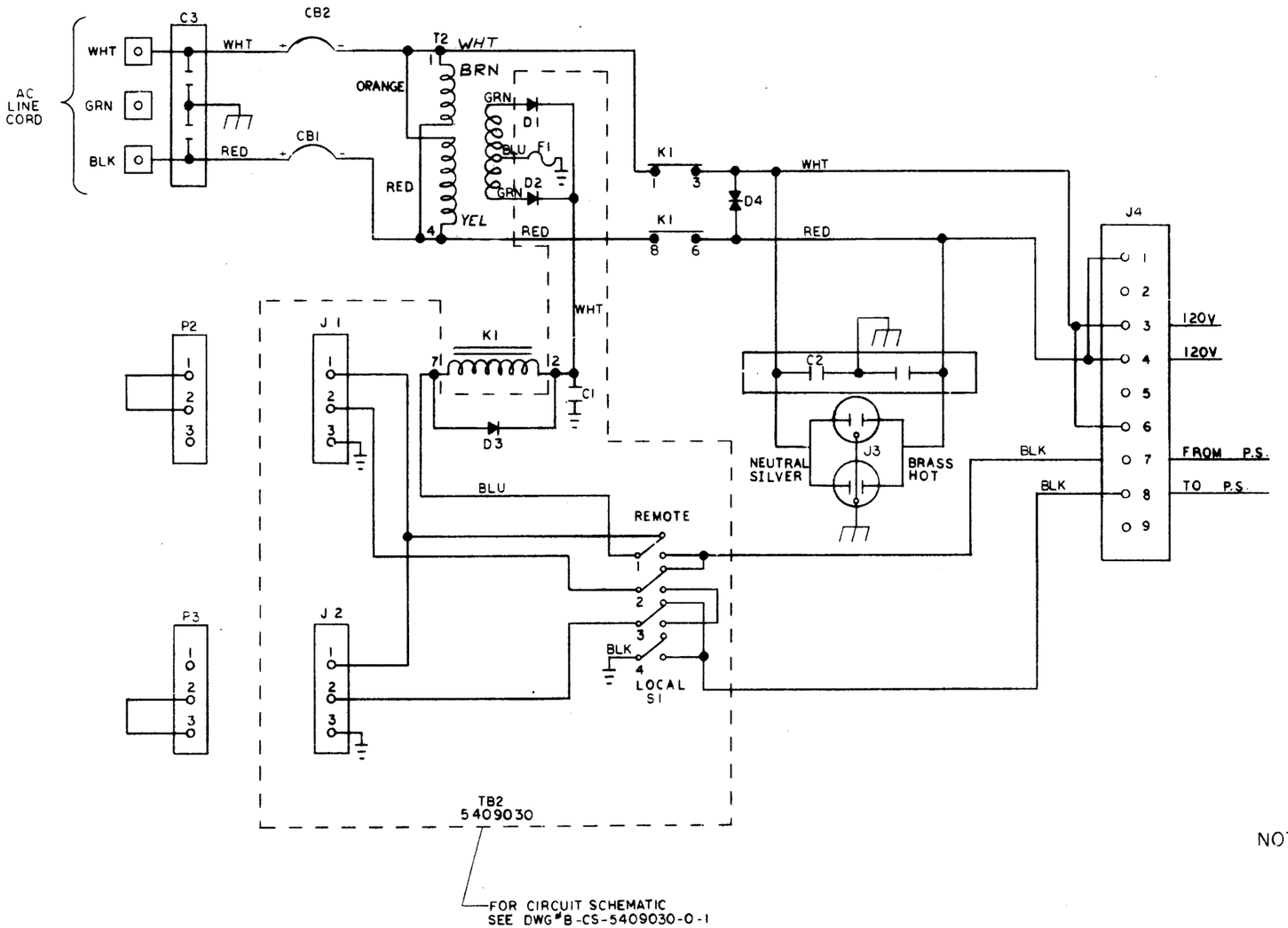


REF DESIGNATION	DESCRIPTION	PART NO
C8	CAP. .01 MFD 100V DISK	1001610
TB2	SWITCH BOARD ASSY	5409030
CB1, CB2	CIRCUIT BREAKER	1210191-0
T1	TRANSFORMER	1610284
T2	TRANSFORMER	1610150-0
S2	SWITCH THERMAL	1210199
R3, R4	RES 10Ω 1/2W ±5%	1300168
P4	MATE-N-LOCK	1209351-09
P3	JUMPER	7007006-1
P2	JUMPER	7007006-2
K1	RELAY	1210277
D4	THYRACTOR	1110181
J5	MATE-N-LOCK	1209340-01
TB1	H720 PWR REG BD	5409267
J3	AC DUPLEX OUTLET	1205351
D7, D8	DIODE IN3899	1109781
D5, D6	DIODE BRIDGE DM15	1105799
Q1, Q2, Q3	TRANSISTOR 2N5301	1509737
R1, R2	RES 27Ω 1W 5% CC	1302558
C5, C6	CAP 1 MFD 150V	1000063
C4, C7	CAP. 22000 MFD 50V	1009189
C2, C3	CAP. 2x. 1MFD 1000V	1002153
P1	CONNECTOR 1480460-0	1209340-01
J4	MATE-N-LOCK	1209350-09
L1	TRANSFORMER COIL	1609762

TRANSISTOR & DIODE CONVERSION CHART			
DEC	EIA	DEC	EIA
2N5301	SAME		
IN3899	SAME		

SHEET 1 OF 2

DRN K. KRYSIAK DATE 10-13-70
DATE 5-20-71
DATE 5-26-71
digital EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS
TITLE POWER SUPPLY H720-E
SIZE D CODE CS H720-E-1 REV
PRINTED CIRCUIT REV.



NOTES:

J4 SHOWN WIRED FOR 117 V INPUT;
FOR 102 V INPUT TAKE JUMPER FROM
J4-1 AND INSERT IT IN J4-2 AND
TAKE JUMPER FROM J4-6 AND INSERT
IT IN J4-5.

TRANSISTOR & DIODE CONVERSION CHART

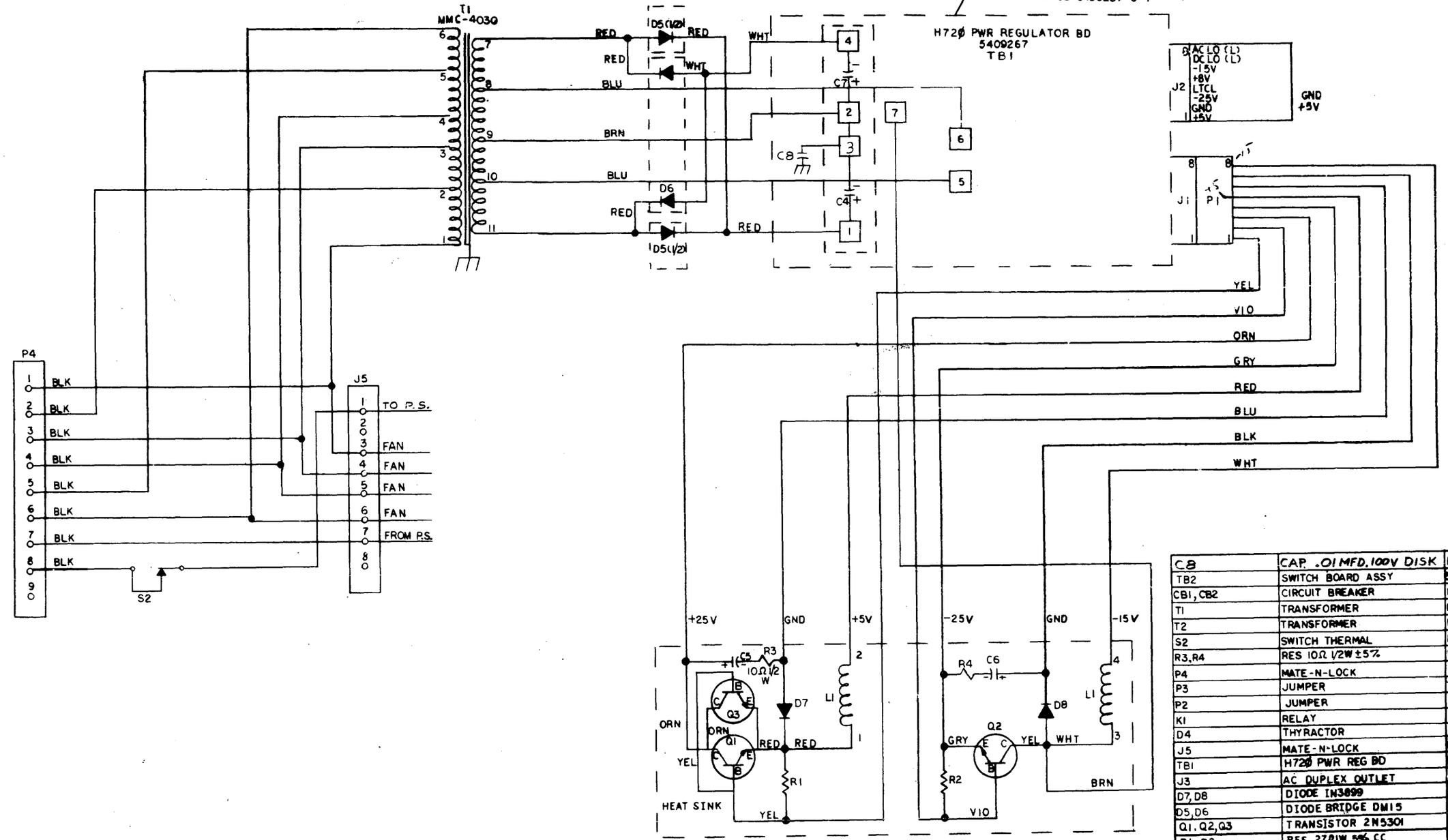
DEC	EIA	DEC	EIA

digital EQUIPMENT CORPORATION MAYNARD MASSACHUSETTS

TITLE: POWER SUPPLY H720-E

SIZE D | CODE CS | NUMBER H720-E-1 | REV

PRINTED CIRCUIT REV.



REF DESIGNATION	DESCRIPTION	PART NO
C8	CAP .01 MFD. 100V DISK	1001610
TB2	SWITCH BOARD ASSY	5409030
CB1, CB2	CIRCUIT BREAKER	1210191-1
T1	TRANSFORMER	1610284
T2	TRANSFORMER	1610150-0
S2	SWITCH THERMAL	1210199
R3, R4	RES 10Ω 1/2W ±5%	1300168
P4	MATE-N-LOCK	1209351-08
P3	JUMPER	7007006-1
P2	JUMPER	7007006-2
K1	RELAY	1210277
D4	THYRACTOR	1102915
J5	MATE-N-LOCK	1209340-0
TB1	H72Ø PWR REG BD	5409267
J3	AC DUPLEX OUTLET	9008856
D7, D8	DIODE IN3899	1109781
D5, D6	DIODE BRIDGE DM15	1105799
Q1, Q2, Q3	TRANSISTOR 2N5301	1509737
R1, R2	RES 27Ω 1W 5% CC	1302558
C5, C6	CAP 1 MFD 150V	1000063
C4, C7	CAP. 22000 MFD 50V	1009189
C2, C3	CAP. 2X. 1MFD 1000V	1002153
P1	CONNECTOR 1480460-0	1209340-0
J4	MATE-N-LOCK	1209350-0
L1	TRANSFORMER COIL	1609762

SHEET 1 OF 2

TRANSISTOR & DIODE CONVERSION CHART

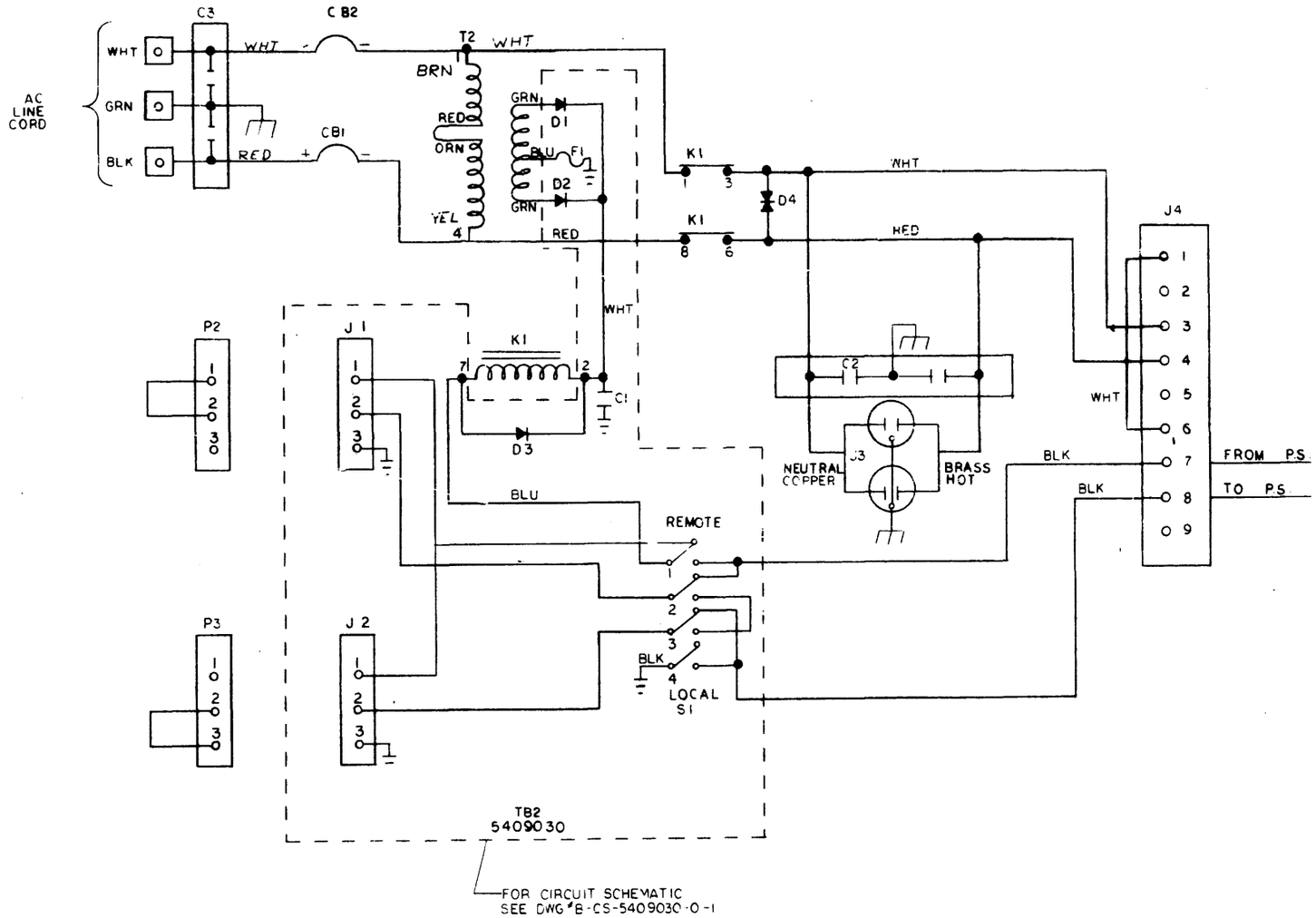
DEC	EIA	DEC	EIA
2N5301	SA81		
1N3899	SA94		

digital EQUIPMENT CORPORATION MAYNARD MASSACHUSETTS

POWER SUPPLY H72Ø-F

D | CS | H72Ø-F-1 | REV

PRINTED CIRCUIT REV.



NOTES:

J4 SHOWN WIRED FOR 235V INPUT; FOR 220V INPUT TAKE JUMPER FROM J4-1 AND INSERT IT IN J4-2 FOR 205V INPUT TAKE JUMPER FROM J4-1 AND INSERT IT IN J4-2 AND TAKE JUMPER FROM J4-6 AND INSERT IT IN J4-5.

TRANSISTOR & DIODE CONVERSION CHART

DEC	EIA	DEC	EIA

digital EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS

TITLE: POWER SUPPLY H720 F

SIZE D | CODE CS | H720-F-1 | REV

PRINTED CIRCUIT REV.

DIGITAL EQUIPMENT CORPORATION
MAYNARD, MASSACHUSETTS

PARTS LIST

MADE BY G. FLANDERS DATE 4/28/71	CHECKED J. FLEMING DATE 5/8/71	SECTION 1
ENG C R Blair DATE 5/25/71	PROD W Cull DATE 5/26/71	ISSUED SECT. 1

ITEM NO.	DWG NO. / PART NO.	DESCRIPTION	QUANTITY / VARIATION
1	D-AD-7007257-1-0	CHASSIS ASSY, POWER CONTROL	1
2	D-AD-7008303-0-0	CHASSIS ASSY, POWER SUPPLY	1
3	9006036-1	SCR PHL HD PAN #8-32 X 5/16 SST	4
4	9006634	WASHER INT TOOTH #8	4
REF	D-CS-H72Ø-E-1	CIRCUIT SCHEMATIC	

TITLE	ASSY NO.	SIZE	CODE	NUMBER	REV.	ECO NO.
POWER SUPPLY H72Ø-E	D-UA-H72Ø-E-Ø	A	PL	H72Ø-E-Ø		
	SHEET 1 OF 1	DIST.	G			

DEC FORM NO. 16-1031
DRA 110

DIGITAL EQUIPMENT CORPORATION
MAYNARD, MASSACHUSETTS

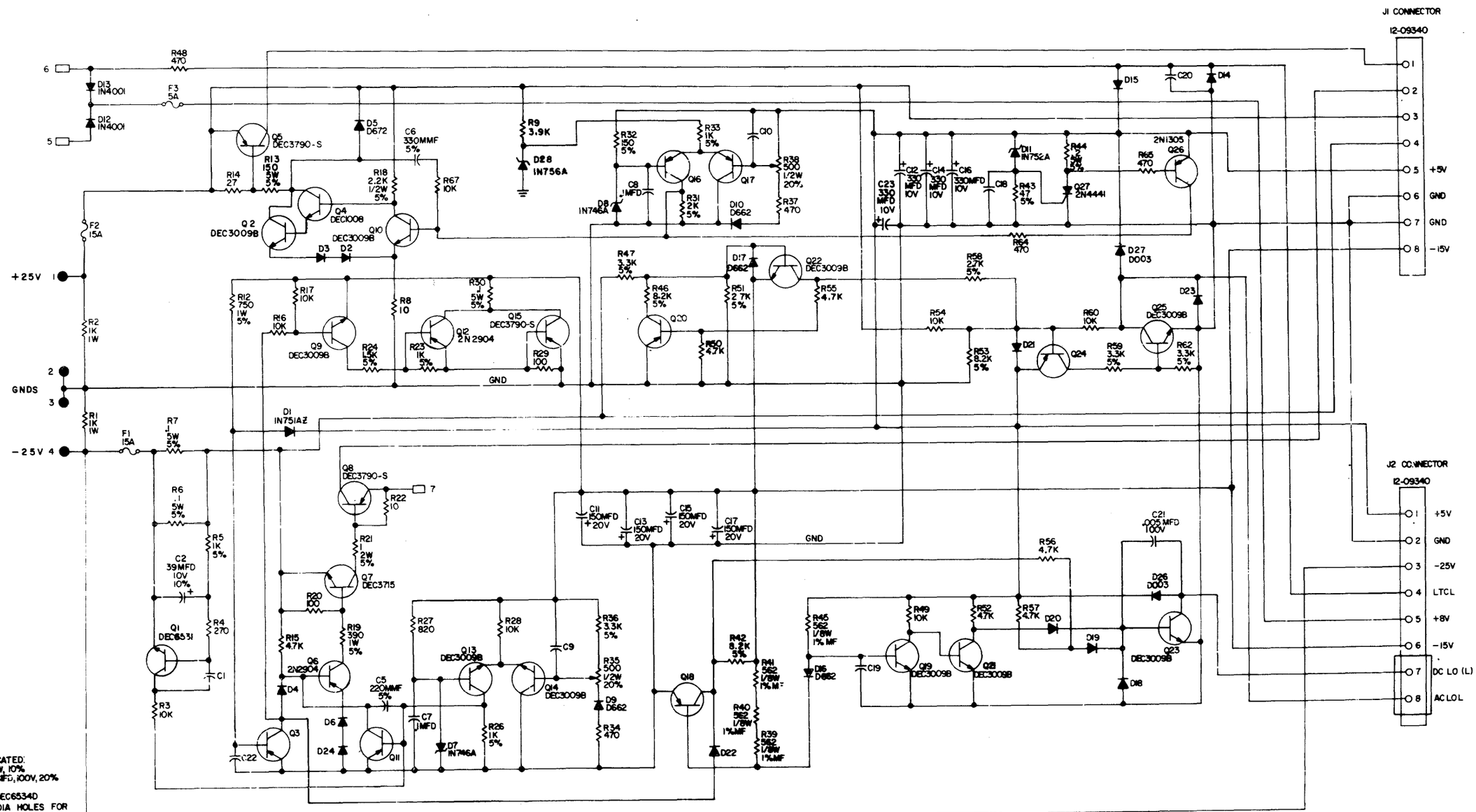
PARTS LIST

MADE BY G FLANDERS DATE 4/28/71	CHECKED J Fleming DATE 5-20-71	SECTION 1
ENG C R Blas DATE 5/25/71	PROD W Cull DATE 5/26/71	ISSUED SECT. 1

ITEM NO.	DWG NO. / PART NO.	DESCRIPTION	QUANTITY / VARIATION
1	D-AD-7007257-2-0	CHASSIS ASSY, POWER CONTROL	1
2	D-AD-7008303-0-0	CHASSIS ASSY, POWER SUPPLY	1
3	9006036-1	SCR PHL HD PAN #8-32 X 5/16 SST	4
4	9006634	WASHER INT TOOTH #8	4
REF	D-CS-H72Ø-F-1	CIRCUIT SCHEMATIC	

TITLE	ASSY NO.	SIZE	CODE	NUMBER	REV.	ECO NO.
POWER SUPPLY H72Ø-	D-UA-H72Ø-F-Ø	A	PL	H72Ø-F-Ø		
	SHEET 1 OF 1	DIST.	C			

DEC FORM NO. 16-1031
DRA 110



UNLESS OTHERWISE INDICATED:
RESISTORS ARE 1/4W, 10%
CAPACITORS ARE .01MFD, 100V, 20%
DIODES ARE D664
TRANSISTORS ARE DEC6534D
● INDICATES 11/64 DIA HOLES FOR MOUNTING CAPACITORS
□ INDICATES FAST ON TABS

TRANSISTOR & DIODE CONVERSION CHART

DEC	EIA	DEC	EIA
2N1308	SAME		
DEC6531	SPS6531		
2N4444	SAME		
D672	IN3613		
DEC3715	2N3715	IN756A	
2N2904	SAME	D003	IN1994
D662	IN645	IN752A	SAME
D681	IN5606	DEC3534	MPS6534
IN4001	SAME	DEC3790-S	2N3790
IN746A	SAME	DEC3009B	2N3009B
IN751A2	SAME	DEC1008	MM1008

DRAWN	J. COOPER	DATE	2/26/71
CHKD	[illegible]	DATE	3/1/71
ENGR	[illegible]	DATE	
PROD		DATE	

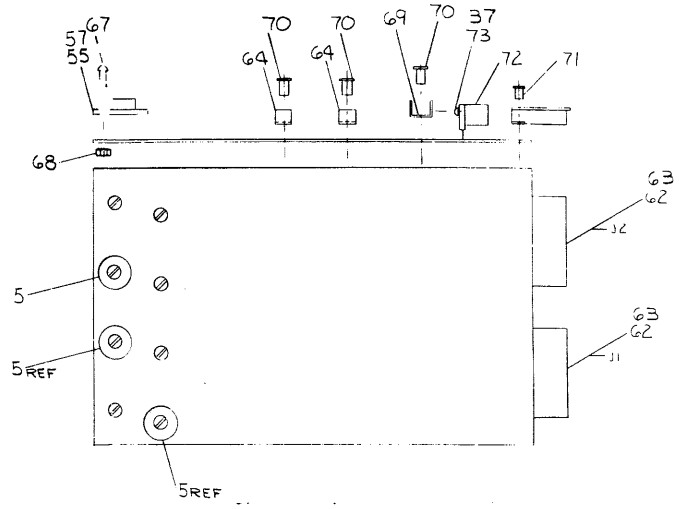
digital EQUIPMENT CORPORATION (MAYNARD MASSACHUSETTS)

TITLE REGULATOR BOARD 5409267

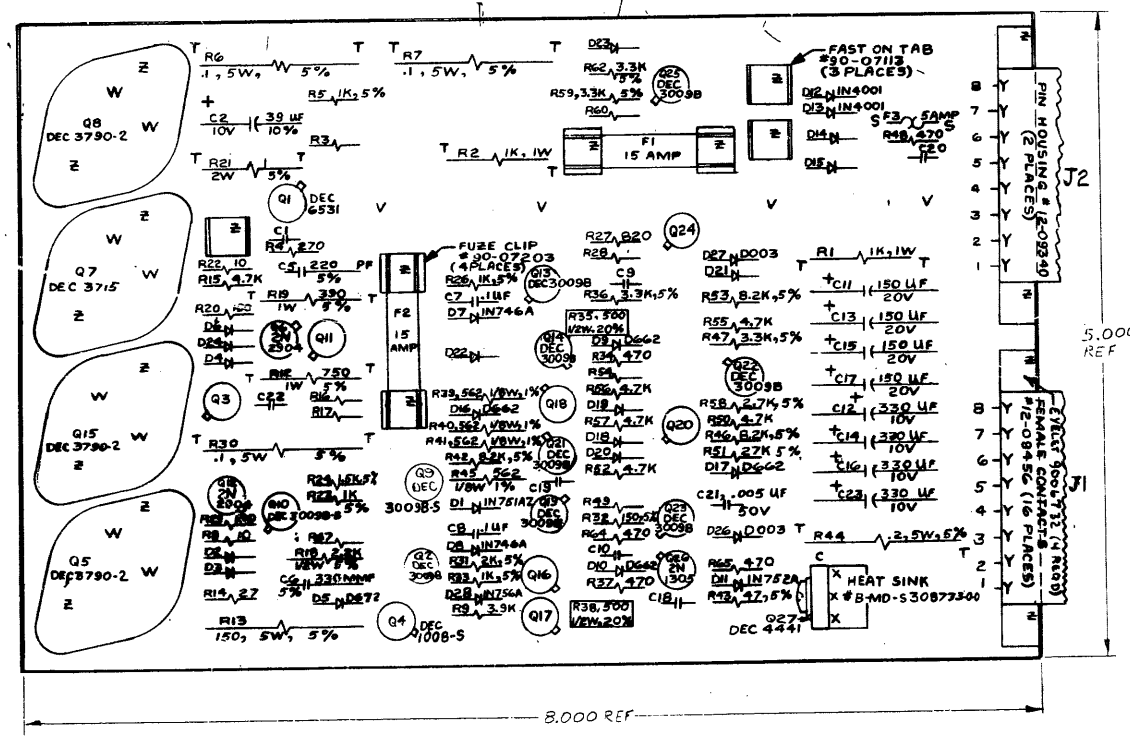
SIZE	CODE	NUMBER	REV
D	CS	5409267-0-1	A

PRINTED CIRCUIT REV B

PINK



REAR VIEW
SCALE: 1/1



1		SCREW 6-32 x 1/2	9CC6C29-1	73
1		HEAT SINK	2-140-5306133-0-0	72
4		EYELET: GS-4-7 STIMPSON	9C06732	71
7		EYELET GS-4-4 STIMPSON	9CC7837	70
3		COAX #41290 REF: LESS	9C07113	69
8		KEPS NUT #6-40	9C06C57	68
8		SCR PNL HD PAN #4-40 X 5/16	9CC6C11	67
2		CONNECTOR JACK	1203336	66
2	F1, F2	15 AMP FUSE	9CC7226	65
4		FUSE CLIP	9C07203	64
16		CONTACTS	1209356	63
2	J1,J2	PIN HOUSING	12C9349-01	62
1	F3	FUSE 5AMP	1205297	61
1	Q1	TRANSISTOR D6531	13C9338	60
1	Q27	TRANSISTOR 2N4441	1505467	59
7	Q3,Q11,Q14,Q17,Q18,Q20,Q26	TRANSISTOR DEC 6534D	1503409-00	58
3	Q5, Q8, Q15	TRANSISTOR DEC 3790-2	1505415	57
10	Q2,Q9,Q10,Q13,Q16 Q19,Q21,Q22,Q23,Q25	TRANSISTOR DEC 3009B	1503100	56
1	Q7	TRANSISTOR DEC 3715	1503068	55
1	Q4	TRANSISTOR DEC 1008	1502155	54
2	Q6, Q12	TRANSISTOR 2N2904	1501792	53
1	Q26	TRANSISTOR 2N1305	1500581-02	52
2	R35, R38	RES. 500, 1/2 W. 20% PCT	1309811	51
1	R44	RES. 2.5W. 5%	1309884	50
3	R6, R7, R30	RES. .1,5W 5% W.W.	1305872	49
1	R21	RES. 1.2W 5% W.W.	1305828	48
4	R39, R40, R41, R45	RES. 562, 1/8W 1% MF	1304693	47
1	R51	RES. 27K, 1/4 W. 5%	1305396	46
1	R31	RES. 2K, 1/4 W. 5%	1302388	45
1	R12	RES. 750, 1W., 5%	1302385	44
1	R19	RES. 390, 1W. 5%	1302384	43
1	R13	RES. 150, 5W., 5%	1301878	42
1	R9	RES. 3.9K, 1/8W, 10%	1301500	41
2	R1, R2	RES. 1K, 1W., 10%	1301499	40
1	R14	RES. 27, 1/4W., 10%	1301420	39
3	R42, R46, R53	RES. 8.2K, 1/4W. 5%	1301316	38
1		WASHER INT. TOOTH #6	9006633	37
8	R3, R16, R17, R28, R49 R54, R60, R67	RES. 10K, 1/4W 10%	1300481	36
6	R15, R50, R52, R55, R57, R67	RES. 4.7K, 1/4W, 10%	1300478	35
4	R36, R47, R59, R62	RES. 3.3K, 1/4 W. 5%	1300439	34
1	R58	RES. 2.7K, 1/4 W. 5%	1300426	33
1	R18	RES. 2.2K, 1/4 W. 5%	1300415	32
1	R24	RES. 1.5K, 1/4 W. 5%	1300391	31
4	R5, R23, R26, R33	RES. 1K 1/4 W. 5%	1300365	30
1	R27	RES. 820, 1/4 W. 10%	1300357	29
5	R34, R37, R48, R64, R65	RES. 470, 1/4 W. 10%	1300317	28
1	R4	RES. 270, 1/4 W. 10%	1300286	27
1	R32	RES. 150, 1/4 W. 5%	1300250	26
2	R20, R29	RES. 100, 1/4 W, 10%	1300231	25
1	R43	RES. 47, 1/4 W. 5%	1300202	24
2	R8, R22	RES. 10, 1/4 W. 10%	1300170	23
1	D1	DIODE IN751A2	1105873	22
1	D5	DIODE D672	1105275	21
2	D8, D7	DIODE IN746A	1104660	20
1	D28	DIODE IN756A	1103491	19
2	D12, D13	DIODE IN4001	1102954	18
1	D11	DIODE IN752A	1102808	17
13	D2, D3, D4, D6, D14, D15, D16, D17, D18, D20, D23, D25, D27	DIODE D664	1100114	16
4	D9, D10, D16, D17	DIODE D662	1100113	15
2	D26, D27	DIODE D003	1100100	14
4	C11, C13, C15, C17	CAP. 150UF, 20V, 20%	1009869	13
4	C12, C14, C16, C23	CAP. 330 UF, 10V, 10%	1009868	12
1	C21	CAP. .005 UF, 100V, 20%	1001765	11
7	C1, C10, C18, C9, C22 SPARE	CAP. .01 UF, 100V, 20%	1001610	10
1	C2	CAP. 39 UF, 10V, 10%	1000976	9
2	C7, C8	CAP. .1 UF, 100V, 20% .015C	1000036	8
1	C6	CAP. 330 PF, 100V, 5%, D.M.	1000023	7
1	C5	CAP. 220 PF, 100V, 5%, D.M.	1000021	6
3		NYLON WASHER	9006706	5
REF				
1		MODULE ECO HISTORY	BMH-5907267-04	4
1		ETCHED CIRCUIT BOARD	E.I.A-5907266-0-0	3
REF		X-Y COORDINATE HOLE LOCATION	X-C.O-5907267-04	2
REF		CIRCUIT SCHEMATIC	D.C.S-5907267-04	1
QTY.	REF DESIGNATION	DESCRIPTION	PART NO.	ITEM

PARTS LIST

TSTR DEC6531	MPS 6531
TSTR 2N4441	SAME
TSTR DEC6534D	MPS 6534-Q
TSTR DEC3790-2	2N 3790-2
TSTR DEC3009B	2N3009 B
TSTR DEC3715	—"
TSTR DEC1008	MM 1008
TSTR 2N2904	SAME
TSTR 2N1305	SAME
DIODE IN751A2	—"
DIODE D672	IN 3453
DIODE IN746A	SAME
DIODE IN756A	SAME
DIODE IN4001	IN 4001
DIODE IN752A	SAME
DIODE D664	IN 3676
DIODE D662	IN 645
DIODE D003	IN 459

SEMICONDUCTOR CONVERSION CHART

FIRST USED ON CUSTOM MODEL H726-E

ETCH BOARD REV

REV.	CHANGE NO.	DESCRIPTION

DWN. — DATE 1-7-71
CHKD. — DATE 1-20-71
ENGR. — DATE 1-26-71
APPL. ENG. — DATE 1-27-71
PROD. — DATE

NEXT HIGHER ASSY D-AD-7098303-0-0

EQUIPMENT CORPORATION
WESTFORD, MASSACHUSETTS

TITLE: REGULATOR BOARD

SIZE: C | CODE: | NUMBER: E.I.A 5907267-0-0 | REV:
SCALE: 2/1 | SHEET: OF 1 | DIST:

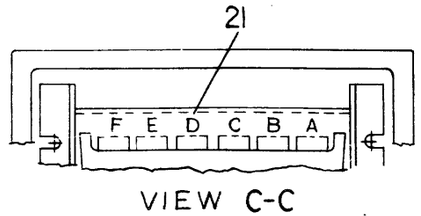
IC TYPE | GND | +5V

GND AND 5V ARE USUALLY PIN 7 AND 14 RESPECTFULLY. EXCEPTIONS ARE STATED ABOVE

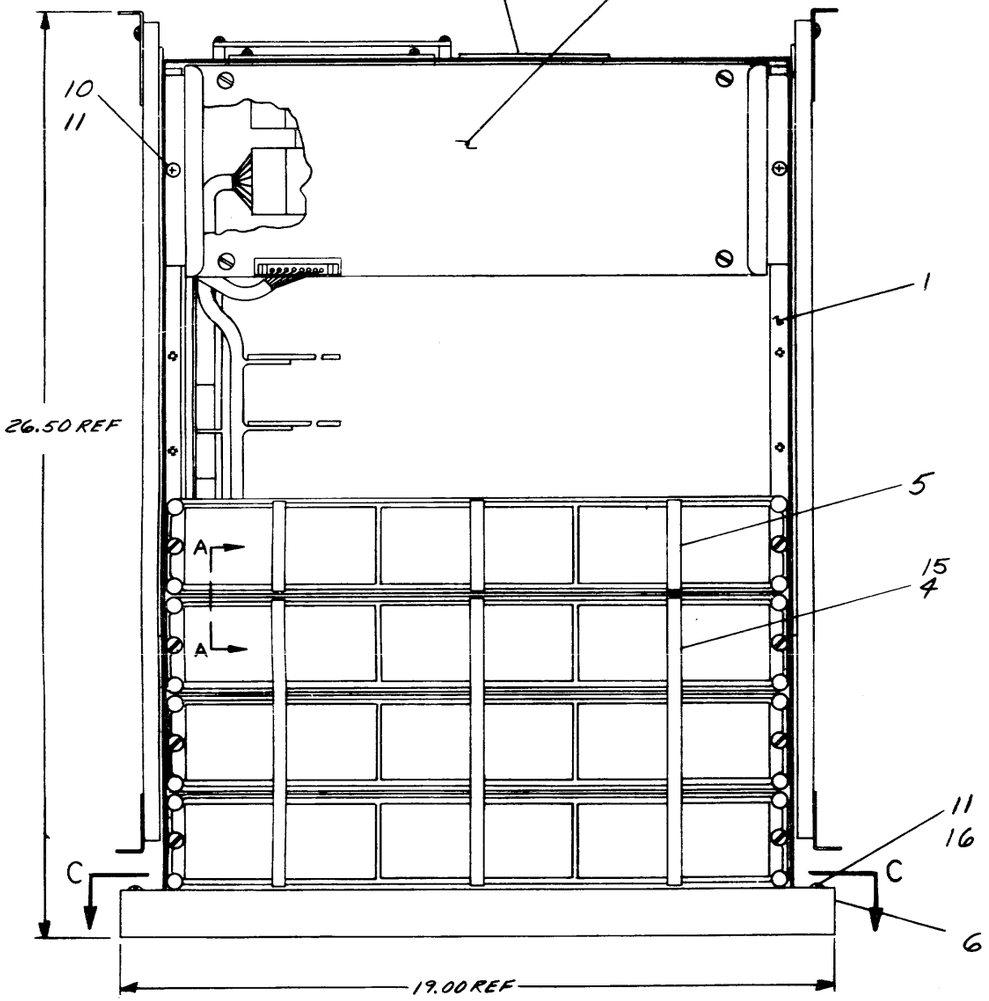
IC PIN LOCATIONS

ITEM NO	AWG	FROM PT	TO PT

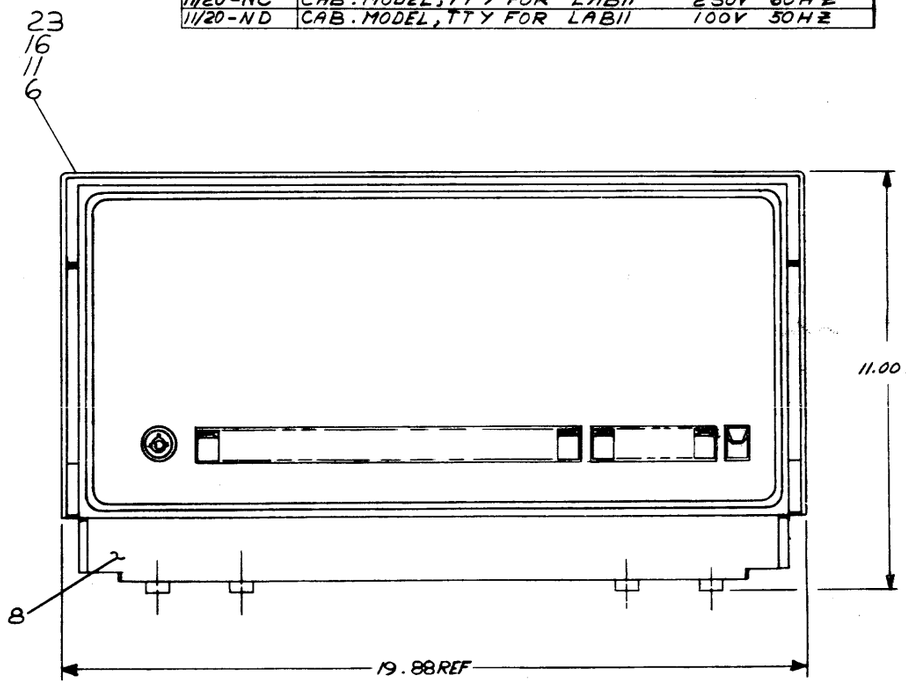
JUMPER LIST



VIEW C-C



VIEW OF BASIC UNIT WITH TOP COVER REMOVED (RACK MTD)



FRONT VIEW (TABLE MODEL) OF BASIC UNIT WITH SUPER COVER. EXPANDER UNIT THE SAME EXCEPT IN PLACE OF ITEM #1, 6, 11 & 16 USE ITEM #18

LEGEND

NUMBER	VARIATION	
11/20-AA	RACK MOUNTED, TTY	115V 60HZ
11/20-AB	RACK MOUNTED, TTY	230V 50 HZ
11/20-BA	TABLE MODEL, TTY	115V 60 HZ
11/20-BB	TABLE MODEL, TTY	230V 50 HZ
11/20-CA	CAB. MODEL, TTY	115V 60 HZ
11/20-CB	CAB. MODEL, TTY	230V 50 HZ
11/20-DA	RACK MOUNTED, TTY — (OEM)	115V 60 HZ
11/20-DB	RACK MOUNTED, TTY — (OEM)	230V 50 HZ
11/20-EA	TABLE MODEL, TTY — (OEM)	115V 60 HZ
11/20-EB	TABLE MODEL, TTY — (OEM)	230V 50 HZ
11/20-FA	CAB. MODEL, TTY — (OEM)	115V 60 HZ
11/20-FB	CAB. MODEL, TTY — (OEM)	230V 50 HZ
11/20-HA	RACK MOUNTED, NO TTY — (OEM)	115V 50/60 HZ
11/20-HB	RACK MOUNTED, NO TTY — (OEM)	230V 50/60 HZ
11/20-JA	TABLE MODEL, NO TTY — (OEM)	115V 50/60 HZ
11/20-JB	TABLE MODEL, NO TTY — (OEM)	230V 50/60 HZ
11/20-KA	CAB. MODEL, NO TTY — (OEM)	115V 50/60 HZ
11/20-KB	CAB. MODEL, NO TTY — (OEM)	230V 50/60 HZ
11/20-MA	RACK MOUNTABLE, TTY FOR LAB11	115V 60 HZ
11/20-MB	RACK MOUNTABLE, TTY FOR LAB11	230V 50 HZ
11/20-MC	RACK MOUNTABLE, TTY FOR LAB11	230V 60 HZ
11/20-MD	RACK MOUNTABLE, TTY FOR LAB11	100V 50 HZ
11/20-NA	CAB. MODEL, TTY FOR LAB11	115V 60 HZ
11/20-NB	CAB. MODEL, TTY FOR LAB11	230V 50 HZ
11/20-NC	CAB. MODEL, TTY FOR LAB11	230V 60 HZ
11/20-ND	CAB. MODEL, TTY FOR LAB11	100V 50 HZ

NOTES

1. FOR DWG INDEX LIST REFER TO D-DI-11/20-0-1.
2. HOLES A49 & A50 ARE USED TO MOUNT CHASSIS SLIDE (PART OF ITEM #1) FOR CAB MODEL.
3. ITEMS #7, 8 & 9 FOR SHIPMENT ONLY, TO BE REMOVED AFTER FINAL SHIPMENT. REAR SCREW OF BRKT TO BE INSTALLED BACK INTO TRACK.
4. WHEN 6 UNIT SPACES ARE FILLED SYSTEM WILL REQUIRE ADDITIONAL EXPANDER UNIT (ITEM #18) & H720 P/S (ITEM #3).
5. M920 INTERNAL BUS CONN SUPPLIED WITH EACH ADDITIONAL LOGIC OPTION. FOR CONNECTING OPTIONS IN BASIC UNIT WITH OPTIONS IN EXPANDER UNIT (ITEM #18) USE CABLE BC11A-8F-0 (PART OF ITEM #18).

REVISIONS			
CHK	CHANGE NO.	REV.	
[illegible]	11/20-00002	A	
BLASI			
CAB.	11/20-00007	B	
M. Quinn 10-5-71			
B. WEEKS			
B.D. Weeks 10-7-71			

QTY.	DESCRIPTION	PART NO.	ITEM NO.
PARTS LIST			

FIRST USED ON OPTION/MODEL: PDP11

DO NOT SCALE DRAWING
UNLESS OTHERWISE SPECIFIED DIMENSION IN INCHES
TOLERANCES
DECIMALS ± .005 FRACTIONS ± 1/64 ANGLES ± 0°30'
FINAL SURFACE QUALITY
REMOVE BURRS AND BREAK SHARP CORNERS
MATERIAL
FINISH

		DATE
DWN.	[illegible]	10-7-70
CHK'D	[illegible]	10/7/70
ENGR	[illegible]	10/7/70
PROJ.	[illegible]	10/7/70
MFG	[illegible]	10/7/70

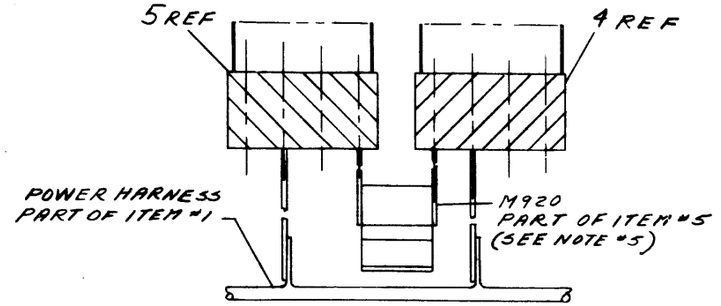
NEXT HIGHER ASSY: A-ML-11/20-0
SCALE 1/2
SHEET 1 OF 2

EQUIPMENT CORPORATION
MAYNARD, MASSACHUSETTS

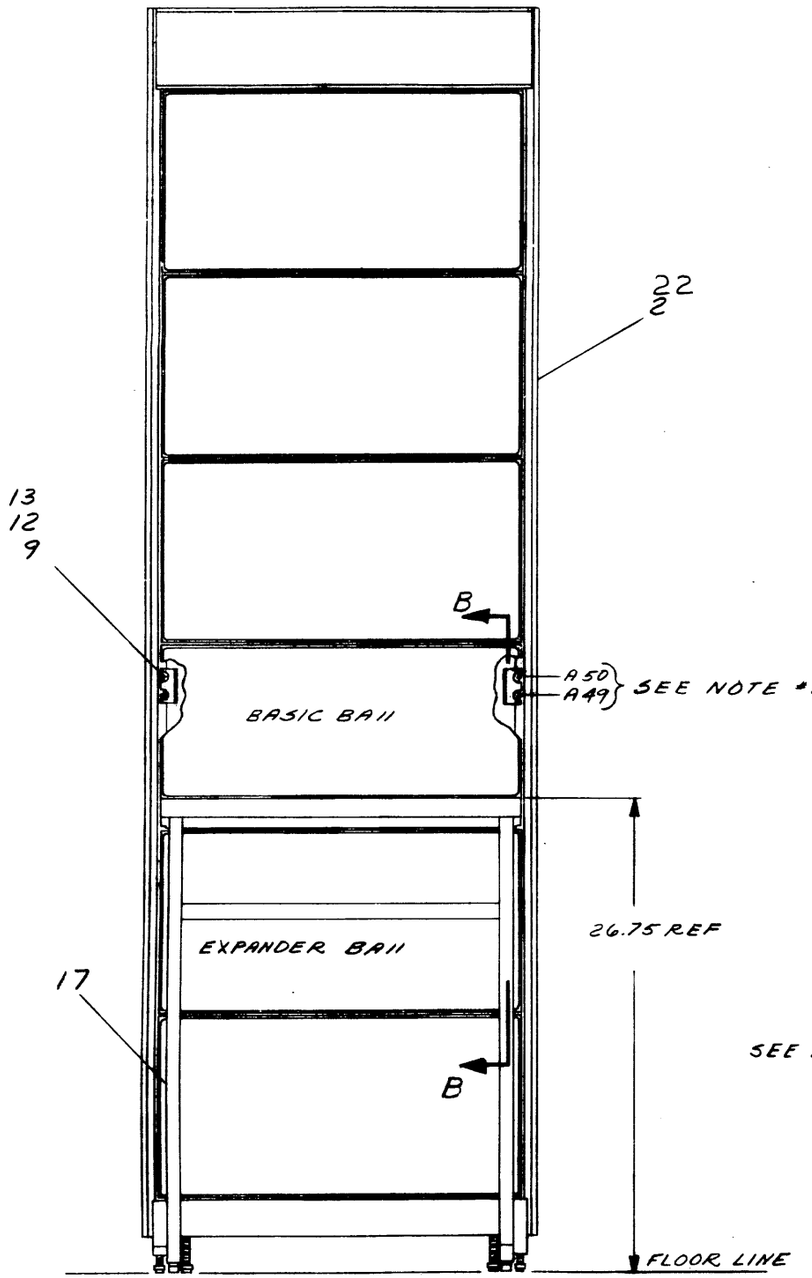
TITLE: BASIC ASSY/ CONFIGURATION (PDP11)

SIZE D | CODE UA | NUMBER 11/20-0-0 | REV B
DIST.

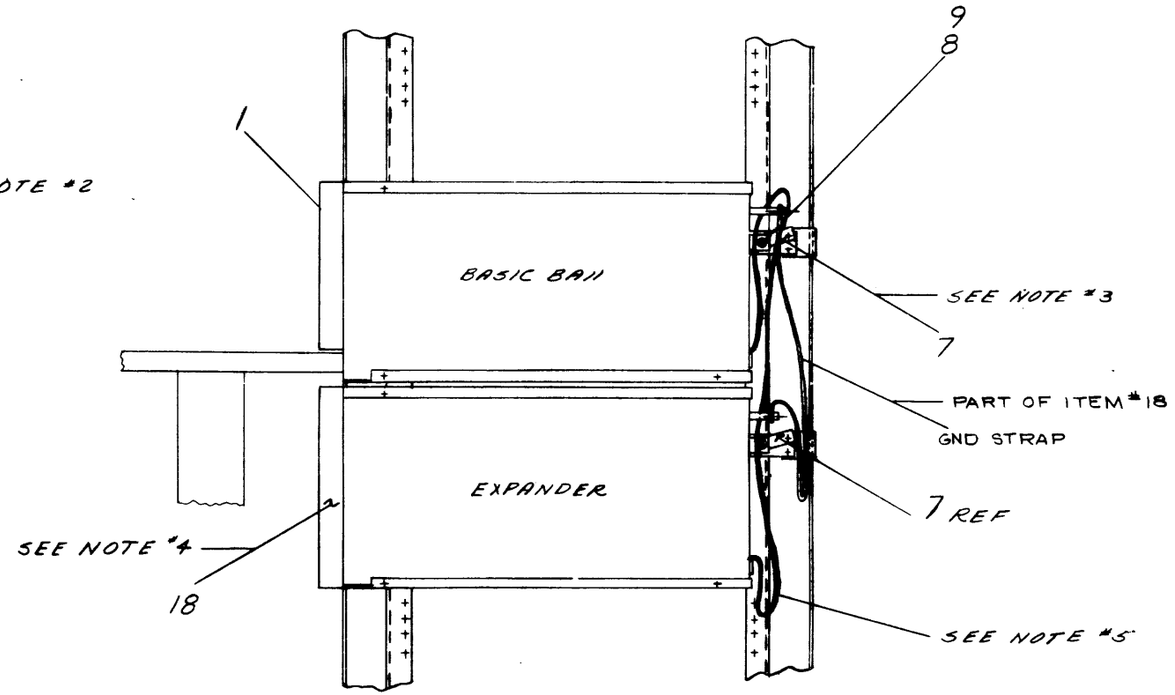
DEC FORM NO. DRD 1B9



SECTION A-A
SCALE: 1/1



CAB MODEL WITH EXPANDER UNIT



SECTION B-B

QTY.	DESCRIPTION	PART NO.	ITEM NO.

PARTS LIST

FIRST USED ON OPTION/MODEL: PDP11

DO NOT SCALE DRAWING
UNLESS OTHERWISE SPECIFIED
DIMENSION IN INCHES
TOLERANCES
DECIMALS ± .005 FRACTIONS ± 1/64 ANGLES ± 0°30'
FINAL SURFACE QUALITY
REMOVE BURRS AND BREAK SHARP CORNERS
MATERIAL
FINISH

DRW. [signature] DATE 9-26-69
CH'K'D. [signature] DATE 10/1/70
APP'D. [signature] DATE 10/1/70
PROJ. [signature] DATE 10/1/70
NEXT HIGHER ASSY A-ML-11/20-0
SCALE NONE
SHEET 2 OF 2

digital EQUIPMENT CORPORATION
MAYNARD, MASSACHUSETTS

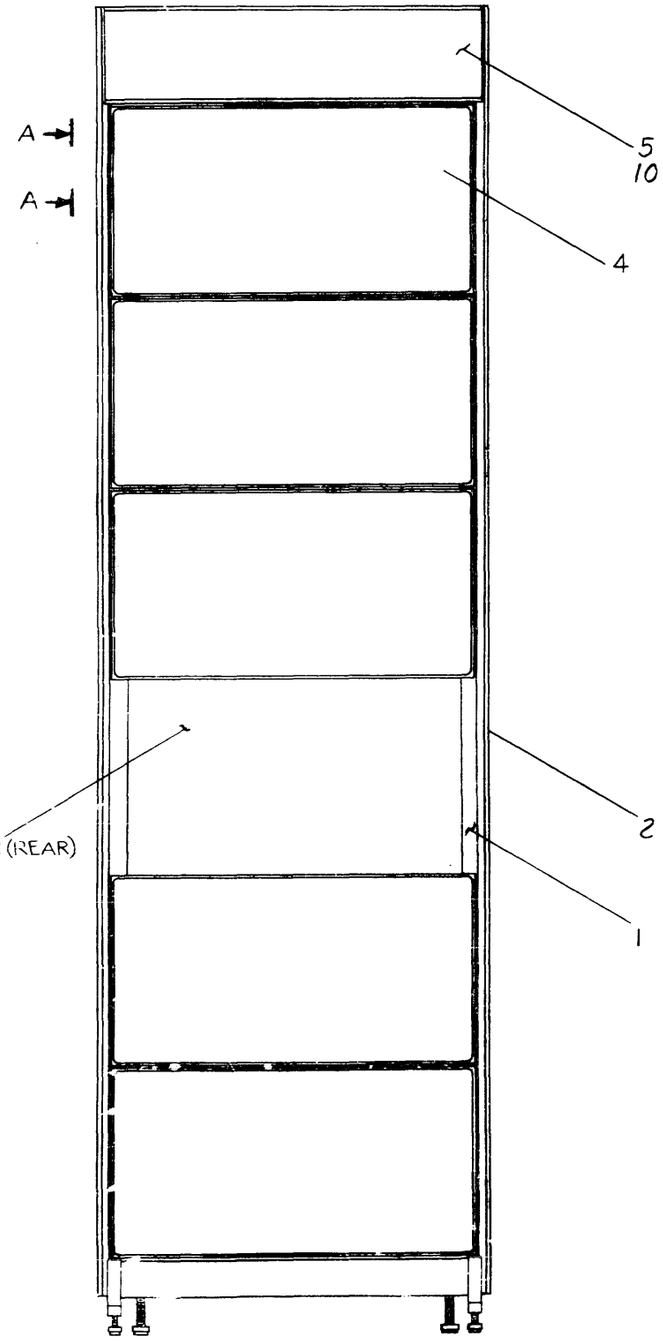
TITLE: BASIC ASSEMBLY/ CONFIGURATION (PDP11)

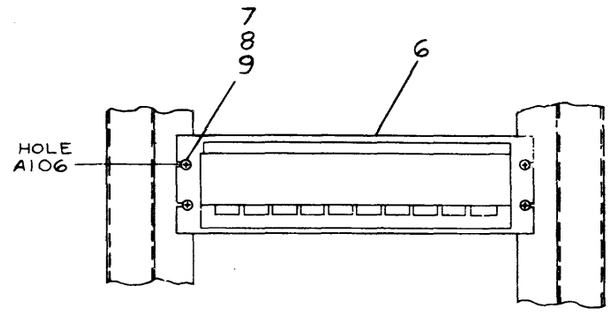
SIZE D | CODE DUA | NUMBER 11/20-0-0. | REV. B
DIST. 6

REVISIONS | REV. | CHANGE NO. | CHK

DEC FORM NO DRD 100

SIZE D | CODE DUA | NUMBER 11/20-0-0 | REV B





VIEW A-A
SCALE: NONE
VIEW SHOWN MINUS ITEMS 2 & 4

NOTES:
1. FOR DWG INDEX LIST REFER TO D-DI-H960-C-1
2. FOR ASSEMBLY INSTRUCTIONS SEE DWG. D-OC-H950-0-0 & D-OC-H952-0-0.
3. FOR INSTALLATION IN PDP11 SYSTEM REFER TO DWG D-UA-PDP11-20-0.

REVISIONS		
CHK	CHANGE NO.	REV
	H960C 0001	—
	WAS D-UA-H960-CA-0	
	S. Wilson 9-23-71	
	B. WEEKS	
	D. Howell 9-24-71	

QTY.	DESCRIPTION	PART NO.	ITEM NO.
	PARTS LIST		

FIRST USED ON OPTION/MODEL: PDP11

DO NOT SCALE DRAWING
UNLESS OTHERWISE SPECIFIED
DIMENSION IN INCHES
TOLERANCES
DECIMALS ± .005 | FRACTIONS ± 1/64 | ANGLES ± 0°30'
FINAL SURFACE QUALITY √
REMOVE BURRS AND BREAK SHARP CORNERS

MATERIAL —

FINISH —

		DATE
DRN		9-17-69
CHK'D		9-24-69
ENG		9-24-69
MGR		9-24-69
PROJ		9-24-69

NEXT HIGHER ASSY: D-UA-PDP11-20-0

SCALE: NONE
SHEET 1 OF 1

digital EQUIPMENT CORPORATION MAYNARD MASSACHUSETTS

TITLE: CABINET ASSY (PDP11)

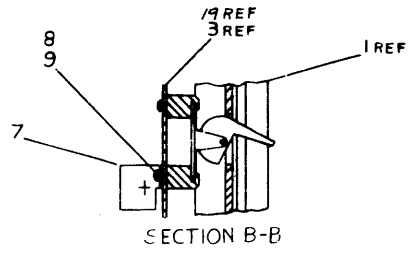
SIZE: D | CODE: UA | NUMBER: H960-C-0 | REV:

DIST:

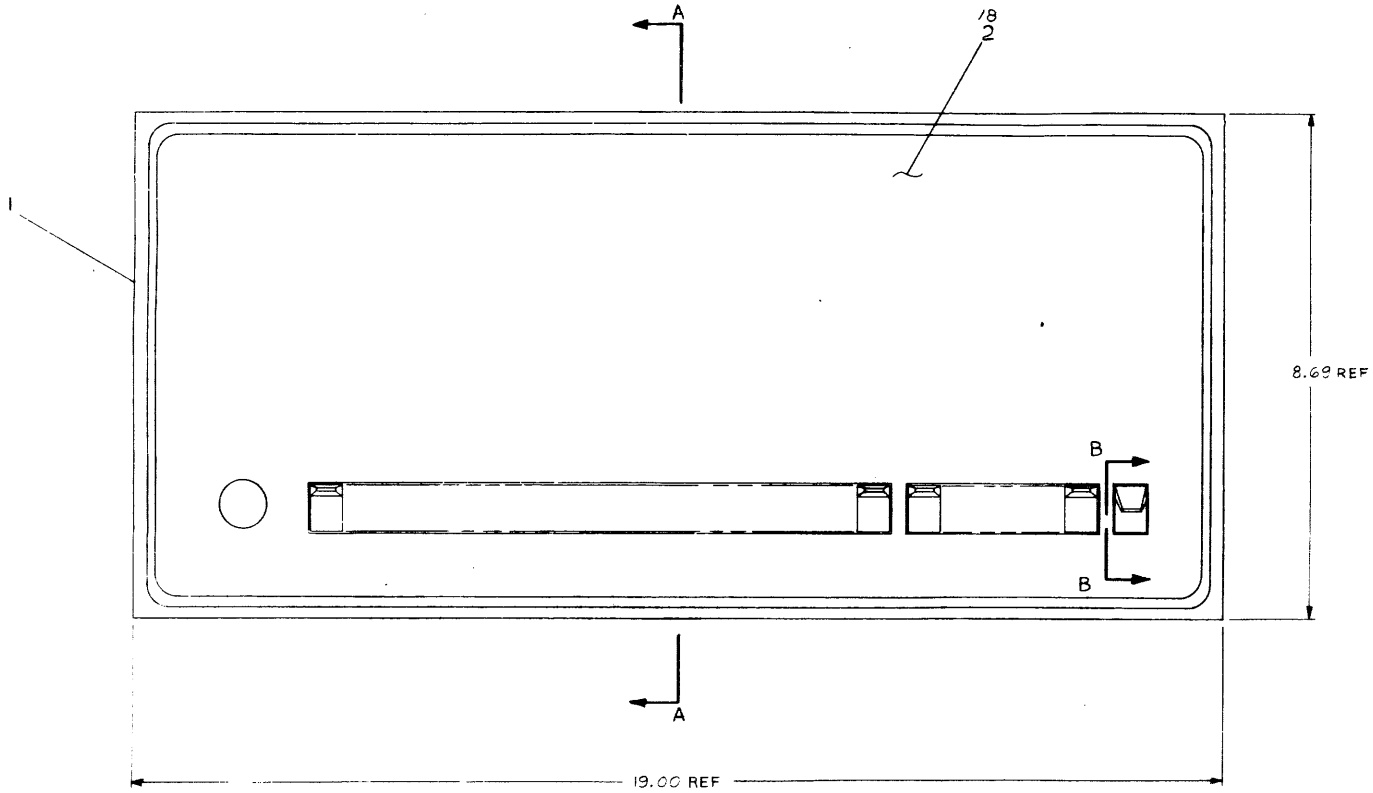
DEC FORM NO. DRD 100

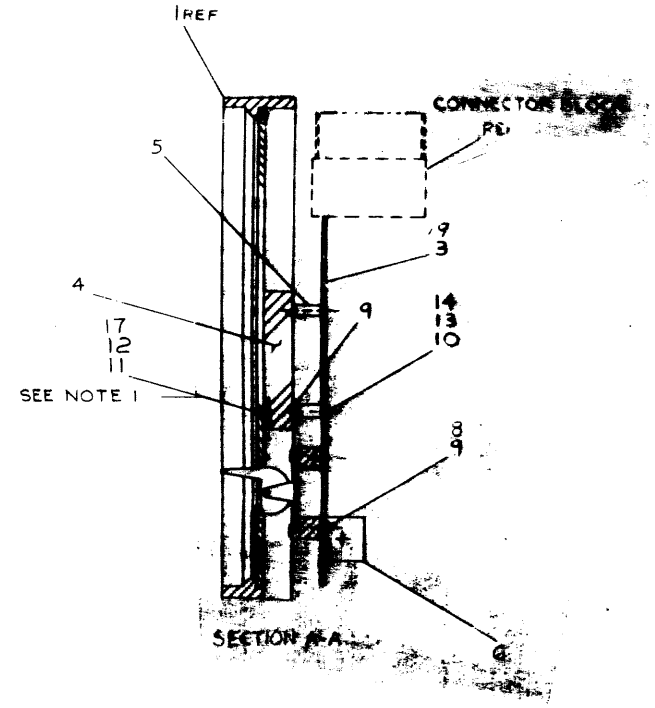
D-UA-H960-C-0

NOTES:
1. VELCRO TO BE CUT TO FIT SLOT ON PLEXIGLASS SUPPORT (ITEM #4). ATTACH PILE TAPE TO ITEM 4 AND HOOK TAPE TO ITEM 2.



SECTION B-B





TOLERANCES
DECIMALS
XXX= ±.005
XX= ±.02
X = ±1

REV	ENGINEER'S	DESCRIPTION	DATE
A	KY11A-00004		
B	KY11A-00025		
C	KY11A-00108		
D	KY11A-00212		

FIRST USED ON OPTION/MODEL: PDP11

PARTS LIST

QTY	DESCRIPTION	PART NO.	ITEM NO.

UNLESS OTHERWISE SPECIFIED

	NAME	DATE
DRAWN		
CHECKED		
ENG APPR		
MFG APPR		

EQUIPMENT CORPORATION

TITLE: CONSOLE ASSY KY11-A

MATERIAL

FINISH

D-UA-PDP11-0-0

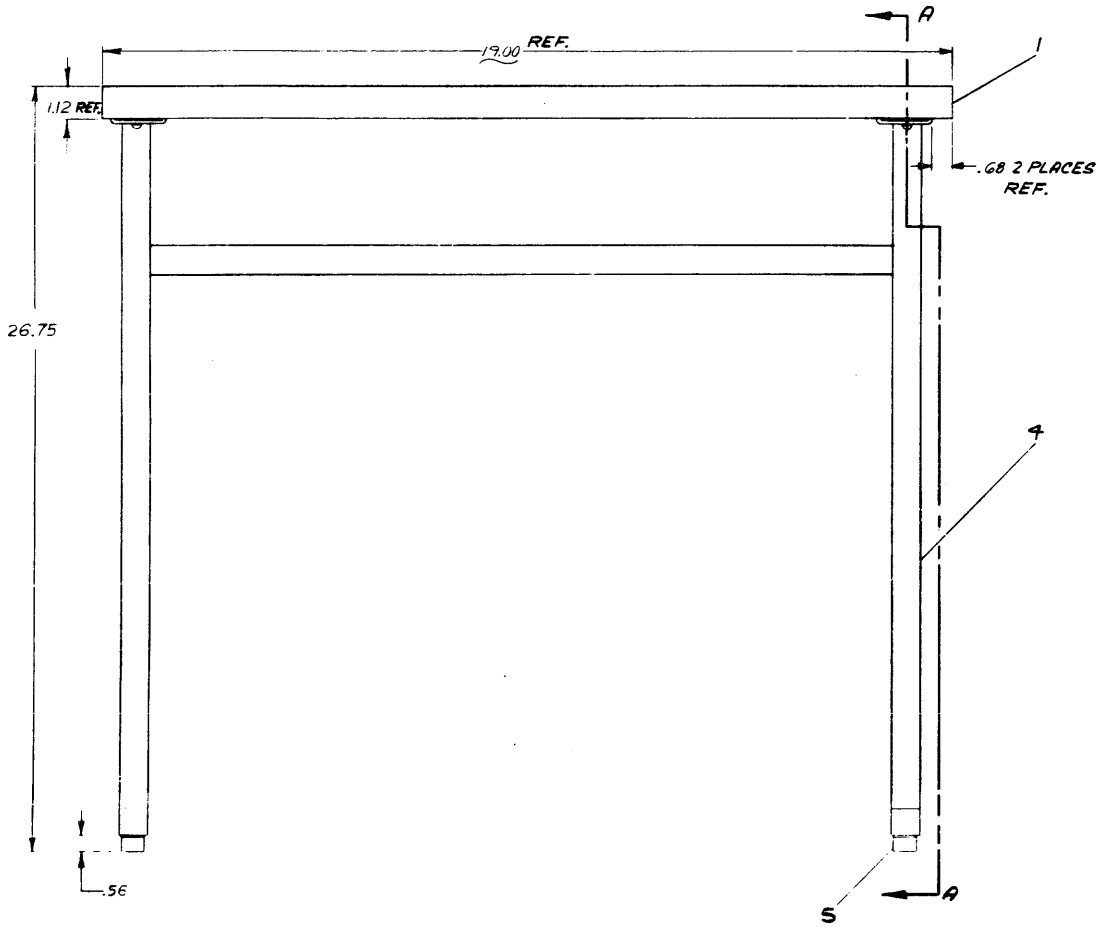
SCALE 1/1 SHEET 1 OF 1

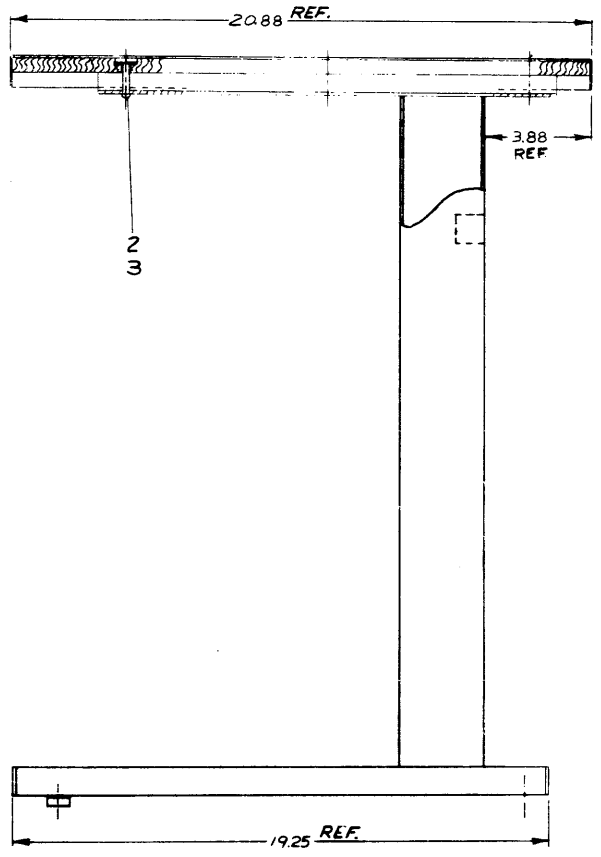
SIZE: D

DOCUMENT NO. UA KY11-A-0

REV

UA KY11-A-0





SECTION A-A

TOLERANCES
DECIMALS
.XXX = ±.005
.XX = ±.02
X = ±.1

PDP11

EQUIPMENT CORPORATION

TABLE ASSY.

D-UA-PDP11-20-0

UA H952-HA-0

UA H952-HA-0

WIRE TABLE

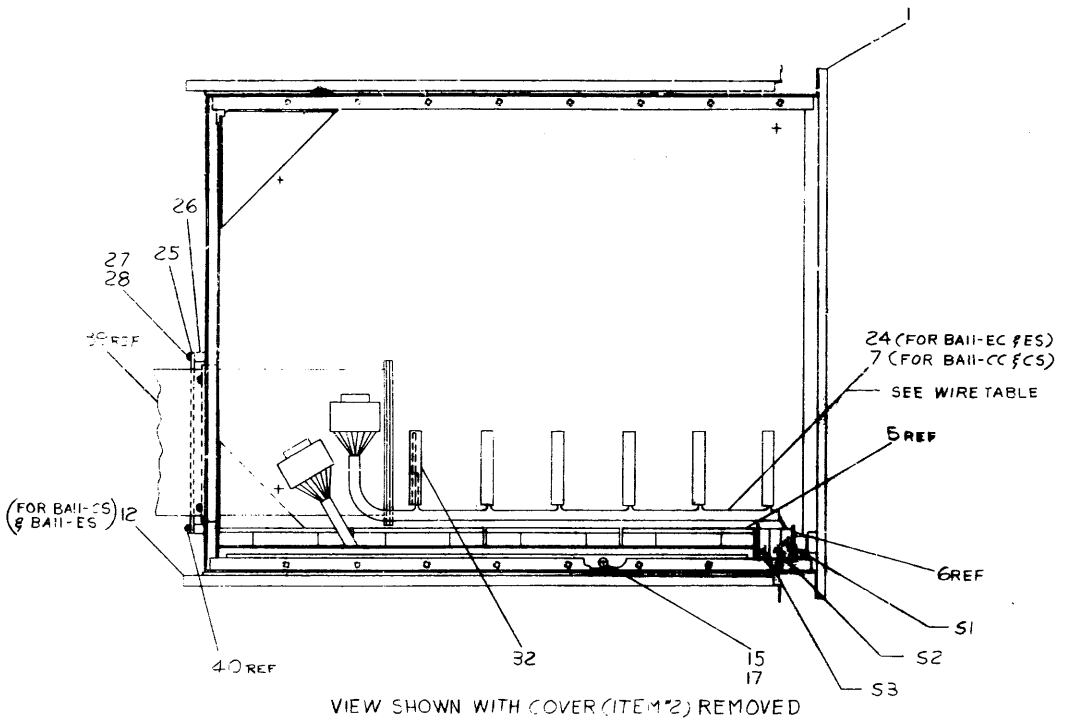
WIRE NO	WIRE SPECIFICATION AWG	COLOR	FROM CONNECTION	TO CONNECTION	REMARK
5	14	RED	1	51-B	SOLDER
5		WHITE	2	52-B	
5	4	RED	3	51-A	
5		WHITE	4	52-A	
7	4	BLUE	97	53-B	
7	14	BLUE	98	53-A	SOLDER

LEGEND

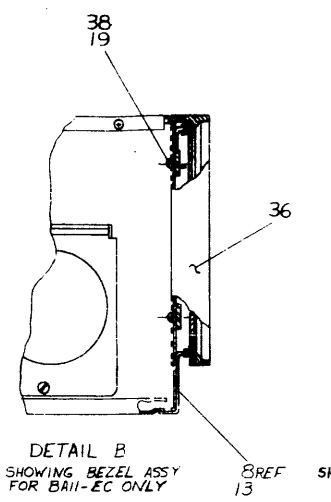
NUMBER	VARIATION	
BAII-CC	TABLE MODEL (BASIC)	} SEE NOTE *6
BAII-CS	CABINET MODEL (BASIC)	
BAII-EC	TABLE MODEL (EXPANDER)	} SEE NOTE *6
BAII-ES	CABINET MODEL (EXPANDER)	

NOTES:

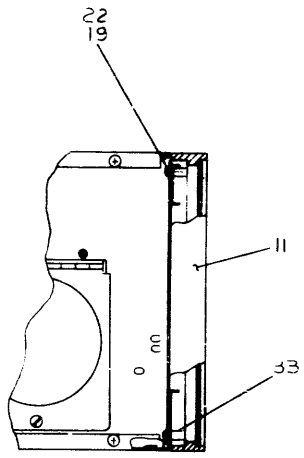
1. FOR DWG INDEX LIST SEE D-LI-BAII-0-1.
2. FOR BASIC CONFIGURATION DWG SHOWING BAII INSTALLED IN CAB REFER TO DWG D-UA-H/20-0-0 & D-UA-H/10-0-0
3. FOR BREAKDOWN OF VARIATIONS SEE DWG. AND PARTS LIST.
4. COVER SURFACE A AS INDICATED WITH ITEM *9 (COVER STRIP) ENTIRE WIDTH, USING ITEM *13 FOR BAII-CC CS & EC.
5. ~~APPLY TAPE ITEM *30 & *31 TO SMOOTH SIDE OF INLAY (ITEM *9) AROUND EDGES AS SHOWN. THEN PLACE INLAY INTO BEZEL WITH TAPE SIDE DOWN. PRESS DOWN AROUND EDGES TO INSURE GOOD BOND.~~
6. FOR SUPER COVER (ITEM *4) INSTALLATION REFER TO DWG D-AD-7004524-0-0



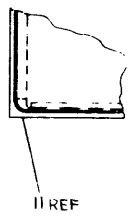
VIEW SHOWN WITH COVER (ITEM *2) REMOVED

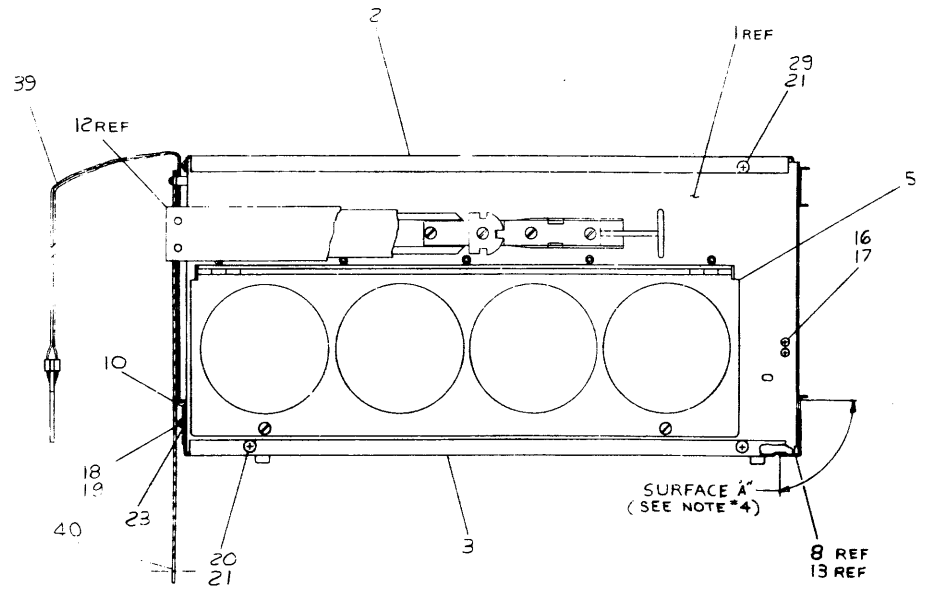


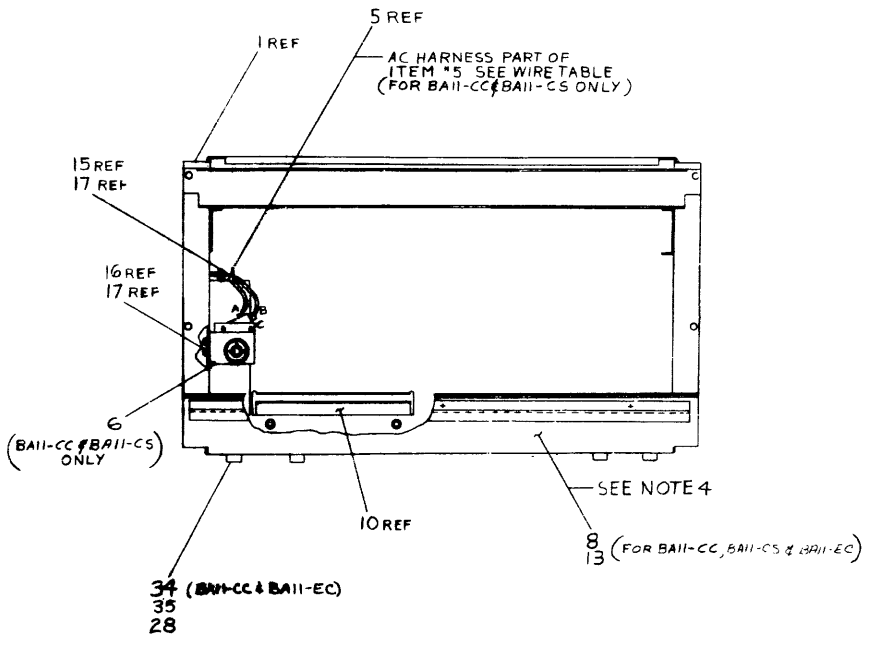
DETAIL B
SHOWING BEZEL ASSY FOR BAII-EC ONLY



DETAIL A
SHOWING BEZEL ASSY FOR BAII-ES ONLY







REVISIONS			
ZONE	CHANGE NO.		REV.
	BAII-00001	D. NEVALA	L
	BAII-00002	BLASI	B
	BAII-00005	NEVALA	C
	BAII-00007	D. NEVALA	D
	BAII-00011	NEVALA	E

PDP11

EQUIPMENT CORPORATION
MAYNARD, MASSACHUSETTS

CHASSIS ASSEMBLY (BAII)

D-UA-H/20-0-0

SIZE E | UA | BAII-0-0 | REV E

SHEET 1 OF 1

MASTER DRAWING LIST

MAINTENANCE MANUALS NO.	TITLE	UNIT VARIATIONS: LT33-AA	LT33-AB	LT33-BA	LT33-BB	LT33-CA	LT33-CB	LT33-CC	LT33-CD	LT33-CE	LT33-DA	LT33-DB	LT33-DC	LT33-DD	LT33-DE	LT33-EA	LT33-EB	LT33-FA	LT33-FB	LT33-HA	LT33-HB	LT33-SB	LT33-ST	LT33-RA	LT33-RB
LT33-0	TELETYPEWRITERS	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

USED ON OPTIONS
DO NOT SERIALIZE THESE OPTIONS.

REVISIONS

REV.	DATE	CHG. NO.	APP'D.
A	7/69	BAØ8-19	M.A.
B	3/71	LT33-1	W.M.
C	7/71	LT33-2	A.K.
D	10/71	LT33-3	A.K.
E	1/72	LT33-4	A.K.

DRN. R. BERNIER	DATE 3/68	digital EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS
CHK'D. D. HEALY	DATE 3/68	
ENG. FITZGERALD	DATE 5/68	
PROJ. ENG. FITZGERALD	DATE 5/68	
PROD. ANTONUCCIO	DATE 5/68	
FIRST USED ON PDP10		
SCALE		
SHEET 1 OF 2		

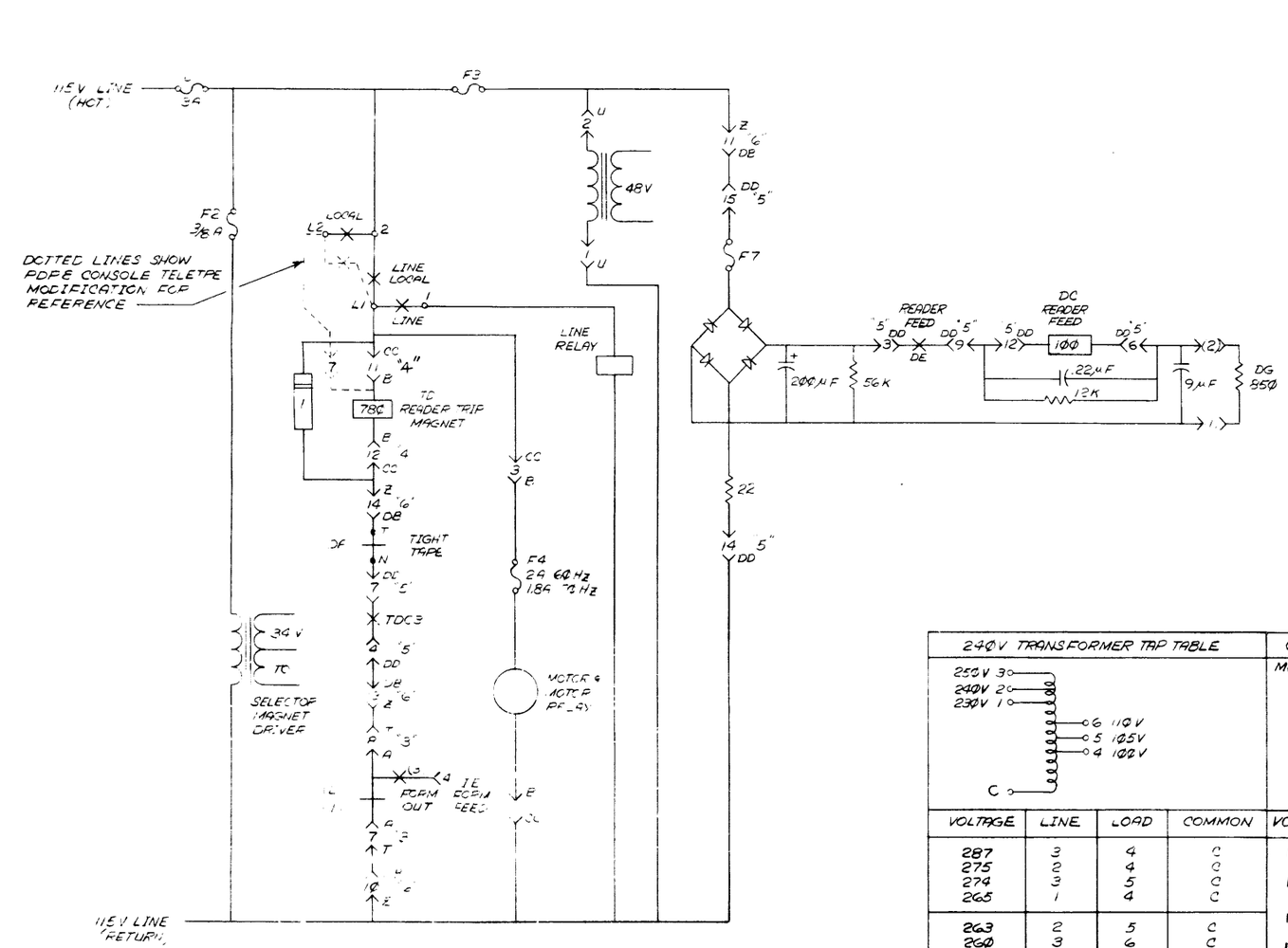
TITLE: TELETYPEWRITERS LT33

SIZE	CODE	NUMBER	REV.
A	ML	LT33-0	E

DIST.

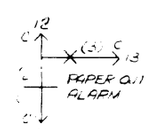
PRINT SET LT33-0	DWG. NO.	REV. LET.	NO. OF SHEETS	TITLE	OPTION NO.
X	D-BS-LT33-B-CONT	B	1	READER CONTROL CIRCUITS	
X	D-IC-LT33A-0-1	A	1	PDP10 TELETYPE MODEL 33 KSR	
X	D-IA-7505038-0-0	D	2	TELETYPE MODIFICATIONS (LT33)	
X	D-IA-7505039-0-0	D	1	TELETYPE MODIFICATIONS (50 HZ & 240V)	
X	D-IA-7505041-0-0	B	1	TELETYPE MODIFICATION (33 KSR)	
X	A-AL-LT33-0-12	A	1	ACCESSORY LIST	
X	D-UA-LT33A-0-0	A	1	PDP10 TELETYPE 33 KSR	
X	D-UA-LT33-B-0	B	1	DEC MODIFIED TELETYPE 33 ASR	
X	A-PL-LT33A-0-0	A	1	PDP10 TELETYPE 33 KSR (PL)	
X	A-PL-LT33-B-0	B	1	DEC MODIFIED TELETYPE 33 ASR (PL)	
X	A-PL-LT33-SB-0		1	RECOMMENDED SPARE PARTS	
X	A-PL-LT33-ST-0	A	2	MAINTENANCE TOOL KIT 33 ASR	
X	A-SP-LT33-0-2		3	MODIFICATION PROCEDURE	
X	A-SP-LT33-0-6	A	4	ALIGNMENT PROCEDURE	
X	A-SP-LT33-0-10	A	1	PACKING PROCEDURE	
X	A-SP-LT33-0-11	A	1	INSTALLATION PROCEDURE	
X	A-SP-LT33-0-13		7	INCOMING INSPECTION PROCEDURE	
X	B-CS-4915-0-1	A	1	TELETYPE READER CONTROL	

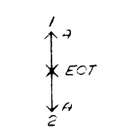
TITLE				
TELETYPEWRITERS LT33	SHEET 2 OF 2	SIZE A	CODE ML	NUMBER LT33-0	REV. E



240 V TRANSFORMER TAP TABLE				CONNECTOR CORRESPONDENCE			
250 V 3 240 V 2 230 V 1 6 110 V 5 105 V 4 100 V C				MARKED: 1 2 3 4 5 6 7 8	FIXED HALF: + CC DD Z	CABLE HALF: A B — DB	
VOLTAGE	LINE	LOAD	COMMON	VOLTAGE	LINE	LOAD	COMMON
287	3	4	C	126	6	4	C
275	2	4	C				
274	3	5	C	121	5	4	C
265	1	4	C				
				115	6	6	C
263	2	5	C				
260	3	6	C	110	5	4	1
252	1	5	C				
250	2	6	C	106	6	4	1
240	1	6	C				
220	C	6	1	100	1	3	4
213	C	6	2	96	C	1	5
213	C	5	1	90	C	2	5
206	C	6	3	85	C	3	6
204	C	5	2				
203	C	4	1	82	C	2	4
198	C	5	3				
197	C	4	2	77	C	3	4
193	C	4	3				

THIS TABLE PROVIDES 115 V TO THE LOAD AT THE NOMINAL LINE VOLTAGE





FIRST USED ON OPTION/MODEL: PDP/10

REVISIONS			
CHK	CHANGE NO	REV	
A KENT	LT33-[illegible]	[illegible]	[illegible]
A KENT	LT33-0003	B	Allen Kent 2 Apr July 71
A.KENT			Allen Kent

UNLESS OTHERWISE SPECIFIED			
UNLESS OTHERWISE SPECIFIED DIMENSION IN INCHES TOLERANCES DECIMALS ± .005 FRACTIONS ± 1/64 ANGLES ± 0°30' FINAL SURFACE QUALITY ✓ REMOVE BURRS AND BREAK SHARP CORNERS			
MATERIAL			
FINISH			

DRN	W Stephenson	DATE 9/23/68
CHK'D	L Fike	DATE 1-1-70
ENG	Allen Kent	DATE 30 Jan 70
PROJ. ENG	Allen Kent	DATE 30 Jan 70
PROD	W M Shaw	DATE 2-9-70
NEXT HIGHER ASSY	A-ML-LT33-BA-0	
SCALE		
SHEET 1 OF 1		

digital EQUIPMENT CORPORATION MAYNARD MASSACHUSETTS

TITLE: READER CONTROL CIRCUITS (ISOLATED DIAGRAM) [TIMESHARING ASR 33]

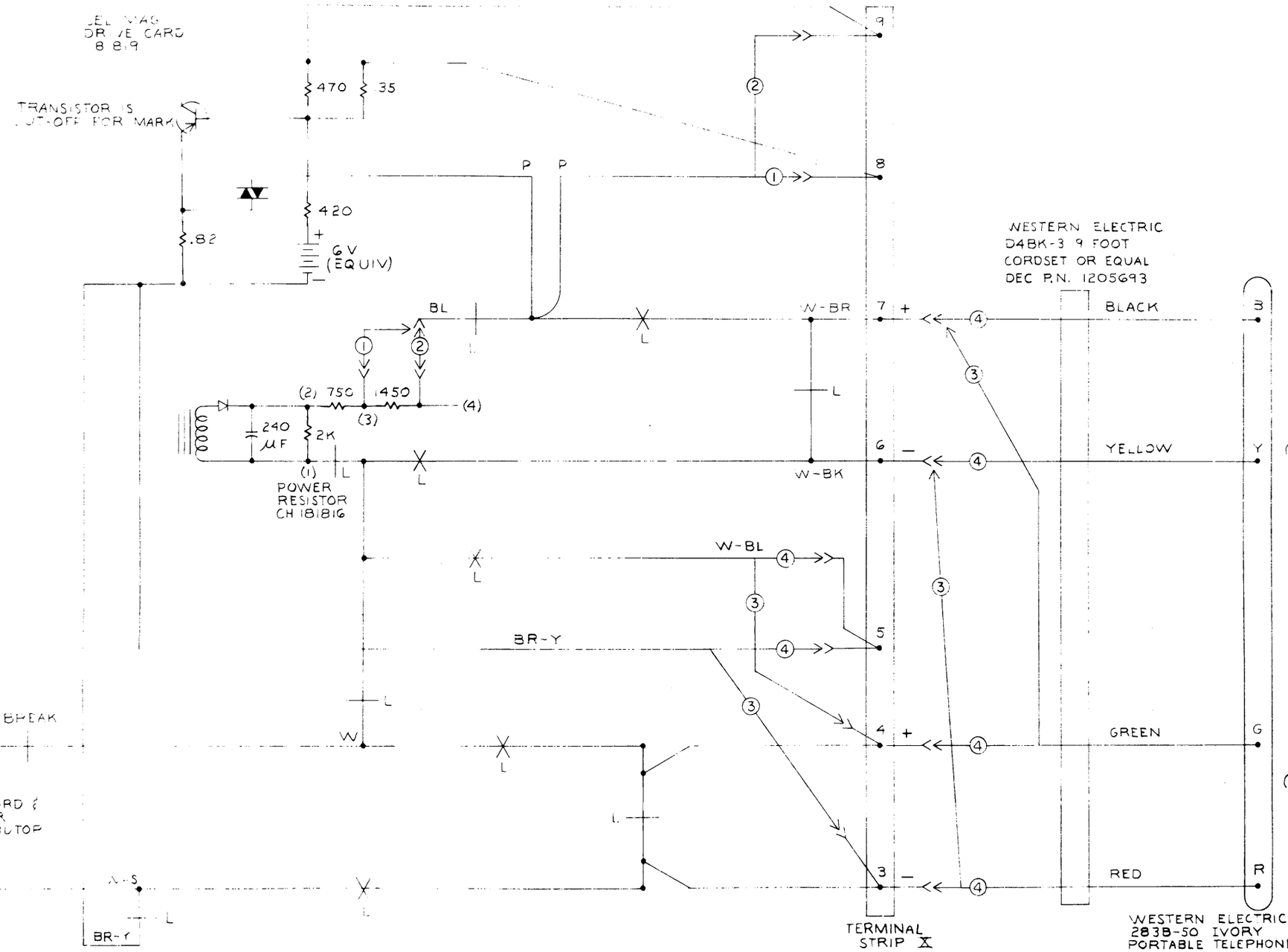
SIZE	CODE	NUMBER	REV
D	BS	LT33 - B - CONT	B

DIST.

DEC FORM NO 1900 102A

NOTES:

1. ABSTRACTED FROM TELETYPE CORP. 6353 AND ISSUE 20.
2. THE YEL AND BLK WIRES OF THE TTY LINE CORD SHOULD BE INSULATED WITH A PIECE OF GLASS TAPE (SCOTCH 27) IN HALF DUPLEX SERVICE.
3. L RELAY IS PICKED UP IN LINE, DROPPED OUT IN OFF AND LOCAL
   - ⨯ CLOSED WHEN PICKED UP
   - — CLOSED WHEN DROPPED OUT.
4. WITHOUT AUTO MOTOR CONTROL
   - ① 60 MA
   - ② 20 MA
   - ③ HALF DUPLEX
   - ④ FULL DUPLEX



QTY.	DESCRIPTION	PART NO.	ITEM NO.

PARTS LIST

UNLESS OTHERWISE SPECIFIED
DIMENSION IN INCHES
TOLERANCES
DECIMALS ± .005 FRACTIONS ± 1/64 ANGLES ± 0°30'
FINAL SURFACE QUALITY √
REMOVE BURRS AND BREAK SHARP CORNERS

MATERIAL

FINISH

DRN.		DATE 2/27/68
CHK'D	D Healy	DATE 3/19/68
ENG.	Allen Kent	DATE 25 MAR 68
PROJ. ENG.	Allen Kent	DATE 25 MAR 68
PROD.		DATE

FIRST USED ON
D-UA-LT33A-0-0

SCALE

SHEET OF

digital EQUIPMENT CORPORATION
MAYNARD, MASSACHUSETTS

TITLE
PDP 10 TELETYPE
MODEL 33KSR

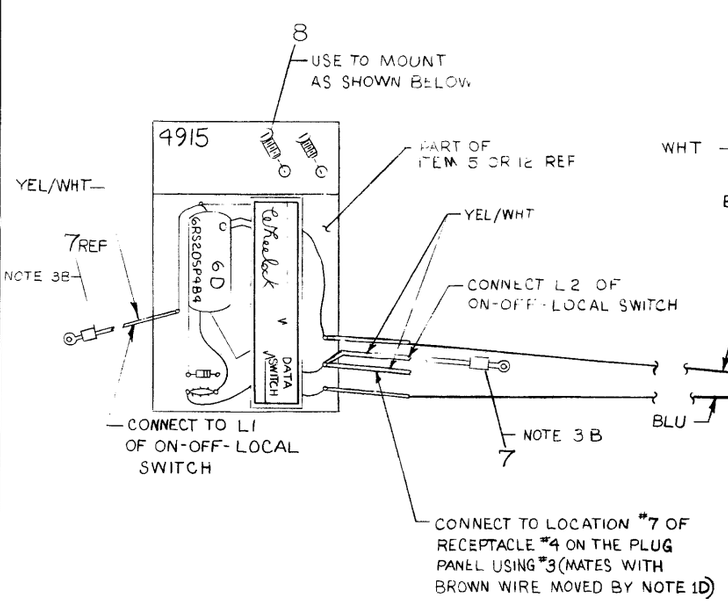
SIZE D | CODE IC | NUMBER LT33A-0-1 | REV A

DIST. G

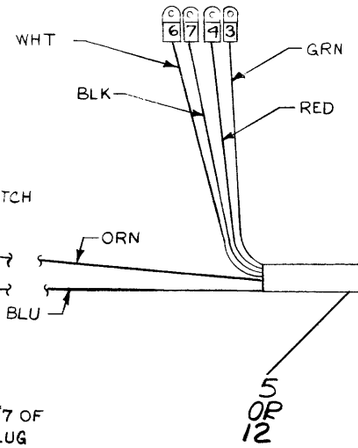
REVISIONS		
CHA	CHANGE NO	REV
	T33 CCCO3	A

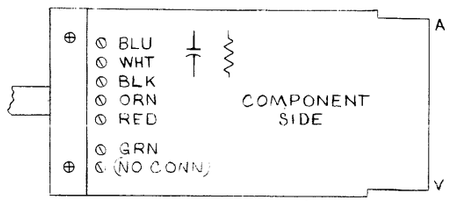
A. KENT Allen Kent 22 Sept 71

CABLE CONNECTIONS TO TERMINAL BOARD

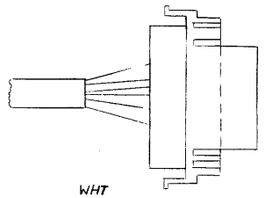


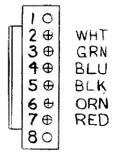
NUMBER IN LUG CORRESPONDS TO TERMINAL BOARD NUMBERS



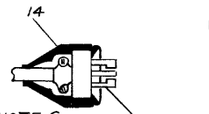


W076 REV'D CONN. (7006576)
NOTE: YELLOW IS SOMETIMES USED INSTEAD OF WHITE.
GRAY IS SOMETIMES USED INSTEAD OF GREEN.

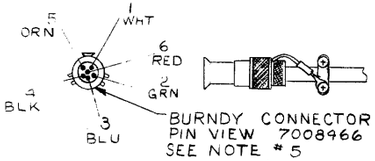


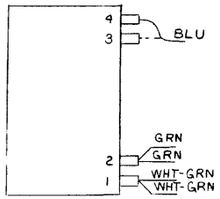


PIN VIEW 7006593
MATE-N-LOCK CONNECTOR

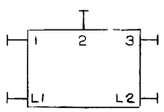


PIN VIEW OF MALE PLUG ITEM #13



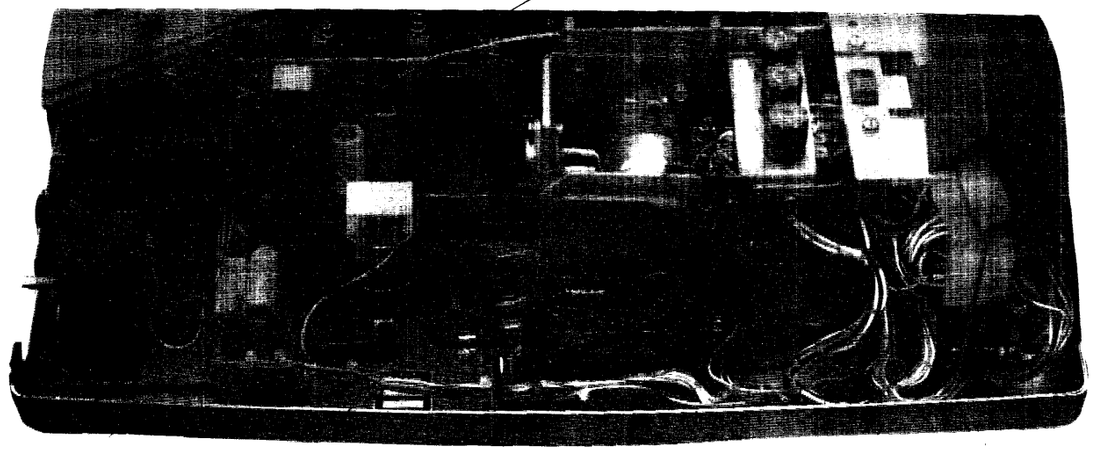


POWER RESISTOR
DETAIL B
SEE NOTE 1E



TERMINAL LOCATION
VIEW A-A
ON-OFF-LOCAL SWITCH
SEE NOTE 3.

SEE CABLE VIEW



SEE NOTE 3A
6RS20SP4B4
THYRACTORS

SEE DETAIL B

ASR-33 TELETYPE MODIFICATIONS & CABLE CONNECTIONS. (ALL UNITS USING RELAY CONTROLLED READER) 4915 CARD INSERTED

SUP BASE

TTY. CABLE VARIATIONS

PROD LINE	CABLE NUMBER
PDP-8, 8I, 8L, 8S	7006593-1 (12 FT) + WØ78
PDP-12, LINC 8 PDP-9, 9L	7006593-2 (18 FT) + WØ78
PDP-8E, PDP-11 PDP-15	7006593-1 (12 FT) 7006593-2 (18 FT)
LT33-RA, -RB	7008466-12 (12 FT)

NOTES:

1. ADDITIONAL ELECTRICAL CHANGES TO TERMINAL BOARD CONNECTIONS AND CALL CONTROL UNIT.
   - A. REMOVE BRN/YEL WIRE FROM LUG 3 & PLACE ON LUG 5.
   - B. REMOVE BLU/WHT WIRE FROM LUG 4 & PLACE ON LUG 5.
   - C. REMOVE PURPLE WIRE FROM LUG 8 & PLACE ON LUG 9.
   - D. MOVE BROWN WIRE ON PLUG #4 FROM LOCATION #11 TO LOCATION #7 (MATES WITH YEL/WHT WIRE FROM 4915)
   - E. MOVE BLUE WIRE FROM TERMINAL #3 TO TERMINAL #4 (END) OF 181816 POWER RESISTOR.
2. MECHANICAL CHANGES
   - A. REMOVE SPRING & WRU PAWL UNIT FROM SLOT 'N' IN FUNCTION CASTING.
3. A. ADD (2) 6RS20SP4B4 THYRACTORS DEC #1100106 TO UNIT & WIRE AS INDICATED BELOW USING ITEM #7

FROM	TO
THYRACTOR #1	CONN #2 L OF ON-OFF PWR SW
THYRACTOR #1	CONN 2
THYRACTOR #2	CONN 1 OF ON-OFF PWR SW
THYRACTOR #2	

   - B. USING ITEM #7 CONNECT YEL-WHT WIRES TO INDICATED TERMINALS OF ON-OFF-LOCAL SWITCH.
   - C. USE ITEM #9 & #10 TO TIE WIRING.
4. TELETYPES FOR USE ON 50 HZ OR VOLTAGES OTHER THAN 115V ALSO REQUIRE MODIFICATION PER DWG D-1A-7505039-0-0.
5. TOOLS FOR BURNDY CONNECTOR

EXTRACTION	TOOL	RX 24-3
INSERTION	TOOL	RTM 24-3
CRIMPING	TOOL	MIØS-1
DIE SET		649
STOP BUSHING		8L81

6. ON LT33 RA CUT OFF MALE PLUG OF POWER CORD OR TRANSFORMER CORD AND ASSEMBLE ITEM #13 AND #14 ONTO CORD.

QTY.	DESCRIPTION	PART NO.	ITEM NO.
1	RUBBER COVER HUBBELL 7440	1210563	14
1	CAP HUBBELL 7594	1210561	13
1	CABLE ASSY. BURNDY TO 4915	7008966	12
1	MODULE, ADAPTER WØ78	WØ78	11
2	CABLE TIE 3/16 X 6-1/2 LG SST 2M	9007032	10
15	CABLE TIE 3/32 X 3-3/4 LG SST 1M	9007031	9
2	MACH. PH. PAN HD. 6-32 X 1/9	9006020-1	8
5	SOLDERLESS TERM #6 AWG 18-22	9007929	7
2	THYRACTOR GE 6RS20SP4B4	1100106	6
1	CABLE ASSY. MATE-N-LOK TO 4915	7006593	5
~~1~~	~~CABLE ASSY. W706 TO 4915~~	~~7003676~~	~~4~~
1	PIN TELETYPE 182644	2911459	3
1	TTY. WRITER MODEL 33TU (60HZ)	3009779	2
1	TTY. WRITER MODEL 33TBP (50HZ)	3005716	1

PARTS LIST

FIRST USED ON OPTION/MODEL: LT33-UA

UNLESS OTHERWISE SPECIFIED DIMENSION IN INCHES. TOLERANCES
DECIMALS: XXX = .005, .XX = .02, X = .1
ANGLES: ±0° 30'
REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY ✓
MATERIAL
FINISH

		DATE
DRN.	K. THELLEN	3-1-70
CHK'D.	K. RUSS	3-24-70
ENG.	W. DAVIS	3-2-70
PROJ. ENG.	C. NILAND	3-3-70
PROD.	T. MACDONALD	3-3-70
NEXT HIGHER ASSY.		
SCALE		
SHEET	1 OF 2	

digital EQUIPMENT CORPORATION MAYNARD MASSACHUSETTS

TITLE: TELETYPE MODIFICATIONS (LT33)

SIZE D | CODE 1A | NUMBER 7505038-0-0 | REV. E

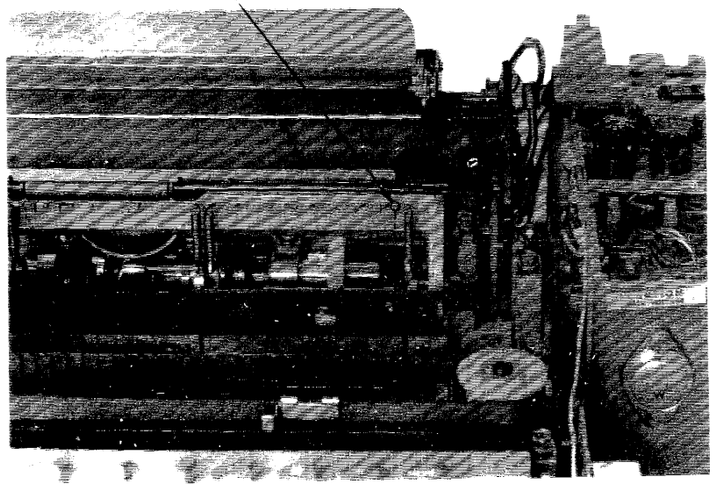
DIST

REVISIONS			
CHK	CHANGE NO.	REV.	
Rwb	LT33-00002	B	REVISED & REDRAWN 7-20-71 A. KENT
	LT33-00003	C	10-21-71 A. KENT
	LT33-00004	D	28 Oct 71 A. KENT 1-20-72
	LT33-00005	E	3-27-72 A. KENT 8 Feb 72

DEC FORM NO DRD 100-A

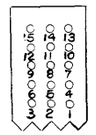
WRU PAWL SPRING

SEE NOTE 2A
PARTS TO BE REMOVED
INDICATED BY DASHED LINE



PLUG PANEL

SEE CABLE LAYOUT
SHEET 1 AND NOTE 1D



WIRING SIDE VIEW OF
PLUG #4. (PIN SIDE VIEW
OF RECEPTACLE #4)

SUB BASE

SEE NOTE 1
TERMINAL BOARD

SECURE INTERFACE CABLE TO
CALL CONTROL UNIT AND
POWER CORD.
10

QTY.	DESCRIPTION	PART NO.	ITEM NO.

PARTS LIST

FIRST USED ON OPTION/MODEL

DO NOT SCALE DRAWING
UNLESS OTHERWISE SPECIFIED
DIMENSION IN INCHES
TOLERANCES
DECIMALS ± .005 FRACTIONS ± 1/64 ANGLES ± 0°30'
FINAL SURFACE QUALITY
REMOVE BURRS AND BREAK SHARP CORNERS

MATERIAL

FINISH

DRN. R. THELLEN	DATE 2-24-70	
CHK'D. K. RUSS	DATE 2-24-70	
ENG. W. DAVIS	DATE 3-3-70	
PROJ. ENG. C. BLASI	DATE 3-3-70	
PROD. T. MACDONALD	DATE 3-3-70	
NEXT HIGHER ASSY		
SCALE		
SHEET 2 OF 2		

digital EQUIPMENT CORPORATION
MAYNARD, MASSACHUSETTS

TITLE
TELETYPE
MODIFICATIONS
(LT-33)

SIZE D | CODE IA | NUMBER 7505038-0-0 | REV. E

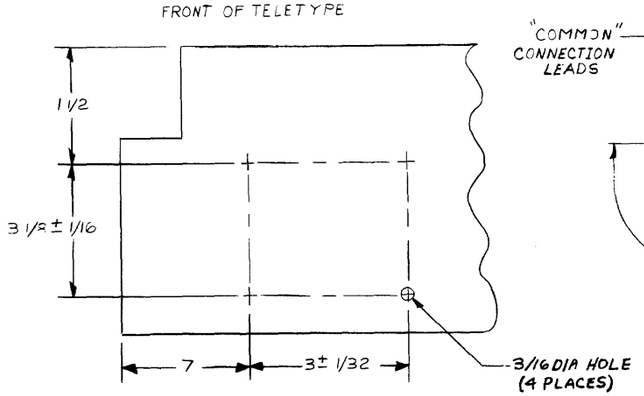
DIST.

REVISIONS

REV	CHANGE NO.	CHK

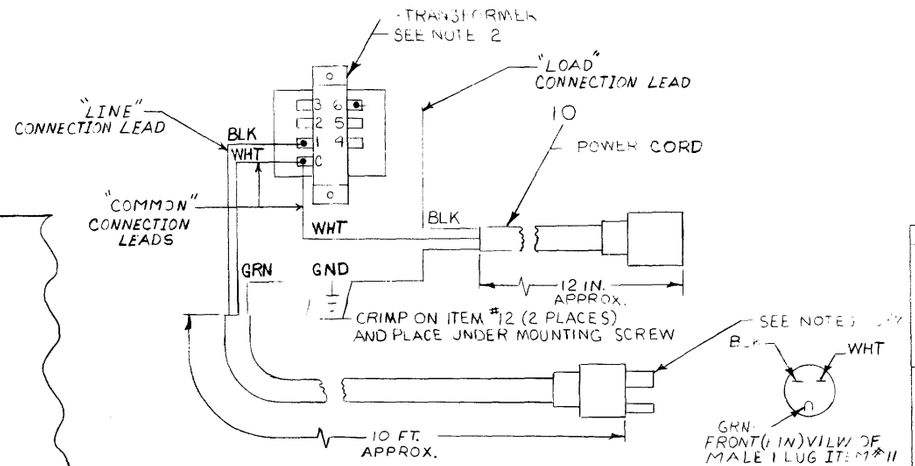
SIZE D | CODE IC | NUMBER 7505038-0-0 | REV E

DEC FORM NO. C 100

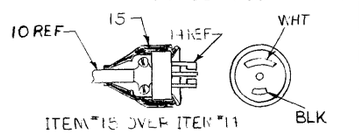


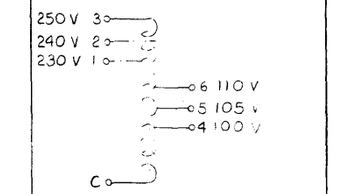
REAR OF TELETYPE
SCALE : NONE

HOLE DRILLING DIAGRAM FOR MOUNTING OF TRANSFORMER, ITEM #5, TO PLATE INSIDE BOTTOM OF BASE.



TRANSFORMER MOUNTING & WIRING





VOLTAGE	LINE	LOAD	COMMON
126	6	4	C
121	5	4	C
115	6	6	C
110	5	4	1
106	6	4	1
100 *	1	3	4
96	C	1	5
90	C	2	5
85	C	3	6
82	C	2	4
77	C	3	4

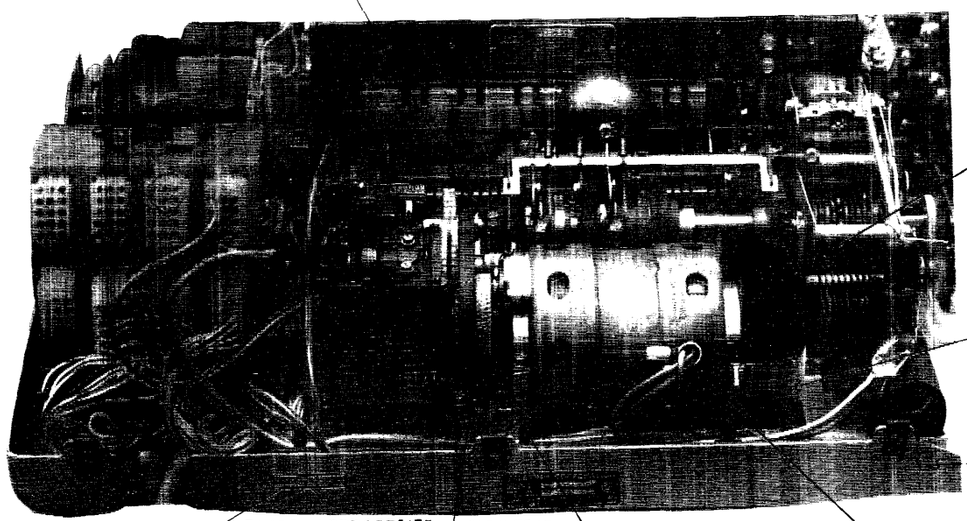
VOLTAGE	LINE	LOAD	COMMON
287	3	4	C
275	2	4	C
274	3	5	C
265	1	4	C
263	2	5	C
260	3	6	C
252	1	5	C
250	2	6	C
240 *	1	6	C
220	C	6	1
213	C	6	2
213	C	5	1
206	C	6	3
204	C	5	2
203	C	4	1
198	C	5	3
197	C	4	2
193	C	4	3

*INDICATES STD FACTORY CONNECTIONS

THIS TABLE PROVIDES 115 V TO THE LOAD AT THE NOMINAL LINE VOLTAGE

NOTES :

1. FOR 50 HZ OPERATION, PERFORM THE FOLLOWING CHANGES (NOT NECESSARY IF STARTING WITH TELETYPE 33 TBP):
   - A. REMOVE MOTOR AND REPLACE WITH ITEM #1 (NOT NECESSARY IF MOTOR WAS ALREADY 50/60 HZ ON NAME PLATE)
   - B. REMOVE DRIVE GEAR AND REPLACE WITH ITEM #2
   - C. REMOVE PINION GEAR AND REPLACE WITH ITEM #3.
   - D. REMOVE PLATE WITH STUD AND REPLACE WITH ITEM #4. (181850 CAN BE USED WITH 50 OR 60 HZ).
2. FOR OPERATION ON VOLTAGES OTHER THAN 115 V, PERFORM THE FOLLOWING OPERATIONS.
   - A. MOUNT ITEM #5 IN BASE OF TELETYPE STAND USING ITEM #6 THRU #9. DRILL HOLES PER PATTERN SHOWN. CUT ITEM #10 AND CONNECT AS SHOWN.
3. FOR OPERATION ON VOLTAGES FROM 190V TO 250 V ON PDP8-E AND PDP11 TELETYPES, CUT MALE PLUG OF POWER CORD AND REPLACE WITH ITEM #11. WIRE AS SHOWN.
4. SEE ALSO DWG. D-IA-7505038-0-0 WHEN RELAY CONTROLLED READER IS REQUIRED.
5. ADD FAN DEFLECTOR TO 50 HZ UNITS IF NOT ALREADY SUPPLIED.
6. IF NOT CUT OFF, PAINT MALE END OF ITEM #10 RED WHEN WIRED FOR 190V TO 250V.
7. ON LT33-PB, CUT OFF MALE PLUG OF POWER CORD OR TRANSFORMER CORD AND ASSEMBLE ITEMS #15 AND #19 ONTO CORD.



1	RUBBER COVER HUBBELL 7440	1210563	15
1	CAP HUBBELL 7485	1210564	14
1	DECAL, VOLTAGE SPEC	7409045-2	13
2	SOLDERLESS CONN. #10 AWG 14-16	9007928	12
1	PLUG 220V	9008853	11
1	CORD SET 12 FT	9107673-12	10
4	HEX NUT 8-32 X 5/16 X 1/8	9006561	9
4	FLAT WASHER #8	9006650	8
4	LOCK WASHER #8	9006690	7
4	SCR. PAN HD 8-32 X 3/8	9006037-1	6
1	TRANSFORMER STEP-DOWN	1609313	5
1	PLATE W/STUD TELETYPE 181850	1204898	4
1	PINION GEAR 50HZ TTY. 181851	1204849	3
1	DRIVE GEAR 50HZ TTY. 181855	1204850	2
1	MOTOR 50 HZ TTY. 182267	1209789	1
QTY.	DESCRIPTION	PART NO.	ITEM NO.

PARTS LIST

REVISIONS			
CHK	CHANGE NO.	REV.	
[illegible]	LT33-00002	B	REVISED & REDRAWN
[illegible]	LT33-00003	C	
[illegible]	LT33-00004	D	
[illegible]	LT33-00005	E	

FIRST USED ON OPTION/MODEL		
UNLESS OTHERWISE SPECIFIED DIMENSION IN INCHES. TOLERANCES	DRN. R. THELLEN	DATE 2-24-70
DECIMALS: .XXX ± .005, .XX ± .02, .X ± .1 — ANGLES: ± 0° 30'	CHK'D. K. RUD	DATE 2-24-70
REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY ✓	ENG. W. DAVIS	DATE 3-3-70
MATERIAL	PROJ. ENG. C. BLAU	DATE 3-3-70
FINISH	PROD. T. MACDONALD	DATE 3-3-70
	NEXT HIGHER ASSY.	
	SCALE	
	SHEET 1 OF 1	

digital EQUIPMENT CORPORATION MAYNARD MASSACHUSETTS

TITLE: TELETYPE MODIFICATIONS (50 HZ & 240V.)

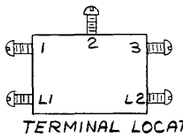
SIZE	CODE	NUMBER	REV.
D	IA	7505039-0-0	E

DEC FORM NO. 1080 100-A

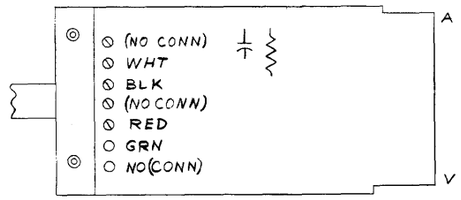
CABLE CONNECTIONS TO TERMINAL BOARD

NUMBER IN LUG CORRESPONDS TO TERMINAL BOARD NUMBER

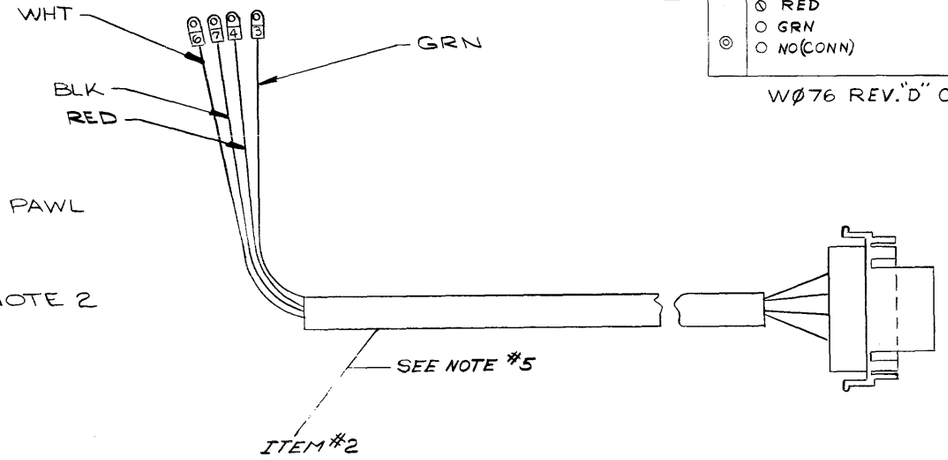
TTY CABLE VARIATIONS	
PROD LINE	CABLE NUMBER
PDP-8, 8/I, 8L, 8S, PDP-12, LINC 8, PDP-9, 9L	7006594-1 (12 FT) + WØ78
	7006594-2 (18 FT) + WØ78
PDP-8E, PDP-11, PDP-15	7006594-1 (12 FT)
	7006594-2 (18 FT)

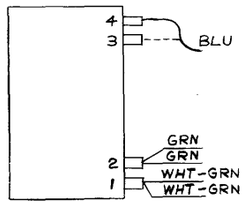


TERMINAL LOCATION REAR VIEW OF ON-OFF-LOCAL SWITCH SEE NOTE* 3.

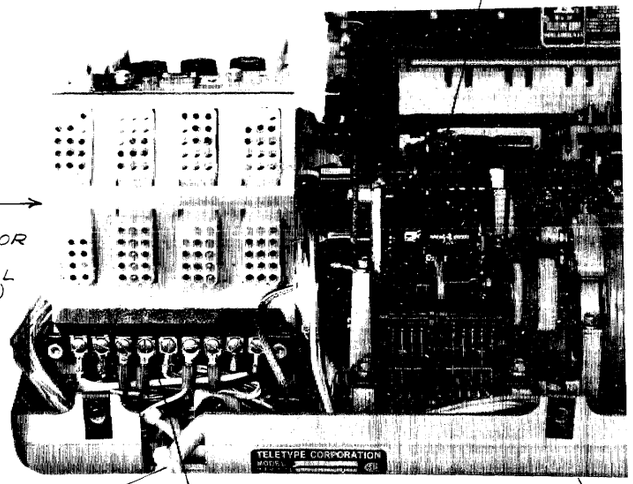


WØ76 REV."D" CONN





POWER RESISTOR DETAIL SEE NOTE * 1D



POWER RESISTOR AND ON-OFF-LOCAL SWITCH (HIDDEN)

5 SECURE INTERFACE CABLE TO CALL CONTROL UNIT AND POWER CORD.

SEE NOTE *1 & CABLE CONN'S TERMINAL BOARD

SUBBASE

KSR-33 TELETYPE MODIFICATION AND CABLE CONNECTIONS

NOTES:

1. ADDITIONAL ELECTRICAL CHANGES TO TERMINAL BOARD CONNECTIONS:
   - A. REMOVE BROW-YELLOW WIRE FROM LUG 3 & PLACE ON LUG 5.
   - B. REMOVE BLUE-WHITE WIRE FROM LUG 4 & PLACE ON LUG 5.
   - C. REMOVE PURPLE WIRE FROM LUG 8 & PLACE ON LUG 9.
   - D. MOVE BLUE WIRE FROM TERMINAL *3 TO TERMINAL *4 (END) OF 181816 - POWER RESISTOR.
2. MECHANICAL CHANGES.
   - A. REMOVE SPRING & WRU PAWL UNIT FROM SLOT "N" IN FUNCTION CASTING.
3. ADD (2) 6RS 2Ø SP4 B4 THYRECTORS DEC *1100106 TO UNIT & WIRE AS INDICATED BELOW USING ITEM *6.

FROM	TO
THRYACTOR *1	CONN *2 LOF ON-OFF PWR SW
" *1	CONN *2 " " " " "
" *2	CONN *1 " " " " "

4. TELETYPES FOR USE ON 50 HZ OR VOLTAGES OTHER THAN 115V ALSO REQUIRE MODIFICATION PER DWG - D-IA-7505039-0-0.
5. YELLOW IS SOMETIMES USED INSTEAD OF WHITE. GRAY IS SOMETIMES USED INSTEAD OF GREEN. BLUE & ORANGE WIRES IN CABLE ARE NOT USED.

QTY.	DESCRIPTION	PART NO.	ITEM NO.
3	SOLDERLESS TERM *6 AWG 18-22	9007929	6
2	CABLE TIE 3/16X6-1/2 LG SST 2M	9007032	5
2	THYRECTOR GE 6RS2ØSP4B4	1100106	4
1	MODULE, ADAPTER WØ78	WØ78	3
1	CABLE ASSY MATE-N-LOK TO TTY	7006594	2
1	TTY WRITER MODEL 33TS	3004780	1

PARTS LIST

REVISIONS			
REV.	CHANGE NO.	CHK	
A	LT33-00002	A. KENT	26 Jan 71
B	LT33-00003	A. KENT	10-27-71

FIRST USED ON OPTION/MODEL: LT33-CA

DO NOT SCALE DRAWING

UNLESS OTHERWISE SPECIFIED DIMENSION IN INCHES
TOLERANCES
DECIMALS ± .005 FRACTIONS ± 1/64 ANGLES ± 0°30'
FINAL SURFACE QUALITY √
REMOVE BURRS AND BREAK SHARP CORNERS

MATERIAL —

FINISH —

		DATE
DRN.	[illegible]	2/8/70
CHK'D	T. Cress	2/8/70
ENG.	[illegible]	2/25/70
PROJ. ENG.	[illegible]	2/25/70
PROD.	MacDonald	3/16/70

NEXT HIGHER ASSY

SCALE NONE

SHEET 1 OF 1

digital EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS

TITLE: TELETYPE MODIFICATION (KSR-33)

SIZE	CODE	NUMBER	REV.
D	IA	7505041-0-0	D

DIST.

DEC FORM NO. E 100

DIGITAL EQUIPMENT CORPORATION
MAYNARD, MASSACHUSETTS

ACCESSORY LIST

MADE BY J. CUDMORE	CHECKED PFYFFER	SECTION
DATE 7/21/69	DATE 7/25/69	1
ENG Marcum H	PROD Marcum H	ISSUED SECT.
DATE 7/28/69	DATE 7/28/69	1

LEGEND

D DOCUMENT
DN DOCUMENT CHANGE NOTICE
PA PAPER TAPE ASCII
PB PAPER TAPE BINARY
PM PAPER TAPE READ-IN-MODE

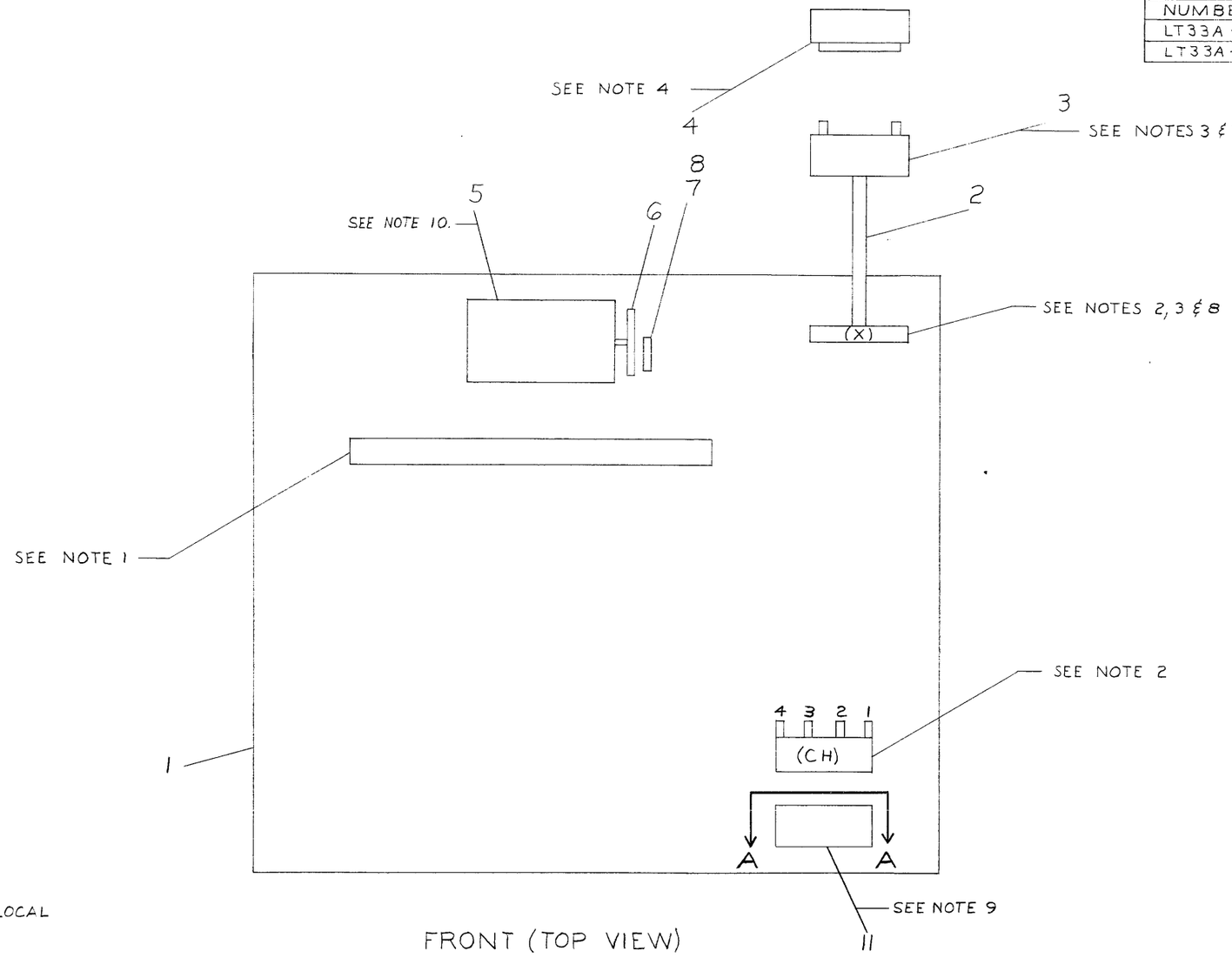
ITEM NO.	DWG NO. / PART NO.	DESCRIPTION	QUANTITY / VARIATION: LT33-BA, -BB, -DA,	-DB, -DC, -DD, -DE,	-EA, -EB, -HA, -HB	LT33-AA, -AB,	-CA, -CB, -CC,	-CD, -CE		KIT CHECK BY ____ DATE ____	INSTALLATION CHECK BY ____ DATE ____
1	36-5360	ROLLS, ROLLED OILED PAPER TAPE	3			-					
2	36-5365	ROLL, TWX PAPER	1			1					
3	BULLETIN 273B	TTY MANUAL VOL #1 (VENDOR)	1			1					
4	BULLETIN 310B	TTY MANUAL VOL #2 (VENDOR)	1			1					
5	BULLETIN 1184B	TTY MANUAL PARTS (VENDOR)	1			1					
6	18-9137	ROLL TTY RIBBON	1			1					

TITLE	ASSY. NO.	SIZE	CODE	NUMBER	REV.	ECO NO
TELETYPE WRITERS LT33 SERIES	SHEET 1 OF 1	A	AL	LT33-0-12	A	LT33-00002
		DIST.				

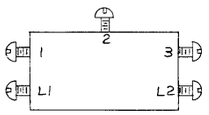
DEC FORM NO.
DRA 121

REV	NUMBER	SIZE	CODE
A	D-UA-LT33A-0-0		

LEGEND	
NUMBER	VARIATION
LT33A-B	50 HZ
LT33A-A	60 HZ



FRONT (TOP VIEW)



VIEW AA
REAR OF ON-OFF-LOCAL SWITCH
NOTE 9

NOTES

1. DO NOT REMOVE "N" DRAWL (WRU)
2. REWIRE FOR FULL DUPLEX 20 MA OPERATION BY:
   A. MOVE P WIRE FROM TERMINAL 8 TO TERMINAL 9 OF THE 151411 TERMINAL STRIP (X).
   B. MOVE W-BL WIRE FROM TERMINAL 4 TO TERMINAL 5 OF THE TERMINAL STRIP.
   C. MOVE BR-Y WIRE FROM TERMINAL 3 TO TERMINAL 5 OF THE TERMINAL STRIP.
   D. MOVE BL WIRE FROM TERMINAL 3 TO TERMINAL 4 OF POWER RESISTER 181816 (CH).
3. CONNECT WIRES AS FOLLOWS

SET (X)	COLOR	PLUG 283B-50
3	RED	R
4	GRN	G
6	YEL	Y
7	BLK	B

   ASSEMBLE ONE "EAR-BAND" HOOK TAB INTO HOLE IN 283B BEFORE ASSEMBLING COVER. HOOK THE "S" HOOK UNDER ONE OF THE SCREWS BELOW THE TERMINAL BOARD (X) IN THE SET.
4. SUPPLY ITEM 4 LOOSE WITH THE SET.
5. SEE TELETYPE DRAWINGS 6353WD AND 6354WD SUPPLIED WITH SET.
7. **ASSEMBLE ITEM 3 TO SHORT WIRE END OF ITEM 2. ASSEMBLE ITEM 3 COVER WITH MOLDED EXTERNAL RIDGE ON SIDE OF CONNECTOR WITH RED AND GREEN WIRES.**
8. **ASSEMBLE LONG WIRE END OF ITEM 2 TO ITEM 1 TERMINAL STRIP (X).**
9. ADD TWO 6RS 20 SP4 B4 THYRECTORS DEC #1100106 TO UNIT AND WIRE AS INDICATED BELOW USING ITEM-#12. SEE VIEW A-A.

FROM	TO
THYRECTOR # 1	CONN #2L OF ON-OFF SW
THYRECTOR # 1	CONN # 2 OF ON-OFF SW
THYRECTOR # 2	CONN # 1 OF ON-OFF SW

10. REFER TO D-IA-7505039-0 FOR MODIFICATION FOR 50 HZ OR 240V OPERATION.

REVISIONS			
CHK	CHANGE NO	REV	
	LT33-00003	A	M. Bruno 10-21-71
			A. KENT Allen Kent 28 Oct 71

QTY.	DESCRIPTION	PART NO.	ITEM NO.

PARTS LIST

UNLESS OTHERWISE SPECIFIED
UNLESS OTHERWISE SPECIFIED
DIMENSION IN INCHES
TOLERANCES
DECIMALS ± .005 FRACTIONS ± 1/64 ANGLES ± 0°30'
FINAL SURFACE QUALITY √
REMOVE BURRS AND BREAK SHARP CORNERS

MATERIAL —

FINISH —

DRN.	Simula	DATE 1/3/68
CHK'D.	[illegible]	DATE 2-1-69
ENG.	Allan Kent	DATE 25 MAR 66
PROJ. ENG.	Allan Kent	DATE 25 MAR 66
PROD.	[illegible]	DATE 1 NOV 66

FIRST USED ON —

SCALE NONE

SHEET 1 OF 1

digital EQUIPMENT CORPORATION MAYNARD MASSACHUSETTS

TITLE PDP 10 TELETYPE 33KSR

SIZE	CODE	NUMBER	REV.
D	UA	LT33A-0-0	A

DIST. G

DEC FORM NO DRD 100

LEGEND	
NUMBER	VARIATIONS
LT33 - BA	115 V 60 Hz
LT33 - BB	230V 50 Hz

NOTES:

1. REPLACE FURNISHED TYPING CYLINDER WITH SLASHED ZERO TYPING CYLINDER. "ME" PART NO. 23151 TTY. PART NO. 185599.
2. DO NOT DISABLE FORM FEED, WRU (ENQ), X-ON (DC_1), X-OFF (DC_3), TAPE ON (DC_2) OR TAPE OFF (DC_4) FEATURES FROM STUNT BOX.
3. DO NOT REMOVE PARITY GENERATION FROM KEYBOARD.
4. WIRE SHORT LEAD END OF ITEM 3 TO ITEM 4 AS FOLLOWS:

ITEM 3	ITEM 4
RED	P
GREEN	G
BLACK	B
YELLOW	Y

INSERT EARBAND TAB OF ITEM 3 IN CENTER HOLE OF ITEM 4. INSTALL COVER OF ITEM 4 WITH RIDGE ON SAME SIDE AS WIDE SPACED P & G, PINS.

5. SUPPLY ITEM 5 LOOSE WITH SET.
6. ARRANGE SET FOR 20 mA, FULL DUPLEX OPERATION AS FOLLOWS:
   A. MOVE PURPLE WIRE FROM TERMINAL 8 TO TERMINAL 9 ON TERMINAL STRIP 151411 (X).
   B. MOVE W-BL WIRE FROM TERMINAL 4 TO TERMINAL 5
   C. MOVE BR-Y WIRE FROM TERMINAL 3 TO TERMINAL 5
   D. MOVE BL WIRE FROM TERMINAL 3 TO TERMINAL 4 OF 181816 POWER RESITOR (CH).
7. STRAIN RELIEVE ITEM 3 BY PLACING 3-HOOK CORD SCREW. CONNECT LONG LEAD END OF ITEM 3 TO TERMINAL STRIP OF ITEM 1 AS FOLLOWS:

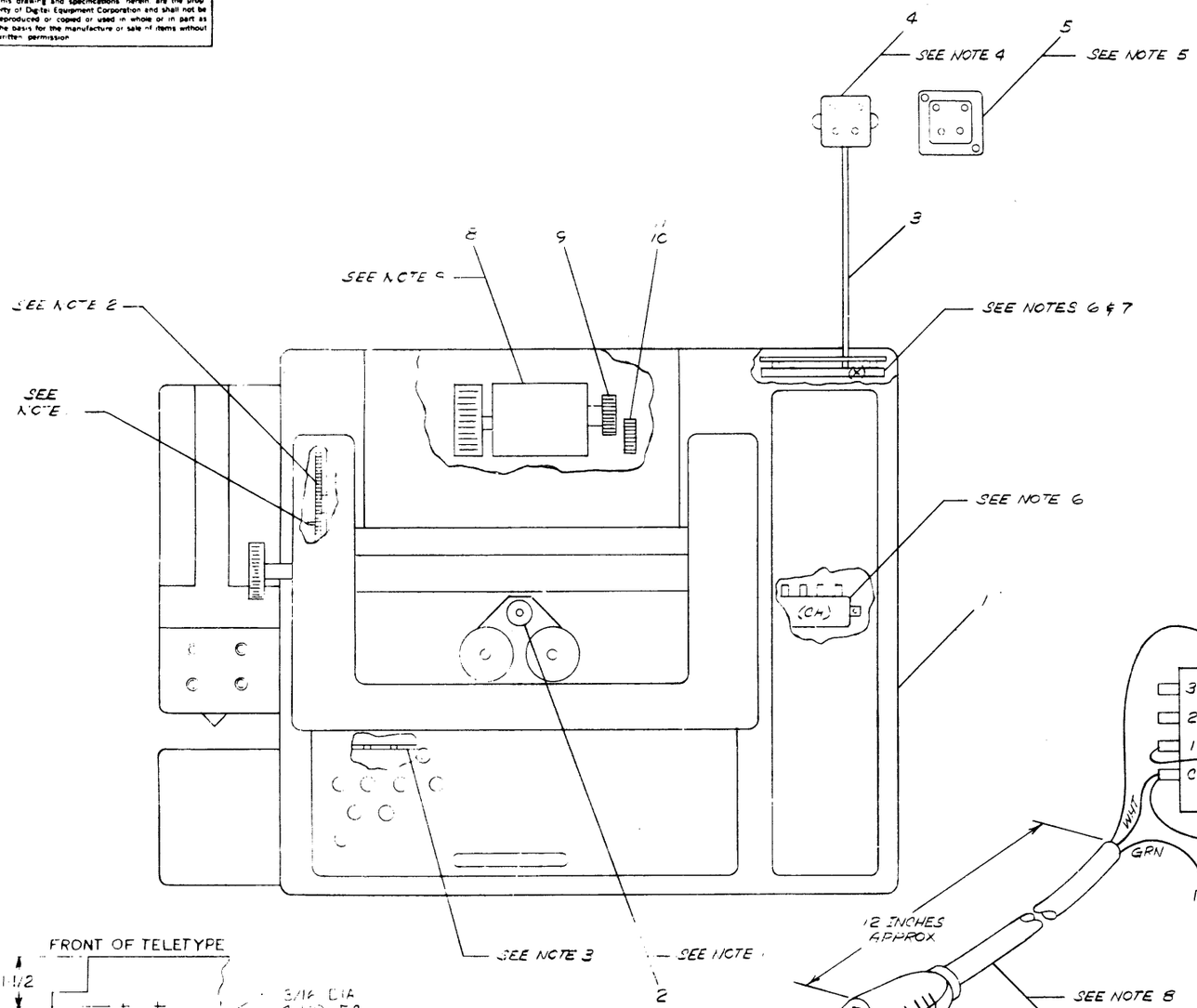
ITEM 3	TERMINAL STRIP (X)
RED	3
GREEN	4
BLACK	7
YELLOW	6

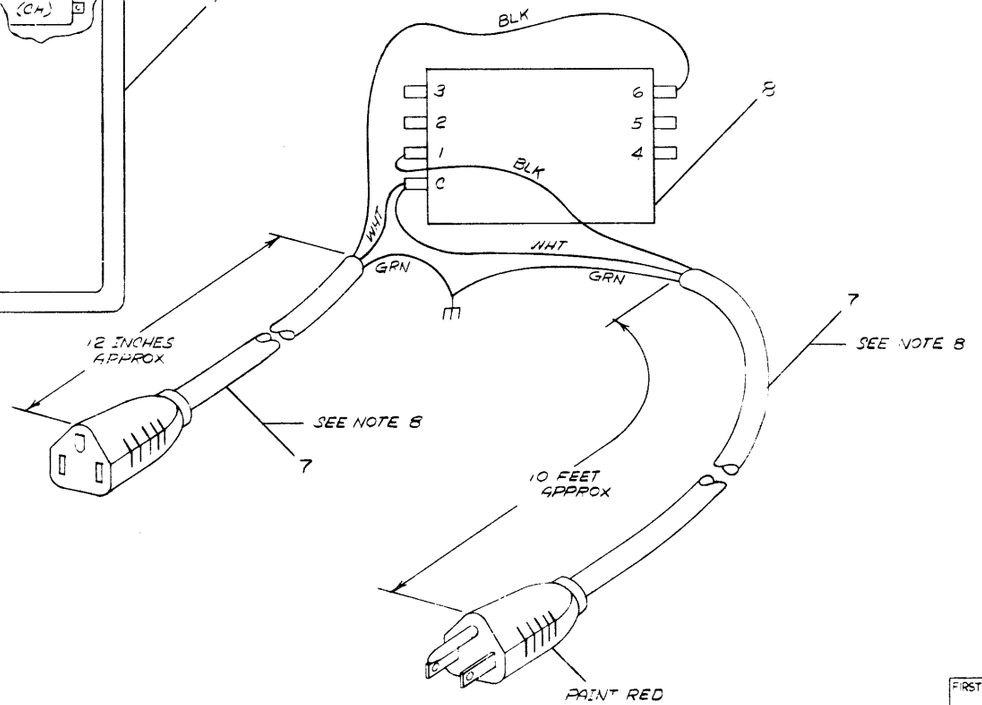
8. CUT ITEM 7 APPROX 12 INCHES FROM FEMALE END. WIRE TO ITEM 8 AS FOLLOWS:

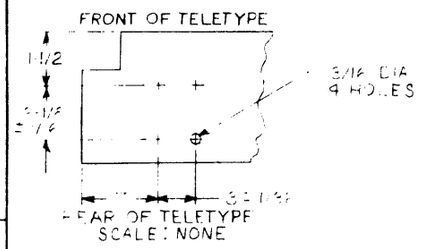
BOTH GREEN WIRES	FRAME
BOTH WHITE WIRES	C
FEMALE BLACK WIRE	2
MALE BLACK WIRE	1

PAINT MALE END OF CORD RED.
MOUNT ITEMS 7 AND 8 IN TELETYPE BASE WHEN REQUIRED (240 V OPERATION) USING ITEMS 12 THRU 15.

9. REPLACE FURNISHED MOTOR UNIT AND GEAR SET WITH ITEMS 8 AND 9 FOR 50 Hz OPERATION.
10. ADJUST FORM FEED MECHANISM FOR 11 INCH FORMS.







SIDE DRILLING DIAGRAM FOR MOUNTING OF TRANSFORMER ITEM #6 TO PLATE INSIDE BOTTOM OF BASE

FIRST USED ON OPTION / MODEL	QTY.	DESCRIPTION	PART NO	ITEM NO.
PDP10		PARTS LIST		

UNLESS OTHERWISE SPECIFIED
UNLESS OTHERWISE SPECIFIED DIMENSION IN INCHES
TOLERANCES
DECIMALS ± .005 FRACTIONS ± 1/64 ANGLES ± 0°30'
FINAL SURFACE QUALITY √
REMOVE BURRS AND BREAK SHARP CORNERS
MATERIAL —#—
FINISH —#—

DRN. W. Stephenson	DATE 9/25/69	digital EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS
CHK'D. D. Neary	DATE 1/21/70	
ENG. Allan Kent	DATE 10/31/70	TITLE TIMESHARING TELETYPE 33 ASR (TY)
PROJ. ENG. Allan Kent	DATE 10/31/70	
PROD. A. McLean	DATE 2-9-70	
NEXT HIGHER ASSY A-ML-LT33-BA-0		SIZE D CODE UA NUMBER LT33-B-0 REV B
SCALE ONE		DIST.
SHEET 1 OF 1		

REVISIONS				
CHK	CHANGE NO	REV		
	LT33 0003	B		
DRAWN A.KENT 10-22-70				
CHK'D A.KENT 10-22-70				

DEC FORM NO. 1440-1007A

DIGITAL EQUIPMENT CORPORATION

MAYNARD, MASSACHUSETTS

PARTS LIST

ITEM NO.	DWG. NO.	DESCRIPTION	QUANTITY LT33A-B-0 50 HZ	QUANTITY LT33A-A-0 60 HZ
1		TELETYPE 33TS	1	1
2	1205693	CORD SET	1	1
3	1205857-1	TELEPHONE PLUG 283B-50	1	1
4	1205857-2	TELEPHONE JACK 404B-50	1	1
5	1204789	MOTOR 182267 50HZ	1	
6	1204850	DRIVE GEAR 181855	1	
7	1204849	PINION GEAR 181851	1	
8	1204848	PINION 181850	1	
9	1609313	ELGIN TRANSFORMER 1725	1	
10	9107673-12	LINE CORD 12 FT	1	
11	1100106	GE THYRECTOR 6RS20SP4B4	2	2
12	9007929	SOLDERLESS CONN #6 AWG 18-22	3	3

REVISIONS		
CHANGE NO.	DATE	ENG.
LT33-00003	28 Oct 71	KFY

MADE BY R. BERNIER	DATE 1/3/68	TITLE PDP-10 TELETYPE 33KSR	DRWG. NO. A-PL- LT33A-0-0	REV. LTR. A
CHECKED D. HEALY	DATE 3/12/68	FOR	ASSY NO D-UA-LT33A-0-0	SHEET 1 OF 1
ENG Allan Kent	DATE 25 MAR 68			

G

DIGITAL EQUIPMENT CORPORATION
MAYNARD, MASSACHUSETTS

PARTS LIST

MADE BY A. Stephenson	CHECKED D. HEALY	SECTION
DATE 9/25/69	DATE 1-20-70	1
ENG Allan Kent	PROD A. McAllen	ISSUED SECT.
DATE 30 Jan 70	DATE 2-9-70	1

ITEM NO.	DWG NO. / PART NO.	DESCRIPTION	QUANTITY / VARIATION LT33-BB 50 Hz	LT33-BA 60 Hz
1	3004768	Send-Receive Set 33TY	1	1
2		"ME" Typewheel Teletype 183 599	1	1
3	12-05693	Cordset	1	1
4	12-05857-1	283B Plug	1	1
5	12-05857-2	404 B Jack	1	1
6	1602583	Transformer Elgin 1725	1	
7	91-07673-12	Cordset 12 feet	1	
8	1204789	Motor Teletype 182267 50 Hz	1	
9	1204850	Drive Gear Teletype 181855	1	
10	1204849	PINION Gear Teletype 181851	1	
11	1204848	PINION Teletype 181850	1	
12	9006037-1	SCR PAN HD 8-32 x 3/8	4	
13	9006690	LOCK WASHER #8	4	
14	9006650	FLAT WASHER #8	4	
15	9006561	HEX NUT 8-32 x 5/16 x 1/8	4	
16	7409045-2	DECAL, VOLTAGE SPEC	1	

TITLE TIMESHARING TELETYPE 33 ASR (TY)	ASSY NO. D-UA-LT33-B-0	SIZE A	CODE PL	NUMBER LT33-B-0
	SHEET 1 OF 1	DIST.		

REV. B

ECO NO. LT33-00003

DEC FORM NO.
DRA 110

DIGITAL EQUIPMENT CORPORATION
MAYNARD, MASSACHUSETTS

PARTS LIST

MADE BY J. FERGUSON	CHECKED K. GULICK	SECTION
DATE 11-18-70	DATE 11-18-70	1
ENG [illegible]	PROD Tony Baylor	ISSUED SECT.
DATE 11-19-70	DATE 11/19/70	1

ITEM NO.	DWG NO. / PART NO.	DESCRIPTION	QUANTITY / VARIATION
1	29 11424	CIRCUIT BOARD #181821 TTY CORP	1
2	29 11495	TAPE FEED SPROCKET #183071 TTY CORP	2
3	29 11443	LEVER UNIVERSAL #182240 TTY CORP	2
4	29 11144	FUSE (3.2 AMP) #120157 TTY CORP	2
5	29 11367	DISTRIBUTOR BRUSH # 180979 TTY CORP	2
6	29 11412	DRIVE GEAR #181411 TTY CORP	1
7	29 11417	DRIVEN GEAR #181420 TTY CORP	1
8	29 11411	BELT #181409 TTY CORP	2
9	29 11376	SHAFT #181007 TTY CORP	1
10	29 11376	BEARINGS #181002 TTY CORP	2

TITLE	ASSY NO.	SIZE	CODE	NUMBER	REV.	ECC NO.
LT33-B TELETYPE RECOMMENDED SPARE PARTS	SHEET 1 OF 1	A	PL	LT33-SB-Ø	DIST.	

DEC FORM NO. 16-1031
DRA 110

DIGITAL EQUIPMENT CORPORATION
MAYNARD, MASSACHUSETTS

PARTS LIST

MADE BY J.FERGUSON	CHECKED K GULICK	SECTION 1
DATE 11-18=70	DATE 11-18-70	
ENG D. Clarkson	PROD Leroy Baylor	ISSUED SECT. 1
DATE 11-19-70	DATE 11/19/70	

ITEM NO.	DWG NO. / PART NO.	DESCRIPTION	QUANTITY / VARIATION
1	29 12521	SCALE, 8OZ #110443 TTY CORP	1
2	29 12522	SCALE, 32 OZ #110444 TTY CORP	1
3	29 12602	SCALE, 64 OZ #82711 TTY CORP	1
4	29 12520	GAGE SET #117781 TTY CORP	1
5	29 12532	SCREWDRIVER, OFFSET #94644 TTY CORP	1
6	29 12524	SCREWDRIVER, OFFSET #94645 TTY CORP	1
7	29 12525	CROCHET HOOK, NO. 8 #151351 TTY CORP	1
8	29 12526	CROCHET HOOK, NO. 12 #151959 TTY CORP	1
9	29 12527	SPRING HOOK PUSH #142555 TTY CORP	1
10	29 12528	SPRING HOOK PULL #142554 TTY CORP	1
11	29 12529	SCREW HOLDER #151384 TTY CORP	1
12	29 12530	HAND WHEEL ADAPTOR #181465 TTY CORP	1
13	29 12540	HANDWHEEL #161430 TTY CORP	1
14	29 12553	CONTACT ADJUSTMENT TOOL #172060 TTY CORP	1
15	29 12554	GAGE #180587 TTY CORP	1
16	29 12555	GAGE #180588 TTY CORP	1
17	29 12556	BENDING TOOL #180993 TTY CORP	1
18	29 12557	GAGE #183103 TTY CORP	1
19	29 12558	EXTRACTOR #182697 TTY CORP	1
20	29 12559	TWEEZER #151392 TTY CORP	1
21	29 12560	TOMMY WRENCH #6617 TTY CORP	1

TITLE	ASSY NO.	SIZE	CODE	NUMBER	REV.	ECO NO.
LT33 TELETYPE MAINTENANCE TOOL KIT		A	PL	LT33-ST-ϕ	A	LT33-00002
	SHEET 1 OF 2	DIST.				

DEC FORM NO.16-1031
DRA 110

DIGITAL EQUIPMENT CORPORATION
MAYNARD, MASSACHUSETTS

PARTS LIST

MADE BY J.FERGUSON	CHECKED K GULICK	SECTION 1
DATE 11-18-70	DATE 11-18-70	
ENG D. Clarkson	PROD Leroy Baylor	ISSUED SECT. 1
DATE 11-19-70	DATE 11/19/70	

ITEM NO.	DWG NO. / PART NO.	DESCRIPTION	QUANTITY / VARIATION
22	29 12561	TOMMY WRENCH #73404 TTY CORP	1
23	29 12562	KEY LEVER REMOVER #151383 TTY CORP	1

TITLE	ASSY NO.	SIZE	CODE	NUMBER	REV.	ECO NO.
ASR 33 TELETYPE MAINTENANCE TOOL KIT		A	PL	LT33-ST-Ø	A	
	SHEET 2 OF 2	DIST.				

DEC FORM NO.16-1031
DRA 110

DIGITAL EQUIPMENT CORPORATION
MAYNARD, MASSACHUSETTS

ENGINEERING SPECIFICATION

DATE 5/3/68

TITLE MODIFICATION PROCEDURE TELETYPE MODEL 33ASR-TY

REVISIONS

REV	DESCRIPTION	CHG NO	ORIG	DATE	APPD BY	DATE

The model 33TY must be modified in the following manner:
(Ref: refers to teletype manual)

1. Remove the WRU pawl from the function casting. It is the second pawl from the right of the casting.
   Ref: Vol II - Sec: 574-122-700 page 6

2. Remove the blue lead from the 750Ω resistor post and reconnect it to the 1450Ω resistor post.
   Ref: Vol I - Sec: 574-100-102

3. On the call control unit terminal strip the following wires are transferred:

Color of Wire	Remove From	Connect To
Brown/White	Term. 3	Term. 5
Blue/White	Term. 4	Term. 5
Purple	Term. 8	Term. 9

   Ref: Vol I - Sec: 574-100-102 page 14 (fig.12)

4. The leads of DEC cable #5288-2 which have red crimp lugs are connected to the call box terminal strip as follows:

Color of Wire	Term. No.
Grey/White	3
Red	4
Yellow/White	6
Black	7

5. Mount the 4195 reader control card on the left side of the call control unit. A bracket is provided for mounting and is located to the right of arrow pointing to "plate", near the on-off switch. Connect the wires on one end of reader control card to locations as follows:

Color of Wire	Length of Wire	Origin	Connect To
Yellow/White	6" approx.	to solenoid	L2 of on-off switch
Yellow/White	6" approx.	to reader switch	L1 of on-off switch
Yellow/White	2' approx.	--	Plug #4 of call control unit (3rd hole from right)
Brown	---	---	Plug #4 of call control unit (3rd hole from right)

   Ref: Sec: 574-100-102 page 14 (fig.12)

6. Connect two SP4B4 thractors on the on-off switch as follows:
   a. One thyractor from position 2 to position 1 of the on-off switch.
   b. The other thyractor from position 2 to position L2 of the on-off switch.

STUNT BOX AREA

7. Remove the pawls #11 and #12 (the casting is numbered). Also remove the pawl lettered "N" which is the second from the right as you face the keyboard.
   Ref: Vol II Sec: 574-122-700 page 8 (fig.5)

KEYBOARD AREA

8. Remove the red/green wire from the top bus bar. Insulate this wire and pace it under the keyboard. This connection is no longer required for operation.

9. The third contact which is located on the left of the keyboard is to be cut 1/8 inch above the bus bar. The contact should no longer be affected by the control lever, but should remain in contact with the bus bar.

10. Remove the fourth contact which is located on the right side of the keyboard. This contact is shaped slightly different from the third one. Replace the fourth contact with a duplicate of the third contact (TTY P/N 180043). The third and fourth contacts are cut 1/8 inch above the bus bars as described in step #9. Proper operation now consists of both the third and fourth contacts opening and closing simultaneously and uneffected by their previously related control levers.

PUNCH AREA

11. Refer to parts bulletin 1184B Sec: 574-125-800 pages 3 and 4 (fig.2 & 3)
    Remove the following components from the punch assembly:

Part Number	Name	Refer To
184-200	Bail	
182-465	Bracket	Page 3, fig.2, top center
182-466	Lever	of page

    Remove screw P/N 182-823 (page 3, fig.2) from post and remove complete tape feed mechanism. Place the new lever P/N 182-460 vertically (with its attached post

ENG	APPD	SIZE	CODE	NUMBER	REV
		A	SP	LT33-0-2	

		SIZE	CODE	NUMBER	REV
		A	SP	LT33-0-2	

away from the punch casting and to the front) between the punch casting and arm (P/N 182-848, page 4, fig.3). Assemble new lever to post (P/N 182-412, page 3 fig.2). It is held in place by previously removed "E" ring. Re-install the tape feed mechanism and post P/N 182-395 (page 3 fig.2). With the flat top of the new plastic lever (P/N 182-394) towards the rear, insert the lever onto the post (P/N 182-395). With the flat top of the second new plastic lever now facing the front, insert it on the same post. The corresponding vertical levers are attached to the plastic levers and plate (P/N 182-839, page 3 fig.2) is re-installed and held in place by the "E"ring.

12. Refer to Vol II sec: 574-125-700 (page 4, fig.2). Notice sensing lever chart; 8 level column, slot A-0 P/N 182-457 lever and slot A-8 P/N 182-457 lever. These two levers are located on the extreme opposite sides of the punch assembly. They must be disengaged from their related pawls and held down. They must not be effected by operational functions. This is accomplished by tying down.

DIGITAL EQUIPMENT CORPORATION
MAYNARD, MASSACHUSETTS

ENGINEERING SPECIFICATION

DATE 4/23/68

TITLE ALIGNMENT/TEST PROCEDURE FOR TELETYPE MODEL LT33 SERIES

REVISIONS

REV	DESCRIPTION	CHG NO	ORIG	DATE	APPD BY	DATE
A	CHANGED ECO	LT33-00002	A. KENT	7-6-71	KRK	26 Jul 71

TELETYPE ALIGNMENT PROCEDURE:

A. Carefully check for damaged or obviously misaligned components.
Note: In the following sections, power is off unless noted.

B. Main Shaft
1. Clearance between slotted bronze bearing and collar — .005 / .015

C. Distributor Clutch
1. Endplay between left bearing and clutch gear assembly — .002 / .008
2. Clearance between brush holder and disc at closest point — .025 / .025
3. Clearance between shoe lever and stop lug with clutch disengaged and keyboard universal lever in down position — .015 min.
4. Increase in clearance recorded in step #3 after clutch has been engaged — .050 / .080
5. Disengage clutch and depress any non-function key. Clearance between clutch shoe lever and trip lever with upper edge of clutch lever in line with upper edge of trip lever — .015 / .035
6. Power on and keyboard universal lever in latched position. Clearance of clutch shoe lever beyond rear most surface of trip lever — 000 / .015

D. Selector Clutch
1. Disengage clutch. Endplay between clutch and side plate — .002 / .008

ENG	APPD	SIZE	CODE	NUMBER	REV
		A	SP	LT33-0-6	A

DEC FORM NO. DRA 107

SHEET 1 OF 4

ENGINEERING SPECIFICATION

digital CONTINUATION SHEET

TITLE ALIGNMENT/TEST PROCEDURE FOR TELETYPE MODEL LT33 SERIES

2. Disengage clutch. Trip lever shall engage shoe lever by approximately the full thickness of shoe lever.
3. Disengage clutch lift trip lever to trip clutch, permit trip lever to rest on shoe lever. Edge of shoe lever shall sit in center of slot in trip lever

E. Codebar Clutch — .002 / .008 / .002 / .012
1. Disengage clutch. Endplay at maximum
2. Endplay in latchlevers
3. Typing unit in stop condition. Trip lever shall engage shoe lever by approximately the full thickness of shoe lever
4. Disengage clutch lift trip lever to trip clutch, permit trip lever to rest on shoe lever. Edge of shoe lever shall sit in slot in trip lever.

F. Function Clutch
1. Disengage clutch. Endplay between clutch and collar at maximum — .002 / .008
2. Typing unit in stop condition. Trip lever shall engage shoe lever by approximately the full thickness of shoe lever.
3. Disengage clutch. Lift trip lever to trip clutch, permit trip lever to rest on shoe lever. Edge of shoe lever shall sit in center of slot in trip lever.

G. Rear Rail
1. Power on. Perform carriage return. Power off. Release codebar clutch. Rotate main shaft until codebars are fully raised. Observe small portion of #1 codebar slide below right guide plate. Move carriage to right margin. Protruding portion of codebar must remain constant throughout carriage traverse.

H. Drive Bail
1. Power on. Perform carriage return. Power off. Release codebar clutch. Rotate main shaft until carriage drive bail reaches its rearmost position.

		SIZE	CODE	NUMBER	REV
		A	SP	LT33-0-6	A

DEC FORM NO DRA 108

SHEET 2 OF 4

Clearance between print hammer bail and print hammer trip lever .015 / .030
This clearance must remain constant as carriage is manually moved to right margin.

I. Print Suppression Latch
1. Place carriage approximately 1/2 inch from left margin. Set (--3-5-78) code in selector. Rotate main shaft until drive bail reaches rearmost position. Take up print suppression latchlever play to the right. Clearance between print suppression latch and print hammer bail .015 / .030

J. Reader (Disregard on KSR units)
1. Control lever in free position. Alternately hold and release armature to cycle sprocket and sensing pins through several positions. At each position:
a. The sprocket pin shall be in line with sensing pins within .002 max.
b. Sprocket backlash shall not exceed .001 max.
2. Control Lever In Free Position.
a. Armature in attached position. Clearance between top surface of top plate to tip of each sensing pin in fully extended positions
b. Armature in unattracted position. Clearance between tip of each sensing pin below top surface of top plate .015 max.
3. Tape lid closed. Tape lid latch must be centrally located in cut out of tape lid. Clearance between top plate and latch spring .005 / .030
4. Armature in unattracted position.
a. Clearance between feed pawl and rachet with fine teeth between feed pawl and detent lever .001 / .008
b. Clearance between blocking pawl and rachet tooth .001 / .010

K. Tape Punch (Disregard on KSR units)
1. Check to insure punch driver arm assembly

is securely fastened to main rocker shaft.

2. Power on. Manually rotate main shaft until function rocker shaft and stripper bail are in most forward positions. Take up rear roller play toward rear and tape nudger play in clockwise direction. Clearance between rear roller and highest point on tape nudger. .070 / .090

3. Set all marking code in selector. Manually rotate main shaft until function rocker shaft and stripper bail are in rearmost position. There must be some clearance between rightmost sensing lever and its associated pawl.
a. Clearance between left most sensing lever and its associated pawl .005 / .020
b. Take up all play in stripper bail toward rear. Feed wheel in its fully detented position. Clearance between feed pawl and feed wheel ratchet tooth .001 / .005

4. Position end of spring to lowest notch of arm with bushing. Perforate alternate R and hyphen codes in 8 inches of tape. Align #2 code hole of tape with first .072 hole on smooth side of gage TP156011. The four remaining .072 gage holes must be visible through corresponding #2 code holes in tape. The #2 code hole which corresponds with .86 gage hole must be entirely within the perimeter of that gage hole.

TEST PROCEDURE

Run the following tape using PDP8/S or PDP8/I processor:
Combo Test - MAINDEC-08-D2TA

(A) If failures occur run the following diagnostic pertaining to the particular area, that failed in the Combo Test, repair, re-run combo.

Teleprinter Test	MAINDEC-08-D25A
Binary Loader	DEC-8-2-U-RIM
Punch Test	MAINDEC-08-D2QA
Keyboard Test	MAINDEC-08-D2RA
Reader Test	MAINDEC-08-D2PA

(B) Unit is ready for shipment when Combo Test #MAINDEC-08-D2A makes one complete pass with no error typeouts.

DIGITAL EQUIPMENT CORPORATION
MAYNARD, MASSACHUSETTS

ENGINEERING SPECIFICATION

DATE 5/3/68

TITLE PACKING PROCEDURE FOR TELETYPE WRITERS LT33 SERIES

REVISIONS

REV	DESCRIPTION	CHG NO	ORIG	DATE	APPD BY	DATE
A	CHANGED ECO	LT33-00002	A KENT	7-6-71	Allan Kent	26 July 71

DISREGARD READER AND PUNCH INSTRUCTIONS ON KSR UNITS.

1. Put reader clip in holder; reader pins in upward position as originally received.
2. Use one tie wrap to hold carriage at left margin.
3. Mount printer unit to fiberboard platform with the eight (8) mounting screws and three (3) studs, originally provided.
4. Put chad box and reader power pack as well as copy holder in the box provided.
5. ~~Fifty (50) cycle~~ Teletypes should have transformer (if previously mounted) left in base stand.
6. The four (4) mounting screws that mount the printer to the base stand should be put in a bag along with the on/off knob and the platen knob and then tied to the base stand.
7. Teletype AC cable and signal cable should be placed on the plastic cover where paper roll normally goes and wrapped in kim pack.
8. Tape down printer cover, punch paper-roller, printer paper-roller and cables of item 7 above. Additional tape should be used to secure whole cover to base.
9. Make sure that there are three (3) thumbscrews that hold teletype cover on, and four (4) screws in the front of the machine, also a screw in reader cover and one (1) face-plate for each machine.

ENG	APPD	SIZE	CODE	NUMBER	REV
		A	SP	LT33-0-10	A

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ENGINEERING SPECIFICATION

DATE 5/3/68

TITLE INSTALLATION PROCEDURE FOR TELETYPE MODEL LT33 SERIES

REVISIONS

REV	DESCRIPTION	CHG NO	ORIG	DATE	APPD BY	DATE
A	CHANGED ECO	LT33-00002	A. KENT	1-6-71	Allan Kent	26 July 71

DISREGARD READER AND PUNCH INSTRUCTIONS ON KSR UNITS.

1. Remove all tape holding covers and cables.
2. Remove the whole cover and in the reader, remove clip which holds reader pins in an upward position before turning machine on.
3. Mount power supply for reader on basic stand and plug connector cable in.
4. Remove tie wrap being used to hold carriage at left hand margin.
5. Mount base to bottom of unit with screws provided.
6. Replace cover being sure that three (3) thumbscrews, four (4) panhead screws and one (1) special screw (for reader) are correctly installed before attaching face plate and knobs.

ENG	APPD	SIZE	CODE	NUMBER	REV
		A	SP	LT33-0-11	A

DEC FORM NO. DRA 107

DIGITAL EQUIPMENT CORPORATION
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ENGINEERING SPECIFICATION

DATE 3/18/71

TITLE ASR33 TELETYPE INCOMING INSPECTION PROCEDURES AND ADJUSTMENTS

REVISIONS

REV	DESCRIPTION	CHG NO	ORIG	DATE	APPD BY	DATE

ENG	APPD	SIZE	CODE	NUMBER	REV
W P Miller	W P Miller	A	SP	LT33-0-13	

DEC FORM NO. DRA 107

1.0 SCOPE

This procedure outlines the procedures for inspection and acceptance of the ASR 33 Teletype.

1.1 These instructions specifically outline the requirements for DEC production standards and will be used as the basis for acceptance or rejection of vendor supplied equipment.

2.0 EQUIPMENT REQUIRED

2.1 Feeler gauges type TTY #117781, DEC 29-12520 or similar.

2.2 DEC tape gauge type T18118.

2.3 Reader gauge type TTY #TP183103.

→ ALL CHECKS ARE MADE WITH POWER OFF ←

3.0 KEYBOARD

Section 574-121-700TC, ISSUE 3, JUNE 1969, VOL. 2, Technical Manual Type ASR33 Teletypewriter

3.1 Universal lever clearance. (Ref. Page 21)

3.1.1 Minimum .014", maxium .058" clearance between latch lever and universal lever.

4.0 TYPING UNIT

Section 574-122-700TC, Issue 4, August 1969, Vol. 2, Technical Manual Type ASR33 Teletypewriter.

* 4.1 Distributor shaft end play. (Ref. Page 11)

4.1.1 Minimum .001", maximum .012" clearance between left bearing and clutch gear assembly.

* 4.2 Distributor clutch adjustment. (Ref. Page 13)

4.2.1 With clutch released, leading edge of trip lever should come approximately in the center of the shoe lever

4.2.2 With clutch latched, shoe lever should be minimum flush, maximum .015" beyond rearmost surface of trip lever.

4.2.3 With clutch latched, advance distributor brush holder in its driving direction until it stops and releases. It should restore to normal position.

4.3 Selector cam end play. (Ref. Page 18)

4.3.1 Disengage selector clutch, move mainshaft toward the right, minimum .002", maximum .012" clearance measured between left end bearing and collar.

* 4.4 Code bar and function clutch adjustment. (Ref. Pages 22 to 24)

4.4.1 When disengaged, the upper surface of the trip lever and shoe lever should be approximately flush. When released, the leading edge of the shoe lever should come to the center of the notch on the trip lever.

* 4.5 Selector clutch adjustment. (Ref. Page 27)

4.5.1 When disengaged, the upper surface of the trip lever and shoe lever should be approximately flush. When released, the leading edge of the shoe lever should come to the center of the notch on the trip lever.

* NOTE: When all clutches are adjusted, reverse the rotation of the mainshaft by hand, with all clutches latched. The mainshaft should rotate freely, if it does not, the clutch adjustments must be measured according to the teletype manual.

4.6 Blocking lever adjustment. (Ref. Page 39)

4.6.1 Set range finder to 72, set up an all marking code combination in selector. Release code bar clutch, cycle by hand, all code bars should go marking and a slight vertical movement of some blocking levers should occur as the code bars pass beneath the blocking levers.

4.7 Print Suppression. (Ref. Pages 37 and 47)

4.7.1 Print suppression latch horizontal clearance between right side of print suppression latch and print suppression code bar should be min. .001", max. .025" (machine in restored position.)

4.7.2 Print suppression latch vertical clearance between upper part of print suppression latch and print suppression code bar should be min. .005", max. .020". (mach.in rest.pos

4.8 Carriage freedom of horizontal movement. (Ref. Page 51)

4.8.1 The carriage should move freely side to side with no binding. Make any necessary roller and belt adjustments. (Ref. Pages 51, 52, 54 and 57)

4.9 Rear rail adjustments. (Ref. Page 53)

4.9.1 Set up number one code bar in marking position and move carriage side to side. There should be no visible difference between the number one shift slide and the right reset guide plate when in the right or left margins.

4.10 Front rail and print hammer trip lever release adjustments. (Ref. Page 62)

4.10.1 Clearance should be minimum .030", maximum .060" measured between print hammer trip lever and print bail.

4.10.2 Adjustments should remain constant in both margins to within .010".

4.11 Dash pot adjustment. (Ref. Page 80)

4.11.1 Typing unit piston should return freely into the dash pot cylinder from any position when moved toward the right margin and released by hand.

4.12 Line feed adjustments. (Ref. Pages 84 to 92)

4.12.1 Set up a line feed code in the selector. Release the code bar and clutch.
Cycle by hand, while holding the platen detent pawl away from the ratchet until the platen is fully advanced by the feed pawl. At this point slowly release the detent pawl into the ratched gear. There should be very little rotation of the ratched gear as the pawl seats into the gear.

4.12.2 If adjustmens are necessary, refer to Pages 84 to 92.

→ APPLY POWER ←

4.13 Answer back mechanism, operation under power. (Ref. Pages 132 to 146)

4.13.1 Turn on punch, press "here is" key, see that punch

punches blank tape. If not, refer to adjustments Pages 132 to 146.

→ TURN POWER OFF ←

5.0 READER

Section 524-124-700TC, Issue 3, June 1969, Vol. 2, Technical Manual Type ASR33 Teletypewriter.

5.1 Horizontal and vertical clearance between trip lever and armature extension. (Ref. Pages 6 and 7)

5.1.1 With reader trip lever fully forward, clearance between reader trip lever and armature extension, should be minimum .008", maximum .020".

5.1.2 With the armature held all the way down, clearance between reader trip lever and upper part of the armature, should be minimum .001", maximum .010" as the reader trip lever passes over the armature extension.

5.2 Reader trip contacts. (Ref. Page 8)

5.2.1 The clearance should be minimum .025", maximum .040" when measured between the contacts when they are open.

5.3 Feed pawl and blocking pawl adjustments. (Ref. Pages 13 and 15)

5.3.1 With the machine power on, energize reader armature by tripping reader trip solonoid. Insert TP183103 Gauge between upstop bracket and upstop shoulder screw. Gauge should enter friction tight, if not follow Teletype Manual for adjusting sequence.

5.3.2 With the reader in the rest position, the clearance should be minimum .001", maximum .008" when measured between the feed pawl and the ratchet tooth.

5.3.3 With the reader in rest position the clearance should be minimum .001", maximum .003" when measured between blocking pawl and the ratchet tooth.

6.0 PUNCH

Section 574-125-700TC, Issue 4, June 1969, Vol 2, Technical Manual Type ASR33 Teletypewriter.

6.1 Sensing lever down stop.

6.1.1 Check screws securing the punch drive arm assembly to the rocker shaft are tight.

6.1.2 Push sensing levers down by hand, see that they limit on the down stop before they leave the guide post. Position guide post as required to attain this condition.

6.2 Tape nudger adjustments. (Ref. Page 8)

6.2.1 Manually rotate the main shaft until the tape nudger is in the fully driven position, the clearance between the tape nudger and the rear roller should be minimum .030" and maximum .080".

6.3 Total punch operation in static state. (Ref. Pages 5 to 12)

6.3.1 Put an all marking code in selector, cycle by hand until the feed pawl is fully rearward, at this point check the following:

A. With the feed wheel ratchet fully detented, move the feed pawl out of engagement with the gear, release slowly and see that it re-enters the gear with no perceptable clearance.

B. The clearance between the sensing levers and the function pawl should be minimum .005", maximum .020".

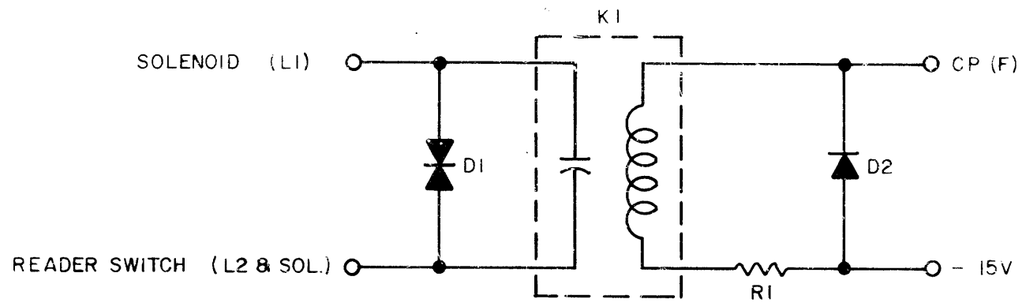
6.3.2 Continue to cycle by hand until the punch drive link is fully forward. The clearance between the punch pin drive levers and the bottom surface of the punch die block assembly, should be minimum .017", maximum .037". (Ref. Page 9)

6.3.3 Complete the cycle by hand, the clearance between the stripper bail and sensing pawl should be minimum .001", maximum .012". (Ref. Page 7)

6.4 Turn the power on, punch some tape and check for proper registration with DEC tape gauge T18118.

6.4.1 Adjust spring to obtain proper registration within one half hole over entire gauge. (Ref. Page 12)

SIZE	CODE	NUMBER	REV.
B	CS	4915-0-1	A



NOTE:
K1 HAS NO OUTER SHIELD

REFERENCE DESIGNATION	DESCRIPTION	PART NO.
	PARTS LIST	A-PL-4915-0-0
K1	RELAY, REED 12VDC #30002 1D1	1203193
R1	RES. 120 1/4W 10% CC	1301418
D2	DIODE D664	1100114
D1	DIODE 6RS 20SP4B4	1100106

PARTS LIST

TRANSISTOR & DIODE CONVERSION CHART			
DEC	EIA	DEC	EIA
D664	IN3606		
20SP4B4	SAME		

REVISIONS			
REV	A		
CHG NO.	6886		
CHK REV. & REDR.			

DRN. I.HAHN	DATE 5-11-65	
CHK'D R.SILVERMAN	DATE 6-24-65	
ENG. D.A.WHITE	DATE 5-24-65	
PROD.	DATE	

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MAYNARD MASSACHUSETTS

TITLE TELETYPE READER CONTROL 4915

SIZE	CODE	NUMBER	REV
B	CS	4915-0-1	A

PRINTED CIRCUIT REV. D

DEC FORM NO.
DRB 102

digital equipment corporation