

**H720**  
**power supply and**  
**mounting box**  
**engineering drawings**

Faint, illegible text in the upper left quadrant.

### H720 Power Supply & Mounting Box

|                  |            |   |
|------------------|------------|---|
| D-UA-H720-0-0    | 4          | H720 Power Supply                             |
| A-PL-H720-0-0    | 3          | H720 Power Supply (parts list)                |
| D-CS-H720-0-1    | 1          | H720 Circuit Schematic                        |
| D-CS-5408475-0-1 | 1          | Power Regulator Board Assembly (A & B Models) |
| D-CS-5409267-0-1 | 1          | Power Regulator Board Assembly (E & F Models) |
| D-UA-11/20-0-0   | 2          | Basic Assy/Configuration (PDP-11)             |
| D-UA-H960-C-0    | 1          | Cabinet Assembly (PDP-11)                     |
| D-UA-KY11-A-0    | 1          | Console Assembly KY11-A                       |
| D-UA-KY11-B-0    | 1          | Console Assembly KY11-B                       |
| D-UA-KY11-C-0    | 1          | Console Assembly KY11-C                       |
| E-UA-H952-HA-0   | 1          | Table Assembly                                |
| E-UA-BA11-0-0    | 1          | Chassis Assembly (BA11)                       |
| LT33             | (complete) | Teletype Unit                                 |

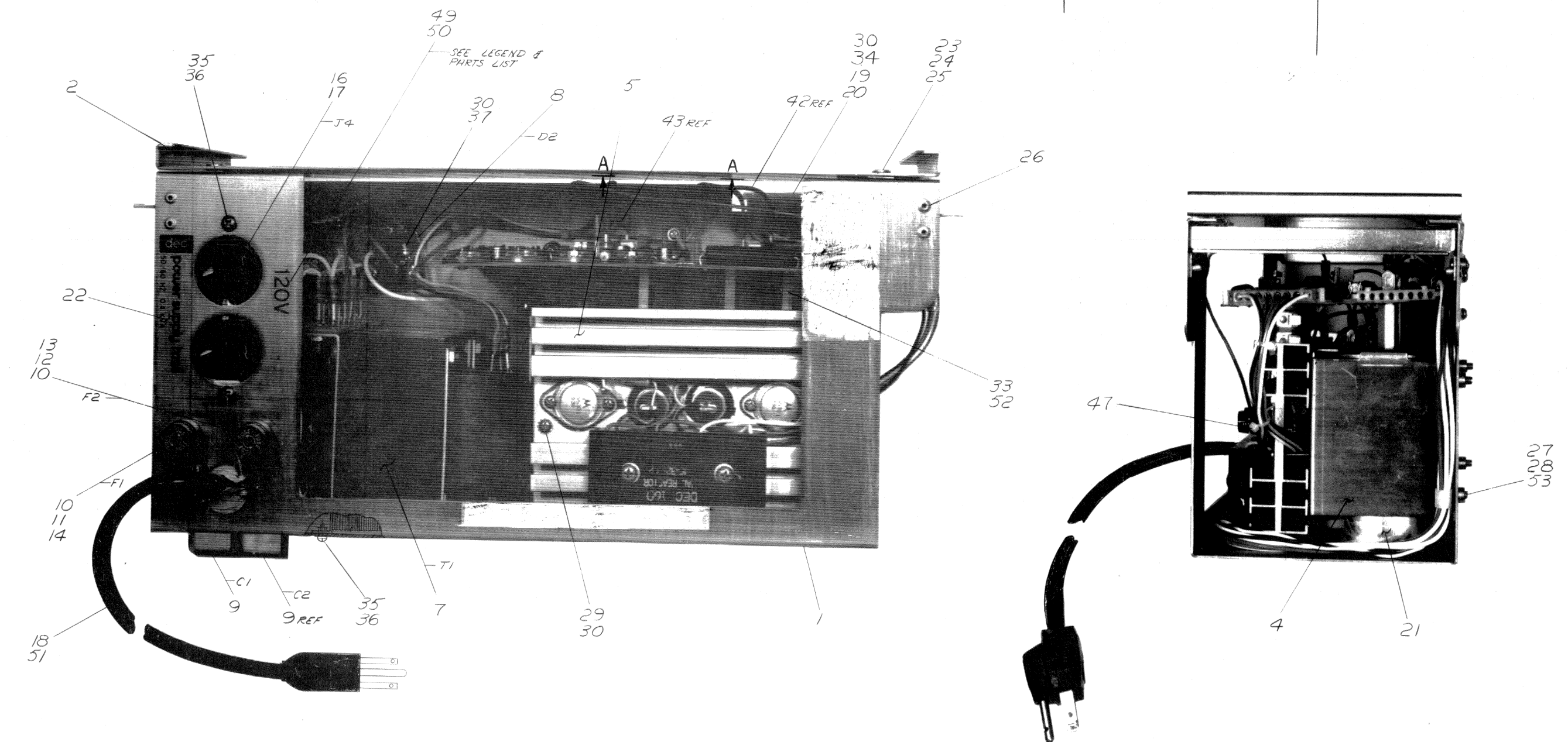


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SIZE CODE NUMBER  
DUA H720-0-0 2

| LEGEND      |                     |
|-------------|---------------------|
| PART NUMBER | VARIATION           |
| H720-A      | 120V 50/60HZ SHRM   |
| H720-B      | 240V 50/60 HZ       |
| H720-C      | 120V SEE SHT 4 OF 4 |
| H720-D      | 240V SEE SHT 4 OF 4 |

NOTES:  
1. FOR CIRCUIT SCHEMATIC REFER TO DWG D-CS-H720-0-1.



| REV | CHANGE NO. | DATE | BY | REASON |
|-----|------------|------|----|--------|
| 1   |            |      |    |        |
| 2   |            |      |    |        |
| 3   |            |      |    |        |
| 4   |            |      |    |        |
| 5   |            |      |    |        |
| 6   |            |      |    |        |
| 7   |            |      |    |        |
| 8   |            |      |    |        |

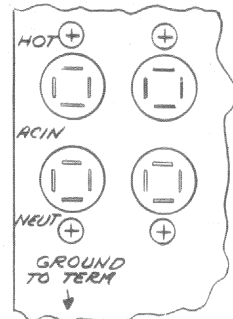
FIRST USED ON OPTION/MODEL  
PDP 11/20

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

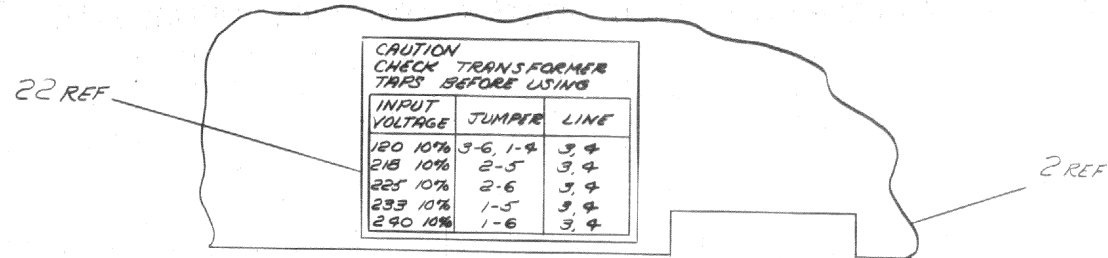
| QTY.                                | DESCRIPTION  | PART NO.                  | ITEM NO.    |
|-------------------------------------|--------------|---------------------------|-------------|
| PARTS LIST                          |              |                           |             |
| DRN                                 | MARCOTTE     | DATE                      | 1-28-70     |
| CHK'D                               | RUSS         | DATE                      | 2-3-70      |
| ENG.                                | BLASI        | DATE                      | 2-4-70      |
| PROJ. ENG.                          | CADY         | DATE                      | 2-4-70      |
| PROD.                               | MAC DONALD   | DATE                      | 2-4-70      |
| NEXT HIGHER ASSY<br>D-UR 11/20-0-0  |              |                           |             |
| SCALE                               | SHEET 1 OF 4 |                           | DIST.       |
| TITLE<br>H720 POWER SUPPLY ASSEMBLY |              | SIZE CODE<br>DUA H720-0-0 | NUMBER<br>K |

DEC FORM NO  
DRD 100

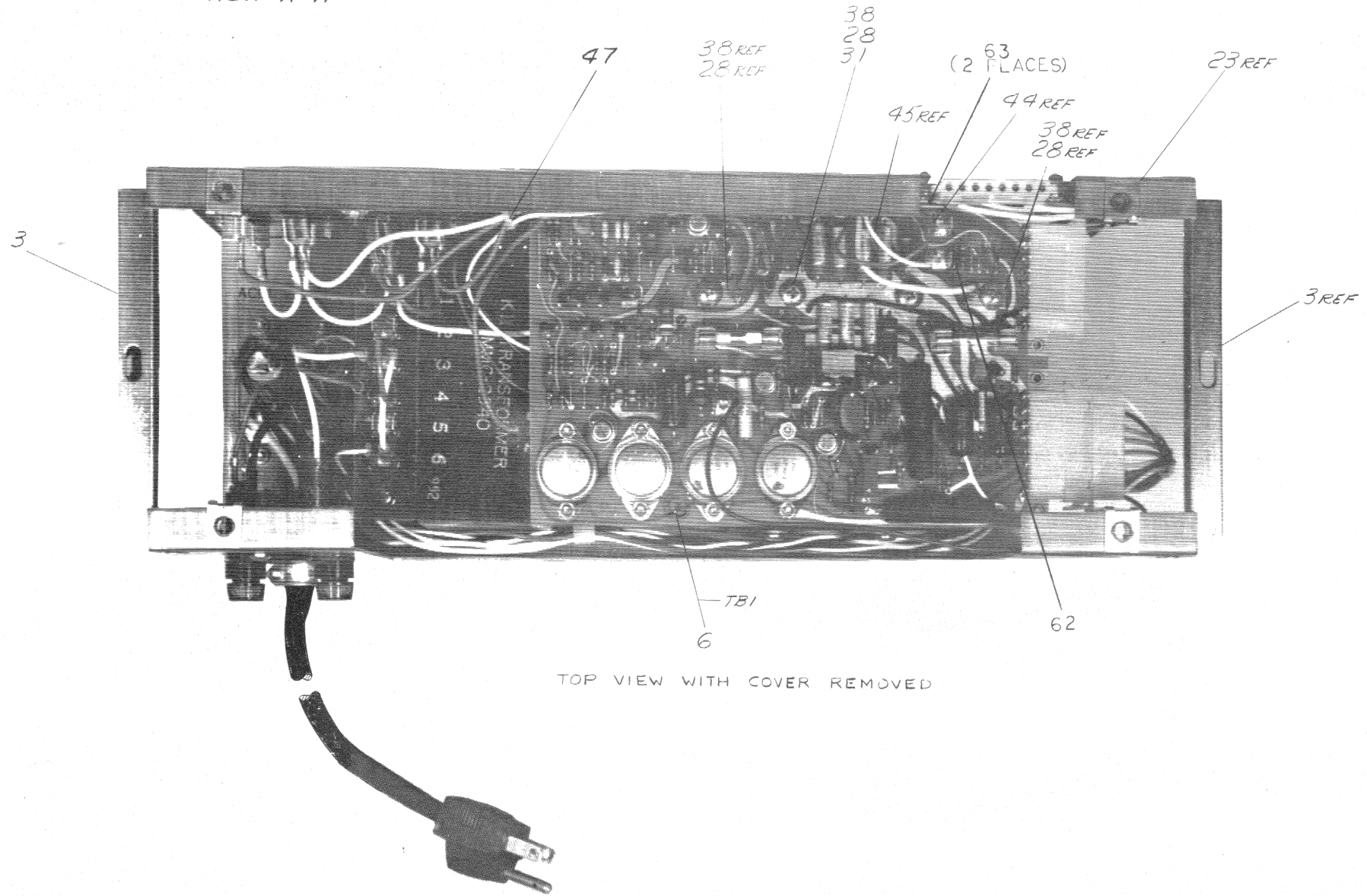
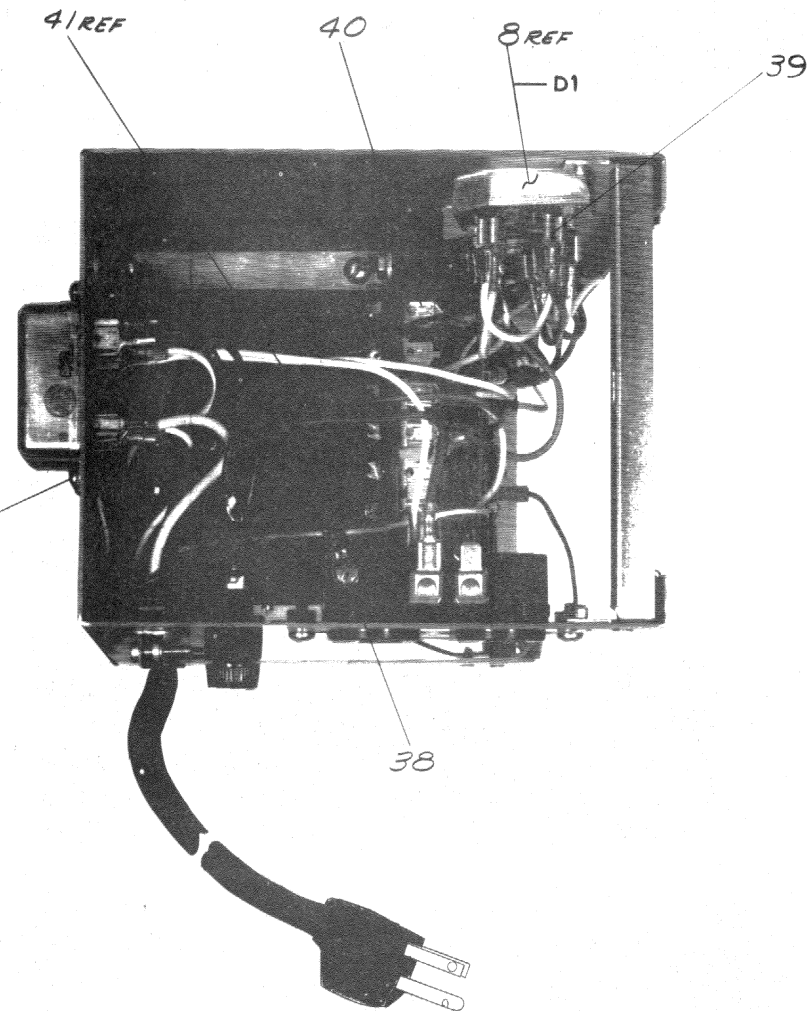
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VIEW B-B



VIEW A-A



TOP VIEW WITH COVER REMOVED

| REV. | NO. | DATE |
|------|-----|------|
|      |     |      |

DEC FORM NO. DRD 100

FIRST USED ON OPTION/ MODEL  
PDP 11/20

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

| QTY.          | DESCRIPTION  | PART NO. | ITEM NO. |
|---------------|--------------|----------|----------|
| PARTS LIST    |              |          |          |
| DRN.          | MARCOTTE     | DATE     | 1-28-70  |
| CHK'D.        | RUSS         | DATE     | 2-3-70   |
| ENG.          | BLASI        | DATE     | 2-4-70   |
| PROJ. ENG.    | GADY         | DATE     | 2-4-70   |
| PROD.         | M. C. DONALD | DATE     | 2-4-70   |
| DUA-11/20-0-0 |              | SCALE    |          |
| SHEET 2 OF 4  |              | DIST.    |          |

**digital** EQUIPMENT CORPORATION  
MAYNARD, MASSACHUSETTS

TITLE  
H720 POWER SUPPLY ASSEMBLY

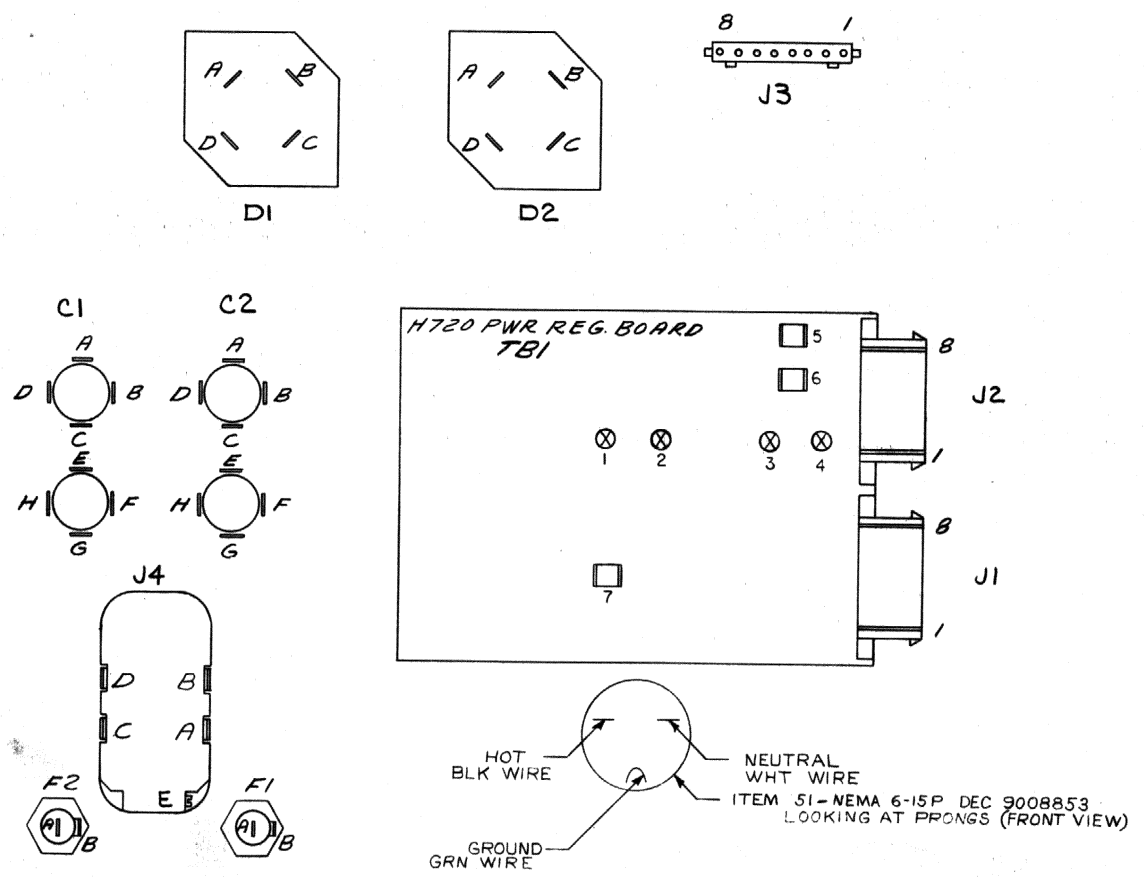
SIZE CODE: DUA H720 0-0  
NUMBER:  

REV. K

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| WIRE TABLE |     |       |                 |               |         | WIRE TABLE |     |       |                 |               |         |
|------------|-----|-------|-----------------|---------------|---------|------------|-----|-------|-----------------|---------------|---------|
| ITEM NO.   | AWG | COLOR | FROM CONNECTION | TO CONNECTION | WITH    | ITEM NO.   | AWG | COLOR | FROM CONNECTION | TO CONNECTION | WITH    |
| 5          | 22  | BRN   | ---             | TBI-7         | ---     | 42         | 14  | WHT   | T1-3            | ITEM 40       | T1-6    |
| 5          | --- | ---   | ---             | J1            | ---     | 42         | 14  | WHT   | T1-3            | ITEM 40       | C2-B    |
| 18         | 14  | BLK   | ---             | C1-A          | ITEM 40 | 42         | 14  | WHT   | T1-11           | ITEM 40       | D2-D    |
| 18         | 14  | WHT   | ---             | C1-E          | ITEM 40 | 42         | 14  | WHT   | C2-C            | ITEM 40       | J4-A    |
| 18         | 14  | GRN   | ---             | J4-E          | ITEM 38 | 42         | 14  | WHT   | C2-D            | ITEM 40       | J3-B    |
| *41        | 14  | RED   | T1-1            | ITEM 40/48    | T1-4    | ITEM 40    | 42  | 14    | WHT             | C1-F          | ITEM 40 |
| 41         | 14  | RED   | T1-7            | ITEM 40       | D2-B    | ITEM 39    | 42  | 14    | WHT             | D1-B          | ITEM 39 |
| 41         | 14  | RED   | C2-E            | ITEM 40       | J3-7    | ITEM 20    | 42  | 14    | WHT             | D1-B          | ITEM 40 |
| 41         | 14  | RED   | C2-F            | ITEM 40       | F2-A    | SOLDER     | 42  | 14    | WHT             | D1-C          | ITEM 40 |
| 41         | 14  | RED   | C2-H            | ITEM 40       | J4-C    | ITEM 40    | 43  | 14    | BLK             | T1-9          | ITEM 40 |
| 41         | 14  | RED   | C1-B            | ITEM 40       | F1-A    | SOLDER     | 45  | 18    | WHT             | T1-10         | ITEM 40 |
| 41         | 14  | RED   | F1-B            | SOLDER        | J3-1    | ITEM 20    | 46  | 18TWP | WHT             | T1-6          | ITEM 40 |
| 41         | 14  | RED   | T1-4            | ITEM 40       | F2-B    | SOLDER     |     |       | BLK             | F2-B          | SOLDER  |
| 41         | 14  | RED   | D1-A            | ITEM 40       | D2-B    | ITEM 40    | 46  | 18TWP | WHT             | C2-A          | ITEM 40 |
| 41         | 14  | RED   | D2-A            | ITEM 39       | D2-C    | ITEM 40    | 46  | 18TWP | BLK             | T1-1          | ITEM 40 |
| 41         | 14  | RED   | D2-A            | ITEM 40       | TBI-1   | ITEM 40    | 44  | 18    | RED             | T1-8          | ITEM 40 |
|            |     |       |                 |               |         |            | 63  | CAP.  |                 | TBI-3         | ITEM 63 |

NOTES:  
 1. WIRING IN CHART IS FOR H720-A P/S TO CONVERT TO H720-B P/S DELETE WIRING FROM T1-3 TO T1-6 & T1-1 TO T1-9, SHOWN BY ASTERISK (\*), ADD WIRE FROM T1-1 TO T1-6  
 2. ITEM 51 SHOWN FOR PROPER POWER WIRING OF 240VOLT PLUG



| REV | CHG | NO. |
|-----|-----|-----|
|     |     |     |

FIRST USED ON OPTION/MODEL  
PDP11/20

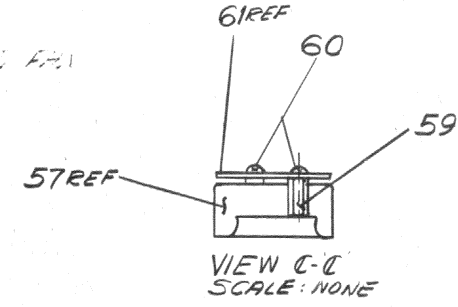
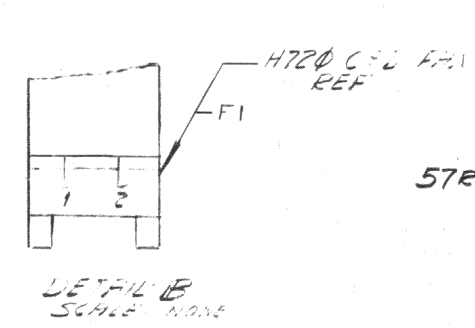
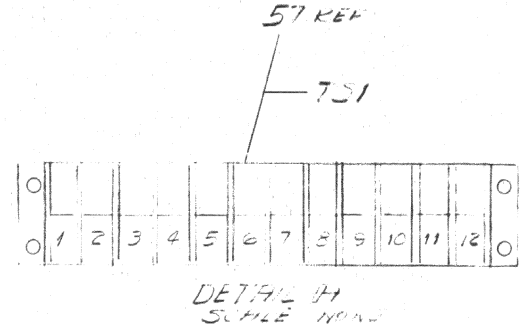
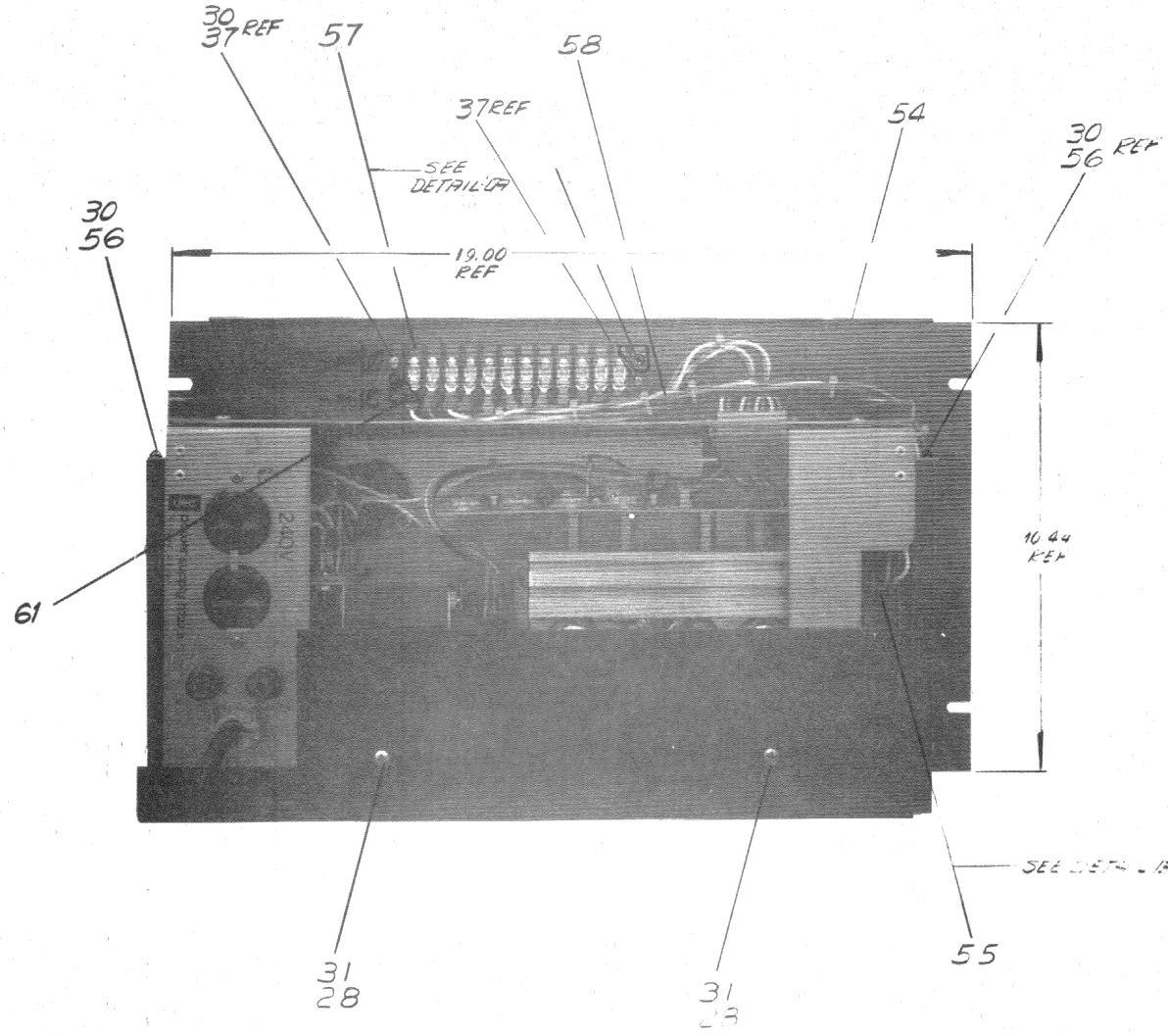
DO NOT SCALE DRAWING  
 UNLESS OTHERWISE SPECIFIED  
 DIMENSION IN INCHES  
 TOLERANCES  
 DECIMALS FRACTIONS ANGLES  
 ± .005 ± 1/64 ± .030  
 FINAL SURFACE QUALITY  
 REMOVE BURRS AND BREAK SHARP CORNERS  
 MATERIAL  
 FINISH

| QTY. | DESCRIPTION   | PART NO. | ITEM NO. |
|------|---|----------|----------|
|      | PARTS LIST  |          |          |
|      | digital EQUIPMENT CORPORATION<br>MAYNARD, MASSACHUSETTS |          |          |
|      | TITLE<br>H720 POWER SUPPLY ASSEMBLY                     |          |          |
|      | SCALE   | SHEET    | OF       |
|      | 1   | 3        | 4        |
|      |   | DIST.    |          |
|      |   |          |          |

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| WIRE TABLE |             |       |                        |                  |         |
|------------|-------------|-------|------------------------|------------------|---------|
| ITEM NO.   | DESCRIPTION |       | FROM HARNESS POINT NO. | TO P.S. LOCATION | REMARKS |
|            | AWG         | COLOR |                        |                  |         |
| 58         | 14          | WHT   | 1                      | TS1-1            | ---     |
|            | 14          | RED   | 2                      | TS1-2            | ---     |
|            | 14          | WHT   | 3                      | TS1-3            | ---     |
|            | 14          | RED   | 4                      | TS1-4            | ---     |
|            | 14          | WHT   | 5                      | TS1-3            | ---     |
|            | 14          | RED   | 6                      | TS1-4            | ---     |
| 58         | 22          | YEL   | 7                      | TS1-5            | ---     |

| WIRE TABLE |             |       |                        |                  |           |
|------------|-------------|-------|------------------------|------------------|-----------|
| ITEM NO.   | DESCRIPTION |       | FROM HARNESS POINT NO. | TO P.S. LOCATION | REMARKS   |
|            | AWG         | COLOR |                        |                  |           |
| 58         | 22          | VIO   | 8                      | TS1-6            | ---       |
|            | 14          | BLU   | 9                      | TS1-7            | ---       |
|            | 22          | DK Y  | 10                     | TS1-5            | ---       |
|            | 22          | GRN   | 11                     | TS1-4            | ---       |
|            | 22          | GRN   | 12                     | TS1-10           | ---       |
|            | 14          | BLK   | 13                     | TS1-11           | ---       |
| 58         | 14          | RED   | 14                     | TS1-2            | ---       |
| 58         | 14          | RED   | 15                     | F1-2             | SOLDER-55 |
| 58         | 14          | WHT   | 16                     | F1-1             | SOLDER-55 |



|            |      |
|------------|------|
| REVISIONS  | REV. |
| CHANGE NO. |      |
| CHK        |      |

|   |   |                                     |                    |
|---|---|-------------------------------------|--------------------|
| FIRST USED ON OPTION / MODEL<br>PDP 11/20 | DO NOT SCALE DRAWING                              | DRN<br><i>[Signature]</i>           | DATE<br>10-1-70    |
|   | UNLESS OTHERWISE SPECIFIED<br>DIMENSION IN INCHES | CHK<br><i>[Signature]</i>           | DATE<br>10-13-70   |
|   | TOLERANCES  | ENG<br><i>[Signature]</i>           | DATE<br>10/15/70   |
|   | DECIMALS ± .005                                   | PROJ. ENG.<br><i>[Signature]</i>    | DATE<br>10/15/70   |
|   | FRACTIONS ± 1/64                                  | PROD.<br><i>[Signature]</i>         | DATE<br>10/15/70   |
|   | ANGLES ± 0°30'                                    |                                     |                    |
|   | FINAL SURFACE QUALITY                             |                                     |                    |
|   | REMOVE BURRS AND BREAK SHARP CORNERS              |                                     |                    |
| MATERIAL<br>— H —                         | NEXT HIGHER ASSY<br>D-11 1120-0-0                 | PARTS LIST                          |                    |
| FINISH<br>— H —                           | SCALE NONE  | TITLE<br>H720 POWER SUPPLY ASSEMBLY |                    |
| SHEET 4 OF 4                              | SHEET 4 OF 4                                      | SIZE CODE<br>DUA                    | NUMBER<br>H720-0-0 |
|   |   | REV.<br>K                           |                    |

REV. K  
NUMBER H720-0-0  
SIZE CODE DUA



# DIGITAL EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS PARTS LIST

MADE BY P. MARCOTTE  
 DATE 1/26/70  
 ENG *CRB*  
 DATE 2/4/70  
 CHECKED K. RUSS  
 DATE 1/29/70  
 PROD *MacDonald*  
 DATE 2/4/70  
 SECTION 1  
 ISSUED SECT. 1

| ITEM NO. | DWG NO./PART NO. BASIC VAR. | DESCRIPTION                  |
|----------|-----------------------------|------------------------------|
| 1        | E-IA-5308519-0-0            | PWR SUPPLY CHASSIS           |
| 2        | C-MD-5308518-0-0            | PWR SUPPLY COVER             |
| 3        | C-MD-5308521-0-0            | BRKT SUPPORT                 |
| 4        | D-MD-5308520-0-0            | CAPACITOR BRKT               |
| 5        | D-AD-5408525-0-0            | HEAT SINK ASSY               |
| 6        | D-AD-5408475-0-0            | PWR REGULATOR BD ASSY        |
| 7        | 1609810                     | TRANSFORMER MMC 2940         |
| 8        | 1105799                     | DIODE BRIDGE DM15            |
| 9        | 1002153                     | CAPACITOR 2 X .1 MFD 1000V   |
| 10       | 9007242                     | FUSEHOLDER 15 AMP 250 V      |
| 11       | 9007227                     | FUSE AGC 15 AMP SLO-BLO      |
| 12       | 9007222                     | FUSE AGC 5 AMP-SLO-BLO       |
| 13       | 9007220                     | FUSE AGC 4 AMP SLO-BLO       |
| 14       | 9007225                     | FUSE AGC 10 AMP SLO-BLO      |
| 15       | 1809668                     | ROME X 3/8 CONN              |
| 16       | 1205351                     | AC DUPEX OUTLET              |
| 17       | 9008856                     | OUTLET DUPEX NEMA 6-15R      |
| 18       | 9107673-15                  | #14/3 600V PWR CORD 15 FT LG |
| 19       | 1209340-00                  | AMP CONN #1-480459-0         |
| 20       | 1209379-01                  | CONTACT AMP #606.19-4        |
| 21       | 1009189                     | CAPACITOR 22,000 MFD 50V     |
| 22       | B-DC-5308524-0-0            | P/S DECALS                   |

TITLE H720 POWER SUPPLY  
 ASSY NO. D-UA-H720-0-0  
 SHEET 1 OF 4  
 SIZE CODE A PL  
 DIST. G  
 NUMBER H720-0-0  
 REV. K  
 ECO NO. H720-00017

DEC FORM NO. 16-1027  
 DRA 123

| QTY/VAR | UNIT COST | UNIT QUANTITY | QUANTITY ISSUED |
|---------|-----------|---------------|-----------------|
| H720-A  |           | 1             | 1               |
| H720-B  |           | 1             | 1               |
| H720-C  |           | 1             | 1               |
| H720-D  |           | 1             | 1               |

# DIGITAL EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS PARTS LIST

MADE BY P. MARCOTTE  
 DATE 1/27/70  
 ENG *CRB*  
 DATE 2/4/70  
 CHECKED K. RUSS  
 DATE 1/29/70  
 PROD *MacDonald*  
 DATE 2/4/70  
 SECTION 1  
 ISSUED SECT. 1

| ITEM NO. | DWG NO./PART NO. BASIC VAR. | DESCRIPTION                                  |
|----------|-----------------------------|--|
| 23       | 9008196                     | CLIP ON RECP #82-47-104-15 SOUTHCO           |
| 24       | 9008198                     | 1/4 TURN FASTENER #82-11-160-16 SOUTHCO      |
| 25       | 9008200                     | 1/4 TURN FAST RET RING #82-32-101-17 SOUTHCO |
| 26       | 9009054                     | POP RIVET SD43BS                             |
| 27       | 9006072-1                   | SCR PHL PAN PD #10-32 X 7/16 LG              |
| 28       | 9006635                     | LOCK WASHER, INT TOOTH #10                   |
| 29       | 9006028-1                   | SCR PHL PAN HD #6-32 X 1" LG                 |
| 30       | 9007649                     | LOCKWASHER EXT TOOTH #6                      |
| 31       | 9006071                     | SCR PHL TRUSS HD #10-32 X 3/8 LG             |
| 32       | 9007596                     | CONN, ARKLESS #3000-M446                     |
| 33       | 9007871                     | SPACER, 3/8 AF X 1" LG #10-32                |
| 34       | 9006021-1                   | SCR, PHL PAN HD #6-32 X 5/16 LG              |
| 35       | 9006037-1                   | SCR, PHL PAN HD #8-32 X 3/8 LG               |
| 36       | 9006563                     | NUT, KEPS #8-32                              |
| 37       | 9006026-1                   | SCR, PHL PAN HD #6-32 X 3/4 LG               |
| 38       | 9007928                     | CONN, ARKLESS #50364                         |
| 39       | 9007925                     | CONN, ARKLESS #3000-H21A                     |
| 40       | 9007917                     | CONN, ARKLESS #50902                         |
| 41       | 9107370-22                  | WIRE #14 AWG STRD TEF INS (RED)              |
| 42       | 9107370-99                  | WIRE #14 AWG STRD TEF INS (WHT)              |
| 43       | 9107370-00                  | WIRE #14 AWG STRD TEF INS (BLK)              |
| 44       | 9107360-22                  | WIRE #18 AWG STRD TEF INS (RED)              |

TITLE H720 POWER SUPPLY  
 ASSY NO. D-UA-H720-0-0  
 SHEET 2 OF 4  
 SIZE CODE A PL  
 DIST. G  
 NUMBER H720-0-0  
 REV. K  
 ECO NO. H720-00017

DEC FORM NO. 16-1027  
 DRA 123

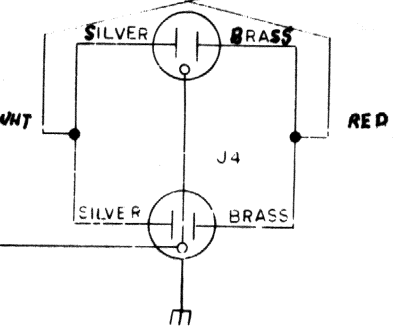
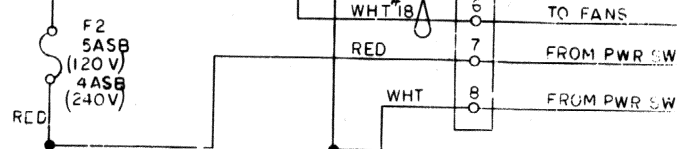
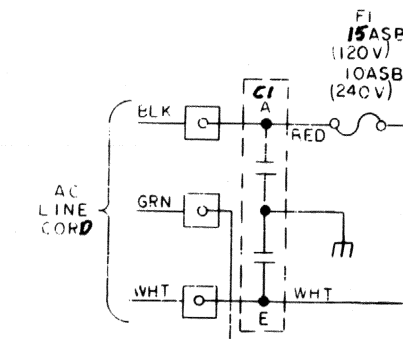
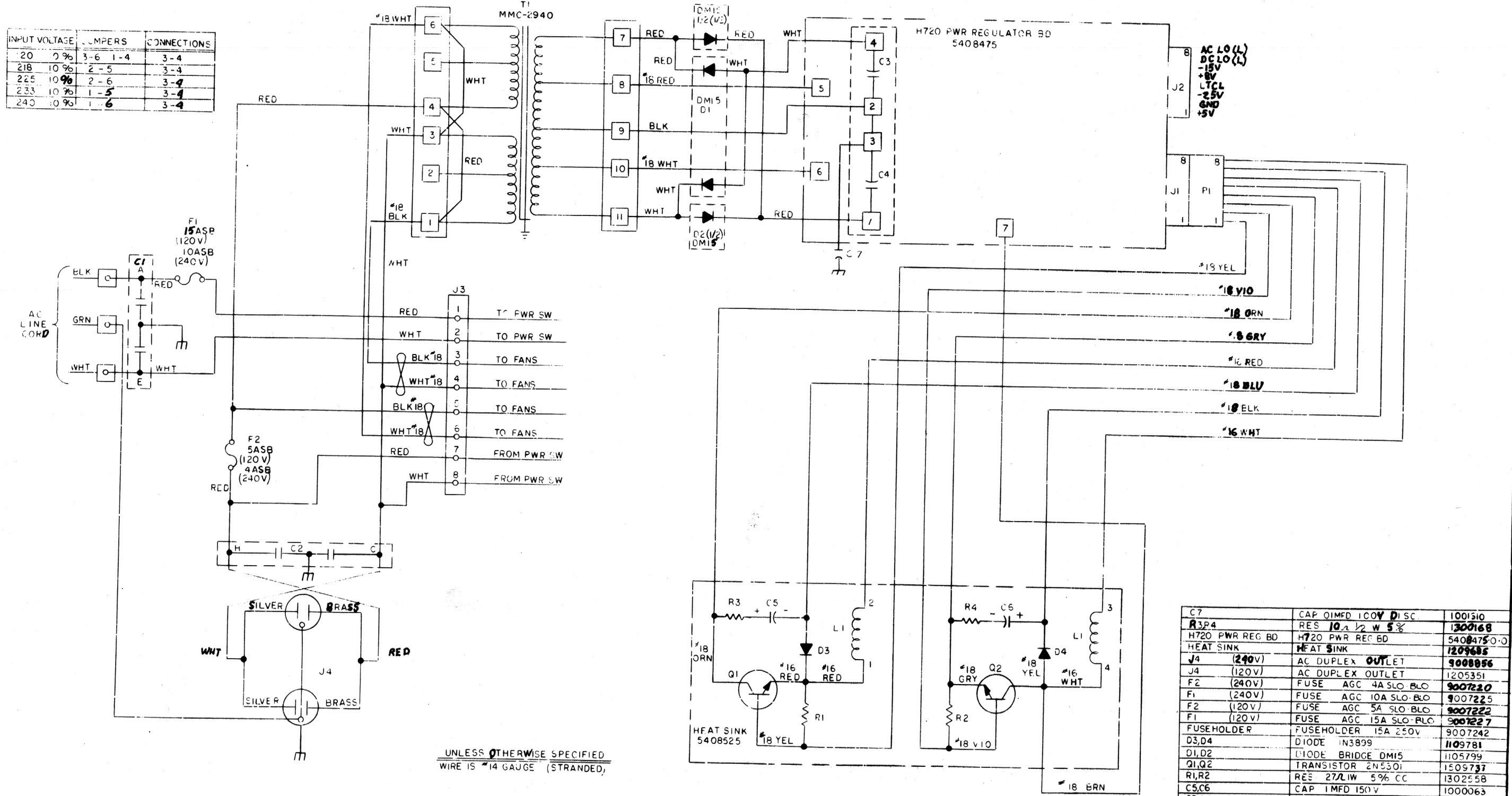
| QTY/VAR | UNIT COST | UNIT QUANTITY | QUANTITY ISSUED |
|---------|-----------|---------------|-----------------|
| H720-A  |           | 4             | 4               |
| H720-B  |           | 4             | 4               |
| H720-C  |           | 4             | 4               |
| H720-D  |           | 4             | 4               |



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U 1-0-021H 531 D 3803 1/15

| INPUT VOLTAGE | TUMPLERS | CONNECTIONS |
|---------------|----------|-------------|
| 20            | 2-6      | 1-4         |
| 218           | 10-6     | 2-5         |
| 225           | 10-6     | 2-6         |
| 233           | 10-6     | 1-5         |
| 240           | 10-6     | 1-6         |



UNLESS OTHERWISE SPECIFIED, WIRE IS #14 GAUGE (STRANDED).

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

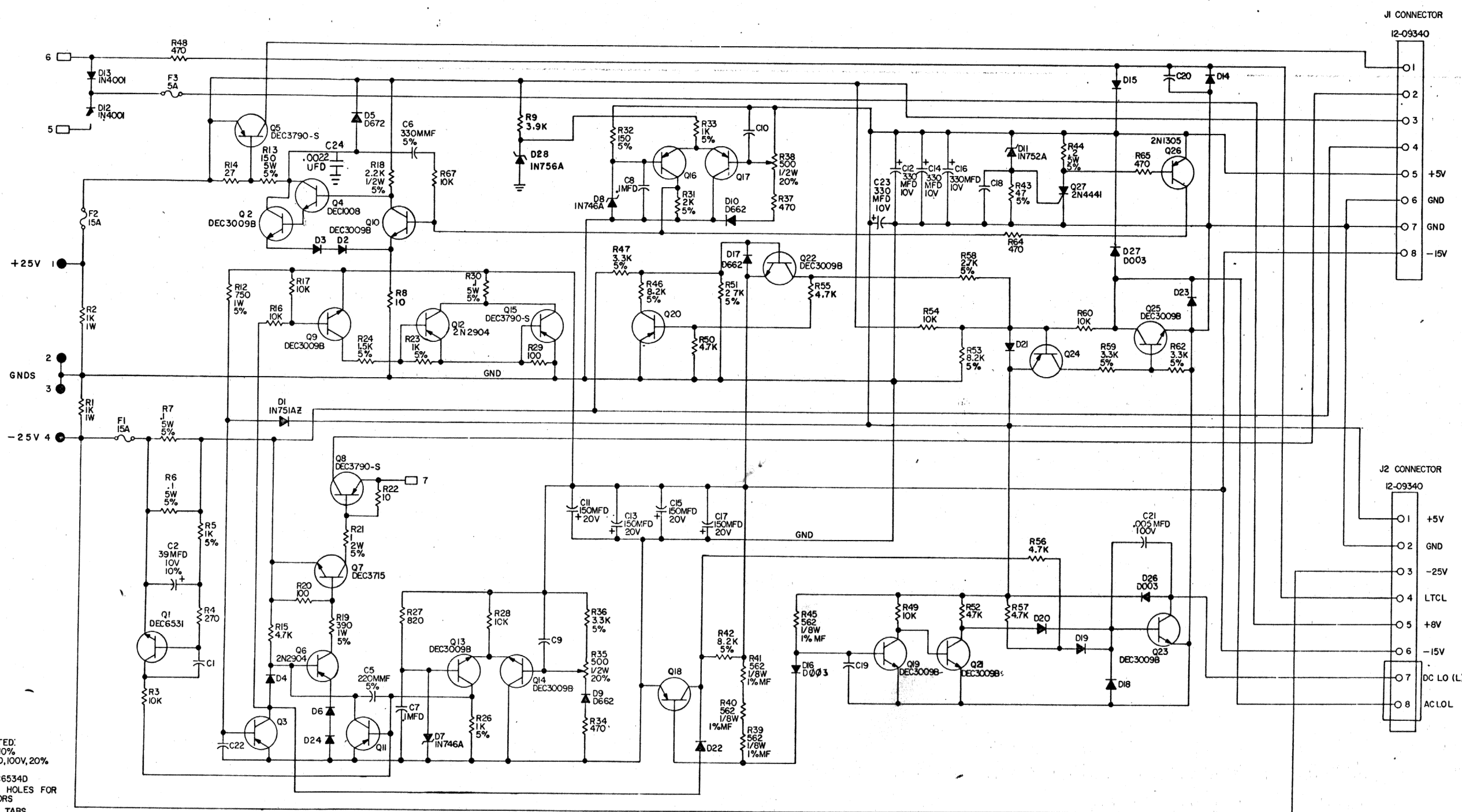
| REF DESIGNATION | DESCRIPTION           | PART NO     |
|-----------------|-----------------------|-------------|
| C7              | CAP. OIMFD 100V D1SC  | 1001510     |
| R3,R4           | RES 10.1/2 W 5%       | 1300168     |
| H720 PWR REG BD | H720 PWR REG BD       | 5408475-0-0 |
| HEAT SINK       | 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 1N3899          | 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 2X1MFD 1000V      | 1002153     |
| PI              | CONNECTOR 1-480450-0  | 1209340-01  |
| J1,J2,J3        | RECEPTACLE 1-480455-0 | 1209340-00  |
| L1              | TRANSFORMER COIL      | 1609762     |
| T1              | TRANSFORMER MMC 2940  | 1609810     |

| REVISIONS |         | DATE |     | TRANSISTOR & DIODE CONVERSION CHART |     | PARTS LIST                |  |
|-----------|---------|------|-----|-------------------------------------|-----|---------------------------|--|
| 1         | 2/10/70 | DEC  | EIA | DEC                                 | EIA | digital POWER SUPPLY H720 |  |
| 2         | 3/10/70 | DEC  | EIA | DEC                                 | EIA | EQUIPMENT CORPORATION     |  |
| 3         | 4/10/70 | DEC  | EIA | DEC                                 | EIA | CORPORATION               |  |
| 4         | 5/10/70 | DEC  | EIA | DEC                                 | EIA | MAYNARD MASSACHUSETTS     |  |

PRINTED CIRCUIT REV



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UNLESS OTHERWISE INDICATED:  
 RESISTORS ARE 1/4W, 10%  
 CAPACITORS ARE 0.1MFD, 100V, 20%  
 DIODES ARE D664  
 TRANSISTORS ARE DEC6534D  
 ○ INDICATES 1/16 DIA HOLES FOR MOUNTING CAPACITORS  
 □ INDICATES FAST ON TABS

| TRANSISTOR & DIODE CONVERSION CHART |         |        |       |
|-------------------------------------|---------|--------|-------|
| DEC                                 | EIA     | DEC    | EIA   |
| 2N1305                              | 5AVE    |        |       |
| DEC6531                             | MPS6531 |        |       |
| 2N4441                              | 5A7E    |        |       |
| D672                                | IN3653  | IN752A |       |
| DEC3715                             | 2N3715  | DO03   | IN934 |
| 2N2904                              | 5AVE    |        |       |
| D662                                | IN7515  | IN752A | 5AVE  |
| IN752A                              | IN752A  | IN752A | 5AVE  |
| IN752A                              | 5AVE    | IN752A | 5AVE  |
| IN752A                              | 5AVE    | IN752A | 5AVE  |
| IN752A                              | 5AVE    | IN752A | 5AVE  |
| IN752A                              | 5AVE    | IN752A | 5AVE  |
| IN752A                              | 5AVE    | IN752A | 5AVE  |
| IN752A                              | 5AVE    | IN752A | 5AVE  |

| REV | DATE    | BY        | CHKD |
|-----|---------|-----------|------|
| 1   | 1/22/71 | J. Cooper |      |

| REV | DATE    | BY        | CHKD |
|-----|---------|-----------|------|
| 1   | 1/22/71 | J. Cooper |      |

TITLE REGULATOR BOARD  
 5409267  
 EQUIPMENT CORPORATION  
 MAYNARD, MASSACHUSETTS  
 PRINTED CIRCUIT REV 13

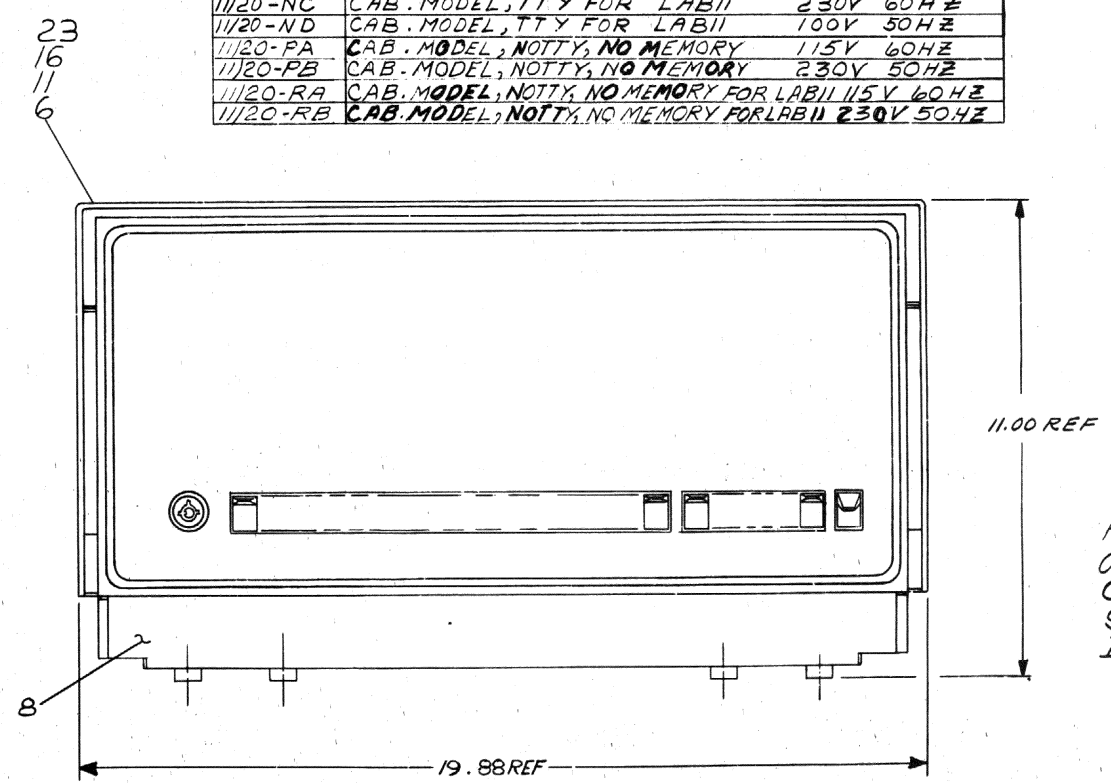
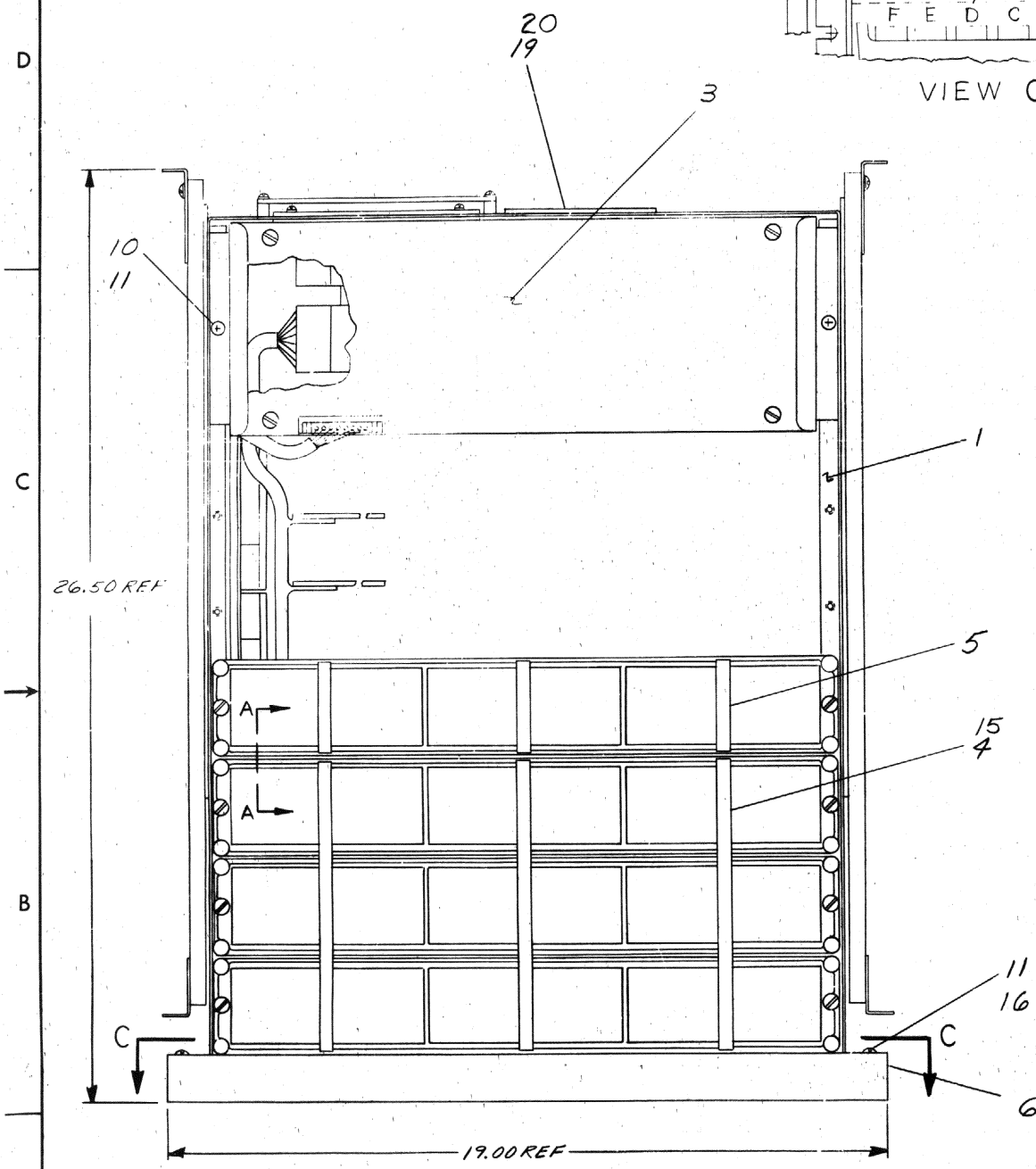
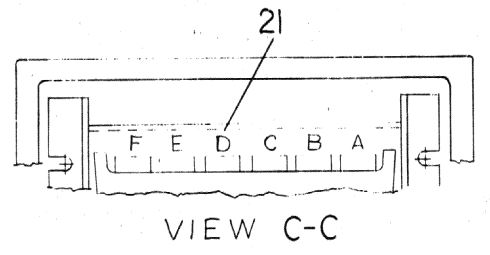
REV 13  
 NUMBER 5409267-0-1  
 D CS

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0-0-02/11/20-0-0 2

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

- NOTES**
- FOR DWG INDEX LIST REFER TO D-DI-11/20-0-1.
  - HOLES #9 & #50 ARE USED TO MOUNT CHASSIS SLIDE (PART OF ITEM #1) FOR CAB MODEL.
  - ITEMS #7, 8 & 9 FOR SHIPMENT ONLY, TO BE REMOVED AFTER FINAL SHIPMENT. REAR SCREW OF BRKT TO BE INSTALLED BACK INTO TRACK.
  - WHEN 6 UNIT SPACES ARE FILLED SYSTEM WILL REQUIRE ADDITIONAL EXPANDER UNIT (ITEM #18) & H720 P/S (ITEM #3).
  - M920 INTERNAL BUS CONN SUPPLIED WITH EACH ADDITIONAL LOGIC OPTION. FOR CONNECTING OPTIONS IN BASIC UNIT WITHOUT OPTIONS IN EXPANDER UNIT (ITEM #18) USE CABLE BC11A-BF-0 (PART OF ITEM #18).



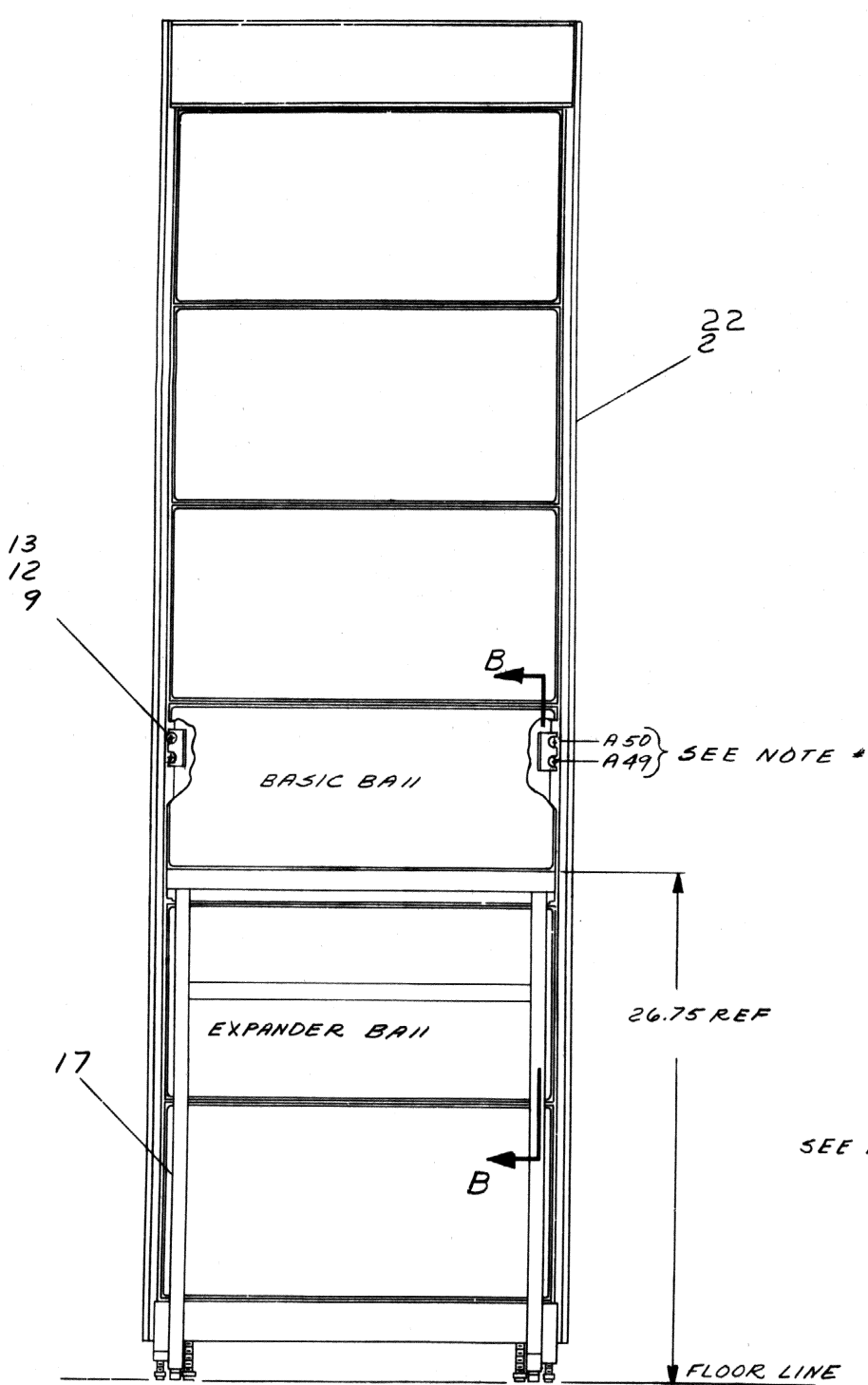
FRONT VIEW (TABLE MODEL) OF BASIC UNIT WITH SUPER COVER. EXPANDER UNIT THE SAME EXCEPT IN PLACE OF ITEM #1, 6, 11 & 16 USE ITEM #18

| REV. | CHG.        | NO.     | DATE | BY | APP. |
|------|-------------|---------|------|----|------|
| A    | 11/20-00002 | 5-4-70  |      |    |      |
| B    | 11/20-00007 | 5-5-70  |      |    |      |
| C    | 11/20-00009 | 10-7-71 |      |    |      |
| D    | 11/20-00010 | 5-25-72 |      |    |      |

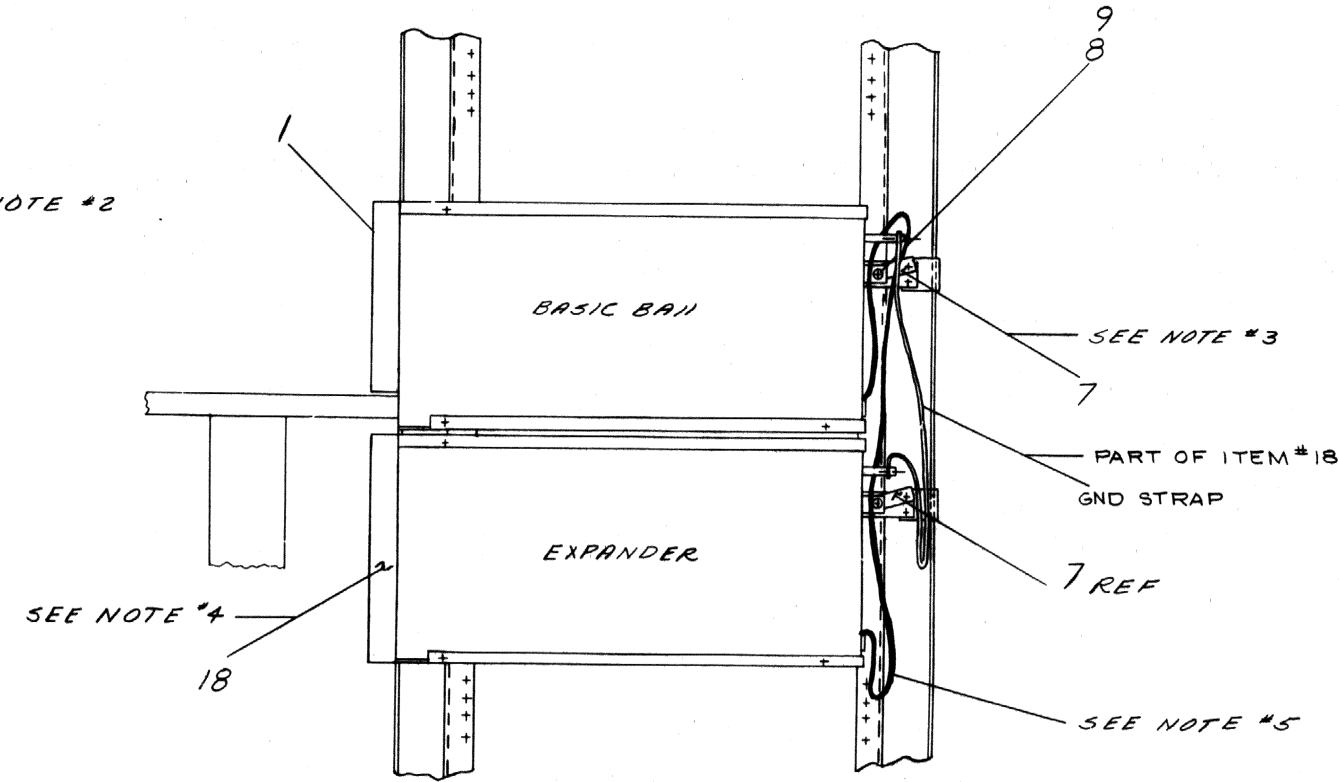
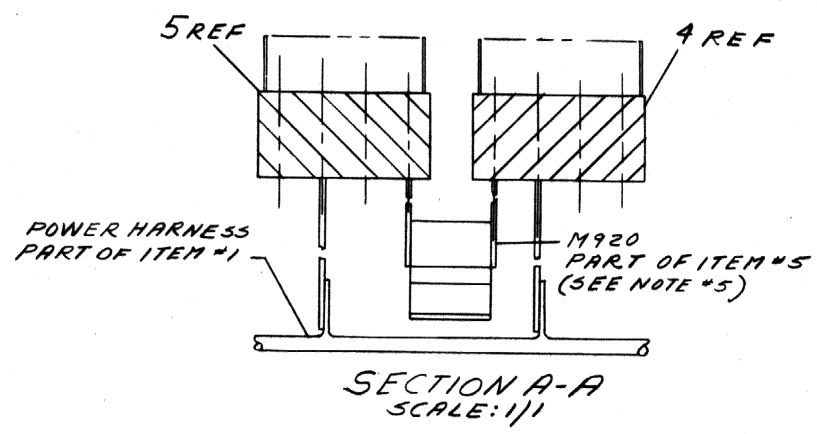
|   |             |  |                     |
|---|-------------|--|---------------------|
| QTY.  | DESCRIPTION | PART NO.   | ITEM NO.            |
| PARTS LIST  |             |  |                     |
| digital EQUIPMENT CORPORATION<br>MAYNARD, MASSACHUSETTS |             |  |                     |
| TITLE<br>BASIC ASSY/<br>CONFIGURATION<br>(PDPII)        |             |  |                     |
| FIRST USED ON OPTION/MODEL<br>PDPII                     |             | DO NOT SCALE DRAWING<br>UNLESS OTHERWISE SPECIFIED<br>DIMENSION IN INCHES<br>TOLERANCES<br>DECIMALS FRACTIONS ANGLES<br>± .008 ± 1/64 ± 0°30'<br>FINAL SURFACE QUALITY<br>REMOVE BURRS AND BREAK SHARP CORNERS |                     |
| MATERIAL<br>+ + +                                       |             | NEXT HIGHER ASSY<br>A-ML-11/20-0   |                     |
| FINISH<br>+ + +   |             | SCALE 1/2  |                     |
| SHEET 1 OF 2  |             | SIZE CODE<br>DUA   | NUMBER<br>11/20-0-0 |
|   |             | REV<br>D   |                     |

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0 0-0-02/11 2  
A28 #564111 3000 3216



CAB MODEL WITH EXPANDER UNIT



SECTION B-B

|     |  |
|-----|--|
| REV |  |
| CHG |  |
| CHK |  |

DEC FORM NO. DWD 1701

FIRST USED ON OPTION/MODEL  
PDP11

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

DATE 7-26-70  
DATE 1/24/70  
DATE 2/4/70  
DATE 2/9/70  
NEXT HIGHER ASSY  
A-ML-11/20-0  
SCALE NONE  
SHEET 2 OF 2

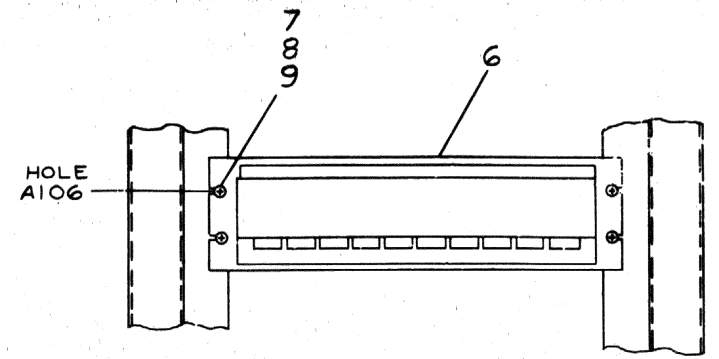
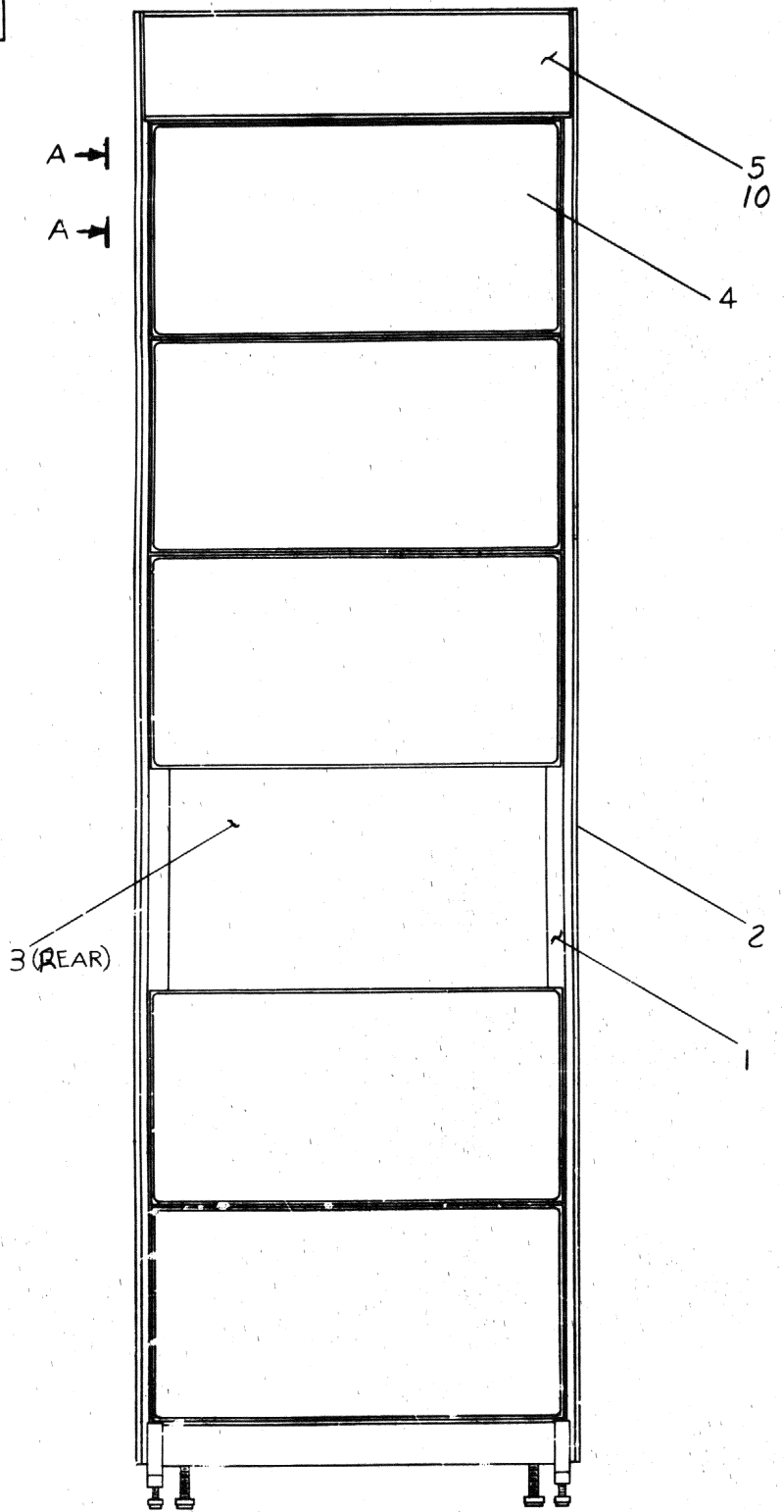
|   |  |      |             |          |          |
|---|--|------|-------------|----------|----------|
| PARTS LIST  |  | QTY. | DESCRIPTION | PART NO. | ITEM NO. |
| <p>digital EQUIPMENT CORPORATION<br/>MAYNARD, MASSACHUSETTS</p> <p>TITLE<br/>BASIC ASSEMBLY/<br/>CONFIGURATION<br/>(PDP11)</p> <p>SIZE CODE<br/>DUA 11/20-0-0</p> <p>NUMBER<br/>11/20-0-0</p> <p>REV.<br/>D</p> <p>DIST. 16</p> |  |      |             |          |          |

SIZE CODE  
 DUA 11/20-0-0  
 NUMBER 11/20-0-0

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C-5-096HM 2

- 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.



VIEW A-A  
SCALE: NONE  
VIEW SHOWN MINUS ITEMS \*2 & 3

| REV. | CHANGE NO.        | DATE    |
|------|-------------------|---------|
| 1    | H960C-00001       |         |
| 2    | WAS D-UA-H960-C-0 |         |
| 3    | to Wilson, P-2177 |         |
| 4    | B. WEEKS          |         |
| 5    | D. J. LANDON      | 9-24-71 |

FIRST USED ON OPTION/MODEL  
PDP11

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

DRN: [Signature] DATE: 3-17-72  
CHK'D: [Signature] DATE: 3-20-72  
ENG: [Signature] DATE: 3-20-72  
APP'D: [Signature] DATE: 3-20-72  
BY: [Signature] DATE: 3-20-72

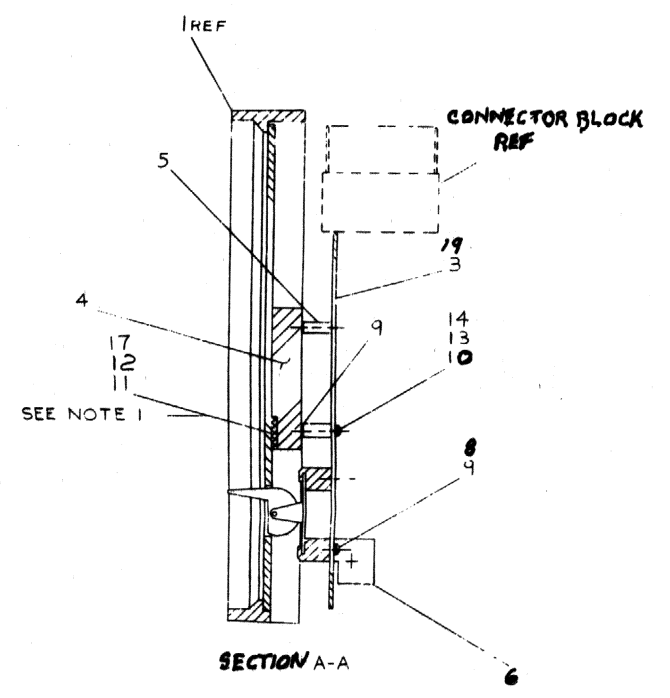
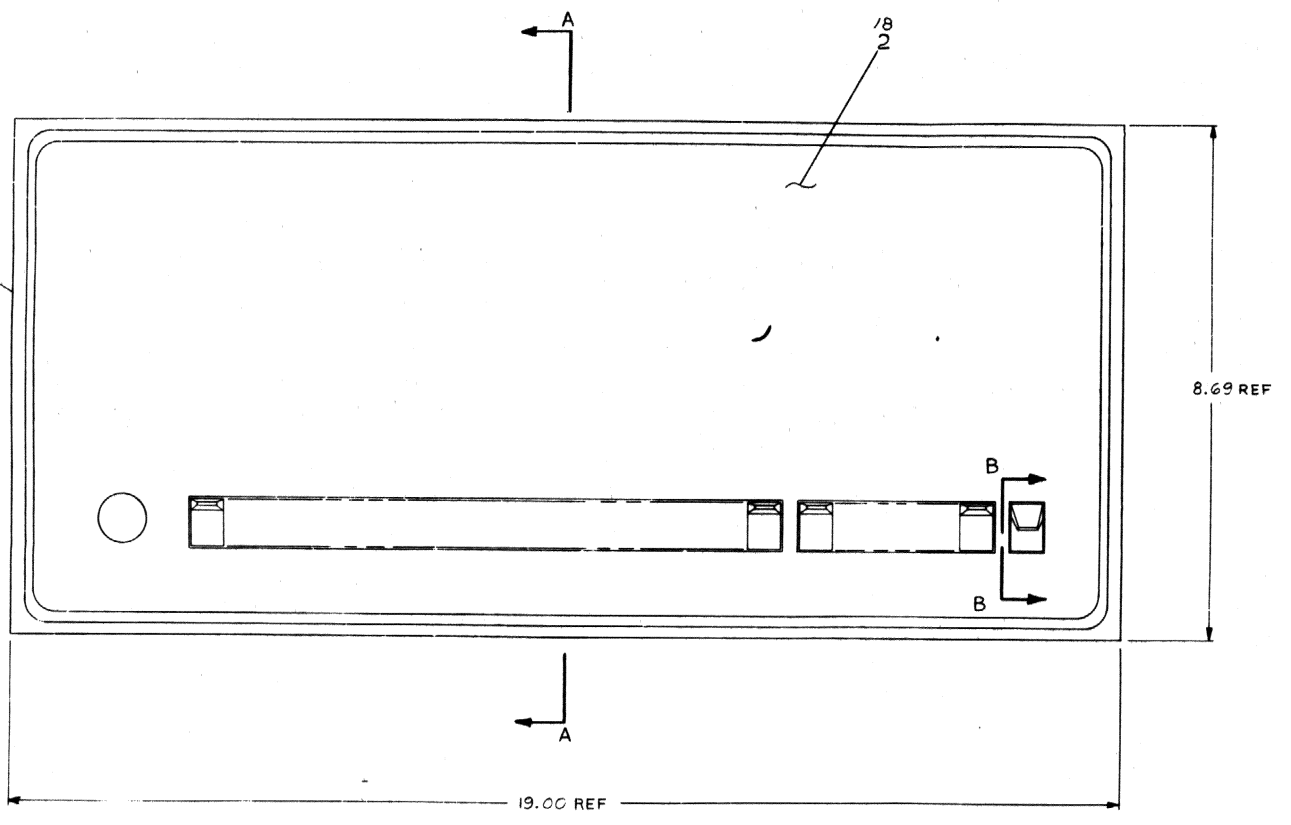
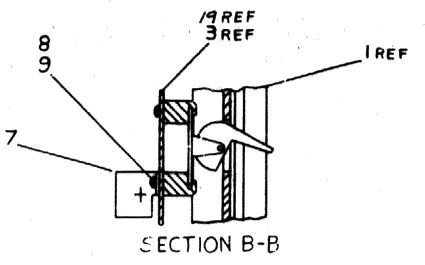
| QTY.                        | DESCRIPTION | PART NO.  | ITEM NO. |
|-----------------------------|-------------|-----------|----------|
| PARTS LIST                  |             |           |          |
|                             |             |           |          |
| <b>CABINET ASSY (PDP11)</b> |             |           |          |
| NEXT HIGHER ASSY            |             | SIZE CODE | NUMBER   |
| D-UA-PDP11-20-0             |             | DUA       | H960-C-0 |
| SCALE: NONE                 |             | DIST.     |          |
| SHEET OF                    |             |           |          |

SIZE CODE: DUA  
 NUMBER: H960-C-0



8  
7  
6  
5  
4  
3  
2  
1

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.



| REV | DATE | DESCRIPTION           |
|-----|------|-----------------------|
| 1   |      | INITIAL DESIGN        |
| 2   |      | REVISED TO INCLUDE... |
| 3   |      | REVISED TO INCLUDE... |
| 4   |      | REVISED TO INCLUDE... |
| 5   |      | REVISED TO INCLUDE... |
| 6   |      | REVISED TO INCLUDE... |
| 7   |      | REVISED TO INCLUDE... |
| 8   |      | REVISED TO INCLUDE... |

| REV | DATE | DESCRIPTION           | PARTS LIST | PART NO | ITEM |
|-----|------|-----------------------|------------|---------|------|
| 1   |      | INITIAL DESIGN        |            |         |      |
| 2   |      | REVISED TO INCLUDE... |            |         |      |
| 3   |      | REVISED TO INCLUDE... |            |         |      |
| 4   |      | REVISED TO INCLUDE... |            |         |      |
| 5   |      | REVISED TO INCLUDE... |            |         |      |
| 6   |      | REVISED TO INCLUDE... |            |         |      |
| 7   |      | REVISED TO INCLUDE... |            |         |      |
| 8   |      | REVISED TO INCLUDE... |            |         |      |

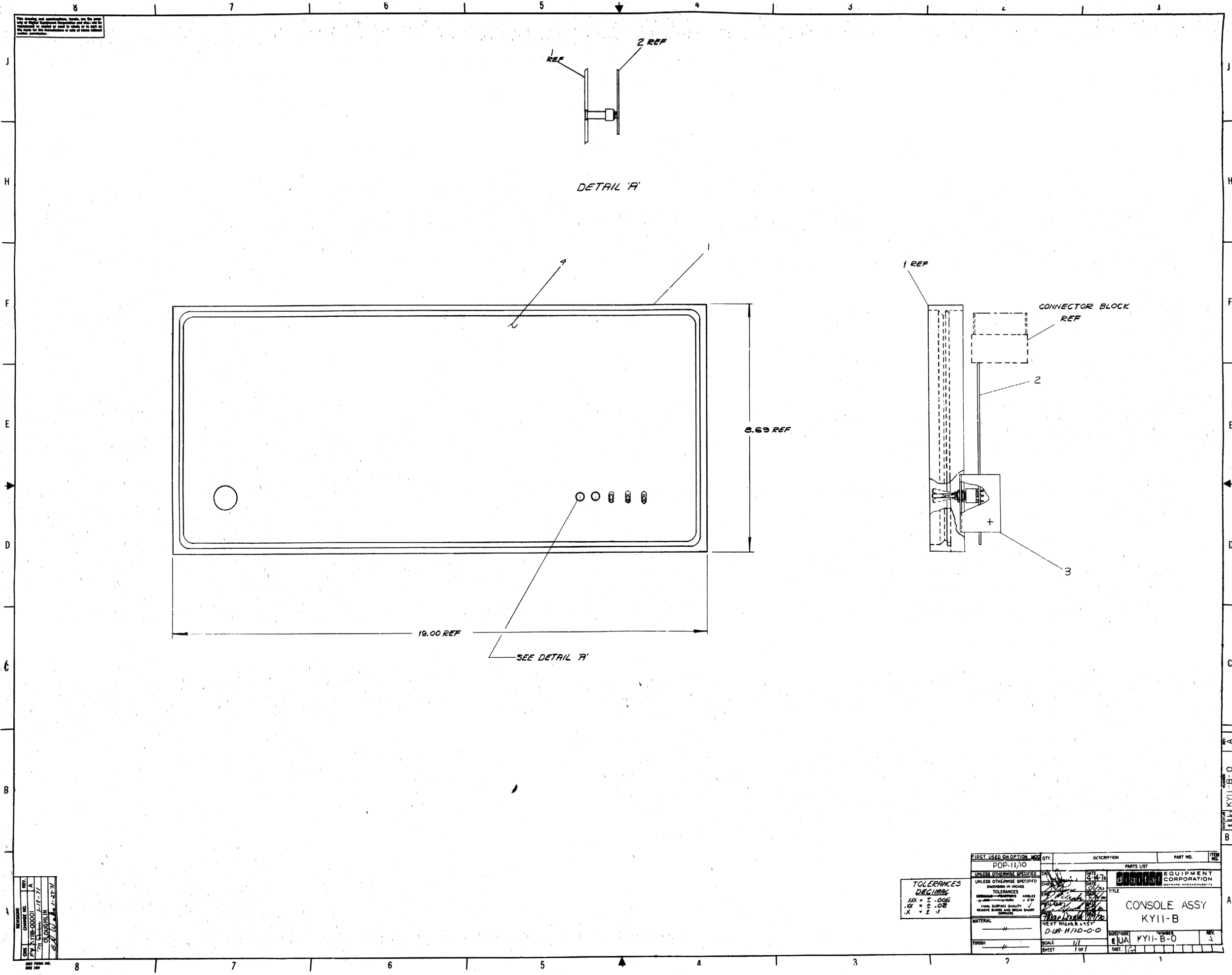
TOLERANCES  
DECIMALS  
XXX-XXS  
XXX-XXS  
7 = 21

UNLESS OTHERWISE SPECIFIED  
TOLERANCES IN DIMENSIONS  
DIMENSIONS IN MILLIMETERS  
DIMENSIONS IN INCHES  
DIMENSIONS IN FEET AND INCHES

EQUIPMENT CORPORATION

CONSOLE ASSY  
KY11-A

This drawing and specifications, taken as the only basis of construction, shall be the responsibility of the contractor. The contractor shall be responsible for the interpretation of the drawings and specifications and for the accuracy of the dimensions and tolerances shown thereon. The contractor shall be responsible for the interpretation of the drawings and specifications and for the accuracy of the dimensions and tolerances shown thereon.



|     |          |           |      |
|-----|----------|-----------|------|
| REV | DATE     | BY        | CHKD |
| 1   | 11-11-57 | W. J. ... | ...  |
| 2   | 11-11-57 | ...       | ...  |

**TOLERANCES DECIMAL**  
 XX = ± .005  
 XX = ± .02  
 X = ± .1

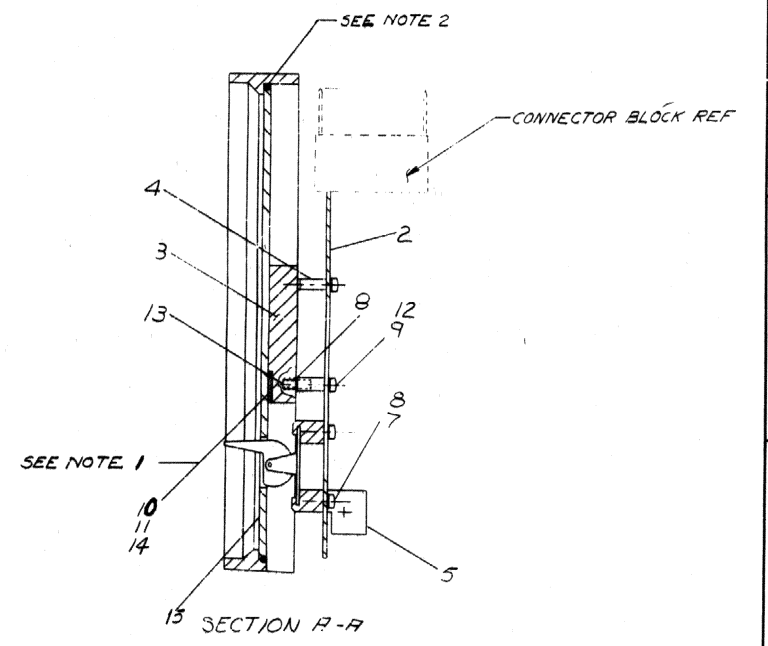
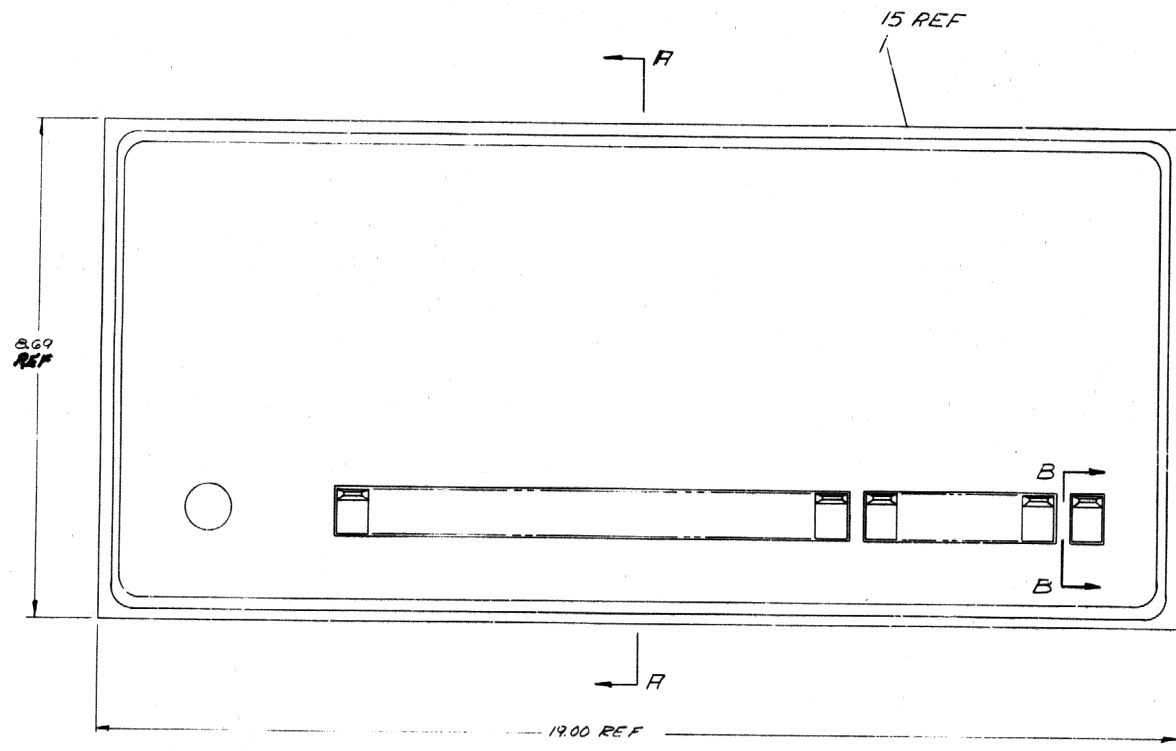
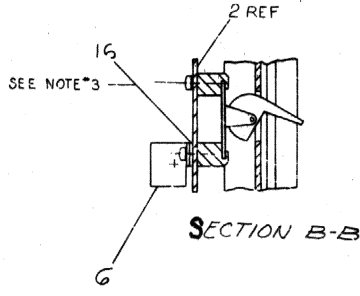
|                               |  |                      |  |            |  |               |  |
|-------------------------------|--|----------------------|--|------------|--|---------------|--|
| FIRST USED ON OPTION MOD QTY: |  | DESCRIPTION          |  | PART NO.   |  | ITEM NO.      |  |
| PDP-11/10                     |  | CONSOLE ASSY         |  | KYII-B-0   |  | 3             |  |
| UNLESS OTHERWISE SPECIFIED    |  | DIMENSIONS IN INCHES |  | TOLERANCES |  | FINISH        |  |
| XX = ± .005                   |  | XX = ± .02           |  | X = ± .1   |  | D-UR-1110-0-0 |  |
| MATERIAL                      |  | SCALE                |  | SHEET      |  | 1 OF 1        |  |
| FINISH                        |  | SCALE                |  | SHEET      |  | 1 OF 1        |  |

KYII-B-0  
 PART NO.  
 3

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NOTES:

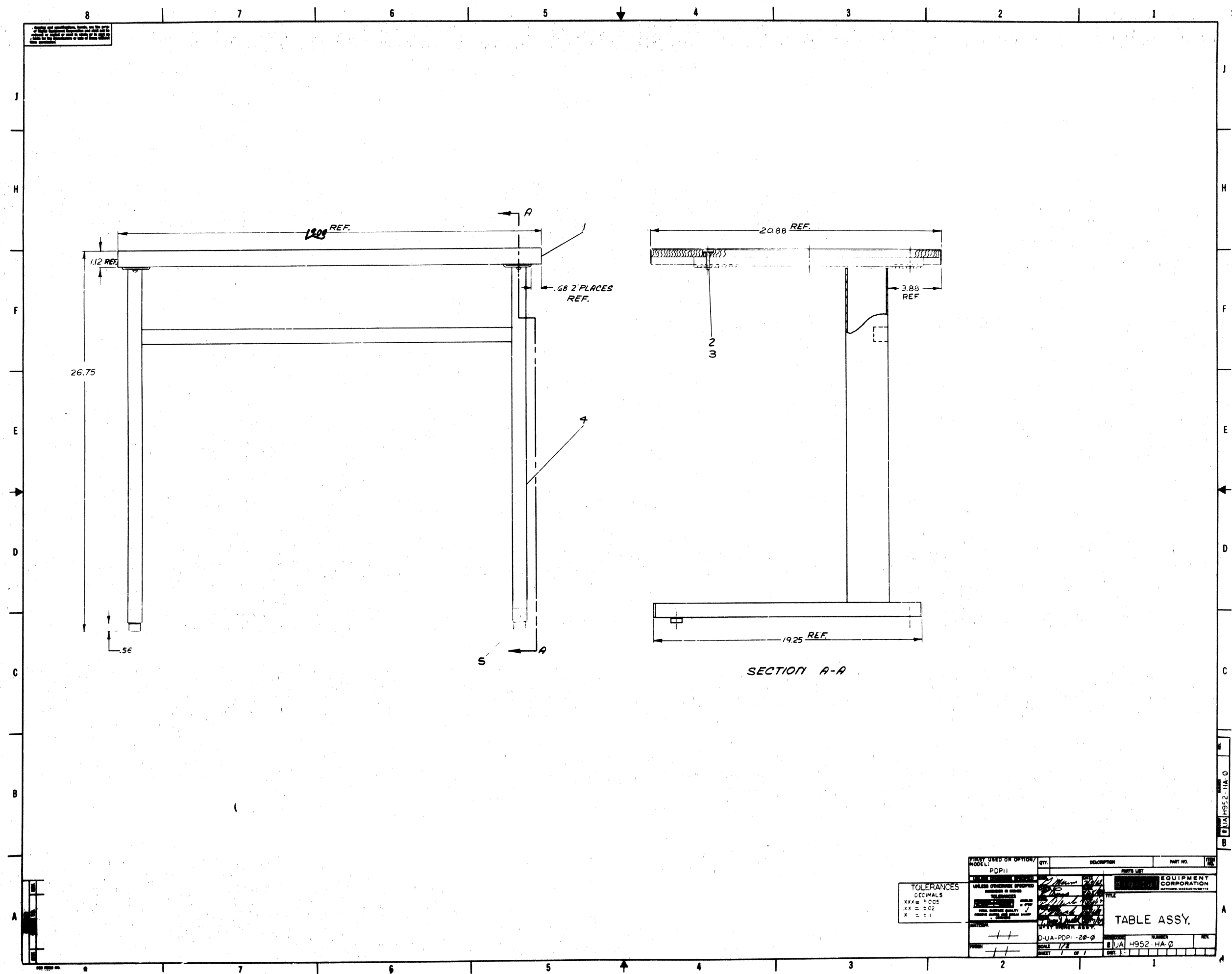
- 1. VELCRO TO BE CUT TO FIT SLOT ON PLEXIGLASS SUPPORT (ITEM #3). ATTACH PALE TAPE TO (ITEM #3) AND HOOK TAPE TO ITEM #1.
- 2. ADHESIVE BOND ITEM #15 TO ITEM #1 WITH SCOTCH 2216 B/A ADHESIVE & CURE 12 HOURS AT ROOM TEMPERATURE WHILE ON FACE. BOND AREA TO BE AS SHOWN ALL AROUND.
- 3. NYLON WASHER (ITEM #16) MUST BE INSERTED BETWEEN BRACKET (ITEM #6) AND **CONSOLE** BD ASSY (ITEM #2).



|     |                 |
|-----|-----------------|
| REV | DESCRIPTION     |
| 1   | INITIAL RELEASE |
| 2   | REVISION        |
| 3   | REVISION        |
| 4   | REVISION        |
| 5   | REVISION        |
| 6   | REVISION        |
| 7   | REVISION        |
| 8   | REVISION        |

|   |             |          |          |
|---|-------------|----------|----------|
| PART NO.  | DESCRIPTION | PART NO. | ITEM NO. |
| PDP11/15  |             |          |          |
| QUANTITY  | DESCRIPTION | PART NO. | ITEM NO. |
|   |             |          |          |
| UNLESS OTHERWISE SPECIFIED  |             |          |          |
| DIMENSIONS IN INCHES  |             |          |          |
| TOLERANCES  |             |          |          |
| DECIMALS FRACTIONS ANGLES   |             |          |          |
| 0.005 0.010 0.015 0.020 0.030 0.040 0.050 0.060 0.070 0.080 0.090 0.100 0.125 0.150 0.180 0.200 0.250 0.300 0.375 0.450 0.500 0.625 0.750 0.875 1.000 |             |          |          |
| FINISH SURFACE QUALITY  |             |          |          |
| REVISIONS   |             |          |          |
| DATE  |             |          |          |
| DRAWN BY  |             |          |          |
| CHECKED BY  |             |          |          |
| MATERIAL  |             |          |          |
| FINISH  |             |          |          |
| SCALE   |             |          |          |
| SHEET 1 OF 1  |             |          |          |
| TITLE   |             |          | REV.     |
| CONSULE ASSY (KYII-C)   |             |          |          |
| EUA KYII-C-0  |             |          | 1        |

EUA KYII-C-0



1. All dimensions are in inches unless otherwise specified.  
 2. All dimensions are to be held unless otherwise specified.  
 3. All dimensions are to be held unless otherwise specified.  
 4. All dimensions are to be held unless otherwise specified.

**TOLERANCES**  
 DECIMALS  
 XXX = +.005  
 XX = .002  
 X = .01

| FIRST USED ON OPTION/ MODEL | QTY. | DESCRIPTION | PART NO. | REV. |
|-----------------------------|------|-------------|----------|------|
| PDPII                       |      |             |          |      |
| PARTS LIST                  |      |             |          |      |
| EQUIPMENT CORPORATION       |      |             |          |      |
| TABLE ASSY.                 |      |             |          |      |
| DUA-PDPII-20-0              |      |             |          |      |
| SCALE 1/2"                  |      |             |          |      |
| SHEET 1 OF 1                |      |             |          |      |

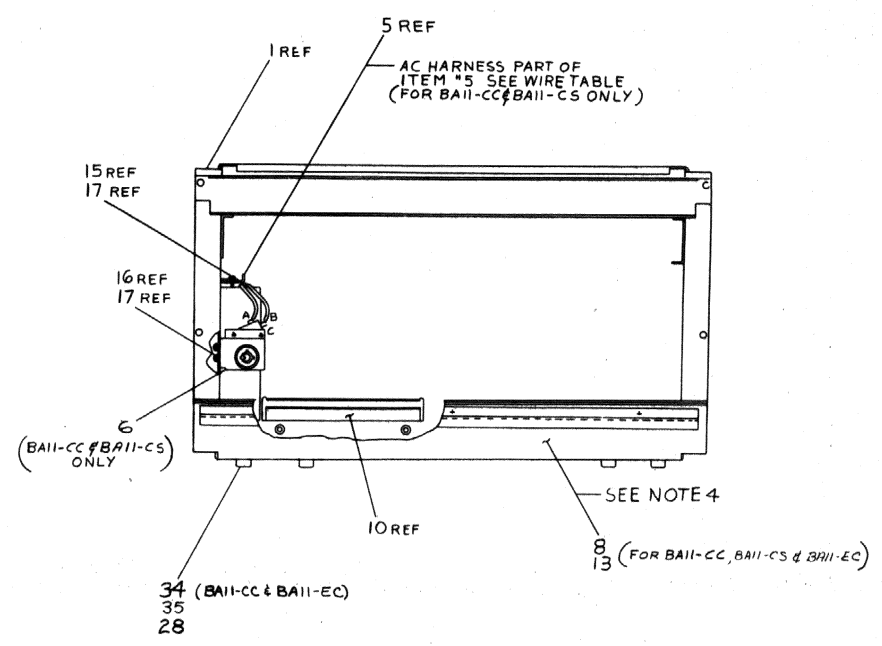
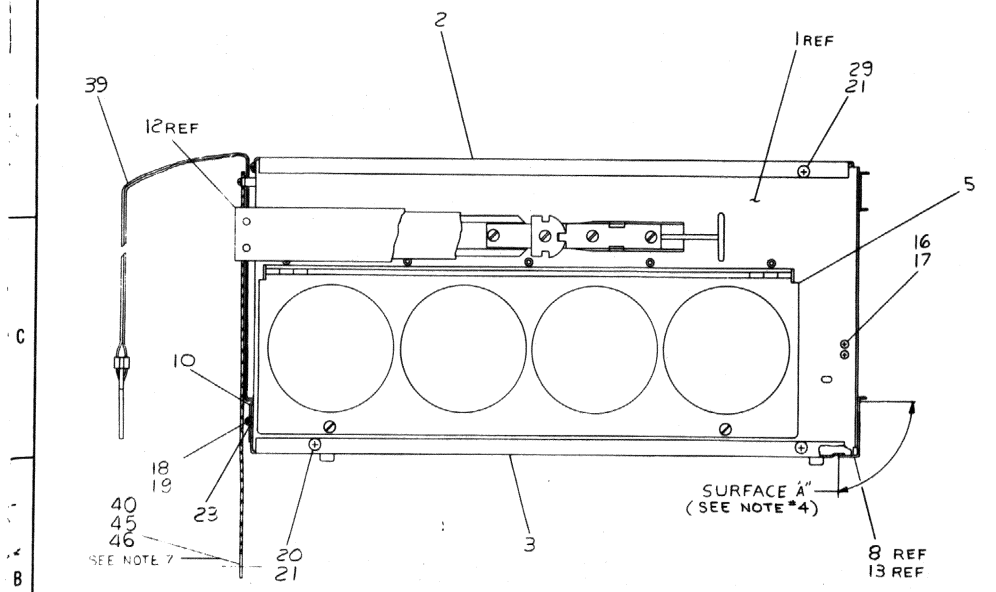
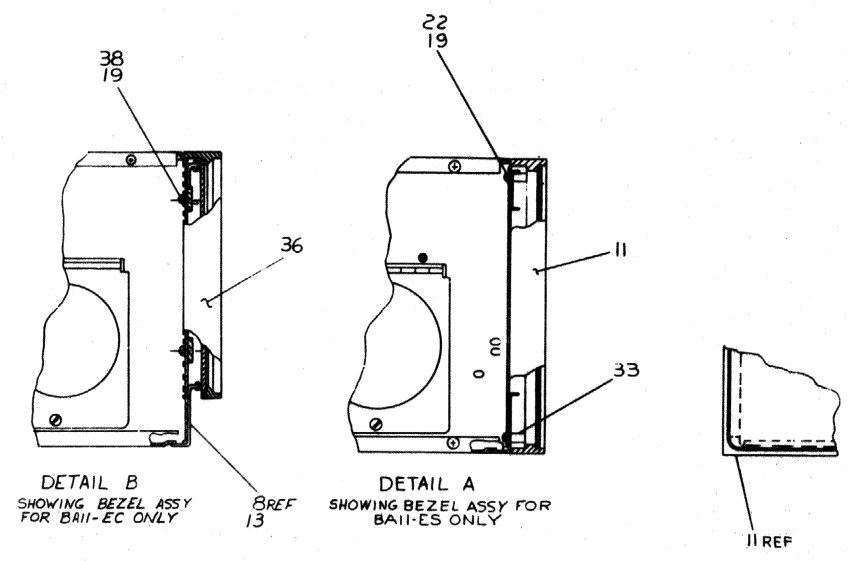
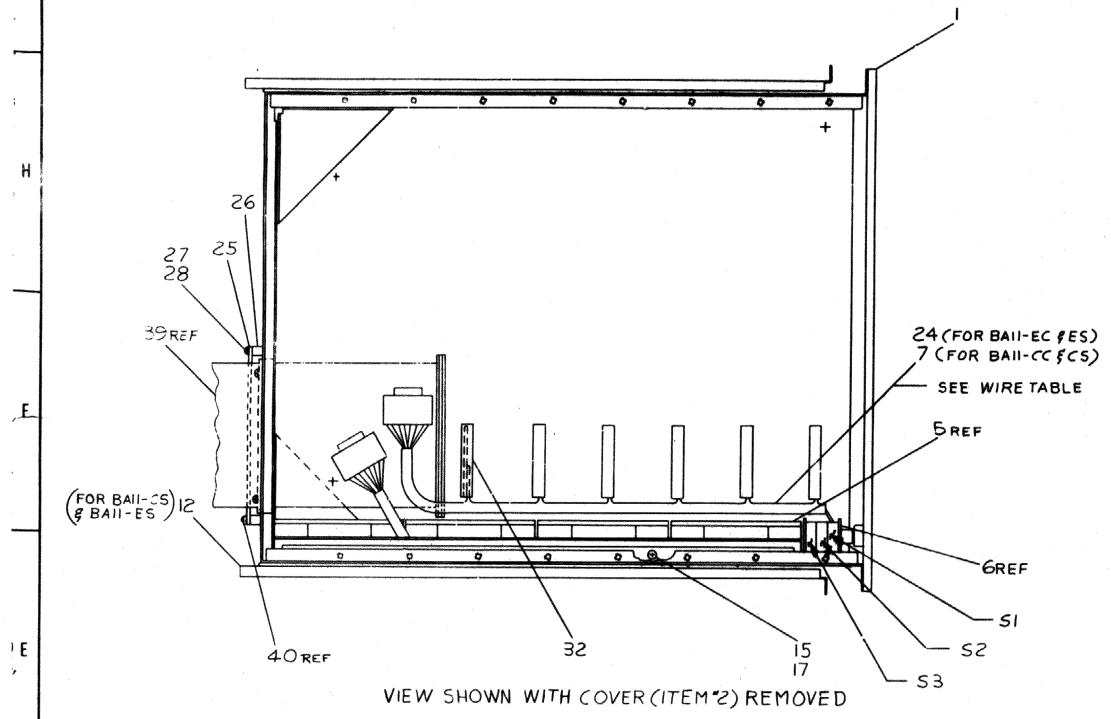
DUA H952 HA 0

See drawing for identification marks on the wire table. The wire table is a standard component and shall be in accordance with the specifications of the manufacturer. 1977

| WIRE TABLE |     |       |                 |               |         |
|------------|-----|-------|-----------------|---------------|---------|
| ITEM NO    | AWG | COLOR | FROM CONNECTION | TO CONNECTION | REMARKS |
| 5          | 14  | RED   | 1               | S1-B          | SOLDER  |
| 5          | 14  | WHITE | 2               | S2-B          |         |
| 5          | 14  | RED   | 3               | S1-A          |         |
| 5          | 14  | WHITE | 4               | S2-A          |         |
| 7          | 14  | BLUE  | 97              | S3-B          |         |
| 7          | 14  | BLUE  | 98              | S3-A          | SOLDER  |

| NUMBER  | VARIATION                |
|---------|--------------------------|
| BALI-CC | TABLE MODEL (BASIC)      |
| BALI-CS | CABINET MODEL (BASIC)    |
| BALI-EC | TABLE MODEL (EXPANDER)   |
| BALI-ES | CABINET MODEL (EXPANDER) |

- NOTES:**
- FOR DWG INDEX LIST SEE D-DI-BALI-0-1
  - FOR BASIC CONFIGURATION DWG SHOWING BALI INSTALLED IN CAB REFER TO DWG D-UA-11/20-0-0 & D-UA-11/10-0-0
  - FOR BREAKDOWN OF VARIATIONS SEE DWG AND PARTS LIST.
  - COVER SURFACE "A" AS INDICATED WITH ITEM \*9 (COVER STRIP) ENTIRE WIDTH, USING ITEM \*13 FOR BALI-CC, CS, & EC.
  - APPLY TAPE ITEM \*30 & \*31 TO SMOOTH SIDE OF INLAY (ITEM \*10) AROUND EDGES AS SHOWN. PUSH BEZEL INLAY INTO BEZEL AND PRESS DOWN AROUND EDGES TO INSURE GOOD BOND.
  - FOR SUPER COVER (ITEM \*4) INSTALLATION REFER TO DWG D-AD-7006524-0-0
  - COVER GROUND STRAP (ITEM 40) WITH TUBING (ITEM 45) AND TIE BOTH ENDS WITH TIE WRAPS (ITEM 46)



| REV | DATE     | BY        | CHKD | DESCRIPTION               |
|-----|----------|-----------|------|---------------------------|
| 1   | 11/20/68 | D. NEVILA |      | INITIAL DESIGN            |
| 2   | 11/20/68 | D. NEVILA |      | REVISED TO ADD PARTS LIST |
| 3   | 11/20/68 | D. NEVILA |      | REVISED TO ADD PARTS LIST |
| 4   | 11/20/68 | D. NEVILA |      | REVISED TO ADD PARTS LIST |
| 5   | 11/20/68 | D. NEVILA |      | REVISED TO ADD PARTS LIST |
| 6   | 11/20/68 | D. NEVILA |      | REVISED TO ADD PARTS LIST |
| 7   | 11/20/68 | D. NEVILA |      | REVISED TO ADD PARTS LIST |
| 8   | 11/20/68 | D. NEVILA |      | REVISED TO ADD PARTS LIST |

| REV | DATE     | BY        | CHKD | DESCRIPTION               |
|-----|----------|-----------|------|---------------------------|
| 1   | 11/20/68 | D. NEVILA |      | INITIAL DESIGN            |
| 2   | 11/20/68 | D. NEVILA |      | REVISED TO ADD PARTS LIST |
| 3   | 11/20/68 | D. NEVILA |      | REVISED TO ADD PARTS LIST |
| 4   | 11/20/68 | D. NEVILA |      | REVISED TO ADD PARTS LIST |
| 5   | 11/20/68 | D. NEVILA |      | REVISED TO ADD PARTS LIST |
| 6   | 11/20/68 | D. NEVILA |      | REVISED TO ADD PARTS LIST |
| 7   | 11/20/68 | D. NEVILA |      | REVISED TO ADD PARTS LIST |
| 8   | 11/20/68 | D. NEVILA |      | REVISED TO ADD PARTS LIST |

RAI-00



# MASTER DRAWING LIST

| MAINTENANCE MANUALS |                 | UNIT VARIATIONS |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |   |
|---------------------|-----------------|-----------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---|
| NO.                 | TITLE           | 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       | X |
|                     |                 |                 |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |   |
|                     |                 |                 |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |   |
|                     |                 |                 |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |   |
|                     |                 |                 |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |   |
|                     |                 |                 |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |   |

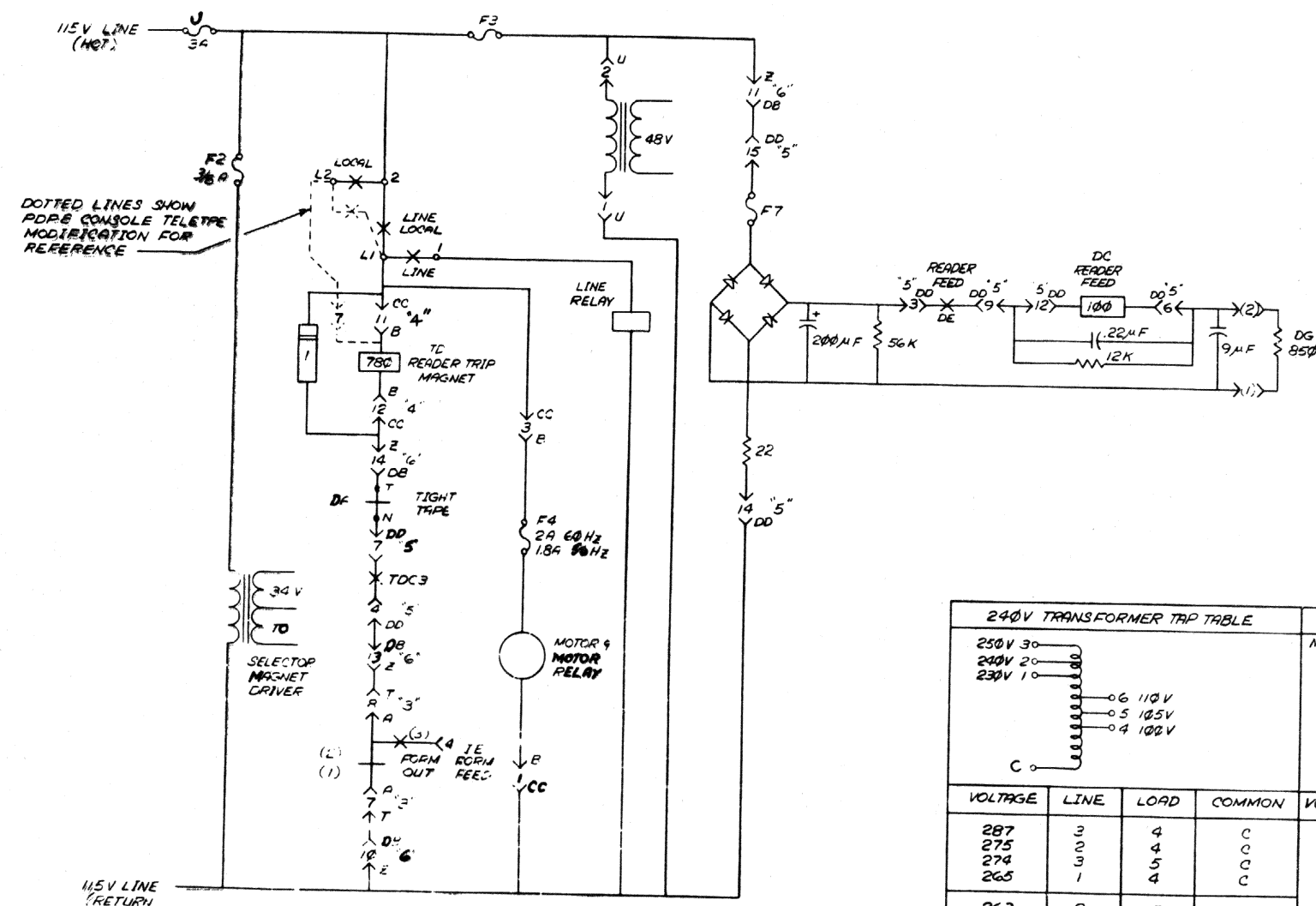
| USED ON OPTIONS |                                 |
|-----------------|---------------------------------|
|                 | DO NOT SERIALIZE THESE OPTIONS. |
|                 |                                 |
|                 |                                 |
|                 |                                 |
|                 |                                 |
|                 |                                 |
|                 |                                 |

|           |          |                 |  |        |       |         |                      |      |        |        |      |        |        |      |        |        |       |        |        |      |        |        |     |  |  |  |  |
|-----------|----------|-----------------|--|--------|-------|---------|----------------------|------|--------|--------|------|--------|--------|------|--------|--------|-------|--------|--------|------|--------|--------|-----|--|--|--|--|
| REVISIONS | APP'D.   | M. A. 7/69      |  |        | DATE  | BA08-19 | M.A.                 | 3/71 | LT33-1 | W.M.   | 7/71 | LT33-2 | AR.    | 7/71 | LT33-3 | AR.    | 10/71 | LT33-4 | AR.    | 1/72 | LT33-4 | AR.    |     |  |  |  |  |
|           | CHG. NO. |                 |  |        |       | DATE    | 7/69                 | M.A. | 3/71   | LT33-1 | W.M. | 7/71   | LT33-2 | AR.  | 7/71   | LT33-3 | AR.   | 10/71  | LT33-4 | AR.  | 1/72   | LT33-4 | AR. |  |  |  |  |
|           | REV.     | TELETYPEWRITERS |  |        |       |         |                      |      |        |        |      |        |        |      |        |        |       |        |        |      |        |        |     |  |  |  |  |
|           |          | LT33            |  |        |       |         |                      |      |        |        |      |        |        |      |        |        |       |        |        |      |        |        |     |  |  |  |  |
|           |          | TITLE           |  |        |       |         |                      |      |        |        |      |        |        |      |        |        |       |        |        |      |        |        |     |  |  |  |  |
|           |          | TELETYPEWRITERS |  |        |       |         |                      |      |        |        |      |        |        |      |        |        |       |        |        |      |        |        |     |  |  |  |  |
|           |          | LT33            |  |        |       |         |                      |      |        |        |      |        |        |      |        |        |       |        |        |      |        |        |     |  |  |  |  |
|           | DRN.     | R. BERNIER      |  | DATE   | 3/68  |         | digital              |      |        |        |      |        |        |      |        |        |       |        |        |      |        |        |     |  |  |  |  |
|           |          | CHK'D.          |  | DATE   | 3/68  |         | CORPORATION          |      |        |        |      |        |        |      |        |        |       |        |        |      |        |        |     |  |  |  |  |
|           |          | ENG.            |  | DATE   | 3/68  |         | MAYNARD, MASSACHUSET |      |        |        |      |        |        |      |        |        |       |        |        |      |        |        |     |  |  |  |  |
|           |          | PROJ. ENG.      |  | DATE   | 5/68  |         |                      |      |        |        |      |        |        |      |        |        |       |        |        |      |        |        |     |  |  |  |  |
|           |          | PROD.           |  | DATE   | 5/68  |         |                      |      |        |        |      |        |        |      |        |        |       |        |        |      |        |        |     |  |  |  |  |
|           |          | FIRST USED ON   |  |        |       |         |                      |      |        |        |      |        |        |      |        |        |       |        |        |      |        |        |     |  |  |  |  |
|           |          | SCALE           |  |        | PDP1Q |         |                      |      |        |        |      |        |        |      |        |        |       |        |        |      |        |        |     |  |  |  |  |
|           |          | SHEET           |  | 1      | OF    | 2       |                      |      |        |        |      |        |        |      |        |        |       |        |        |      |        |        |     |  |  |  |  |
|           |          | SIZE CODE       |  | A      | ML    |         |                      |      |        |        |      |        |        |      |        |        |       |        |        |      |        |        |     |  |  |  |  |
|           |          | NUMBER          |  | LT33-0 |       |         |                      |      |        |        |      |        |        |      |        |        |       |        |        |      |        |        |     |  |  |  |  |
|           |          | REV.            |  | F      |       |         |                      |      |        |        |      |        |        |      |        |        |       |        |        |      |        |        |     |  |  |  |  |

| LT33-0 | PRINT SET | DWG. NO.         | REV. NO. OF LET. SHEETS | OPTION NO.                            |     |
|--------|-----------|------------------|-------------------------|---------------------------------------|-----|
|        |           |                  |                         | TITLE                                 | 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-LT33-0-10   | 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 CODE | A | ML | NUMBER | LT33-0 | REV. | F |
|-------|----------------------|-------|---|----|---|-----------|---|----|--------|--------|------|---|

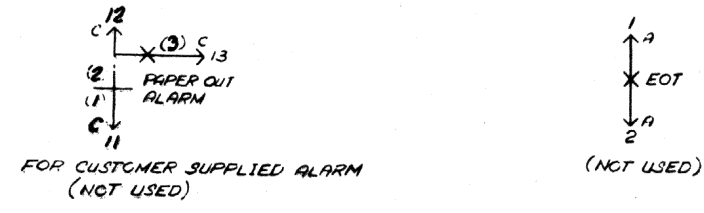
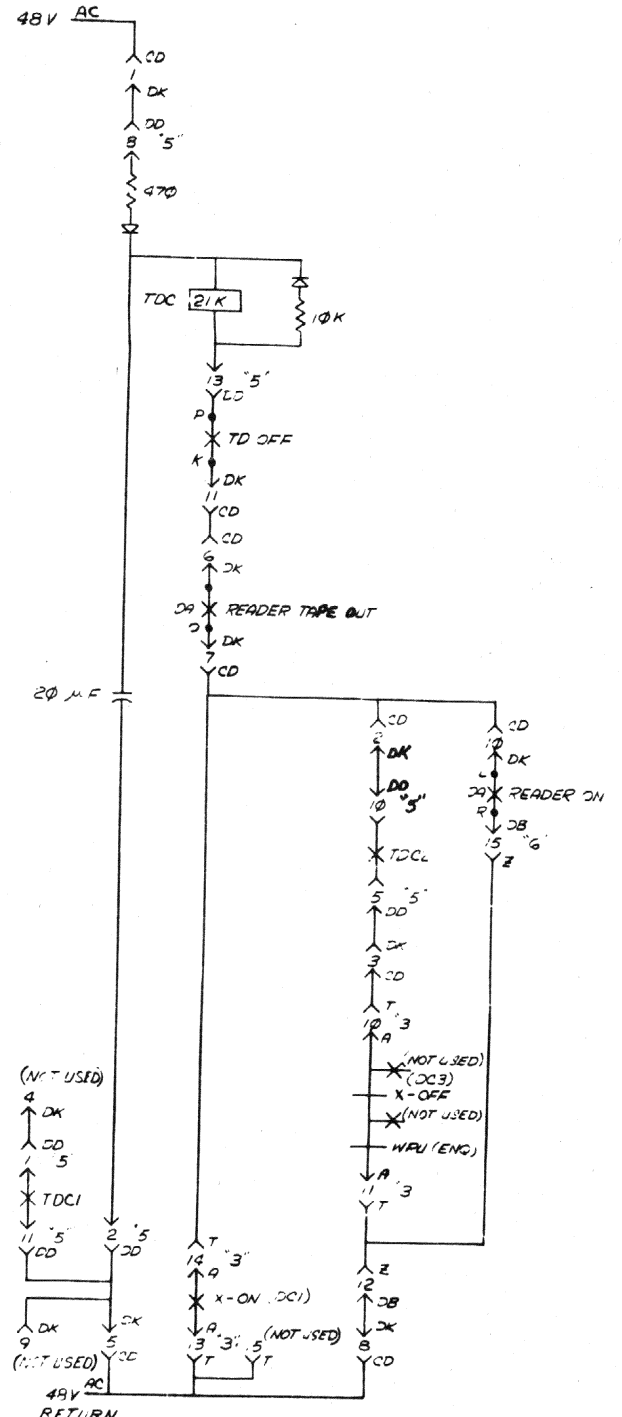
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DOTTED LINES SHOW PDP-8 CONSOLE TELETYPE MODIFICATION FOR REFERENCE

| 240V TRANSFORMER TAP TABLE |      |      |        | CONNECTOR CORRESPONDENCE |      |      |        |
|----------------------------|------|------|--------|--------------------------|------|------|--------|
| VOLTAGE                    | LINE | LOAD | COMMON | VOLTAGE                  | LINE | LOAD | COMMON |
| 287                        | 3    | 4    | C      | 126                      | 6    | 4    | C      |
| 275                        | 3    | 4    | C      | 121                      | 5    | 4    | C      |
| 274                        | 3    | 5    | C      | 115                      | 6    | 6    | C      |
| 265                        | 1    | 4    | C      | 110                      | 5    | 4    | 1      |
| 263                        | 2    | 5    | C      | 106                      | 6    | 4    | 1      |
| 260                        | 3    | 6    | C      | 100                      | 1    | 3    | 4      |
| 252                        | 1    | 5    | C      | 96                       | C    | 1    | 5      |
| 250                        | 2    | 6    | C      | 90                       | C    | 2    | 5      |
| 240                        | 1    | 6    | C      | 85                       | C    | 3    | 6      |
| 220                        | C    | 6    | 1      | 82                       | C    | 2    | 4      |
| 213                        | C    | 6    | 2      | 77                       | C    | 3    | 4      |
| 206                        | C    | 5    | 3      |                          |      |      |        |
| 204                        | C    | 5    | 2      |                          |      |      |        |
| 203                        | C    | 5    | 1      |                          |      |      |        |
| 198                        | C    | 4    | 3      |                          |      |      |        |
| 197                        | C    | 4    | 2      |                          |      |      |        |
| 193                        | C    | 4    | 3      |                          |      |      |        |

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



| REV | CHANGE NO | DATE | BY | CHKD |
|-----|-----------|------|----|------|
| 1   |           |      |    |      |
| 2   |           |      |    |      |
| 3   |           |      |    |      |

FIRST USED ON OPTION/MODEL: PDP10

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

MATERIAL: / / FINISH: / /

DATE: 9/29/70  
 DATE: 11/1/70  
 DATE: 30 Jan 70  
 DATE: 2-9-70

DRN: / /  
 CHK'D: / /  
 ENG: / /  
 PROJ. ENG: / /  
 PROD: / /

TITLE: READER CONTROL CIRCUITS (ISOLATED DIAGRAM) TIMESHARING ASS 33

SIZE CODE: DBS LT33-B-CONT  
 NUMBER: / /  
 SHEET: 1 OF 1



- NOTES:**
1. ABSTRACTED FROM TELETYPE CORR. G353 WD 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  
 X 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

SEL MAG DRIVE CARD 181819

TRANSISTOR IS CUT-OFF FOR MARK

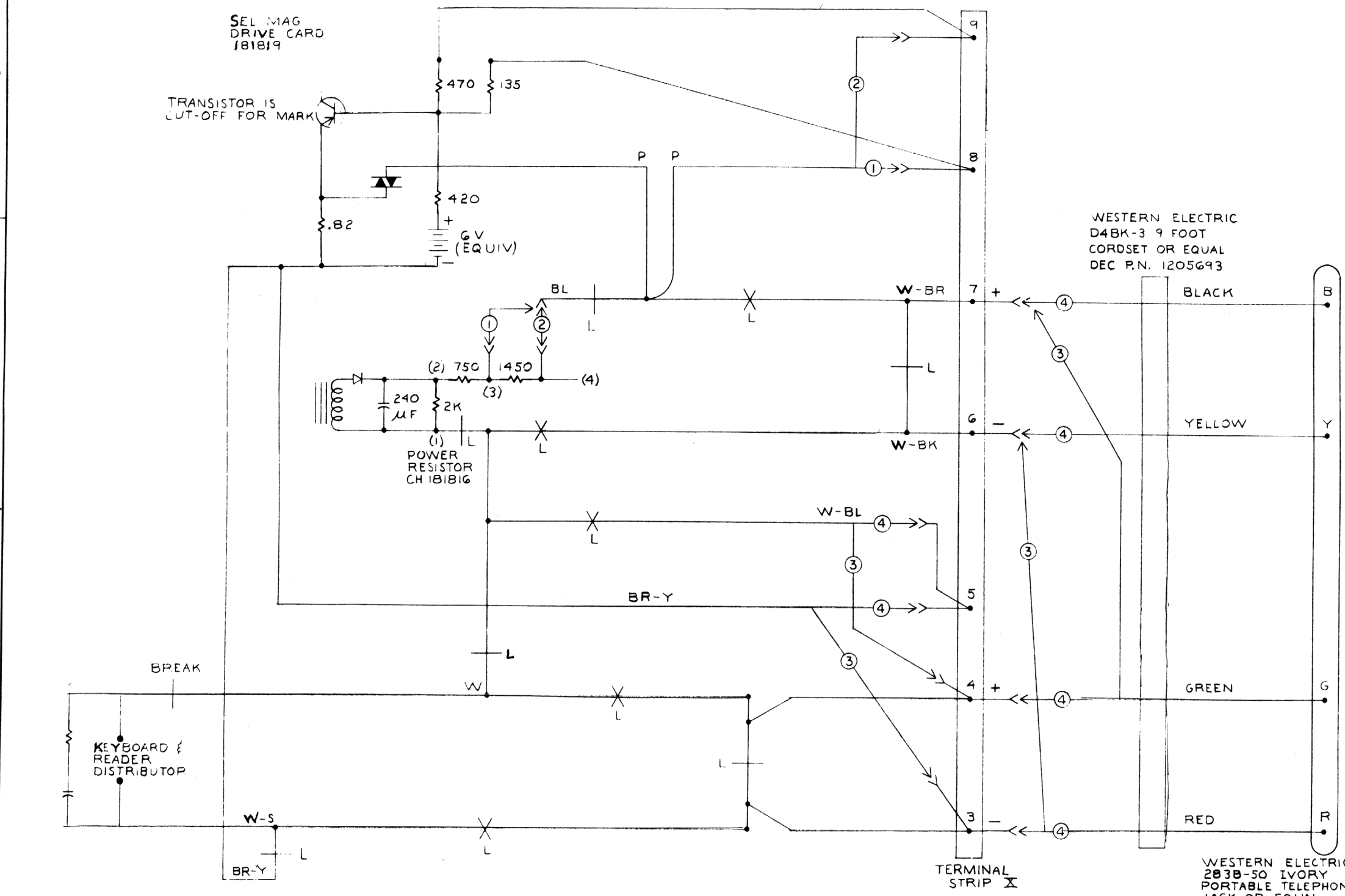
WESTERN ELECTRIC D4BK-3 9 FOOT CORDSET OR EQUAL DEC P.N. 1205693

PRINTER (RECEIVE) LOOP  
 (FULL DUPLEX)  
 NO CONNECTION  
 (HALF DUPLEX)

KEYBOARD TRANSMIT LOOP (FULL DUPLEX)  
 TTY LOOP (HALF DUPLEX)

WESTERN ELECTRIC 283B-50 IVORY PORTABLE TELEPHONE JACK OR EQUAL DEC P.N. 1205857-1

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| REV | DATE    | BY       | CHKD |
|-----|---------|----------|------|
| 1   | 3/14/68 | D. Kelly |      |
| 2   | 3/14/68 |          |      |
| 3   | 3/14/68 |          |      |
| 4   | 3/14/68 |          |      |
| 5   | 3/14/68 |          |      |

|                                      |             |                 |         |
|--------------------------------------|-------------|-----------------|---------|
| QTY                                  | DESCRIPTION | PART NO         | ITEM NO |
|                                      |             |                 |         |
| PARTS LIST                           |             |                 |         |
| UNLESS OTHERWISE SPECIFIED           |             | DATE            |         |
| DIMENSION IN INCHES                  |             | 3/14/68         |         |
| TOLERANCES                           |             | DATE            |         |
| DECIMALS FRACTIONS ANGLES            |             | 25 MAR 68       |         |
| = .005 = 1/64 = 0°30'                |             | DATE            |         |
| FINAL SURFACE QUALITY /              |             | 25 MAR 68       |         |
| REMOVE BURRS AND BREAK SHARP CORNERS |             | DATE            |         |
| MATERIAL                             |             | 17 APR 68       |         |
| FINISH                               |             |                 |         |
| FIRST USED ON                        |             |                 |         |
| D-UA-LT33A-0-0                       |             |                 |         |
| SCALE                                |             | NUMBER          |         |
| SHEET                                |             | DTC LT33A-0-1 A |         |

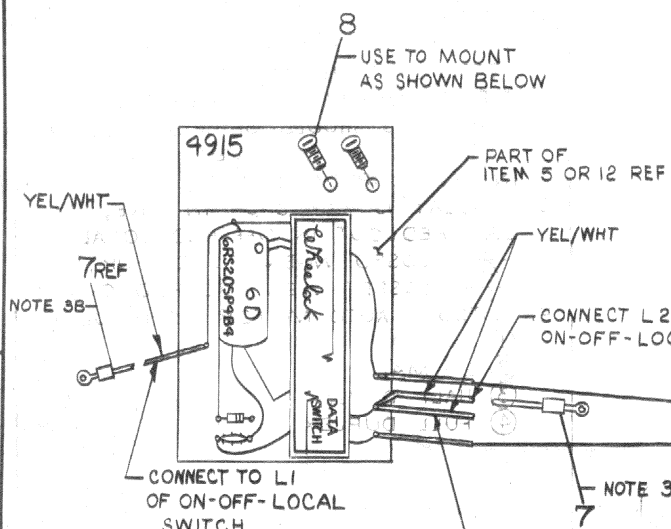
PDP 10 TELETYPE MODEL 33KSR

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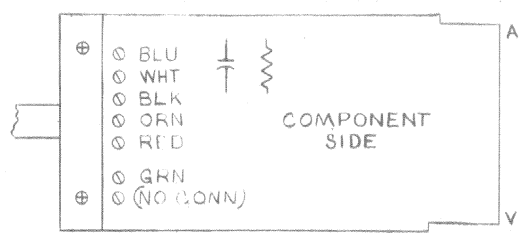
CABLE CONNECTIONS TO TERMINAL BOARD

TTY. CABLE VARIATIONS

NOTES:



NUMBER IN LUG CORRESPONDS TO TERMINAL BOARD NUMBERS

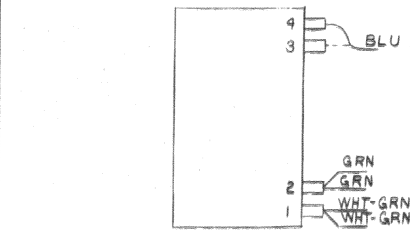


W076 REV'D CONN. (7005676)  
NOTE: YELLOW IS SOMETIMES USED INSTEAD OF WHITE.  
GRAY IS SOMETIMES USED INSTEAD OF GREEN.

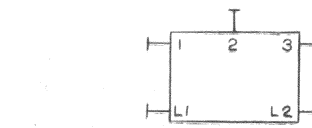
| PROD LINE         | CABLE NUMBER             |
|-------------------|--------------------------|
| PDP-8, 8I, 8L, 8S | 7006593-1 (12 FT) + W078 |
| PDP-12, LINC 8    | 7006593-2 (18 FT) + W078 |
| PDP-9, 9L         |                          |
| PDP-8E, PDP-11    | 7006593-1 (12 FT)        |
| PDP-15            | 7006593-2 (18 FT)        |
| LT33-RA, -RB      | 7008466-12 (12 FT)       |

- 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.
- MECHANICAL CHANGES
  - A. REMOVE SPRING & WRU PAWL UNIT FROM SLOT 'N' IN FUNCTION CASTING.
- A. ADD (2) 6RS20SP4B4 THYRACORS DEC #1100106 TO UNIT & WIRE AS INDICATED BELOW USING ITEM #7

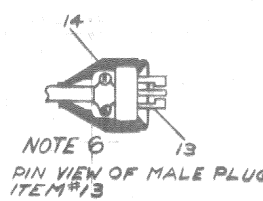
CONNECT TO LOCATION #7 OF RECEPTACLE #4 ON THE PLUG PANEL USING #9 (MATES WITH BROWN WIRE MOVED BY NOTE 1D)



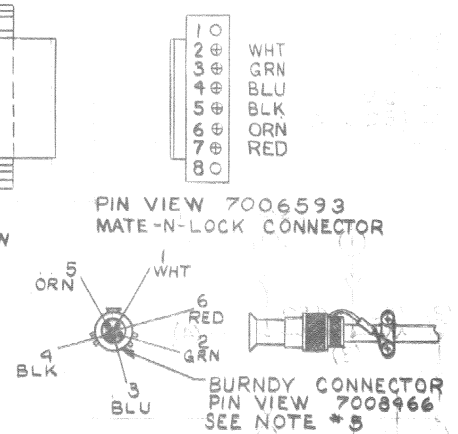
POWER RESISTOR  
DETAIL B  
SEE NOTE 1E



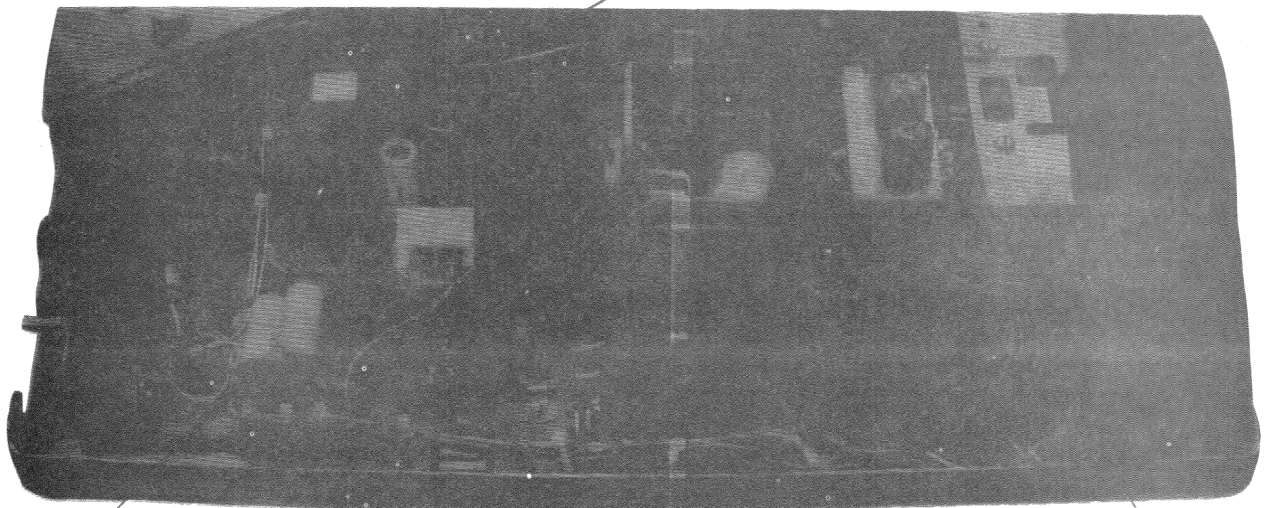
TERMINAL LOCATION  
VIEW A-A  
ON-OFF-LOCAL SWITCH  
SEE NOTE 3.



NOTE 6  
PIN VIEW OF MALE PLUG  
ITEM #13



PIN VIEW 7006593  
MATE-N-LOCK CONNECTOR  
BURNDY CONNECTOR  
PIN VIEW 7008466  
SEE NOTE #5



SEE NOTE 3A  
6RS20SP4B4 THYRACORS  
SEE DETAIL B  
ASR-33 TELETYPE MODIFICATIONS & CABLE CONNECTIONS. (ALL UNITS USING RELAY CONTROLLED READER) 4915 CARD INSERTED

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

- USING ITEM #7 CONNECT YEL-WHT WIRES TO INDICATED TERMINALS OF ON-OFF-LOCAL SWITCH.
- USE ITEM #9 & #10 TO TIE WIRING.
- TELETYPES FOR USE ON 50 HZ OR VOLTAGES OTHER THAN 115V ALSO REQUIRE MODIFICATION PER DWG D-1A-7505039-0-0.
- TOOLS FOR BURNDY CONNECTOR
  - EXTRACTION TOOL RX 24-3
  - INSERTION TOOL RTM 24-3
  - CRIMPING TOOL M10S-1
  - DIE SET 649
  - STOP BUSHING 8L81
- 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        | 7008466   | 12       |
| 1    | MODULE, ADAPTER W078             | W078      | 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 1W | 9007031   | 9        |
| 2    | SCR. PH. PAN HD. 6-32 X 1/4      | 9006020-1 | 8        |
| 5    | SOLDERLESS TERM #6 AWG 18 22     | 9007929   | 7        |
| 2    | THYRACTOR GE 6RS20SP4B4          | 1100106   | 6        |
| 1    | CABLE ASSY MATE-N-LOCK TO 4915   | 7006593   | 5        |
| 1    | PIN TELETYPE 182644              | 2911459   | 3        |
| 1    | TTY WRITER MODEL 33TU (60HZ)     | 3004779   | 2        |
| 1    | TTY WRITER MODEL 33TBP (50HZ)    | 3005716   | 1        |

| REV. | CHG     | NO.        | DATE | BY |
|------|---------|------------|------|----|
| B    | REVISED | LT33-00002 |      |    |
| C    | REVISED | LT33-00003 |      |    |
| D    | REVISED | LT33-00004 |      |    |
| E    | REVISED | LT33-00005 |      |    |

| FIRST USED ON OPTION/MODEL | QTY. | DESCRIPTION | PART NO. | ITEM NO. |
|----------------------------|------|-------------|----------|----------|
| LT33-DA                    |      |             |          |          |

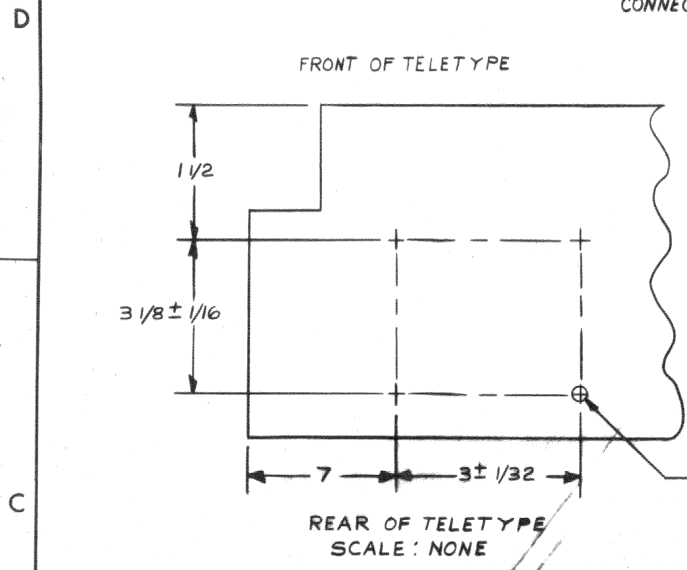
| DRN.       | DATE    | EQUIPMENT           |
|------------|---------|---------------------|
| R. THELLEN | 3-3-70  | digital CORPORATION |
| K. RUCS    | 2-24-70 |                     |

TITLE: TELETYPE MODIFICATIONS (LT33)

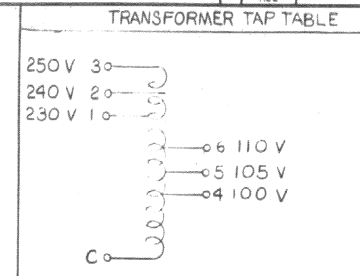
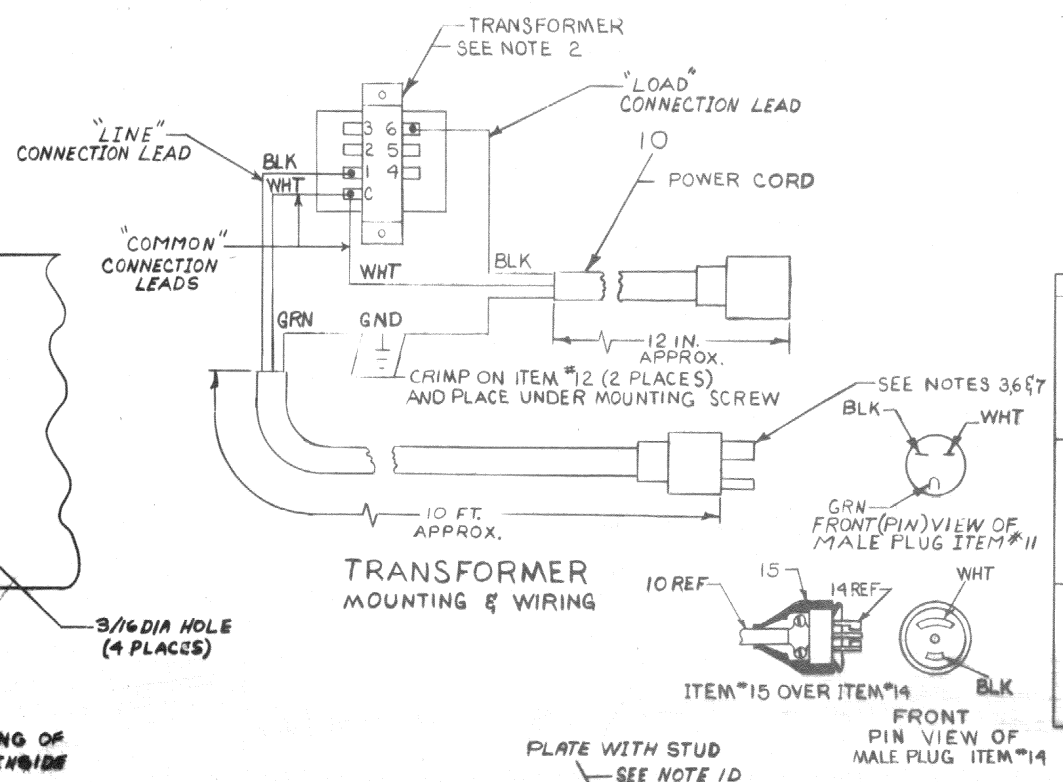
| SCALE  | SHEET | DIST. |
|--------|-------|-------|
| 1 OF 2 |       |       |



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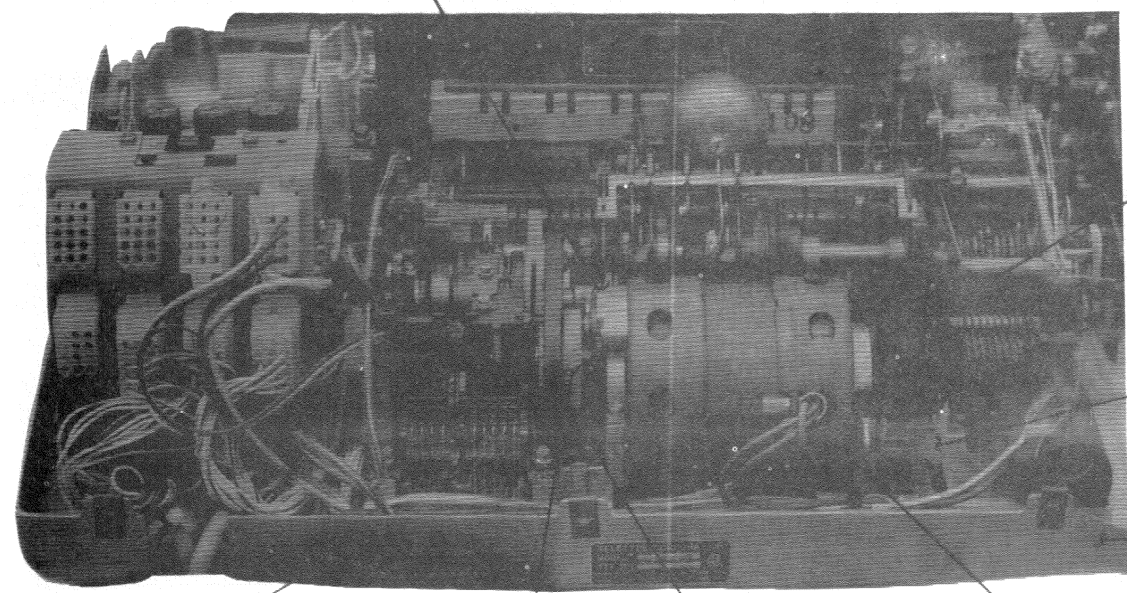
HOLE DRILLING DIAGRAM FOR MOUNTING OF TRANSFORMER, ITEM #5, TO PLATE INSIDE BOTTOM OF BASE.



| VOLTAGE | LINE | LOAD | COMMON | VOLTAGE | LINE | LOAD | COMMON |
|---------|------|------|--------|---------|------|------|--------|
| 126     | 6    | 4    | C      | 287     | 3    | 4    | C      |
| 121     | 5    | 4    | C      | 275     | 2    | 4    | C      |
| 115     | 6    | 6    | C      | 274     | 3    | 5    | C      |
| 110     | 5    | 4    | 1      | 265     | 1    | 4    | C      |
| 106     | 6    | 4    | 1      | 263     | 2    | 5    | C      |
| 100*    | 1    | 3    | 4      | 260     | 3    | 6    | C      |
| 96      | C    | 1    | 5      | 252     | 1    | 5    | C      |
| 90      | C    | 2    | 5      | 250     | 2    | 6    | C      |
| 85      | C    | 3    | 6      | 240*    | 1    | 6    | C      |
| 82      | C    | 2    | 4      | 220     | C    | 6    | 1      |
| 77      | C    | 3    | 4      | 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 115V TO THE LOAD AT THE NOMINAL LINE VOLTAGE

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



PLACE APPROPRIATE DECAL HERE INDICATING VOLTAGE AND FREQUENCY AFTER MODIFICATION.  
SEE NOTE 1 B DRIVE GEAR  
SEE NOTE 1 C  
SEE NOTE 1 A

| QTY. | DESCRIPTION                    | PART NO.   | ITEM NO. |
|------|--------------------------------|------------|----------|
| 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 50 HZ TTY. 181851  | 1204849    | 3        |
| 1    | DRIVE GEAR 50 HZ TTY. 181855   | 1204850    | 2        |
| 1    | MOTOR 50 HZ TTY. 182267        | 1204789    | 1        |

| REV. | CHG. NO.   | DATE | BY |
|------|------------|------|----|
| B    | LT33-00002 |      |    |
| C    | LT33-00003 |      |    |
| D    | LT33-00004 |      |    |
| E    | LT33-00005 |      |    |

FIRST USED ON OPTION/MODEL

UNLESS OTHERWISE SPECIFIED DIMENSION IN INCHES TOLERANCES

|             |          |
|-------------|----------|
| DECIMALS    | ANGLES   |
| .XXX = .005 | ± 0° 30' |
| .XX = .02   |          |
| .X = .1     |          |

REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY

MATERIAL

FINISH

DRN R.HELLEN DATE 2-24-70  
CHK'D K.RUSS DATE 2-24-70  
PROJ. ENG. W.DAVIS DATE 3-3-70  
C.BLASI DATE 3-3-70  
PROD. T.MACDONALD DATE 3-3-70

digital EQUIPMENT CORPORATION  
MAYNARD MASSACHUSETTS

TITLE  
TELETYPE MODIFICATIONS (50 HZ & 240V.)

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

SHEET 1 OF 1

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CABLE CONNECTIONS TO TERMINAL BOARD  
 NUMBER IN LUG CORRESPONDS TO TERMINAL BOARD NUMBER

TTY CABLE VARIATIONS

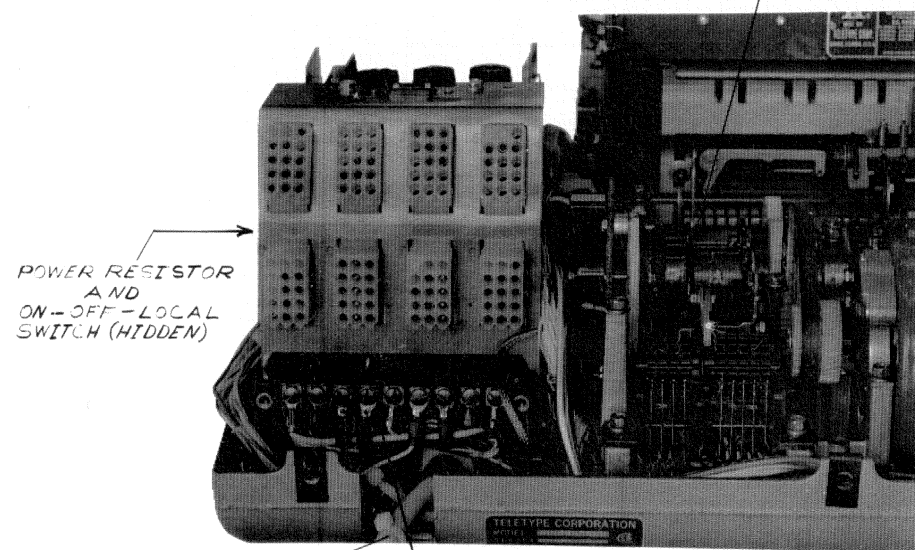
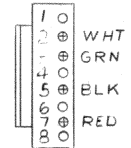
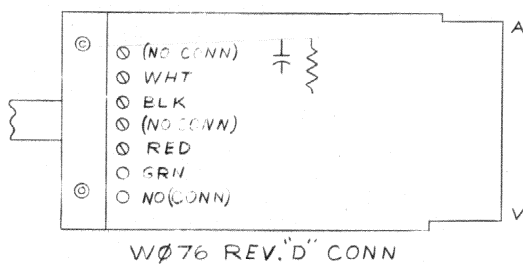
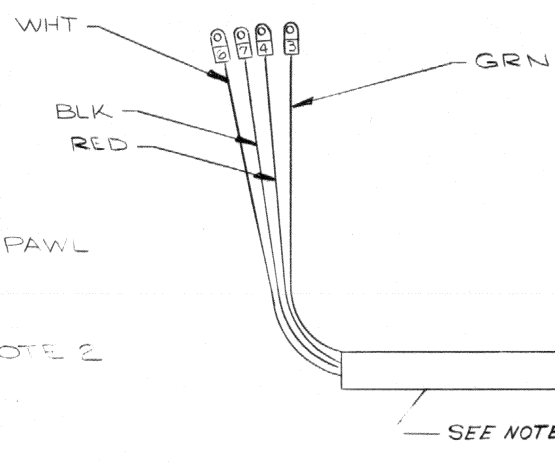
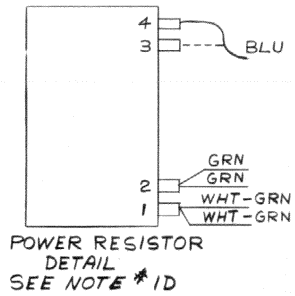
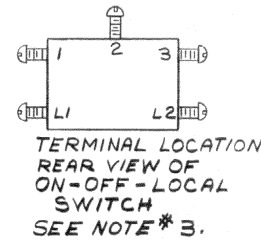
| PROD LINE                 | CABLE NUMBER             |
|---------------------------|--------------------------|
| PDP-8, B1, B1, B5,        | 7006594-1 (12 FT) + WØ78 |
| PDP-12, LINC 8, PDP-9, 9L | 7006594-2 (18 FT) + WØ78 |
| PDP-8E, PDP-11,           | 7006594-1 (12 FT)        |
| PDP-15                    | 7006594-2 (18 FT)        |

NOTES:

- ADDITIONAL ELECTRICAL CHANGES TO TERMINAL BOARD CONNECTIONS:
  - A. REMOVE BROWN-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.
- MECHANICAL CHANGES.
  - A. REMOVE SPRING & WRU PAWL UNIT FROM SLOT "N" IN FUNCTION CASTING.
- ADD (2) 6RS 2Ø SP4 B4 THYRECTORS DEC #1100106 TO UNIT & WIRE AS INDICATED BELOW USING ITEM #6.

| FROM          | TO                       |
|---------------|--------------------------|
| THYRACITOR #1 | CONN #2 OF ON-OFF PWR SW |
| " #2          | CONN #2 " " " "          |
| " #2          | CONN #1 " " " "          |

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



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

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

SEE NOTE #1 & CABLE CONN'S TERMINAL BOARD

SUBBASE

KSR-33 TELETYPE MODIFICATION AND CABLE CONNECTIONS

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

| REV | CHANGE NO | DATE     | BY      |
|-----|-----------|----------|---------|
| B   |           | 10-27-71 | A. KENT |
| A   |           | 10-27-71 | A. KENT |

FIRST USED ON OPTION/MODEL: LT33-CA

DO NOT SCALE DRAWING UNLESS OTHERWISE SPECIFIED

TOLERANCES: DECIMALS ± .005, FRACTIONS ± 1/64, ANGLES ± 0'30"

REMOVE BURRS AND BREAK SHARP CORNERS

MATERIAL: \_\_\_\_\_

FINISH: \_\_\_\_\_

SCALE: NONE

SHEET: 1 OF 1

DATE: 10/28/71

DATE: 11/15/70

DATE: 7/15/70

DATE: 11/15/70

digital EQUIPMENT CORPORATION

TELETYPE MODIFICATION (KSR-33)

SIZE CODE: DIA 7505041-0-0

**DIGITAL EQUIPMENT CORPORATION**  
MAYNARD, MASSACHUSETTS

**ACCESSORY LIST**

**LEGEND**

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

**QUANTITY / VARIATION**

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

| ITEM NO. | DWG NO. / PART NO. | DESCRIPTION                    | QUANTITY / VARIATION                                      |                                       |   |  |  |  | KIT CHECK | BY | DATE | INSTALLATION CHECK |      |
|----------|--------------------|--------------------------------|---|---------------------------------------|---|--|--|--|-----------|----|------|--------------------|------|
|          |                    |                                | LT33-BA, -BB, -DA, -DB, -DC, -DD, -DE, -EA, -EB, -HA, -HB | LT33-AA, -AB, -CA, -CB, -CC, -CD, -CE |   |  |  |  |           |    |      | 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 TELETYPE WRITERS LT33 SERIES  
ASSY. NO. SHEET 1 OF 1  
SIZE CODE A AL  
NUMBER LT33-0-12  
REV. A  
ECO NO. LT 33-00002

DEC FORM NO. DRA 121



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REV. A  
NUMBER  
DUALT33A-0-0  
SIZE CODE  
10-21-71

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

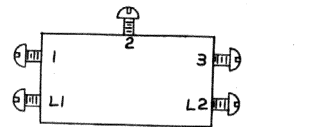
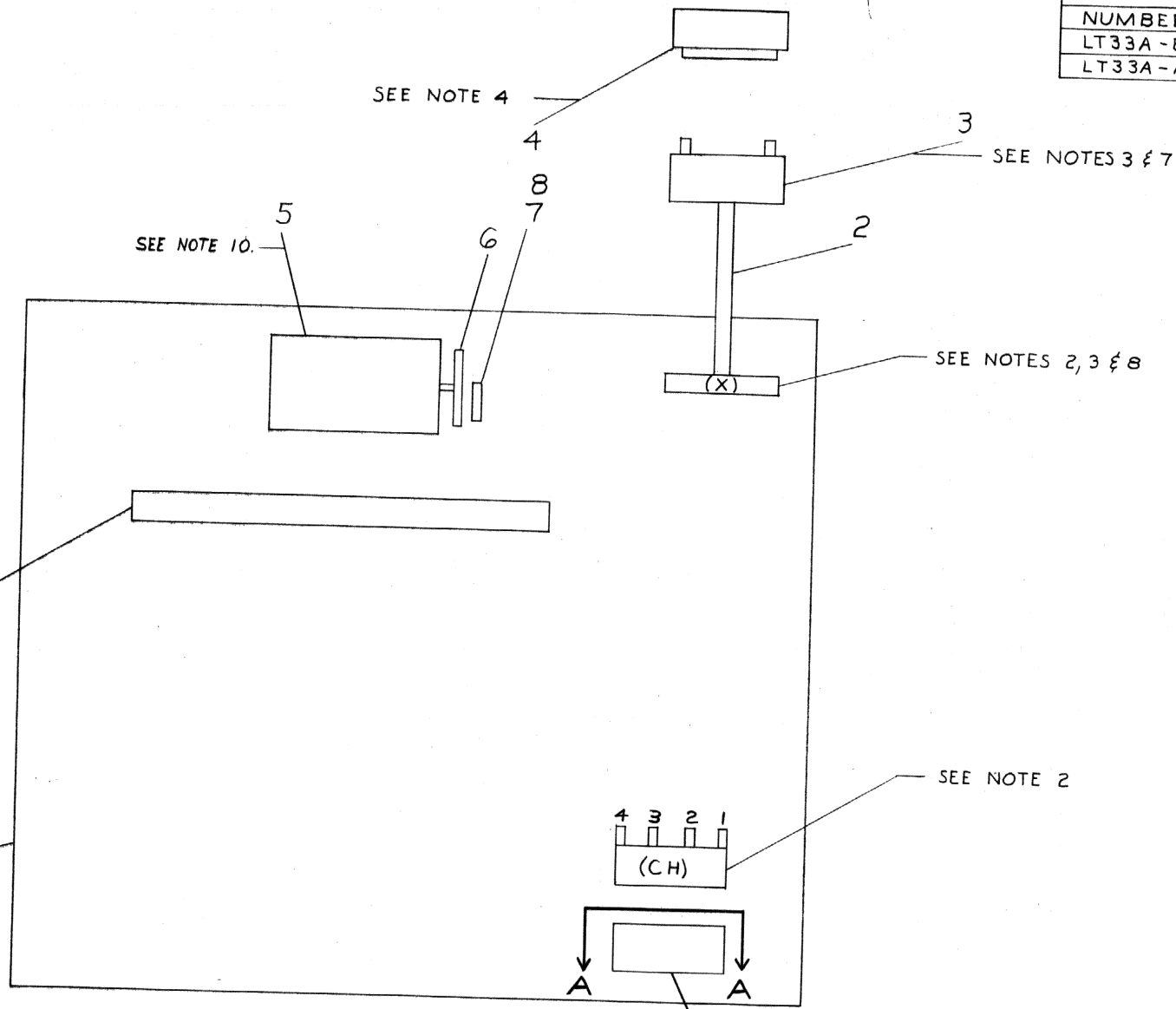
- NOTES
- DO NOT REMOVE "N" DRAWL (WRU)
  - REWIRE FOR FULL DUPLEX 20 MA OPERATION BY:
    - MOVE P WIRE FROM TERMINAL 8 TO TERMINAL 9 OF THE 151411 TERMINAL STRIP (X).
    - MOVE W-BL WIRE FROM TERMINAL 4 TO TERMINAL 5 OF THE TERMINAL STRIP.
    - MOVE BR-Y WIRE FROM TERMINAL 3 TO TERMINAL 5 OF THE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

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

ASSEMBLE ONE "BAR-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.
  - SUPPLY ITEM 4 LOOSE WITH THE SET.
  - SEE TELETYPE DRAWINGS 6353WD AND 6354WD SUPPLIED WITH SET.
  - 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.
  - ASSEMBLE LONG WIRE END OF ITEM 2 TO ITEM 1 TERMINAL STRIP (X).
  - 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  |
| THYRECTOR * 2 | CONN * 1 OF ON-OFF SW  |

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



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

FRONT (TOP VIEW)

| REVISIONS | CHANGE NO.   | REV.   |
|-----------|--------------|--------|
| CHK       | LT33-00003   | A      |
| CHK       | 10-21-71     |        |
| CHK       | A-KENT       |        |
| CHK       | Allen, K. S. | 280177 |

DEC FORM NO. DRD 100

| QTY.   | DESCRIPTION | PART NO.              | ITEM NO. |
|--|-------------|-----------------------|----------|
| PARTS LIST                                     |             |                       |          |
| UNLESS OTHERWISE SPECIFIED                     |             | DRN. DATE             |          |
| UNLESS OTHERWISE SPECIFIED DIMENSION IN INCHES |             | 1/3/68                |          |
| TOLERANCES                                     |             | DATE                  |          |
| DECIMALS                                       | FRACTIONS   | ANGLES                | 2-1-69   |
| ± .005   | ± 1/64      | ± 0°30'               |          |
| FINAL SURFACE QUALITY                          |             | DATE                  |          |
| REMOVE BURRS AND BREAK SHARP CORNERS           |             | 25 MAR 69             |          |
| MATERIAL                                       |             | DATE                  |          |
| FIRST USED ON                                  |             | DATE                  |          |
| FINISH   |             | DATE                  |          |
| SCALE NONE                                     |             | DATE                  |          |
| SHEET 1 OF 1                                   |             | DATE                  |          |
| TITLE  |             | PDP 10 TELETYPE 33KSR |          |
| SIZE CODE                                      |             | NUMBER                |          |
| DUALT33A-0-0                                   |             | A                     |          |
| DIST. G  |             |                       |          |

REV. A  
NUMBER  
DUALT33A-0-0  
SIZE CODE

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

- NOTES:**
- REPLACE FURNISHED TYPING CYLINDER WITH SLASHED ZERO TYPING CYLINDER, "ML" PART NO. 2911511.TTY. PART NO. 183599.
  - DO NOT DISABLE FORM FEED, WRU (EN2), X-ON (DC1), X-OFF (DC3), TAPE ON (DC2) OR TAPE OFF (DC4) FEATURES FROM STUNT BOX.
  - DO NOT REMOVE PARITY GENERATION FROM KEYBOARD.
  - WIRE SHORT LEAD END OF ITEM 3 TO ITEM 4 AS FOLLOWS:  

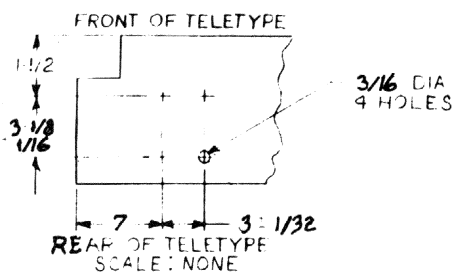
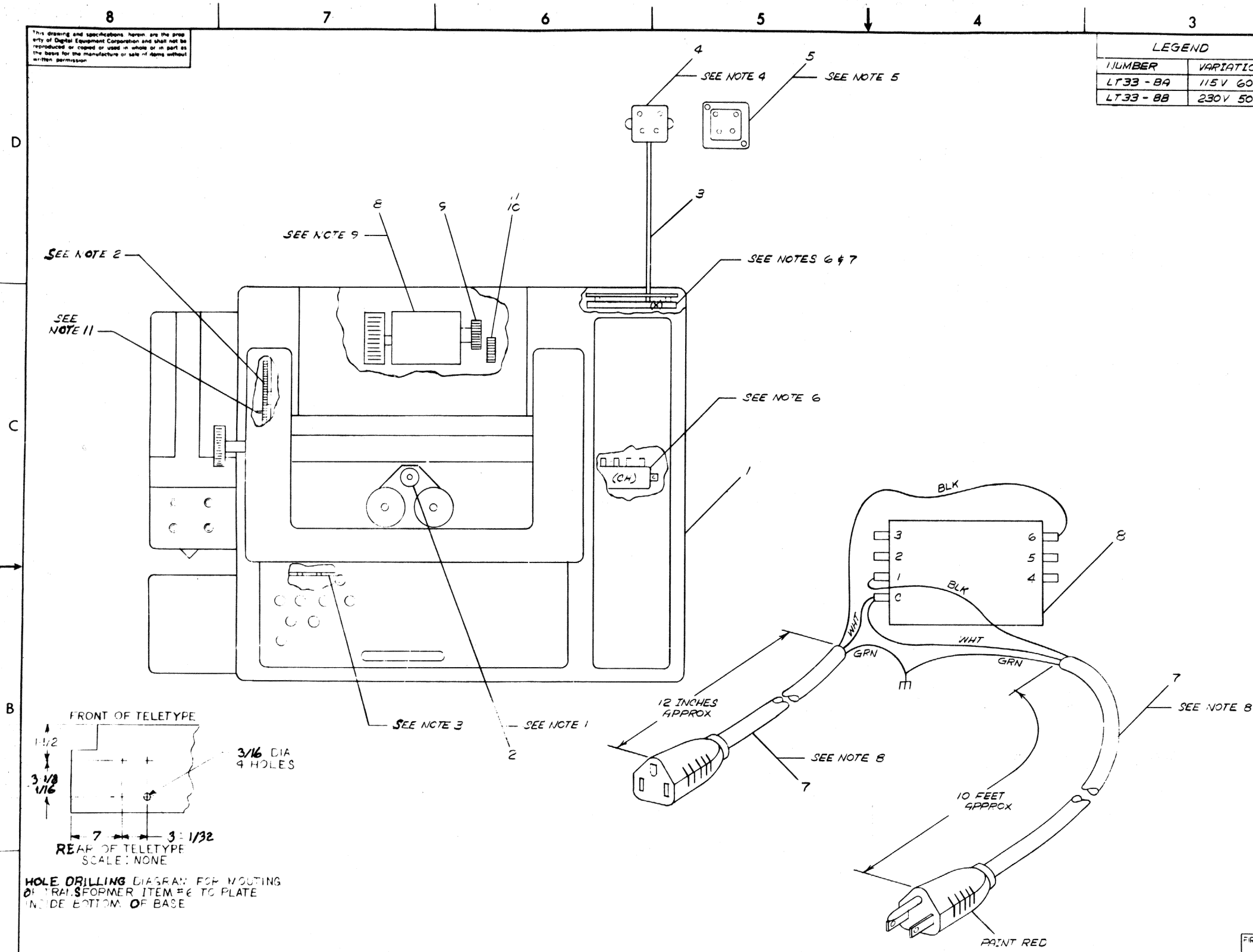
| ITEM 3 | ITEM 4 |
|--------|--------|
| RED    | P      |
| GREEN  | G      |
| BLACK  | B      |
| YELLOW | Y      |

 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 (R & G) PINS.
  - SUPPLY ITEM 5 LOOSE WITH SET.
  - ARRANGE SET FOR 20 mA, FULL DUPLEX OPERATION AS FOLLOWS:
    - MOVE PURPLE WIRE FROM TERMINAL 8 TO TERMINAL 9 ON TERMINAL STRIP (S1411) (X).
    - MOVE W-BL WIRE FROM TERMINAL 4 TO TERMINAL 5
    - MOVE BR-Y WIRE FROM TERMINAL 3 TO TERMINAL 5
    - MOVE BL WIRE FROM TERMINAL 3 TO TERMINAL 4 OF 1B1316 POWER RESISTOR (CH).
  - STRAIN RELIEVE ITEM 3 BY PLACING S-HOOK UNDER 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                  |
  - CUT ITEM 7 APPROX 12 INCHES FROM FEMALE END. WIRE TO ITEM 9 AS FOLLOWS:
 

|                   | FRAME |
|-------------------|-------|
| BOTH GREEN WIRES  | C     |
| BOTH WHITE WIRES  | C     |
| FEMALE BLACK WIRE | 5     |
| MALE BLACK WIRE   | 1     |

 PAINT MALE END OF CORD RED. MOUNT ITEMS 7 AND 8 IN TELETYPE BASE WHEN REQUIRED (230V OPERATION) USING ITEMS 12 THRU 15.
  - REPLACE FURNISHED MOTOR UNIT AND GEAR SET WITH ITEMS 8 AND 9 FOR 50 HZ OPERATION.
  - ADJUST FORM FEED MECHANISM FOR 11 INCH FORMS.



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

| REV | DATE     | BY    | CHK |
|-----|----------|-------|-----|
| 1   | 10-22-70 | AKENT |     |
| 2   | 11-13-70 | AKENT |     |
| 3   | 12-10-70 | AKENT |     |
| 4   | 1-13-71  | AKENT |     |
| 5   | 2-17-71  | AKENT |     |

| FIRST USED ON OPT ON / MODEL         | QTY              | DESCRIPTION | PART NO                       | ITEM NO  |
|--------------------------------------|------------------|-------------|-------------------------------|----------|
| PDP10                                |                  |             |                               |          |
| PARTS LIST                           |                  |             |                               |          |
| UNLESS OTHERWISE SPECIFIED           | DRN              | DATE        | digital EQUIPMENT CORPORATION |          |
| UNLESS OTHERWISE SPECIFIED           | CHK'D            | DATE        | TITLE                         |          |
| TOLERANCES                           | ENG              | DATE        | TIMESHARING                   |          |
| DECIMALS FRACTIONS ANGLES            | PROJ. ENG        | DATE        | TELETYPE                      |          |
| ± .005 ± .001 ± .010                 | PROJ. ENG        | DATE        | 33 ASR (TY)                   |          |
| FINAL SURFACE QUALITY                | PROJ. ENG        | DATE        | SIZE CODE                     | NUMBER   |
| REMOVE BURRS AND BREAK SHARP CORNERS | PROJ. ENG        | DATE        | DUA                           | LT33-B-0 |
|                                      |                  |             | DIST                          |          |
| MATERIAL                             | NEXT HIGHER ASSY |             |                               | REV      |
| 11                                   | A-ML-LT33-BA-0   |             |                               | B        |
| FINISH                               | SCALE            |             |                               |          |
| 11                                   | DNE              |             |                               |          |
|                                      | SHEET            |             |                               |          |
|                                      | 1 OF 1           |             |                               |          |



# DIGITAL EQUIPMENT CORPORATION

MAYNARD, MASSACHUSETTS

## PARTS LIST

### QUANTITY

### REVISIONS

| ITEM NO.                | DWG. NO.   | DESCRIPTION                  | QUANTITY                       |                 | REVISIONS  |                              |      |           |
|-------------------------|------------|------------------------------|--------------------------------|-----------------|------------|------------------------------|------|-----------|
|                         |            |                              | LT33A-B-0 50 HZ                | LT33A-A-0 60 HZ | CHANGE NO. | DATE                         | ENG. |           |
| 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               |            |                              |      |           |
|                         |            |                              |                                |                 |            |                              |      |           |
|                         |            |                              |                                |                 |            |                              |      |           |
| MADE BY<br>R. BERNIER   |            | DATE<br>1/3/68               | TITLE<br>PDP-10 TELETYPE 33KSR |                 |            | DRWG. NO.<br>A-PL- LT33A-0-0 |      | REV. LTR. |
| CHECKED<br>D. HEALY     |            | DATE<br>3/12/68              | FOR                            |                 |            | ASSY NO<br>D-UA-LT33A-0-0    |      | A         |
| ENG<br><i>Alan Kent</i> |            | DATE<br>25 MAR 68            |                                |                 |            | SHEET 1 OF 1                 |      |           |

6

X

**DIGITAL EQUIPMENT CORPORATION**  
MAYNARD, MASSACHUSETTS  
**PARTS LIST**

|                              |                         |              |
|------------------------------|-------------------------|--------------|
| MADE BY <i>C. Stephenson</i> | CHECKED D. HEALY        | SECTION      |
| DATE <i>9/25/69</i>          | DATE <i>1-20-70</i>     | 1            |
| ENG <i>Allen Kent</i>        | PROD <i>G. McIlwain</i> | ISSUED SECT. |
| DATE <i>30 Jan 70</i>        | DATE <i>2-9-70</i>      | 1            |

QUANTITY / VARIATION

| 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                    |               |  |  |  |  |  |  |  |  |  |  |  |
|          |                    |                                 |                      |               |  |  |  |  |  |  |  |  |  |  |  |
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|          |                    |                                 |                      |               |  |  |  |  |  |  |  |  |  |  |  |
|          |                    |                                 |                      |               |  |  |  |  |  |  |  |  |  |  |  |
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|          |                    |                                 |                      |               |  |  |  |  |  |  |  |  |  |  |  |
|          |                    |                                 |                      |               |  |  |  |  |  |  |  |  |  |  |  |

|   |                           |           |            |                    |           |                       |
|---|---------------------------|-----------|------------|--------------------|-----------|-----------------------|
| TITLE<br>TIMESHARING TELETYPE 33 ASR (TY) | ASSY NO.<br>D-UA-LT33-B-0 | SIZE<br>A | CODE<br>PL | NUMBER<br>LT33-B-0 | REV.<br>B | ECO NO.<br>LT33-00003 |
| SHEET 1 OF 1                              |                           | DIST.     |            |                    |           |                       |

| DIGITAL EQUIPMENT CORPORATION<br>MAYNARD, MASSACHUSETTS<br><b>PARTS LIST</b> |                    |                                     |  |                          | QUANTITY / VARIATION           |  |      |         |  |  |  |  |  |  |
|--|--------------------|-------------------------------------|--|--------------------------|--------------------------------|--|------|---------|--|--|--|--|--|--|
| MADE BY J. FERGUSON  |                    | CHECKED K. GULICK                   |  | SECTION                  |                                |  |      |         |  |  |  |  |  |  |
| DATE 11-18-70  |                    | DATE 11-18-70                       |  | 1                        |                                |  |      |         |  |  |  |  |  |  |
| ENG <i>N. Cl...</i>  |                    | PROD <i>Ferry Bay...</i>            |  | ISSUED SECT.             |                                |  |      |         |  |  |  |  |  |  |
| DATE 11-19-70  |                    | DATE 11/19/70                       |  | 1                        |                                |  |      |         |  |  |  |  |  |  |
| ITEM NO.   | DWG NO. / PART NO. | DESCRIPTION                         |  |                          |                                |  |      |         |  |  |  |  |  |  |
| 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                              |  |      |         |  |  |  |  |  |  |
|  |                    |                                     |  |                          |                                |  |      |         |  |  |  |  |  |  |
|  |                    |                                     |  |                          |                                |  |      |         |  |  |  |  |  |  |
|  |                    |                                     |  |                          |                                |  |      |         |  |  |  |  |  |  |
|  |                    |                                     |  |                          |                                |  |      |         |  |  |  |  |  |  |
|  |                    |                                     |  |                          |                                |  |      |         |  |  |  |  |  |  |
|  |                    |                                     |  |                          |                                |  |      |         |  |  |  |  |  |  |
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|  |                    |                                     |  |                          |                                |  |      |         |  |  |  |  |  |  |
|  |                    |                                     |  |                          |                                |  |      |         |  |  |  |  |  |  |
| TITLE<br>LT33-B TELETYPE<br>RECOMMENDED SPARE PARTS                          |                    | ASSY NO.                            |  | SIZE CODE<br><b>A PL</b> | NUMBER<br>LT33-SB- $\emptyset$ |  | REV. | ECO NO. |  |  |  |  |  |  |
|  |                    | SHEET 1 OF 1                        |  | DIST.                    |                                |  |      |         |  |  |  |  |  |  |



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**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)

- 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

- Remove the blue lead from the 750Ω resistor post and reconnect it to the 1450Ω resistor post.

Ref: Vol I - Sec: 574-100-102

- 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)

- 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         |

- 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 switch | 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) |

**ENGINEERING SPECIFICATION**

CONTINUATION SHEET

TITLE MODIFICATION PROCEDURE TELETYPE MODEL 33ASR-TY

Brown --- --- Plug #4 of call control unit (3rd hole from right)  
Ref: Sec: 574-100-102 page 14 (fig.12)

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

**STUNT BOX AREA**

- 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**

- 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.
- 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.
- 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 unaffected by their previously related control levers.

**PUNCH AREA**

- 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 |     |

TITLE MODIFICATION PROCEDURE TELETYPE MODEL 33ASR-TY

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.

| SIZE | CODE | NUMBER   | REV |
|------|------|----------|-----|
| A    | SP   | LT33-0-2 |     |

**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 | Allen 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.

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|     |      |           |            |                     |          |
|-----|------|-----------|------------|---------------------|----------|
| ENG | APPD | SIZE<br>A | CODE<br>SP | NUMBER<br>LT33-0-10 | REV<br>A |
|-----|------|-----------|------------|---------------------|----------|

**DIGITAL EQUIPMENT CORPORATION  
MAYNARD, MASSACHUSETTS**

**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 | 7-6-71 | <i>Allan Kent</i> | 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.

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|                           |      |           |            |                     |          |
|---------------------------|------|-----------|------------|---------------------|----------|
| ENG<br><i>[Signature]</i> | APPD | SIZE<br>A | CODE<br>SP | NUMBER<br>LT33-0-11 | REV<br>A |
|---------------------------|------|-----------|------------|---------------------|----------|



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MAYNARD, MASSACHUSETTS

**ENGINEERING SPECIFICATION**

DATE 3/18/71

TITLE ASR33 TELETYPE INCOMING INSPECTION PROCEDURES AND ADJUSTMENTS

REVISIONS

| REV | DESCRIPTION | CHG NO | ORIG | DATE | APPD BY | DATE |
|-----|-------------|--------|------|------|---------|------|
|     |             |        |      |      |         |      |

**ENGINEERING SPECIFICATION**



CONTINUATION SHEET

TITLE ASR33 TELETYPE INCOMING INSPECTION PROCEDURES AND ADJUSTMENTS

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", maximum .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.

|                           |                            |                  |            |                     |     |
|---------------------------|----------------------------|------------------|------------|---------------------|-----|
| ENG<br><i>W.P. Miller</i> | APPD<br><i>W.P. Miller</i> | SIZE<br><b>A</b> | CODE<br>SP | NUMBER<br>LT33-0-13 | REV |
|---------------------------|----------------------------|------------------|------------|---------------------|-----|

|                  |            |                     |     |
|------------------|------------|---------------------|-----|
| SIZE<br><b>A</b> | CODE<br>SP | NUMBER<br>LT33-0-13 | REV |
|------------------|------------|---------------------|-----|

# ENGINEERING SPECIFICATION



CONTINUATION SHEET

TITLE ASR33 TELETYPE INCOMING INSPECTION PROCEDURES AND ADJUSTMENTS

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.)

|           |            |                     |     |
|-----------|------------|---------------------|-----|
| SIZE<br>A | CODE<br>SP | NUMBER<br>LT33-0-13 | REV |
|-----------|------------|---------------------|-----|

# ENGINEERING SPECIFICATION



CONTINUATION SHEET

TITLE ASR33 TELETYPE INCOMING INSPECTION PROCEDURES AND ADJUSTMENTS

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 adjustments 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

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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 solenoid. 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.

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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.

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

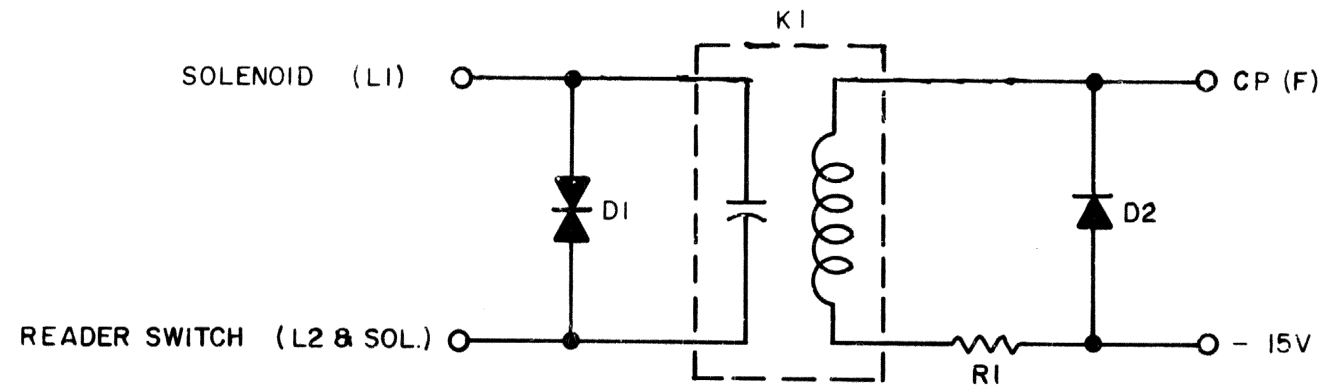
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REV

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NOTE:  
K1 HAS NO OUTER SHIELD

|                       |                              |               |
|-----------------------|------------------------------|---------------|
| K1                    | RELAY, REED 12VDC #30002 ID1 | 1203193       |
| R1                    | RES. 120 1/4W 10% CC         | 1301418       |
| D2                    | DIODE D664                   | 1100114       |
| D1                    | DIODE 6RS 20SP4B4            | 1100106       |
|                       | PARTS LIST                   | A-PL-4915-0-0 |
| REFERENCE DESIGNATION | DESCRIPTION                  | PART NO.      |

PARTS LIST

|  |                       |                 |  |        |     |     |  |  |  |  |  |                  |
|--|-----------------------|-----------------|--|--------|-----|-----|--|--|--|--|--|------------------|
| <b>REVISIONS</b><br>CHG NO. REV.<br>B REDR. 6886 A<br>REV. A | DRN.<br>I. HAHN       | DATE<br>5-11-65 | <b>TRANSISTOR &amp; DIODE CONVERSION CHART</b> |        |     |     | <br><b>digital</b><br><b>EQUIPMENT CORPORATION</b><br>MAYNARD, MASSACHUSETTS | TITLE<br><b>TELETYPE READER CONTROL 4915</b> |  |  | SIZE CODE NUMBER<br><b>B CS 4915-0-1</b> | REV.<br><b>A</b> |
|  | CHK'D<br>R. SILVERMAN | DATE<br>6-24-65 | DEC  | EIA    | DEC | EIA |  | PRINTED CIRCUIT REV. <b>D</b>                |  |  |  |                  |
|  | ENG.<br>D.A. WHITE    | DATE<br>5-24-65 | D664   | IN3606 |     |     |  |  |  |  |  |                  |
|  | PROD.                 | DATE            | 20SP4B4  | SAME   |     |     |  |  |  |  |  |                  |

