

# SECTION 10 DIAGRAMS

# DIAGRAMS AND CIRCUIT BOARD ILLUSTRATIONS

## Symbols

Graphic symbols and class designation letters are based on ANSI Standard Y32.2-1975.

Logic symbology is based on ANSI Y32.14-1973 in terms of positive logic. Logic symbols depict the logic function performed and may differ from the manufacturer's data.

Active low signals are indicated by an (L) following the signal name or by a horizontal line above the signal name (e.g.,  $\overline{\text{IRQ}}$ ). Signal names without indicators are considered active-high. Some active-high signals are indicated by an (H) following the signal name.

Abbreviations are based on ANSI Y1.1-1972.

Other ANSI standards that are used in the preparation of diagrams by Tektronix, Inc. are:

Y14.15, 1966 Drafting Practices.  
Y14.2, 1973 Line Conventions and Lettering.  
Y10.5, 1968 Letter Symbols for Quantities Used in Electrical Science and Electrical Engineering.

American National Standard Institute  
1430 Broadway  
New York, New York 10018

## Component Values

Electrical components shown on the diagrams are in the following units unless noted otherwise:

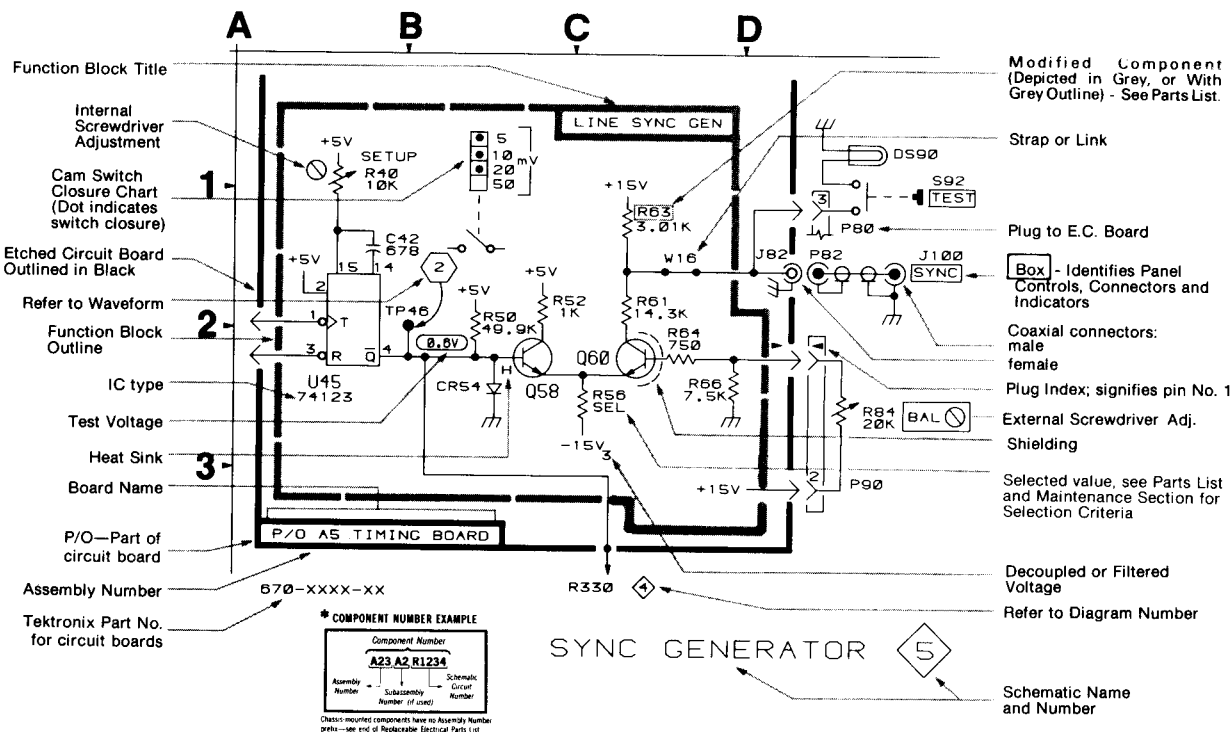
Capacitors = Values one or greater are in picofarads (pF).  
Values less than one are in microfarads ( $\mu\text{F}$ ).  
Resistors = Ohms ( $\Omega$ ).

— The information and special symbols below may appear in this manual. —

## Assembly Numbers and Grid Coordinates

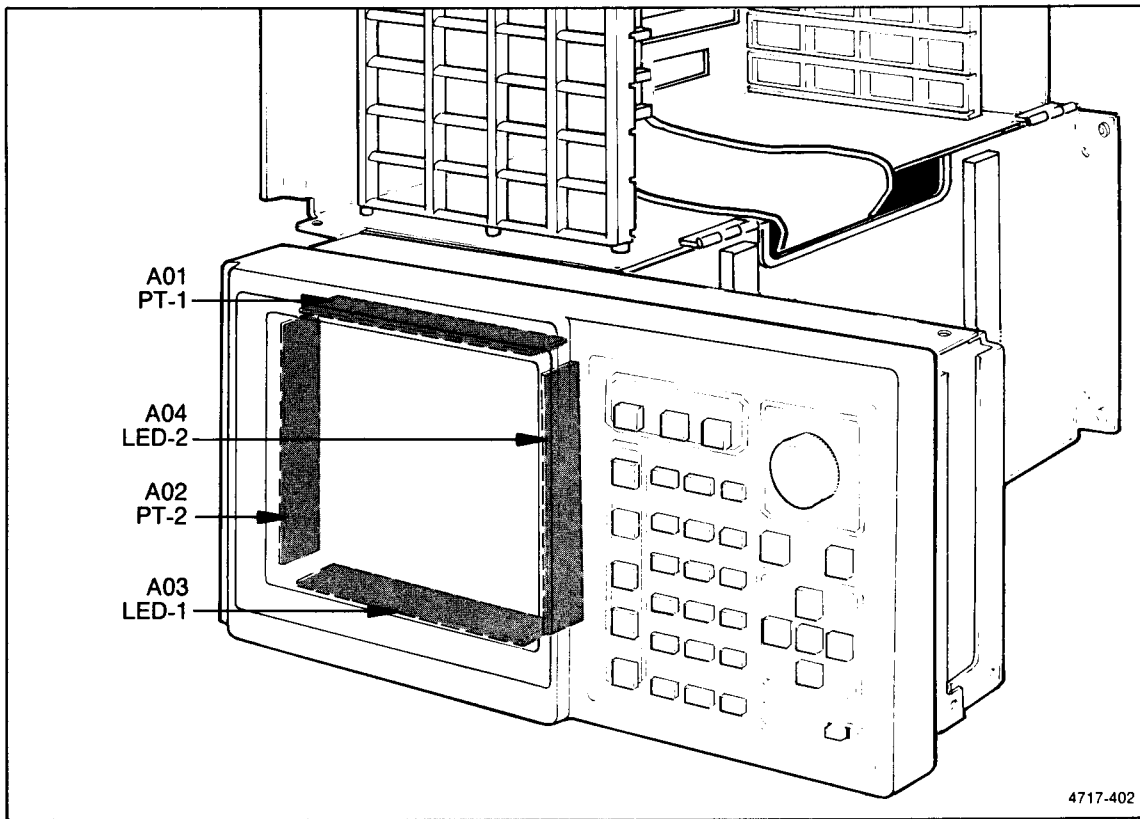
Each assembly in the instrument is assigned an assembly number (e.g., A20). The assembly number appears on the circuit board outline on the diagram, in the title for the circuit board component location illustration, and in the lookup table for the schematic diagram and corresponding component locator illustration. The Replaceable Parts list is arranged by assemblies in numerical sequence; the components are listed by component number \*(see following illustration for constructing a component number).

The schematic diagram and circuit board component location illustration have grids. A lookup table with the grid coordinates is provided for ease of locating the component. Only the components illustrated on the facing diagram are listed in the lookup table. When more than one schematic diagram is used to illustrate the circuitry on a circuit board, the circuit board illustration may only appear opposite the first diagram on which it was illustrated; the lookup table will list the diagram number of other diagrams that the circuitry of the circuit board appears on.



**Table 10-1**  
**IC PIN INFORMATION**

| Device Type  | V <sub>CC</sub> or V <sub>DD</sub> | GND  | Device Type | V <sub>CC</sub> or V <sub>DD</sub> | GND               |
|--------------|------------------------------------|------|-------------|------------------------------------|-------------------|
| 10016        | 1, 16                              | 8    | 74LS166     | 16                                 | 8                 |
| 100131       | 9, 10                              | 21   | 74LS169     | 16                                 | 8                 |
| 10H101       | 1, 16                              | 8    | 74S174      | 16                                 | 8                 |
| 10102(H)     | 1, 16                              | 8    | 74S175(LS)  | 16                                 | 8                 |
| 10103(H)     | 1, 16                              | 8    | 74LS186     | 24                                 | 13, 23            |
| 10H104       | 1, 16                              | 8    | 74LS191     | 16                                 | 8                 |
| 10H105       | 1, 16                              | 8    | 74LS194     | 16                                 | 8                 |
| 10107(H)     | 1, 16                              | 8    | 74LS244     | 20                                 | 10                |
| 10H109       | 1, 16                              | 8    | 74LS245     | 20                                 | 10                |
| 10113        | 1, 16                              | 8    | 74273(LS)   | 20                                 | 10                |
| 10H116       | 1, 16                              | 8    | 74LS279     | 16                                 | 8                 |
| 10H117       | 1, 16                              | 8    | 74LS283     | 16                                 | 8                 |
| 10H121       | 1, 16                              | 8    | 74LS295     | 14                                 | 7                 |
| 10H131       | 1, 16                              | 8    | 74LS299     | 20                                 | 10                |
| 10135        | 1, 16                              | 8    | 74LS365     | 16                                 | 8                 |
| 10H164       | 1, 16                              | 8    | 74LS373     | 20                                 | 10                |
| 10172        | 16                                 | 8    | 74C374(LS)  | 20                                 | 10                |
| 10H174       | 1, 16                              | 8    | 74LS375     | 16                                 | 8                 |
| 10176(H)     | 1, 16                              | 8    | 74LS390     | 16                                 | 8                 |
| 10186        | 16                                 | 8    | 74LS393     | 14                                 | 7                 |
| 10188        | 1, 16                              | 8    | 74LS670     | 16                                 | 8                 |
| 10195        | 1, 16                              | 8    | 75160A      | 20                                 | 10                |
| 10402        | 16                                 | 8    | 75161A      | 20                                 | 10                |
| 10422        | 1, 24                              | 12   | 7812        |                                    | 2                 |
| 1488         | 1, 14                              | 7    | 78L15       |                                    | 2                 |
| 1489L        | 14                                 | 7    | 7905        |                                    | 1                 |
| 25LS2521     | 20                                 | 10   | 79M12       |                                    |                   |
| 27128-3      | 1, 28                              | 14   | 8088        | 40                                 | 1, 20             |
| 3341         | 1, 8                               | 16   | 81LS95      | 20                                 | 10                |
| 4051         | 16                                 | 7, 8 | 8203-3      | 40                                 | 20                |
| 4053B        | 16                                 | 7, 8 | 8250-B      | 40                                 | 20                |
| 6116         | 24                                 | 12   | 8284        | 18                                 | 9                 |
| 74S00(LS)    | 14                                 | 7    | CD4028      | 16                                 | 8                 |
| 74S04(LS)    | 14                                 | 7    | HM2112-1    | 16                                 | 8                 |
| 74S08(LS)    | 14                                 | 7    | HM4864-3    | 8                                  | 16                |
| 74LS10       | 14                                 | 7    | HM6116LP-4  | 24                                 | 12                |
| 74C14(LS)    | 14                                 | 7    | LF412       | 4                                  |                   |
| 7417         | 14                                 | 7    | LM319       | 11                                 | 3, 8              |
| 74LS21       | 14                                 | 7    | LM324       | 4                                  | 11                |
| 74LS30       | 14                                 | 7    | LM393N      | 8                                  | 4                 |
| 74S32(LS)    | 14                                 | 7    | M600ECL     | 10, 13, 16                         | 1, 21, 25, 28, 31 |
| 74S51        | 14                                 | 7    | MC1413      |                                    | 8                 |
| 74LS54       | 14                                 | 7    | MC14520     | 16                                 | 8                 |
| 74F74(S)(LS) | 14                                 | 7    | MC3431      | 12, 16                             | 8                 |
| 74LS75       | 16                                 | 8    | MM5321N     | 1                                  | 8                 |
| 74LS86       | 14                                 | 7    | NE5018      | 19                                 | 1, 22             |
| 74S112       | 16                                 | 8    | NE521       | 14                                 | 7                 |
| 74S138(LS)   | 16                                 | 8    | NE5534      | 7                                  |                   |
| 74S139(LS)   | 16                                 | 8    | NE555       | 8                                  | 1                 |
| 74LS151      | 16                                 | 8    | SG3526      |                                    | 15                |
| 74LS153      | 16                                 | 8    | SMP-11-FY   | 9                                  |                   |
| 74LS155      | 16                                 | 8    | TDA-1170    | 2                                  | TABS              |
| 74LS157      | 16                                 | 8    | TL072       | 4, 8                               |                   |
| 74LS161      | 16                                 | 8    | TMS9914-A   | 40                                 | 20                |
| 74LS163(A)   | 16                                 | 8    | Z80         | 11                                 | 29                |
| 74LS164      | 14                                 | 7    |             |                                    |                   |

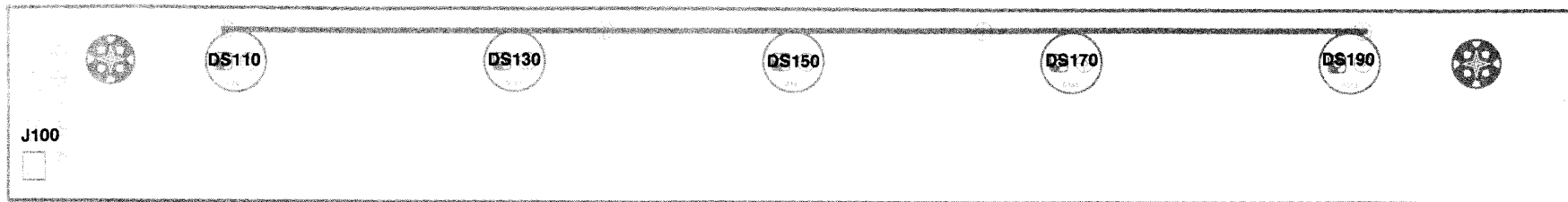


**Figure 10-2. A01-A04 PT1, PT2, LED1, LED2 Boards Mainframe Locations.**

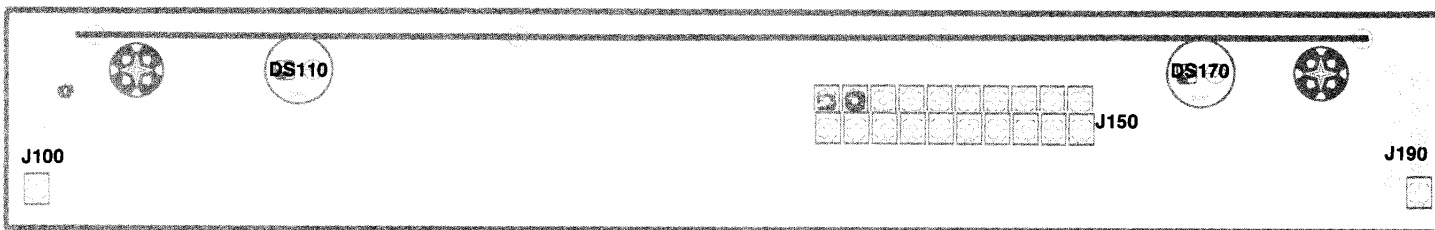


1240

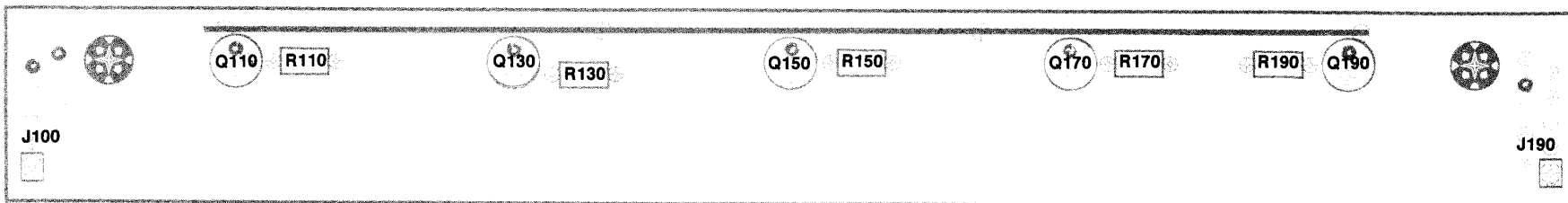
LED - 1



LED - 2



PT - 1



PT - 2

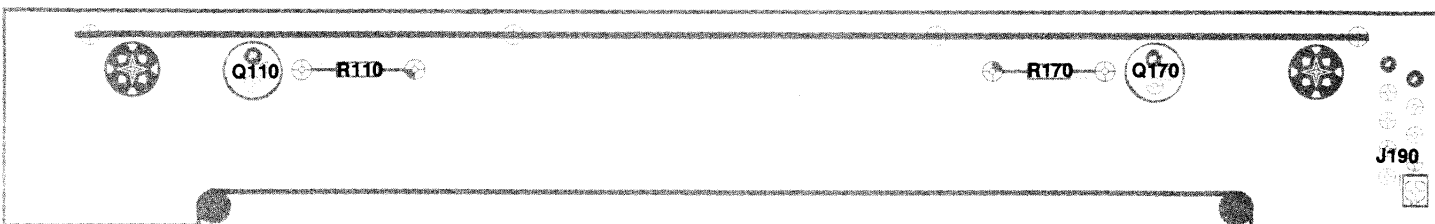
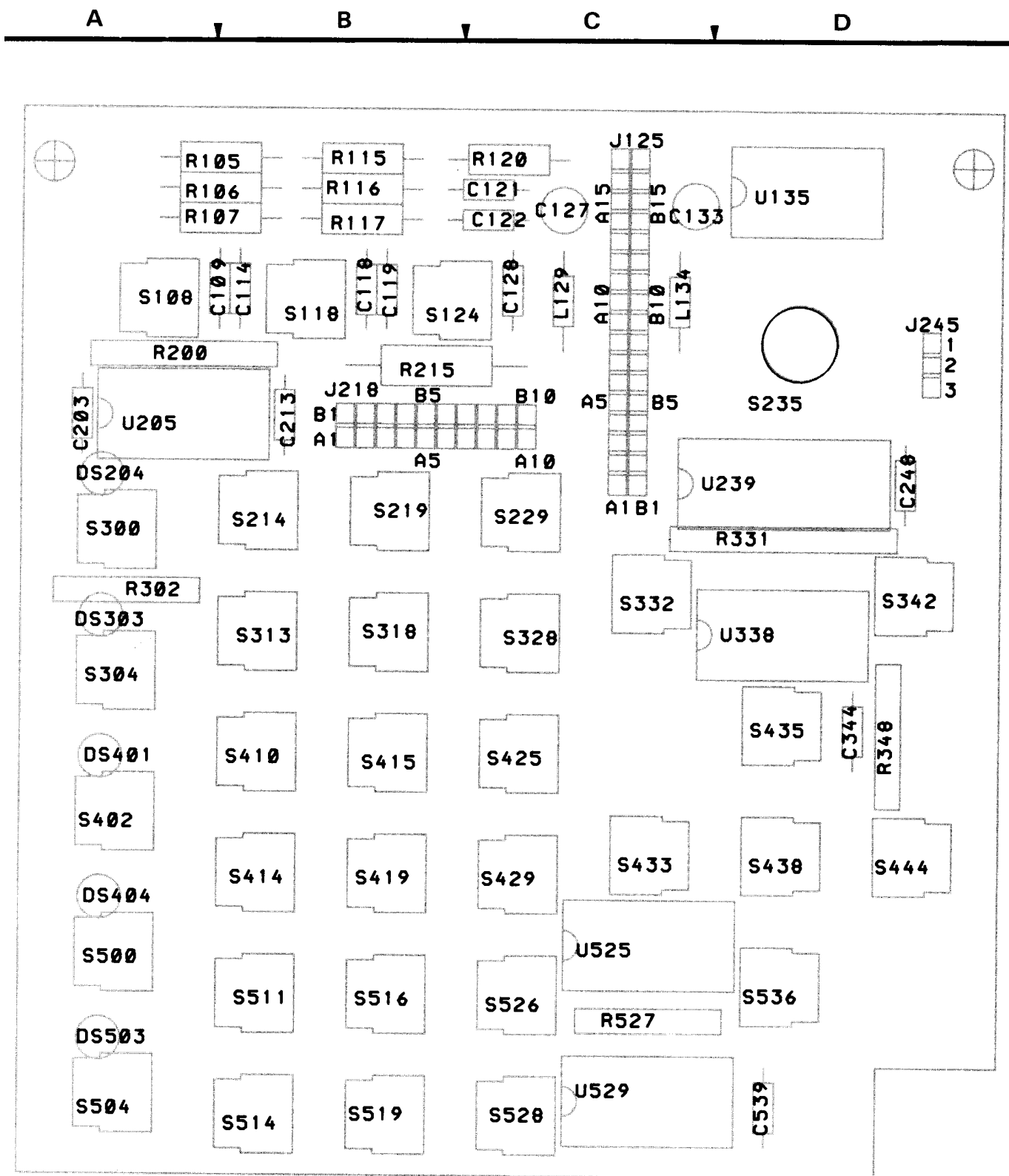


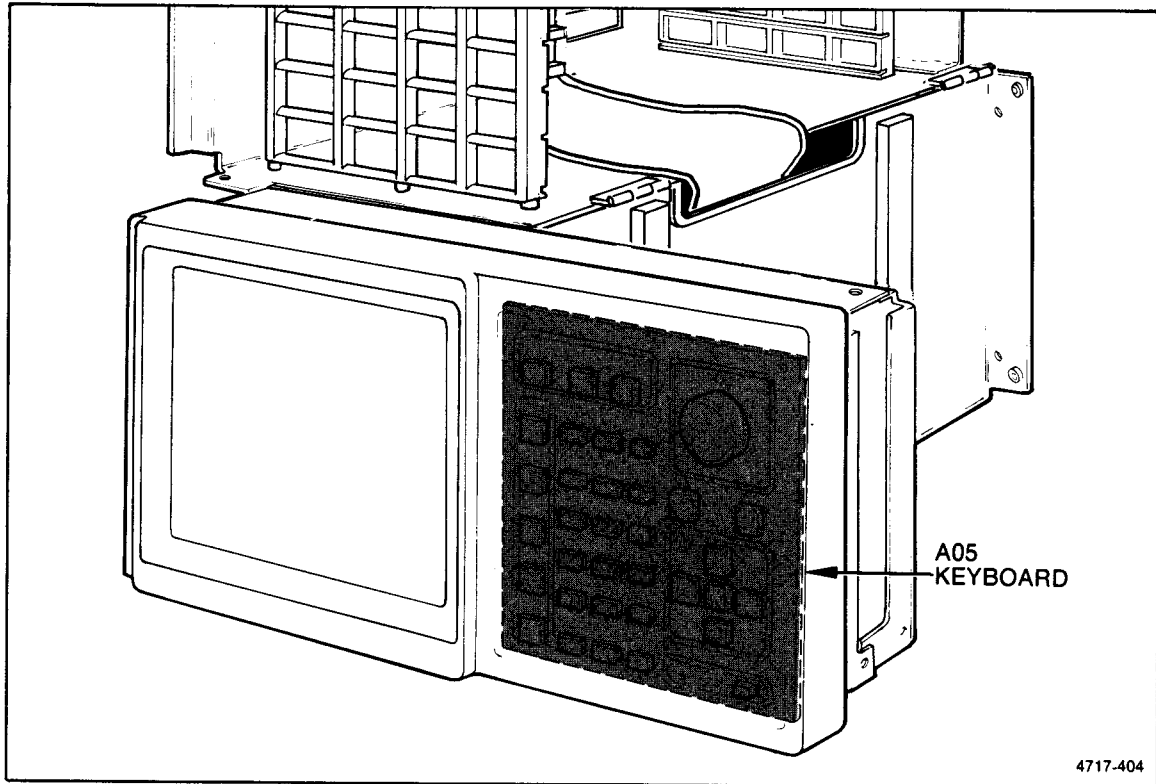
Figure 10-1. A01 - A04 PT1, PT2, LED1, LED2 Boards Component Locations.





4717-403

Figure 10-3. A05 Keyboard Component Locations.



**Figure 10-4. A05 Keyboard Mainframe Location.**

A B C D E F

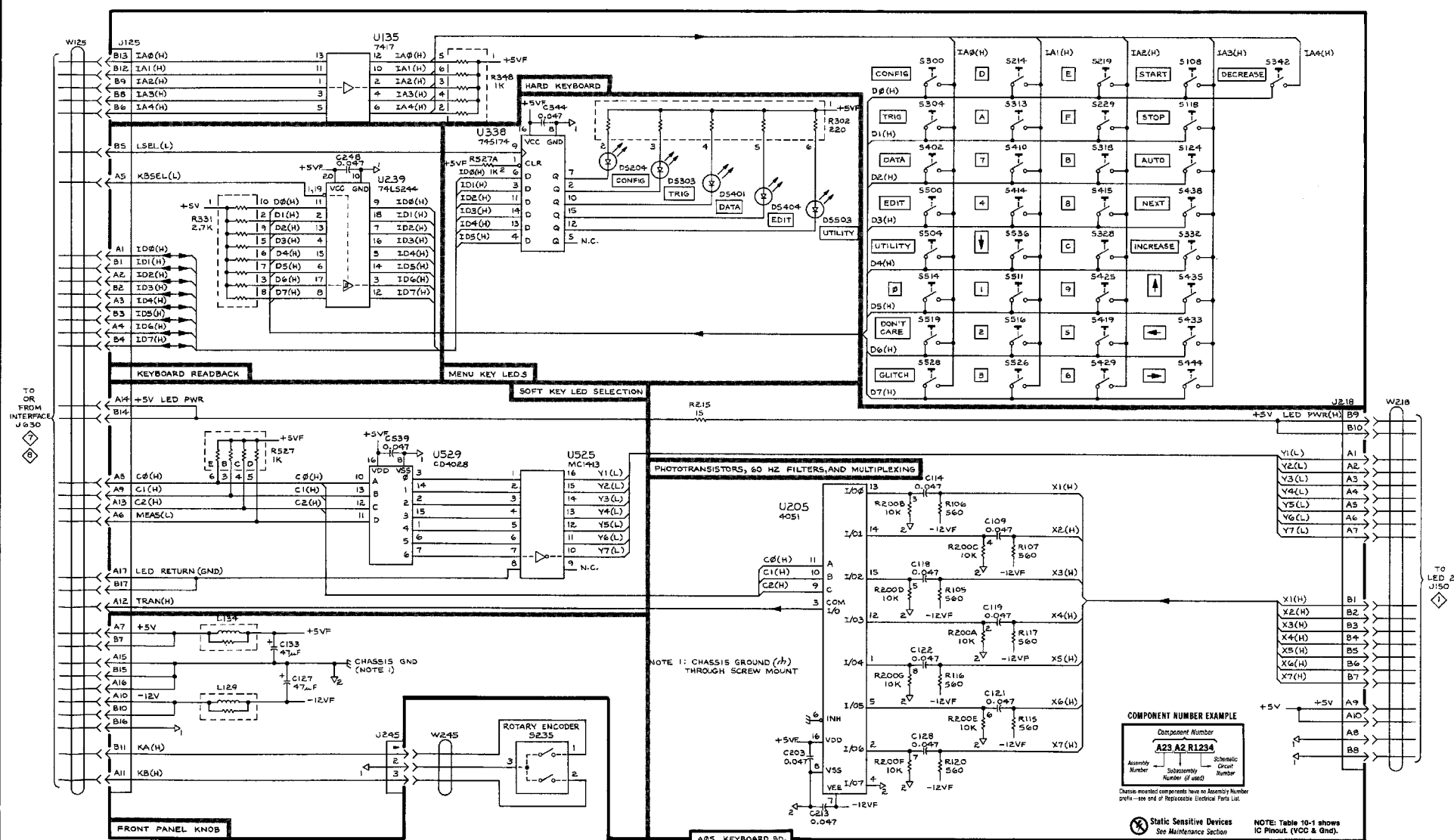
1

2

3

4

5



A05 KEYBOARD

2

1240 SERVICE

4717-602

**COMPONENT NUMBER EXAMPLE**

| Component Number |                              |                          |  |
|------------------|------------------------------|--------------------------|--|
| A23              | A2                           | R1234                    |  |
| Assembly Number  | Subassembly Number (if used) | Schematic Circuit Number |  |

Chassis mounted components have no Assembly Number prefix - see end of Reproduction Instruction Parts List.

Static Sensitive Devices  
See Maintenance Section

NOTE: Table 10-1 shows  
IO Pinout. (VCC & Gnd).

KEYBOARD

Table 10-2

KEYBOARD  — ASSEMBLY A05

| CIRCUIT<br>NUMBER | SCHEMATIC<br>LOCATION | BOARD<br>LOCATION | CIRCUIT<br>NUMBER | SCHEMATIC<br>LOCATION | BOARD<br>LOCATION |
|-------------------|-----------------------|-------------------|-------------------|-----------------------|-------------------|
| C109              | E4                    | B2                | R527D             | A3                    | C5                |
| C114              | D3                    | B2                | R527E             | A3                    | C5                |
| C118              | D4                    | B2                | S108              | F1                    | A2                |
| C119              | E4                    | B2                | S118              | F1                    | B2                |
| C121              | E5                    | C1                | S124              | F2                    | C2                |
| C122              | D4                    | C1                | S214              | E1                    | B3                |
| C127              | B5                    | C1                | S219              | E1                    | B3                |
| C128              | D5                    | C2                | S229              | E1                    | C3                |
| C133              | B4                    | C1                | S235              | C5                    | D2                |
| C203              | D5                    | A2                | S300              | D1                    | A3                |
| C213              | D5                    | B2                | S304              | D1                    | A3                |
| C248              | B2                    | D2                | S313              | E1                    | B3                |
| C344              | C1                    | D4                | S318              | E2                    | B3                |
| C539              | B3                    | D5                | S328              | E2                    | C3                |
| DS204             | C2                    | A2                | S332              | F2                    | C3                |
| DS303             | C2                    | A3                | S342              | F1                    | D3                |
| DS401             | D2                    | A4                | S402              | D2                    | A4                |
| DS404             | D2                    | A4                | S410              | E2                    | B4                |
| DS503             | D2                    | A5                | S414              | E2                    | B4                |
| J125              | A1                    | C1                | S415              | E2                    | B4                |
| J218              | F3                    | B2                | S419              | E3                    | B4                |
| J245              | B5                    | D2                | S425              | E2                    | C4                |
| L129              | A5                    | C2                | S429              | E3                    | C4                |
| L134              | A4                    | C2                | S433              | F3                    | C4                |
| R105              | E4                    | B1                | S435              | F2                    | D4                |
| R106              | E4                    | B1                | S438              | F2                    | D4                |
| R107              | E4                    | B1                | S444              | F3                    | D4                |
| R115              | E5                    | B1                | S500              | D2                    | A5                |
| R116              | E5                    | B1                | S504              | D2                    | A5                |
| R117              | E4                    | B1                | S511              | E2                    | B5                |
| R120              | E5                    | C1                | S514              | D2                    | B5                |
| R200A             | E4                    | A2                | S516              | E3                    | B5                |
| R200B             | D4                    | A2                | S519              | D3                    | B5                |
| R200C             | E4                    | A2                | S526              | E3                    | C5                |
| R200D             | D4                    | A2                | S528              | D3                    | C5                |
| R200E             | E5                    | A2                | S536              | E2                    | D5                |
| R200F             | D5                    | A2                | U135              | B1                    | D1                |
| R200G             | D5                    | A2                | U205              | D4                    | A2                |
| R215              | C3                    | B2                | U239              | B2                    | D2                |
| R302              | D1                    | A3                | U338              | C2                    | D3                |
| R331              | A2                    | D3                | U525              | C4                    | C4                |
| R348              | B1                    | D4                | U529              | B3                    | C5                |
| R527A             | C2                    | C5                | W125              | A1                    | Off Board         |
| R527B             | A3                    | C5                | W218              | F3                    | Off Board         |
| R527C             | A3                    | C5                | W245              | B5                    | Off Board         |

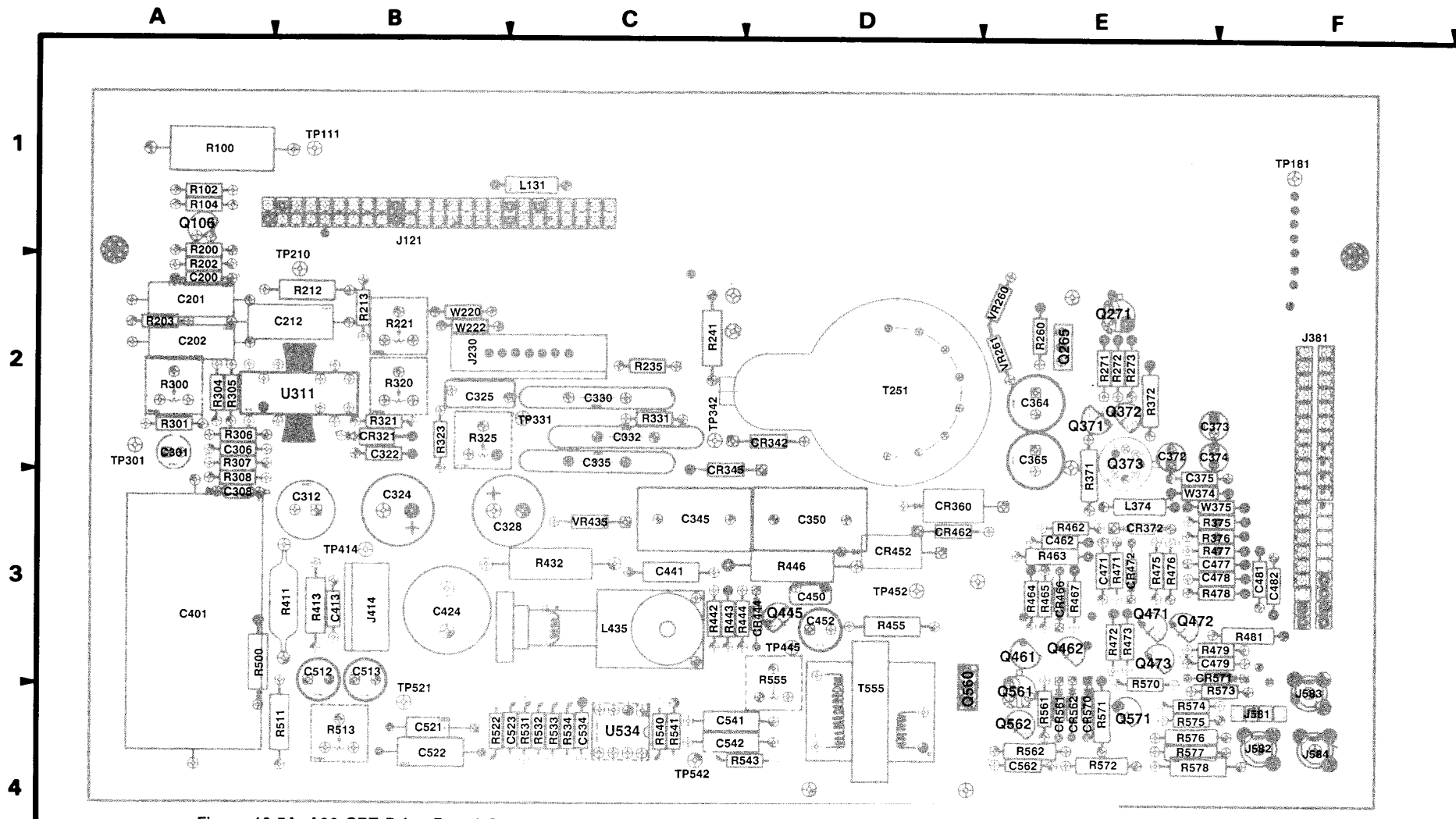


Figure 10-5A. A06 CRT Drive Board Component Locations (R090000 & below)

SEE PARTS LIST FOR SERIAL NUMBER RANGES

4717-405A

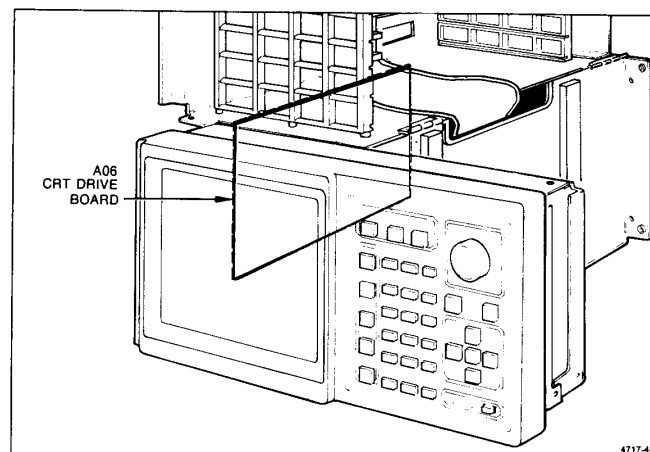


Figure 10-6. A06 CRT Drive Board Mainframe Location.

4717-406

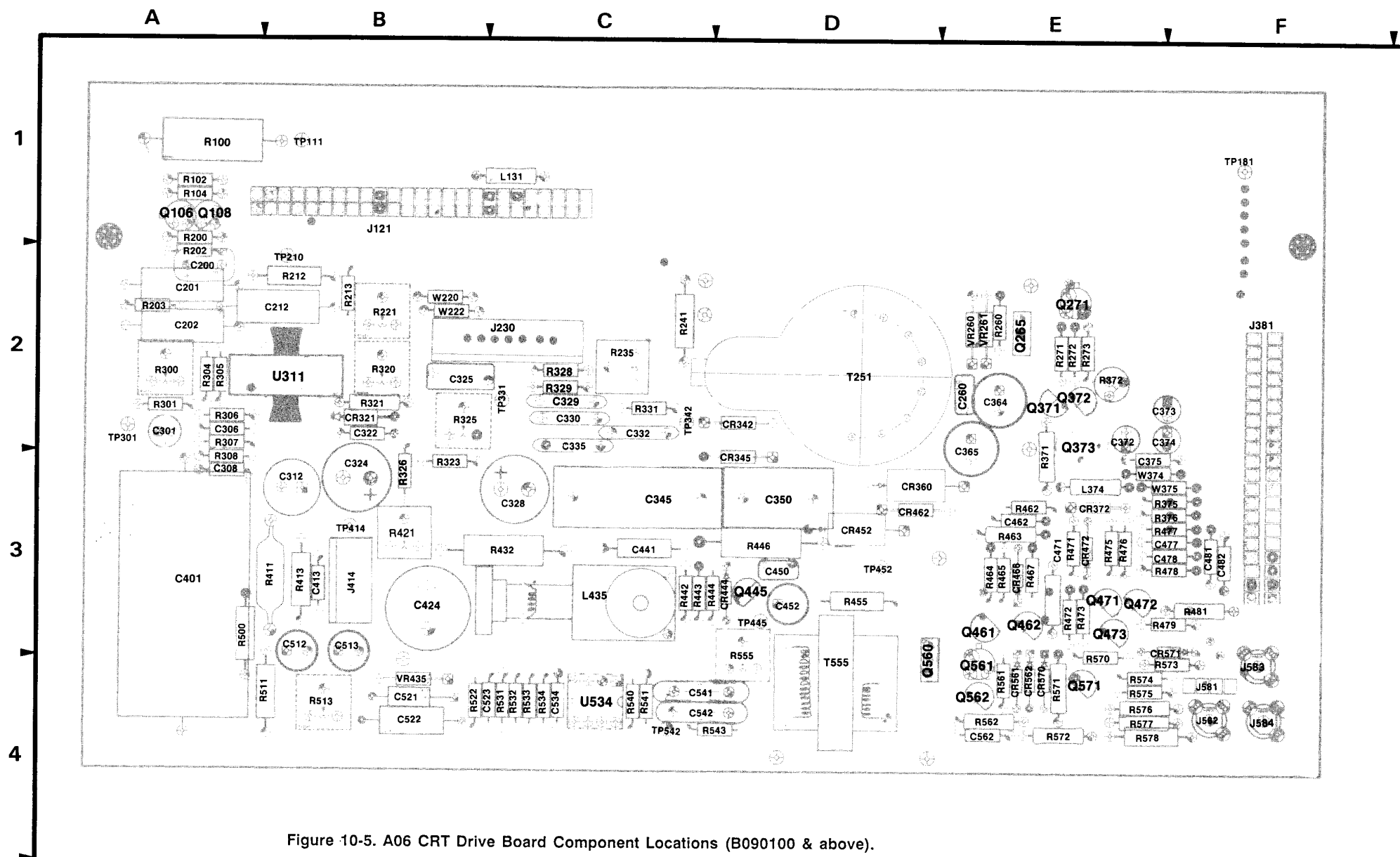


Figure 10-5. A06 CRT Drive Board Component Locations (B090100 & above).  
SEE PARTS LIST FOR SERIAL NUMBER RANGES



Table 10-3

 REAR PANEL CIRCUITS  — CRT DRIVE BOARD, ASSEMBLY A06

| CIRCUIT<br>NUMBER | SCHEMATIC<br>LOCATION | BOARD<br>LOCATION | CIRCUIT<br>NUMBER | SCHEMATIC<br>LOCATION | BOARD<br>LOCATION |
|-------------------|-----------------------|-------------------|-------------------|-----------------------|-------------------|
| C372              | B3                    | E2                | Q562              | B5                    | E4                |
| C373              | F4                    | F2                | Q571              | D2                    | E4                |
| C374              | F5                    | F2                | R241              | F4                    | C2                |
| C375              | B3                    | E3                | R271              | C3                    | E2                |
| C462              | B4                    | E3                | R272              | C3                    | E2                |
| C471              | B3                    | E3                | R273              | C4                    | E2                |
| C477              | C1                    | F3                | R371              | B3                    | E2                |
| C478              | C2                    | F3                | R372              | B4                    | E2                |
| C481              | F4                    | F3                | R375              | B1                    | F3                |
| C482              | F5                    | F3                | R376              | C1                    | F3                |
| C562              | B5                    | E4                | R462              | B3                    | E3                |
| CR372             | B3                    | E3                | R463              | B4                    | E3                |
| CR466             | B4                    | E3                | R464              | C4                    | E3                |
| CR472             | B3                    | E3                | R465              | C5                    | E3                |
| CR561             | C5                    | E4                | R467              | C4                    | E3                |
| CR562             | B5                    | E4                | R471              | B3                    | E3                |
| CR570             | B5                    | E4                | R472              | C2                    | E3                |
| CR571             | B2                    | F3                | R473              | B2                    | E3                |
| J121              | D3                    | B1                | R475              | C1                    | E3                |
| J121              | A2                    | B1                | R476              | C2                    | E3                |
| J121              | D1                    | B1                | R477              | C1                    | F3                |
| J121              | E1                    | B1                | R478              | C2                    | F3                |
| J381              | F1                    | F2                | R479              | B2                    | F3                |
| J581              | A2                    | F4                | R481              | C2                    | F3                |
| J581              | B1                    | F4                | R561              | C5                    | E4                |
| J582              | A2                    | F4                | R562              | B5                    | E4                |
| J583              | A5                    | F4                | R570              | B2                    | E3                |
| J584              | A3                    | F4                | R571              | D3                    | E4                |
| L131              | F5                    | C1                | R572              | B5                    | E4                |
| L374              | B3                    | E3                | R573              | B1                    | F4                |
| Q271              | C3                    | E2                | R574              | B3                    | E4                |
| Q371              | C3                    | E2                | R575              | B2                    | E4                |
| Q372              | C3                    | E2                | R576              | D3                    | E4                |
| Q373A             | B4                    | E2                | R577              | D3                    | E4                |
| Q373B             | B3                    | E2                | R578              | B5                    | E4                |
| Q461              | C4                    | E3                | TP181             | F4                    | F1                |
| Q462              | C4                    | E3                | TP301             | F4                    | A2                |
| Q471              | C2                    | E3                | W220              | F4                    | B2                |
| Q472              | C2                    | E3                | W222              | F4                    | B2                |
| Q473              | B3                    | E3                | W374              | F4                    | E3                |
| Q561              | C5                    | E4                | W375              | F4                    | F3                |

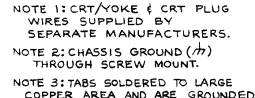


Table 10-4

CRT DRIVER  — CRT DRIVE BOARD, ASSEMBLY A06

| CIRCUIT<br>NUMBER | SCHEMATIC<br>LOCATION | BOARD<br>LOCATION | CIRCUIT<br>NUMBER | SCHEMATIC<br>LOCATION | BOARD<br>LOCATION |
|-------------------|-----------------------|-------------------|-------------------|-----------------------|-------------------|
| C200              | D3                    | A2                | R213              | B2                    | B2                |
| C201              | B2                    | A2                | R221              | B2                    | B2                |
| C202              | B2                    | A2                | *R235             | E3                    | C2                |
| *C212             | C2                    | B2                | R260              | D3                    | E2                |
| *C260             | D3                    | E2 Back           | R300              | B2                    | A2                |
| *C260             | D3                    | E2                | R301              | C2                    | A2                |
| C301              | C2                    | A2                | R304              | B2                    | A2                |
| C306              | C1                    | A2                | R305              | B2                    | A2                |
| C308              | B1                    | A3                | R306              | B1                    | A2                |
| C312              | A2                    | B3                | R307              | C2                    | A2                |
| C322              | A1                    | B2                | R308              | C2                    | A3                |
| C324              | A1                    | B3                | *R320             | C1                    | B2                |
| C325              | E2                    | B2                | *R321             | C1                    | B2                |
| C328              | D4                    | C3                | R323              | D2                    | B2                |
| *C329             | E4                    | C2                | R325              | D2                    | B2                |
| *C330             | E3                    | C2                | *R326             | D2                    | B3                |
| *C332             | D4                    | C2                | *R328             | E4                    | C2                |
| *C335             | E4                    | C2                | *R329             | E4                    | C2                |
| C345              | D5                    | C3                | *R331             | E4                    | C2                |
| C350              | D5                    | D3                | R411              | C2                    | B3                |
| C364              | D4                    | E2                | R413              | E1                    | B3                |
| C365              | D4                    | E2                | *R421             | D2                    | B3                |
| C401              | C2                    | A3                | R432              | D4                    | C3                |
| C413              | E2                    | B3                | R442              | B5                    | C3                |
| C424              | E5                    | B3                | R443              | A4                    | C3                |
| C441              | B5                    | C3                | R444              | A5                    | D3                |
| *C450             | A5                    | D3                | R446              | A4                    | D3                |
| C452              | B4                    | D3                | R455              | B5                    | D3                |
| C512              | C4                    | B3                | R500              | C4                    | A3                |
| C513              | C3                    | B3                | R511              | C3                    | B4                |
| C521              | C4                    | B4                | R513              | C4                    | B4                |
| C522              | C4                    | B4                | R522              | B3                    | B4                |
| C523              | B3                    | C4                | R531              | C4                    | C4                |
| C534              | C4                    | C4                | R532              | C4                    | C4                |
| C541              | B4                    | C4                | R533              | C4                    | C4                |
| C542              | B4                    | C4                | R534              | C4                    | C4                |
| CR321             | A1                    | B2                | R540              | C3                    | C4                |
| CR342             | D4                    | D2                | R541              | C3                    | C4                |
| CR345             | D4                    | C2                | R543              | B4                    | C4                |
| CR360             | D4                    | D3                | R555              | B4                    | D3                |
| CR444             | B5                    | D3                | T251              | D4                    | D2                |
| CR452             | D5                    | D3                | T555              | A5                    | D4                |
| CR462             | D4                    | D3                | TP111             | B1                    | B1                |
| J230              | E2                    | B2                | TP210             | D3                    | B2                |
| J414              | E1                    | B3                | TP331             | E2                    | C2                |
| J414              | E4                    | B3                | TP342             | E4                    | C2                |
| L435              | D4                    | C3                | TP414             | C1                    | B3                |
| L600              | E4                    | P/O W414          | TP445             | A5                    | D3                |
| Q106              | D3                    | A1                | TP452             | D4                    | D3                |
| *Q108             | D2                    | A1                | TP521             | B3                    | B4                |
| Q265              | D3                    | E2                | TP542             | E5                    | C4                |
| Q445              | A5                    | D3                | U311              | B1                    | B2                |
| Q560              | B5                    | D4                | U534              | B3                    | C4                |
| R100              | D3                    | A1                | VR260             | D3                    | E2                |
| R102              | C3                    | A1                | *VR261            | D3                    | E2                |
| R104              | C3                    | A1                | *VR435            | C4                    | B4                |
| R200              | D3                    | A1                | W230              | E2                    | Off Board         |
| R202              | D3                    | A2                | W414              | E1                    | Off Board         |
| R203              | B2                    | A2                | W414              | E4                    | Off Board         |
| R212              | D3                    | B2                |                   |                       |                   |

\*SEE PARTS LIST FOR SERIAL NUMBER RANGES.



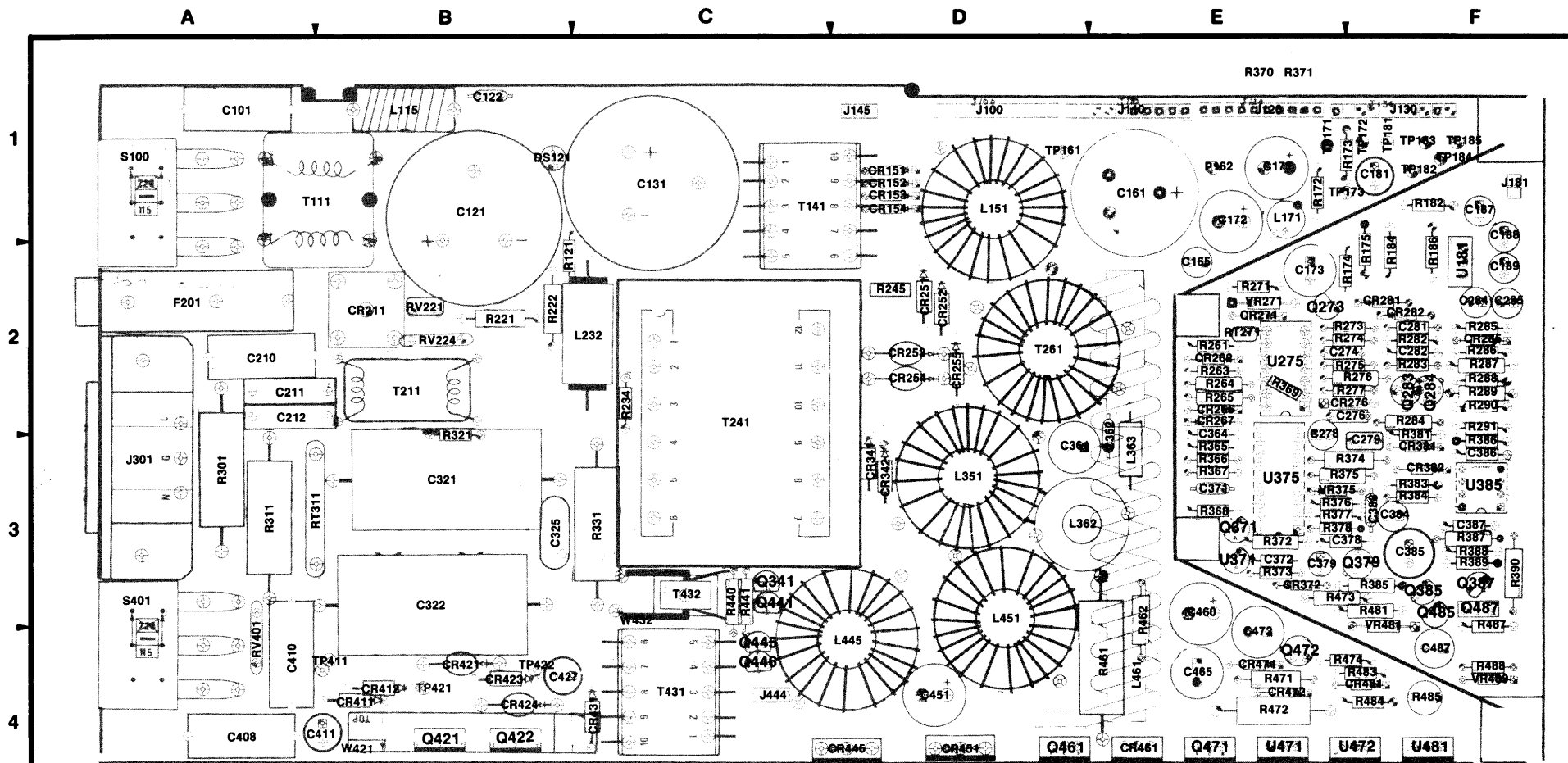
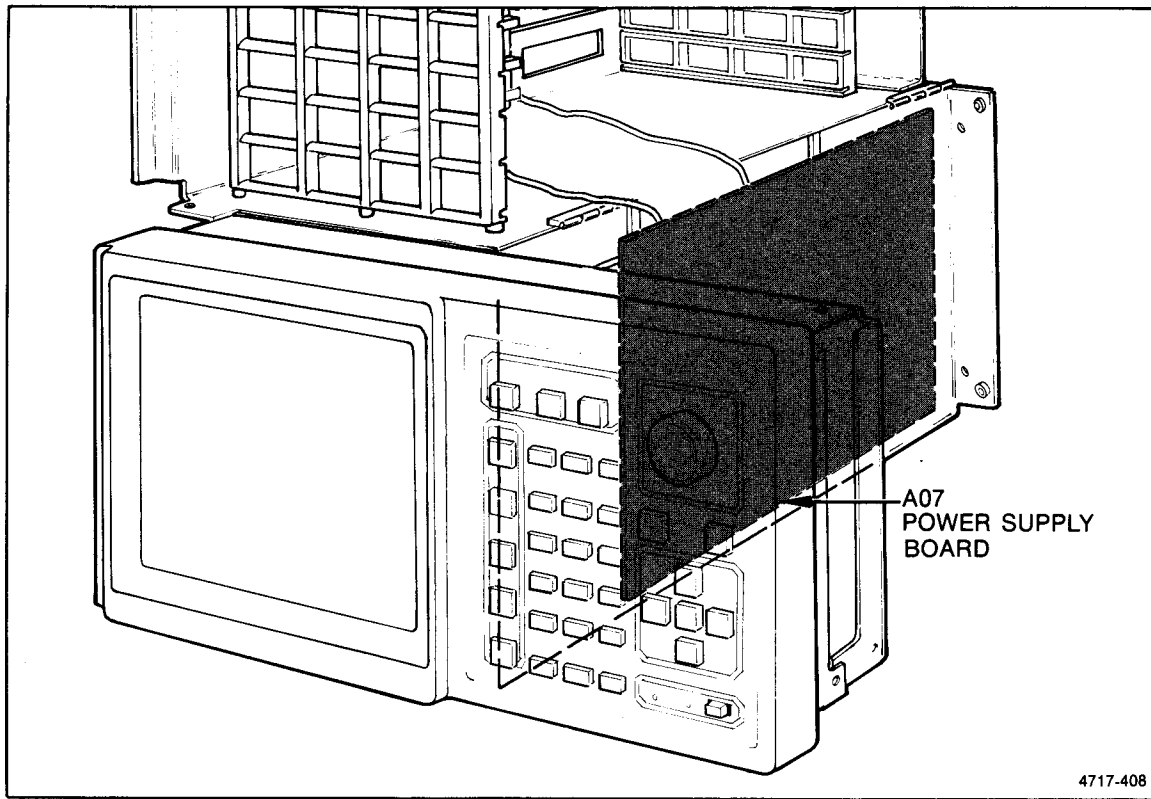


Figure 10-7. A07 Power Supply Board Component Locations (670-7534-06).



**Figure 10-8. A07 Power Supply Board Mainframe Location.**

Table 10-5

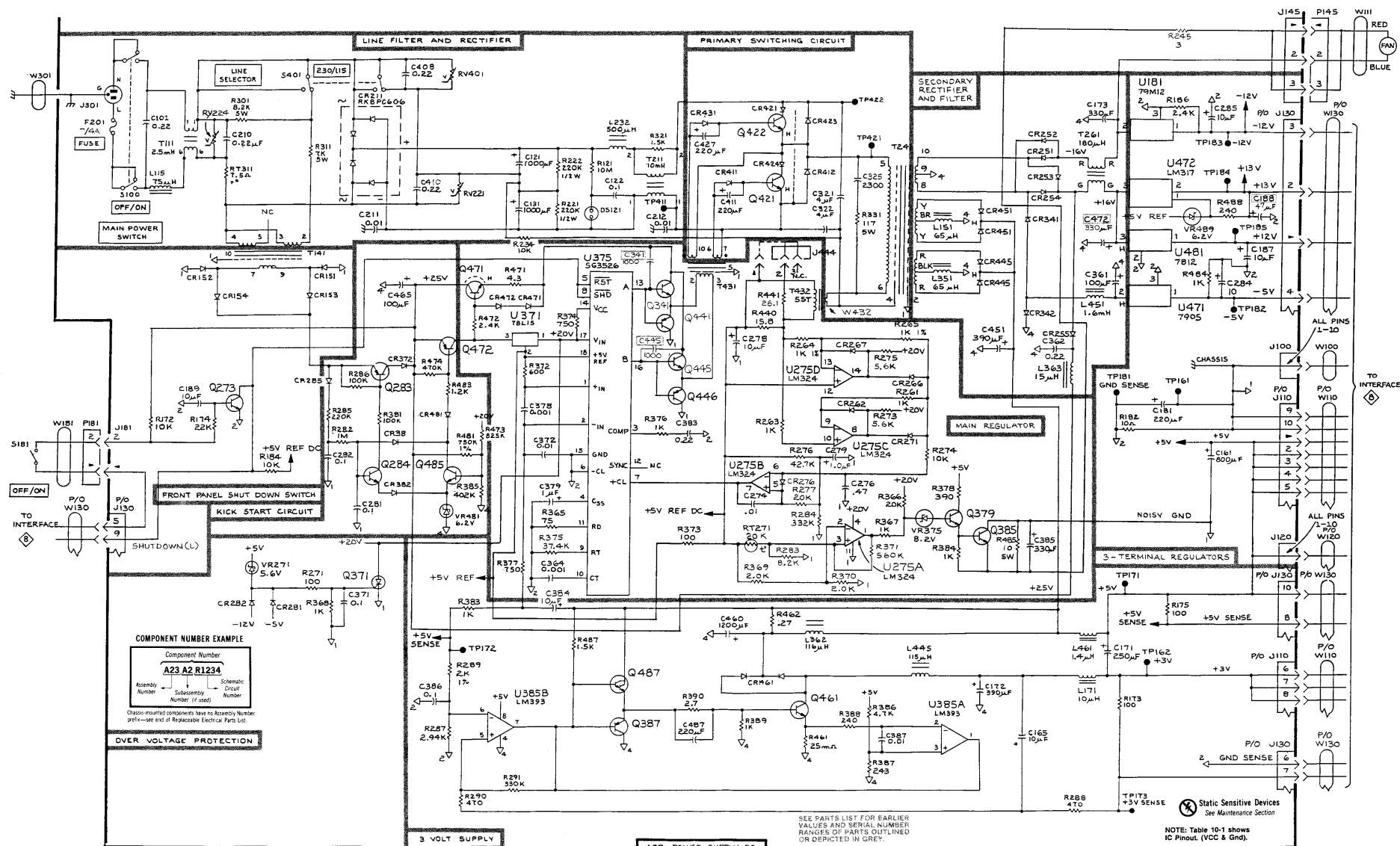
670-7534-06 POWER SUPPLY 5 — ASSEMBLY A07

| CIRCUIT<br>NUMBER | SCHEMATIC<br>LOCATION | BOARD<br>LOCATION | CIRCUIT<br>NUMBER | SCHEMATIC<br>LOCATION | BOARD<br>LOCATION | CIRCUIT<br>NUMBER | SCHEMATIC<br>LOCATION | BOARD<br>LOCATION |
|-------------------|-----------------------|-------------------|-------------------|-----------------------|-------------------|-------------------|-----------------------|-------------------|
| C101              | A1                    | A1                | F201              | A1                    | A2                | R373              | C4                    | E3                |
| C121              | C2                    | B1                | J100              | F3                    | D1                | R374              | C2                    | F3                |
| C122              | C2                    | B1                | J110              | F3                    | E1                | R375              | C4                    | F3                |
| C131              | C2                    | C1                | J110              | F5                    | E1                | R376              | C3                    | E3                |
| C161              | F3                    | E1                | J120              | F4                    | E1                | R377              | C4                    | E3                |
| C165              | E5                    | E2                | J130              | A4                    | F1                | R378              | E3                    | E3                |
| C171              | E4                    | E1                | J130              | F1                    | F1                | R381              | B3                    | F3                |
| C172              | E5                    | E1                | J130              | F5                    | F1                | R383              | C4                    | F3                |
| C173              | E1                    | E2                | J130              | F4                    | F1                | R384              | E4                    | F3                |
| C181              | F3                    | F1                | J145              | F1                    | D1                | R385              | C3                    | F3                |
| C187              | F2                    | F1                | J181              | A3                    | F1                | R386              | D5                    | F3                |
| *C188             | F2                    | F1                | J301              | A1                    | A3                | R387              | D5                    | F3                |
| C189              | A3                    | F2                | J444              | D2                    | C4                | R388              | D5                    | F3                |
| C210              | A1                    | A2                | L115              | A2                    | B1                | R389              | D5                    | F3                |
| C211              | B2                    | A2                | L151              | E2                    | D1                | R390              | D5                    | F3                |
| C212              | C2                    | A2                | L171              | E5                    | E1                | R440              | D2                    | C3                |
| C274              | D4                    | F2                | L232              | C1                    | C2                | R441              | D2                    | C3                |
| C276              | D3                    | F2                | L351              | E2                    | D3                | R461              | D5                    | E4                |
| C278              | D3                    | E3                | L362              | D4                    | D3                | R462              | D4                    | E3                |
| C279              | D3                    | F3                | L363              | E3                    | E3                | R471              | C2                    | E4                |
| C281              | B4                    | F2                | L445              | E5                    | D4                | R472              | C2                    | E4                |
| C282              | B3                    | F2                | L451              | E2                    | D3                | R473              | C3                    | E3                |
| C284              | F2                    | F2                | L461              | E4                    | E4                | R474              | B3                    | F4                |
| C285              | F1                    | F2                | Q273              | A3                    | E2                | R481              | C3                    | F3                |
| C321              | D2                    | B3                | Q283              | B3                    | F2                | R483              | B3                    | F4                |
| C322              | D2                    | B3                | Q284              | B3                    | F2                | R484              | F2                    | F4                |
| C325              | D2                    | B3                | Q341              | C2                    | C3                | R485              | E4                    | F4                |
| *C341             | C2                    | Back Bd.          | Q371              | B4                    | E3                | R487              | C4                    | F3                |
| C361              | E2                    | D3                | Q379              | E4                    | F3                | R488              | F2                    | F4                |
| C362              | E3                    | E3                | Q385              | E4                    | F3                | RT271             | D4                    | E2                |
| C364              | C4                    | E3                | Q387              | C5                    | F3                | RT311             | A2                    | B3                |
| C371              | B4                    | E3                | Q421              | D2                    | B4                | RV221             | B2                    | B2                |
| C372              | C3                    | E3                | Q422              | D1                    | B4                | RV224             | A1                    | B1                |
| C378              | C3                    | F3                | Q441              | C2                    | C3                | RV401             | B1                    | A4                |
| C379              | C4                    | E3                | Q445              | C3                    | C4                | S100              | A2                    | A1                |
| C383              | C3                    | F3                | Q446              | C3                    | C4                | S401              | B1                    | A3                |
| C384              | C4                    | F3                | Q461              | D5                    | D4                | T111              | A1                    | B1                |
| C385              | E4                    | F3                | Q471              | C2                    | E4                | T141              | B2                    | C1                |
| C386              | B5                    | F3                | Q472              | B3                    | E4                | T211              | C2                    | B2                |
| C387              | D5                    | F3                | Q485              | B3                    | F3                | T241              | D2                    | C2                |
| C408              | B1                    | A4                | Q487              | C5                    | F3                | T261              | E2                    | D2                |
| C410              | B2                    | A4                | R121              | C2                    | B2                | T431              | D2                    | C4                |
| C411              | D2                    | B4                | R172              | A3                    | E1                | T432              | D2                    | C3                |
| C427              | D1                    | B4                | R173              | E5                    | F1                | TP161             | F3                    | D1                |
| *C445             | C3                    | Back Bd.          | R174              | A3                    | F2                | TP162             | F4                    | E1                |
| C451              | E3                    | D4                | R175              | F4                    | F2                | TP171             | E4                    | E1                |
| C460              | D4                    | E3                | R182              | E3                    | F1                | TP172             | B4                    | F1                |
| C465              | B2                    | E4                | R184              | B3                    | F2                | TP173             | E5                    | F1                |
| *C472             | E2                    | E4                | R186              | F1                    | F2                | TP181             | E3                    | F1                |
| C487              | D5                    | F4                | R221              | C2                    | B2                | TP182             | F2                    | F1                |
| CR151             | B2                    | D1                | R222              | C2                    | B2                | TP183             | F1                    | F1                |
| CR152             | A2                    | D1                | R234              | C2                    | C2                | TP184             | F2                    | F1                |
| CR153             | B2                    | D1                | R245              | F1                    | D2                | TP185             | F2                    | F1                |
| CR154             | A2                    | D1                | R261              | D3                    | E2                | TP411             | C2                    | B4                |
| CR211             | B1                    | B2                | R263              | D3                    | E2                | TP421             | D1                    | B4                |
| CR251             | E1                    | D2                | R264              | D3                    | E2                | TP422             | D1                    | B4                |
| CR252             | E1                    | D2                | R265              | D3                    | E2                | U181              | F1                    | F2                |
| CR253             | E2                    | D2                | R271              | B4                    | E2                | U275A             | D4                    | E2                |
| CR254             | E2                    | D2                | R273              | D3                    | F2                | U275B             | D3                    | E2                |
| CR255             | E3                    | D2                | R274              | E3                    | F2                | U275C             | D3                    | E2                |
| CR262             | D3                    | E2                | R275              | D3                    | F2                | U275D             | D3                    | E2                |
| CR266             | D3                    | E2                | R276              | D3                    | F2                | U371              | C3                    | E3                |
| CR267             | D3                    | E2                | R277              | D4                    | F2                | U375              | C2                    | E3                |
| CR271             | D3                    | E2                | R282              | B3                    | F2                | U385A             | E5                    | F3                |
| CR276             | D3                    | F2                | R283              | D4                    | F2                | U385B             | C5                    | F3                |
| CR281             | B4                    | F2                | R284              | D4                    | F2                | U471              | F2                    | E4                |
| CR282             | B4                    | F2                | R285              | B3                    | F2                | U472              | F2                    | F4                |
| CR285             | B3                    | F2                | R286              | B3                    | F2                | U481              | F2                    | F4                |
| CR341             | E2                    | D3                | R287              | B5                    | F2                | VR271             | B4                    | E2                |
| CR342             | E2                    | D3                | R288              | E5                    | F2                | VR375             | E4                    | E3                |
| CR372             | B3                    | E3                | R289              | B4                    | F2                | VR481             | B4                    | F3                |
| CR381             | B3                    | F3                | R290              | B5                    | F2                | VR489             | F2                    | F4                |
| CR382             | B3                    | F3                | R291              | C5                    | F2                | W100              | F3                    | Off Bd.           |
| CR411             | D2                    | B4                | R301              | B1                    | A3                | W110              | F3                    | Off Bd.           |
| CR412             | D2                    | B4                | R311              | B1                    | A3                | W110              | F5                    | Off Bd.           |
| CR421             | D1                    | B4                | R321              | C1                    | B3                | W111              | F1                    | Off Bd.           |
| CR423             | D1                    | B4                | R331              | D2                    | C3                | W120              | F4                    | Off Bd.           |
| CR424             | D2                    | B4                | R365              | C4                    | E3                | W130              | A4                    | Off Bd.           |
| CR431             | D1                    | C4                | R366              | D4                    | E3                | W130              | F1                    | Off Bd.           |
| CR445             | E2                    | D4                | R367              | D4                    | E3                | W130              | F4                    | Off Bd.           |
| CR451             | E2                    | D4                | R368              | B4                    | E3                | W130              | F5                    | Off Bd.           |
| CR461             | D5                    | E4                | R369              | D4                    | E2                | W181              | A3                    | Off Bd.           |
| CR471             | C2                    | E4                | R370              | D4                    | E2 Back           | W301              | A1                    | Off Bd.           |
| CR472             | C2                    | E4                | R371              | D4                    | E2 Back           | W421              | Not Shown             | B4                |
| CR481             | B3                    | F4                | R372              | C3                    | E3                | W432              | D2                    | C3                |
| DS121             | C2                    | B1                |                   |                       |                   |                   |                       |                   |

\*SEE PARTS LIST FOR SERIAL NUMBER RANGES.

A B C D E F

1  
2  
3  
4  
5



A07 POWER SUPPLY  
670-7534-06



1240 SERVICE

4717-644

670-7534-06 and ABOVE POWER SUPPLY



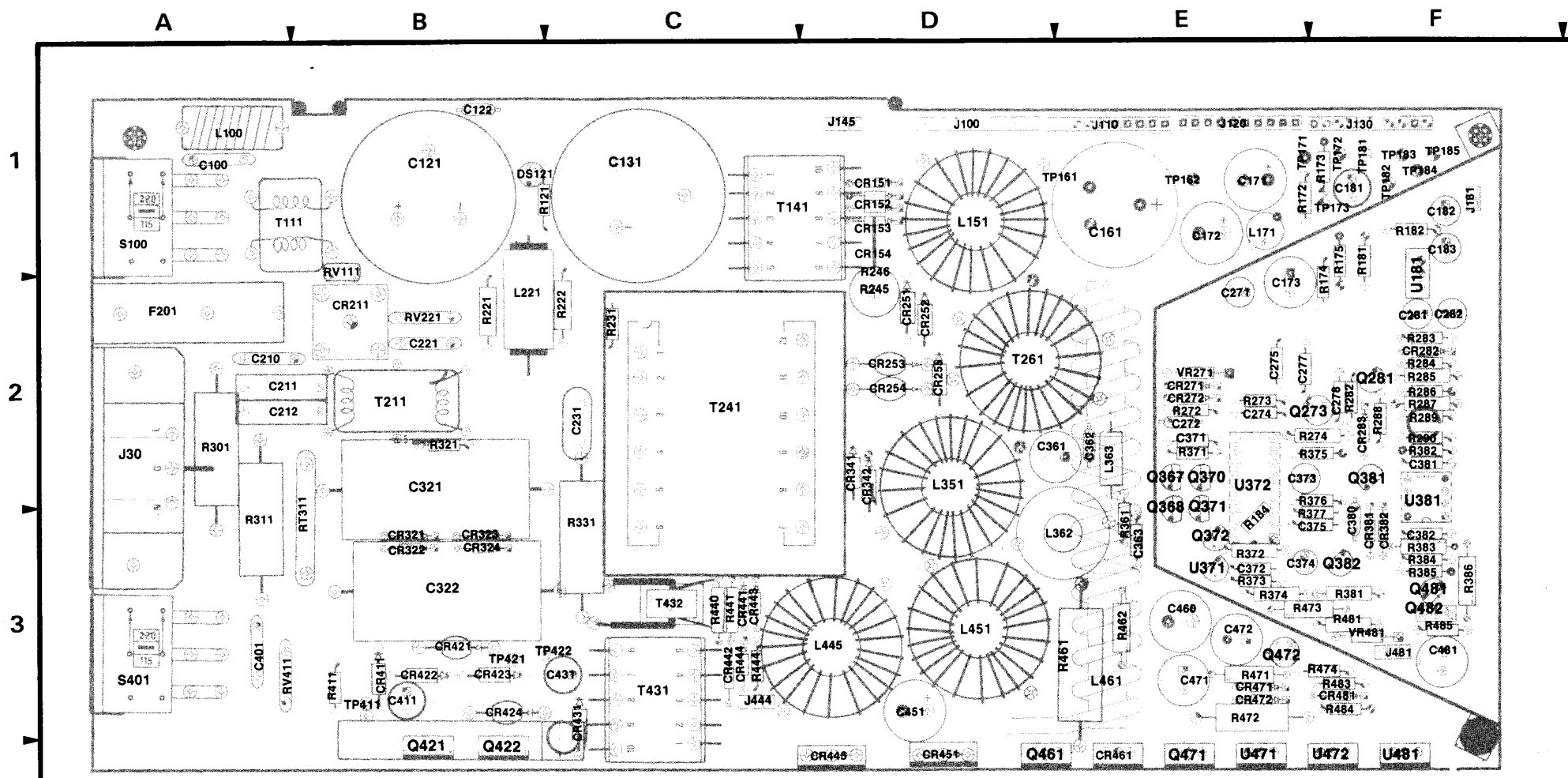


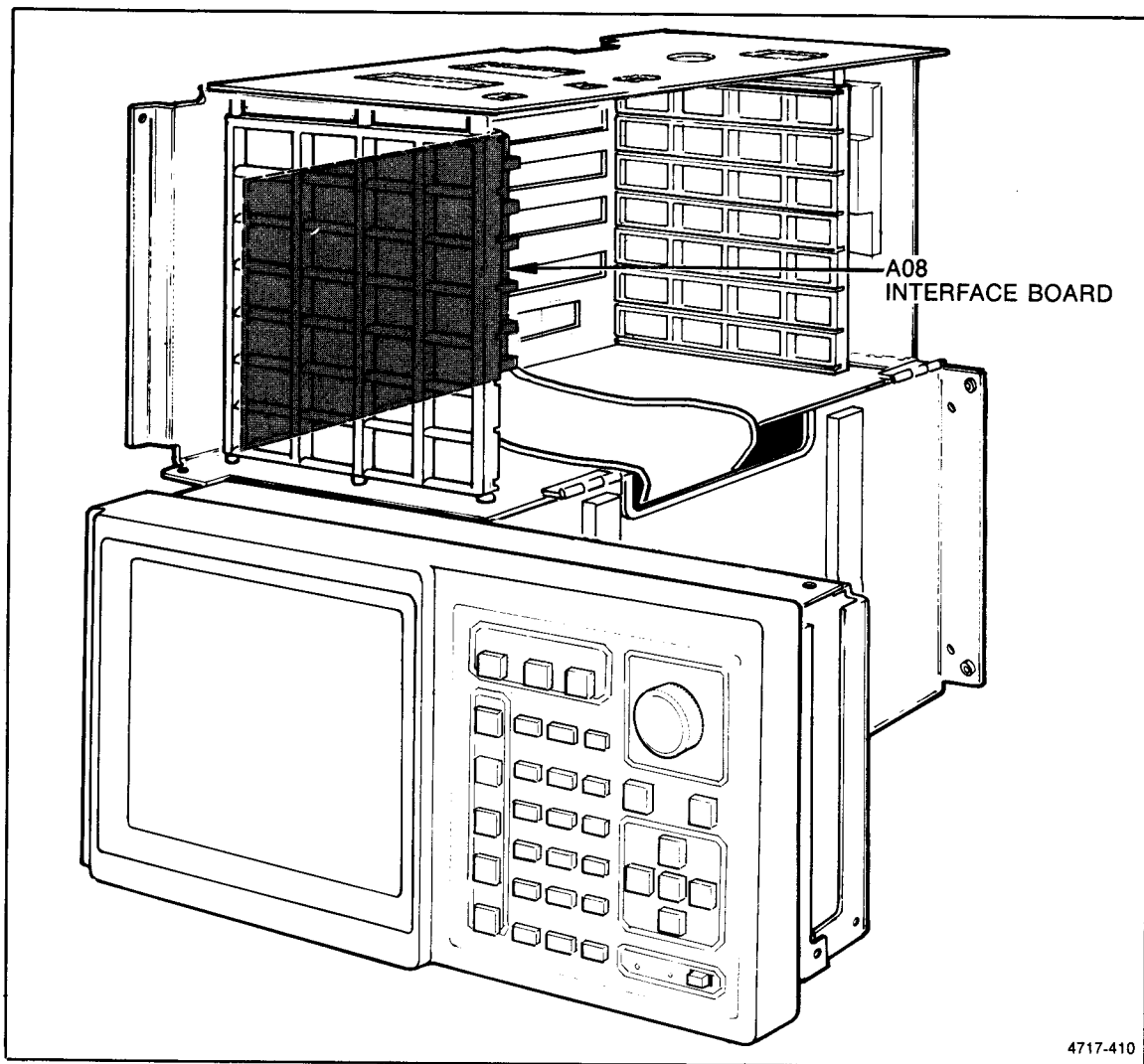
Figure 10-7A. A07 Power Supply Board Component Locations (670-7534-05).

Table 10-5A

670-7534-05 POWER SUPPLY  — ASSEMBLY A07

| CIRCUIT<br>NUMBER | SCHEMATIC<br>LOCATION | BOARD<br>LOCATION | CIRCUIT<br>NUMBER | SCHEMATIC<br>LOCATION | BOARD<br>LOCATION | CIRCUIT<br>NUMBER | SCHEMATIC<br>LOCATION | BOARD<br>LOCATION |
|-------------------|-----------------------|-------------------|-------------------|-----------------------|-------------------|-------------------|-----------------------|-------------------|
| C100              | A1                    | A1                | CR444             | D3                    | C3                | R361              | D3                    | E3                |
| C121              | C2                    | B1                | CR445             | E2                    | D3                | R371              | B5                    | E2                |
| C122              | C2                    | B1                | CR451             | E2                    | D3                | R372              | C3                    | E3                |
| C131              | C2                    | C1                | CR461             | D5                    | E3                | R373              | D3                    | E3                |
| C161              | F3                    | E1                | CR471             | C2                    | E3                | R374              | C3                    | E3                |
| C171              | E4                    | E1                | CR472             | C2                    | E3                | R375              | C4                    | F2                |
| C172              | E5                    | E1                | CR481             | B3                    | F3                | R376              | C4                    | F2                |
| C173              | E1                    | E2                | DS121             | C2                    | B1                | R377              | C3                    | F3                |
| C181              | F3                    | F1                | F201              | A1                    | A2                | R381              | C3                    | F3                |
| C182              | F2                    | F1                | J100              | F3                    | D1                | R382              | D5                    | F2                |
| C183              | F2                    | F1                | J110              | F3                    | E1                | R383              | D5                    | F3                |
| C210              | A1                    | A2                | J110              | F5                    | E1                | R384              | D5                    | F3                |
| C211              | B2                    | A2                | J120              | F4                    | E1                | R385              | D5                    | F3                |
| C212              | C2                    | A2                | J130              | F5                    | F1                | R386              | D5                    | F3                |
| C221              | B2                    | B2                | J130              | F4                    | F1                | R411              | B2                    | B3                |
| C231              | D2                    | C2                | J130              | F1                    | F1                | R440              | D3                    | C3                |
| C271              | E5                    | E2                | J145              | F1                    | D1                | R441              | D2                    | C3                |
| C272              | B5                    | E2                | J181              | A3                    | F1                | R444              | D3                    | C3                |
| C274              | C4                    | E2                | J301              | A1                    | A2                | R461              | D5                    | E3                |
| C275              | A3                    | E2                | J444              | D2                    | C3                | R462              | D4                    | E3                |
| C277              | B3                    | E2                | J481              | A4                    | F3                | R471              | C2                    | E3                |
| C278              | B4                    | F2                | L100              | A2                    | A1                | R472              | C2                    | E3                |
| C281              | F2                    | F2                | L151              | E2                    | D1                | R473              | C2                    | F3                |
| C282              | F1                    | F2                | L171              | E5                    | E1                | R474              | B3                    | F3                |
| C321              | D2                    | B2                | L221              | C1                    | B2                | R481              | C3                    | F3                |
| C322              | D2                    | B3                | L351              | E2                    | D2                | R483              | B3                    | F3                |
| C361              | E2                    | D2                | L362              | D4                    | E3                | R484              | F2                    | F3                |
| C362              | E3                    | E2                | L363              | E3                    | E2                | R485              | C4                    | F3                |
| C363              | D3                    | E3                | L445              | E5                    | D3                | RT311             | A2                    | B3                |
| C371              | D3                    | E2                | L451              | E2                    | D3                | RV111             | A1                    | B1                |
| C372              | C3                    | E3                | L461              | E4                    | E3                | RV221             | B2                    | B2                |
| C373              | C4                    | F2                | Q273              | A3                    | F2                | RV411             | B1                    | A3                |
| C374              | C4                    | F3                | Q281              | B3                    | F2                | S100              | A2                    | A1                |
| C375              | C3                    | F3                | Q367              | C2                    | E2                | S181              | A3                    | Off Board         |
| C380              | D3                    | F3                | Q368              | C3                    | E2                | S401              | B1                    | A3                |
| C381              | B5                    | F2                | Q370              | C2                    | E2                | T111              | A1                    | A1                |
| C382              | D5                    | F3                | Q371              | C3                    | E2                | T141              | B2                    | C1                |
| C401              | B1                    | A3                | Q372              | B4                    | E3                | T211              | C2                    | B2                |
| C411              | D2                    | B3                | Q381              | B3                    | F2                | T241              | D2                    | C2                |
| C431              | D1                    | C3                | Q382              | B3                    | F3                | T261              | E2                    | D2                |
| C451              | E3                    | D3                | Q421              | D2                    | B3                | T431              | D2                    | C3                |
| C460              | D4                    | E3                | Q422              | D1                    | B3                | T432              | D2                    | C3                |
| C471              | B2                    | E3                | Q461              | D5                    | E3                | TP161             | F3                    | D1                |
| C472              | E2                    | E3                | Q471              | C2                    | E3                | TP162             | E4                    | E1                |
| C481              | D5                    | F3                | Q472              | B3                    | E3                | TP171             | E4                    | E1                |
| CR151             | B2                    | D1                | Q481              | C5                    | F3                | TP172             | C4                    | F1                |
| CR152             | A2                    | D1                | Q482              | C5                    | F3                | TP173             | F5                    | F1                |
| CR153             | B3                    | D1                | R121              | C2                    | B1                | TP181             | E3                    | F1                |
| CR154             | A3                    | D1                | R172              | A3                    | E1                | TP182             | F2                    | F1                |
| CR211             | B1                    | B2                | R173              | E5                    | F1                | TP183             | F1                    | F1                |
| CR251             | E1                    | D2                | R174              | A3                    | F1                | TP184             | F2                    | F1                |
| CR252             | E2                    | D2                | R175              | F4                    | F1                | TP185             | F2                    | F1                |
| CR253             | E2                    | D2                | R181              | F1                    | F1                | TP411             | C2                    | B3                |
| CR254             | E2                    | D2                | R182              | E3                    | F1                | TP421             | D1                    | B3                |
| CR255             | E3                    | D2                | *R184             | B3                    | E3                | TP422             | D1                    | C3                |
| CR271             | A5                    | E2                | R221              | C2                    | B2                | U181              | F1                    | F1                |
| CR272             | A5                    | E2                | R222              | C2                    | C2                | U371              | C3                    | E3                |
| CR282             | B3                    | F2                | R231              | C2                    | C2                | U372              | C2                    | E2                |
| CR283             | B3                    | F2                | R245              | E1                    | D2                | U381A             | E5                    | F2                |
| CR321             | B2                    | B3                | *R246             | F1                    | D2                | U381B             | C5                    | F2                |
| CR322             | B2                    | B3                | R272              | B4                    | E2                | U471              | F2                    | E3                |
| CR323             | B2                    | B3                | R273              | C4                    | E2                | U472              | F2                    | F3                |
| CR324             | B2                    | B3                | R274              | C4                    | F2                | U481              | F2                    | F3                |
| CR341             | E2                    | D2                | R282              | B3                    | F2                | VR271             | A4                    | E2                |
| CR342             | E2                    | D2                | R283              | B3                    | F2                | VR481             | B4                    | F3                |
| CR381             | B3                    | F3                | R284              | B3                    | F2                | W100              | F3                    | Off Board         |
| CR382             | B3                    | F3                | R285              | B5                    | F2                | W110              | F3                    | Off Board         |
| CR411             | D2                    | B3                | R286              | E5                    | F2                | W110              | F5                    | Off Board         |
| CR421             | D1                    | B3                | R287              | B5                    | F2                | W111              | F1                    | Off Board         |
| CR422             | D2                    | B3                | R288              | B3                    | F2                | W120              | F4                    | Off Board         |
| CR423             | D1                    | B3                | R289              | C5                    | F2                | W130              | F1                    | Off Board         |
| CR424             | D2                    | B3                | R290              | C5                    | F2                | W130              | F4                    | Off Board         |
| CR431             | D1                    | C3                | R301              | B1                    | A2                | W130              | F5                    | Off Board         |
| CR441             | D3                    | C3                | R311              | B1                    | A3                | W181              | A3                    | Off Board         |
| CR442             | D3                    | C3                | R321              | C1                    | B2                | W301              | A1                    | Off Board         |
| CR443             | D3                    | C3                | R331              | D2                    | C3                |                   |                       |                   |

\*SEE PARTS LIST FOR SERIAL NUMBER RANGES.



**Figure 10-10. A08 Interface Board Card Cage Location.**

A B C D E F

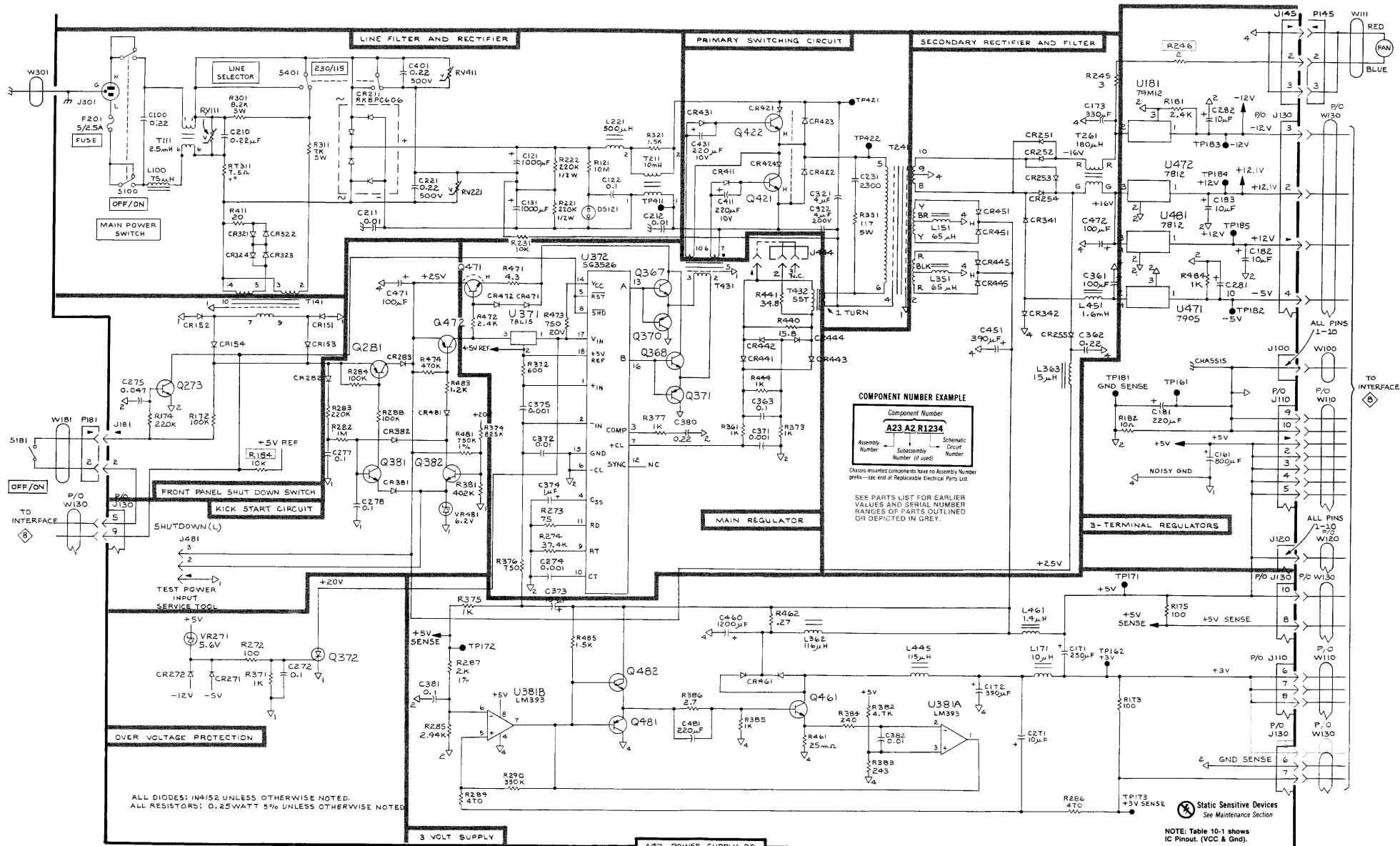
1

2

3

4

5



1240 SERVICE

4717-605  
REV JULY 1986

670-7534-05 POWER SUPPLY

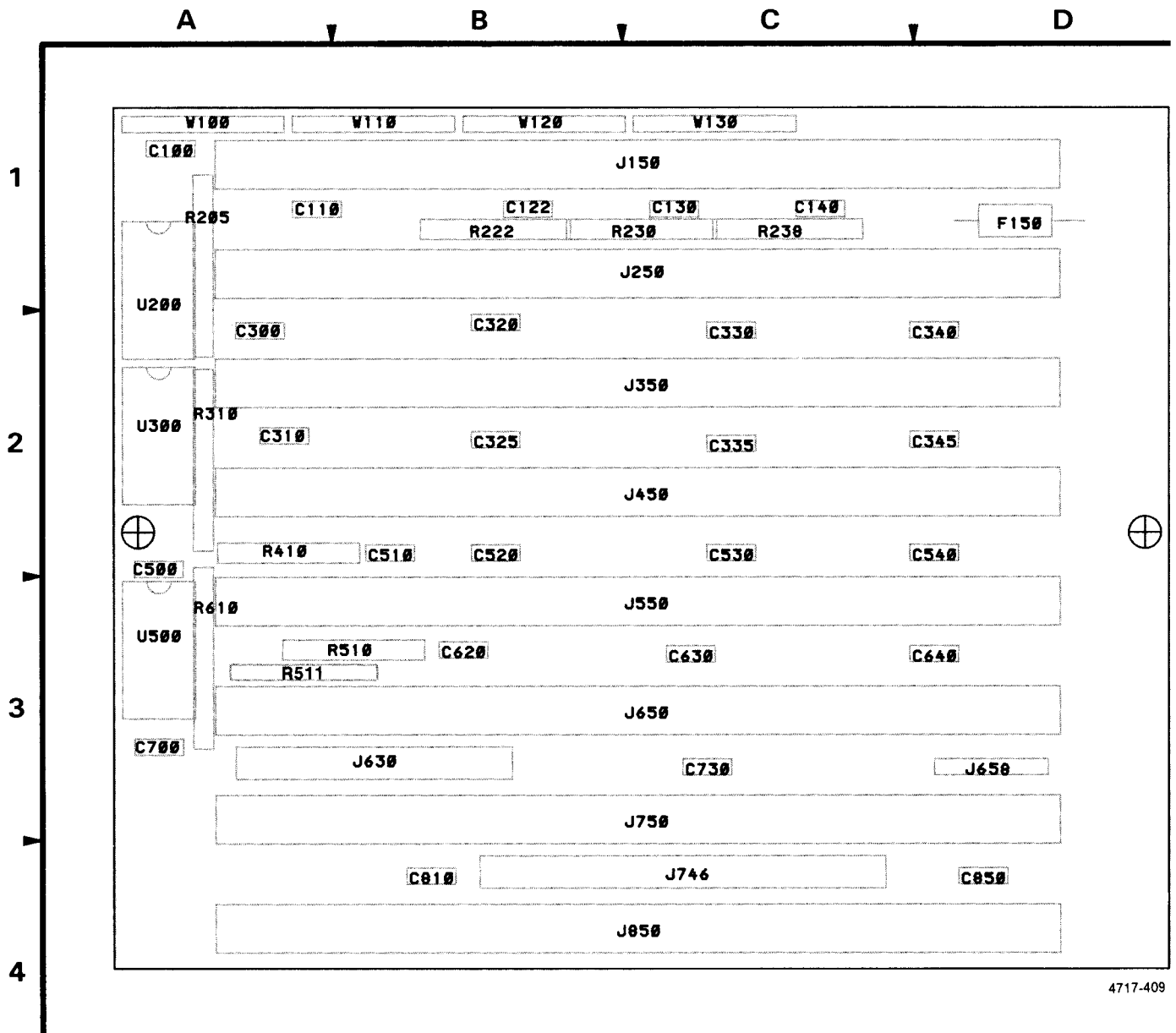


Figure 10-9. A08 Interface Board Component Locations.

Table 10-6

 INTERFACE  — ASSEMBLY A08

| CIRCUIT<br>NUMBER | SCHEMATIC<br>LOCATION | BOARD<br>LOCATION | CIRCUIT<br>NUMBER | SCHEMATIC<br>LOCATION | BOARD<br>LOCATION |
|-------------------|-----------------------|-------------------|-------------------|-----------------------|-------------------|
| J150              | F1                    | B1                | J850              | A1                    | B3                |
| J250              | E1                    | B1                | R238A             | E4                    | C1                |
| J350              | E1                    | B2                | R238B             | E4                    | C1                |
| J450              | D1                    | B2                | R238C             | E5                    | C1                |
| J550              | D1                    | B2                | R238D             | E5                    | C1                |
| J650              | C1                    | B3                | R238E             | E5                    | C1                |
| J746              | A5                    | B3                | R238F             | E5                    | C1                |
| J750              | B1                    | B3                |                   |                       |                   |

A B C D E F

CONTROL PROCESSOR  
P/O J850  
A B

I/O PROCESSOR  
P/O J750  
A B

DISPLAY  
P/O J650  
A B

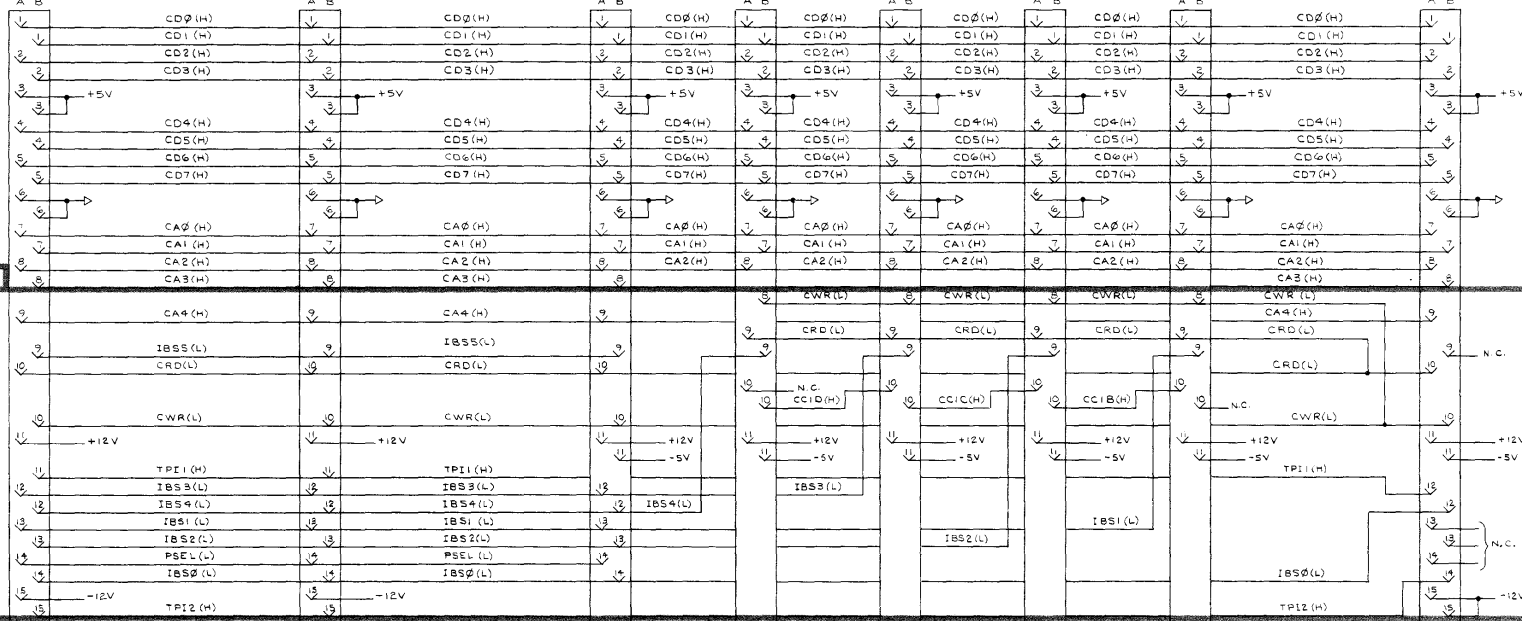
ACQUISITION 3  
P/O J550  
A B

ACQUISITION 2  
P/O J450  
A B

ACQUISITION 1  
P/O J350  
A B

ACQUISITION 0  
P/O J250  
A B

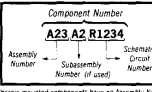
TRIGGER  
P/O J150  
A B



CONTROL PROCESSOR BUS  
CONTROL SIGNALS

I/O PROCESSOR BUS

COMPONENT NUMBER EXAMPLE



P/O A08 INTERFACE BD.

\* FROM 30 OR 33 CHAIN DATA BUS DENOTES  
A FOR J250B; B FOR J250A & J350B;  
C FOR J350A & J450B; D FOR J450A & J550B.

SEE PARTS LIST FOR EARLIER  
VALUES AND SERIAL NUMBER  
RANGES OF PARTS OUTLINED  
OR DEPICTED IN GREY.

P/O A08 INTERFACE

6

1240 SERVICE

4717-606  
REV JULY 1986

INTERFACE

Table 10-7

INTERFACE  — ASSEMBLY A08

| CIRCUIT<br>NUMBER | SCHEMATIC<br>LOCATION | BOARD<br>LOCATION | CIRCUIT<br>NUMBER | SCHEMATIC<br>LOCATION | BOARD<br>LOCATION |
|-------------------|-----------------------|-------------------|-------------------|-----------------------|-------------------|
| J150              | F1                    | B1                | R222D             | E4                    | B1                |
| J250              | E1                    | B1                | R222E             | E4                    | B1                |
| J350              | E1                    | B2                | R222F             | E4                    | B1                |
| J450              | D1                    | B2                | R230A             | E1                    | B1                |
| J550              | D1                    | B2                | R230B             | E2                    | B1                |
| J630              | C5                    | A3                | R230C             | E2                    | B1                |
| J650              | C1                    | B3                | R230D             | E2                    | B1                |
| J746              | A1                    | B3                | R230E             | E2                    | B1                |
| J750              | B1                    | B3                | R230F             | E3                    | B1                |
| J850              | A1                    | B3                | R230G             | E3                    | B1                |
| R222A             | E3                    | B1                | R238G             | E1                    | C1                |
| R222B             | E3                    | B1                | R510A             | F5                    | A2                |
| R222C             | E4                    | B1                | R510B             | F5                    | A2                |



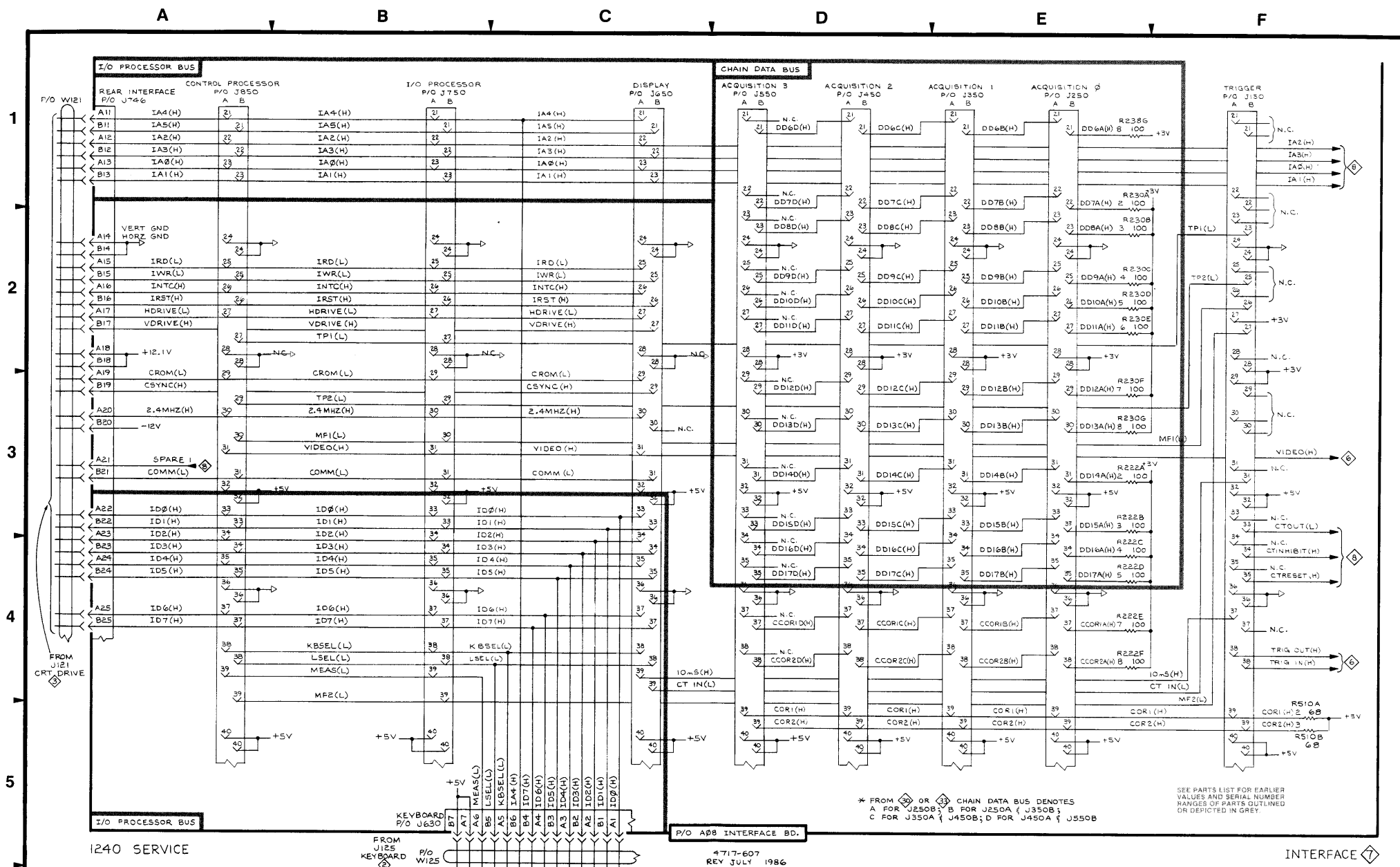


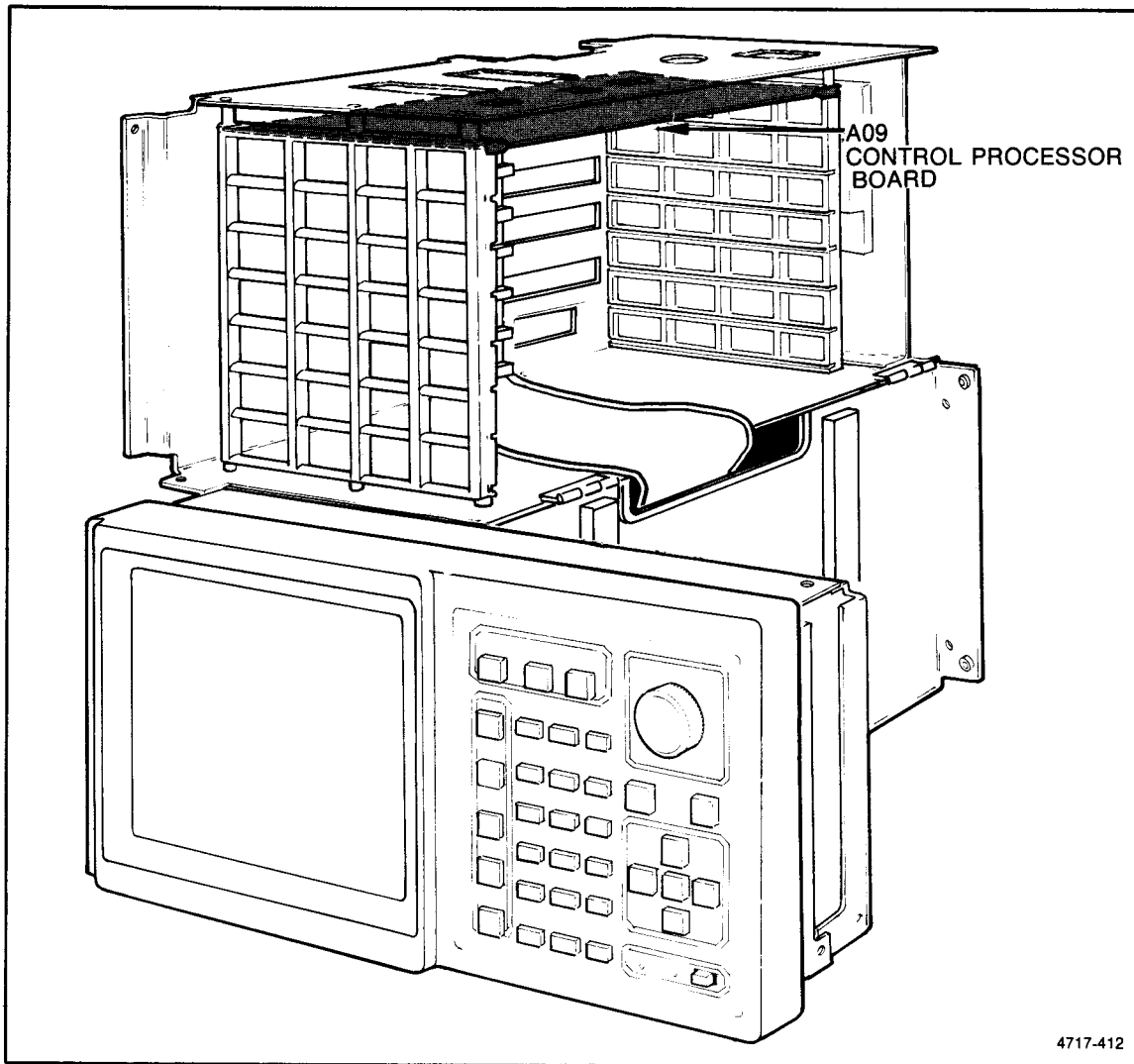
Table 10-8

INTERFACE  — ASSEMBLY A08

| CIRCUIT<br>NUMBER | SCHEMATIC<br>LOCATION | BOARD<br>LOCATION | CIRCUIT<br>NUMBER | SCHEMATIC<br>LOCATION | BOARD<br>LOCATION |
|-------------------|-----------------------|-------------------|-------------------|-----------------------|-------------------|
| C100              | F3                    | A1                | R205F             | E3                    | A1                |
| C110              | F3                    | A1                | R205G             | D3                    | A1                |
| C122              | F4                    | B1                | R205H             | D3                    | A1                |
| C130              | F4                    | B1                | R205I             | D1                    | A1                |
| C140              | F3                    | C1                | R310A             | E3                    | A2                |
| C300              | F4                    | A1                | R310B             | E3                    | A2                |
| C310              | F4                    | A2                | R310C             | E4                    | A2                |
| C320              | F4                    | B1                | R310D             | E4                    | A2                |
| C325              | F4                    | B2                | R310E             | D4                    | A2                |
| C330              | F4                    | B1                | R310F             | D3                    | A2                |
| C335              | F3                    | B2                | R310G             | D4                    | A2                |
| C340              | F3                    | C1                | R310I             | D3                    | A2                |
| C345              | F3                    | C2                | *R410A            | F3                    | A2                |
| C500              | F3                    | A2                | *R410B            | F4                    | A2                |
| C510              | F4                    | A2                | *R410C            | F4                    | A2                |
| C520              | F4                    | B2                | *R410D            | F5                    | A2                |
| C530              | F4                    | B2                | *R410E            | F5                    | A2                |
| C540              | F3                    | C2                | *R410F            | F5                    | A2                |
| C620              | F4                    | B2                | *R410G            | F5                    | A2                |
| C630              | A2                    | B2                | R510C             | F1                    | A2                |
| C640              | F4                    | C2                | R510D             | F1                    | A2                |
| C700              | F4                    | A3                | R510E             | F3                    | A2                |
| C730              | F4                    | B3                | R510F             | F4                    | A2                |
| C810              | F4                    | B3                | R510G             | F4                    | A2                |
| C850              | F4                    | C3                | *R511D            | F3                    | A3                |
| F150              | E5                    | C1                | *R511E            | F4                    | A3                |
| J150              | F1                    | B1                | *R511F            | F4                    | A3                |
| J250              | E1                    | B1                | R610B             | E2                    | A2                |
| J350              | E1                    | B2                | R610C             | E2                    | A2                |
| J450              | D1                    | B2                | R610D             | E2                    | A2                |
| J550              | D1                    | B2                | R610E             | E2                    | A2                |
| J630              | C2                    | A3                | R610F             | D2                    | A2                |
| J650              | C2                    | B3                | R610G             | D2                    | A2                |
| J658              | B5                    | C3                | R610H             | D3                    | A2                |
| J658              | E5                    | C3                | R610I             | D3                    | A2                |
| J658              | C5                    | C3                | U200A             | E1                    | A1                |
| J658              | A5                    | C3                | U200B             | E3                    | A1                |
| J750              | B2                    | B3                | U300              | F4                    | A2                |
| J850              | A2                    | B3                | U500              | F2                    | A2                |
| R205B             | E1                    | A1                | W100              | A5                    | A1                |
| R205C             | E1                    | A1                | W110              | B5                    | A1                |
| R205D             | E3                    | A1                | W120              | C5                    | B1                |
| R205E             | D1                    | A1                | W130              | D5                    | B1                |

\*SEE PARTS LIST FOR SERIAL NUMBER RANGES.





**Figure 10-12. A09 Control Processor Board Card Cage Location.**

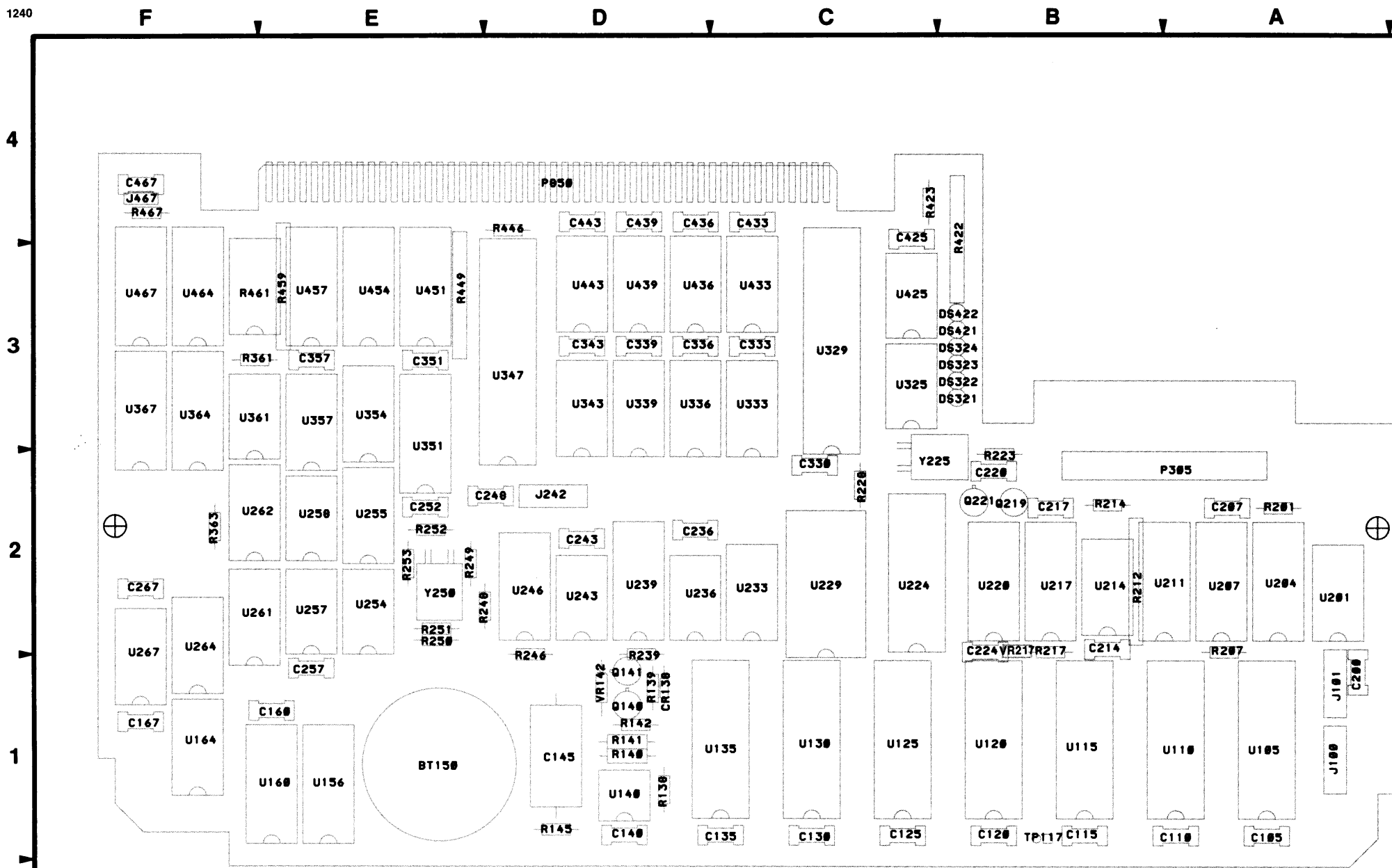


Figure 10-11. A09 Control Processor Board Component Locations.

Table 10-9

8088 CPU AND BUFFERS  — CONTROL PROCESSOR BOARD, ASSEMBLY A09

| CIRCUIT<br>NUMBER | SCHEMATIC<br>LOCATION | BOARD<br>LOCATION | CIRCUIT<br>NUMBER | SCHEMATIC<br>LOCATION | BOARD<br>LOCATION |
|-------------------|-----------------------|-------------------|-------------------|-----------------------|-------------------|
| J100              | D2                    | A1                | R461              | B3                    | F4                |
| J100              | C4                    | A1                | R467              | B5                    | F4                |
| J101              | D3                    | A2                | U204              | F1                    | A2                |
| J101              | C4                    | A2                | U207              | F2                    | A2                |
| J242              | C4                    | D3                | U211              | B5                    | A2                |
| J467              | B5                    | F4                | U246              | B2                    | D2                |
| P305              | F1                    | A3                | U254B             | D4                    | E2                |
| P305              | A4                    | A3                | U254C             | D2                    | E2                |
| P850              | A3                    | D4                | U255A             | D4                    | E2                |
| P850              | F3                    | D4                | U255B             | E4                    | E2                |
| R201              | F2                    | A2                | U257C             | E4                    | E2                |
| R207              | F3                    | A2                | U257D             | E4                    | E2                |
| R212              | A4                    | B2                | U258A             | E3                    | E2                |
| R246              | B2                    | D2                | U258B             | E4                    | E2                |
| R248              | B2                    | D2                | U347              | C2                    | D3                |
| R249              | B1                    | E2                | U351              | C2                    | E3                |
| R250              | B2                    | E2                | U354              | C3                    | E3                |
| R251              | B2                    | E2                | U357              | F4                    | E3                |
| R252              | C2                    | E2                | U361B             | D3                    | F3                |
| R253              | B1                    | E2                | U361D             | E4                    | F3                |
| R361              | F4                    | F3                | U451              | C4                    | E4                |
| R446              | C5                    | D4                | U454              | F3                    | E4                |
| R449              | B4                    | E4                | U457              | B3                    | E4                |
| R459              | A3                    | E4                | Y250              | B1                    | E2                |

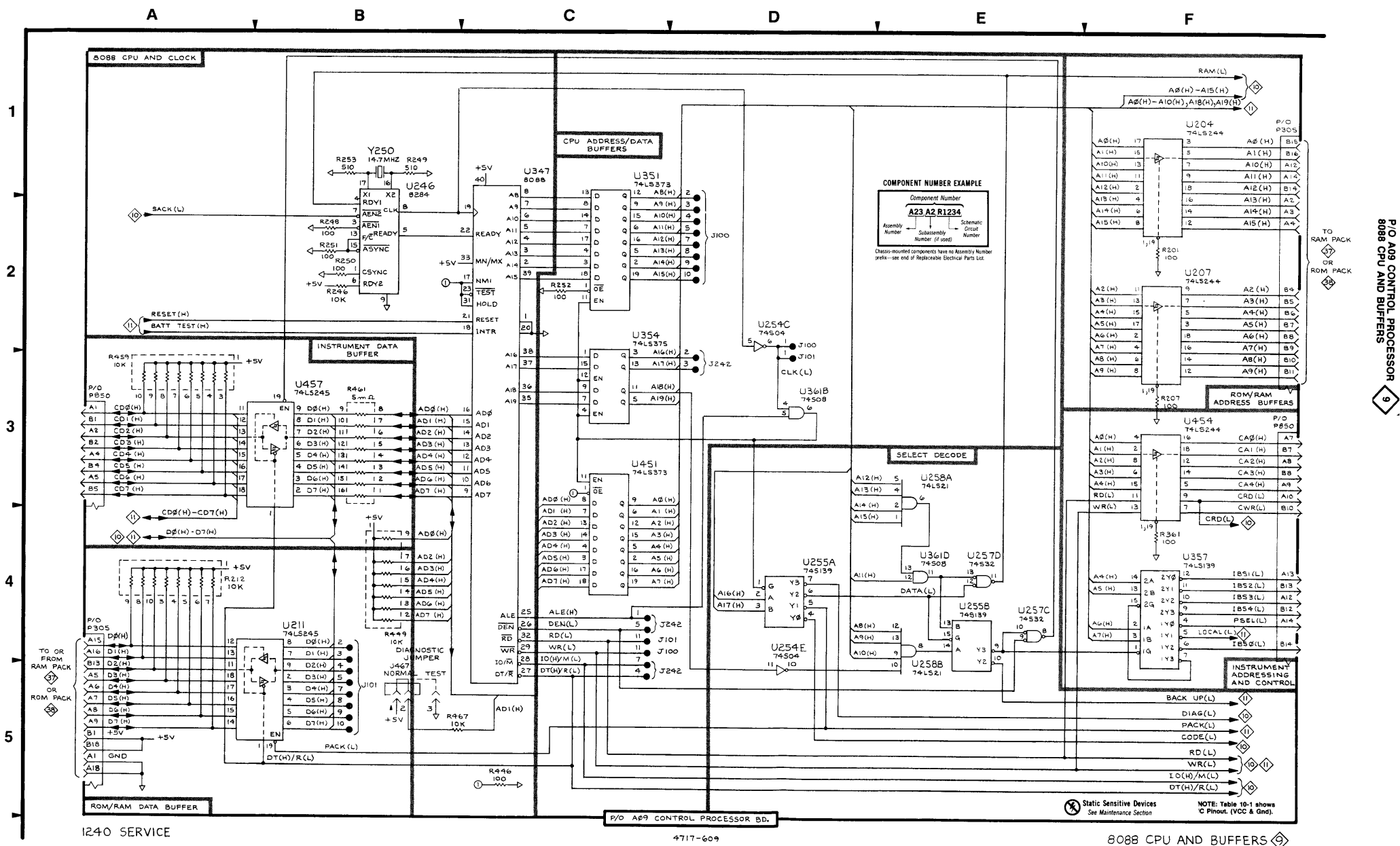


Table 10-10

ROMS AND RAMS  — CONTROL PROCESSOR BOARD, ASSEMBLY A09

| CIRCUIT<br>NUMBER | SCHEMATIC<br>LOCATION | BOARD<br>LOCATION | CIRCUIT<br>NUMBER | SCHEMATIC<br>LOCATION | BOARD<br>LOCATION |
|-------------------|-----------------------|-------------------|-------------------|-----------------------|-------------------|
| C105              | F1                    | A1                | J242              | C5                    | D3                |
| C110              | F1                    | A1                | R214              | A4                    | B2                |
| C115              | F1                    | B1                | R223              | C3                    | B3                |
| C120              | F1                    | B1                | R228              | C3                    | C3                |
| C125              | F1                    | C1                | R423              | B5                    | B4                |
| C130              | F1                    | C1                | U105              | C1                    | A1                |
| C135              | F1                    | C1                | U110              | D1                    | A1                |
| C140              | F1                    | D1                | U115              | D1                    | B1                |
| C160              | F1                    | E1                | U120              | D1                    | B1                |
| C167              | F1                    | F1                | U125              | D2                    | C1                |
| C200              | F1                    | A2                | U130              | D2                    | C1                |
| C207              | F1                    | A2                | U135              | E2                    | C1                |
| C214              | F1                    | B2                | U214B             | B4                    | B2                |
| C217              | F1                    | B2                | U224              | D2                    | C2                |
| C220              | F1                    | B3                | U233A             | C1                    | C2                |
| C224              | F1                    | B2                | U233B             | C2                    | C2                |
| C236              | F1                    | D2                | U236A             | B5                    | D2                |
| C243              | F1                    | D2                | U236C             | A5                    | D2                |
| C248              | F1                    | D3                | U239              | F3                    | D2                |
| C252              | F1                    | E2                | U243C             | E5                    | D2                |
| C257              | F1                    | E2                | U254D             | B5                    | E2                |
| C267              | F1                    | F2                | U257A             | F5                    | E2                |
| C330              | F1                    | C3                | U325A             | B4                    | C3                |
| C333              | D4                    | C3                | U325B             | B5                    | C3                |
| C336              | D4                    | D3                | U329              | C3                    | C3                |
| C339              | D4                    | D3                | U333              | D4                    | C3                |
| C343              | D4                    | D3                | U336              | E4                    | D3                |
| C351              | F1                    | E3                | U339              | E4                    | D3                |
| C357              | F1                    | E3                | U343              | D4                    | D3                |
| C425              | F1                    | C4                | U361C             | B4                    | F3                |
| C433              | D4                    | C4                | U425B             | B4                    | C3                |
| C436              | D4                    | D4                | U433              | D3                    | C4                |
| C439              | D4                    | D4                | U436              | D4                    | D4                |
| C443              | D4                    | D4                | U439              | E4                    | D4                |
| C467              | F1                    | F4                | U443              | E3                    | D4                |
| J242              | C4                    | D3                | Y225              | C3                    | C3                |
| J242              | B4                    | D3                |                   |                       |                   |



A

B

C

D

E

F

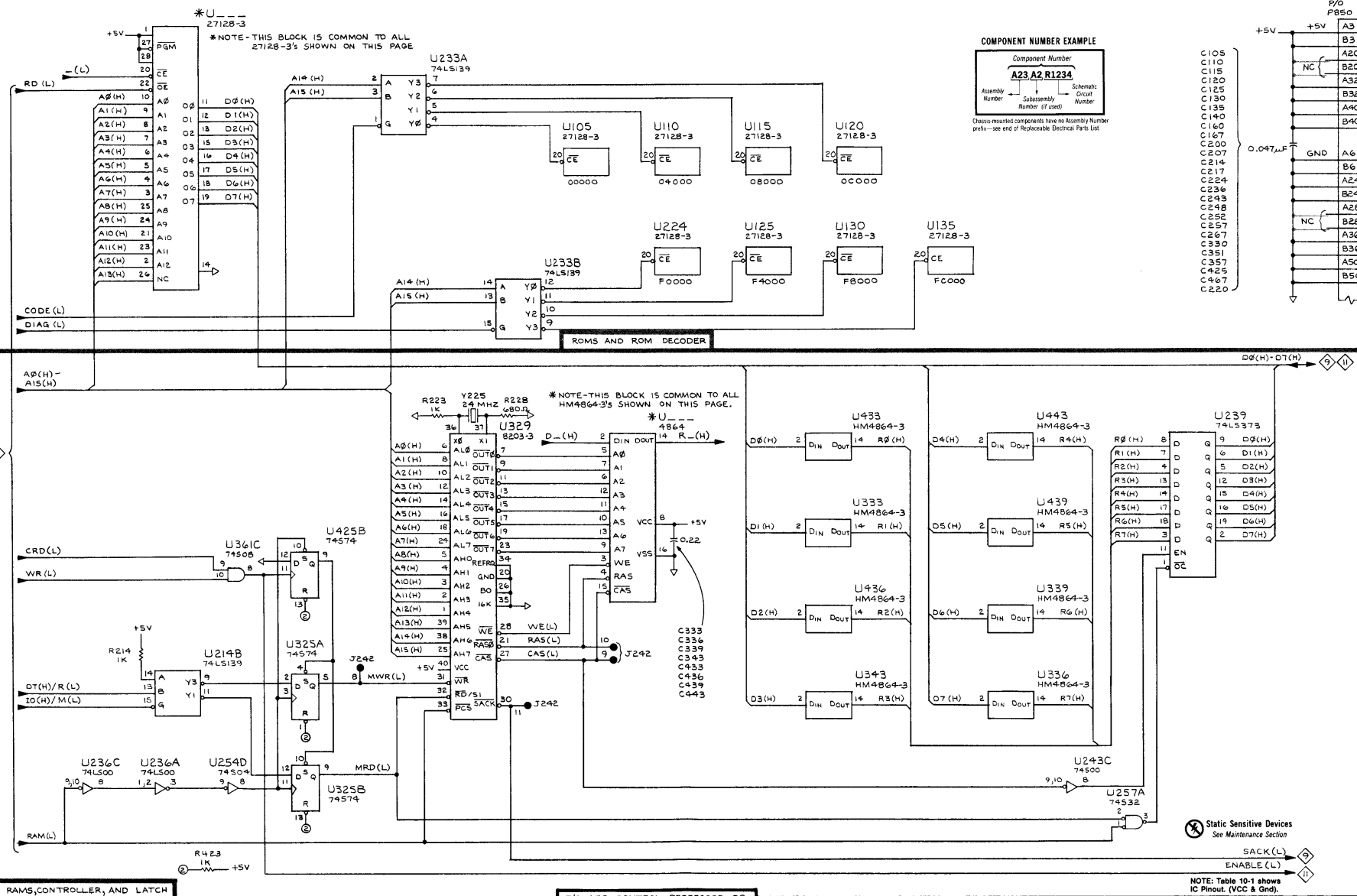
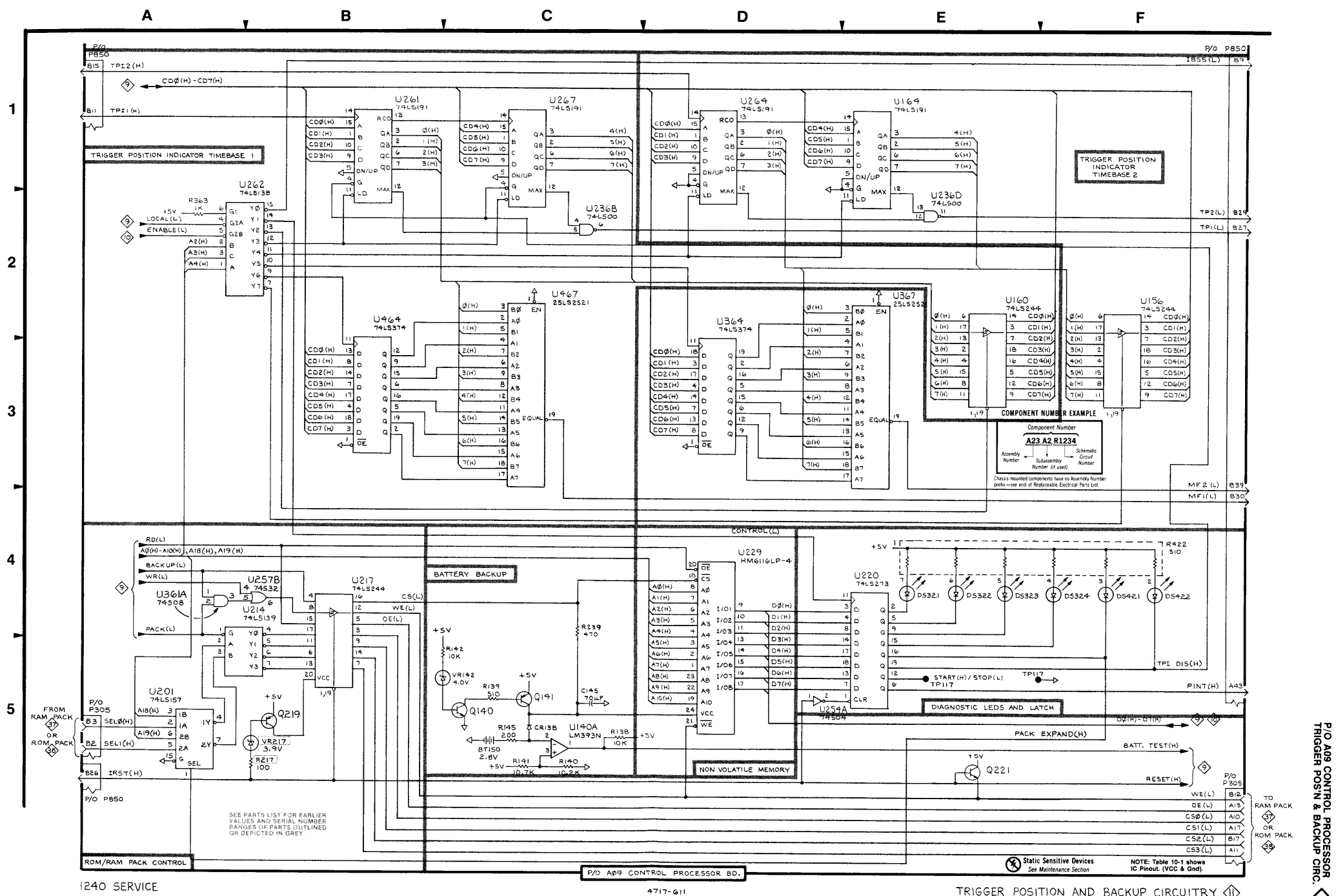


Table 10-11

 TRIGGER POS'N & BACKUP CIRCUITRY 11 - CTRL. PROCESSOR BD., ASBLY. A09

| CIRCUIT<br>NUMBER | SCHEMATIC<br>LOCATION | BOARD<br>LOCATION | CIRCUIT<br>NUMBER | SCHEMATIC<br>LOCATION | BOARD<br>LOCATION |
|-------------------|-----------------------|-------------------|-------------------|-----------------------|-------------------|
| BT150             | C5                    | E1                | R422              | F3                    | B4                |
| C145              | C5                    | D1                | TP117             | E5                    | B1                |
| CR138             | C5                    | D2                | U140A             | C5                    | D1                |
| DS321             | E4                    | B3                | U156              | F2                    | E1                |
| DS322             | E4                    | B3                | U160              | E2                    | E1                |
| DS323             | E4                    | B3                | U164              | E1                    | F1                |
| DS324             | F3                    | B3                | U201              | A5                    | A2                |
| DS421             | F3                    | B3                | U214              | B4                    | B2                |
| DS422             | F3                    | B3                | U217              | B4                    | B2                |
| P305              | F5                    | A3                | U220              | E4                    | B2                |
| P305              | A5                    | A3                | U229              | D4                    | C2                |
| P850              | A1                    | D4                | U236B             | C2                    | D2                |
| P850              | A5                    | D4                | U236D             | E2                    | D2                |
| P850              | F1                    | D4                | U254A             | D5                    | E2                |
| Q140              | C5                    | D2                | U257B             | B4                    | E2                |
| Q141              | C5                    | D2                | U261              | B1                    | F2                |
| Q219              | B5                    | B2                | U262              | A2                    | F2                |
| Q221              | E5                    | B2                | U264              | D1                    | F2                |
| R138              | C5                    | D1                | U267              | C1                    | F2                |
| R139              | C5                    | D2                | U361A             | A4                    | F3                |
| R140              | C5                    | D1                | U364              | D3                    | F3                |
| R141              | C5                    | D1                | U367              | E2                    | F3                |
| R142              | C5                    | D1                | U464              | B3                    | F4                |
| R145              | C5                    | D1                | U467              | C2                    | F4                |
| *R217             | B5                    | B2                | VR142             | C5                    | D2                |
| R239              | C4                    | D2                | *VR217            | B5                    | D2                |
| R363              | A2                    | F2                |                   |                       |                   |

\*SEE PARTS LIST FOR SERIAL NUMBER RANGES.



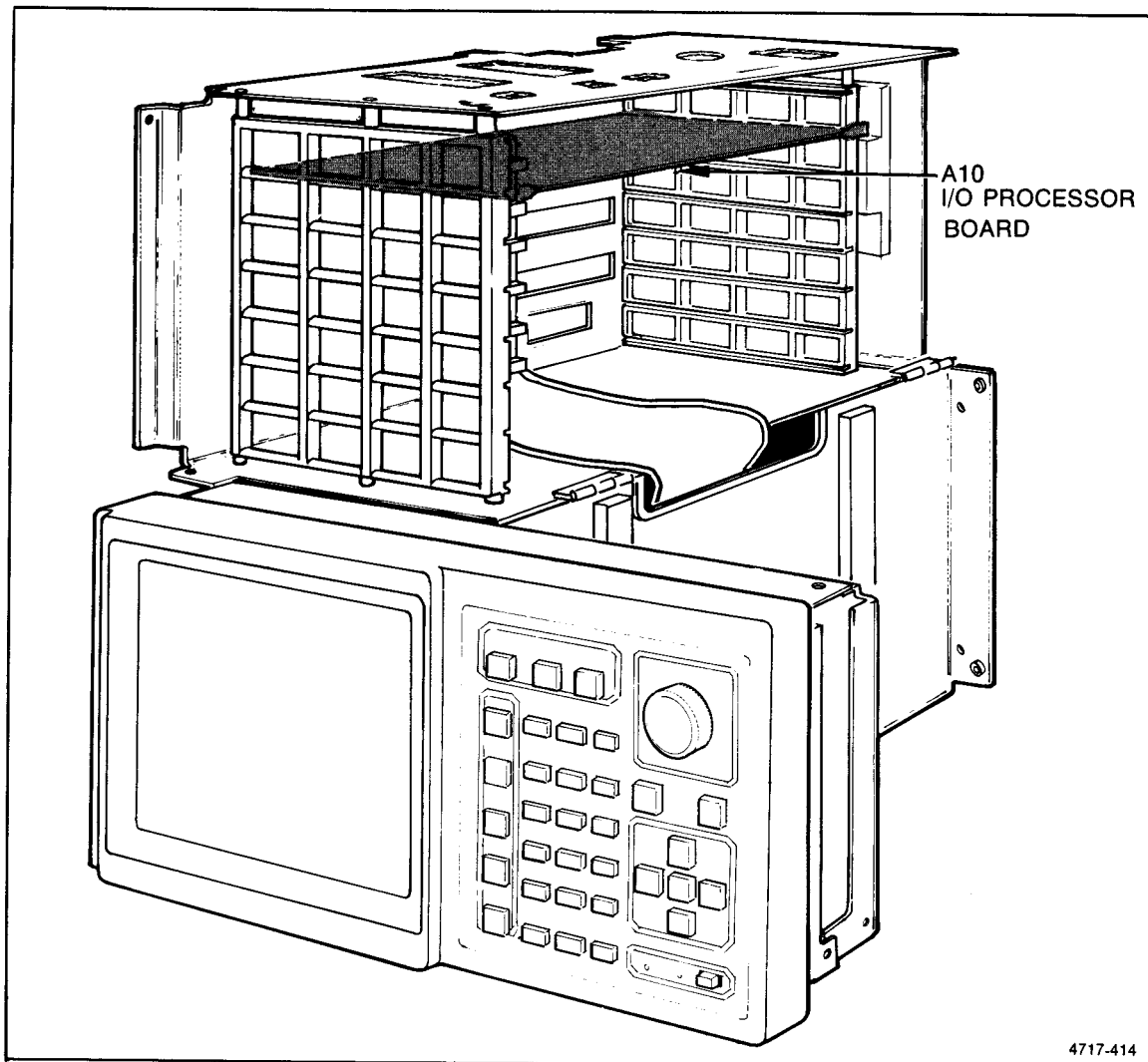
1240 SERVICE

P/O A99 CONTROL PROCESSOR BD.

4717-611

TRIGGER POSITION AND BACKUP CIRCUITRY

P/O A99 CONTROL PROCESSOR  
TRIGGER POSN & BACKUP CIR.



**Figure 10-14. A10 I/O Processor Board Card Cage Location.**

F

E

D

C

B

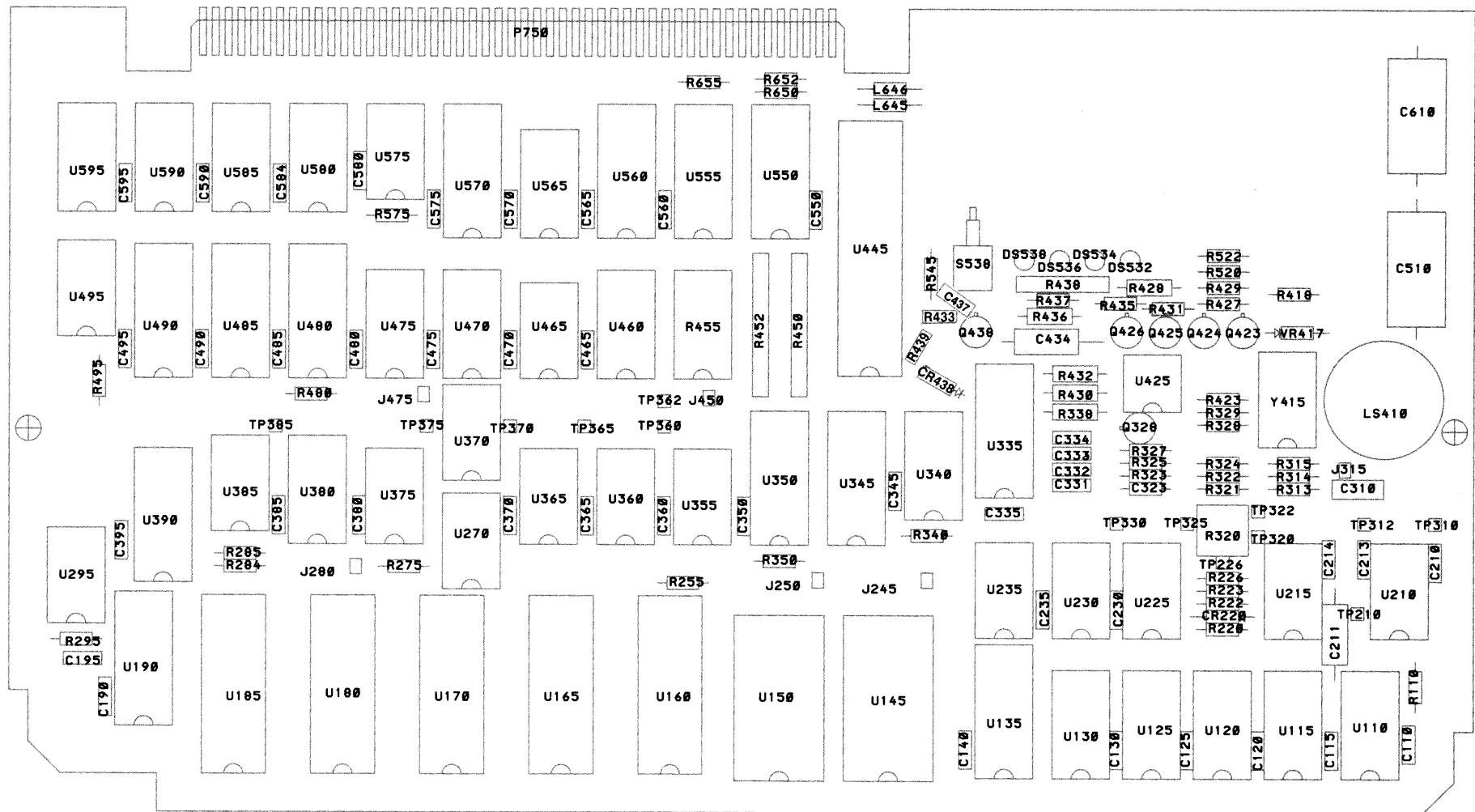
A

4

3

2

1



⊗ Static Sensitive Devices  
See Maintenance Section

REV APR 1986

4717-413

REV APR 1986

Figure 10-13. A10 I/O Processor Board Component Locations.

Table 10-12

Z80 CPU AND BUFFERS

12

— I/O PROCESSOR BOARD, ASSEMBLY A10

| CIRCUIT<br>NUMBER | SCHEMATIC<br>LOCATION | BOARD<br>LOCATION | CIRCUIT<br>NUMBER | SCHEMATIC<br>LOCATION | BOARD<br>LOCATION |
|-------------------|-----------------------|-------------------|-------------------|-----------------------|-------------------|
| C323              | B1                    | B2                | R455              | C5                    | C3                |
| C434              | A4                    | B3                | R520              | B4                    | A3                |
| *C437             | B4                    | B3                | R522              | B5                    | A3                |
| *CR438            | A4                    | B3                | R545              | B3                    | C3                |
| J245              | A5                    | C2                | R575              | F2                    | E3                |
| J245              | E2                    | C2                | R652              | A3                    | C4                |
| J245              | C2                    | C2                | S538              | B4                    | B3                |
| J250              | D3                    | C2                | U130A             | F4                    | B1                |
| J250              | C1                    | C2                | U160              | E1                    | D1                |
| J280              | C3                    | E2                | U165              | E1                    | D1                |
| J450              | C4                    | C3                | U170              | E2                    | D1                |
| P750              | F1                    | D4                | U180              | E2                    | E1                |
| P750              | A3                    | D4                | U185              | E2                    | E1                |
| Q328              | B2                    | B2                | U225C             | B3                    | B2                |
| Q424              | B4                    | A3                | U225D             | B2                    | B2                |
| Q425              | B5                    | B3                | U230A             | B2                    | B2                |
| Q426              | B4                    | B3                | U230B             | A2                    | B2                |
| Q438              | B4                    | B3                | U270A             | B3                    | D2                |
| R222              | A5                    | A2                | U270B             | E3                    | D2                |
| R223              | B2                    | A2                | U270C             | D4                    | D2                |
| R226              | A2                    | A2                | U270D             | E3                    | D2                |
| R275              | D3                    | E2                | U340              | C3                    | C2                |
| R323              | B2                    | B2                | U345              | C2                    | C2                |
| R325              | B1                    | B2                | U350A             | C3                    | C2                |
| R327              | B1                    | B2                | U350B             | C1                    | C2                |
| R340              | C2                    | C2                | U360B             | D3                    | D2                |
| R350              | C1                    | C2                | U360C             | D4                    | D2                |
| R427              | A4                    | A3                | U365B             | E3                    | D2                |
| R428              | B3                    | B3                | U365C             | D3                    | D2                |
| R429              | B5                    | A3                | U365D             | E4                    | D2                |
| *R431             | A4                    | B3                | U380              | D3                    | E2                |
| *R433             | B4                    | B3                | U445              | B1                    | C3                |
| R435              | A4                    | B3                | U555              | D5                    | C3                |
| R436              | A3                    | B3                | U560              | E5                    | D3                |
| R437              | B3                    | B3                | U565              | F1                    | D3                |
| *R439             | A4                    | B3                | U570              | F2                    | D3                |
| R450              | C4                    | C3                | Y415              | A1                    | A3                |
| R452              | E5                    | C3                |                   |                       |                   |

\*SEE PARTS LIST FOR SERIAL NUMBER RANGES.



NOTE: Table 10-1 shows IC Pinout. (VCC & Gnd).

Table 10-13

RAM & INTERRUPT CIRCUITRY 13 — I/O PROCESSOR BOARD, ASSEMBLY A10

| CIRCUIT<br>NUMBER | SCHEMATIC<br>LOCATION | BOARD<br>LOCATION | CIRCUIT<br>NUMBER | SCHEMATIC<br>LOCATION | BOARD<br>LOCATION |
|-------------------|-----------------------|-------------------|-------------------|-----------------------|-------------------|
| C331              | D5                    | B2                | U120              | B5                    | A1                |
| C332              | D5                    | B2                | U125              | D2                    | B1                |
| C333              | D5                    | B2                | U145              | C1                    | C1                |
| C334              | C5                    | B2                | U150              | C1                    | C1                |
| DS532             | C5                    | B3                | U190              | F1                    | F1                |
| DS534             | C5                    | B3                | U295              | F1                    | F2                |
| DS536             | C5                    | B3                | U335              | B5                    | B2                |
| DS538             | C5                    | B3                | U360A             | A5                    | D2                |
| J315              | D5                    | A2                | U360D             | E4                    | D2                |
| LS410             | D5                    | A2                | U360E             | E4                    | D2                |
| P750              | A1                    | D4                | U365A             | E1                    | D2                |
| P750              | F2                    | D4                | U385A             | D1                    | E2                |
| Q423              | D5                    | A3                | U385B             | E5                    | E2                |
| R284              | A5                    | E2                | U390A             | E5                    | F2                |
| R285              | E5                    | E2                | U390B             | E1                    | F2                |
| R295              | E1                    | F1                | U425              | C5                    | B3                |
| R328              | C5                    | A2                | U485              | F3                    | E3                |
| R329              | D5                    | A2                | U490              | F5                    | F3                |
| R338              | C5                    | B2                | U495              | F5                    | F3                |
| R418              | D5                    | A3                | U550              | B1                    | C3                |
| R423              | C5                    | A3                | U575              | B4                    | E4                |
| R430              | C5                    | B3                | U580              | E4                    | E3                |
| R432              | C5                    | B3                | U585              | E3                    | E3                |
| R438              | C5                    | B3                | U590              | C3                    | F3                |
| R495              | F5                    | F3                | U595              | D3                    | F3                |
| TP385             | E5                    | E2                | VR417             | C5                    | A3                |



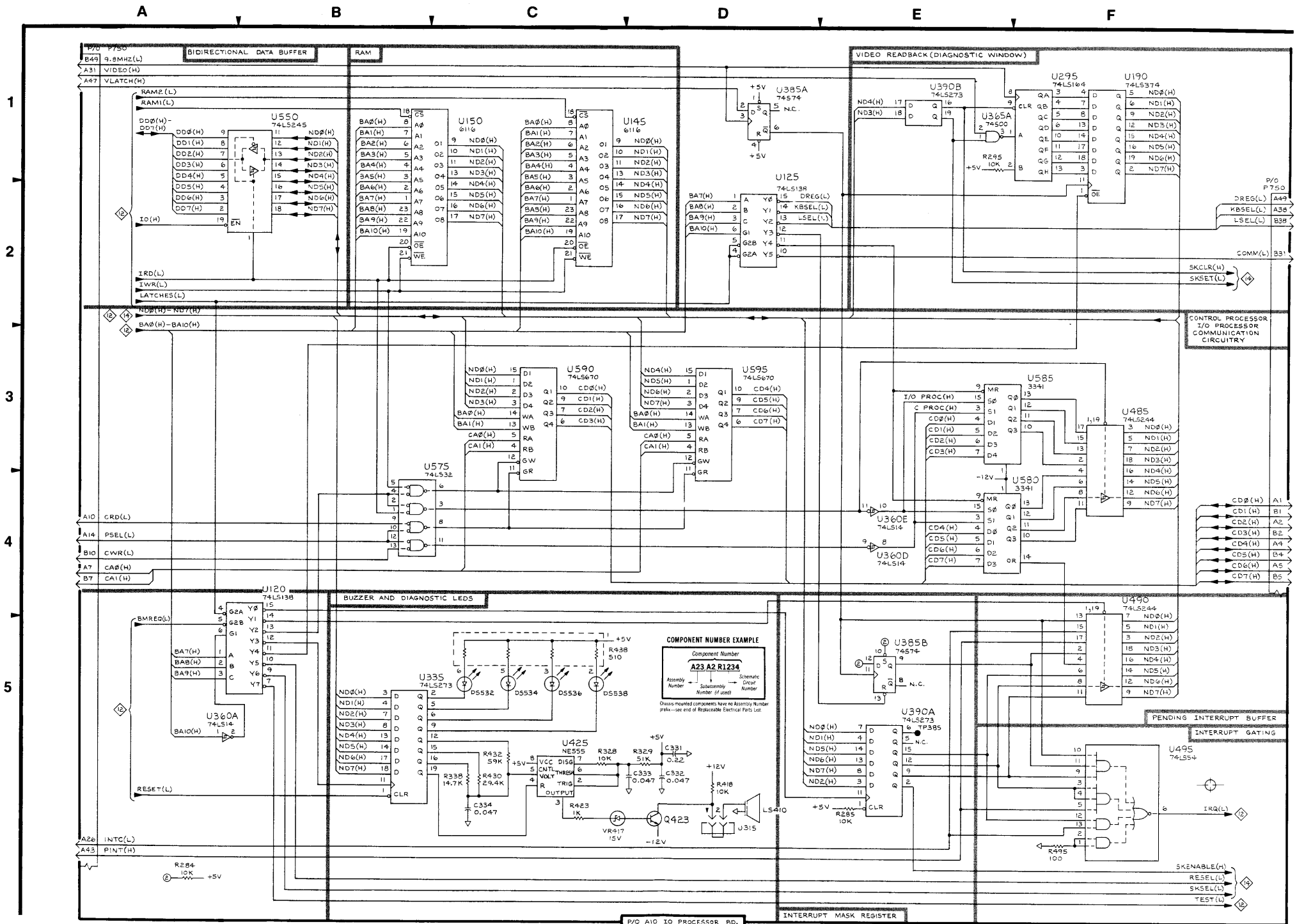


Table 10-14

SOFT KEY &amp; KNOB CIRCUITRY

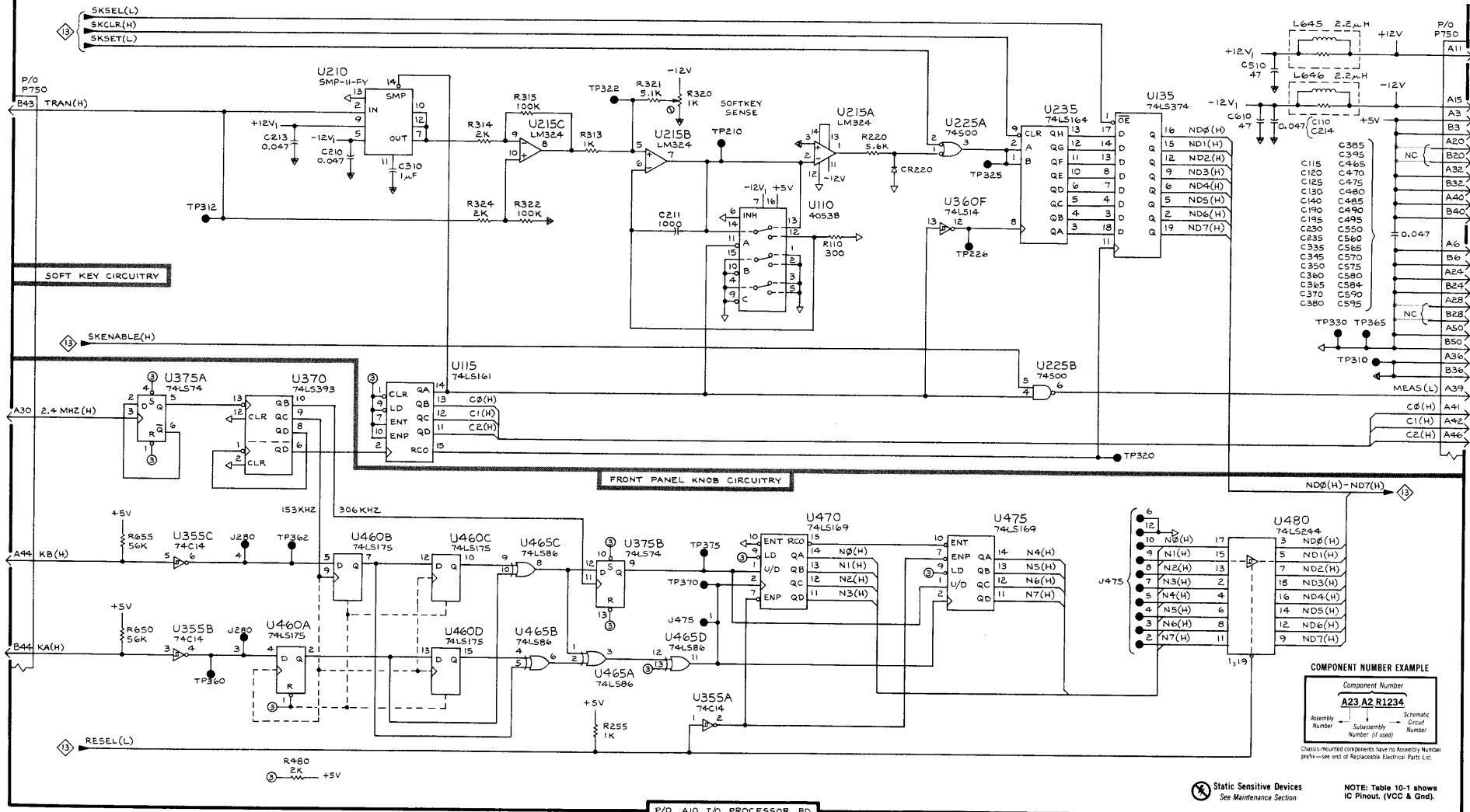


— I/O PROCESSOR BOARD, ASSEMBLY A10

| CIRCUIT<br>NUMBER | SCHEMATIC<br>LOCATION | BOARD<br>LOCATION | CIRCUIT<br>NUMBER | SCHEMATIC<br>LOCATION | BOARD<br>LOCATION |
|-------------------|-----------------------|-------------------|-------------------|-----------------------|-------------------|
| C110              | F1                    | A1                | R255              | C4                    | D2                |
| C115              | F2                    | A1                | R313              | C1                    | A2                |
| C120              | F2                    | A1                | R314              | C1                    | A2                |
| C125              | F2                    | B1                | R315              | C1                    | A2                |
| C130              | F2                    | B1                | R320              | C1                    | A2                |
| C140              | F2                    | B1                | R321              | C1                    | A2                |
| C190              | F2                    | F1                | R322              | C2                    | A2                |
| C195              | F2                    | F1                | R324              | C2                    | A2                |
| C210              | B1                    | A2                | R480              | B4                    | E3                |
| C211              | C2                    | A1                | R650              | A4                    | C4                |
| C213              | B1                    | A2                | R655              | A4                    | C4                |
| C214              | F1                    | A2                | TP210             | D1                    | A2                |
| C230              | F2                    | B2                | TP226             | E2                    | A2                |
| C235              | F2                    | B2                | TP310             | F2                    | A2                |
| C310              | B1                    | A2                | TP312             | B2                    | A2                |
| C335              | F2                    | B2                | TP320             | E3                    | A2                |
| C345              | F2                    | C2                | TP322             | C1                    | A2                |
| C350              | F2                    | C2                | TP325             | E1                    | B2                |
| C360              | F2                    | D2                | TP330             | F2                    | B2                |
| C365              | F2                    | D2                | TP360             | A4                    | D2                |
| C370              | F2                    | D2                | TP362             | B4                    | D3                |
| C380              | F2                    | E2                | TP365             | F2                    | D2                |
| C385              | F2                    | E2                | TP370             | C4                    | D2                |
| C395              | F2                    | F2                | TP375             | C4                    | E2                |
| C465              | F2                    | D3                | U110              | D2                    | A1                |
| C470              | F2                    | D3                | U115              | B3                    | A1                |
| C475              | F2                    | E3                | U135              | E1                    | B1                |
| C480              | F2                    | E3                | U210              | B1                    | A2                |
| C485              | F2                    | E3                | U215A             | D1                    | A2                |
| C490              | F2                    | E3                | U215B             | C1                    | A2                |
| C495              | F2                    | F3                | U215C             | C1                    | A2                |
| C510              | F1                    | A3                | U225A             | D1                    | B2                |
| C550              | F2                    | C3                | U225B             | E3                    | B2                |
| C560              | F2                    | D3                | U235              | E1                    | B2                |
| C565              | F2                    | D3                | U355A             | D4                    | C2                |
| C570              | F2                    | D3                | U355B             | A4                    | C2                |
| C575              | F2                    | E3                | U355C             | A4                    | C2                |
| C580              | F2                    | E3                | U360F             | D2                    | D2                |
| C584              | F2                    | E3                | U370              | B3                    | D2                |
| C590              | F2                    | E3                | U375A             | A3                    | E2                |
| C595              | F2                    | F3                | U375B             | C4                    | E2                |
| C610              | F1                    | A4                | U460A             | B4                    | D3                |
| CR220             | D1                    | A2                | U460B             | B4                    | D3                |
| J280              | B4                    | E2                | U460C             | B4                    | D3                |
| J475              | C4                    | E3                | U460D             | B4                    | D3                |
| J475              | E5                    | E3                | U465A             | C4                    | D3                |
| L645              | F1                    | C4                | U465B             | C4                    | D3                |
| L646              | F1                    | C4                | U465C             | C4                    | D3                |
| P750              | F1                    | D4                | U465D             | C4                    | D3                |
| P750              | A1                    | D4                | U470              | D4                    | D3                |
| R110              | D2                    | A1                | U475              | E5                    | E3                |
| R220              | D1                    | A2                | U480              | F4                    | E3                |

A B C D E F

1  
2  
3  
4  
5



COMPONENT NUMBER EXAMPLE

| Component Number |                              |                          |
|------------------|------------------------------|--------------------------|
| A23              | A2                           | R1234                    |
| Assembly Number  | Subassembly Number (if used) | Schematic Circuit Number |

Check mounted components have to Assembly Number prefix—see end of Replaceable Electrical Parts List

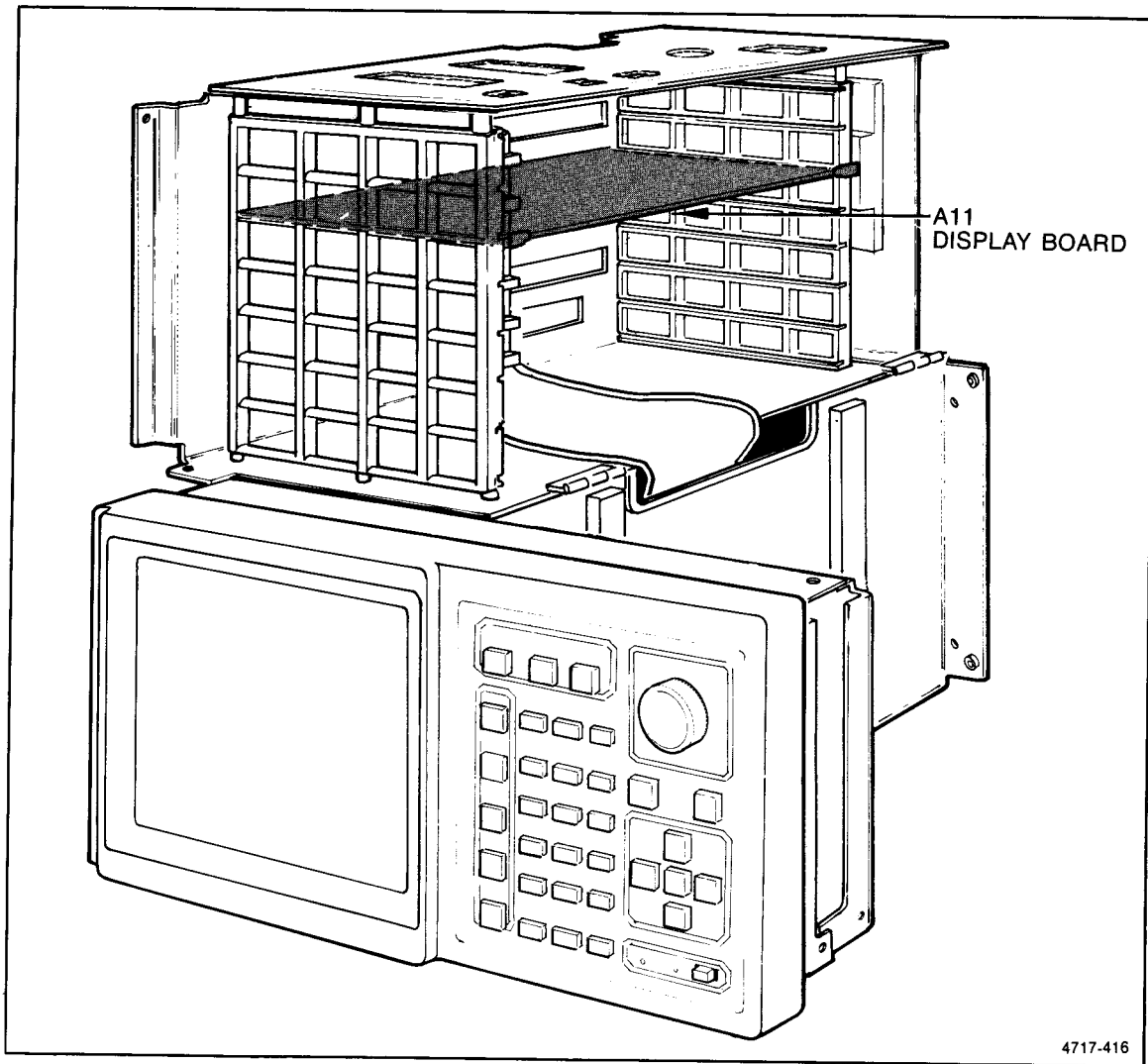
NOTE: Table 10-1 shows IC Pinout. (VCC & Gnd).

1240 SERVICE

P/O AIO I/O PROCESSOR BD.

4717-614

SOFT KEY AND KNOB CIRCUITRY



**Figure 10-16. A11 Display Board Card Cage Location.**

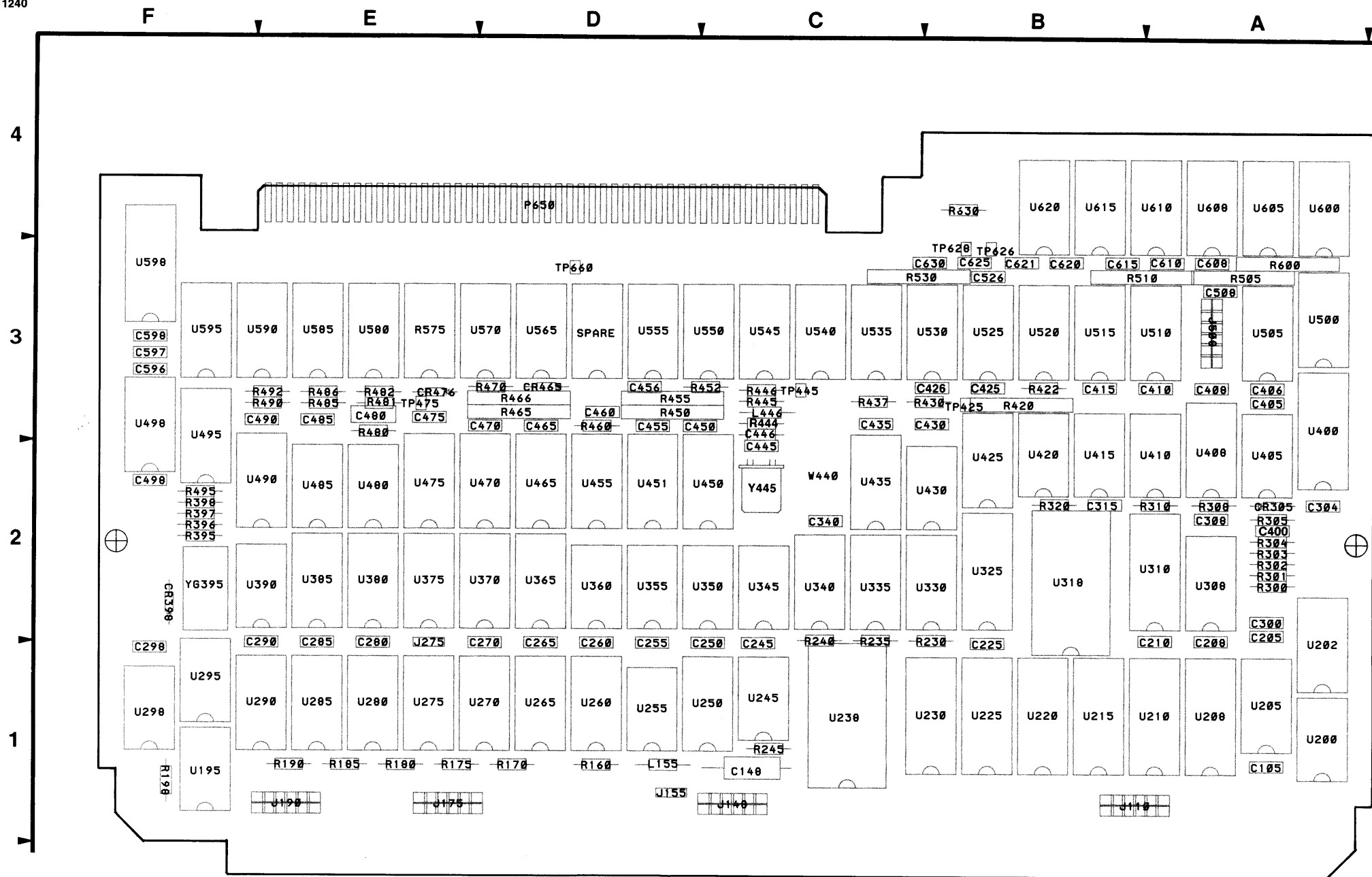


Figure 10-15. A11 Display Board Component Locations.

Table 10-15

 DISPLAY RAM ADDRESSING 15 — DISPLAY BOARD, ASSEMBLY A11

| CIRCUIT<br>NUMBER | SCHEMATIC<br>LOCATION | BOARD<br>LOCATION | CIRCUIT<br>NUMBER | SCHEMATIC<br>LOCATION | BOARD<br>LOCATION |
|-------------------|-----------------------|-------------------|-------------------|-----------------------|-------------------|
| J110              | B1                    | B1                | U270              | B4                    | D1                |
| J110              | F1                    | B1                | U275              | A4                    | E1                |
| J148              | C5                    | C1                | U280              | E3                    | E1                |
| J175              | E1                    | E1                | U285              | D3                    | E1                |
| J175              | F3                    | E1                | U295A             | F1                    | F1                |
| J175              | D1                    | E1                | U295B             | C1                    | F1                |
| J190              | B1                    | E1                | U330              | C3                    | B2                |
| J190              | B1                    | E1                | U335              | A3                    | C2                |
| J275              | A4                    | E2                | U345A             | C5                    | C2                |
| P650              | F1                    | D4                | U345C             | D3                    | C2                |
| P650              | A1                    | D4                | U345D             | B5                    | C2                |
| R160              | D5                    | D1                | U350A             | F1                    | C2                |
| R170              | B4                    | D1                | U365              | B3                    | D2                |
| R175              | A4                    | E1                | U370              | C3                    | D2                |
| R180              | E3                    | E1                | U375              | E3                    | E2                |
| R185              | D3                    | E1                | U380              | F3                    | E2                |
| R198              | E5                    | F1                | U390B             | E1                    | E2                |
| R230              | C3                    | B2                | U390D             | C2                    | E2                |
| R235              | A3                    | C2                | U430A             | C5                    | B2                |
| R240              | D5                    | C2                | U430E             | C3                    | B2                |
| R395              | A1                    | F2                | U430F             | B5                    | B2                |
| U195              | B1                    | F1                | U490A             | D1                    | E2                |
| U225              | E4                    | B1                | U490B             | C1                    | E2                |
| U230              | F4                    | B1                | U490C             | D1                    | E2                |
| U238              | D4                    | C1                | U495A             | B1                    | F3                |
| U265              | C4                    | D1                |                   |                       |                   |

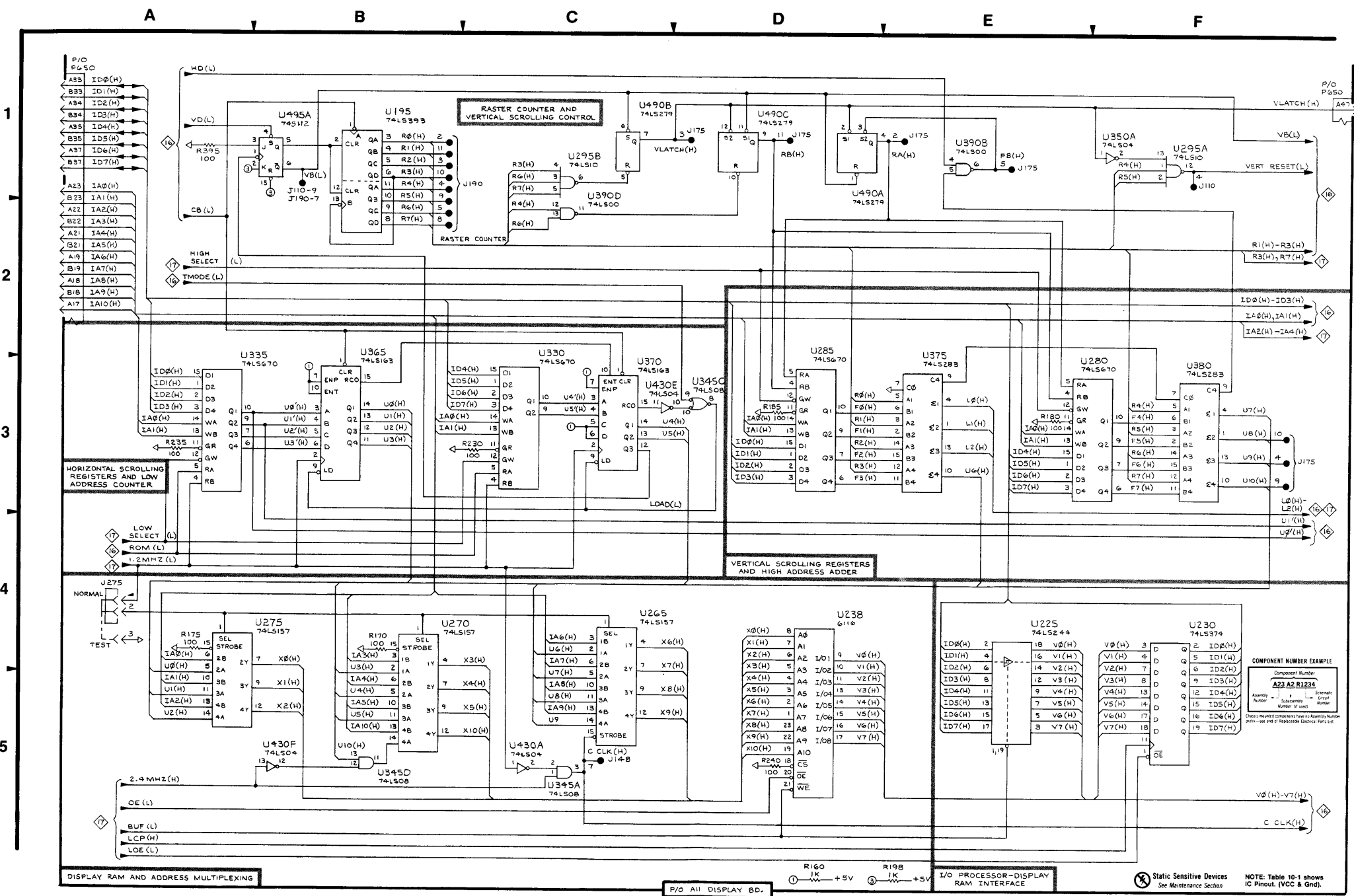


Table 10-16

 DISPLAY DATA PROCESSING  — DISPLAY BOARD, ASSEMBLY A11

| CIRCUIT<br>NUMBER | SCHEMATIC<br>LOCATION | BOARD<br>LOCATION | CIRCUIT<br>NUMBER | SCHEMATIC<br>LOCATION | BOARD<br>LOCATION |
|-------------------|-----------------------|-------------------|-------------------|-----------------------|-------------------|
| J110              | C5                    | B1                | U310              | D3                    | A2                |
| J175              | C4                    | E1                | U318              | B1                    | B2                |
| J190              | C4                    | E1                | U325              | D1                    | B2                |
| P650              | F5                    | D4                | U350D             | C4                    | C2                |
| R160              | C5                    | D1                | U350E             | F5                    | C2                |
| R190              | E5                    | E1                | U385              | F5                    | E2                |
| R300              | B5                    | A2                | U390A             | B2                    | E2                |
| R301              | B5                    | A2                | U390C             | F2                    | E2                |
| R302              | B5                    | A2                | U408              | F3                    | A3                |
| R303              | B5                    | A2                | U410              | B3                    | A3                |
| R310              | C5                    | A2                | U415A             | B4                    | B3                |
| R320              | B2                    | B2                | U415B             | B5                    | B3                |
| R430              | D1                    | B3                | U420A             | A3                    | B3                |
| U202              | B4                    | A2                | U420B             | B4                    | B3                |
| U208              | C5                    | A1                | U420C             | B3                    | B3                |
| U210              | C3                    | A1                | U425              | E1                    | B3                |
| U215              | A1                    | B1                | U430B             | B3                    | B2                |
| U220              | C1                    | B1                | U430C             | D3                    | B2                |
| U260D             | D5                    | D1                | U430D             | E3                    | B2                |
| U290              | E5                    | E1                | U480A             | D3                    | E2                |
| U295C             | E3                    | F1                | U480B             | D3                    | E2                |
| U308              | E3                    | A2                | U485A             | D5                    | E2                |



A

B

C

D

E

F

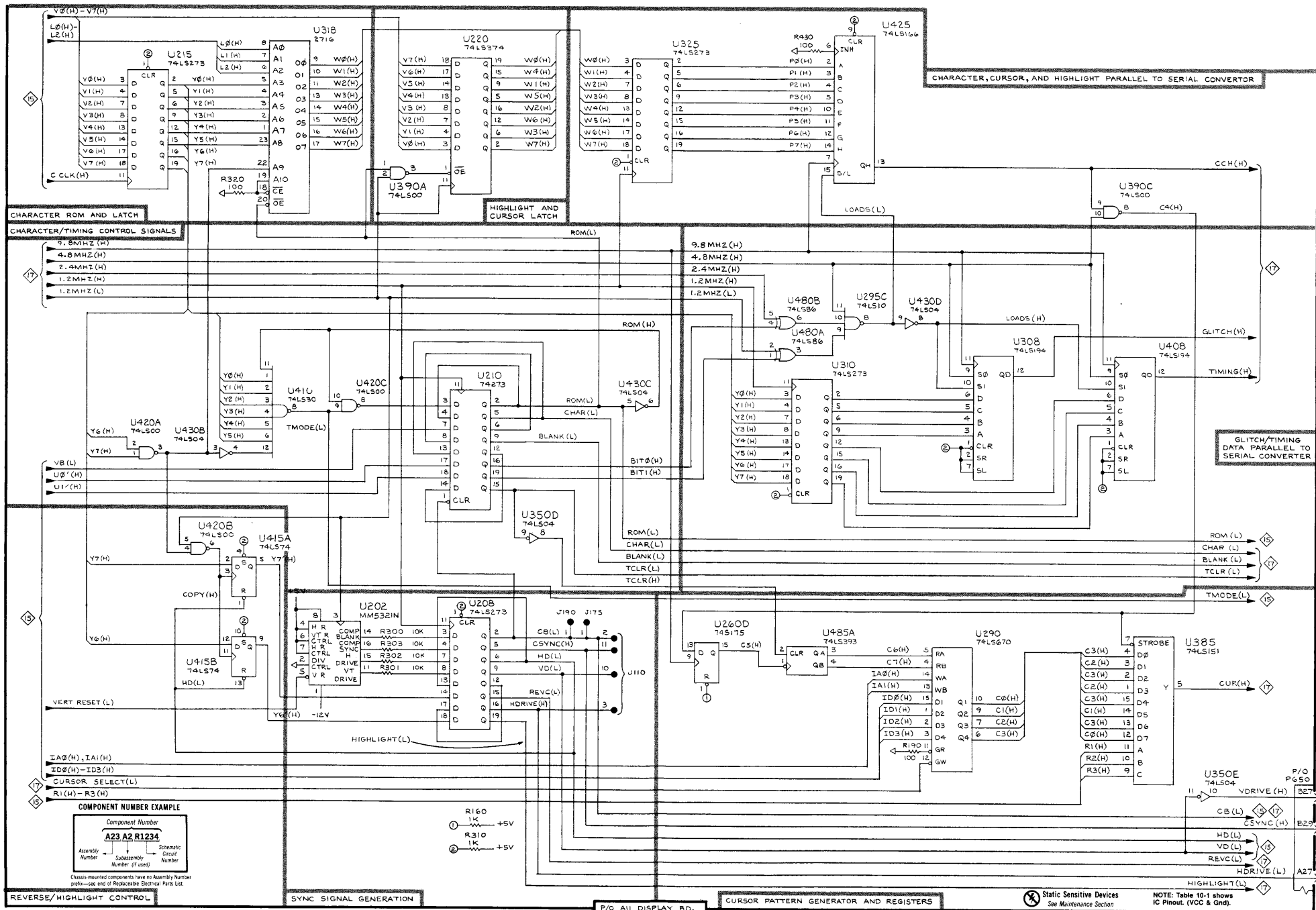


Table 10-17

I/O PROCESSOR DMA &amp; VIDEO MIXER

17

— DISPLAY BOARD, ASSEMBLY A11

| CIRCUIT<br>NUMBER | SCHEMATIC<br>LOCATION | BOARD<br>LOCATION | CIRCUIT<br>NUMBER | SCHEMATIC<br>LOCATION | BOARD<br>LOCATION |
|-------------------|-----------------------|-------------------|-------------------|-----------------------|-------------------|
| C105              | F4                    | A1                | J148              | B1                    | C1                |
| C148              | E3                    | C1                | J148              | A1                    | C1                |
| C205              | F5                    | A2                | J148              | E4                    | C1                |
| C208              | F4                    | A2                | J148              | F2                    | C1                |
| C210              | F4                    | A2                | J148              | C1                    | C1                |
| C225              | F4                    | B2                | J148              | D4                    | C1                |
| C245              | F4                    | C2                | J155              | E4                    | D1                |
| C250              | F4                    | C2                | L155              | E3                    | D1                |
| C255              | F4                    | D2                | P650              | A2                    | D4                |
| C260              | F4                    | D2                | P650              | F1                    | D4                |
| C265              | F4                    | D2                | R160              | D5                    | D1                |
| C270              | F4                    | D2                | R198              | E5                    | F1                |
| C280              | F4                    | E2                | R245              | E3                    | C1                |
| C285              | F4                    | E2                | R304              | E3                    | A2                |
| C290              | F4                    | E2                | R308              | B5                    | A2                |
| C298              | F4                    | F2                | R310              | E5                    | A2                |
| C300              | F4                    | A2                | U200              | B4                    | A1                |
| C304              | F4                    | A2                | U205              | B4                    | A1                |
| C308              | F4                    | A2                | U245A             | D3                    | C1                |
| C315              | F4                    | B2                | U245B             | E3                    | C1                |
| C340              | F4                    | C2                | U250              | B1                    | C1                |
| C406              | F4                    | A3                | U255A             | B2                    | D1                |
| C408              | F5                    | A3                | U255B             | B2                    | D1                |
| C410              | F5                    | A3                | U260B             | D3                    | D1                |
| C415              | E5                    | B3                | U260C             | D4                    | D1                |
| C425              | F4                    | B3                | U298A             | B5                    | F1                |
| C430              | F4                    | B3                | U298B             | B5                    | F1                |
| C435              | F4                    | C3                | U340              | B3                    | C2                |
| C450              | F5                    | C3                | U345B             | B2                    | C2                |
| C455              | F4                    | D3                | U350B             | B2                    | C2                |
| C456              | F5                    | D3                | U350C             | F2                    | C2                |
| C465              | F5                    | D3                | U350F             | F2                    | C2                |
| C470              | F4                    | D3                | U355A             | B2                    | D2                |
| C475              | F4                    | E3                | U355B             | B2                    | D2                |
| C485              | F4                    | E3                | U355C             | C3                    | D2                |
| C490              | F4                    | E3                | U355D             | C2                    | D2                |
| C498              | F4                    | F2                | U360A             | E2                    | D2                |
| C508              | F5                    | A3                | U360B             | F2                    | D2                |
| C597              | F5                    | F3                | U405A             | C5                    | A3                |
| C598              | F4                    | F3                | U405B             | D3                    | A3                |
| C608              | E5                    | A4                | U420D             | C5                    | B3                |
| C610              | F5                    | A4                | U435              | C4                    | C2                |
| C615              | E5                    | B4                | U480C             | C3                    | E2                |
| C620              | F5                    | B4                | U480D             | C5                    | E2                |
| C621              | E5                    | B4                | U490D             | C3                    | E2                |
| C625              | F5                    | B4                | U495B             | B1                    | F3                |
| C630              | E5                    | B4                | YG395             | A1                    | F2                |
| J110              | C1                    | B1                |                   |                       |                   |



Table 10-18  
**DISPLAY COUNTER/TIMER** 18 **— DISPLAY BOARD, ASSEMBLY A11**

| CIRCUIT<br>NUMBER | SCHEMATIC<br>LOCATION | BOARD<br>LOCATION | CIRCUIT<br>NUMBER | SCHEMATIC<br>LOCATION | BOARD<br>LOCATION |
|-------------------|-----------------------|-------------------|-------------------|-----------------------|-------------------|
| C400              | A2                    | A2                | R530E             | D3                    | B3                |
| C405              | G1                    | A3                | R530G             | D1                    | B3                |
| C526              | E2                    | B3                | R600              | E3                    | A3                |
| CR305             | A2                    | A2                | R600A             | F1                    | A3                |
| CR476             | B4                    | E3                | R600B             | F1                    | A3                |
| J508              | E2                    | A3                | R600C             | D4                    | A3                |
| J508              | F2                    | A3                | R600D             | E4                    | A3                |
| J508              | E4                    | A3                | R630              | C5                    | B4                |
| J508              | E5                    | A3                | TP425             | E2                    | B3                |
| P650              | A3                    | D4                | TP626             | E2                    | B3                |
| P650              | G5                    | D4                | U400              | A2                    | A3                |
| R305              | A2                    | A2                | U450A             | B4                    | C2                |
| R420              | F2                    | B3                | U451              | B4                    | D2                |
| R420              | E4                    | B3                | U451A             | C4                    | D2                |
| R420A             | E3                    | B3                | U470B             | B5                    | D2                |
| R420B             | E3                    | B3                | U475A             | C2                    | E2                |
| R420G             | C3                    | B3                | U475B             | C4                    | E2                |
| R422              | D5                    | B3                | U485B             | A4                    | E2                |
| R437              | D2                    | C3                | U500              | G1                    | A3                |
| R444              | C4                    | C3                | U505              | F1                    | A3                |
| R450A             | B3                    | D3                | U510A             | E2                    | A3                |
| R450B             | B4                    | D3                | U510B             | D5                    | A3                |
| R450C             | C4                    | D3                | U510C             | E2                    | A3                |
| R450D             | A3                    | D3                | U510D             | A3                    | A3                |
| R450F             | C2                    | D3                | U515              | F3                    | B3                |
| R455A             | B4                    | D3                | U520              | F2                    | B3                |
| R455C             | A3                    | D3                | U525              | E2                    | B3                |
| R455D             | B4                    | D3                | U530A             | C3                    | B3                |
| R455E             | A3                    | D3                | U530B             | D3                    | B3                |
| R455F             | A3                    | D3                | U530C             | D1                    | B3                |
| R455G             | A3                    | D3                | U530D             | D2                    | B3                |
| R460              | B4                    | D3                | U535              | D1                    | C3                |
| R465E             | A5                    | D3                | U540A             | C2                    | C3                |
| R465F             | A5                    | D3                | U540B             | C3                    | C3                |
| R465G             | C3                    | D3                | U545A             | C2                    | C3                |
| R466A             | C2                    | D3                | U545B             | C2                    | C3                |
| R466G             | C1                    | D3                | U550B             | B3                    | C3                |
| R482              | A4                    | E3                | U550C             | B5                    | C3                |
| R505A             | F2                    | A3                | U555A             | B3                    | D3                |
| R505B             | F2                    | A3                | U555B             | B3                    | D3                |
| R505C             | G5                    | A3                | U600              | G4                    | A4                |
| R505D             | F5                    | A3                | U605              | G3                    | A4                |
| R505E             | E5                    | A3                | U608A             | E5                    | A4                |
| R505F             | D2                    | A3                | U608B             | D4                    | A4                |
| R505G             | C2                    | A3                | U610A             | E3                    | A4                |
| R510              | F3                    | A3                | U610B             | D3                    | A4                |
| R510C             | D5                    | A3                | U615A             | E5                    | B4                |
| R510D             | D2                    | A3                | U615B             | F5                    | B4                |
| R510E             | D3                    | A3                | U615C             | B2                    | B4                |
| R510F             | F5                    | A3                | U620A             | E5                    | B4                |
| R510G             | E5                    | A3                | U620B             | E5                    | B4                |
| R530              | F4                    | B3                | U620D             | F5                    | B4                |
| R530C             | E5                    | B3                | W440              | B1                    | C2                |
| R530D             | C3                    | B3                |                   |                       |                   |

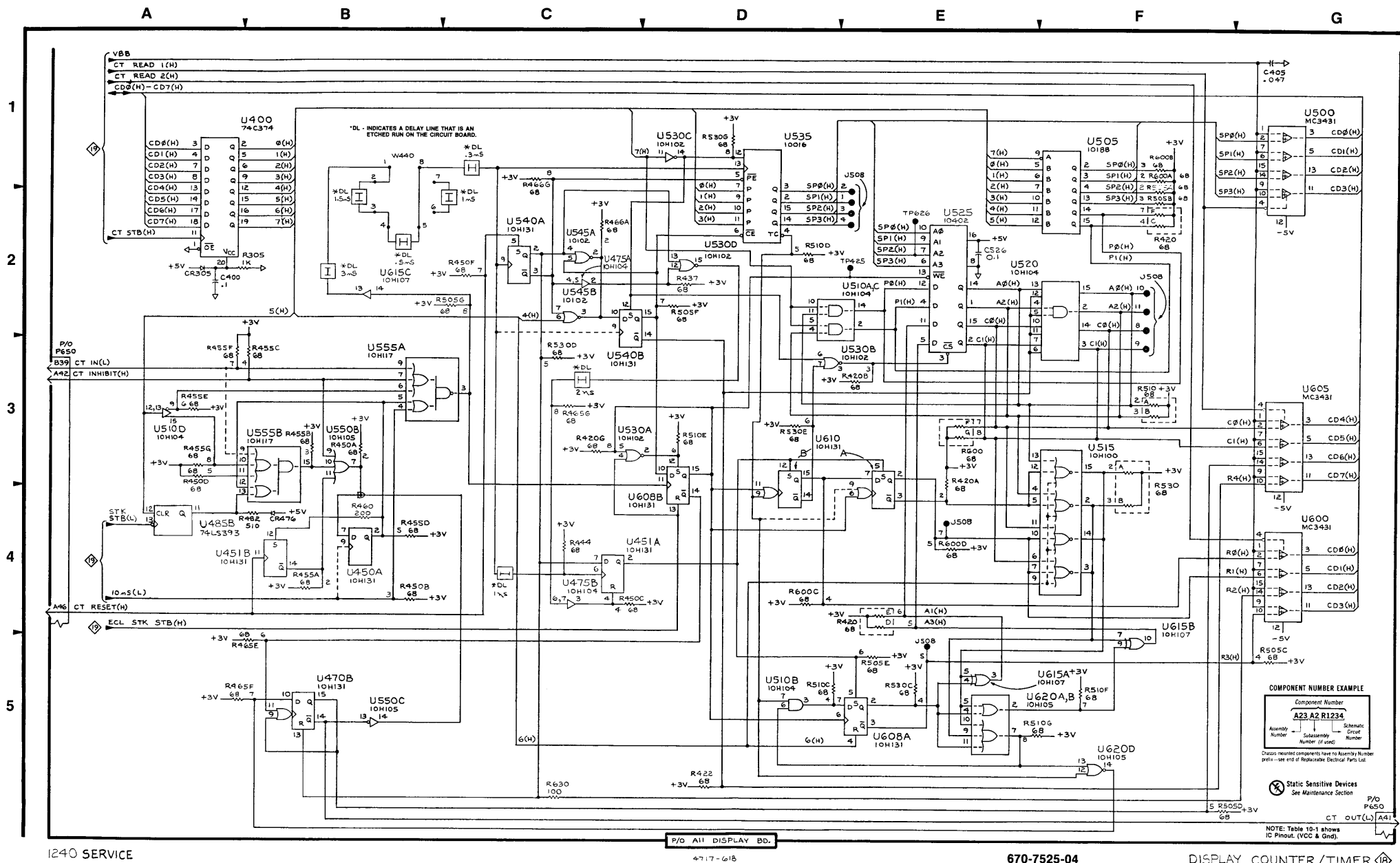


Table 10-19

ASYNCHRONOUS TIMEBASE  — DISPLAY BOARD, ASSEMBLY A11

| CIRCUIT<br>NUMBER | SCHEMATIC<br>LOCATION | BOARD<br>LOCATION | CIRCUIT<br>NUMBER | SCHEMATIC<br>LOCATION | BOARD<br>LOCATION |
|-------------------|-----------------------|-------------------|-------------------|-----------------------|-------------------|
| C445              | A1                    | C3                | R492              | E2                    | E3                |
| C446              | A1                    | C3                | R495              | A4                    | F2                |
| C480              | F3                    | E3                | R575              | F1                    | E3                |
| C596              | C1                    | F3                | U450B             | B2                    | C2                |
| CR398             | A3                    | F2                | U455              | B2                    | D2                |
| CR465             | B2                    | D3                | U465              | C2                    | D2                |
| L446              | A1                    | C3                | U475C             | F3                    | E2                |
| P650              | A3                    | D4                | U475D             | F3                    | E2                |
| P650              | F3                    | D4                | U498A             | B4                    | F3                |
| R396              | C1                    | F2                | U498B             | C1                    | F3                |
| R397              | C1                    | F2                | U498D             | A4                    | F3                |
| R398              | A4                    | F2                | U545C             | A1                    | C3                |
| R445              | B1                    | C3                | U545D             | B2                    | C3                |
| R446              | A1                    | C3                | U550              | B3                    | C3                |
| R450D             | B2                    | D3                | U565              | D2                    | D3                |
| R452              | B1                    | C3                | U570              | F2                    | D3                |
| R465              | C1                    | D3                | U580A             | D1                    | E3                |
| R465A             | B1                    | D3                | U580B             | D1                    | E3                |
| R466B             | C2                    | D3                | U585A             | E1                    | E3                |
| R466C             | E2                    | D3                | U585B             | E1                    | E3                |
| R466F             | F2                    | D3                | U590A             | E1                    | E3                |
| R470              | B2                    | D3                | U590B             | F1                    | E3                |
| R480              | F3                    | E3                | U595A             | B4                    | F3                |
| R481              | F3                    | E3                | U595B             | B4                    | F3                |
| R485              | C4                    | E3                | U598              | A3                    | F3                |
| R486              | C4                    | E3                | Y445              | B1                    | C2                |
| R490              | C4                    | E3                |                   |                       |                   |

A

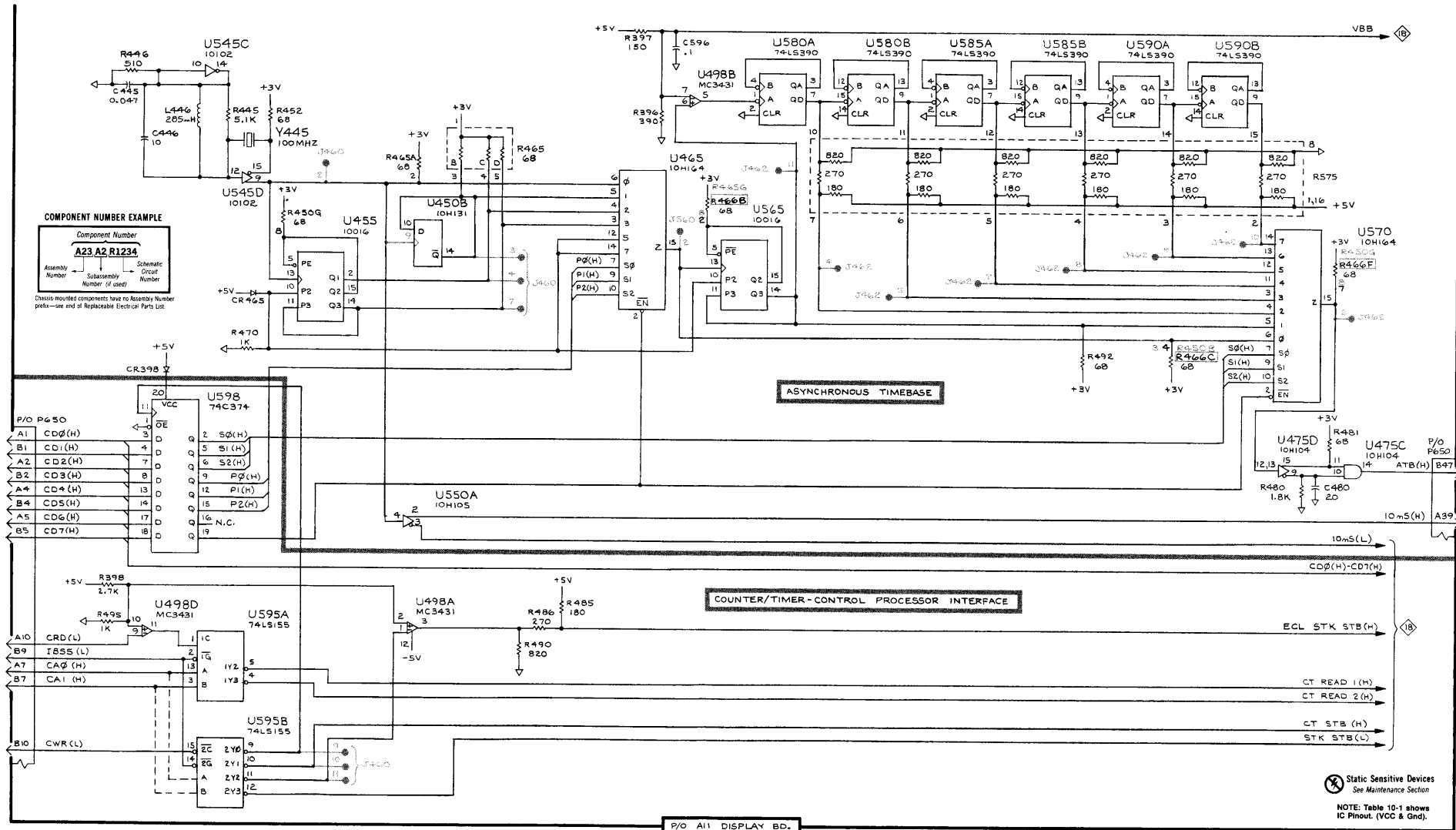
B

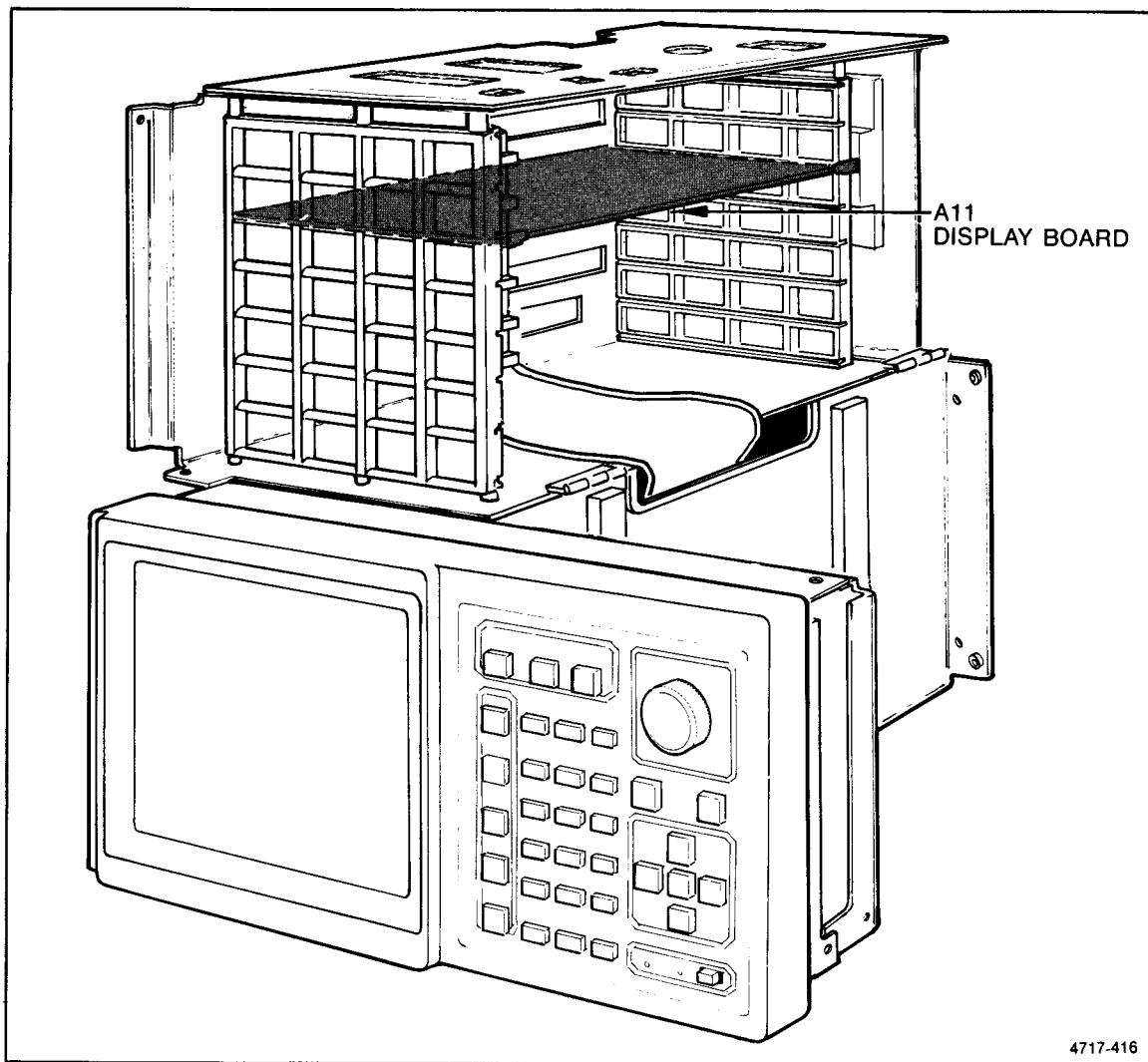
C

D

E

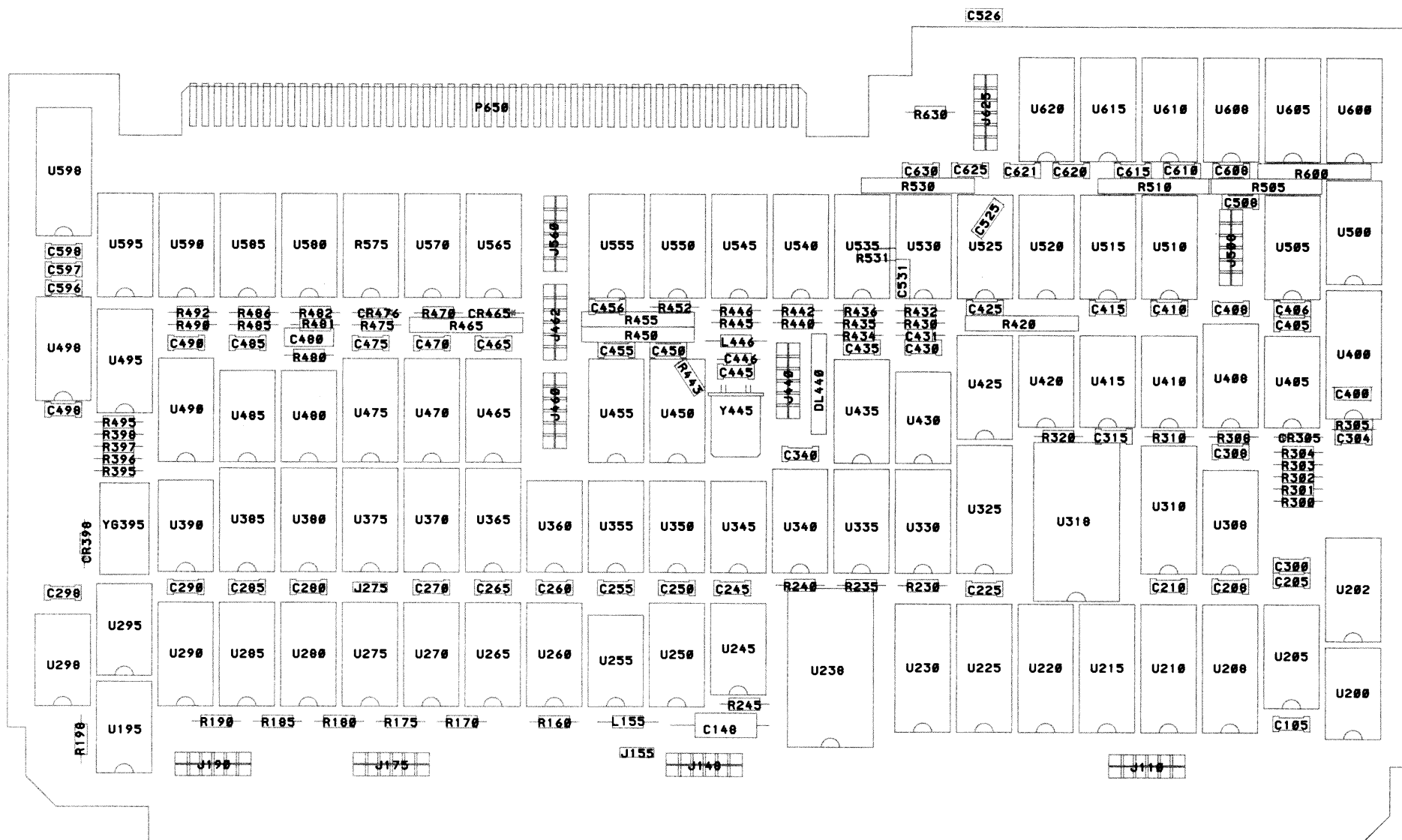
F





**Figure 10-16a. A11 Display Board Card Cage Location.**





**Figure 10-15a. A11 Display Board Component Locations.**

Table 10-18A

COUNTER/TIMER

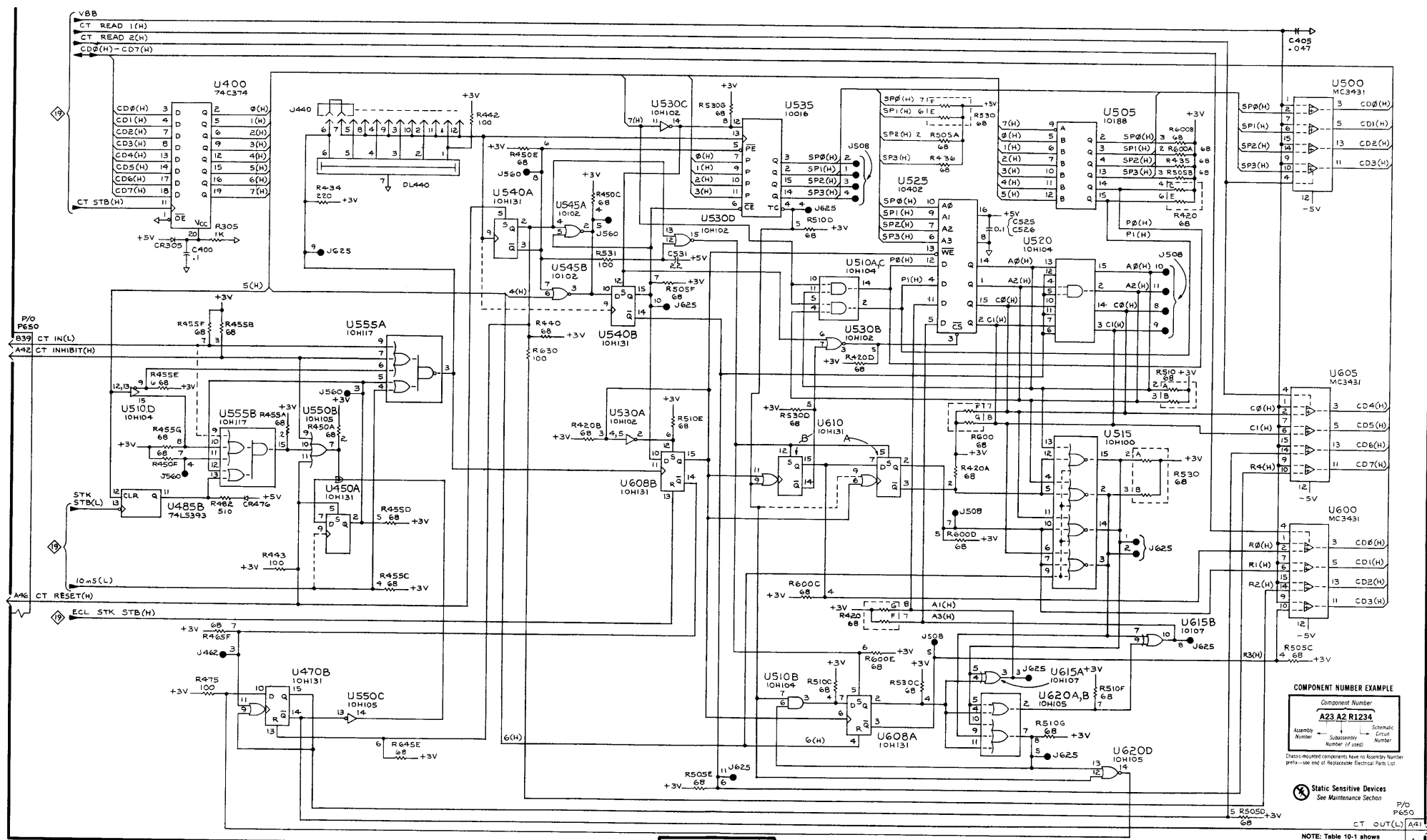


— DISPLAY BOARD, ASSEMBLY A11

| CIRCUIT<br>NUMBER | SCHEMATIC<br>LOCATION | BOARD<br>LOCATION | CIRCUIT<br>NUMBER | SCHEMATIC<br>LOCATION | BOARD<br>LOCATION |
|-------------------|-----------------------|-------------------|-------------------|-----------------------|-------------------|
| C400              | B2                    | A3                | R510A             | F3                    | B3                |
| C405              | G1                    | A3                | R510B             | F3                    | B3                |
| C525              | E2                    | B3                | R510C             | E5                    | B3                |
| C526              | E2                    | B4                | R510D             | E2                    | B3                |
| C531              | D2                    | C3                | R510E             | D3                    | B3                |
| CR305             | A2                    | A2                | R510F             | F5                    | B3                |
| CR476             | B4                    | E3                | R510G             | F5                    | B3                |
| DL440             | C2                    | C3                | R530A             | F4                    | B3                |
| J440              | B1                    | C3                | R530B             | F4                    | B3                |
| J462              | B5                    | D3                | R530C             | E5                    | B3                |
| J508              | E5                    | A3                | R530D             | D3                    | B3                |
| J508              | E2                    | A3                | R530E             | E1                    | B3                |
| J508              | F2                    | A3                | R530F             | E1                    | B3                |
| J508              | E4                    | A3                | R530G             | D1                    | B3                |
| J560              | C2                    | D3                | R531              | D2                    | C3                |
| J560              | D2                    | D3                | R600A             | F1                    | A4                |
| J560              | A4                    | D3                | R600B             | F1                    | A4                |
| J560              | B3                    | D3                | R600C             | E4                    | A4                |
| J625              | F4                    | B4                | R600C             | D4                    | A4                |
| J625              | D5                    | B4                | R600D             | E4                    | A4                |
| J625              | B2                    | B4                | R600F             | E3                    | A4                |
| J625              | F5                    | B4                | R600G             | E3                    | A4                |
| J625              | D2                    | B4                | R630              | C3                    | B4                |
| J625              | E2                    | B4                | U400              | B1                    | A3                |
| P650              | A3                    | D4                | U450A             | B4                    | C2                |
| R305              | B2                    | A2                | U470B             | B5                    | D2                |
| R420A             | E4                    | B3                | U485B             | A4                    | E2                |
| R420B             | C3                    | B3                | U500              | G1                    | A3                |
| R420C             | F2                    | B3                | U505              | F1                    | A3                |
| R420D             | E3                    | B3                | U510A             | E2                    | A3                |
| R420E             | F2                    | B3                | U510B             | D5                    | A3                |
| R420F             | E4                    | B3                | U510C             | E2                    | A3                |
| R420G             | E4                    | B3                | U510D             | A3                    | A3                |
| R434              | B2                    | C3                | U515              | F4                    | B3                |
| R435              | F2                    | C3                | U520              | F2                    | B3                |
| R436              | E2                    | C3                | U525              | E2                    | B3                |
| R440              | C3                    | C3                | U530A             | D3                    | B3                |
| R442              | C1                    | C3                | U530B             | E3                    | B3                |
| R443              | B4                    | C3                | U530C             | D1                    | B3                |
| R450A             | B3                    | D3                | U530D             | D2                    | B3                |
| R450C             | C2                    | D3                | U535              | D1                    | C3                |
| R450E             | C2                    | D3                | U540A             | C2                    | C3                |
| R450F             | A4                    | D3                | U540B             | D2                    | C3                |
| R455A             | B3                    | D3                | U545A             | C2                    | C3                |
| R455B             | B3                    | D3                | U545B             | C2                    | C3                |
| R455C             | C4                    | D3                | U550B             | B3                    | C3                |
| R455D             | C4                    | D3                | U550C             | B5                    | C3                |
| R455E             | A3                    | D3                | U555A             | C3                    | D3                |
| R455F             | B3                    | D3                | U555B             | B3                    | D3                |
| R455G             | A3                    | D3                | U600              | G4                    | A4                |
| R465E             | C5                    | D3                | U605              | G3                    | A4                |
| R465F             | B5                    | D3                | U608A             | E5                    | A4                |
| R475              | B5                    | E3                | U608B             | D4                    | A4                |
| R482              | B4                    | E3                | U610B             | D4                    | A4                |
| R505A             | E1                    | A3                | U615A             | E5                    | B4                |
| R505B             | F2                    | A3                | U615B             | F5                    | B4                |
| R505C             | G5                    | A3                | U620A             | E5                    | B4                |
| R505D             | G5                    | A3                | U620B             | E5                    | B4                |
| R505E             | D5                    | A3                | U620D             | F5                    | B4                |
| R505F             | D2                    | A3                |                   |                       |                   |

1  
2  
3  
4  
5

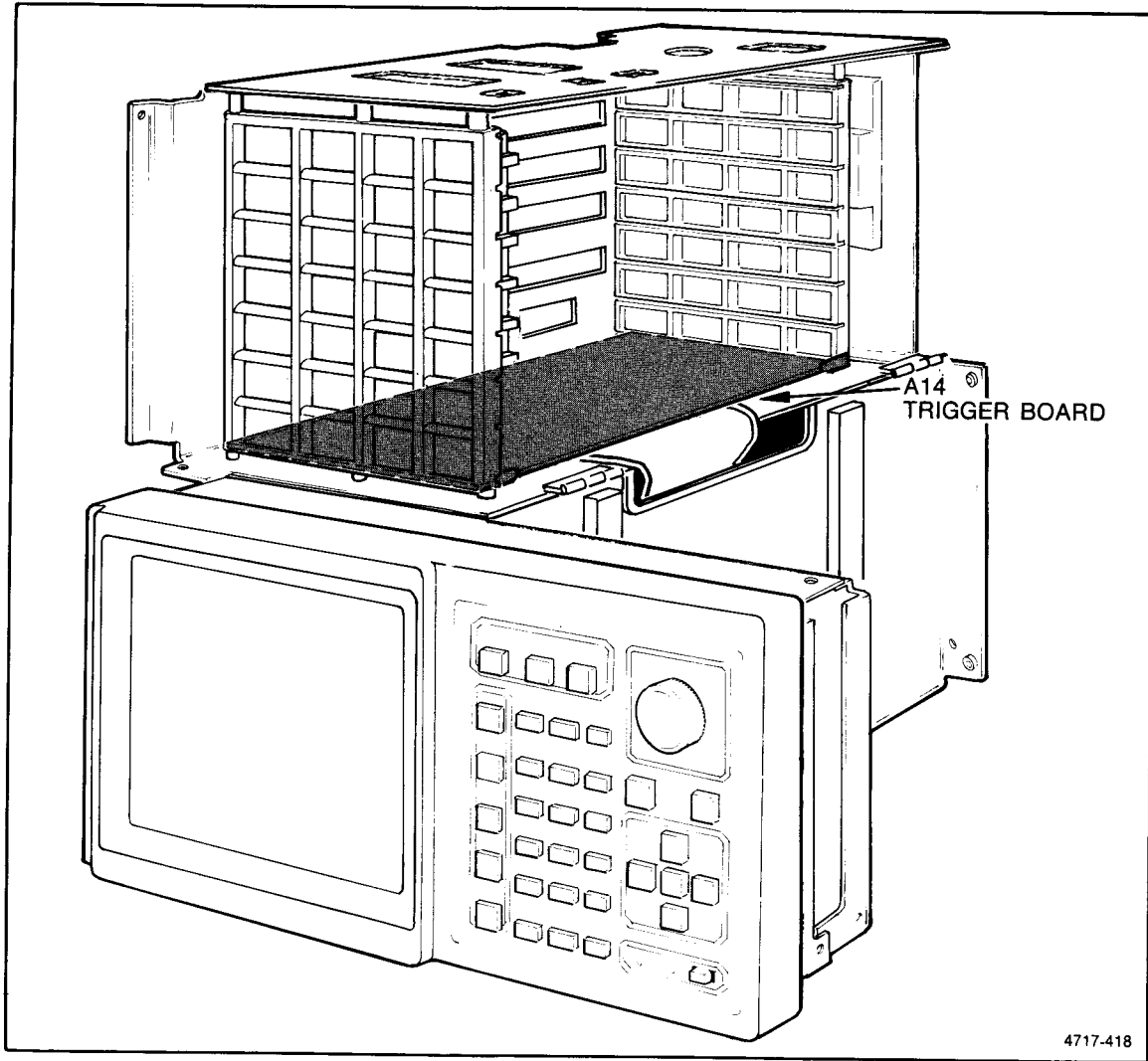
A B C D E F G



COMPONENT NUMBER EXAMPLE  
Component Number  
A23 A2 R1234  
Assembly Number  
Subassembly Number (if used)  
Discrete mounted components have no Assembly Number prefix—see end of Replaceable Electrical Parts List

Static Sensitive Devices  
See Maintenance Section

NOTE: Table 10-1 shows IC Pinout (VCC & Gnd).



**Figure 10-18. A14 Trigger Board Card Cage Location.**

1



4717-417

Table 10-20

670-7523-11 TIMEBASE 1  — TRIGGER BOARD, ASSEMBLY A14

| CIRCUIT<br>NUMBER | SCHEMATIC<br>LOCATION | BOARD<br>LOCATION | CIRCUIT<br>NUMBER | SCHEMATIC<br>LOCATION | BOARD<br>LOCATION |
|-------------------|-----------------------|-------------------|-------------------|-----------------------|-------------------|
| C236              | E2                    | B1                | R565D             | B1                    | D3                |
| C525              | E4                    | B3                | R565F             | C1                    | D3                |
| C533              | E4                    | B3                | R635E             | E5                    | C3                |
| *C650             | F5                    | C3                | R635G             | B4                    | C3                |
| CR165             | C1                    | D1                | *R640B            | F5                    | C3                |
| DL355             | C4                    | C2                | R640C             | A4                    | C3                |
| DL356             | C3                    | D2                | R640E             | F4                    | C3                |
| DL456             | C5                    | D2                | R640F             | A5                    | C3                |
| J246              | D2                    | C1                | R640G             | B4                    | C3                |
| J255              | B3                    | E1                | R655E             | F4                    | D3                |
| J375              | B3                    | E2                | *R658             | F5                    | Bk of Brd         |
| J452              | B5                    | C2                | R670C             | A1                    | D3                |
| J460              | E5                    | D2                | R670E             | A2                    | D3                |
| J550              | C5                    | C3                | TP563             | B2                    | D3                |
| P150              | F1                    | D4                | TP645             | B5                    | C3                |
| P150              | A1                    | D4                | TP646             | A5                    | C3                |
| R155F             | C2                    | D1                | TP648             | B5                    | C4                |
| R240D             | D2                    | C1                | U150A             | F1                    | C1                |
| R240G             | C2                    | C1                | U155A             | C2                    | D1                |
| R250A             | C2                    | C1                | U155B             | D2                    | D1                |
| R250E             | B3                    | C1                | U165              | D1                    | D1                |
| R250F             | B2                    | C1                | U245A             | C2                    | C1                |
| R250G             | B3                    | C1                | U245B             | E2                    | C1                |
| R265D             | D2                    | D1                | U250A             | D2                    | C1                |
| R265E             | C2                    | D1                | U250B             | B3                    | C1                |
| R265F             | B1                    | D1                | U255B             | B2                    | D1                |
| R333              | E2                    | B2                | U260D             | B1                    | D1                |
| R334              | E3                    | B2                | U265A             | C3                    | D1                |
| R335E             | F4                    | C2                | U265C             | B2                    | D1                |
| R348A             | E2                    | C2                | U265D             | B1                    | D1                |
| R348C             | E4                    | C2                | U350A             | D2                    | C2                |
| R358              | F4                    | D2                | U350C             | F4                    | C2                |
| R456              | D5                    | D2                | U450A             | E5                    | C2                |
| R465D             | E4                    | D2                | U450B             | A4                    | C2                |
| R470A             | C4                    | E2                | U460A             | F4                    | D2                |
| R525              | E4                    | B3                | U533A             | E4                    | B3                |
| R538              | A5                    | B3                | U555A             | D5                    | D3                |
| R545B             | C5                    | C3                | U565B             | C1                    | D3                |
| R551              | D5                    | C3                | U645A             | B4                    | C3                |
| R555A             | E5                    | D3                | U645B             | B5                    | C3                |
| R555D             | D5                    | D3                | U650A             | C5                    | C3                |
| R555F             | E5                    | D3                | U650B             | F5                    | C3                |

\*SEE PARTS LIST FOR SERIAL NUMBER RANGES.



Table 10-21

670-7523-10 TIMEBASE 2  — TRIGGER BOARD, ASSEMBLY A14

| CIRCUIT<br>NUMBER | SCHEMATIC<br>LOCATION | BOARD<br>LOCATION | CIRCUIT<br>NUMBER | SCHEMATIC<br>LOCATION | BOARD<br>LOCATION |
|-------------------|-----------------------|-------------------|-------------------|-----------------------|-------------------|
| C132              | D4                    | B1                | R555C             | A5                    | D3                |
| C375              | D5                    | E2                | R555E             | D4                    | D3                |
| C462              | B3                    | D2                | R555G             | A5                    | D3                |
| C550              | B5                    | C3                | R565E             | B2                    | D3                |
| C652              | B4                    | C3                | R565G             | E4                    | D3                |
| DL366             | A3                    | D2                | R640A             | B5                    | C3                |
| DL368             | C5                    | D2                | R652              | A5                    | C3                |
| J148              | D3                    | C1                | R653              | E3                    | C3                |
| J365              | A3                    | D2                | R655B             | C4                    | D3                |
| J372              | C4                    | D2                | R655C             | A4                    | D3                |
| P150              | A5                    | D4                | R655D             | B5                    | D3                |
| P150              | F1                    | D4                | R656              | A4                    | C4                |
| P150              | A1                    | D4                | R657              | A3                    | D4                |
| R133              | D4                    | B1                | R670D             | A1                    | D3                |
| R136              | D4                    | C1                | R670F             | A2                    | D3                |
| R140C             | C2                    | C1                | R672A             | E4                    | E3                |
| R140F             | C2                    | C1                | R672C             | F4                    | E3                |
| R147              | F1                    | C1                | TP260             | B3                    | D1                |
| R155C             | C4                    | D1                | TP262             | B3                    | D1                |
| R155E             | B3                    | D1                | TP649             | A4                    | C4                |
| R155G             | B2                    | D1                | TP654             | A5                    | C3                |
| R250B             | C2                    | C1                | U145A             | C2                    | C1                |
| R250C             | C2                    | C1                | U145B             | D2                    | C1                |
| R250F             | C1                    | C1                | U150B             | F1                    | C1                |
| R265G             | D5                    | D1                | U160              | D1                    | D1                |
| R345              | F4                    | D2                | U255A             | B2                    | D1                |
| R348D             | F4                    | C2                | U260A             | B1                    | D1                |
| R348F             | E5                    | C2                | U265B             | B2                    | D1                |
| R365              | A3                    | D2                | U350B             | E4                    | C2                |
| R366              | B3                    | D2                | U350D             | D2                    | C2                |
| R371              | C4                    | D2                | U360A             | C5                    | D2                |
| R373              | C5                    | D2                | U360B             | B3                    | D2                |
| R374              | C5                    | D2                | U450C             | B5                    | C2                |
| R375              | D5                    | E2                | U450D             | C5                    | C2                |
| R445F             | C5                    | C2                | U460B             | E4                    | D2                |
| R461              | D2                    | D2                | U465A             | B1                    | D2                |
| R462              | B3                    | D2                | U465C             | B3                    | D2                |
| R465A             | B1                    | D2                | U465D             | D4                    | D2                |
| R465E             | B3                    | D2                | U533B             | D4                    | B3                |
| R465G             | E4                    | D2                | U545A             | B3                    | C3                |
| R470C             | B2                    | E2                | U545B             | B4                    | C3                |
| R542              | A4                    | C4                | U545C             | B4                    | C3                |
| R544              | B4                    | C3                | U560              | B5                    | D3                |
| R545D             | D3                    | C3                | U565A             | C1                    | D3                |
| R545E             | B3                    | C3                | U650C             | E4                    | C3                |
| R545F             | B5                    | C3                | U655A             | A5                    | D3                |
| R545G             | A4                    | C3                | U655B             | A4                    | D3                |
| R550              | B5                    | C3                | U660C             | B5                    | D3                |
| R552              | C5                    | C3                | U665C             | F4                    | D3                |
| R554              | B5                    | C3                | U665D             | E4                    | D3                |
| R555B             | A5                    | D3                | W561              | A5                    | D3                |



A B C D E F

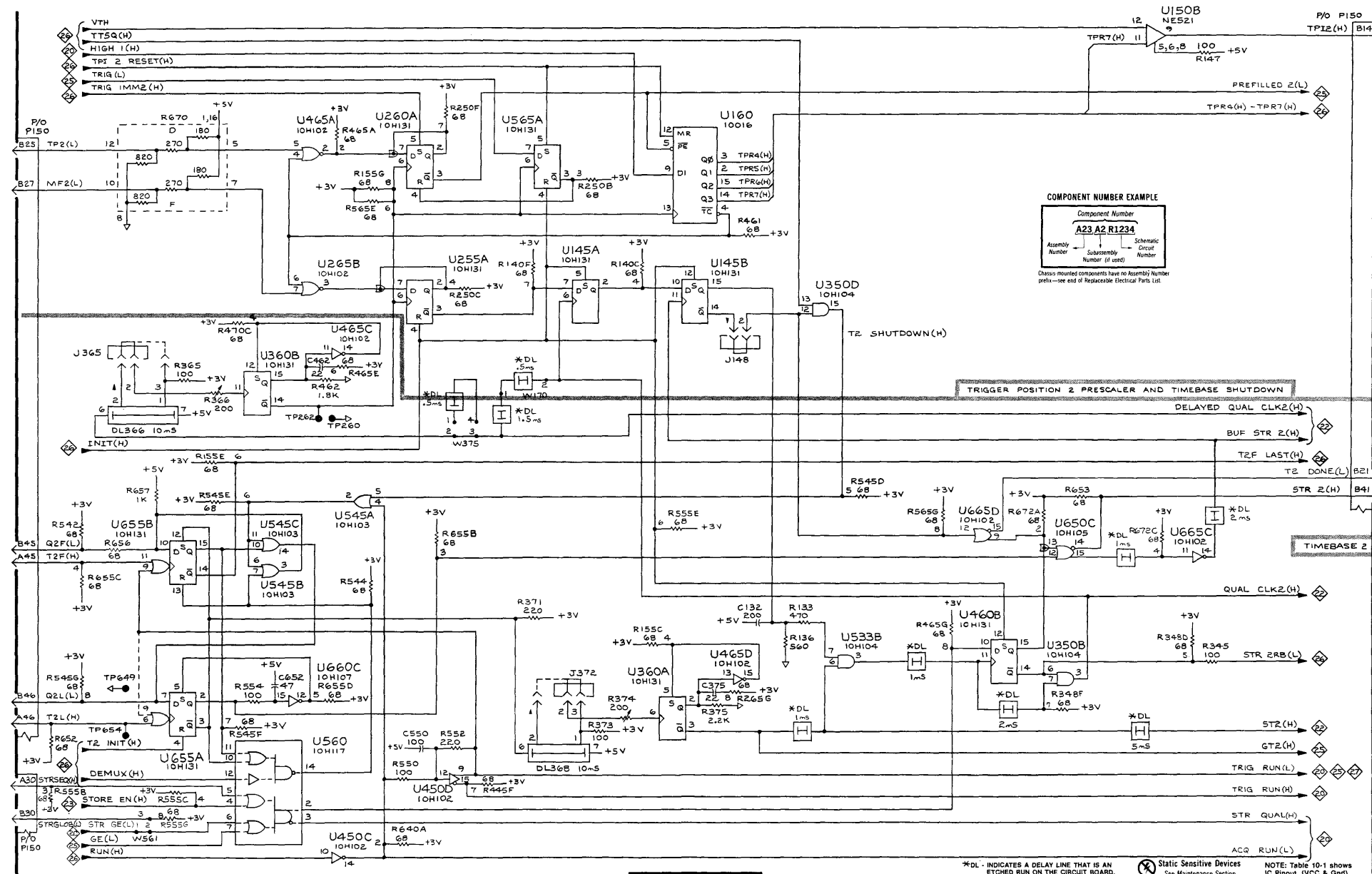
1

2

3

4

5



**COMPONENT NUMBER EXAMPLE**

Component Number  
**A23 A2 R1234**

Assembly Number    Subassembly Number (if used)    Schematic Circuit Number

Chassis mounted components have no Assembly Number  
 prefix—see end of Replaceable Electrical Parts List

\*DL - INDICATES A DELAY LINE THAT IS AN ETCHED RUN ON THE CIRCUIT BOARD.    Static Sensitive Devices See Maintenance Section    NOTE: Table 10-1 shows IC Pinout. (VCC & Gnd).

Table 10-22

670-7523-10 SEQ. TIMING & CORRELATE  — TRIGGER BD., ASSY. A14

| CIRCUIT<br>NUMBER | SCHEMATIC<br>LOCATION | BOARD<br>LOCATION | CIRCUIT<br>NUMBER | SCHEMATIC<br>LOCATION | BOARD<br>LOCATION |
|-------------------|-----------------------|-------------------|-------------------|-----------------------|-------------------|
| C410              | E1                    | A2                | R526              | B3                    | B3                |
| J310              | B3                    | A2                | R585C             | D4                    | F3                |
| J310              | A3                    | A2                | R585F             | B4                    | F3                |
| J385              | D5                    | E2                | R676E             | B5                    | E3                |
| J385              | E5                    | E2                | R685A             | F4                    | F3                |
| J385              | C4                    | E2                | R685C             | F5                    | F3                |
| P150              | F4                    | D4                | R685D             | D4                    | F3                |
| P150              | A4                    | D4                | R685E             | E5                    | F3                |
| R240B             | F2                    | C1                | R685G             | E4                    | F3                |
| R240C             | B2                    | C1                | TP118             | D1                    | A1                |
| R240D             | E2                    | C1                | U240A             | E2                    | C1                |
| R240F             | A3                    | C1                | U240B             | B3                    | C1                |
| R310B             | B2                    | A2                | U240D             | F2                    | C1                |
| R310D             | A3                    | A2                | U315A             | B2                    | A2                |
| R310E             | A2                    | A2                | U315B             | B3                    | A2                |
| R310F             | B3                    | A2                | U415A             | E1                    | A2                |
| R312              | E1                    | A2                | U415B             | D3                    | A2                |
| R314              | C2                    | A2                | U415C             | C2                    | A2                |
| R385              | D5                    | E2                | U415D             | C3                    | A2                |
| R410              | E1                    | A2                | U420A             | E3                    | A2                |
| R412              | E1                    | A2                | U420C             | D2                    | A2                |
| R414              | D3                    | A2                | U425A             | D1                    | B2                |
| R420B             | C2                    | A2                | U425B             | C1                    | B2                |
| R420C             | D1                    | A2                | U480A             | B5                    | E2                |
| R420E             | D1                    | A2                | U480C             | C4                    | E2                |
| R420F             | B1                    | A2                | U485A             | C5                    | E2                |
| R420G             | C1                    | A2                | U525A             | C3                    | B3                |
| R424              | C1                    | B2                | U590A             | D4                    | F3                |
| R428              | B1                    | B2                | U590B             | B4                    | F3                |
| R480B             | B5                    | E2                | U685A             | D5                    | E3                |
| R480E             | C4                    | E2                | U685B             | E5                    | E3                |
| R485B             | C5                    | F2                | U690A             | D4                    | F3                |
| R485D             | C5                    | F2                | U690B             | E4                    | F3                |
| R485E             | C5                    | F2                | W682              | B4                    | E3                |
| R520D             | D3                    | A3                |                   |                       |                   |



Table 10-23

670-7523-10 SEQUENTIAL CONTROL 23 — TRIGGER BOARD, ASSY. A14

| CIRCUIT<br>NUMBER | SCHEMATIC<br>LOCATION | BOARD<br>LOCATION | CIRCUIT<br>NUMBER | SCHEMATIC<br>LOCATION | BOARD<br>LOCATION |
|-------------------|-----------------------|-------------------|-------------------|-----------------------|-------------------|
| J633              | B2                    | B4                | R533B             | A5                    | B3                |
| P150              | F2                    | D4                | R533C             | A5                    | B3                |
| P150              | A5                    | D4                | R533D             | B2                    | B3                |
| R110C             | E3                    | A1                | R533E             | B5                    | B3                |
| R140A             | D1                    | C1                | R533F             | A5                    | B3                |
| R140B             | F1                    | C1                | R533G             | A5                    | B3                |
| R140E             | C1                    | C1                | R625B             | B2                    | B3                |
| R140G             | E1                    | C1                | R625D             | B1                    | B3                |
| R215A             | E3                    | A1                | R625F             | B1                    | B3                |
| R215B             | E3                    | A1                | R635A             | C4                    | C3                |
| R220B             | E3                    | A1                | R635B             | C5                    | C3                |
| R325B             | E3                    | B2                | R635C             | B2                    | C3                |
| R325E             | E3                    | B2                | R635D             | B2                    | C3                |
| R325F             | E3                    | B2                | R635F             | C5                    | C3                |
| R325G             | E3                    | B2                | R640D             | B3                    | C3                |
| R420D             | C5                    | A2                | TP520             | B5                    | A3                |
| R430C             | B3                    | B2                | TP534             | B5                    | B3                |
| R430D             | C5                    | B2                | U135              | B1                    | B1                |
| R430E             | C4                    | B2                | U140              | D3                    | C1                |
| R430F             | B3                    | B2                | U235              | B2                    | B1                |
| R430G             | B3                    | B2                | U330              | B3                    | B2                |
| R433D             | B3                    | B2                | U430              | C3                    | B2                |
| R433F             | C3                    | B2                | U433A             | D3                    | B2                |
| R433G             | C4                    | B2                | U433B             | D3                    | B2                |
| R435C             | B2                    | C2                | U525B             | C5                    | B3                |
| R438              | C4                    | B3                | U530A             | B5                    | B3                |
| R520F             | C5                    | A3                | U530B             | B4                    | B3                |
| R530A             | C5                    | B3                | U533C             | B4                    | B3                |
| R530B             | B5                    | B3                | U533D             | B5                    | B3                |
| R530C             | A5                    | B3                | U535B             | B5                    | B3                |
| R530D             | A4                    | B3                | U540              | F3                    | C3                |
| R530E             | A4                    | B3                | U630              | C1                    | B3                |
| R530F             | A4                    | B3                | U633              | D1                    | B3                |
| R530G             | A4                    | B3                | U635              | E1                    | B3                |
| R533A             | A5                    | B3                | U640              | E1                    | C3                |

A

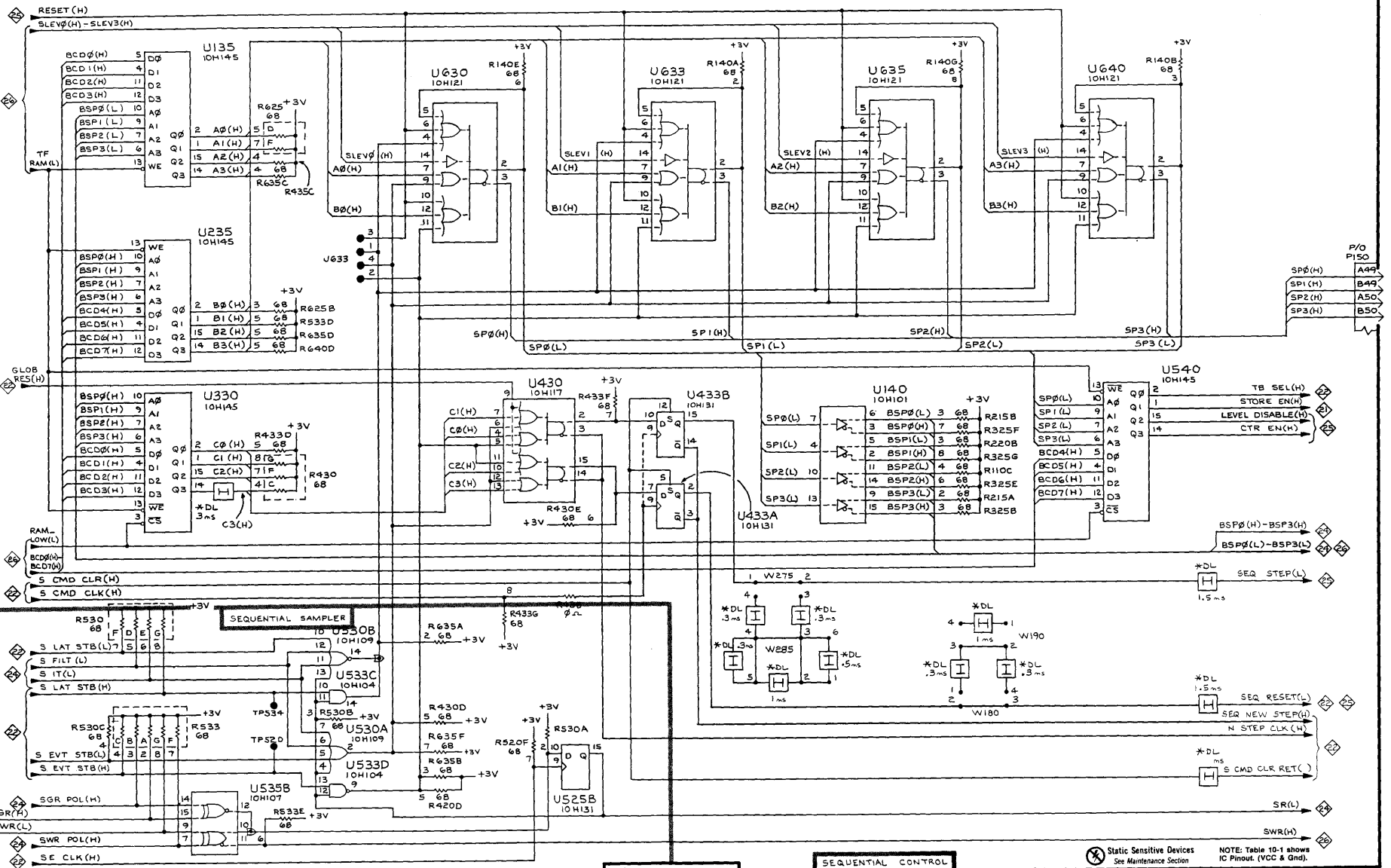
B

C

D

E

F



Static Sensitive Devices  
See Maintenance Section

NOTE: Table 10-1 shows  
IC Pinout. (VCC & Gnd.)

Table 10-24

670-7523-10 SEQ. FILTER & ITERATION CNTR. 24 — TRIGGER BD., ASSY. A14

| CIRCUIT<br>NUMBER | SCHEMATIC<br>LOCATION | BOARD<br>LOCATION | CIRCUIT<br>NUMBER | SCHEMATIC<br>LOCATION | BOARD<br>LOCATION |
|-------------------|-----------------------|-------------------|-------------------|-----------------------|-------------------|
| R110G             | B4                    | A1                | R435B             | E1                    | C2                |
| R215C             | F5                    | A1                | R435D             | E3                    | C2                |
| R215D             | F4                    | A1                | R435E             | C2                    | C2                |
| R215E             | D5                    | A1                | R435F             | C2                    | C2                |
| R215F             | D4                    | A1                | R435G             | C2                    | C2                |
| R215G             | C4                    | A1                | R442              | F1                    | C2                |
| R220C             | D4                    | A1                | R445A             | F1                    | C2                |
| R220D             | F4                    | A1                | R445C             | E2                    | C2                |
| R220E             | C5                    | A1                | R445D             | E3                    | C2                |
| R220F             | D4                    | A1                | R445E             | E2                    | C2                |
| R220G             | D4                    | A1                | R445G             | E3                    | C2                |
| R225C             | C4                    | B1                | U120              | D3                    | A1                |
| R225D             | B5                    | B1                | U125              | C3                    | B1                |
| R225E             | B4                    | B1                | U130              | B3                    | B1                |
| R225F             | C4                    | B1                | U133              | E3                    | B1                |
| R225G             | C4                    | B1                | U215B             | F4                    | A1                |
| R230A             | B4                    | B1                | *U220             | D4                    | A1                |
| R230B             | B4                    | B1                | *U225             | C4                    | B1                |
| R230C             | E4                    | B1                | *U230             | B4                    | B1                |
| R230D             | E4                    | B1                | *U233             | E4                    | B1                |
| R230E             | E5                    | B1                | U320A             | C5                    | A2                |
| R230F             | E4                    | B1                | U320B             | D5                    | A2                |
| R230G             | B4                    | B1                | U320C             | B5                    | A2                |
| R310A             | A4                    | A2                | U325A             | E5                    | B2                |
| R320C             | B5                    | A2                | U325B             | F5                    | B2                |
| R320E             | D5                    | A2                | U333              | E1                    | B2                |
| R320F             | D5                    | A2                | U335              | C1                    | B2                |
| R320G             | C5                    | A2                | U340A             | E2                    | C2                |
| R325C             | E5                    | B2                | U340C             | E2                    | C2                |
| R335B             | D2                    | C2                | U340D             | E2                    | C2                |
| R335C             | D2                    | C2                | U435              | C2                    | B2                |
| R335F             | F3                    | C2                | U440A             | E2                    | C2                |
| R433B             | D2                    | B2                | U440B             | E2                    | C2                |
| R433C             | C2                    | B2                | U445A             | F1                    | C2                |
| R433E             | C2                    | B2                | U445B             | F2                    | C2                |
| R435A             | F3                    | C2                | U445C             | E2                    | C2                |

\*SEE PARTS LIST FOR SERIAL NUMBER RANGES.



Table 10-25

670-7523-10 GLOBAL FILTER & TRIGGER CNTL. 25 — TRIG. BD., ASSY. A14

| CIRCUIT<br>NUMBER | SCHEMATIC<br>LOCATION | BOARD<br>LOCATION | CIRCUIT<br>NUMBER | SCHEMATIC<br>LOCATION | BOARD<br>LOCATION |
|-------------------|-----------------------|-------------------|-------------------|-----------------------|-------------------|
| C382              | D2                    | E2                | R585G             | D4                    | F3                |
| CR340             | B5                    | C2                | R586              | D4                    | F2                |
| CR585             | D4                    | F1                | R655F             | B4                    | D3                |
| DL480             | B4                    | E2                | R655G             | C4                    | D3                |
| DL575             | B3                    | E3                | R672E             | D3                    | E3                |
| J385              | C5                    | E2                | R672F             | B2                    | E3                |
| J385              | C4                    | E2                | R676B             | B2                    | E3                |
| P150              | F2                    | D4                | R676C             | B3                    | E3                |
| P150              | A1                    | D4                | R676F             | B4                    | E3                |
| R348E             | A5                    | C2                | R676G             | B2                    | E3                |
| R348G             | A5                    | C2                | R679              | B2                    | E4                |
| R378              | C2                    | E2                | R680              | B3                    | E3                |
| R445B             | A5                    | C2                | R681              | A3                    | E3                |
| R465B             | D2                    | D2                | R685F             | E5                    | F3                |
| R465C             | C2                    | D2                | TP343             | B5                    | C2                |
| R465F             | B3                    | D2                | TP344             | B5                    | C2                |
| R470B             | C2                    | E2                | U345              | B5                    | C2                |
| R470D             | F2                    | E2                | U465B             | B3                    | D2                |
| R470E             | C2                    | E2                | U470A             | C2                    | D2                |
| R470F             | D2                    | E2                | U470B             | D1                    | D2                |
| R470G             | D3                    | E2                | U470C             | D3                    | D2                |
| R476              | B3                    | E2                | U470D             | F2                    | D2                |
| R480A             | B3                    | E2                | U475A             | D2                    | E2                |
| R480B             | C4                    | E2                | U475C             | C2                    | E2                |
| R480C             | B4                    | E2                | U480D             | B4                    | E2                |
| R480D             | E5                    | E2                | U485A             | E4                    | E2                |
| R480F             | C2                    | E2                | U485B             | D4                    | E2                |
| R480G             | C4                    | E2                | U490              | F5                    | F2                |
| R485B             | C3                    | F2                | U545D             | B1                    | C3                |
| R485C             | D4                    | F2                | U570              | E1                    | D3                |
| R485F             | D5                    | F2                | U575B             | A4                    | E3                |
| R525A             | A1                    | B3                | U580              | C3                    | E3                |
| R545C             | B1                    | C3                | U585A             | D4                    | E3                |
| R565A             | B1                    | D3                | U585B             | D4                    | E3                |
| R565B             | A4                    | D3                | U595A             | C4                    | F3                |
| R565C             | B1                    | D3                | U595B             | E4                    | F3                |
| R570A             | E1                    | E3                | U595C             | D4                    | F3                |
| R570B             | E1                    | E3                | U660A             | C4                    | D3                |
| R570E             | A2                    | E3                | U660D             | C4                    | D3                |
| R570F             | E1                    | E3                | U675              | B2                    | E3                |
| R570G             | A2                    | E3                | U680A             | B3                    | E3                |
| R585A             | A2                    | F3                | U680B             | B3                    | E3                |
| R585D             | C4                    | F3                | U695C             | E4                    | F3                |
| R585E             | C4                    | F3                |                   |                       |                   |





Table 10-26

670-7523-10 PROCESSOR INTERFACE  — TRIGGER BD., ASSY. A14

| CIRCUIT<br>NUMBER | SCHEMATIC<br>LOCATION | BOARD<br>LOCATION | CIRCUIT<br>NUMBER | SCHEMATIC<br>LOCATION | BOARD<br>LOCATION |
|-------------------|-----------------------|-------------------|-------------------|-----------------------|-------------------|
| C175              | E5                    | E1                | R295F             | B3                    | F1                |
| C178              | E5                    | E1                | R295G             | B3                    | F1                |
| C180              | E5                    | E1                | R320A             | B5                    | A2                |
| C185              | E5                    | F1                | R388              | D5                    | F2                |
| C190              | E5                    | F1                | R395A             | B3                    | F2                |
| C210              | D5                    | A2                | R395B             | C2                    | F2                |
| CR295             | E5                    | F1                | R395C             | B2                    | F2                |
| P150              | A1                    | D4                | R395D             | B1                    | F2                |
| R110A             | C2                    | A1                | R395E             | B1                    | F2                |
| R110B             | C2                    | A1                | R395F             | B2                    | F2                |
| R110D             | C2                    | A1                | R395G             | B1                    | F2                |
| R110E             | C2                    | A1                | R495A             | B1                    | F2                |
| R110F             | C2                    | A1                | R495B             | B1                    | F2                |
| R155A             | C3                    | D1                | R495C             | B1                    | F2                |
| R185              | E5                    | E1                | R495D             | A2                    | F2                |
| R220A             | C4                    | A1                | R495E             | A2                    | F2                |
| R225A             | C2                    | B1                | R495F             | B1                    | F2                |
| R225B             | A5                    | B1                | R655A             | B1                    | D3                |
| R265A             | C5                    | D1                | U110              | D2                    | A1                |
| R265B             | C3                    | D1                | U115              | C2                    | A1                |
| R265C             | C3                    | D1                | U170              | E5                    | D1                |
| R275A             | D2                    | E1                | U175              | E4                    | E1                |
| R275B             | D2                    | E1                | U180              | E3                    | E1                |
| R275C             | D4                    | E1                | U185              | E1                    | E1                |
| R275D             | D2                    | E1                | U190              | E2                    | F1                |
| R275E             | D2                    | E1                | U210              | B5                    | A1                |
| R275F             | C5                    | E1                | U215A             | C2                    | A1                |
| R285A             | C4                    | F1                | U270              | D3                    | D1                |
| R285B             | C4                    | F1                | U275              | D5                    | E1                |
| R285C             | D1                    | F1                | U280              | D2                    | E1                |
| R285D             | D1                    | F1                | U285              | D4                    | E1                |
| R285E             | C4                    | F1                | U290              | D1                    | F2                |
| R285F             | D1                    | F1                | U295              | A3                    | F1                |
| R285G             | D1                    | F1                | U395              | B2                    | F2                |
| R295A             | B3                    | F1                | U495              | B1                    | F2                |
| R295B             | B3                    | F1                | U665A             | B2                    | D3                |
| R295C             | B3                    | F1                | U695A             | F5                    | F3                |
| R295D             | B3                    | F1                | U695B             | B2                    | F3                |
| R295E             | B3                    | F1                |                   |                       |                   |

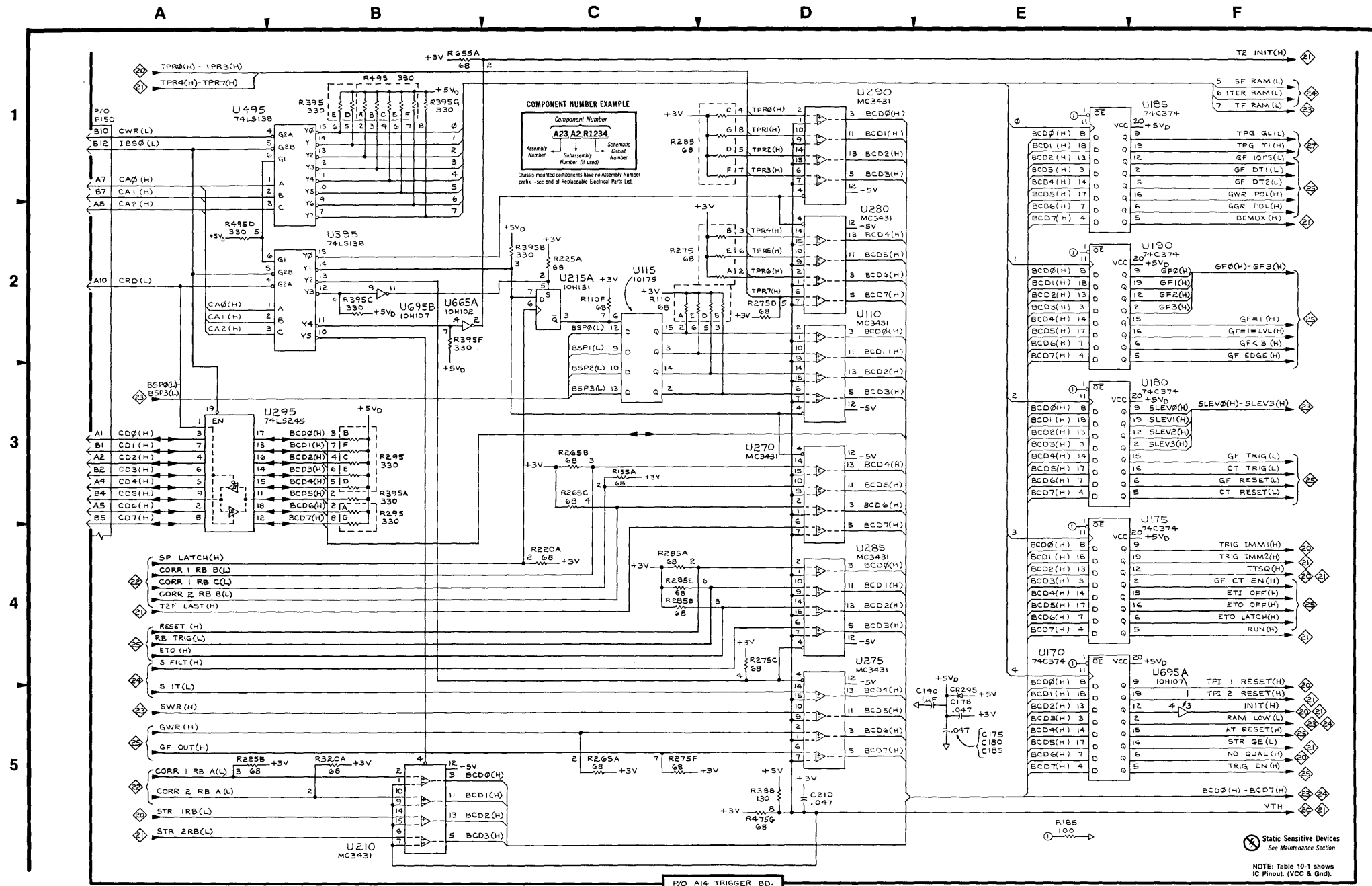
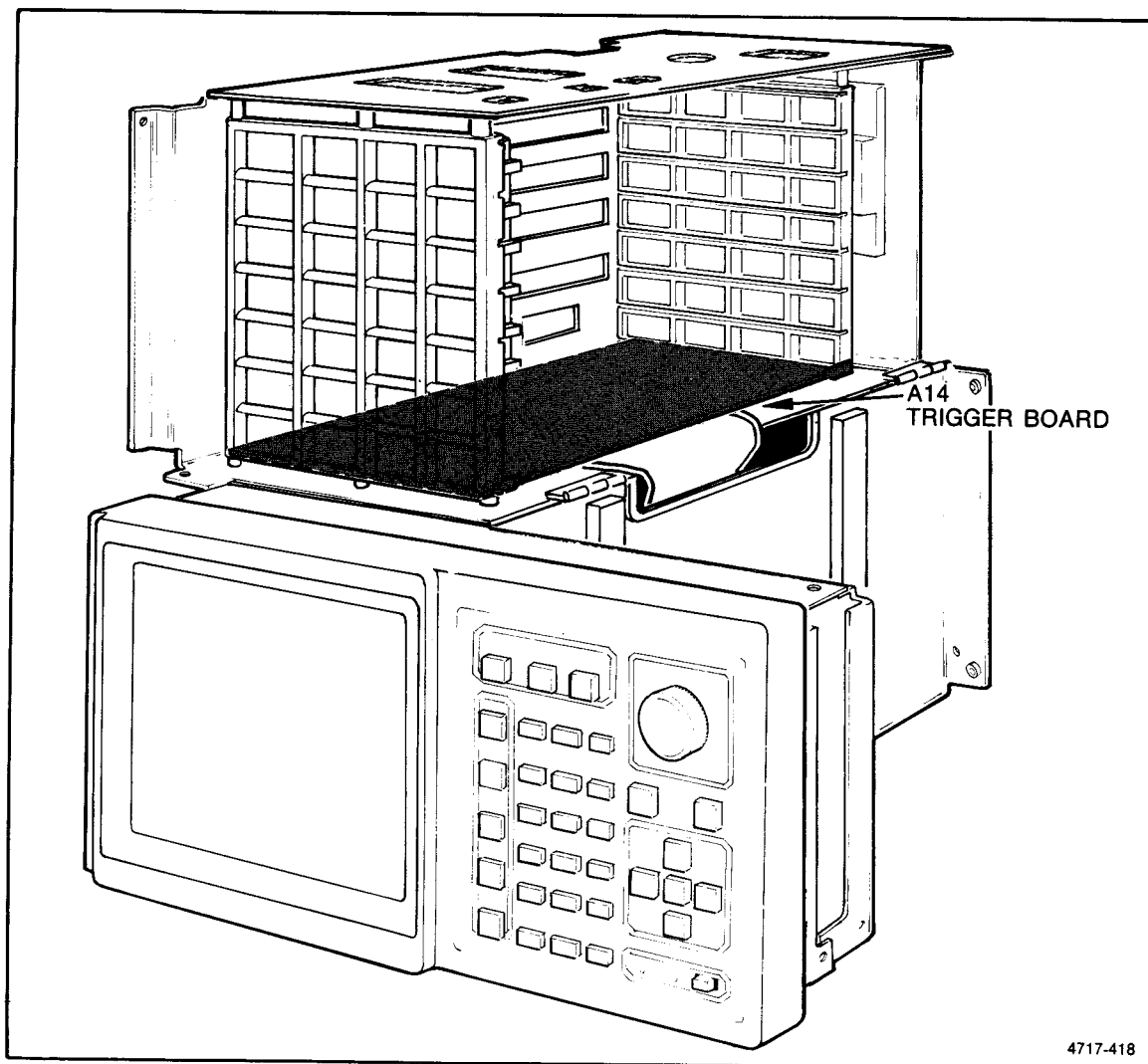


Table 10-27

670-7523-10 TEST PATTERN GENERATION 27 — TRIGGER BD., ASSY. A14

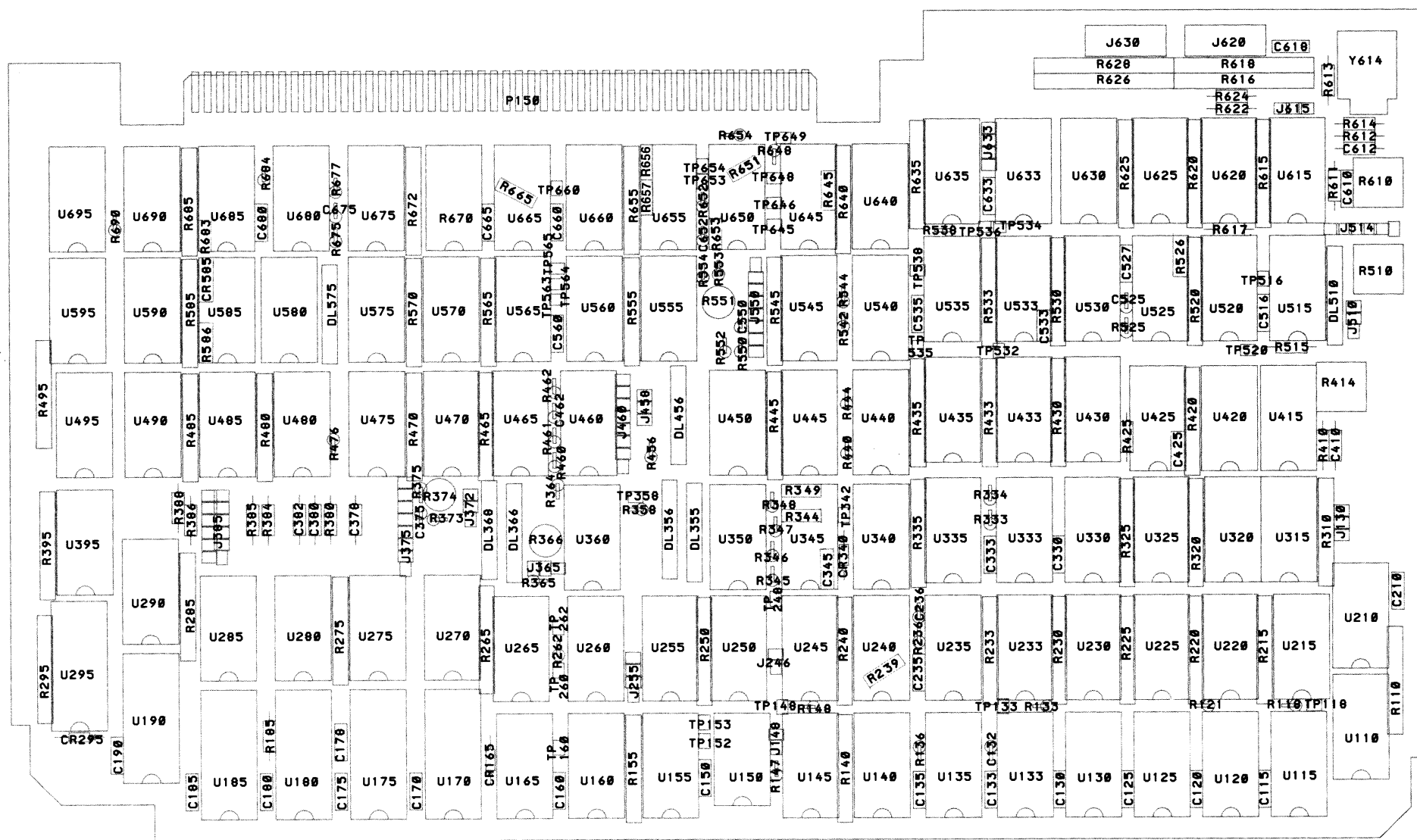
| CIRCUIT<br>NUMBER | SCHEMATIC<br>LOCATION | BOARD<br>LOCATION | CIRCUIT<br>NUMBER | SCHEMATIC<br>LOCATION | BOARD<br>LOCATION |
|-------------------|-----------------------|-------------------|-------------------|-----------------------|-------------------|
| C115              | A4                    | A1                | R615D             | D2                    | A3                |
| C120              | A3                    | A1                | R615E             | D3                    | A3                |
| C125              | A3                    | B1                | R615F             | D5                    | A3                |
| C130              | A4                    | B1                | R615G             | D2                    | A3                |
| C133              | A3                    | B1                | R616              | F3                    | A4                |
| C135              | A3                    | C1                | R617              | B3                    | A3                |
| C150              | A4                    | C1                | R618              | F4                    | A4                |
| C160              | A3                    | D1                | R620A             | E3                    | A3                |
| C235              | A3                    | C1                | R620B             | E3                    | A3                |
| C330              | A3                    | B2                | R620C             | E3                    | A3                |
| C333              | A4                    | B2                | R620D             | E3                    | A3                |
| C516              | A4                    | A3                | R620E             | E2                    | A3                |
| C527              | A4                    | B3                | R620F             | E2                    | A3                |
| C535              | A3                    | C3                | R622              | E5                    | A4                |
| C560              | A3                    | D3                | R624              | E4                    | A4                |
| C610              | A1                    | A3                | R625A             | C2                    | B3                |
| C612              | B1                    | A4                | R625C             | D3                    | B3                |
| C618              | A4                    | A4                | R625E             | D3                    | B3                |
| C633              | A3                    | B3                | R625G             | E1                    | B3                |
| C660              | A3                    | D3                | R626              | F2                    | B4                |
| C665              | A3                    | D3                | R628              | F3                    | B4                |
| DL510             | C3                    | A3                | TP160             | A4                    | D1                |
| J385              | A5                    | E2                | TP180             | A4                    | E1                |
| J510              | C3                    | A3                | TP248             | A4                    | C2                |
| J514              | D4                    | A3                | TP358             | A4                    | D2                |
| J615              | E4                    | A4                | TP516             | A4                    | A3                |
| J620              | F4                    | A4                | TP535             | A4                    | C3                |
| J630              | F2                    | B4                | TP536             | A4                    | B3                |
| R510              | B3                    | A3                | TP538             | A4                    | C3                |
| R515              | C3                    | A3                | TP660             | A4                    | D3                |
| R520B             | B2                    | A3                | TP695             | A4                    | F3                |
| R520C             | D1                    | A3                | U515A             | B3                    | A3                |
| R520F             | C1                    | A3                | U515B             | C1                    | A3                |
| R520G             | B2                    | A3                | U520              | B1                    | A3                |
| R521              | B2                    | A3                | U535A             | D2                    | B3                |
| R610              | E4                    | A3                | U615A             | D1                    | A3                |
| R611              | B1                    | A3                | U615B             | B1                    | A3                |
| R612              | A1                    | A4                | U615C             | B1                    | A3                |
| R613              | D1                    | A4                | U615D             | E4                    | A3                |
| R614              | C1                    | A4                | U620              | D2                    | A3                |
| R615A             | B3                    | A3                | U625              | E2                    | B3                |
| R615B             | B1                    | A3                | Y614              | A1                    | A4                |
| R615C             | D2                    | A3                |                   |                       |                   |





**Figure 10-18a. A14 Trigger Board Card Cage Location.**

1



**Figure 10-17a. A14 Trigger Board Component Locations (670-7523-09 & below).**

Table 10-20a

670-7523-09 TIMEBASE 1



— TRIGGER BOARD, ASSEMBLY A14

| CIRCUIT<br>NUMBER | SCHEMATIC<br>LOCATION | BOARD<br>LOCATION | CIRCUIT<br>NUMBER | SCHEMATIC<br>LOCATION | BOARD<br>LOCATION |
|-------------------|-----------------------|-------------------|-------------------|-----------------------|-------------------|
| C236              | E2                    | C1                | R640C             | B5                    | C3                |
| C525              | E4                    | B3                | R640E             | F4                    | C3                |
| C533              | E4                    | B3                | R640F             | B4                    | C3                |
| CR165             | C1                    | D1                | R645              | B4                    | C3                |
| DL355             | C4                    | C2                | R648              | A5                    | C4                |
| DL356             | C3                    | D2                | R651              | F5                    | C3                |
| DL456             | D5                    | D2                | R655E             | F4                    | D3                |
| J246              | D2                    | C1                | R670C             | A1                    | D3                |
| J255              | F3                    | D1                | R670E             | A1                    | D3                |
| J375              | B3                    | E2                | TP152             | C2                    | C1                |
| J458              | D5                    | D2                | TP153             | C2                    | C1                |
| J460              | D5                    | D2                | TP563             | B2                    | D3                |
| J550              | B5                    | C3                | TP564             | B2                    | D3                |
| P150              | A1                    | D4                | TP565             | C1                    | D3                |
| P150              | F1                    | D4                | TP645             | B5                    | C3                |
| R148              | A3                    | C1                | TP646             | A5                    | C3                |
| R155F             | C2                    | D1                | TP648             | B5                    | C3                |
| R240D             | D2                    | C1                | TP653             | B4                    | C3                |
| R240G             | C2                    | C1                | U150A             | F1                    | C1                |
| R250A             | C2                    | C1                | U155A             | C2                    | D1                |
| R250E             | B3                    | C1                | U155B             | D2                    | D1                |
| R250F             | B2                    | C1                | *U165             | D1                    | D1                |
| R262              | C2                    | D1                | U245A             | C2                    | C1                |
| R265D             | D2                    | D1                | U245B             | E2                    | C1                |
| R265F             | B1                    | D1                | U250A             | D2                    | C1                |
| R333              | E2                    | B2                | U250B             | B3                    | C1                |
| R334              | E3                    | B2                | U255B             | B2                    | D1                |
| R335E             | F4                    | C2                | U260B             | B1                    | D1                |
| R346              | E4                    | C2                | U265A             | C3                    | D1                |
| R347              | E2                    | C2                | U265C             | B2                    | D1                |
| R358              | F4                    | D2                | U265D             | B1                    | D1                |
| R456              | D5                    | D2                | U350A             | D2                    | C2                |
| R465D             | E4                    | D2                | U350C             | F4                    | C2                |
| R470A             | C4                    | E2                | U450A             | E5                    | C2                |
| R525              | E4                    | B3                | U450B             | A4                    | C2                |
| R538              | A5                    | B3                | U460A             | F4                    | D2                |
| R545B             | C5                    | C3                | U533A             | E4                    | B3                |
| R551              | D5                    | C3                | U555A             | D5                    | D3                |
| R555A             | E5                    | D3                | U555B             | E5                    | D3                |
| R555D             | E5                    | D3                | U565B             | C1                    | D3                |
| R555F             | E5                    | D3                | U645A             | B4                    | C3                |
| R565D             | B1                    | D3                | U645B             | B5                    | C3                |
| R565F             | C1                    | D3                | U650A             | C5                    | C3                |
| R635E             | D5                    | C3                | U650B             | F5                    | C3                |
| R640B             | A4                    | C3                | U665B             | F4                    | D3                |

\*SEE PARTS LIST FOR SERIAL NUMBER RANGES.





Table 10-21a

670-7523-09 TIMEBASE 2  — TRIGGER BOARD, ASSEMBLY A14

| CIRCUIT<br>NUMBER | SCHEMATIC<br>LOCATION | BOARD<br>LOCATION | CIRCUIT<br>NUMBER | SCHEMATIC<br>LOCATION | BOARD<br>LOCATION |
|-------------------|-----------------------|-------------------|-------------------|-----------------------|-------------------|
| C132              | D4                    | B1                | R555G             | A5                    | D3                |
| C375              | D5                    | E2                | R565E             | B2                    | D3                |
| C462              | B3                    | D2                | R565G             | E3                    | D3                |
| C550              | B5                    | C3                | R640A             | B5                    | C3                |
| C652              | B4                    | C3                | R652              | A5                    | C3                |
| DL366             | A3                    | D2                | R653              | E3                    | C3                |
| DL368             | C5                    | D2                | R654              | A4                    | C4                |
| J148              | D3                    | C1                | R655B             | E3                    | D3                |
| J365              | A3                    | D2                | R655C             | A4                    | D3                |
| J372              | C4                    | D2                | R655D             | B5                    | D3                |
| P150              | A1                    | D4                | *R656             | A4                    | D3                |
| P150              | F1                    | D4                | *R657             | A3                    | D3                |
| R133              | D4                    | B1                | R665              | F4                    | D3                |
| R136              | D4                    | C1                | R670D             | A1                    | D3                |
| R140F             | C2                    | C1                | R670F             | A1                    | D3                |
| R147              | F1                    | C1                | R683              | D3                    | E3                |
| R155C             | C4                    | D1                | TP148             | C3                    | C1                |
| R155E             | B3                    | D1                | TP260             | B3                    | D1                |
| R155G             | B2                    | D1                | TP262             | B3                    | D1                |
| R240A             | C2                    | C1                | TP649             | A4                    | C3                |
| R250B             | C2                    | C1                | TP654             | A5                    | C4                |
| R250C             | C2                    | C1                | U145A             | C2                    | C1                |
| R250D             | C1                    | C1                | U145B             | D2                    | C1                |
| R265G             | D5                    | D1                | U150B             | F1                    | C1                |
| R345              | F4                    | C2                | *U160             | D1                    | D1                |
| R348              | E5                    | C2                | U255A             | B2                    | D1                |
| R364              | B2                    | D2                | U260A             | B1                    | D1                |
| R365              | A3                    | D2                | U265B             | B2                    | D1                |
| R366              | B3                    | D2                | U350B             | E4                    | C2                |
| R373              | C5                    | D2                | U350D             | D2                    | C2                |
| R374              | C5                    | D2                | U360A             | D5                    | D2                |
| R375              | D5                    | E2                | U360B             | B3                    | D2                |
| R445A             | F4                    | C2                | U450C             | B5                    | C2                |
| R445F             | C5                    | C2                | U450D             | C5                    | C2                |
| R460              | E4                    | D2                | U460B             | E4                    | D2                |
| R461              | D2                    | D2                | U465A             | B1                    | D2                |
| R462              | B3                    | D2                | U465C             | B3                    | D2                |
| R465A             | B1                    | D2                | U465D             | D4                    | D2                |
| R465E             | B3                    | D2                | U533B             | D4                    | B3                |
| R465G             | E4                    | D2                | U545A             | B3                    | C3                |
| R544              | B4                    | C3                | U545B             | B4                    | C3                |
| R545D             | D3                    | C3                | U545C             | B4                    | C3                |
| R545E             | B3                    | C3                | U560              | B5                    | D3                |
| R545F             | B5                    | C3                | U565A             | C1                    | D3                |
| R545G             | A4                    | C3                | U650C             | E4                    | C3                |
| R550              | B5                    | C3                | U655A             | A5                    | D3                |
| R552              | C5                    | C3                | U655B             | A4                    | D3                |
| R553              | C4                    | C3                | U660C             | B5                    | D3                |
| R554              | B5                    | C3                | U665C             | F4                    | D3                |
| R555C             | A5                    | D3                | U665D             | E4                    | D3                |
| R555E             | C4                    | D3                |                   |                       |                   |

\*SEE PARTS LIST FOR SERIAL NUMBER RANGES.

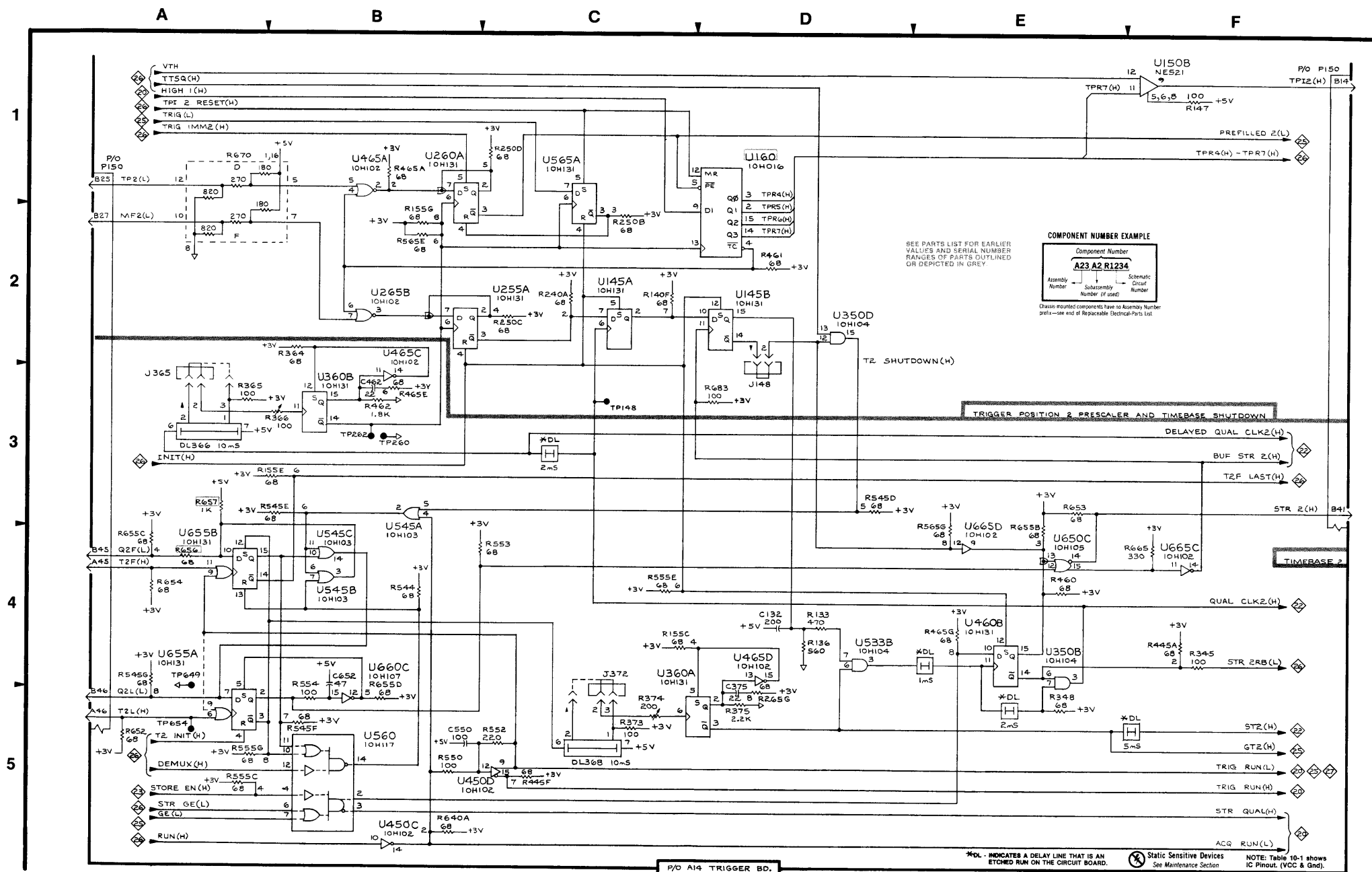


Table 10-22a

670-7523-09 SEQ. TIMING & CORRELATE **22A** — TRIGGER BD., ASSY. A14

| CIRCUIT<br>NUMBER | SCHEMATIC<br>LOCATION | BOARD<br>LOCATION | CIRCUIT<br>NUMBER | SCHEMATIC<br>LOCATION | BOARD<br>LOCATION |
|-------------------|-----------------------|-------------------|-------------------|-----------------------|-------------------|
| C410              | E1                    | A2                | R526              | B3                    | A3                |
| C425              | D1                    | A2                | R585C             | D4                    | E3                |
| J310              | A3                    | A2                | R585F             | B4                    | E3                |
| J310              | B3                    | A2                | R684              | D5                    | E3                |
| J385              | D5                    | E2                | R685C             | F5                    | E3                |
| J385              | E5                    | E2                | R685D             | D4                    | E3                |
| J385              | C4                    | E2                | R685G             | E4                    | E3                |
| P150              | F4                    | D4                | R690              | F4                    | F3                |
| R236              | E2                    | C1                | TP118             | D1                    | A1                |
| R239              | B2                    | C1                | TP532             | F2                    | B3                |
| R240B             | F2                    | C1                | U240A             | E2                    | C1                |
| R240C             | F1                    | C1                | U240B             | B3                    | C1                |
| R240F             | A3                    | C1                | U240D             | F2                    | C1                |
| R310B             | B2                    | A2                | U315A             | B2                    | A2                |
| R310C             | B2                    | A2                | U315B             | B3                    | A2                |
| R310D             | A3                    | A2                | U415A             | E1                    | A2                |
| R310E             | A2                    | A2                | U415B             | D3                    | A2                |
| R310F             | B3                    | A2                | U415C             | C2                    | A2                |
| R310G             | D3                    | A2                | U415D             | C3                    | A2                |
| R384              | C5                    | E2                | U420A             | E3                    | A2                |
| R385              | D5                    | E2                | U420C             | D2                    | A2                |
| R410              | E1                    | A2                | U425A             | D1                    | B2                |
| R414              | D3                    | A2                | U425B             | C1                    | B2                |
| R420B             | C2                    | A2                | U480C             | C4                    | E2                |
| R420C             | D1                    | A2                | U480D             | B5                    | E2                |
| R420F             | B1                    | A2                | U485A             | C5                    | E2                |
| R420G             | C1                    | A2                | U525A             | C3                    | B3                |
| R425              | E2                    | B2                | U590A             | D4                    | F3                |
| R480C             | B5                    | E2                | U590B             | B4                    | F3                |
| R480E             | C4                    | E2                | U685A             | D5                    | E3                |
| R480F             | B5                    | E2                | U685B             | E5                    | E3                |
| R485D             | C4                    | E2                | U690A             | D4                    | F3                |
| R485E             | C5                    | E2                | U690B             | E4                    | F3                |

A

B

C

D

E

F

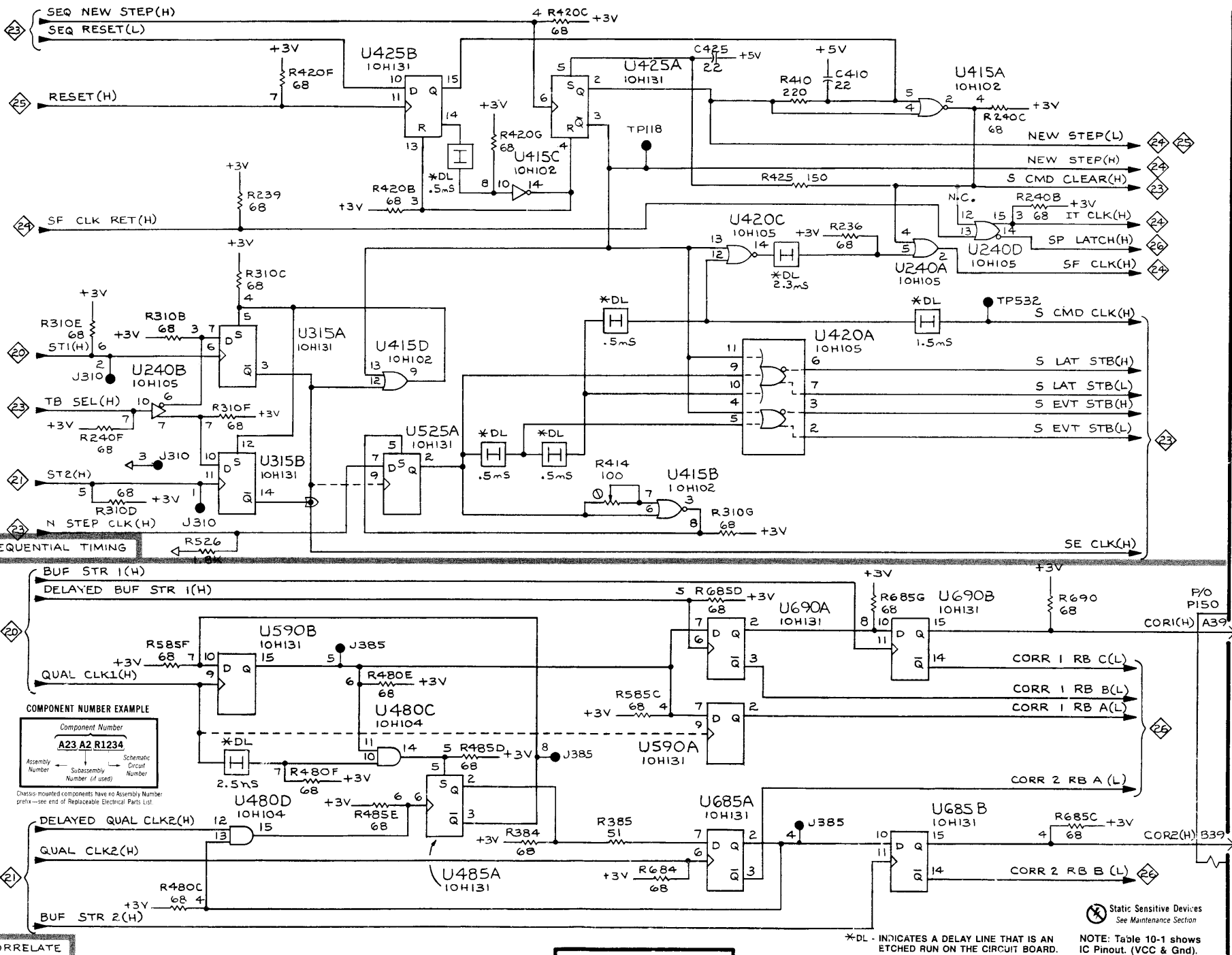


Table 10-23a

670-7523-09 SEQUENTIAL CONTROL  — TRIGGER BOARD, ASSY. A14

| CIRCUIT<br>NUMBER | SCHEMATIC<br>LOCATION | BOARD<br>LOCATION | CIRCUIT<br>NUMBER | SCHEMATIC<br>LOCATION | BOARD<br>LOCATION |
|-------------------|-----------------------|-------------------|-------------------|-----------------------|-------------------|
| J633              | B2                    | B4                | R533C             | A5                    | B3                |
| P150              | F2                    | D4                | R533D             | B2                    | B3                |
| P150              | A5                    | D4                | R533E             | B5                    | B3                |
| R110C             | E3                    | A1                | R533F             | A5                    | B3                |
| R140A             | D1                    | C1                | R533G             | A5                    | B3                |
| R140B             | F1                    | C1                | R625B             | B2                    | B3                |
| R140E             | C1                    | C1                | R625D             | B1                    | B3                |
| R140G             | E1                    | C1                | R625F             | B1                    | B3                |
| R215A             | E3                    | A1                | R635A             | C4                    | C3                |
| R215B             | E3                    | A1                | R635B             | C5                    | C3                |
| R220B             | E3                    | A1                | R635C             | B2                    | C3                |
| R325B             | E3                    | B2                | R635D             | B2                    | C3                |
| R325E             | E3                    | B2                | R635F             | B2                    | C3                |
| R325F             | E3                    | B2                | R640D             | B3                    | C3                |
| R325G             | E3                    | B2                | R640G             | C5                    | C3                |
| R420D             | C5                    | A2                | TP520             | B5                    | A3                |
| R430B             | C4                    | B2                | TP534             | B5                    | B3                |
| R430C             | B3                    | B2                | U135              | B1                    | B1                |
| R430D             | C5                    | B2                | U140              | D3                    | C1                |
| R430E             | C3                    | B2                | U235              | B2                    | B1                |
| R430F             | B3                    | B2                | U330              | B3                    | B2                |
| R430G             | B3                    | B2                | U430              | C3                    | B2                |
| R433D             | B3                    | B2                | U433A             | D3                    | B2                |
| R433F             | C3                    | B2                | U433B             | D3                    | B2                |
| R433G             | D4                    | B2                | U525B             | C5                    | B3                |
| R520G             | C5                    | A3                | U530A             | B5                    | B3                |
| R530A             | C5                    | B3                | U530B             | B4                    | B3                |
| R530B             | B5                    | B3                | U533C             | B4                    | B3                |
| R530C             | A5                    | B3                | U533D             | B5                    | B3                |
| R530D             | A4                    | B3                | U535B             | B5                    | B3                |
| R530E             | A4                    | B3                | U540              | F3                    | C3                |
| R530F             | A4                    | B3                | U630              | C1                    | B3                |
| R530G             | A4                    | B3                | U633              | D1                    | B3                |
| R533A             | A5                    | B3                | U635              | E1                    | B3                |
| R533B             | A5                    | B3                | U640              | E1                    | C3                |

A B C D E F

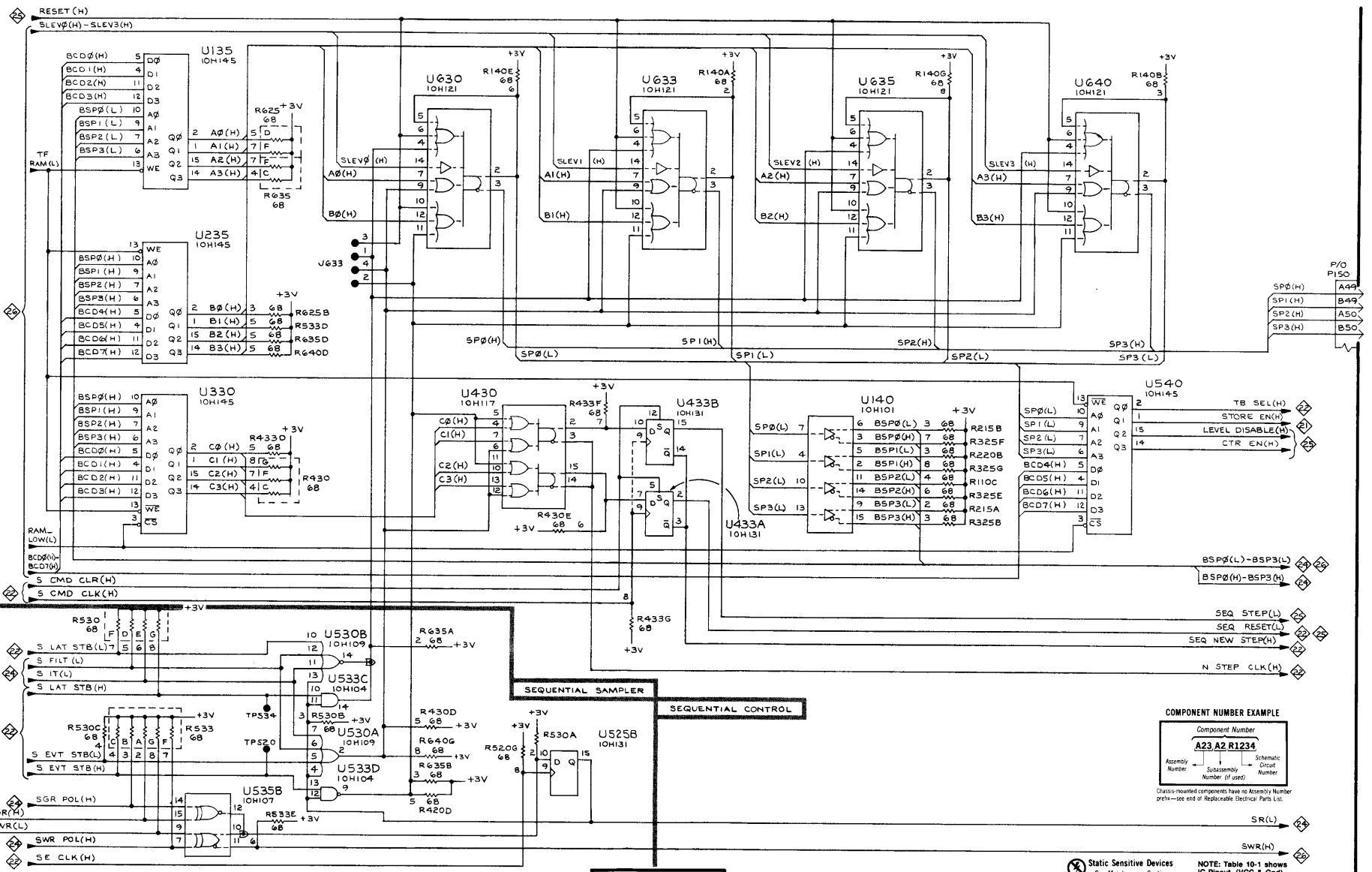


Table 10-24a

670-7523-09 SEQ. FILTER & ITERATION CNTR.  — TRIG. BD., ASSY. A14

| CIRCUIT<br>NUMBER | SCHEMATIC<br>LOCATION | BOARD<br>LOCATION | CIRCUIT<br>NUMBER | SCHEMATIC<br>LOCATION | BOARD<br>LOCATION |
|-------------------|-----------------------|-------------------|-------------------|-----------------------|-------------------|
| R110G             | B4                    | A1                | R435B             | E1                    | C2                |
| R118              | F4                    | A1                | R435D             | E3                    | C2                |
| R215C             | F5                    | A1                | R435E             | C2                    | C2                |
| R215D             | F4                    | A1                | R435F             | C2                    | C2                |
| R215E             | D5                    | A1                | R435G             | C2                    | C2                |
| R215F             | D4                    | A1                | R444              | E3                    | C2                |
| R215G             | C4                    | A1                | R445C             | E2                    | C2                |
| R220C             | D4                    | A1                | R445D             | E3                    | C2                |
| R220D             | F4                    | A1                | R445E             | E2                    | C2                |
| R220E             | C5                    | A1                | R445G             | F1                    | C2                |
| R220F             | D4                    | A1                | TP133             | E4                    | B1                |
| R220G             | D4                    | A1                | U120              | D3                    | A1                |
| R225C             | C4                    | B1                | U125              | C3                    | B1                |
| R225D             | B5                    | B1                | U130              | B3                    | B1                |
| R225E             | B4                    | B1                | U133              | E3                    | B1                |
| R225F             | C4                    | B1                | U215B             | F4                    | A1                |
| R225G             | C4                    | B1                | *U220             | D4                    | A1                |
| R230C             | B4                    | B1                | *U225             | C4                    | B1                |
| R230D             | B4                    | B1                | *U230             | B4                    | B1                |
| R230E             | E5                    | B1                | *U233             | E4                    | B1                |
| R230F             | E4                    | B1                | U320A             | C5                    | A2                |
| R230G             | B4                    | B1                | U320B             | D5                    | A2                |
| R233F             | E4                    | B1                | U320C             | B5                    | A2                |
| R233G             | E4                    | B1                | U325A             | E5                    | B2                |
| R310A             | A4                    | A2                | U325B             | F5                    | B2                |
| R320C             | B5                    | A2                | U333              | E1                    | B2                |
| R320E             | D5                    | A2                | U335              | C1                    | B2                |
| R320F             | D5                    | A2                | U340A             | E2                    | C2                |
| R320G             | C5                    | A2                | U340C             | E2                    | C2                |
| R325C             | E5                    | B2                | U340D             | E2                    | C2                |
| R335B             | D2                    | C2                | U435              | C2                    | B2                |
| R335C             | D2                    | C2                | U440A             | E2                    | C2                |
| R335F             | F3                    | C2                | U440B             | E2                    | C2                |
| R433B             | D2                    | B2                | U445A             | F1                    | C2                |
| R433C             | C2                    | B2                | U445B             | F2                    | C2                |
| R433E             | C2                    | B2                | U445C             | E2                    | C2                |
| R435A             | F3                    | C2                |                   |                       |                   |

\*SEE PARTS LIST FOR SERIAL NUMBER RANGES.



1  
2  
3  
4  
5

A B C D E F

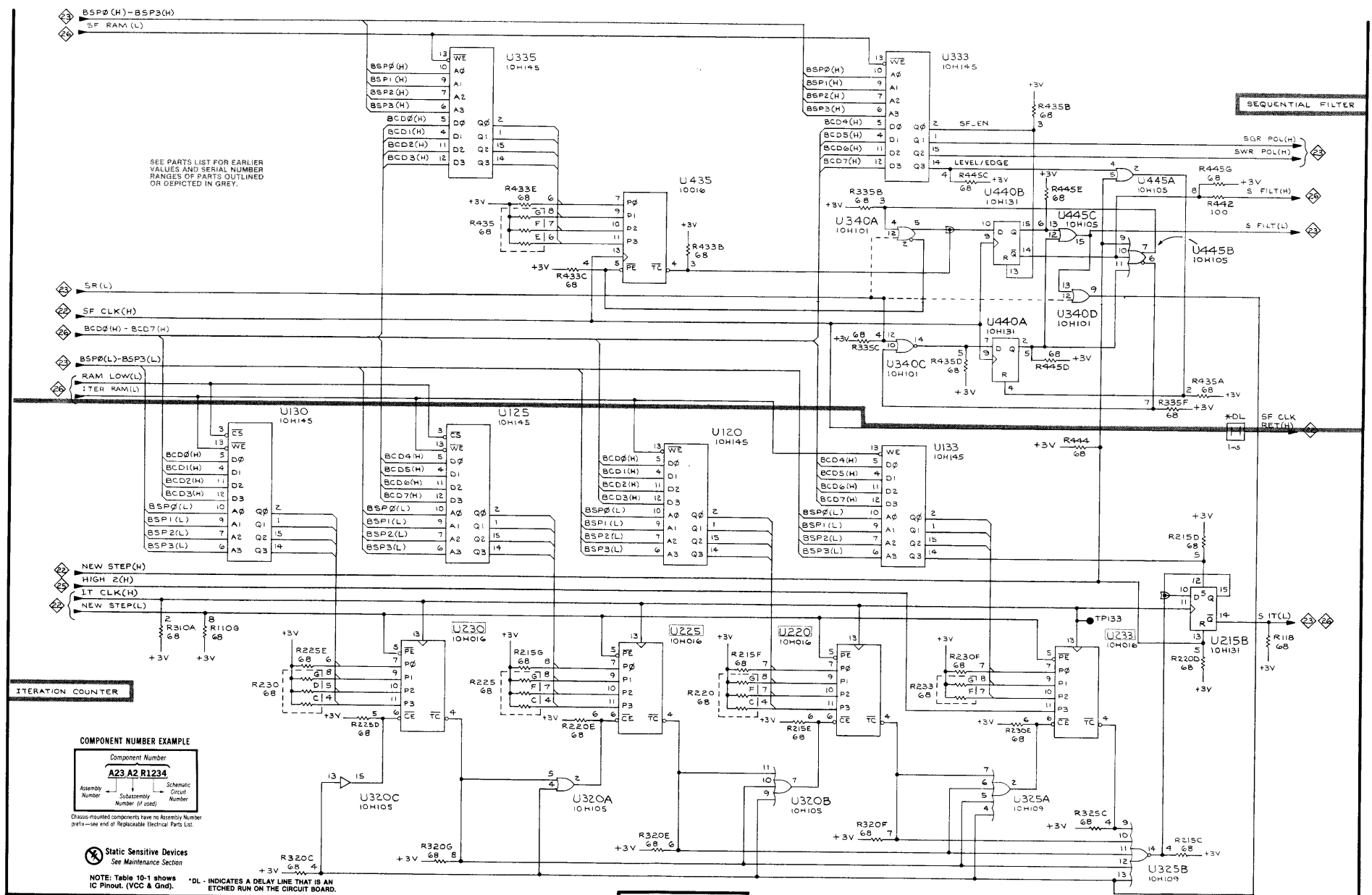


Table 10-25a

670-7523-09 GLOBAL FILTER & TRIGGER CNTL.  — TRIG. BD., ASSY. A14

| CIRCUIT<br>NUMBER | SCHEMATIC<br>LOCATION | BOARD<br>LOCATION | CIRCUIT<br>NUMBER | SCHEMATIC<br>LOCATION | BOARD<br>LOCATION |
|-------------------|-----------------------|-------------------|-------------------|-----------------------|-------------------|
| C345              | C5                    | C2                | R586              | D4                    | E3                |
| C380              | E1                    | E2                | R655F             | B4                    | D3                |
| C382              | C2                    | E2                | R655G             | C4                    | D3                |
| C675              | B3                    | E3                | R672B             | B4                    | E3                |
| CR340             | B5                    | C2                | R672E             | D2                    | E3                |
| CR585             | D4                    | E3                | R672F             | B2                    | E3                |
| DL575             | B3                    | E3                | R672G             | B2                    | E3                |
| J385              | C4                    | E2                | R675              | C4                    | E3                |
| J385              | B3                    | E2                | R677              | D2                    | E3                |
| J385              | C5                    | E2                | R685A             | E5                    | E3                |
| P150              | A1                    | D4                | R685B             | B3                    | E3                |
| P150              | F2                    | D4                | R685E             | C1                    | E3                |
| R275C             | E2                    | E1                | R685F             | C1                    | E3                |
| R275G             | E1                    | E1                | TP342             | B5                    | C2                |
| R344              | A5                    | C2                | U345              | B5                    | C2                |
| R349              | A5                    | C2                | U465B             | B3                    | D2                |
| R378              | C2                    | E2                | U470A             | C2                    | D2                |
| R380              | E2                    | E2                | U470B             | C2                    | D2                |
| R445B             | A5                    | C2                | U470C             | F2                    | D2                |
| R465B             | C2                    | D2                | U475A             | F1                    | E2                |
| R465C             | C2                    | D2                | U475B             | E2                    | E2                |
| R465F             | B3                    | D2                | U475C             | E2                    | E2                |
| R470B             | F2                    | E2                | U475D             | D2                    | E2                |
| R470C             | F1                    | E2                | U480A             | B3                    | E2                |
| R470E             | D2                    | E2                | U480B             | C4                    | E2                |
| R476              | B3                    | E2                | U485B             | D4                    | E2                |
| R480A             | B3                    | E2                | *U490             | F5                    | F2                |
| R480D             | E5                    | E2                | U545D             | B1                    | C3                |
| R480G             | C2                    | E2                | U570              | D1                    | D3                |
| R485A             | F1                    | E2                | U575A             | B2                    | E3                |
| R485B             | C3                    | E2                | U575B             | A3                    | E3                |
| R485C             | D4                    | E2                | U580              | C3                    | E3                |
| R485F             | D5                    | E2                | U585A             | D4                    | E3                |
| R545A             | A1                    | C3                | U585B             | D4                    | E3                |
| R545C             | B1                    | C3                | U595A             | C4                    | F3                |
| R565A             | A3                    | D3                | U595B             | E4                    | F3                |
| R565C             | D2                    | D3                | U595C             | D4                    | F3                |
| R570B             | C1                    | E3                | U660A             | C4                    | D3                |
| R570C             | B2                    | E3                | U660B             | C4                    | D3                |
| R570E             | A2                    | E3                | U675              | B2                    | E3                |
| R570F             | D1                    | E3                | U680A             | B4                    | E3                |
| R570G             | A2                    | E3                | U680C             | C1                    | E3                |
| R585B             | D4                    | E3                | U680D             | B4                    | E3                |
| R585D             | C4                    | E3                | U680E             | D3                    | E3                |
| R585E             | C4                    | E3                | U695C             | E4                    | F3                |
| R585G             | D4                    | E3                |                   |                       |                   |

\*SEE PARTS LIST FOR SERIAL NUMBER RANGES.

A

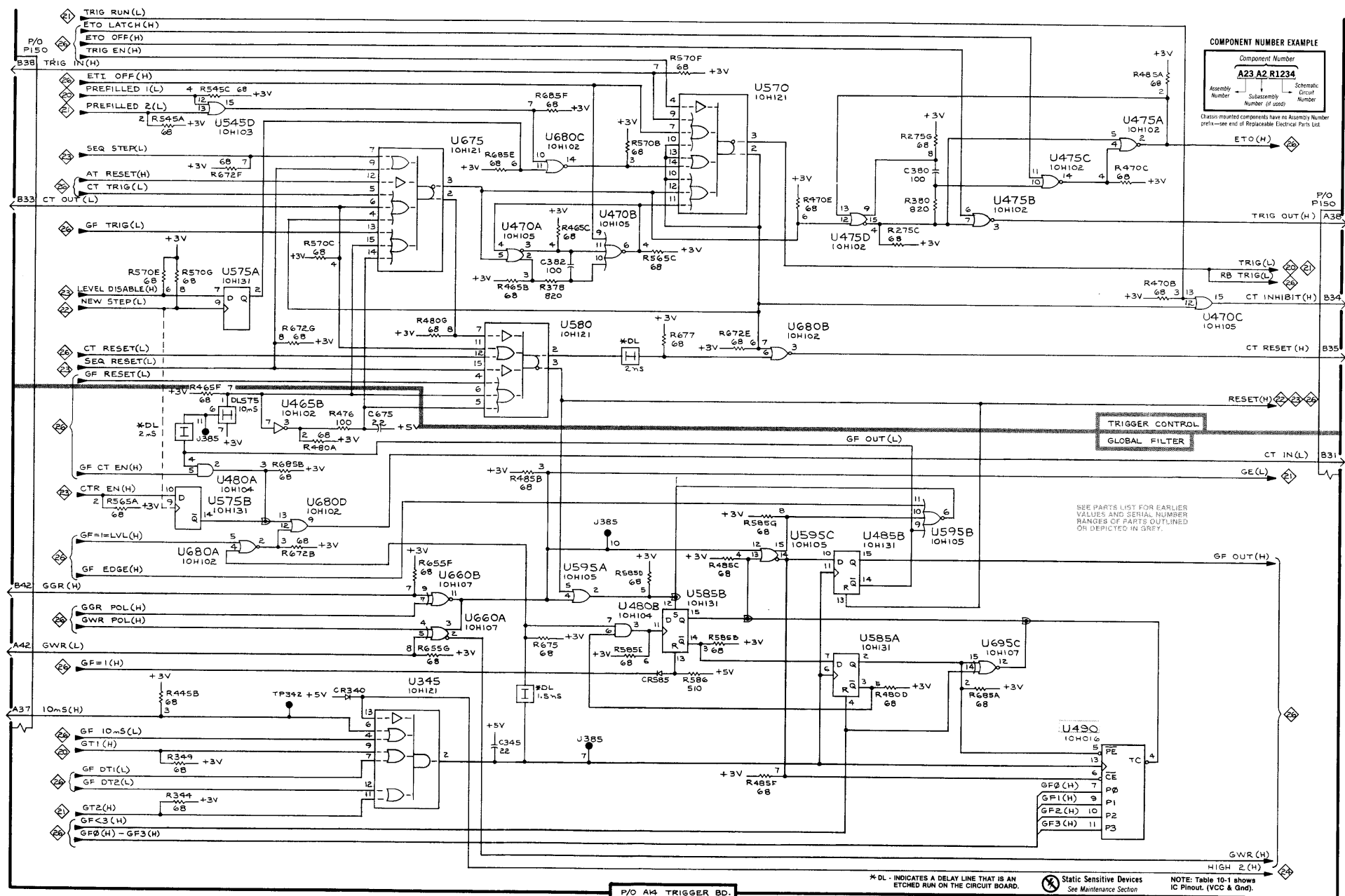
B

C

D

E

F



I240 SERVICE

P/O A4 TRIGGER BD.

4717-525A  
REV SEPT 1985

670-7523-09

GLOBAL FILTER AND TRIGGER CONTROL 2A

Table 10-26a

670-7523-09 PROCESSOR INTERFACE  — TRIGGER BD., ASSY. A14

| CIRCUIT<br>NUMBER | SCHEMATIC<br>LOCATION | BOARD<br>LOCATION | CIRCUIT<br>NUMBER | SCHEMATIC<br>LOCATION | BOARD<br>LOCATION |
|-------------------|-----------------------|-------------------|-------------------|-----------------------|-------------------|
| C170              | E5                    | E1                | R386              | D5                    | B2                |
| C175              | E5                    | E1                | R388              | D5                    | F2                |
| C178              | E5                    | E1                | R395A             | B3                    | F2                |
| C180              | E5                    | E1                | R395B             | C2                    | F2                |
| C185              | E5                    | E1                | R395C             | B2                    | F2                |
| C190              | E5                    | F1                | R395D             | B1                    | F2                |
| C210              | D5                    | A2                | R395E             | B1                    | F2                |
| CR295             | E5                    | F1                | R395F             | B2                    | F2                |
| P150              | A1                    | D4                | R395G             | B1                    | F2                |
| R110A             | C2                    | A1                | R495A             | B1                    | F2                |
| R110B             | C2                    | A1                | R495B             | B1                    | F2                |
| R110D             | C2                    | A1                | R495C             | B1                    | F2                |
| R110E             | C2                    | A1                | R495D             | A2                    | F2                |
| R110F             | C2                    | A1                | R495E             | B1                    | F2                |
| R121              | A5                    | A1                | R495F             | B1                    | F2                |
| R155A             | C3                    | D1                | R655A             | B1                    | D3                |
| R185              | E5                    | E1                | U110              | D2                    | A1                |
| R220A             | C4                    | A1                | U115              | C2                    | A1                |
| R225A             | C2                    | B1                | U170              | E5                    | D1                |
| R225B             | A5                    | B1                | U175              | E4                    | E1                |
| R265A             | C5                    | D1                | U180              | E3                    | E1                |
| R265B             | C3                    | D1                | U185              | E1                    | E1                |
| R265E             | C3                    | D1                | U190              | E2                    | F1                |
| R275A             | D2                    | E1                | U210              | B5                    | A1                |
| R275B             | D2                    | E1                | U215A             | C2                    | A1                |
| R275D             | D2                    | E1                | U270              | D3                    | D1                |
| R275E             | D2                    | E1                | U275              | D5                    | E1                |
| R275F             | C5                    | E1                | U280              | D2                    | E1                |
| R285A             | C4                    | E1                | U285              | D4                    | E1                |
| R285B             | D1                    | E1                | U290              | D1                    | F2                |
| R285C             | D1                    | E1                | U295              | A3                    | F1                |
| R285E             | C4                    | E1                | U395              | B2                    | F2                |
| R285F             | D1                    | E1                | U495              | B1                    | F2                |
| R285G             | D1                    | E1                | U665A             | B2                    | D3                |
| R295              | B3                    | F1                | U695A             | F5                    | F3                |
| R320A             | B5                    | A2                | U695B             | B2                    | F3                |

A

B

C

D

E

F

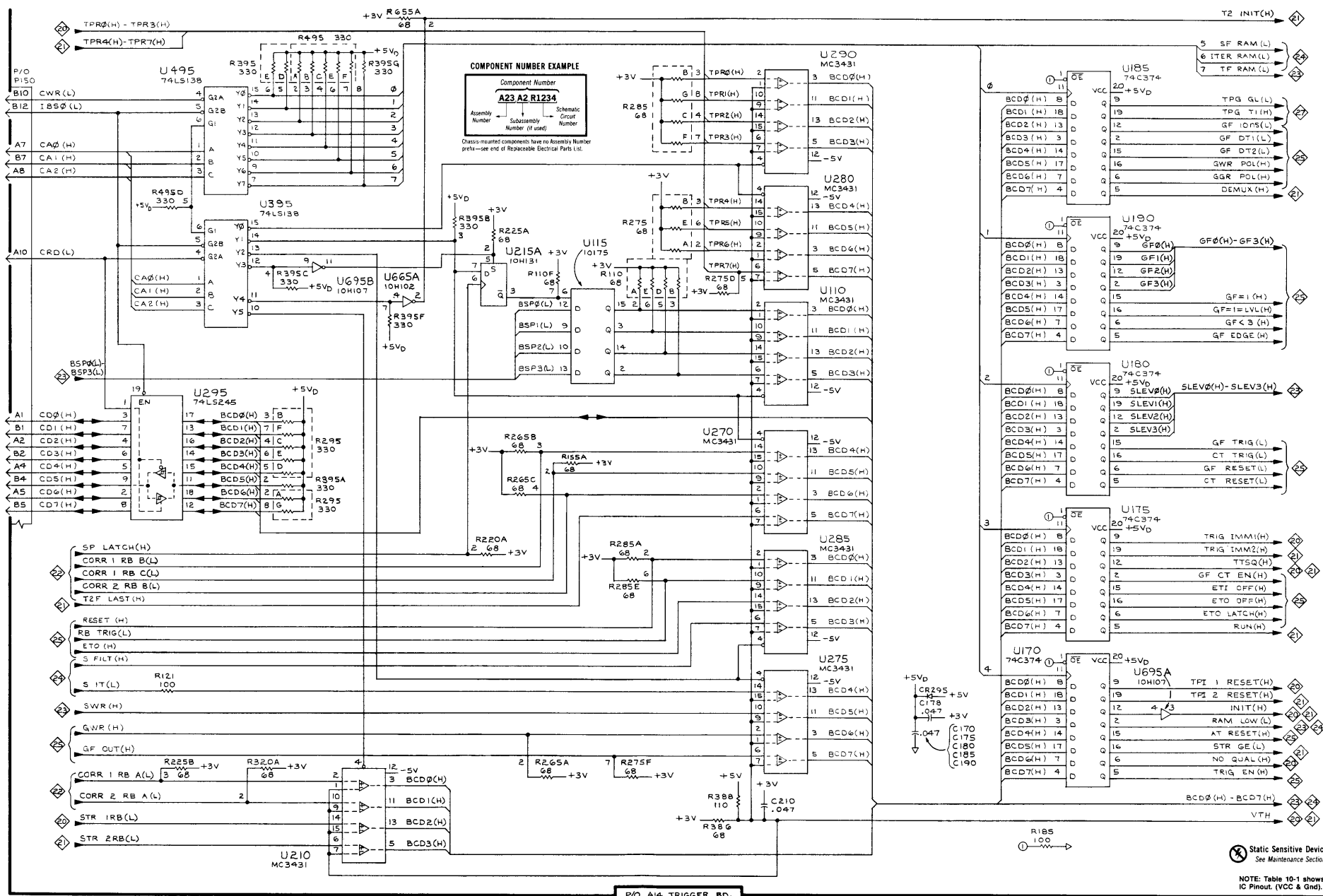
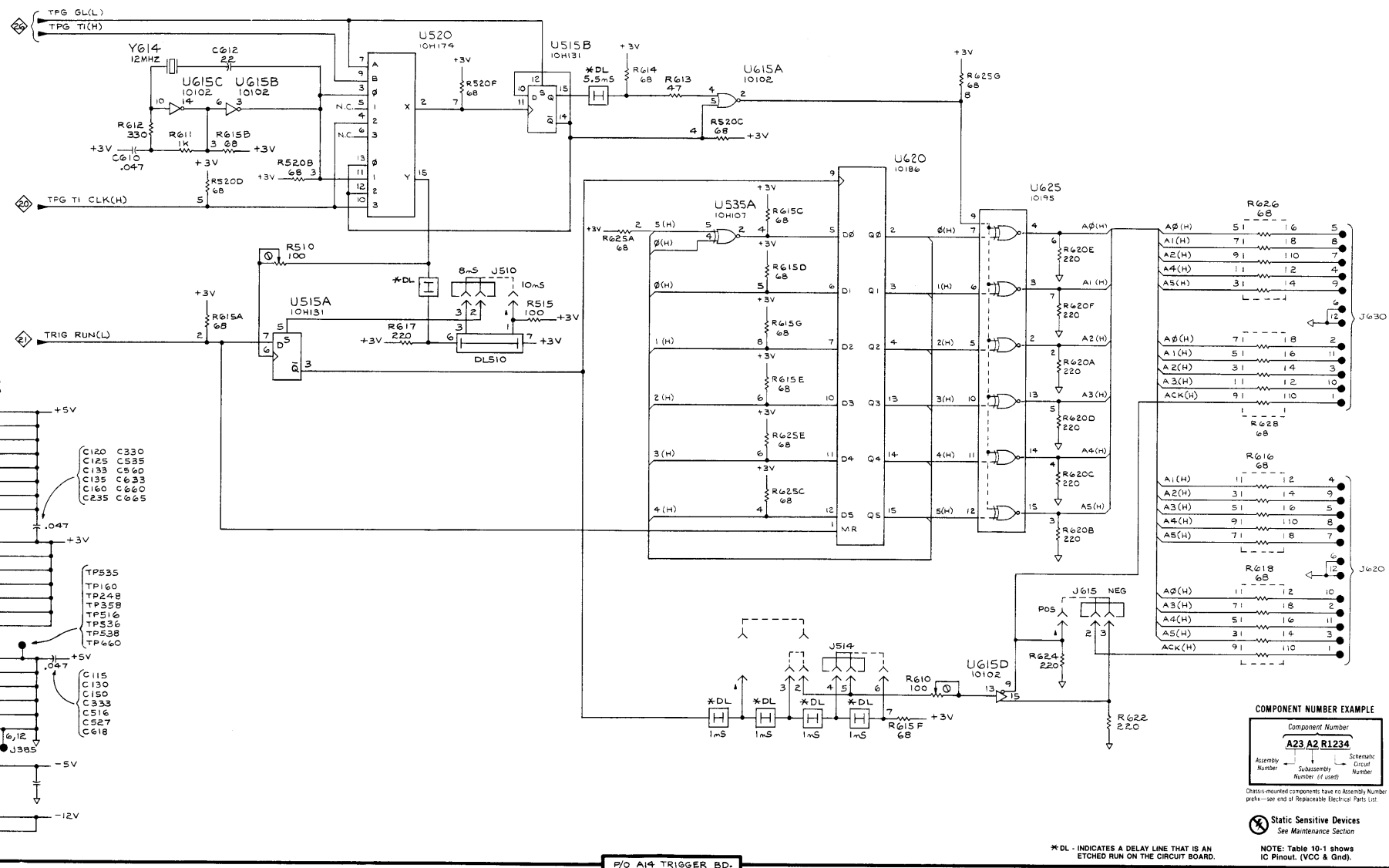


Table 10-27a

670-7523-09 TEST PATTERN GENERATION  — TRIGGER BD., ASSY. A14

| CIRCUIT<br>NUMBER | SCHEMATIC<br>LOCATION | BOARD<br>LOCATION | CIRCUIT<br>NUMBER | SCHEMATIC<br>LOCATION | BOARD<br>LOCATION |
|-------------------|-----------------------|-------------------|-------------------|-----------------------|-------------------|
| C115              | A4                    | A1                | R615C             | D2                    | A3                |
| C120              | A3                    | A1                | R615D             | D2                    | A3                |
| C125              | A3                    | B1                | R615E             | D3                    | A3                |
| C130              | A4                    | B1                | R615F             | D4                    | A3                |
| C133              | A3                    | B1                | R615G             | D2                    | A3                |
| C135              | A3                    | C1                | R616              | F3                    | A4                |
| C150              | A4                    | C1                | R617              | B2                    | A3                |
| C160              | A3                    | D1                | R618              | F4                    | A4                |
| C235              | A3                    | C1                | R620A             | E3                    | A3                |
| C330              | A3                    | B2                | R620B             | E3                    | A3                |
| C333              | A4                    | B2                | R620C             | E3                    | A3                |
| C516              | A4                    | A3                | R620D             | E3                    | A3                |
| C527              | A4                    | B3                | R620E             | E2                    | A3                |
| C535              | A3                    | C3                | R620F             | E2                    | A3                |
| C560              | A3                    | D3                | R622              | E4                    | A4                |
| C610              | A2                    | A3                | R624              | E4                    | A4                |
| C612              | B1                    | A4                | R625A             | C2                    | B3                |
| C618              | A4                    | A4                | R625C             | D3                    | B3                |
| C633              | A3                    | B3                | R625E             | D3                    | B3                |
| C660              | A3                    | D3                | R625G             | E1                    | B3                |
| C665              | A3                    | D3                | R626              | F2                    | B4                |
| DL510             | C2                    | A3                | R628              | F3                    | B4                |
| J385              | A4                    | E2                | TP160             | A4                    | D1                |
| J510              | C2                    | A3                | TP248             | A4                    | C2                |
| J514              | D4                    | A3                | TP358             | A4                    | D2                |
| J615              | E4                    | A4                | TP516             | A4                    | A3                |
| J620              | F4                    | A4                | TP535             | A4                    | C3                |
| J630              | F2                    | B4                | TP536             | A4                    | B3                |
| P150              | A3                    | D4                | TP538             | A4                    | C3                |
| R510              | B2                    | A3                | TP660             | A4                    | D3                |
| R515              | C2                    | A3                | U515A             | B2                    | A3                |
| R520B             | B2                    | A3                | U515B             | C1                    | A3                |
| R520C             | D1                    | A3                | U520              | B1                    | A3                |
| R520D             | B2                    | A3                | U535A             | D2                    | B3                |
| R520F             | C1                    | A3                | U615A             | D1                    | A3                |
| R610              | E4                    | A3                | U615B             | B1                    | A3                |
| R611              | B1                    | A3                | U615C             | B1                    | A3                |
| R612              | A1                    | A4                | U615D             | E4                    | A3                |
| R613              | D1                    | A4                | U620              | D2                    | A3                |
| R614              | C1                    | A4                | U625              | E2                    | B3                |
| R615A             | B2                    | A3                | Y614              | A1                    | A4                |
| R615B             | B1                    | A3                |                   |                       |                   |

A B C D E F

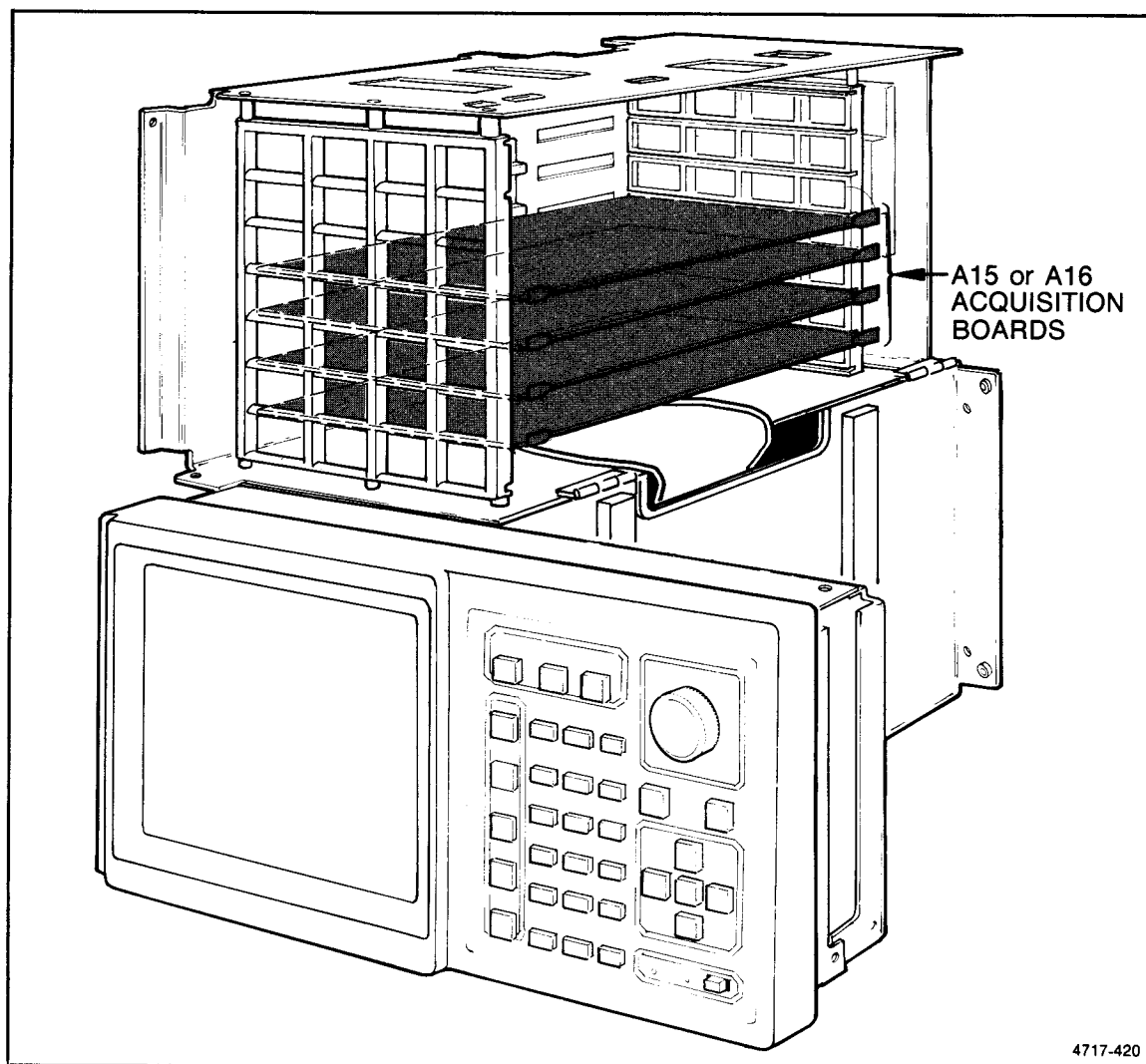


1240 SERVICE

P/O A14 TRIGGER BD.

4717-627A

TEST PATTERN GENERATION



**Figure 10-20. A15 9-Channel Acquisition Board Card Cage Locations.**



F

E

D

C

B

A



Figure 10-19. A15 9-Channel Acquisition Board Component Locations.

Table 10-28

FRONT END CIRCUITS

28

— 9-CHANNEL ACQ. BOARD, ASSEMBLY A15

| CIRCUIT<br>NUMBER | SCHEMATIC<br>LOCATION | BOARD<br>LOCATION | CIRCUIT<br>NUMBER | SCHEMATIC<br>LOCATION | BOARD<br>LOCATION |
|-------------------|-----------------------|-------------------|-------------------|-----------------------|-------------------|
| C188              | E3                    | E1                | R400F             | B5                    | A2                |
| C190              | F3                    | F1                | R400G             | B5                    | A2                |
| C192              | F3                    | F1                | R415              | E5                    | A2                |
| C280              | E4                    | E1                | R430A             | B5                    | B2                |
| C281              | E3                    | E1                | R430B             | B5                    | B2                |
| C282              | F4                    | E1                | R430C             | D4                    | B2                |
| C285              | F3                    | E1                | R430D             | B5                    | B2                |
| C290              | F3                    | F1                | R430E             | B5                    | B2                |
| C294              | F3                    | F1                | R442B             | F1                    | C3                |
| *C295             | F3                    | F2                | R442C             | F1                    | C3                |
| C310              | C1                    | A1                | R442D             | F1                    | C3                |
| CR291             | F3                    | F1                | R442E             | F1                    | C3                |
| CR293             | F3                    | E1                | R456D             | F2                    | D3                |
| CR294             | F3                    | F1                | R456E             | F2                    | D3                |
| CR295             | F3                    | F1                | R530              | E1                    | B3                |
| J400              | A5                    | A3                | R531              | E1                    | B3                |
| J535              | E2                    | B3                | R532              | E2                    | B3                |
| J620              | F3                    | B4                | R533              | E1                    | B3                |
| J620              | A2                    | B4                | R534              | F1                    | B3                |
| J620              | E1                    | B4                | R535              | F2                    | B3                |
| P250              | A5                    | D4                | R536              | C5                    | B3                |
| P250              | F5                    | D4                | R538A             | F2                    | C3                |
| Q600              | B4                    | A4                | R538B             | F2                    | C3                |
| Q605              | A4                    | A4                | R600A             | A4                    | A4                |
| Q608              | A4                    | A4                | R600B             | A4                    | A4                |
| Q610              | B3                    | A4                | R600C             | A4                    | A4                |
| Q615              | A3                    | A4                | R600D             | A3                    | A4                |
| Q618              | A3                    | B4                | R600E             | A3                    | A4                |
| Q620              | B2                    | B4                | R600F             | A3                    | A4                |
| Q625              | A2                    | B4                | R600G             | A2                    | A4                |
| Q628              | A2                    | B4                | R600H             | A2                    | A4                |
| R180              | E4                    | E1                | R600I             | A2                    | A4                |
| *R181             | E4                    | E1                | R630              | B5                    | B4                |
| R182              | E4                    | E1                | TP185             | F3                    | F1                |
| R183              | E2                    | E1                | TP291             | F4                    | F1                |
| *R184             | E4                    | E1                | U175              | E3                    | E1                |
| R185              | E2                    | E1                | *U295A            | F3                    | F1                |
| *R186             | E4                    | E1                | *U295B            | F3                    | F1                |
| R190              | F3                    | F1                | U300              | C2                    | A2                |
| R191              | F3                    | F1                | U315              | C3                    | A2                |
| R280              | F3                    | E1                | U410              | D3                    | A2                |
| R281              | F3                    | F1                | U415              | D2                    | A2                |
| R282              | F3                    | E1                | U420A             | C3                    | B2                |
| R290              | F3                    | F1                | U420B             | C5                    | B2                |
| R291              | F3                    | F1                | U425              | D5                    | B2                |
| R295              | F3                    | F1                | U430              | C4                    | B2                |
| R300              | C2                    | A1                | U435              | D4                    | C2                |
| R305              | C2                    | A1                | U440A             | F2                    | C3                |
| R315              | D3                    | B2                | U440B             | F1                    | C3                |
| R325              | E5                    | B2                | U440C             | F2                    | C3                |
| R330A             | D5                    | B2                | U500              | B4                    | A3                |
| R330B             | D5                    | B2                | U510              | B3                    | A3                |
| R330C             | D5                    | B2                | U520              | B2                    | B3                |
| R330E             | D4                    | B2                | U535              | A5                    | C3                |
| R330F             | D4                    | B2                | U630              | C5                    | B4                |
| R330G             | D4                    | B2                | U635A             | F2                    | B4                |
| R330H             | D4                    | B2                | U635B             | E2                    | B4                |
| R376              | A1                    | E2                | U635C             | F2                    | B4                |
| R400B             | A5                    | A2                | U635D             | F2                    | B4                |
| R400D             | B5                    | A2                | W310              | C1                    | A1                |
| R400E             | B5                    | A2                | W635              | F4                    | B4                |

\*SEE PARTS LIST FOR SERIAL NUMBER RANGES.

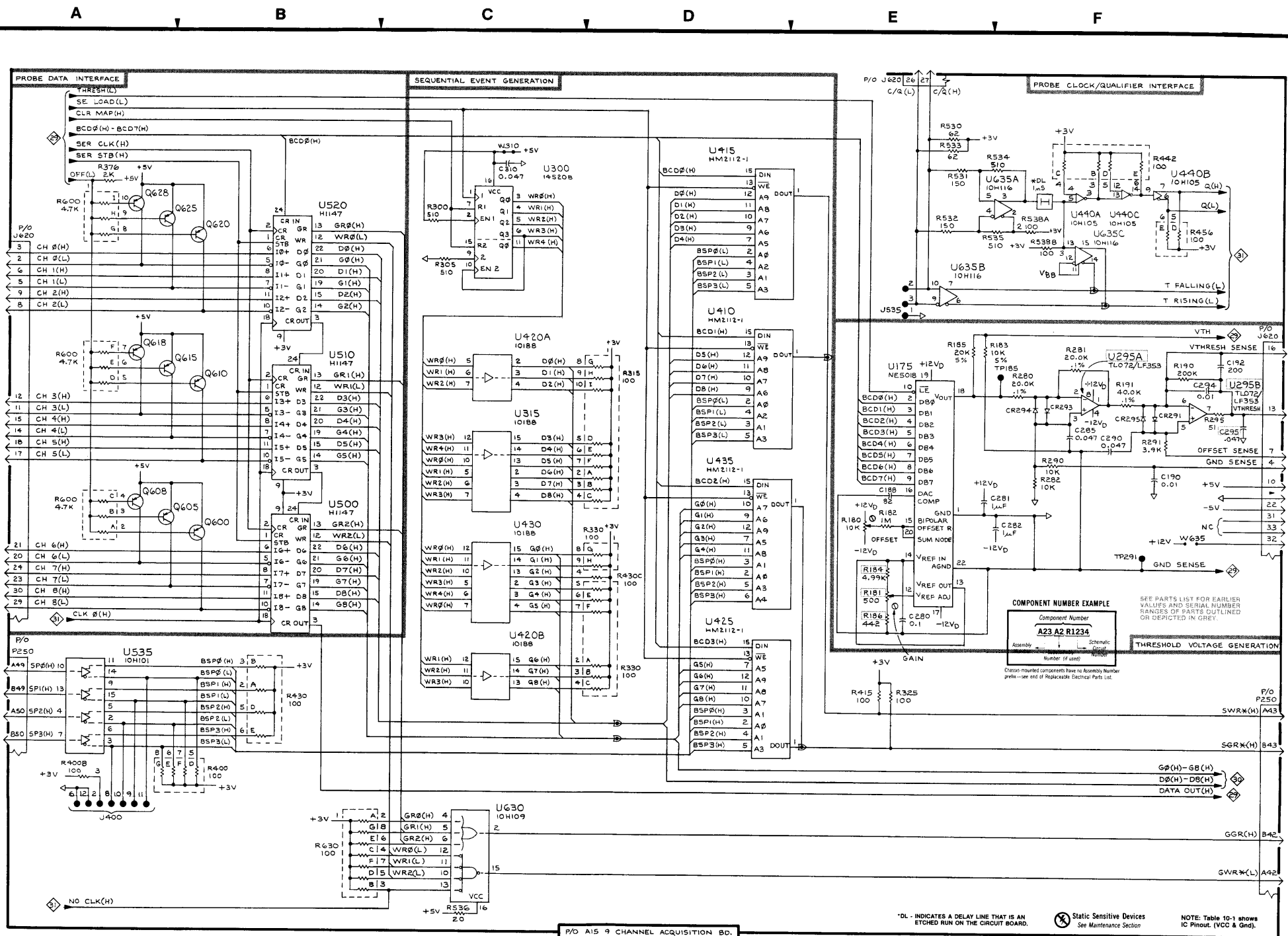


Table 10-29

9-CH. PROCESSOR INTERFACE



— 9-CHANNEL ACQ. BD., ASSEMBLY A15

| CIRCUIT<br>NUMBER | SCHEMATIC<br>LOCATION | BOARD<br>LOCATION | CIRCUIT<br>NUMBER | SCHEMATIC<br>LOCATION | BOARD<br>LOCATION |
|-------------------|-----------------------|-------------------|-------------------|-----------------------|-------------------|
| C100              | F4                    | A1                | L295              | F5                    | F2                |
| C115              | F4                    | A1                | P250              | A5                    | D4                |
| C125              | F4                    | B1                | P250              | F4                    | D4                |
| C135              | F4                    | B1                | P250              | A1                    | D4                |
| C152              | F4                    | D1                | Q475              | E2                    | E3                |
| C155              | F4                    | D1                | *R165I            | A5                    | D1                |
| C270              | F1                    | E1                | R257C             | C5                    | D1                |
| C315              | F5                    | A1                | R377              | D3                    | E2                |
| C320              | F4                    | B1                | R378              | E4                    | E2                |
| C330              | F5                    | B1                | R379              | D3                    | E2                |
| C335              | F4                    | C1                | R380              | D3                    | E2                |
| C341              | F5                    | C3                | R381              | E4                    | E2                |
| C345              | F5                    | C2                | R382              | E5                    | E2                |
| C347              | F4                    | C3                | R383              | D4                    | E2                |
| C352              | F5                    | C3                | R384              | C4                    | E2                |
| C365              | F5                    | D2                | R385C             | F1                    | E2                |
| C370              | F5                    | E2                | R475              | B1                    | E2                |
| C380              | F5                    | E2                | R475I             | D3                    | E2                |
| C385              | F5                    | E2                | R480              | E1                    | E3                |
| C400              | F4                    | A2                | R482              | C1                    | E3                |
| C410              | F5                    | A2                | R485A             | D4                    | E2                |
| C414              | F4                    | A3                | R485B             | D4                    | E2                |
| C420              | F5                    | B2                | R485C             | D4                    | E2                |
| C430              | F4                    | B2                | R485F             | E4                    | E2                |
| C447              | F5                    | C3                | R485G             | E4                    | E2                |
| C457              | F5                    | D3                | R485H             | D4                    | E2                |
| C460              | F4                    | D3                | R485I             | E2                    | E2                |
| C470              | F4                    | E3                | R490              | C3                    | F3                |
| C475              | F4                    | E3                | *TP250            | F5                    | D2                |
| C480              | F5                    | E3                | *TP325            | F5                    | B2                |
| C490              | F5                    | F2                | TP370             | F5                    | E2                |
| C510              | F5                    | A3                | *TP665            | F5                    | D4                |
| C515              | F4                    | B3                | U145              | C4                    | C1                |
| C535              | F5                    | C3                | U165              | B4                    | D1                |
| C538              | F4                    | C3                | U245              | C4                    | C1                |
| C565              | F5                    | D3                | U260A             | E3                    | D1                |
| C575              | F5                    | E3                | U265              | B4                    | D1                |
| C608              | F5                    | A4                | U270              | F1                    | E2                |
| C618              | F5                    | B4                | U290A             | D3                    | F2                |
| C695              | F5                    | F4                | U290B             | E2                    | F2                |
| CR270             | F2                    | E2                | U290C             | E4                    | F2                |
| CR271             | F1                    | E2                | U290D             | E4                    | F2                |
| CR286             | E5                    | E1                | U390              | E4                    | F2                |
| CR678             | E5                    | E4                | U480              | D4                    | E2                |
| J485              | C2                    | E3                | U490              | F4                    | F3                |
| J585              | E1                    | E3                | U495              | F4                    | F3                |
| J620              | F2                    | B4                | U580              | C1                    | E3                |
| J620              | A5                    | B4                | U590              | C3                    | F3                |
| L294              | F5                    | F2                | U595              | B1                    | F3                |

\*SEE PARTS LIST FOR SERIAL NUMBER RANGES.



Table 10-30

STORAGE RAM & CHAIN DATA  — 9-CHANNEL ACQ. BD., ASSEMBLY A15

| CIRCUIT<br>NUMBER | SCHEMATIC<br>LOCATION | BOARD<br>LOCATION | CIRCUIT<br>NUMBER | SCHEMATIC<br>LOCATION | BOARD<br>LOCATION |
|-------------------|-----------------------|-------------------|-------------------|-----------------------|-------------------|
| C160              | E5                    | D1                | R165C             | F5                    | D1                |
| C170              | C1                    | E1                | R395              | F4                    | F2                |
| J675              | A2                    | E4                | R397              | F5                    | F2                |
| P250              | B2                    | D4                | R400C             | D4                    | A2                |
| P250              | A3                    | D4                | R556A             | B5                    | D3                |
| R115A             | D4                    | A1                | R556B             | B5                    | D3                |
| R115B             | D3                    | A1                | R565              | B4                    | D3                |
| R115C             | D3                    | A1                | R570              | B3                    | E3                |
| R115D             | D3                    | A1                | R575              | B2                    | E3                |
| R115E             | D3                    | A1                | U100              | E4                    | A1                |
| R115F             | D3                    | A1                | U115              | E3                    | A1                |
| R115G             | D3                    | A1                | U120              | E1                    | B1                |
| R120A             | D5                    | B1                | U125              | F3                    | B1                |
| R120B             | D5                    | B1                | U135              | F1                    | B1                |
| R120C             | D3                    | B1                | U155B             | E5                    | D1                |
| R120D             | D3                    | B1                | U160A             | F5                    | D1                |
| R120E             | D5                    | B1                | U160B             | F4                    | D1                |
| R120F             | D5                    | B1                | U170              | C1                    | E1                |
| R135B             | D4                    | C1                | U310              | C4                    | A2                |
| R135C             | D4                    | C1                | U320              | C3                    | B2                |
| R135E             | D4                    | C1                | U330              | C5                    | B2                |
| R135F             | D4                    | C1                | U335              | C4                    | C2                |
| R135G             | D4                    | C1                | U560              | B5                    | D3                |
| R135H             | D4                    | C1                | U565              | B4                    | D3                |
| R150E             | E5                    | C1                | U570              | B3                    | E3                |
| R165A             | C1                    | D1                | U575              | B3                    | E3                |
| R165B             | F4                    | D1                |                   |                       |                   |

A B C D E F

1  
2  
3  
4  
5

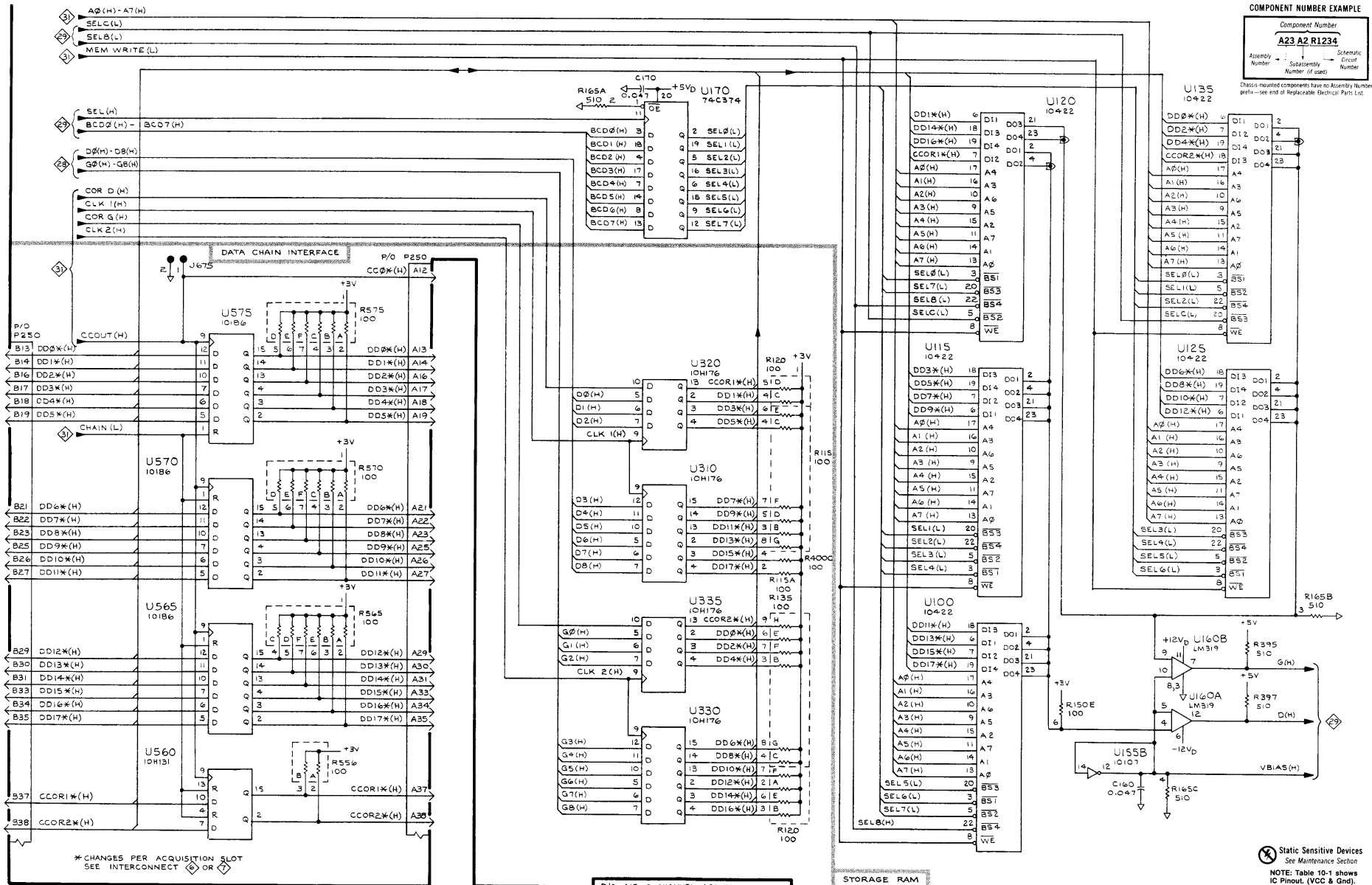


Table 10-31

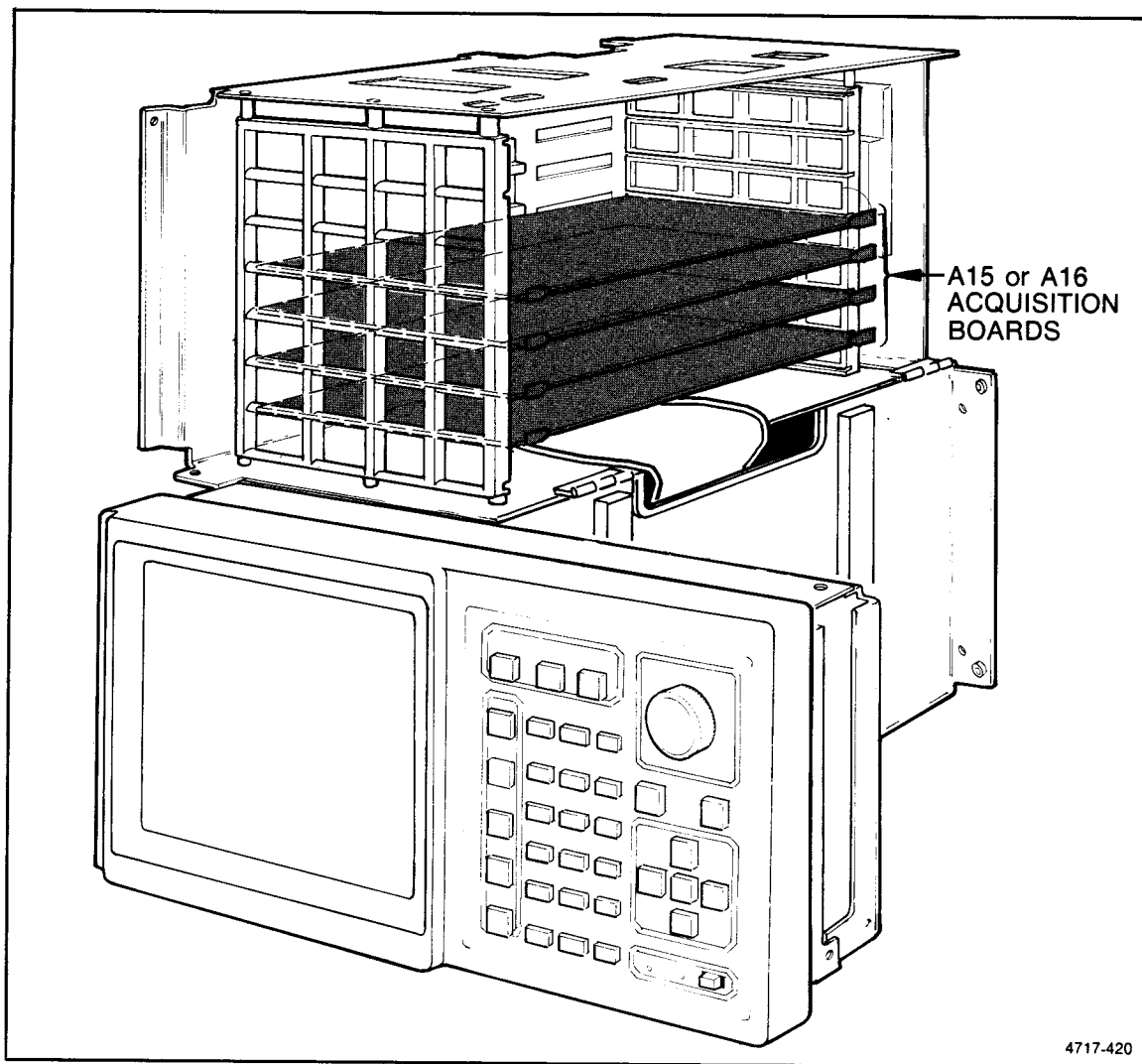
TIMING CIRCUITS  — 9-CHANNEL ACQ. BOARD, ASSEMBLY A15

| CIRCUIT<br>NUMBER | SCHEMATIC<br>LOCATION | BOARD<br>LOCATION | CIRCUIT<br>NUMBER | SCHEMATIC<br>LOCATION | BOARD<br>LOCATION |
|-------------------|-----------------------|-------------------|-------------------|-----------------------|-------------------|
| C262              | D5                    | D1                | R385B             | A3                    | E2                |
| C275              | A2                    | E1                | R400A             | E4                    | A2                |
| C375              | C2                    | E2                | R400H             | C4                    | A2                |
| *C455             | B2                    | D2                | R400I             | C4                    | A2                |
| *C456             | B2                    | D2                | *R456B            | A2                    | D3                |
| CR250             | E1                    | C1                | *R456C            | A2                    | D3                |
| DL360             | D2                    | D2                | R485D             | B3                    | E2                |
| J100              | F1                    | A1                | R546C             | B5                    | C3                |
| J100              | F4                    | A1                | R546D             | B5                    | C3                |
| J100              | F2                    | A1                | R546E             | A5                    | C3                |
| J400              | E4                    | A3                | R556C             | A4                    | D3                |
| J400              | C4                    | A3                | R556D             | D5                    | D3                |
| J550              | C5                    | C4                | R556E             | A4                    | D3                |
| P250              | A1                    | D4                | R570G             | F4                    | E3                |
| P250              | F5                    | D4                | U140A             | E3                    | C1                |
| R100              | F2                    | A1                | U140B             | F4                    | C1                |
| R100A             | F4                    | A1                | U140C             | E3                    | C1                |
| R135D             | F3                    | C1                | U150              | F1                    | C1                |
| R135I             | F4                    | C1                | U155A             | F3                    | D1                |
| R150A             | F3                    | C1                | U250              | F2                    | C1                |
| R150B             | E3                    | C1                | U255              | F3                    | D1                |
| R150C             | E2                    | C1                | U260B             | D5                    | D1                |
| R150D             | E2                    | C1                | U260C             | D5                    | D1                |
| R150F             | D2                    | C1                | U260D             | F4                    | D1                |
| R150H             | E2                    | C1                | U275              | B2                    | E2                |
| R165E             | F3                    | D1                | U340              | E5                    | C2                |
| R165G             | F2                    | D1                | U345A             | E4                    | C2                |
| R165H             | F2                    | D1                | U345B             | D1                    | C2                |
| R257A             | D5                    | D1                | U345C             | E4                    | C2                |
| R257B             | E1                    | D1                | U345D             | D4                    | C2                |
| R257D             | D5                    | D1                | U350A             | F4                    | C2                |
| R257E             | E5                    | D1                | U350B             | D1                    | C2                |
| R257F             | F1                    | D1                | U350C             | E4                    | C2                |
| R257G             | D5                    | D1                | U350D             | E1                    | C2                |
| R322              | C1                    | B2                | U355A             | E2                    | D2                |
| *R330I            | F4                    | B2                | U355B             | E1                    | D2                |
| *R331             | F4                    | B2                | U445              | C3                    | C3                |
| R338              | D1                    | C2                | U450A             | B4                    | C3                |
| R342B             | D1                    | C2                | U450B             | B4                    | C3                |
| R342E             | E4                    | C2                | U450C             | D4                    | C3                |
| R346A             | F4                    | C2                | U450D             | A4                    | C3                |
| R346B             | D4                    | C2                | U455              | C1                    | D3                |
| R346C             | F4                    | C2                | U475              | C2                    | E2                |
| R346D             | D1                    | C2                | U540              | C4                    | C3                |
| R346E             | B5                    | C2                | U545A             | A5                    | C3                |
| R350              | E2                    | D2                | U545B             | B5                    | C3                |
| R352B             | E1                    | C2                | U550A             | B5                    | C3                |
| R352C             | D2                    | C2                | U550B             | D1                    | C3                |
| R352D             | D2                    | C2                | U555              | B4                    | D3                |
| R352E             | D2                    | C2                |                   |                       |                   |

\*SEE PARTS LIST FOR SERIAL NUMBER RANGES.







**Figure 10-22. A16 18-Channel Acquisition Board Card Cage Locations.**

F

E

D

C

B

A

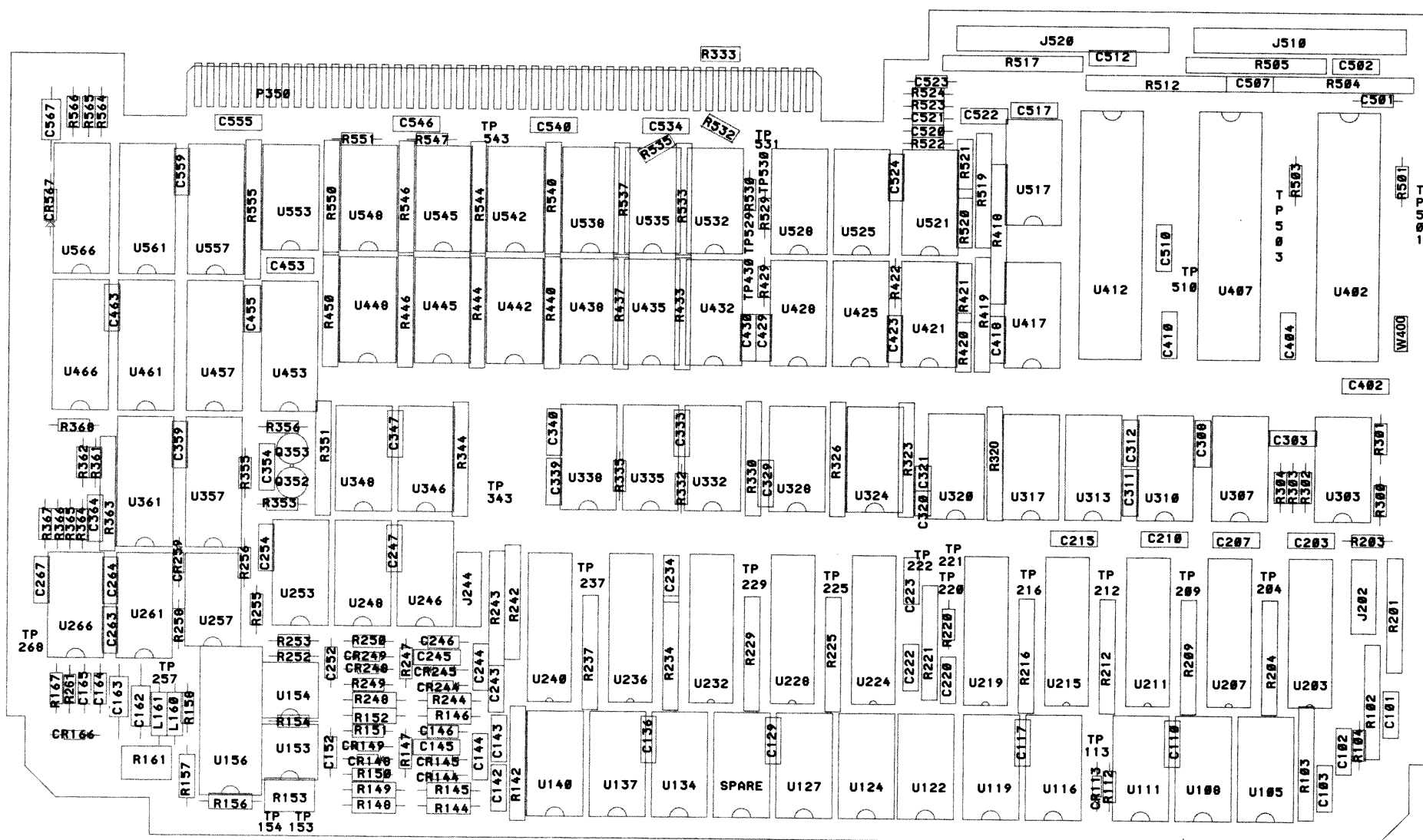


Figure 10-21. A16 18-Channel Acquisition Board Component Locations.

Table 10-32

FRONT END CIRCUITS 32 — 18-CHANNEL ACQ. BOARD, ASSEMBLY A16

| CIRCUIT<br>NUMBER | SCHEMATIC<br>LOCATION | BOARD<br>LOCATION | CIRCUIT<br>NUMBER | SCHEMATIC<br>LOCATION | BOARD<br>LOCATION |
|-------------------|-----------------------|-------------------|-------------------|-----------------------|-------------------|
| C101              | F2                    | A1                | *R326G            | E4                    | C2                |
| C102              | F2                    | A1                | R351D             | D4                    | E2                |
| C103              | F2                    | A1                | R351E             | D4                    | E2                |
| C110              | F2                    | B1                | R351F             | D4                    | E2                |
| C117              | F2                    | B1                | R351G             | D4                    | E2                |
| C129              | F2                    | C1                | R437B             | C1                    | D3                |
| C136              | F2                    | D1                | R437E             | C1                    | D3                |
| C142              | F2                    | D1                | R437F             | C1                    | D3                |
| C143              | F2                    | D1                | R440B             | E1                    | D3                |
| C162              | F3                    | F1                | R440C             | E1                    | D3                |
| C163              | F3                    | F1                | R440D             | C4                    | D3                |
| C203              | F2                    | A2                | R440E             | C4                    | D3                |
| C207              | F2                    | A2                | R440F             | C4                    | D3                |
| C210              | F2                    | B2                | R444B             | E2                    | D3                |
| C215              | F2                    | B2                | R444D             | C2                    | D3                |
| C220              | F2                    | B1                | R444E             | C2                    | D3                |
| C222              | F2                    | C1                | R444F             | C2                    | D3                |
| C223              | F2                    | C2                | R446B             | E2                    | E3                |
| C234              | F2                    | D2                | R446C             | E2                    | E3                |
| C243              | F2                    | D1                | R446D             | C5                    | E3                |
| C247              | F2                    | E2                | R446E             | C5                    | E3                |
| C254              | F2                    | E2                | R446F             | C5                    | E3                |
| C263              | F2                    | F1                | R450D             | E2                    | E3                |
| C267              | F3                    | F2                | R501              | B3                    | A3                |
| C303              | F2                    | A2                | R503              | A3                    | A3                |
| C308              | F2                    | A2                | R504A             | A5                    | A4                |
| C311              | F2                    | B2                | R504B             | B5                    | A4                |
| C312              | F2                    | B2                | R504C             | B5                    | A4                |
| C329              | F2                    | C2                | R504D             | D2                    | A4                |
| C333              | F2                    | D2                | R504E             | D2                    | A4                |
| C339              | F2                    | D2                | R504F             | D2                    | A4                |
| C340              | F2                    | D2                | R504G             | D2                    | A4                |
| C347              | F2                    | E2                | R504H             | D2                    | A4                |
| C354              | F1                    | E2                | R504I             | D2                    | A4                |
| C359              | F2                    | F2                | R505A             | B5                    | A4                |
| C364              | F1                    | F2                | R505B             | A5                    | A4                |
| C402              | F2                    | A3                | R505C             | A5                    | A4                |
| C404              | F2                    | A3                | R505D             | B2                    | A4                |
| C410              | F2                    | B3                | R505E             | B2                    | A4                |
| C418              | F2                    | B3                | R505F             | B2                    | A4                |
| C423              | F2                    | C3                | R505G             | B2                    | A4                |
| C429              | F2                    | C3                | R505H             | B2                    | A4                |
| C430              | F2                    | C3                | R505I             | B2                    | A4                |
| C453              | F2                    | E3                | R512A             | B4                    | B4                |
| C455              | F1                    | E3                | R512B             | A4                    | B4                |
| C463              | F2                    | F3                | R512C             | A4                    | B4                |
| C502              | F2                    | A4                | R512D             | D1                    | B4                |
| C507              | F2                    | A4                | R512E             | D1                    | B4                |
| C512              | A2                    | B4                | R512F             | D1                    | B4                |
| C517              | F2                    | B4                | R512G             | D1                    | B4                |
| C522              | F2                    | B4                | R512H             | D1                    | B4                |
| C524              | F2                    | C3                | R512I             | D1                    | B4                |
| C534              | F2                    | D4                | R517A             | A4                    | B4                |
| C540              | F2                    | D4                | R517B             | B4                    | B4                |
| C546              | F2                    | E4                | R517C             | B4                    | B4                |
| C555              | F2                    | E4                | R517D             | B1                    | B4                |
| C559              | F2                    | F3                | R517E             | B1                    | B4                |
| C567              | F1                    | F4                | R517F             | B1                    | B4                |
| CR567             | F1                    | F3                | R517G             | B1                    | B4                |
| J510              | A5                    | A4                | R517H             | B1                    | B4                |
| J510              | D1                    | A4                | R517I             | B1                    | B4                |
| J510              | A2                    | A4                | TP113             | F2                    | B1                |
| J520              | D1                    | B4                | TP220             | F2                    | B2                |
| J520              | A3                    | B4                | TP501             | B3                    | A3                |
| J520              | A1                    | B4                | TP503             | A3                    | A3                |
| L160              | F3                    | F1                | TP531             | F2                    | C4                |
| L161              | F3                    | F1                | TP543             | F2                    | D4                |
| P350              | F1                    | E4                | *U320B            | E5                    | B2                |
| *R320E            | E5                    | B4                | *U324B            | E4                    | C2                |
| *R320F            | E5                    | B4                | U348B             | D4                    | E2                |
| *R320G            | E5                    | B4                | U402              | E1                    | A3                |
| *R326C            | E4                    | C2                | U407              | C4                    | A3                |
| *R326D            | E4                    | C2                | U412              | C1                    | B3                |
| *R326E            | E4                    | C2                | *W400             | A4                    | A3                |
| *R326F            | E4                    | C2                |                   |                       |                   |

\*SEE PARTS LIST FOR SERIAL NUMBER RANGES.



Table 10-33

DATA CHAIN INTERFACE



— 18-CHANNEL ACQ. BOARD, ASSEMBLY A16

| CIRCUIT<br>NUMBER | SCHEMATIC<br>LOCATION | BOARD<br>LOCATION | CIRCUIT<br>NUMBER | SCHEMATIC<br>LOCATION | BOARD<br>LOCATION |
|-------------------|-----------------------|-------------------|-------------------|-----------------------|-------------------|
| P350              | A1                    | E4                | R540A             | B2                    | D3                |
| P350              | F4                    | E4                | R540B             | B2                    | D3                |
| P350              | B3                    | E4                | R540C             | B2                    | D3                |
| R102F             | A2                    | A1                | R540D             | B3                    | D3                |
| R204E             | A2                    | A1                | R540E             | B3                    | D3                |
| R204G             | A2                    | A1                | R540F             | A3                    | D3                |
| R209E             | A2                    | A1                | R544A             | B4                    | D3                |
| R209F             | A2                    | A1                | R544B             | B4                    | D3                |
| R212E             | A2                    | B1                | R544C             | B4                    | D3                |
| R212F             | A3                    | B1                | R544D             | B3                    | D3                |
| R216E             | A3                    | B1                | R544E             | B3                    | D3                |
| R216F             | A3                    | B1                | R546A             | B4                    | E3                |
| R216G             | A3                    | B1                | R546B             | B4                    | E3                |
| R221E             | A4                    | B1                | R546C             | B4                    | E3                |
| R225F             | A4                    | C1                | R546D             | B5                    | E3                |
| R229E             | A4                    | C1                | R546E             | B5                    | E3                |
| R229F             | A4                    | C1                | R547              | B3                    | E4                |
| R229G             | A4                    | C1                | R550A             | B5                    | E3                |
| R234E             | A4                    | D1                | R550B             | B5                    | E3                |
| R234F             | A5                    | D1                | R550G             | A5                    | E3                |
| R237E             | A5                    | D1                | R551              | B5                    | E4                |
| R237F             | A5                    | D1                | TP204             | D2                    | A2                |
| R242B             | A5                    | D2                | TP209             | D3                    | A2                |
| *R303             | F3                    | A2                | TP212             | D3                    | B2                |
| R304              | E1                    | A2                | TP216             | D3                    | B2                |
| R323A             | D2                    | C2                | TP221             | D3                    | B2                |
| R323C             | D2                    | C2                | TP222             | D4                    | C2                |
| R323D             | F3                    | C2                | TP225             | D4                    | C2                |
| R323E             | F3                    | C2                | TP229             | D4                    | C2                |
| R323F             | F3                    | C2                | TP237             | D5                    | D2                |
| *R323GF           | F3                    | C2                | TP343             | D5                    | D2                |
| R326A             | D2                    | C2                | U307              | E1                    | A2                |
| R326B             | D2                    | C2                | U310              | E2                    | B2                |
| R330C             | E2                    | C2                | U313              | E3                    | B2                |
| R330D             | E1                    | C2                | U317              | E4                    | B2                |
| R330E             | E1                    | C2                | U324A             | F4                    | C2                |
| R366              | E4                    | F2                | U328              | D1                    | C2                |
| R367              | D5                    | F2                | U338              | B1                    | D2                |
| R444C             | B1                    | D3                | U438              | D2                    | D3                |
| R444G             | D3                    | D3                | U442              | D3                    | D3                |
| R450E             | B1                    | E3                | U445              | D4                    | D3                |
| R450G             | D5                    | E3                | U448              | D5                    | E3                |
| R535              | A1                    | D4                | U538              | B3                    | D3                |
| R537A             | B2                    | D3                | U542              | B4                    | D3                |
| R537B             | B2                    | D3                | U545              | B4                    | D3                |
| R537C             | B2                    | D3                | U548              | B5                    | E3                |

\*SEE PARTS LIST FOR SERIAL NUMBER RANGES.



Table 10-34

STORAGE RAMS & READBACK  — 18-CHANNEL ACQ. BD., ASSEMBLY A16

| CIRCUIT<br>NUMBER | SCHEMATIC<br>LOCATION | BOARD<br>LOCATION | CIRCUIT<br>NUMBER | SCHEMATIC<br>LOCATION | BOARD<br>LOCATION |
|-------------------|-----------------------|-------------------|-------------------|-----------------------|-------------------|
| CR113             | A1                    | B1                | R242C             | C4                    | D2                |
| J202              | A1                    | A2                | R242D             | C4                    | D2                |
| J202              | B1                    | A2                | R242E             | C4                    | D2                |
| J202              | B2                    | A2                | R243A             | C4                    | D2                |
| J244              | A4                    | D2                | R243C             | C4                    | D2                |
| J244              | B5                    | D2                | R243E             | C4                    | D2                |
| J244              | B4                    | D2                | R243F             | C4                    | D2                |
| R102B             | C1                    | A1                | R243G             | C4                    | D2                |
| R102C             | C1                    | A1                | R256              | F4                    | E2                |
| R102E             | C2                    | A1                | U105C             | B2                    | A1                |
| R102G             | A1                    | A1                | U105D             | A3                    | A1                |
| R103A             | A3                    | A1                | U108B             | B3                    | A1                |
| R103C             | B2                    | A1                | U108C             | B2                    | A1                |
| R103D             | A1                    | A1                | U111              | B2                    | B1                |
| R103E             | A2                    | A1                | U116              | B2                    | B1                |
| R103F             | B3                    | A1                | U119              | B1                    | B1                |
| R103G             | A1                    | A1                | U122              | B4                    | B1                |
| R142B             | B5                    | D1                | U124A             | B3                    | C1                |
| R142C             | B5                    | D1                | U124B             | B5                    | C1                |
| R142E             | A5                    | D1                | U124C             | B5                    | C1                |
| R142F             | A4                    | D1                | U124D             | B3                    | C1                |
| R142G             | A5                    | D1                | U127              | B4                    | C1                |
| R201A             | C1                    | A2                | U134              | B5                    | C1                |
| R201B             | C1                    | A2                | U137B             | B5                    | D1                |
| R201C             | C2                    | A2                | U137C             | B5                    | D1                |
| R201D             | C2                    | A2                | U140A             | A5                    | D1                |
| R201E             | C2                    | A2                | U140C             | B5                    | D1                |
| R201F             | C2                    | A2                | U203              | D1                    | A1                |
| R201G             | C2                    | A2                | U207              | D2                    | A1                |
| R209A             | B3                    | A1                | U211              | D2                    | B1                |
| R220              | B2                    | B1                | U215              | E1                    | B1                |
| R221A             | B5                    | B1                | U219              | E2                    | B1                |
| R221C             | C2                    | B1                | U224              | D4                    | C1                |
| R221D             | C5                    | B1                | U228              | D4                    | C1                |
| R221F             | B3                    | B1                | U232              | D5                    | C1                |
| R221G             | B5                    | B1                | U236              | E4                    | D1                |
| R225C             | A4                    | C1                | U240              | E4                    | D1                |
| R225D             | C5                    | C1                | U246              | F1                    | E2                |
| R225E             | C5                    | C1                | U248              | F4                    | E2                |
| R234D             | B5                    | D1                | U253              | F3                    | E2                |





Table 10-35

CLOCK GENERATION 35 — 18-CHANNEL ACQ. BOARD, ASSEMBLY A16

| CIRCUIT<br>NUMBER | SCHEMATIC<br>LOCATION | BOARD<br>LOCATION | CIRCUIT<br>NUMBER | SCHEMATIC<br>LOCATION | BOARD<br>LOCATION |
|-------------------|-----------------------|-------------------|-------------------|-----------------------|-------------------|
| C144              | F1                    | D1                | R420B             | A4                    | B3                |
| C145              | F1                    | D1                | R421A             | B4                    | B3                |
| C146              | F1                    | D1                | R421B             | B4                    | B3                |
| C152              | F2                    | E1                | R422              | F4                    | C3                |
| C164              | E3                    | F1                | R429              | E5                    | C3                |
| C165              | D2                    | F1                | R433C             | B3                    | D3                |
| C244              | F2                    | D1                | R433E             | C5                    | D3                |
| C245              | F2                    | D1                | R433F             | C5                    | D3                |
| C246              | F2                    | D1                | R433G             | B3                    | D3                |
| C252              | F3                    | E1                | R437C             | C5                    | D3                |
| C264              | D2                    | F2                | R437D             | C5                    | D3                |
| C501              | F2                    | A4                | R519A             | B5                    | B3                |
| C510              | D2                    | B3                | R519B             | B5                    | B3                |
| C520              | F5                    | C4                | R519C             | A4                    | B3                |
| C521              | F4                    | C4                | R519D             | A5                    | B3                |
| C523              | F1                    | B4                | R520A             | B5                    | B3                |
| CR144             | F1                    | D1                | R520B             | B5                    | B3                |
| CR145             | F1                    | D1                | R521A             | A5                    | B3                |
| CR148             | E1                    | E1                | R521B             | A5                    | B3                |
| CR149             | E1                    | E1                | R522              | F5                    | B4                |
| CR166             | E3                    | F1                | R523              | F5                    | C4                |
| CR244             | F2                    | D1                | R524              | F4                    | C4                |
| CR245             | F2                    | D1                | R529              | D5                    | C3                |
| CR248             | E2                    | E1                | R530              | F5                    | C3                |
| CR249             | E2                    | E1                | R533A             | B4                    | D3                |
| J510              | A4                    | A4                | R533E             | B4                    | D3                |
| J510              | F2                    | A4                | TP153             | F1                    | E1                |
| J520              | A3                    | B4                | TP154             | F2                    | E1                |
| J520              | F1                    | B4                | TP257             | E3                    | F1                |
| P350              | F5                    | E4                | TP268             | E1                    | F1                |
| P350              | A5                    | E4                | TP430             | E5                    | C3                |
| R144              | F1                    | D1                | TP529             | E5                    | C3                |
| R145              | F1                    | D1                | TP530             | F5                    | C4                |
| R146              | F2                    | D1                | U153A             | F1                    | E1                |
| R147              | F1                    | E1                | U153B             | F1                    | E1                |
| R148              | F1                    | E1                | U154A             | F2                    | E1                |
| R149              | E1                    | E1                | U154B             | F2                    | E1                |
| R150              | F2                    | E1                | U156              | E1                    | E1                |
| R151              | E1                    | E1                | U266A             | E3                    | F1                |
| R152              | E2                    | E1                | U303A             | B5                    | A2                |
| *R153             | E3                    | E1                | U303B             | C5                    | A2                |
| R154              | F1                    | E1                | U303C             | B5                    | A2                |
| *R156             | E3                    | E1                | U303D             | C5                    | A2                |
| *R157             | E3                    | E1                | U357              | B2                    | E2                |
| R158              | E2                    | E1                | U417A             | B4                    | B3                |
| R161              | D2                    | F1                | U417B             | A3                    | B3                |
| R167              | E2                    | F1                | U417C             | A4                    | B3                |
| R203              | B5                    | A2                | U417D             | D2                    | B3                |
| R244              | F2                    | D1                | U421A             | F4                    | B3                |
| R247              | F2                    | E1                | U421B             | B5                    | B3                |
| R248              | F2                    | E1                | U421C             | B5                    | B3                |
| R249              | F2                    | E1                | U421D             | F4                    | B3                |
| R250              | E2                    | E1                | U425              | D5                    | C3                |
| R252              | F2                    | E1                | U428              | C4                    | C3                |
| R300              | B5                    | A2                | U432              | D4                    | C3                |
| R301              | B5                    | A2                | U435              | D3                    | D3                |
| R302              | B5                    | A2                | U453              | C1                    | E3                |
| R368              | A5                    | F2                | U466              | D1                    | F3                |
| R418A             | A3                    | B3                | U517A             | B5                    | B3                |
| R418B             | A3                    | B3                | U517B             | A5                    | B3                |
| R418C             | A5                    | B3                | U517C             | A4                    | B3                |
| R418D             | A5                    | B3                | U521              | C5                    | B3                |
| R418E             | A4                    | B3                | U525A             | F4                    | C3                |
| R418F             | A5                    | B3                | U525B             | F5                    | C3                |
| R418H             | A4                    | B3                | U528A             | E4                    | C3                |
| R418I             | A4                    | B3                | U528B             | E5                    | C3                |
| R419A             | A4                    | B3                | U532              | C3                    | C3                |
| R419B             | A4                    | B3                | U535A             | E4                    | D3                |
| R419C             | B4                    | B3                | U535B             | E5                    | D3                |
| R419D             | B4                    | B3                | U566              | B1                    | F3                |
| R420A             | A4                    | B3                |                   |                       |                   |

\*SEE PARTS LIST FOR SERIAL NUMBER RANGES.



Table 10-36

18-CH. TIMING & PROCESSOR INTERFACE 36 — 18-CH. ACQ., ASSEMBLY A16

| CIRCUIT<br>NUMBER | SCHEMATIC<br>LOCATION | BOARD<br>LOCATION | CIRCUIT<br>NUMBER | SCHEMATIC<br>LOCATION | BOARD<br>LOCATION |
|-------------------|-----------------------|-------------------|-------------------|-----------------------|-------------------|
| C320              | E3                    | C2                | R361              | A3                    | F2                |
| C321              | E5                    | C2                | R362              | A3                    | F2                |
| CR259             | C3                    | F2                | R364              | B5                    | F2                |
| J510              | F5                    | A4                | R365              | B4                    | F2                |
| J510              | F2                    | A4                | R368              | A5                    | F2                |
| J510              | A3                    | A4                | *R532             | A5                    | C1                |
| J520              | F1                    | B4                | R555              | B1                    | E3                |
| J520              | F5                    | B4                | R555A             | A1                    | E3                |
| J520              | A3                    | B4                | R564              | A3                    | F4                |
| P350              | A4                    | E4                | R565              | A3                    | F4                |
| P350              | A1                    | E4                | R566              | B3                    | F4                |
| Q352              | C4                    | E2                | TP510             | A2                    | A3                |
| Q353              | C2                    | E2                | U108A             | F2                    | A1                |
| R103B             | F2                    | A1                | U137A             | F4                    | D1                |
| R104              | E5                    | A1                | U257A             | D2                    | E1                |
| R112              | E5                    | B1                | U257B             | D2                    | E1                |
| R142A             | F4                    | D1                | U257C             | C3                    | E1                |
| R253              | F2                    | E1                | U257D             | A2                    | E1                |
| R255              | F4                    | E2                | U261              | C3                    | F1                |
| R258              | C4                    | F1                | U266B             | B3                    | F1                |
| *R261             | C2                    | F1                | *U320A            | E3                    | B2                |
| *R320C            | E3                    | C2                | *U320B            | E5                    | B2                |
| *R323B            | E3                    | C2                | *U320C            | E5                    | B2                |
| R323G             | E4                    | C2                | U332              | E2                    | C2                |
| R332              | E3                    | D2                | U335              | E4                    | D2                |
| *R333             | B5                    | C1                | U346A             | F2                    | E2                |
| R335              | E5                    | D2                | U346B             | F4                    | E2                |
| R344B             | B5                    | D2                | U346C             | F2                    | E2                |
| R344C             | A5                    | D2                | U346D             | F4                    | E2                |
| R344D             | E2                    | D2                | U348A             | B2                    | E2                |
| R344E             | E4                    | D2                | U361              | D3                    | F2                |
| R344F             | F4                    | D2                | U457              | C4                    | E3                |
| R344G             | F2                    | D2                | U461              | D2                    | F3                |
| R351C             | C2                    | E2                | U553              | B1                    | E3                |
| R353              | C2                    | E2                | U557              | B4                    | E3                |
| R355              | C4                    | E2                | U561              | B3                    | F3                |
| R356              | C2                    | E2                |                   |                       |                   |

\*SEE PARTS LIST FOR SERIAL NUMBER RANGES.



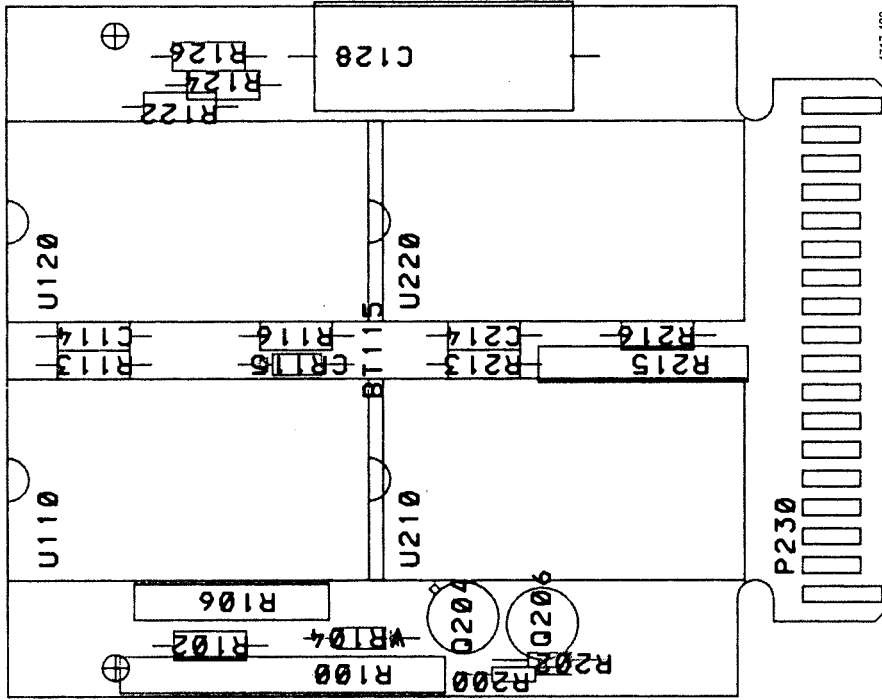


Figure 10-23a. A41 8K RAM Pack Board Component Locations  
(SNB014468-8 & below.)  
B061917

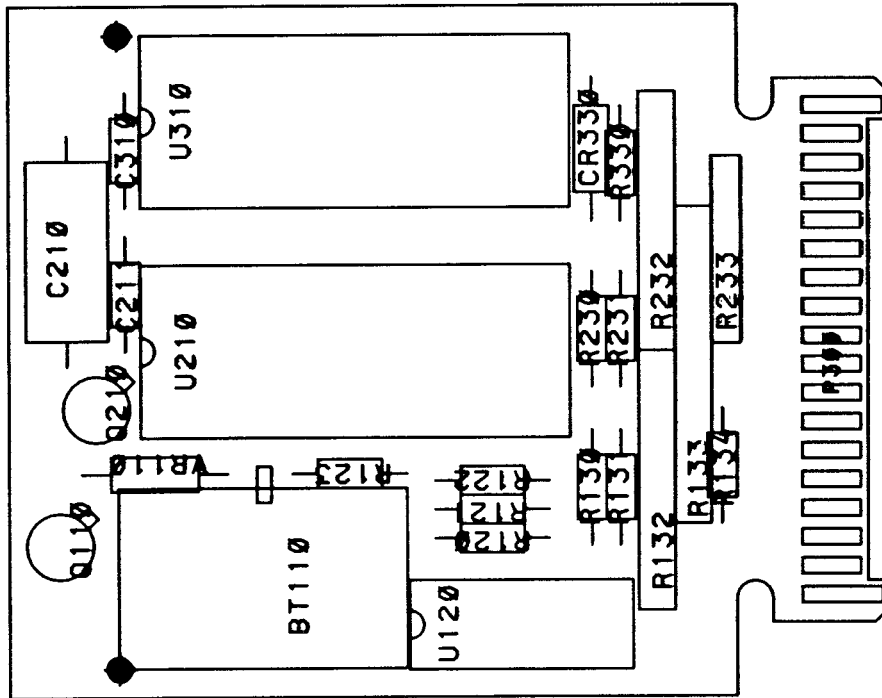
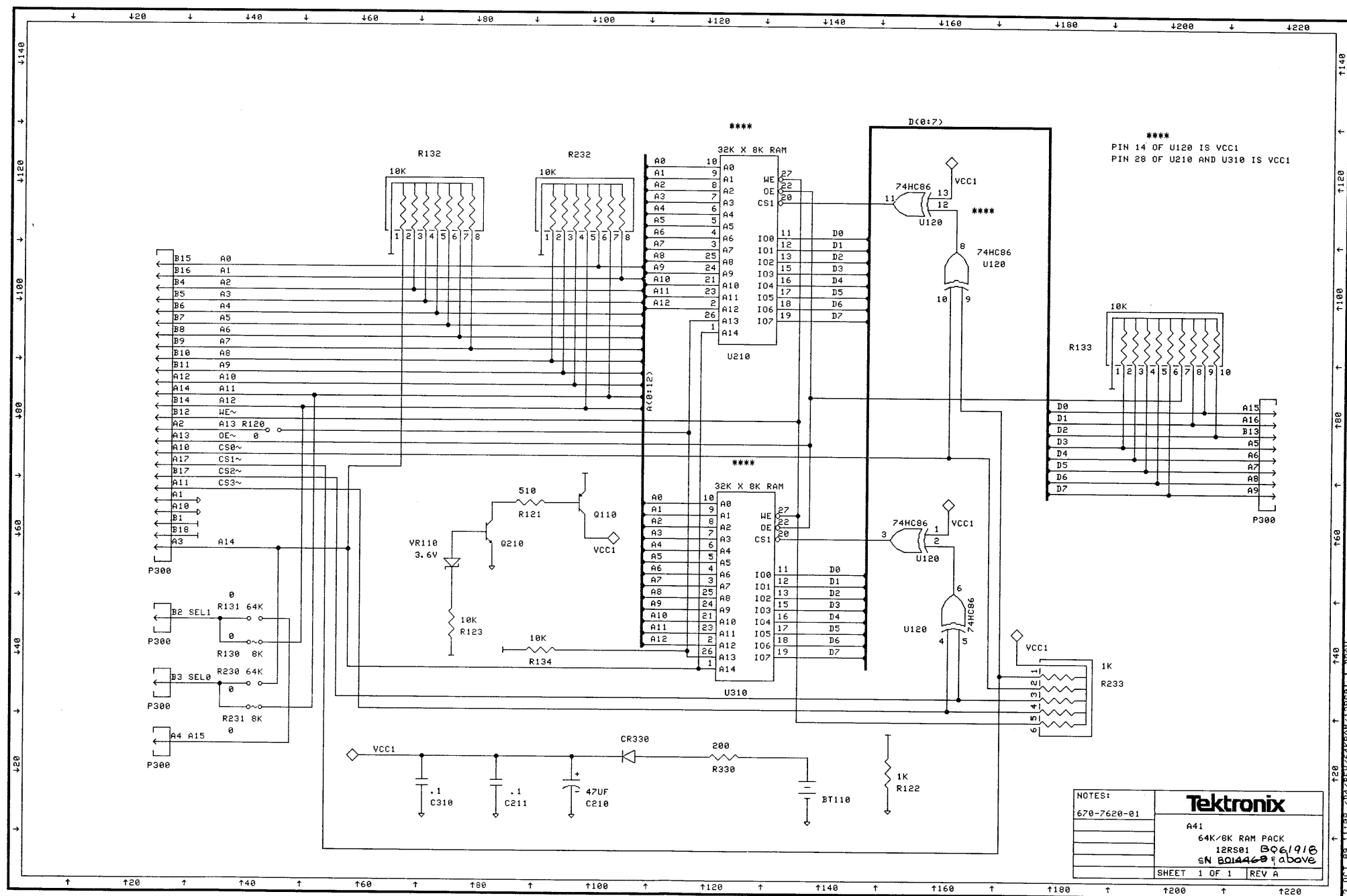
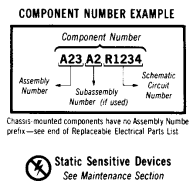
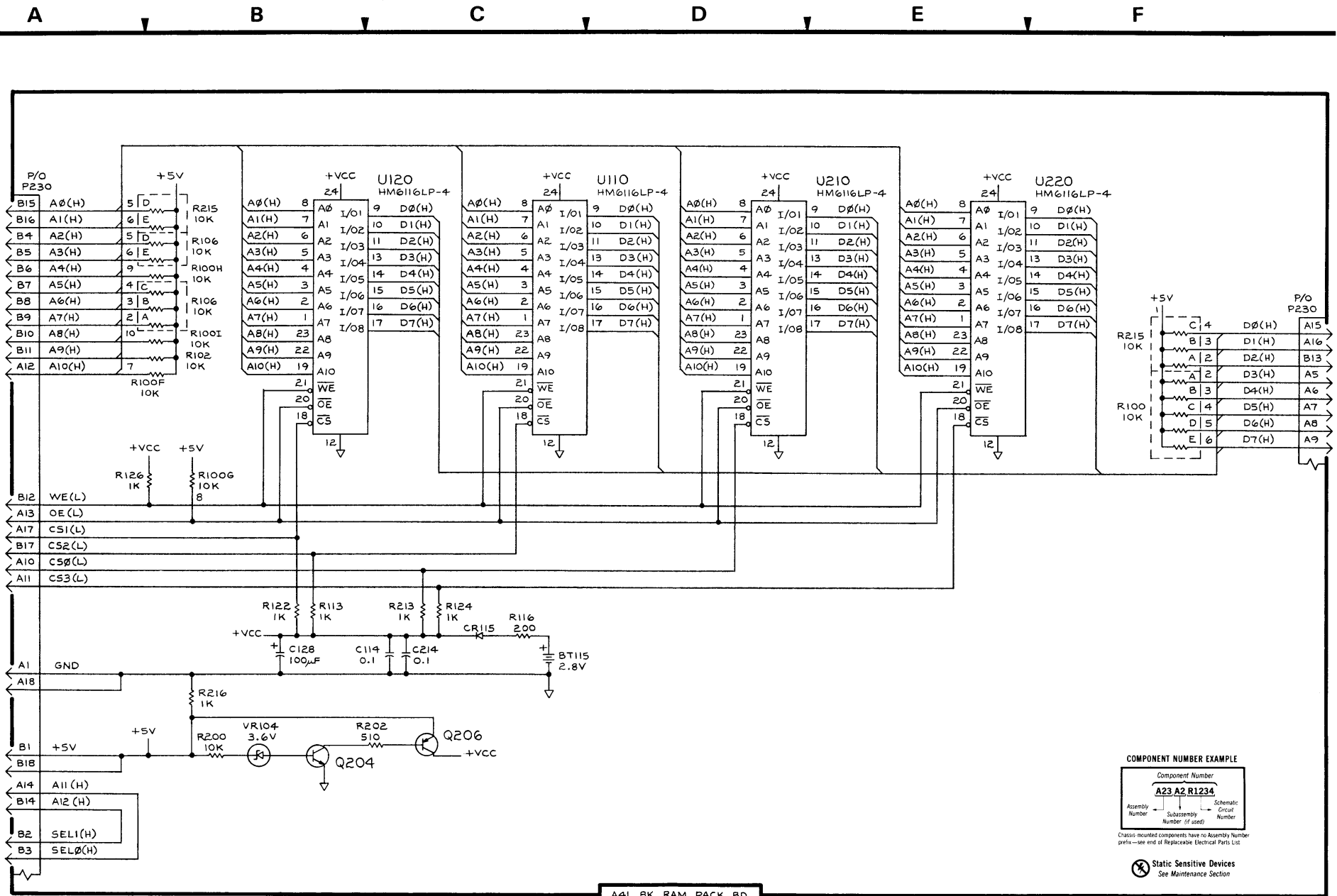


Figure 10-23. A41 8K RAM Pack Board Component Locations  
(670-7620-01 SNB014469 & above.)  
B061918



1  
2  
3  
4



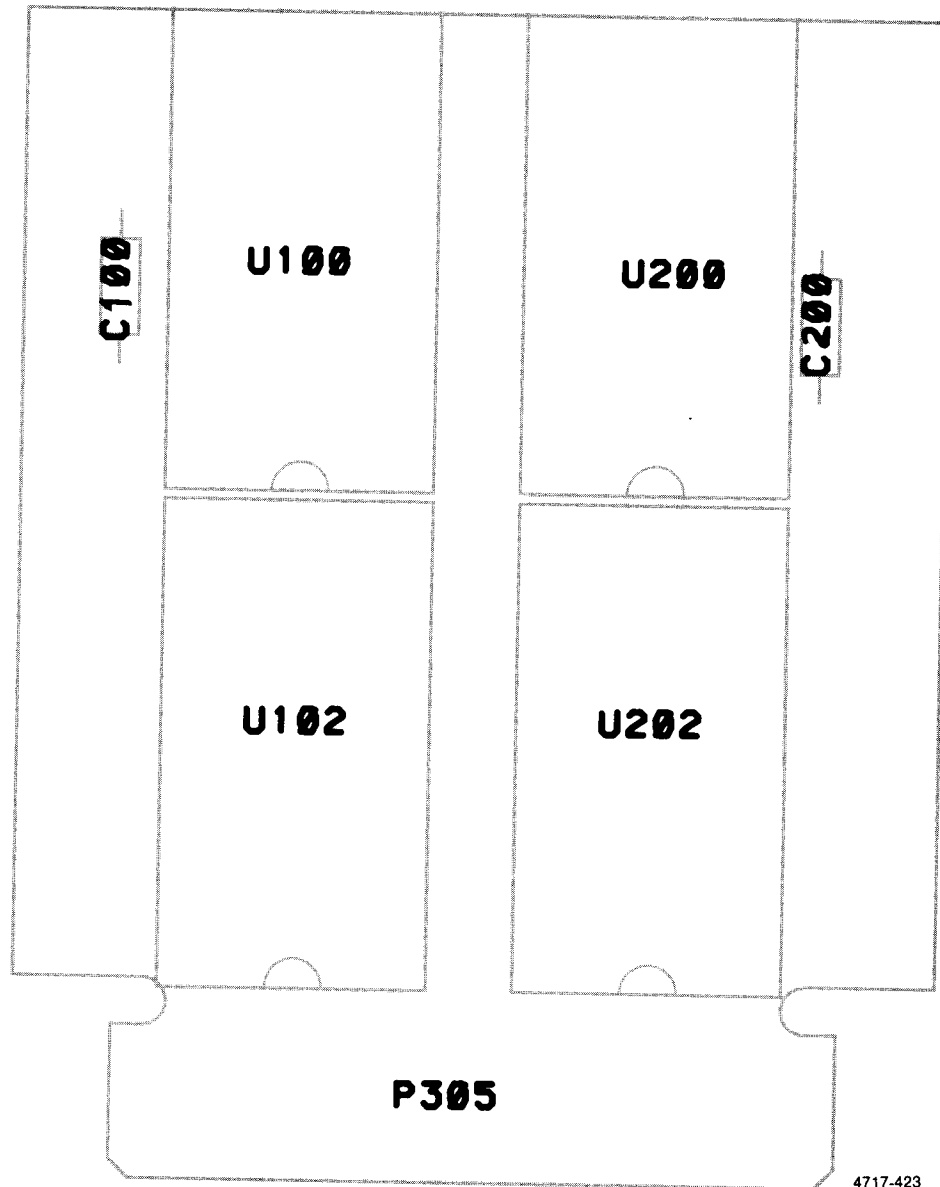
A41 8K RAM PACK BD.

1240 SERVICE

4717 - 637

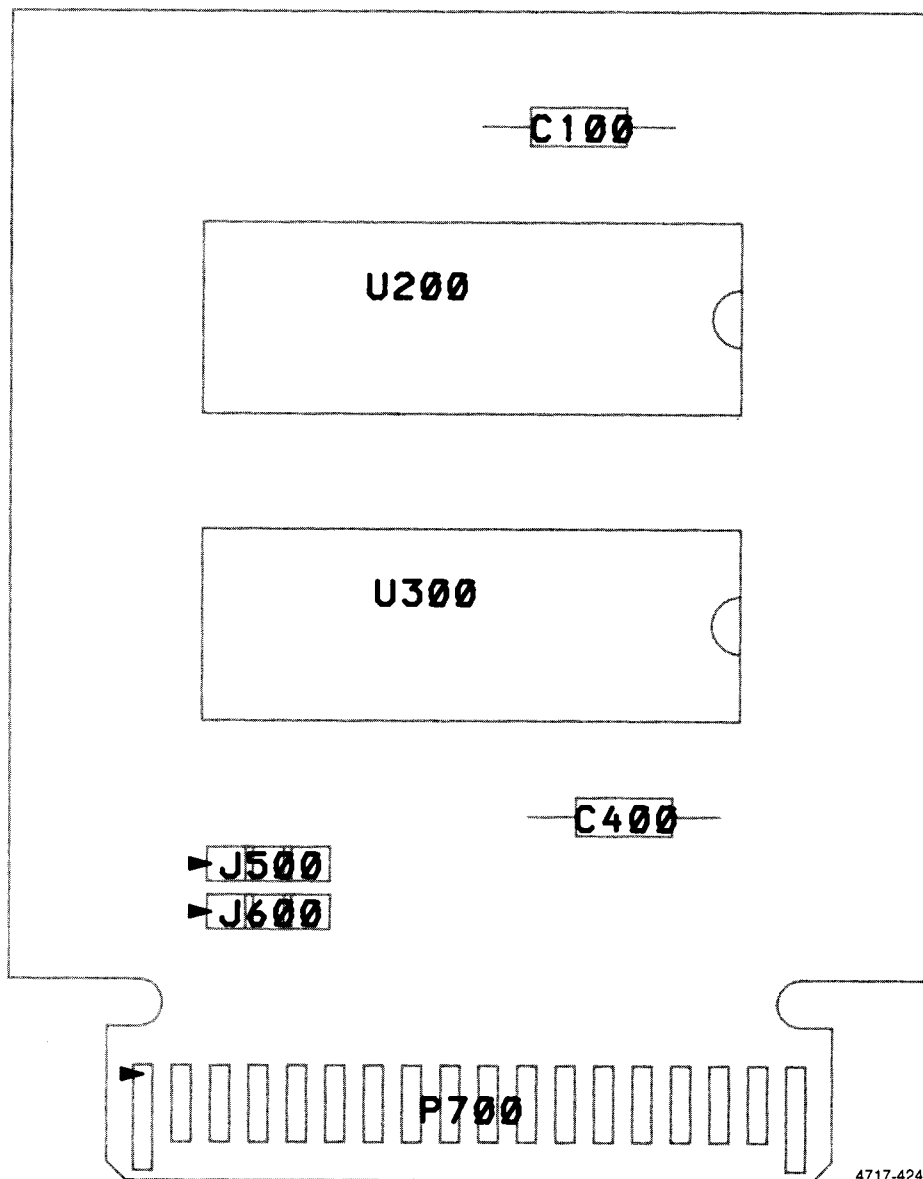
8K RAM PACK 37





4717-423

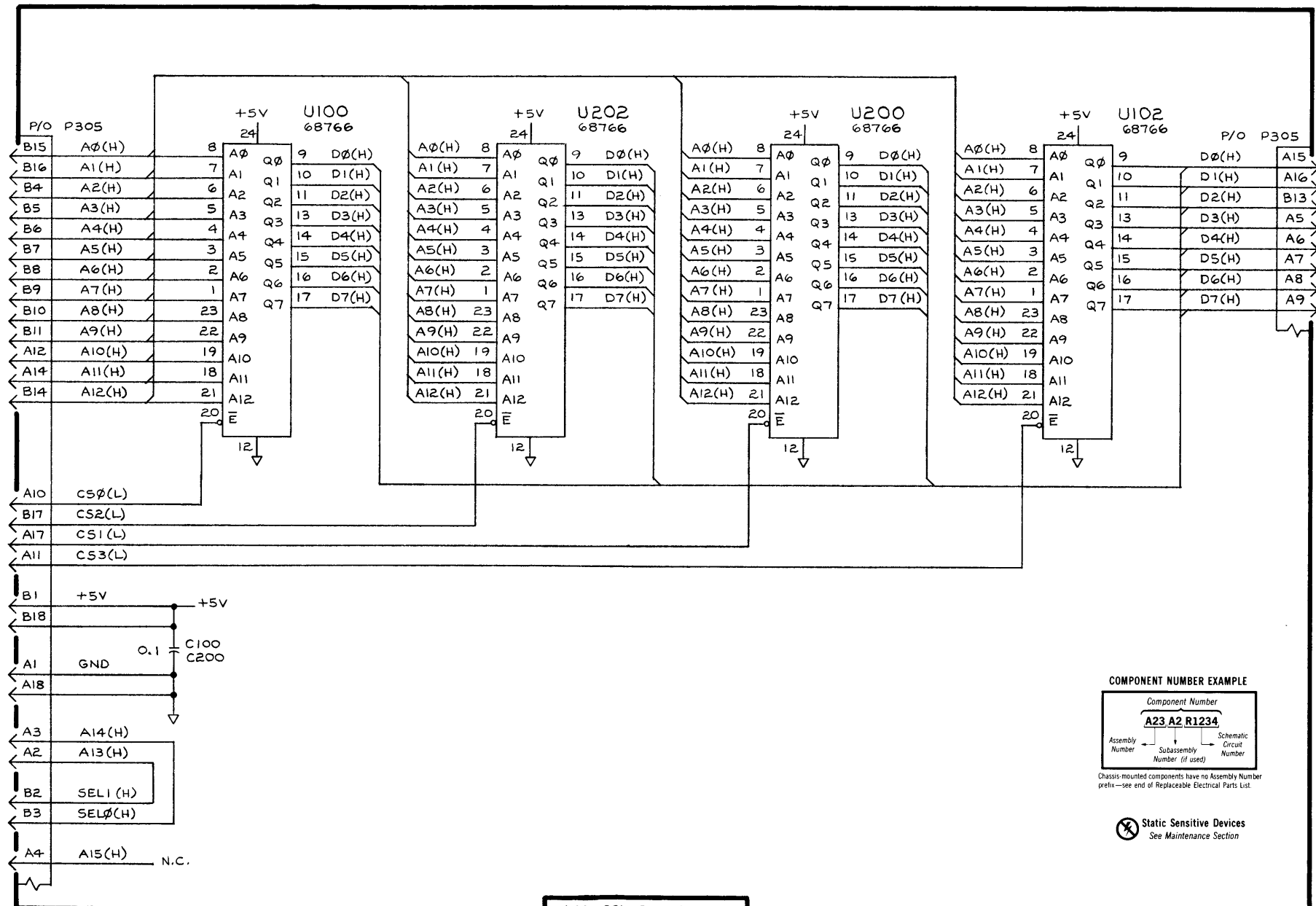
**Figure 10-24. A42 32K EPROM Pack Component Locations.** This board is used for the empty and blank 32K EPROM packs (12RS11, 12RS12).



4717-424

**Figure 10-25. A43 32K/64K ROM Pack Component Locations.** This board is used for all Tektronix-programmed ROM packs.

A B C D E F



1240 SERVICE

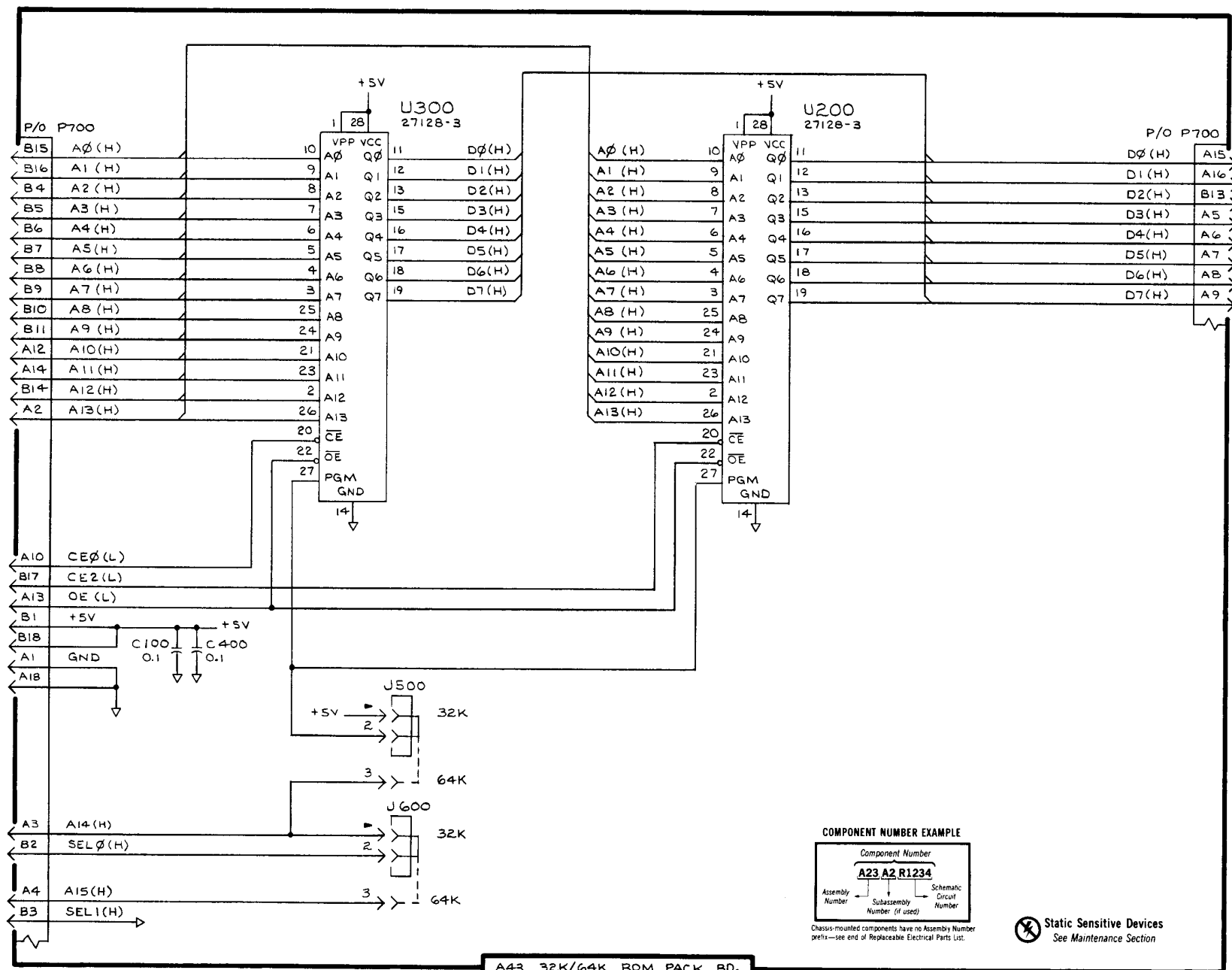
A42 32K ROM PACK BD.

4717 - 638

32K ROM PACK 38

A B C D E F

1  
2  
3  
4  
5



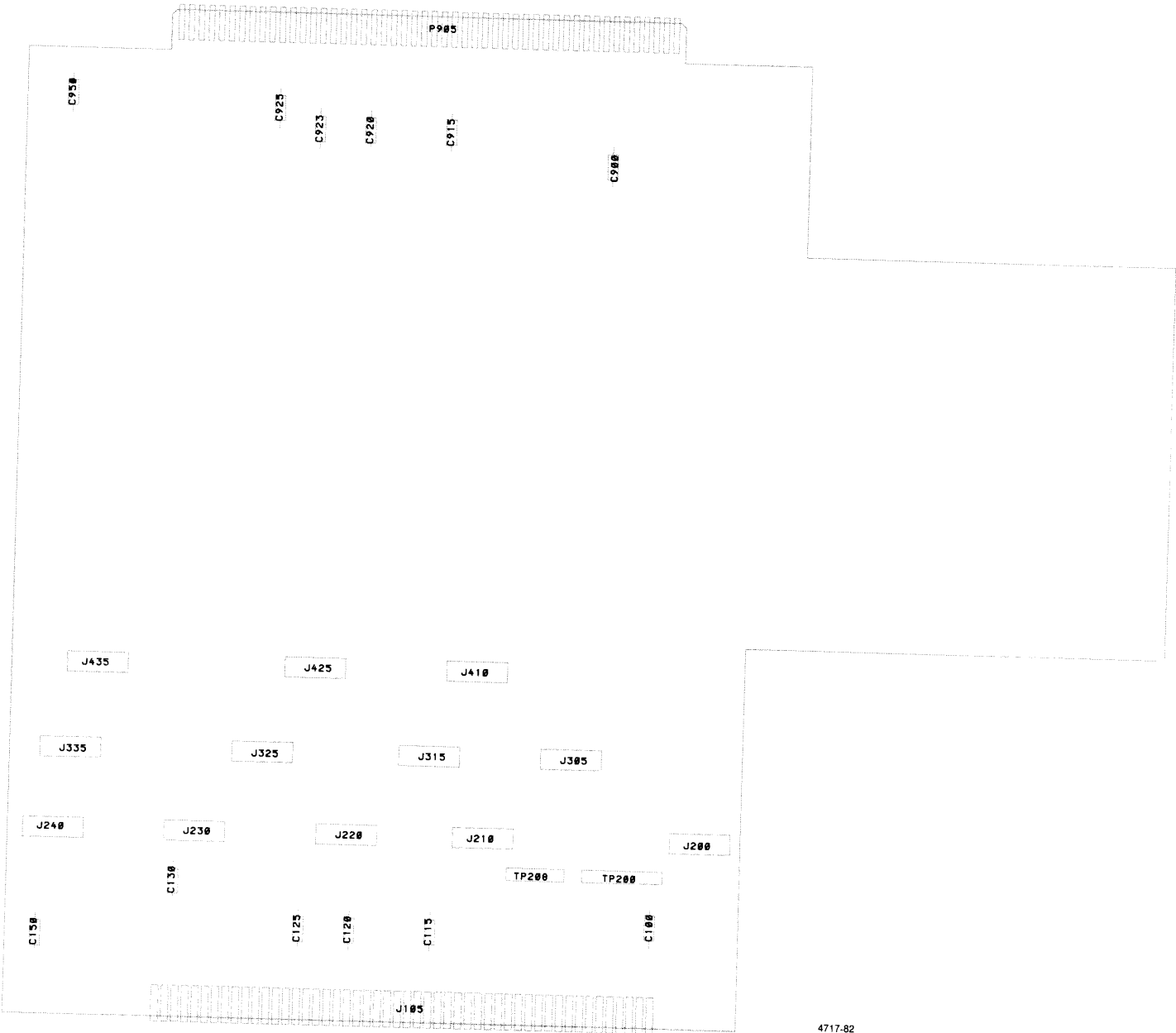
1240 SERVICE

A43 32K/64K ROM PACK BD.

4717-639

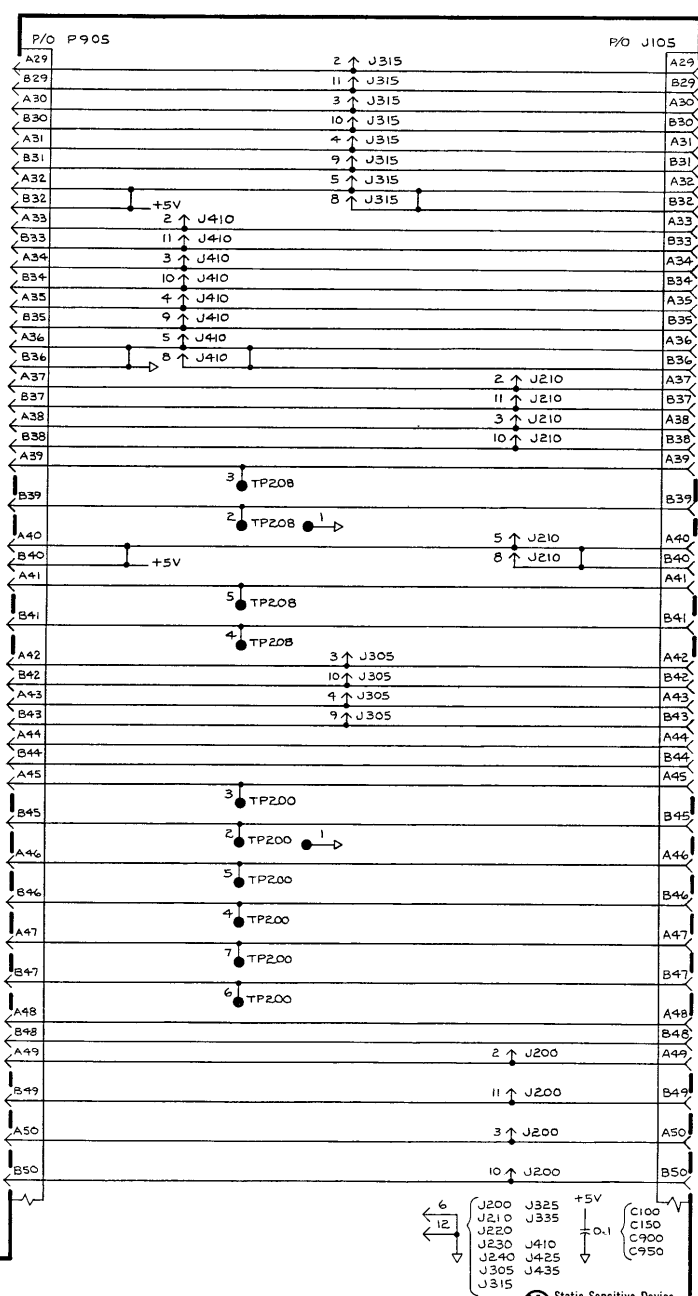
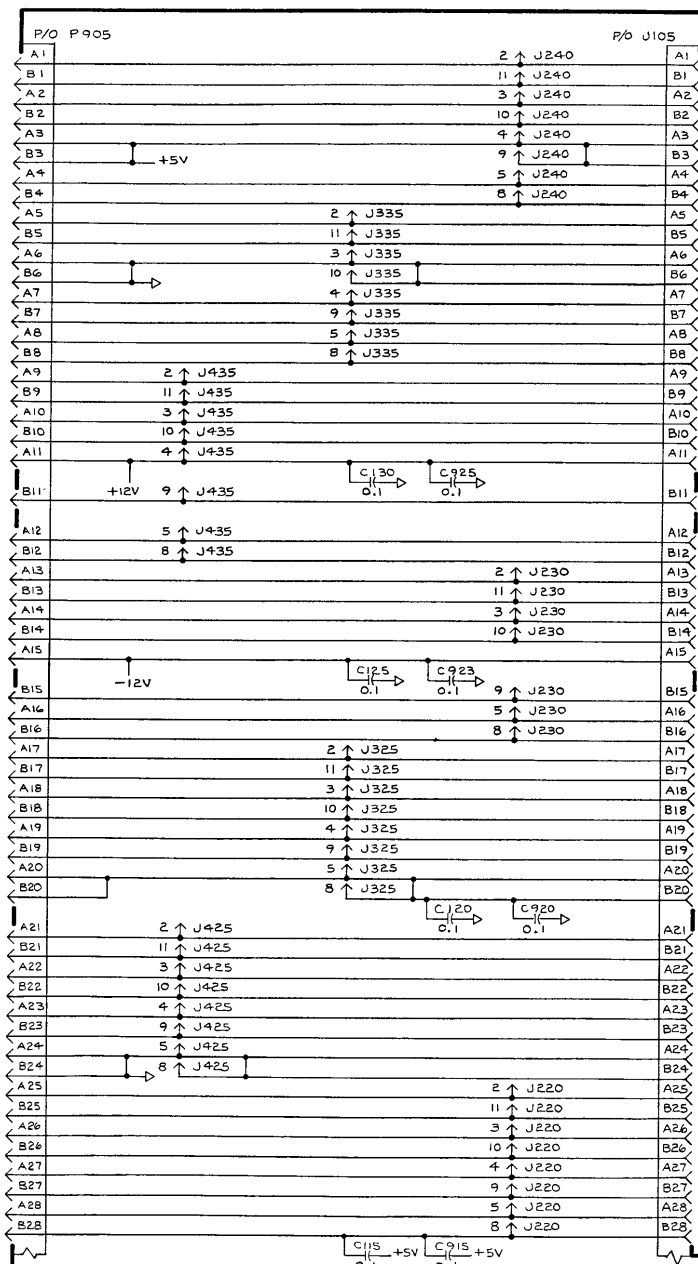
32K/64K ROM PACK 39

Static Sensitive Devices  
See Maintenance Section



4717-82

Figure 10-26. A21 Processor Extender Board Component Locations.



 **Static Sensitive Device**  
See Maintenance Section

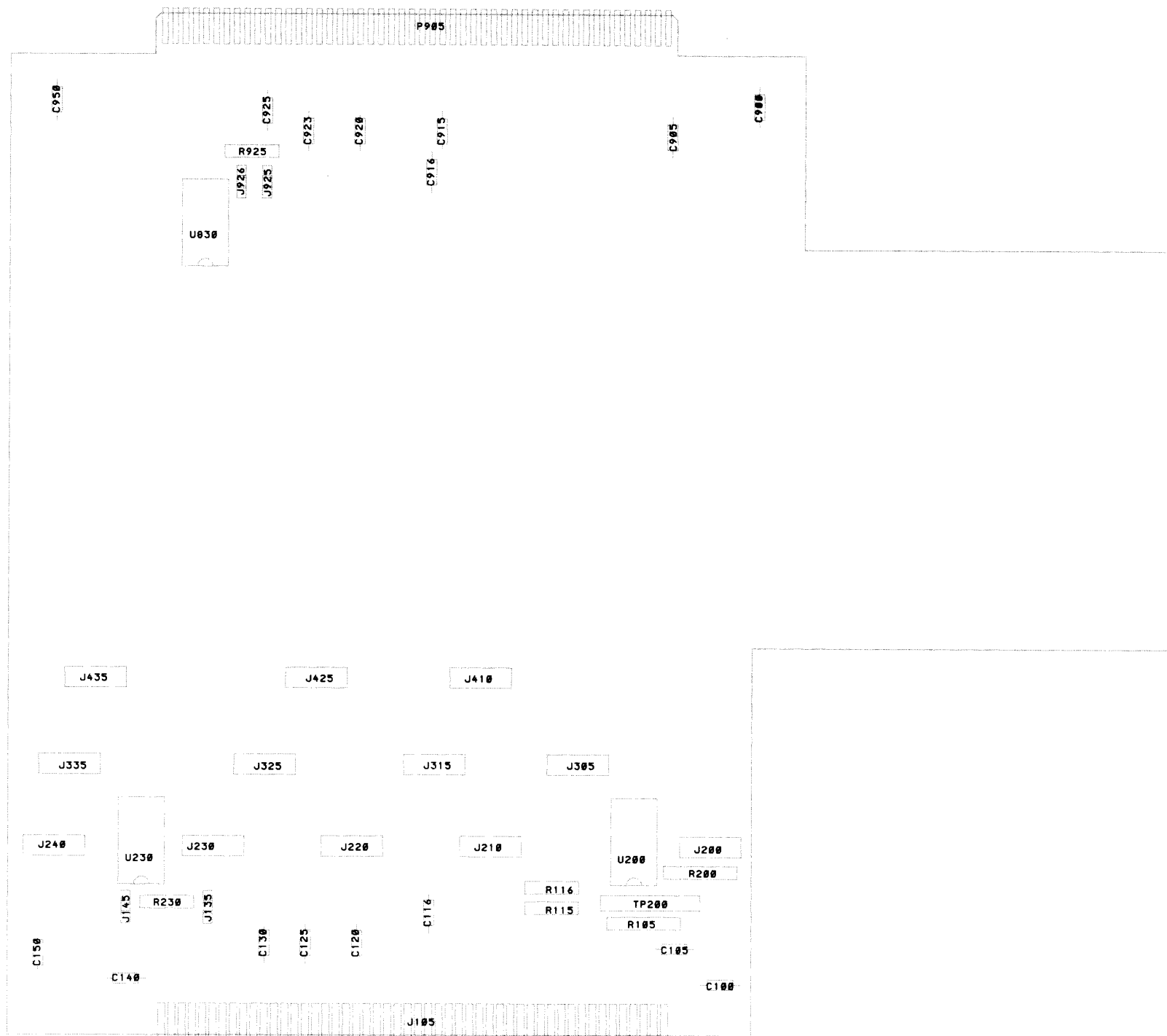


Figure 10-27. A22 Acquisition Extender Board Component Locations.





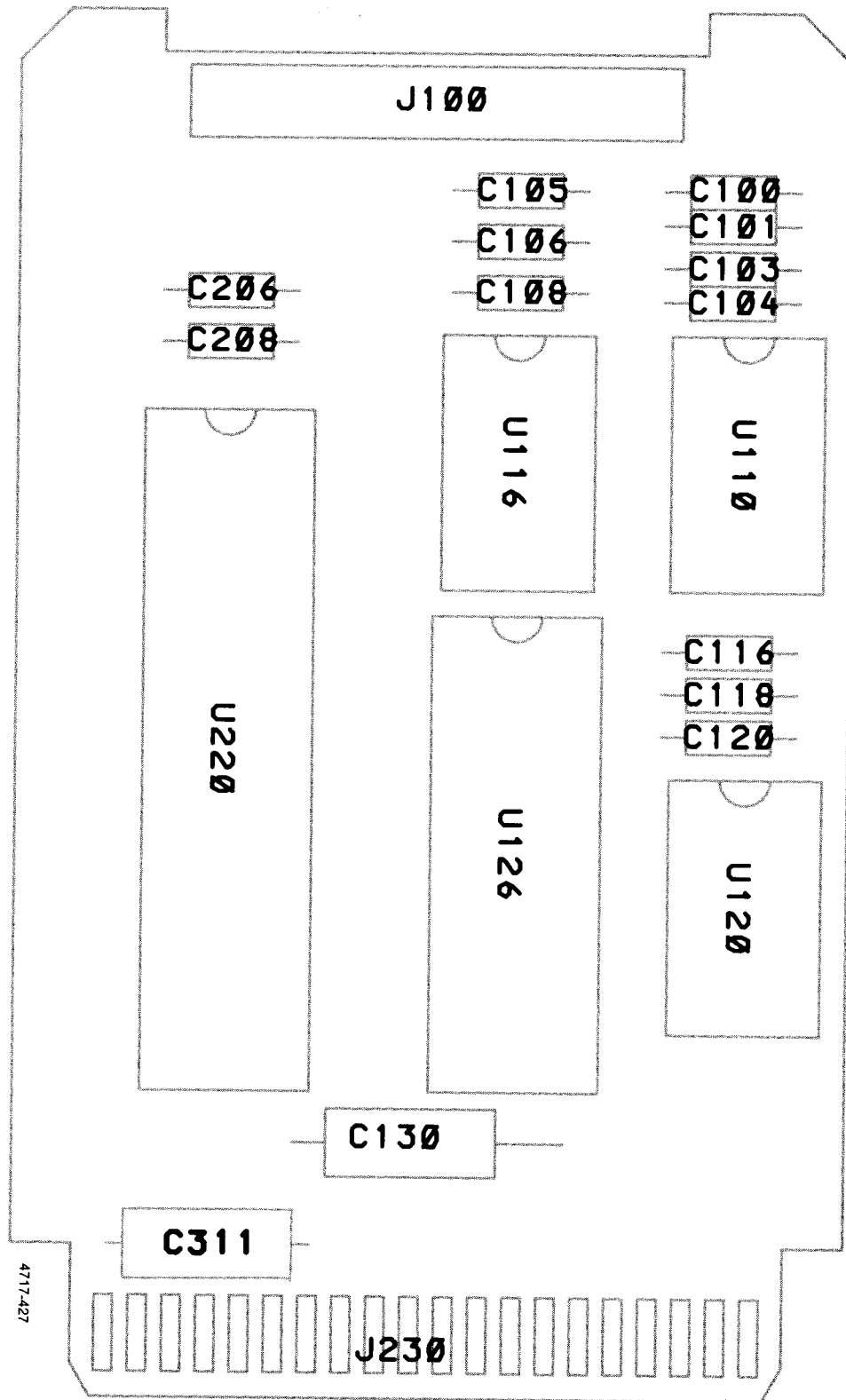


Figure 10-28. A31 RS232C COMM Pack Component Locations.



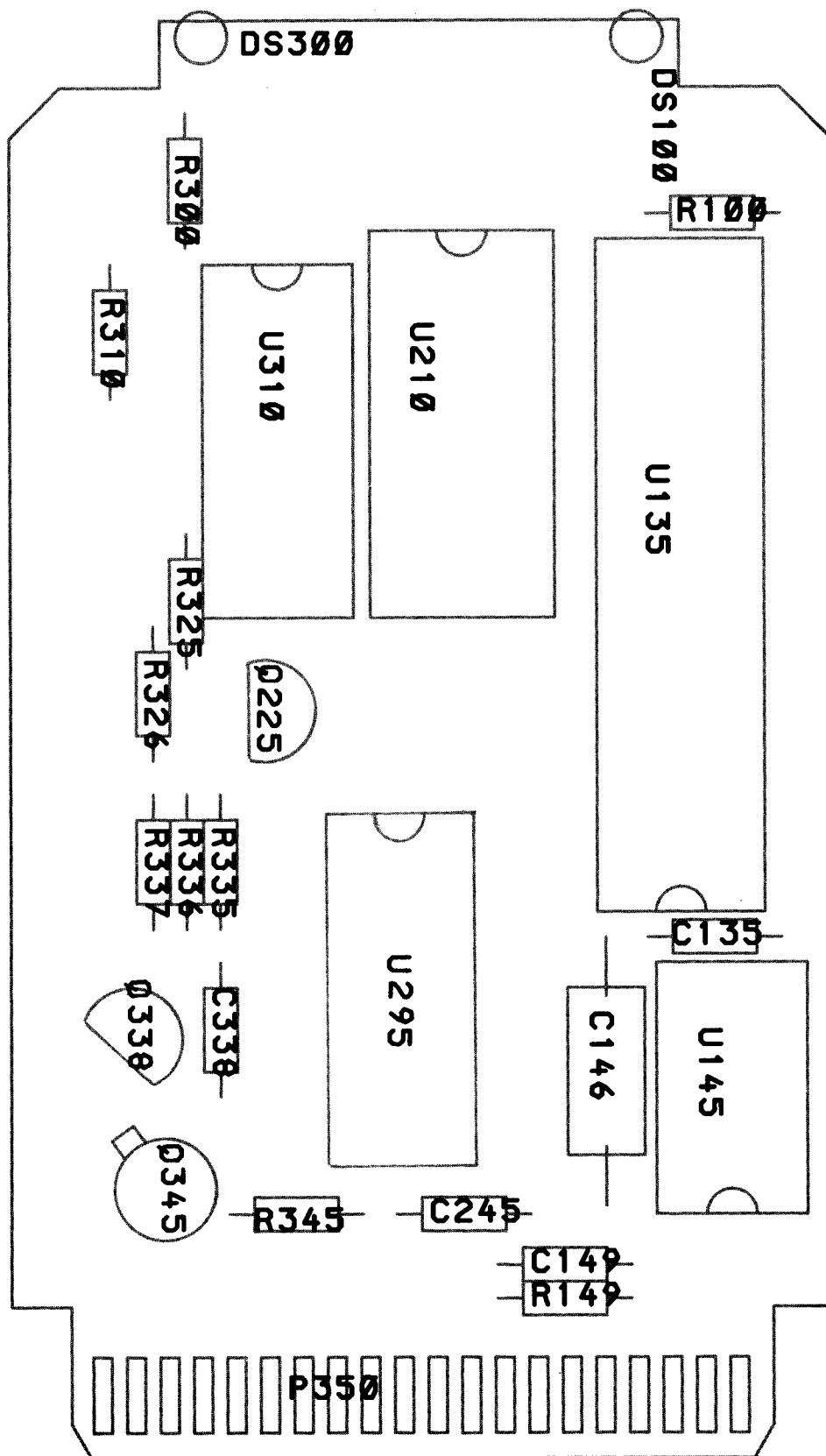
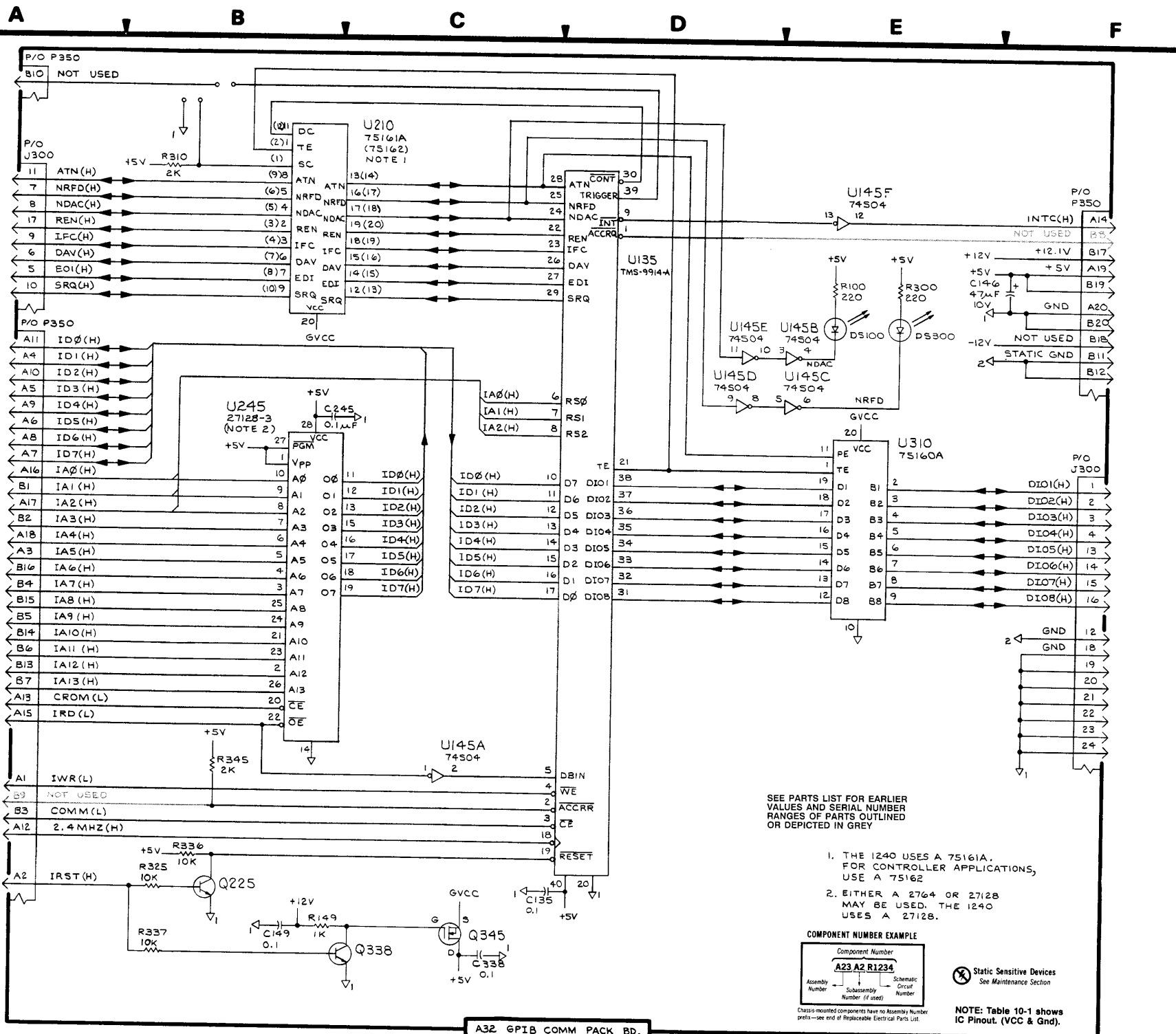


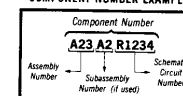
Figure 10-29. A32 GPIB COMM Pack Component Locations.



SEE PARTS LIST FOR EARLIER  
VALUES AND SERIAL NUMBER  
RANGES OF PARTS OUTLINED  
OR DEPICTED IN GREY

1. THE 1240 USES A 75161A.  
FOR CONTROLLER APPLICATIONS,  
USE A 75162
2. EITHER A 2764 OR 27128  
MAY BE USED. THE 1240  
USES A 27128.

#### COMPONENT NUMBER EXAMPLE



Chassis-mounted components have no Assembly Number prefix—see end of Replaceable Electrical Parts List.

Static Sensitive Devices  
See Maintenance Section

NOTE: Table 10-1 shows  
IC Pinout. (VCC & Gnd).

A32 GPIB COMM PACK BD.

1240 SERVICE

4342-S42  
REV OCT 1988

GPIB COMM PACK 42

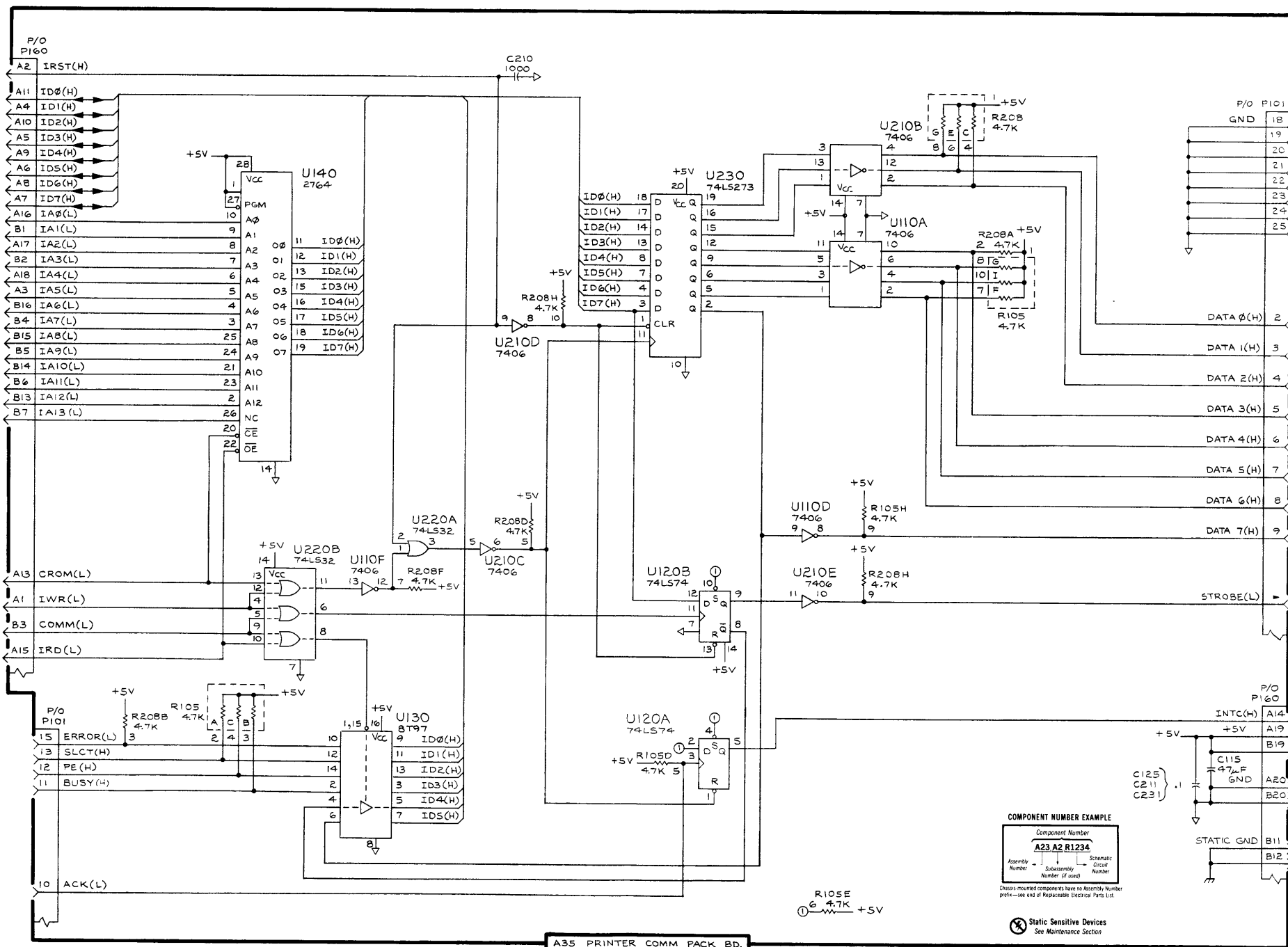
A

B

C

D

E



# REPLACEABLE MECHANICAL PARTS

## PARTS ORDERING INFORMATION

Replacement parts are available from or through your local Tektronix, Inc. Field Office or representative.

Changes to Tektronix instruments are sometimes made to accommodate improved components as they become available, and to give you the benefit of the latest circuit improvements developed in our engineering department. It is therefore important, when ordering parts, to include the following information in your order: Part number, instrument type or number, serial number, and modification number if applicable.

If a part you have ordered has been replaced with a new or improved part, your local Tektronix, Inc. Field Office or representative will contact you concerning any change in part number.

Change information, if any, is located at the rear of this manual.

## ITEM NAME

In the Parts List, an Item Name is separated from the description by a colon (:). Because of space limitations, an Item Name may sometimes appear as incomplete. For further Item Name identification, the U.S. Federal Cataloging Handbook H6-1 can be utilized where possible.

## FIGURE AND INDEX NUMBERS

Items in this section are referenced by figure and index numbers to the illustrations.

## INDENTATION SYSTEM

This mechanical parts list is indented to indicate item relationships. Following is an example of the indentation system used in the description column.

1 2 3 4 5                      *Name & Description*

*Assembly and/or Component*

*Attaching parts for Assembly and/or Component*

--- \* ---

*Detail Part of Assembly and/or Component*

*Attaching parts for Detail Part*

--- \* ---

*Parts of Detail Part*

*Attaching parts for Parts of Detail Part*

--- \* ---

Attaching Parts always appear in the same indentation as the item it mounts, while the detail parts are indented to the right. Indented items are part of, and included with, the next higher indentation. The separation symbol --- \* --- indicates the end of attaching parts.

**Attaching parts must be purchased separately, unless otherwise specified.**

## ABBREVIATIONS

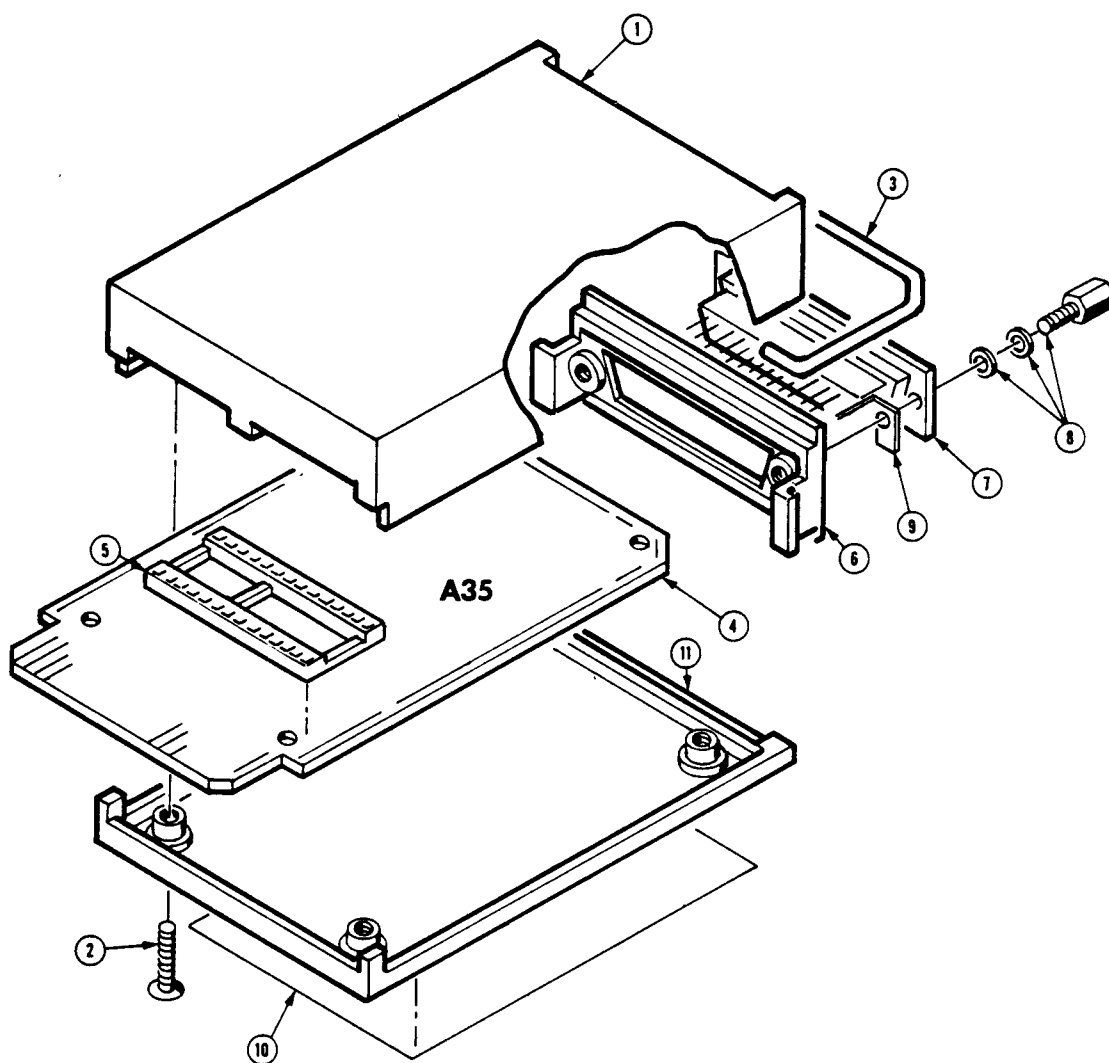
|                        |         |                       |          |                      |         |                 |
|------------------------|---------|-----------------------|----------|----------------------|---------|-----------------|
| INCH                   | ELCTRN  | ELECTRON              | IN       | INCH                 | SE      | SINGLE END      |
| # NUMBER SIZE          | ELEC    | ELECTRICAL            | INCAND   | INCANDESCENT         | SECT    | SECTION         |
| ACTR ACTUATOR          | ELCTLT  | ELECTROLYTIC          | INSUL    | INSULATOR            | SEMICON | SEMICONDUCTOR   |
| ADPTR ADAPTER          | ELEM    | ELEMENT               | INTL     | INTERNAL             | SHLD    | SHIELD          |
| ALIGN ALIGNMENT        | EPL     | ELECTRICAL PARTS LIST | LPHLDR   | LAMPHOLDER           | SHLDR   | SHOULDERED      |
| AL ALUMINUM            | EQPT    | EQUIPMENT             | MACH     | MACHINE              | SKT     | SOCKET          |
| ASSEM ASSEMBLED        | EXT     | EXTERNAL              | MECH     | MECHANICAL           | SL      | SLIDE           |
| ASSY ASSEMBLY          | FIL     | FILLISTER HEAD        | MTG      | MOUNTING             | SLFLKG  | SELF-LOCKING    |
| ATTEN ATTENUATOR       | FLEX    | FLEXIBLE              | NIP      | NIPPLE               | SLVG    | SLEEVEING       |
| AWG AMERICAN WIRE GAGE | FLH     | FLAT HEAD             | NON WIRE | NOT WIRE WOUND       | SPR     | SPRING          |
| BD BOARD               | FLTR    | FILTER                | OBD      | ORDER BY DESCRIPTION | SQ      | SQUARE          |
| BRKT BRACKET           | FR      | FRAME or FRONT        | OD       | OUTSIDE DIAMETER     | SST     | STAINLESS STEEL |
| BRS BRASS              | FSTNR   | FASTENER              | OVH      | OVAL HEAD            | STL     | STEEL           |
| BRZ BRONZE             | FT      | FOOT                  | PH BRZ   | PHOSPHOR BRONZE      | SW      | SWITCH          |
| BSHG BUSHING           | FXD     | FIXED                 | PL       | PLAIN or PLATE       | T       | TUBE            |
| CAB CABINET            | GSKT    | GASKET                | PLSTC    | PLASTIC              | TERM    | TERMINAL        |
| CAP CAPACITOR          | HDL     | HANDLE                | PN       | PART NUMBER          | THD     | THREAD          |
| CER CERAMIC            | HEX     | HEXAGON               | PNH      | PAN HEAD             | THK     | THICK           |
| CHAS CHASSIS           | HEX HD  | HEXAGONAL HEAD        | PWR      | POWER                | TNSN    | TENSION         |
| CKT CIRCUIT            | HEX SOC | HEXAGONAL SOCKET      | RCPT     | RECEPTACLE           | TPG     | TAPPING         |
| COMP COMPOSITION       | HLCP    | HELICAL COMPRESSION   | RES      | RESISTOR             | TRH     | TRUSS HEAD      |
| CONN CONNECTOR         | HLXT    | HELICAL EXTENSION     | RGD      | RIGID                | V       | VOLTAGE         |
| COV COVER              | HV      | HIGH VOLTAGE          | RLF      | RELIEF               | VAR     | VARIABLE        |
| CPLG COUPLING          | IC      | INTEGRATED CIRCUIT    | RTNR     | RETAINER             | W/      | WITH            |
| CRT CATHODE RAY TUBE   | ID      | INSIDE DIAMETER       | SCH      | SOCKET HEAD          | WSHR    | WASHER          |
| DEG DEGREE             | IDNT    | IDENTIFICATION        | SCOPE    | OSCILLOSCOPE         | XFMR    | TRANSFORMER     |
| DWR DRAWER             | IMPLR   | IMPELLER              | SCR      | SCREW                | XSTR    | TRANSISTOR      |

CROSS INDEX—MFR. CODE NUMBER TO MANUFACTURER

| Mfr. Code | Manufacturer        | Address           | City, State, Zip    |
|-----------|---------------------|-------------------|---------------------|
| 09922     | BURNDY CORPORATION  | RICHARDS AVENUE   | NORWALK, CT 06852   |
| 71468     | ITT CANNON ELECTRIC | 666 E. DYER RD.   | SANTA ANA, CA 92702 |
| 80009     | TEKTRONIX, INC.     | P O BOX 500       | BEAVERTON, OR 97077 |
| 83385     | CENTRAL SCREW CO.   | 2530 CRESCENT DR. | BROADVIEW, IL 60153 |

| Fig. &<br>Index<br>No. | Tektronix<br>Part No. | Serial/Model No.<br>Eff      Dscont | Qty | 1 2 3 4 5 | Name & Description                                                       | Mfr<br>Code | Mfr Part Number |
|------------------------|-----------------------|-------------------------------------|-----|-----------|--------------------------------------------------------------------------|-------------|-----------------|
| 1-1                    | 380-0343-09           |                                     | 1   |           | HSG HALF,ROM PK:INNER<br>***** (ATTACHING PARTS) *****                   | 80009       | 380-0343-09     |
| -2                     | 211-0102-00           |                                     | 4   |           | SCREW,MACHINE:4-40 X 0.500",FLH,STL<br>***** (END ATTACHING PARTS) ***** | 83385       | OBD             |
| -3                     | 367-0328-00           |                                     | 1   |           | HANDLE,BOW:2.9 INCH LONG,SST                                             | 80009       | 367-0328-00     |
| -4                     | -----                 |                                     | 1   |           | CKT BOARD ASSY:PARALLEL PRINTER<br>(SEE A35 REPL)                        |             |                 |
| -5                     | 136-0755-00           |                                     | 1   |           | .SKT,PL-IN ELEK:MICROCIRCUIT,28 DIP                                      | 09922       | DILB28P-108     |
| -6                     | 386-4972-01           |                                     | 1   |           | .PLATE,MOUNTING:                                                         | 80009       | 386-4972-01     |
| -7                     | 131-3114-00           |                                     | 1   |           | .CONN,RCPT,ELEC:CHASSIS,25 FEMALE                                        | 80009       | 131-3114-00     |
| -8                     | 131-0890-00           |                                     | 2   |           | .LOCK,CONNECTOR:4-40 X 0.312 L                                           | 71468       | D 20418-2       |
| -9                     | 131-0099-00           |                                     | 1   |           | .CONTACT,ELEC:PHOSPHOR BRONZE                                            | 80009       | 131-0099-00     |
| -10                    | 334-0118-00           |                                     | 1   |           | MARKER,IDENT:MKD PARALLEL PRINTER                                        | 80009       | 334-0118-00     |
| -11                    | 384-0384-03           |                                     | 1   |           | HSG HALF,ROM PK:LID                                                      | 80009       | 384-0384-03     |
| .                      |                       |                                     |     |           |                                                                          |             |                 |
| .                      |                       |                                     |     |           |                                                                          |             |                 |
| .                      |                       |                                     |     |           | STANDARD ACCESSORIES                                                     |             |                 |
| .                      |                       |                                     |     |           |                                                                          |             |                 |
| .                      | 070-4800-00           |                                     | 1   |           | SHEET,TECHNICAL:INSTRUCTION                                              | 80009       | 070-4800-00     |
| .                      |                       |                                     |     |           |                                                                          |             |                 |
| .                      |                       |                                     |     |           | OPTIONAL ACCESSORIES                                                     |             |                 |
| .                      |                       |                                     |     |           |                                                                          |             |                 |
| .                      | 012-0997-00           |                                     | 1   |           | CABLE,INTERCON:2 METER                                                   | 80009       | 012-0997-00     |
| .                      | 070-4804-00           |                                     | 1   |           | MANUAL,TECH:SERVICE                                                      | 80009       | 070-4804-00     |





# GLOSSARY

| Signal Name           | Description                                                                                                                                                                                                                           |
|-----------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ACK(L)                | Acknowledge; pulsed active low for 2.0 - 8.0 $\mu$ s after data has been received and the printer is ready to accept more data.                                                                                                       |
| BUSY(H)               | Indicates that the printer is not ready to accept data.                                                                                                                                                                               |
| COMM(L)               | I/O Chip Enable; pulsed active low during any memory read or write access to address range 0xAE80 - 0xAEFF in the Byte-Wide EPROM (A35U140).                                                                                          |
| CROM(L)               | Memory Chip Select; pulsed active low during any access to address range 0xC000 - 0xFFFF in the Byte-Wide EPROM (A35U140).                                                                                                            |
| DATA 0(H) - DATA 7(H) | Form the data byte sent to the printer. High represents 1; low represents 0. These signals must be stable for at least 1.0 $\mu$ s before the falling edge of STROBE(L) and for 1.0 $\mu$ s after the rising edge.                    |
| ERROR(L)              | Indicates that the printer has detected an error. This signal will remain low as long as the error condition exists.                                                                                                                  |
| IA0(H) - IA13(H)      | Address inputs to the Byte-Wide EPROM (A35U140); stable when CROM(L) or COMM(L) is active low.                                                                                                                                        |
| ID0(H) - ID7(H)       | Eight-bit data bus; stable during a memory write operation when IWR(L) is active low. During a memory read, these signals must be stable 333 ns after IRD(L) becomes active low and remain stable until IRD(L) becomes inactive high. |
| INIT(L)               | Printer prime; initializes the printer for operation. When this signal is active low, the printer is reset to its initial state. INIT(L) remains low for at least 50 $\mu$ s.                                                         |
| INTC(H)               | Interrupt; driven active high to request a 1240 interrupt. Remains high until reset during software response to the interrupt.                                                                                                        |
| IRD(L)                | Read; pulsed active low for 500 ns during any memory or port read cycle.                                                                                                                                                              |
| IRST(H)               | Reset; active high during system reset. Stays high for at least 10 $\mu$ s.                                                                                                                                                           |
| IWR(L)                | Write; pulsed active low for 375 ns during any memory or port write cycle.                                                                                                                                                            |
| PE(H)                 | Indicates that the printer is out of paper.                                                                                                                                                                                           |
| SLCT(H)               | Indicates that the printer is in the "selected" state and can receive data. When SLCT(H) is low, the printer cannot accept data.                                                                                                      |
| STROBE(L)             | Clocks data from the 1200C11 to the printer.                                                                                                                                                                                          |

## **DIAGNOSTIC SCHEMATIC DIAGRAMS**

The 1200C11 uses a minimum of circuitry; diagnostic schematics are not required.

# DIAGRAMS AND CIRCUIT BOARD ILLUSTRATIONS

## Symbols

Graphic symbols and class designation letters are based on ANSI Standard Y32.2-1975.

Logic symbology is based on ANSI Y32.14-1973 in terms of positive logic. Logic symbols depict the logic function performed and may differ from the manufacturer's data.

The overline on a signal name indicates that the signal performs its intended function when it is in the low state.

Abbreviations are based on ANSI Y1.1-1972.

Other ANSI standards that are used in the preparation of diagrams by Tektronix, Inc. are:

Y14.15, 1966 Drafting Practices.  
Y14.2, 1973 Line Conventions and Lettering.  
Y10.5, 1968 Letter Symbols for Quantities Used in Electrical Science and Electrical Engineering.

American National Standard Institute  
1430 Broadway  
New York, New York 10018

## Component Values

Electrical components shown on the diagrams are in the following units unless noted otherwise:

Capacitors = Values one or greater are in picofarads (pF).  
Values less than one are in microfarads ( $\mu$ F).

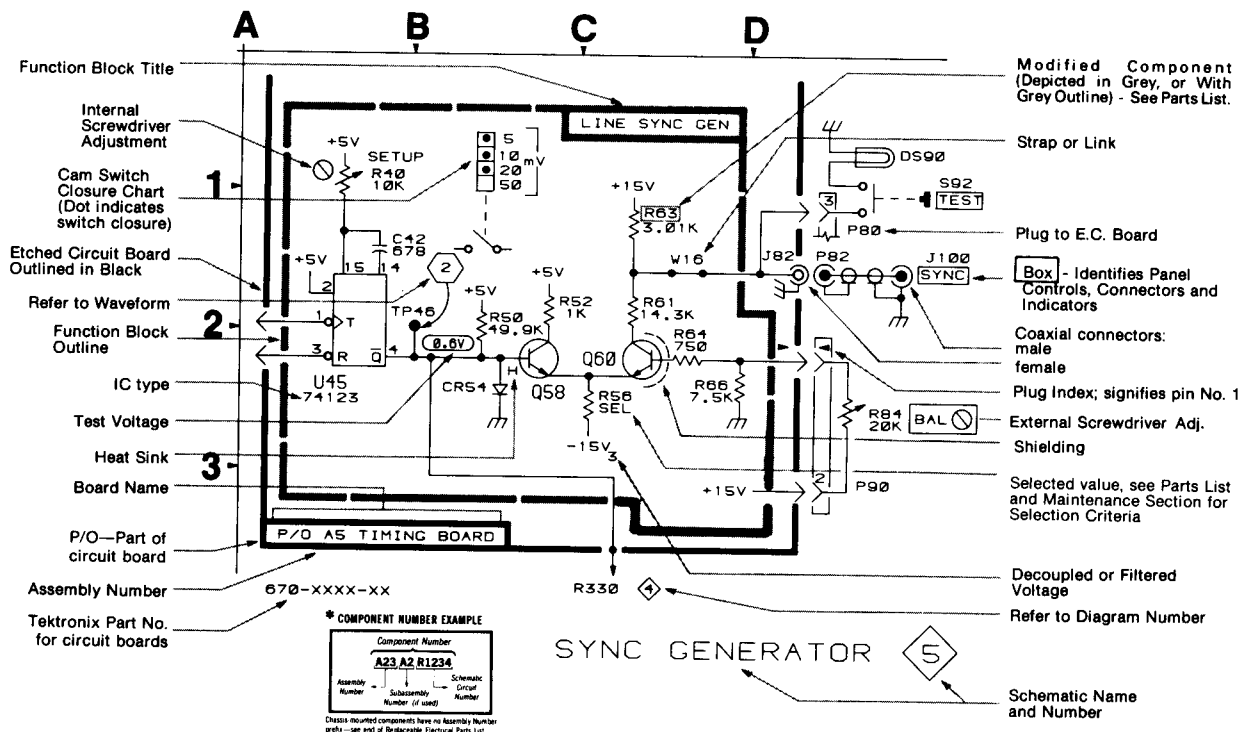
Resistors = Ohms ( $\Omega$ ).

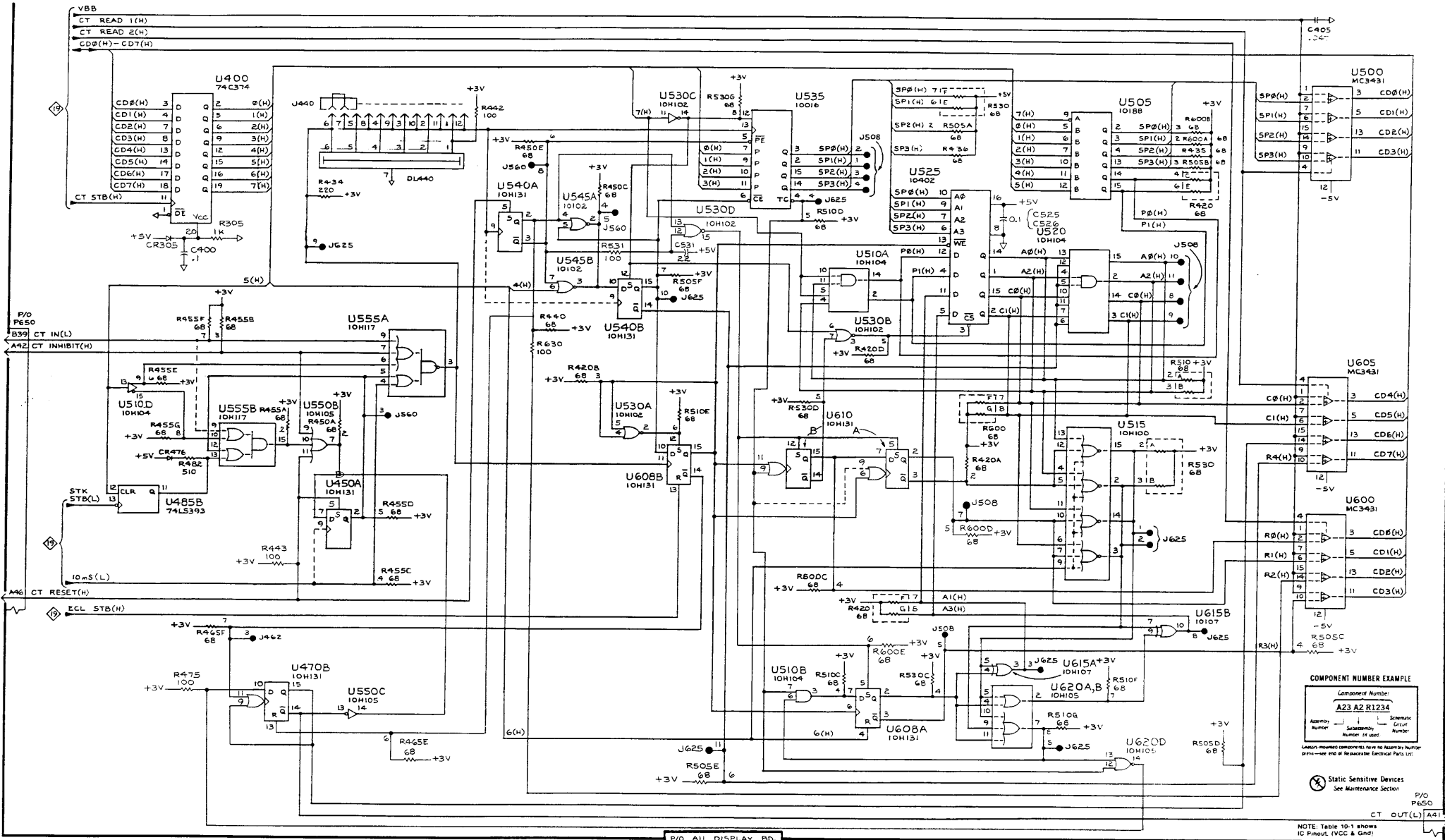
**The information and special symbols below may appear in this manual.**

## Assembly Numbers and Grid Coordinates

Each assembly in the instrument is assigned an assembly number (e.g., A20). The assembly number appears on the circuit board outline on the diagram, in the title for the circuit board component location illustration, and in the lookup table for the schematic diagram and corresponding component locator illustration. The Replaceable Electrical Parts list is arranged by assemblies in numerical sequence; the components are listed by component number \*(see following illustration for constructing a component number).

The schematic diagram and circuit board component location illustration have grids. A lookup table with the grid coordinates is provided for ease of locating the component. Only the components illustrated on the facing diagram are listed in the lookup table. When more than one schematic diagram is used to illustrate the circuitry on a circuit board, the circuit board illustration may only appear opposite the first diagram on which it was illustrated; the lookup table will list the diagram number of other diagrams that the circuitry of the circuit board appears on.





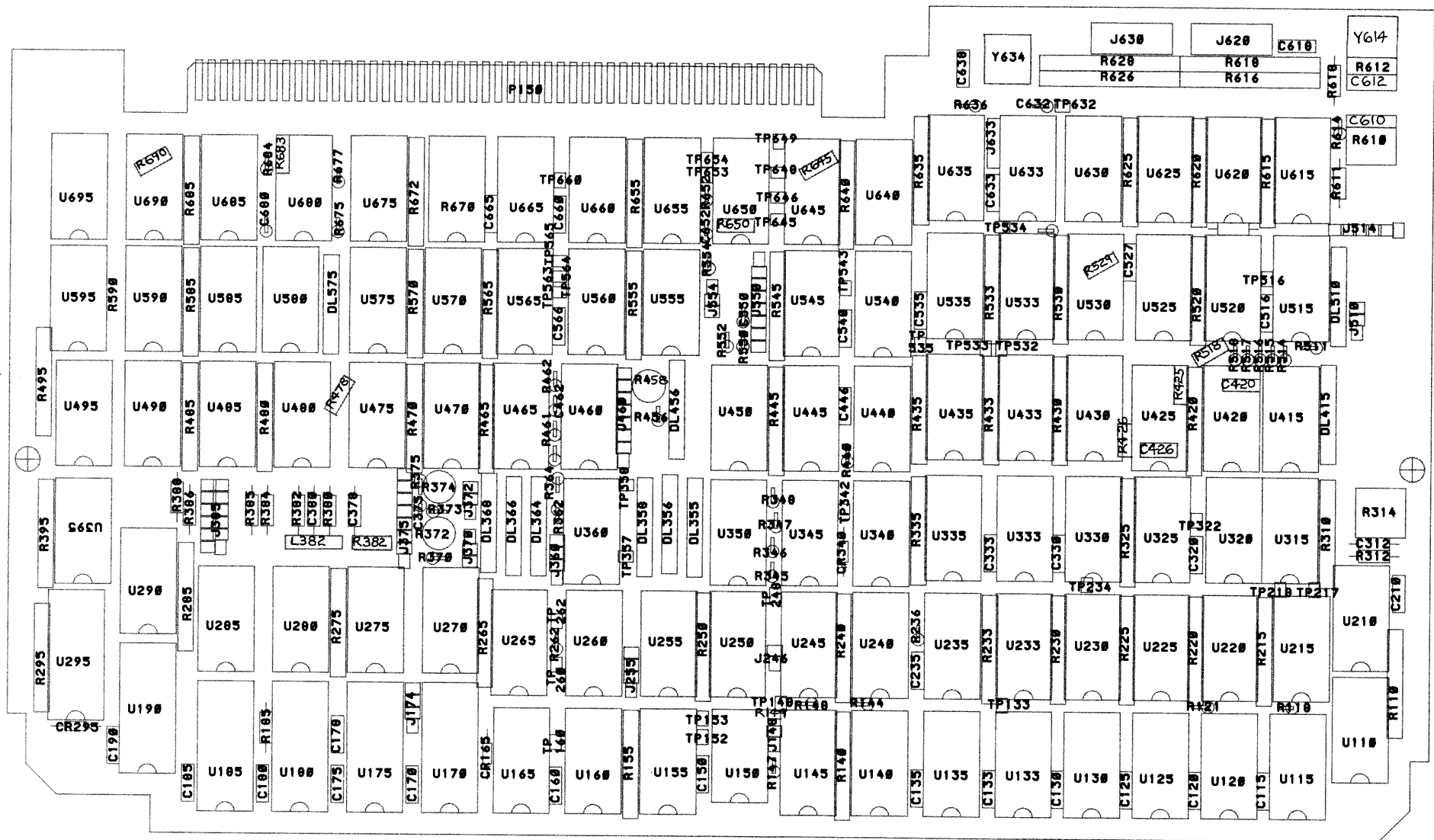
COMPONENT NUMBER EXAMPLE

|                  |                             |                        |
|------------------|-----------------------------|------------------------|
| Component Number |                             |                        |
| A23 A2 R1234     |                             |                        |
| Assembly Number  | Subassembly Number (if any) | Schematic Sheet Number |

Caution: mounted components have no Assembly Number prefix—see end of Reproduction Parts List.

Static Sensitive Devices  
See Maintenance Section

NOTE: Table 10-1 shows IC Pinout, VDD & Gnd.



**Figure 10-1. 1240 BO4XXXX A14 Trigger Board Component Locations.**

