

| TITLE            | SHEET 2 OF 3 | SIZE CODE | NUMBER | REV |
|------------------|--------------|-----------|--------|-----|
| CONTROLLER, TMØ3 |              | B DD      | TMØ3-Ø | B   |

| FIND NO. | DRAWING NO.      | DESCRIPTION                 | TYPE | FIND NO. | DRAWING NO.      | DESCRIPTION                | TYPE |
|----------|------------------|-----------------------------|------|----------|------------------|----------------------------|------|
| 1        | B-TC-TM03-0-1    | TM03 TABLE OF CONTENTS      | -    | 3        | A-DC-5309899-0-0 | POWER CONTROL DECAL 115V   | M    |
|          | MP00349          | FIELD MAINTENANCE PRINT SET | -    |          | C-IA-5409824-0-0 | POWER CONTROL BOARD 115V   | M    |
|          | E-UA-TM03-0-0    | CONTROLLER TM03             | M    |          |                  |                            |      |
|          | A-PL-TM03-0-0    | PARTS LIST                  | M    | 4        | C-UA-BC05J-0-0   | LINE SET 230V AC 4 AMP     |      |
|          | D-CS-M8908-0-1   | RECEIVER TERMINATOR         | E    |          |                  |                            |      |
|          | D-CS-M8908-YA-1  | RECEIVER TERMINATOR         | E    | 5        | D-UA-H400-0-0    | AC INPUT BOX H400B         | M    |
|          | D-CS-M8909-0-1   | MASS BUSS INTERFACE         | E    |          | A-PL-H400-0-0    | AC INPUT BOX               | M    |
|          | D-CS-M5903-YA-1  | MASS BUS TERMINAL           | E    |          | D-IA-5309845-0-0 | BOX                        | M    |
|          | D-CS-M8914-0-1   | 18 BIT FIDDLER              | E    |          | C-MD-5309849-0-0 | COVER                      | M    |
|          | D-CS-M5903-0-1   | MASS BUS TERMINAL           | E    |          | A-DC-5309900-0-0 | POWER CONTROL (DECAL 230V) | M    |
|          | D-BS-TM02-2      | MASS BUS RECEIVER           | E    |          | C-IA-5409825-0-0 | POWER CONTROL BOARD 230V   | M    |
|          | D-BS-TU16-0-2    | MASS BUS TRANSCEIVER        | E    |          |                  |                            |      |
|          | D-CS-M8901-YB    | 45 IPS DATA SYNC            | E    | 6        | D-AD-7013616-0-0 | HARNESS/LOGIC ASSY (TM03)  | E/M  |
|          | D-CS-M8901-YC    | 75 IPS DATA SYNC            | E    |          | E-IA-7013614-0-0 | HARNESS/LOGIC (TM03)       | E/M  |
|          | D-CS-M8901-YD-1  | 125 IPS DATA SYNC           | E    |          |                  |                            |      |
|          | D-CS-M8932-0-1   | TAPE CONTROL PHASE ENC.     | E    | 7        | D-AD-7013615-0-0 | WIRED ASSY (TM03)          | E/M  |
|          | D-CS-M8933-0-1   | TAPE CONTROL COMMON MODE    | E    |          | A-DC-7411881-1-0 | DECAL LOGIC, REVISIONS     | M    |
|          | D-CS-M8934-0     | TAPE CONTROL NRZI           | E    |          |                  |                            |      |
|          | D-CS-M8905-YB    | MAINTENANCE REGISTER        | E    | 8        | E-IA-5409728-0-0 | REGULATOR BOARD            | M    |
|          | D-CS-M8906-0-1   | 16 BIT FIDDLER              | E    |          | D-CS-5409728-0-1 | REGULATOR BOARD            | M    |
|          | D-CS-M8909-YA-1  | MASS BUS INTERFACE          | E    |          | C-MD-5510892-1   | #1 THERMAL STRIP           | M    |
|          | D-CS-M8914-0-1   | 18 BIT FIDDLER FORMAT       | E    |          | C-MD-5510891-1   | #2 THERMAL STRIP           | M    |
|          | D-CS-M8915-0-1   | UNIVERSAL DATA FORMATTER    | E    |          | C-IA-5310126-0-0 | HOLDER, CAPACITOR          | M    |
|          | D-CS-M8937-0-1   | CONNECTOR TERMINATOR        | E    |          | C-MD-5309779-0-0 | CONTACT, COMMON CAPACITOR  | M    |
|          | D-IA-7010075-0-0 | LOGIC, BOX                  | M    |          | C-MD-5309781-0-0 | CONTACT CAPACITOR          | M    |
|          | D-CS-5411128-0-1 | MOUNT, SELECT SWITCH        | E    |          |                  |                            |      |
|          | A-DC-7412377-0-0 | DECAL, CONTROLLER           | M    | 9        | D-AD-7010187-0-0 | FRONT PANEL ASSY           | M    |
|          | D-UA-H740DA-0    | POWER SUPPLY                | M    |          |                  |                            |      |
|          | C-IA-7010418-0-0 | CABLE FAN                   | M    |          |                  |                            |      |
|          | C-IA-7412368-0-0 | BRACKET SHIPPING            | M    | 10       | D-CS-5410856-0-0 | FRONT PANEL TM02           | E    |
|          | C-MD-7409479-0-0 | PLATE, PRESSURE             | M    |          |                  |                            |      |
|          | A-PL-7014352-0-0 | CODING KEYS, SET OF         | M    |          |                  |                            |      |
|          | E-MD-7414624-0-0 | COVER SIDE                  | M    |          |                  |                            |      |
|          | C-MD-7414626-0-0 | CARD GUIDE REWORK           | M    |          |                  |                            |      |
|          | D-MU-TM03-0-MU   | MODULE UTILIZATION          | E    |          |                  |                            |      |
|          | D-CS-M8934-YA-1  | TAPE CONTROL NRZI 75 IPS    | E    |          |                  |                            |      |
|          | A-SP-TM03-0-4    | ACCEPTANCE SPEC             |      |          |                  |                            |      |
|          | A-SP-TM03-0-3    | ENGINEERING SPEC            |      |          |                  |                            |      |
|          |                  |                             |      |          |                  |                            |      |
| 2        | C-UA-BC05H-0-0   | LINE SET 115V AC 7 AMP      | M    |          |                  |                            |      |
|          |                  |                             |      |          |                  |                            |      |
| 3        | D-UA-H400-0-0    | AC INPUT BOX, H400A         | M    |          |                  |                            |      |
|          | A-PL-H400-0-0    | AC INPUT BOX                | M    |          |                  |                            |      |
|          | D-IA-5309845-0-0 | BOX                         | M    |          |                  |                            |      |
|          | C-MD-5309849-0-0 | COVER                       | M    |          |                  |                            |      |

TYPE: E ELECTRICAL  
M MECHANICAL  
E/M ELECTROMECHANICAL



TITLE  
CONTROLLER, TM03

SHEET 3 OF 3

SIZE CODE  
B DD

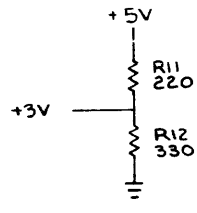
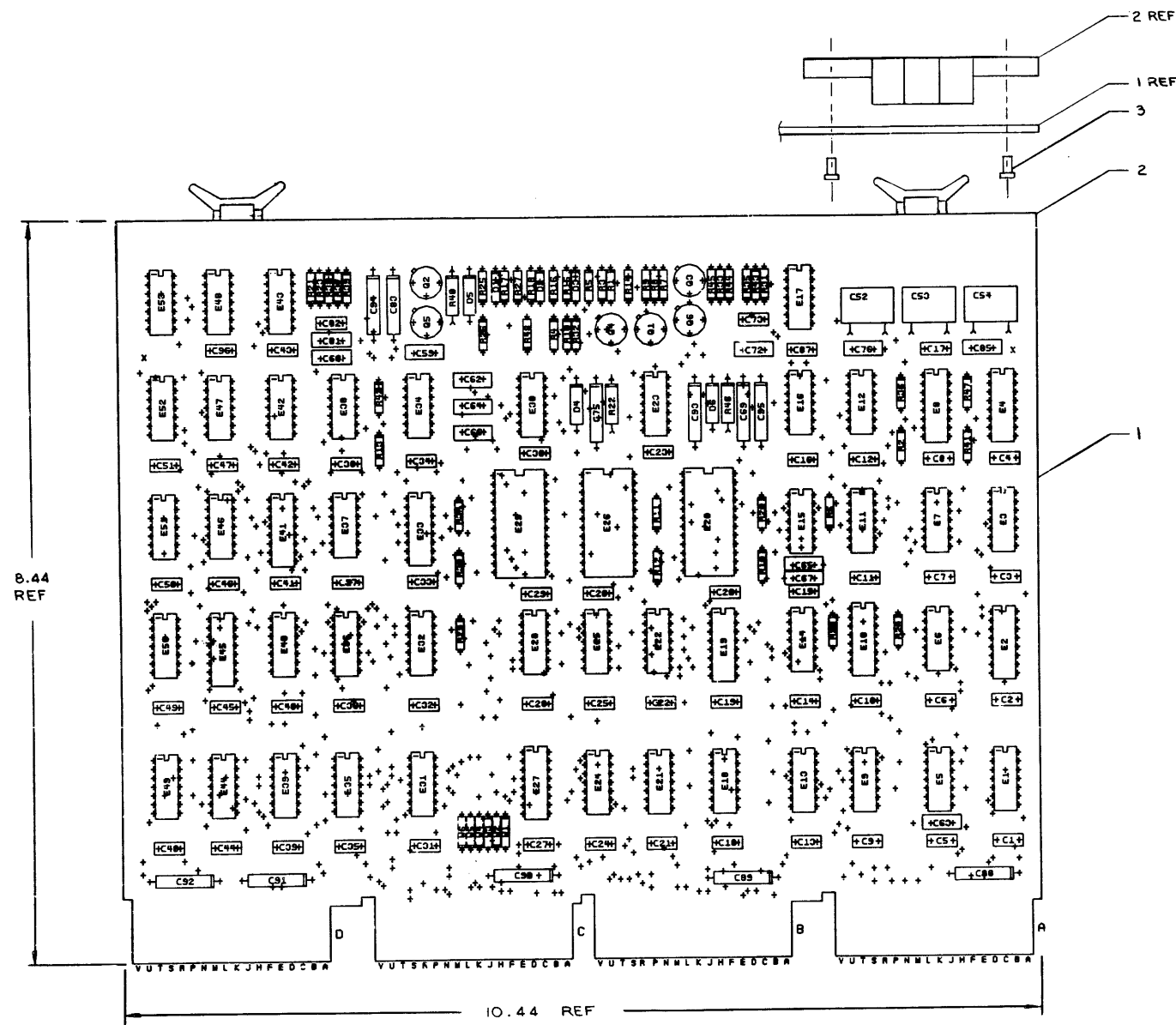
NUMBER  
TM03-0

REV

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NOTES: 1. W3 THRU W6 ARE OPTIONAL JUMPERS.

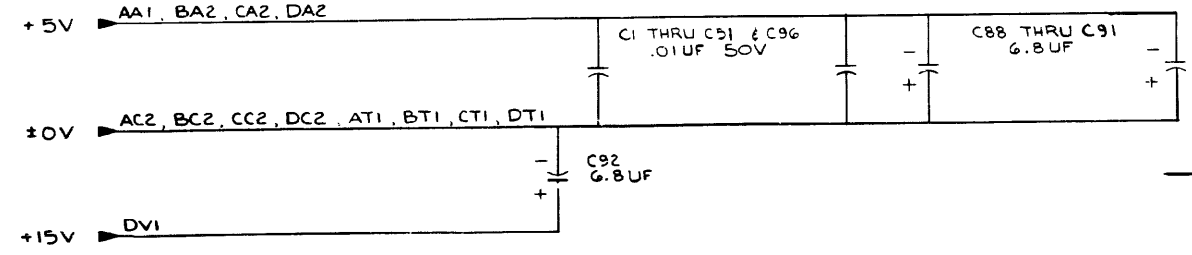
1-81-1086W 2



| IC TYPE | QTY | QTY |
|---------|-----|-----|
| 74172   | 12  | 24  |
| 4024    | 9   | 13  |
| 74174   | 8   | 16  |
| 74175   | 8   | 16  |
| 74193   | 8   | 16  |
| 7473    | 11  | 4   |
| 7476    | 13  | 5   |
| IC TYPE | QTY | +9V |

GND AND BY ARE USUALLY PIN 7 AND 14 RESPECTIVELY EXCEPTIONS ARE STATED ABOVE

IC PIN LOCATIONS



| QTY | REF. DESIGNATION                          | DESCRIPTION                  | PART NO.    | ITEM NO. |
|-----|---|------------------------------|-------------|----------|
|     |   |                              |             | 50       |
|     |   |                              |             | 49       |
|     |   |                              |             | 48       |
| 2   | W1, W2                                    | JUMPER INSULATED             | 90-9105     | 47       |
| 3   | E13, 51, 53                               | IC 7408                      | 1910155     | 46       |
| 3   | E20, 26, 29                               | IC 74172                     | 1911293     | 45       |
| 3   | E17, 23, 43                               | IC 4044                      | 1911039     | 44       |
| 2   | E16, 38                                   | IC 4024                      | 1911038     | 43       |
| 1   | E10                                       | IC 74174                     | 1910652     | 42       |
| 1   | E19                                       | IC 74175                     | 1910651     | 41       |
| 3   | R2, 19, 29                                | RES 560 1/4W 5%              | 1301890     | 40       |
| 6   | E1, 3, 12, 34, 42, 47                     | IC 74197                     | 1910035     | 39       |
| 3   | E2, 27, 45                                | IC 74193                     | 1910018     | 38       |
| 2   | E14, 31                                   | IC 7486                      | 1910011     | 37       |
| 2   | E4, 8                                     | IC 74123                     | 1910436     | 36       |
| 2   | E5, 15                                    | IC 7416                      | 1909928     | 35       |
| 1   | E30                                       | IC 8242                      | 1909712     | 34       |
| 2   | E22, 50                                   | IC 7404                      | 1909686     | 33       |
| 4   | E9, 24, 28, 35                            | IC 7401                      | 1905590     | 32       |
| 4   | E18, 36, 44, 49                           | IC 7473                      | 1905587     | 31       |
| 2   | E33, 41                                   | IC 7476                      | 1905585     | 30       |
| 2   | E21, 39                                   | IC 7450                      | 1905580     | 29       |
| 2   | E25, 48                                   | IC 7400                      | 1905575     | 28       |
| 8   | E6, 7, 11, 32, 37, 40, 46, 52             | IC 7474                      | 1905547     | 27       |
| 3   | R8, R7, R43                               | RES 4.7K 1/4W 5%             | 1300447     | 26       |
| 3   | R7, R21, R31                              | RES 8.2K 1/4W 5%             | 1303179     | 25       |
| 3   | R10, R38, R44                             | RES 330K 1/4W 5%             | 1302091     | 24       |
| 3   | R22, R40, R46                             | RES 120 1/2W 5%              | 1300243     | 23       |
| 3   | R36, R41, R47                             | RES 47K 1/4W 5%              | 1302177     | 22       |
| 3   | R9, R23, R33                              | RES 2.7K 1/4W 5%             | 1300426     | 21       |
| 1   | R6, R14, R20, R30                         | RES 1K 1/4W 5%               | 1300365     | 20       |
| 3   | R35, R42, R48                             | RES 470 1/4W 5%              | 1300316     | 19       |
| 3   | R1, R17, R27                              | RES 390 1/4W 5%              | 1300309     | 18       |
| 1   | R12                                       | RES 330 1/4W 5%              | 1300295     | 17       |
| 4   | R3, R11, R16, R26                         | RES 220 1/4W 5%              | 1300271     | 16       |
| 9   | R4, R5, R13, R15, R18, R24, R25, R28, R34 | RES 100 1/4W 5%              | 1300229     | 15       |
| 3   | D4, D5, D6                                | DIODE 1N752A 5.6V 5% ZENER   | 112808      | 14       |
| 3   | D1, D2, D3                                | DIODE DGG4                   | 1100114     | 13       |
| 3   | C72, C76, C81                             | CAP 270 PF 100V D.M.         | 1000022     | 12       |
| 3   | C52, C53, C54                             | CAP 1500 PF 100V 5% D.M.     | 1002428     | 11       |
| 8   | C88 THRU C95                              | CAP 6.8UF 35V 10%            | 1005306     | 10       |
| 55  | C1 THRU C91, C73, C82, C87, C96           | CAP .01UF 50V                | 1001610     | 9        |
| 3   | C69, C75, C83                             | CAP .015UF 100V 10% MYLAR    | 1002630     | 8        |
| 3   | C62, C64, C66                             | CAP 1000 PF 100V D.M.        | 1000042     | 7        |
| 3   | C59, C60, C85                             | CAP 470 PF D.M.              | 1000024     | 6        |
| 6   | Q1 THRU Q6                                | TRANSISTOR DEC 6531 B        | 1509338     | 5        |
| 3   | C63, C65, C67                             | CAP 220 PF 100V D.M.         | 1000021     | 4        |
| 8   |   | EYELET                       | 9006732     | 3        |
| 4   |   | HANDLE, FLIP-CHIP (MAGENTA)  | 9008337-G   | 2        |
| 1   |   | ETCHED CIRCUIT BOARD         | 5010467     | 1        |
| REF |   | MODULE ECO HISTORY           | B-MH-M8901- | REF      |
| REF |   | ASSY/DRILLING HOLE LAYOUT    | D-AH-M8901- | REF      |
| REF |   | X-Y COORDINATE HOLE LOCATION | X-CO-M8901- | REF      |

FIRST USED ON OPTION MODEL

ETCH BOARD REV. E

REVISIONS

DRN. DATE 19 NOV 76

CHKD. DATE 12-28-76

ENG. DATE 1-17-77

PRD. DATE 1-17-77

PROD. DATE

NEXT HIGHER ASSY

SCALE

SEMICONDUCTOR CONVERSION CHART

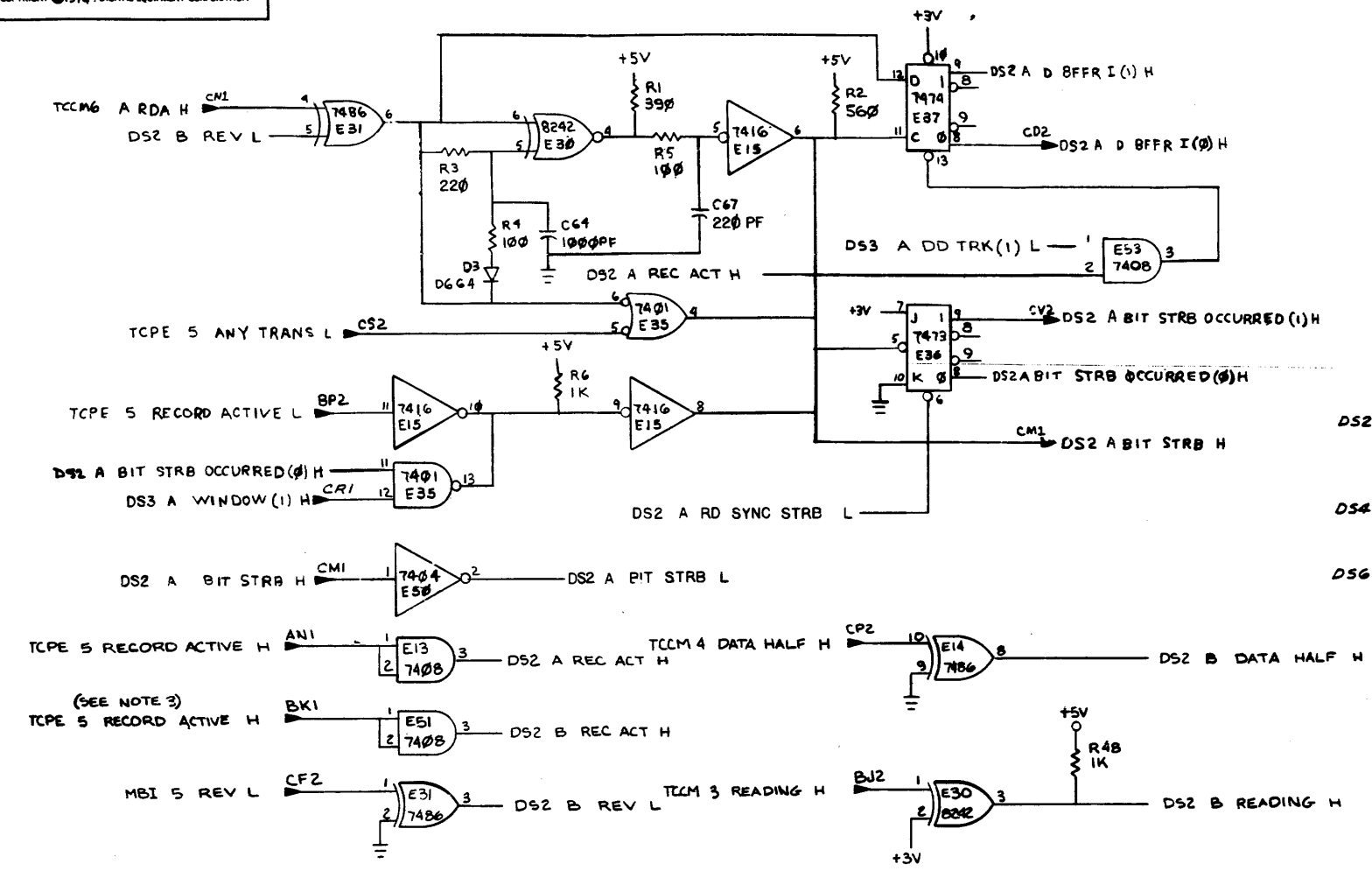
SHEET 1 OF 7

TITLE DATA SYNC (DSI)

SIZE CODE NUMBER REV. DCSIM8901-YB-1

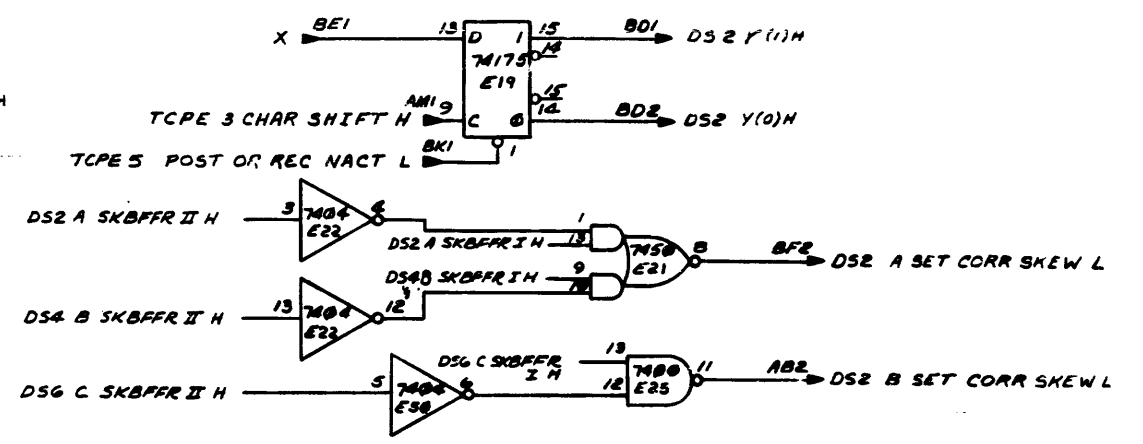
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BIT STROBE AND WINDOW



|       | SLOT 1          | SLOT 2 | SLOT 3       |
|-------|-----------------|--------|--------------|
| X     | SINGLE DD TRK H |        | INC COND N   |
| Y(1)H | CER 1(H)        |        | INC DATA(1)H |

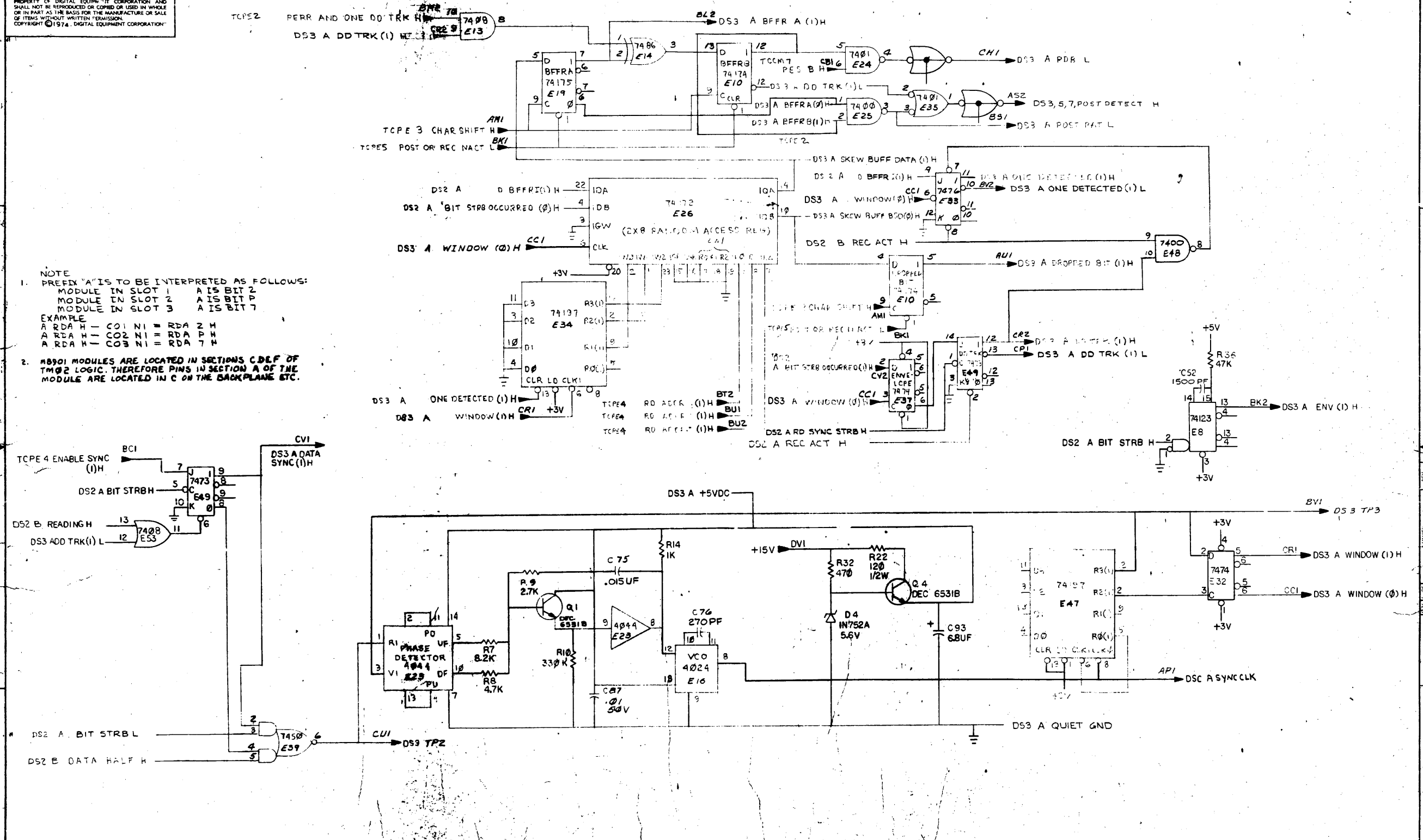
USE X, Y, CHART TO DETERMINE INPUTS & OUTPUTS OF 74175 FLOP.



NOTE  
 1. PREFIX "A" IS TO BE INTERPRETED AS FOLLOWS:  
 MODULE IN SLOT 1 A IS BIT 2  
 " MODULE IN SLOT 2 A IS BIT P  
 " MODULE IN SLOT 3 A IS BIT 7  
 EXAMPLE:  
 A RDA H - CO1 N1 = RDA 2 H  
 A RDA H - CO2 N1 = RDA PH  
 A RDA H - CO3 N1 = RDA 7 H  
 2. M8901 MODULES ARE LOCATED IN SECTION 4, C, D, E, F OF TMO2 LOGIC. THEREFORE PINS IN SECTION A OF THE MODULE ARE LOCATED IN C ON THE BACKPLANE ETC.  
 3. PIN BK1 IS "TCPE 5 POST OR REC NACT L" ON ALL M8901'S WHEN IN TMO2.

| REVISIONS |            |      |
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NOTE  
 1. PREFIX "A" IS TO BE INTERPRETED AS FOLLOWS:  
 MODULE IN SLOT 1 A IS BIT 2  
 MODULE IN SLOT 2 A IS BIT 1  
 MODULE IN SLOT 3 A IS BIT 7  
 EXAMPLE  
 A RDA H - CO1 N1 = RDA 2 H  
 A RDA H - CO2 N1 = RDA PH  
 A RDA H - CO3 N1 = RDA 7 H  
 2. 8901 MODULES ARE LOCATED IN SECTIONS C, D, E, F OF TM02 LOGIC. THEREFORE PINS IN SECTION A OF THE MODULE ARE LOCATED IN C ON THE BACKPLANE ETC.

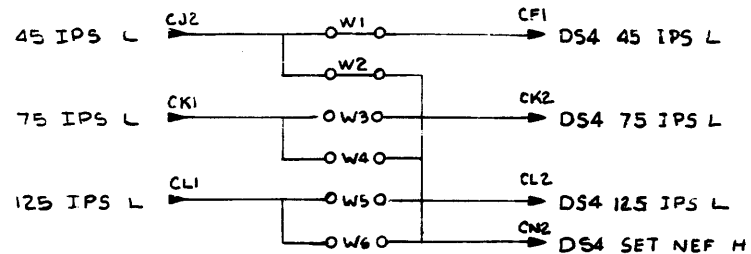
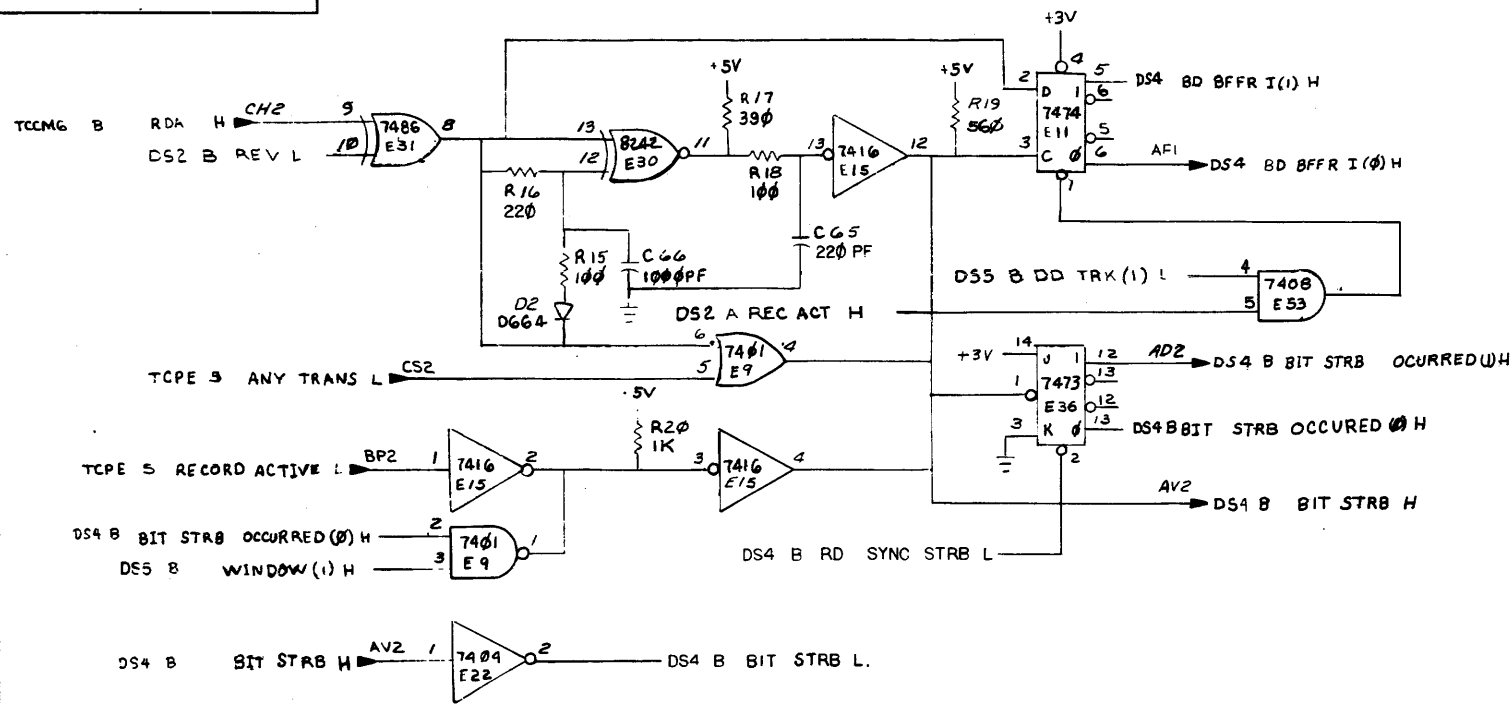
| REVISIONS |           |     |
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| CHK       | CHANGE NO | REV |
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|       |                 |           |                 |        |   |       |   |
|-------|-----------------|-----------|-----------------|--------|---|-------|---|
| TITLE | DATA SYNC (DS3) | SIZE CODE | D CS M8901-YB-1 | NUMBER |   | REV.  | J |
| SCALE |                 | SHEET     | 3               | OF     | 7 | DIST. |   |

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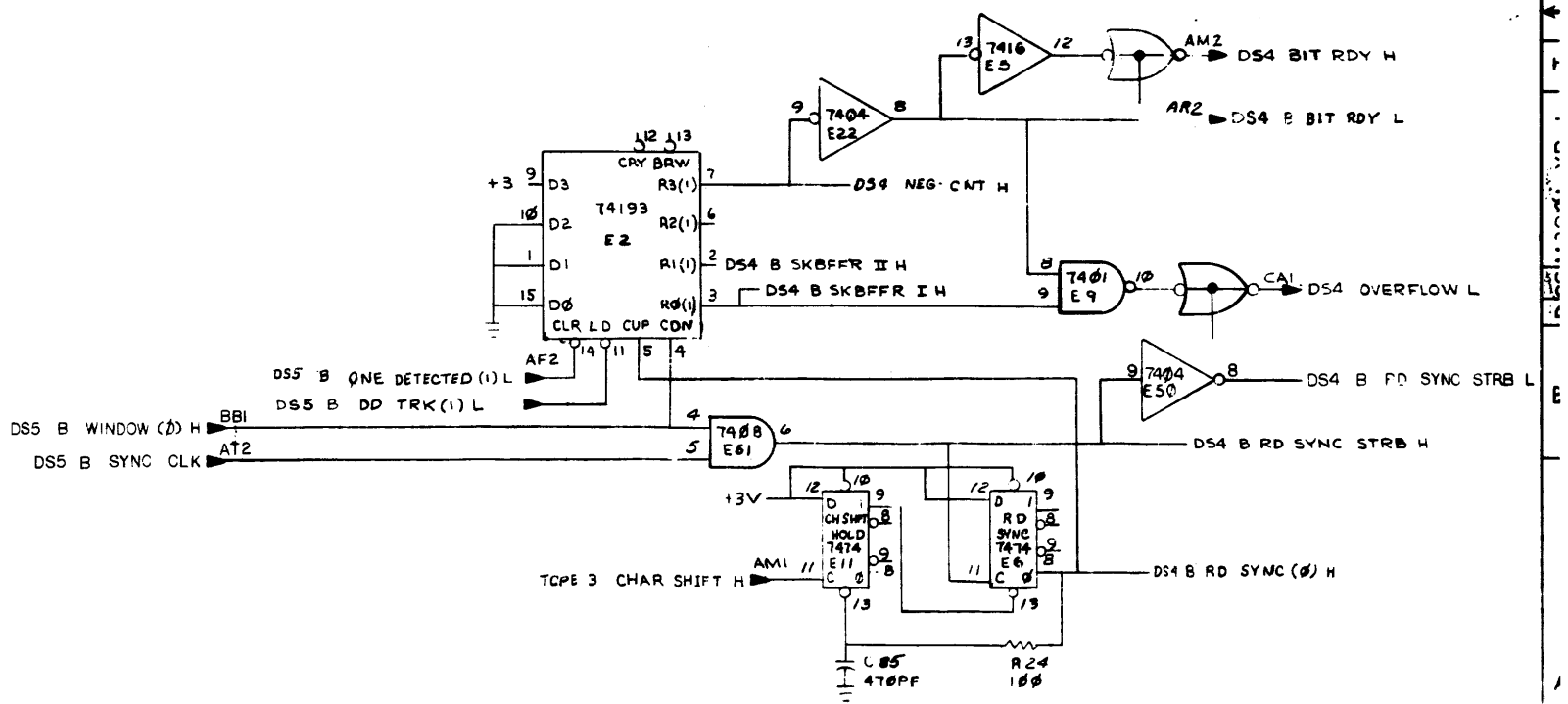
BIT STROBE AND WINDOW

NOTE:  
JUMPERS W1 THRU W6 INDICATES THE TAPE SPEED THE MODULE IS BUILT FOR. CHANGING THE JUMPERS DOES NOT CHANGE THE SPEED CAPABILITY OF THE MODULE.



NOTE  
PREFIX "B" IS TO BE INTERPRETED AS FOLLOWS:  
MODULE IN SLOT 1 B IS BIT 0  
MODULE IN SLOT 2 B IS BIT 5  
MODULE IN SLOT 3 B IS BIT 1  
EXAMPLE:  
B RDA H - C01 CH2 = RDA 0 H  
B RDA H - C02 CH2 = RDA 5 H  
B RDA H - C03 CH2 = RDA 1 H

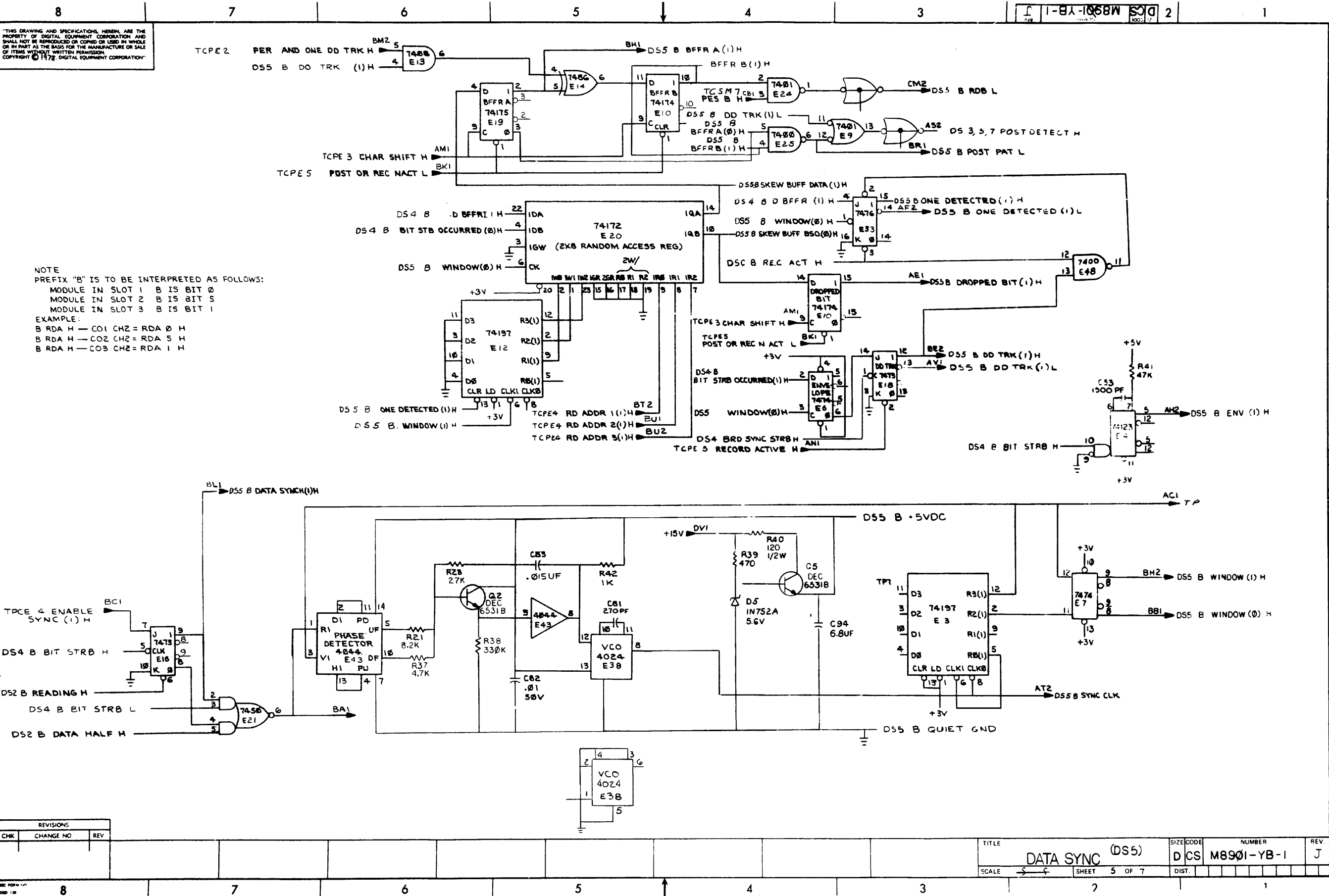
2. 80001 MODULES ARE LOCATED IN SECTIONS C, D, E, F OF THE LOGIC. THEREFORE PINS IN SECTION A OF THE MODULE ARE LOCATED IN C ON THE BACKPLANE ETC.



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|           |            |      |



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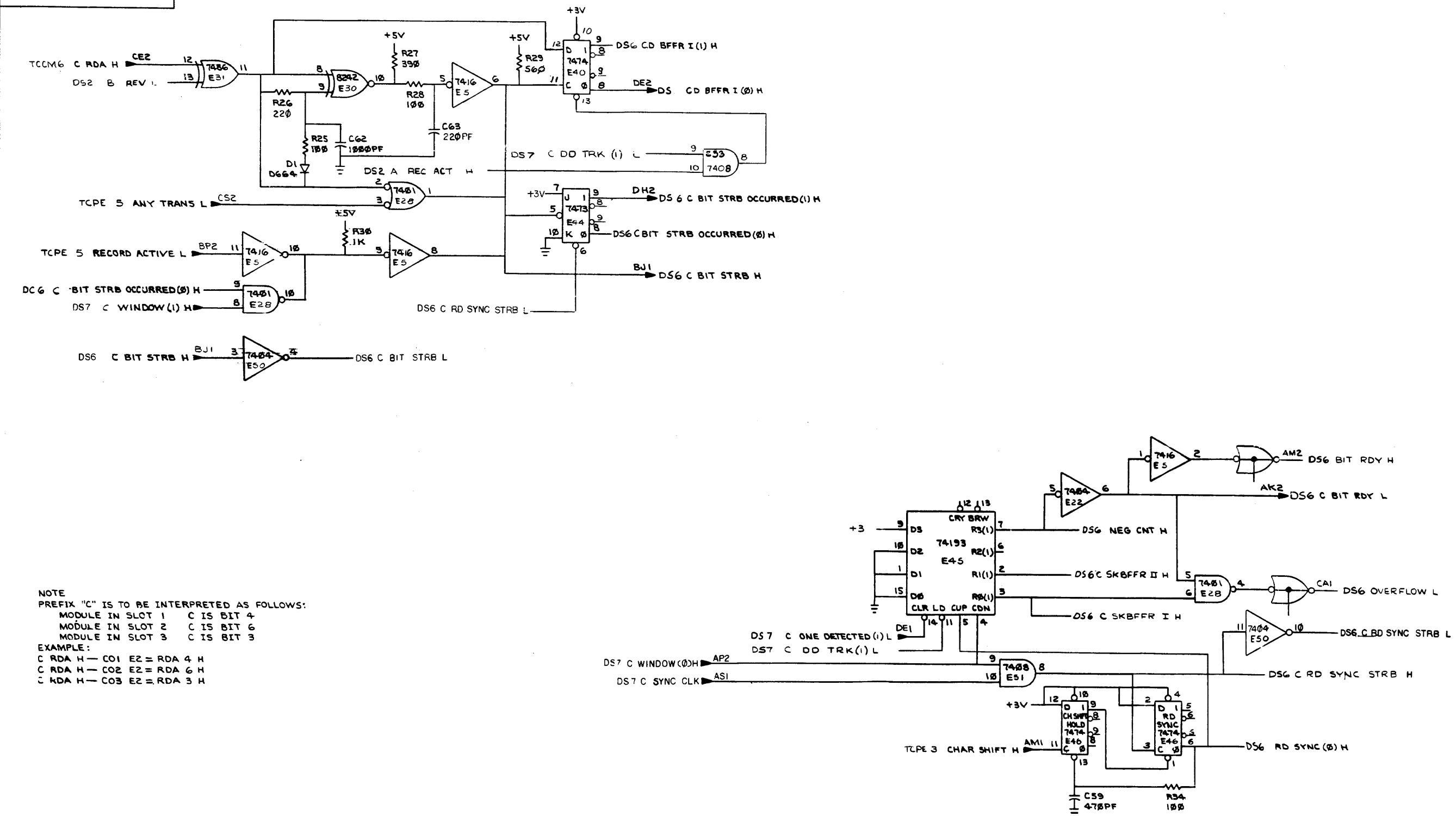
NOTE  
 PREFIX "B" IS TO BE INTERPRETED AS FOLLOWS:  
 MODULE IN SLOT 1 B IS BIT 0  
 MODULE IN SLOT 2 B IS BIT 5  
 MODULE IN SLOT 3 B IS BIT 1  
 EXAMPLE:  
 B RDA H — CO1 CH2 = RDA 0 H  
 B RDA H — CO2 CH2 = RDA 5 H  
 B RDA H — CO3 CH2 = RDA 1 H

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

|       |                 |           |        |        |            |     |   |
|-------|-----------------|-----------|--------|--------|------------|-----|---|
| TITLE | DATA SYNC (DS5) | SIZE CODE | D CS   | NUMBER | M8901-YB-1 | REV | J |
| SCALE | 5/8             | SHEET     | 5 OF 7 | DIST.  |            |     |   |

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BIT STROBE AND WINDOW



NOTE  
 PREFIX "C" IS TO BE INTERPRETED AS FOLLOWS:  
 MODULE IN SLOT 1 C IS BIT 4  
 MODULE IN SLOT 2 C IS BIT 6  
 MODULE IN SLOT 3 C IS BIT 3  
 EXAMPLE:  
 C RDA H - C01 E2 = RDA 4 H  
 C RDA H - C02 E2 = RDA 6 H  
 C RDA H - C03 E2 = RDA 3 H

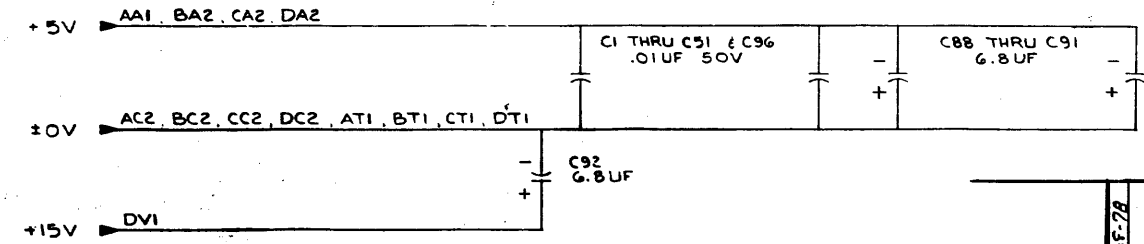
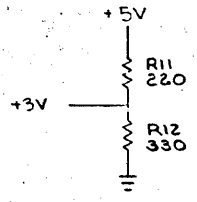
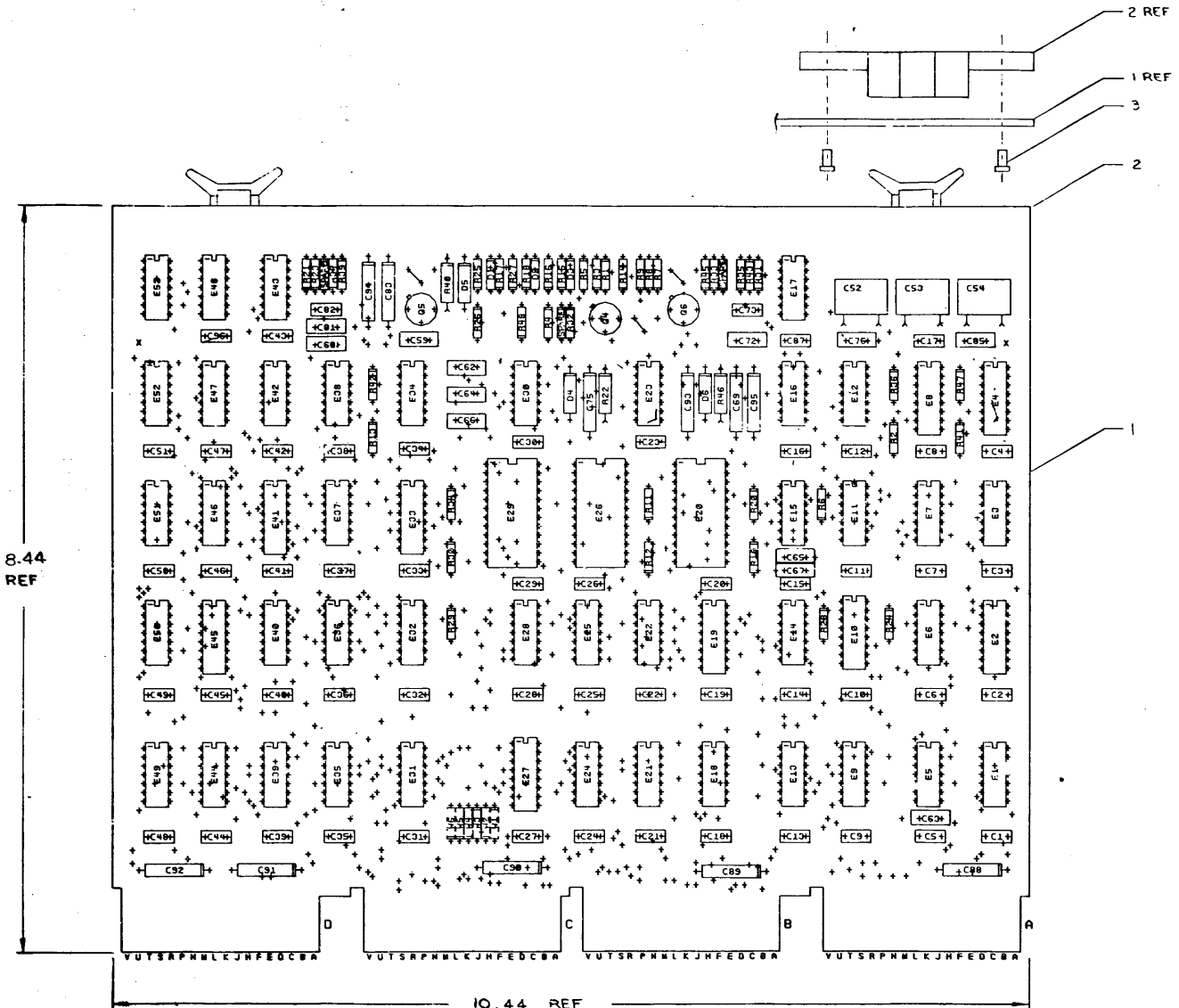
| REVISIONS |           |     |
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NOTES: 1. W1, W2, W5 & W6 ARE OPTIONAL JUMPERS.

1-069W DCS M8901-YC-1 2 1



| QTY | REF. DESIGNATION                          | DESCRIPTION                  | PART NO.            | ITEM NO. |
|-----|---|------------------------------|---------------------|----------|
|     |   |                              |                     | 50       |
|     |   |                              |                     | 49       |
|     |   | WIRE, 30 AWG (GRN)           | 91-05740-55         | 48       |
| 2   | W3, W4                                    | JUMPER INSULATED             | 90-9185             | 47       |
| 3   | E13, 51, 53                               | IC 7408                      | 1910155             | 46       |
| 3   | E20, 26, 29                               | IC 74172                     | 1911293             | 45       |
| 3   | E17, 23, 43                               | IC 4044                      | 1911039             | 44       |
| 2   | E16, 38                                   | IC 4024                      | 1911038             | 43       |
| 1   | E10                                       | IC 74174                     | 1910652             | 42       |
| 1   | E19                                       | IC 74175                     | 1910651             | 41       |
| 3   | R2, 19, 29                                | RES 560 1/4W 5%              | 1301890             | 40       |
| 6   | E1, 3, 12, 34, 42, 47                     | IC 74197                     | 1910035             | 39       |
| 3   | E2, 27, 45                                | IC 74193                     | 1910018             | 38       |
| 2   | E14, 31                                   | IC 74186                     | 1910011             | 37       |
| 2   | E4, 8                                     | IC 74123                     | 1910436             | 36       |
| 2   | E5, 15                                    | IC 7416                      | 1909928             | 35       |
| 1   | E30                                       | IC 8242                      | 1909712             | 34       |
| 2   | E22, 50                                   | IC 7404                      | 1909686             | 33       |
| 4   | E9, 24, 28, 35                            | IC 7401                      | 1905590             | 32       |
| 4   | E18, 36, 44, 49                           | IC 7473                      | 1905587             | 31       |
| 2   | E33, 41                                   | IC 7476                      | 1905585             | 30       |
| 2   | E21, 39                                   | IC 7450                      | 1905580             | 29       |
| 2   | E25, 48                                   | IC 7400                      | 1905575             | 28       |
| 8   | E6, 7, 11, 32, 37, 40, 46, 52             | IC 7474                      | 1905547             | 27       |
| 3   | R8, R37, R43                              | RES, 4.7K, 1/4W, 5%          | 1300447             | 26       |
| 3   | R7, R21, R31                              | RES, 3K, 1/4W, 5%            | 1300432             | 25       |
| 3   | R22, R40, R46                             | RES 120 1/2W 5%              | 1300243             | 23       |
| 3   | R36, R41, R47                             | RES 47K 1/4W 5%              | 1302177             | 22       |
| 3   | R9, R23, R33                              | RES 2.7K 1/4W 5%             | 1300426             | 21       |
| 4   | R6, R20, R30, R48                         | RES 1K 1/4W 5%               | 1300365             | 20       |
| 3   | R32, R39, R45                             | RES 470 1/4W 5%              | 1300316             | 19       |
| 3   | R1, R17, R27                              | RES 390 1/4W 5%              | 1300309             | 18       |
| 1   | R12                                       | RES 330 1/4W 5%              | 1300295             | 17       |
| 7   | R3, R11, R16, R26, R4, R42, R35           | RES 220 1/4W 5%              | 1300271             | 16       |
| 9   | R4, R5, R13, R15, R18, R24, R25, R28, R34 | RES 100 1/4W 5%              | 1300229             | 15       |
| 3   | D4, D5, D6                                | DIODE 1N752A 5.6V 5% ZENER   | 112808              | 14       |
| 3   | D1, D2, D3                                | DIODE D664                   | 1100114             | 13       |
| 3   | C72, C76, C81                             | CAP 150 PF 100V 5% D.M.      | 1000019             | 12       |
| 3   | C52, C53, C54                             | CAP 820 PF 100V 5%           | 1000027             | 11       |
| 8   | C88 THRU C95                              | CAP 6.8UF 35V 10%            | 1005506             | 10       |
| 55  | C1 THRU C51, C73, C82, C87, C96           | CAP .01UF 50V                | 1001610             | 9        |
| 3   | C69, C75, C83                             | CAP .015UF 100V 10% MYLAR    | 1002630             | 8        |
| 3   | C62, C64, C66                             | CAP 1000 PF 100V D.M.        | 1000042             | 7        |
| 3   | C59, C60, C85                             | CAP 470 PF D.M.              | 1000024             | 6        |
| 3   | Q4, Q5, Q6                                | TRANSISTOR DEC 6531 B        | 1509338             | 5        |
| 3   | C63, C65, C67                             | CAP 220 PF 100V D.M.         | 1000021             | 4        |
| 8   |   | EYELET                       | 9006732             | 3        |
| 4   |   | HANDLE, FLIP-CHIP (MAGENTA)  | 9008337-6           | 2        |
| 1   |   | ETCHED CIRCUIT BOARD         | 5010467             | 1        |
| REF |   | MODULE ECO HISTORY           | B-MH-M8901-YB-6 REF |          |
| REF |   | ASSY/DRILLING HOLE LAYOUT    | D-AH-M8901-YB-5 REF |          |
| REF |   | X-Y COORDINATE HOLE LOCATION | K-CO-M8901-YB-4 REF |          |

| IC TYPE | QTY | LOCATIONS |
|---------|-----|-----------|
| 74172   | 12  | 24        |
| 4024    | 9   | 13        |
| 74174   | 8   | 16        |
| 74175   | 8   | 16        |
| 74193   | 8   | 16        |
| 7476    | 13  | 5         |
| 7475    | 11  | 4         |
| IC TYPE | QTY | LOCATIONS |

QND AND QV ARE USUALLY PIN 7 AND 14 RESPECTIVELY EXCEPT WHERE STATED ABOVE

FIRST USED ON OPTION MODEL

ETCH BOARD REV. E

DATE: 12-28-76  
 BY: [Signature]  
 CHECKED: [Signature]  
 APPROVED: [Signature]

TITLE: DAIA SYNC (DSI)

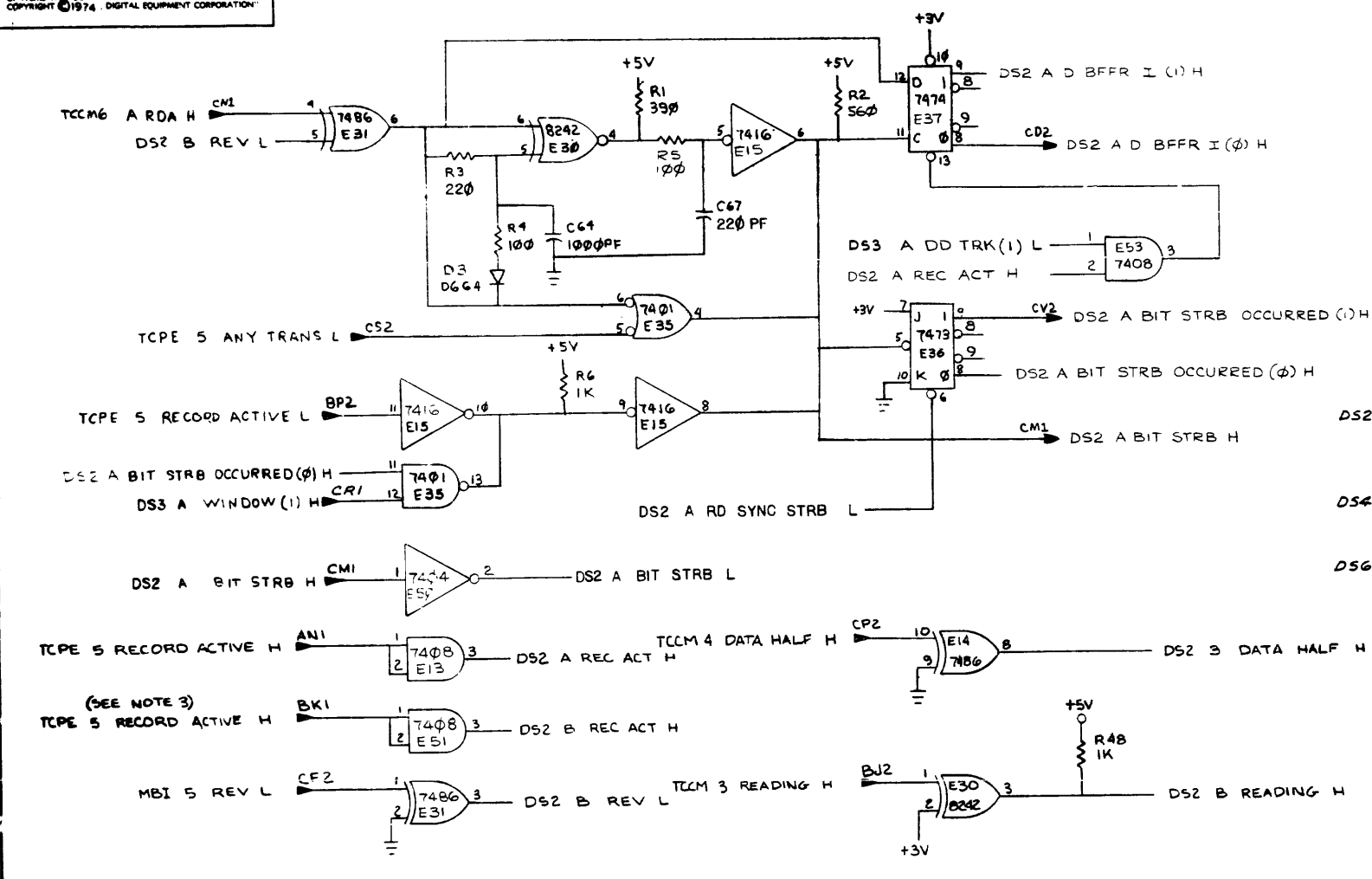
NUMBER: DCS M8901-YC-1

SHEET 1 OF 7

SEMICONDUCTOR CONVERSION CHART

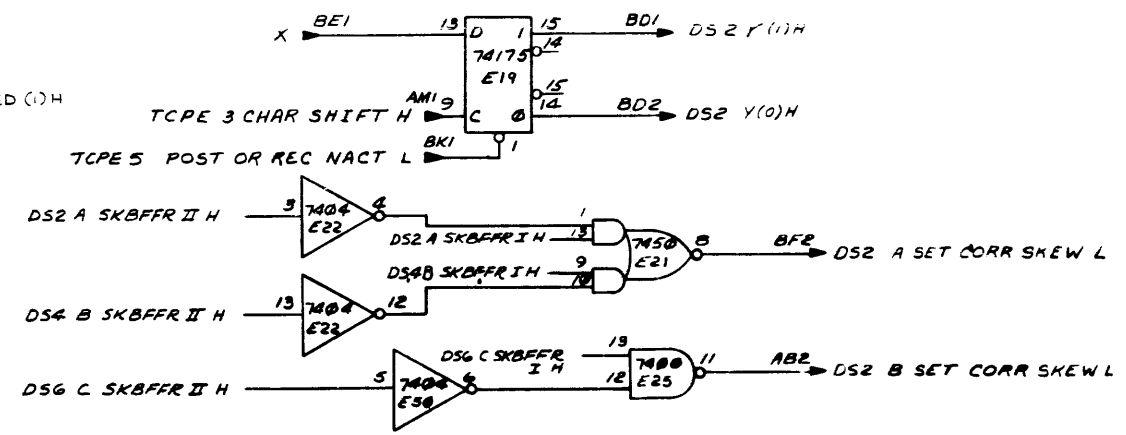
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### BIT STROBE AND WINDOW



|       | SLOT 1         | SLOT 2 | SLOT 3       |
|-------|----------------|--------|--------------|
| X     | SINGLE DDTRK H |        | INC COND H   |
| Y(1)H | CER 1(H)       |        | INC DATA(1)H |

USE X, Y, CHART TO DETERMINE INPUTS & OUTPUTS OF 74175 FLOP.



- NOTE:
- PREFIX 'A' IS TO BE INTERPRETED AS FOLLOWS:  
 MODULE IN SLOT 1 A IS BIT 2  
 MODULE IN SLOT 2 A IS BIT 7  
 MODULE IN SLOT 3 A IS BIT 7  
 EXAMPLE:  
 A RDA H - CO1 NI = RDA 2 H  
 A RDA H - CO2 NI = RDA 7 H  
 A RDA H - CO3 NI = RDA 7 H
  - M8901 MODULES ARE LOCATED IN SECTIONS C DEF OF TMO2 LOGIC. THEREFORE PINS IN SECTION A OF THE MODULE ARE LOCATED IN C ON THE BACKPLANE ETC.
  - PIN BK1 IS "TCPE 5 POST OR REC NACT L" ON ALL M8901'S WHEN IN TMO2.

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

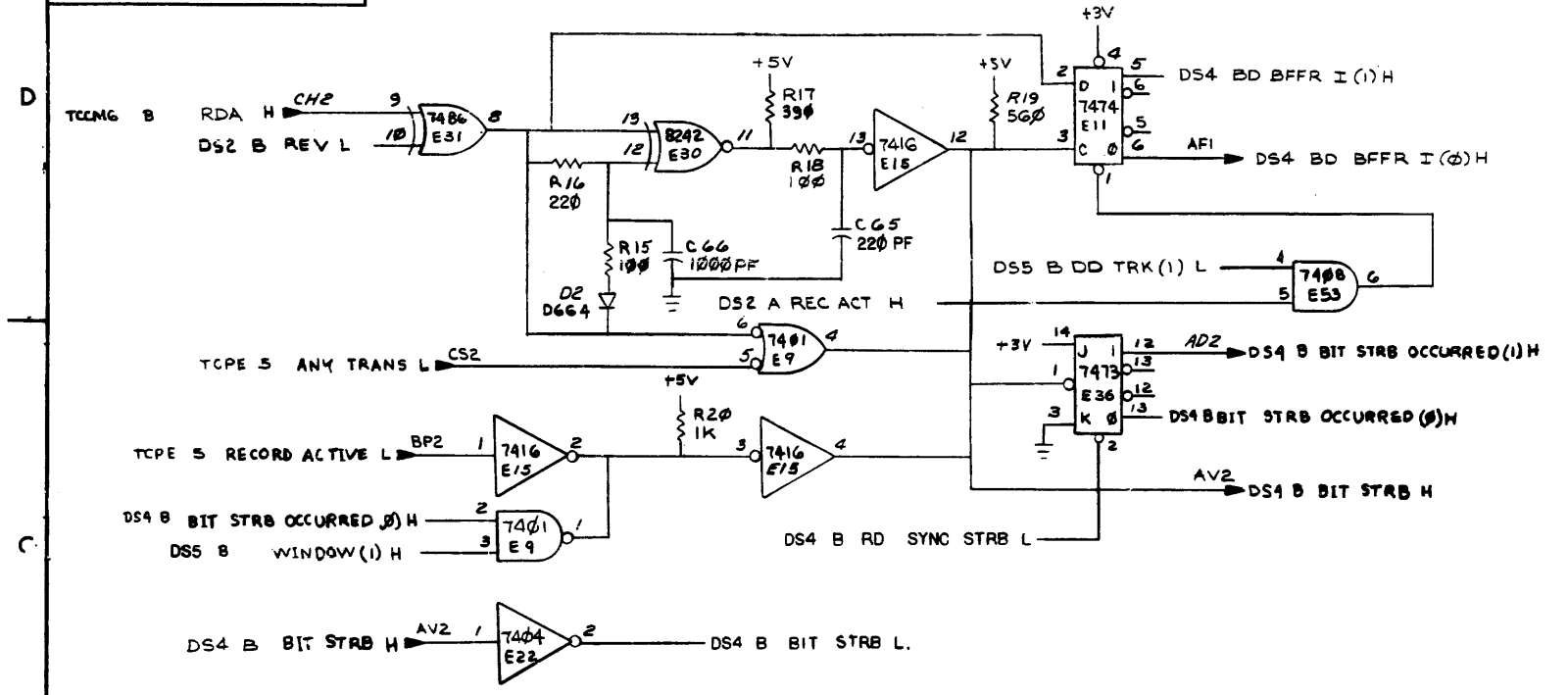
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|-------|-----------------|-----------|----------------|--------|--|------|---|
| TITLE | DATA SYNC (DS2) | SIZE CODE | DCS M8901-YC-1 | NUMBER |  | REV. | K |
| SCALE | ←→              | SHEET     | 2 OF 7         | DIST.  |  |      |   |

DCS M8901-YC-1 K

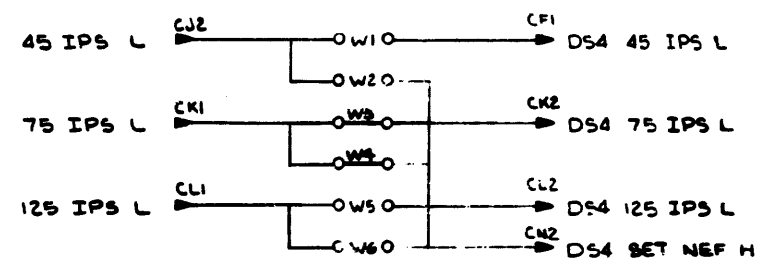


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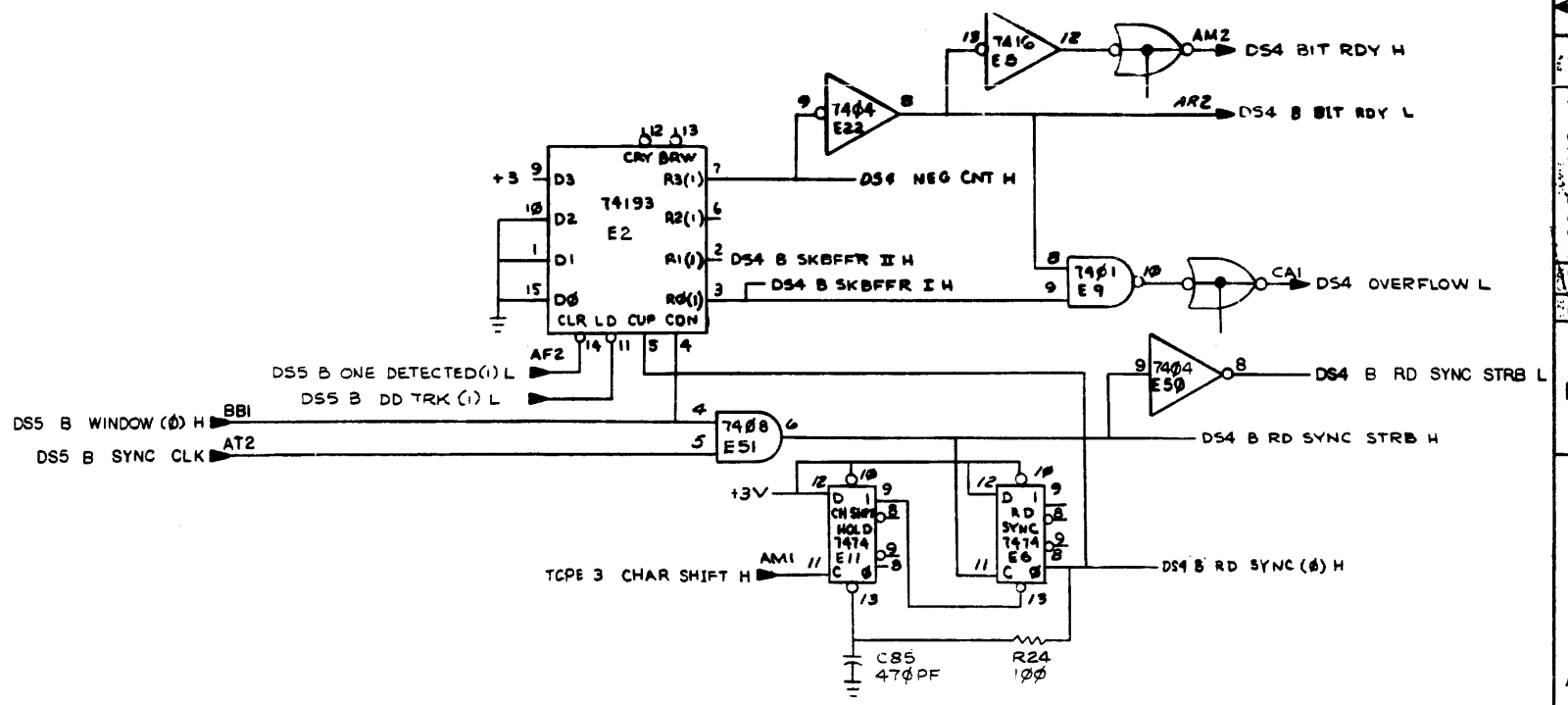
BIT STROBE AND WINDOW



NOTE.  
JUMPERS WITHRU W6 INDICATE THE TAPE SPEED THE MODULE IS BUILT FOR. CHANGING THE JUMPERS DOES NOT CHANGE THE SPEED CAPABILITY OF THE MODULE.



NOTE  
1. PREFIX "B" IS TO BE INTERPRETED AS FOLLOWS:  
MODULE IN SLOT 1 B IS BIT 0  
MODULE IN SLOT 2 B IS BIT 5  
MODULE IN SLOT 3 B IS BIT 1  
EXAMPLE:  
B RDA H - C01 CH2 = RDA 0 H  
B RDA H - C02 CH2 = RDA 5 H  
B RDA H - C03 CH2 = RDA 1 H  
2. M8901 MODULES ARE LOCATED IN SECTIONS CDEF OF TM#2 LOGIC. THEREFORE PINS IN SECTION A OF THE MODULE ARE LOCATED IN C ON THE BACKPLANE ETC.



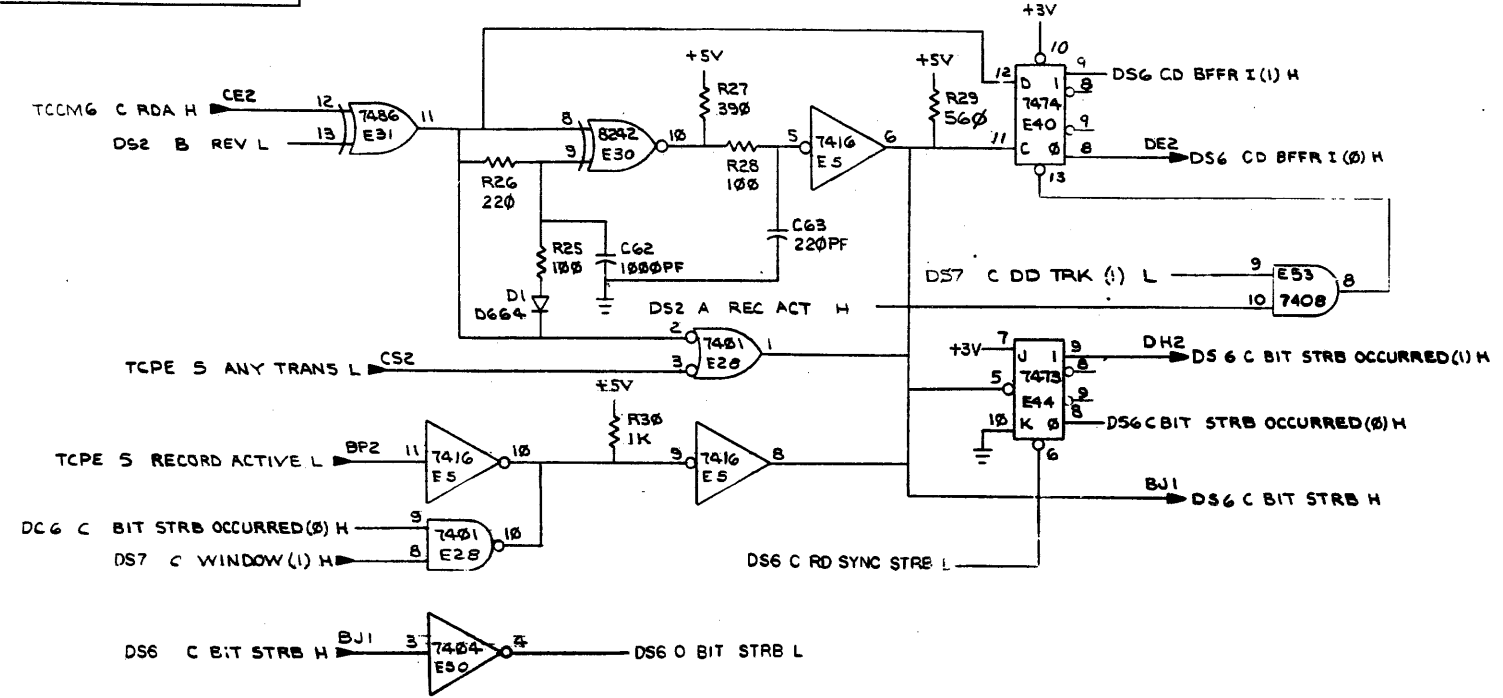
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|-----------|------------|------|
| CHK       | CHANGE NO. | REV. |
|           |            |      |



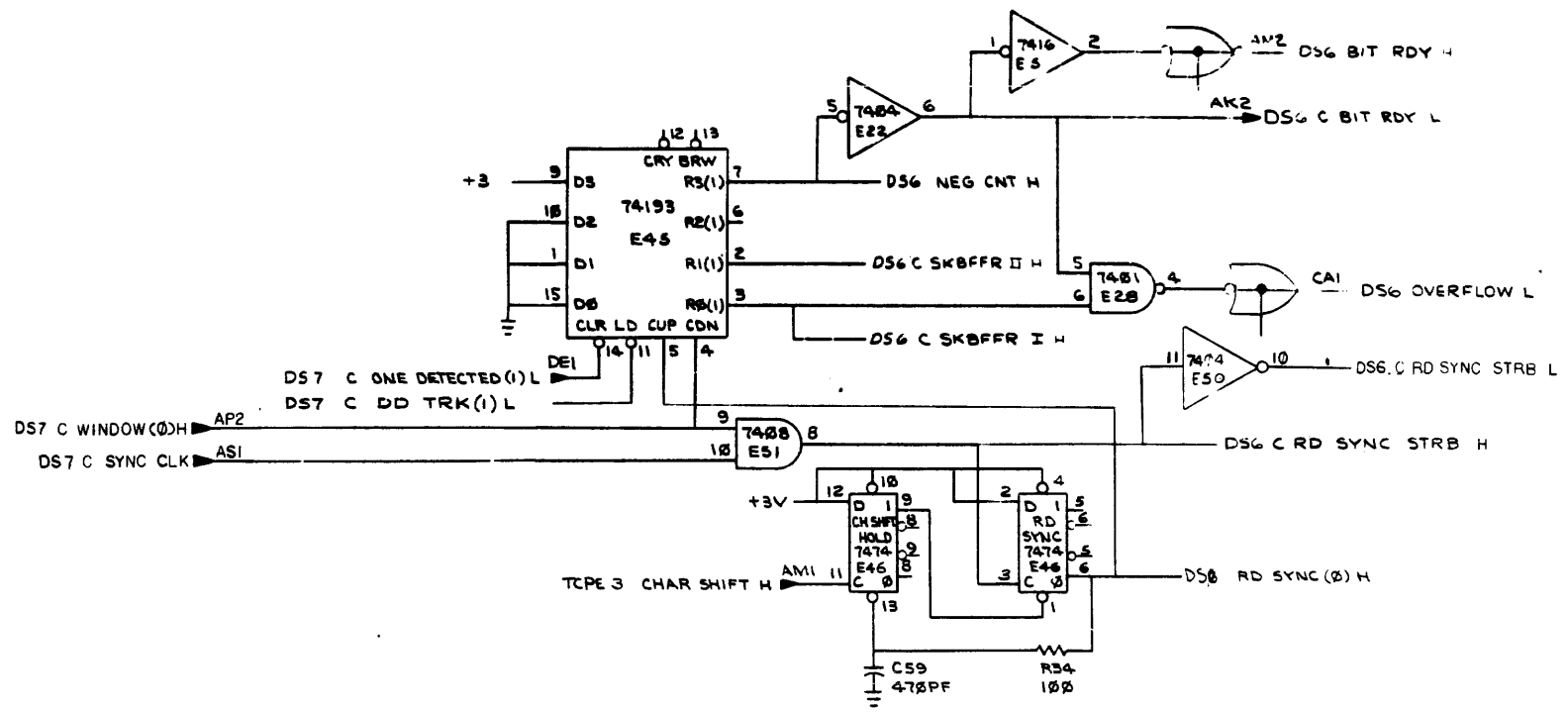


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BIT STROBE AND WINDOW



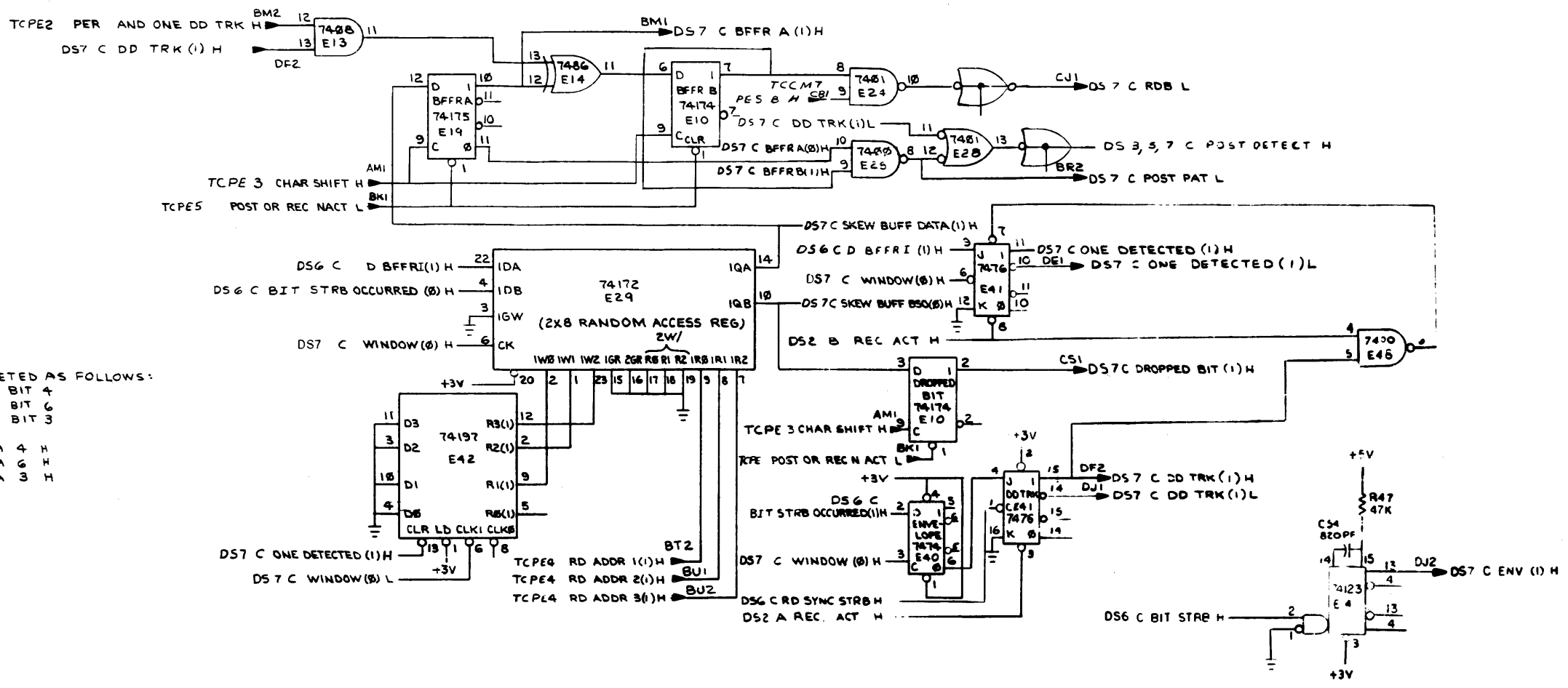
NOTE  
 PREFIX "C" IS TO BE INTERPRETED AS FOLLOWS:  
 MODULE IN SLOT 1 C IS BIT 4  
 MODULE IN SLOT 2 C IS BIT 6  
 MODULE IN SLOT 3 C IS BIT 3  
 EXAMPLE:  
 C RDA H - CO1 E2 = RDA 4 H  
 C RDA H - CO2 E2 = RDA 6 H  
 C RDA H - CO3 E2 = RDA 3 H



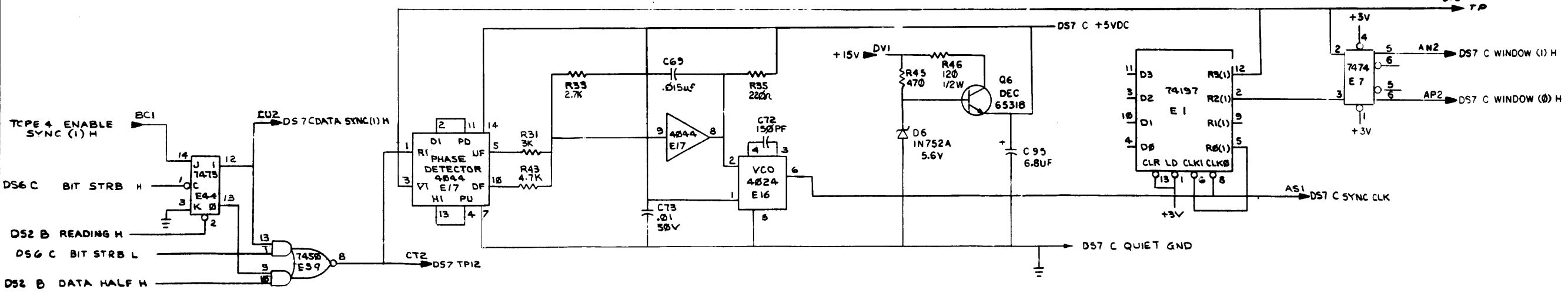
| REVISIONS |           |     |
|-----------|-----------|-----|
| CHK       | CHANGE NO | REV |
|           |           |     |

|       |                 |           |        |        |            |      |   |
|-------|-----------------|-----------|--------|--------|------------|------|---|
| TITLE | DATA SYNC (DS6) | SIZE CODE | D CS   | NUMBER | M8901-YC-1 | REV. | K |
| SCALE | 1:1             | SHEET     | 6 OF 7 | DIST   |            |      |   |

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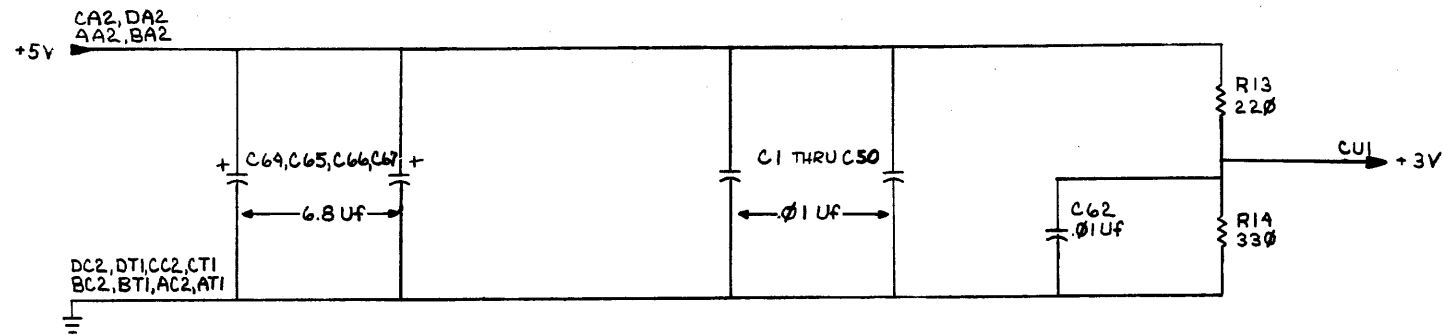
NOTE  
 PREFIX 'C' IS TO BE INTERPRETED AS FOLLOWS:  
 MODULE IN SLOT 1 C IS BIT 4  
 MODULE IN SLOT 2 C IS BIT 6  
 MODULE IN SLOT 3 C IS BIT 3  
 EXAMPLE:  
 C RDA H — C01 E2 = RDA 4 H  
 C RDA H — C02 E2 = RDA 6 H  
 C RDA H — C03 E2 = RDA 3 H



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

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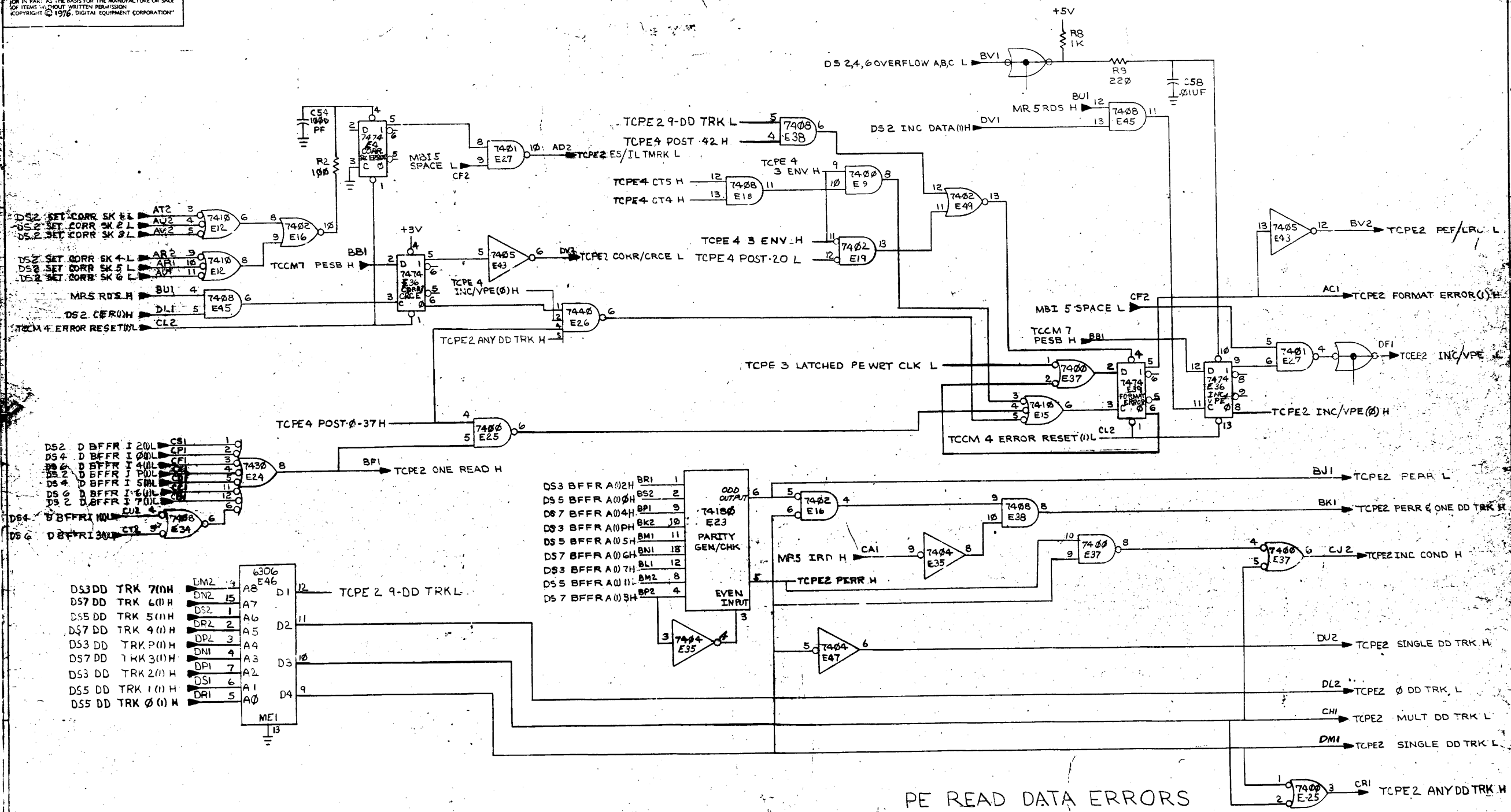
B 1-0-0-1 CS M8932-0-1 2



|             |           |
|-------------|-----------|
| REV.        | B         |
| DATE        | 1/24/77   |
| DESIGNED BY | J. VAGIAS |
| CHECKED BY  | J. VAGIAS |
| APPROVED BY | J. VAGIAS |

|                 |           |                      |              |         |
|-----------------|-----------|----------------------|--------------|---------|
| DRN. G. HOBBS   | 1/24/77   | FIRST USED ON        | TM03         | digital |
| CHK'D BY        | J. VAGIAS | TITLE                | TAPE CONTROL |         |
| ENG. J. VAGIAS  | 1-24-77   | PHASE ENCODED (TCPE) |              |         |
| PROD. J. VAGIAS | 1-24-77   | NEXT HIGHER ASSY.    |              |         |
| B-DD-M8932-0-0  | SIZE      | CODE                 | NUMBER       | REV.    |
| SCALE           | D         | CS                   | M8932-0-1    | B       |
| SHEET 1         | OF 5      | DIST.                |              |         |

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PE READ DATA ERRORS

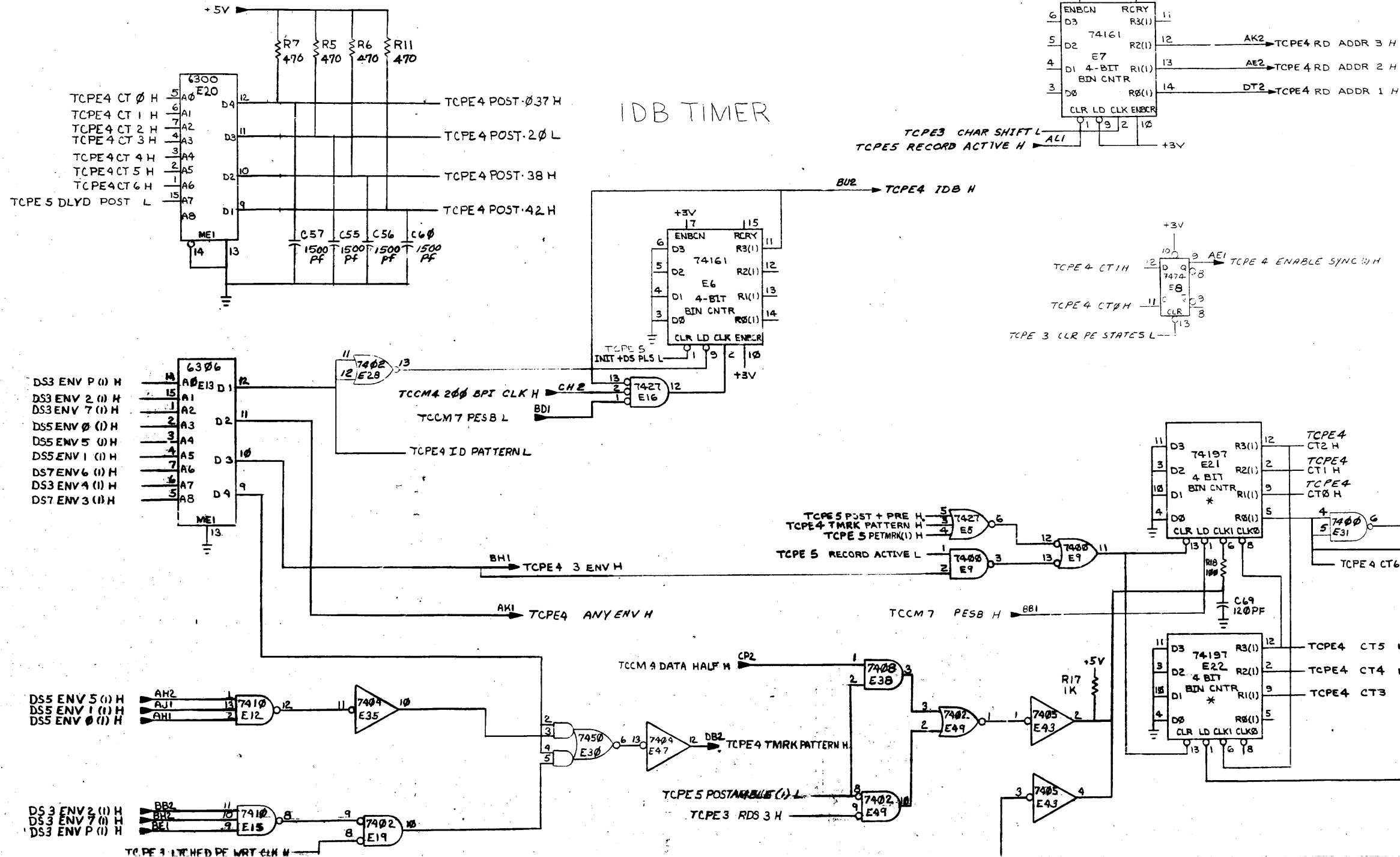
| REVISIONS |     |
|-----------|-----|
| CHANGE NO | REV |
|           |     |

|       |                      |           |      |        |           |       |   |
|-------|----------------------|-----------|------|--------|-----------|-------|---|
| TITLE | TAPE CONTROL (TCPE2) | SIZE CODE | D CS | NUMBER | M0932-0-1 | REV   | B |
| SCALE | 1:1                  | SHEET     | 2    | OF     | 5         | DIST. |   |



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# DESKEW BUFFER READ ADDRESS COUNTER



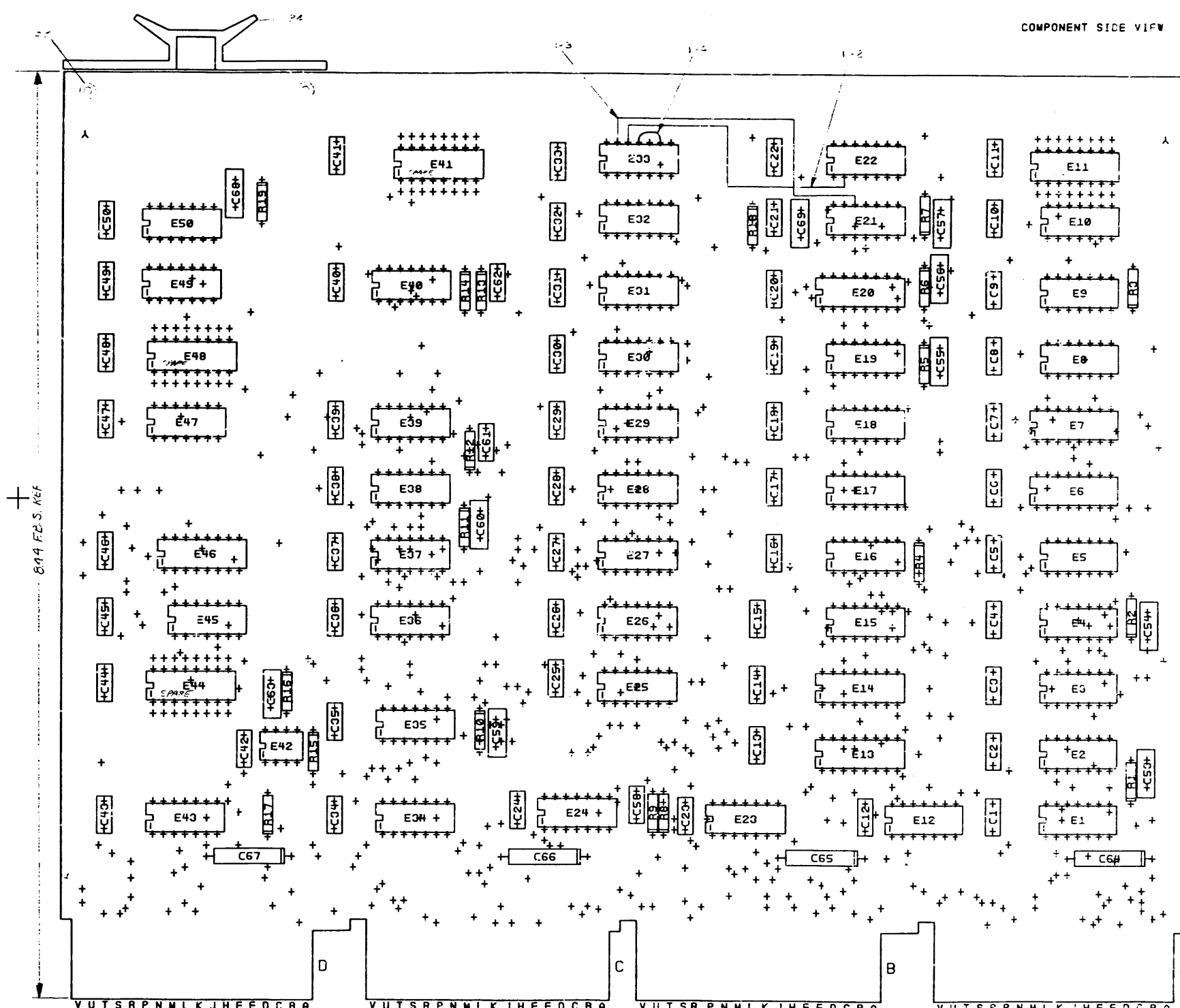
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| CHK       | CHANGE NO | REV. |
|           |           |      |
|           |           |      |

|       |                      |       |        |         |   |     |   |
|-------|----------------------|-------|--------|---------|---|-----|---|
| TITLE | TAPE CONTROL (TCPE4) | SHEET | 4 OF 5 | NUM BPP | 1 | REV | B |
| SCALE |                      | SHEET |        | DIST    |   |     |   |



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REWORK INSTRUCTIONS  
 ECO #1  
 ETCH CUTS SIDE 2:  
 I-1. AT E22-2  
 WIRE ADDS SIDE 1:  
 I-2. FROM E22-2 TO E33-12  
 I-3. FROM E21-12 TO E33-13  
 I-4. FROM E33-11 TO E33-9



NOTES:

| CHANGE | REV | DATE | BY |
|--------|-----|------|----|
| 1      | B   |      |    |
| 2      | A   |      |    |
| 3      | A   |      |    |
| 4      | A   |      |    |
| 5      | A   |      |    |
| 6      | A   |      |    |
| 7      | A   |      |    |

|             |                              |
|-------------|------------------------------|
| ETCH REV. 3 | P.C. DESIGN DATA BASE REV. 3 |
|-------------|------------------------------|

|                                |  |       |                 |
|--------------------------------|--|-------|-----------------|
| SIGNATURES                     |  | DATE  | digital         |
| DRN. S. P. G. S.               |  | 12-77 |                 |
| ENC. [Signature]               |  |       | TITLE           |
| PROJ. ENG. [Signature]         |  |       | TAPE CONTROL PE |
| PROD. [Signature]              |  |       | SIZE CODE       |
| SCALE 1:1                      |  |       | NUMBER          |
| SHT. 1 OF 5                    |  |       | 119932-0-0      |
| NEXT HIGHER ASSY. 5-22-1200-02 |  |       | REV             |
|                                |  |       | B               |



DIGITAL EQUIPMENT CORPORATION

PARTS LIST

QUANTITY / VARIATION

NOTES:

USED ON OPTION / MODEL  
TMO3

|                       |                          |                  |
|-----------------------|--------------------------|------------------|
| MADE BY Joan Rogers   | CHECKED <i>P. Boeman</i> | SECTION 1        |
| DATE 28 July 76       | DATE 27 OCT 76           |                  |
| ENG <i>Jim Vignio</i> | PROD <i>M. Dillard</i>   | ISSUED SECTION 1 |
| DATE 1-21-77          | DATE 24 JAN 77           |                  |

| ITEM NO. | DRAWING NO.      | PART NO.    | DESCRIPTION                 | REF | QUANTITY | VARIATION | REF DESIGNATION            |
|----------|------------------|-------------|-----------------------------|-----|----------|-----------|----------------------------|
|          | D-CS-M8932-0-1   |             | CIRCUIT SCHEMATIC           | REF |          |           |                            |
|          | D-UA-M8932-0-0   |             | UNIT ASSEMBLY               | REF |          |           |                            |
|          | B-DD-M8932-0     |             | DWG DIRECTORY               | REF |          |           |                            |
| 1        | D-MD-5012383-0-0 |             | ETCHED CIRCUIT BD.          | 1   |          |           |                            |
| 2        |                  | 10-00021-00 | CAP 220 PF                  | 1   |          |           | C53                        |
| 3        |                  | 10-00054-00 | CAP 1500 PF 250V DISC       | 4   |          |           | C55, C56, C57, C60         |
| 4        |                  | 10-00042-00 | CAP 1000 PF MICA            | 3   |          |           | C54, C59, C63              |
| 5        |                  | 10-01610-01 | CAP .01 MFD 100V 20% DISC   | 53  |          |           | C1 thru C50, C58, C61, C62 |
| 6        |                  | 10-05306-00 | CAP 6.8 MFD 35V 10% S. TANT | 4   |          |           | C64, C65, C66, C67         |
| 7        |                  | 13-00229-00 | RES 100 1/4W 5%             | 4   |          |           | R1, R2, R18, R19           |
| 8        |                  | 13-00250-00 | RES 150 1/4W 5%             | 2   |          |           | R10, R16                   |
| 9        |                  | 13-00271-00 | RES 220 1/4W 5%             | 3   |          |           | R9, R12, R13               |
| 10       |                  | 13-00295-00 | RES 330 1/4W 5%             | 2   |          |           | R3, R14                    |
| 11       |                  | 13-00365-00 | RES 1K 1/4W 5%              | 4   |          |           | R4, R8, R15, R17           |
| 37       |                  | 13-00316-00 | RES 470 1/4W 5%             | 4   |          |           | R5, R6, R7, R11            |
| 12       |                  | 19-05547-00 | I.C. DEC 7474               | 6   |          |           | E4, E8, E29, E36, E39, E40 |
| 13       |                  | 19-05575-00 | I.C. DEC 7400               | 6   |          |           | E2, E9, F25, E31, E32, E37 |
| 14       |                  | 19-05576-00 | I.C. DEC 7400               | 2   |          |           | E12, E15                   |
| 15       |                  | 19-05578-00 | I.C. DEC 7430               | 1   |          |           | E24                        |

ECO. NO. 00001

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TITLE  
TAPE CONTROL PE

ASSY NO.  
D-UA-M8932-0-0  
SHEET 1 OF 3

SIZE CODE NUMBER  
B PL M8932-0-0  
INSERTION PARTS LIST DATA BASE REV A

REV.  
B

DIGITAL EQUIPMENT CORPORATION

PARTS LIST

QUANTITY / VARIATION

NOTES:

USED ON OPTION/MODEL

TM03

|                       |                           |                  |
|-----------------------|---------------------------|------------------|
| MADE BY Joan Rogers   | CHECKED <i>J. Brennan</i> | SECTION 1        |
| DATE 28 July 76       | DATE 27 OCT 76            |                  |
| ENG <i>Jim Vignia</i> | PROD <i>J. Dillard</i>    | ISSUED SECTION 1 |
| DATE 1-21-77          | DATE 24 JAN 77            |                  |

| ITEM NO. | DRAWING NO. | PART NO.    | DESCRIPTION                           | QUANTITY | REF DESIGNATION         |
|----------|-------------|-------------|---------------------------------------|----------|-------------------------|
| 16       |             | 19-05579-00 | I.C. DEC 7440                         | 2        | E1, E26                 |
| 17       |             | 19-05580-00 | I.C. DEC 7450                         | 1        | E30                     |
| 18       |             | 19-05590-00 | I.C. DEC 7401                         | 1        | E27                     |
| 19       |             | 19-09004-00 | I.C. DEC 7402                         | 5        | E3, E16, E19, E28, E49  |
| 20       |             | 19-09686-00 | I.C. DEC 7404                         | 2        | E35, E47                |
| 21       |             | 19-09930-00 | I.C. DEC 7405                         | 1        | E43                     |
| 22       |             | 19-10035-00 | I.C. DEC 74197                        | 3        | E21, E22, E50           |
| 23       |             | 19-10091-00 | I.C. DEC 7437                         | 1        | E10                     |
| 24       |             | 19-10155-00 | I.C. DEC 7408                         | 5        | E18, E33, E34, E38, E45 |
| 25       |             | 19-10406-00 | I.C. DEC 75451                        | 1        | E42                     |
| 26       |             | 19-10650-00 | I.C. DEC 74161                        | 2        | E6, E7                  |
| 27       |             | 19-10651-00 | I.C. DEC 74175                        | 1        | E14                     |
| 28       |             | 19-10724-00 | I.C. DEC 74180                        | 1        | E23                     |
| 29       |             | 19-10878-00 | I.C. DEC 7427                         | 2        | E5, E17                 |
| 30       |             |             | SPARES 16 PIN I.C.                    | 4        | E11, E41, E44, E48      |
| 31       |             | 23-359A2-00 | 256 x 4 BIT PROM OPEN COLLECTOR       | 1        | E20                     |
| 32       |             | 23-409A9-00 | 512 x 4 BIT BIPOLAR, TRI-STATE        | 1        | E13                     |
| 33       |             | 90-06732-00 | EYELET                                | 8        |                         |
| 34       |             | 90-08337-06 | HANDLE, <del>FLIP</del> CHIP, MAGENTA | 4        |                         |

ECO. NO.

|   |                 |                |                                      |      |           |      |
|---|-----------------|----------------|--------------------------------------|------|-----------|------|
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|   | TAPE CONTROL PE | D-UA-M8932-0-0 | B                                    | PL   | M8932-0-0 | B    |
|   |                 | SHEET 2 OF 3   | INSERTION PARTS LIST DATA BASE REV A |      |           |      |

DIGITAL EQUIPMENT CORPORATION

PARTS LIST

QUANTITY / VARIATION

NOTES:

|                       |                           |                  |
|-----------------------|---------------------------|------------------|
| MADE BY Joan Rogers   | CHECKED <i>J. Freeman</i> | SECTION 1        |
| DATE 28 July 76       | DATE 27 OCT 76            |                  |
| ENG <i>Jim. Vajda</i> | PROD <i>H. Dillard</i>    | ISSUED SECTION 1 |
| DATE 1-21-77          | DATE 24 JAN 77            |                  |

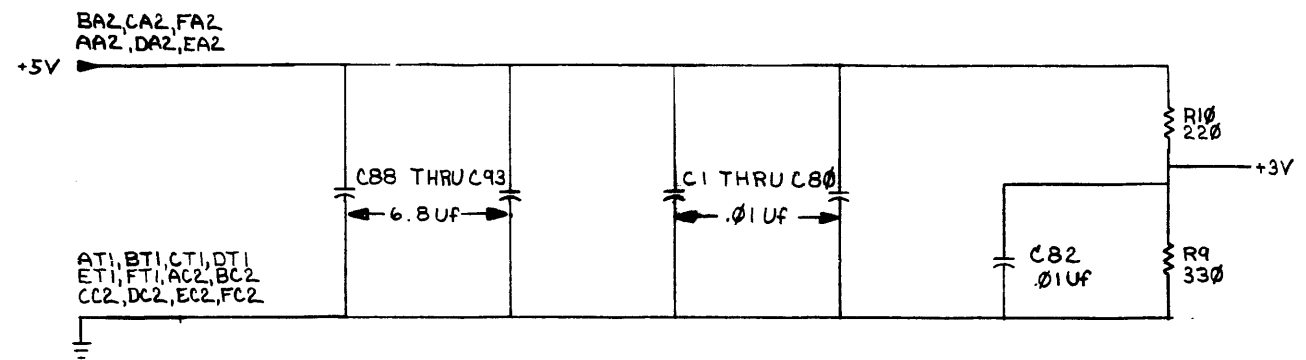
USED ON OPTION/MODEL  
TMOS

| ITEM NO. | DRAWING NO. | PART NO.    | DESCRIPTION                    | QUANTITY | VARIATION | REF DESIGNATION |
|----------|-------------|-------------|--------------------------------|----------|-----------|-----------------|
| 35       |             | 10-00018-00 | CAP 120 PF 100V MICA           | 2        |           | C68,C69         |
| 36       |             | 23-408A9-00 | 512 X 4 BIT BIPOLAR, TRI-STATE | 1        |           | E46             |
| 37       |             | 91-05740-55 | WIRE 30AWG, GREEN              | A/R      |           |                 |

ECO. NO.

|   |                 |                |                                    |      |                          |      |
|---|-----------------|----------------|------------------------------------|------|--------------------------|------|
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|   | TAPE CONTROL PE | D-UA-M8932-0-0 | B                                  | PL   | M8932- $\beta$ - $\beta$ | B    |
|   |                 | SHEET 3 OF 3   | INSERTION PARTS LIST DATA BASE REV |      |                          |      |

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74153 FUNCTION TABLE

| SELECT INPUTS |    | DATA INPUTS |   |   |   | OUTPUT |
|---------------|----|-------------|---|---|---|--------|
| SI            | SO | A           | B | C | D | F      |
| L             | L  | L           | X | X | X | L      |
| L             | L  | H           | X | X | X | H      |
| L             | H  | X           | L | X | X | L      |
| L             | H  | X           | H | X | X | H      |
| H             | L  | X           | X | L | X | L      |
| H             | L  | X           | X | H | X | H      |
| H             | H  | X           | X | X | L | L      |
| H             | H  | X           | X | X | H | H      |

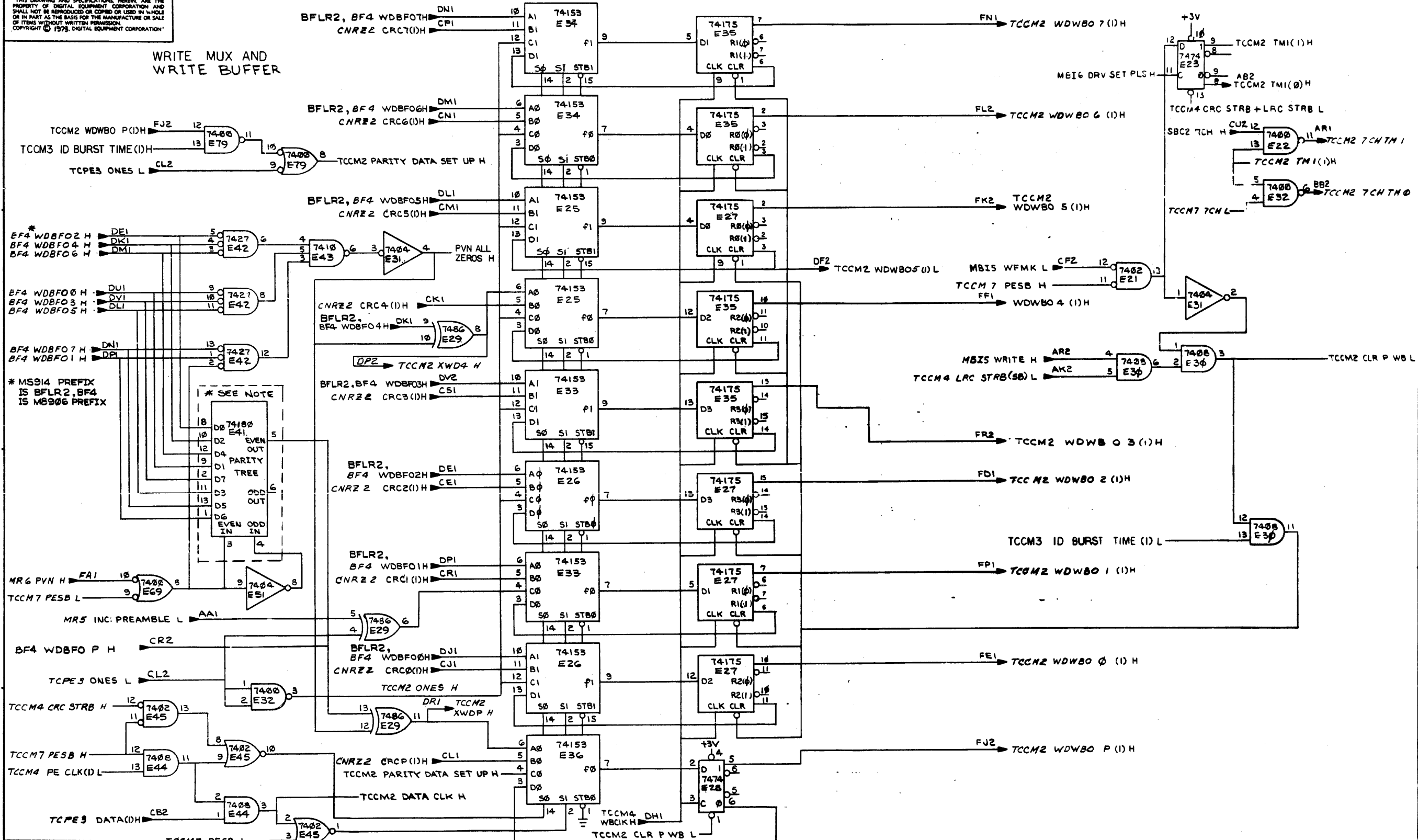
NOTE  
 IF M8933 IS TO BE USED IN TM02 BACK PANEL IT WILL BE NECESSARY TO ADD A 74180 IC AT LOC E-41 M8933 IS NORMALLY BUILT FOR TM03 BACKPANEL WIRING AND WILL HAVE LOC. E-44 EMPTY. FOR TM03 SIGNAL WDBFO PH IS WIRED ON BACKPANEL, FOR TM02 OPERATION THIS SIGNAL IS NOT USED

|                  |        |
|------------------|--------|
| DRN. G.M.C.S.    | REV. 1 |
| CHK. M8933-0001A | REV. 2 |
| APP. J. VAGIAS   | REV. 3 |
| APP. P. RAIKUNE  | REV. 4 |

|                  |               |                                      |
|------------------|---------------|--------------------------------------|
| DRN. G.M.C.S.    | FIRST USED ON | TM03                                 |
| CHK. M8933-0001A | TITLE         | TAPE CONTROL COMMON MODE (T.C.C.M.2) |
| APP. J. VAGIAS   | SCALE         | 1 OF 7                               |
| APP. P. RAIKUNE  | SIZE CODE     | D                                    |
|                  | NUMBER        | M8933-0-1                            |
|                  | REV.          | 2                                    |

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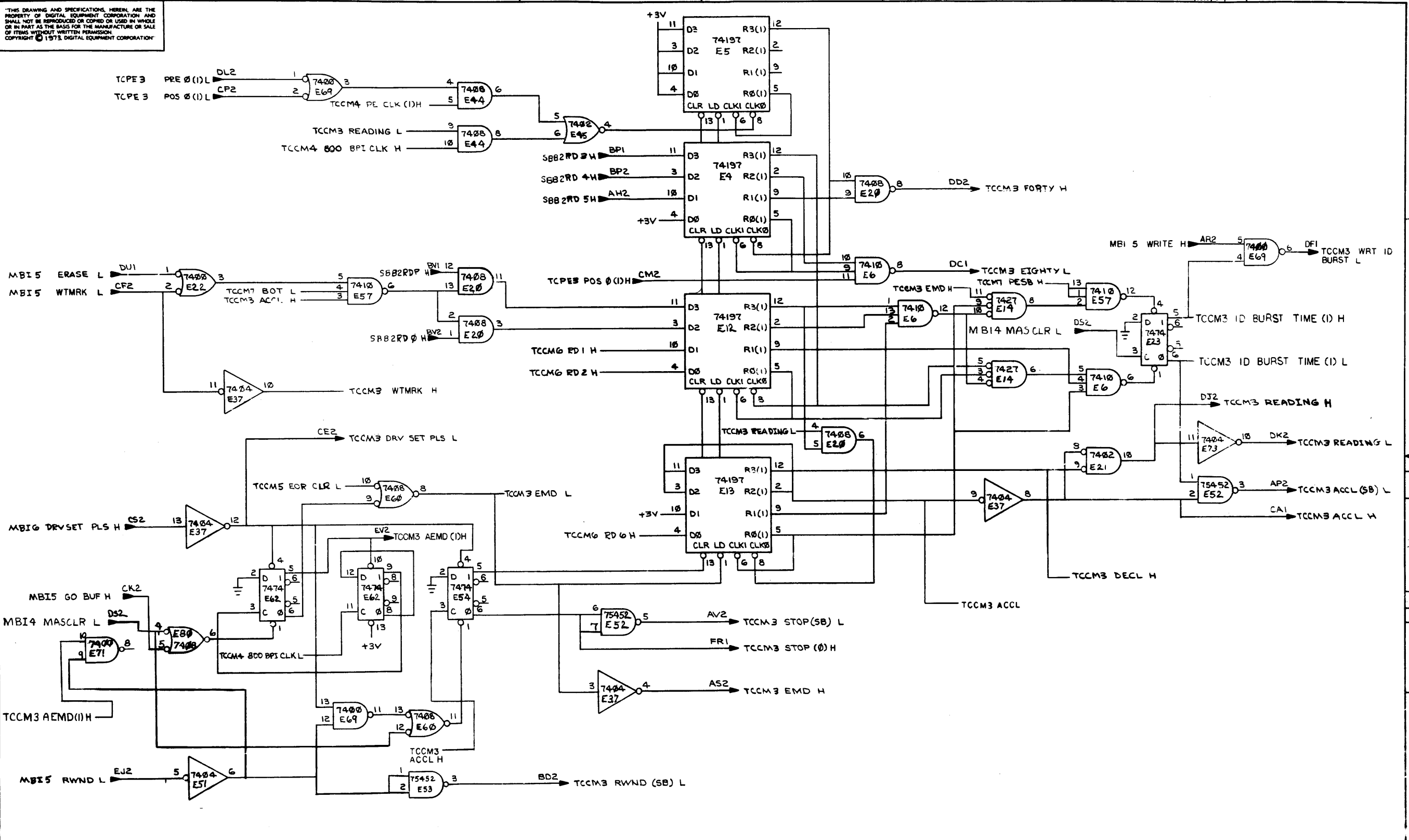
WRITE MUX AND WRITE BUFFER



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

|       |                     |           |           |      |
|-------|---------------------|-----------|-----------|------|
| TITLE | TAPE CONTROL        | SIZE CODE | NUMBER    | REV. |
|       | COMMON MODE (TCCM2) | D CS      | M8933-0-1 | B    |
| SCALE | SHEET 2 OF 7        | DIST      |           |      |

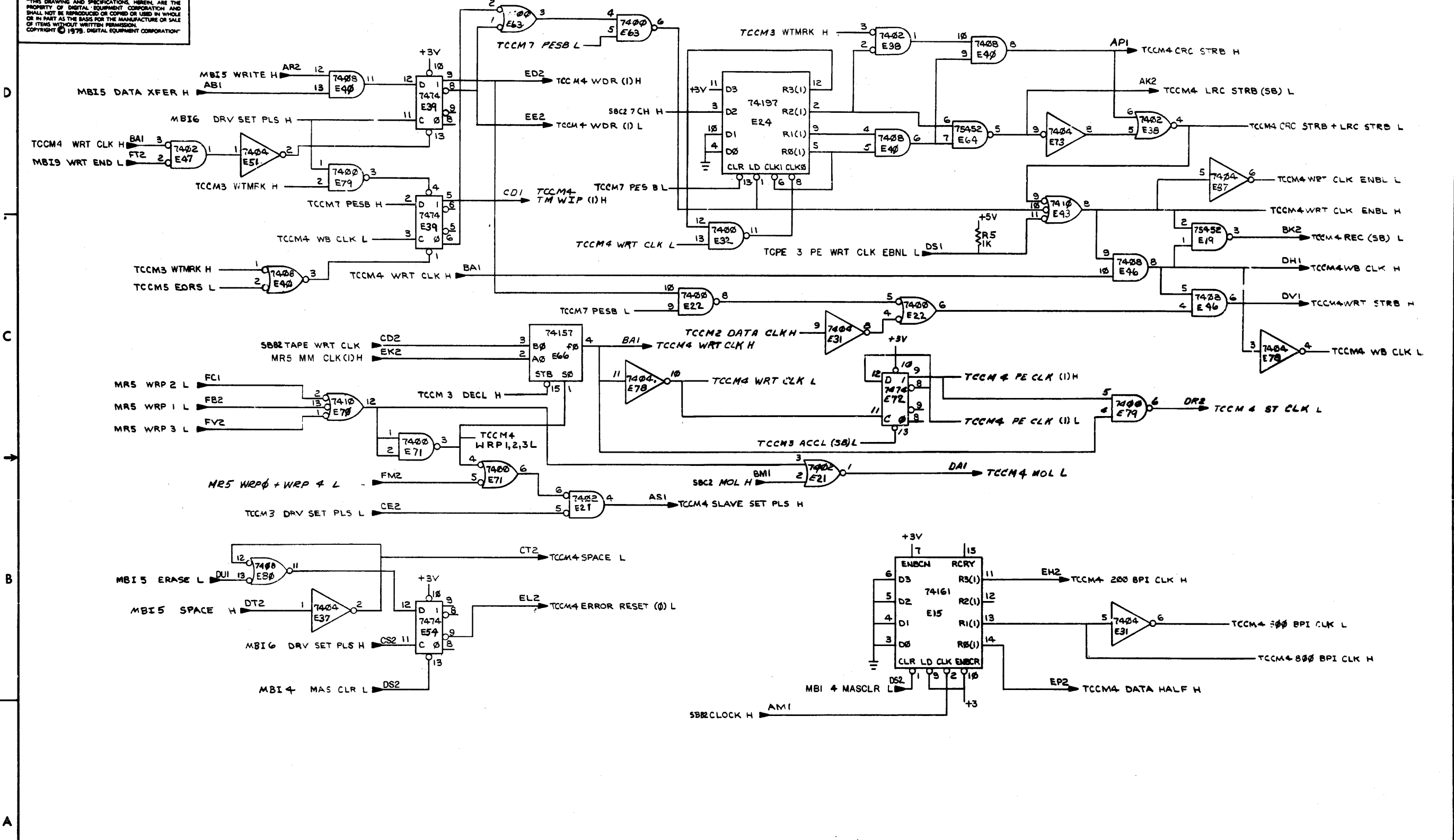
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| REVISIONS |           |      |
|-----------|-----------|------|
| CHK       | CHANGE NO | REV. |
|           |           |      |

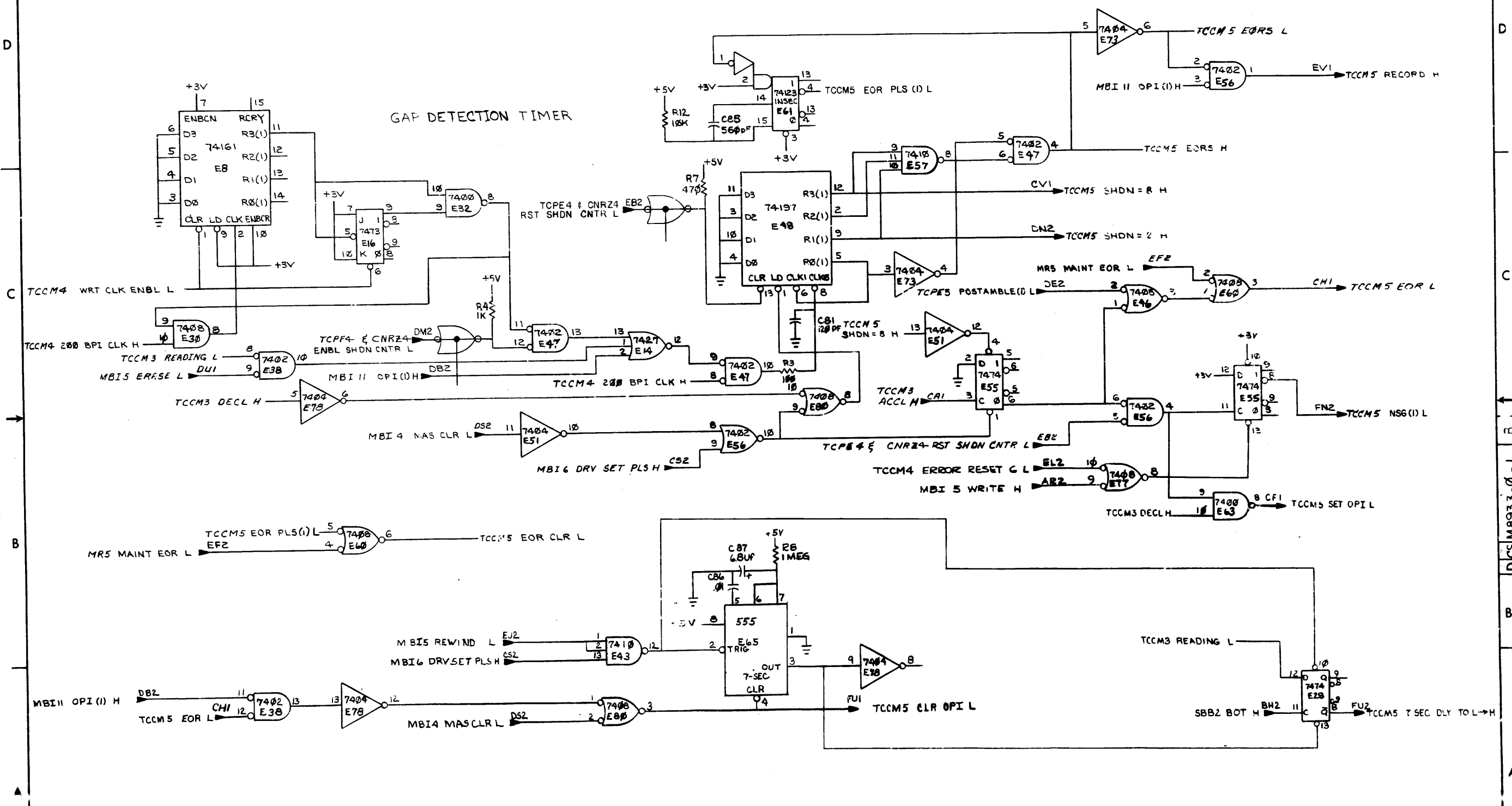
|               |                                     |           |        |      |
|---------------|-------------------------------------|-----------|--------|------|
| TITLE         | TAPE CONTROL<br>COMMON MODE (TCCM3) | SIZE CODE | NUMBER | REV. |
| SCALE         | +                                   | SHEET     | 3 OF 7 | B    |
| DCS M8933-0-1 |                                     | DIST.     |        |      |

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

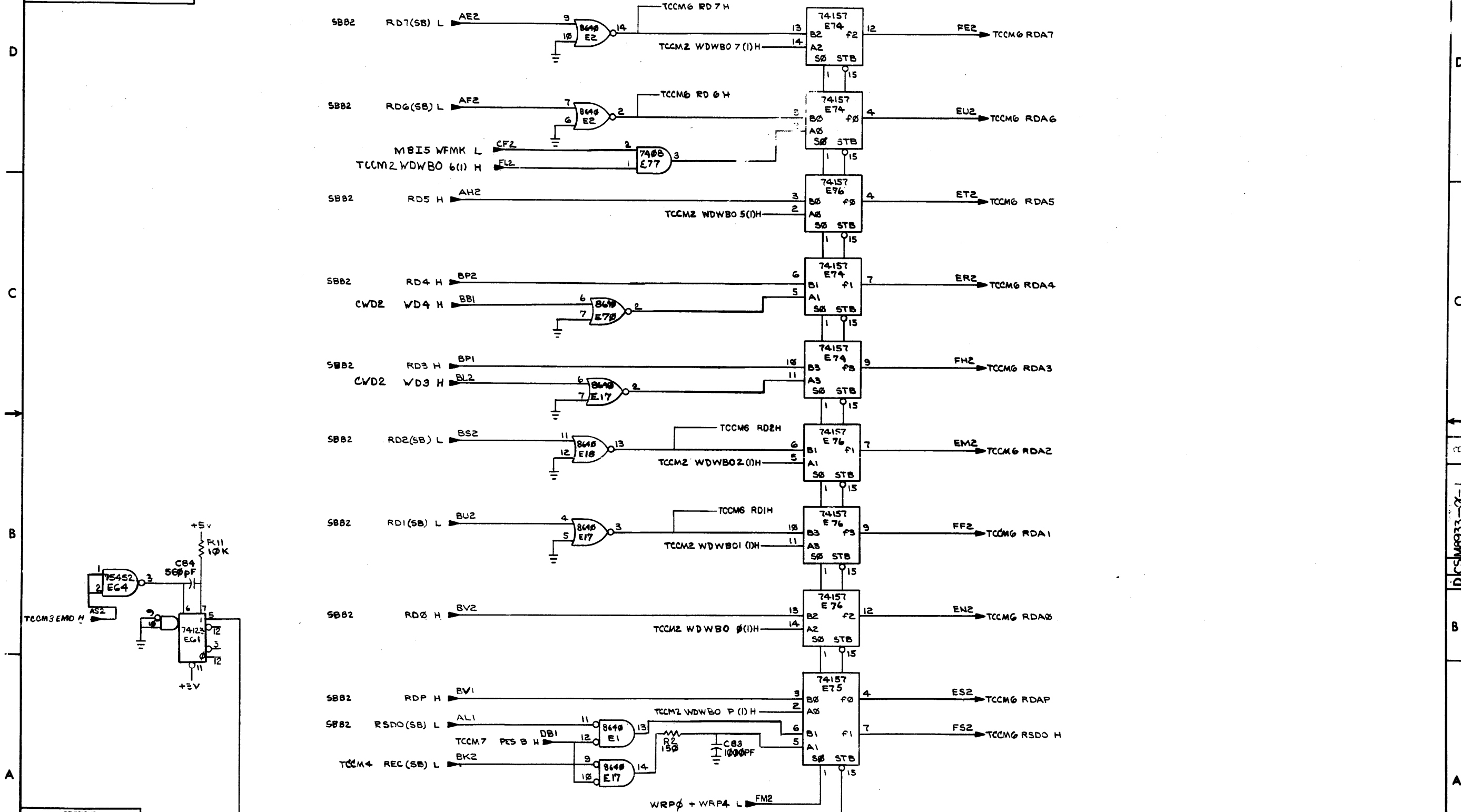
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| REVISIONS |           |     | TITLE                               | SIZE CODE | NUMBER    | REV.  |
|-----------|-----------|-----|-------------------------------------|-----------|-----------|-------|
| CHK       | CHANGE NO | REV | TAPE CONTROL<br>COMMON MODE (TCCM5) | DCS       | M8933-0-1 | B     |
|           |           |     | SCALE                               | SHEET 5   | OF 7      | DIST. |



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





| LINE ITEM | DOCUMENT NO. | PART NO.         | DESCRIPTION                            | QTY     | REFERENCE DESIGNATORS                      |
|-----------|--------------|------------------|--|---------|--|
| 1         | 1            | D-CS-M8933-0-1   | CIRCUIT SCHEMATIC                      |         | REF  |
| 2         | 2            | D-UA-M8933-0-0   | UNIT ASSY.                             |         | REF  |
| 3         | 3            | D-MD-5012482-0-0 | DRILL & ETCH DRAWING                   |         | REF  |
| 4         | 4            | B-DD-M8933-0-0   | DWG. DIRECTORY                         |         | REF  |
| 5         | 5            | 5012482-00       | M8933                                  | 1       |  |
| 6         | 6            | 1001610-00       | .01 MFD 50V Z5U 309CER/8000PF MIN      | 82      | C1-C80,C82,C86                             |
| 7         | 7            | 1005306-00       | 6.8MFD 35V 10% 150D S-TA               | (10-00) | 7 C87-C93                                  |
| 8         | 8            | 1000018-00       | 120.0 MMF 100V 5X200PPM DM15S          | (10-00) | 1 C81                                      |
| 9         | 9            | 1000042-00       | 1000.0 MMF 100V 5X200PPM DM15S         | (10-00) | 1 C83                                      |
| 10        | 10           | 1000025-00       | 560.0 MMF 100V 5X200PPM DM15S          | (10-00) | 2 C84,C85                                  |
| 11        | 11           | 1300316-00       | 470 1/4W 5% CC                         | (13-00) | 1 R7                                       |
| 12        | 12           | 1300365-00       | 1 K 1/4W 5% CC                         | (13-00) | 5 R1,R4-R6,R13                             |
| 13        | 13           | 1300479-00       | 10 K 1/4W 5% CC                        | (13-00) | 2 R11,R12                                  |
| 14        | 14           | 1300229-00       | 100 1/4W 5% CC                         | (13-00) | 1 R3                                       |
| 15        | 15           | 1300250-00       | 150 1/4W 5% CC                         | (13-00) | 1 R2                                       |
| 16        | 16           | 1300271-00       | 220 1/4W 5% CC                         | (13-00) | 1 R10                                      |
| 17        | 17           | 1300295-00       | 330 1/4W 5% CC                         | (13-00) | 1 R9                                       |
| 18        | 18           | 1309595-00       | 1 M 1/4W 5% CC                         | (13-00) | 1 R8                                       |
| 19        | 19           | 1905575-00       | 7400 NAND GATE-QUAD 2IN                | 4       | E22,E32,E63,E69,E71,E79                    |
| 20        | 20           | 1909004-00       | DEC 7402 NOR GATE-QUAD 2IN             | 5       | E21,E38,E45,E47,E56                        |
| 21        | 21           | 1909686-00       | 7404 INVERTER GATE-HEX 1IN             | 5       | E31,E37,E51,E73,E78                        |
| 22        | 22           | 1911944-00       | 555CN TIMER,FUNCT.BLOCK                | 1       | E65  |
| 23        | 23           | 1910155-00       | DEC 7408 AND GATE,POS.QUAD 2IN         | 14      | 8 E20,E30,E40,E44,E46,E60,E77,<br>CONT E80 |
| 24        | 24           | 1905576-00       | 7410 NAND GATE-TRIPLE 3IN              | 4       | E6,E43,E57,E70                             |
| 25        | 25           | 1910878-00       | 7427 NOR GATE-TRIPLE 3IN               | 2       | E14,E42                                    |
| 26        | 26           | 1905587-00       | DEC 7473 FF-JK DUAL,MASTER SLAVE,10MHZ | 1       | E16  |
| 27        | 27           | 1905547-00       | DEC 7474 FF-D DUAL,EDGE TRIGGER,15MHZ  | 7       | E23,E28,E39,E54,E55,E62,E72                |
| 28        | 28           | 1910011-00       | DEC 7486 X-OR GATE-QUAD 2INPUT         | 1       | E29  |
| 29        | 29           | 1910436-00       | DEC 74123 ONE SHOT-DUAL,RETRIGGERABLE  | 1       | E61  |

| REVISION HISTORY |        |     | VARIATIONS FOR THIS ASSY. |  | DIGITAL EQUIPMENT CORPORATION<br>MAYNARD, MASSACHUSETTS |                 |                          |                 |
|------------------|--------|-----|---------------------------|--|---|-----------------|--------------------------|-----------------|
| CHK              | ECD NO | REV | FIRST USED ON: TM03       |  | TITLE   |                 |                          |                 |
| R.R              | 00002  | B   | 00                        |  | MADE BY: M.RIPLEY                                       | DATE: 14-MAR-78 | PARTS LIST               |                 |
|                  |        |     |                           |  | CHECKED: P.BOSSMAN                                      | DATE: 14-MAR-78 | TAPE CONTROL COMMON MODE |                 |
|                  |        |     |                           |  | DSN.ENG.: J.VAGIAS                                      | DATE: 14-MAR-78 | SIZE: CODE:              | DOCUMENT NUMBER |
|                  |        |     |                           |  | PROD.: G.DILLARD  | DATE: 14-MAR-78 | K                        | PL              |
|                  |        |     |                           |  | RESP.ENG.: J.VAGIAS                                     | DATE: 14-MAR-78 | ASSY.NO.:                | D-UA-M8933-0-0  |
|                  |        |     |                           |  |   |                 |                          | 6               |

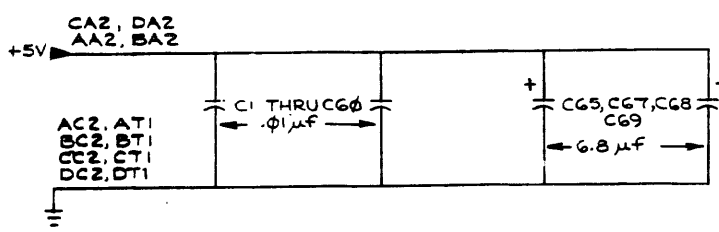
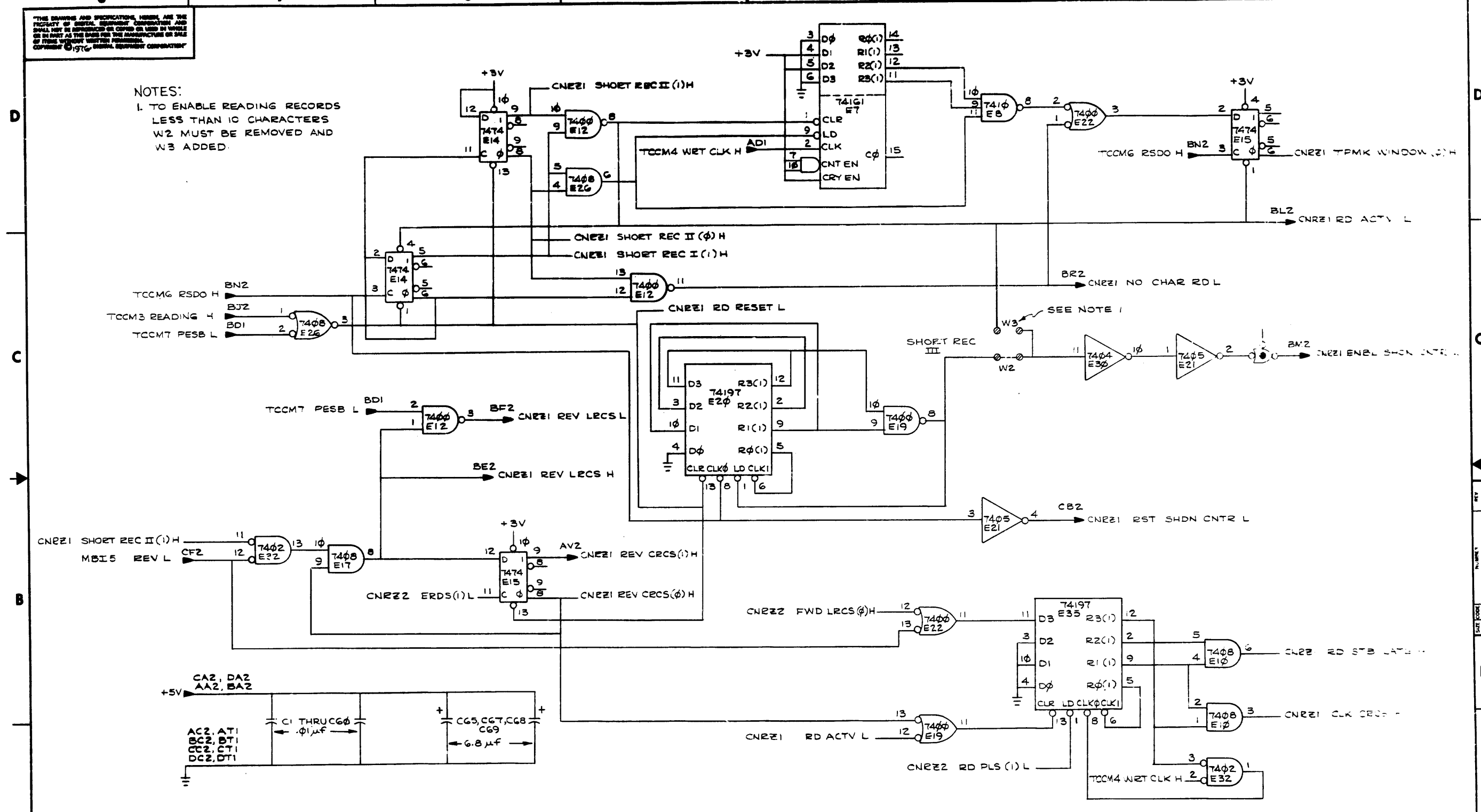
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| LINE | ITEM | DOCUMENT NO. | PART NO.   | DESCRIPTION                                | QTY | REFERENCE DESIGNATORS       |
|------|------|--------------|------------|--|-----|-----------------------------|
| 30   | 30   |              | 1909937-00 | 74153 MUX 1 OF 4 (DUAL)                    | 5   | E25,E26,E33,E34,E36         |
| 31   | 31   |              | 1910655-00 | 74157 MUX 1 OF 2 (QUAD)                    | 4   | E66,E74-E76                 |
| 32   | 32   |              | 1910650-00 | 74161 COUNTER, SYNCHR. UP                  | 2   | E8,E15                      |
| 33   | 33   |              | 1910651-00 | DEC 74175 FF-D QUAD                        | 2   | E27,E35                     |
| 34   | 34   |              | 1910035-00 | DEC 74197 COUNTER, ASYNCH UP, H1 SPEED 828 | 6   | E4,E5,E12,E13,E24,E48       |
| 35   | 35   |              | 1910645-00 | 75452 DRIVER, PERIPH, DUAL, NAND           | 4   | E19,E52,E53,E64             |
| 36   | 36   |              | 1911315-00 | 8234 MUX 1 OF 4                            | 7   | E49,E50,E58,E59,E67,E68,E11 |
| 37   | 37   |              | 1911469-00 | DEC 8640 RECEIVER, BUS, QUAD, UNIBUS, Q-BU | 6   | E1,E2,E9,E10,E17,E18        |
| 38   | 38   |              | 1210711-02 | HANDLE ASSY, MOD DOEHLER-JARVIS            | 1   |                             |
| 39   | 39   |              | 9006732-00 | EYELET, ROLLED FLANGE, .121 OD X .219 LG   | 12  |                             |
| 40   | 40   |              | 9105740-55 | WIRE(WRAP)30AWG III 1423 (91-00 A/R        |     |                             |

| DIGITAL EQUIPMENT CORPORATION<br>MAYNARD, MASSACHUSETTS |  | TITLE<br>PARTS LIST<br>TAPE CONTROL COMMON MODE | SIZE<br>K | CODE<br>PL | DOCUMENT NUMBER<br>M8933-0-DBP | REV<br>B |
|---|--|---|-----------|------------|--------------------------------|----------|
|---|--|---|-----------|------------|--------------------------------|----------|

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NOTES:  
 1. TO ENABLE READING RECORDS LESS THAN 10 CHARACTERS W2 MUST BE REMOVED AND W3 ADDED.



|     |      |     |            |       |                   |      |       |       |    |       |                       |             |      |
|-----|------|-----|------------|-------|-------------------|------|-------|-------|----|-------|-----------------------|-------------|------|
| DRN | CHKD | ENG | PROF. ENG. | PROD. | NEXT WORKER ASSY. | DATE | SCALE | SHEET | OF | DIST. | FIRST USED ON         | NUMBER      | REV. |
|     |      |     |            |       |                   |      |       | 1     | 5  |       | TMZ3                  | CS18934-1-1 | A    |
|     |      |     |            |       |                   |      |       |       |    |       | TAPES CONTROL (CNZ21) |             |      |
|     |      |     |            |       |                   |      |       |       |    |       | SIZE                  | NUMBER      | REV. |
|     |      |     |            |       |                   |      |       |       |    |       | D                     | CS18934-1-1 | A    |

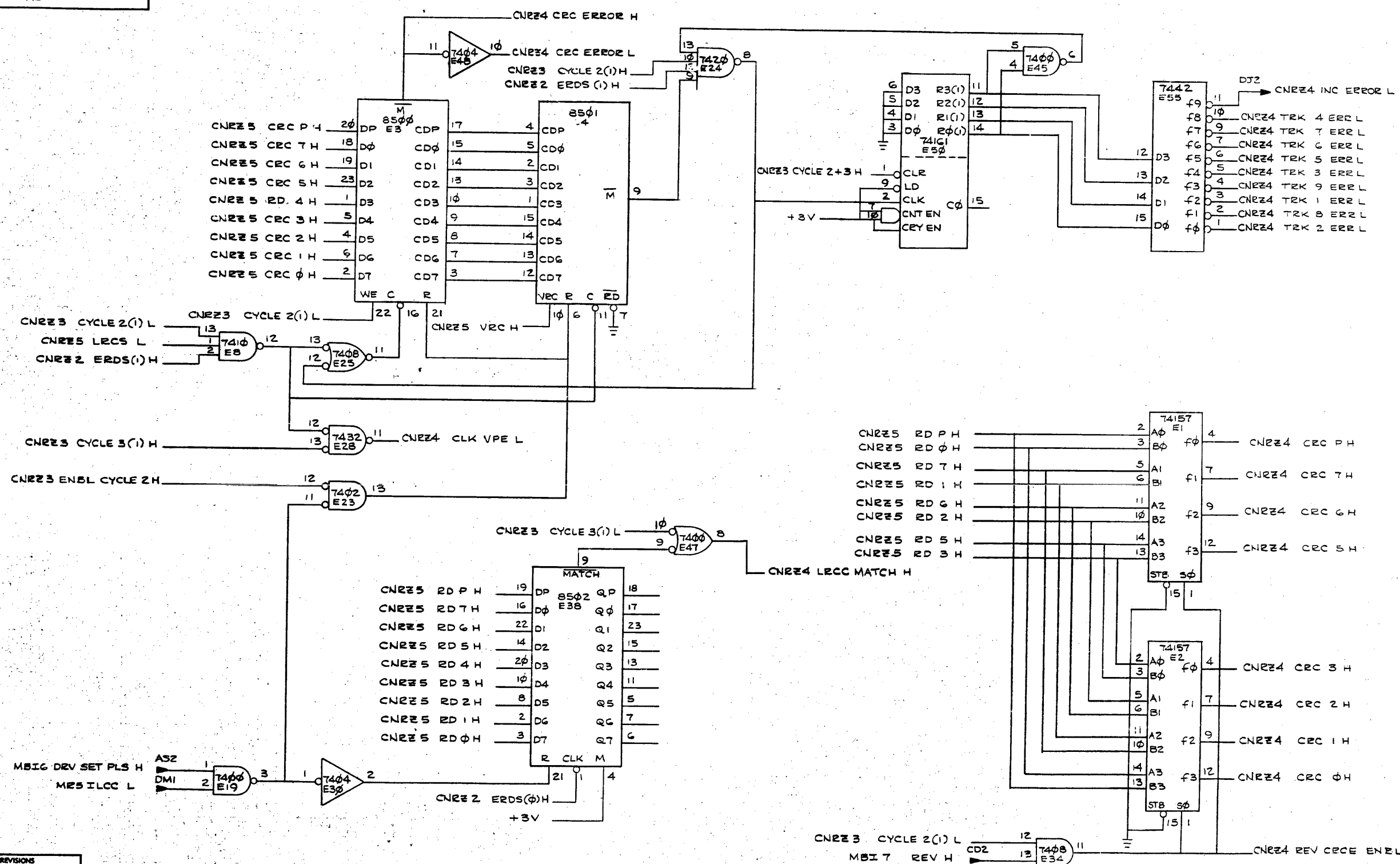






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1-0-7268W 2



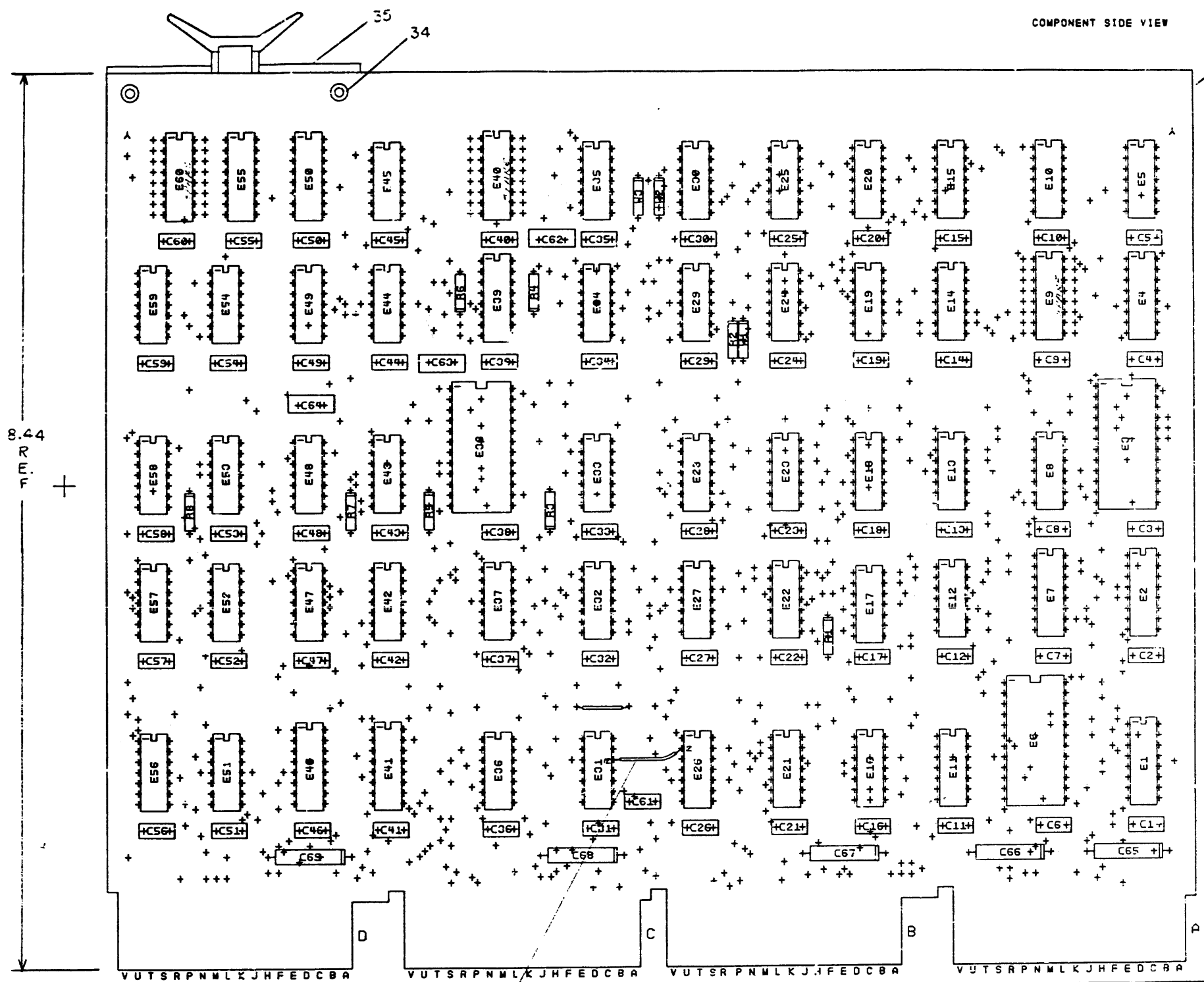
| REVISIONS |            |      |
|-----------|------------|------|
| CHK       | CHANGE NO. | REV. |
|           |            |      |

TITLE TAPE CONTROL (CNRZ4) SIZE CODE DCSM 8934-0-1 NUMBER REV. A SHEET 4 OF 5

REV. A NUMBER 8934-0-1



COMPONENT SIDE VIEW



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 DATE 1976

NOTES: 1. REMARK INSTRUCTIONS:  
 ADD 2 (TH) JUMPER WIRES AS SHOWN USING ITEM 90.

| CHG | CHANGE NO | REV |
|-----|-----------|-----|
|     |           |     |
|     |           |     |
|     |           |     |
|     |           |     |

FOR PARTS LIST REFER TO  
 B-PL-M8934-0-0

SEE NOTE 1

|  |  |
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|                                  |                    |      |                    |
|----------------------------------|--------------------|------|--------------------|
| SIGNATURES                       |                    | DATE | digital            |
| DRN. <i>[Signature]</i>          | <i>[Signature]</i> |      |                    |
| CHK'D. <i>[Signature]</i>        | <i>[Signature]</i> |      | TITLE TAPE CONTROL |
|                                  |                    |      | NRZ                |
| PROJ. ENG.                       |                    |      |                    |
| PROD. <i>[Signature]</i>         | <i>[Signature]</i> |      |                    |
| SCALE 2/1                        |                    |      |                    |
| SHT. 1 OF 3                      |                    |      |                    |
| NEXT HIGHER ASSY. B-00-M8934-0-0 |                    |      |                    |
|                                  |                    |      |                    |

SIZE CODE NUMBER REV  
 UA M8934-0-0 A

1 MS# 31150



| DIGITAL EQUIPMENT CORPORATION |             |                           |                            | QUANTITY / VARIATION |  |  |  |  |  |  |  | NOTES:                        |
|-------------------------------|-------------|---------------------------|----------------------------|----------------------|--|--|--|--|--|--|--|-------------------------------|
| PARTS LIST                    |             |                           |                            |                      |  |  |  |  |  |  |  | USED ON OPTION / MODEL        |
| MADE BY Steve Marlow          |             | CHECKED <i>J. Goodman</i> |                            |                      |  |  |  |  |  |  |  | TM03                          |
| DATE Sept 1, 1976             |             | DATE 16 Nov 76            |                            |                      |  |  |  |  |  |  |  |                               |
| ENG <i>John P. Fleis</i>      |             | PROD <i>G. Dillard</i>    |                            |                      |  |  |  |  |  |  |  |                               |
| DATE                          |             | DATE 17 DEC 76            |                            |                      |  |  |  |  |  |  |  |                               |
| ITEM NO.                      | DRAWING NO. | PART NO.                  | DESCRIPTION                |                      |  |  |  |  |  |  |  | REF DESIGNATION               |
| 17                            |             | 19-05578-00               | I.C. DEC 7430              | 1                    |  |  |  |  |  |  |  | E56                           |
| 18                            |             | 19-05590-00               | I.C. DEC 7401              | 1                    |  |  |  |  |  |  |  | E57                           |
| 19                            |             | 19-09004-00               | I.C. DEC 7402              | 6                    |  |  |  |  |  |  |  | E11, E23, E32, E33, E53, E59  |
| 20                            |             | 19-09686-00               | I.C. DEC 7404              | 2                    |  |  |  |  |  |  |  | E30, E48                      |
| 21                            |             | 19-09930-00               | I.C. DEC 7405              | 3                    |  |  |  |  |  |  |  | E21, E37, E36                 |
| 22                            |             | 19-10011-00               | I.C. DEC 7486              | 4                    |  |  |  |  |  |  |  | E43, E52, E54, E58            |
| 23                            |             | 19-10035-00               | I.C. DEC 74197             | 2                    |  |  |  |  |  |  |  | E20, E35                      |
| 24                            |             | 19-10046-00               | I.C. DEC 7442              | 1                    |  |  |  |  |  |  |  | E55                           |
| 25                            |             | 19-10155-00               | I.C. DEC 7408              | 6                    |  |  |  |  |  |  |  | E10, E17, E25, E26, E34, E49. |
| 26                            |             | 19-10436-00               | I.C. DEC 74123             | 1                    |  |  |  |  |  |  |  | E39                           |
| 27                            |             | 19-10650-00               | I.C. DEC 74161             | 2                    |  |  |  |  |  |  |  | E7, E50                       |
| 28                            |             | 19-10655-00               | I.C. DEC 74157             | 2                    |  |  |  |  |  |  |  | E1, E2                        |
| 29                            |             | 19-10878-00               | I.C. DEC 7427              | 1                    |  |  |  |  |  |  |  | E13                           |
| 30                            |             | 19-11521-00               | I.C. DEC 7432              | 1                    |  |  |  |  |  |  |  | E28                           |
| 31                            |             | 19-13750-00               | I.C. MC 8500               | 2                    |  |  |  |  |  |  |  | E3, E6                        |
| 32                            |             | 19-13751-00               | I.C. MC 8501               | 1                    |  |  |  |  |  |  |  | E4                            |
| 33                            |             | 19-13749-00               | I.C. MC 8502               | 1                    |  |  |  |  |  |  |  | E38                           |
| 34                            |             | 90-06732-00               | EYELET                     | 8                    |  |  |  |  |  |  |  |                               |
| 35                            |             | 90-08337-06               | HANDLE, FLIP CHIP, MAGNETA | 4                    |  |  |  |  |  |  |  |                               |

E.C.O. NO.

|  |                   |                |                                      |      |           |      |
|--|-------------------|----------------|--------------------------------------|------|-----------|------|
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|  | TAPE CONTROL NR21 | D-UA-M8934-0-0 | B                                    | PL   | M8934-0-0 | A    |
|  |                   | SHEET 2 OF 3   | INSERTION PARTS LIST DATA BASE REV A |      |           |      |

| DIGITAL EQUIPMENT CORPORATION |             |                            |                    | QUANTITY / VARIATION |  |  |  |  |  |  |  |  |  | NOTES:                 |  |            |
|-------------------------------|-------------|----------------------------|--------------------|----------------------|--|--|--|--|--|--|--|--|--|------------------------|--|------------|
| PARTS LIST                    |             |                            |                    |                      |  |  |  |  |  |  |  |  |  | USED ON OPTION / MODEL |  |            |
| MADE BY Steve Marlow          |             | CHECKED <i>P. Eisenman</i> |                    |                      |  |  |  |  |  |  |  |  |  | TM03                   |  |            |
| DATE Sept 10, 1976            |             | DATE 16 Nov 76             |                    |                      |  |  |  |  |  |  |  |  |  |                        |  |            |
| ENG <i>John Marlow</i>        |             | PROD <i>M. Dillman</i>     |                    |                      |  |  |  |  |  |  |  |  |  |                        |  |            |
| DATE                          |             | DATE 17 Dec 76             |                    |                      |  |  |  |  |  |  |  |  |  |                        |  |            |
| ITEM NO.                      | DRAWING NO. | PART NO.                   | DESCRIPTION        |                      |  |  |  |  |  |  |  |  |  | REF DESIGNATION        |  |            |
| 36                            |             | 90-09185-00                | INSULATED JUMPERS  | 3                    |  |  |  |  |  |  |  |  |  |                        |  | W1, W2, W3 |
| 37                            |             | 19-10651-00                | I.C. 74175         | 1                    |  |  |  |  |  |  |  |  |  |                        |  | E46        |
| 38                            |             | 19-10652-00                | I.C. 74174         | 1                    |  |  |  |  |  |  |  |  |  |                        |  | E41        |
| 39                            |             | 19-10724-00                | I.C. 74180         | 1                    |  |  |  |  |  |  |  |  |  |                        |  | E51        |
| 40                            |             | 9105740-55                 | WIRE, #30 AWG, GRN | AR                   |  |  |  |  |  |  |  |  |  |                        |  |            |

|   |                   |                |                                      |      |           |      |
|---|-------------------|----------------|--------------------------------------|------|-----------|------|
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|   | TAPE CONTROL NR21 | D-UA-M8934-0-0 | B                                    | FL   | M8934-0-0 | A    |
|   |                   | SHEET 3 OF 3   | INSERTION PARTS LIST DATA BASE REV A |      |           |      |



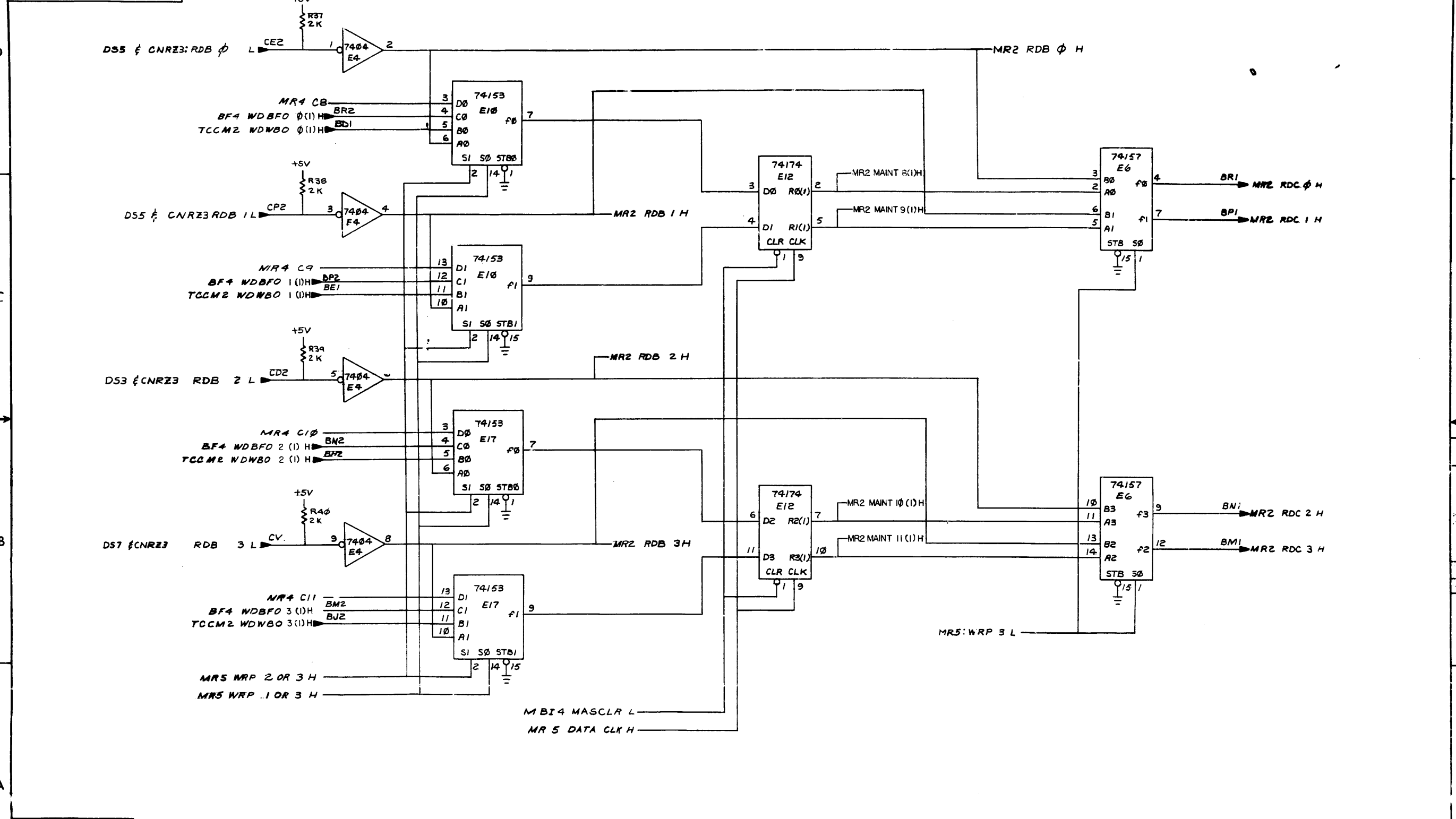
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MAINTENANCE REGISTER MULTIPLEXERS BITS 8-11

MAINTENANCE REGISTER BITS 8-11

RDC MUX PITS 0-3

DCS M8905-0-1 2



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

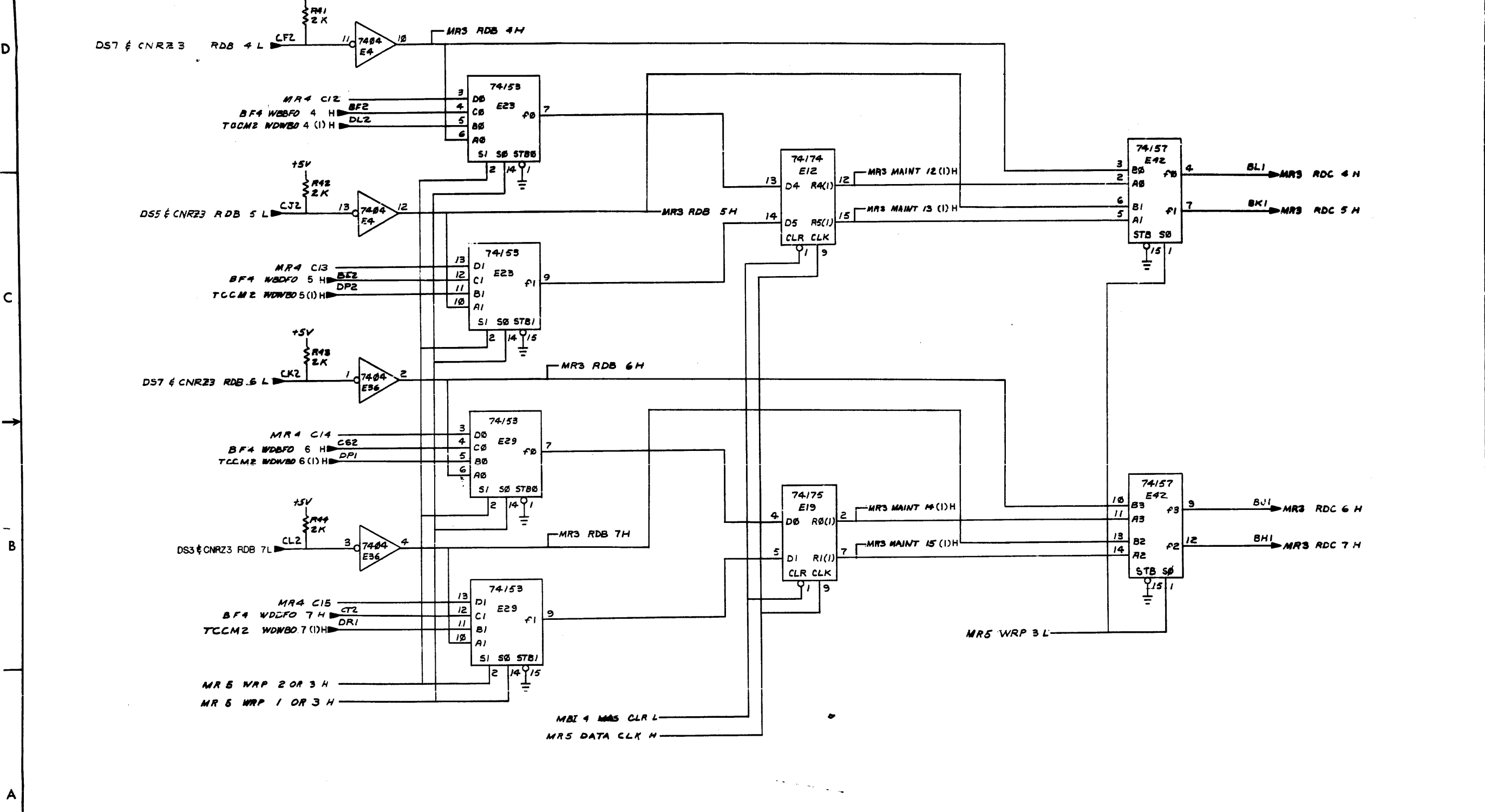


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**MAINTENANCE REGISTER MULTIPLEXER**  
BITS 12-15

**MAINTENANCE REGISTER**  
BITS 12-15

RDC MUX  
BITS 4-7



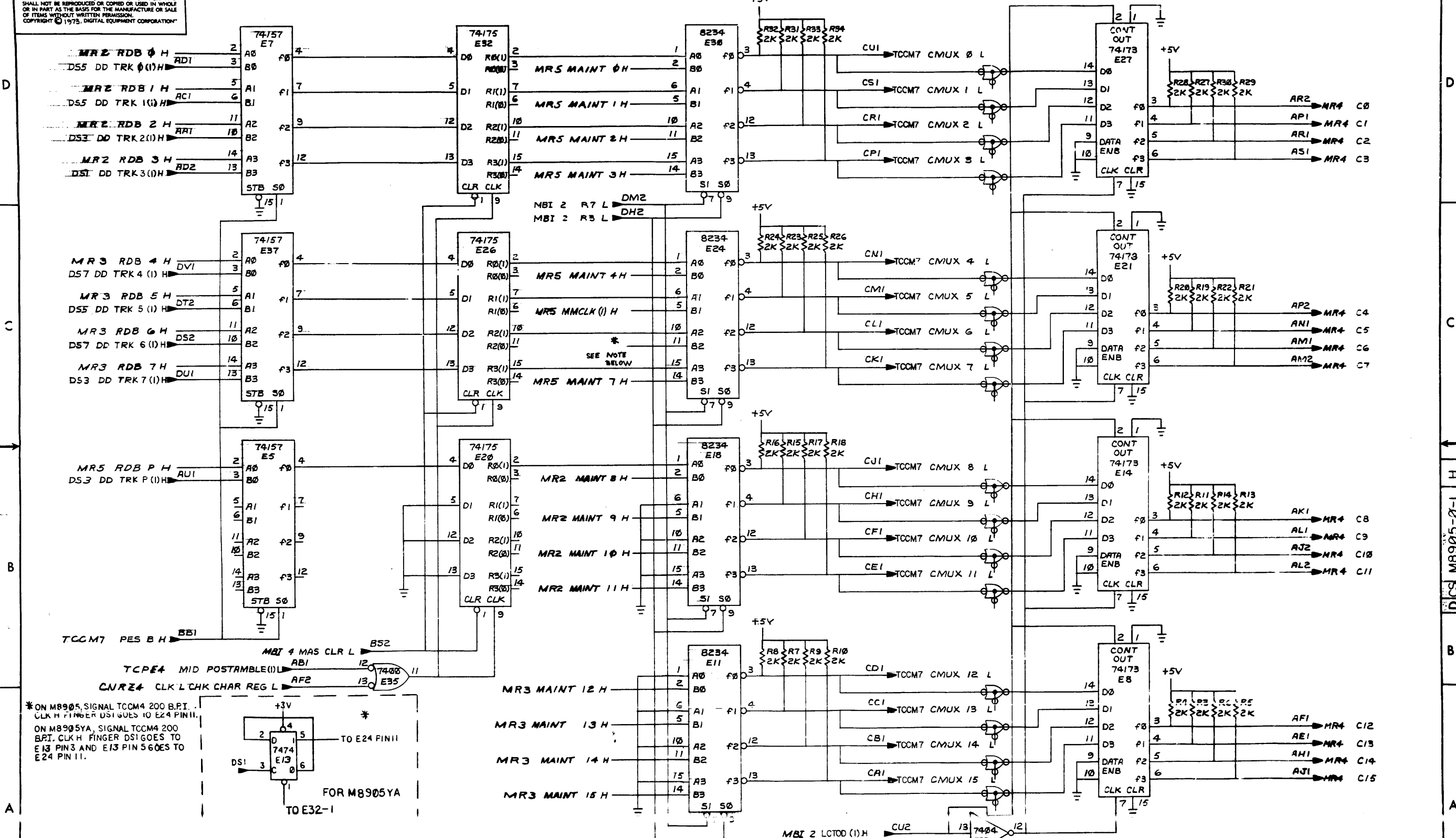
| REVISIONS |            |      |
|-----------|------------|------|
| CHK       | CHANGE NO. | REV. |
|           |            |      |

|       |                            |           |                |        |   |       |   |
|-------|----------------------------|-----------|----------------|--------|---|-------|---|
| TITLE | MAINTENANCE REGISTER (MR3) | SIZE CODE | D CS M8905-0-1 | NUMBER |   | REV.  | H |
| SCALE |                            | SHEET     | 3              | OF     | 6 | DIST. |   |

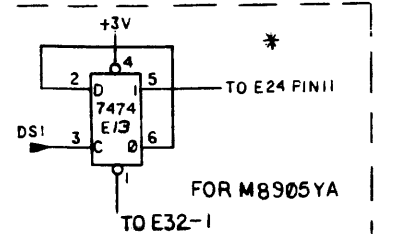
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CHECK CHAR. REGISTER

C-LINE LATCHES



\* ON M8905, SIGNAL TCCM4 200 B.P.I. CLK H FINGER DS1 GOES TO E24 PIN 11.  
 ON M8905YA, SIGNAL TCCM4 200 B.P.I. CLK H FINGER DS1 GOES TO E13 PIN 3 AND E13 PIN 5 GOES TO E24 PIN 11.



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

DCS M8905-0-1 H

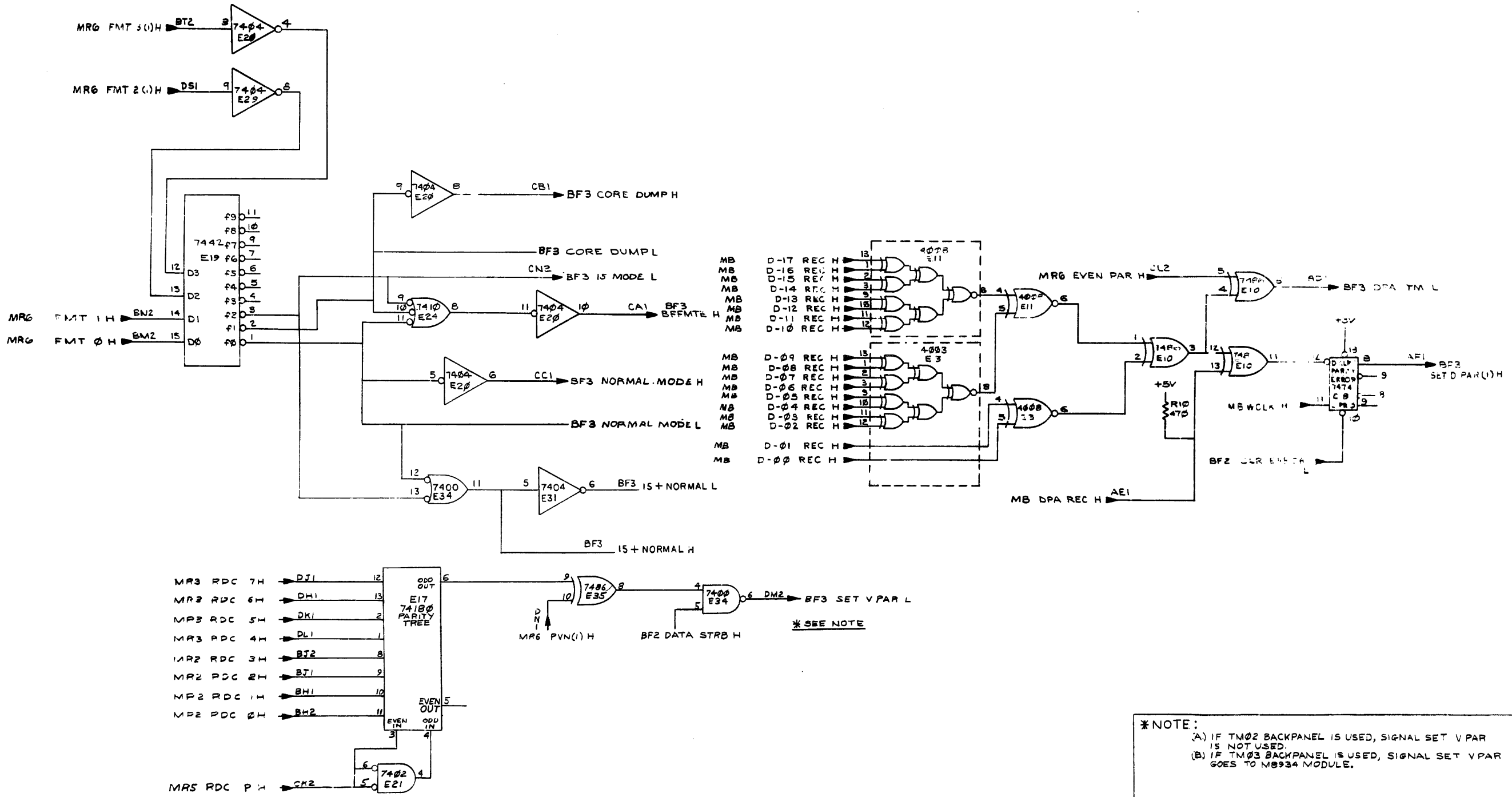








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\*NOTE:  
 (A) IF TM02 BACKPANEL IS USED, SIGNAL SET V PAR IS NOT USED.  
 (B) IF TM03 BACKPANEL IS USED, SIGNAL SET V PAR GOES TO M8934 MODULE.

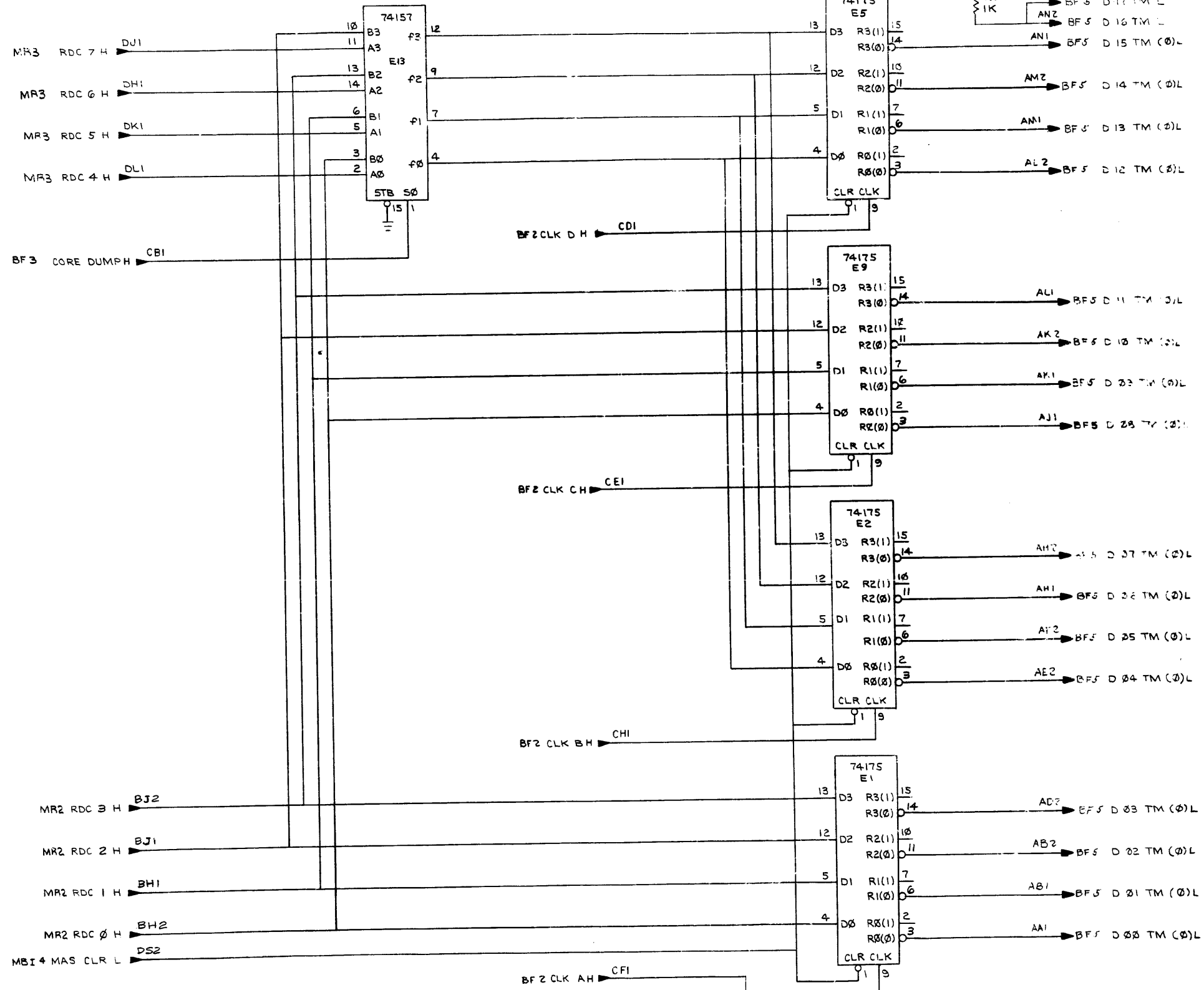
| REVISIONS |           |     |
|-----------|-----------|-----|
| CHK       | CHANGE NO | REV |
|           |           |     |

|       |                               |           |           |      |
|-------|-------------------------------|-----------|-----------|------|
| TITLE | 16 BIT - (BF3)<br>BIT FIDDLER | SIZE CODE | NUMBER    | REV. |
| SCALE | SHEET 3 OF 5                  | DIST.     | M8906-3-1 | D    |





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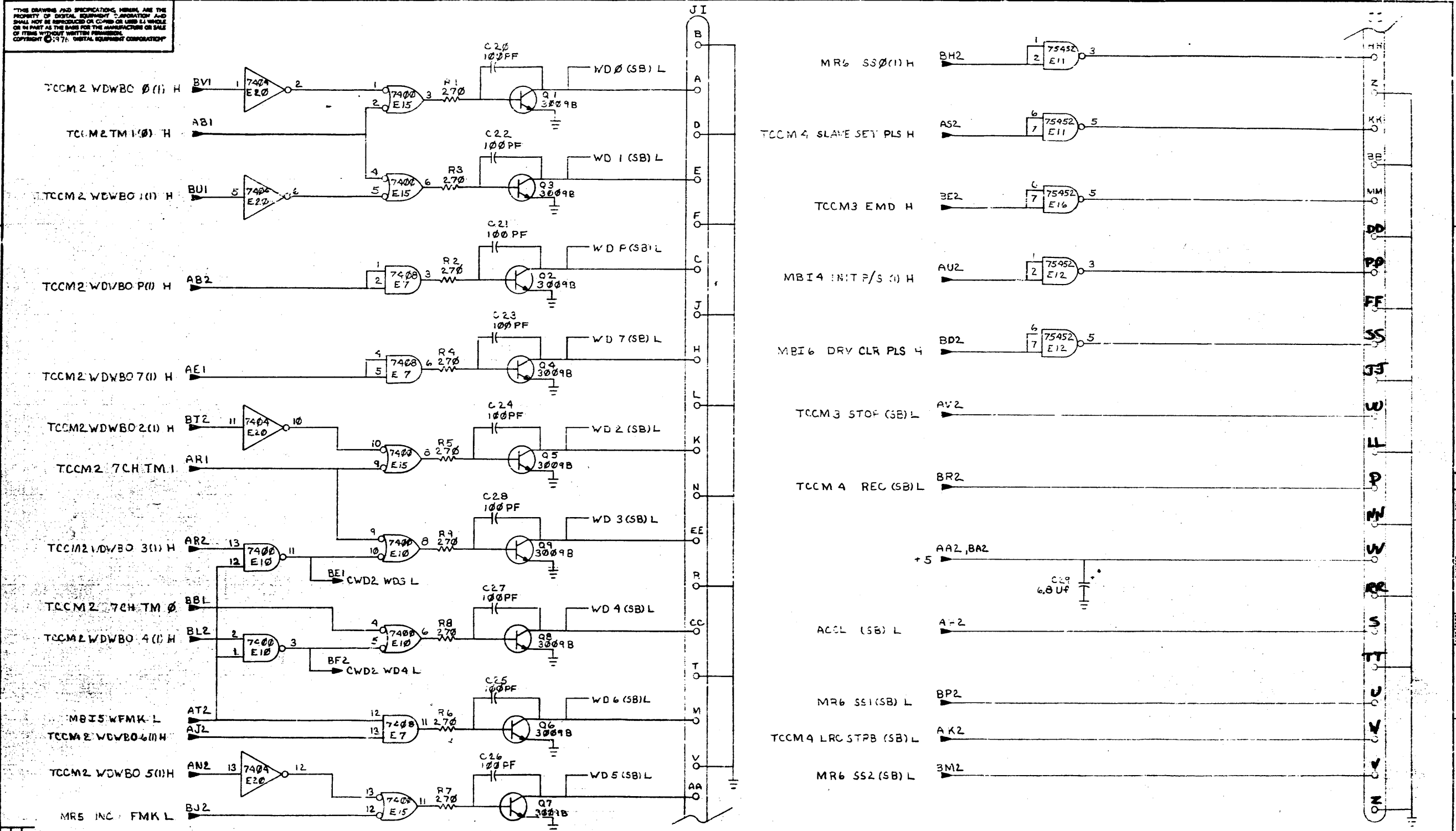


| REVISIONS |           |     |
|-----------|-----------|-----|
| CHK       | CHANGE NO | REV |
|           |           |     |

|       |                               |           |      |        |           |       |   |
|-------|-------------------------------|-----------|------|--------|-----------|-------|---|
| TITLE | 16 BIT - (BF5)<br>BIT FIDDLER | SIZE/CODE | D CS | NUMBER | M8926-0-1 | REV.  | 0 |
| SCALE | +                             | SHEET     | 5    | OF     | 5         | DIST. |   |

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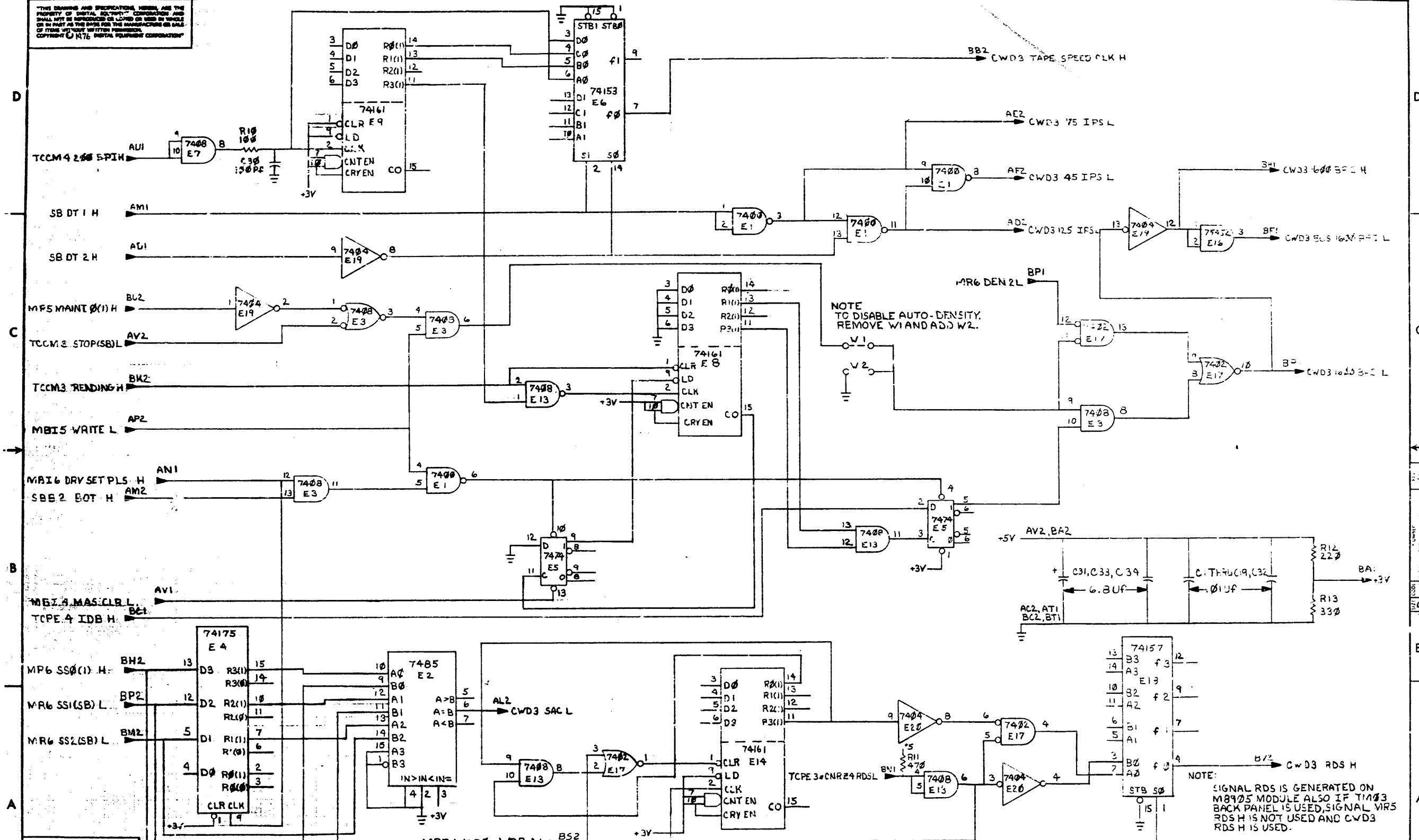
8 7 6 5 4 3 2 1



|                   |          |               |                                     |
|-------------------|----------|---------------|-------------------------------------|
| DRN: G40425       | 71-5-76  | FIRST USED ON | digital                             |
| CHK: [Signature]  | 2 Jun 77 | TM03          |                                     |
| PRD: [Signature]  | 1 Jun 77 | TITLE         | TM03 CONTROL & WRITE DRIVERS (CWD2) |
| PRO: [Signature]  | 1 Jun 77 | SCALE         | D                                   |
| NEXT HIGHER ASSY: |          | SIZE          | CODE                                |
| B-DD-M8937-0-0    |          | NUMBER        | LS-M8937-0-1                        |
| SHEET 1 OF 2      |          | REV.          | b                                   |

8 7 6 5 4 3 2 1

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

TITLE M03 CONTROL WRITE DRIVERS (CWD3)  
 SCALE 1:1  
 SHEET 2 OF 2  
 SIZE CODE DCS  
 NUMBER M2937-0-1  
 REV. B



| DIGITAL EQUIPMENT CORPORATION |                                  |             |                                    | QUANTITY / VARIATION |  |  |  |  |  |  |  | NOTES:                 |                    |
|-------------------------------|----------------------------------|-------------|------------------------------------|----------------------|--|--|--|--|--|--|--|------------------------|--------------------|
| PARTS LIST                    |                                  |             |                                    |                      |  |  |  |  |  |  |  | USED ON OPTION / MODEL |                    |
| MADE BY                       |                                  | CHECKED     |                                    |                      |  |  |  |  |  |  |  | TM03                   |                    |
| DATE                          |                                  | DATE        |                                    |                      |  |  |  |  |  |  |  |                        |                    |
| ENG                           |                                  | PROD        |                                    |                      |  |  |  |  |  |  |  |                        |                    |
| DATE                          |                                  | DATE        |                                    |                      |  |  |  |  |  |  |  | REF DESIGNATION        |                    |
| ITEM NO.                      | DRAWING NO.                      | PART NO.    | DESCRIPTION                        | REF                  |  |  |  |  |  |  |  |                        |                    |
|                               | C-CS-M8937-0-1<br>D-UA-M8937-0-0 |             | CIRCUIT SCHEMATIC<br>UNIT ASSEMBLY | REF                  |  |  |  |  |  |  |  |                        |                    |
| 1                             | D-MD-5012483-0-0                 | 5012483     | ETCH BOARD                         | 1                    |  |  |  |  |  |  |  |                        |                    |
| 2                             |                                  | 10-00016-00 | CAP, 100 PF, 100V, 5% - DM         | 10                   |  |  |  |  |  |  |  |                        | C20 thru C28, C30  |
| 3                             |                                  | 10-01610-01 | CAP, .01 UF, 100V, DISC            | 20                   |  |  |  |  |  |  |  |                        | C1 thru C19, C32   |
| 4                             |                                  | 10-05306-00 | CAP, 6.8 UF, 35V, 10% TANT         | 4                    |  |  |  |  |  |  |  |                        | C29, C31, C33, C34 |
| 5                             |                                  | 12-09941-02 | CONN, 40 PIN (3M)                  | 1                    |  |  |  |  |  |  |  |                        | J1                 |
| 6                             |                                  | 13-00229-00 | RES, 100 1/2W 5%                   | 1                    |  |  |  |  |  |  |  |                        | R10                |
| 7                             |                                  | 13-00271-00 | RES, 220 1/2W 5%                   | 1                    |  |  |  |  |  |  |  |                        | R12                |
| 8                             |                                  | 13-00295-00 | RES, 330 1/2W 5%                   | 1                    |  |  |  |  |  |  |  |                        | R13                |
| 9                             |                                  | 13-00316-00 | RES 470 1/2W 5%                    | 1                    |  |  |  |  |  |  |  |                        | R11                |
| 10                            |                                  | 13-01972-00 | RES, 270 1/2W 5%                   | 9                    |  |  |  |  |  |  |  |                        | R1 thru R9         |
| 11                            |                                  | 15-03100-00 | TRANSISTOR, 3009B                  | 9                    |  |  |  |  |  |  |  |                        | Q1 thru Q9         |
| 12                            |                                  | 19-05547-00 | I.C. 7474                          | 2                    |  |  |  |  |  |  |  |                        | E5,                |
| 13                            |                                  | 19-05575-00 | I.C. 7400                          | 3                    |  |  |  |  |  |  |  |                        | E1, E10, E15       |
| 14                            |                                  | 19-09004-00 | I.C. 7402                          | 1                    |  |  |  |  |  |  |  |                        | E17                |
| 15                            |                                  | 19-09686-00 | I.C. 7404                          | 2                    |  |  |  |  |  |  |  |                        | E19, E20           |
| 16                            |                                  | 19-09937-00 | I.C. 74153                         | 1                    |  |  |  |  |  |  |  |                        | E6                 |

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TITLE  
TM03 CONTROL AND WRITE DRIVERS

ASSY NO.  
D-UA-M8937-0-0  
SHEET 1 OF 2

SIZE CODE  
B PL  
M8937-0-0  
INSERTION PARTS LIST DATA SHEET REV. 0

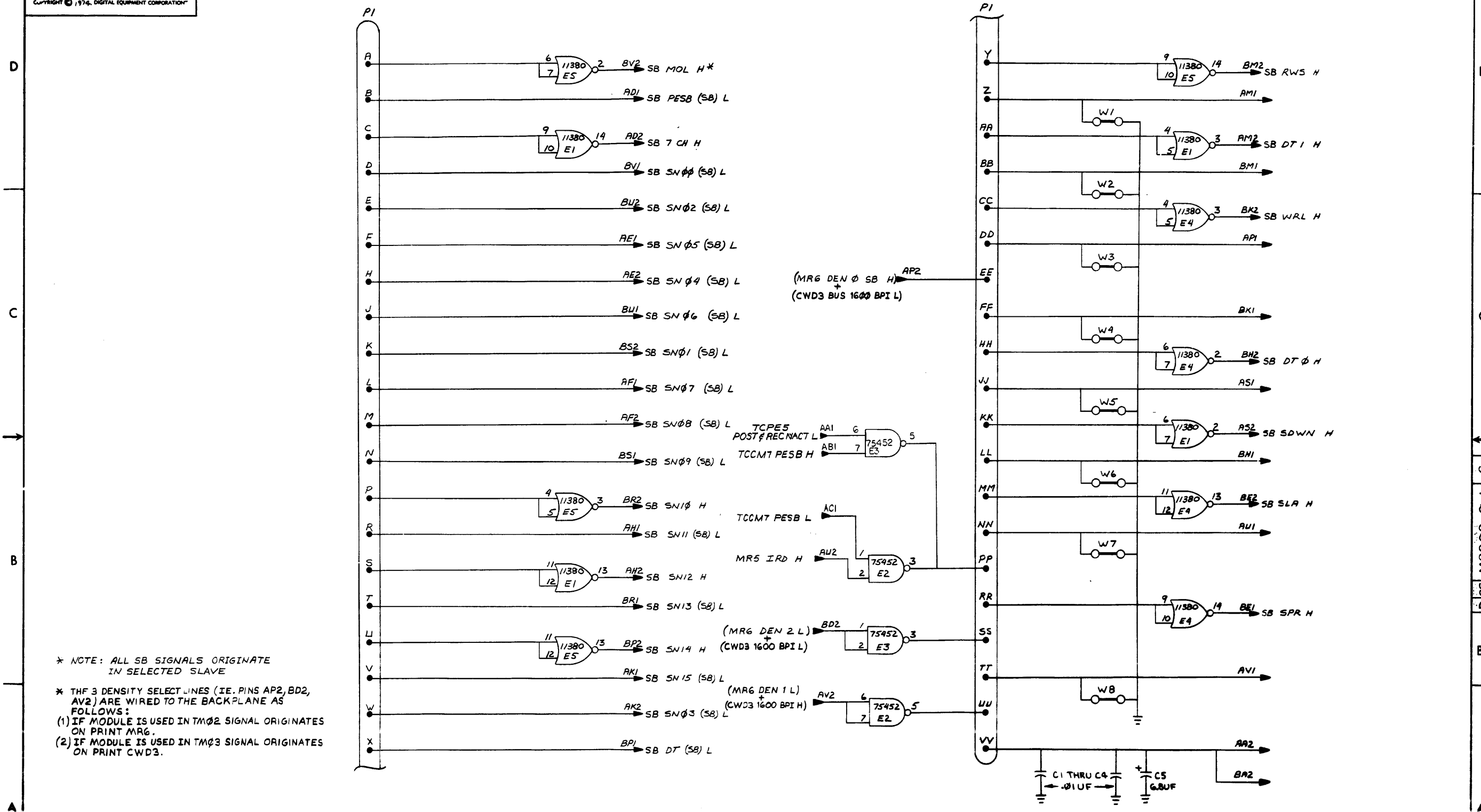
REV.  
D

| DIGITAL EQUIPMENT CORPORATION |             |                            |                        | QUANTITY / VARIATION |  |  |  |  |  |  |  |  |  | NOTES:                    |  |  |                 |
|-------------------------------|-------------|----------------------------|------------------------|----------------------|--|--|--|--|--|--|--|--|--|---------------------------|--|--|-----------------|
| PARTS LIST                    |             |                            |                        |                      |  |  |  |  |  |  |  |  |  | USED ON OPTION/MODEL-TM03 |  |  |                 |
| MADE BY Stu Klotzle           |             | CHECKED <i>[Signature]</i> |                        |                      |  |  |  |  |  |  |  |  |  |                           |  |  |                 |
| DATE 8/28/76                  |             | DATE 1/15/77               |                        |                      |  |  |  |  |  |  |  |  |  |                           |  |  |                 |
| ENG JIM VAGIAS                |             | PROD <i>[Signature]</i>    |                        |                      |  |  |  |  |  |  |  |  |  |                           |  |  |                 |
| DATE 4 JAN 77                 |             | DATE 4 JAN 77              |                        |                      |  |  |  |  |  |  |  |  |  |                           |  |  |                 |
| ITEM NO.                      | DRAWING NO. | PART NO.                   | DESCRIPTION            |                      |  |  |  |  |  |  |  |  |  |                           |  |  | REF DESIGNATION |
| 17                            |             | 19-10155-00                | I.C. 7408              | 3                    |  |  |  |  |  |  |  |  |  |                           |  |  | E3,E7,E13       |
| 18                            |             | 19-10224-00                | I.C. 7485              | 1                    |  |  |  |  |  |  |  |  |  |                           |  |  | E2              |
| 19                            |             | 19-10645-00                | I.C. 75452             | 3                    |  |  |  |  |  |  |  |  |  |                           |  |  | E11,E12,E16     |
| 20                            |             | 19-10650-00                | I.C. 74161             | 3                    |  |  |  |  |  |  |  |  |  |                           |  |  | E8,E9,E14       |
| 21                            |             | 19-10651-00                | I.C. 74175             | 1                    |  |  |  |  |  |  |  |  |  |                           |  |  | E4              |
| 22                            |             | 19-10655-00                | I.C. 74157             | 1                    |  |  |  |  |  |  |  |  |  |                           |  |  | E18             |
| 23                            |             | 9008337-06                 | HANDLE, FLIP CHIP      | 2                    |  |  |  |  |  |  |  |  |  |                           |  |  |                 |
| 24                            |             | 9006732-00                 | EYELET                 | 4                    |  |  |  |  |  |  |  |  |  |                           |  |  |                 |
| 25                            |             |                            |                        |                      |  |  |  |  |  |  |  |  |  |                           |  |  |                 |
| 26                            |             |                            |                        |                      |  |  |  |  |  |  |  |  |  |                           |  |  |                 |
| 27                            |             | 90-09185-00                | JUMPER, WIRE, WHT INS. | 2                    |  |  |  |  |  |  |  |  |  |                           |  |  | W1,W2           |

|          |   |  |  |                                |                |                                      |      |           |      |
|----------|---|--|--|--------------------------------|----------------|--------------------------------------|------|-----------|------|
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|          |   |  |  | TM03 CONTROL AND WRITE DRIVERS | D-UA-M8937-0-0 | B                                    | PL   | M8937-0-0 | B    |
|          |   |  |  |                                | SHEET 2 OF 2   | INSERTION PARTS LIST DATA BASE REV 5 |      |           |      |



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\* NOTE: ALL SB SIGNALS ORIGINATE IN SELECTED SLAVE

\* THE 3 DENSITY SELECT LINES (IE. PINS AP2, BD2, AV2) ARE WIRED TO THE BACKPLANE AS FOLLOWS:

- (1) IF MODULE IS USED IN TMØ2 SIGNAL ORIGINATES ON PRINT MR6.
- (2) IF MODULE IS USED IN TMØ3 SIGNAL ORIGINATES ON PRINT CWD3.

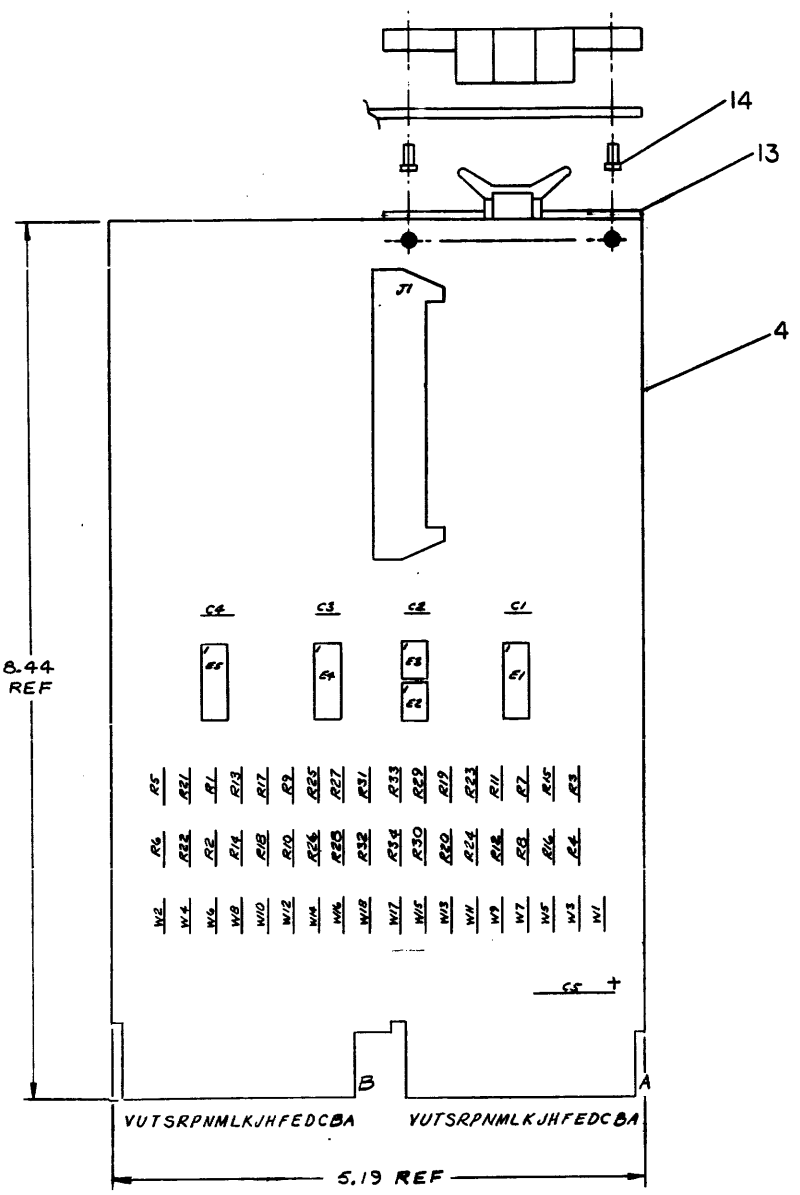
| REVISIONS |            |      |
|-----------|------------|------|
| CHK       | CHANGE NO. | REV. |
|           |            |      |

DCS M8908-0-1 C



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NOTES:



| REF | X-Y COORDINATE HOLE LOCATION  | K-CO-M8908-B-4             | 1  |
|-----|---|----------------------------|----|
| REF | ASSY/DRILLING HOLE LAYOUT   | D-AH-M8908-YA-5            | 2  |
| REF | MODULE ECO HISTORY  | B-MH-M8908-YA-6            | 3  |
| 1   | ETCHED CIRCUIT BOARD  | 5010982                    | 4  |
| 4   | C1 THRU C4  | CAP .01UF 100V 20% DISC    | 5  |
| 1   | C5  | CAP 6.8UF 35V 10% TANT     | 6  |
| 1   | J1  | CONN 40 PIN                | 7  |
| 10  | R1, R3, R5, R7, R9, R11, R13, R15, R17, R19                                     | RES 120 1/4W, 5%           | 8  |
| 17  | R2, R4, R6, R8, R10, R12, R14, R16, R18, R20, R22, R24, R26, R28, R30, R32, R34 | RES 220 1/4W, 5%           | 9  |
| 2   | E2, E3  | IC 75452                   | 10 |
| 3   | E1, E4, E5  | IC 11580                   | 11 |
| 10  | W1 THRU W18   | JUMPER, INSULATED          | 12 |
| 2   |   | HANDLE, FLIP-CHIP, MAGENTA | 13 |
| 4   |   | EYELET                     | 14 |
| 7   | R21, R23, R25, R27, R29, R31, R33   | RES 150 1/4W 5%            | 15 |

| IC TYPE | QND | + BV |
|---------|-----|------|
| 75452   | 4   | 8    |
| 11580   | 1   | 8    |

QND AND BV ARE USUALLY PINS 7 AND 14  
RESPONSIBLY SHIPPERS ARE STATED ABOVE

IC PIN LOCATIONS

| REV | CHANGE NO. | REV |
|-----|------------|-----|
| 1   |            |     |
| 2   |            |     |
| 3   |            |     |
| 4   |            |     |
| 5   |            |     |
| 6   |            |     |
| 7   |            |     |
| 8   |            |     |
| 9   |            |     |
| 10  |            |     |

| DEC NO. | EIA NO. | DEC NO. | EIA NO. |
|---------|---------|---------|---------|
|         |         |         |         |
|         |         |         |         |
|         |         |         |         |
|         |         |         |         |

| DATE    | DATE   |
|---------|--------|
| 2/21/74 | 3/5/74 |
| 3/5/74  | 3/5/74 |
| 3-6-74  | 3-6-74 |
| 3-7-74  | 3-7-74 |

**digital** EQUIPMENT CORPORATION  
MAYNARD, MASSACHUSETTS

TITLE: RECEIVER TERMINATOR

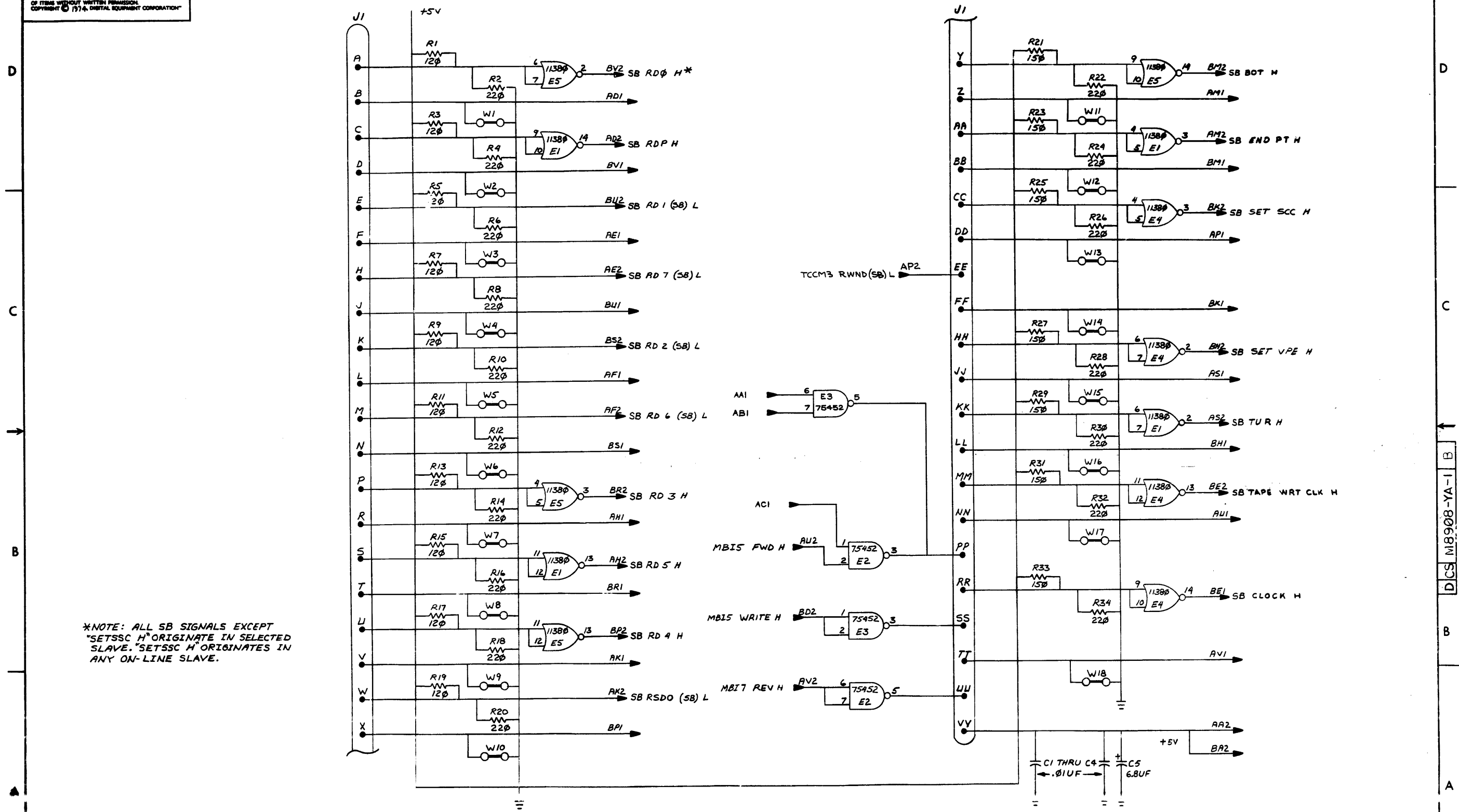
NUMBER: DCS M8908-YA-1

REV: B

SHEET 1 OF 2

DCS M8908-YA-1

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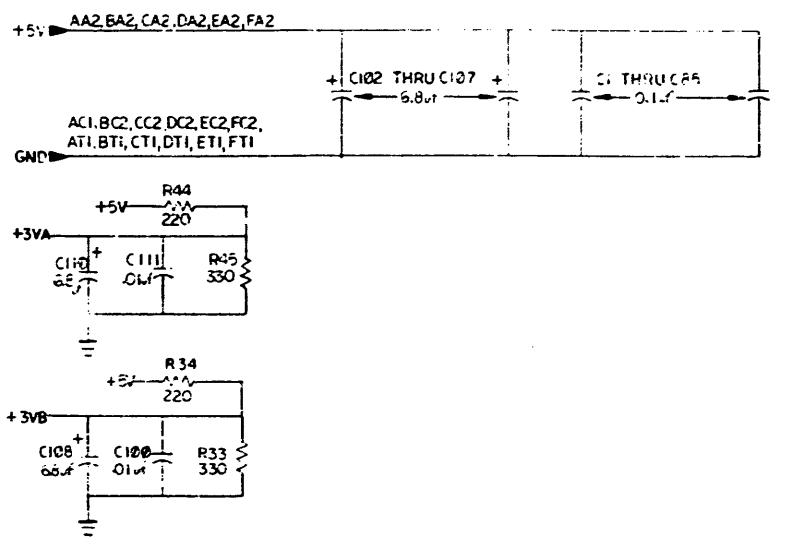
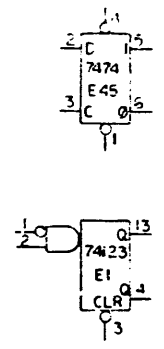
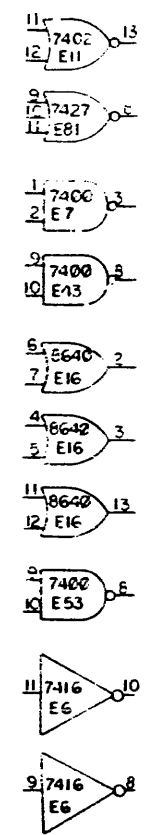
\*NOTE: ALL SB SIGNALS EXCEPT "SETSSC H" ORIGINATE IN SELECTED SLAVE. "SETSSC H" ORIGINATES IN ANY ON-LINE SLAVE.

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

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**NOTES:**  
 1. UNLESS OTHERWISE SPECIFIED:  
 A. RESISTANCE IN OHMS  
 B. CAPACITANCE IN MICROFARADS

SPARE IC'S



|           |    |    |
|-----------|----|----|
| DEC 7475  | 12 | 5  |
| DEC 7485  | 8  | 16 |
| DEC 74123 | 8  | 16 |
| DEC 74145 | 8  | 16 |
| DEC 74151 | 8  | 16 |
| DEC 74154 | 12 | 24 |
| DEC 74155 | 8  | 16 |
| DEC 74193 | 8  | 16 |
| DEC 384   | 1  | 8  |
| DEC 8234  | 8  | 16 |

IC TYPE 000 +5V  
 GND AND 5V ARE USUALLY PIN 7 AND 14 RESPECTIVELY EXCEPTIONS ARE STATED ABOVE  
 IC PIN LOCATIONS

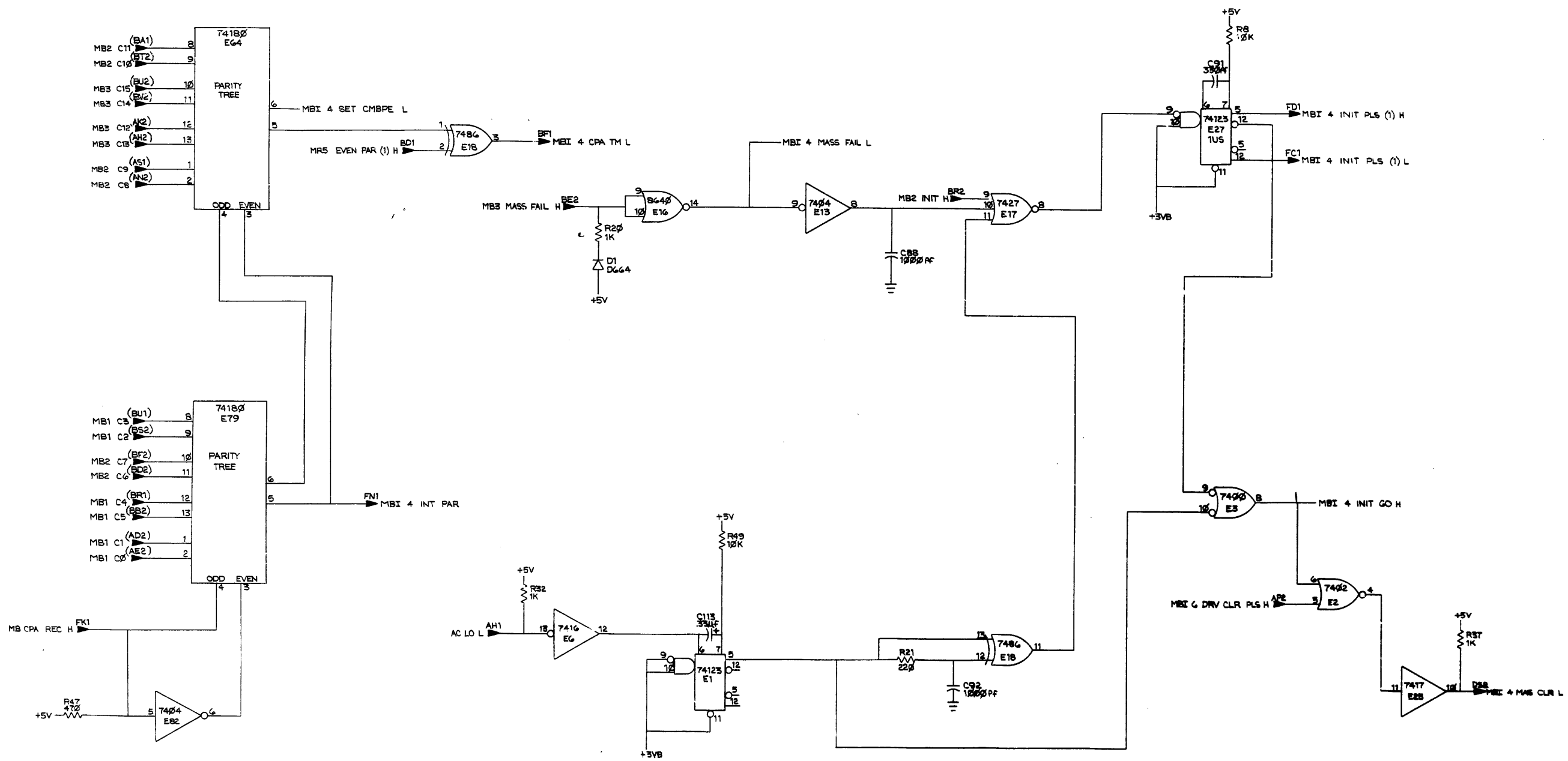
|                                |             |            |                  |                            |            |          |
|--------------------------------|-------------|------------|------------------|----------------------------|------------|----------|
| FIRST USED ON OPTION MODEL     |             | QTY        | REF. DESIGNATION | DESCRIPTION                | PART NO.   | ITEM NO. |
| TU16                           |             |            |                  |                            |            |          |
| ETCH BOARD REV.                |             | PARTS LIST |                  |                            |            |          |
| C                              |             |            |                  |                            |            |          |
| DRG.                           | M. PORRIER  | DATE       | 11-8-73          |                            |            |          |
| CHKD.                          | F. CANBERRY | DATE       | 1-22-74          |                            |            |          |
| ENGR.                          | H. DRAB     | DATE       | 1-22-74          |                            |            |          |
| PROJ. ENGR.                    | H. DRAB     | DATE       | 1-22-74          |                            |            |          |
| PROJ.                          | R. KOCUON   | DATE       | 1-22-74          |                            |            |          |
| NEXT HIGHER ASSY               |             |            |                  |                            |            |          |
| DEC NO.                        | EIA NO.     | DEC NO.    | EIA NO.          | TITLE                      |            |          |
|                                |             | D664       | IN3606           | MASS BUS (MBI 1) INTERFACE |            |          |
| SEMICONDUCTOR CONVERSION CHART |             |            |                  | SCALE                      | SIZE       | CODE     |
|                                |             |            |                  | 1 OF 11                    | D          | CS       |
|                                |             |            |                  |                            | NUMBER     | REV.     |
|                                |             |            |                  |                            | M8909-YA-1 | J        |
|                                |             |            |                  |                            | DIST.      |          |







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

|                                   |   |   |   |   |   |   |        |
|-----------------------------------|---|---|---|---|---|---|--------|
| 8                                 | 7 | 6 | 5 | 4 | 3 | 2 | 1      |
| TITLE: MASS BUS INTERFACE (MBI 4) |   |   |   |   |   |   | REV: J |
| SCALE: 1/8" = 1"                  |   |   |   |   |   |   | REV: J |
| SHEET: 4 OF 11                    |   |   |   |   |   |   | REV: J |
| DISTR: DCS M8909-YA-1             |   |   |   |   |   |   | REV: J |





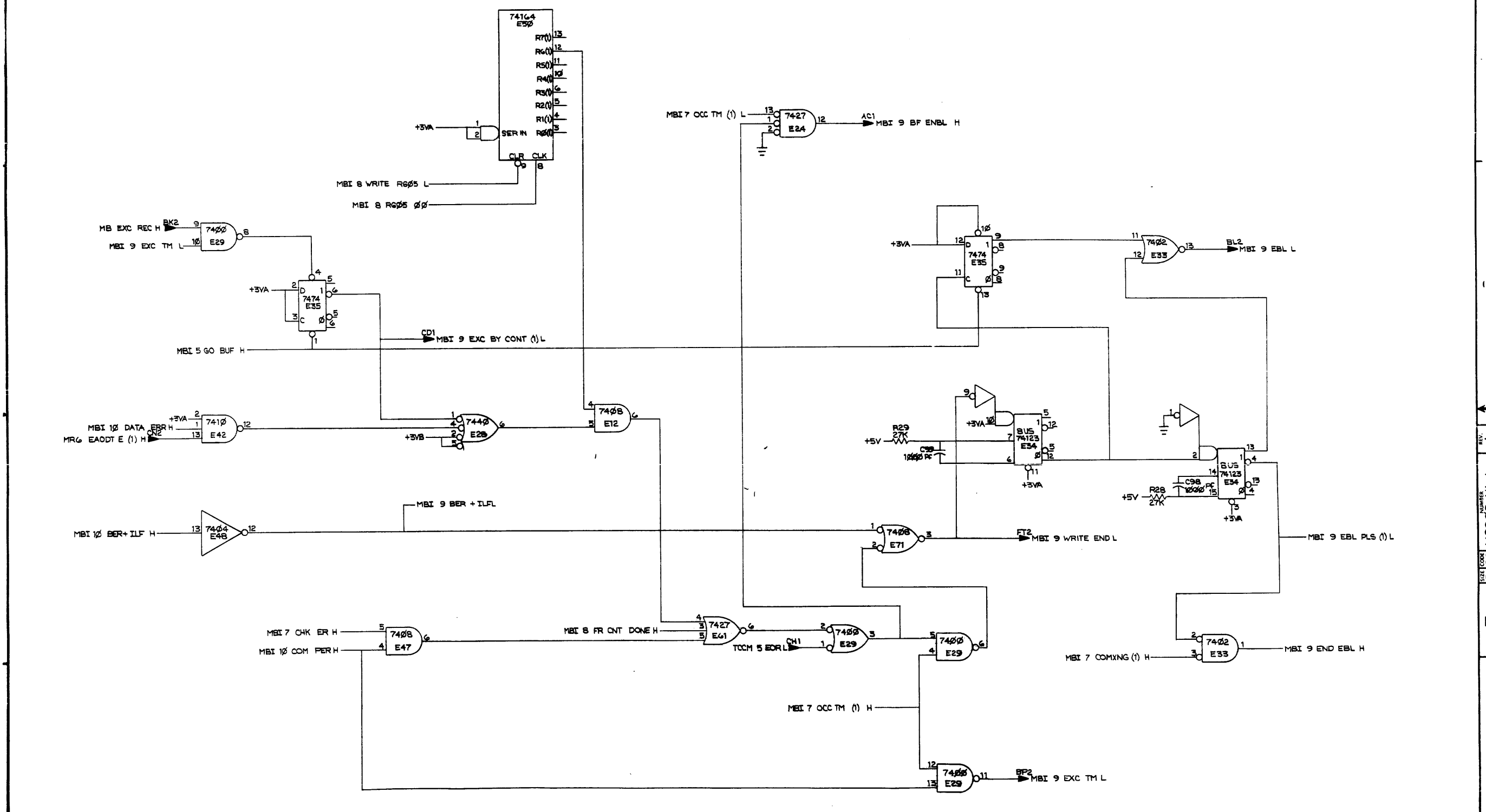






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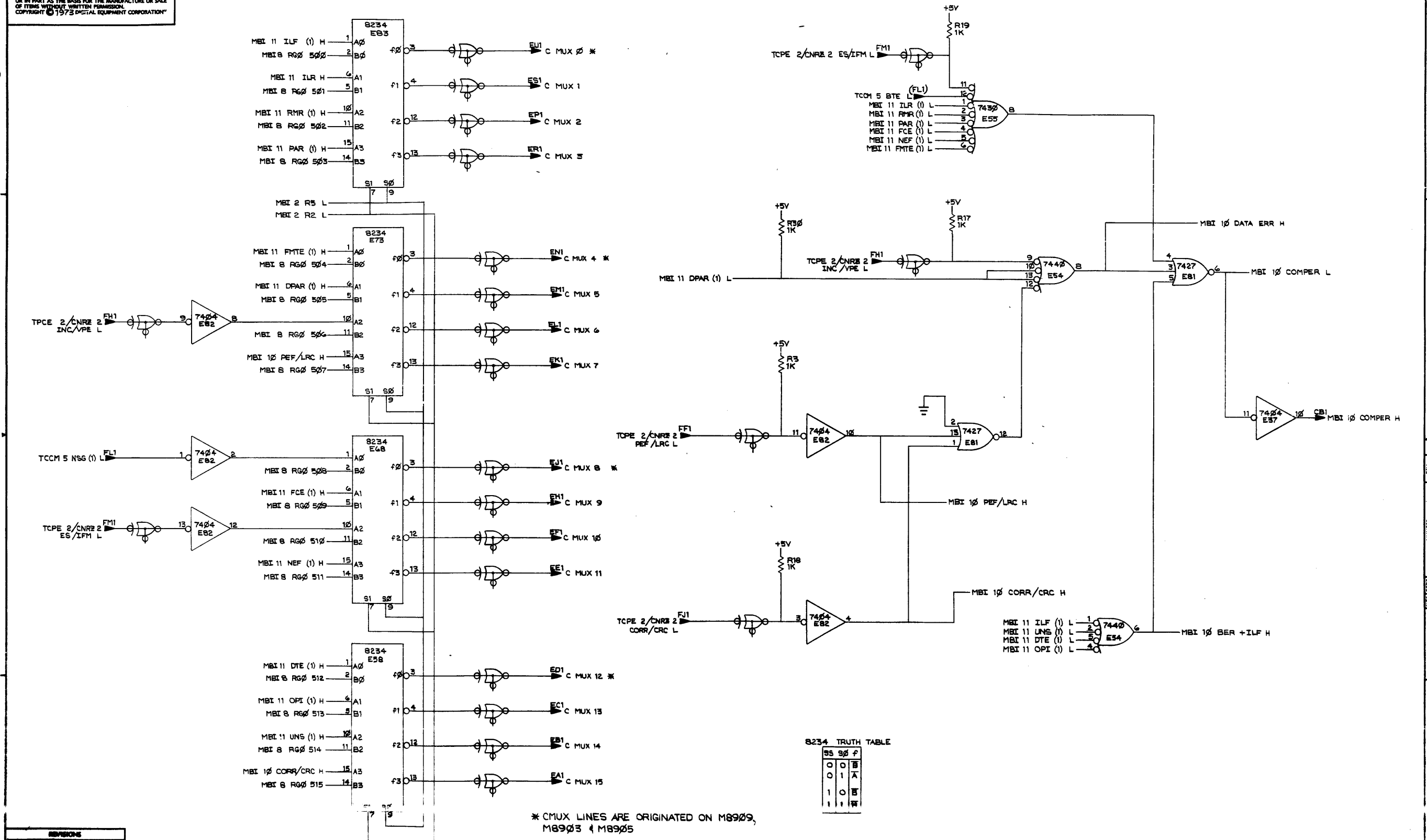
1-VA-6068W [S] [D] 2



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

|       |                            |           |         |        |            |      |   |
|-------|----------------------------|-----------|---------|--------|------------|------|---|
| TITLE | MASS BUS INTERFACE (MBI 9) | SIZE CODE | D CS    | NUMBER | M8909-YA-1 | REV. | 4 |
| SCALE | 1:1                        | SHEET     | 9 OF 11 | DIST.  |            |      |   |

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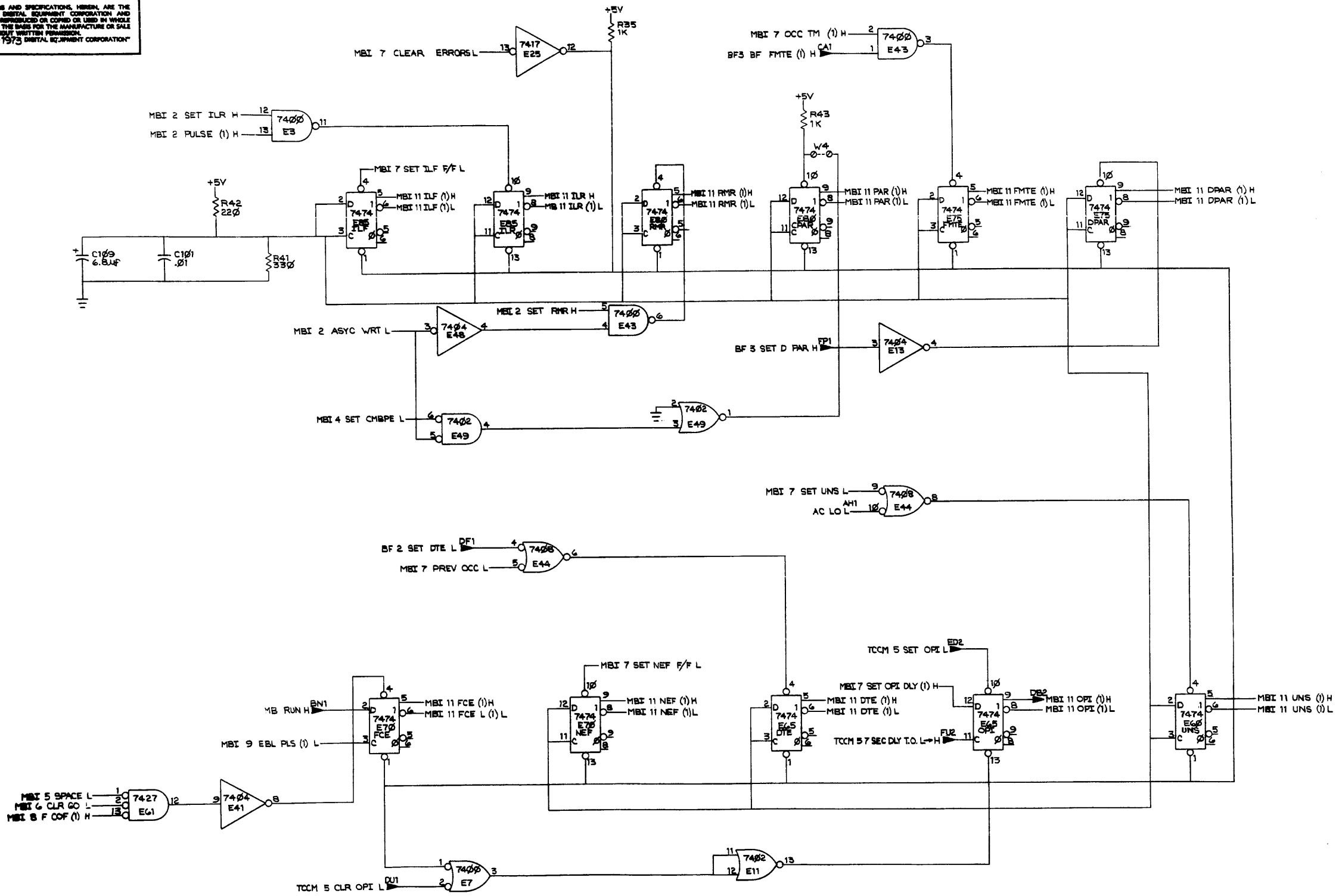
8234 TRUTH TABLE

| SS | S0 | F |
|----|----|---|
| 0  | 0  | B |
| 0  | 1  | A |
| 1  | 0  | B |
| 1  | 1  | A |

\* CMUX LINES ARE ORIGINATED ON M8909, M8903 & M8905

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

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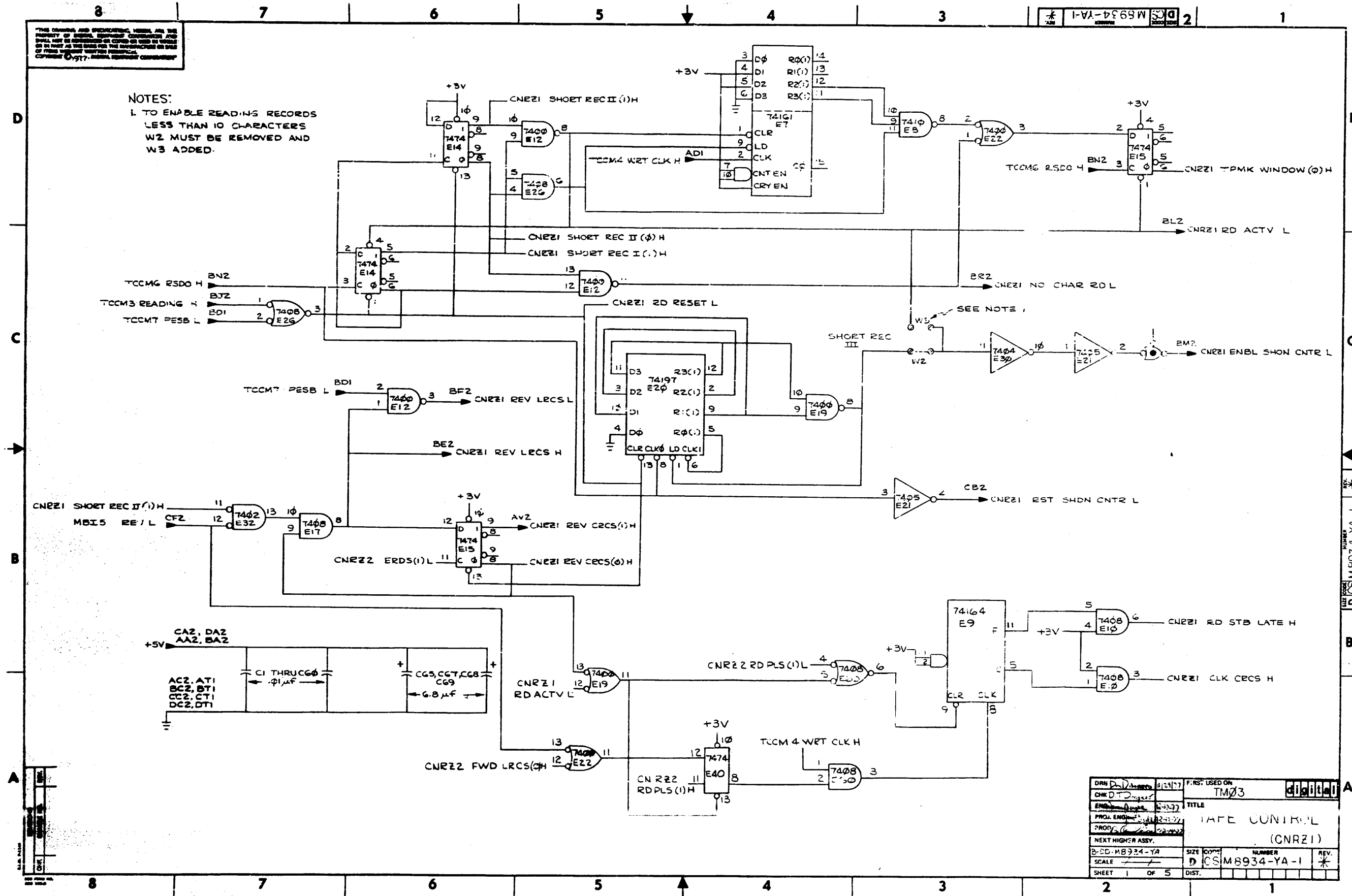


| REV. | DATE | BY | CHKD. |
|------|------|----|-------|
|      |      |    |       |

|       |                             |           |      |        |            |       |   |
|-------|-----------------------------|-----------|------|--------|------------|-------|---|
| TITLE | MASS BUS INTERFACE (MBI 11) | SIZE CODE | D CS | NUMBER | M8909-YA-1 | REV.  | 1 |
| SCALE | 1:1                         | SHEET     | 11   | OF     | 11         | DIST. |   |

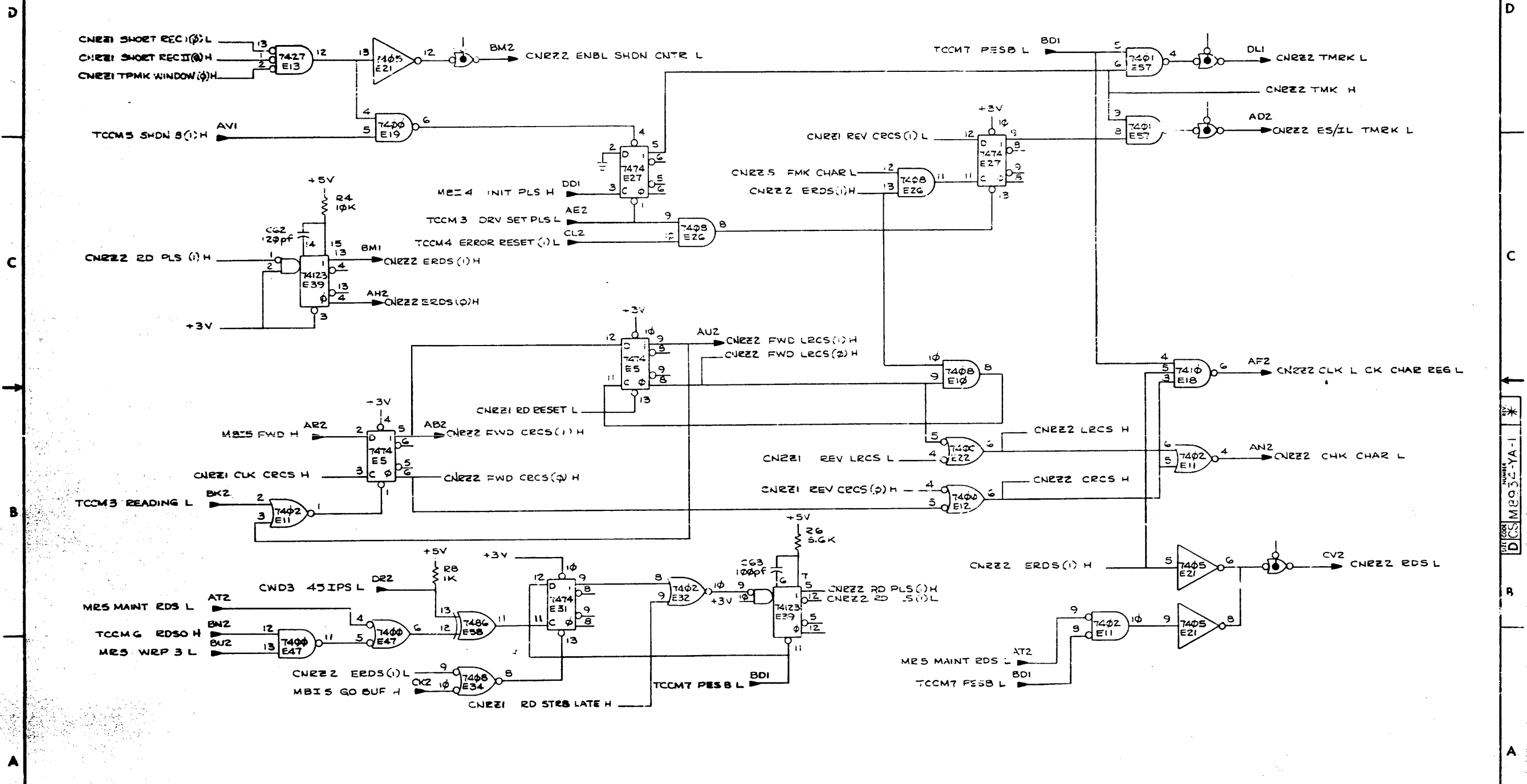
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NOTES:  
 1. TO ENABLE READING RECORDS LESS THAN 10 CHARACTERS W2 MUST BE REMOVED AND W3 ADDED.



|                   |              |               |              |
|-------------------|--------------|---------------|--------------|
| DRN D-12          | DATE 3/23/77 | FIRST USED ON | digital      |
| CHK D-12          | DATE 3/23/77 | TITLE         | TAPE CONTROL |
| ENGR D-12         | DATE 3/23/77 | NUMBER        | (CNRZ1)      |
| PROL ENG D-12     | DATE 3/23/77 | SCALE         |              |
| PROY D-12         | DATE 3/23/77 | DIST.         |              |
| NEXT HIGHER ASSY. |              | SIZE COMP     |              |
| D-DD-M8934-YA     |              | NUMBER        | M8934-YA-1   |
| SCALE             |              | REV.          | *            |
| SHEET 1 OF 5      |              |               |              |

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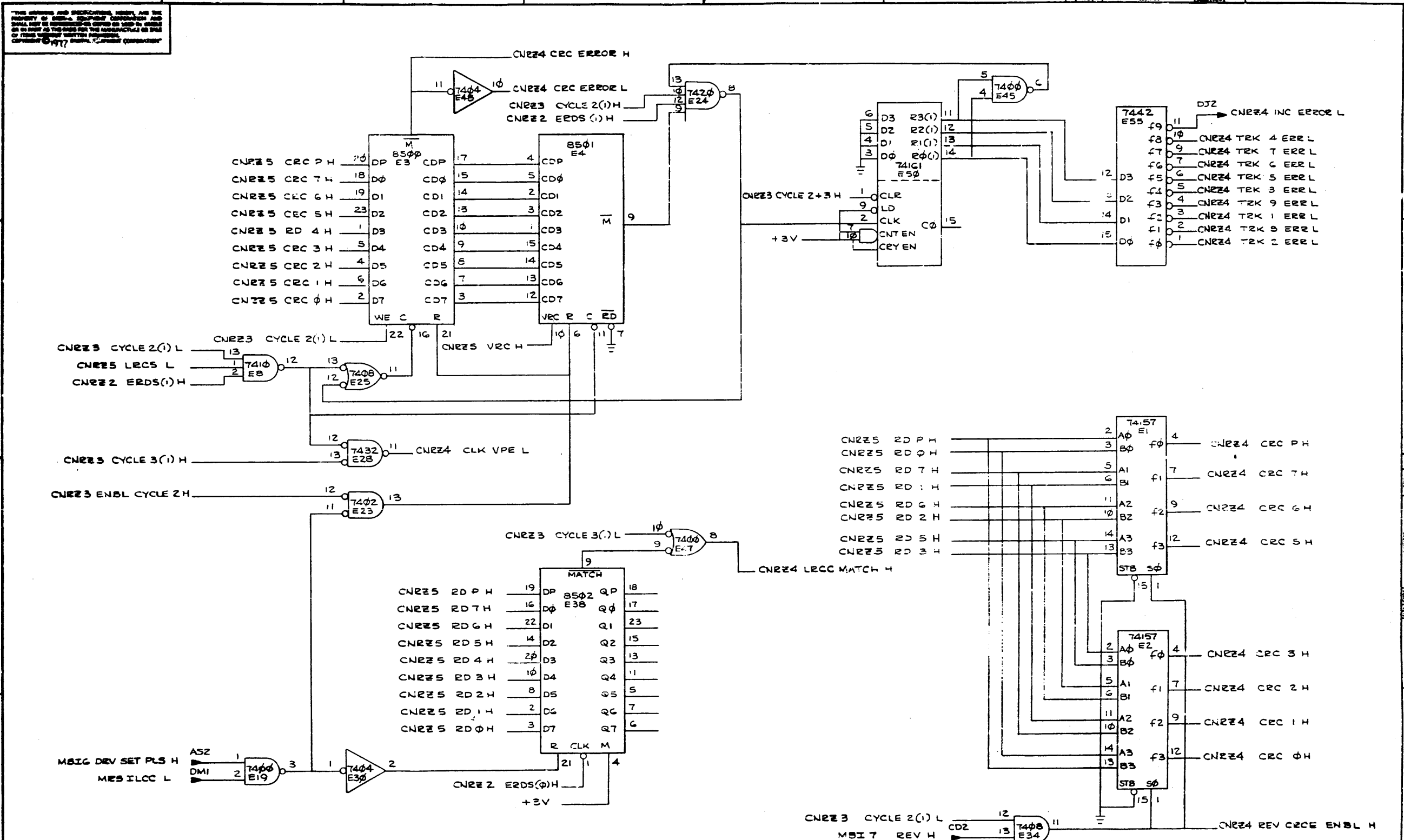
| REV. | CHG. | DATE |
|------|------|------|
|      |      |      |

|       |                      |           |     |        |            |       |   |
|-------|----------------------|-----------|-----|--------|------------|-------|---|
| TITLE | TAPE CONTROL (CNR22) | SIZE CODE | DCS | NUMBER | M8934-YA-1 | REV.  | 1 |
| SCALE | 1:1                  | SHEET     | 2   | OF     | 5          | DIST. |   |

DCS M8934-YA-1



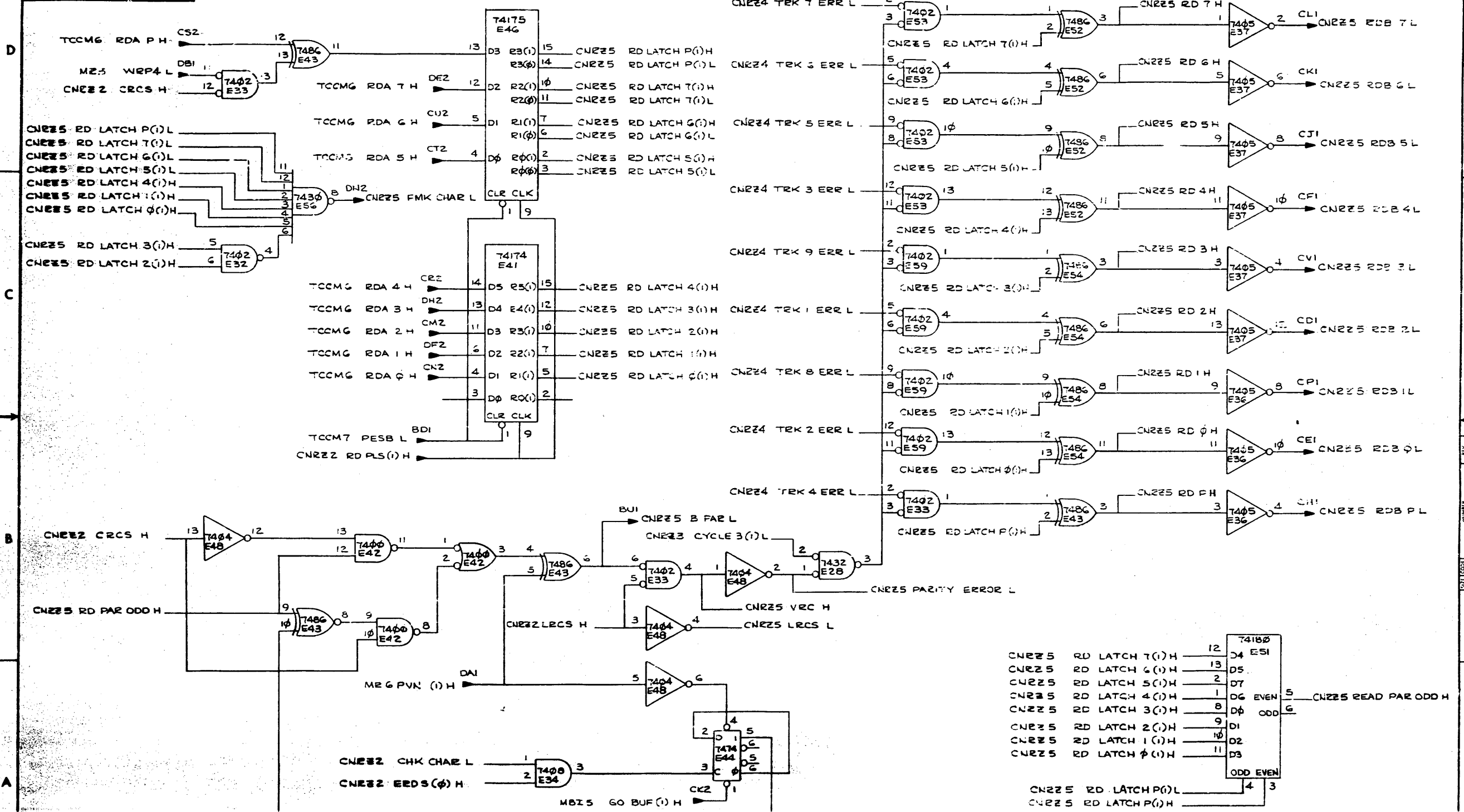




| REVISIONS |            |      |
|-----------|------------|------|
| CHK       | CHANGE NO. | REV. |
|           |            |      |
|           |            |      |

DCS M 8934-YA-1

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|                      |    |     |      |
|----------------------|----|-----|------|
| CNRZ5 RD LATCH 7(I)H | 12 | D4  | ESI  |
| CNRZ5 RD LATCH 6(I)H | 13 | D5  |      |
| CNRZ5 RD LATCH 5(I)H | 2  | D7  |      |
| CNRZ5 RD LATCH 4(I)H | 1  | D6  | EVEN |
| CNRZ5 RD LATCH 3(I)H | 8  | D0  | ODD  |
| CNRZ5 RD LATCH 2(I)H | 9  | D1  |      |
| CNRZ5 RD LATCH 1(I)H | 10 | D2  |      |
| CNRZ5 RD LATCH 0(I)H | 11 | D3  |      |
| CNRZ5 RD LATCH 0(I)L |    | ODD | EVEN |
| CNRZ5 RD LATCH P(I)H | 4  | 3   |      |

DIGITAL EQUIPMENT CORPORATION

PARTS LIST

QUANTITY / VARIATION

NOTES:

USED ON OPTION/MODEL  
TM03

|                              |                                |                |
|------------------------------|--------------------------------|----------------|
| MADE BY <i>D. Desjardins</i> | CHECKED <i>S. Cl. by parka</i> | SECTION        |
| DATE <i>11-29-77</i>         | DATE <i>11-30-77</i>           |                |
| ENG <i>James Bayle</i>       | PROD <i>B. Santucci</i>        | ISSUED SECTION |
| DATE <i>12-12-77</i>         | DATE <i>12-14-77</i>           |                |

| ITEM NO. | DRAWING NO.      | PART NO.    | DESCRIPTION          | M8934-YA | QUANTITY | VARIATION | REF | REF DESIGNATION                    |
|----------|------------------|-------------|----------------------|----------|----------|-----------|-----|------------------------------------|
|          | D-CS-M8934-YA-1  |             | CIRCUIT SCHEMATIC    | REF      |          |           |     |                                    |
|          | D-UA-M8934-YA-Ø  |             | UNIT ASSEMBLY        | REF      |          |           |     |                                    |
|          | B-DD-M8934-YA    |             | DWG DIRECTORY        | REF      |          |           |     |                                    |
| 1        | D-MD-5012400-0-0 | 5012400     | ETCHED CIRCUIT BOARD | 1        |          |           |     |                                    |
| 2        |                  | 10-00016-00 | CAP 100PF 100V       | 1        |          |           |     | C63                                |
| 3        |                  | 10-00018-00 | CAP 120PF 100V       | 1        |          |           |     | C62                                |
| 4        |                  | 10-00026-00 | CAP 680PF 100V       | 1        |          |           |     | C64                                |
| 5        |                  | 10-01610-01 | CAP .01UF 100V DISC  | 61       |          |           |     | C1 thru C61                        |
| 6        |                  | 10-05306-00 | CAP 6.8UF 35V 10%    | 5        |          |           |     | C65 thru C69                       |
| 7        |                  | 13-00229-00 | RES 100 1/4W 5%      | 1        |          |           |     | R3                                 |
| 8        |                  | 13-00271-00 | RES 220 1/4W 5%      | 1        |          |           |     | R5                                 |
| 9        |                  | 13-00295-00 | RES 330 1/4W 5%      | 1        |          |           |     | R7                                 |
| 10       |                  | 13-00365-00 | RES 1K 1/4W 5%       | 3        |          |           |     | R1,R2,R8                           |
| 11       |                  | 13-00479-00 | RES 10K 1/4W 5%      | 1        |          |           |     | R4                                 |
| 12       |                  | 13-01874-00 | RES 5.6K 1/4W 5%     | 1        |          |           |     | R6                                 |
| 13       |                  | 19-05547-00 | I.C. DEC 7474        | 9        |          |           |     | E5,E14,E15,E16,E27,E29,E44,E31,E40 |
| 14       |                  | 19-05575-00 | I.C. DEC 7400        | 6        |          |           |     | E12,E19,E22,E42,E45,E47            |
| 15       |                  | 19-05576-00 | I.C. DEC 7410        | 2        |          |           |     | E8,E18                             |
| 16       |                  | 19-05577-00 | I.C. DEC 7420        | 1        |          |           |     | E24                                |

E.C.O. NO.

|   |                                   |                             |           |                                      |                      |           |
|---|-----------------------------------|-----------------------------|-----------|--------------------------------------|----------------------|-----------|
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|   |                                   | SHEET 1 OF 3                |           | INSERTION PARTS LIST DATA BASE REV 4 |                      |           |



DIGITAL EQUIPMENT CORPORATION

PARTS LIST

QUANTITY / VARIATION

NOTES:

USED ON OPTION / MODEL  
TM03

|         |         |                |
|---------|---------|----------------|
| MADE BY | CHECKED | SECTION        |
| DATE    | DATE    | ISSUED SECTION |
| ENG     | PROD    |                |
| DATE    | DATE    |                |

| ITEM NO. | DRAWING NO. | PART NO.    | DESCRIPTION        | QUANTITY | UNIT | REF DESIGNATION |
|----------|-------------|-------------|--------------------|----------|------|-----------------|
| 36       |             | 90-09185-00 | INSULATED JUMPERS  | 3        |      | W1, W2, W3      |
| 37       |             | 19-10651-00 | I.C. 74175         | 1        |      | E46             |
| 38       |             | 19-10652-00 | I.C. 74174         | 1        |      | E41             |
| 39       |             | 19-10724-00 | I.C. 74180         | 1        |      | E51             |
| 40       |             | 9105740-55  | WIRE, #30 AWG, GRN | AR       |      |                 |
| 41       |             | 19-10041    | I.C. 74164         | 1        |      | E9              |

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TAPE CONTROL NRZ1

ASSY NO.

D-4A-M8934-YA-φ

SIZE

B

CODE

PL

NUMBER

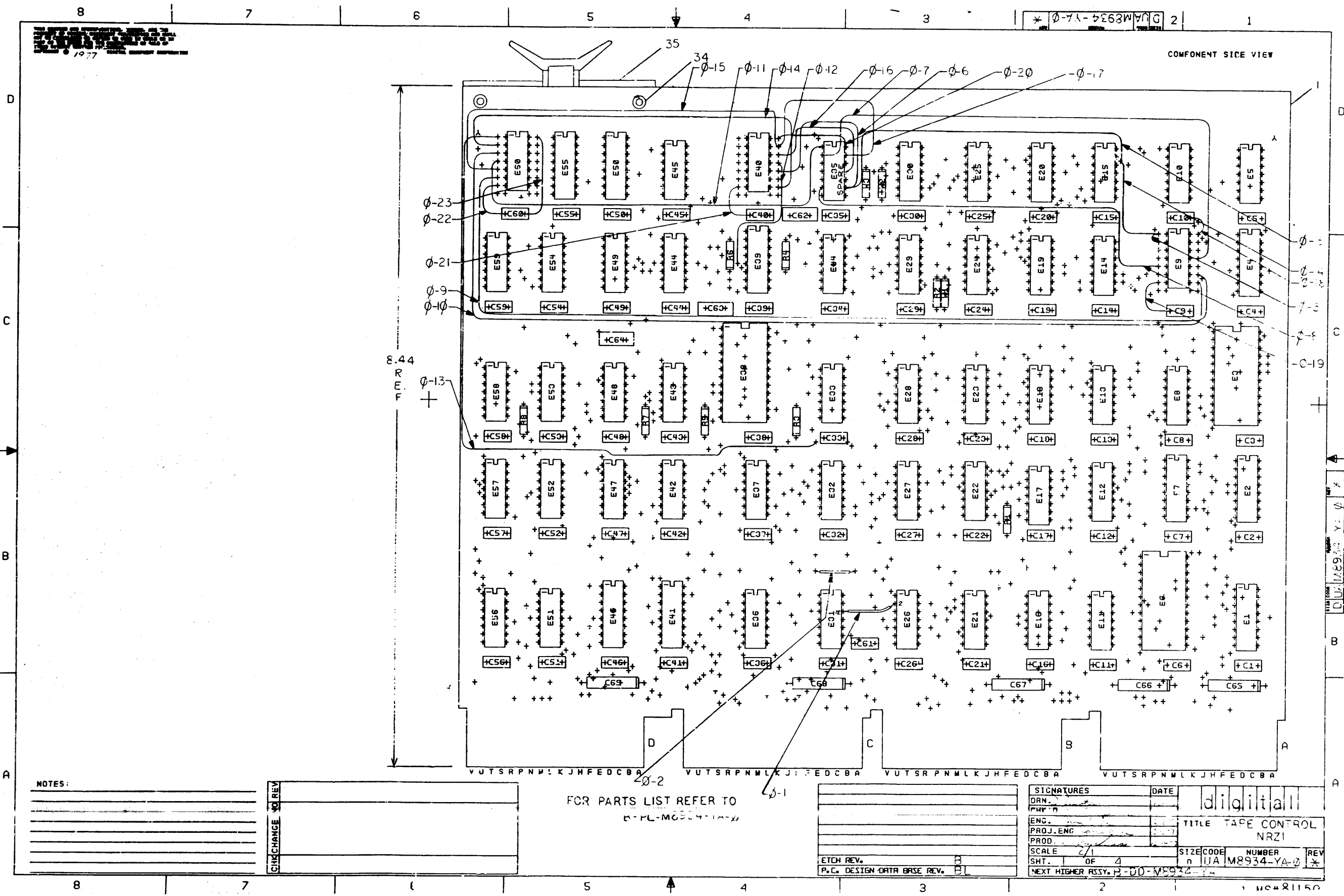
M8934-YA-φ

REV.

\*

SHEET 3 OF 3

INSERTION PARTS LIST DATA BASE REV A



NOTES:

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

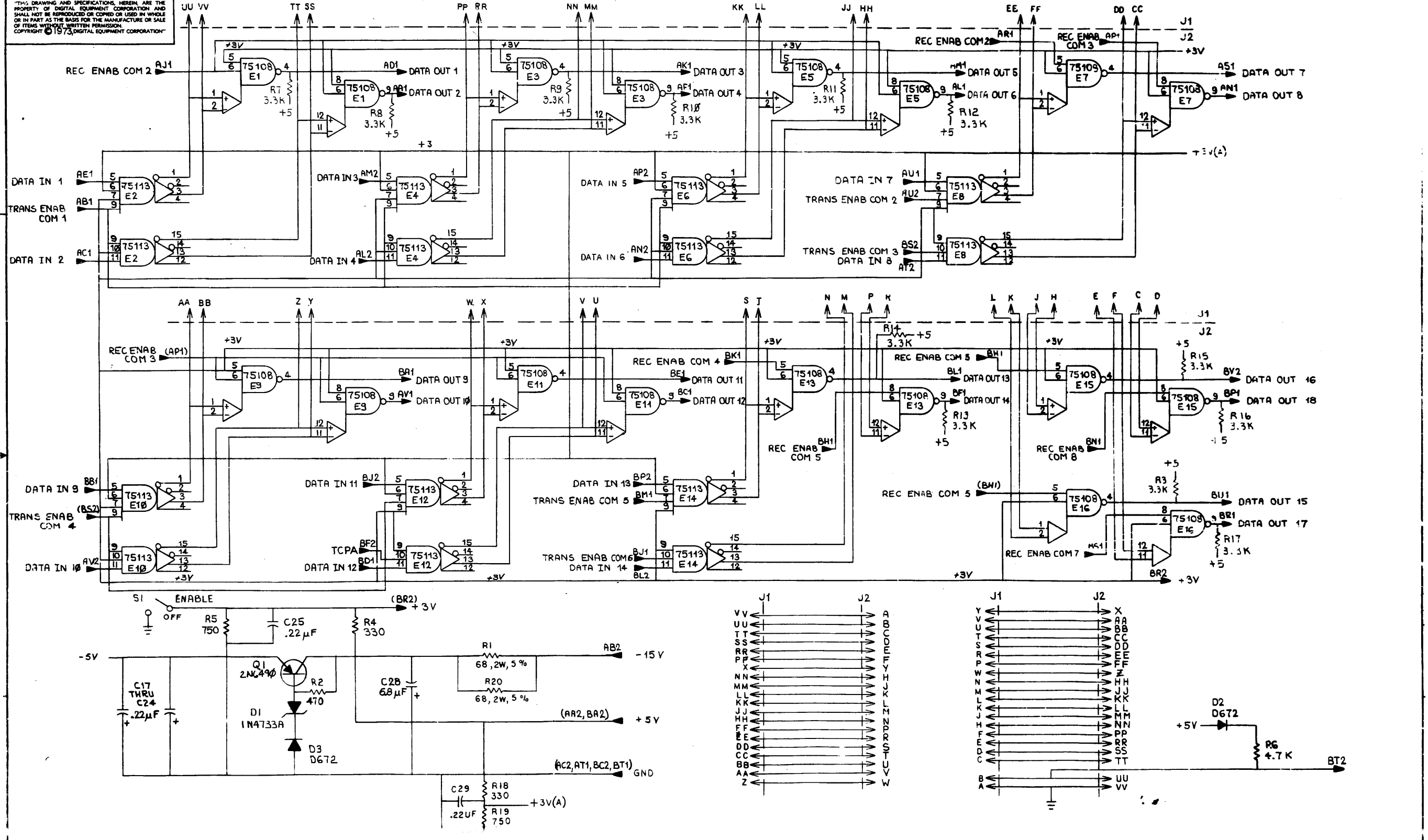
| CHG | NO | REV |
|-----|----|-----|
|     |    |     |
|     |    |     |
|     |    |     |
|     |    |     |

digital

TITLE TAPE CONTROL  
NRZI

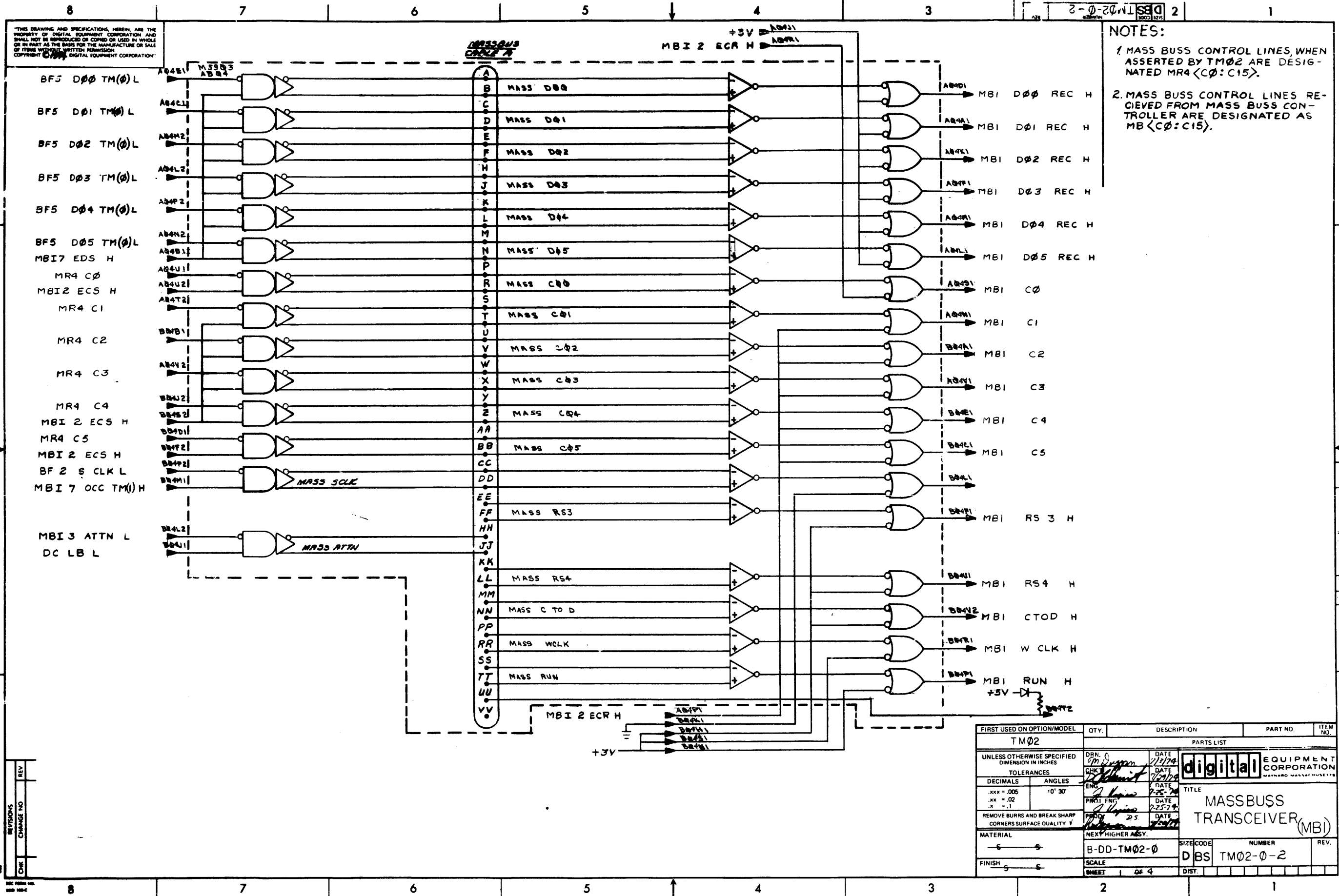
NO# 81150





| REVISIONS |            |      | TITLE             |      | SIZE CODE |   | NUMBER    |   | REV. |
|-----------|------------|------|-------------------|------|-----------|---|-----------|---|------|
| CHK       | CHANGE NO. | REV. | DRIVE TRANSCEIVER |      | DCS       |   | M5903-0-1 |   | K    |
|           |            |      | SCALE             | NONE | SHEET     | 2 | OF        | 2 |      |
|           |            |      | DIST.             |      |           |   |           |   |      |



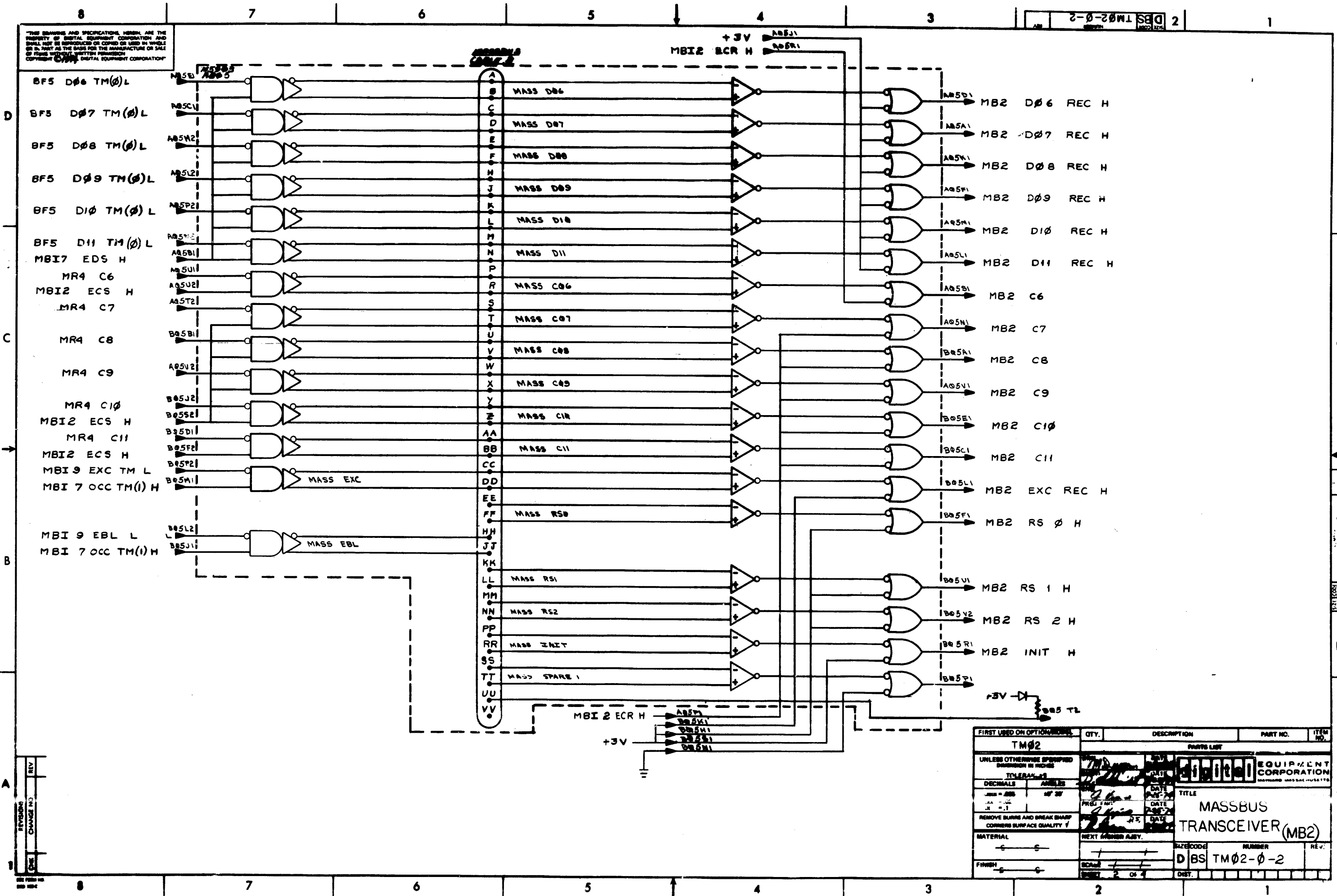


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NOTES:  
 1. MASS BUSS CONTROL LINES, WHEN ASSERTED BY TM02 ARE DESIGNATED MR4 <C0: C15>.  
 2. MASS BUSS CONTROL LINES RECEIVED FROM MASS BUSS CONTROLLER ARE DESIGNATED AS MB <C0: C15>.

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

|  |         |                               |          |          |
|--|---------|-------------------------------|----------|----------|
| FIRST USED ON OPTION/MODEL                             | QTY.    | DESCRIPTION                   | PART NO. | ITEM NO. |
| TM02   |         |                               |          |          |
| UNLESS OTHERWISE SPECIFIED DIMENSION IN INCHES         |         | PARTS LIST                    |          |          |
| TOLERANCES   |         | digital EQUIPMENT CORPORATION |          |          |
| DECIMALS   | ANGLES  | MAYNARD MANSFIELD             |          |          |
| .XX = .005   | 10° 30' | TITLE                         |          |          |
| .X = .02   |         | MASSBUSS TRANSCEIVER (MBI)    |          |          |
| REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY Y |         | NEXT HIGHER ASSY.             |          |          |
| MATERIAL   |         | SIZE CODE                     | NUMBER   | REV.     |
|  |         | B-DD-TM02-0                   | D BS     | TM02-0-2 |
| FINISH   |         | SCALE                         |          |          |
|  |         | SHEET                         | OF 4     | DIST.    |



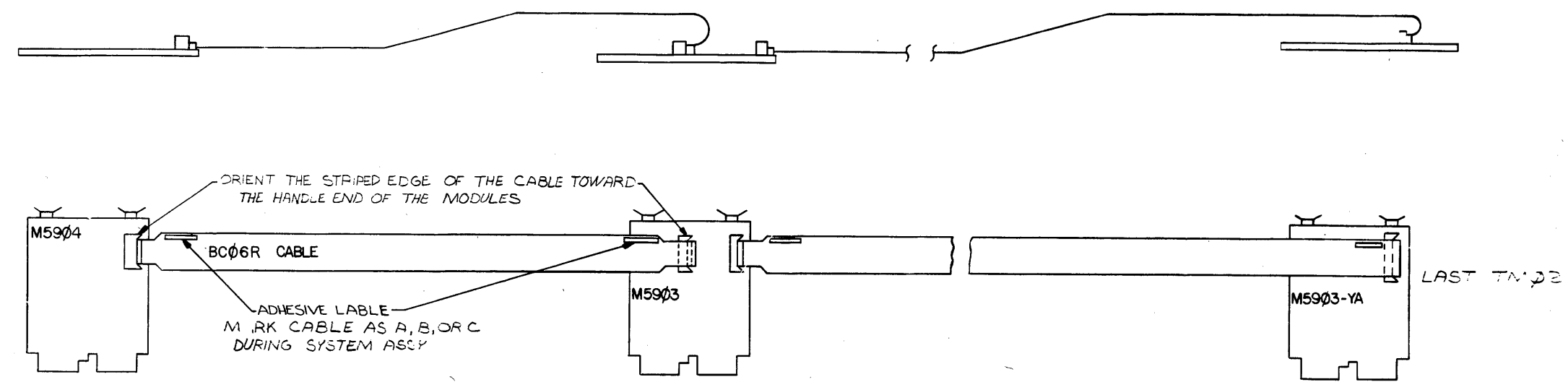
| FIRST USED ON OPTION                                   | QTY.              | DESCRIPTION      | PART NO. | ITEM NO. |
|--|-------------------|------------------|----------|----------|
| TM02   |                   |                  |          |          |
| UNLESS OTHERWISE SPECIFIED DIMENSIONS IN INCHES        |                   |                  |          |          |
| TOLERANCES   |                   |                  |          |          |
| DECIMALS   | ANGLES            | DATE             |          |          |
| ±.005  | ±.005             | DATE             | DATE     |          |
| ±.010  | ±.010             | DATE             | DATE     |          |
| ±.015  | ±.015             | DATE             | DATE     |          |
| REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY 1 |                   |                  |          |          |
| MATERIAL   | NEXT NUMBER ASBY. | TITLE            |          |          |
| — — —  |                   | MASSBUS          |          |          |
|  |                   | TRANSCIVER (MB2) |          |          |
| FINISH   | SCALE             | SIZE CODE        | NUMBER   | REV.     |
| — — —  |                   | D BS TM02-0-2    |          |          |
|  | 2 OF 4            | DST.             |          |          |

| REV. | CHANGE NO. |
|------|------------|
|      |            |

D BS TM02-0-2



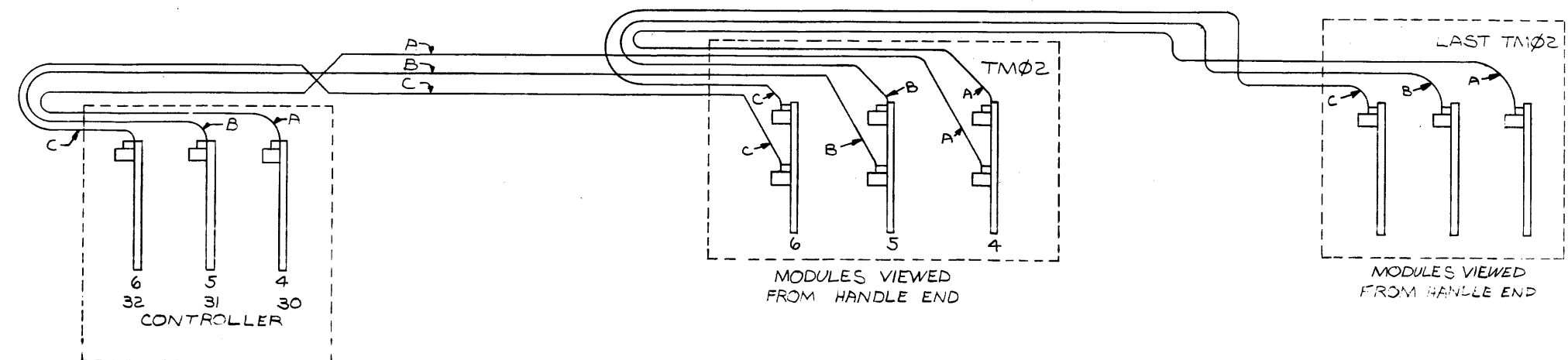
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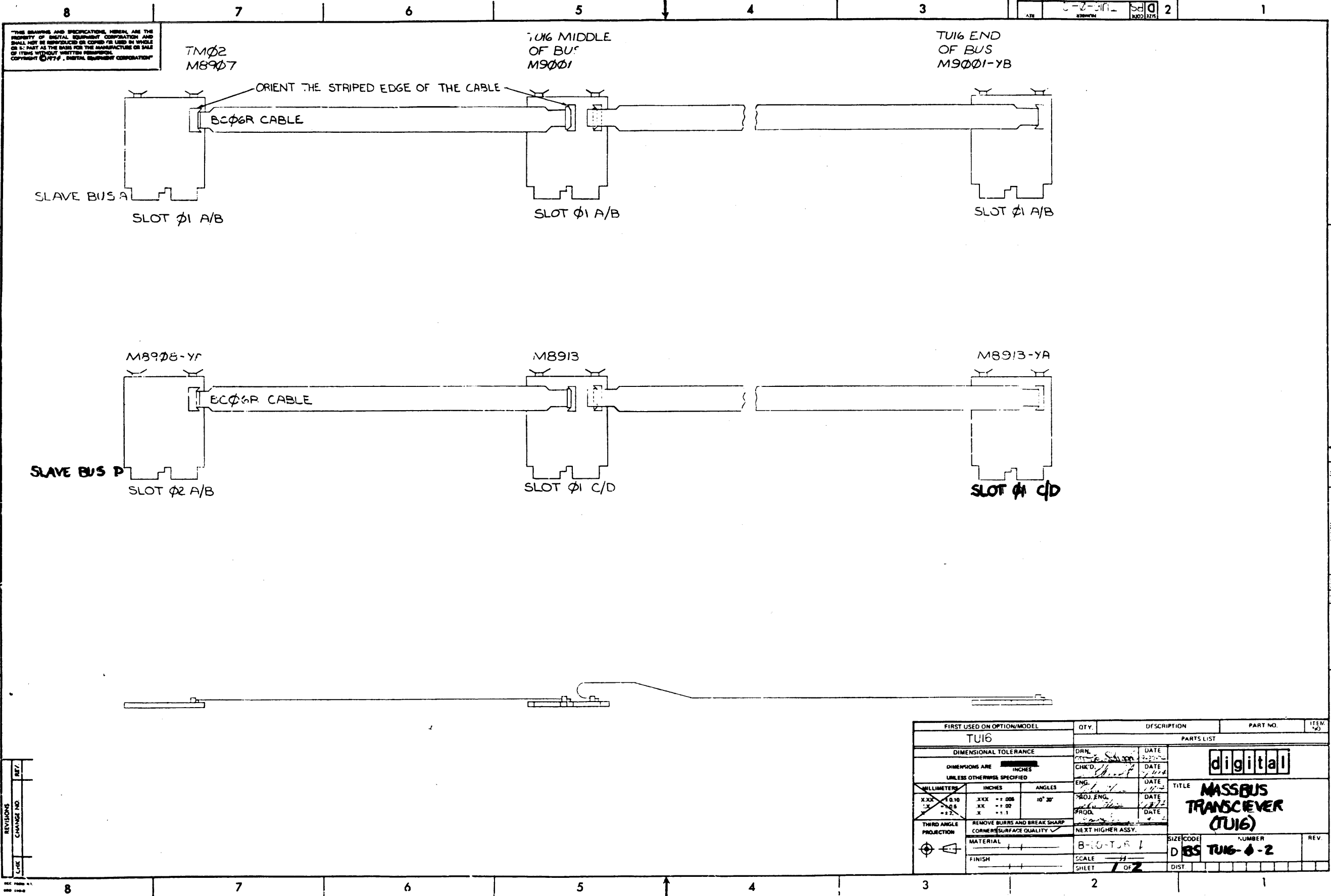
IN THE RH-11 MASSBUS CONTROLLER  
 SLOT 4 IS FOR CABLE A  
 SLOT 5 IS FOR CABLE B  
 SLOT 6 IS FOR CABLE C

IN THE RH 10 MASSBUS CONTROLLER  
 SLOT 30 IS FOR CABLE A  
 SLOT 31 IS FOR CABLE B  
 SLOT 32 IS FOR CABLE C

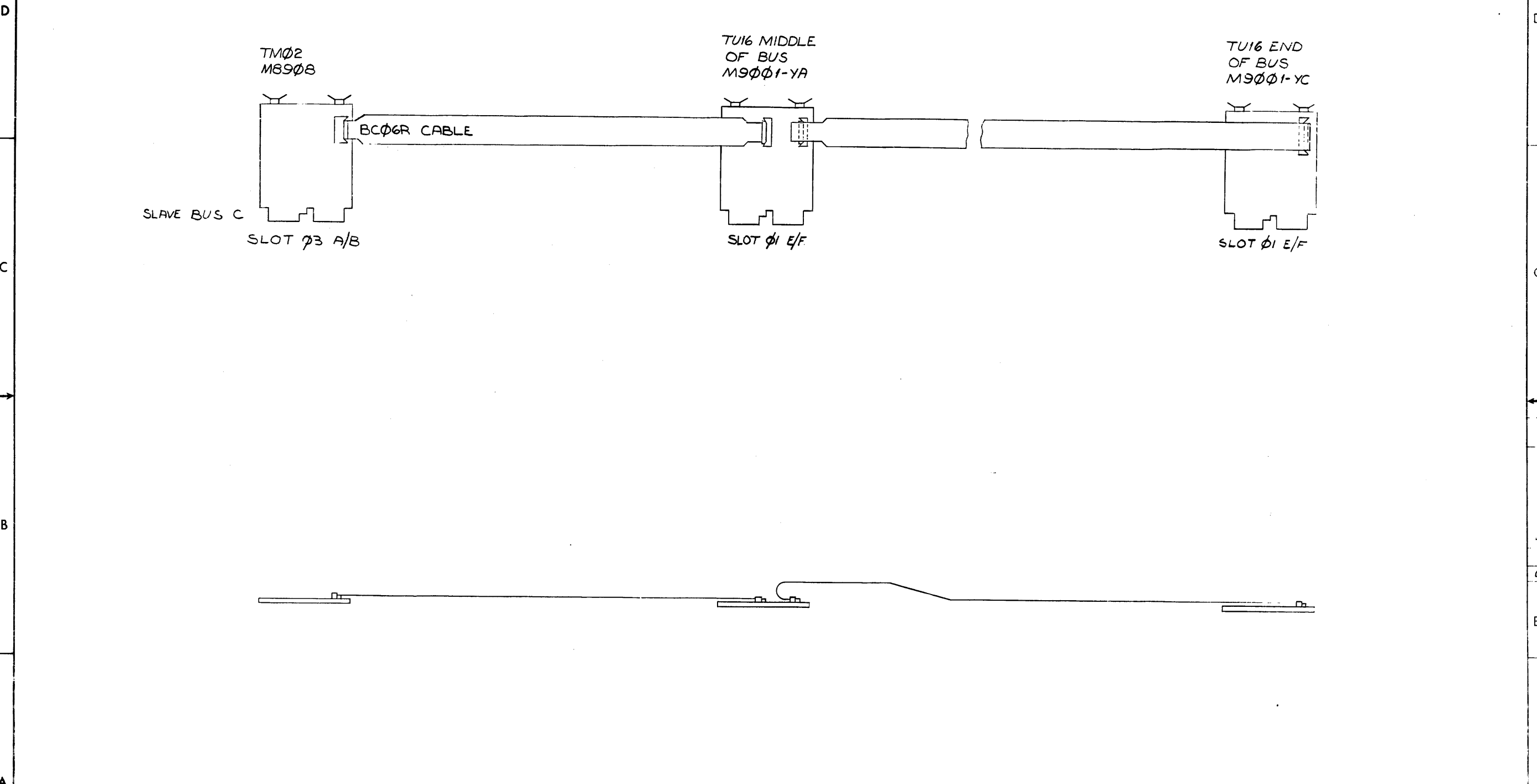
IN THE TM02 TAPE CONTROLLER  
 SLOT 4 IS FOR CABLE A  
 SLOT 5 IS FOR CABLE B  
 SLOT 6 IS FOR CABLE C



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



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







TM03.A  
RUN NAME

WRAPD ,V35(102)-1 03-JUN-77  
A/P PIN ORDER BAY = Q DRAW RV RG Y X Z  
NAME PIN ORDER OPT

28-AUG-78

12158 PAGE 1  
NC LENGTH EXCEPTIONS  
FLAG

RUN  
NUMBER

| TM03.A<br>RUN NAME | WRAPD ,V35(102)-1<br>A/P PIN ORDER<br>NAME PIN | 03-JUN-77<br>BAY = Q<br>ORDER | DRAW<br>RV RG Y<br>OPT | X | Z | REMARKS | 12158<br>NC LENGTH<br>FLAG | PAGE 1<br>EXCEPTIONS | RUN<br>NUMBER |
|--------------------|--|-------------------------------|------------------------|---|---|---------|----------------------------|----------------------|---------------|
| +15V               | F01V1  | 1-01 *                        | P                      |   | 1 |         | 1                          |                      | 1             |
| +15V               | F02V1  | 1-02 *                        | P                      |   | 2 |         | 1                          |                      | 1             |
| +15V               | F03V1  | 1-03 *                        |                        |   |   |         |                            |                      | 1             |
| +15V               |  | 1                             |                        |   |   |         | 2-0/8                      |                      | 1             |
| +3V                | A03P2  | 1-01 *                        |                        |   | 1 |         | 2-2/8                      |                      | 2             |
| +3V                | B01A1  | 1-02 *                        |                        |   |   |         |                            |                      | 2             |
| +3V                |  | 1                             |                        |   |   |         | 2-2/8                      |                      | 2             |
| +5V 01             | A01A2  | 1-01 *                        | P                      |   | 1 |         | 3-2/8                      |                      | 3             |
| +5V 01             | B01A2  | 1-02 *                        | P                      |   | 2 |         | 3                          |                      | 3             |
| +5V 01             | C01A2  | 1-03 *                        | P                      |   | 1 |         | 3-2/8                      |                      | 3             |
| +5V 01             | D01A2  | 1-04 *                        | P                      |   | 2 |         | 3                          |                      | 3             |
| +5V 01             | E01A2  | 1-05 *                        | P                      |   | 1 |         | 3-2/8                      |                      | 3             |
| +5V 01             | F01A2  | 1-06 *                        | P                      |   |   |         |                            |                      | 3             |
| +5V 01             |  | 1                             |                        |   |   |         | 15-6/8                     |                      | 3             |
| +5V 02             | A02A2  | 1-01 *                        | P                      |   | 1 |         | 3-2/8                      |                      | 4             |
| +5V 02             | B02A2  | 1-02 *                        | P                      |   | 2 |         | 3                          |                      | 4             |
| +5V 02             | C02A2  | 1-03 *                        | P                      |   | 1 |         | 3-2/8                      |                      | 4             |
| +5V 02             | D02A2  | 1-04 *                        | P                      |   | 2 |         | 3                          |                      | 4             |
| +5V 02             | E02A2  | 1-05 *                        | P                      |   | 1 |         | 3-2/8                      |                      | 4             |
| +5V 02             | F02A2  | 1-06 *                        | P                      |   |   |         |                            |                      | 4             |
| +5V 02             |  | 1                             |                        |   |   |         | 15-6/8                     |                      | 4             |
| +5V 03             | A03A2  | 1-01 *                        | P                      |   | 1 |         | 3-2/8                      |                      | 5             |
| +5V 03             | B03A2  | 1-02 *                        | P                      |   | 2 |         | 3                          |                      | 5             |
| +5V 03             | C03A2  | 1-03 *                        | P                      |   | 1 |         | 3-2/8                      |                      | 5             |
| +5V 03             | D03A2  | 1-04 *                        | P                      |   | 2 |         | 3                          |                      | 5             |
| +5V 03             | E03A2  | 1-05 *                        | P                      |   | 1 |         | 3-2/8                      |                      | 5             |
| +5V 03             | F03A2  | 1-06 *                        | P                      |   |   |         |                            |                      | 5             |
| +5V 03             |  | 1                             |                        |   |   |         | 15-6/8                     |                      | 5             |
| +5V 04             | A04A2  | 1-01 *                        | P                      |   | 1 |         | 3-2/8                      |                      | 6             |
| +5V 04             | B04A2  | 1-02 *                        | P                      |   | 2 |         | 3                          |                      | 6             |
| +5V 04             | C04A2  | 1-03 *                        | P                      |   | 1 |         | 3-2/8                      |                      | 6             |
| +5V 04             | D04A2  | 1-04 *                        | P                      |   | 2 |         | 3                          |                      | 6             |
| +5V 04             | E04A2  | 1-05 *                        | P                      |   | 1 |         | 3-2/8                      |                      | 6             |
| +5V 04             | F04A2  | 1-06 *                        | P                      |   |   |         |                            |                      | 6             |
| +5V 04             |  | 1                             |                        |   |   |         | 15-6/8                     |                      | 6             |
| +5V 05             | A05A2  | 1-01 *                        | P                      |   | 1 |         | 3-2/8                      |                      | 7             |
| +5V 05             | B05A2  | 1-02 *                        | P                      |   | 2 |         | 3                          |                      | 7             |
| +5V 05             | C05A2  | 1-03 *                        | P                      |   | 1 |         | 3-2/8                      |                      | 7             |
| +5V 05             | D05A2  | 1-04 *                        | P                      |   | 2 |         | 3                          |                      | 7             |
| +5V 05             | E05A2  | 1-05 *                        | P                      |   | 1 |         | 3-2/8                      |                      | 7             |
| +5V 05             | F05A2  | 1-06 *                        | P                      |   |   |         |                            |                      | 7             |
| +5V 05             |  | 1                             |                        |   |   |         | 15-6/8                     |                      | 7             |
| +5V 06             | A06A2  | 1-01 *                        | P                      |   | 1 |         | 3-2/8                      |                      | 8             |
| +5V 06             | B06A2  | 1-02 *                        | P                      |   | 2 |         | 3                          |                      | 8             |
| +5V 06             | C06A2  | 1-03 *                        | P                      |   | 1 |         | 3-2/8                      |                      | 8             |
| +5V 06             | D06A2  | 1-04 *                        | P                      |   | 2 |         | 3                          |                      | 8             |
| +5V 06             | E06A2  | 1-05 *                        | P                      |   | 1 |         | 3-2/8                      |                      | 8             |
| +5V 06             | F06A2  | 1-06 *                        | P                      |   |   |         |                            |                      | 8             |
| +5V 06             |  | 1                             |                        |   |   |         | 15-6/8                     |                      | 8             |



| TH03A<br>RUN NAME | WRAPD .V35(102)=1<br>A/P PIN ORDER PIN | 03-JUN-77<br>RAY - Q DRAW OPT | RV RG Y X Z | REMARKS | 20-AUG-76 | 12158<br>NC LENGTH EXCEPTIONS<br>FLAG | PAGE 4 | RUN<br>NUMBER |
|-------------------|--|-------------------------------|-------------|---------|-----------|---------------------------------------|--------|---------------|
| A EMD(1) H        | C09J1                                  | 1-01 *                        |             |         |           | 1-5/8                                 |        | 32            |
| A EMD(1) H        | C0882                                  | 1-02 *                        | 2           |         |           | 5-1/8                                 |        | 32            |
| A EMD(1) H        | E07V2                                  | 1-03 * P                      | 1           |         |           | 1-4/8                                 |        | 32            |
| A EMD(1) H        | E09V2                                  | 1-04 *                        | 2           |         |           | 9-4/8                                 |        | 32            |
| A EMD(1) H        |  | 1                             |             |         |           |                                       |        | 32            |
| AC LO L           | A09H1                                  |                               |             |         |           | 1-PIN RUN                             |        | 33            |
| ACCL H            | C04A1                                  | 1-01 * P                      | 1           |         |           | 2                                     |        | 34            |
| ACCL H            | C07A1                                  | 1-02 *                        |             |         |           | 2-0/8                                 |        | 34            |
| ACCL H            |  | 1                             |             |         |           |                                       |        | 34            |
| ACCL(SB) L        | A01H2                                  | 1-01 *                        | 1           |         |           | 4-1/8                                 |        | 35            |
| ACCL(SB) L        | A07P2                                  | 1-02 *                        |             |         |           | 4-1/8                                 |        | 35            |
| ACCL(SB) L        |  | 1                             |             |         |           |                                       |        | 35            |
| ANY DD IRK H      | F04R1                                  |                               |             |         |           | 1-PIN RUN                             |        | 36            |
| ANY ENV H         | C04K1                                  |                               |             |         |           | 1-PIN RUN                             |        | 37            |
| ANY TRANS L       | E0182                                  | 1-01 *                        | 2           |         |           | 1                                     |        | 38            |
| ANY TRANS L       | E0282                                  | 1-02 * P                      | 1           |         |           | 1                                     |        | 38            |
| ANY TRANS L       | E0382                                  | 1-03 * P                      | 2           |         |           | 1                                     |        | 38            |
| ANY TRANS L       | E0482                                  | 1-04 *                        |             |         |           | 3-0/8                                 |        | 38            |
| ANY TRANS L       |  | 1                             |             |         |           |                                       |        | 38            |
| ATA H             | C07C1                                  | 1-01 * P                      | 1           |         |           | 1-4/8                                 |        | 39            |
| ATA H             | C09C1                                  | 1-02 *                        |             |         |           | 1-4/8                                 |        | 39            |
| ATA H             |  | 1                             |             |         |           |                                       |        | 39            |
| ATTN L            | B04L2                                  | 1-01 *                        | 1           |         |           | 6-1/8                                 |        | 40            |
| ATTN L            | C09V1                                  | 1-02 *                        |             |         |           | 6-1/8                                 |        | 40            |
| ATTN L            |  | 1                             |             |         |           |                                       |        | 40            |
| BF ENBL H         | A08C1                                  | 1-01 * P                      | 1           |         |           | 1                                     |        | 41            |
| BF ENBL H         | A09C1                                  | 1-02 *                        |             |         |           | 1-0/8                                 |        | 41            |
| BF ENBL H         |  | 1                             |             |         |           |                                       |        | 41            |
| BF FMTL H         | C08A1                                  | 1-01 * P                      | 1           |         |           | 1                                     |        | 42            |
| BF FMTL H         | C09A1                                  | 1-02 *                        |             |         |           | 1-0/8                                 |        | 42            |
| BF FMTL H         |  | 1                             |             |         |           |                                       |        | 42            |
| BFFR A 0          | D01H1                                  | 1-01 *                        | 1           |         |           | 3-1/8                                 |        | 43            |
| BFFR A 0          | D0482                                  | 1-02 *                        |             |         |           | 3-1/8                                 |        | 43            |
| BFFR A 0          |  | 1                             |             |         |           |                                       |        | 43            |
| BFFR A 1          | D03H1                                  | 1-01 * P                      | 1           |         |           | 1-3/8                                 |        | 44            |
| BFFR A 1          | D04M2                                  | 1-02 *                        |             |         |           | 1-3/8                                 |        | 44            |
| BFFR A 1          |  | 1                             |             |         |           |                                       |        | 44            |
| BFFR A 2          | D01L2                                  | 1-01 *                        | 1           |         |           | 2-1/8                                 |        | 45            |
| BFFR A 2          | D04R1                                  | 1-02 *                        |             |         |           | 4-1/8                                 |        | 45            |
| BFFR A 2          |  | 1                             |             |         |           |                                       |        | 45            |

| TH03A<br>RUN NAME | WRAPD .V35(102)=1<br>A/P PIN ORDER PIN | 03-JUN-77<br>RAY - Q DRAW OPT | RV RG Y X Z | REMARKS | 20-AUG-76 | 12158<br>NC LENGTH EXCEPTIONS<br>FLAG | PAGE 5 | RUN<br>NUMBER |
|-------------------|--|-------------------------------|-------------|---------|-----------|---------------------------------------|--------|---------------|
| BFFR A 3          | D03M1                                  | 1-01 * P                      | 1           |         |           | 1-3/8                                 |        | 46            |
| BFFR A 3          | D04P2                                  | 1-02 *                        |             |         |           | 1-3/8                                 |        | 46            |
| BFFR A 3          |  | 1                             |             |         |           |                                       |        | 46            |
| BFFR A 4          | D01M1                                  | 1-01 *                        | 1           |         |           | 2-1/8                                 |        | 47            |
| BFFR A 4          | D04P1                                  | 1-02 *                        |             |         |           | 2-1/8                                 |        | 47            |
| BFFR A 4          |  | 1                             |             |         |           |                                       |        | 47            |
| BFFR A 5          | D02H1                                  | 1-01 *                        | 1           |         |           | 1-7/8                                 |        | 48            |
| BFFR A 5          | D04M1                                  | 1-02 *                        |             |         |           | 1-7/8                                 |        | 48            |
| BFFR A 5          |  | 1                             |             |         |           |                                       |        | 48            |
| BFFR A 6          | D02M1                                  | 1-01 * P                      | 1           |         |           | 1-5/8                                 |        | 49            |
| BFFR A 6          | D04M1                                  | 1-02 *                        |             |         |           | 1-5/8                                 |        | 49            |
| BFFR A 6          |  | 1                             |             |         |           |                                       |        | 49            |
| BFFR A 7          | D03L2                                  | 1-01 *                        | 1           |         |           | 0-4/8                                 |        | 50            |
| BFFR A 7          | D04L1                                  | 1-02 *                        |             |         |           | 0-4/8                                 |        | 50            |
| BFFR A 7          |  | 1                             |             |         |           |                                       |        | 50            |
| BFFR A P          | D02L2                                  | 1-01 *                        | 1           |         |           | 1-3/8                                 |        | 51            |
| BFFR A P          | D04K2                                  | 1-02 *                        |             |         |           | 1-3/8                                 |        | 51            |
| BFFR A P          |  | 1                             |             |         |           |                                       |        | 51            |
| BIT RDY 1 L       | D01R2                                  |                               |             |         |           | 1-PIN RUN                             |        | 52            |
| BIT RDY 2 L       | C01R2                                  |                               |             |         |           | 1-PIN RUN                             |        | 53            |
| BIT RDY 3 L       | E01T2                                  |                               |             |         |           | 1-PIN RUN                             |        | 54            |
| BIT RDY 4 L       | D02R2                                  |                               |             |         |           | 1-PIN RUN                             |        | 55            |
| BIT RDY 5 L       | C02R2                                  |                               |             |         |           | 1-PIN RUN                             |        | 56            |
| BIT RDY 6 L       | E02T2                                  |                               |             |         |           | 1-PIN RUN                             |        | 57            |
| BIT RDY 7 L       | D03R2                                  |                               |             |         |           | 1-PIN RUN                             |        | 58            |
| BIT RDY 8 L       | C03R2                                  |                               |             |         |           | 1-PIN RUN                             |        | 59            |
| BIT RDY 9 L       | E03T2                                  |                               |             |         |           | 1-PIN RUN                             |        | 60            |
| BIT RDY H         | C01M2                                  | 1-01 *                        | 1           |         |           | 1                                     |        | 61            |
| BIT RDY H         | C02P2                                  | 1-02 *                        | 2           |         |           | 1                                     |        | 61            |
| BIT RDY H         | C03M2                                  | 1-03 * P                      | 1           |         |           | 1-5/8                                 |        | 61            |
| BIT RDY H         | C04V1                                  | 1-04 *                        |             |         |           | 3-5/8                                 |        | 61            |
| BIT RDY H         |  | 1                             |             |         |           |                                       |        | 61            |
| BIT STRB 1 H      | C01V2                                  | 1-01 *                        | 1           |         |           | 0-3/8                                 |        | 62            |
| BIT STRB 1 H      | F06F2                                  | 1-02 *                        |             |         |           | 0-3/8                                 |        | 62            |
| BIT STRB 1 H      |  | 1                             |             |         |           |                                       |        | 62            |
| BIT STRB 2 H      | E01M1                                  | 1-01 *                        | 1           |         |           | 4-5/8                                 |        | 63            |
| BIT STRB 2 H      | F06E2                                  | 1-02 *                        |             |         |           | 4-5/8                                 |        | 63            |
| BIT STRB 2 H      |  | 1                             |             |         |           |                                       |        | 63            |

| TM03,A<br>RUN NAME | WRAPD ,VJ5(102)=1<br>A/P PIN ORDER NAME | Q<br>DRAW | RV | KG | Y | X | Z | REMARKS | 28-AUG-78 | 1215H<br>NC LENGTH<br>FLAG | PAGE 6<br>EXCEPTIONS | RUN<br>NUMBER |
|--------------------|---|-----------|----|----|---|---|---|---------|-----------|----------------------------|----------------------|---------------|
| B01 H              | B02M2                                   | 1-01 *    |    |    |   |   | 1 |         |           | A-3/8                      |                      | 64            |
| B01 H              | B07H2                                   | 1-02 *    | P  |    |   |   | 2 |         |           | 1-4/8                      |                      | 64            |
| B01 H              | B09H2                                   | 1-03 *    |    |    |   |   | 1 |         |           | 6-5/8                      |                      | 64            |
| B01 H              | A01M2                                   | 1-04 *    |    |    |   |   |   |         |           | 11-4/8                     |                      | 64            |
| B01 L              | B07H1                                   | 1-01 *    | P  |    |   |   | 1 |         |           | 1-4/8                      |                      | 65            |
| B01 L              | B09H1                                   | 1-02 *    |    |    |   |   |   |         |           | 1-4/8                      |                      | 65            |
| BPAR L             | L08B1                                   | 1-01 *    |    |    |   |   | 1 |         |           | 2-5/8                      |                      | 66            |
| BPAR L             | U05U1                                   | 1-02 *    |    |    |   |   |   |         |           | 2-5/8                      |                      | 66            |
| BRIP(1) L          | C09U2                                   | 1-01 *    |    |    |   |   | 1 |         |           | 8-3/8                      |                      | 67            |
| BRIP(1) L          | F06C1                                   | 1-02 *    |    |    |   |   |   |         |           | 8-3/8                      |                      | 67            |
| C00                | A09E2                                   | 1-01 *    | P  |    |   |   | 2 |         |           | 4-3/8                      |                      | 68            |
| C00                | A04S1                                   | 1-02 *    | P  |    |   |   | 2 |         |           | 0-4/8                      |                      | 68            |
| C00                | A04U1                                   | 1-03 *    |    |    |   |   | 2 |         |           | 6-5/8                      |                      | 68            |
| C00                | C06R2                                   | 1-04 *    |    |    |   |   |   |         |           | 11-4/8                     |                      | 68            |
| C01                | A09D2                                   | 1-01 *    | P  |    |   |   | 2 |         |           | 4-1/8                      |                      | 69            |
| C01                | A04N1                                   | 1-02 *    | P  |    |   |   | 2 |         |           | 1                          |                      | 69            |
| C01                | A04T2                                   | 1-03 *    |    |    |   |   | 1 |         |           | 5-7/8                      |                      | 69            |
| C01                | C06P1                                   | 1-04 *    |    |    |   |   |   |         |           | 11-0/8                     |                      | 69            |
| C02                | B04A1                                   | 1-01 *    | P  |    |   |   | 1 |         |           | 0-1/8                      |                      | 70            |
| C02                | B04B1                                   | 1-02 *    | P  |    |   |   | 2 |         |           | 4-5/8                      |                      | 70            |
| C02                | B09S2                                   | 1-03 *    |    |    |   |   | 1 |         |           | 4-1/8                      |                      | 70            |
| C02                | C06R1                                   | 1-04 *    |    |    |   |   |   |         |           | 0-7/8                      |                      | 70            |
| C03                | A04V2                                   | 1-01 *    | P  |    |   |   | 1 |         |           | 0-4/8                      |                      | 71            |
| C03                | A04V1                                   | 1-02 *    |    |    |   |   | 2 |         |           | 4                          |                      | 71            |
| C03                | B09U1                                   | 1-03 *    |    |    |   |   | 1 |         |           | 3-7/8                      |                      | 71            |
| C03                | C06S1                                   | 1-04 *    |    |    |   |   |   |         |           | 8-3/8                      |                      | 71            |
| C04                | B04E1                                   | 1-01 *    | P  |    |   |   | 1 |         |           | 0-5/8                      |                      | 72            |
| C04                | B04J2                                   | 1-02 *    | P  |    |   |   | 2 |         |           | 3-3/8                      |                      | 72            |
| C04                | B09R1                                   | 1-03 *    |    |    |   |   | 1 |         |           | 4-1/8                      |                      | 72            |
| C04                | C06P2                                   | 1-04 *    |    |    |   |   |   |         |           | 8-1/8                      |                      | 72            |
| C05                | B09B2                                   | 1-01 *    | P  |    |   |   | 2 |         |           | 3-3/8                      |                      | 73            |
| C05                | B04C1                                   | 1-02 *    | P  |    |   |   | 2 |         |           | 0-1/8                      |                      | 73            |
| C05                | B04D1                                   | 1-03 *    |    |    |   |   | 2 |         |           | 4-7/8                      |                      | 73            |
| C05                | C06N1                                   | 1-04 *    |    |    |   |   |   |         |           | 0-3/8                      |                      | 73            |

| TM03,A<br>RUN NAME | WRAPD ,VJ5(102)=1<br>A/P PIN ORDER NAME | Q<br>DRAW | RV | KG | Y | X | Z | REMARKS | 28-AUG-78 | 1215H<br>NC LENGTH<br>FLAG | PAGE 7<br>EXCEPTIONS | RUN<br>NUMBER |
|--------------------|---|-----------|----|----|---|---|---|---------|-----------|----------------------------|----------------------|---------------|
| C06                | A05B1                                   | 1-01 *    | P  |    |   |   | 1 |         |           | 0-4/8                      |                      | 74            |
| C06                | A05U1                                   | 1-02 *    |    |    |   |   | 2 |         |           | 3-7/8                      |                      | 74            |
| C06                | B09D2                                   | 1-03 *    |    |    |   |   | 1 |         |           | 5-5/8                      |                      | 74            |
| C06                | C06M1                                   | 1-04 *    |    |    |   |   |   |         |           | 10-0/8                     |                      | 74            |
| C07                | A05N1                                   | 1-01 *    | P  |    |   |   | 1 |         |           | 1                          |                      | 75            |
| C07                | A05T2                                   | 1-02 *    |    |    |   |   | 1 |         |           | 3-2/8                      |                      | 75            |
| C07                | B09F2                                   | 1-03 *    |    |    |   |   | 2 |         |           | 5-1/8                      |                      | 75            |
| C07                | C06M2                                   | 1-04 *    |    |    |   |   |   |         |           | 9-3/8                      |                      | 75            |
| C08                | A09N2                                   | 1-01 *    | P  |    |   |   | 2 |         |           | 3-7/8                      |                      | 76            |
| C08                | B05B1                                   | 1-02 *    |    |    |   |   | 1 |         |           | 0-1/8                      |                      | 76            |
| C08                | B05A1                                   | 1-03 *    |    |    |   |   | 2 |         |           | 4-3/8                      |                      | 76            |
| C08                | C06K1                                   | 1-04 *    |    |    |   |   |   |         |           | 0-3/8                      |                      | 76            |
| C09                | A09B1                                   | 1-01 *    | P  |    |   |   | 2 |         |           | 2-3/8                      |                      | 77            |
| C09                | A05V2                                   | 1-02 *    | P  |    |   |   | 2 |         |           | 0-4/8                      |                      | 77            |
| C09                | A05V1                                   | 1-03 *    |    |    |   |   | 2 |         |           | 5-1/8                      |                      | 77            |
| C09                | C06L1                                   | 1-04 *    |    |    |   |   |   |         |           | 0-0/8                      |                      | 77            |
| C10                | B05E1                                   | 1-01 *    | P  |    |   |   | 1 |         |           | 0-5/8                      |                      | 78            |
| C10                | B05J2                                   | 1-02 *    |    |    |   |   | 2 |         |           | 3-3/8                      |                      | 78            |
| C10                | C06J2                                   | 1-03 *    |    |    |   |   | 1 |         |           | 2-5/8                      |                      | 78            |
| C10                | B09T2                                   | 1-04 *    |    |    |   |   |   |         |           | 6-5/8                      |                      | 78            |
| C11                | B09A1                                   | 1-01 *    | P  |    |   |   | 2 |         |           | 2-5/8                      |                      | 79            |
| C11                | B05C1                                   | 1-02 *    | P  |    |   |   | 2 |         |           | 0-1/8                      |                      | 79            |
| C11                | B05D1                                   | 1-03 *    |    |    |   |   | 2 |         |           | 4-3/8                      |                      | 79            |
| C11                | C06L2                                   | 1-04 *    |    |    |   |   |   |         |           | 7-1/8                      |                      | 79            |
| C12                | A09K2                                   | 1-01 *    | P  |    |   |   | 1 |         |           | 2-3/8                      |                      | 80            |
| C12                | A06N1                                   | 1-02 *    |    |    |   |   | 2 |         |           | 1                          |                      | 80            |
| C12                | A06T2                                   | 1-03 *    | P  |    |   |   | 1 |         |           | 4-5/8                      |                      | 80            |
| C12                | C06F1                                   | 1-04 *    |    |    |   |   |   |         |           | 0-0/8                      |                      | 80            |
| C13                | A09H2                                   | 1-01 *    | P  |    |   |   | 2 |         |           | 3-1/8                      |                      | 81            |
| C13                | B06A1                                   | 1-02 *    |    |    |   |   | 2 |         |           | 0-1/8                      |                      | 81            |
| C13                | B06B1                                   | 1-03 *    |    |    |   |   | 1 |         |           | 3-3/8                      |                      | 81            |
| C13                | C06E1                                   | 1-04 *    |    |    |   |   |   |         |           | 6-5/8                      |                      | 81            |
| C14                | A06V2                                   | 1-01 *    | P  |    |   |   | 1 |         |           | 0-4/8                      |                      | 82            |
| C14                | A06V1                                   | 1-02 *    |    |    |   |   | 2 |         |           | 4-3/8                      |                      | 82            |
| C14                | C06H1                                   | 1-03 *    |    |    |   |   | 1 |         |           | 3-3/8                      |                      | 82            |
| C14                | B09V2                                   | 1-04 *    |    |    |   |   |   |         |           | 8-2/8                      |                      | 82            |

| TM03.A<br>RUN NAME  | MPAPD .V35(102)-1<br>A/P PIN ORDER PIN | 03-JUN-77<br>RAY - Q DRAW RV RG Y X Z | 28-AUG-78<br>REMARKS | 12158<br>NC LENGTH FLAG | PAGE 8<br>EXCEPTIONS | RUN<br>NUMBER |
|---------------------|--|---------------------------------------|----------------------|-------------------------|----------------------|---------------|
| C15                 | B06E1                                  | 1-01 * P                              | 1                    | 1-05/8                  |                      | 83            |
| C15                 | B06J2                                  | 1-02 * P                              | 2                    | 2-2/8                   |                      | 83            |
| C15                 | B09U2                                  | 1-03 *                                | 1                    | 2-5/8                   |                      | 83            |
| C15                 | C06J1                                  | 1-04 *                                | 1                    | 5-4/8                   |                      | 83            |
| CER(1) H            | D01D1                                  | 1-01 *                                | 1                    | 7-7/8                   |                      | 84            |
| CER(1) H            | F04L1                                  | 1-02 *                                | 1                    | 7-7/8                   |                      | 84            |
| CHAR CNTO H         | F01S1                                  | 1-01 *                                | 1                    | 1                       |                      | 85            |
| CHAR CNTO H         | F02S1                                  | 1-02 * P                              | 2                    | 1                       |                      | 85            |
| CHAR CNTO H         | F03S1                                  | 1-03 *                                | 1                    | 10-3/8                  |                      | 85            |
| CHAR CNTO H         | C04C1                                  | 1-04 *                                | 1                    | 12-3/8                  |                      | 85            |
| CHAR SHIFT H        | C01M1                                  | 1-01 *                                | 2                    | 1                       |                      | 86            |
| CHAR SHIFT H        | C02M1                                  | 1-02 * P                              | 1                    | 1                       |                      | 86            |
| CHAR SHIFT H        | C03M1                                  | 1-03 * P                              | 2                    | 1                       |                      | 86            |
| CHAR SHIFT H        | C04M1                                  | 1-04 *                                | 1                    | 3-0/8                   |                      | 86            |
| CHK CHAR L          | C05N2                                  | 1-01 *                                | 1                    | 5-1/8                   |                      | 87            |
| CHK CHAR L          | D08U2                                  | 1-02 *                                | 1                    | 5-1/8                   |                      | 87            |
| CLK A H             | C08F1                                  |                                       |                      | 1-PIN RUN               |                      | 88            |
| CLK B H             | C08H1                                  |                                       |                      | 1-PIN RUN               |                      | 89            |
| CLK C H             | C08E1                                  |                                       |                      | 1-PIN RUN               |                      | 90            |
| CLK D H             | C08D1                                  |                                       |                      | 1-PIN RUN               |                      | 91            |
| CLK L CK CHAP REG L | C05F2                                  | 1-01 * P                              | 1                    | 1                       |                      | 92            |
| CLK L CK CHAR REG L | C06F2                                  | 1-02 *                                | 1                    | 1-0/8                   |                      | 92            |
| CLK L CK CHAR REG L | A07M1                                  | 1-01 *                                | 1                    | 4                       |                      | 93            |
| CLOCK H             | B02E1                                  | 1-02 *                                | 1                    | 4-0/8                   |                      | 93            |
| CLOCK H             | F07U1                                  | 1-01 *                                | 1                    | 6-5/8                   |                      | 94            |
| CLR OPI L           | D09U1                                  | 1-02 *                                | 1                    | 6-5/8                   |                      | 94            |
| CLR OPI L           | E06U1                                  | 1-01 * P                              | 1                    | 1                       |                      | 95            |
| CMUX 00             | E07U1                                  | 1-02 * P                              | 2                    | 1-4/8                   |                      | 95            |
| CMUX 00             | E09U1                                  | 1-03 *                                | 1                    | 2-4/8                   |                      | 95            |
| CMUX 01             | E06S1                                  | 1-01 * P                              | 1                    | 1                       |                      | 96            |
| CMUX 01             | E07S1                                  | 1-02 * P                              | 2                    | 1-4/8                   |                      | 96            |
| CMUX 01             | E09S1                                  | 1-03 *                                | 1                    | 2-4/8                   |                      | 96            |

| TM03.A<br>RUN NAME | WRAPD .V35(102)-1<br>A/P PIN ORDER PIN | 03-JUN-77<br>RAY - Q DRAW RV RG Y X Z | 28-AUG-78<br>REMARKS | 12158<br>NC LENGTH FLAG | PAGE 9<br>EXCEPTIONS | RUN<br>NUMBER |
|--------------------|--|---------------------------------------|----------------------|-------------------------|----------------------|---------------|
| CMUX 02            | E06R1                                  | 1-01 * P                              | 1                    | 1-3/8                   |                      | 97            |
| CMUX 02            | E07R1                                  | 1-02 * P                              | 2                    | 1-3/8                   |                      | 97            |
| CMUX 02            | E09P1                                  | 1-03 *                                | 1                    | 2-3/8                   |                      | 97            |
| CMUX 03            | E06P1                                  | 1-01 * P                              | 1                    | 1                       |                      | 98            |
| CMUX 03            | E07P1                                  | 1-02 * P                              | 2                    | 1-5/8                   |                      | 98            |
| CMUX 03            | E09K1                                  | 1-03 *                                | 1                    | 2-5/8                   |                      | 98            |
| CMUX 04            | E06N1                                  | 1-01 * P                              | 2                    | 1                       |                      | 99            |
| CMUX 04            | E07N1                                  | 1-02 * P                              | 1                    | 1-4/8                   |                      | 99            |
| CMUX 04            | E09N1                                  | 1-03 *                                | 1                    | 2-4/8                   |                      | 99            |
| CMUX 05            | E06M1                                  | 1-01 * P                              | 1                    | 1                       |                      | 100           |
| CMUX 05            | E07M1                                  | 1-02 * P                              | 2                    | 1-4/8                   |                      | 100           |
| CMUX 05            | E09M1                                  | 1-03 *                                | 1                    | 2-4/8                   |                      | 100           |
| CMUX 06            | E06L1                                  | 1-01 * P                              | 1                    | 1                       |                      | 101           |
| CMUX 06            | E07L1                                  | 1-02 * P                              | 2                    | 1-4/8                   |                      | 101           |
| CMUX 06            | E09L1                                  | 1-03 *                                | 1                    | 2-4/8                   |                      | 101           |
| CMUX 07            | E06K1                                  | 1-01 * P                              | 1                    | 1                       |                      | 102           |
| CMUX 07            | E07K1                                  | 1-02 * P                              | 2                    | 1-4/8                   |                      | 102           |
| CMUX 07            | E09K1                                  | 1-03 *                                | 1                    | 2-4/8                   |                      | 102           |
| CMUX 08            | E06J1                                  | 1-01 * P                              | 1                    | 1                       |                      | 103           |
| CMUX 08            | E07J1                                  | 1-02 * P                              | 2                    | 1-4/8                   |                      | 103           |
| CMUX 08            | E09J1                                  | 1-03 *                                | 1                    | 2-4/8                   |                      | 103           |
| CMUX 09            | E06H1                                  | 1-01 * P                              | 1                    | 1                       |                      | 104           |
| CMUX 09            | E07H1                                  | 1-02 * P                              | 2                    | 1-4/8                   |                      | 104           |
| CMUX 09            | E09H1                                  | 1-03 *                                | 1                    | 2-4/8                   |                      | 104           |
| CMUX 10            | E06F1                                  | 1-01 * P                              | 1                    | 1                       |                      | 105           |
| CMUX 10            | E07F1                                  | 1-02 * P                              | 2                    | 1-4/8                   |                      | 105           |
| CMUX 10            | E09F1                                  | 1-03 *                                | 1                    | 2-4/8                   |                      | 105           |
| CMUX 11            | E06E1                                  | 1-01 * P                              | 1                    | 1                       |                      | 106           |
| CMUX 11            | E07E1                                  | 1-02 * P                              | 2                    | 1-4/8                   |                      | 106           |
| CMUX 11            | E09E1                                  | 1-03 *                                | 1                    | 2-4/8                   |                      | 106           |
| CMUX 12            | E06D1                                  | 1-01 * P                              | 1                    | 1                       |                      | 107           |
| CMUX 12            | E07D1                                  | 1-02 * P                              | 2                    | 1-4/8                   |                      | 107           |
| CMUX 12            | E09D1                                  | 1-03 *                                | 1                    | 2-4/8                   |                      | 107           |

| TM03.A<br>RUN NAME | WHPAD .V35(162)-1<br>A/P PIN ORDER<br>NAME | 03-JUN-77<br>MAY * Q DRAW<br>ORDER | RV HG Y X Z | REMARKS | 28-AUG-78 | 12158<br>NC LENGTH<br>FLAG | PAGE 14<br>EXCEPTIONS | RUN<br>NUMBER |
|--------------------|--|------------------------------------|-------------|---------|-----------|----------------------------|-----------------------|---------------|
| CMUX 13            | E06C1                                      | 1-01 * P                           |             |         |           | 1                          |                       | 108           |
| CMUX 13            | E07C1                                      | 1-02 * P                           | 2           |         |           | 1-4/8                      |                       | 108           |
| CMUX 13            | E09C1                                      | 1-03 *                             | 1           |         |           | 2-4/8                      |                       | 108           |
| CMUX 14            | E06B1                                      | 1-01 * P                           |             |         |           | 1                          |                       | 109           |
| CMUX 14            | E07B1                                      | 1-02 * P                           | 2           |         |           | 1-4/8                      |                       | 109           |
| CMUX 14            | E09B1                                      | 1-03 *                             | 1           |         |           | 2-4/8                      |                       | 109           |
| CMUX 15            | E06A1                                      | 1-01 * P                           |             |         |           | 1                          |                       | 110           |
| CMUX 15            | E07A1                                      | 1-02 * P                           | 2           |         |           | 1-4/8                      |                       | 110           |
| CMUX 15            | E09A1                                      | 1-03 *                             | 1           |         |           | 2-4/8                      |                       | 110           |
| COMPER H           | C07B1                                      | 1-01 * P                           |             |         |           | 1-4/8                      |                       | 111           |
| COMPER H           | C09B1                                      | 1-02 *                             | 1           |         |           | 1-4/8                      |                       | 111           |
| CORE DUMP          | C08B1                                      |                                    |             |         |           |                            | 1-PIN RUN             | 112           |
| CORR/CRCE/L        | F04V2                                      | 1-01 * P                           | 1           |         |           | 1                          |                       | 113           |
| CORR/CRCE/L        | F05V2                                      | 1-02 * P                           | 2           |         |           | 2-7/8                      |                       | 113           |
| CORR/CRCE/L        | F09J1                                      | 1-03 *                             | 1           |         |           | 3-7/8                      |                       | 113           |
| CPA REC H          | B06C1                                      | 1-01 *                             |             |         |           | 13-1/8                     |                       | 114           |
| CPA REC H          | F09K1                                      | 1-02 *                             | 1           |         |           | 13-1/8                     |                       | 114           |
| CPA TM L           | B06D1                                      | 1-01 * P                           |             |         |           | 2-1/8                      |                       | 115           |
| CPA TM L           | B09F1                                      | 1-02 *                             | 1           |         |           | 2-1/8                      |                       | 115           |
| CRC 0(1) H         | C05J1                                      | 1-01 * P                           |             |         |           | 1-4/8                      |                       | 116           |
| CRC 0(1) H         | C07J1                                      | 1-02 *                             | 1           |         |           | 1-4/8                      |                       | 116           |
| CRC 1(1) H         | C05R1                                      | 1-01 * P                           |             |         |           | 1-4/8                      |                       | 117           |
| CRC 1(1) H         | C07R1                                      | 1-02 *                             | 1           |         |           | 1-4/8                      |                       | 117           |
| CRC 2(1) H         | C05E1                                      | 1-01 * P                           |             |         |           | 1-4/8                      |                       | 118           |
| CRC 2(1) H         | C07E1                                      | 1-02 *                             | 1           |         |           | 1-4/8                      |                       | 118           |
| CRC 3(1) H         | C05B1                                      | 1-01 * P                           |             |         |           | 1-4/8                      |                       | 119           |
| CRC 3(1) H         | C07B1                                      | 1-02 *                             | 1           |         |           | 1-4/8                      |                       | 119           |
| CRC 4(1) H         | C05K1                                      | 1-01 * P                           |             |         |           | 1-4/8                      |                       | 120           |
| CRC 4(1) H         | C07K1                                      | 1-02 *                             | 1           |         |           | 1-4/8                      |                       | 120           |

| TM03.A<br>RUN NAME | WHPAD .V35(162)-1<br>A/P PIN ORDER<br>NAME | 03-JUN-77<br>MAY * Q DRAW<br>ORDER | RV HG Y X Z | REMARKS | 28-AUG-78 | 12158<br>NC LENGTH<br>FLAG | PAGE 11<br>EXCEPTIONS | RUN<br>NUMBER |
|--------------------|--|------------------------------------|-------------|---------|-----------|----------------------------|-----------------------|---------------|
| CRC 5(1) H         | C05M1                                      | 1-01 * P                           |             |         |           | 1-4/8                      |                       | 121           |
| CRC 5(1) H         | C07M1                                      | 1-02 *                             | 1           |         |           | 1-4/8                      |                       | 121           |
| CRC 6(1) H         | C05N1                                      | 1-01 * P                           |             |         |           | 1-4/8                      |                       | 122           |
| CRC 6(1) H         | C07N1                                      | 1-02 *                             | 1           |         |           | 1-4/8                      |                       | 122           |
| CRC 7(1) H         | C05P1                                      | 1-01 * P                           |             |         |           | 1-4/8                      |                       | 123           |
| CRC 7(1) H         | C07P1                                      | 1-02 *                             | 1           |         |           | 1-4/8                      |                       | 123           |
| CRC 8(1) H         | C05L1                                      | 1-01 * P                           |             |         |           | 1-4/8                      |                       | 124           |
| CRC 8(1) H         | C07L1                                      | 1-02 *                             | 1           |         |           | 1-4/8                      |                       | 124           |
| CRC 8TRB H         | D05P2                                      | 1-01 *                             |             |         |           | 9-1/8                      |                       | 125           |
| CRC 8TRB H         | A07P1                                      | 1-02 *                             | 1           |         |           | 9-1/8                      |                       | 125           |
| CTOD H             | A09N1                                      | 1-01 *                             |             |         |           | 6-1/8                      |                       | 126           |
| CTOD H             | B04V2                                      | 1-02 *                             | 1           |         |           | 6-1/8                      |                       | 126           |
| CYCLE 1(1) H       | F05K2                                      |                                    |             |         |           |                            | 1-PIN RUN             | 127           |
| CYCLE 2(1) H       | E05U1                                      |                                    |             |         |           |                            | 1-PIN RUN             | 128           |
| CYCLE 3(1) H       | E05R1                                      |                                    |             |         |           |                            | 1-PIN RUN             | 129           |
| D BFR I 0 L        | C01F1                                      | 1-01 *                             |             |         |           | 7-7/8                      |                       | 130           |
| D BFR I 0 L        | E04P1                                      | 1-02 *                             | 1           |         |           | 7-7/8                      |                       | 130           |
| D BFR I 1 L        | C03F1                                      | 1-01 *                             |             |         |           | 7-5/8                      |                       | 131           |
| D BFR I 1 L        | E04U2                                      | 1-02 *                             | 1           |         |           | 7-5/8                      |                       | 131           |
| D BFR I 2 L        | E01D2                                      | 1-01 *                             |             |         |           | 2-2/8                      |                       | 132           |
| D BFR I 2 L        | E04S1                                      | 1-02 *                             | 1           |         |           | 2-2/8                      |                       | 132           |
| D BFR I 3 L        | E04T2                                      | 1-01 *                             |             |         |           | 2-3/8                      |                       | 133           |
| D BFR I 3 L        | F03E2                                      | 1-02 *                             | 1           |         |           | 2-3/8                      |                       | 133           |
| D BFR I 4 L        | E04F1                                      | 1-01 *                             |             |         |           | 4-3/8                      |                       | 134           |
| D BFR I 4 L        | F01E2                                      | 1-02 *                             | 1           |         |           | 4-3/8                      |                       | 134           |
| D BFR I 5 L        | C02F1                                      | 1-01 *                             |             |         |           | 6-3/8                      |                       | 135           |
| D BFR I 5 L        | E04D1                                      | 1-02 *                             | 1           |         |           | 6-3/8                      |                       | 135           |



| TM03 A<br>RUN NAME | WRAPD .V35(102)=1 03-JUN-77 |              | 28-AUG-78      |                    | PAGE 14 |                            | RUN<br>NUMBER |
|--------------------|-----------------------------|--------------|----------------|--------------------|---------|----------------------------|---------------|
|                    | A/P PIN<br>NAME             | ORDER<br>PIN | BAY =<br>ORDER | Q DRAW RV RG Y X Z | REMARKS | 12158<br>NC LENGTH<br>FLAG |               |
| D12 TM(0) L        | A06E1                       | 1-01 *       |                |                    |         |                            | 164           |
| D12 TM(0) L        | A08L2                       | 1-02 *       |                |                    |         |                            | 164           |
| D12 TM(0) L        |                             |              |                |                    |         |                            |               |
| D13 REC H          | A06A1                       | 1-01 *       |                |                    |         |                            | 165           |
| D13 REC H          | B08D1                       | 1-02 *       |                |                    |         |                            | 165           |
| D13 REC H          |                             |              |                |                    |         |                            |               |
| D13 TM(0) L        | A06C1                       | 1-01 *       |                |                    |         |                            | 166           |
| D13 TM(0) L        | A08M1                       | 1-02 *       |                |                    |         |                            | 166           |
| D13 TM(0) L        |                             |              |                |                    |         |                            |               |
| D14 REC H          | A06K1                       | 1-01 *       |                |                    |         |                            | 167           |
| D14 REC H          | B08D2                       | 1-02 *       |                |                    |         |                            | 167           |
| D14 REC H          |                             |              |                |                    |         |                            |               |
| D14 TM(0) L        | A06M2                       | 1-01 * P     |                |                    |         |                            | 168           |
| D14 TM(0) L        | A08M2                       | 1-02 *       |                |                    |         |                            | 168           |
| D14 TM(0) L        |                             |              |                |                    |         |                            |               |
| D15 REC H          | A06F1                       | 1-01 *       |                |                    |         |                            | 169           |
| D15 REC H          | B08E1                       | 1-02 *       |                |                    |         |                            | 169           |
| D15 REC H          |                             |              |                |                    |         |                            |               |
| D15 TM(0) L        | A06L2                       | 1-01 *       |                |                    |         |                            | 170           |
| D15 TM(0) L        | A08N1                       | 1-02 *       |                |                    |         |                            | 170           |
| D15 TM(0) L        |                             |              |                |                    |         |                            |               |
| D16 REC H          | A06M1                       | 1-01 *       |                |                    |         |                            | 171           |
| D16 REC H          | B08E2                       | 1-02 *       |                |                    |         |                            | 171           |
| D16 REC H          |                             |              |                |                    |         |                            |               |
| D16 TM(0) L        | A06P2                       | 1-01 * P     |                |                    |         |                            | 172           |
| D16 TM(0) L        | A08N2                       | 1-02 *       |                |                    |         |                            | 172           |
| D16 TM(0) L        |                             |              |                |                    |         |                            |               |
| D17 REC H          | A06L1                       | 1-01 *       |                |                    |         |                            | 173           |
| D17 REC H          | B08F1                       | 1-02 *       |                |                    |         |                            | 173           |
| D17 REC H          |                             |              |                |                    |         |                            |               |
| D17 TM(0) L        | A06N2                       | 1-01 * P     |                |                    |         |                            | 174           |
| D17 TM(0) L        | A08P2                       | 1-02 *       |                |                    |         |                            | 174           |
| D17 TM(0) L        |                             |              |                |                    |         |                            |               |
| DATA H             | C04B2                       | 1-01 * P     |                |                    |         |                            | 175           |
| DATA H             | C07B2                       | 1-02 *       |                |                    |         |                            | 175           |
| DATA H             |                             |              |                |                    |         |                            |               |
| DATA HALF(1) F     | E01P2                       | 1-01 *       |                |                    |         |                            | 176           |
| DATA HALF(1) F     | F02P2                       | 1-02 * P     |                |                    |         |                            | 176           |
| DATA HALF(1) F     | E03P2                       | 1-03 * P     |                |                    |         |                            | 176           |
| DATA HALF(1) F     | E04P2                       | 1-04 * P     |                |                    |         |                            | 176           |
| DATA HALF(1) F     | E07P2                       | 1-05 *       |                |                    |         |                            | 176           |
| DATA HALF(1) F     |                             |              |                |                    |         |                            |               |

| TM03 A<br>RUN NAME | WRAPD .V35(102)=1 03-JUN-77 |              | 28-AUG-78      |                    | PAGE 15 |                            | RUN<br>NUMBER |
|--------------------|-----------------------------|--------------|----------------|--------------------|---------|----------------------------|---------------|
|                    | A/P PIN<br>NAME             | ORDER<br>PIN | BAY =<br>ORDER | Q DRAW RV RG Y X Z | REMARKS | 12158<br>NC LENGTH<br>FLAG |               |
| DATA L             | C04D1                       |              |                |                    |         |                            | 177           |
| DATA XFER H        | A07B1                       | 1-01 * P     |                |                    |         |                            | 178           |
| DATA XFER H        | A09B1                       | 1-02 *       |                |                    |         |                            | 178           |
| DATA XFER H        |                             |              |                |                    |         |                            |               |
| DC LO L            | A09J1                       | 1-01 *       |                |                    |         |                            | 179           |
| DC LO L            | B04J1                       | 1-02 * P     |                |                    |         |                            | 179           |
| DC LO L            | B06J1                       | 1-03 *       |                |                    |         |                            | 179           |
| DC LO L            |                             |              |                |                    |         |                            |               |
| DD TRK 0(1) H      | C06D1                       | 1-01 *       |                |                    |         |                            | 180           |
| DD TRK 0(1) H      | D01E2                       | 1-02 *       |                |                    |         |                            | 180           |
| DD TRK 0(1) H      | F04R1                       | 1-03 *       |                |                    |         |                            | 180           |
| DD TRK 0(1) H      |                             |              |                |                    |         |                            |               |
| DD TRK 0(1) L      | C01V1                       | 1-01 *       |                |                    |         |                            | 181           |
| DD TRK 0(1) L      | F04A1                       | 1-02 *       |                |                    |         |                            | 181           |
| DD TRK 0(1) L      |                             |              |                |                    |         |                            |               |
| DD TRK 1(1) F      | C06C1                       | 1-01 *       |                |                    |         |                            | 182           |
| DD TRK 1(1) F      | D03E2                       | 1-02 *       |                |                    |         |                            | 182           |
| DD TRK 1(1) F      | F04S1                       | 1-03 *       |                |                    |         |                            | 182           |
| DD TRK 1(1) F      |                             |              |                |                    |         |                            |               |
| DD TRK 1(1) L      | C03V1                       | 1-01 *       |                |                    |         |                            | 183           |
| DD TRK 1(1) L      | F04H2                       | 1-02 *       |                |                    |         |                            | 183           |
| DD TRK 1(1) L      |                             |              |                |                    |         |                            |               |
| DD TRK 2(1) H      | C06A1                       | 1-01 *       |                |                    |         |                            | 184           |
| DD TRK 2(1) H      | E01R2                       | 1-02 *       |                |                    |         |                            | 184           |
| DD TRK 2(1) H      | F04P1                       | 1-03 *       |                |                    |         |                            | 184           |
| DD TRK 2(1) H      |                             |              |                |                    |         |                            |               |
| DD TRK 2(1) L      | E01P1                       | 1-01 *       |                |                    |         |                            | 185           |
| DD TRK 2(1) L      | F04B1                       | 1-02 *       |                |                    |         |                            | 185           |
| DD TRK 2(1) L      |                             |              |                |                    |         |                            |               |
| DD TRK 3(1) F      | C06D2                       | 1-01 *       |                |                    |         |                            | 186           |
| DD TRK 3(1) F      | F03F2                       | 1-02 * P     |                |                    |         |                            | 186           |
| DD TRK 3(1) F      | F04M1                       | 1-03 *       |                |                    |         |                            | 186           |
| DD TRK 3(1) F      |                             |              |                |                    |         |                            |               |
| DD TRK 3(1) L      | F03J1                       | 1-01 * P     |                |                    |         |                            | 187           |
| DD TRK 3(1) L      | F04K2                       | 1-02 *       |                |                    |         |                            | 187           |
| DD TRK 3(1) L      |                             |              |                |                    |         |                            |               |
| DD TRK 4(1) F      | F01P2                       | 1-01 *       |                |                    |         |                            | 189           |
| DD TRK 4(1) F      | F04R2                       | 1-02 * P     |                |                    |         |                            | 189           |
| DD TRK 4(1) F      | F06V1                       | 1-03 *       |                |                    |         |                            | 189           |
| DD TRK 4(1) F      |                             |              |                |                    |         |                            |               |
| DD TRK 4(1) L      | F01J1                       | 1-01 *       |                |                    |         |                            | 189           |
| DD TRK 4(1) L      | F04D2                       | 1-02 *       |                |                    |         |                            | 189           |
| DD TRK 4(1) L      |                             |              |                |                    |         |                            |               |



TM03\_A WRAPD .V35(102)=1 03-JUN-77 28-AUG-78 PAGE 16  
 RUN NAME A/P PIN ORDER PTN RAY = Q DRAW RV HG Y X Z REMARKS NC LENGTH EXCEPTIONS RUN  
 NAME ORDER PTN OPT FLAG NUMBER  
 DD TRK 5(1) H D02E2 1-01 \* 1 7-7/H 190  
 DD TRK 5(1) H F04S2 1-02 \* P 1-5/H 190  
 DD TRK 5(1) H F06T2 1-03 \* 2 1-5/H 190  
 DD TRK 5(1) H 1 9-4/H 190  
 DD TRK 5(1) L C02V1 1-01 \* 1 7-5/H 191  
 DD TRK 5(1) L F04E1 1-02 \* 1 7-5/H 191  
 DD TRK 5(1) L 1-03 \* 1 1-7/H 191  
 DD TRK 6(1) H F02F2 1-01 \* 2 1-6/H 192  
 DD TRK 6(1) H F04N2 1-02 \* P 1-5/H 192  
 DD TRK 6(1) H F06S2 1-03 \* 1 3-3/H 192  
 DD TRK 6(1) H 1 1-7/H 192  
 DD TRK 6(1) L F02J1 1-01 \* P 1 1-7/H 193  
 DD TRK 6(1) L F04F2 1-02 \* 1 1-7/H 193  
 DD TRK 6(1) L 1-03 \* 1 3-1/H 194  
 DD TRK 7(1) H F04M2 1-02 \* P 1-4/H 194  
 DD TRK 7(1) H F06U1 1-03 \* 2 1-4/H 194  
 DD TRK 7(1) H 1 4-5/H 194  
 DD TRK 7(1) L E03P1 1-01 \* 1 3-1/H 195  
 DD TRK 7(1) L F04F2 1-02 \* 1 3-1/H 195  
 DD TRK P H C06U1 1-01 \* 1 6-7/H 196  
 DD TRK P H E02R2 1-02 \* 2 3-7/H 196  
 DD TRK P H F04P2 1-03 \* 1 10-6/H 196  
 DD TRK P L E02P1 1-01 \* 1 3-3/H 197  
 DD TRK P L F04H1 1-02 \* 1 3-3/H 197  
 DD TRK P L 1 4-1/H 198  
 DEM H A09U2 1-01 \* 1 4-1/H 198  
 DEM H B06R1 1-02 \* 1 1-PIN RUN 199  
 DEN 0 (S8) H D06L2 1-PIN RUN 199  
 DEN 1(0) H D06T2 1-PIN RUN 200  
 DEN 2 L B01P1 1-01 \* 1 4-5/H 201  
 DEN 2 L C06U2 1-02 \* 1 4-5/H 201  
 DEN 2(1) H C06V2 1-01 \* P 1 202  
 DEN 2(1) H C07V2 1-02 \* 1 2-3/H 202  
 DEN 2(1) H D09H2 1-03 \* 1 3-3/H 202  
 DPA REC H A06S1 1-01 \* 1 2-1/H 203  
 DPA REC H A08E1 1-02 \* 1 2-1/H 203

TM03\_A WRAPD .V35(102)=1 03-JUN-77 28-AUG-78 PAGE 17  
 RUN NAME A/P PIN ORDER PTN RAY = Q DRAW RV HG Y X Z REMARKS NC LENGTH EXCEPTIONS RUN  
 NAME ORDER PTN OPT FLAG NUMBER  
 DPA TM L A06U1 1-01 \* 1 2-6/H 204  
 DPA TM L A08D1 1-02 \* 2 12-1/H 204  
 DPA TM L E08P1 1-03 \* 1 14-7/H 204  
 DROPPED BIT 0 H C01E1 1-PIN RUN 205  
 DROPPED BIT 1 H C03E1 1-PIN RUN 206  
 DROPPED BIT 2 H C01U1 1-PIN RUN 207  
 DROPPED BIT 3 H E03S1 1-PIN RUN 208  
 DROPPED BIT 4 H E01S1 1-PIN RUN 209  
 DROPPED BIT 5 H C02E1 1-PIN RUN 210  
 DROPPED BIT 6 H E02S1 1-PIN RUN 211  
 DROPPED BIT 7 H C03U1 1-PIN RUN 212  
 DROPPED BIT P H C02U1 1-PIN RUN 213  
 DRV CLR PLUS H A09P2 1-01 \* 1 5-7/H 214  
 DRV CLR PLUS H B01D2 1-02 \* 1 5-7/H 214  
 DRV SET PLUS H C04S2 1-01 \* P 1 215  
 DRV SET PLUS H C05S2 1-02 \* P 2 1-4/H 215  
 DRV SET PLUS H C07S2 1-03 \* P 2 1-4/H 215  
 DRV SET PLUS H C09S2 1-04 \* 1 7-6/H 215  
 DRV SET PLUS H A01N1 1-05 \* 1 11-6/H 215  
 DRV SET PLUS L C05E2 1-01 \* P 1 216  
 DRV SET PLUS L C07E2 1-02 \* P 2 1-6/H 216  
 DRV SET PLUS L C09P1 1-03 \* 1 2-4/H 216  
 DRV SET PLUS L D06A1 1-04 \* 1 5-6/H 216  
 OS ENABLE C09B2 1-01 \* 1 8-6/H 217  
 OS ENABLE F09D2 1-02 \* 1 8-6/H 217  
 OS ENABLE 1 2-3/H 218  
 OS ENABLE 1 2-3/H 218  
 OS ENABLE 1 2-5/H 219  
 OS ENABLE 1-02 \* 1 2-5/H 219  
 OS ENABLE 1-01 \* 1 2-2/H 220  
 OS ENABLE 1-02 \* 1 2-2/H 220

| IM03.A<br>RUN NAME | WRAPD .V35(102)-1<br>A/P PIN ORDER<br>NAME | 03-JUN-77<br>BAY -<br>ORDER | 28-AUG-78 | 1215H<br>NC LENGTH<br>FLAG | PAGE 18<br>EXCEPTIONS | RUN<br>NUMBER |
|--------------------|--|-----------------------------|-----------|----------------------------|-----------------------|---------------|
|                    |  |                             | REMARKS   |                            |                       |               |
| DT0 H              | B03H2                                      | 1-01 *                      | 1         | 2-5/8                      |                       | 221           |
| DT0 H              | B07J2                                      | 1-02 *                      |           | 2-5/8                      |                       | 221           |
| DT1 H              | A03M2                                      | 1-01 *                      | 1         | 1-6/8                      |                       | 222           |
| DT1 H              | A01M1                                      | 1-02 *                      | 2         | 3-7/8                      |                       | 222           |
| DT1 H              | A07N2                                      | 1-03 *                      |           | 5-5/8                      |                       | 222           |
| DT2 (8B) L         | B03P1                                      | 1-01 *                      | 1         | 5-1/8                      |                       | 223           |
| DT2 (8B) L         | A01D1                                      | 1-02 *                      | 2         | 5-2/8                      |                       | 223           |
| DT2 (8B) L         | H07K1                                      | 1-03 *                      |           | 10-3/8                     |                       | 223           |
| EA0DTE(1) H        | C06N2                                      | 1-01 * P                    | 1         | 1                          |                       | 224           |
| EA0DTE(1) H        | C07N2                                      | 1-02 * P                    | 2         | 1-4/8                      |                       | 224           |
| EA0DTE(1) H        | C09N2                                      | 1-03 *                      |           | 2-4/8                      |                       | 224           |
| EBL L              | B05L2                                      | 1-01 * P                    | 1         | 2-4/8                      |                       | 225           |
| EBL L              | B09L2                                      | 1-02 *                      |           | 2-4/8                      |                       | 225           |
| EBL L              | A04P1                                      | 1-01 * P                    | 1         | 0-1/8                      |                       | 226           |
| ECR H              | A04R1                                      | 1-02 * P                    | 2         | 0-5/8                      |                       | 226           |
| ECR H              | A05P1                                      | 1-03 * P                    | 2         | 0-1/8                      |                       | 226           |
| ECR H              | A05R1                                      | 1-04 * P                    | 2         | 0-5/8                      |                       | 226           |
| ECR H              | A06P1                                      | 1-05 * P                    | 2         | 3-1/8                      |                       | 226           |
| ECR H              | A09F2                                      | 1-06 *                      |           | 4-5/8                      |                       | 226           |
| ECS H              | A09J2                                      | 1-01 *                      | 1         | 3-5/8                      |                       | 227           |
| ECS H              | A05U2                                      | 1-02 * P                    | 2         | 1                          |                       | 227           |
| ECS H              | A04U2                                      | 1-03 *                      | 1         | 1-7/8                      |                       | 227           |
| ECS H              | B04F2                                      | 1-04 * P                    | 2         | 1                          |                       | 227           |
| ECS H              | B05F2                                      | 1-05 * P                    | 1         | 1                          |                       | 227           |
| ECS H              | B06F2                                      | 1-06 *                      | 2         | 1-5/8                      |                       | 227           |
| ECS H              | B06S2                                      | 1-07 * P                    | 1         | 1                          |                       | 227           |
| ECS H              | B05S2                                      | 1-08 * P                    | 1         | 1                          |                       | 227           |
| ECS H              | B04S2                                      | 1-09 *                      | 2         | 12-1/8                     |                       | 227           |
| EDS H              | A05B1                                      | 1-01 * P                    | 1         | 1                          |                       | 228           |
| EDS H              | A04B1                                      | 1-02 * P                    | 2         | 1-4/8                      |                       | 228           |
| EDS H              | A06B1                                      | 1-03 * P                    | 2         | 2-3/8                      |                       | 228           |
| EDS H              | A06U2                                      | 1-04 * P                    | 2         | 2-5/8                      |                       | 228           |
| EDS H              | A09M2                                      | 1-05 *                      |           | 7-4/8                      |                       | 228           |
| EIGHTY L           | D04C1                                      | 1-01 * P                    | 1         | 2                          |                       | 229           |
| EIGHTY L           | D07C1                                      | 1-02 *                      |           | 2-0/8                      |                       | 229           |
| EIGHTY L           |  |                             |           |                            |                       | 229           |

| IM03.A<br>RUN NAME | WRAPD .V35(102)-1<br>A/P PIN ORDER<br>NAME | 03-JUN-77<br>BAY -<br>ORDER | 28-AUG-78 | 1215H<br>NC LENGTH<br>FLAG | PAGE 19<br>EXCEPTIONS | RUN<br>NUMBER |
|--------------------|--|-----------------------------|-----------|----------------------------|-----------------------|---------------|
|                    |  |                             | REMARKS   |                            |                       |               |
| END H              | A07B2                                      | 1-01 *                      | 1         | 4-7/8                      |                       | 230           |
| END H              | B01E2                                      | 1-02 *                      |           | 4-7/8                      |                       | 230           |
| END H              |  |                             |           |                            |                       | 230           |
| ENABLE SYNC(1) I   | C04E1                                      | 1-01 *                      | 1         | 3-3/8                      |                       | 231           |
| ENABLE SYNC(1) I   | D03C1                                      | 1-02 * P                    | 2         | 1                          |                       | 231           |
| ENABLE SYNC(1) I   | D02C1                                      | 1-03 *                      | 1         | 1                          |                       | 231           |
| ENABLE SYNC(1) I   | D01C1                                      | 1-04 *                      |           | 5-3/8                      |                       | 231           |
| ENABLE SYNC(1) I   |  |                             |           |                            |                       | 231           |
| ENBL SHDN CNTR I   | D07M2                                      | 1-01 * P                    | 1         | 1-4/8                      |                       | 232           |
| ENBL SHDN CNTR I   | D05M2                                      | 1-02 *                      | 1         | 4-3/8                      |                       | 232           |
| ENBL SHDN CNTR I   | E04V1                                      | 1-03 *                      | 2         | 3-3/8                      |                       | 232           |
| ENBL SHDN CNTR I   | F09A1                                      | 1-04 *                      |           | 9-2/8                      |                       | 232           |
| ENBL SHDN CNTR I   |  |                             |           |                            |                       | 232           |
| END PT H           | A02M2                                      | 1-01 *                      | 1         | 5-1/8                      |                       | 233           |
| END PT H           | B07R1                                      | 1-02 *                      | 2         | 2-5/8                      |                       | 233           |
| END PT H           | C09F1                                      | 1-03 *                      |           | 7-6/8                      |                       | 233           |
| END PT H           |  |                             |           |                            |                       | 233           |
| ENV 1(1) H         | D01K2                                      | 1-01 *                      | 1         | 2-7/8                      |                       | 234           |
| ENV 1(1) H         | D04B2                                      | 1-02 *                      |           | 2-7/8                      |                       | 234           |
| ENV 1(1) H         |  |                             |           |                            |                       | 234           |
| ENV 2(1) H         | C01H2                                      | 1-01 *                      | 1         | 1-6/8                      |                       | 235           |
| ENV 2(1) H         | C04H1                                      | 1-02 *                      |           | 1-6/8                      |                       | 235           |
| ENV 2(1) H         |  |                             |           |                            |                       | 235           |
| ENV 3(1) H         | F01J2                                      | 1-01 *                      | 1         | 1-6/8                      |                       | 236           |
| ENV 3(1) H         | F04J1                                      | 1-02 *                      |           | 1-6/8                      |                       | 236           |
| ENV 3(1) H         |  |                             |           |                            |                       | 236           |
| ENV 4(1) H         | D02K2                                      | 1-01 * P                    | 1         | 1-3/8                      |                       | 237           |
| ENV 4(1) H         | D04E1                                      | 1-02 *                      |           | 1-3/8                      |                       | 237           |
| ENV 4(1) H         |  |                             |           |                            |                       | 237           |
| ENV 5(1) H         | C02H2                                      | 1-01 * P                    | 1         | 1-4/8                      |                       | 238           |
| ENV 5(1) H         | C04H2                                      | 1-02 *                      |           | 1-4/8                      |                       | 238           |
| ENV 5(1) H         |  |                             |           |                            |                       | 238           |
| ENV 6(1) H         | F02J2                                      | 1-01 * P                    | 1         | 1-4/8                      |                       | 239           |
| ENV 6(1) H         | F04J2                                      | 1-02 *                      |           | 1-4/8                      |                       | 239           |
| ENV 6(1) H         |  |                             |           |                            |                       | 239           |
| ENV 7(1) H         | D03K2                                      | 1-01 * P                    | 1         | 1                          |                       | 240           |
| ENV 7(1) H         | D04H2                                      | 1-02 *                      |           | 1-0/8                      |                       | 240           |
| ENV 7(1) H         |  |                             |           |                            |                       | 240           |
| ENV 8(1) H         | C03H2                                      | 1-01 * P                    | 1         | 0-5/8                      |                       | 241           |
| ENV 8(1) H         | C04J1                                      | 1-02 *                      |           | 0-5/8                      |                       | 241           |
| ENV 8(1) H         |  |                             |           |                            |                       | 241           |
| ENV 9(1) H         | F03J2                                      | 1-01 * P                    | 1         | 0-1/8                      |                       | 242           |
| ENV 9(1) H         | F04K1                                      | 1-02 *                      |           | 0-1/8                      |                       | 242           |
| ENV 9(1) H         |  |                             |           |                            |                       | 242           |

| TH03A<br>RUN NAME | WRAPD 0V35(102)-1<br>A/P PIN ORDER PIN | 03-JUN-77<br>RAY - O DRA* OPT | RV RG Y X Z | REMARKS | 28-AUG-78 | 12:58<br>NC LENGTH<br>FLAG | PAGE 20<br>EXCEPTIONS | RUN<br>NUMBER |
|-------------------|--|-------------------------------|-------------|---------|-----------|----------------------------|-----------------------|---------------|
| ERR L             | C07H1                                  | 1-01 * P                      |             |         |           | 1-4/H                      |                       | 243           |
| ERR L             | C09H1                                  | 1-02 *                        |             |         |           | 5-7/H                      |                       | 243           |
| ERR L             | U05T2                                  | 1-03 *                        |             |         |           | 7-3/H                      |                       | 243           |
| ERR L             |  |                               |             |         |           |                            |                       |               |
| ERASE L           | D07U1                                  | 1-01 * P                      |             |         |           | 2-5/H                      |                       | 244           |
| ERASE L           | D09E1                                  | 1-02 *                        |             |         |           | 2-5/H                      |                       | 244           |
| ERASE L           |  |                               |             |         |           |                            |                       |               |
| ERDS(0) H         | C05H2                                  |                               |             |         |           |                            | 1-PIN RUN             | 245           |
| ERDS(1) H         | D05M1                                  |                               |             |         |           |                            | 1-PIN RUN             | 246           |
| ERROR RESET L     | E04U2                                  | 1-01 * P                      |             |         |           | 1                          |                       | 247           |
| ERROR RESET L     | E05L2                                  | 1-02 * P                      |             |         |           | 1-4/H                      |                       | 247           |
| ERROR RESET L     | F07L2                                  | 1-03 *                        |             |         |           | 2-4/H                      |                       | 247           |
| ERROR RESET L     |  |                               |             |         |           |                            |                       |               |
| ES/IL THRK L      | C04D2                                  | 1-01 * P                      |             |         |           | 1                          |                       | 248           |
| ES/IL THRK L      | C05D2                                  | 1-02 *                        |             |         |           | 10-7/H                     |                       | 248           |
| ES/IL THRK L      | F09M1                                  | 1-03 *                        |             |         |           | 11-7/H                     |                       | 248           |
| ES/IL THRK L      |  |                               |             |         |           |                            |                       |               |
| EVEN PAR H        | B09D1                                  | 1-01 *                        |             |         |           | 3-7/H                      |                       | 249           |
| EVEN PAR H        | C08I2                                  | 1-02 *                        |             |         |           | 8-3/H                      |                       | 249           |
| EVEN PAR H        | F06B2                                  | 1-03 *                        |             |         |           | 12-2/H                     |                       | 249           |
| EVEN PAR H        |  |                               |             |         |           |                            |                       |               |
| EXC BY CONT(1) L  | C09D1                                  |                               |             |         |           |                            | 1-PIN RUN             | 250           |
| EXC REC H         | B05L1                                  | 1-01 *                        |             |         |           | 2-5/H                      |                       | 251           |
| EXC REC H         | B09K2                                  | 1-02 *                        |             |         |           | 2-5/H                      |                       | 251           |
| EXC REC H         |  |                               |             |         |           |                            |                       |               |
| EXC IM L          | K05P2                                  | 1-01 * P                      |             |         |           | 2-4/H                      |                       | 252           |
| EXC IM L          | B09P2                                  | 1-02 *                        |             |         |           | 2-4/H                      |                       | 252           |
| EXC IM L          |  |                               |             |         |           |                            |                       |               |
| F1 H              | E06M2                                  | 1-01 *                        |             |         |           | 2                          |                       | 253           |
| F1 H              | E09M2                                  | 1-02 *                        |             |         |           | 2-0/H                      |                       | 253           |
| F1 H              |  |                               |             |         |           |                            |                       |               |
| F2 H              | E06N2                                  | 1-01 * P                      |             |         |           | 2                          |                       | 254           |
| F2 H              | E09N2                                  | 1-02 *                        |             |         |           | 2-0/H                      |                       | 254           |
| F2 H              |  |                               |             |         |           |                            |                       |               |
| F3 H              | E06P2                                  | 1-01 * P                      |             |         |           | 2                          |                       | 255           |
| F3 H              | E09P2                                  | 1-02 *                        |             |         |           | 2-0/H                      |                       | 255           |
| F3 H              |  |                               |             |         |           |                            |                       |               |
| F4 H              | C06B2                                  | 1-01 *                        |             |         |           | 7-1/H                      |                       | 256           |
| F4 H              | E09B2                                  | 1-02 *                        |             |         |           | 7-1/H                      |                       | 256           |
| F4 H              |  |                               |             |         |           |                            |                       |               |

| TH03A<br>RUN NAME | WRAPD 0V35(102)-1<br>A/P PIN ORDER PIN | 03-JUN-77<br>RAY - O DRA* OPT | RV RG Y X Z | REMARKS | 28-AUG-78 | 12:58<br>NC LENGTH<br>FLAG | PAGE 21<br>EXCEPTIONS | RUN<br>NUMBER |
|-------------------|--|-------------------------------|-------------|---------|-----------|----------------------------|-----------------------|---------------|
| F5 H              | C06T2                                  | 1-01 *                        |             |         |           | 7-1/H                      |                       | 257           |
| F5 H              | E09T2                                  | 1-02 *                        |             |         |           | 7-1/H                      |                       | 257           |
| F5 H              |  |                               |             |         |           |                            |                       |               |
| FCCLK H           | A00J2                                  | 1-01 * P                      |             |         |           | 0-1/H                      |                       | 258           |
| FCCLK H           | A09K1                                  | 1-02 *                        |             |         |           | 0-1/H                      |                       | 258           |
| FCCLK H           |  |                               |             |         |           |                            |                       |               |
| FCOF(1) L         | C07H2                                  | 1-01 * P                      |             |         |           | 1-5/H                      |                       | 259           |
| FCOF(1) L         | C09E2                                  | 1-02 *                        |             |         |           | 1-5/H                      |                       | 259           |
| FCOF(1) L         |  |                               |             |         |           |                            |                       |               |
| FMK PATTERN H     | F04B2                                  |                               |             |         |           |                            | 1-PIN RUN             | 260           |
| FMT 0(1) H        | B08M2                                  | 1-01 *                        |             |         |           | 6-1/H                      |                       | 261           |
| FMT 0(1) H        | D06F1                                  | 1-02 *                        |             |         |           | 6-1/H                      |                       | 261           |
| FMT 0(1) H        |  |                               |             |         |           |                            |                       |               |
| FMT 1(1) H        | B08N2                                  | 1-01 *                        |             |         |           | 7-3/H                      |                       | 262           |
| FMT 1(1) H        | D06U2                                  | 1-02 *                        |             |         |           | 7-3/H                      |                       | 262           |
| FMT 1(1) H        |  |                               |             |         |           |                            |                       |               |
| FMT 2(1) H        | D06V2                                  | 1-01 * P                      |             |         |           | 1-2/H                      |                       | 263           |
| FMT 2(1) H        | D06S1                                  | 1-02 *                        |             |         |           | 1-2/H                      |                       | 263           |
| FMT 2(1) H        |  |                               |             |         |           |                            |                       |               |
| FMT 3(1) H        | B08T2                                  | 1-01 *                        |             |         |           | 10-3/H                     |                       | 264           |
| FMT 3(1) H        | F06B1                                  | 1-02 *                        |             |         |           | 10-3/H                     |                       | 264           |
| FMT 3(1) H        |  |                               |             |         |           |                            |                       |               |
| FORTY H           | D04D2                                  | 1-01 *                        |             |         |           | 2                          |                       | 265           |
| FORTY H           | D07D2                                  | 1-02 *                        |             |         |           | 2-0/H                      |                       | 265           |
| FORTY H           |  |                               |             |         |           |                            |                       |               |
| FMD CRC8(1) H     | C05B2                                  |                               |             |         |           |                            | 1-PIN RUN             | 266           |
| FMD H             | A02A1                                  | 1-01 *                        |             |         |           | 0-1/H                      |                       | 267           |
| FMD H             | A02B1                                  | 1-02 *                        |             |         |           | 0-1/H                      |                       | 267           |
| FMD H             | A02C1                                  | 1-03 *                        |             |         |           | 2-3/H                      |                       | 267           |
| FMD H             | A02U2                                  | 1-04 *                        |             |         |           | 6-7/H                      |                       | 267           |
| FMD H             | C09R2                                  | 1-05 *                        |             |         |           | 1                          |                       | 267           |
| FMD H             | C08R2                                  | 1-06 *                        |             |         |           | 2                          |                       | 267           |
| FMD H             | C05R2                                  | 1-07 *                        |             |         |           | 12-4/H                     |                       | 267           |
| FMD H             |  |                               |             |         |           |                            |                       |               |
| FMD L             | D05H1                                  |                               |             |         |           |                            | 1-PIN RUN             | 268           |
| FMD LRC8(1) H     | C05U2                                  |                               |             |         |           |                            | 1-PIN RUN             | 269           |







| TM03.A<br>RUN NAME    | A/P | WRAPD .V35(102)=1<br>PIN ORDER PIN | Q | 03=JUN=77<br>DRAW | KV | RG | Y | X | Z | REMARKS | 28=AUG=78 | 12:58<br>NC LENGTH<br>FLAG | PAGE 28<br>EXCEPTIONS | RUN<br>NUMBER |
|-----------------------|-----|------------------------------------|---|-------------------|----|----|---|---|---|---------|-----------|----------------------------|-----------------------|---------------|
| ONE DET 5 L           |     | C02F2                              |   |                   |    |    |   |   | 1 |         |           | 7=1/R                      |                       | 320           |
| ONE DET 5 L           |     | E04N1                              |   |                   |    |    |   |   |   |         |           |                            |                       | 320           |
| ONE DET 5 L           |     |                                    |   |                   |    |    |   |   |   |         |           |                            |                       | 320           |
| ONE DET 6 L           |     | E04K2                              |   |                   |    |    |   |   | 1 |         |           | 3=1/H                      |                       | 321           |
| ONE DET 6 L           |     | F02E1                              |   |                   |    |    |   |   |   |         |           |                            |                       | 321           |
| ONE DET 6 L           |     |                                    |   |                   |    |    |   |   |   |         |           |                            |                       | 321           |
| ONE DET 7 L           |     | D03V2                              |   |                   |    |    |   |   | 1 |         |           | 2=7/R                      |                       | 322           |
| ONE DET 7 L           |     | E04R2                              |   |                   |    |    |   |   |   |         |           |                            |                       | 322           |
| ONE DET 7 L           |     |                                    |   |                   |    |    |   |   |   |         |           |                            |                       | 322           |
| ONE DET P L           |     | D02V2                              |   |                   |    |    |   |   |   |         |           | 1=PIN RUN                  |                       | 323           |
| ONE READ H            |     | D04F1                              |   |                   |    |    |   |   |   |         |           | 1=PIN RUN                  |                       | 324           |
| ONES L                |     | C04L2                              |   |                   |    |    |   |   | 1 |         |           | 2                          |                       | 325           |
| ONES L                |     | C07L2                              |   |                   |    |    |   |   |   |         |           | 2=0/R                      |                       | 325           |
| ONES L                |     |                                    |   |                   |    |    |   |   |   |         |           |                            |                       | 325           |
| OPI(1) H              |     | D07B2                              |   |                   |    |    |   |   | 1 |         |           | 1=4/8                      |                       | 326           |
| OPI(1) H              |     | D09B2                              |   |                   |    |    |   |   |   |         |           |                            |                       | 326           |
| OPI(1) H              |     |                                    |   |                   |    |    |   |   |   |         |           |                            |                       | 326           |
| OVERFLOW A,B,C, L     |     | D04V1                              |   |                   |    |    |   |   | 1 |         |           | 1=2/8                      |                       | 327           |
| OVERFLOW A,B,C, L     |     | E03A1                              |   |                   |    |    |   | 2 |   |         |           |                            |                       | 327           |
| OVERFLOW A,B,C, L     |     | E02A1                              |   |                   |    |    |   | 1 |   |         |           |                            |                       | 327           |
| OVERFLOW A,B,C, L     |     | E01A1                              |   |                   |    |    |   |   |   |         |           |                            |                       | 327           |
| OVERFLOW A,B,C, L     |     |                                    |   |                   |    |    |   |   |   |         |           | 3=2/8                      |                       | 327           |
| PE WRT CLK ENBL L     |     | D04B1                              |   |                   |    |    |   |   | 1 |         |           | 2                          |                       | 328           |
| PE WRT CLK ENBL L     |     | D07B1                              |   |                   |    |    |   |   |   |         |           | 2=0/R                      |                       | 328           |
| PE WRT CLK ENBL L     |     |                                    |   |                   |    |    |   |   |   |         |           |                            |                       | 328           |
| PEF/LRC L             |     | D04V2                              |   |                   |    |    |   |   | 1 |         |           | 1                          |                       | 329           |
| PEF/LRC L             |     | D05V2                              |   |                   |    |    |   |   | 1 |         |           | 5=7/8                      |                       | 329           |
| PEF/LRC L             |     | F09F1                              |   |                   |    |    |   |   |   |         |           | 6=7/8                      |                       | 329           |
| PEF/LRC L             |     |                                    |   |                   |    |    |   |   |   |         |           |                            |                       | 329           |
| PERR AND ONE DD TRK H |     | D01M2                              |   |                   |    |    |   |   | 1 |         |           | 1                          |                       | 330           |
| PERR AND ONE DD TRK H |     | D02M2                              |   |                   |    |    |   | 2 |   |         |           |                            |                       | 330           |
| PERR AND ONE DD TRK H |     | D03M2                              |   |                   |    |    |   | 1 |   |         |           | 0=4/8                      |                       | 330           |
| PERR AND ONE DD TRK H |     | D04K1                              |   |                   |    |    |   |   |   |         |           |                            |                       | 330           |
| PERR AND ONE DD TRK H |     |                                    |   |                   |    |    |   |   |   |         |           | 2=4/8                      |                       | 330           |
| PERR L                |     | D04J1                              |   |                   |    |    |   |   |   |         |           | 1=PIN RUN                  |                       | 331           |
| PES(8B) L             |     | A03D1                              |   |                   |    |    |   |   | 1 |         |           | 5=5/8                      |                       | 332           |
| PES(8B) L             |     | B07J1                              |   |                   |    |    |   |   |   |         |           |                            |                       | 332           |
| PES(8B) L             |     |                                    |   |                   |    |    |   |   |   |         |           | 5=5/8                      |                       | 332           |

| TM03.A<br>RUN NAME  | A/P | WRAPD .V35(102)=1<br>PIN ORDER PIN | Q | 03=JUN=77<br>DRAW | KV | RG | Y | X | Z | REMARKS | 28=AUG=78 | 12:58<br>NC LENGTH<br>FLAG | PAGE 29<br>EXCEPTIONS | RUN<br>NUMBER |
|---------------------|-----|------------------------------------|---|-------------------|----|----|---|---|---|---------|-----------|----------------------------|-----------------------|---------------|
| PESB H              |     | A03B1                              |   |                   |    |    |   |   | 1 |         |           | 0=7/8                      |                       | 333           |
| PESB H              |     | L04B1                              |   |                   |    |    |   |   | 2 |         |           | 1=4/8                      |                       | 333           |
| PESB H              |     | D06B1                              |   |                   |    |    |   | 2 |   |         |           | 1                          |                       | 333           |
| PESB H              |     | D07B1                              |   |                   |    |    |   |   | 1 |         |           | 4=3/8                      |                       | 333           |
| PESB H              |     | E08L1                              |   |                   |    |    |   |   | 2 |         |           | 3=7/8                      |                       | 333           |
| PESB H              |     | L03B1                              |   |                   |    |    |   | 2 |   |         |           | 1                          |                       | 333           |
| PESB H              |     | E02B1                              |   |                   |    |    |   |   | 1 |         |           | 1                          |                       | 333           |
| PESB H              |     | E01B1                              |   |                   |    |    |   |   |   |         |           |                            |                       | 333           |
| PESB H              |     |                                    |   |                   |    |    |   |   |   |         |           | 21=5/8                     |                       | 333           |
| PESB L              |     | A03C1                              |   |                   |    |    |   |   | 1 |         |           | 9=1/8                      |                       | 334           |
| PESB L              |     | D04D1                              |   |                   |    |    |   | 2 |   |         |           | 1                          |                       | 334           |
| PESB L              |     | D05D1                              |   |                   |    |    |   | 1 |   |         |           | 1=4/8                      |                       | 334           |
| PESB L              |     | D07D1                              |   |                   |    |    |   | 2 |   |         |           | 1=4/8                      |                       | 334           |
| PESB L              |     | D09D1                              |   |                   |    |    |   |   | 1 |         |           | 4=4/8                      |                       | 334           |
| PESB L              |     | U08D2                              |   |                   |    |    |   |   |   |         |           |                            |                       | 334           |
| PESB L              |     |                                    |   |                   |    |    |   |   |   |         |           | 13=5/8                     |                       | 334           |
| PIP H               |     | C09V2                              |   |                   |    |    |   |   | 1 |         |           | 2=2/8                      |                       | 335           |
| PIP H               |     | D07M2                              |   |                   |    |    |   |   |   |         |           |                            |                       | 335           |
| PIP H               |     |                                    |   |                   |    |    |   |   |   |         |           | 2=2/H                      |                       | 335           |
| POS 0(0) H          |     | C04P2                              |   |                   |    |    |   |   | 1 |         |           | 2                          |                       | 336           |
| POS 0(0) H          |     | C07P2                              |   |                   |    |    |   |   |   |         |           | 2=0/R                      |                       | 336           |
| POS 0(0) H          |     |                                    |   |                   |    |    |   |   |   |         |           |                            |                       | 336           |
| POS 0(1) H          |     | C04M2                              |   |                   |    |    |   |   | 1 |         |           | 2                          |                       | 337           |
| POS 0(1) H          |     | C07M2                              |   |                   |    |    |   |   |   |         |           |                            |                       | 337           |
| POS 0(1) H          |     |                                    |   |                   |    |    |   |   |   |         |           | 2=0/H                      |                       | 337           |
| POST DETECT A,B,C H |     | C01B2                              |   |                   |    |    |   |   | 1 |         |           | 1                          |                       | 338           |
| POST DETECT A,B,C H |     | C02B2                              |   |                   |    |    |   | 2 |   |         |           | 1                          |                       | 338           |
| POST DETECT A,B,C H |     | C03B2                              |   |                   |    |    |   |   | 1 |         |           | 3=4/8                      |                       | 338           |
| POST DETECT A,B,C H |     | C04B1                              |   |                   |    |    |   |   |   |         |           |                            |                       | 338           |
| POST DETECT A,B,C H |     |                                    |   |                   |    |    |   |   |   |         |           | 2=4/8                      |                       | 338           |
| POST OR PRE H       |     | C04M1                              |   |                   |    |    |   |   |   |         |           | 1=PIN RUN                  |                       | 339           |
| POST OR REC N ACT L |     | A03A1                              |   |                   |    |    |   |   | 1 |         |           | 11=1/8                     |                       | 340           |
| POST OR REC N ACT L |     | D04T2                              |   |                   |    |    |   |   |   |         |           |                            |                       | 340           |
| POST OR REC N ACT L |     |                                    |   |                   |    |    |   |   |   |         |           | 11=1/8                     |                       | 340           |
| POSTAMBLE(0) H      |     | D04E2                              |   |                   |    |    |   |   | 1 |         |           | 2                          |                       | 341           |
| POSTAMBLE(0) H      |     | D07E2                              |   |                   |    |    |   |   |   |         |           |                            |                       | 341           |
| POSTAMBLE(0) H      |     |                                    |   |                   |    |    |   |   |   |         |           | 2=0/H                      |                       | 341           |
| PRE 0(1) L          |     | D04L2                              |   |                   |    |    |   |   | 1 |         |           | 2                          |                       | 342           |
| PRE 0(1) L          |     | D07L2                              |   |                   |    |    |   |   |   |         |           |                            |                       | 342           |
| PRE 0(1) L          |     |                                    |   |                   |    |    |   |   |   |         |           | 2=0/R                      |                       | 342           |
| PREAMBLE(0) H       |     | E04U1                              |   |                   |    |    |   |   |   |         |           | 1=PIN RUN                  |                       | 343           |
| PULSE(1) H          |     | A09L1                              |   |                   |    |    |   |   |   |         |           | 1=PIN RUN                  |                       | 344           |

| TH03.A<br>RUN NAME | WRAPD ,V35(102)=1<br>A/P PIN ORDER PIN | U3=JUN=77<br>RAY - Q DRAM RV HG Y X Z | 28=AUG=78 | 12:58<br>NC LENGTH EXCEPTIONS<br>FLAG | PAGE 30 | RUN<br>NUMBER |
|--------------------|--|---------------------------------------|-----------|---------------------------------------|---------|---------------|
| PVN(1) H           | F05A1                                  | 1-01 * P                              |           | 1                                     |         | 345           |
| PVN(1) H           | F06A1                                  | 1-02 * P                              |           | 1                                     |         | 345           |
| PVN(1) H           | F07A1                                  | 1-03 *                                |           | 4-1/8                                 |         | 345           |
| PVN(1) H           | D08N1                                  | 1-04 *                                |           | 6-7/8                                 |         | 345           |
| PVN(1) H           |  |                                       |           |                                       |         |               |
| R00 L              | A09L2                                  | 1-01 *                                |           | 11-1/8                                |         | 346           |
| R00 L              | D06V1                                  | 1-02 *                                |           | 11-1/8                                |         | 346           |
| R00 L              |  |                                       |           |                                       |         |               |
| R01 L              | A09A1                                  | 1-01 *                                |           | 15-3/8                                |         | 347           |
| R01 L              | F07H1                                  | 1-02 *                                |           | 15-3/8                                |         | 347           |
| R01 L              |  |                                       |           |                                       |         |               |
| R03 L              | F06H2                                  | 1-01 * P                              |           | 2                                     |         | 348           |
| R03 L              | F09H2                                  | 1-02 *                                |           | 2-0/8                                 |         | 348           |
| R03 L              |  |                                       |           |                                       |         |               |
| R04 L              | A09M1                                  |                                       |           | 1-PIN RUN                             |         | 349           |
| R06 L              | A09R1                                  | 1-01 *                                |           | 13-7/8                                |         | 350           |
| R06 L              | F07J1                                  | 1-02 *                                |           | 13-7/8                                |         | 350           |
| R06 L              |  |                                       |           |                                       |         |               |
| R07 L              | A09D1                                  | 1-01 *                                |           | 15-7/8                                |         | 351           |
| R07 L              | F06K2                                  | 1-02 *                                |           | 15-7/8                                |         | 351           |
| R07 L              |  |                                       |           |                                       |         |               |
| R10 L              | A09E1                                  | 1-01 *                                |           | 15-3/8                                |         | 352           |
| R10 L              | F07H1                                  | 1-02 *                                |           | 15-3/8                                |         | 352           |
| R10 L              |  |                                       |           |                                       |         |               |
| R11 L              | A09F1                                  | 1-01 *                                |           | 15-1/8                                |         | 353           |
| R11 L              | F07K1                                  | 1-02 * P                              |           | 1                                     |         | 353           |
| R11 L              | F06K1                                  | 1-03 *                                |           | 16-1/8                                |         | 353           |
| R11 L              |  |                                       |           |                                       |         |               |
| RD 0 H             | B02V2                                  | 1-01 * P                              |           | 3                                     |         | 354           |
| RD 0 H             | B07V2                                  | 1-02 *                                |           | 3-0/8                                 |         | 354           |
| RD 0 H             |  |                                       |           |                                       |         |               |
| RD 1(88) L         | B02U2                                  | 1-01 * P                              |           | 3                                     |         | 355           |
| RD 1(88) L         | B07U2                                  | 1-02 *                                |           | 3-0/8                                 |         | 355           |
| RD 1(88) L         |  |                                       |           |                                       |         |               |
| RD 2(88) L         | B02B2                                  | 1-01 *                                |           | 3                                     |         | 356           |
| RD 2(88) L         | B07B2                                  | 1-02 *                                |           | 3-0/8                                 |         | 356           |
| RD 2(88) L         |  |                                       |           |                                       |         |               |
| RD 3 H             | B02R2                                  | 1-01 *                                |           | 2-5/8                                 |         | 357           |
| RD 3 H             | B07P1                                  | 1-02 *                                |           | 2-5/8                                 |         | 357           |
| RD 3 H             |  |                                       |           |                                       |         |               |
| RD 4 H             | B02P2                                  | 1-01 *                                |           | 3                                     |         | 358           |
| RD 4 H             | B07P2                                  | 1-02 *                                |           | 3-0/8                                 |         | 358           |
| RD 4 H             |  |                                       |           |                                       |         |               |

| TH03.A<br>RUN NAME | WRAPD ,V35(102)=1<br>A/P PIN ORDER PIN | 03=JUN=77<br>RAY - Q DRAM RV HG Y X Z | 28=AUG=78 | 12:58<br>NC LENGTH EXCEPTIONS<br>FLAG | PAGE 31 | RUN<br>NUMBER |
|--------------------|--|---------------------------------------|-----------|---------------------------------------|---------|---------------|
| RD 5 H             | A02H2                                  | 1-01 * P                              |           | 3                                     |         | 359           |
| RD 5 H             | A07H2                                  | 1-02 *                                |           | 3-0/8                                 |         | 359           |
| RD 5 H             |  |                                       |           |                                       |         |               |
| RD 6(88) L         | A02F2                                  | 1-01 * P                              |           | 3                                     |         | 360           |
| RD 6(88) L         | A07F2                                  | 1-02 *                                |           | 3-0/8                                 |         | 360           |
| RD 6(88) L         |  |                                       |           |                                       |         |               |
| RD 7(88) L         | A02E2                                  | 1-01 *                                |           | 3                                     |         | 361           |
| RD 7(88) L         | A07E2                                  | 1-02 *                                |           | 3-0/8                                 |         | 361           |
| RD 7(88) L         |  |                                       |           |                                       |         |               |
| RD ACTV L          | D05L2                                  |                                       |           | 1-PIN RUN                             |         | 362           |
| RD ADDR 1(1) H     | D01T2                                  | 1-01 *                                |           | 1                                     |         | 363           |
| RD ADDR 1(1) H     | D02T2                                  | 1-02 * P                              |           | 1                                     |         | 363           |
| RD ADDR 1(1) H     | D03T2                                  | 1-03 *                                |           | 6-1/8                                 |         | 363           |
| RD ADDR 1(1) H     | F04T2                                  | 1-04 *                                |           | 8-1/8                                 |         | 363           |
| RD ADDR 1(1) H     |  |                                       |           |                                       |         |               |
| RD ADDR 2(1) H     | C04E2                                  | 1-01 *                                |           | 5-3/8                                 |         | 364           |
| RD ADDR 2(1) H     | D03U1                                  | 1-02 *                                |           | 1                                     |         | 364           |
| RD ADDR 2(1) H     | D02U1                                  | 1-03 *                                |           | 1                                     |         | 364           |
| RD ADDR 2(1) H     | D01U1                                  | 1-04 *                                |           | 7-3/8                                 |         | 364           |
| RD ADDR 2(1) H     |  |                                       |           |                                       |         |               |
| RD ADDR 3(1) H     | C04K2                                  | 1-01 *                                |           | 4-5/8                                 |         | 365           |
| RD ADDR 3(1) H     | D03U2                                  | 1-02 * P                              |           | 1                                     |         | 365           |
| RD ADDR 3(1) H     | D02U2                                  | 1-03 *                                |           | 1                                     |         | 365           |
| RD ADDR 3(1) H     | D01U2                                  | 1-04 *                                |           | 6-5/8                                 |         | 365           |
| RD ADDR 3(1) H     |  |                                       |           |                                       |         |               |
| RD P H             | A02D2                                  | 1-01 *                                |           | 7-1/8                                 |         | 366           |
| RD P H             | B07V1                                  | 1-02 *                                |           | 7-1/8                                 |         | 366           |
| RD P H             |  |                                       |           |                                       |         |               |
| ADA 0 H            | E01H2                                  | 1-01 *                                |           | 3-1/8                                 |         | 367           |
| ADA 0 H            | E08M2                                  | 1-02 *                                |           | 1-4/8                                 |         | 367           |
| ADA 0 H            | E07M2                                  | 1-03 *                                |           | 4-5/8                                 |         | 367           |
| ADA 0 H            |  |                                       |           |                                       |         |               |
| ADA 1 H            | E03H2                                  | 1-01 *                                |           | 4-1/8                                 |         | 368           |
| ADA 1 H            | F07P2                                  | 1-02 * P                              |           | 1-4/8                                 |         | 368           |
| ADA 1 H            | F05P2                                  | 1-03 *                                |           | 5-5/8                                 |         | 368           |
| ADA 1 H            |  |                                       |           |                                       |         |               |
| ADA 2 H            | E01M1                                  | 1-01 *                                |           | 2-5/8                                 |         | 369           |
| ADA 2 H            | E05M2                                  | 1-02 * P                              |           | 1-4/8                                 |         | 369           |
| ADA 2 H            | E07M2                                  | 1-03 *                                |           | 4-1/8                                 |         | 369           |
| ADA 2 H            |  |                                       |           |                                       |         |               |
| ADA 3 H            | E03E2                                  | 1-01 * P                              |           | 4-3/8                                 |         | 370           |
| ADA 3 H            | F05H2                                  | 1-02 *                                |           | 1-4/8                                 |         | 370           |
| ADA 3 H            | F07H2                                  | 1-03 *                                |           | 5-7/8                                 |         | 370           |
| ADA 3 H            |  |                                       |           |                                       |         |               |



| TM03-A<br>RUN NAME | WRAPD .V35(102)=1<br>A/P PIN ORDER PIN | 03-JUN-77<br>BAY = Q<br>ORDER | DRAW OPT | PV RG Y X Z | REMARKS | 24-AUG-78 | 12158<br>NC LENGTH<br>FLAG | PAGE 32<br>EXCEPTIONS | RUN<br>NUMBER |
|--------------------|--|-------------------------------|----------|-------------|---------|-----------|----------------------------|-----------------------|---------------|
| RDA 4 H            | E01E2                                  | 1-01 *                        |          | 1           |         |           | 3-5/H                      |                       | 371           |
| RDA 4 H            | E05R2                                  | 1-02 *                        |          | 2           |         |           | 1-4/R                      |                       | 371           |
| RDA 4 H            | E07R2                                  | 1-03 *                        |          |             |         |           | 3-1/H                      |                       | 371           |
| RDA 5 H            | E02H2                                  | 1-01 *                        |          | 1           |         |           | 2-6/H                      |                       | 372           |
| RDA 5 H            | E05I2                                  | 1-02 * P                      |          | 2           |         |           | 1-4/H                      |                       | 372           |
| RDA 5 H            | E07T2                                  | 1-03 *                        |          |             |         |           | 4-2/H                      |                       | 372           |
| RDA 6 H            | E02E2                                  | 1-01 *                        |          | 1           |         |           | 2-5/H                      |                       | 373           |
| RDA 6 H            | E05U2                                  | 1-02 * P                      |          | 2           |         |           | 1-4/R                      |                       | 373           |
| RDA 6 H            | E07U2                                  | 1-03 *                        |          |             |         |           | 4-1/R                      |                       | 373           |
| RDA 7 H            | E03N1                                  | 1-01 *                        |          | 1           |         |           | 3-3/R                      |                       | 374           |
| RDA 7 H            | E07E2                                  | 1-02 * P                      |          | 2           |         |           | 1-4/H                      |                       | 374           |
| RDA 7 H            | E05E2                                  | 1-03 *                        |          |             |         |           | 4-7/R                      |                       | 374           |
| RDA P H            | E02N1                                  | 1-01 * P                      |          | 1           |         |           | 2-3/R                      |                       | 375           |
| RDA P H            | E05S2                                  | 1-02 * P                      |          | 2           |         |           | 1-4/R                      |                       | 375           |
| RDA P H            | E07S2                                  | 1-03 *                        |          |             |         |           | 3-7/R                      |                       | 375           |
| RDB 0 L            | E01M2                                  | 1-01 *                        |          | 1           |         |           | 2-7/H                      |                       | 376           |
| RDB 0 L            | E05E1                                  | 1-02 * P                      |          | 2           |         |           | 1-2/R                      |                       | 376           |
| RDB 0 L            | E06E2                                  | 1-03 *                        |          |             |         |           | 4-1/R                      |                       | 376           |
| RDB 1 L            | E03M2                                  | 1-01 * P                      |          | 1           |         |           | 1-3/R                      |                       | 377           |
| RDB 1 L            | E05P1                                  | 1-02 * P                      |          | 2           |         |           | 1-2/R                      |                       | 377           |
| RDB 1 L            | E06P2                                  | 1-03 *                        |          |             |         |           | 2-5/R                      |                       | 377           |
| RDB 2 L            | E01H1                                  | 1-01 *                        |          | 1           |         |           | 2-7/R                      |                       | 378           |
| RDB 2 L            | E05D1                                  | 1-02 * P                      |          | 2           |         |           | 1-2/R                      |                       | 378           |
| RDB 2 L            | E06D2                                  | 1-03 *                        |          |             |         |           | 4-1/R                      |                       | 378           |
| RDB 3 L            | E03J1                                  | 1-01 * P                      |          | 2           |         |           | 2-1/R                      |                       | 379           |
| RDB 3 L            | E05V1                                  | 1-02 * P                      |          | 2           |         |           | 1                          |                       | 379           |
| RDB 3 L            | E06V1                                  | 1-03 *                        |          |             |         |           | 3-1/R                      |                       | 379           |
| RDB 4 L            | E01J1                                  | 1-01 *                        |          | 1           |         |           | 2-5/R                      |                       | 380           |
| RDB 4 L            | E05F1                                  | 1-02 * P                      |          | 2           |         |           | 1-2/R                      |                       | 380           |
| RDB 4 L            | E06F2                                  | 1-03 *                        |          |             |         |           | 3-7/R                      |                       | 380           |
| RDB 5 L            | E02M2                                  | 1-01 * P                      |          | 1           |         |           | 2-1/R                      |                       | 381           |
| RDB 5 L            | E05J1                                  | 1-02 * P                      |          | 2           |         |           | 1-2/R                      |                       | 381           |
| RDB 5 L            | E06J2                                  | 1-03 *                        |          |             |         |           | 3-3/R                      |                       | 381           |

| TM03-A<br>RUN NAME | WRAPD .V35(102)=1<br>A/P PIN ORDER PIN | 03-JUN-77<br>BAY = Q<br>ORDER | DRAW OPT | PV RG Y X Z | REMARKS | 28-AUG-78 | 12158<br>NC LENGTH<br>FLAG | PAGE 33<br>EXCEPTIONS | RUN<br>NUMBER |
|--------------------|--|-------------------------------|----------|-------------|---------|-----------|----------------------------|-----------------------|---------------|
| RDB 6 L            | E02J1                                  | 1-01 * P                      |          | 1           |         |           | 1-7/R                      |                       | 382           |
| RDB 6 L            | E05K1                                  | 1-02 * P                      |          | 2           |         |           | 1-2/R                      |                       | 382           |
| RDB 6 L            | E06K2                                  | 1-03 *                        |          |             |         |           | 3-1/R                      |                       | 382           |
| RDB 7 L            | E03H1                                  | 1-01 * P                      |          | 1           |         |           | 1-7/R                      |                       | 383           |
| RDB 7 L            | E05L1                                  | 1-02 * P                      |          | 2           |         |           | 1-2/R                      |                       | 383           |
| RDB 7 L            | E06L2                                  | 1-03 *                        |          |             |         |           | 3-1/R                      |                       | 383           |
| RDB P L            | E02H1                                  | 1-01 * P                      |          | 1           |         |           | 2                          |                       | 384           |
| RDB P L            | E05H1                                  | 1-02 * P                      |          | 2           |         |           | 1-2/R                      |                       | 384           |
| RDB P L            | E06H2                                  | 1-03 *                        |          |             |         |           | 3-2/R                      |                       | 384           |
| RDC 0 H            | B00H2                                  | 1-01 *                        |          | 1           |         |           | 7-5/R                      |                       | 385           |
| RDC 0 H            | D06R1                                  | 1-02 *                        |          |             |         |           | 7-5/R                      |                       | 385           |
| RDC 1 H            | B00H1                                  | 1-01 *                        |          | 1           |         |           | 7-3/R                      |                       | 386           |
| RDC 1 H            | U06P1                                  | 1-02 *                        |          |             |         |           | 7-3/R                      |                       | 386           |
| RDC 2 H            | B00J1                                  | 1-01 *                        |          | 1           |         |           | 7-1/R                      |                       | 387           |
| RDC 2 H            | D06N1                                  | 1-02 *                        |          |             |         |           | 7-1/R                      |                       | 387           |
| RDC 3 H            | B00J2                                  | 1-01 *                        |          | 1           |         |           | 7-3/R                      |                       | 388           |
| RDC 3 H            | D06M1                                  | 1-02 *                        |          |             |         |           | 7-3/C                      |                       | 388           |
| RDC 4 H            | D06L1                                  | 1-01 *                        |          | 1           |         |           | 1-4/R                      |                       | 389           |
| RDC 4 H            | D06L1                                  | 1-02 *                        |          |             |         |           | 1-4/R                      |                       | 389           |
| RDC 5 H            | D06K1                                  | 1-01 *                        |          | 1           |         |           | 1-4/R                      |                       | 390           |
| RDC 5 H            | D06K1                                  | 1-02 *                        |          |             |         |           | 1-4/R                      |                       | 390           |
| RDC 6 H            | D06J1                                  | 1-01 * P                      |          | 1           |         |           | 1-4/R                      |                       | 391           |
| RDC 6 H            | D06J1                                  | 1-02 *                        |          |             |         |           | 1-4/R                      |                       | 391           |
| RDC 7 H            | D06H1                                  | 1-01 *                        |          | 1           |         |           | 1-4/R                      |                       | 392           |
| RDC 7 H            | D06H1                                  | 1-02 *                        |          |             |         |           | 1-4/H                      |                       | 392           |
| RDC P H            | C06E2                                  | 1-01 *                        |          | 1           |         |           | 1-7/H                      |                       | 393           |
| RDC P H            | C06K2                                  | 1-02 *                        |          |             |         |           | 1-7/R                      |                       | 393           |
| RDB H              | D04U1                                  | 1-01 * P                      |          | 1           |         |           | 2-4/R                      |                       | 394           |
| RDB H              | D06U1                                  | 1-02 *                        |          | 1           |         |           | 1-4/R                      |                       | 394           |
| RDB H              | C06U1                                  | 1-03 *                        |          | 2           |         |           | 7-5/H                      |                       | 394           |
| RDB H              | B01V2                                  | 1-04 *                        |          |             |         |           | 11-5/H                     |                       | 394           |









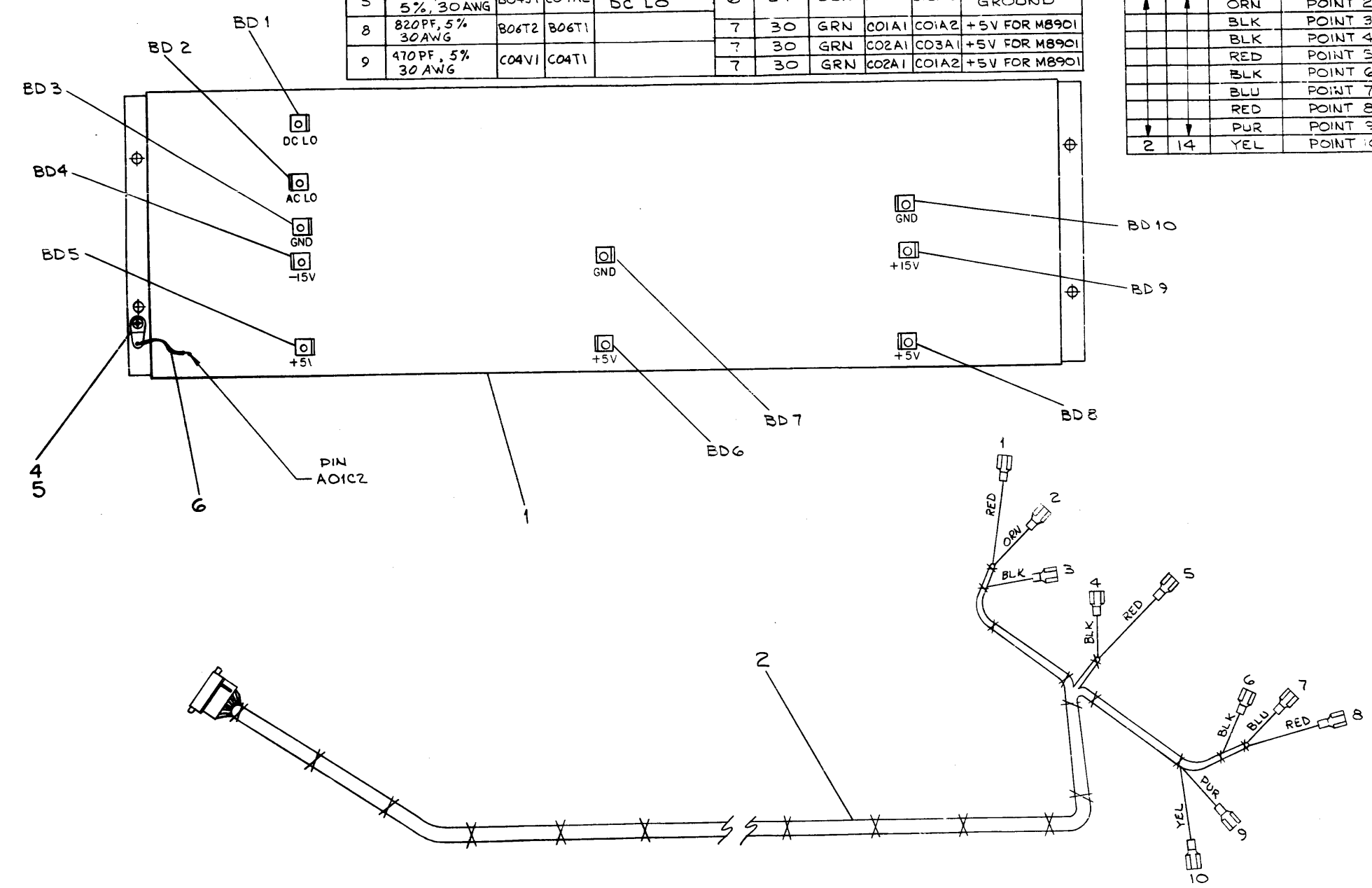




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| EXTERNAL COMPONENT TABLE |                       |       |       | WIRE TABLE |             |       |       |                |
|--------------------------|-----------------------|-------|-------|------------|-------------|-------|-------|----------------|
| ITEM NO.                 | DESCRIPTION           | FROM  | TO    | ITEM NO.   | DESCRIPTION | FROM  | TO    | REMARKS        |
| 3                        | 1.5K, 1/4 W 5%, 30AWG | B04J1 | C04A2 | 6          | 24 BLK      | AO1C2 | ITEM5 | CHASSIS GROUND |
| 8                        | 820PF, 5% 30AWG       | B06T2 | B06T1 | 7          | 30 GRN      | CO1A1 | CO1A2 | +5V FOR M8901  |
| 9                        | 470PF, 5% 30AWG       | C04V1 | C04T1 | 7          | 30 GRN      | CO2A1 | CO2A2 | +5V FOR M8901  |

| ITEM NO. | DESCRIPTION | FROM     | TO           |
|----------|-------------|----------|--------------|
| 2        | 14 RED      | POINT 1  | BD 8 - +5V   |
|          | 14 ORN      | POINT 2  | BD 9 - +15V  |
|          | 14 BLK      | POINT 3  | BD 10 - GND  |
|          | 14 BLK      | POINT 4  | BD 7 - GND   |
|          | 14 RED      | POINT 5  | BD 6 - +5V   |
|          | 14 BLK      | POINT 6  | BD 3 - GND   |
|          | 14 BLU      | POINT 7  | BD 4 - -15V  |
|          | 14 RED      | POINT 8  | BD 5 - +5V   |
|          | 14 PUR      | POINT 9  | BD 1 - DC LO |
| 2        | 14 YEL      | POINT 10 | BD 2 - AC LO |

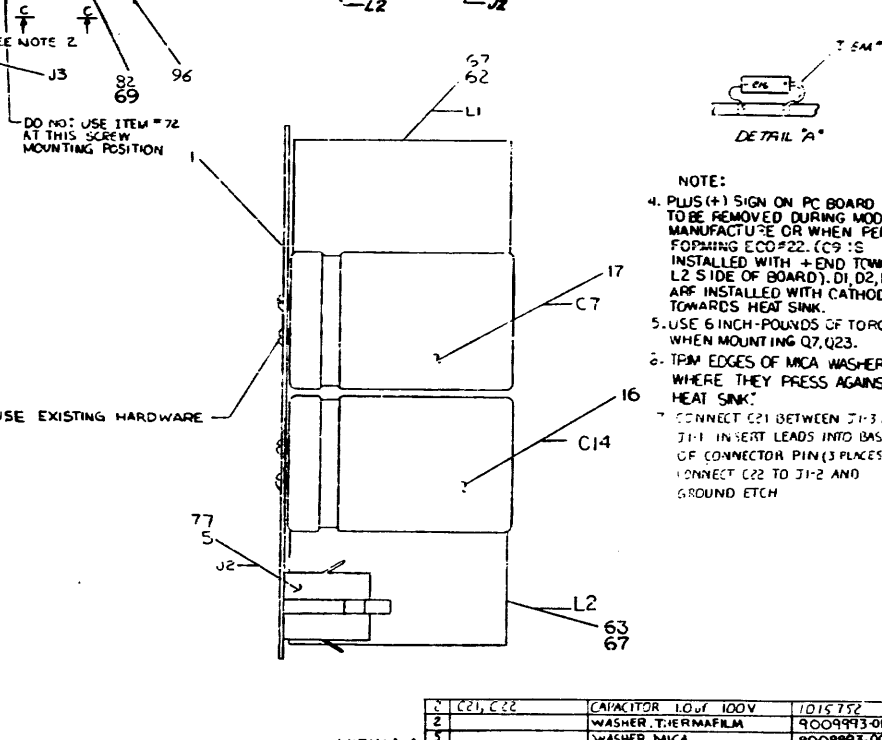
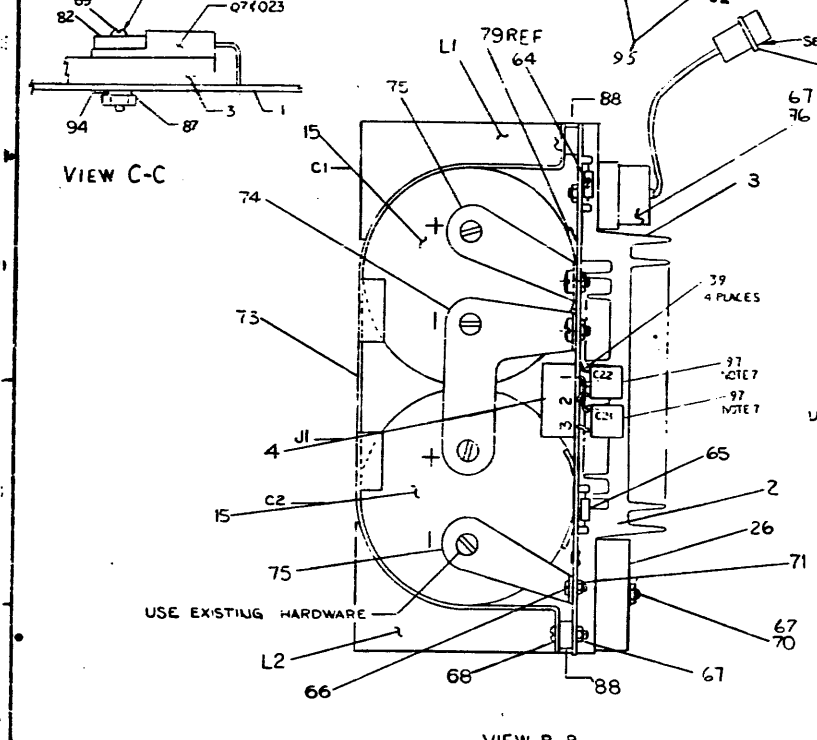
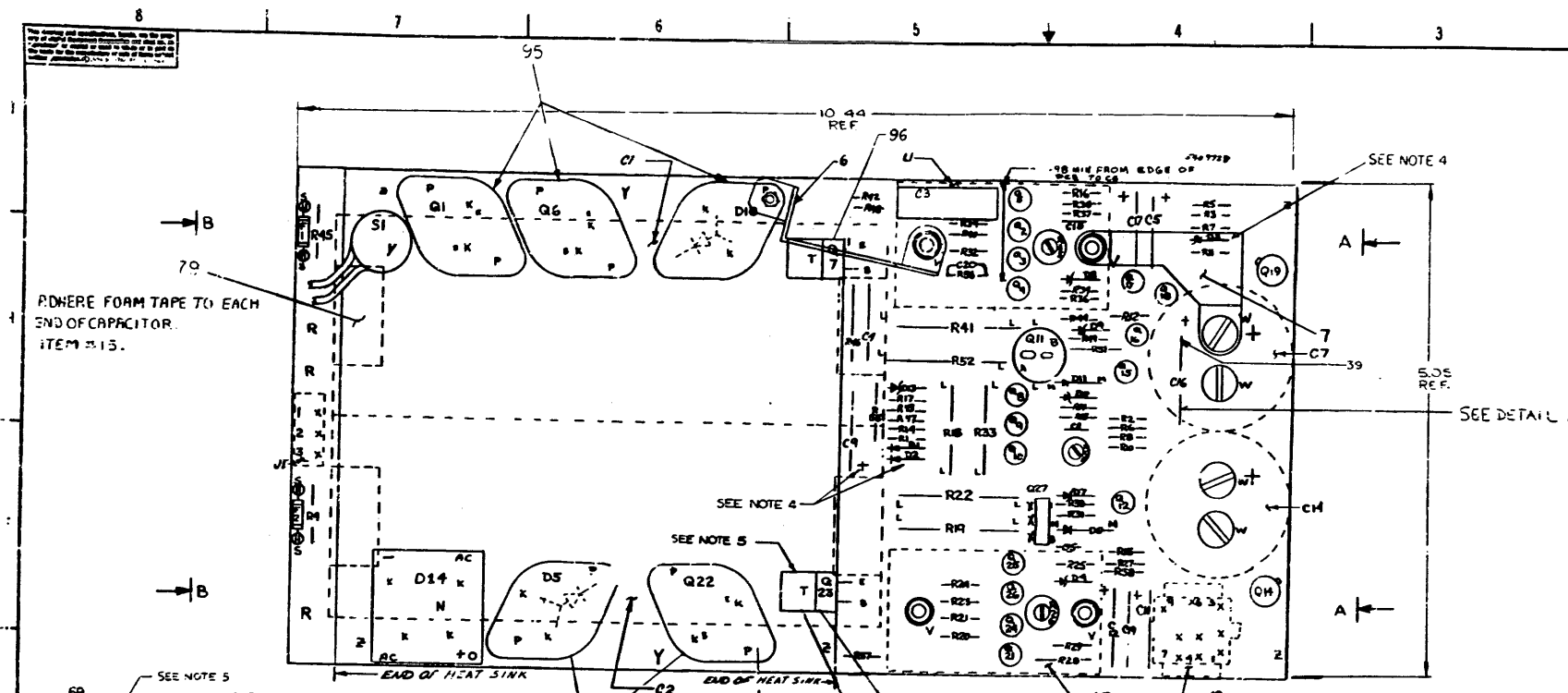


|      |                            |                  |   |
|------|----------------------------|------------------|---|
| 1    | 470PF 5% 30AWG             | 7015403          | 9 |
| 1    | 820PF 5% 30AWG             | 7015404          | 8 |
| WIRE | #30 AWG SOLID GRN          | 9105740-55       | 7 |
| WIRE | #24 AWG SOLID BLK          | 9107688-00       | 6 |
| 1    | TERMINAL SOLDER SCR MOUNT  | 9006766-00       | 5 |
| 1    | SCR. PAL. PAN HD #8 32x.25 | 9006035-1        | 4 |
| 1    | 1.5K Ω, 1/4 W 5%, 30 AWG   | 7407751          | 3 |
| 1    | HARNESS, LOGIC (TMØ3)      | D-AD-7013616-0-0 | 2 |
| 1    | WIRED ASSY (TMØ3)          | D-AD-7013615-0-0 | 1 |

| UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN MILLIMETERS |  |
|--|--|
| ANGLES 10° 30'   | CLASS OF ACCURACY (CHECK ONE)                                      |
| SURFACE QUALITY IN MICRONS                               | MEDIUM <input type="checkbox"/> PREFERRED <input type="checkbox"/> |
| THIRD ANGLE PROJECTION                                   | DRN: [Signature] DATE: [Date]                                      |
| REMOVE BURRS AND BREAK SHARP CORNERS                     | PROJ. ENG. [Signature]   |
| DO NOT SCALE DWG   | PROD. [Signature]  |
| MATERIAL: SEE PARTS LIST                                 | FINISH: [Symbol]   |
| QUANTITY & VARIATION                                     | FIRST USED ON: TMØ3  |
| HARNESS/LOGIC ASSY (TMØ3)                                |  |
| SCALE: 1:1   | SHEET 1 OF 1   |

| CHK | CHANGE NO. | REV. |
|-----|------------|------|
|     | 1          | 1    |
|     | 2          | 2    |





- NOTES:
1. APPLY ITEM #8 (THERMAL COMPOUND) BETWEEN BOARD AND HEAT SINK.
  2. TRIM LEADS ON ITEM #76 (THERMOSTAT) TO (.5) INCHES AND ATTACH ITEM #54 (PINS) AND ITEM #53 (HOUSING) AS SHOWN.
  3. APPLY FLAT WASHER ITEM #72 BETWEEN SCR. HD. AND ETCHED BOARD WHEN MOUNTING COMPONENTS Q1, Q2, Q3, Q5 + Q10.

| QTY | ITEM # | DESCRIPTION         | PART NO. | REF. DESIG. |
|-----|--------|---------------------|----------|-------------|
| 1   | Q1     | DIODE ZENER 5.7V 2W | 1111205  | Q1          |
| 1   | Q2     | DIODE ZENER 3.3V 2W | 1111205  | Q2          |
| 1   | Q3     | DIODE ZENER 1.5V 2W | 1111205  | Q3          |
| 1   | Q5     | DIODE ZENER 1.5V 2W | 1111205  | Q5          |
| 1   | Q10    | DIODE ZENER 1.5V 2W | 1111205  | Q10         |
| 1   | D1     | DIODE 1N4001        | 1111205  | D1          |
| 1   | D2     | DIODE 1N4001        | 1111205  | D2          |
| 1   | D3     | DIODE 1N4001        | 1111205  | D3          |
| 1   | D4     | DIODE 1N4001        | 1111205  | D4          |
| 1   | D5     | DIODE 1N4001        | 1111205  | D5          |
| 1   | D6     | DIODE 1N4001        | 1111205  | D6          |
| 1   | D7     | DIODE 1N4001        | 1111205  | D7          |
| 1   | D8     | DIODE 1N4001        | 1111205  | D8          |
| 1   | D9     | DIODE 1N4001        | 1111205  | D9          |
| 1   | D10    | DIODE 1N4001        | 1111205  | D10         |
| 1   | D11    | DIODE 1N4001        | 1111205  | D11         |
| 1   | D12    | DIODE 1N4001        | 1111205  | D12         |
| 1   | D13    | DIODE 1N4001        | 1111205  | D13         |
| 1   | D14    | DIODE 1N4001        | 1111205  | D14         |
| 1   | D15    | DIODE 1N4001        | 1111205  | D15         |
| 1   | D16    | DIODE 1N4001        | 1111205  | D16         |
| 1   | D17    | DIODE 1N4001        | 1111205  | D17         |
| 1   | D18    | DIODE 1N4001        | 1111205  | D18         |
| 1   | D19    | DIODE 1N4001        | 1111205  | D19         |
| 1   | D20    | DIODE 1N4001        | 1111205  | D20         |
| 1   | D21    | DIODE 1N4001        | 1111205  | D21         |
| 1   | D22    | DIODE 1N4001        | 1111205  | D22         |
| 1   | D23    | DIODE 1N4001        | 1111205  | D23         |
| 1   | D24    | DIODE 1N4001        | 1111205  | D24         |
| 1   | D25    | DIODE 1N4001        | 1111205  | D25         |
| 1   | D26    | DIODE 1N4001        | 1111205  | D26         |
| 1   | D27    | DIODE 1N4001        | 1111205  | D27         |
| 1   | D28    | DIODE 1N4001        | 1111205  | D28         |
| 1   | D29    | DIODE 1N4001        | 1111205  | D29         |
| 1   | D30    | DIODE 1N4001        | 1111205  | D30         |
| 1   | D31    | DIODE 1N4001        | 1111205  | D31         |
| 1   | D32    | DIODE 1N4001        | 1111205  | D32         |
| 1   | D33    | DIODE 1N4001        | 1111205  | D33         |
| 1   | D34    | DIODE 1N4001        | 1111205  | D34         |
| 1   | D35    | DIODE 1N4001        | 1111205  | D35         |
| 1   | D36    | DIODE 1N4001        | 1111205  | D36         |
| 1   | D37    | DIODE 1N4001        | 1111205  | D37         |
| 1   | D38    | DIODE 1N4001        | 1111205  | D38         |
| 1   | D39    | DIODE 1N4001        | 1111205  | D39         |
| 1   | D40    | DIODE 1N4001        | 1111205  | D40         |
| 1   | D41    | DIODE 1N4001        | 1111205  | D41         |
| 1   | D42    | DIODE 1N4001        | 1111205  | D42         |
| 1   | D43    | DIODE 1N4001        | 1111205  | D43         |
| 1   | D44    | DIODE 1N4001        | 1111205  | D44         |
| 1   | D45    | DIODE 1N4001        | 1111205  | D45         |
| 1   | D46    | DIODE 1N4001        | 1111205  | D46         |
| 1   | D47    | DIODE 1N4001        | 1111205  | D47         |
| 1   | D48    | DIODE 1N4001        | 1111205  | D48         |
| 1   | D49    | DIODE 1N4001        | 1111205  | D49         |
| 1   | D50    | DIODE 1N4001        | 1111205  | D50         |
| 1   | D51    | DIODE 1N4001        | 1111205  | D51         |
| 1   | D52    | DIODE 1N4001        | 1111205  | D52         |
| 1   | D53    | DIODE 1N4001        | 1111205  | D53         |
| 1   | D54    | DIODE 1N4001        | 1111205  | D54         |
| 1   | D55    | DIODE 1N4001        | 1111205  | D55         |
| 1   | D56    | DIODE 1N4001        | 1111205  | D56         |
| 1   | D57    | DIODE 1N4001        | 1111205  | D57         |
| 1   | D58    | DIODE 1N4001        | 1111205  | D58         |
| 1   | D59    | DIODE 1N4001        | 1111205  | D59         |
| 1   | D60    | DIODE 1N4001        | 1111205  | D60         |
| 1   | D61    | DIODE 1N4001        | 1111205  | D61         |
| 1   | D62    | DIODE 1N4001        | 1111205  | D62         |
| 1   | D63    | DIODE 1N4001        | 1111205  | D63         |
| 1   | D64    | DIODE 1N4001        | 1111205  | D64         |
| 1   | D65    | DIODE 1N4001        | 1111205  | D65         |
| 1   | D66    | DIODE 1N4001        | 1111205  | D66         |
| 1   | D67    | DIODE 1N4001        | 1111205  | D67         |
| 1   | D68    | DIODE 1N4001        | 1111205  | D68         |
| 1   | D69    | DIODE 1N4001        | 1111205  | D69         |
| 1   | D70    | DIODE 1N4001        | 1111205  | D70         |
| 1   | D71    | DIODE 1N4001        | 1111205  | D71         |
| 1   | D72    | DIODE 1N4001        | 1111205  | D72         |
| 1   | D73    | DIODE 1N4001        | 1111205  | D73         |
| 1   | D74    | DIODE 1N4001        | 1111205  | D74         |
| 1   | D75    | DIODE 1N4001        | 1111205  | D75         |
| 1   | D76    | DIODE 1N4001        | 1111205  | D76         |
| 1   | D77    | DIODE 1N4001        | 1111205  | D77         |
| 1   | D78    | DIODE 1N4001        | 1111205  | D78         |
| 1   | D79    | DIODE 1N4001        | 1111205  | D79         |
| 1   | D80    | DIODE 1N4001        | 1111205  | D80         |
| 1   | D81    | DIODE 1N4001        | 1111205  | D81         |
| 1   | D82    | DIODE 1N4001        | 1111205  | D82         |
| 1   | D83    | DIODE 1N4001        | 1111205  | D83         |
| 1   | D84    | DIODE 1N4001        | 1111205  | D84         |
| 1   | D85    | DIODE 1N4001        | 1111205  | D85         |
| 1   | D86    | DIODE 1N4001        | 1111205  | D86         |
| 1   | D87    | DIODE 1N4001        | 1111205  | D87         |
| 1   | D88    | DIODE 1N4001        | 1111205  | D88         |
| 1   | D89    | DIODE 1N4001        | 1111205  | D89         |
| 1   | D90    | DIODE 1N4001        | 1111205  | D90         |
| 1   | D91    | DIODE 1N4001        | 1111205  | D91         |
| 1   | D92    | DIODE 1N4001        | 1111205  | D92         |
| 1   | D93    | DIODE 1N4001        | 1111205  | D93         |
| 1   | D94    | DIODE 1N4001        | 1111205  | D94         |
| 1   | D95    | DIODE 1N4001        | 1111205  | D95         |
| 1   | D96    | DIODE 1N4001        | 1111205  | D96         |
| 1   | D97    | DIODE 1N4001        | 1111205  | D97         |
| 1   | D98    | DIODE 1N4001        | 1111205  | D98         |
| 1   | D99    | DIODE 1N4001        | 1111205  | D99         |
| 1   | D100   | DIODE 1N4001        | 1111205  | D100        |

NOTE:

4. PLUS (+) SIGN ON PCB BOARD TO BE REMOVED DURING MODULE MANUFACTURE OR WHEN PERFORMING ECO#22. (C9'S INSTALLED WITH + END TOWARDS L2 SIDE OF BOARD). D1, D2, D3 ARE INSTALLED WITH CATHODES TOWARDS HEAT SINK.
5. USE 6 INCH-POUNDS OF TORQUE WHEN MOUNTING Q1, Q2, Q3.
6. TRIM EDGES OF MCA WASHERS WHERE THEY PRESS AGAINST HEAT SINK.
7. CONNECT C21 BETWEEN J1-3 AND J1-1. INSERT LEADS INTO BASE OF CONNECTOR PIN (3 PLACES). CONNECT C22 TO J1-2 AND GROUND ETCH.

| ITEM # | DESCRIPTION         | PART NO. | REF. DESIG. |
|--------|---------------------|----------|-------------|
| 1      | DIODE ZENER 5.7V 2W | 1111205  | Q1          |
| 1      | DIODE ZENER 3.3V 2W | 1111205  | Q2          |
| 1      | DIODE ZENER 1.5V 2W | 1111205  | Q3          |
| 1      | DIODE ZENER 1.5V 2W | 1111205  | Q5          |
| 1      | DIODE ZENER 1.5V 2W | 1111205  | Q10         |
| 1      | DIODE 1N4001        | 1111205  | D1          |
| 1      | DIODE 1N4001        | 1111205  | D2          |
| 1      | DIODE 1N4001        | 1111205  | D3          |
| 1      | DIODE 1N4001        | 1111205  | D4          |
| 1      | DIODE 1N4001        | 1111205  | D5          |
| 1      | DIODE 1N4001        | 1111205  | D6          |
| 1      | DIODE 1N4001        | 1111205  | D7          |
| 1      | DIODE 1N4001        | 1111205  | D8          |
| 1      | DIODE 1N4001        | 1111205  | D9          |
| 1      | DIODE 1N4001        | 1111205  | D10         |
| 1      | DIODE 1N4001        | 1111205  | D11         |
| 1      | DIODE 1N4001        | 1111205  | D12         |
| 1      | DIODE 1N4001        | 1111205  | D13         |
| 1      | DIODE 1N4001        | 1111205  | D14         |
| 1      | DIODE 1N4001        | 1111205  | D15         |
| 1      | DIODE 1N4001        | 1111205  | D16         |
| 1      | DIODE 1N4001        | 1111205  | D17         |
| 1      | DIODE 1N4001        | 1111205  | D18         |
| 1      | DIODE 1N4001        | 1111205  | D19         |
| 1      | DIODE 1N4001        | 1111205  | D20         |
| 1      | DIODE 1N4001        | 1111205  | D21         |
| 1      | DIODE 1N4001        | 1111205  | D22         |
| 1      | DIODE 1N4001        | 1111205  | D23         |
| 1      | DIODE 1N4001        | 1111205  | D24         |
| 1      | DIODE 1N4001        | 1111205  | D25         |
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| 1      | DIODE 1N4001        | 1111205  | D27         |
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| 1      | DIODE 1N4001        | 1111205  | D29         |
| 1      | DIODE 1N4001        | 1111205  | D30         |
| 1      | DIODE 1N4001        | 1111205  | D31         |
| 1      | DIODE 1N4001        | 1111205  | D32         |
| 1      | DIODE 1N4001        | 1111205  | D33         |
| 1      | DIODE 1N4001        | 1111205  | D34         |
| 1      | DIODE 1N4001        | 1111205  | D35         |
| 1      | DIODE 1N4001        | 1111205  | D36         |
| 1      | DIODE 1N4001        | 1111205  | D37         |
| 1      | DIODE 1N4001        | 1111205  | D38         |
| 1      | DIODE 1N4001        | 1111205  | D39         |
| 1      | DIODE 1N4001        | 1111205  | D40         |
| 1      | DIODE 1N4001        | 1111205  | D41         |
| 1      | DIODE 1N4001        | 1111205  | D42         |
| 1      | DIODE 1N4001        | 1111205  | D43         |
| 1      | DIODE 1N4001        | 1111205  | D44         |
| 1      | DIODE 1N4001        | 1111205  | D45         |
| 1      | DIODE 1N4001        | 1111205  | D46         |
| 1      | DIODE 1N4001        | 1111205  | D47         |
| 1      | DIODE 1N4001        | 1111205  | D48         |
| 1      | DIODE 1N4001        | 1111205  | D49         |
| 1      | DIODE 1N4001        | 1111205  | D50         |
| 1      | DIODE 1N4001        | 1111205  | D51         |
| 1      | DIODE 1N4001        | 1111205  | D52         |
| 1      | DIODE 1N4001        | 1111205  | D53         |
| 1      | DIODE 1N4001        | 1111205  | D54         |
| 1      | DIODE 1N4001        | 1111205  | D55         |
| 1      | DIODE 1N4001        | 1111205  | D56         |
| 1      | DIODE 1N4001        | 1111205  | D57         |
| 1      | DIODE 1N4001        | 1111205  | D58         |
| 1      | DIODE 1N4001        | 1111205  | D59         |
| 1      | DIODE 1N4001        | 1111205  | D60         |
| 1      | DIODE 1N4001        | 1111205  | D61         |
| 1      | DIODE 1N4001        | 1111205  | D62         |
| 1      | DIODE 1N4001        | 1111205  | D63         |
| 1      | DIODE 1N4001        | 1111205  | D64         |
| 1      | DIODE 1N4001        | 1111205  | D65         |
| 1      | DIODE 1N4001        | 1111205  | D66         |
| 1      | DIODE 1N4001        | 1111205  | D67         |
| 1      | DIODE 1N4001        | 1111205  | D68         |
| 1      | DIODE 1N4001        | 1111205  | D69         |
| 1      | DIODE 1N4001        | 1111205  | D70         |
| 1      | DIODE 1N4001        | 1111205  | D71         |
| 1      | DIODE 1N4001        | 1111205  | D72         |
| 1      | DIODE 1N4001        | 1111205  | D73         |
| 1      | DIODE 1N4001        | 1111205  | D74         |
| 1      | DIODE 1N4001        | 1111205  | D75         |
| 1      | DIODE 1N4001        | 1111205  | D76         |
| 1      | DIODE 1N4001        | 1111205  | D77         |
| 1      | DIODE 1N4001        | 1111205  | D78         |
| 1      | DIODE 1N4001        | 1111205  | D79         |
| 1      | DIODE 1N4001        | 1111205  | D80         |
| 1      | DIODE 1N4001        | 1111205  | D81         |
| 1      | DIODE 1N4001        | 1111205  | D82         |
| 1      | DIODE 1N4001        | 1111205  | D83         |
| 1      | DIODE 1N4001        | 1111205  | D84         |
| 1      | DIODE 1N4001        | 1111205  | D85         |
| 1      | DIODE 1N4001        | 1111205  | D86         |
| 1      | DIODE 1N4001        | 1111205  | D87         |
| 1      | DIODE 1N4001        | 1111205  | D88         |
| 1      | DIODE 1N4001        | 1111205  | D89         |
| 1      | DIODE 1N4001        | 1111205  | D90         |
| 1      | DIODE 1N4001        | 1111205  | D91         |
| 1      | DIODE 1N4001        | 1111205  | D92         |
| 1      | DIODE 1N4001        | 1111205  | D93         |
| 1      | DIODE 1N4001        | 1111205  | D94         |
| 1      | DIODE 1N4001        | 1111205  | D95         |
| 1      | DIODE 1N4001        | 1111205  | D96         |
| 1      | DIODE 1N4001        | 1111205  | D97         |
| 1      | DIODE 1N4001        | 1111205  | D98         |
| 1      | DIODE 1N4001        | 1111205  | D99         |
| 1      | DIODE 1N4001        | 1111205  | D100        |

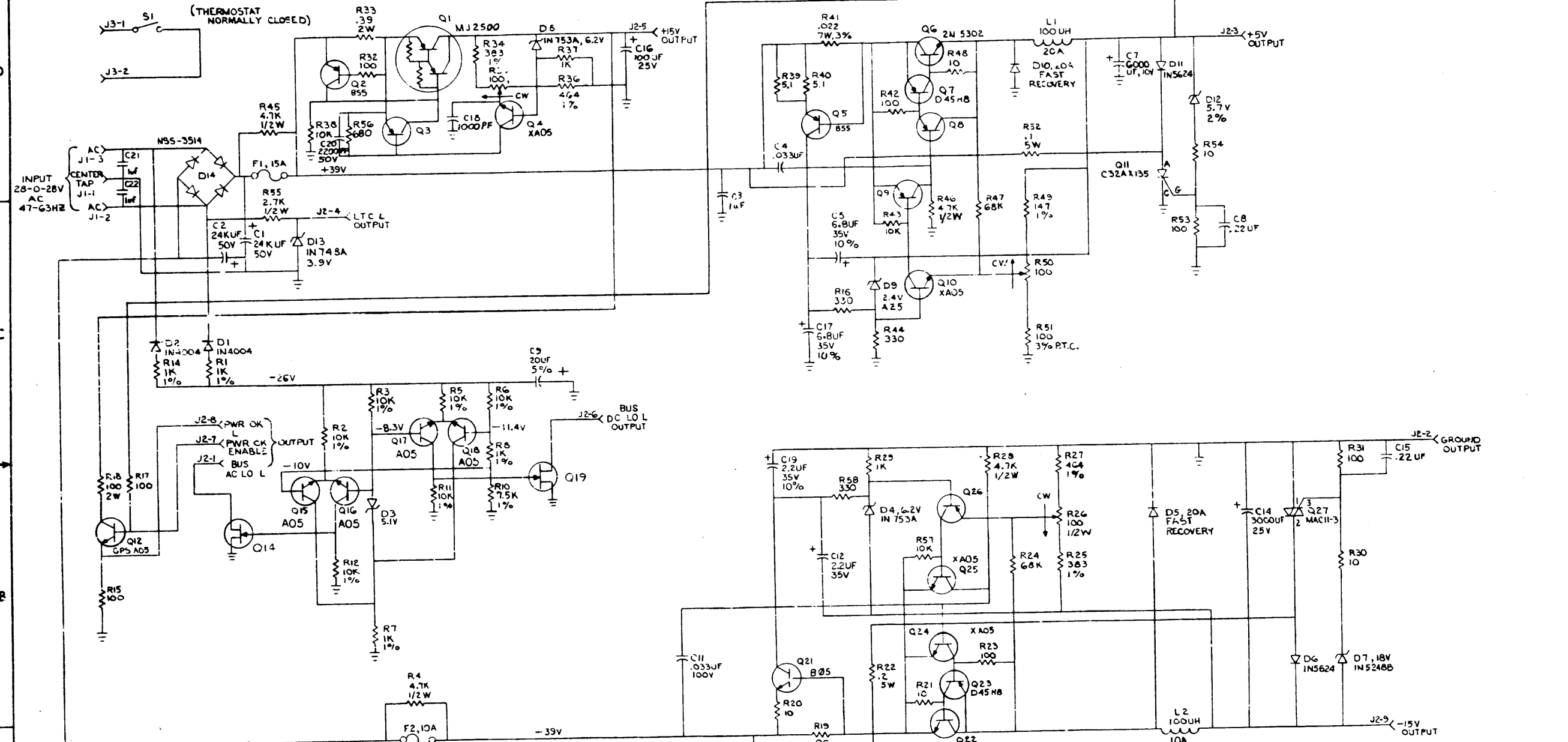
REGULATOR BOARD

11/05

REGULATOR BOARD

5409728-D-0

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UNLESS OTHERWISE INDICATED:  
 1% RESISTORS ARE 1/8W  
 VOLTAGES ARE TAKEN AT NO LOAD WITH 115 VAC LINE  
 VOLTAGES ARE ± 10% TAKEN BY A ≥ 10k<sub>v</sub> METER  
 TRANSISTORS = XA55

|     |          |             |             |
|-----|----------|-------------|-------------|
| REV | DATE     | BY          | CHKD.       |
| 1   | 12-25-71 | AMALY MOORE | AMALY MOORE |
| 2   | 12-25-71 | AMALY MOORE | AMALY MOORE |
| 3   | 12-25-71 | AMALY MOORE | AMALY MOORE |
| 4   | 12-25-71 | AMALY MOORE | AMALY MOORE |
| 5   | 12-25-71 | AMALY MOORE | AMALY MOORE |
| 6   | 12-25-71 | AMALY MOORE | AMALY MOORE |
| 7   | 12-25-71 | AMALY MOORE | AMALY MOORE |
| 8   | 12-25-71 | AMALY MOORE | AMALY MOORE |

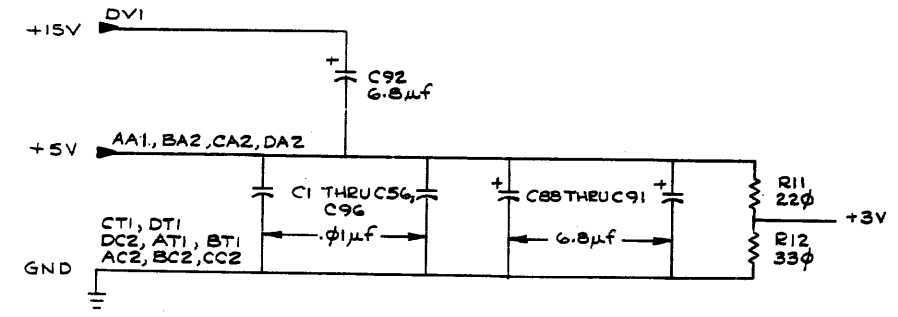
| QTY   | REF DESIGNATION | DESCRIPTION | PART NO. | ITEM NO. |            |      |          |       |      |          |      |      |          |            |      |          |            |      |          |
|---|-----------------|-------------|----------|----------|------------|------|----------|-------|------|----------|------|------|----------|------------|------|----------|------------|------|----------|
| PARTS LIST  |                 |             |          |          |            |      |          |       |      |          |      |      |          |            |      |          |            |      |          |
| ETCH BOARD REV E  |                 |             |          |          |            |      |          |       |      |          |      |      |          |            |      |          |            |      |          |
| <table border="1"> <tr> <td>DRN. FILED</td> <td>DATE</td> <td>12-25-71</td> </tr> <tr> <td>CHKD.</td> <td>DATE</td> <td>12-25-71</td> </tr> <tr> <td>ENG.</td> <td>DATE</td> <td>12-25-71</td> </tr> <tr> <td>PROJ. ENG.</td> <td>DATE</td> <td>12-25-71</td> </tr> <tr> <td>PROD. ENG.</td> <td>DATE</td> <td>12-25-71</td> </tr> </table> |                 |             |          |          | DRN. FILED | DATE | 12-25-71 | CHKD. | DATE | 12-25-71 | ENG. | DATE | 12-25-71 | PROJ. ENG. | DATE | 12-25-71 | PROD. ENG. | DATE | 12-25-71 |
| DRN. FILED  | DATE            | 12-25-71    |          |          |            |      |          |       |      |          |      |      |          |            |      |          |            |      |          |
| CHKD.   | DATE            | 12-25-71    |          |          |            |      |          |       |      |          |      |      |          |            |      |          |            |      |          |
| ENG.  | DATE            | 12-25-71    |          |          |            |      |          |       |      |          |      |      |          |            |      |          |            |      |          |
| PROJ. ENG.  | DATE            | 12-25-71    |          |          |            |      |          |       |      |          |      |      |          |            |      |          |            |      |          |
| PROD. ENG.  | DATE            | 12-25-71    |          |          |            |      |          |       |      |          |      |      |          |            |      |          |            |      |          |
| TITLE: REGULATOR BOARD FOR H740   |                 |             |          |          |            |      |          |       |      |          |      |      |          |            |      |          |            |      |          |
| SUB CODE: DICS NUMBER: 5409728-0-1 REV. AB  |                 |             |          |          |            |      |          |       |      |          |      |      |          |            |      |          |            |      |          |
| NEXT HIGHER ASSY:   |                 |             |          |          |            |      |          |       |      |          |      |      |          |            |      |          |            |      |          |
| SCALE: SHEET 1 OF 1   |                 |             |          |          |            |      |          |       |      |          |      |      |          |            |      |          |            |      |          |

|          |         |          |         |
|----------|---------|----------|---------|
| DEC. NO. | EIA NO. | DEC. NO. | EIA NO. |
|          |         |          |         |

5409728-0-1 AB

ml

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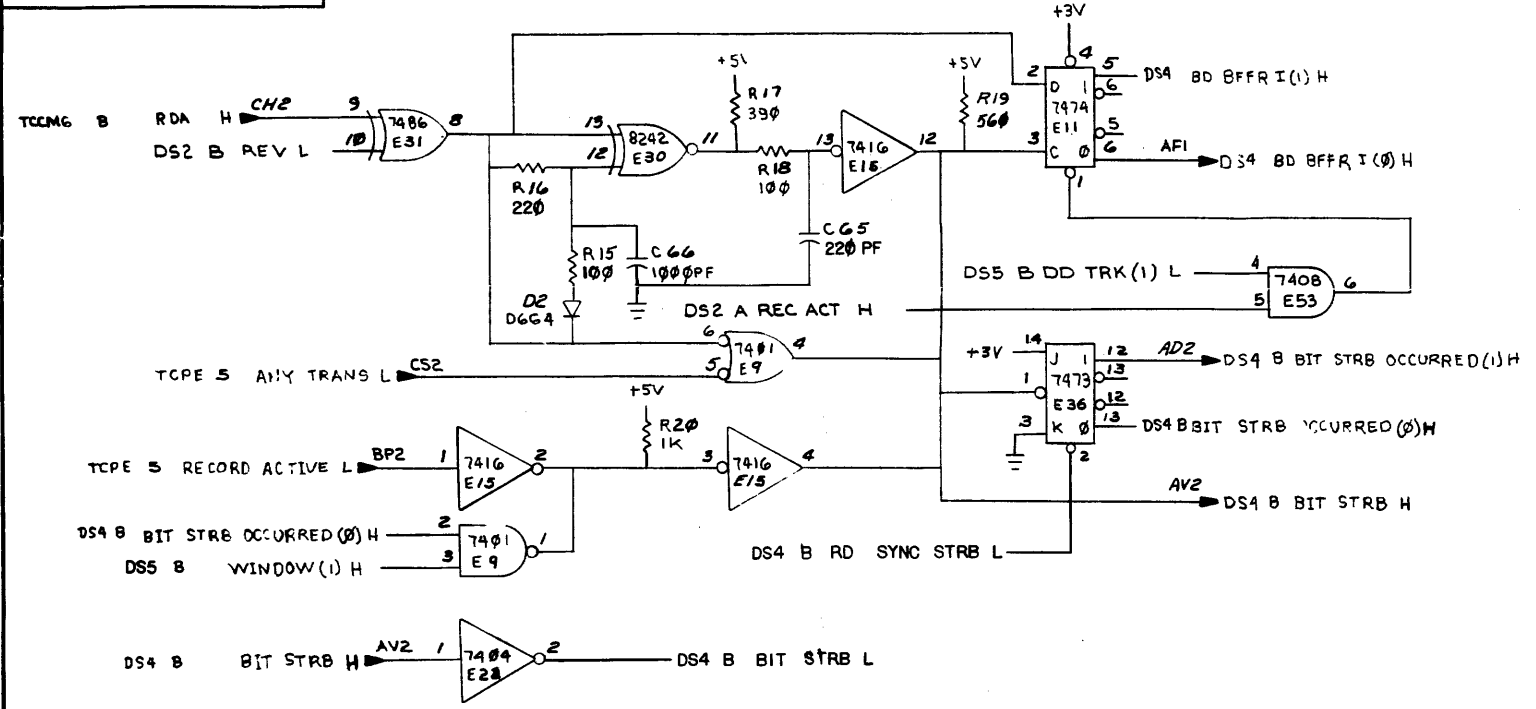
|                   |         |               |                 |         |
|-------------------|---------|---------------|-----------------|---------|
| DRN               | 5-15-72 | FIRST USED ON | TU77            | DIGITAL |
| CHK'D             | 5-15-72 | TITLE         | DATA SYNC (DS1) |         |
| ENGR              | 5-15-72 | SIZE          | D               | CODE    |
| PROJ ENGR         | 5-15-72 | NUMBER        | M8901-YD-1      | REV.    |
| PROJ              | 5-15-72 | DIST.         |                 | J       |
| NEXT HIGHER ASSY. |         |               |                 |         |
| SCALE             | 1/1     |               |                 |         |
| SHEET             | 1 OF 7  |               |                 |         |



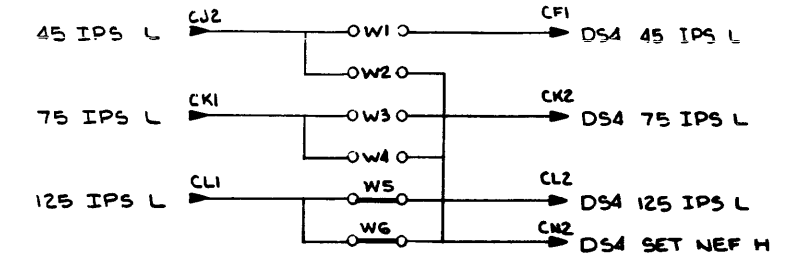


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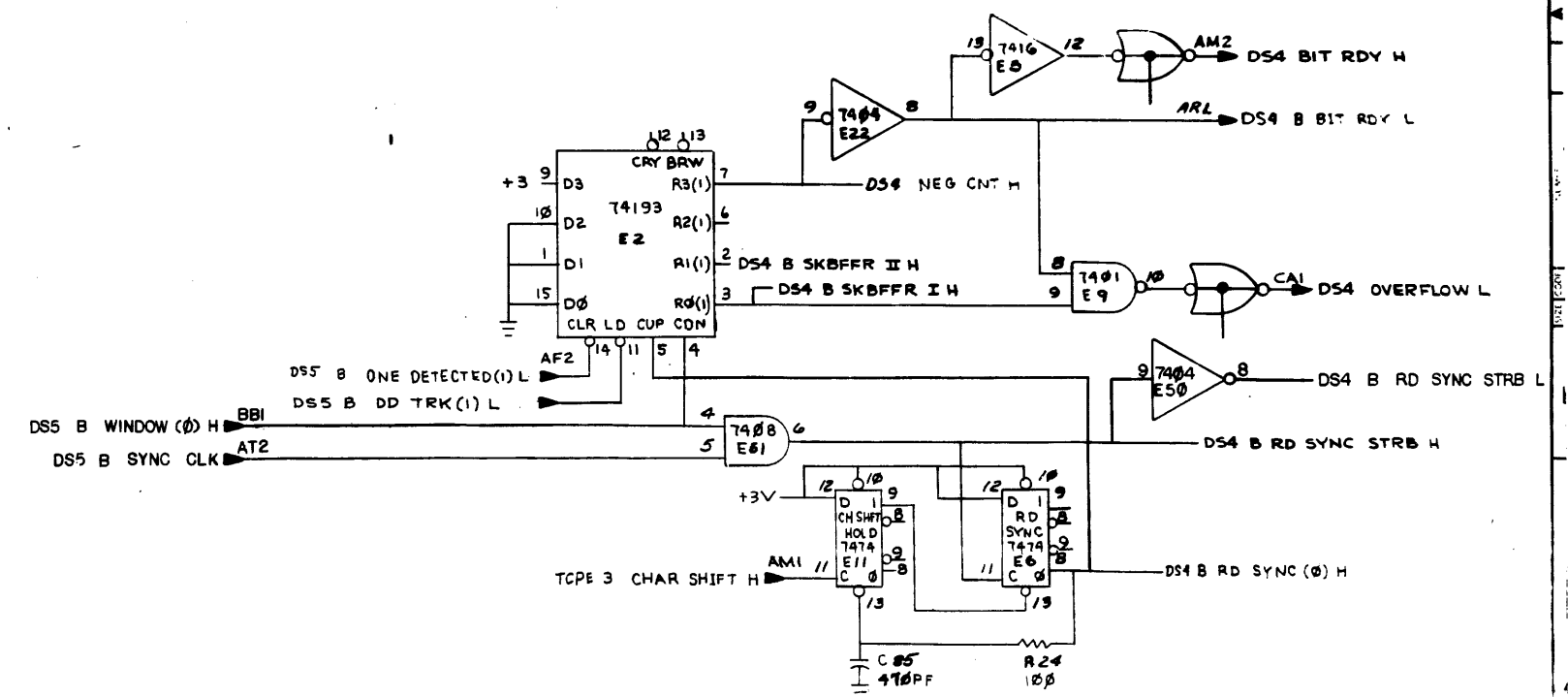
BIT STROBE AND WINDOW



NOTE:  
JUMPERS W1 THRU W6 INDICATES THE TAPE SPEED THE MODULE IS BUILT FOR. CHANGING THE JUMPERS DOES NOT CHANGE THE SPEED CAPABILITY OF THE MODULE.



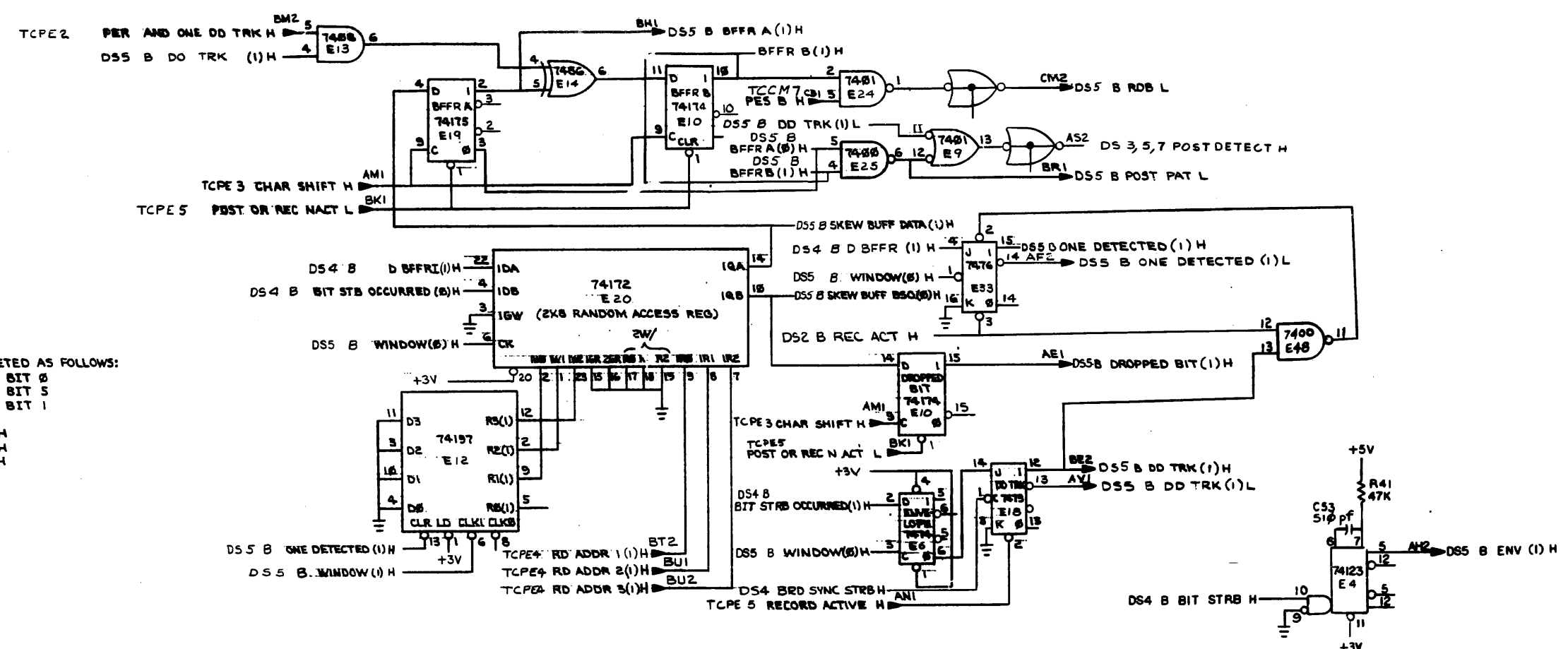
NOTE  
1. PREFIX "B" IS TO BE INTERPRETED AS FOLLOWS:  
MODULE IN SLOT 1 B IS BIT 0  
MODULE IN SLOT 2 B IS BIT 5  
MODULE IN SLOT 3 B IS BIT 1  
EXAMPLE:  
B RDA H — C01 CH2 = RDA 0 H  
B RDA H — C02 CH2 = RDA 5 H  
B RDA H — C03 CH2 = RDA 1 H  
2. M8901 MODULES ARE LOCATED IN SECTIONS CDEF OF THE LOGIC. THEREFORE PINS IN SECTION A OF THIS MODULE ARE LOCATED IN C ON THE BACKPLANE ETC.



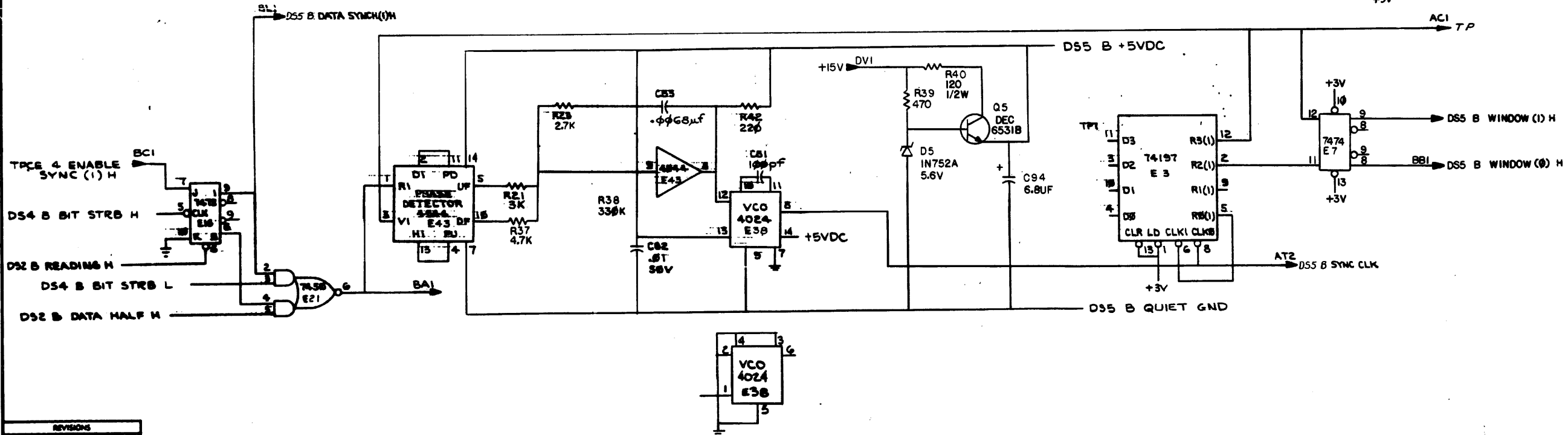
| REVISIONS |            |      |
|-----------|------------|------|
| CHK       | CHANGE NO. | REV. |
|           |            |      |

|       |                 |           |                |        |  |     |  |
|-------|-----------------|-----------|----------------|--------|--|-----|--|
| TITLE | DATA SYNC (DS4) | SIZE CODE | DCS M8901-YD-1 | NUMBER |  | REV |  |
| SCALE |                 | SHEET     | 4 OF 7         | DIST.  |  |     |  |

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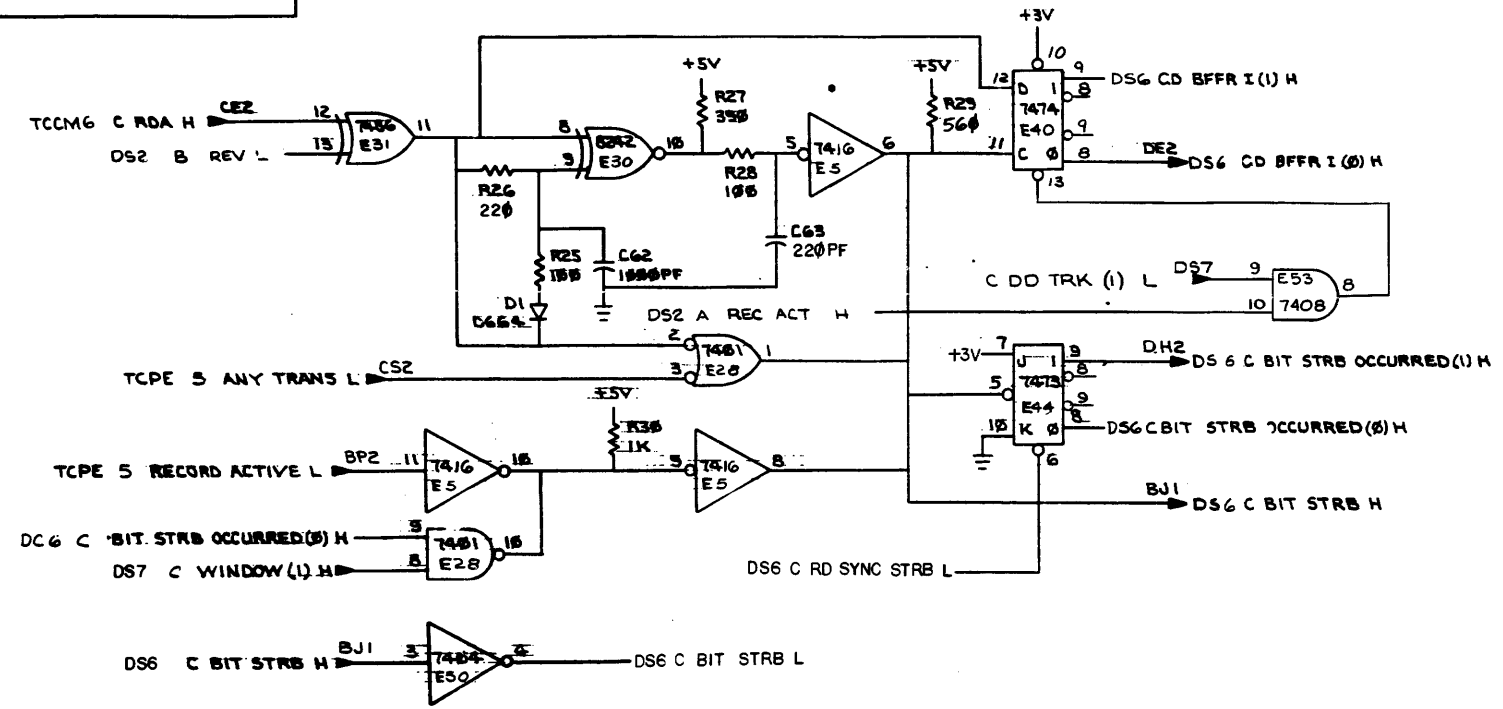
NOTE  
 PREFIX "B" IS TO BE INTERPRETED AS FOLLOWS:  
 MODULE IN SLOT 1 B IS BIT 0  
 MODULE IN SLOT 2 B IS BIT 5  
 MODULE IN SLOT 3 B IS BIT 1  
 EXAMPLE:  
 B RDA H — CO1 CH2 = RDA 0 H  
 B RDA H — CO2 CH2 = RDA 5 H  
 B RDA H — CO3 CH2 = RDA 1 H



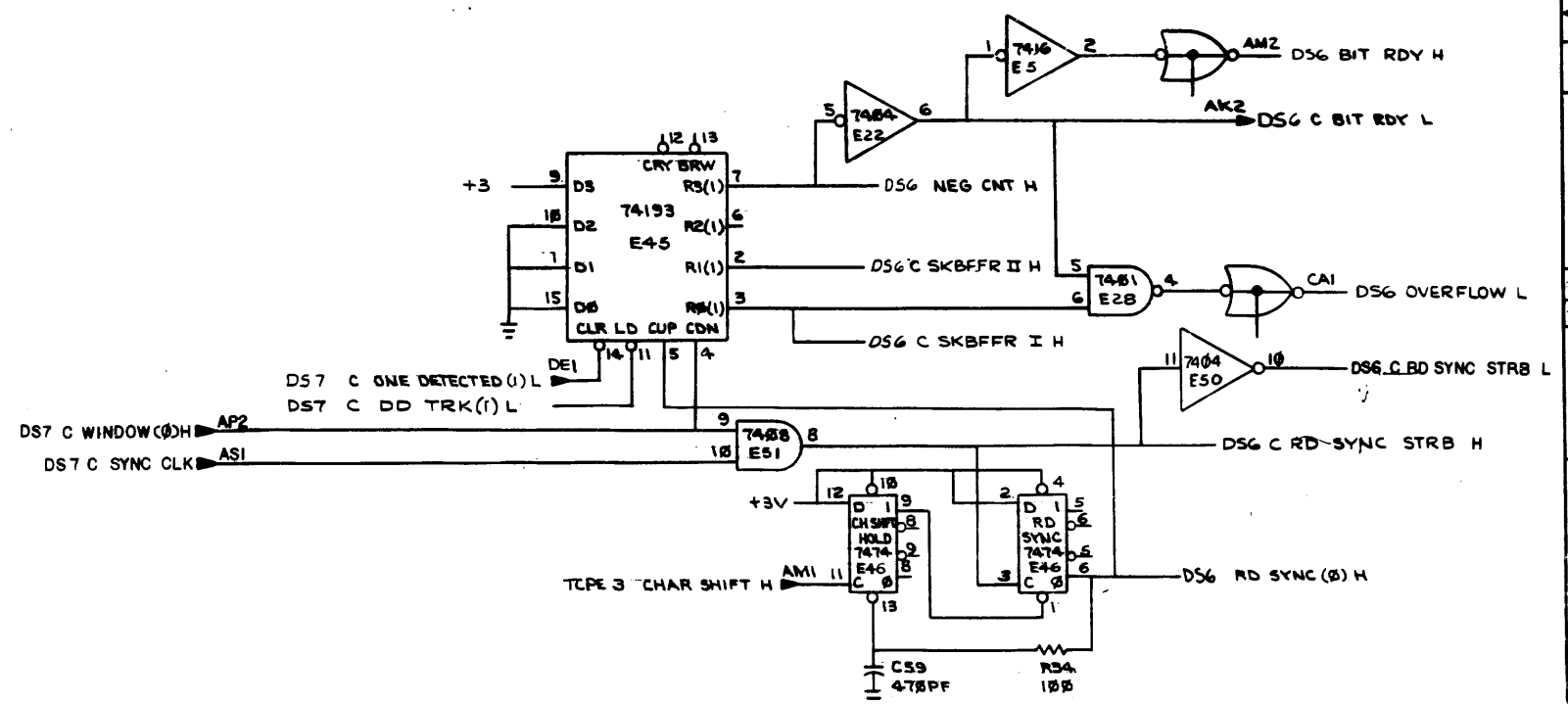
| REV | CHANGE NO | REV |
|-----|-----------|-----|
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BIT STROBE AND WINDOW



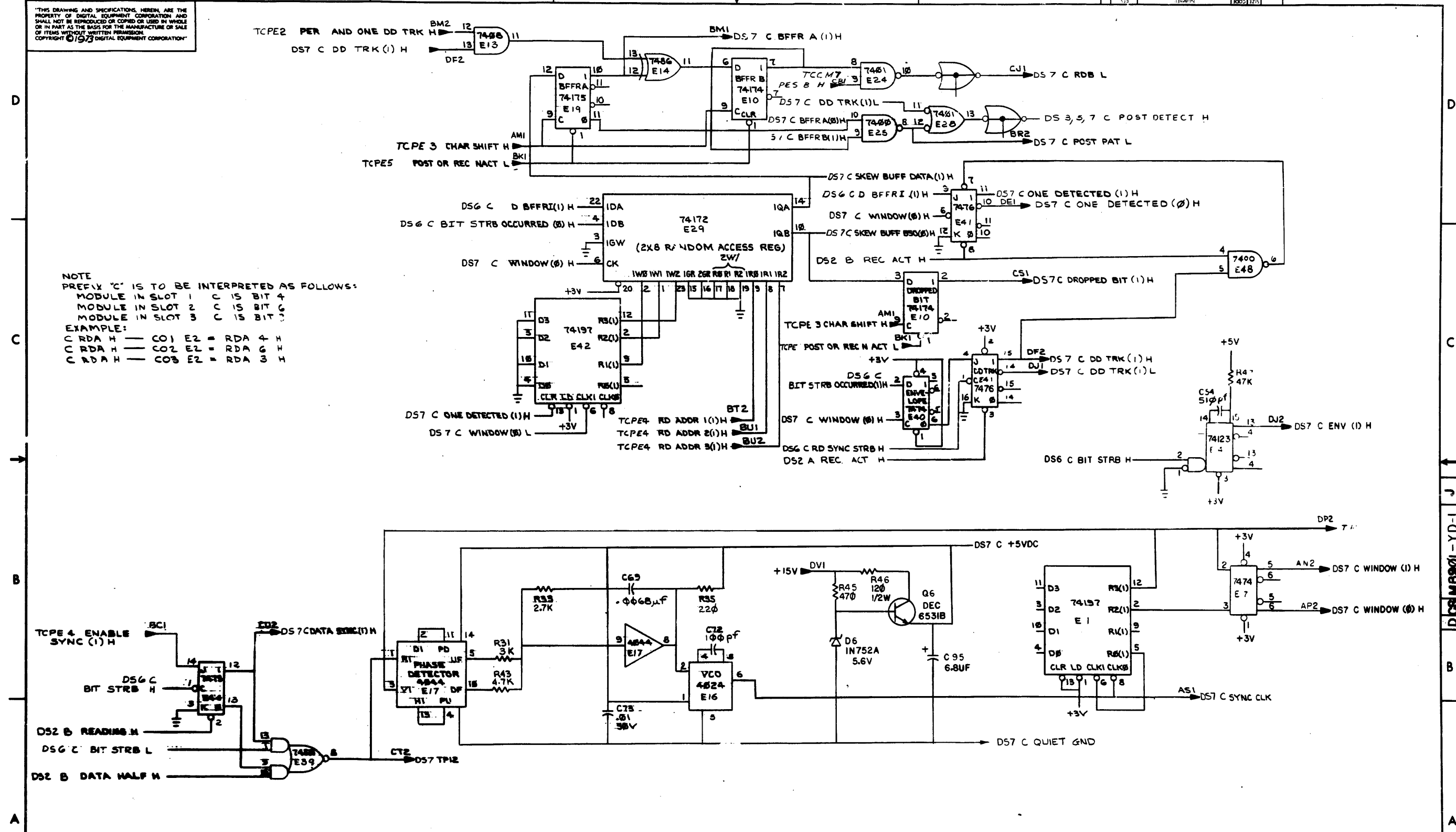
NOTE  
 PREFIX "C" IS TO BE INTERPRETED AS FOLLOWS:  
 MODULE IN SLOT 1 C IS BIT 4  
 MODULE IN SLOT 2 C IS BIT 6  
 MODULE IN SLOT 3 C IS BIT 3  
 EXAMPLE:  
 C RDA H - C01 E2 = RDA 4 H  
 C RDA H - C02 E2 = RDA 6 H  
 C RDA H - C03 E2 = RDA 3 H



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



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NOTE  
 PREFIX "C" IS TO BE INTERPRETED AS FOLLOWS:  
 MODULE IN SLOT 1 C IS BIT 4  
 MODULE IN SLOT 2 C IS BIT 6  
 MODULE IN SLOT 3 C IS BIT 3  
 EXAMPLE:  
 C RDA H — CO1 E2 = RDA 4 H  
 C RDA H — CO2 E2 = RDA 6 H  
 C RDA H — CO3 E2 = RDA 3 H

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

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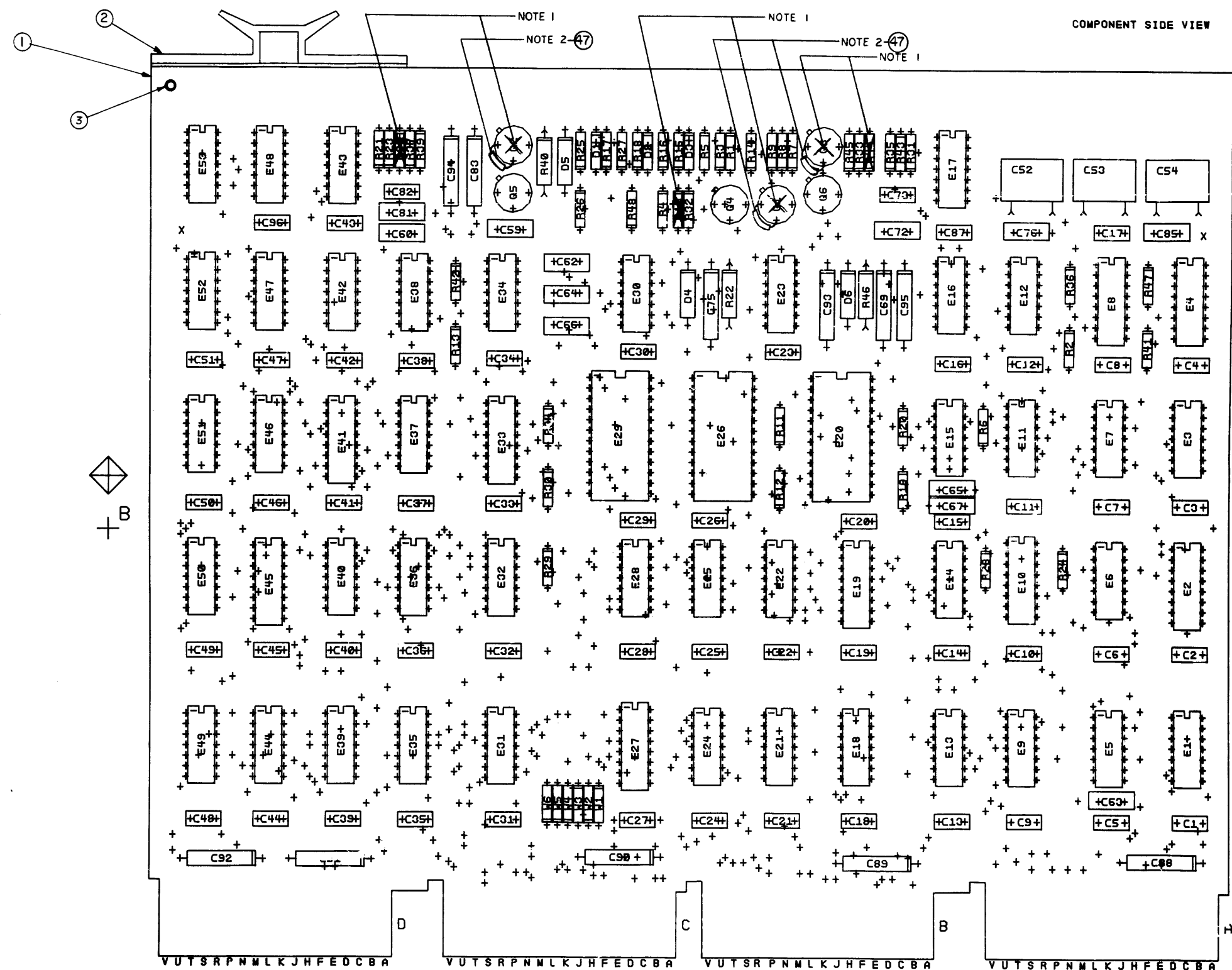
2

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0-01-1068W 2

COMPONENT SIDE VIEW



NOTES:  
 1. DELETE ALL WIRE AS SHOWN Q1, Q2, Q3.  
 2. ADD WIRE AS SHOWN Q1, Q2, Q3.

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

|                                |
|--------------------------------|
| ETCH REV. EP2                  |
| P.C. DESIGN DATA BASE REV. EP2 |

|                                 |           |                |
|---------------------------------|-----------|----------------|
| SIGNATURE                       | DATE      | digital        |
| DRN. L. METZGER                 | 2-28-78   |                |
| CHK'D [Signature]               | 3-6-78    |                |
| ENG. [Signature]                | 5-17-78   |                |
| PROJ. ENG. [Signature]          | 5-17-78   |                |
| PROD. [Signature]               | 5-17-78   | TITLE          |
| SCALE 2/1                       |           | DATA SYNC      |
| SHT. 1 OF 1                     | SIZE CODE | NUMBER         |
| NEXT HIGHER ASSY. B-DD-M8901-YD | 0         | UA M8901-YD-0J |

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2

1 MCM 160405

| LINE | ITEM | DOCUMENT NO. | PART NO.   | DESCRIPTION                              | QTY  | REFERENCE DESIGNATORS          |
|------|------|--------------|------------|--|------|--------------------------------|
| 1    | 1    |              | 5010467-00 | M8901 C                                  | 1    |                                |
| 2    | 2    |              | 9008337-06 | HANDLE, FLIP CHIP, MAGENTA               | 4    |                                |
| 3    | 3    |              | 9006732-00 | EYELET, ROLLED FLANGE, .121 OD X .219 LG | 8    |                                |
| 4    | 4    |              | 1000021-00 | 220.0 MMF 100V 5X200PPM DM15S (10-00)    | 3    | C63,C65,C67                    |
| 5    | 5    |              | 1509338-00 | DEC6531B NPN 310MW SI 40 90 P            | 3    | Q4-Q6                          |
| 6    | 6    |              | 1000024-00 | 470.0 MMF 100V 5X200PPM DM15S (10-00)    | 3    | C59,C60,C85                    |
| 7    | 7    |              | 1000042-00 | 1000.0 MMF 100V 5X200PPM DM15S (10-00)   | 3    | C62,C64,C66                    |
| 8    | 8    |              | 1000060-00 | 6800.0 MMF 200V 10X 192P MYLR \$         | 3    | C69,C75,C83                    |
| 9    | 9    |              | 1001610-00 | .01 MFD 50V Z5U 309CER/8000PF MIN        | 55   | C1-C51,C73,C82,C87,C96         |
| 10   | 10   |              | 1005306-00 | 6.8MFD 35V 10X 150D S.TA (10-00)         | 8    | C88-C95                        |
| 11   | 11   |              | 1002476-00 | 510.0 MMF 100V 5X200PPM DM15S (10-00)    | 3    | C52-C54                        |
| 12   | 12   |              | 1000016-00 | 100.0 MMF 100V 5X200PPM DM15S (10-00)    | 3    | C72,C76,C81                    |
| 13   | 13   |              | 1100114-00 | D 664 QS\75PCB PIV= 25V SP               | 3    | D1-D3                          |
| 14   | 14   |              | 1102808-00 | 1N 752A VZ= 5.6 5% .40W P                | 3    | D4-D6                          |
| 15   | 15   |              | 1300229-00 | 100 1/4W 5% CC (13-00)                   | 9    | R4,R5,R13,R15,R18,R24,R25,R28, |
|      |      |              |            |  | CONT | R34                            |
| 16   | 16   |              | 1300271-00 | 220 1/4W 5% CC (13-00)                   | 7    | R3,R11,R14,R16,R26,R35,R42     |
| 17   | 17   |              | 1300295-00 | 330 1/4W 5% CC (13-00)                   | 1    | R12                            |
| 18   | 18   |              | 1300309-00 | 390 1/4W 5% CC (13-00)                   | 3    | R1,R17,R27                     |
| 19   | 19   |              | 1300316-00 | 470 1/4W 5% CC (13-00)                   | 3    | R32,R39,R45                    |
| 20   | 20   |              | 1300365-00 | 1 K 1/4W 5% CC (13-00)                   | 4    | R6,R20,R30,R48                 |
| 21   | 21   |              | 1300426-00 | 2.7 K 1/4W 5% CC (13-00)                 | 3    | R9,R23,R33                     |
| 22   | 22   |              | 1302177-00 | 47 K 1/4W 5% CC (13-00)                  | 3    | R36,R41,R47                    |
| 23   | 23   |              | 1300243-00 | 120 1/2W 5% CC (13-00)                   | 3    | R22,R40,R46                    |
| 24   | 24   |              | 1300432-00 | 3 K 1/4W 5% CC (13-00)                   | 3    | R7,R21,R31                     |
| 25   | 25   |              | 1300447-00 | 4.7 K 1/4W 5% CC (13-00)                 | 3    | R8,R37,R43                     |
| 26   | 26   |              | 1905547-00 | DEC 7474 FF-D DUAL,EDGE TRIGGER,15MHZ    | 8    | E6,E7,E11,E32,E37,E40,E46,E52  |
| 27   | 27   |              | 1905575-00 | 7400 NAND GATE-QUAD 2IN                  | 2    | E25,E48                        |
| 28   | 28   |              | 1905580-00 | DEC 7450 A-0-I XPNDBLE GATE-DUAL 2X2     | 2    | E21,E39                        |
| 29   | 29   |              | 1905585-00 | 7476 FF-JK DUAL,MASTER SLAVE,15MHZ       | 2    | E33,E41                        |

| REVISION HISTORY |        |     | VARIATIONS FOR THIS ASSY. |             | FIRST USED ON: TM03-CN/FN |            | DIGITAL EQUIPMENT CORPORATION<br>MAYNARD, MASSACHUSETTS |      |                 |     |
|------------------|--------|-----|---------------------------|-------------|---------------------------|------------|---|------|-----------------|-----|
| CHK              | ECD NO | REV | YD                        | MADE BY:    | DATE:                     | TITLE      | SIZE  | CODE | DOCUMENT NUMBER | REV |
|                  | INIT   | J   |                           | P. BOSSMAN  | 27-MAR-78                 | PARTS LIST |   |      |                 |     |
|                  |        |     |                           | P. RAIKUNEN | 27-MAR-78                 | DATA SYNC  |   |      |                 |     |
|                  |        |     |                           | P. RAIKUNEN | 27-MAR-78                 |            |   |      |                 |     |
|                  |        |     |                           | P. RAIKUNEN | 27-MAR-78                 |            | K   | PL   | M8901-YD-DBP    | J   |
|                  |        |     |                           | P. RAIKUNEN | 27-MAR-78                 |            |   |      |                 | 6   |
|                  |        |     |                           |             |                           |            |   |      |                 |     |

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| LINE ITEM | DOCUMENT NO. | PART NO.   | DESCRIPTION                              | QTY | REFERENCE DESIGNATORS |
|-----------|--------------|------------|--|-----|-----------------------|
| 30        | 30           | 1905587-00 | DEC 7473 FF-JK DUAL,MASTER SLAVE,10MHZ   | 4   | E18,E36,E44,E49       |
| 31        | 31           | 1905590-00 | DEC 7401 NAND GATE-QUAD 2IN,OPN COLLECT  | 4   | E9,E24,E28,E35        |
| 32        | 32           | 1909686-00 | 7404 INVERTER GATE-HEX 1IN               | 2   | E22,E50               |
| 33        | 33           | 1909712-00 | DEC 8242 COMPARATOR-4BIT N,OPN COLL.     | 1   | E30                   |
| 34        | 34           | 1909928-00 | 7416 INVERTER GATE-HEX 1IN,(7406 FA      | 2   | E5,E15                |
| 35        | 35           | 1910436-00 | DEC 74123 ONE SHOT-DUAL,RETRIGGERABLE    | 2   | E4,E8                 |
| 36        | 36           | 1910011-00 | DEC 7486 X-OR GATE-QUAD 2INPUT           | 2   | E14,E31               |
| 37        | 37           | 1910018-00 | DEC 74193 COUNTER,SYNCHR. UP/DOWN        | 3   | E2,E27,E45            |
| 38        | 38           | 1910035-00 | DEC 74197 COUNTER,ASYNCH UP,H1 SPEED 828 | 6   | E1,E3,E12,E34,E42,E47 |
| 39        | 39           | 1301890-00 | 560 1/4W 5% CC (13-00                    | 3   | R2,R19,R29            |
| 40        | 40           | 1910651-00 | DEC 74175 FF-D QUAD                      | 1   | E19                   |
| 41        | 41           | 1910652-00 | 74174 FF-D HEX                           | 1   | E10                   |
| 42        | 42           | 1911038-00 | 4024 OSCILLATOR                          | 2   | E16,E38               |
| 43        | 43           | 1911039-00 | 4044 PHASE FREQUENCY DETECTOR            | 3   | E17,E23,E43           |
| 44        | 44           | 1911293-00 | 74172 REGISTER FILE,16BIT MULTIPLE P     | 3   | E20,E26,E29           |
| 45        | 45           | 1910155-00 | DEC 7408 AND GATE,POS.QUAD 2IN 14        | 3   | E13,E51,E53           |
| 46        | 46           | 9009185-00 | JUMPER, WIRE, INSULATED, BLACK BAND      | 2   | W5,W6                 |
| 47        | 47           | 9105740-55 | WIRE(WRAP)30AWG UL1423 (91-00 A/R        |     |                       |

|   |                    |            |                   |                                 |          |
|---|--------------------|------------|-------------------|---------------------------------|----------|
| DIGITAL EQUIPMENT CORPORATION<br>MAYNARD, MASSACHUSETTS | TITLE<br>DATA SYNC | PARTS LIST | SIZE CODE<br>K PL | DOCUMENT NUMBER<br>M8901-YD-DBP | REV<br>J |
|---|--------------------|------------|-------------------|---------------------------------|----------|



| LINE | ITEM | DOCUMENT NO.     | PART NO.   | DESCRIPTION                            | QTY | REFERENCE DESIGNATORS       |
|------|------|------------------|------------|--|-----|-----------------------------|
| 1    | 1    | D-MU-5012682-0-0 | 5012682-00 | M8915                                  | 1   |                             |
| 2    | 2    |                  | 1000019-00 | 150.0 MMF 100V 5%200PPM DN155 (10-00   | 1   | C65                         |
| 3    | 3    |                  | 1001610-01 | .01 MFD 100V OR 50V Z5U DISC/800PF MIN | 65  | C1-C64,C66                  |
| 4    | 4    |                  | 1005306-00 | 6.8MFD 35V 10% 150D S.TA (10-00        | 4   | C67-C70                     |
| 5    | 5    |                  | 1100114-00 | D 664 QS\75PCB PIV= 25V SP             | 3   | D1-D3                       |
| 6    | 6    |                  | 1110064-00 | LED 2MCDR10MA                          | 1   | D4                          |
| 7    | 7    |                  | 1300229-00 | 100 1/4W 5% CC (13-00                  | 1   | R9                          |
| 8    | 8    |                  | 1300295-00 | 330 1/4W 5% CC (13-00                  | 4   | R2-R5                       |
| 9    | 9    |                  | 1300316-00 | 470 1/4W 5% CC (13-00                  | 2   | R1,R8                       |
| 10   | 10   |                  | 1300365-00 | 1 K 1/4W 5% CC (13-00                  | 1   | R10                         |
| 11   | 11   |                  | 1301972-00 | 270 1/4W 5% CC (13-00                  | 1   | R7                          |
| 12   | 12   |                  | 1302391-00 | 20 K 1/4W 5% CC (13-00                 | 1   | R6                          |
| 13   | 13   |                  | 1811660-01 | OSCILLATOR, CRYSTAL, 10MHZ, 14PIN DIP  | 1   | E86                         |
| 14   | 14   |                  | 1905547-00 | DEC 7474 FF-D DUAL,EDGE TRIGGER,15MHZ  | 1   | E49                         |
| 15   | 15   |                  | 1909686-00 | 7404 INVERTER GATE-HEX 1IN             | 1   | E41                         |
| 16   | 16   |                  | 1909701-00 | 74154 1 OF 16,BINARY SELECT            | 1   | E23                         |
| 17   | 17   |                  | 1909930-00 | 7405 INVERTER GATE-HEX 1IN,OPEN COL    | 1   | E17                         |
| 18   | 18   |                  | 1910724-00 | 74180 PARITY TREE,8BIT GEN/CHK         | 1   | E92                         |
| 19   | 19   |                  | 1911573-00 | 748280 PARITY GEN/CHKR,9BIT ODD/EVEN   | 4   | E12,E21,E31,E40             |
| 20   | 20   |                  | 1912697-00 | LS174 FF-D HEX W/CLEAR                 | 1   | E46                         |
| 21   | 21   |                  | 1912799-00 | LS00 NAND-GATE-QUAD 2IN,POSITIVE       | 2   | E35,E55                     |
| 22   | 22   |                  | 1912803-00 | LS04 INVERTER GATE-HEX 1IN             | 5   | E1,E7,E8,E43,E44            |
| 23   | 23   |                  | 1912805-00 | LS00 AND GATE-QUAD 2IN,POSITIVE        | 1   | E36                         |
| 24   | 24   |                  | 1912819-00 | LS42 DECODER,BCD-DECIMAL               | 3   | E29,E53,E60                 |
| 25   | 25   |                  | 1912820-00 | LS51 A-O-I GATE 2-WIDE 2IN/3IN         | 1   | E37                         |
| 26   | 26   |                  | 1912829-00 | LS06 X-OR GATE-QUAD 2IN                | 2   | E30,E34                     |
| 27   | 27   |                  | 1912834-00 | LS112 FF-JK DUAL,EDGE TRIGGER,NEG.     | 7   | E32,E39,E45,E47,E50,E51,E61 |
| 28   | 28   |                  | 1912837-00 | LS123 ONE SHOT-DUAL,RETRIGGERABLE      | 1   | E3                          |
| 29   | 29   |                  | 1912844-00 | LS151 MUX 1 OF 8 & DATA SELECTOR       | 2   | E10,E38                     |
| 30   | 30   |                  | 1912847-00 | LS157 MUX 1 OF 2(QUAD)                 | 1   | E5                          |

| REVISION HISTORY |        |     | VARIATIONS FOR THIS ASSY, |               | FIRST USED ON; TM03 |                                       | DIGITAL EQUIPMENT CORPORATION<br>MAYNARD, MASSACHUSETTS |       |                 |            |
|------------------|--------|-----|---------------------------|---------------|---------------------|---------------------------------------|---|-------|-----------------|------------|
| CHK              | ECO NO | REV | 00, YA                    | MADE BY:      | DATE:               | TITLE                                 | SIZE:   | CODE: | DOCUMENT NUMBER | REV        |
| ER               | 00002  | C   |                           | F. MAY        | 01-AUG-78           | PARTS LIST                            |   |       |                 |            |
|                  |        |     |                           | C. BEVERLIE   | 01-AUG-78           | UNIVERSAL DATA FORMATTER<br>(VAR. 00) |   |       |                 |            |
|                  |        |     |                           | J. VAGIAS     | 01-AUG-78           |                                       |   |       |                 |            |
|                  |        |     |                           | G. R. DILLARD | 01-AUG-78           |                                       | K   | PL    | M8915-0-DBP     | C          |
|                  |        |     |                           | J. VAGIAS     | 01-AUG-78           | ASSY.NO.:                             |   |       | D-UA-M8915-0-0  | EDITS<br>3 |

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| LINE | ITEM | DOCUMENT NO.     | PART NO.   | DESCRIPTION                              | QTY | REFERENCE DESIGNATORS                         |
|------|------|------------------|------------|--|-----|---|
| 31   | 31   |                  | 1912849-00 | LS161 COUNTER, SYNCHR, 4BIT BINARY       | 2   | E58, E63                                      |
| 32   | 32   |                  | 1912864-00 | LS279 LATCH, QUAD-S-R                    | 1   | E28   |
| 33   | 33   |                  | 1912267-00 | LS298 MUX 1 OF 4, 2IN W/STORAGE          | 11  | E2, E9, E11, E13-E15, E19, E20, E24, E25, E40 |
| 34   | 34   |                  | 1914414-00 | 2987 TRANSCEIVER, BUS, QUAD              | 8   | E4, E10, E16, E22, E27, E33, E42, E54         |
| 35   | 35   |                  | 23814D1-00 | D1-02 PROM,                              | 1   | E57   |
| 36   | 36   |                  | 23196A1-00 | A1-07 PROM,                              | 1   | E62   |
| 37   | 37   |                  | 9008337-00 | HANDLE, FLIP CHIP, MAGENTA 8             | 4   |   |
| 38   | 38   |                  | 9006732-00 | EYELET, ROLLED FLANGE, .121 OD X .219 LG | 8   |   |
| 39   | 39   |                  | 9009185-00 | JUMPER, WIRE, INSULATED, BLACK BAND      | 1   | W2  |
| 40   | 40   |                  | 23212A1-00 | A1-03, A1-04, A1-05 PROM,                | 1   | E26   |
| 41   | 41   |                  | 1300432-00 | 3 K 174W 5% CC (13-00)                   | 1   | R11   |
| 42   | 42   |                  | 9108740-05 | WIRE(WRAP)30AWG UL1423 (91-00) A/R       |     |   |
| 43   | 43   |                  | 1301423-00 | ***** THIS ITEM IS NOT USED *****        | -   |   |
| 44   | 44   |                  | 1011660-03 | ***** THIS ITEM IS NOT USED *****        | -   |   |
| 45   | 45   |                  | 1912389-00 | ***** THIS ITEM IS NOT USED *****        | -   |   |
| 46   | 46   |                  | 1912096-00 | ***** THIS ITEM IS NOT USED *****        | -   |   |
| 47   | 47   |                  | 1910548-00 | ***** THIS ITEM IS NOT USED *****        | -   |   |
| 48   | 48   |                  | 1910986-00 | ***** THIS ITEM IS NOT USED *****        | -   |   |
| 49   | 49   | I.C. SPARES      |            | I.C. SPARES                              | 3   | E6, E59, E64                                  |
| 50   | 50   | B-DD-M8915-0-0   |            | DRAWING DIRECTORY                        | REF |   |
| 51   | 51   | D-UA-M8915-0-0   |            | UNIT ASSEMBLY                            | REF |   |
| 52   | 52   | D-CS-M8915-0-UDF |            | CIRCUIT SCHEMATICS                       | REF |   |

|   |                                       |            |      |      |                 |     |
|---|---------------------------------------|------------|------|------|-----------------|-----|
| DIGITAL EQUIPMENT CORPORATION<br>MAYNARD, MASSACHUSETTS | TITLE                                 | PARTS LIST | SIZE | CODE | DOCUMENT NUMBER | REV |
|   | UNIVERSAL DATA FORMATTER<br>(VAR. 00) |            | K    | PL   | M8915-0-DBP     | C   |